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Technical Memorandum

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From:	Karen C. Saucier, Ph.D. (TRC Project Coordinator) Barry Culp (TRC Project Manager)
Subject:	MW-30 Remedial Investigation (RI) Summary and Bench-scale Treatability Study Results Dayco Corporation/L.E. Carpenter Superfund Site (NJD002168748)
Date:	April 26, 2012
CC:	Ms. Gwen Zervas (NJDEP Section Chief/Acting Case Manager) Mr. Ernie Schaub (LEC Project Manager)
Project No.:	185281.0000.0000

This technical memorandum presents the results of the focused RI conducted during December 2011 in the MW-30 area of the Dayco Corporation/L.E. Carpenter Superfund Site in Wharton, New Jersey. The RI field activities were conducted from December 5 to December 15, 2011 in accordance with the USEPA-approved *Revised Addendum to the Remedial Action Work Plan (RA Work Plan Addendum) for Source Reduction* (TRC, July 2011, revised October 2011). This technical memorandum also summarizes the results of the bench-scale treatability study conducted on soil samples collected during the investigation and sets forth recommendations for the next phases of remedial action in the MW-30 area.

Background

Activities to further evaluate the potential for residual source areas in the wetland area (*i.e.,* the MW-30 area) and a pilot test to evaluate polishing-remediation of dissolved *bis* 2-ethylhexyl-phthalate (DEHP) were originally presented in the RA Work Plan Addendum (RMT, 2009). USEPA provided comments on the RA Work Plan Addendum in an email dated December 21, 2009. Responses to the MW-30 area specific comments were submitted to the USEPA on February 1, 2010 and approved by USEPA in their email dated February 22, 2010.

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The revised RA Work Plan Addendum (TRC, July 2011, revised October 2011) which sets forth the investigation described in this technical memorandum incorporates:

- resolution to agency review comments on the original RA Work Plan Addendum as approved on February 22, 2010
- clarification of sediment sampling intervals
- inclusion of a bench-scale treatability to evaluate bio-treatability for MW-30 area soils
- resolution to final agency review comments on the revised RA Work Plan Addendum as agreed on October 24, 2011

The data collection objective for the focused RI within the MW-30 area was to further characterize and delineate potential free-phase residual organic COCs in soils and dissolved-phase organic COCs in groundwater.

MW-30 Area Investigation

The focused RI in the MW-30 area included residual source area delineation, and hydraulic conductivity testing, in addition to sediment and pore water sampling. The following narrative outlines the sampling methodology, investigation results and refinements to the site conceptual model and implications for remedy options.

Residual Source Investigation

The December 2011 residual source area investigation was conducted in accordance with the methods outlined in the revised RA Work Plan Addendum. A track-mounted drilling rig utilizing dual-tube Sonic drilling technology (Geoprobe® 8140DT) was used to advance soil borings at 16 locations in the MW-30 area. Additionally, three "step-out" soil borings and three delineation soil borings were completed to address data gaps and refine potential areas of free phase product.

Continuous soil cores were collected from each boring location to a total depth of 20 to 25 feet below ground surface (fbgs). Upon completion, each soil boring was pressure grouted to the surface. Soil cores collected from the borings were screened in the field utilizing a hand-held photoionization detector (PID) and Oil-N-Soil field screening kits. These screening techniques were used to identify elevated volatile organic compounds (VOCs) and to assess the presence of free-phase phthalate product within the soil cores, respectively. After screening, the soil cores were geologically logged to gain a better

understanding of the subsurface conditions in the MW-30 area. Field notes for the completed work are included in Appendix A. Completed boring logs are included in Appendix B.

Depth of observed product detections based on the Oil-N-Soil screening was primarily in the 6.5 to 8 fbgs depth range with some locations having product continuing to depths of 15 fbgs. Detections usually occurred immediately below the surficial clay and silt layer - within a silt, sand, and gravel unit encountered at approximately 7 fbgs. Figure 1 presents results of field screening (PID and Oil-N-Soil) results for each boring location.

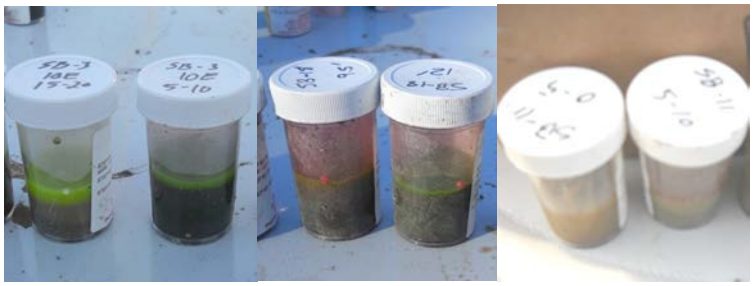

Photo 1 (left to right)
Not detected, Diffuse oil detected (Y); Product detected (Y+)

Figure 1 depicts the potential residual source area based on Oil-N-Soil results. The Oil-N-Soil results are interpreted as indicated in the following photographs as either not detected, diffuse oil detected, or product detected. The difference between diffuse oil and product detected is qualitative, however, there is an observable layer of red that formed, whereas the red color is diffuse within the "diffuse oil detected" samples. On Figure 1, "product detected" results (Y+) are shown within the yellow contour line and "diffuse oil detected" results (Y) are shown in light yellow. The remaining potential source area is located in the vicinity of monitoring wells MW-32s and MW-34.

Upon completion of screening and logging of the soil cores, soil samples were collected from selected locations within each core to assess vertical distribution of constituents of concern (COCs). Soil samples were collected from at least two locations per boring (except boring SB-14 due to poor recovery in deeper intervals) and submitted to an New Jersey-licensed laboratory for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), DEHP, and grain size. The upper sampling interval within each soil boring was selected based on the highest PID detections and/or the presence of free-phase product. The lower interval was intended to assess the first "clean" zone encountered below impacted soil. Analytical results are presented in Table 1 and isoconcentration contours depicting DEHP and BTEX constituents detected above the New Jersey Impact to Groundwater Soil Screening Level (ITGWSL) are displayed on Figures 2 and 3,

respectively. The analytical data sheets for all of the samples collected during the focused RI are presented in Appendix C.

DEHP concentrations greater than the New Jersey ITGWSL closely align with Oil-N-Soil "product detected" results.

Hydraulic Conductivity Testing

Hydraulic conductivity (slug) testing was conducted on monitoring wells located generally downgradient of the source removal area to support further evaluation of remedial action alternatives. Slug testing was performed in monitoring wells MW-31s, MW-32s, MW-33s, MW-34s, and MW-35s. Additionally, slug tests were conducted at two monitoring wells within the former source removal area, namely MW-30s(R) and MW-30i. Monitoring well locations are illustrated on Figure 1. Estimates of the hydraulic conductivity using Bouwer and Rice methods are shown in Table 2. Estimated hydraulic conductivity values range from 0.187 ft/day to 4.05 ft/day in the wetland area monitoring wells (MW-31s, MW-32s, MW-33s, MW-34s, MW-35s) and range from 31.7 ft/day to 38.3 ft/day in former source reduction area monitoring wells (MW 30s[R], MW-30i).

The hydraulic conductivities within the monitoring wells installed in the wetlands area have a significantly lower conductivity value than those screened in the former source reduction area. This is primarily due to the type of material represented within the screened intervals of the monitoring wells evaluated. The wetland area monitoring wells are screened across the water table in a silt and clay zone typical of glacial till depositional environments, while the MW-30 monitoring wells are installed within a sand and gravel unit typical of the high-energy glaciofluvial outwash deposits found in other portions of the site, as well as beneath the wetland monitoring wells. The lower conductivity of the wetland monitoring well results correlates well with the higher overall percentage of fine grained material found in soil samples collected within the upper 15 feet of the wetlands area. Within the wetland area, 23 shallow soil samples (less than 15 feet) were composed of between 11 percent and 83 percent, (with an average of 30 percent) fine grained material, whereas the grain size analysis from the 15 soil samples collected from deeper soil boring intervals show a much lower percentages of fine grained material (0.50 percent to 29 percent, with an average of 9 percent). Table 3 presents the results of the grain-size analysis for soil samples collected during the focused RI.

The lower hydraulic conductivity found within the wetland area provides a beneficial retardant to groundwater flow and reduces the potential for vertical contaminant transport in the area, and when combined with regional upward groundwater gradients and the hydraulic barriers of the drainage ditch and river, has limited the migration of site COCs within the wetland area to a relatively small footprint.

Sediment Sampling

The December 2011 baseline sediment sampling event was conducted in accordance with the methods outlined in the revised RA Work Plan Addendum. Sediment sample locations were chosen to coincide with the existing surface water sampling locations in the Rockaway River and the drainage ditch to facilitate comparison with surface water quality information. Sediment samples were collected at shallow (0-0.5 feet) and deep intervals (within 0.5-2.0 feet) at each location and submitted to a New Jersey-licensed laboratory for analysis of BTEX, DEHP, and grain size. The shallow sediment samples were analyzed for BTEX and DEHP, and the deeper interval sediment samples were extracted and held for future analysis. The shallow interval sediment samples did not contain detectable concentrations of BTEX constituents. As a result, as specified in the approved workplan, deeper interval samples were not analyzed for BTEX. Consistent with the RA Work Plan Addendum, each of the deep interval sediment samples were analyzed for DEHP as DEHP was detected in the shallow interval of each sediment sample. Sediment sample locations are displayed on Figure 4 and analytical results are presented in Table 4.

DEHP was detected in all sediment samples within the Rockaway River and the Eastern Drainage Ditch, with the exception of the upstream river sediment sample at SED-R-6. Given that the standard detection limit for DEHP analysis is 0.33 mg/kg, all detected DEHP concentrations are greater than the New Jersey Department of Environmental Protection (NJDEP) ecological screening value of 0.182 mg/kg.

DEHP is present in lower concentrations in the shallow interval of Rockaway River sediment sample locations SED-R-4, SED-R-3, and SED-R-2 as compared to deeper interval observations. Only river sediment location SED-R-1 displayed higher DEHP concentrations in the shallow sampling interval. This observation could indicate that deposition of cleaner sediments is occurring within a depositional zone presented by sediment sample locations SED-R-4, SED-R-3, and SED-R-2 and that sediment sample location SED-R-1 is in an erosional (not depositional) area. Within the Eastern Drainage

Ditch, there is not a consistent concentration differential between shallow and deeper sediment intervals.

Pore Water Sampling

A pore water sampling event was conducted in accordance with the methods outlined in the revised RA Work Plan Addendum. Temporary stainless steel well points (3/4" Solinst Model 615) were advanced into Rockaway River and the Eastern Drainage Ditch sediment near routine surface water sampling locations SW-R-1, SW-R-2, SW-R-3, SW-R-4, SW-D-2, and SW-D-4. These pore water sampling points are also collocated with RI sediment sampling locations SED-R-1, SED-R-2, SED-R-3, SED-R-4, SED-D-2, and SED-D-4.

The well points were installed with the top of screen approximately 2 feet below the sediment-water interface. Pore water was then purged from the samplers and a pore water sample collected and submitted for analysis of BTEX and DEHP. The pore water sample locations are displayed on Figure 4 and analytical results are presented in Table 5. A sample from PW-R-1 could not be collected due to low recharge into the drive-point.

BTEX was not present at detectable concentrations in any pore water sample collected from either the Rockaway River or the Eastern Drainage Ditch. DEHP was only detected in pore water samples retrieved from two of the six locations, Rockaway River location PW-R-3 and Eastern Drainage Ditch location PW-D-4. The detected DEHP concentration in both instances was 0.050 mg/L. DEHP observations in pore water correlates with the two of the highest DEHP concentrations in sediment.

Findings and Conclusions of the Focused RI

The following narrative summarizes conclusion from the focused RI in the MW-30 area along with implications for the site conceptual model and refinement of remedy options.

— The extent of residual sources of DEHP and ethylbenzene/toluene has been defined in the vicinity of monitoring wells MW-32s and MW-34s and MW-34s and MW-35s, respectively. The highest concentrations found are generally limited to a zone that occurs below the groundwater table between depths of 8 to 10 fbgs. This zone is comprised of non-continuous silty sand lenses interbedded within finer-grained more clay and silt rich sediments. The residual product appears to occur as scattered emulsions of NAPL, the mobility of which is hindered as described above

by the nature of the fine-grained sediments and nearby hydraulic barriers. These potential residual source observations are consistent with routine groundwater monitoring observations from the wetland area wells which show concentrations of these COCs above New Jersey Groundwater Quality Standards (NJGWQS).

— The hydraulic conductivity measured in the wetland monitoring wells is significantly lower than those measured in upgradient former source reduction area monitoring wells. The lower conductivity measurement is a result of the clay and silt rich sediments through which the monitoring wells are screened. The reduced groundwater flow velocity within this area, coupled with the regional upward groundwater flow gradients and nearby hydraulic barriers, represented by the Rockaway River and the Eastern Drainage Ditch, has limited the extent of site COCs to a relatively small footprint within the wetland area.

— DEHP was detected in all downgradient and Drainage Ditch sediment samples at concentrations greater than the NJDEP ecological screening value of 0.182 mg/kg. There is not a consensus in the scientific literature regarding ecological impact of DEHP in sediment. No effect levels have been reported in the 100's and 1,000's milligram per kilogram range. This is due in large part to the propensity of DEHP to adhere tightly to soils and sediments. This characteristic restricts solubility into the water column and bioavailability to aquatic and sediment-dwelling organisms. Routine surface water sampling reinforces that DEHP is not consistently present in detectable concentrations in Rockaway River sampling.

— As the DEHP concentrations detected in pore water samples are typically greater than the solubility limit, it is likely that DEHP detections were associated with emulsified non-aqueous-phase liquid (NAPL) that is highly sorbed to sediment particles and/or colloids entrained in the pore groundwater samples.

Treatability Testing

In accordance with the revised RA Work Plan Addendum, a 45-day bench-scale treatability study to evaluate biodegradation was completed on soil samples collected from the MW-30 area wetlands. Soil core samples collected from two soil borings, SB-14a and SB-14b, advanced adjacent to soil boring SB-14 (Figure 1), were sent to TRC's Applied Chemistry Laboratory for bench-scale treatability testing.

Field screening of the soil cores indicated the highest level of potential contamination was located between the 7.5 fbgs and 12.5 fbgs core sections. As such, material from this zone was

utilized to represent the "worst case" conditions within the area of SB-14, thought to be representative of the highest concentrations of DEHP and BTEX. Soil from between the 7.5 and 12.5 fbgs interval of each core was homogenized separately with a sufficient amount of water to form a slurry. The slurry was then divided into five representative aliquots. The aliquots were utilized for the following studies:

- Slurry A – Control
- Slurry B – Air addition
- Slurry C – Nutrient Addition
- Slurry D – Air and Nutrient Addition
- Slurry E – Ozone Addition

Samples from each test condition were collected at Day 0, Day 15, Day 30, and Day 45, and submitted to a New Jersey-licensed laboratory for analysis of BTEX, DEHP, and heterotrophic plate count.

The results from the bench-scale treatability study indicated that a significant reduction in concentrations was evident in all test conditions, including the control, at the conclusion of the 45-day test period. In addition, a significant increase in bacterial population was evident over the same period in all test conditions, with the exception of the ozone treatment.

The bench-scale treatability study results suggest that reductions in concentrations will continue if the bench-scale test were continued for longer periods, primarily due to the exposure of samples to air which enhances the aerobic bacterial in the soil. Addition of nutrients or supplemental air through the test chambers did not dramatically improve the treatment. Additionally, the use of ozone on the slurry was no more effective than the exposure to air, but had adverse effects on the microbial population. These results indicate that the best remedial alternative for treatment of DEHP and the remaining BTEX are alternative that would stimulate/enhance the existing microbial population. The treatability testing results are included in Appendix D.

The mechanical addition of supplemental nutrients and air/ozone did not result in appreciable enhancement of degradation over natural conditions. In light of that consideration and given the remote location of the MW-30 area relative to available utilities, an enhancement of the existing microbial population through a passive mechanism should be considered.

Recommendations for Further Action

TRC does not recommend moving forward with field-scale evaluation of an air sparging or bioventing system to enhance biodegradation of dissolved and free phase COCs in the MW-30 area.

TRC recommends that a phytoremediation solution be further evaluated for the MW-30 area. A properly designed phytoremediation remedy encompasses several mechanisms which often occur simultaneously:

- Removal
- Degradation
- Sequestration
- Hydraulic control

More specifically, the phytoremediation mechanisms that could influence remediation of DEHP and BTEX constituents in soil and groundwater in the MW-30 area include:

- Rhizofiltration (Removal) – It is anticipated that a phytoremediation remedy, through physical uptake, could function to further limit migration of groundwater to surface water in focused areas along the Rockaway River and the Eastern Drainage Ditch.
- Rhizodegradation (Degradation) –Biological degradation of BTEX and DEHP would be enhanced in the active microbial environment around a healthy root zone.
- Phytostabilization (Sequestration) – DEHP, and to a lesser extent, BTEX constituents would be immobilization in the high organic carbon environment represented by a healthy root zone.
- Phytovolatilization (Removal) –BTEX constituents, and to a lesser extent DEHP, can also be released by the plant following uptake via transpiration and diffusion.
    - Transpiration – the loss of water from the stomata of a plant leaf
    - Diffusion – the release through the plant stem/trunk

Further, a phytoremediation solution is highly consistent with and will protect land and ecosystem use within this wetland portion of the site. A phytoremediation solution minimizes total energy use and maximizes use of renewable resources. TRC plans to move forward with design of a phytoremediation system for the MW-30 area in a Final RA Work Plan Addendum.

Tables

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Table 1
Soil Boring Analytical Results
Dayco Corporation / L.E. Carpenter Superfund Site
MW-30 RI Summary and Bench-scale Treatability Study Results

ANALYTE		BENZENE	TOLUENE	ETHLBENZENE	TOTAL XYLENES	DEHP
ITGWSL		0.005	4	8	12	790
units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-1 (7.5-8.0)	12/10/11	<0.0050	<0.0050	**0.066**	**0.26**	**180**
SB-1 (24.5-25.0)	12/10/11	<0.0050	<0.0050	**0.0054**	**0.016**	**1.2**
SB-2 (5.0-5.5)	12/09/11	<0.0056	<0.0056	<0.0056	<0.017	**170**
SB-2 (15.0-15.5)	12/09/11	<0.0053	<0.0053	<0.0053	<0.016	**0.86**
SB-3 (5.0-5.5)	12/09/11	<0.0058	<0.0058	**0.013**	**0.066**	**330**
SB-3 (11.0-11.5)	12/09/11	<0.0054	<0.0054	<0.0054	<0.016	**98**
SB-3 (14.5-15.0)	12/09/11	<0.0051	<0.0051	<0.0051	<0.015	**3.7**
SB-3-10E (5.5-6.0)	12/13/11	<0.0055	<0.0055	<0.0055	<0.016	**1,500**
SB-3-10E (14.5-15.0)	12/13/11	<0.0050	<0.0050	<0.0050	<0.015	**1.5**
SB-4 (6.5-7.0)	12/09/11	<0.0050	<0.0050	**0.023**	**0.091**	**180**
SB-4 (11.5-12.0)	12/09/11	<0.0050	<0.0050	<0.0050	<0.015	**1.8**
SB-5 (5.0-5.5)	12/08/11	<0.0051	<0.0051	**0.016**	**0.045**	**150**
SB-5 (10.0-10.5)	12/08/11	<0.0053	<0.0053	<0.0053	<0.016	**10**
SB-6 (6.5-7.0)	12/06/11	<0.0050	<0.0050	<0.0050	<0.015	**23**
SB-6 (14.0-14.5)	12/06/11	<0.0050	<0.0050	<0.0050	<0.015	<0.33
SB-7 (0.5-1.0)	12/08/11	<0.0051	<0.0051	<0.0051	<0.015	<0.33
SB-7 (5.0-5.5)	12/08/11	<0.0050	<0.0050	<0.0050	<0.015	**7.2**
SB-8 (13.0-13.5)	12/08/11	<0.40	<0.40	**32**	**98**	**84**
SB-8 (14.5-15.0)	12/08/11	<0.0050	<0.0050	<0.0050	<0.015	<0.33
SB-8-10E (7.5-8.0)	12/13/11	<0.0050	<0.0050	<0.0050	<0.015	<0.33
SB-8-10E (19.5-20.0)	12/13/11	<0.0050	<0.0050	<0.0050	<0.015	**0.60**
SB-9 (0.5-1.0)	12/08/11	<0.0050	<0.0050	<0.0050	<0.015	<0.33
SB-9 (4.5-5.0)	12/08/11	<0.0050	<0.0050	<0.0050	<0.015	<0.33

Notes:
RDCSRS: Residential Direct Contact Soil Remediation Standard
NRDCSRS: Nonresidential Direct Contact Soil Remediation Standard
(1) Criteria taken from the NJDEP guidance document "Development of Site Specific Impact to Groundwater Soil Remediation Standards Using the Soil Water Partition Equation" dated December 2008.
-- = not tested
mg/kg = milligrams per kilogram

25	Indicates a detection above reporting limits.
25	Indicates an excceedence of NJDEP IGWSSL

Table 1
Soil Boring Analytical Results
Dayco Corporation / L.E. Carpenter Superfund Site
MW-30 RI Summary and Bench-scale Treatability Study Results

ANALYTE		BENZENE	TOLUENE	ETHLBENZENE	TOTAL XYLENES	DEHP
ITGWSL		0.005	4	8	12	790
units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-10 (7.0-7.5)	12/12/11	<0.42	**2.8**	**440**	**2,100**	**200**
SB-10 (19.5-20.0)	12/12/11	<0.0050	<0.0050	**0.12**	**0.21**	**1.3**
SB-11 (7.5-8.0)	12/12/11	<0.40	**4.7**	**1,200**	**6,800**	**4,500**
SB-11 (14.5-15.0)	12/12/11	<0.0050	<0.0050	**1.1**	**5.8**	**31**
SB-12 (8.5-9.0)	12/09/11	<4.2	<4.2	**700**	**2,900**	**2,100**
SB-12 (16.5-17.0)	12/09/11	<0.0050	<0.0050	**0.017**	**0.080**	**2.2**
SB-13 (9.5-10.0)	12/12/11	<0.79	<0.79	**87**	**420**	**700**
SB-13 (29.5-30.0)	12/12/11	<0.0050	<0.0050	**0.040**	**0.25**	**1.5**
SB-13-10S (9.5-10.0)	12/12/11	<0.39	**0.47**	**340**	**1,700**	**1,200**
SB-13-10S (21.5-22.0)	12/12/11	<0.0053	<0.0053	<0.0053	<0.016	**8.4**
SB-14 (9.5-10.0)	12/10/11	<0.050	<0.10	**110**	**180**	**940**
SB-15 (10.0-10.5)	12/09/11	<0.44	**0.50**	**75**	**350**	**310**
SB-15 (25.0-25.5)	12/09/11	<0.0051	<0.0051	**0.0097**	**0.040**	**0.49**
SB-16 (9.5-10.0)	12/10/11	<0.0050	<0.0050	**12**	**54**	**190**
SB-16 (24.5-25.0)	12/10/11	<0.0050	<0.0050	**0.0076**	**0.036**	**2.7**
SB-17 (7.5-8.0)	12/13/11	<0.050	<0.10	**15**	**54**	**120**
SB-17 (19.5-20.0)	12/13/11	<0.0050	<0.0050	**0.012**	**0.045**	**0.73**
SB-18 (9.5-10.0)	12/13/11	<0.050	<0.10	**49**	**150**	**590**
SB-18 (19.5-20.0)	12/13/11	<0.050	<0.10	**12**	**36**	**120**
SB-19 (14.0-14.5)	12/13/11	<0.050	**0.13**	**18**	**94**	**240**
SB-19 (19.5-20.0)	12/13/11	<0.0050	<0.0050	**2.6**	**14**	**9.9**

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-- = not tested
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Table 2
Hydraulic Conductivity Testing Results
Dayco Corporation / L.E. Carpenter Superfund Site
MW-30 RI Summary and Bench-scale Treatability Study Results

WELL	TEST[1] TYPE	SATURATED THICKNESS (ft)	K (ft/day)	y_0 (ft)
MW-30I	Falling Head	160	31.67	1.944
	Rising Head	160	35.26	3.157
MW-30S(R)	Falling Head	160	38.26	0.6305
	Rising Head	160	36.23	0.650
MW-31S	Falling Head	10	1.876	2.009
	Rising Head	10	1.141	3.425
MW-32S	Falling Head	10	4.048	1.950
	Rising Head	10	2.804	2.314
MW-33S	Falling Head	10	0.2082	1.391
	Rising Head	10	0.187	1.229
MW-34S	Falling Head	10	1.806	1.553
	Rising Head	10	1.406	2.070
MW-35S	Falling Head	10	0.9308	2.296
	Rising Head	10	0.4299	2.506

Notes:
[1] Anisotropy (Kz/Kr) = 1; Unconfined Aquifer; Bouwer-Rice Solution

Table 3
Grain-Size Analysis Results
Dayco Corporation / L.E. Carpenter Superfund Site
MW-30 RI Summary and Bench-scale Treatability Study Results

LOCATION	DATE	MOISTURE CONTENT	% COBBLES	% GRAVEL			% SAND				% FINES		
				COARSE	FINE	TOTAL	COARSE	MEDIUM	FINE	TOTAL	SILT	CLAY	TOTAL
SB-2 (5.0-5.5)	12/09/11	15.50%	0	0	41.6	41.6	17.6	12.2	9.9	39.7	9.5	9.2	18.7
SB-3 (5.0-5.5)	12/09/11	27.40%	0	0	13.2	13.2	24.4	13.3	10.5	48.2	13.1	25.5	38.6
SB-3 (11.0-11.5)	12/09/11	23.00%	0	0	11.5	11.5	18.4	12.5	14.7	45.6	18.6	24.3	42.9
SB-3-10E (5.5-6.0)	12/13/11	24.30%	0	0	24.8	24.8	12.1	15.9	14.6	42.6	16	16.6	32.6
SB-4 (6.5-7.0)	12/09/11	22.10%	0	0	24	24	19.9	16.7	14.1	50.7	14.4	10.9	25.3
SB-4 (11.5-12.0)	12/09/11	11.80%	0	0	13.5	13.5	13.7	19.6	20.1	53.4	21.7	11.4	33.1
SB-5 (10.0-10.5)	12/08/11	30%	0	0	0	0	0	4.2	12	16.2	37.1	46.7	83.8
SB-5 (5.0-5.5)	12/08/11	15.35%	0	0	28.5	28.5	18.4	21	15.1	54.5	9	8	17
SB-6 (6.5-7.0)	12/09/11	14.26%	0	0	26.3	26.3	20.2	14.1	9.9	44.2	15.5	14	29.5
SB-7 (0.5-1.0)	12/08/11	26.30%	0	0	25.4	25.4	22.5	7.9	10.2	40.6	15.2	18.8	34
SB-7 (5.0-5.5)	12/08/11	25.14%	0	0	4.4	4.4	12.6	13.5	14.1	40.2	25.8	29.6	55.4
SB-8-10E (7.5-8.0)	12/13/11	10.50%	0	0	22.2	22.2	21.8	12.8	13.1	47.7	18.7	11.4	30.1
SB-9 (0.5-1.0)	12/08/11	19.21%	0	0	10.7	10.7	22.9	15.1	14	52	17.7	19.6	37.3
SB-9 (4.5-5.0)	12/08/11	9.59%	0	0	17.8	17.8	21.2	26.7	12.3	60.2	14.2	7.8	22
SB-10 (7.0-7.5)	12/12/11	27.20%	0	0	2.1	2.1	6.7	13.2	25.1	45	21	31.9	52.9
SB-11 (7.5-8.0)	12/12/11	14.40%	0	1.7	23.4	25.1	19.4	28.4	11.5	59.3	6.2	9.4	15.6
SB-12 (8.5-9.0)	12/09/11	9.60%	0	0	20.3	20.3	22.6	22.1	14.5	59.2	9	11.5	20.5
SB-13 (9.5-10.0)	12/12/11	6.30%	0	0	23	23	17.2	20.3	21	58.5	10.9	7.6	18.5
SB-13-10S (9.5-10.0)	12/12/11	8.30%	0	15	36.9	51.9	12.8	11.5	11.6	35.9	7	5.2	12.2
SB-14 (9.5-10.0)	12/10/11	8.10%	0	0	26.3	26.3	18.8	22.9	16.6	58.3	6.1	9.3	15.4
SB-15 (10.0-10.5)	12/10/11	10.40%	0	0	11	11	17.9	22.7	23.7	64.3	12.5	12.2	24.7
SB-16 (9.5-10.0)	12/10/11	14.50%	0	0.6	27.4	28	13	25.9	12.4	51.3	10	10.7	20.7
SB-17 (7.5-8.0)	12/13/11	15.60%	0	0	22.3	22.3	18.7	25.8	15.9	60.4	6.1	11.2	17.3
SED-D-1 (0.0-0.5)	12/06/11	21.39%	0	0	31.8	31.8	15.7	28	12.8	56.5	6.9	4.8	11.7
SED-D-2 (0.0-0.5)	12/06/11	45.48%	0	0	14.4	14.4	17.2	13.9	16.3	47.4	18.7	19.5	38.2
SED-D-3 (0.0-0.5)	12/06/11	26.45%	0	0	18.8	18.8	10.2	23.7	21.1	55	12.6	13.6	26.2
SED-D-4 (0.0-0.5)	12/06/11	46.64%	0	0	24.4	24.4	17.3	20.9	17.7	55.9	13.2	6.5	19.7
SED-D-5 (0.0-0.5)	12/08/11	76.58%	0	0	0	0	2.2	37.3	21.2	60.7	31.9	7.4	39.3
SED-DRC-02 (0.0-0.5)	12/08/11	54.90%	0	0	27.5	27.5	9.4	20.1	19.2	48.7	14.6	9.2	23.8
SED-R-1 (0.0-0.5)	12/05/11	34.72%	0	0	0	0	5.2	51.5	34.7	91.4	5.9	2.7	8.6
SED-R-2 (0.0-0.5)	12/05/11	43.09%	0	0	0	0	34.1	22.4	17	73.5	14.2	12.3	26.5
SED-R-3 (0.0-0.5)	12/05/11	53.71%	0	0	13.3	13.3	16.8	16.3	32.5	65.6	11.3	9.8	21.1
SED-R-4 (0.0-0.5)	12/05/11	34.71%	0	0	2.3	2.3	7.6	56.4	30.9	94.9	1.5	1.3	2.8
SED-R-6 (0.0-0.5)	12/06/11	12.97%	0	0	29.6	29.6	34.1	27.2	8.1	69.4	0.5	0.5	1

Table 4
Sediment Sample Analytical Results
Dayco Corporation / L.E. Carpenter Superfund Site
MW-30 RI Summary and Bench-scale Treatability Study Results

ANALYTE		BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	DEHP
ECOLOGICAL SCREENING VALUES		0.142	0.175	1.22	0.433	0.182
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SED-R-1 (0.0-0.5)	12/05/11	< 0.0070	< 0.0070	< 0.0070	< 0.021	**26**
SED-R-1 (0.5-1.0)	12/05/11	--	--	--	--	**0.62**
SED-R-2 (0.0-0.5)	12/05/11	< 0.0076	< 0.0076	< 0.0076	< 0.023	**0.49**
SED-R-2 (1.5-2.0)	12/08/11	--	--	--	--	**0.91**
SED-R-3 (0.0-0.5)	12/05/11	< 0.0093	< 0.0093	< 0.0093	< 0.028	**5.7**
SED-R-3 (0.5-1.0)	12/08/11	--	--	--	--	**440**
SED-R-4 (0.0-0.5)	12/05/11	< 0.0066	< 0.0066	< 0.0066	< 0.020	**2.9**
SED-R-4 (1.0-1.5)	12/08/11	--	--	--	--	**15**
SED-R-6 (0.0-0.5)	12/06/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.33
SED-D-1 (0.0-0.5)	12/06/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	**4.9**
SED-D-1 (1.0-1.5)	12/07/11	--	--	--	--	**0.74**
SED-D-2 (0.0-0.5)	12/06/11	< 0.0099	< 0.0099	< 0.0099	< 0.030	**0.53**
SED-D-2 (1.0-1.5)	12/06/11	--	--	--	--	**41**
SED-D-3 (0.0-0.5)	12/06/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	**1.1**
SED-D-3 (1.0-1.5)	12/06/11	--	--	--	--	**0.41**
SED-D-4 (0.0-0.5)	12/06/11	< 0.0070	< 0.0070	< 0.0070	< 0.021	**410**
SED-D-4 (1.0-1.5)	12/06/11	--	--	--	--	**370**
SED-D-5 (0.0-0.5)	12/06/11	< 0.016	< 0.016	< 0.016	< 0.048	**170**
SED-D-5 (1.0-1.5)	12/06/11	--	--	--	--	**1,100**
SED-DRC-02 (0.0-0.5)	12/08/11	< 0.0091	< 0.0091	< 0.0091	< 0.027	**9.1**
SED-DRC-02 (1.0-1.5)	12/08/11	--	--	--	--	**8.7**

Notes:
-- = not tested
mg/kg = milligrams per kilogram
Ecological screening criteria (ESC) taken from New Jersey Department of Environmental Protection Site Remediation Program, updated March 10, 2009.

25	Indicates a detection above reporting limits.
25	Indicates an exceedence of NJDEP SRP Ecological Screening Values

Table 5
Pore Water Analytical Results
Dayco Corporation / L.E. Carpenter Superfund Site
MW-30 RI Summary and Bench-scale Treatability Study Results

ANALYTE		BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	DEHP
SOLUBILITY LIMIT		1,700	515	152	175	0.334
PRACTICAL QUANTITATION LIMIT (PQL)		0.001	0.002	0.001	0.002	0.003
units		mg/L	mg/L	mg/L	mg/L	mg/L
PW-R-2	12/11/11	< 0.0005	< 0.0005	< 0.0005	< 0.0015	< 0.005
PW-R-3	12/11/11	< 0.0005	< 0.0005	< 0.0005	< 0.0015	**0.050**
PW-R-4	12/11/11	< 0.0005	< 0.0005	< 0.0005	< 0.0015	< 0.005
PW-D-2	12/13/11	< 0.0005	< 0.0005	< 0.0005	< 0.0015	< 0.005
PW-D-4	12/13/11	< 0.0005	< 0.0005	< 0.0005	< 0.0015	**0.050**

Notes:
mg/L = milligrams per liter
0.025 Indicates a detection above the PQL

Figures

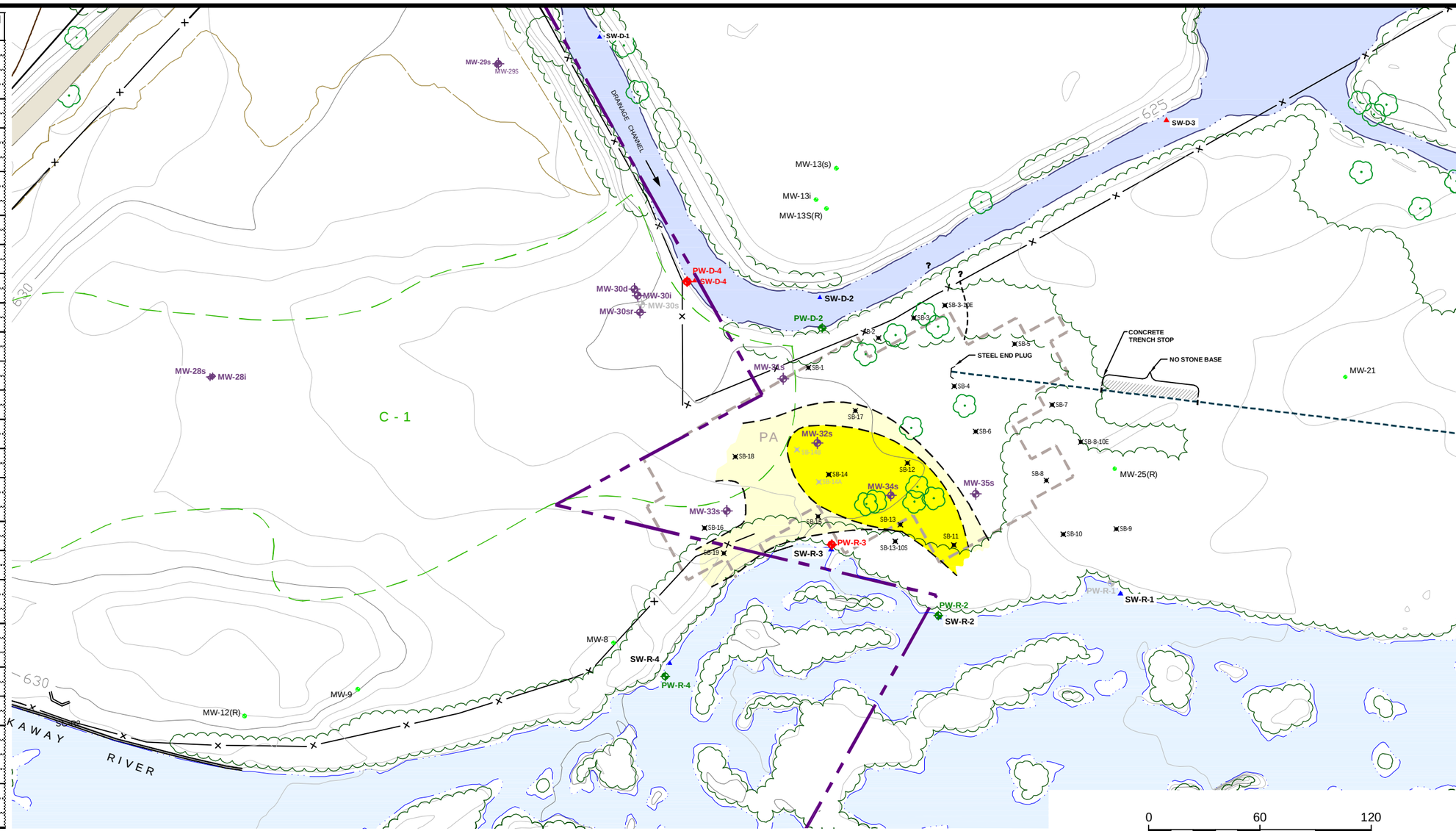
Figure 1 Oil-N-Soil Screening Results

Figure 2 Total DEHP Isoconcentration Contours (mg/kg)

Figure 3 Ethylbenzene and Xylene Isoconcentration Contours (mg/kg)

Figure 4 BTEX and DEHP Sediment Sampling Detections (mg/kg)

Boring No.	Depth Interval (bgs)	Sample Depth (ft bgs)	Peak PID (ppm)	Oil In Soil Result
SB-1	0-10	7.5	18	N
	10-15	--	ND	N
	15-20	17.5	10	N
	20-25	24.5	ND	N
SB-2	5-15	5.0	17.6	N
	15-20	15.0	ND	N
SB-3	0-10	5.0	80	N
	10-20	11.0	ND	N
		14.5	ND	N
SB-3-10E	0-10	6.0	128	N
	10-15	14.5	0.8	N
	15-20	--	ND	N
SB-4	0-10	7.0	70	N
	10-20	11.5	ND	N
SB-5	0-10	5.5	ND	N
	10-20	10.0	ND	N
SB-6	0-10	6.5	ND	N
	10-20	14.0	ND	N
SB-7	0-5	0.5	ND	N
	5-20	5.0	ND	N
SB-8	5-15	13.0	126.5	N
		14.5	783	N
SB-8-10E	0-10	7.5	ND	N
	10-20	19.5	ND	N
SB-9	0-5	0.5	ND	N
	5-15	5.0	ND	N
SB-10	5-10	7.5	1,150	N
	10-20	19.5	126	N
SB-11	0-10	7.5	4,122	Y+
	10-15	14.5	387	N
SB-12	0-10	7.0	2,000	Y
		9.0	4,000	Y+
	10-20	16.5	25.7	N
SB-13	0-10	9.5	3,460	Y+
	10-30	29.5	10	N
SB-13-10S	5-25	9.5	2,550	N
		21.5	17.2	N
SB-14	5-10	9.5	1,340	Y+
	10-15	12	ND	Y+
	15-25	25	ND	N
SB-15	0-10	9.5	227	Y
	10-20	10.5	1,025	Y
	20-25	25.0	ND	N
SB-16	0-15	9.5	700	N
	15-25	24.5	ND	N
SB-17	0-15	7.5	808	Y
	15-20	19.5	ND	N
SB-18	5-10	7.5	25.7	Y
		9.5	1,886	Y
	10-20	12.15	130.3	Y
		19.5	--	--
SB-19	0-20	0.5, 5, 10, 12.15	71.3	Y
		14	3,853	--
		19.5	ND	--



LEGEND

- APPROXIMATE PROPERTY LINE
- FENCE LINE
- TREES
- MW-25(R) — GROUNDWATER ELEVATION MONITORING WELL LOCATION AND NUMBER (s = shallow, i = intermediate, d = deep)
- MW-29s — PRMP MONITORING WELL LOCATION AND NUMBER (s = shallow, i = intermediate, d = deep)
- SW-R-1 — SURFACE WATER SAMPLING LOCATION (D = DITCH; R = RIVER)
- SB-18 — SOIL BORING LOCATION
- PW-D-2 — PORE WATER CONTAMINANTS OF CONCERN EXCEED NJDEP GROUNDWATER QUALITY STANDARDS
- PW-D-2 — PORE WATER CONTAMINANTS OF CONCERN DO NOT EXCEED NJDEP GROUNDWATER QUALITY STANDARDS
- PA — AREA WHERE PCB IMPACTED SOILS WERE EXCAVATED
- C-1 — OUTLINE OF 2005 SOURCE REDUCTION AREA AND SUBSURFACE SLURRY MONOLITH
- 630 — POST-REMEDIATION GROUND SURFACE ELEVATIONS, CONTOUR INTERVAL = 1 ft.
- ABANDONED SEWER LINE
- AREA WITH POTENTIAL PRODUCT
- AREA WITH DIFFUSE OIL DETECTIONS

NOTES

1. BASE MAP DEVELOPED FROM TOPOGRAPHIC SURVEY PROVIDED BYJAMES M.STEWART, INC. LAND SURVEYORS, DRAWING NO 2793-03.DWG, DATED 02-14-02 AS REVISED 04-10-07 (DRAWING NO. 314907REV.DWG).
2. AS DESCRIBED IN THE November 2005 RAR (SEE FIGURE 9 IN THAT REPORT), THE SLURRY MONOLITH AT AND PARALLEL TO THE DRAINAGE CHANNEL DITCH ENDS APPROXIMATELY 10 FEET WEST OF THE ACTUAL WATERS EDGE.
3. OIL IN SOIL RESULT NOTES:

   N = NON-DETECT FIELD SCREENING KIT
   Y = DIFFUSE OIL DETECTED IN FIELD SCREENING TEST KIT
   Y+ = PRODUCT DETECTED IN FIELD SCREENING KIT

PROJECT: **DAYCO CORPORATION / L.E. CARPENTER SUPERFUND SITE WHARTON, NEW JERSEY**

TITLE: **OIL AND SOIL SCREENING RESULTS**

DRAWN BY: SJL / DGS / WAB	SCALE:	PROJ. NO.	185281.0000
CHECKED BY: TAB / SP	AS INDICATED	FILE NO.	185281.03.dwg
APPROVED BY: BC	DATE PRINTED:	**FIGURE 1**	
DATE: APRIL 2012			

TRC
1540 Eisenhower Place
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Phone: 734.971.7080
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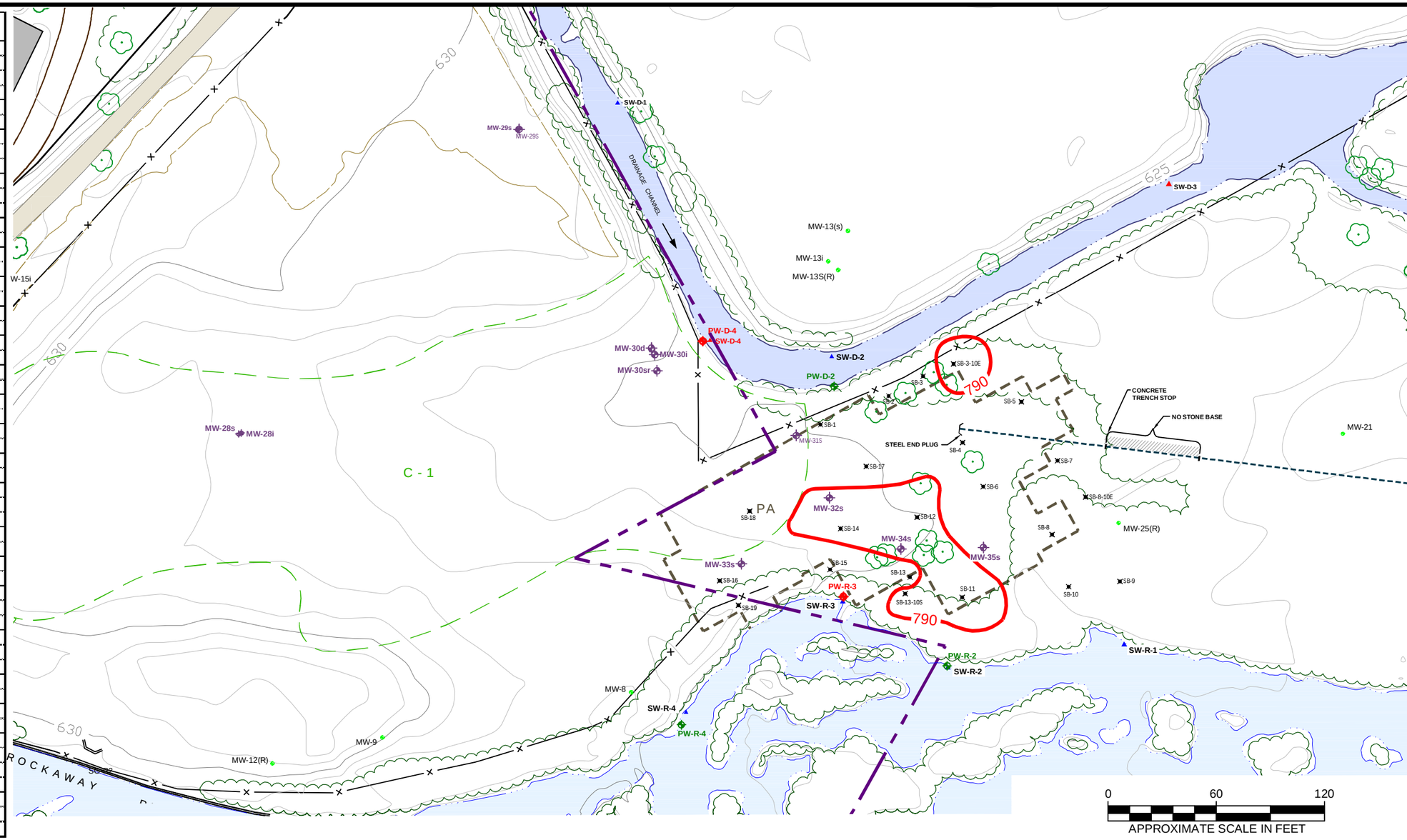
Attached Xref's:
Attached Images:
Layout: FIG01 Oil & Soil Screening

Dwg Size: 0.92 Mb bmc041007
Plot Date: April 17, 2012
Plot Time: 1:52 PM

PLOT DATA
Drawing Name: J:_TRC\LE Carpenter\185281\185281.03.dwg
Operator Name: STEHLE, DIANAH
Drawing Plot Scale: 0.386863

Boring No.	Depth Interval (bgs)	Sample Depth (ft bgs)	Oil In Soil	*DEHP (ppm)
SB-1	0-10	7.5	N	180
	10-15	--	N	--
	15-20	17.5	N	--
	20-25	24.5	N	1.2
SB-2	5-15	5.0	N	170
	15-20	15.0	N	0.86
SB-3	0-10	5.0	N	330
	10-20	11.0	N	98
		14.5	N	3.7
SB-3-10E	0-10	6.0	N	1,500
	10-15	14.5	N	1.5
	15-20	--	N	--
SB-4	0-10	7.0	N	180
	10-20	11.5	N	1.8
SB-5	0-10	5.5	N	150
	10-20	10.0	N	10
SB-6	0-10	6.5	N	23
	10-20	14.0	N	ND
SB-7	0-5	0.5	N	ND
	5-20	5.0	N	7.2
SB-8	5-15	13.0	N	84
		14.5	N	ND
SB-8-10E	0-10	7.5	N	ND
	10-20	19.5	N	0.6
SB-9	0-5	0.5	N	ND
	5-15	5.0	N	ND
SB-10	5-10	7.5	N	200
	10-20	19.5	N	1.3
SB-11	0-10	7.5	Y+	4,500
	10-15	14.5	N	31
SB-12	0-10	7.0	Y	--
		9.0	Y+	2,100
	10-20	16.5	N	2.2
SB-13	0-10	9.5	Y+	700
	10-30	29.5	N	1.5
SB-13-10S	5-25	9.5	N	1,200
		21.5	N	8.4
SB-14	5-10	9.5	Y+	940
	10-15	12	Y+	--
	15-25	25	N	--
SB-15	0-10	9.5	Y	--
	10-20	10.5	Y	310
	20-25	25.0	N	0.49
SB-16	0-15	9.5	N	190
	15-25	24.5	N	2.7
SB-17	0-15	7.5	Y	120
	15-20	19.5	N	0.73
SB-18	5-10	7.5	Y	--
		9.5	Y	590
	10-20	12.15	Y	--
		19.5	--	120
SB-19	0-20	0.5, 5,10,12,15	Y	--
		14	--	240
		19.5	--	9.9



LEGEND

- APPROXIMATE PROPERTY LINE
- FENCE LINE
- TREES
- MW-25(R) — GROUNDWATER ELEVATION MONITORING WELL LOCATION AND NUMBER (s = shallow, i = intermediate, d = deep)
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- PW-D-2 — PORE WATER CONTAMINANTS OF CONCERN DO NOT EXCEED NJDEP GROUNDWATER QUALITY STANDARDS
- PA — AREA WHERE PCB IMPACTED SOILS WERE EXCAVATED
- C-1 — OUTLINE OF 2005 SOURCE REDUCTION AREA AND SUBSURFACE SLURRY MONOLITH
- 630 — POST-REMEDIATION GROUND SURFACE ELEVATIONS, CONTOUR INTERVAL = 1 ft.
- ABANDONED SEWER LINE
- 790 — ISOCONCENTRATION FOR BIS (2-ETHYLHEXYL) PHTHALATE (DEHP) (PPM) IN SOIL BORING SAMPLES (790 PPM = NJDEP IMPACT TO GROUNDWATER SOIL SCREENING LEVEL)

NOTES

1. BASE MAP DEVELOPED FROM TOPOGRAPHIC SURVEY PROVIDED BYJAMES M.STEWART, INC. LAND SURVEYORS, DRAWING NO 2793-03.DWG, DATED 02-14-02 AS REVISED 04-10-07 (DRAWING NO. 314907REV.DWG).
2. AS DESCRIBED IN THE November 2005 RAR (SEE FIGURE 9 IN THAT REPORT), THE SLURRY MONOLITH AT AND PARALLEL TO THE DRAINAGE CHANNEL DITCH ENDS APPROXIMATELY 10 FEET WEST OF THE ACTUAL WATERS EDGE.
3. OIL IN SOIL RESULT NOTES:

   N = NON-DETECT FIELD SCREENING KIT
   Y = DIFFUSE OIL DETECTED IN FIELD SCREENING TEST KIT
   Y+ = PRODUCT DETECTED IN FIELD SCREENING KIT

PROJECT: **DAYCO CORPORATION / L.E. CARPENTER SUPERFUND SITE WHARTON, NEW JERSEY**

TITLE: **TOTAL DEHP SOIL ISOCONCENTRATION CONTOURS (mg/Kg)**

DRAWN BY: SJL / DGS / WAB	SCALE:	PROJ. NO.	185281.0000
CHECKED BY: TAB / SP	AS INDICATED	FILE NO.	185281.01.dwg
APPROVED BY: BC	DATE PRINTED:	FIGURE 2	
DATE: APRIL 2012			

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Attached Xref's:
Attached Images:
Layout: FIG02 Total DEHP Contours

Dwg Size: 1.01 Mb bmc041007
Plot Date: April 17, 2012
Plot Time: 1:53 PM

J:_TRC\LE Carpenter\185281\185281.01.dwg
STEHLE, DIANAH
0.386863

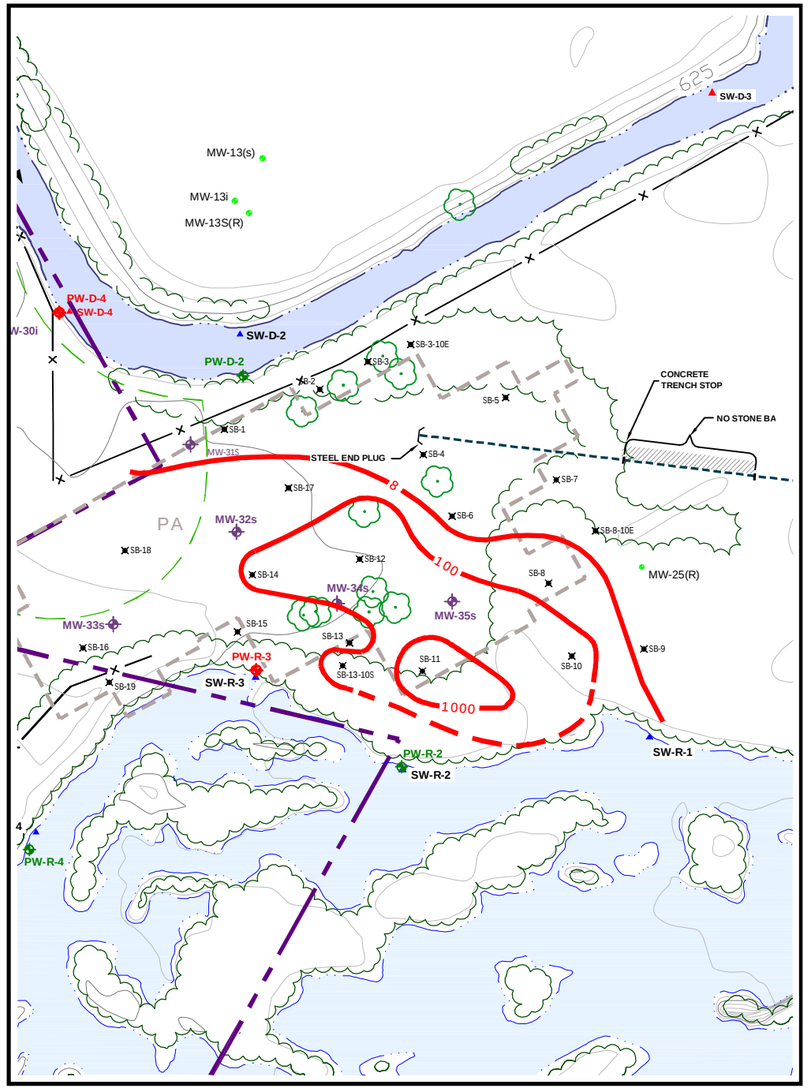
PLOT DATA
Drawing Name:
Operator Name:
Drawing Plot Scale:

Analyte		Benzene	Toluene	Ethylbenzene	Total Xylenes
Impact to GW Soil Screening Level		0.005	4	8	12
Units		mg/kg	mg/kg	mg/kg	mg/kg
SB-1 (7.5-8.0)	12/10/2011	<0.0050	<0.0050	**0.066**	**0.26**
SB-1 (24.5-25.0)	12/10/2011	<0.0050	<0.0050	**0.0054**	**0.016**
SB-2 (5.0-5.5)	12/9/2011	<0.0056	<0.0056	<0.0056	<0.017
SB-2 (15.0-15.5)	12/9/2011	<0.0053	<0.0053	<0.0053	<0.016
SB-3 (5.0-5.5)	12/9/2011	<0.0058	<0.0058	**0.013**	**0.066**
SB-3 (11.0-11.5)	12/9/2011	<0.0054	<0.0054	<0.0054	<0.016
SB-3 (14.5-15.0)	12/9/2011	<0.0051	<0.0051	<0.0051	<0.015
SB-3-10E (5.5-6.0)	12/13/2011	<0.0055	<0.0055	<0.0055	<0.016
SB-3-10E (14.5-15.0)	12/13/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-4 (6.5-7.0)	12/9/2011	<0.0050	<0.0050	**0.023**	**0.091**
SB-4 (11.5-12.0)	12/9/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-5 (5.0-5.5)	12/8/2011	<0.0051	<0.0051	**0.016**	**0.045**
SB-5 (10.0-10.5)	12/8/2011	<0.0053	<0.0053	<0.0053	<0.016
SB-6 (6.5-7.0)	12/6/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-6 (14.0-14.5)	12/6/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-7 (0.5-1.0)	12/8/2011	<0.0051	<0.0051	<0.0051	<0.015
SB-7 (5.0-5.5)	12/8/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-8 (13.0-13.5)	12/8/2011	<0.40	<0.40	**32**	**98**
SB-8 (14.5-15.0)	12/8/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-8-10E (7.5-8.0)	12/13/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-8-10E (19.5-20.0)	12/13/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-9 (0.5-1.0)	12/8/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-9 (4.5-5.0)	12/8/2011	<0.0050	<0.0050	<0.0050	<0.015
SB-10 (7.0-7.5)	12/12/2011	<0.42	**2.8**	**440**	**2,100**
SB-10 (19.5-20.0)	12/12/2011	<0.0050	<0.0050	**0.12**	**0.21**
SB-11 (7.5-8.0)	12/12/2011	<0.40	**4.7**	**1,200**	**6,800**
SB-11 (14.5-15.0)	12/12/2011	<0.0050	<0.0050	**1.1**	**5.8**
SB-12 (8.5-9.0)	12/9/2011	<4.2	<4.2	**700**	**2,900**
SB-12 (16.5-17.0)	12/9/2011	<0.0050	<0.0050	**0.017**	**0.080**
SB-13 (9.5-10.0)	12/12/2011	<0.79	<0.79	**87**	**420**
SB-13 (29.5-30.0)	12/12/2011	<0.0050	<0.0050	**0.040**	**0.25**
SB-13-10S (9.5-10.0)	12/12/2011	<0.39	**0.47**	**340**	**1,700**
SB-13-10S (21.5-22.0)	12/12/2011	<0.0053	<0.0053	<0.0053	<0.016
SB-14 (9.5-10.0)	12/10/2011	<0.050	<0.10	**110**	**180**
SB-15 (10.0-10.5)	12/9/2011	<0.44	**0.50**	**75**	**350**
SB-15 (25.0-25.5)	12/9/2011	<0.0051	<0.0051	**0.0097**	**0.040**
SB-16 (9.5-10.0)	12/10/2011	<0.0050	<0.0050	**12**	**54**
SB-16 (24.5-25.0)	12/10/2011	<0.0050	<0.0050	**0.0076**	**0.036**
SB-17 (7.5-8.0)	12/13/2011	<0.050	<0.10	**15**	**54**
SB-17 (19.5-20.0)	12/13/2011	<0.0050	<0.0050	**0.012**	**0.045**
SB-18 (9.5-10.0)	12/13/2011	<0.050	<0.10	**49**	**150**
SB-18 (19.5-20.0)	12/13/2011	<0.050	<0.10	**12**	**36**
SB-19 (14.0-14.5)	12/13/2011	<0.050	**0.13**	**18**	**94**
SB-19 (19.5-20.0)	12/13/2011	<0.0050	<0.0050	**2.6**	**14**

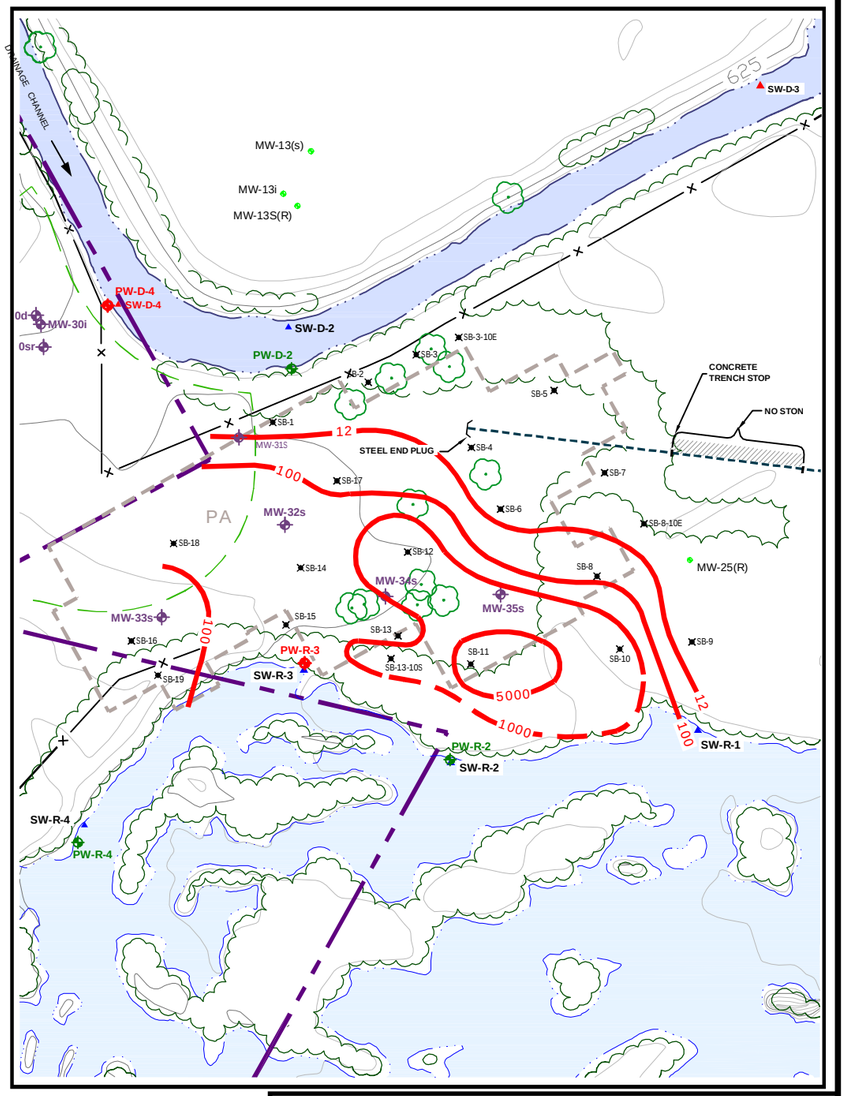
0 60 120

APPROXIMATE SCALE IN FEET

ETHYLBENZENE SOIL ISOCONCENTRATION CONTOURS



XYLENE SOIL ISOCONCENTRATION CONTOURS



LEGEND

- APPROXIMATE PROPERTY LINE
- FENCE LINE
- TREES
- MW-25(R) — GROUNDWATER ELEVATION MONITORING WELL LOCATION AND NUMBER (s = shallow, i = intermediate, d = deep)
- MW-29s — PRMP MONITORING WELL LOCATION AND NUMBER (s = shallow, i = intermediate, d = deep)
- SW-R-1 — SURFACE WATER SAMPLING LOCATION (D = DITCH; R = RIVER)
- SB-18 — SOIL BORING LOCATION
- PW-D-2 — PORE WATER CONTAMINANTS OF CONCERN EXCEED NJDEP GROUNDWATER QUALITY STANDARDS
- PW-D-2 — PORE WATER CONTAMINANTS OF CONCERN DO NOT EXCEED NJDEP GROUNDWATER QUALITY STANDARDS
- PA — AREA WHERE PCB IMPACTED SOILS WERE EXCAVATED
- C-1 — OUTLINE OF 2005 SOURCE REDUCTION AREA AND SUBSURFACE SLURRY MONOLITH
- 630 — POST-REMEDIATION GROUND SURFACE ELEVATIONS, CONTOUR INTERVAL = 1 ft.
- ABANDONED SEWER LINE
- 100 — ISOCONCENTRATION CONTOURS (mg/kg)

NOTES

1. BASE MAP DEVELOPED FROM TOPOGRAPHIC SURVEY PROVIDED BYJAMES M.STEWART, INC. LAND SURVEYORS, DRAWING NO 2793-03.DWG, DATED 02-14-02 AS REVISED 04-10-07 (DRAWING NO. 314907REV.DWG).
2. AS DESCRIBED IN THE NOVEMBER 2005 RAR (SEE FIGURE 9 IN THAT REPORT), THE SLURRY MONOLITH AT AND PARALLEL TO THE DRAINAGE CHANNEL DITCH ENDS APPROXIMATELY 10 FEET WEST OF THE ACTUAL WATERS EDGE.
3. mg/kg = MILLIGRAMS PER KILOGRAM

PROJECT: **DAYCO CORPORATION / L.E. CARPENTER SUPERFUND SITE WHARTON, NEW JERSEY**

TITLE: **ETHYLBENZENE AND XYLENE SOIL ISOCONCENTRATION CONTOURS (mg/Kg)**

DRAWN BY: SJL / DGS / WAB	SCALE:	PROJ. NO.	185281.0000
CHECKED BY: TAB / SP	AS INDICATED	FILE NO.	185281.02.dwg
APPROVED BY: BC	DATE PRINTED:	FIGURE 3	
DATE: APRIL 2012			

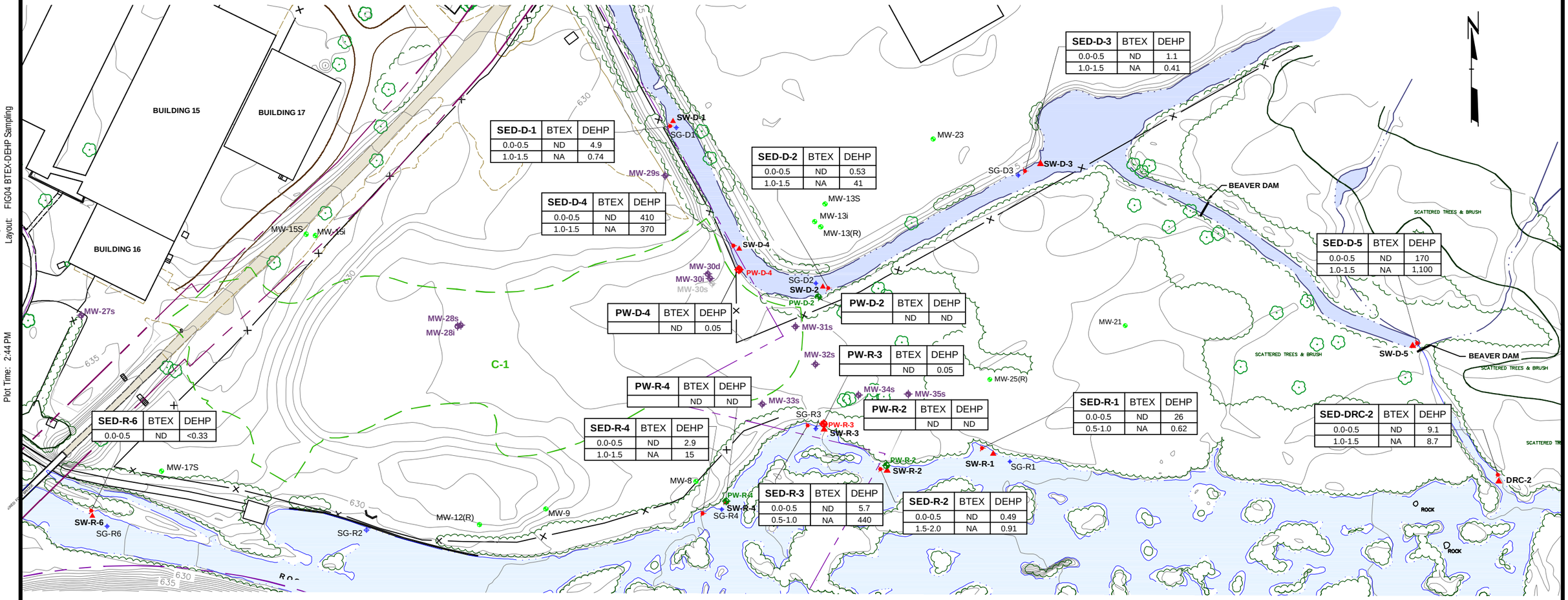
TRC
1540 Eisenhower Place
Ann Arbor, MI 48108
Phone: 734.971.7080
Fax: 734.971.9022

Attached Xref's: FIG03 EB & XYL Contours
Attached Images:
Layout:

Dwg Size: 0.62 Mb bmc041007
Plot Date: April 17, 2012
Plot Time: 1:59 PM

J:_TRC\LE Carpenter\185281\185281.02.dwg
STEHLE, DIANAH
0.386863

PLOT DATA
Drawing Name:
Operator Name:
Drawing Plot Scale:



SED-D-1	BTEX	DEHP
0.0-0.5	ND	4.9
1.0-1.5	NA	0.74

SED-D-2	BTEX	DEHP
0.0-0.5	ND	0.53
1.0-1.5	NA	41

SED-D-3	BTEX	DEHP
0.0-0.5	ND	1.1
1.0-1.5	NA	0.41

SED-D-4	BTEX	DEHP
0.0-0.5	ND	410
1.0-1.5	NA	370

SED-D-5	BTEX	DEHP
0.0-0.5	ND	170
1.0-1.5	NA	1,100

PW-D-4	BTEX	DEHP
	ND	0.05

PW-D-2	BTEX	DEHP
	ND	ND

PW-R-3	BTEX	DEHP
	ND	0.05

PW-R-4	BTEX	DEHP
	ND	ND

PW-R-2	BTEX	DEHP
	ND	ND

SED-R-1	BTEX	DEHP
0.0-0.5	ND	26
0.5-1.0	NA	0.62

SED-DRC-2	BTEX	DEHP
0.0-0.5	ND	9.1
1.0-1.5	NA	8.7

SED-R-6	BTEX	DEHP
0.0-0.5	ND	<0.33

SED-R-4	BTEX	DEHP
0.0-0.5	ND	2.9
1.0-1.5	NA	15

SED-R-3	BTEX	DEHP
0.0-0.5	ND	5.7
0.5-1.0	NA	440

SED-R-2	BTEX	DEHP
0.0-0.5	ND	0.49
1.5-2.0	NA	0.91

0 90 180

APPROXIMATE SCALE IN FEET

LEGEND

- APPROXIMATE PROPERTY LINE
- FENCE LINE
- TREES
- 630 — POST-REMEDIATION GROUND SURFACE ELEVATIONS
- C-1 — OUTLINE OF 2005 SOURCE REDUCTION AREA AND SUBSURFACE SLURRY MONOLITH
- MW-19-1 — ABANDONED MONITORING WELL LOCATION AND NUMBER
- MW-25(R) — GROUNDWATER ELEVATION MONITORING WELL LOCATION AND NUMBER (s = shallow, i = intermediate, d = deep)
- MW-29s — PRMP MONITORING WELL LOCATION AND NUMBER (s = shallow, i = intermediate, d = deep)
- PW-D-2 — PORE WATER CONTAMINANTS OF CONCERN EXCEED NJDEP GROUNDWATER QUALITY STANDARDS
- PW-D-2 — PORE WATER CONTAMINANTS OF CONCERN DO NOT EXCEED NJDEP GROUNDWATER QUALITY STANDARDS
- SW-R-1 — SURFACE WATER SAMPLING LOCATION (D = DITCH; R = RIVER)
- SG-R1 — RIVER POINT SURFACE WATER ELEVATION
- SG-D1 — DRAINAGE CHANNEL POINT SURFACE WATER ELEVATION
- GEI-2I — PIEZOMETER LOCATION
- SEDIMENT SAMPLE LOCATION
- NA — NOT ANALYZED
- ND — NON DETECT

NOTES

1. BASE MAP DEVELOPED FROM TOPOGRAPHIC SURVEY PROVIDED BYJAMES M.STEWART, INC. LAND SURVEYORS, DRAWING NO 2793-03.DWG, DATED 02-14-02 AS REVISED 04-10-07 (DRAWING NO. 314907REV.DWG).
2. ALL SEDIMENT ANALYTICAL RESULTS SHOWN IN MG/KG. THE NJDEP ECOLOGICAL SCREENING VALUE FOR DEHP IS 0.182 MG/KG.
3. ALL PORE WATER ANALYTICAL RESULTS SHOWN IN mg/L.

PROJECT: **DAYCO CORPORATION / L.E. CARPENTER SUPERFUND SITE WHARTON, NEW JERSEY**

TITLE: **BTEX AND DEHP SEDIMENT SAMPLING DETECTIONS (mg/Kg)**

DRAWN BY: SJL/DGS	SCALE: AS INDICATED	PROJ. NO.	185281.0000
CHECKED BY: SP		FILE NO.	185281.04.dwg
APPROVED BY: JJD	DATE PRINTED:	FIGURE 4	
DATE: APRIL 2012			

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108
Phone: 734.971.7080
Fax: 734.971.9022

Attached Xref's:
Attached Images:
Layout: FIG04 BTEX-DEHP Sampling

Dwg Size: 0.85 Mb bmc02011
Plot Date: April 17, 2012
Plot Time: 2:44 PM

PLOT DATA
Drawing Name: J:_TRC\LE Carpenter\185281\185281.04.dwg
Operator Name: STEHLE, DIANAH
Drawing Plot Scale: 0.386863

Appendix A
Field Notes

TRC

PROJECT NAME:	Dayco International/LE Carpenter Site
PROJECT NUMBER:	185281.0000.0000
PROJECT MANAGER:	Barry Culp
SITE LOCATION:	170 N. Main Street Wharton, NJ 07885
DATES OF FIELDWORK:	12/5/2011 TO 12/15/11
PURPOSE OF FIELDWORK:	MW-30 Remedial Investigation
WORK PERFORMED BY:	Scott Pawlukiewicz/Dave Marx

Scott Pawlukiewicz 12/15/11
SIGNED DATE

Scott Mulellen 3-6-12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	Dayco International/LE Carpen	DATE: 12/5/11	TIME ARRIVED: 0730
PROJECT NUMBER:	185281.0000.0000	AUTHOR: Scott Pawlukiewicz/Dav	TIME LEFT: 1615

WEATHER

TEMPERATURE: 50 °F WIND: 0-5 MPH VISIBILITY: OVERCAST

WORK / SAMPLING PERFORMED

- Installed six (6) pore water sample drive-points - top of screens set at 2' below top of sediment at all locations.
  [PW-R-1, -R-2, -R-3, -R-4, -D-4, -D-2 (low LEC/whorlow side)]
- Collected sediment samples: SED-R-1 (0.0-0.5), SED-R-2, SED-R-3, SED-R-4.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
—	—

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
P. Condon	LEC	Check-In

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
—	—	—

S. Pawlukiewicz 12/5/11
SIGNED DATE

Scott Mulder 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	Dayco International/LE Carpen	DATE:	12/6/11	TIME ARRIVED:	0730
PROJECT NUMBER:	185281.0000.0000	AUTHOR:	Scott Pawlukiewicz/Dav	TIME LEFT:	1415

WEATHER

TEMPERATURE: 60 °F WIND: 0-5 MPH VISIBILITY: Overcast / Rain

WORK / SAMPLING PERFORMED

Collected sediment samples: SED-R-6, SED-D-3, SED-D-1, SED-D-2 (MS/MSD), SED-D-4 (Dup 1), SED-R-1 (0.5'-1.0') ← Deep sample only.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
—	—

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Culp	TRC	Progress Update.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
—	—	—

S Pawlukiewicz 12/6/11
SIGNED DATE

Scott Middle 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME: Dayco International/LE Carpen	DATE: 12/7/11	TIME ARRIVED: 0700
PROJECT NUMBER: 185281.0000.0000	AUTHOR: Scott Pawlukiewicz/Dav	TIME LEFT: 1330 (crew) 1615

WEATHER

TEMPERATURE: 50 °F WIND: 0-5 MPH VISIBILITY: Rain

WORK / SAMPLING PERFORMED

0800 - ARS Arrives with Geoprobe 8140DT Drill Rig.
- Prep for ~~Fieldwork~~ SP Drilling Scope.
- Abandoned MW-30S
- Attempted Drilling MW-30S(R); Refusal @ Approx. 4' that stops drilling (steel plate?) + destroys drill tip.
- Severe Rain in PM, Shutdown for day @ 1330.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
- Cannot get Support equipment (H2O + Bore Tubes) to wetlands area w/ Tire wheel Skid-Steer	* Track-Mounted Skid-Steer ordered
- Steel plate hit Approx. 4' bgs @ MW-30S(R)	* Shutdown for day

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Alp	TRC	Progress Update.
B. Beckell	ARS	Updates, Approval for temp. bathrooms, etc.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
—	—	—

S. Pawlukiewicz 12/7/11
SIGNED DATE

Scott Mulder 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	Dayco International/LE Carpen	DATE:	12/8/11	TIME ARRIVED:	0700
PROJECT NUMBER:	185281.0000.0000	AUTHOR:	Scott Pawlukiewicz/Dav	TIME LEFT:	1715

WEATHER

TEMPERATURE: 30 °F WIND: 5-15 MPH VISIBILITY: Clear

WORK / SAMPLING PERFORMED

- Installed MW-305(R)
- Collected Sediment Samples: SED-R-2(1.5-2.0), SED-R-3(0.5-1.0), SED-R-4(1.0-1.5) SED-DRC-02(0.0-0.5), SED-DRC-02(1.0-1.5), SED-D-5(0.0-0.5), SED-D-5(1.0-1.5).
- Completed Soil Borings: SB-5, SB-7, SB-8, SB-9.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
NA	—

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Culp	TRC	Progress Update.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS

S. Pawlukiewicz 12/8/11
SIGNED DATE

Scott Muldoon 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME: Dayco International/LE Carpen	DATE: 12/9/11	TIME ARRIVED: 0700
PROJECT NUMBER: 185281.0000.0000	AUTHOR: Scott Pawlukiewicz/Dav	TIME LEFT: 1700

(1500 Drillers offsite

WEATHER

TEMPERATURE: 40-45 °F WIND: 0-10 MPH VISIBILITY: clear

WORK / SAMPLING PERFORMED

Completed soil Borings: SB-6, ~~SB-7~~ SB-4, SB-3, SB-2, SB-12.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
—	—

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Culp	TRC	Progress Update.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS

S Pawlukiewicz 12/9/11
SIGNED DATE

Scott Meddle 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME: Dayco International/LE Carpen	DATE: 12/10/11	TIME ARRIVED: 0700
PROJECT NUMBER: 185281.0000.0000	AUTHOR: Scott Pawlukiewicz/Dav	TIME LEFT: 1630

WEATHER

TEMPERATURE: 25-40 °F WIND: 0-10 MPH VISIBILITY: clear

WORK / SAMPLING PERFORMED

- Completed Soil Borings: SB-15, SB-14, SB-16, SB-I.
- Completed two (2) borings for trenability (SB-14A, -14B) north of SB-14.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
—	—

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Culp	TRC	Progress Update.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS

S. Pawlukiewicz 12/10/11
SIGNED DATE

Scott Muldoon 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	Dayco International/LE Carpen	DATE: 12/11/11	TIME ARRIVED: 0700
PROJECT NUMBER:	185281.0000.0000	AUTHOR: Scott Pawlukiewicz/Dav	TIME LEFT: 1645

WEATHER

TEMPERATURE: 35 °F WIND: 0-10 MPH VISIBILITY: clear

WORK / SAMPLING PERFORMED

- Completed slug tests @ MW-315, MW-335.
- Purged six (6) porewater drive-points dry.
  - Collected partial samples @ PW-R-2, -R-3, -D-2.
  - Complete sample @ PW-R-4.
- Changed non-absorbent booms near SW-R-1, SW-D-4.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
—	—
Low Recovery @ PW-R-1, PW-D-4	

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Culp	TRC	Progress Update.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS

S. Pawlukiewicz 12/11/11
SIGNED DATE

Scott Michelle 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	Dayco International/LE Carpen	DATE:	12/12/11	TIME ARRIVED:	0700
PROJECT NUMBER:	185281.0000.0000	AUTHOR:	Scott Pawlukiewicz/Dav	TIME LEFT:	1715

WEATHER

TEMPERATURE: 30-35 °F WIND: 0-5 MPH VISIBILITY: Cloudy

WORK / SAMPLING PERFORMED

Completed Soil Borings: SB-13, SB-13-105, SB-11, SB-10.
Collected Approximate Porewater Samples

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
—	—

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Culp	TRC	Progress Update.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
—	—	—

S Pawlukiewicz 12/12/11
SIGNED DATE

Scott Mulvihill 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	Dayco International/LE Carpen	DATE:	12/13/11	TIME ARRIVED:	0700
PROJECT NUMBER:	185281.0000.0000	AUTHOR:	Scott Pawlukiewicz/Dav	TIME LEFT:	1645

WEATHER

TEMPERATURE: 40-45 °F WIND: 0-10 MPH VISIBILITY: Partly Cloudy

WORK / SAMPLING PERFORMED

- Completed Soil Borings: SB-8-10E, SB-3-10E, SB-17, SB-18, SB-19
- Installed protective casing / pad @ MW-30s(R).
- Collect 100'tl pore water samples.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
—	—

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Culp	TRC	Progress Update.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
—	—	—

S Pawlukiewicz 12/13/11
SIGNED DATE

Scott Muddle 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	Dayco International/LE Carpen	DATE:	12/14/11	TIME ARRIVED:	0700
PROJECT NUMBER:	185281.0000.0000	AUTHOR:	Scott Pawlukiewicz/Dav	TIME LEFT:	1700

WEATHER

TEMPERATURE: 40 °F WIND: 0-10 MPH VISIBILITY: Partly cloudy.

WORK / SAMPLING PERFORMED

- Performed Slug test @ MW-32s, -34s, -35s, ~~-30i, -30s(R)~~ 5D
- Collect Remaining Pore water Sample volumes.
- Develop MW-30s(R).
- ARS performs basic site restoration using Skid Steer, Bore holes topped off with Bentonite chips.
- EWMI onsite to Transfer Purgewater to Drums, Drum Inventory.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN
—	—

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Culp	TRC	Update.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
—	—	—

S. Pawlukiewicz 12/14/11
SIGNED DATE

Scott Mulvihill 3/6/12
CHECKED BY DATE

TRC

GENERAL NOTES

PROJECT NAME:	Dayco International/LE Carpen	DATE:	12/15/11	TIME ARRIVED:	0700
PROJECT NUMBER:	185281.0000.0000	AUTHOR:	Scott Pawlukiewicz/Dav	TIME LEFT:	1300

WEATHER

TEMPERATURE: 45-55 °F WIND: 5-15 MPH VISIBILITY: Overcast

WORK / SAMPLING PERFORMED

- Slug test @ MW-30i, MW-30S(R).
- Clean / Decon equipment, Site.
- DEMOB.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION TAKEN

COMMUNICATION

NAME	REPRESENTING	SUBJECT / COMMENTS
B. Culp	TRC	Update.
D. Condon	LEC	Check-out from site.

INVESTIGATION DERIVED WASTE SUMMARY

WASTE MATRIX	QUANTITY	COMMENTS
—	—	—

B. Pawlukiewicz 12/15/11 Scott Muldoon 3/6/12

SIGNED DATE CHECKED BY DATE

TRC

EQUIPMENT SUMMARY

PROJECT NAME:	Dayco International/LE Carpe	SAMPLER NAME:	Scott Pawlukiewicz/Dave Marx
PROJECT NO.:	185281.0000.0000		

WATER LEVEL MEASUREMENTS COLLECTED WITH:

Solinst — NAME AND MODEL OF INSTRUMENT

Rental — SERIAL NUMBER (IF APPLICABLE)

PRODUCT LEVEL MEASUREMENTS COLLECTED WITH:

NA — NAME AND MODEL OF INSTRUMENT

SERIAL NUMBER (IF APPLICABLE)

DEPTH TO BOTTOM OF WELL MEASUREMENTS COLLECTED WITH:

NA — NAME AND MODEL OF INSTRUMENT

SERIAL NUMBER (IF APPLICABLE)

PURGING METHOD

Peristaltic Geopump — NAME AND MODEL OF PUMP OR TYPE OF BAILER

Rental — SERIAL NUMBER (IF APPLICABLE)

SAMPLING METHOD

Peristaltic Geopump — NAME AND MODEL OF PUMP OR TYPE OF BAILER

Rental — SERIAL NUMBER (IF APPLICABLE)

— NAME AND MODEL OF FILTERATION DEVICE

— FILTER TYPE AND SIZE

P.E. — TUBING TYPE

LOW-FLOW SAMPLING EVENT ☐

PURGE WATER DISPOSAL METHOD

GROUND DRUM POTW POLYTANK OTHER NA

DECONTAMINATION AND FIELD BLANK WATER SOURCE

☐ ☒ STORE BOUGHT — POTABLE WATER SOURCE

☐ ☐ STORE BOUGHT — DI WATER SOURCE

B Pawlukiewicz 12/15/11 — SIGNED DATE

Scott Mulder 3/6/12 — CHECKED BY DATE

REVISED 06/2011

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	Dayco International/LE Carpenter Site	MODEL: YSI 556	SAMPLER: SP/DM
PROJECT NO.:	185281.0000.0000	SERIAL #: Field Eng. RFW2202	DATE: 12/11/11

PH CALIBRATION CHECK

pH 7 (LOT #): — F.E. (EXP. DATE): — F.E. POST-CAL. READING / STANDARD	pH 4 / 10 (LOT #): (EXP. DATE): POST-CAL. READING / STANDARD	CAL. RANGE	TIME
7.02 / 7.00	3.82 / 4.00	☑ WITHIN RANGE	0940
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): (EXP. DATE): POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
828 / 911	9.72	☑ WITHIN RANGE	0942
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): (EXP. DATE): POST-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
— / —	—	☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CALIBRATION READING (mg/L)	CAL. RANGE	TIME
—	☐ WITHIN RANGE	
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): — (EXP. DATE): — POST-CAL. READING / STANDARD	(LOT #): — (EXP. DATE): — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
— / —	— / —	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☐ AUTOCAL SOLUTION (LOT #): (EXP. DATE):	☐ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	**CALIBRATION RANGES (1)**
☐ pH	pH: +/- 0.2 S.U.
☐ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

Do Meter not functioning.

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
—	—

S. Pawlikowski 12/11/11
SIGNED DATE

Scott Maddle 3/6/12
CHECKED BY DATE

REVISED 06/2011

TRC

MONITORING WELL DECOMMISSIONING LOG

PROJECT NAME:	Dayco International/LE Carpenter Site	MONITORING WELL ID:	MW-30S
PROJECT NUMBER: 185281.0000.000	DATE: 12/07/11	LOCATION: MW-30S	LOCATION COORDINATES: N: E:
OBSERVED BY:	Scott Pawlukiewicz/Dave Marx		
DRILLING CONTRACTOR:	Mayor		
CREW CHIEF:	Wes.	TOP OF CASING ELEV.: _____	SURFACE ELEV.: _____

PROTECTIVE COVER TYPE:	[X] STICK-UP [ ] FLUSH MOUNT [ ] TRAF. BOX [ ] OTHER _____
PROTECTIVE COVER DIAMETER:	[ ] 4" [ ] 8" [ ] 9" [ ] 10" [ ] 12" [ ] OTHER _____
WELL MATERIAL:	[ ] PVC [X] SS [ ] IRON [ ] GALVANIZED STEEL [ ] OTHER _____
WELL CASING DIAMETER:	[ ] 1" [X] 2" [ ] 4" [ ] 6" [ ] 8" [ ] OTHER _____
WELL SCREEN MATERIAL:	[X] PVC [X] SS [ ] IRON [ ] GALVANIZED STEEL [ ] OTHER _____
WELL SCREEN LENGTH:	[X] 5-FT [ ] 10-FT [ ] UNKNOWN [ ] OTHER _____
WELL SCREEN SLOT SIZE:	[X] 0.01" [ ] 0.02" [ ] UNKNOWN [ ] OTHER _____

DTW: 1.56 T/ PVC

DTB: _____ T/ PVC

DECOMMISSIONING PROCEDURE:

NOTES: Well and Stickup [illegible], grout tremied bottom up.

GROUTING PROCEDURE:

GROUT TYPE:

GROUT MIX:

GROUT INTERVAL: 10 FT-BGS TO 0 FT-BGS

BENTONITE SEAL:

SEAL INTERVAL: NA FT-BGS TO NA FT-BGS

NOTES:

ADDITIONAL COMMENTS:

S Pawlukiewicz	12/7/11	Scott Muddle	3/6/12
SIGNED	DATE	CHECKED	DATE

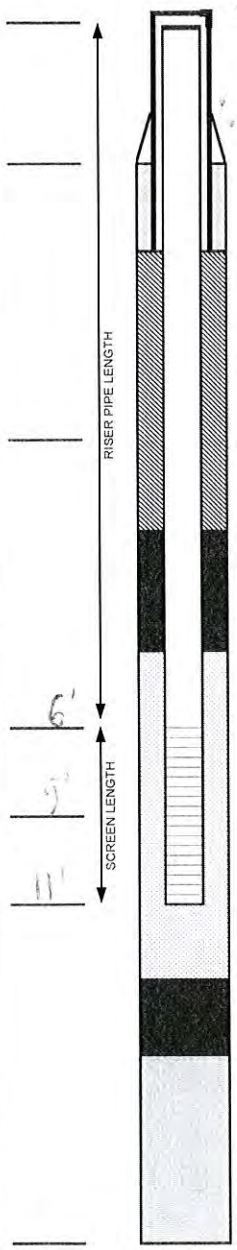
REVISED 06/2011

TRC

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Dayco International/LE Carpenter Site	WELL ID:	MW-30S (R)
PROJ. NO: 185281.0000.0	DATE INSTALLED: 12/08/11	INSTALLED BY: Scott Pawlukiewicz/Dave	CHECKED BY: SM

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
	2.75	TOP OF CASING
	0.0	GROUND SURFACE
	0.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: Portland cement
		GROUT/BACKFILL METHOD:
	3'	GROUT
		BENTONITE SEAL MATERIAL: Hole Plug
	4'	BENTONITE SEAL
6'	6'	TOP OF SCREEN
		FILTER PACK MATERIAL: Sand
11'	11'	BOTTOM OF SCREEN
	11'	BOTTOM OF FILTER PACK
	NA	BENTONITE PLUG
		BACKFILL MATERIAL: NA
	11	HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: Steel Stainless Steel

PIPE SCHEDULE: 40

PIPE JOINTS: FLUSH

SOLVENT USED? No

SCREEN TYPE: SS

SCR. SLOT SIZE: 0.01

BOREHOLE DIAMETER: 6 IN. FROM 0 TO 11 FT.
___ IN. FROM ___ TO ___ FT.

SURF. CASING DIAMETER: ___ IN. FROM ___ TO ___ FT.
___ IN. FROM ___ TO ___ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: Purge + Surge

TIME DEVELOPING: 1 HOURS

WATER REMOVED: 100 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy, 504 NTU

COLOR BEFORE: Grey

CLARITY AFTER: Clear

COLOR AFTER: Clear, 34 NTU

ODOR (IF PRESENT): Slight

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	13.00	T/PVC	12/14/11	1352
DTB AFTER DEVELOPING:	13.00	T/PVC	/	1455
SWE BEFORE DEVELOPING:	1.58	T/PVC	12/14/11	1352
SWE AFTER DEVELOPING:	1.60	T/PVC	12/14/11	1454
OTHER SWE:	2.05	T/PVC	12/14/11	1418
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3807

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-1	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 2
LOGGED BY:	Scott Pawlukiewicz Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 10 Dec 11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 10 Dec 11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND		0-3.5' - Very Dark Greyish Brown (3/2) Clayey silt some m sand and fine angular gravel (firm)	recovery: 40
					2.5		
				8.0		3.5-5.0 - Vdk. gray brown (3/2) silt, f-m sand and f-c angular / semi-angular gravel, COBBLE (firm)	
				4.0			
				1.9	5.0		
				1.4		5.0-7.0 SAA, wet	Recovery: 42
				9		7.0-9.0 - Bluish Gray (5/10B) m-c sand, f-m mixed gravel, some cobbles (loose)	
				9	7.5		SB-1/(7.5-8.0) 10:36
				18			
				1			
				ND		9-10 - Bluish Gray (5/10B) silt and f-m sand and mixed gravel (semi-firm)	OIS = Green 8
					10.0		recovery: 0
					12.5		
					15.0		
				ND		15-20" Bluish Gray (5/10B) f-c sand, and fine rounded gravel, some silt, Cobbles (semi-loose)	Recovery: 30
				ND			
				10	17.5		
				7.5			
					20.0		

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mulder 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

SHEET 2 OF 2

PROJECT NAME: Dayco International/LE Carpenter Site

SOIL BORING ID: SB-1

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				NO		~~Cob~~	Recovery = 24'
						20-23 cobbles	
						23-25' Grey Brown f-c sand and f-c rounded gravel.	SB-1(24.5-25.0) 1042
					22.5		
					25.0		
					27.5		
					30.0		
					32.5		
					35.0		
					37.5		
					40.0		
					42.5		
					45.0		

SIGNED [signature] DATE 12/13/11

CHECKED [signature] DATE 3-6-12

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-2	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 9DEC11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 9DEC11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND		0'-0.5' - Organic Material, some Black Clay	recovery = 32
						0.5-1.0 - Black (2.5y-1) clay some Organic material and fine angular gravel (firm)	
					2.5	1.0-5.0 - Dk Ol. Gray (3/2 5Y) and Greyish Green (4/2-4/5G) "marblized) some fm sand, little fine angular gravel	
					5.0		
				17.6 13.5 1.0		5.0-7.5 - Dark Gray (4/N) F-m angular gravel some sand and silt, m-l rounded and semi-rounded Cobbles. Tight, wet. *Very slight sheen	recovery = 33 OIS = 5'
				ND 0.9 4.5	7.5	7.5-10.0 - Greenish Gray (5/10GY) silt and f-m sand, some coarse sand and fine rounded gravel, Trace coarse semi-angular gravel, Rounded - Cobbles	~~1400: SB-2/(~~ 1355: SB-2/(5.0-5.5)
					10.0		
				14.0 4.0 2.0 1.4 0.9 ND NP		* Approx 9" cave in: Grey sand and silt and organic material	recovery = 26 OIS = 10'
					12.5	10'-15' = Rounded and semi Rounded Cobbles, Dark grey (4/N) sand and silt, some fine angular gravel. tight.	~~1355: SB-2/(10.0-10.5)~~ ~~10.0-10.5~~
					15.0		
				ND ND ND		15-20' - Lt grey (7/1 2.5YR) silt, f-m sand, f-c rounded gravel. wet, loose.	recovery 16 14.00: SB-2/(15.0-15.5)
					17.5		
					20.0		

DRILLING METHOD	Sonic
DRILL RIG	8140DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

[signature] 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-3	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 9 DEC 11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 9 DEC 11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND		0-5' - Black (2.5y /1) Silty clay, and organic material, little cobbles, trace medium gray sand at bottom	recovery - 13
					2.5		
					5.0		
				80		5-6' V dk gray (3/N) Clay, some fine gravel silt	recovery - ~~0~~ 42"
				14			
				13		6-9' V dk grey (3/N) Clay firm	1545
				ND	7.5		SB-3/(5.0-5.5)
				0.1		9-10 silt sand and gravel, Very large cobble,	
				0.2			
				ND			
					10.0		
				ND		10-15 - Black (2.5/1 = 5 year) Clay, some medium sand and organic material, little fine angular gravel. Cobbles throughout.	recovery - 37
							OIS = Green
							11'
					12.5		1250: SB-3/(11.0-11.5)
							1255: SB-3/(14.5-15.0)
					15.0		
				ND		15.0-20.0 - Lt. Gray - Brown, ~~Fine~~ sand silt, and f-m gravel some cobbles	recovery: 20
					17.5		
					20.0		

DRILLING METHOD	Sonic
DRILL RIG	8140
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mulvihill 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-3-10E	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/13/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/13/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND		0.0-0.5 Dk brown (10R 5/1) silt, some organics some c sand saturated.	Rec: 38"
				ND		0.5-5.0 Dk grey (Gley 2 2.5/5B) silt, trl clay, some f.c sand, some f gravel, saturated	oil in soil =
				ND			
				ND	2.5		
				ND			
				8.7			
					5.0	5.0-10.0 Dk grey (Gley 2 2.5/10Bg) silt and f-m sand f.c gravel trl/c sand/tr clay, tight.	Rec: 42"
				44.1			oil in soil =
				73.9			
				128.1			sampled 5.5-6.0 @ 1058
				74.1	7.5		
				23.1			
				5.2			
				ND			
					10.0	10.0-11.5 SAA	
				0.8			Rec: 43"
				0.3		11.5-15.0 Brown grey (10YR 5/2) silt and f.c sand with f.c gravel, saturated.	oil in soil =
				ND			
				ND	12.5		
				ND			sampled 14.5-15.0 @ 1107
				ND			
					15.0	15.0-20.0 Brown grey (10YR 5/2) f.c sand, some f.c gravel, trl silt, saturated.	Rec 14"
				ND			Oil in soil =
				ND			
				ND	17.5		
				ND			
					20.0		

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S Pawlukiewicz 12/13/11
SIGNED DATE

Scott Muddle 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-4	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 9 DEC 11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 9 DEC 11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND ND ND ND ND 0.5	2.5	0-5' Brown Clayey Silt, some f-m sand trace fine angular Gravel, Organics present 0-0.5 then trace throughout Stiff	recovery ~~2.75~~ 32" OIS = NC
				10 3 70 1 3 4.0	5.0 7.5 10.0	5.0-9.0 - Grey-Brown Silt and f-m sand, some f-c rounded gravel, large rounded cobbles throughout 9.0-10' Grey to Red-Brown f-m sand, some silt and fine rounded gravel	recovery = 34 OIS = Green 6' OIS = Green 9'
				0.1 ND ND ND ND ND ND ND	12.5 15.0	10-12' SAA 12.0-13.0' Gray sand silt and cobbles, stiff 13.0-13.5 - Grey silty sand and f-m angular gravel 13.5-14.0 = Pink (8/3) 7.5 and Grey (5/1) f-m 7.5 sand and silt little fine angular gravel	recovery = 53 OIS = NC
				ND	17.5 20.0	14.0-15.0 = Dark-gray (4/1) 7.5 well sorted f-m sand some fine angular gravel and cobbles 15-20' = Grey (4/1 = 7.5) loose f-c sand, f-c gravel and cobbles.	recovery = 19" OIS = NC

DRILLING METHOD	Sonic
DRILL RIG	8140
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

[signature] 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-5	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/13/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/13/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				NP NP NP NP NP NP NP NP	2.5	DK brown silt, little f sand, some organics, saturated	3" Recovery No sample Oil in soil = Sheen
				NP NP NP NP NP NP	5.0 7.5	Dk gray (Gley 1 2.5/10GY), silt and f-m sand, some f-m gravel, little c sand some organics, saturated	Rec 15" sampled 5.0-5.5 @ 10:55 Oil-in-Soil = Green
				NP NP NP NP NP NP NP NP	10.0 12.5 15.0	10-10.5 Dk gray (Gley 1 2.5/10GY) silt and f gravel saturated 10.5-13.0 Dk gray (Gley 1 2.5/10Y) silt and clay, wet 13.0-15.0 (Gley 1 5/10Y) Lt gray brown silt, some f c gravel, little f sand, very hard, dry. ~~Gravel in soil fragments~~ 1H	Rec 53" Oil in soil = Sheen sampled 10.0-10.5 @ 11:16
				NP NP NP NP NP NP NP NP NP	17.5 20.0	15.0-20.0 (Hard) Lt gray (Gley 1 N/10Y) f-c gravel and f-c sand, little silt saturated	Rec 32" Oil in soil = Sheen

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mudd 3/6/12
CHECKED

REVISED 06/2011

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LOG OF SOIL BORING

PROJECT NAME: Dayco International/LE Carpenter Site		SOIL BORING ID: SB-6	
PROJECT NUMBER: 185281.0000.0000		LOCATION:	SHEET 1 OF 1
LOGGED BY: Scott Pawlukiewicz/Dave Marx			SURFACE ELEV.:
PROJECT LOCATION: 170 N. Main Street		N: E:	DATE STARTED: 12/9/11
DRILLED BY: ARS	DRILLER NAME: Wes		DATE COMPLETED: 12/9/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND		0-1 Grey-Brown sand + silt, some organic material saturated.	recovery = 26 OIS = green
					2.5	1-3.5 Grey Brown sand and silt, some fine angular gravel, trace clay.	
						3.5-4.0 large sem-rounded cobbles	
					5.0	4.0-5.0 Grey Silty Clay, some coarse rounded gravel	
				ND		5.0-10.0 - Grey Brown Silt, f-c sand, and f-c rounded gravel, some rounded cobbles throughout wet throughout	recovery = 16 OIS = green
					7.5		@933: SB-6/(6.5-7.0)
					10.0	10-15 - SAA	
				ND			Recovery = 48"
					12.5		0940: SB-6/(12.0-12.5)
					15.0	15-20 - Grey m-c sand and f-c gravel loose	
				ND			recovery = 18" OIS = green
					17.5		
					20.0		

DRILLING METHOD	Sonic
DRILL RIG	810DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Middleton 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-7	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/08/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/08/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND ND ND ND		0.0-5.0 Dk brown (clay 1 3/10Y) silt w/ organics, lt clay and saturated	Rec 14" Oil in soil = green 0.5-1.0 @ 1348
					2.5		
						(clay 1 7/5y)	
					5.0		
				ND ND ND ND ND ND		5.0-10.0 Dk grey silt with clay and f-m sand lt c sand lt m-c gravel, saturated.	Rec = 16" Oil in soil = green 5.0-5.5 @ 1405
					7.5		
						(clay 1 4/10Y)	
					10.0		
				ND ND ND ND ND ND ND ND ND ND		10.0-15.0 Dk brown-grey silt and f-c sand, lt clay tight, some f-c gravel, moist	Rec 42" Oil in soil = green
					12.5		
					15.0		
				ND ND ND ND		15-20 - Dk brown-grey f-c sand, lt silt, with f-c gravel saturated	Rec = 11" Oil in soil = green
					17.5		
					20.0		

DRILLING METHOD	
Sonic	
DRILL RIG	
8140 DT	
BORING DIAMETER	
6"	

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mulville 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-8	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/08/11
DRILLED BY:	ARS	DRILLER NAME: WCS	DATE COMPLETED: 12/08/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				NP NP NP NP NP NP NP NP NP	2.5	~~Dk~~ 0.0-5.0 Dk brown silt with clay, some f-c gravel, some organics lt-l c sand saturated	Rec: 30"
				1.7 4.3	5.0 7.5	5.0-10.0 Dk grey silt and clay saturated	Rec: 7"
				7.7 21.3 46.3 70.3 126.5 783 363 5.0 0.9 NP	10.0 12.5 15.0	~~10.0-14.5~~ - 10.0-10.5 SAA 10.5-14.5 tan grey silt and tight lt-l clay some f-c gravel, / str chem-like odor 14.5-15.0 Dk tan grey f-c sand and f-c gravel, little silt / saturated	Rec: 45" 13.0-13.5 @ 1517 14.5-15.0 @ 1525 15-20 No recovery

DRILLING METHOD	WATER LEVEL OBSERVATIONS			
Sonic	FIRST OCCURRENCE:			
DRILL RIG	DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM
8140 DT				
BORING DIAMETER				
6"				

S Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mudell 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-8-10E	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/13/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/13/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				NP NO NP NP NP NP NP NP NP	2.5	0.0-0.5 DK brown (10YR 5/1) silt, some clay, lt f gravel, some organics, saturated 0.5-5.0 DK brown (10YR 5/1) silt and clay, some f-c gravel lt c sand.	Rec = 47" oil in soil = gr
				NP NO NP NP NP NP NP NP NP	5.0 7.5 10.0	5.0-7.5 DK gray (Gley 2 3/5PB) clay, some silt, with f-c gravel. 7.5-10.0 Lt gray (Gley 2 8/5PB) silt and f-c gravel some f-c sand, tight dry.	Rec = 57" oil in soil = gr sampled 7.5-8.0 C0926
				NP NP NP NP NP NP NP NP NP	12.5 15.0	10.0-15.0 Lt brown-gray (10YR 5/3) silt and f-c sand and f-c gravel, lt clay, saturated	Rec 39" oil in soil = gr
				NP NP NP NP NP NP NP	17.5 20.0	15.0-20.0 DK gray (Gley 2 2.5/10B) f-c sand and f-c gravel, lt silt, saturated	Rec 26" oil in soil = gr sampled 19.5-20.0 C0931

DRILLING METHOD	SONIC
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

S. Muddle 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-9	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/08/11
DRILLED BY:	ARS	DRILLER NAME:	DATE COMPLETED: 12/08/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND ND ND ND ND ND	2.5	0.0 - 4.5 - Brown silt with f-m sand ~~with some~~ f-c gravel lt organics	Rec 3.1 0.5 - 1.0 1551 oil-in-soil = green
					5.0	4.5 - 5.0 Dk grey silt with clay some f-c sand lt m-c gravel, saturated tight	4.5 - 5.0 1606
				ND ND ND ND	7.5	5.0 - 10.0 SAA	Rec 18 oil-in-soil = green
				ND ND ND ND ND ND ND ND	10.0 12.5 15.0	10.0 - 14.0 Dk grey silt and f-c sand w f-m gravel trace c gravel saturated 14.0 - 15.0 Dk grey f-c sand and f-m gravel, ~~&~~ little silt, saturated	Rec 52 oil in soil = green
					17.5 20.0		15-20 No Recovery

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Middleton 3-6-12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-10	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/12/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/12/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND		0.0-5.0 Dk brown (5YR 4/4) silt and clay, some organics soft, saturated	Rec = 5"
					2.5		
					5.0	5.0-7.0 Dk brown (Gley 1 2.5/10Y) silt, little clay saturated	Rec = 31" Sample 1505 7.0-7.5
				10.3			
				23.2			
				25			
				115.0	7.5	7.0-10.0 Dk grey (Gley 1 3/N) silt and f-c sand with f-c gravel saturated strong odor	
				50.5			
				75.1			
				100.1			
					10.0		
				126		10.0-15.0 Dk grey (Gley 1 3/N) f-c sand and f-m gravel, some silt, saturated	Rec 29"
				115			
				103	12.5		
				87.5			
				78.1			
				58.4	15.0		
						15.0-20.0 Dk grey (Gley 1 2.5/N) f-c sand and f-c gravel, trace silt	Rec 36" 19.5-20.0 @1515
				20.3			
				8.9			
				10.1	17.5		
				0.8			
				5.6			
				1.2	20.0		

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mudlle 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-11	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/~~Dave Marx~~		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/12/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/12/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND 26.1 13.7 9.6 9.6 11.1	2.5	0.0-5.0 DK brown (5YR 3/4) silt and clay little f-m gravel trace c sand saturated some organics.	Rec = 32 oil in soil = Sheen
					5.0	(Clay 1 4/10Y)	
				443 2164 2880 4122 1350 1060	7.5	5.0-7.5 DK gray brown silt and clay some f-m gravel, str odor wet (Clay 1 5/5GY) 7.5-10.0 DK brown gray silt and f-c sand some f-m gravel saturated odor. str	Rec = 32 Oil in soil = Heavy 7.5-8.0 @ 1402
					10.0	(Clay 1 3/N)	
				184 285 387 60.4 292 63.1	12.5	10.0-12.0 DK gray f-c sand with silt saturated str odor (Clay 2 4/5PB) 12.0-14.0 Gray f-c sand and silt and f-c gravel saturated odor	Rec = 38 oil in soil = Sheen 14.5-15.0 @ 1407
					15.0		No recovery
					17.5		20-25 also No recovery
					20.0		

DRILLING METHOD	Solid
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Muldell 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-12	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 9 Dec 11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 9 Dec 11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND ND ND ND 1.4 15.0 94.1	2.5	0-5 V. Dk Greyish Brown (3/2 2.5Y) silt & f-m sand. Some f-m rounded gravel, trace coarse angular gravel, Trace organic material	Recovery=42 OIS=Green
				105 389 790 2000 400 1000 4000 2700	5.0 7.5	5.0-7.5' Dk greyish Brown (4/2 2.5Y) Clay trace silt and fine semi-angular gravel firm 7.5-10.0- Gray (5/1 2.5Y) silt, f-c sand, f-m rounded gravel, Coarse angular gravel, large Rounded cobbles present.	recovery=57 OIS=Red 9.5' OIS=Pinkball 7' 8.5-9.0 SB-12/(~~14.0-14.5~~) ~~OIS=RED~~ :1500
			1740 570		10.0		
			~~1.2~~ ~~0.9~~ ~~24.5~~	1.2 0.9 24.5 22.3	12.5	10-13'- Cobbles 13-15' (SA 7.5-10.0)	recovery=20 OIS=Green 17'
				20.0 14.5 25.7 9.6	15.0 17.5 20.0	15'-20' Grey m-c sand f angular gravel well sorted	recovery=22 15:20: SB-12/(16.5-17.0)

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Middleton 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-13	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 2
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/12/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/12/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				NP NP NP NP NP 1.7	2.5	0.0-1.0 Dk brown silt ~~[illegible]~~ m-c sand some organics (~10R 3/2) saturated 1.0-5.0 Dk grey (gley 2 4/5PB) silt and clay, some m gravel saturated	Rec = 25" oil in soil = green
				447 506 160.5 326.1 440.2 555 2101 3460	5.0 7.5	5.0-6.0 Dk grey (gley 2 4/5PB) silt and clay lt/ f-m gravel 6.0-10.0 Dk grey (gley 2 4/5PB) silt and f-c sand with f-c gravel tight. str odor	Rec 34" oil in soil = red Sampled 9.5-10.0 @ 1008
				303 343 492 169 103 252 340 752	10.0 12.5	10.0-12.5 Dk grey (gley 2 4/5PB) silt and clay some m-c sand, some f gravel, soft, saturated. 12.5-14.5 Dk grey (gley 2 4/5PB) f-c sand and f-c gravel ~~with~~ some silt saturated 14.5-15.0 SAA f-c sand and ~~f-m~~ gravel ~~with~~ and silt tight	Rec 36" oil in soil = green
				101 117 97.1 109 115 75 53 89	15.0 17.5 20.0	15.0-20.0 Dk grey (gley 2 4/5PB) f-c sand and f-c gravel with silt. saturated	Rec: 37" oil in soil = green

DRILLING METHOD	SONIC
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mulvihill 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

SHEET 2 OF 2

PROJECT NAME: Dayco International/LE Carpenter Site

SOIL BORING ID: SB-13

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				43		20.0-25.0 - D/C grey (day 2 3/5/13) f-c sand	Rec 41"
				58		some f-c gravel, little silt.	oil in soil -
				76			green
				36			
					22.5		
				23			
				38			
				42			
				41			
					25.0		
				9.7		25-30 - River rock trace f-c sand	Rec 13"
				10.7			sampled 29.5-30.0
							@ 1017
					27.5		
					30.0		
					32.5		
					35.0		
					37.5		
					40.0		
					42.5		
					45.0		

S. Pauley 12/13/11
SIGNED DATE

Scott Middle 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-13-10s	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 2
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/12/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/12/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND ND ND		0.0-5.0 Dk brown (10R 3/2) silt, little f-m sand some organics saturated	Rec 9" oil in soil = green
					2.5		
					5.0		
				53.6 14.7 0.8 1.3 8.9 163.5 710 2550		5.0-6.0 Dk grey (gley 2 4/5PB) silt and little clay, soft saturated 6.0-7.8 Dk grey (gley 2 4/5PB) clay some silt trace m-c sand saturated 7.8-8.5 - green brown (5Y 4/3) clay, little f gravel 8.5-10.0 SAt silt some f-m gravel tight str odor	Rec = 42" oil in soil = green sampled 9.5-10.0 @ 1149
					10.0		
				147 895 417 593.1 337 258 136 31.6		10.0-12.0 Dk grey (gley 2 4/5PB) clay, some silt, little f-m gravel wet 12.0-15.0 Dk grey (gley 2 4/5PB) f-c sand and silt, and f-c gravel, moderate odor saturated	Rec 43" oil in soil = green
					12.5		
					15.0		
				20.3 21.1		15.0-20.0 - Dk brown-grey (gley 2 5/10Y) f-c sand, some silt and river rock	Rec 6" oil in soil = green
					17.5		
					20.0		

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mulchlet 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

SHEET 2 OF 2

PROJECT NAME: Dayco International/LE Carpenter Site

SOIL BORING ID: SB-13-10s

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				16.1		20.0-25.0 Dk gray-black (gley 2 2.5/N) to	Rec 4#9
				17.2		Brown gray (gley 2 5/10Y) f.c sand some silt	Oil in soil = Green
				0.8		with f/c gravel saturated	
				1.7	22.5		Sampled
				ND			21.5-22.0 1201
				ND			
				1.5			
				5.3			
				ND	25.0		
							No Recovery
					27.5		
					30.0		
					32.5		
					35.0		
					37.5		
					40.0		
					42.5		
					45.0		

S. Pandey 12/13/11
SIGNED DATE

Scott Middle 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-14	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 2
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 10 Dec 11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 18 Dec 11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND 61 7 18	2.5	0-2' - Brown (4/3) silt, f-m sand and organic material 2-5' - Brown (4/3) silt, f-m sand and coarse angular gravel.	Recovery: 17 OIS - Green 5'
				ND 2 18 2	5.0 7.5	5-7.5' Dk Reddish Brown (3/2) clay, some m-c sand, trace silt. 7.5-10' Grey (5/1) clayey silt, f-m sand and m-c semi rounded gravel some red and greenish yellow streaking at 9.5-10	Recovery: 36" OIS = Red 10
			270	140 1240 650 1470	10.0		
				33 69 70 30	12.5	10-15' - SAA wet.	Recovery: 20 OIS = Red 12'
					15.0 17.5 20.0		No Recovery

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mulholland 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

SHEET 2 OF 2

PROJECT NAME: Dayco International/LE Carpenter Site

SOIL BORING ID: SB-14

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND		Cobbls	2x"
				ND			recovery
				5	22.5		
					25.0		
					27.5		
					30.0		
					32.5		
					35.0		
					37.5		
					40.0		
					42.5		
					45.0		

S. Pawlebny 12/13/11
SIGNED DATE

Scott Muddle 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-15	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 2
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 10 DEC 11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 10 DEC 11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND		0-2.5' Bluish Black (2.5/5PB) Silt, f-m sand and fine rounded gravel firm	recovery = 17"
				33.5	2.5	2.5-5.0 Dk. greenish gray (4/10Y) Clay and coarse rounded gravel (semi-soft	
				1.4	5.0		
				33		5-10 = SAA wet	recovery: 20
				62			OIS = Green/Pink DB 9.5'
				95	7.5		SB-14/(9.5-10.0) 0935 (Tot Cr)
				227			SB-DUP01 0940
				1,025	10.0	10-15 - Greenish gray (5/5g) clayey silt and coarse sand, large-sm cobbles present throughout wet	recovery: 23
				395			OIS: RED ~10.5"
				80	12.5		SB-15/(10.0-10.5) 0845
				85			
				51	15.0	15-20 Greyish Brown (5/2) Silt, m-c sand, mc rounded gravel, wet	recovery: 15
				15			
				9	17.5		
					20.0		

DRILLING METHOD	SONIC
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Middleton 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

SHEET 2 OF 2

PROJECT NAME: Dayco International/LE Carpenter Site

SOIL BORING ID: SB-15

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				NC			0" recovery
					22.5		
					25.0		
				ND			recovery = 20" SB-15/(25.0-25.5) 0850
					27.5		
					30.0		
					32.5		
					35.0		
					37.5		
					40.0		
					42.5		
					45.0		

S. Pawlicz 12/13/11
SIGNED DATE

Scott Middleton 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-16	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/10/11
DRILLED BY:	ARS	DRILLER NAME: WES	DATE COMPLETED: 12/10/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				6.8 5.0 4.0 90.	2.5	0-5' Brown (3/3) silt, some f-m sand and f-m gravel, trace organic material Possible staining present 4-5', ~~some silt and fine sand,~~	recovery = 24" OIS = Green 5'
				0.3 1.2 0.9 0 0.9 65 700	5.0 7.5	5-9' Gray (5/1) Clay some silt and fine sand, sheen on water. 9.0-10.0' - Gray (5/1) Clayey silt and f-c sand, little fine rounded gravel v slodor	Recovery = 40" OIS = Green 10" SB-16/(9.5-10.0) tot cr 1350
				60 115 84 35 16	10.0 12.5	10-12' SAA wet 12.0-15: Gray (5/1) f-c sand and fine angular gravel, some m-c semi angular gravel, trace silt	recovery: 30" OIS = Green 14'
				ND	15.0 17.5 20.0	15-18 - Cobbles 18-20 - Cobbles and Gray (5/1) silt and f-m sand.	recovery = 16 SB-16/(24.5-25.0) tot cr 1355

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Middlebrook 3/6/12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME: Dayco International/LE Carpenter Site		SOIL BORING ID: SB-17	
PROJECT NUMBER: 185281.0000.0000		LOCATION:	SHEET 1 OF 1
LOGGED BY: Scott Pawlukiewicz/Dave Marx			SURFACE ELEV.:
PROJECT LOCATION: 170 N. Main Street		N: E:	DATE STARTED: 12/13/11
DRILLED BY: ARS	DRILLER NAME: Wes		DATE COMPLETED: 12/13/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				1.0 0.9		0.0-5.0 Dk brown (10R 5/1) silt, ltl f-m sand, some f-m gravel, some organics, saturated.	Rec 72" oil (1') = gr
					2.5		
							oil (5') = gr
				15.0 5.0 29.1 808.3 705.1 25.6 5.0	5.0 7.5	5.0-10.0 Dk grey Gley 2 (2.5/10BG) silt, ltl f-c sand some f-c ~~sand~~ gravel, tr clay, saturated, odor.	Rec 36" sampled 7.5-8.0 @ 1204 dup @ 1206 oil (6') = gr oil (7.5) = gr dye sl ved on ball
				20.1 85.3 2.5	10.0 12.5	10.0-15.0 grey (Gley 2 6/5B) silt some f-c sand, some f-c gravel, tight, str odor, dry.	Rec = 16" oil (10') = gr oil (12') = gr.
				ND ND	15.0 17.5 20.0	15.0-20.0 - Dk grey (Gley 2 3/5B) f-c sand, some m-c gravel, tr silt, saturated.	Rec 8" sampled 19.5-20.0 @ 1211 oil (15-20) = gr

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S Pawlukiewicz 12/13/11
SIGNED DATE

Scott Middleton 3-6-12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-18	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/13/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/13/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND ND 2.0 ND ND	2.5	0.0-5.0 DK brown (10R 5/3) silt some f-m sand, some f-m gravel, saturated	Rec: 26" oil (5') = gr
				190 8.3 9.0 25.7 480 1860 1886	5.0 7.5	5.0-7.5 DK brown (10R 4/1) f-c sand and f-c gravel, ltl silt saturated 7.5-10.0 DK grey (5GY 6/5GY) silt, some f-m sand some f-m gravel, trace clay, sdr odor	Rec: 37" oil (7.5') sampled 9.5-10.0 @ 1257 oil (9.5) = red ball
				78.8 60.1 130.3 20.1	10.0 12.5	10.0-15.0 DK grey (5GY 6/5GY) silt and f-c sand and f-c gravel, saturated, sheen. some silt.	Rec: 28" oil (12') = red ball
				35.0 18.0	15.0 17.5 20.0	15.0-20.0 DK grey brown (5Gy 5/10Y) silt and f-c sand and ltl c gravel, saturated.	Rec: 12" oil (15-20) = red ball sampled 19.5-20.0 @ 1303 20-25 no Recovery

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Muddle 3-6-12
CHECKED DATE

REVISED 06/2011

TRC

LOG OF SOIL BORING

PROJECT NAME:	Dayco International/LE Carpenter Site	SOIL BORING ID: SB-19	
PROJECT NUMBER:	185281.0000.0000	LOCATION:	SHEET 1 OF 1
LOGGED BY:	Scott Pawlukiewicz/Dave Marx		SURFACE ELEV.:
PROJECT LOCATION:	170 N. Main Street	N: E:	DATE STARTED: 12/13/11
DRILLED BY:	ARS	DRILLER NAME: Wes	DATE COMPLETED: 12/13/11

NO.	TYPE	%	BLOWS	PID	DEPTH	VISUAL CLASSIFICATION AND OBSERVATIONS	COMMENT
				ND 0.8 2.2 12.7	2.5	0.0-5.0 DK brown silt with f.c sand, some m gravel some organics, saturated. vs odor. saturated	Rec. 14" oil (0-5) = red Ball + dye
				71.3 16.4 13.7 0.1 11.7 0.8 86.2 760	5.0 7.5 10.0	5.0-5.5 DK black grey (gley 1 2.5/N) silt and f.c sand, some c gravel/ saturated 5.5-7.5 DK grey (gley 1 2.5/5GY) clay, some f.c gravel, moist 7.5-8.5 DK grey (gley 1 2.5/5GY) silt, ltl clay, ltl f.c sand some f.c gravel, odor 8.5-10.0 Brown (10YR 4/4) silt and f.c sand, tr. some f.c gravel, dry. Str. odor tight	Rec 50" oil (5') red ball + dye oil (7.5) green oil 10' red ball + dye
				177 415 501 401 3853 2730 314	12.5	10.0-11.5 Black possible staining silt and f.c sand, some f.c gravel 11.5-13.5 Brown grey silt some f.c sand 13.5-15.0 Lt Brown grey (10YR 5/1 f.c sand and f.m gravel some silt Str odor	Rec 43" Sampled 14.0-14.5 @ 1423 oil (12') = some red on Ball
				0.9 1.2	15.0 17.5 20.0	15.0-20.0 Silt, and log rounded river stones.	Rec 10" oil (15') very sl red on Ball oil (15-20) SAA Sampled 19.5 20.0 @ 1427

DRILLING METHOD	Sonic
DRILL RIG	8140 DT
BORING DIAMETER	6"

WATER LEVEL OBSERVATIONS

FIRST OCCURRENCE:

DATE	TIME	DEPTH TO WATER	DEPTH TO BOTTOM

S. Pawlukiewicz 12/13/11
SIGNED DATE

Scott Mulvihill 3-6-12
CHECKED DATE

REVISED 06/2011

CHAIN-OF-CUSTODY RECORD

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phone 231.773.5998
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Page 1 of 2

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE Ste 402

City, State, Zip Code: Grand Rapids, MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185781.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DRIP	Grain Size / Hydro.	TOC							REMARKS	Possible Health Hazard
	12/9/11	0933	-	SB-6/(6.5-7.0)	S	5	X	X	X	X								
		0940	-	SB-6/(14.0-14.5)	S	5	X	X	X	X								
		1040	-	SB-4/(6.5-7.0)	S	5	X	X	X	X								
		1050	-	SB-4/(11.5-12.0)	S	5	X	X	X	X								
		1250	-	SB-3/(11.0-11.5)	S	5	X	X	X	X								
		1255	-	SB-3/(14.5-15.0)	S	5	X	X	X	X								
		1355	-	SB-2/(5.0-5.5)	S	5	X	X	X	X								
		1400	-	SB-2/(15.0-15.5)	S	5	X	X	X	X								
		1500	-	SB-12/(8.5-9.0)	S	5	X	X	X	X								
		1520	-	SB-12/(16.5-17.0)	S	5	X	X	X	X								

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) SPawlukiewicz	FEDEX	12/9/11	1715		3)			
	2)					4)			

n this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

CHAIN-OF-CUSTODY RECORD

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www.trace-labs.com

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave SE Suite 400

City, State, Zip Code: Grand Rapids, MI 49546

Phone: 616 975-5415 Fax: (616) 975-1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: (616) 915-3604 Sampled by: SP

Project Name & #: LFL MW-30 RI, 185281.0000.0000

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro	TOC							REMARKS	Possible Health Hazard
	12/9/11	1545	-	~~SB-3/(5.0-5.5)~~	S	5	X	X	X	X								

Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S Pawlukiewicz	FEDEX	12/9/11	1715		3)			
	2)					4)			

ting this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

CHAIN-OF-CUSTODY RECORD

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TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TIZC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave SE Ste 400

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1048

Email Address: SPawlukiewicz@trccsolutions.com

Cell #: 616 915 3604 Sampled by: SP

Project Name & #: LEC MW-30 RT, 185281.0000.0000

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☑	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro	TOC	Total Cr						REMARKS	Possible Health Hazard
	10 DEC 11	0841	–	SB-15/(10.0-10.5)	S	5	X	X	X	X			NO	TOC				
	10 DEC 11	0850	–	SB-15/(25.0-25.5)	S	5	X	X	X									
	10 DEC 11	0935	–	SB-14/(9.5-10.0)	S	6	X	X	X	X	X							
	10 DEC 11	—	–	~~SB-14/(~~ SB-DUP-01	S	5	X	X	X	X			NO	TOC				
	10 DEC 11	1036	–	SB-1/(7.5-8.0)	S	6	X	X	X	X	X							
	10 DEC 11	1043	–	SB-1/(24.5-25.0)	S	5	X	X	X	X			NO	TOC				
	10 DEC 11	1350	–	SB-16/(9.5-10.0)	S	6	X	X		X	X							
	10 DEC 11	1355	–	SB-16/(24.5-25.0)	S	6	X	X	X	X	X							
	12 DEC 11	1008	–	SB-13/(9.5-10.0)	S	5	X	X	X									
	12 DEC 11	1017		SB-13/(29.5-30.0)	S	4	X	X										

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S Pawlukiewicz	FedEx	12/12/11	1730	2	3)			
	2)					4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

CHAIN-OF-CUSTODY RECORD

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Muskegon, MI 49444-2673
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Page 2 of 2

TRACE ID NO.

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E Beltline Ave. SE Ste. 402
City, State, Zip Code: Grand Rapids MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616 915 3604 Sampled by: SP
Project Name & #: LEC1 MW-30 RI, 185281.0000.0000

TRACE USE ONLY

Logged By: Checked By:
Received on ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Bill To:

Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro								REMARKS	Possible Health Hazard
	12/12/11	~~1201~~ 1144	-	SB-13-10s/(9.5-10.0)	S	5	X	X	X									
	12/12/11	1201	-	SB-13-10s/(21.5-22.0)	S	5	X	X	X									
	12/12/11	1402	-	SB-11/(7.5-8.0)	S	5	X	X	X									
	12/12/11	1407	-	SB-11/(14.5-15.0)	S	5	X	X	X									
	12/12/11	1505	-	SB-10/(7.0-7.5)	S	5	X	X	X									
	12/12/11	1515	-	SB-10/(19.5-20.0)	S	5	X	X	X									

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S Pawlukiewicz	FedEx	12/12/11	1730	2	3)			
	2)					4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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CHAIN-OF-CUSTODY RECORD

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Page 1 of 2

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E. Beltline Ave. SE, Ste 102
City, State, Zip Code: Grand Rapids MI 49546
Phone: 616 975 5415 Fax: 616 975 7049
Email Address: SPawlukiewicz@trc-solutions.com
Cell #: 616 915 3604 Sampled by: DM
Project Name & #: LEC MW-30 RI, 185 281.0000.0000

Bill To:

Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro								REMARKS	Possible Health Hazard
	12/13/11	0926		SB-8-10E/(7.5-8.0)	S	5	X	X	X									
	12/13/11	0931		SB-8-10E/(19.5-20.0)	S	5	X	X	X									
	12/13/11	1058		SB-3-10E/(5.5-6.0)	S	5	X	X	X									
	12/13/11	1107		SB-3-10E/(14.5-15.0)	S	5	X	X	X									
	12/13/11	1204		SB-17/(7.5-8.0)	S	5	X	X	X									
	12/13/11	1206		SB-17/(7.5-8.0) dup	S	4	X	X										
	12/13/11	1211		SB-17/(19.5-20.0)	S	5	X	X	X									
	12/13/11	1257		SB-18/(9.5-10.0)	S	5	X	X	X									
	12/13/11	1303		SB-18/(19.5-20.0)	S	5	X	X	X									

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) B. Pawlukiewicz	FedEx	12/13/11	1700	1	3)			
	2)					4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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Muskegon, MI 49444-2673
www.trace-labs.com

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2625 E. Beltline Ave. SE Ste. 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: DLL

Project Name & #: LEC MW-30 RI, 1KS 281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/hydro								REMARKS	Possible Health Hazard
	12/13/11	1423		SB-19/(14.0-14.5)	S	5	X	X	X									
	12/13/11	1427		SB-19/(19.5-20.0)	S	5	X	X	X									

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S Pawlukiewicz	Fedex	12/13/11	1700	1	3)			
	2)					4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

12/14/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED	CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM DATE: 12/5/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-R-1 (0-0.5)	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/5/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1303	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

NEAR SW-R-1 sample location

SAMPLE COORDINATES

NORTHING / LATITUDE: –

EASTING / LONGITUDE: –

SAMPLE CONTAINERS:

1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), ~~1~~ 16 4oz WM Soil Jar

SAMPLE EQUIPMENT:

Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: – ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION: 0.0-0.5 ~~gray~~ green-gray silt and clay some fine sand, some organics (roots), trace fine gravel, saturated some

ADDITIONAL NOTES:

Water Temp = 8.48°C

Water pH = 7.11

DO = 390.7 %

Conductivity = 139 uS/cm

Water Depth = 6"

Penetration Depth = 0-0.5

SHIPPING METHOD: FedEx	DATE SHIPPED: 12/5/11	AIRBILL NUMBER: 8992 5824 3430
COC NUMBER: NA	SIGNATURE: B Pawlukiewicz	DATE SIGNED: 12/5/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME:	Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER:	185281.0000.0000	BY: SP/DM	DATE: 12/5/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-R-2 (0.0-0.5)	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/05/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1332	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

NEAR SW-R-2 sample location

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:

1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 16oz WM Soil Jar

SAMPLE EQUIPMENT:

Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION: 0.0-0.5 DK gray silt, some f sand, trace plastic some organics (roots), saturated

ADDITIONAL NOTES:

Water Temp = 8.12

Water pH = 7.50

DO = 176.2%

Conductivity = 132 uS/cm

Water Depth = 6"

Penetration Depth = 0.0-0.5

SHIPPING METHOD:	FEDEX	DATE SHIPPED:	12/5/11	AIRBILL NUMBER:	8992 5824 3430
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/5/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/5/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-R-3 (0.0-0.5)	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/05/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1353	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION	SAMPLE COORDINATES
Near SW-R-3 sample location	NORTHING / LATITUDE: —
	EASTING / LONGITUDE: —

SAMPLE CONTAINERS:
1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 16oz WM Soil Jar

SAMPLE EQUIPMENT:
Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION: 0.0-0.5 Dk gray brown silt, some organics some f-c gravel, trace f sand, very soft, saturated. trace sheen

ADDITIONAL NOTES:
Water Temp = 13.06
Water pH = 7.56
DO = 181.0 %
Conductivity = 193 uS/cm
Water Depth = 6"
Penetration Depth = 0.0-0.5

SHIPPING METHOD: FedEx	DATE SHIPPED: 12/5/11	AIRBILL NUMBER: 8992 5829 3430
COC NUMBER: NA	SIGNATURE: S Pawlukiewicz	DATE SIGNED: 12/5/11

REVISED 06/2011

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME:	Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER:	185281.0000.0000	BY: SP/DM	DATE: 12/5/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-R-4(0.0-0.5)	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/05/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1439	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

Near SW-R-4 sample location

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:

1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 16oz WM Soil Jar

SAMPLE EQUIPMENT:

Shovel, trowel, (hand auger) hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☒ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:

0.0-0.5 Dk brown f-m sand, trace c sand, trace silt, little organics, saturated

ADDITIONAL NOTES:

Water Temp = 8.97 °C

Water pH = 7.67

DO = 119.1%

Conductivity = 137 uS/cm

Water Depth = 6"

Penetration Depth = 0.0-0.5

SHIPPING METHOD:	FEDEX	DATE SHIPPED:	12/5/11	AIRBILL NUMBER:	8992 5824 3430
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/5/11

REVISED 06/2011

TRC SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME:	Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER:	185281.0000.0000	BY: SP/DM	DATE: 12/6/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-R-6	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/06/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 850 (0.0-0.5) / 854 (1.0-1.5)	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION (0.0-0.5) (1.0-1.5)

NEAR SW-R-6 sample location

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:

1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 ~~4~~ 16oz WM Soil Jar per shallow + deep intervals

SAMPLE EQUIPMENT:

Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☒ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:

0.0'-0.5' DK brown 2.5Y 3/2 f-c sand and f-m gravel, ~~little~~ trace silt, trace glass and ceramic fragments

0.5'-1.5' ~~Silt~~, f-c gravel, trace asphalt fragments little silt

ADDITIONAL NOTES:

Water Temp = 9.41°C

Water pH = 7.46

DO = 144.2%

Conductivity = 138 µS/cm

Water Depth = 4"

Penetration Depth = 0.0

SHIPPING METHOD:	FedEx	DATE SHIPPED:	12/6/11	AIRBILL NUMBER:	8770 6249 2724
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/6/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/6/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-D-3	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/06/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: (0.0-0.5) = 1003 1.0-1.5 = 1009	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

near SW-D-3 location.
shallow interval :- 0.0' - 0.5'
deep interval : 1.0'-1.5'

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:
1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 ~~4oz~~ 16 WM Soil Jar

SAMPLE EQUIPMENT:
Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☒ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: - ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:
0.0-0.5 Dk gray (gray 2 2.5 5B) silt, little ~~some~~ f-m sand little organics, saturated
0.5-1.5 Light gray (gray 2 5/5B) silt some f-c sand little organics, trace sheen, saturated.

ADDITIONAL NOTES:
Water Temp = 10.93
Water pH = 7.13
DO = 62.7%
Conductivity = 482 uS/cm
Water Depth = 6"
Penetration Depth = 0.0-1.5

SHIPPING METHOD:	FEDEX	DATE SHIPPED:	12/6/11	AIRBILL NUMBER:	8770 6248 2724
COC NUMBER:	NA	SIGNATURE:	B Pawlukiewicz	DATE SIGNED:	12/6/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED	CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM DATE: 12/6/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-D-1	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/06/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1055 / 1100	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION
0.0'-0.5' = 1055 time
1.0'-1.5' = 1100 time
Near SW-D-1 sample location, on lee side of ditch, approx. 1' from fence.

SAMPLE COORDINATES
NORTHING / LATITUDE: —
EASTING / LONGITUDE:

SAMPLE CONTAINERS:
1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 ~~4~~ 16oz WM Soil Jar

SAMPLE EQUIPMENT:
Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER NA
NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:
0.0'-0.5' Dk brown-grey (grey 01 2.5/10Y) silt and f-c sand, some organics, little f-m gravel saturated
0.5'-1.5' Grey brown to green-grey (5Y 4/1) silt and f-c sand, with organics (roots, leaves) trace f gravel saturated.

ADDITIONAL NOTES:
Water Temp = 12.77
Water pH = 7.17
DO = 59.8%
Conductivity = 177 uS/cm
Water Depth = 12"
Penetration Depth = 0.0 - 1.5

SHIPPING METHOD:	FEDEX	DATE SHIPPED:	12/6/11	AIRBILL NUMBER:	8770 6249 2724
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/6/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/6/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-D-2	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/06/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1243 / 1245 / 1254	QC SAMPLE: ☒ MS/MSD ☐ DUP-

SAMPLE LOCATION
0.0-0.5 = 1243
SAME MS/MSD = 12:45
1.0-1.5 = 1254
NEAR SW-D-2, on LEE/Wharton enterprise side of ditch, approx. 1' from bank

SAMPLE COORDINATES
NORTHING / LATITUDE: –
EASTING / LONGITUDE: –

SAMPLE CONTAINERS:
1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 4oz WM Soil Jar
2 4 2 2 2

SAMPLE EQUIPMENT:
Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☐ OTHER NOTES:

SAMPLE SCREENING RESULTS: ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:
0.0-0.5 - Dk brown-grey (gley 1 2.5/10Y) silt and clay little f-m sand, little f-m gravel some organics (roots + wood frags) saturated
0.5-1.5 Gray (gley2 4.5B/2) SAA, with organics. saturated

ADDITIONAL NOTES:
Water Temp = 13.36
Water pH = 7.14
DO = 80.6%
Conductivity = 513 uS/cm
Water Depth = 6"
Penetration Depth = 0.0-1.5

SHIPPING METHOD:	FEDEX	DATE SHIPPED:	12/6/11	AIRBILL NUMBER:	8770 6249 2724
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/6/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/6/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-D-4	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/06/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED:	QC SAMPLE: ☐ MS/MSD ☒ DUP- 1

SAMPLE LOCATION

1344 = 0.0-0.5
1347 = 0.0-0.5 dup
1400 = 1.0-1.5

Near SW-D-4 location, approx. 1' from bank.

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:

~~1~~ 2 Terra Core kit (~~2~~ 4 DI Vials, ~~1~~ 2 MeOH Vial and ~~1~~ 2 4ozWM Soil Jar) 1 4oz WM Soil Jar

SAMPLE EQUIPMENT:

Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☒ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:

0.0-0.5 Dk grey-black (gley 2 2.5/5PB) silt, trace clay little f-m gravel saturated, sl odor trace sheen, lt organics

0.5-1.5 grey (gley 2 4/5bg) silt and clay some f-m sand, some organics, some f-m gravel, odor, sheen

ADDITIONAL NOTES:

Water Temp = 12.48°C
Water pH = 7.12
DO = -
Conductivity = 467 µS/cm
Water Depth = 8"
Penetration Depth = 0.0-1.5

SHIPPING METHOD:	FedEx	DATE SHIPPED:	12/6/11	AIRBILL NUMBER:	8770 6249 2724
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/6/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME:	Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER:	185281.0000.0000	BY: SP/DM	DATE: 12/6/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-R-1 0.5'-1.0	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/06/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1455	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

Deep interval: 0.5'-1.0'

Near SW-R-1 Stake.

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:

1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 ~~4~~ 16oz WM Soil Jar

SAMPLE EQUIPMENT:

Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER None

NOTES:

SAMPLE SCREENING RESULTS: ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:

0.5-1.0 gray gley 2 4/5 GY clay with silt, little f-m sand, trace f gravel. saturated

ADDITIONAL NOTES:

Water Temp = 10.27

Water pH = 7.26

DO = 353.1%

Conductivity = 152 uS/cm

Water Depth = 5"

Penetration Depth = 0.0-1.0

SHIPPING METHOD:	FedEx	DATE SHIPPED:	12/6/11	AIRBILL NUMBER:	8770 6249 2724
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/6/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME:	Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER:	185281.0000.0000	BY: SP/DM	DATE: 12/8/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-R-2 (1.5-2.0)	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/8/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 0955	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

Deep interval: 1.5'-2.0'

near SW-R-2 stake.

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:

1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 16oz WM Soil Jar

SAMPLE EQUIPMENT:

Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:

1.5'-2.0' below sediment: dk. grey silt, some f sand, organics (roots), saturated.

ADDITIONAL NOTES:

Water Temp = 5.12

Water pH = 7.50

DO =

Conductivity = 152 uM/cm

Water Depth = 0'

Penetration Depth = 2' (large cobbles)

SHIPPING METHOD:	FedEx	DATE SHIPPED:	12/8/11	AIRBILL NUMBER:	8492 5824 3440
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/8/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/8/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-R-3 (0.5-1.0)	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/8/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1035	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

DEEP Interval: 0.5'-1.0'

Near SW-R-3 Stake.

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:

1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 ~~4oz~~ 16 WM Soil Jar

SAMPLE EQUIPMENT:

Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:

0.5'-1.0': pk gray silt, trace sand, tr. gravel; saturated; trace sheen.

ADDITIONAL NOTES:

Water Temp = 13.06

Water pH = 7.56

DO = 181.%

Conductivity = 173 uS/cm

Water Depth = 6"

Penetration Depth = 1.0' ~ (cobble).

SHIPPING METHOD:	FEDEX	DATE SHIPPED:	12/8/11	AIRBILL NUMBER:	8992 5824 3441
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/8/11

REVISED 06/2011

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/8/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-R-4 (1.0-1.5)	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/8/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1120	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

DEEP INTERVAL: 1.0' - 1.5'

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:

1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 ~~4oz~~ 16 WM Soil Jar

SAMPLE EQUIPMENT:

Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: → ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:

1.0'-1.5': Black F,M,C Sand, Silt, little organics, saturated.

ADDITIONAL NOTES:

Water Temp = 8.97

Water pH = 7.67

DO = 119.1%

Conductivity = 137 uS/cm

Water Depth = 6"

Penetration Depth = 1.5'

SHIPPING METHOD:	FedEx	DATE SHIPPED:	12/8/11	AIRBILL NUMBER:	8992 5824 3441
COC NUMBER:	NA	SIGNATURE:	S Pawlukiewicz	DATE SIGNED:	12/8/11

REVISED 06/2011

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/8/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-DRC-02 (0.0'-0.5') (1.0'-1.5')	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/8/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1250 / 1255	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

1250: (0.0'-0.5') - near DRC-02

1255: (1.0'-1.5') - SW sample stake.

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:

1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 ~~4~~ 16oz WM Soil Jar

SAMPLE EQUIPMENT:

Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER NA

NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:

0.0'-0.5': Black silt with trace f sand ~~some~~ organics saturated

0.5-1.0 SPA

1.0'-1.5': ~~Black to lt gray~~ Lt gray clay trace f sand

ADDITIONAL NOTES:

Water Temp = 6.47 °C

Water pH = 6.29

DO = —

Conductivity = 217 uS/cm

Water Depth = 2'

Penetration Depth = 1.5'

SHIPPING METHOD:	FEDEX	DATE SHIPPED:	12/8/11	AIRBILL NUMBER:	8992 5824 3441
COC NUMBER:	NA	SIGNATURE:	S. Pawlukiewicz	DATE SIGNED:	12/8/11

TRC

SEDIMENT / SOIL GRAB SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/8/11	BY: SM	DATE: 3/6/12

SAMPLE ID: SED-D-5 (0.0-0.5) (1.0-1.5)	COLLECTED BY: Scott Pawlukiewicz/Dave Marx
DATE COLLECTED: 12/8/11	SAMPLE TYPE: ☑ SEDIMENT ☐ SOIL ☐ OTHER
TIME COLLECTED: 1355 + 1400	QC SAMPLE: ☐ MS/MSD ☐ DUP-

SAMPLE LOCATION

1355: (0.0'-0.5')
1400: (1.0'-1.5')
NEAR SW-D-5 sample location.

SAMPLE COORDINATES

NORTHING / LATITUDE: —

EASTING / LONGITUDE: —

SAMPLE CONTAINERS:
1 Terra Core kit (2 DI Vials, 1 MeOH Vial and 1 4ozWM Soil Jar), 1 ~~4~~ 16oz WM Soil Jar

SAMPLE EQUIPMENT:
Shovel, trowel, hand auger, hand corer

SAMPLE SCREENING EQUIPMENT: ☐ PID ☐ GAMMA DETECTOR ☐ FID ☑ OTHER N/A

NOTES:

SAMPLE SCREENING RESULTS: — ☐ PPM ☐ OTHER

SAMPLE DESCRIPTION:
0.0-1.5 - Black silt and organics saturated

ADDITIONAL NOTES:
Water Temp = 5.57
Water pH = 7.06
DO = —
Conductivity = 225 uS/cm
Water Depth = 1.5'
Penetration Depth = 1.5'

SHIPPING METHOD:	FedEx	DATE SHIPPED:	12/8/11	AIRBILL NUMBER:	8992 5824 3441
COC NUMBER:	NA	SIGNATURE:	S. Pawlukiewicz	DATE SIGNED:	12/8/11

CHAIN-OF-CUSTODY RECORD

TRACE
the science of compliance

phone 231.773.5998
toll-free 800.733.5998
fax 231.773.6537

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673
www.trace-labs.com

Page 1 of 1

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E. Beltline Ave. SE Ste. 402
City, State, Zip Code: Grand Rapids, MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616-915 3604 Sampled by: SP
Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	GRAIN SIZE/HYDRO.	TOC							REMARKS	Possible Health Hazard
	12/5/11	1303	–	SED-R-1 (0.0-0.5)	SE	5	X	X	X	X								
	12/5/11	1332	–	SED-R-2 (0.0-0.5)	SE	5	X	X	X	X								
	12/5/11	1353	–	SED-R-3 (0.0-0.5)	SE	5	X	X	X	X								
	12/5/11	1439	–	SED-R-4 (0.0-0.5)	SE	5	X	X	X	X								
	11/9/11	—	–	TB-01	W	1	X											

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S. Pawlukiewicz	FEDEX	12/5/11	1630	1	3)			
	2)					4)			

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In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

CHAIN-OF-CUSTODY RECORD

TRACE
the science of compliance

phone 231.773.5998
toll-free 800.733.5998
fax 231.773.6537

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673
www.trace-labs.com

Page 1 of 2

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E Beltline Ave. SE Ste. 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5115 Fax: 616 975-1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915-3604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185281.0000.0000

Regulatory Requirements
- MERA TMDL's ☐
- Drinking Water ☐
- NPDES ☐
- USACE ☐
- Special ☐

Turnaround Requirements
- Standard ☒
- 3-4 Day (RUSH)* ☐
- 24-48 Hour (RUSH)* ☐
- * Requires prior approval

Matrix Key
- S = Soil
- W = Water
- SE = Sediment
- OI = Oil
- SO = Solid Waste
- WI = Wipes
- LW = Liquid Waste
- A = Air
- D = Drinking Water
- SL = Sludge

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	PEHP	Grain Size/Hydro	TOC							REMARKS	Possible Health Hazard
	12/6/11	0850	—	SED-R-6 (0.0-0.5)	SE	5	x	x	x	x								
	12/6/11	1003	-	SED-D-3 (0.0-0.5)	SE	5	x	x	x	x								
	12/6/11	1055	-	SED-D-1 (0.0-0.5)	SE	5	x	x	x	x								
	12/6/11	1243	-	SED-D-2 (0.0-0.5)	SE	~~5~~ 10	x	x	x	x							MS/MSD	
	12/6/11	1344	-	SED-D-4 (0.0-0.5)	SE	5	x	x	x	x								
	12/6/11	1347	-	SED-D-4 (0.0-0.5) dup	SE	5	x	x	x	x								
	11/9/11	—	—	TB-02	W	1	x											

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) B. Pawlukiewicz	FedEx	12/6/11	1630		3)			
	2)					4)			

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In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

CHAIN-OF-CUSTODY RECORD

TRACE
the science of compliance

phone 231.773.5998
toll-free 800.733.5998
fax 231.773.6537

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673
www.trace-labs.com

Page 2 of 2

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlikiewicz

Mailing Address: 2025 E. Beltline Ave. SE Ste. 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5115 Fax: 616 975 1098

Email Address: SPawlikiewicz@trcsolutions.com

Cell #: 616 975-3604 Sampled by: SP

Project Name & #: LEE MW-30 RI 185781.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

ANALYSIS REQUESTED

Request for Analytical Services

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size	TOC	REMARKS	Possible Health Hazard
	12/6/11	0854	–	SED-R-6 (1.0-1.5)	SE	5					Hold Sample	
		1009	–	SED-D-3 (1.0-1.5)	SE	5					Hold Sample	
		1100	–	SED-D-1 (1.0-1.5)	SE	5					Hold Sample	
		1245	–	SED-D-2 (1.0-1.5)	SE	5					Hold Sample	
		1347	–	SED-D-4 (1.0-1.5)	SE	5					Hold Sample	
		1455	–	SED-R-1 (0.5-1.0)	SE	5					Hold Sample	

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) B. Pawlikiewicz	FEDEX	12/6/11	1630		3)			
	2)					4)			

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Muskegon, MI 49444-2673
www.trace-labs.com

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE, Ste 402

City, State, Zip Code: Grand Rapids, MI 49546

Phone: 616 975 5115 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: SD

Project Name & #: LEC MW-30 RI, 185281.0000.0000

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Gran Size/Hydro	TOC						REMARKS	Possible Health Hazard
	12/8/11	0855	-	SED-R-2 (1.5-2.0)	SE	5	HOLD										
	12/8/11	1035	-	SED-R-3 (0.5-1.0)	SE	5	HOLD										
	12/8/11	1120	-	SED-R-4 (1.0-1.5)	SE	5	HOLD										
	12/8/11	1250	-	SED-DRC-02 (0.0-0.5)	SE	5	X	X	X	X							
	12/8/11	1255	-	SED-DRC-02 (1.0-1.5)	SE	5	HOLD										
	12/8/11	1355	-	SED-D-5 (0.0-0.5)	SE	5	X	X	X	X							
	12/8/11	1400	-	SED-D-5 (1.0-1.5)	SE	5	HOLD										

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) Scott Pawlukiewicz	FEDEX	12/8/11	1730	1	3)			
	2)					4)			

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CHAIN-OF-CUSTODY RECORD

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Muskegon, MI 49444-2673
www.trace-labs.com

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE, Ste. 402

City, State, Zip Code: Grand Rapids, MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DRIP	Grain Size/Hydro	TOC						REMARKS	Possible Health Hazard
	12/08/11	1055		SB-5/(5.0-5.5)	S.1	5	X	X	X	X						RUN	
	12/08/11	1116		SB-5/(16.0-16.5)	S.1	5	X	X	X	X						HOLD	
	12/08/11	1348		SB-7/(0.5-1.0)	S.1	5	X	X	X	X						RUN	
	12/08/11	1405		SB-7/(5.0-5.5)	S.1	5	X	X	X	X						HOLD	
	12/08/11	1447		SB-8/(13.0-13.5)	S.1	5	X	X	X	X						RUN	
	12/08/11	1525		SB-8/(14.5-15.0)	S.1	5	X	X	X	X						HOLD	
	12/08/11	1551		SB-9/(0.5-1.0)	S.1	5	X	X	X	X						RUN	
	12/08/11	1606		SB-9/(4.5-5.0)	S.1	5	X	X	X	X						HOLD	

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) Scott Pawlukiewicz	FedEx	12/8/11	1730	1	3)			
	2)					4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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TRC

WATER SAMPLE LOG

PROJECT NAME:	Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER:	185281.0000.0000	BY: SP/DM	DATE: 12/14/11	BY: SM	DATE: 3/6/10

SAMPLE ID: PW-R-1 WELL DIAMETER: ☐ 2" ☐ 4" ☐ 6" ☑ OTHER

WELL MATERIAL: ☐ PVC ☑ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☐ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☑ OTHER **Pore Water**

PURGING	TIME: 1033	DATE: 12/14/11	SAMPLE	TIME: NA	DATE: NA

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 3.80 T/ PVC / 2.22

DEPTH TO BOTTOM — T/ PVC

WELL VOLUME: — ☐ LITERS ☐ GALLONS

VOLUME REMOVED: — ☐ LITERS ☐ GALLONS

COLOR: Lt. Brown ODOR: No

TURBIDITY >1000 ☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☐ OTHER

PH: _____ SU CONDUCTIVITY: _____ umhos/cm

ORP: _____ mV DO: _____ mg/L

TURBIDITY: _____ NTU

☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: _____ °C OTHER: _____

COLOR: _____ ODOR: _____

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP- _____

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1033	100	5.46	348	-48	—	7100	5.58	3.80	INITIAL
	Dry - No Recharge @ 1128								
	No Recharge After Reinstall.								

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **10 %** COND.: +/- **10 %** ORP: +/- **10 %** D.O.: +/- **10 %** TURB: +/- **10 %** or <= **5** TEMP.: +/- **0.5°C**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
~~2~~	1 L	AMBER	A	☐ Y ☑ N					☐ Y ☐ N
~~2~~	40 mL	VOA	E	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: —	DATE SHIPPED: —	AIRBILL NUMBER: —
COC NUMBER: —	SIGNATURE: S. Pawlekiewicz	DATE SIGNED: 12/14/11

TRC

WATER SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/11/11	BY: SM	DATE: 3/6/12

SAMPLE ID: PW-R-2 WELL DIAMETER: ☐ 2" ☐ 4" ☐ 6" ☑ OTHER

WELL MATERIAL: ☐ PVC ☑ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☑ OTHER **Pore Water**

PURGING	TIME: 1138	DATE: 12/11/11	SAMPLE	TIME: Varies	DATE: Varies

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 245 T/ PVC / 245

DEPTH TO BOTTOM — T/ PVC

WELL VOLUME: — ☐ LITERS ☐ GALLONS

VOLUME REMOVED: — ☐ LITERS ☐ GALLONS

COLOR: Brown ODOR: NO

TURBIDITY 71000

☐ NONE ☐ SLIGHT ☐ MODERATE ☒ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☐ OTHER

PH: 706 SU CONDUCTIVITY: 283 umhos/cm

ORP: -34.5 mV DO: — mg/L

TURBIDITY: 527 NTU

☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

TEMPERATURE: 7.97 °C OTHER:

COLOR: clr ODOR: NO

FILTRATE (0.45 um) ☐ YES ☒ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1138	100	~~7.97~~ 7.06	283	-34.5	—	71000	7.97	245	INITIAL
1148		—	—	—	—	527	—	—	—
Dry									
12/11/11 : 1430			(2) 40 mL VOAs						
12/13/11 : 1020			(1) 1 L amber						

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **10 %** COND.: +/- **10 %** ORP: +/- **10 %** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **0.5°C**

BOTTLES FILLED PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1 ~~2~~	1 L	AMBER	A	☐ Y ☑ N					☐ Y ☐ N
2	40 mL	VOA	E	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FedEx	DATE SHIPPED: 12/14/11	AIRBILL NUMBER: 8992 5824 3533
COC NUMBER: —	SIGNATURE: S Pawlikowski	DATE SIGNED: 12/14/11

REVISED 06/2011

TRC

WATER SAMPLE LOG

PROJECT NAME:	Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER:	185281.0000.0000	BY: SP/DM	DATE: 12/11/11	BY: SM	DATE: 3/6/12

SAMPLE ID: PW-12-3 WELL DIAMETER: ☐ 2" ☐ 4" ☐ 6" ☑ OTHER

WELL MATERIAL: ☐ PVC ☑ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☐ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☑ OTHER **Pore Water**

PURGING	TIME: 1223	DATE: 12/11/11	SAMPLE	TIME: VAries	DATE: VAries
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 6.87 SU	CONDUCTIVITY: 318 umhos/cm	
			ORP: -67.5 mV	DO: — mg/L	
DEPTH TO WATER: 0.6 T/ PVC (From 1st Sample)			TURBIDITY: 158 NTU		
DEPTH TO BOTTOM — T/ PVC			☐ NONE ☑ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME: — ☐ LITERS ☐ GALLONS			TEMPERATURE: 5.55 °C	OTHER:	
VOLUME REMOVED: — ☐ LITERS ☐ GALLONS			COLOR: clr	ODOR: NO	
COLOR: Pk. Brown	ODOR: NO		FILTRATE (0.45 um) ☐ YES ☑ NO		
>1000 TURBIDITY			FILTRATE COLOR: —	FILTRATE ODOR:	
☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD	☐ DUP-	
DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☐ OTHER			COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1223		6.87	318	-67.5	—	>1000	5.55	0.6	INITIAL
1226	DRY	—				158			
12/11/11 : 1120, (2) 40 mL VOAs									
12/11/11 : 1335, (1) 1 L. Amber									

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **10 %** COND.: +/- **10 %** ORP: +/- **10 %** D.O.: +/- **10 %** TURB: +/- **10 %** or <= **5** TEMP.: +/- **0.5°C**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1	1 L	AMBER	A	☐ Y ☑ N					☐ Y ☐ N
2	40 mL	VOA	E	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FEDEX	DATE SHIPPED: 12/14/11	AIRBILL NUMBER: 8992 5824 3533
COC NUMBER: —	SIGNATURE: B. Pawlikowski	DATE SIGNED: 12/14/11

REVISED 06/2011

TRC

WATER SAMPLE LOG

PROJECT NAME:	Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER:	185281.0000.0000	BY: SP/DM	DATE: 12/14/11	BY: SM	DATE: 3/6/12

SAMPLE ID: PW-R-4 WELL DIAMETER: ☐ 2" ☐ 4" ☐ 6" ☑ OTHER

WELL MATERIAL: ☐ PVC ☑ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☐ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☑ OTHER **Pore Water**

PURGING	TIME: 1239	DATE: 12/11/11	SAMPLE	TIME: 1246	DATE: 12/11/11

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: — T/ PVC

DEPTH TO BOTTOM — T/ PVC

WELL VOLUME: — ☐ LITERS ☐ GALLONS

VOLUME REMOVED: — ☐ LITERS ☐ GALLONS

COLOR: Yellow/Brown ODOR: NO

TURBIDITY: 556 ☐ NONE ☐ SLIGHT ☐ MODERATE ☑ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☐ OTHER

PH: 7.06 SU CONDUCTIVITY: 153 umhos/cm

ORP: -47.5 mV DO: — mg/L

TURBIDITY: 500 NTU ☐ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 5.50 °C OTHER:

COLOR: clr ODOR:

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1239	100	7.06	153	-47.5	—	886	5.50	—	INITIAL
						500			
12/11/11 1216		(1)	1 L AMBER						
12/11/11 1246		(2)	40 mL VOAs						

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **10 %** COND.: +/- **10 %** ORP: +/- **10 %** D.O.: +/- **10 %** TURB: +/- **10 %** or <= **5** TEMP.: +/- **0.5°C**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
12/11/11 1216	2	1 L	AMBER	A	☐ Y ☑ N					☐ Y ☐ N
12/11/11 1246	2	40 mL	VOA	E	☐ Y ☑ N					☐ Y ☐ N
					☐ Y ☐ N					☐ Y ☐ N
					☐ Y ☐ N					☐ Y ☐ N
					☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FEDEX	DATE SHIPPED:	12/14/11	AIRBILL NUMBER:	8992 5824 3533
COC NUMBER:	—	SIGNATURE:	S Pawelky	DATE SIGNED:	12/14/11

REVISED 06/2011

TRC

WATER SAMPLE LOG

PROJECT NAME: Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER: 185281.0000.0000	BY: SP/DM	DATE: 12/11/11	BY: SM	DATE: 3/6/12

SAMPLE ID: PW-D-2 WELL DIAMETER: ☐ 2" ☐ 4" ☐ 6" ☑ OTHER

WELL MATERIAL: ☐ PVC ☑ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☐ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☑ OTHER **Pore Water**

PURGING	TIME: 1322	DATE: 12/11/11	SAMPLE	TIME: 1332	DATE: 12/11/11

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 1.50 T/ PVC 1.85

DEPTH TO BOTTOM — T/ PVC

WELL VOLUME: — ☐ LITERS ☐ GALLONS

VOLUME REMOVED: — ☐ LITERS ☐ GALLONS

COLOR: Grey ODOR: NO

TURBIDITY ☐ NONE ☐ SLIGHT ☐ MODERATE ☑ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☐ OTHER

PH: 7.02 SU CONDUCTIVITY: 446 umhos/cm

ORP: -120.6 mV DO: — mg/L

TURBIDITY: 472 NTU ☐ NONE ☐ SLIGHT ☑ MODERATE ☐ VERY

TEMPERATURE: 7.23 °C OTHER:

COLOR: Cloudy Floppies ODOR: NO

FILTRATE (0.45 um) ☐ YES ☐ NO

FILTRATE COLOR: — FILTRATE ODOR: NO

QC SAMPLE: ☐ MS/MSD ☐ DUP-

COMMENTS:

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1322	100	7.02	446	-120.6	—	>1000	7.23	1.50	INITIAL
1332						472			
—	—	Dry	—	—	—	—	—	—	—
12/11/11 : 1322 : (2) 40 mL									
12/13/11 : 1030 : (1) 1 L. Amber									

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **10 %** COND.: +/- **10 %** ORP: +/- **10 %** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **0.5°C**

BOTTLES FILLED PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - ____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1 ~~2~~	1 L	AMBER	A	☐ Y ☑ N					☐ Y ☐ N
12/11/11 1322 2	40 mL	VOA	E	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD: FEDEX	DATE SHIPPED: 12/14/11	AIRBILL NUMBER: 8992 5824 3533
COC NUMBER: —	SIGNATURE: S Pauling	DATE SIGNED: 12/14/11

REVISED 06/2011

TRC

WATER SAMPLE LOG

PROJECT NAME:	Dayco International/LE Carpen	PREPARED		CHECKED	
PROJECT NUMBER:	185281.0000.0000	BY: SP/DM	DATE: 12/14/11	BY: SM	DATE: 3/6/12

SAMPLE ID: MW-D-4 WELL DIAMETER: ☐ 2" ☐ 4" ☐ 6" ☑ OTHER

WELL MATERIAL: ☐ PVC ☑ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☐ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☑ OTHER **Pore Water**

PURGING	TIME: 1354	DATE: 12/14/11	SAMPLE	TIME: varies	DATE: varies
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 7.11 SU	CONDUCTIVITY: 404 umhos/cm	
			ORP: -95.2 mV	DO: – mg/L	
DEPTH TO WATER: – T/ PVC			TURBIDITY: 450 NTU		
DEPTH TO BOTTOM – T/ PVC			☐ NONE ☐ SLIGHT ☑ MODERATE ☐ VERY		
WELL VOLUME: – ☐ LITERS ☐ GALLONS			TEMPERATURE: 7.80 °C	OTHER:	
VOLUME REMOVED: – ☐ LITERS ☐ GALLONS			COLOR: clr	ODOR: –	
COLOR: Cloudy Florescent	ODOR: NO		FILTRATE (0.45 um) ☐ YES ☑ NO		
450 TURBIDITY			FILTRATE COLOR: –	FILTRATE ODOR:	
☐ NONE ☐ SLIGHT ☑ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD ☐ DUP-		
DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☐ OTHER			COMMENTS:		

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1354	100	7.11	404	-95.2	–	450	7.80	–	INITIAL
1356	PSY								
12/13/11	1345:	(1)	1 L amber						
12/14/11	1100:	(2)	40 mL HCl VOAs.						

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **10 %** COND.: +/- **10 %** ORP: +/- **10 %** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **0.5°C**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
1 2	1 L	AMBER	A	☐ Y ☑ N					☐ Y ☐ N
2	40 mL	VOA	E	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	FEDEX	DATE SHIPPED:	12/14/11	AIRBILL NUMBER:	8 992 5824 3533
COC NUMBER:	--	SIGNATURE:	B. Pawlowski	DATE SIGNED:	12/14/11

REVISED 06/2011

CHAIN-OF-CUSTODY RECORD

TRACE
the science of compliance

phone 231.773.5998
toll-free 800.733.5998
fax 231.773.6537

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673
www.trace-labs.com

Page 1 of 1

TRACE ID NO.

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 7025 E. Beltline Ave. SE Ste 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP									REMARKS	Possible Health Hazard
	12/11/11	1430	–	PW-R-2	W	2	2											
	12/13/11	1020	–	PW-R-2	W	1		1										
	12/11/11	1420	–	PW-R-3	W	2	2											
	12/13/11	1335	–	PW-R-3	W	1		1										
	12/11/11	1246	–	PW-R-4	W	3	2	1										
	12/11/11	~~1332~~ 1322	–	PW-D-2	W	2	2											
	12/13/11	1030	–	PW-D-2	W	1		1										
	12/13/11	1345	–	PW-D-4	W	1		1										
	12/14/11	1100	–	PW-D-4	W	2	2											
	11/9/11	—	–	TB-01	W	1	1											

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [signature]	[signature]	12/14/11	1715		3)			
	2)					4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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Appendix B
Boring Logs

SOIL BORING LOG

BORING NO. SB-1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/10/11	12/10/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	25.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Rob Guarino Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/10/11 00:00 ▽ Depth (ft bgs) 5.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	67			**CLAYEY SILT** mostly silt, some clay, little medium sand, few fine angular gravel, very dark grayish brown (2.5Y 3/2), dense.	CL-ML		<0.1 <0.1 <0.1 8.6 4.0	
			5	**SANDY SILT** mostly silt, some fine to medium sand, little fine to coarse angular to semi-angular gravel, few cobble, very dark grayish brown (10YR 3/2), dense. ▽	ML		1.9	
2 CS	70			**SAND WITH GRAVEL** mostly medium to coarse sand, some fine to medium mixed gravel, few cobble, bluish gray (GLEY2 5/10B), loose.	SP		9 9 1.4 18 1	Soil sample collected from 7.5 to 8.0 feet. Oil in soil = ND at 8.0 feet.
				SANDY SILT mostly silt, some fine to medium sand, little mixed gravel, bluish gray (GLEY2 5/10B), medium dense.	ML		<0.1	
			10	No recovery.				
3 CS	0							
			15					
4 CS	50			**SAND WITH GRAVEL** mostly fine to coarse sand, some fine rounded gravel, little silt, few cobble, bluish gray (GLEY2 5/10B), loose to medium dense.	SW		<0.1 <0.1 10 7.5	
			20	**COBBLES**	GP		<0.1 <0.1 <0.1 <0.1	
5 CS	40			**SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse rounded gravel, grayish brown (10YR 5/2).	SW		<0.1	Soil sample collected from 24.5 to 25.0 feet.
			25	End of boring at 25.0 feet below ground surface.				

Signature:

Firm: TRC Environmental Corp. 616.975.5415
2025 E Beltline Ave SE, Suite 402 Grand Rapids, MI Fax 616.975.1098

SOIL BORING LOG

BORING NO. SB-10

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/12/11	12/12/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/12/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	8			**SILTY CLAY** mostly clay, some silt, reddish brown (5YR 4/4), saturated, soft, organics present.			<0.1	Oil in soil = ND at 4.0 feet.
			5					
2 CS	52			**CLAYEY SILT** mostly silt, some clay, greenish black (GLEY1 2.5/10Y), saturated.			23.8 256 1150	
				SANDY SILT mostly silt, some fine to coarse sand, little fine to coarse gravel, very dark gray (GLEY1 3/N), strong odor, saturated.			10.3 50.5 79.1 100.1	Soil sample collected from 7.0 to 7.5 feet.
			10					
3 CS	48			**SAND WITH GRAVEL** mostly fine to coarse sand, some fine to medium gravel, little silt, very dark gray (GLEY1 3/N), saturated.			115 103 126 89.5 78.1 58.4	Oil in soil = ND at 12 feet.
			15					
4 CS	60			Change to trace silt, black (GLEY1 2.5/N) at 15.0 feet.			20.3 8.9 10.1 0.8 5.6 20.0	Oil in soil = ND at 19.0 feet. Soil sample collected from 19.5 to 20.0 feet.
			20	End of boring at 20.0 feet below ground surface.				

Signature:

Firm: TRC Environmental Corp. 616.975.5415
2025 E Beltline Ave SE, Suite 402 Grand Rapids, MI Fax 616.975.1098

SOIL BORING LOG

BORING NO. SB-11

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/12/11	12/12/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	25.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/12/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	53			**CLAYEY SILT** mostly silt, some clay, little fine to medium gravel, trace coarse sand, reddish brown (5YR 4/4), saturated, organics present.	CL-ML		26.1 13.7 9.6 <0.1 5.6 11.1	Oil in soil = ND at 1.0 feet.
			5	Change to no sand, dark greenish gray (GLEY1 4/10Y), strong odor, saturated.				
2 CS	53						443 2164 2880 <0.1	Oil in soil = product detected at 6.0 feet.
				SANDY SILT mostly silt, some fine to coarse sand, little fine to medium gravel, greenish gray (GLEY1 5/5GY), strong odor, saturated.	ML		4122 1850 1060	Soil sample collected from 7.5 to 8.0 feet.
			10	**SILTY SAND** mostly fine to coarse sand, some silt, very dark gray (GLEY1 3/N), strong odor, saturated.	SM		285 387	Oil in soil = ND at 11.0 feet.
3 CS	47			Change to little fine to coarse gravel, dark bluish gray (GLEY2 4/5PB) at 12.0 feet.			60.4 484 29.2 63.1 <0.1	
			15	No recovery.				Soil sample collected from 14.5 to 15.0 feet.
4 CS	0							
			20					
5 CS	0							
			25	End of boring at 25.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 185281.GPJ TRC_CORP.GDT 185281.0000.0000 2/14/12

Signature:

Firm: TRC Environmental Corp. 616.975.5415
2025 E Beltline Ave SE, Suite 402 Grand Rapids, MI Fax 616.975.1098

SOIL BORING LOG

BORING NO. SB-12

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/9/11	12/9/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Rob Guarino Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/9/11 00:00 Depth (ft bgs) After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	70			**SANDY SILT** mostly silt, some fine to medium sand, little fine to medium rounded gravel, trace coarse angular gravel, trace organic material, very dark grayish brown (2.5Y 3/2).	ML		<0.1 <0.1 <0.1 <0.1 <0.1 1.4 15.6 94.1	Oil in soil = ND at 1.0 feet.
			5					
2 CS	95			**CLAY** mostly clay, trace silt, trace fine semi-angular gravel, dark grayish brown (2.5Y 4/2), stiff.	CL		389 790	Oil in soil = diffuse oil detected at 7.0 feet.
				SANDY SILT mostly silt, some fine to coarse sand, little fine to medium rounded gravel, trace coarse angular gravel, trace large rounded cobble, gray (2.5Y 5/1).	ML		105 2000 400 1600 4000 2700 1740 370	Soil sample collected from 8.5 to 9.0 feet. Oil in soil = product detected at 9.5 feet.
			10					
3 CS	33			**COBBLE**	GP		0.9 24.5 22.3 1.2	
				SANDY SILT mostly silt, some fine to coarse sand, little fine to medium rounded gravel, trace coarse angular gravel, trace large rounded cobble, gray (2.5Y 5/1).	ML			
			15					
4 CS	37			**SAND WITH GRAVEL** mostly medium to coarse sand, some fine angular gravel, well-sorted, gray (2.5Y 5/1).	SP		14.5 25.7 9.6 20.0	Soil sample collected from 16.5 to 17.0 feet. Oil in soil = ND at 17.0 feet.
			20	End of boring at 20.0 feet below ground surface.				

Signature:	Firm: TRC Environmental Corp. 616.975.5415 2025 E Beltline Ave SE, Suite 402 Grand Rapids, MI Fax 616.975.1098

SOIL BORING LOG

BORING NO. SB-13

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/12/11	12/12/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	30.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/12/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				SANDY SILT mostly silt, some medium to coarse sand, little organics, dusky red (10R 3/2), saturated.	ML		<0.1	
1 CS	42			**CLAYEY SILT** mostly silt, some clay, little medium gravel, dark bluish gray (GLEY2 4/5PB), saturated.	CL-ML		<0.1 <0.1 <0.1 1.7	Oil in soil = ND at 1.0 feet.
			5	Change to little fine to medium gravel at 5.0 feet.				
2 CS	57			**SANDY SILT** mostly silt, some fine to coarse sand, little fine to coarse gravel, dark bluish gray (GLEY2 4/5PB), strong odor, dense.	ML		53.6 160.5 326.1 44.3 4402 555 2101 3460	Oil in soil = slight product detected at 6.0 feet. Soil sample collected from 9.5 to 10.0 feet.
			10	**CLAYEY SILT** mostly silt, some clay, little medium to coarse sand, few fine gravel, dark bluish gray (GLEY2 4/5PB), saturated, loose.	CL-ML		343 492 169	Oil in soil = ND at 11.0 feet.
3 CS	60			**SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, little silt, dark bluish gray (GLEY2 4/5PB), saturated.	SW		303 103 252 340 792	
			15	Change to dense at 14.5 feet.				
4 CS	62						117 97.1 109 101 115 75 53 89	Oil in soil = ND at 16.0 feet.
			20	Change to very dark bluish gray (GLEY2 3/5PB) at 20.0 feet.				
5 CS	68						58 76 36 43 23 38 42 41	Oil in soil = ND at 21.0 feet.

Signature:	Firm: TRC Environmental Corp. 2025 E Beltline Ave SE, Suite 402 Grand Rapids, MI	616.975.5415 Fax 616.975.1098

SOIL BORING LOG

BORING NO. SB-13

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
6 CS	22			**COBBLE** mostly rounded cobble (river rock), trace fine sand.	GP		10.7 9.7	Soil sample collected between 29.5 and 30.0 feet.
			30	End of boring at 30.0 feet below ground surface.				
			35					
			40					
			45					
			50					
			55					

SOIL BORING LOG

BORING NO. SB-13-10S

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/12/11	12/12/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	30.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/12/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	15			**SILT** mostly silt, little fine to medium sand, dusky red (10R 3/2), saturated, organics present.	ML		<0.1 <0.1 <0.1	Oil in soil = ND at 1.0 feet.
			5	Change to little clay, no sand, dark bluish gray (GLEY2 4/5PB), saturated, loose at 5.0 feet.				
2 CS	70			**SILTY CLAY** mostly clay, some silt, trace medium to coarse sand, dark bluish gray (GLEY2 4/5PB), saturated.	CL-ML		14.7 0.8 1.3	Oil in soil = ND at 1.0 feet.
				CLAY mostly clay, little fine gravel, olive (5Y 4/3).	CL		53.6 8.9 163.5 710 2550	Soil sample collected from 9.5 to 10.0 feet.
				Change to little silt, strong odor, stiff at 8.5 feet.				
			10					
3 CS	72			**SILTY CLAY** mostly clay, some silt, little fine to medium gravel, dark bluish gray (GLEY2 4/5PB), saturated.	CL-ML		89.5 412	Oil in soil = ND at 11.0 feet.
				SILTY SAND mostly fine to coarse sand, some silt, little fine to coarse gravel, dark bluish gray (GLEY2 4/5PB), moderate odor, saturated.	SM		593 147 337 258 63.1 136 31.6	
			15					
4 CS	10			Change to little rounded cobble (river rocks), no gravel, greenish gray (GLEY1 5/10Y) at 15.0 feet.			21.1 20.3	Oil in soil = ND at 16.0 feet.
			20					
5 CS	73			Change to little fine to coarse gravel, no cobble, black (GLEY1 2.5/N) to greenish gray (GLEY1 5/10Y) at 20.0 feet.			17.2 0.8 1.7 16.1 <0.1 <0.1 1.5 5.3 <0.1	Oil in soil = ND at 21.0 feet. Soil sample collected from 21.5 to 22.0 feet.

Signature:	Firm: TRC Environmental Corp. 616.975.5415 2025 E Beltline Ave SE, Suite 402 Grand Rapids, MI Fax 616.975.1098

SOIL BORING LOG

BORING NO. SB-13-10S

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
6 CS	0			No recovery.				
			30	End of boring at 30.0 feet below ground surface.				
			35					
			40					
			45					
			50					
			55					

SOIL BORING LOG

BORING NO. SB-14

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/10/11	12/10/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	25.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Rob Guarino Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/10/11 00:00 ▽ Depth (ft bgs) 10.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	28			**SANDY SILT** mostly silt, some fine to medium sand, little organic material, brown (10YR 4/3). Change to no organic material, litle coarse angular gravel at 2.0 feet.	ML		0.1 7 <0.1 18	
2 CS	60		5	**SANDY CLAY** mostly clay, some medium to coarse sand, trace silt, dark reddish brown (5YR 3/2).	CL		2 18	Oil in soil = ND at 5.0 feet.
3 CS	33		10	**CLAYEY SILT** mostly silt, some clay, little fine to medium sand, few medium to coarse semi-rounded gravel, gray (5YR 5/1) with some red (2.5YR 4/6) and olive yellow (5Y 6/6) streaking from 9.5 to 10.0 feet. ▽ Change to saturated at 10.0 feet below ground surface.	CL-ML		<0.1 2 270 140 1340 650 1470 69 70 33 30	Oil in soil = diffuse oil detected at 10.0 feet. Oil in soil = diffuse oil detected at 12.0 feet.
4 CS	0		15	No recovery.				
5 CS	33		20	**COBBLE**	GP			
			25	End of boring at 25.0 feet below ground surface.				

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SOIL BORING LOG

BORING NO. SB-15

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/10/11	12/10/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	30.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Rob Guarino Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/10/11 00:00 ▽ Depth (ft bgs) 5.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	28			**SANDY SILT** mostly silt, some fine to medium sand, little fine rounded gravel, bluish black (GLEY2 2.5/5PB), dense.	ML		33.5 <0.1	
				GRAVELLY CLAY mostly clay, some coarse rounded gravel, dark greenish gray (GLEY1 4/10Y), medium soft.	CL		1.4	
2 CS	33		5	▽ Change to saturated at 5.0 feet.			62 33 95 227	
3 CS	38		10	**CLAYEY SILT** mostly silt, some clay, little coarse sand, trace cobble, greenish gray (GLEY1 5/5G_/1), saturated.	CL-ML		395 80 1065 85	Oil in soil = diffuse oil detected at 9.5 feet. Soil sample collected from 9.5 to 10.0 feet. Soil sample collected from 10.0 to 10.5 feet. Oil in soil = diffuse oil detected at 10.5 feet.
4 CS	25		15	**SANDY SILT** mostly silt, some medium to coarse sand, little medium to coarse rounded gravel, grayish brown (10YR 5/2), saturated.	ML		15 51 9	
5 CS	0		20	No recovery.				

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SOIL BORING LOG

BORING NO. SB-15

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
6 CS	33			**SANDY SILT** mostly silt, some medium to coarse sand, little medium to coarse rounded gravel, grayish brown (10YR 5/2), saturated.	ML		<0.1 <0.1 <0.1 <0.1 <0.1	Soil sample collected from 25.0 to 25.5 feet.
			30	End of boring at 30.0 feet below ground surface.				
			35					
			40					
			45					
			50					
			55					

SOIL BORING LOG

BORING NO. SB-16

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/10/11	12/10/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Rob Guarino Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/10/11 00:00 ▽ Depth (ft bgs) 10 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	40			**SANDY SILT** mostly silt, some fine to medium sand, little fine to medium gravel, trace organic material, brown (10YR 5/3). Possible staining present from 4.0 to 5.0 feet.	ML		5.0 4.0 80 6.8	
			5					Oil in soil = ND at 5.0 feet.
2 CS	67			**SILTY CLAY** mostly clay, some silt, little fine sand, gray (10YR 5/1), sheen on water.	CL-ML		1.2 0.9 0.9 6.3 65 700	
			10	▽ **CLAYEY SILT** mostly silt, some clay, little fine to coarse sand, few fine rounded gravel, gray (10YR 5/1), very slight odor. Change to saturated at 10.0 feet.	CL-ML		115	Soil sample collected from 9.5 to 10.0 feet. Oil in soil = ND at 10.0 feet.
3 CS	50			**SAND WITH GRAVEL** mostly fine to coarse sand, some fine angular gravel, little medium to coarse semi-angular gravel, trace silt, gray (10YR 5/1).	SW		84 60 35 16	Oil in soil = ND at 14.0 feet.
			15					
4 CS	27			**COBBLE** Change to some silt, little fine to medium sand at 18.0 feet.	GP		<0.1 <0.1 <0.1 <0.1 <0.1	
			20	End of boring at 20.0 feet below ground surface.				
			25					

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SOIL BORING LOG

BORING NO. SB-17

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/13/11	12/13/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/13/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	20			**SILT** mostly silt, little fine to medium sand, few fine to medium gravel, reddish gray (10R 5/1), saturated, organics present.	ML		0.9 1.0	Oil in soil = ND at 1.0 feet.
2 CS	60		5	Change to little fine to coarse sand, few fine to coarse gravel, trace clay, greenish black (GLEY2 2.5/10BG), moderate odor at 5.0 feet.			5.0 29.1 808.3 707.1 15.0 25.6 5.0	Oil in soil = ND at 5.0 feet. Oil in soil = ND at 6.0 feet. Soil sample collected from 7.5 to 8.0 feet. Oil in soil = ND at 7.5 feet.
3 CS	27		10	**SANDY SILT** mostly silt, some fine to coarse sand, little fine to coarse gravel, bluish gray (GLEY2 6/5B), strong odor, dry, dense.	ML		85.3 2.5 20.1	Oil in soil = ND at 10.0 feet. Oil in soil = ND at 12.0 feet.
4 CS	13		15	**SAND WITH GRAVEL** mostly fine to coarse sand, some medium to coarse gravel, trace silt, very dark bluish gray (GLEY2 3/5B), saturated.	SW		<0.1 <0.1	Oil in soil = ND at 15.0 feet. Soil sample collected from 19.5 to 20.0 feet.
			20	End of boring at 20.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 185281.GPJ TRC_CORP.GDT 185281.0000.0000 2/14/12

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SOIL BORING LOG

BORING NO. SB-18

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/13/11	12/13/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	25.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/13/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	43			**SANDY SILT** mostly silt, some fine to medium sand, little fine to medium gravel, weak red (10R 5/3), saturated.	ML		<0.1 2.0 <0.1 <0.1	
			5					
2 CS	62			**SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, little silt, dark reddish gray (10R 4/1), saturated.	SW		19.0 8.3 9.0 25.7	Oil in soil = ND at 5.0 feet.
				SANDY SILT mostly silt, some fine to medium sand, little fine to medium gravel, trace clay, greenish gray (GLEY1 6/5GY), strong odor.	ML		480 1950 1886	
			10					
3 CS	43			**SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, little silt, greenish gray (GLEY1 6/5GY), saturated, sheen present.	SW		60.1 130.3 20.1 78.8	Soil sample collected from 9.5 to 10.0 feet. Oil in soil = diffuse oil detected at 9.5 feet. Oil in soil = diffuse oil detected at 12.0 feet.
			15					
4 CS	20			**SANDY SILT** mostly silt, some fine to coarse sand, little coarse gravel, trace clay, greenish gray (GLEY1 5/10Y), saturated.	ML		18.0 35.0	Oil in soil = diffuse oil detected at 15.0 feet.
			20					
5 CS	0			No recovery.				Soil sample collected from 19.5 to 20.0 feet.
			25					
				End of boring at 25.0 feet below ground surface.				

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SOIL BORING LOG

BORING NO. SB-19

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/13/11	12/13/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/13/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	23			**SANDY SILT** mostly silt, some fine to coarse sand, little medium gravel, brown (10YR 4/3), very slight odor, saturated, organics present.	ML		0.8 12.7 <0.1	Oil in soil = diffuse oil detected at 0.5 feet.
			5	Change to little coarse gravel, black (GLEY1 2.5/N) at 5.0 feet.				
2 CS	83			**GRAVELLY CLAY** mostly clay, some fine to coarse gravel, greenish black (GLEY1 2.5/5GY), moist.	CL		16.4 13.7 0.1 11.7 71.3	Oil in soil = diffuse oil detected at 5.0 feet.
				SILT mostly silt, little clay, little fine to coarse sand, few fine to coarse gravel, greenish black (GLEY1 2.5/5GY), moderate odor.	ML		0.8 86.2	Oil in soil = ND at 7.5 feet.
3 CS	72		10	**SANDY SILT** mostly silt, some fine to coarse sand, little fine to coarse gravel, dark yellowish brown (10YR 4/4), slight odor, dry, dense. Change to black (10YR 2/1) at 10.0 feet. Change to grayish brown (10YR 5/2) at 11.5 feet.	ML		760 415 501 401 177 3853 2730 317	Oil in soil = diffuse oil detected at 10.0 feet. Oil in soil = diffuse oil detected at 12.0 feet.
				SAND WITH GRAVEL mostly fine to coarse sand, some fine to medium gravel, little silt, gray (10YR 5/1), strong odor.				Soil sample collected from 14.0 to 14.5 feet.
4 CS	17		15	Change to few rounded cobble (river rocks).	SW		1.2 0.9	Oil in soil = very slight diffuse oil detected at 15.0 feet.
			20	End of boring at 20.0 feet below ground surface.				Soil sample collected from 19.5 to 20.0 feet. Oil in soil = very slight diffuse oil detected at 20 feet.

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SOIL BORING LOG

BORING NO. SB-2

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/9/11	12/9/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Rob Guarino Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/9/11 00:00 ▽ Depth (ft bgs) 5.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				ORGANIC SOIL mostly organic material, some clay, black (2.5Y 2.5/1).	OL			
				CLAY mostly clay, some organic material, little fine angular gravel, black (2.5Y 2.5/1), stiff.	CL		<0.1	
1 CS	53			**SAND** mostly fine to medium sand, little fine angular gravel, dark olive gray (5Y 3/2) to grayish green (GLEY1 4/5G_1), mottled.	SP		<0.1 <0.1 <0.1 <0.1	
			5 ▽	**GRAVEL WITH SAND AND SILT** mostly fine to medium angular gravel, some sand, little silt, few medium to coarse rounded and semi-rounded cobbles, dark gray (GLEY1 4/N), saturated, dense, very slight sheen.	GP		13.5	Soil sample collected from 5.0 to 5.5 feet. Oil in soil = ND at 5.0 feet.
2 CS	55			**SANDY SILT** mostly silt, some fine to medium sand, little coarse sand, few fine rounded gravel, trace coarse semi-angular gravel, trace rounded cobbles, greenish gray (GLEY1 5/10GY).	ML		1.0 17.6 <0.1 6.9 4.5	
			10	**GRAVEL WITH SAND AND SILT** mostly rounded and semi-rounded cobbles, some sand, little silt, few fine angular gravel, dark gray (GLEY1 4/N), dense.	GP		4.0 2.0 14.6 1.4 0.9 <0.1 <0.1	Oil in soil = ND at 10.0 feet.
3 CS	43							
			15	**SILT** mostly silt, some fine to medium sand, little fine to coarse rounded gravel, light gray (2.5YR 7/1), saturated, loose.	ML		<0.1 <0.1 <0.1	Soil sample collected from 15.0 to 15.5 feet.
4 CS	27							
			20	End of boring at 20.0 feet below ground surface.				

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SOIL BORING LOG

BORING NO. SB-3

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/9/11	12/9/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Rob Guarino Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/9/11 00:00 Depth (ft bgs) After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	22			**SILTY CLAY** mostly clay, some silt, little organic material, few cobble, black (2.5Y 2.5/1).	CL-ML		<0.1 <0.1 <0.1 <0.1 <0.1	
			5	Change to trace medium sand, gray (10YR 5/1) at 4.8 feet.				
2 CS	70			**GRAVELLY CLAY** mostly clay, some fine gravel, very dark gray (GLEY1 3/N), soft.	CL		14	Soil sample collected from 5.0 to 5.5 feet.
				CLAY mostly clay, very dark gray (GLEY1 3/N), stiff.	CL		13 80 <0.1 0.1 0.2	
				SANDY SILT WITH GRAVEL mostly silt, some sand, little gravel, trace coarse cobble.	ML		<0.1	
			10	**SANDY CLAY** mostly clay, some medium sand, little organic material, few fine angular gravel, trace cobble throughout, black (2.5Y 2.5/1).	CL		<0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 11.0 feet. Soil sample collected from 11.0 to 11.5 feet.
3 CS	62							
			15	**SILTY SAND WITH GRAVEL** mostly sand, some silt, little fine to medium gravel, few cobble.	SM		<0.1 <0.1 <0.1 <0.1 <0.1	Soil sample collected from 14.5 to 15.0 feet.
4 CS	0							
			20	End of boring at 20.0 feet below ground surface.				

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SOIL BORING LOG

BORING NO. SB-3-10E

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/13/11	12/13/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/13/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				SILT mostly silt, some organics, little coarse sand, reddish gray (10R 5/1), saturated.	OH		<0.1	
1 CS	63			**SANDY SILT WITH GRAVEL** mostly silt, some fine to coarse sand, little fine gravel, little clay, greenish black (GLEY2 2.5/10BG), saturated.	ML		<0.1 <0.1 <0.1 <0.1 8.7	Oil in soil = ND at 4.0 feet.
			5					
2 CS	70			**SANDY SILT** mostly silt, some fine to medium sand, little coarse sand, few coarse gravel, trace clay, greenish black (GLEY2 2.5/10BG), dense.	ML		44.1 73.9 128.1 44.1 23.1 5.2 <0.1	Soil sample collected from 5.5 to 6.0 feet. Oil in soil = ND at 6.0 feet.
			10					
3 CS	72			**SANDY SILT** mostly silt, some fine to coarse sand, few gravel, grayish brown (10YR 5/2), saturated.	ML		0.8 0.9 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 12.0 feet. Soil sample collected from 14.5 to 15.0 feet.
			15					
4 CS	23			**SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, little silt, grayish brown (10YR 5/2), saturated.	SW		<0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 17.0 feet.
			20	End of boring at 20.0 feet below ground surface.				

Signature:

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SOIL BORING LOG

BORING NO. SB-4

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/9/11	12/9/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Rob Guarino Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/9/11 00:00 Depth (ft bgs) After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	53			**CLAYEY SILT** mostly silt, some clay, little fine to medium sand, trace fine angular gravel, trace organics, brown (10YR 5/3), dense.	CL-ML		<0.1 <0.1 <0.1 <0.1 <0.1 0.5	
			5					
2 CS	57			**SANDY SILT** mostly silt, some fine to medium sand, little fine to coarse rounded gravel, trace coarse rounded cobble, grayish brown (10YR 5/2).	ML		3 70 10 1 3	Oil in soil = ND at 6.0 feet.
				SILTY SAND mostly fine to medium sand, some silt, little fine rounded gravel, gray (5YR 5/1) to reddish brown (5YR 5/3).	SM		4	Oil in soil = ND at 9.0 feet.
			10					
3 CS	88			Change to no gravel, few cobble, gray (5YR 5/1), dense at 12.0 feet. Change to no cobble, little fine to medium angular gravel at 13.0 feet. Change to pink (7.5YR 8/3) and gray (7.5YR 5/1) at 13.5 feet.			<0.1 <0.1 0.1 <0.1 <0.1 <0.1 <0.1	
			15					
4 CS	32			**SAND WITH GRAVEL** mostly fine to medium sand, some fine angular gravel, little cobble, dark gray (7.5YR 4/1). Change to gray (7.5YR 5/1), loose at 15.0 feet.	SP		<0.1 <0.1 <0.1 <0.1 <0.1	
			20	End of boring at 20.0 feet below ground surface.				

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SOIL BORING LOG

BORING NO. SB-5

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/8/11	12/8/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/8/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				SILT mostly silt, little fine sand, dark brown (10YR 3/3), saturated, organics present.	ML			Oil in soil = ND at ground surface.
1 CS	5			**SANDY SILT WITH GRAVEL** mostly silt, some fine to medium sand, little fine to medium gravel, little clay, few organics, few coarse sand, greenish black (GLEY1 2.5/10GY), saturated.			<0.1 <0.1 <0.1 <0.1	
			5	Change to no clay, trace organics at 5.0 feet.	ML ML			Soil sample collected from 5.0 to 5.5 feet.
2 CS	25						<0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 7.5 feet.
			10	**GRAVELLY SILT** mostly silt, some fine gravel, greenish black (GLEY1 2.5/10GY), saturated.	ML		<0.1 <0.1	Soil sample collected from 10.0 to 10.5 feet.
3 CS	88			**CLAYEY SILT** mosltly silt, some clay, greenish black (GLEY1 2.5/10GY), saturated.	CL-ML		<0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 11 feet.
				GRAVELLY SILT mostly silt, some fine to coarse gravel, little fine sand, greenish gray (GLEY1 5/10Y), very dense, dry.	ML		<0.1	
			15	**SILTY GRAVEL WITH SAND** mostly fine to coarse gravel, some fine to coarse sand, little silt, light gray (GLEY1 7/N), saturated.			<0.1 <0.1	Oil in soil = ND at 16 feet.
4 CS	53				GM		<0.1 <0.1 <0.1 <0.1 <0.1 <0.1	
			20	End of boring at 20 feet below ground surface.				

Signature:	Firm: TRC Environmental Corp. 616.975.5415 2025 E Beltline Ave SE, Suite 402 Grand Rapids, MFax 616.975.1098

SOIL BORING LOG

BORING NO. SB-6

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/9/11	12/9/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Rob Guarino Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/9/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	43			**SILTY SAND** mostly sand, some silt, little organic material, grayish brown (10YR 5/2), saturated. Change to no organic matter, little fine angular gravel, trace clay at 1.0 feet.	SM		<0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 1.0 feet.
				COBBLE large, semi-rounded cobble.	GP			
				SILTY CLAY mostly clay, some silt, little coarse rounded gravel, gray (10YR 5/1).	CL-ML			
2 CS	27		5	**SANDY SILT** mostly silt, some fine to coarse sand, little fine to coarse rounded gravel, few rounded cobble, grayish brown (10YR 5/2), saturated.			<0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 6.0 feet. Soil sample collected between 6.5 and 7.0 feet.
3 CS	80		10				<0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Soil sample collected between 14.0 and 14.5 feet.
4 CS	30		15	**SAND WITH GRAVEL** mostly medium to coarse sand, some fine to coarse gravel, gray (10YR 5/1).			<0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 16.0 feet.
			20	End of boring at 20.0 feet below ground surface.				

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SOIL BORING LOG

BORING NO. SB-7

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/8/11	12/8/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/8/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	23			**ORGANIC SOIL** mostly silt, some organics, little clay, very dark greenish gray (GLEY1 3/10Y), saturated.	OH		<0.1 <0.1 <0.1 <0.1	Oil in soil = ND at ground surface. Soil sample collected from 0.5 to 1.0 feet.
2 CS	27		5	**CLAYEY SILT WITH SAND** mostly silt, some clay, little fine to medium sand, few coarse sand, few medium to coarse gravel, light greenish gray (GLEY1 7/5Y), saturated.	CL-ML		<0.1 <0.1 <0.1 <0.1 <0.1	Soil sample collected from 5.0 to 5.5 feet. Oil in soil = ND at 6.0 feet.
3 CS	70		10	**SANDY SILT** mostly silt, some fine to coarse sand, little clay, few fine to coarse gravel, dark greenish gray (GLEY1 4/10Y), moist, dense.	ML		<0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 11.0 feet.
4 CS	18		15	**SILTY SAND** mostly fine to coarse sand, little silt, few fine to coarse gravel, dark greenish gray (GLEY1 4/10Y), saturated.	SM		<0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 16.0 feet.
			20	End of boring at 20.0 feet below ground surface.				

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SOIL BORING LOG

BORING NO. SB-8

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/8/11	12/8/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/8/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	50			**CLAYEY SILT** mostly silt, some clay, little fine to coarse gravel, little coarse sand, dark brown (10YR 3/3), saturated, organics present.			<0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 4.0 feet.
			5	Change to dark gray (10YR 4/1) at 5.0 feet.	CL-ML			
2 CS	12						4.8 1.7	Oil in soil = ND at 6.0 feet.
			10					
3 CS	75			**SILT** mostly silt, little clay, little fine to coarse gravel, light brownish gray (10YR 6/2), strong chemical odor.	ML		21.3 41.3 70.3 7.7 126.5 783 363 5.0 0.9	Soil sample collected from 13.0 to 13.5 feet. Oil in soil = ND at 13.0 feet. Soil sample collected from 14.5 to 15.0 feet.
			15	**SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, little silt, grayish brown (10YR 5/2), saturated.	SW			
4 CS	0			No recovery.			<0.1	
			20	End of boring at 20.0 feet below ground surface.				

Signature:	Firm: TRC Environmental Corp. 616.975.5415 2025 E Beltline Ave SE, Suite 402 Grand Rapids, MI Fax 616.975.1098

SOIL BORING LOG

BORING NO. SB-8-10E

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/13/11	12/13/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/13/11 00:00 ▽ Depth (ft bgs) 0.0 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	78			**CLAYEY SILT** mostly silt, some clay, little fine gravel, dark brown (10YR 3/3), saturated, organics present. Change to little fine to coarse gravel, few coarse sand at 0.5 feet.	CL-ML		<0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 1.0 feet.
			5					
2 CS	95			**SILTY CLAY** mostly clay, some silt, little fine to coarse gravel, very dark bluish gray (GLEY2 3/5PB).	CL-ML		<0.1 <0.1 <0.1	Oil in soil = ND at 6.5 feet.
3 CS	65		10	**GRAVELLY SILT WITH SAND** mostly silt, some fine to coarse gravel, little fine to coarse sand, light bluish gray (GLEY2 8/5PB), dry, dense. Change to few clay, brown (10YR 5/3), saturated at 10.0 feet.	ML		<0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Soil sample collected from 7.5 to 8.0 feet. Oil in soil = ND at 11.5 feet.
4 CS	43		15	**SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, little silt, bluish black (GLEY2 2.5/10B), saturated.	SW		<0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 16.5 feet. Soil sample collected from 19.5 to 20.0 feet.
			20	End of boring at 20.0 feet below ground surface.				

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SOIL BORING LOG

BORING NO. SB-9

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Dayco International/LE Carpenter	12/8/11	12/8/11	185281.0000.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
ARS	Sonic	---	---	20.0	4.625

Boring Location:	Personnel	Drilling Equipment:
	Logged By - Dave Marx Driller -	8140 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Wharton	Morris	New Jersey	While Drilling: Date/Time 12/8/11 00:00 ▽ Depth (ft bgs) 4.5 After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
1 CS	52			**SANDY SILT** mostly silt, some fine to medium sand, little fine to coarse gravel, brown (10YR 5/3), organics present.	ML		<0.1 <0.1 <0.1 <0.1 <0.1	Soil sample collected from 0.5 to 1.0 feet. Oil in soil = ND at 1.5 feet.
2 CS	30		5	**CLAYEY SILT** mostly silt, some clay, little medium to coarse gravel, dark gray (10YR 4/1), saturated, dense.	CL-ML		<0.1 <0.1 <0.1 <0.1	Soil sample collected from 4.5 to 5.0 feet. Oil in soil = ND at 6.0 feet.
3 CS	87		10	**SANDY SILT** mostly silt, some fine to coarse sand, little fine to medium gravel, trace coarse gravel, dark gray (10YR 4/1), saturated.	ML		<0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Oil in soil = ND at 11.5 feet.
				SAND WITH GRAVEL mostly fine to coarse sand, some fine to medium gravel, little silt, dark gray (10YR 4/1), saturated.	SW			
4 CS	0		15	No recovery.				
			20	End of boring at 20.0 feet below ground surface.				

Signature:

Firm: TRC Environmental Corp. 616.975.5415
2025 E Beltline Ave SE, Suite 402 Grand Rapids, MI Fax 616.975.1098

Appendix C
Analytical Data Sheets

TRACE
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Trace Analytical Laboratories, Inc.
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Muskegon, MI 49444-2673
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January 11, 2012

Mr. Scott Pawlukiewicz
TRC Solutions
2025 E. Beltline Ave., SE, Ste 402
Grand Rapids, MI 49546

Phone: (201) 636-5884
Fax: (616) 975-1098

RE: Trace Project T11L056
Client Project LEC MW-30 RI, 185281.0000.0000

Dear Mr. Pawlukiewicz:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Project Manager

Enclosures

ACCREDITED IN ACCORDANCE WITH nelac

NJDEP Accreditation No. MI008 PADEP Accreditation No. 68-04471

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SAMPLE SUMMARY

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
T11L056-01	SED-R-1 (0.0-0.5)	Sediment	sp	12/05/11 13:03	12/06/11 10:33
T11L056-02	SED-R-2 (0.0-0.5)	Sediment	sp	12/05/11 13:32	12/06/11 10:33
T11L056-03	SED-R-3 (0.0-0.5)	Sediment	sp	12/05/11 13:53	12/06/11 10:33
T11L056-04	SED-R-4 (0.0-0.5)	Sediment	sp	12/05/11 14:39	12/06/11 10:33
T11L056-05	TB-1	Water	sp	11/09/11	12/06/11 10:33
T11L056-06	SED-R-6 (0.0-0.5)	Sediment	sp	12/06/11 08:50	12/07/11 10:39
T11L056-07	SED-D-3 (0.0-0.5)	Sediment	sp	12/06/11 10:03	12/07/11 10:39
T11L056-08	SED-D-1 (0.0-0.5)	Sediment	sp	12/06/11 10:55	12/07/11 10:39
T11L056-09	SED-D-2 (0.0-0.5)	Sediment	sp	12/06/11 12:43	12/07/11 10:39
T11L056-10	SED-D-4 (0.0-0.5)	Sediment	sp	12/06/11 13:44	12/07/11 10:39
T11L056-11	SED-D-4 (0.0-0.5) DUP	Sediment	sp	12/06/11 13:47	12/07/11 10:39
T11L056-12	TB-2	Water	sp	11/09/11	12/07/11 10:39
T11L056-14	SED-D-3 (1.0-1.5)	Sediment	sp	12/06/11 10:09	12/07/11 10:39
T11L056-15	SED-D-1 (1.0-1.5)	Sediment	sp	12/06/11 11:00	12/07/11 10:39
T11L056-16	SED-D-2 (1.0-1.5)	Sediment	sp	12/06/11 12:45	12/07/11 10:39
T11L056-17	SED-D-4 (1.0-1.5)	Sediment	sp	12/06/11 13:47	12/07/11 10:39
T11L056-18	SED-R-1 (0.5-1.0)	Sediment	sp	12/06/11 14:55	12/07/11 10:39
T11L056-19	SED-R-2 (1.5-2.0)	Sediment	sp	12/08/11 08:55	12/09/11 10:40
T11L056-20	SED-R-3 (0.5-1.0)	Sediment	sp	12/08/11 10:35	12/09/11 10:40
T11L056-21	SED-R-4 (1.0-1.5)	Sediment	sp	12/08/11 11:20	12/09/11 10:40
T11L056-22	SED-DRC-02 (0.0-0.5)	Sediment	sp	12/08/11 12:50	12/09/11 10:40
T11L056-23	SED-DRC-02 (1.0-1.5)	Sediment	sp	12/08/11 12:55	12/09/11 10:40
T11L056-24	SED-D-5 (0.0-0.5)	Sediment	sp	12/08/11 13:55	12/09/11 10:40
T11L056-25	SED-D-5 (1.0-1.5)	Sediment	sp	12/08/11 14:00	12/09/11 10:40
T11L056-26	SB-5 (5.0-5.5)	Sediment	sp	12/08/11 10:55	12/09/11 10:40
T11L056-27	SB-5 (10.0-10.5)	Sediment	sp	12/08/11 11:16	12/09/11 10:40
T11L056-28	SB-7 (0.5-1.0)	Sediment	sp	12/08/11 13:48	12/09/11 10:40
T11L056-29	SB-7 (5.0-5.5)	Sediment	sp	12/08/11 14:05	12/09/11 10:40
T11L056-30	SB-8 (13.0-13.5)	Sediment	sp	12/08/11 15:17	12/09/11 10:40
T11L056-31	SB-8 (14.5-15.0)	Sediment	sp	12/08/11 15:25	12/09/11 10:40
T11L056-32	SB-9 (0.5-1.0)	Sediment	sp	12/08/11 15:51	12/09/11 10:40
T11L056-33	SB-9 (4.5-5.0)	Sediment	sp	12/08/11 16:06	12/09/11 10:40
T11L056-34	SB-6 / (6.5-7.0)	Soil	sp	12/09/11 09:33	12/10/11 10:13
T11L056-35	SB-6 / (14.0-14.5)	Soil	sp	12/09/11 09:40	12/10/11 10:13
T11L056-36	SB-4 / (6.5-7.0)	Soil	sp	12/09/11 10:40	12/10/11 10:13
T11L056-37	SB-4 / (11.5-12.0)	Soil	sp	12/09/11 10:50	12/10/11 10:13
T11L056-38	SB-3 / (11.0-11.5)	Soil	sp	12/09/11 12:50	12/10/11 10:13

CERTIFICATE OF ANALYSIS

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T11L056-39	SB-3 / (14.5-15.0)	Soil	sp	12/09/11 12:55	12/10/11 10:13
T11L056-40	SB-2 / (5.0-5.5)	Soil	sp	12/09/11 13:55	12/10/11 10:13
T11L056-41	SB-2 / (15.0-15.5)	Soil	sp	12/09/11 14:00	12/10/11 10:13
T11L056-42	SB-12 / (8.5-9.0)	Soil	sp	12/09/11 15:00	12/10/11 10:13
T11L056-43	SB-12 / (16.5-17.0)	Soil	sp	12/09/11 15:20	12/10/11 10:13
T11L056-44	SB-3 / (5.0-5.5)	Soil	sp	12/09/11 15:45	12/10/11 10:13
T11L056-45	SB-15 / (10.0-10.5)	Soil	sp	12/10/11 08:41	12/13/11 08:29
T11L056-46	SB-15 / (25.0-25.5)	Soil	sp	12/10/11 08:50	12/13/11 08:29
T11L056-47	SB-14 / (9.5-10.0)	Soil	sp	12/10/11 09:35	12/13/11 08:29
T11L056-48	SB-Dup-01	Soil	sp	12/10/11	12/13/11 08:29
T11L056-49	SB-1 / (7.5-8.0)	Soil	sp	12/10/11 10:36	12/13/11 08:29
T11L056-50	SB-1 / (24.5-25.0)	Soil	sp	12/10/11 10:43	12/13/11 08:29
T11L056-51	SB-16 / (9.5-10.0)	Soil	sp	12/10/11 13:50	12/13/11 08:29
T11L056-52	SB-16 / (24.5-25.0)	Soil	sp	12/10/11 13:55	12/13/11 08:29
T11L056-53	SB-13 / (9.5-10.0)	Soil	sp	12/12/11 10:08	12/13/11 08:29
T11L056-54	SB-13 / (29.5-30.0)	Soil	sp	12/12/11 10:17	12/13/11 08:29
T11L056-55	SB-13-10S / (9.5-10.0)	Soil	sp	12/12/11 11:49	12/13/11 08:29
T11L056-56	SB-13-10S / (21.5-22.0)	Soil	sp	12/12/11 12:01	12/13/11 08:29
T11L056-57	SB-11 / (7.5-8.0)	Soil	sp	12/12/11 14:02	12/13/11 08:29
T11L056-58	SB-11 / (14.5-15.0)	Soil	sp	12/12/11 14:07	12/13/11 08:29
T11L056-59	SB-10 / (7.0-7.5)	Soil	sp	12/12/11 15:05	12/13/11 08:29
T11L056-60	SB-10 / (19.5-20.0)	Soil	sp	12/12/11 15:15	12/13/11 08:29
T11L056-61	SB-8-10E / (7.5-8.0)	Soil	dm	12/13/11 09:26	12/14/11 10:21
T11L056-62	SB-8-10E / (19.5-20.0)	Soil	dm	12/13/11 09:31	12/14/11 10:21
T11L056-63	SB-3-10E / (5.5-6.0)	Soil	dm	12/13/11 10:58	12/14/11 10:21
T11L056-64	SB-3-10E / (14.5-15.0)	Soil	dm	12/13/11 11:07	12/14/11 10:21
T11L056-65	SB-17/ (7.5-8.0)	Soil	dm	12/13/11 12:04	12/14/11 10:21
T11L056-66	SB-17 / (7.5-8.0) /Dup	Soil	dm	12/13/11 12:06	12/14/11 10:21
T11L056-67	SB-17 / (19.5-20.0)	Soil	dm	12/13/11 12:11	12/14/11 10:21
T11L056-68	SB-18 / (9.5-10.0)	Soil	dm	12/13/11 12:57	12/14/11 10:21
T11L056-69	SB-18 / (19.5-20.0)	Soil	dm	12/13/11 13:03	12/14/11 10:21
T11L056-70	SB-19 / (14.0-14.5)	Soil	dm	12/13/11 14:23	12/14/11 10:21
T11L056-71	SB-19 / (19.5-20.0)	Soil	dm	12/13/11 14:27	12/14/11 10:21
T11L056-72	PW-R-2	Ground Water	sp	12/11/11 14:30	12/15/11 10:21
T11L056-73	PW-R-2	Ground Water	sp	12/13/11 10:20	12/15/11 10:21
T11L056-74	PW-R-3	Ground Water	sp	12/11/11 14:20	12/15/11 10:21
T11L056-75	PW-R-3	Ground Water	sp	12/13/11 13:35	12/15/11 10:21
T11L056-76	PW-R-4	Ground Water	sp	12/11/11 12:46	12/15/11 10:21
T11L056-77	PW-D-2	Ground Water	sp	12/11/11 13:22	12/15/11 10:21
T11L056-78	PW-D-2	Ground Water	sp	12/13/11 10:30	12/15/11 10:21
T11L056-79	PW-D-4	Ground Water	sp	12/13/11 13:45	12/15/11 10:21
T11L056-80	PW-D-4	Ground Water	sp	12/14/11 11:00	12/15/11 10:21
T11L056-81	TB-01	Ground Water	sp	11/09/11	12/15/11 10:21

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the compound has not been evaluated by NELAC
NA	Indicates that the compound is not available.

DATA QUALIFIERS

Trace ID: T026819-MS1

Analysis: EPA 8260B

Benzene	Note 202 : The MS recovery was out of control low, resulting in an out of control RPD between the MS and the MSD. The result and reporting limit for this analyte, in the non-spiked version of the sample, must be considered estimated.
Toluene	Note 202 : The MS recovery was out of control low, resulting in an out of control RPD between the MS and the MSD. The result and reporting limit for this analyte, in the non-spiked version of the sample, must be considered estimated.

Trace ID: T026819-MSD1

Analysis: EPA 8260B

Benzene	Note 202 : The MS recovery was out of control low, resulting in an out of control RPD between the MS and the MSD. The result and reporting limit for this analyte, in the non-spiked version of the sample, must be considered estimated.
Toluene	Note 202 : The MS recovery was out of control low, resulting in an out of control RPD between the MS and the MSD. The result and reporting limit for this analyte, in the non-spiked version of the sample, must be considered estimated.

Trace ID: T026826-MS1

Analysis: WALKLEY BLACK

Total Organic Carbon	Note 222.5 : The MS and MSD recoveries were out of control. Because the sample background concentration of this analyte is greater than the spike amount, no data require qualification.

Trace ID: T026826-MSD1

Analysis: WALKLEY BLACK

Total Organic Carbon	Note 222.5 : The MS and MSD recoveries were out of control. Because the sample background concentration of this analyte is greater than the spike amount, no data require qualification.

Trace ID: T027170-BLK1

Analysis: EPA 8270C

2-Fluorophenol	Note 312 : The surrogate recovery was out of control high when compared to control limits. As there are no positive results, no data require qualification.

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Trace ID: T11L056-01

Analysis: EPA 8270C

Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-02

Analysis: EPA 8270C

Terphenyl-d14	Note 802 : One of the base/neutral surrogate recoveries was outside the control limits. Since the other two base/neutral surrogates were within the control limits, no data require qualification.

Trace ID: T11L056-03

Analysis: EPA 8270C

Terphenyl-d14	Note 802 : One of the base/neutral surrogate recoveries was outside the control limits. Since the other two base/neutral surrogates were within the control limits, no data require qualification.

Trace ID: T11L056-04

Analysis: EPA 8270C

Terphenyl-d14	Note 802 : One of the base/neutral surrogate recoveries was outside the control limits. Since the other two base/neutral surrogates were within the control limits, no data require qualification.

Trace ID: T11L056-09

Analysis: EPA 8260B

Benzene	Note 202 : The MS recovery was out of control low, resulting in an out of control RPD between the MS and the MSD. The result and reporting limit for this analyte, in the non-spiked version of the sample, must be considered estimated.
Toluene	Note 202 : The MS recovery was out of control low, resulting in an out of control RPD between the MS and the MSD. The result and reporting limit for this analyte, in the non-spiked version of the sample, must be considered estimated.

Trace ID: T11L056-10

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-11

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-16

Analysis: EPA 8270C

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2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-17

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-19

Analysis: EPA 8270C

	Note 502 : The sample result and reporting limit must be considered estimated. The extraction was performed beyond the EPA established 14-day hold time.

Trace ID: T11L056-20

Analysis: EPA 8270C

	Note 502 : The sample result and reporting limit must be considered estimated. The extraction was performed beyond the EPA established 14-day hold time.
2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-21

Analysis: EPA 8270C

	Note 502 : The sample result and reporting limit must be considered estimated. The extraction was performed beyond the EPA established 14-day hold time.

Trace ID: T11L056-22

Analysis: WALKLEY BLACK

Total Organic Carbon	Note 222.5 : The MS and MSD recoveries were out of control. Because the sample background concentration of this analyte is greater than the spike amount, no data require qualification.

Trace ID: T11L056-23

Analysis: EPA 8270C

	Note 502 : The sample result and reporting limit must be considered estimated. The extraction was performed beyond the EPA established 14-day hold time.

Trace ID: T11L056-24

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-25

Analysis: EPA 8270C

	Note 502 : The sample result and reporting limit must be considered estimated. The extraction was performed beyond the EPA established 14-day hold time.
2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-26

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-27

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 802 : One of the base/neutral surrogate recoveries was outside the control limits. Since the other two base/neutral surrogates were within the control limits, no data require qualification.

Trace ID: T11L056-30

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-36

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-38

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-40

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-42

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-44

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-45

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-47

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-47RE2

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Analysis: EPA 8260B

1,2-Dichloroethane-d4	Note 314.2 : The surrogate was out of control low when compared to the control limits due to matrix interference. All results and reporting limits must be considered estimated.

Trace ID: T11L056-48

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-49

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-51

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-53

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-55

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-57

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Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-58

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-59

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-61

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 802 : One of the base/neutral surrogate recoveries was outside the control limits. Since the other two base/neutral surrogates were within the control limits, no data require qualification.

Trace ID: T11L056-63

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-65

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-65RE1

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Analysis: EPA 8260B

1,2-Dichloroethane-d4	Note 314.2 : The surrogate was out of control low when compared to the control limits due to matrix interference. All results and reporting limits must be considered estimated.

Trace ID: T11L056-66

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-66RE1

Analysis: EPA 8260B

1,2-Dichloroethane-d4	Note 314.2 : The surrogate was out of control low when compared to the control limits due to matrix interference. All results and reporting limits must be considered estimated.

Trace ID: T11L056-68

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-68RE1

Analysis: EPA 8260B

1,2-Dichloroethane-d4	Note 314.2 : The surrogate was out of control low when compared to the control limits due to matrix interference. All results and reporting limits must be considered estimated.

Trace ID: T11L056-69

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T11L056-70

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Trace ID: T11L056-70RE1

Analysis: EPA 8260B

1,2-Dichloroethane-d4	Note 314.2 : The surrogate was out of control low when compared to the control limits due to matrix interference. All results and reporting limits must be considered estimated.

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-01 | Date Collected: 12/05/11 13:03 | Matrix: Sediment
Sample ID: SED-R-1 (0.0-0.5) | Date Received: 12/06/11 10:33

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026801										
Benzene	<0.0070	mg/kg dry	0.0070	1	12/07/11	was	12/07/11	was		
Toluene	<0.0070	mg/kg dry	0.0070	1	12/07/11	was	12/07/11	was		
Ethylbenzene	<0.0070	mg/kg dry	0.0070	1	12/07/11	was	12/07/11	was		
m,p-Xylene	<0.014	mg/kg dry	0.014	1	12/07/11	was	12/07/11	was	N	
o-Xylene	<0.0070	mg/kg dry	0.0070	1	12/07/11	was	12/07/11	was	N	
Xylenes, total	<0.021	mg/kg dry	0.021	1	12/07/11	was	12/07/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	103	%	71-131	1	12/07/11	was	12/07/11	was		
Toluene-d8	111	%	70-130	1	12/07/11	was	12/07/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026771										
Bis(2-ethylhexyl)phthalate	**26**	**mg/kg dry**	**1.3**	**10**	**12/07/11**	**kb**	**12/09/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	10	12/07/11	kb	12/09/11	avl	302	
2-Fluorobiphenyl	52	%	44-105	10	12/07/11	kb	12/09/11	avl		
Terphenyl-d14	53	%	46-109	10	12/07/11	kb	12/09/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026774										
% Solids	**65**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026775										
Total Organic Carbon	**19000**	**mg/kg dry**	**1000**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-02 | Date Collected: 12/05/11 13:32 | Matrix: Sediment
Sample ID: SED-R-2 (0.0-0.5) | Date Received: 12/06/11 10:33

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026801										
Benzene	<0.0076	mg/kg dry	0.0076	1	12/07/11	was	12/07/11	was		
Toluene	<0.0076	mg/kg dry	0.0076	1	12/07/11	was	12/07/11	was		
Ethylbenzene	<0.0076	mg/kg dry	0.0076	1	12/07/11	was	12/07/11	was		
m,p-Xylene	<0.015	mg/kg dry	0.015	1	12/07/11	was	12/07/11	was	N	
o-Xylene	<0.0076	mg/kg dry	0.0076	1	12/07/11	was	12/07/11	was	N	
Xylenes, total	<0.023	mg/kg dry	0.023	1	12/07/11	was	12/07/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	99	%	71-131	1	12/07/11	was	12/07/11	was		
Toluene-d8	118	%	70-130	1	12/07/11	was	12/07/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026771										
Bis(2-ethylhexyl)phthalate	**0.49**	**mg/kg dry**	**0.33**	**1**	**12/07/11**	**kb**	**12/08/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	57	%	36-98	1	12/07/11	kb	12/08/11	avl		
2-Fluorobiphenyl	51	%	44-105	1	12/07/11	kb	12/08/11	avl		
Terphenyl-d14	* **41**	%	46-109	1	12/07/11	kb	12/08/11	avl	802	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026774										
% Solids	**57**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026775										
Total Organic Carbon	**33000**	**mg/kg dry**	**1200**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-03 | Date Collected: 12/05/11 13:53 | Matrix: Sediment
Sample ID: SED-R-3 (0.0-0.5) | Date Received: 12/06/11 10:33

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026801										
Benzene	<0.0093	mg/kg dry	0.0093	1	12/07/11	was	12/07/11	was		
Toluene	<0.0093	mg/kg dry	0.0093	1	12/07/11	was	12/07/11	was		
Ethylbenzene	<0.0093	mg/kg dry	0.0093	1	12/07/11	was	12/07/11	was		
m,p-Xylene	<0.019	mg/kg dry	0.019	1	12/07/11	was	12/07/11	was	N	
o-Xylene	<0.0093	mg/kg dry	0.0093	1	12/07/11	was	12/07/11	was	N	
Xylenes, total	<0.028	mg/kg dry	0.028	1	12/07/11	was	12/07/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	71-131	1	12/07/11	was	12/07/11	was		
Toluene-d8	121	%	70-130	1	12/07/11	was	12/07/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026771										
Bis(2-ethylhexyl)phthalate	**5.7**	**mg/kg dry**	**0.33**	**1**	**12/07/11**	**kb**	**12/09/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	42	%	36-98	1	12/07/11	kb	12/09/11	avl		
2-Fluorobiphenyl	45	%	44-105	1	12/07/11	kb	12/09/11	avl		
Terphenyl-d14	* **37**	%	46-109	1	12/07/11	kb	12/09/11	avl	802	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026774										
% Solids	**46**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026775										
Total Organic Carbon	**59000**	**mg/kg dry**	**1500**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-04 | Date Collected: 12/05/11 14:39 | Matrix: Sediment
Sample ID: SED-R-4 (0.0-0.5) | Date Received: 12/06/11 10:33

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026801										
Benzene	<0.0066	mg/kg dry	0.0066	1	12/07/11	was	12/07/11	was		
Toluene	<0.0066	mg/kg dry	0.0066	1	12/07/11	was	12/07/11	was		
Ethylbenzene	<0.0066	mg/kg dry	0.0066	1	12/07/11	was	12/07/11	was		
m,p-Xylene	<0.013	mg/kg dry	0.013	1	12/07/11	was	12/07/11	was	N	
o-Xylene	<0.0066	mg/kg dry	0.0066	1	12/07/11	was	12/07/11	was	N	
Xylenes, total	<0.020	mg/kg dry	0.020	1	12/07/11	was	12/07/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	99	%	71-131	1	12/07/11	was	12/07/11	was		
Toluene-d8	112	%	70-130	1	12/07/11	was	12/07/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026771										
Bis(2-ethylhexyl)phthalate	**2.9**	**mg/kg dry**	**0.63**	**5**	**12/07/11**	**kb**	**12/09/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	38	%	36-98	5	12/07/11	kb	12/09/11	avl		
2-Fluorobiphenyl	46	%	44-105	5	12/07/11	kb	12/09/11	avl		
Terphenyl-d14 *	**34**	%	46-109	5	12/07/11	kb	12/09/11	avl	802	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026774										
% Solids	**65**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026775										
Total Organic Carbon	**18000**	**mg/kg dry**	**1000**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-05 | Date Collected: 11/09/11 | Matrix: Water
Sample ID: TB-1 | Date Received: 12/06/11 10:33

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026806										
Benzene	<0.50	ug/L	0.50	1	12/07/11	was	12/07/11	jq		
Toluene	<0.50	ug/L	0.50	1	12/07/11	was	12/07/11	jq		
Ethylbenzene	<0.50	ug/L	0.50	1	12/07/11	was	12/07/11	jq		
m,p-Xylene	<1.0	ug/L	1.0	1	12/07/11	was	12/07/11	jq	N	
o-Xylene	<0.50	ug/L	0.50	1	12/07/11	was	12/07/11	jq	N	
Xylenes, total	<1.5	ug/L	1.5	1	12/07/11	was	12/07/11	jq		
Surrogates:										
1,2-Dichloroethane-d4	87	%	68-133	1	12/07/11	was	12/07/11	jq		
Toluene-d8	96	%	75-120	1	12/07/11	was	12/07/11	jq		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-06 | Date Collected: 12/06/11 08:50 | Matrix: Sediment
Sample ID: SED-R-6 (0.0-0.5) | Date Received: 12/07/11 10:39

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026801										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/07/11	was	12/07/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/07/11	was	12/07/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/07/11	was	12/07/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/07/11	was	12/07/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/07/11	was	12/07/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/07/11	was	12/07/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	101	%	71-131	1	12/07/11	was	12/07/11	was		
Toluene-d8	107	%	70-130	1	12/07/11	was	12/07/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026771										
Bis(2-ethylhexyl)phthalate	<0.33	mg/kg dry	0.33	2	12/07/11	kb	12/09/11	avl		
Surrogates:										
Nitrobenzene-d5	58	%	36-98	2	12/07/11	kb	12/09/11	avl		
2-Fluorobiphenyl	57	%	44-105	2	12/07/11	kb	12/09/11	avl		
Terphenyl-d14	47	%	46-109	2	12/07/11	kb	12/09/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026774										
% Solids	**87**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026775										
Total Organic Carbon	**2600**	**mg/kg dry**	**1000**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-07 | Date Collected: 12/06/11 10:03 | Matrix: Sediment
Sample ID: SED-D-3 (0.0-0.5) | Date Received: 12/07/11 10:39

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026801										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/07/11	was	12/07/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/07/11	was	12/07/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/07/11	was	12/07/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/07/11	was	12/07/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/07/11	was	12/07/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/07/11	was	12/07/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	107	%	71-131	1	12/07/11	was	12/07/11	was		
Toluene-d8	106	%	70-130	1	12/07/11	was	12/07/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026771										
Bis(2-ethylhexyl)phthalate	**1.1**	**mg/kg dry**	**0.33**	**1**	**12/07/11**	**kb**	**12/09/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	49	%	36-98	1	12/07/11	kb	12/09/11	avl		
2-Fluorobiphenyl	49	%	44-105	1	12/07/11	kb	12/09/11	avl		
Terphenyl-d14	49	%	46-109	1	12/07/11	kb	12/09/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026774										
% Solids	**74**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026775										
Total Organic Carbon	**13000**	**mg/kg dry**	**1000**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-08 | Date Collected: 12/06/11 10:55 | Matrix: Sediment
Sample ID: SED-D-1 (0.0-0.5) | Date Received: 12/07/11 10:39

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026851										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/12/11	was	12/12/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/12/11	was	12/12/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	102	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8	107	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026771										
Bis(2-ethylhexyl)phthalate	**4.9**	**mg/kg dry**	**0.33**	**2**	**12/07/11**	**kb**	**12/09/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	56	%	36-98	2	12/07/11	kb	12/09/11	avl		
2-Fluorobiphenyl	59	%	44-105	2	12/07/11	kb	12/09/11	avl		
Terphenyl-d14	51	%	46-109	2	12/07/11	kb	12/09/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026774										
% Solids	**79**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026775										
Total Organic Carbon	**12000**	**mg/kg dry**	**1000**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-09 | Date Collected: 12/06/11 12:43 | Matrix: Sediment
Sample ID: SED-D-2 (0.0-0.5) | Date Received: 12/07/11 10:39

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026819										
Benzene	<0.0099	mg/kg dry	0.0099	1	12/08/11	was	12/08/11	was	202	
Toluene	<0.0099	mg/kg dry	0.0099	1	12/08/11	was	12/08/11	was	202	
Ethylbenzene	<0.0099	mg/kg dry	0.0099	1	12/08/11	was	12/08/11	was		
m,p-Xylene	<0.020	mg/kg dry	0.020	1	12/08/11	was	12/08/11	was	N	
o-Xylene	<0.0099	mg/kg dry	0.0099	1	12/08/11	was	12/08/11	was	N	
Xylenes, total	<0.030	mg/kg dry	0.030	1	12/08/11	was	12/08/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	101	%	71-131	1	12/08/11	was	12/08/11	was		
Toluene-d8	111	%	70-130	1	12/08/11	was	12/08/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026771										
Bis(2-ethylhexyl)phthalate	**0.53**	**mg/kg dry**	**0.33**	**1**	**12/07/11**	**kb**	**12/08/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	64	%	36-98	1	12/07/11	kb	12/08/11	avl		
2-Fluorobiphenyl	60	%	44-105	1	12/07/11	kb	12/08/11	avl		
Terphenyl-d14	65	%	46-109	1	12/07/11	kb	12/08/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026774										
% Solids	**55**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026775										
Total Organic Carbon	**30000**	**mg/kg dry**	**1200**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-10 | Date Collected: 12/06/11 13:44 | Matrix: Sediment
Sample ID: SED-D-4 (0.0-0.5) | Date Received: 12/07/11 10:39

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026824										
Benzene	<0.0070	mg/kg dry	0.0070	1	12/09/11	was	12/09/11	was		
Toluene	<0.0070	mg/kg dry	0.0070	1	12/09/11	was	12/09/11	was		
Ethylbenzene	<0.0070	mg/kg dry	0.0070	1	12/09/11	was	12/09/11	was		
m,p-Xylene	<0.014	mg/kg dry	0.014	1	12/09/11	was	12/09/11	was	N	
o-Xylene	<0.0070	mg/kg dry	0.0070	1	12/09/11	was	12/09/11	was	N	
Xylenes, total	<0.021	mg/kg dry	0.021	1	12/09/11	was	12/09/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	102	%	71-131	1	12/09/11	was	12/09/11	was		
Toluene-d8	118	%	70-130	1	12/09/11	was	12/09/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026771										
Bis(2-ethylhexyl)phthalate	**410**	**mg/kg dry**	**78**	**500**	**12/07/11**	**kb**	**12/09/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	500	12/07/11	kb	12/09/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	500	12/07/11	kb	12/09/11	avl	302	
Terphenyl-d14	*	%	46-109	500	12/07/11	kb	12/09/11	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026774										
% Solids	**53**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026775										
Total Organic Carbon	**15000**	**mg/kg dry**	**1300**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-11 | Date Collected: 12/06/11 13:47 | Matrix: Sediment
Sample ID: SED-D-4 (0.0-0.5) DUP | Date Received: 12/07/11 10:39

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026819											
Benzene		<0.0078	mg/kg dry	0.0078	1	12/08/11	was	12/08/11	was		
Toluene		<0.0078	mg/kg dry	0.0078	1	12/08/11	was	12/08/11	was		
Ethylbenzene		<0.0078	mg/kg dry	0.0078	1	12/08/11	was	12/08/11	was		
m,p-Xylene		<0.016	mg/kg dry	0.016	1	12/08/11	was	12/08/11	was	N	
o-Xylene		<0.0078	mg/kg dry	0.0078	1	12/08/11	was	12/08/11	was	N	
Xylenes, total		<0.023	mg/kg dry	0.023	1	12/08/11	was	12/08/11	was	N	
Surrogates:											
1,2-Dichloroethane-d4		101	%	71-131	1	12/08/11	was	12/08/11	was		
Toluene-d8		121	%	70-130	1	12/08/11	was	12/08/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026771											
Bis(2-ethylhexyl)phthalate		**580**	**mg/kg dry**	**69**	**500**	**12/07/11**	**kb**	**12/09/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	500	12/07/11	kb	12/09/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	500	12/07/11	kb	12/09/11	avl	302	
Terphenyl-d14	*		%	46-109	500	12/07/11	kb	12/09/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026774											
% Solids		**60**	**% by Wt.**	**0.10**	**1**	**12/07/11**	**as**	**12/07/11**	**as**	N	
Analysis Method: WALKLEY BLACK											
Batch: T026775											
Total Organic Carbon		**34000**	**mg/kg dry**	**1100**	**1**	**12/07/11**	**sm**	**12/07/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-12 | Date Collected: 11/09/11 | Matrix: Water
Sample ID: TB-2 | Date Received: 12/07/11 10:39

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026806										
Benzene	<0.50	ug/L	0.50	1	12/07/11	was	12/07/11	jq		
Toluene	<0.50	ug/L	0.50	1	12/07/11	was	12/07/11	jq		
Ethylbenzene	<0.50	ug/L	0.50	1	12/07/11	was	12/07/11	jq		
m,p-Xylene	<1.0	ug/L	1.0	1	12/07/11	was	12/07/11	jq	N	
o-Xylene	<0.50	ug/L	0.50	1	12/07/11	was	12/07/11	jq	N	
Xylenes, total	<1.5	ug/L	1.5	1	12/07/11	was	12/07/11	jq		
Surrogates:										
1,2-Dichloroethane-d4	90	%	68-133	1	12/07/11	was	12/07/11	jq		
Toluene-d8	93	%	75-120	1	12/07/11	was	12/07/11	jq		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-14 | Date Collected: 12/06/11 10:09 | Matrix: Sediment
Sample ID: SED-D-3 (1.0-1.5) | Date Received: 12/07/11 10:39

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	**0.41**	**mg/kg dry**	**0.11**	**1**	**12/13/11**	**kb**	**01/09/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	72	%	36-98	1	12/13/11	kb	01/09/12	avl		
2-Fluorobiphenyl	68	%	44-105	1	12/13/11	kb	01/09/12	avl		
Terphenyl-d14	67	%	46-109	1	12/13/11	kb	01/09/12	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**73**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-15 | Date Collected: 12/06/11 11:00 | Matrix: Sediment
Sample ID: SED-D-1 (1.0-1.5) | Date Received: 12/07/11 10:39

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS									
Analysis Method: EPA 8270C									
Batch: T026865									
Bis(2-ethylhexyl)phthalate	**0.74 mg/kg dry**	**0.10**	**1**	**12/13/11**	**kb**	**01/09/12**	**avl**		
Surrogates:									
Nitrobenzene-d5	64 %	36-98	1	12/13/11	kb	01/09/12	avl		
2-Fluorobiphenyl	67 %	44-105	1	12/13/11	kb	01/09/12	avl		
Terphenyl-d14	70 %	46-109	1	12/13/11	kb	01/09/12	avl		
WET CHEMISTRY									
Analysis Method: % Calculation									
Batch: T026821									
% Solids	**79 % by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-16 | Date Collected: 12/06/11 12:45 | Matrix: Sediment
Sample ID: SED-D-2 (1.0-1.5) | Date Received: 12/07/11 10:39

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026865											
Bis(2-ethylhexyl)phthalate		**41**	**mg/kg dry**	**1.3**	**10**	**12/13/11**	**kb**	**01/10/12**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	10	12/13/11	kb	01/10/12	avl	302	
2-Fluorobiphenyl	*		%	44-105	10	12/13/11	kb	01/10/12	avl	302	
Terphenyl-d14		60	%	46-109	10	12/13/11	kb	01/10/12	avl		
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026821											
% Solids		**63**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-17 | Date Collected: 12/06/11 13:47 | Matrix: Sediment
Sample ID: SED-D-4 (1.0-1.5) | Date Received: 12/07/11 10:39

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026865											
Bis(2-ethylhexyl)phthalate		**370**	**mg/kg dry**	**12**	**100**	**12/13/11**	**kb**	**01/10/12**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	100	12/13/11	kb	01/10/12	avl	302	
2-Fluorobiphenyl	*		%	44-105	100	12/13/11	kb	01/10/12	avl	302	
Terphenyl-d14	*		%	46-109	100	12/13/11	kb	01/10/12	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026821											
% Solids		**67**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-18 | Date Collected: 12/06/11 14:55 | Matrix: Sediment
Sample ID: SED-R-1 (0.5-1.0) | Date Received: 12/07/11 10:39

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	**0.62**	**mg/kg dry**	**0.12**	**1**	**12/13/11**	**kb**	**01/09/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	67	%	36-98	1	12/13/11	kb	01/09/12	avl		
2-Fluorobiphenyl	66	%	44-105	1	12/13/11	kb	01/09/12	avl		
Terphenyl-d14	70	%	46-109	1	12/13/11	kb	01/09/12	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**69**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-19 | Date Collected: 12/08/11 08:55 | Matrix: Sediment
Sample ID: SED-R-2 (1.5-2.0) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS									502	
Analysis Method: EPA 8270C										
Batch: T027170										
Bis(2-ethylhexyl)phthalate	**0.91**	**mg/kg dry**	**0.33**	**1**	**01/05/12**	**kb**	**01/09/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	62	%	36-98	1	01/05/12	kb	01/09/12	avl		
2-Fluorobiphenyl	56	%	44-105	1	01/05/12	kb	01/09/12	avl		
Terphenyl-d14	61	%	46-109	1	01/05/12	kb	01/09/12	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**62**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-20 | Date Collected: 12/08/11 10:35 | Matrix: Sediment
Sample ID: SED-R-3 (0.5-1.0) | Date Received: 12/09/11 10:40

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										502	
Analysis Method: EPA 8270C											
Batch: T027170											
Bis(2-ethylhexyl)phthalate		**440**	**mg/kg dry**	**21**	**100**	**01/05/12**	**kb**	**01/10/12**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	100	01/05/12	kb	01/10/12	avl	302	
2-Fluorobiphenyl	*		%	44-105	100	01/05/12	kb	01/10/12	avl	302	
Terphenyl-d14	*		%	46-109	100	01/05/12	kb	01/10/12	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026821											
% Solids		**40**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-21 | Date Collected: 12/08/11 11:20 | Matrix: Sediment
Sample ID: SED-R-4 (1.0-1.5) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS									502	
Analysis Method: EPA 8270C										
Batch: T027170										
Bis(2-ethylhexyl)phthalate	**15**	**mg/kg dry**	**0.61**	**5**	**01/05/12**	**kb**	**01/09/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	68	%	36-98	5	01/05/12	kb	01/09/12	avl		
2-Fluorobiphenyl	66	%	44-105	5	01/05/12	kb	01/09/12	avl		
Terphenyl-d14	74	%	46-109	5	01/05/12	kb	01/09/12	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**68**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-22 | Date Collected: 12/08/11 12:50 | Matrix: Sediment
Sample ID: SED-DRC-02 (0.0-0.5) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026824										
Benzene	<0.0091	mg/kg dry	0.0091	1	12/09/11	was	12/09/11	was		
Toluene	<0.0091	mg/kg dry	0.0091	1	12/09/11	was	12/09/11	was		
Ethylbenzene	<0.0091	mg/kg dry	0.0091	1	12/09/11	was	12/09/11	was		
m,p-Xylene	<0.018	mg/kg dry	0.018	1	12/09/11	was	12/09/11	was	N	
o-Xylene	<0.0091	mg/kg dry	0.0091	1	12/09/11	was	12/09/11	was	N	
Xylenes, total	<0.027	mg/kg dry	0.027	1	12/09/11	was	12/09/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	71-131	1	12/09/11	was	12/09/11	was		
Toluene-d8	125	%	70-130	1	12/09/11	was	12/09/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	**9.1**	**mg/kg dry**	**0.37**	**2**	**12/13/11**	**kb**	**12/14/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	62	%	36-98	2	12/13/11	kb	12/14/11	avl		
2-Fluorobiphenyl	57	%	44-105	2	12/13/11	kb	12/14/11	avl		
Terphenyl-d14	69	%	46-109	2	12/13/11	kb	12/14/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**45**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026826										
Total Organic Carbon	**54000**	**mg/kg dry**	**1500**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	222.5, N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-23 | Date Collected: 12/08/11 12:55 | Matrix: Sediment
Sample ID: SED-DRC-02 (1.0-1.5) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS									502	
Analysis Method: EPA 8270C										
Batch: T027170										
Bis(2-ethylhexyl)phthalate	**8.7**	**mg/kg dry**	**0.33**	**2**	**01/05/12**	**kb**	**01/10/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	82	%	36-98	2	01/05/12	kb	01/10/12	avl		
2-Fluorobiphenyl	80	%	44-105	2	01/05/12	kb	01/10/12	avl		
Terphenyl-d14	90	%	46-109	2	01/05/12	kb	01/10/12	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**70**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-24 | Date Collected: 12/08/11 13:55 | Matrix: Sediment
Sample ID: SED-D-5 (0.0-0.5) | Date Received: 12/09/11 10:40

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026874											
Benzene		<0.016	mg/kg dry	0.016	1	12/13/11	was	12/13/11	was		
Toluene		<0.016	mg/kg dry	0.016	1	12/13/11	was	12/13/11	was		
Ethylbenzene		<0.016	mg/kg dry	0.016	1	12/13/11	was	12/13/11	was		
m,p-Xylene		<0.032	mg/kg dry	0.032	1	12/13/11	was	12/13/11	was	N	
o-Xylene		<0.016	mg/kg dry	0.016	1	12/13/11	was	12/13/11	was	N	
Xylenes, total		<0.048	mg/kg dry	0.048	1	12/13/11	was	12/13/11	was	N	
Surrogates:											
1,2-Dichloroethane-d4		105	%	71-131	1	12/13/11	was	12/13/11	was		
Toluene-d8		125	%	70-130	1	12/13/11	was	12/13/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026865											
Bis(2-ethylhexyl)phthalate		**170**	**mg/kg dry**	**7.1**	**20**	**12/13/11**	**kb**	**12/14/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	20	12/13/11	kb	12/14/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	20	12/13/11	kb	12/14/11	avl	302	
Terphenyl-d14	*		%	46-109	20	12/13/11	kb	12/14/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026821											
% Solids		**23**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK											
Batch: T026826											
Total Organic Carbon		**160000**	**mg/kg dry**	**2900**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-25 | Date Collected: 12/08/11 14:00 | Matrix: Sediment
Sample ID: SED-D-5 (1.0-1.5) | Date Received: 12/09/11 10:40

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										502	
Analysis Method: EPA 8270C											
Batch: T027170											
Bis(2-ethylhexyl)phthalate		**1100**	**mg/kg dry**	**22**	**100**	**01/05/12**	**kb**	**01/10/12**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	100	01/05/12	kb	01/10/12	avl	302	
2-Fluorobiphenyl	*		%	44-105	100	01/05/12	kb	01/10/12	avl	302	
Terphenyl-d14	*		%	46-109	100	01/05/12	kb	01/10/12	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026821											
% Solids		**37**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-26 | Date Collected: 12/08/11 10:55 | Matrix: Sediment
Sample ID: SB-5 (5.0-5.5) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026824										
Benzene	<0.0051	mg/kg dry	0.0051	1	12/09/11	was	12/09/11	was		
Toluene	<0.0051	mg/kg dry	0.0051	1	12/09/11	was	12/09/11	was		
Ethylbenzene	**0.016**	**mg/kg dry**	**0.0051**	**1**	**12/09/11**	**was**	**12/09/11**	**was**		
m,p-Xylene	**0.039**	**mg/kg dry**	**0.010**	**1**	**12/09/11**	**was**	**12/09/11**	**was**	N	
o-Xylene	**0.0060**	**mg/kg dry**	**0.0051**	**1**	**12/09/11**	**was**	**12/09/11**	**was**	N	
Xylenes, total	**0.045**	**mg/kg dry**	**0.015**	**1**	**12/09/11**	**was**	**12/09/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	71-131	1	12/09/11	was	12/09/11	was		
Toluene-d8	115	%	70-130	1	12/09/11	was	12/09/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	**150**	**mg/kg dry**	**4.9**	**50**	**12/13/11**	**kb**	**12/14/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	12/13/11	kb	12/14/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	12/13/11	kb	12/14/11	avl	302	
Terphenyl-d14	*	%	46-109	50	12/13/11	kb	12/14/11	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**85**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026826										
Total Organic Carbon	**9900**	**mg/kg dry**	**1000**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-27 | Date Collected: 12/08/11 11:16 | Matrix: Sediment
Sample ID: SB-5 (10.0-10.5) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026824										
Benzene	<0.0053	mg/kg dry	0.0053	1	12/09/11	was	12/09/11	was		
Toluene	<0.0053	mg/kg dry	0.0053	1	12/09/11	was	12/09/11	was		
Ethylbenzene	<0.0053	mg/kg dry	0.0053	1	12/09/11	was	12/09/11	was		
m,p-Xylene	<0.011	mg/kg dry	0.011	1	12/09/11	was	12/09/11	was	N	
o-Xylene	<0.0053	mg/kg dry	0.0053	1	12/09/11	was	12/09/11	was	N	
Xylenes, total	<0.016	mg/kg dry	0.016	1	12/09/11	was	12/09/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	71-131	1	12/09/11	was	12/09/11	was		
Toluene-d8	112	%	70-130	1	12/09/11	was	12/09/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	**10**	**mg/kg dry**	**0.59**	**5**	**12/13/11**	**kb**	**12/15/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	40	%	36-98	5	12/13/11	kb	12/15/11	avl		
2-Fluorobiphenyl	* **40**	%	44-105	5	12/13/11	kb	12/15/11	avl	802	
Terphenyl-d14	54	%	46-109	5	12/13/11	kb	12/15/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**70**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026826										
Total Organic Carbon	**23000**	**mg/kg dry**	**1000**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-28 | Date Collected: 12/08/11 13:48 | Matrix: Sediment
Sample ID: SB-7 (0.5-1.0) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026824										
Benzene	<0.0051	mg/kg dry	0.0051	1	12/09/11	was	12/09/11	was		
Toluene	<0.0051	mg/kg dry	0.0051	1	12/09/11	was	12/09/11	was		
Ethylbenzene	<0.0051	mg/kg dry	0.0051	1	12/09/11	was	12/09/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/09/11	was	12/09/11	was	N	
o-Xylene	<0.0051	mg/kg dry	0.0051	1	12/09/11	was	12/09/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/09/11	was	12/09/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	105	%	71-131	1	12/09/11	was	12/09/11	was		
Toluene-d8	108	%	70-130	1	12/09/11	was	12/09/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	<0.33	mg/kg dry	0.33	1	12/13/11	kb	12/14/11	avl		
Surrogates:										
Nitrobenzene-d5	65	%	36-98	1	12/13/11	kb	12/14/11	avl		
2-Fluorobiphenyl	55	%	44-105	1	12/13/11	kb	12/14/11	avl		
Terphenyl-d14	70	%	46-109	1	12/13/11	kb	12/14/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**74**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026826										
Total Organic Carbon	**14000**	**mg/kg dry**	**1000**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-29 | Date Collected: 12/08/11 14:05 | Matrix: Sediment
Sample ID: SB-7 (5.0-5.5) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026824										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/09/11	was	12/09/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/09/11	was	12/09/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	71-131	1	12/09/11	was	12/09/11	was		
Toluene-d8	109	%	70-130	1	12/09/11	was	12/09/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	**7.2**	**mg/kg dry**	**0.33**	**2**	**12/13/11**	**kb**	**12/15/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	67	%	36-98	2	12/13/11	kb	12/15/11	avl		
2-Fluorobiphenyl	61	%	44-105	2	12/13/11	kb	12/15/11	avl		
Terphenyl-d14	76	%	46-109	2	12/13/11	kb	12/15/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**75**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026826										
Total Organic Carbon	**13000**	**mg/kg dry**	**1000**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-30 | Date Collected: 12/08/11 15:17 | Matrix: Sediment
Sample ID: SB-8 (13.0-13.5) | Date Received: 12/09/11 10:40

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026903											
Benzene		<0.40	mg/kg dry	0.40	500	12/13/11	jq	12/14/11	jq		
Toluene		<0.40	mg/kg dry	0.40	500	12/13/11	jq	12/14/11	jq		
Ethylbenzene		**32**	**mg/kg dry**	**0.40**	**500**	**12/13/11**	**jq**	**12/14/11**	**jq**		
m,p-Xylene		**88**	**mg/kg dry**	**0.81**	**500**	**12/13/11**	**jq**	**12/14/11**	**jq**	N	
o-Xylene		**11**	**mg/kg dry**	**0.40**	**500**	**12/13/11**	**jq**	**12/14/11**	**jq**	N	
Xylenes, total		**98**	**mg/kg dry**	**1.2**	**500**	**12/13/11**	**jq**	**12/14/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		88	%	68-133	500	12/13/11	jq	12/14/11	jq		
Toluene-d8		98	%	75-120	500	12/13/11	jq	12/14/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026865											
Bis(2-ethylhexyl)phthalate		**84**	**mg/kg dry**	**4.7**	**50**	**12/13/11**	**kb**	**12/15/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	50	12/13/11	kb	12/15/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	50	12/13/11	kb	12/15/11	avl	302	
Terphenyl-d14	*		%	46-109	50	12/13/11	kb	12/15/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026821											
% Solids		**89**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK											
Batch: T026826											
Total Organic Carbon		**3200**	**mg/kg dry**	**1000**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-31 | Date Collected: 12/08/11 15:25 | Matrix: Sediment
Sample ID: SB-8 (14.5-15.0) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026824										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/09/11	was	12/09/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/09/11	was	12/09/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	100	%	71-131	1	12/09/11	was	12/09/11	was		
Toluene-d8	107	%	70-130	1	12/09/11	was	12/09/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	<0.33	mg/kg dry	0.33	1	12/13/11	kb	12/14/11	avl		
Surrogates:										
Nitrobenzene-d5	70	%	36-98	1	12/13/11	kb	12/14/11	avl		
2-Fluorobiphenyl	68	%	44-105	1	12/13/11	kb	12/14/11	avl		
Terphenyl-d14	74	%	46-109	1	12/13/11	kb	12/14/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**93**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026826										
Total Organic Carbon	**1600**	**mg/kg dry**	**1000**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-32 | Date Collected: 12/08/11 15:51 | Matrix: Sediment
Sample ID: SB-9 (0.5-1.0) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026824										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/09/11	was	12/09/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/09/11	was	12/09/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	102	%	71-131	1	12/09/11	was	12/09/11	was		
Toluene-d8	111	%	70-130	1	12/09/11	was	12/09/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	<0.33	mg/kg dry	0.33	1	12/13/11	kb	12/14/11	avl		
Surrogates:										
Nitrobenzene-d5	68	%	36-98	1	12/13/11	kb	12/14/11	avl		
2-Fluorobiphenyl	61	%	44-105	1	12/13/11	kb	12/14/11	avl		
Terphenyl-d14	69	%	46-109	1	12/13/11	kb	12/14/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026821										
% Solids	**81**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026826										
Total Organic Carbon	**3200**	**mg/kg dry**	**1000**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-33 | Date Collected: 12/08/11 16:06 | Matrix: Sediment
Sample ID: SB-9 (4.5-5.0) | Date Received: 12/09/11 10:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026824										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/09/11	was	12/09/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/09/11	was	12/09/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/09/11	was	12/09/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	102	%	71-131	1	12/09/11	was	12/09/11	was		
Toluene-d8	105	%	70-130	1	12/09/11	was	12/09/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	<0.33	mg/kg dry	0.33	1	12/13/11	kb	12/14/11	avl		
Surrogates:										
Nitrobenzene-d5	65	%	36-98	1	12/13/11	kb	12/14/11	avl		
2-Fluorobiphenyl	59	%	44-105	1	12/13/11	kb	12/14/11	avl		
Terphenyl-d14	72	%	46-109	1	12/13/11	kb	12/14/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026822										
% Solids	**90**	**% by Wt.**	**0.10**	**1**	**12/09/11**	**sm**	**12/09/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026826										
Total Organic Carbon	**2600**	**mg/kg dry**	**1000**	**1**	**12/09/11**	**da**	**12/09/11**	**da**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-34 | Date Collected: 12/09/11 09:33 | Matrix: Soil
Sample ID: SB-6 / (6.5-7.0) | Date Received: 12/10/11 10:13

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026851										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/12/11	was	12/12/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/12/11	was	12/12/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	106	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8	105	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	**23**	**mg/kg dry**	**0.96**	**10**	**12/13/11**	**kb**	**12/15/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	54	%	36-98	10	12/13/11	kb	12/15/11	avl		
2-Fluorobiphenyl	60	%	44-105	10	12/13/11	kb	12/15/11	avl		
Terphenyl-d14	71	%	46-109	10	12/13/11	kb	12/15/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026837										
% Solids	**86**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-35 | Date Collected: 12/09/11 09:40 | Matrix: Soil
Sample ID: SB-6 / (14.0-14.5) | Date Received: 12/10/11 10:13

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026851										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/12/11	was	12/12/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/12/11	was	12/12/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	101	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8	105	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026865										
Bis(2-ethylhexyl)phthalate	<0.33	mg/kg dry	0.33	1	12/13/11	kb	12/14/11	avl		
Surrogates:										
Nitrobenzene-d5	48	%	36-98	1	12/13/11	kb	12/14/11	avl		
2-Fluorobiphenyl	48	%	44-105	1	12/13/11	kb	12/14/11	avl		
Terphenyl-d14	50	%	46-109	1	12/13/11	kb	12/14/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026837										
% Solids	**92**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-36 | Date Collected: 12/09/11 10:40 | Matrix: Soil
Sample ID: SB-4 / (6.5-7.0) | Date Received: 12/10/11 10:13

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026851										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Ethylbenzene	**0.023**	**mg/kg dry**	**0.0050**	**1**	**12/12/11**	**was**	**12/12/11**	**was**		
m,p-Xylene	**0.084**	**mg/kg dry**	**0.010**	**1**	**12/12/11**	**was**	**12/12/11**	**was**	N	
o-Xylene	**0.0071**	**mg/kg dry**	**0.0050**	**1**	**12/12/11**	**was**	**12/12/11**	**was**	N	
Xylenes, total	**0.091**	**mg/kg dry**	**0.015**	**1**	**12/12/11**	**was**	**12/12/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	102	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8	110	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**180**	**mg/kg dry**	**5.3**	**50**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*	%	46-109	50	12/14/11	kb	12/16/11	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026837										
% Solids	**78**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-37 | Date Collected: 12/09/11 10:50 | Matrix: Soil
Sample ID: SB-4 / (11.5-12.0) | Date Received: 12/10/11 10:13

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026851										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/12/11	was	12/12/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/12/11	was	12/12/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	100	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8	106	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**1.8**	**mg/kg dry**	**0.33**	**1**	**12/14/11**	**kb**	**12/15/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	58	%	36-98	1	12/14/11	kb	12/15/11	avl		
2-Fluorobiphenyl	55	%	44-105	1	12/14/11	kb	12/15/11	avl		
Terphenyl-d14	75	%	46-109	1	12/14/11	kb	12/15/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026837										
% Solids	**88**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-38 | Date Collected: 12/09/11 12:50 | Matrix: Soil
Sample ID: SB-3 / (11.0-11.5) | Date Received: 12/10/11 10:13

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026851											
Benzene		<0.0054	mg/kg dry	0.0054	1	12/12/11	was	12/12/11	was		
Toluene		<0.0054	mg/kg dry	0.0054	1	12/12/11	was	12/12/11	was		
Ethylbenzene		<0.0054	mg/kg dry	0.0054	1	12/12/11	was	12/12/11	was		
m,p-Xylene		<0.011	mg/kg dry	0.011	1	12/12/11	was	12/12/11	was	N	
o-Xylene		<0.0054	mg/kg dry	0.0054	1	12/12/11	was	12/12/11	was	N	
Xylenes, total		<0.016	mg/kg dry	0.016	1	12/12/11	was	12/12/11	was	N	
Surrogates:											
1,2-Dichloroethane-d4		98	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8		111	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026880											
Bis(2-ethylhexyl)phthalate		**98**	**mg/kg dry**	**5.4**	**50**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	50	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	50	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*		%	46-109	50	12/14/11	kb	12/16/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026837											
% Solids		**77**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-39 | Date Collected: 12/09/11 12:55 | Matrix: Soil
Sample ID: SB-3 / (14.5-15.0) | Date Received: 12/10/11 10:13

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026851										
Benzene	<0.0051	mg/kg dry	0.0051	1	12/12/11	was	12/12/11	was		
Toluene	<0.0051	mg/kg dry	0.0051	1	12/12/11	was	12/12/11	was		
Ethylbenzene	<0.0051	mg/kg dry	0.0051	1	12/12/11	was	12/12/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/12/11	was	12/12/11	was	N	
o-Xylene	<0.0051	mg/kg dry	0.0051	1	12/12/11	was	12/12/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/12/11	was	12/12/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	100	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8	106	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**3.7**	**mg/kg dry**	**0.33**	**1**	**12/14/11**	**kb**	**12/15/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	57	%	36-98	1	12/14/11	kb	12/15/11	avl		
2-Fluorobiphenyl	54	%	44-105	1	12/14/11	kb	12/15/11	avl		
Terphenyl-d14	63	%	46-109	1	12/14/11	kb	12/15/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026837										
% Solids	**91**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-40 | Date Collected: 12/09/11 13:55 | Matrix: Soil
Sample ID: SB-2 / (5.0-5.5) | Date Received: 12/10/11 10:13

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026851											
Benzene		<0.0056	mg/kg dry	0.0056	1	12/12/11	was	12/12/11	was		
Toluene		<0.0056	mg/kg dry	0.0056	1	12/12/11	was	12/12/11	was		
Ethylbenzene		<0.0056	mg/kg dry	0.0056	1	12/12/11	was	12/12/11	was		
m,p-Xylene		<0.011	mg/kg dry	0.011	1	12/12/11	was	12/12/11	was	N	
o-Xylene		<0.0056	mg/kg dry	0.0056	1	12/12/11	was	12/12/11	was	N	
Xylenes, total		<0.017	mg/kg dry	0.017	1	12/12/11	was	12/12/11	was	N	
Surrogates:											
1,2-Dichloroethane-d4		98	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8		106	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026880											
Bis(2-ethylhexyl)phthalate		**170**	**mg/kg dry**	**4.9**	**50**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	50	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	50	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*		%	46-109	50	12/14/11	kb	12/16/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026837											
% Solids		**84**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-41 | Date Collected: 12/09/11 14:00 | Matrix: Soil
Sample ID: SB-2 / (15.0-15.5) | Date Received: 12/10/11 10:13

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026851										
Benzene	<0.0053	mg/kg dry	0.0053	1	12/12/11	was	12/12/11	was		
Toluene	<0.0053	mg/kg dry	0.0053	1	12/12/11	was	12/12/11	was		
Ethylbenzene	<0.0053	mg/kg dry	0.0053	1	12/12/11	was	12/12/11	was		
m,p-Xylene	<0.011	mg/kg dry	0.011	1	12/12/11	was	12/12/11	was	N	
o-Xylene	<0.0053	mg/kg dry	0.0053	1	12/12/11	was	12/12/11	was	N	
Xylenes, total	<0.016	mg/kg dry	0.016	1	12/12/11	was	12/12/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8	107	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026981										
Bis(2-ethylhexyl)phthalate	**0.86**	**mg/kg dry**	**0.33**	**1**	**12/19/11**	**kb**	**12/20/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	55	%	36-98	1	12/19/11	kb	12/20/11	avl		
2-Fluorobiphenyl	50	%	44-105	1	12/19/11	kb	12/20/11	avl		
Terphenyl-d14	57	%	46-109	1	12/19/11	kb	12/20/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026837										
% Solids	**90**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-42 | Date Collected: 12/09/11 15:00 | Matrix: Soil
Sample ID: SB-12 / (8.5-9.0) | Date Received: 12/10/11 10:13

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026927											
Benzene		<4.2	mg/kg dry	4.2	5000	12/14/11	jq	12/15/11	jq		
Toluene		<4.2	mg/kg dry	4.2	5000	12/14/11	jq	12/15/11	jq		
Ethylbenzene		**700**	**mg/kg dry**	**4.2**	**5000**	**12/14/11**	**jq**	**12/15/11**	**jq**		
m,p-Xylene		**2300**	**mg/kg dry**	**17**	**10000**	**12/19/11**	**jq**	**12/19/11**	**jq**	N	
o-Xylene		**590**	**mg/kg dry**	**8.5**	**10000**	**12/19/11**	**jq**	**12/19/11**	**jq**	N	
Xylenes, total		**2900**	**mg/kg dry**	**25**	**10000**	**12/19/11**	**jq**	**12/19/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		92	%	68-133	5000	12/14/11	jq	12/15/11	jq		
1,2-Dichloroethane-d4		101	%	68-133	10000	12/19/11	jq	12/19/11	jq		
Toluene-d8		95	%	75-120	5000	12/14/11	jq	12/15/11	jq		
Toluene-d8		90	%	75-120	10000	12/19/11	jq	12/19/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026880											
Bis(2-ethylhexyl)phthalate		**2100**	**mg/kg dry**	**92**	**1000**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	1000	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	1000	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*		%	46-109	1000	12/14/11	kb	12/16/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026837											
% Solids		**90**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-43 | Date Collected: 12/09/11 15:20 | Matrix: Soil
Sample ID: SB-12 / (16.5-17.0) | Date Received: 12/10/11 10:13

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026851										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/12/11	was	12/12/11	was		
Ethylbenzene	**0.017**	**mg/kg dry**	**0.0050**	**1**	**12/12/11**	**was**	**12/12/11**	**was**		
m,p-Xylene	**0.065**	**mg/kg dry**	**0.010**	**1**	**12/12/11**	**was**	**12/12/11**	**was**	N	
o-Xylene	**0.015**	**mg/kg dry**	**0.0050**	**1**	**12/12/11**	**was**	**12/12/11**	**was**	N	
Xylenes, total	**0.080**	**mg/kg dry**	**0.015**	**1**	**12/12/11**	**was**	**12/12/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8	107	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**2.2**	**mg/kg dry**	**0.33**	**1**	**12/14/11**	**kb**	**12/15/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	60	%	36-98	1	12/14/11	kb	12/15/11	avl		
2-Fluorobiphenyl	56	%	44-105	1	12/14/11	kb	12/15/11	avl		
Terphenyl-d14	73	%	46-109	1	12/14/11	kb	12/15/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026837										
% Solids	**83**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-44 | Date Collected: 12/09/11 15:45 | Matrix: Soil
Sample ID: SB-3 / (5.0-5.5) | Date Received: 12/10/11 10:13

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026851										
Benzene	<0.0058	mg/kg dry	0.0058	1	12/12/11	was	12/12/11	was		
Toluene	<0.0058	mg/kg dry	0.0058	1	12/12/11	was	12/12/11	was		
Ethylbenzene	**0.013**	**mg/kg dry**	**0.0058**	**1**	**12/12/11**	**was**	**12/12/11**	**was**		
m,p-Xylene	**0.052**	**mg/kg dry**	**0.012**	**1**	**12/12/11**	**was**	**12/12/11**	**was**	N	
o-Xylene	**0.014**	**mg/kg dry**	**0.0058**	**1**	**12/12/11**	**was**	**12/12/11**	**was**	N	
Xylenes, total	**0.066**	**mg/kg dry**	**0.017**	**1**	**12/12/11**	**was**	**12/12/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	71-131	1	12/12/11	was	12/12/11	was		
Toluene-d8	111	%	70-130	1	12/12/11	was	12/12/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**330**	**mg/kg dry**	**23**	**200**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	200	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	200	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*	%	46-109	200	12/14/11	kb	12/16/11	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026837										
% Solids	**73**	**% by Wt.**	**0.10**	**1**	**12/12/11**	**as**	**12/12/11**	**as**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-45 | Date Collected: 12/10/11 08:41 | Matrix: Soil
Sample ID: SB-15 / (10.0-10.5) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026898										
Benzene	<0.44	mg/kg dry	0.44	500	12/13/11	jq	12/13/11	jq		
Toluene	**0.50**	**mg/kg dry**	**0.44**	**500**	**12/13/11**	**jq**	**12/13/11**	**jq**		
Ethylbenzene	**75**	**mg/kg dry**	**0.44**	**500**	**12/13/11**	**jq**	**12/13/11**	**jq**		
m,p-Xylene	**270**	**mg/kg dry**	**1.8**	**1000**	**12/14/11**	**jq**	**12/14/11**	**jq**	N	
o-Xylene	**76**	**mg/kg dry**	**0.89**	**1000**	**12/14/11**	**jq**	**12/14/11**	**jq**	N	
Xylenes, total	**350**	**mg/kg dry**	**2.7**	**1000**	**12/14/11**	**jq**	**12/14/11**	**jq**		
Surrogates:										
1,2-Dichloroethane-d4	77	%	68-133	500	12/13/11	jq	12/13/11	jq		
1,2-Dichloroethane-d4	85	%	68-133	1000	12/14/11	jq	12/14/11	jq		
Toluene-d8	104	%	75-120	500	12/13/11	jq	12/13/11	jq		
Toluene-d8	101	%	75-120	1000	12/14/11	jq	12/14/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**310**	**mg/kg dry**	**18**	**200**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	200	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	200	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*	%	46-109	200	12/14/11	kb	12/16/11	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**90**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-46 | Date Collected: 12/10/11 08:50 | Matrix: Soil
Sample ID: SB-15 / (25.0-25.5) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026874										
Benzene	<0.0051	mg/kg dry	0.0051	1	12/13/11	was	12/13/11	was		
Toluene	<0.0051	mg/kg dry	0.0051	1	12/13/11	was	12/13/11	was		
Ethylbenzene	**0.0097**	**mg/kg dry**	**0.0051**	**1**	**12/13/11**	**was**	**12/13/11**	**was**		
m,p-Xylene	**0.033**	**mg/kg dry**	**0.010**	**1**	**12/13/11**	**was**	**12/13/11**	**was**	N	
o-Xylene	**0.0073**	**mg/kg dry**	**0.0051**	**1**	**12/13/11**	**was**	**12/13/11**	**was**	N	
Xylenes, total	**0.040**	**mg/kg dry**	**0.015**	**1**	**12/13/11**	**was**	**12/13/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	101	%	71-131	1	12/13/11	was	12/13/11	was		
Toluene-d8	104	%	70-130	1	12/13/11	was	12/13/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**0.49**	**mg/kg dry**	**0.33**	**1**	**12/14/11**	**kb**	**12/15/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	66	%	36-98	1	12/14/11	kb	12/15/11	avl		
2-Fluorobiphenyl	60	%	44-105	1	12/14/11	kb	12/15/11	avl		
Terphenyl-d14	72	%	46-109	1	12/14/11	kb	12/15/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**86**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-47 | Date Collected: 12/10/11 09:35 | Matrix: Soil
Sample ID: SB-14 / (9.5-10.0) | Date Received: 12/13/11 08:29

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T027090											
Benzene		<0.050	mg/kg dry	0.050	50	12/22/11	jq	12/23/11	jq		
Toluene		<0.10	mg/kg dry	0.10	50	12/22/11	jq	12/23/11	jq		
Ethylbenzene		**110**	**mg/kg dry**	**0.87**	**1000**	**12/14/11**	**jq**	**12/14/11**	**jq**		
m,p-Xylene		**180**	**mg/kg dry**	**0.87**	**500**	**12/13/11**	**jq**	**12/13/11**	**jq**	N	
o-Xylene		**1.0**	**mg/kg dry**	**0.44**	**500**	**12/13/11**	**jq**	**12/13/11**	**jq**	N	
Xylenes, total		**180**	**mg/kg dry**	**1.3**	**500**	**12/13/11**	**jq**	**12/13/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		77	%	68-133	500	12/13/11	jq	12/13/11	jq		
1,2-Dichloroethane-d4		87	%	68-133	1000	12/14/11	jq	12/14/11	jq		
1,2-Dichloroethane-d4	*	**44**	%	68-133	50	12/22/11	jq	12/23/11	jq	314.2	
Toluene-d8		103	%	75-120	500	12/13/11	jq	12/13/11	jq		
Toluene-d8		102	%	75-120	1000	12/14/11	jq	12/14/11	jq		
Toluene-d8		91	%	75-120	50	12/22/11	jq	12/23/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026880											
Bis(2-ethylhexyl)phthalate		**940**	**mg/kg dry**	**45**	**500**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	500	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	500	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*		%	46-109	500	12/14/11	kb	12/16/11	avl	302	
METALS, TOTAL											
Analysis Method: EPA 6010B											
Batch: T027060											
Chromium		**15**	**mg/kg dry**	**2.0**	**1**	**12/27/11**	**ns**	**12/27/11**	**jlm**		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-47 | Date Collected: 12/10/11 09:35 | Matrix: Soil
Sample ID: SB-14 / (9.5-10.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**92**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026913										
Total Organic Carbon	**1900**	**mg/kg dry**	**1000**	**1**	**12/15/11**	**sm**	**12/15/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-48 | Date Collected: 12/10/11 | Matrix: Soil
Sample ID: SB-Dup-01 | Date Received: 12/13/11 08:29

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T027011											
Benzene		<0.050	mg/kg dry	0.050	50	12/14/11	jq	12/15/11	jq		
Toluene		<0.10	mg/kg dry	0.10	50	12/14/11	jq	12/15/11	jq		
Ethylbenzene		**86**	**mg/kg dry**	**0.94**	**1000**	**12/19/11**	**jq**	**12/19/11**	**jq**		
m,p-Xylene		**170**	**mg/kg dry**	**1.9**	**1000**	**12/19/11**	**jq**	**12/19/11**	**jq**	N	
o-Xylene		<0.94	mg/kg dry	0.94	1000	12/19/11	jq	12/19/11	jq	N	
Xylenes, total		**170**	**mg/kg dry**	**2.8**	**1000**	**12/19/11**	**jq**	**12/19/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		99	%	68-133	1000	12/19/11	jq	12/19/11	jq		
1,2-Dichloroethane-d4		91	%	68-133	50	12/14/11	jq	12/15/11	jq		
Toluene-d8		92	%	75-120	1000	12/19/11	jq	12/19/11	jq		
Toluene-d8		102	%	75-120	50	12/14/11	jq	12/15/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026880											
Bis(2-ethylhexyl)phthalate		**1500**	**mg/kg dry**	**91**	**1000**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	1000	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	1000	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*		%	46-109	1000	12/14/11	kb	12/16/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026891											
% Solids		**91**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-49 | Date Collected: 12/10/11 10:36 | Matrix: Soil
Sample ID: SB-1 / (7.5-8.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026874										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/13/11	was	12/13/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/13/11	was	12/13/11	was		
Ethylbenzene	**0.066**	**mg/kg dry**	**0.0050**	**1**	**12/13/11**	**was**	**12/13/11**	**was**		
m,p-Xylene	**0.23**	**mg/kg dry**	**0.010**	**1**	**12/13/11**	**was**	**12/13/11**	**was**	N	
o-Xylene	**0.029**	**mg/kg dry**	**0.0050**	**1**	**12/13/11**	**was**	**12/13/11**	**was**	N	
Xylenes, total	**0.26**	**mg/kg dry**	**0.015**	**1**	**12/13/11**	**was**	**12/13/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	102	%	71-131	1	12/13/11	was	12/13/11	was		
Toluene-d8	108	%	70-130	1	12/13/11	was	12/13/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**180**	**mg/kg dry**	**9.1**	**100**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*	%	46-109	100	12/14/11	kb	12/16/11	avl	302	
METALS, TOTAL										
Analysis Method: EPA 6010B										
Batch: T027060										
Chromium	**20**	**mg/kg dry**	**2.0**	**1**	**12/27/11**	**ns**	**12/27/11**	**jlm**		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**91**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026913										
Total Organic Carbon	**1600**	**mg/kg dry**	**1000**	**1**	**12/15/11**	**sm**	**12/15/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-50 | Date Collected: 12/10/11 10:43 | Matrix: Soil
Sample ID: SB-1 / (24.5-25.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026874										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/13/11	was	12/13/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/13/11	was	12/13/11	was		
Ethylbenzene	**0.0054**	**mg/kg dry**	**0.0050**	**1**	**12/13/11**	**was**	**12/13/11**	**was**		
m,p-Xylene	**0.015**	**mg/kg dry**	**0.010**	**1**	**12/13/11**	**was**	**12/13/11**	**was**	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/13/11	was	12/13/11	was	N	
Xylenes, total	**0.016**	**mg/kg dry**	**0.015**	**1**	**12/13/11**	**was**	**12/13/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	103	%	71-131	1	12/13/11	was	12/13/11	was		
Toluene-d8	104	%	70-130	1	12/13/11	was	12/13/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**1.2**	**mg/kg dry**	**0.33**	**1**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	70	%	36-98	1	12/14/11	kb	12/16/11	avl		
2-Fluorobiphenyl	65	%	44-105	1	12/14/11	kb	12/16/11	avl		
Terphenyl-d14	71	%	46-109	1	12/14/11	kb	12/16/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**85**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-51 | Date Collected: 12/10/11 13:50 | Matrix: Soil
Sample ID: SB-16 / (9.5-10.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026874										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/13/11	was	12/13/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/13/11	was	12/13/11	was		
Ethylbenzene	**12**	**mg/kg dry**	**0.42**	**500**	**12/19/11**	**jq**	**12/19/11**	**jq**		
m,p-Xylene	**47**	**mg/kg dry**	**0.84**	**500**	**12/19/11**	**jq**	**12/19/11**	**jq**	N	
o-Xylene	**7.0**	**mg/kg dry**	**0.42**	**500**	**12/19/11**	**jq**	**12/19/11**	**jq**	N	
Xylenes, total	**54**	**mg/kg dry**	**1.3**	**500**	**12/19/11**	**jq**	**12/19/11**	**jq**		
Surrogates:										
1,2-Dichloroethane-d4	98	%	68-133	500	12/19/11	jq	12/19/11	jq		
1,2-Dichloroethane-d4	98	%	71-131	1	12/13/11	was	12/13/11	was		
Toluene-d8	95	%	75-120	500	12/19/11	jq	12/19/11	jq		
Toluene-d8	112	%	70-130	1	12/13/11	was	12/13/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**190**	**mg/kg dry**	**9.7**	**100**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	12/14/11	kb	12/16/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	12/14/11	kb	12/16/11	avl	302	
Terphenyl-d14	*	%	46-109	100	12/14/11	kb	12/16/11	avl	302	
METALS, TOTAL										
Analysis Method: EPA 6010B										
Batch: T027060										
Chromium	**19**	**mg/kg dry**	**2.0**	**1**	**12/27/11**	**ns**	**12/27/11**	**jlm**		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-51 | Date Collected: 12/10/11 13:50 | Matrix: Soil
Sample ID: SB-16 / (9.5-10.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**85**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026913										
Total Organic Carbon	**4700**	**mg/kg dry**	**1000**	**1**	**12/15/11**	**sm**	**12/15/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-52 | Date Collected: 12/10/11 13:55 | Matrix: Soil
Sample ID: SB-16 / (24.5-25.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026915										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Ethylbenzene	**0.0076**	**mg/kg dry**	**0.0050**	**1**	**12/14/11**	**was**	**12/14/11**	**was**		
m,p-Xylene	**0.031**	**mg/kg dry**	**0.010**	**1**	**12/14/11**	**was**	**12/14/11**	**was**	N	
o-Xylene	**0.0050**	**mg/kg dry**	**0.0050**	**1**	**12/14/11**	**was**	**12/14/11**	**was**	N	
Xylenes, total	**0.036**	**mg/kg dry**	**0.015**	**1**	**12/14/11**	**was**	**12/14/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	97	%	71-131	1	12/14/11	was	12/14/11	was		
Toluene-d8	105	%	70-130	1	12/14/11	was	12/14/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**2.7**	**mg/kg dry**	**0.33**	**1**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	62	%	36-98	1	12/14/11	kb	12/16/11	avl		
2-Fluorobiphenyl	55	%	44-105	1	12/14/11	kb	12/16/11	avl		
Terphenyl-d14	70	%	46-109	1	12/14/11	kb	12/16/11	avl		
METALS, TOTAL										
Analysis Method: EPA 6010B										
Batch: T027060										
Chromium	**11**	**mg/kg dry**	**2.0**	**1**	**12/27/11**	**ns**	**12/27/11**	**jlm**		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**92**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	
Analysis Method: WALKLEY BLACK										
Batch: T026913										
Total Organic Carbon	**1700**	**mg/kg dry**	**1000**	**1**	**12/15/11**	**sm**	**12/15/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-53 | Date Collected: 12/12/11 10:08 | Matrix: Soil
Sample ID: SB-13 / (9.5-10.0) | Date Received: 12/13/11 08:29

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026919											
Benzene		<0.79	mg/kg dry	0.79	1000	12/14/11	jq	12/14/11	jq		
Toluene		<0.79	mg/kg dry	0.79	1000	12/14/11	jq	12/14/11	jq		
Ethylbenzene		**87**	**mg/kg dry**	**0.79**	**1000**	**12/14/11**	**jq**	**12/14/11**	**jq**		
m,p-Xylene		**330**	**mg/kg dry**	**1.6**	**1000**	**12/14/11**	**jq**	**12/14/11**	**jq**	N	
o-Xylene		**82**	**mg/kg dry**	**0.79**	**1000**	**12/14/11**	**jq**	**12/14/11**	**jq**	N	
Xylenes, total		**420**	**mg/kg dry**	**2.4**	**1000**	**12/14/11**	**jq**	**12/14/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		88	%	68-133	1000	12/14/11	jq	12/14/11	jq		
Toluene-d8		99	%	75-120	1000	12/14/11	jq	12/14/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026880											
Bis(2-ethylhexyl)phthalate		**700**	**mg/kg dry**	**22**	**250**	**12/14/11**	**kb**	**12/17/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	250	12/14/11	kb	12/17/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	250	12/14/11	kb	12/17/11	avl	302	
Terphenyl-d14	*		%	46-109	250	12/14/11	kb	12/17/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026891											
% Solids		**94**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-54 | Date Collected: 12/12/11 10:17 | Matrix: Soil
Sample ID: SB-13 / (29.5-30.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026915										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Ethylbenzene	**0.040**	**mg/kg dry**	**0.0050**	**1**	**12/14/11**	**was**	**12/14/11**	**was**		
m,p-Xylene	**0.19**	**mg/kg dry**	**0.010**	**1**	**12/14/11**	**was**	**12/14/11**	**was**	N	
o-Xylene	**0.059**	**mg/kg dry**	**0.0050**	**1**	**12/14/11**	**was**	**12/14/11**	**was**	N	
Xylenes, total	**0.25**	**mg/kg dry**	**0.015**	**1**	**12/14/11**	**was**	**12/14/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	95	%	71-131	1	12/14/11	was	12/14/11	was		
Toluene-d8	105	%	70-130	1	12/14/11	was	12/14/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026880										
Bis(2-ethylhexyl)phthalate	**1.5**	**mg/kg dry**	**0.33**	**1**	**12/14/11**	**kb**	**12/16/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	60	%	36-98	1	12/14/11	kb	12/16/11	avl		
2-Fluorobiphenyl	56	%	44-105	1	12/14/11	kb	12/16/11	avl		
Terphenyl-d14	65	%	46-109	1	12/14/11	kb	12/16/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**87**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-55 | Date Collected: 12/12/11 11:49 | Matrix: Soil
Sample ID: SB-13-10S / (9.5-10.0) | Date Received: 12/13/11 08:29

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026903											
Benzene		<0.39	mg/kg dry	0.39	500	12/13/11	jq	12/14/11	jq		
Toluene		**0.47**	**mg/kg dry**	**0.39**	**500**	**12/13/11**	**jq**	**12/14/11**	**jq**		
Ethylbenzene		**340**	**mg/kg dry**	**3.9**	**5000**	**12/14/11**	**jq**	**12/15/11**	**jq**		
m,p-Xylene		**1300**	**mg/kg dry**	**7.8**	**5000**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
o-Xylene		**390**	**mg/kg dry**	**3.9**	**5000**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
Xylenes, total		**1700**	**mg/kg dry**	**12**	**5000**	**12/14/11**	**jq**	**12/15/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		88	%	68-133	500	12/13/11	jq	12/14/11	jq		
1,2-Dichloroethane-d4		91	%	68-133	5000	12/14/11	jq	12/15/11	jq		
Toluene-d8		98	%	75-120	500	12/13/11	jq	12/14/11	jq		
Toluene-d8		99	%	75-120	5000	12/14/11	jq	12/15/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026880											
Bis(2-ethylhexyl)phthalate		**1200**	**mg/kg dry**	**45**	**500**	**12/14/11**	**kb**	**12/17/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	500	12/14/11	kb	12/17/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	500	12/14/11	kb	12/17/11	avl	302	
Terphenyl-d14	*		%	46-109	500	12/14/11	kb	12/17/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026891											
% Solids		**92**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-56 | Date Collected: 12/12/11 12:01 | Matrix: Soil
Sample ID: SB-13-10S / (21.5-22.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026928										
Benzene	<0.0053	mg/kg dry	0.0053	1	12/15/11	was	12/15/11	was		
Toluene	<0.0053	mg/kg dry	0.0053	1	12/15/11	was	12/15/11	was		
Ethylbenzene	<0.0053	mg/kg dry	0.0053	1	12/15/11	was	12/15/11	was		
m,p-Xylene	<0.011	mg/kg dry	0.011	1	12/15/11	was	12/15/11	was	N	
o-Xylene	<0.0053	mg/kg dry	0.0053	1	12/15/11	was	12/15/11	was	N	
Xylenes, total	<0.016	mg/kg dry	0.016	1	12/15/11	was	12/15/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	91	%	71-131	1	12/15/11	was	12/15/11	was		
Toluene-d8	107	%	70-130	1	12/15/11	was	12/15/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	**8.4**	**mg/kg dry**	**0.46**	**5**	**12/15/11**	**kb**	**12/19/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	45	%	36-98	5	12/15/11	kb	12/19/11	avl		
2-Fluorobiphenyl	50	%	44-105	5	12/15/11	kb	12/19/11	avl		
Terphenyl-d14	68	%	46-109	5	12/15/11	kb	12/19/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**90**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-57 | Date Collected: 12/12/11 14:02 | Matrix: Soil
Sample ID: SB-11 / (7.5-8.0) | Date Received: 12/13/11 08:29

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026903											
Benzene		<0.40	mg/kg dry	0.40	500	12/13/11	jq	12/14/11	jq		
Toluene		**4.7**	**mg/kg dry**	**0.40**	**500**	**12/13/11**	**jq**	**12/14/11**	**jq**		
Ethylbenzene		**1200**	**mg/kg dry**	**16**	**20000**	**12/13/11**	**jq**	**12/16/11**	**jq**		
m,p-Xylene		**5200**	**mg/kg dry**	**32**	**20000**	**12/13/11**	**jq**	**12/16/11**	**jq**	N	
o-Xylene		**1600**	**mg/kg dry**	**16**	**20000**	**12/13/11**	**jq**	**12/16/11**	**jq**	N	
Xylenes, total		**6800**	**mg/kg dry**	**49**	**20000**	**12/13/11**	**jq**	**12/16/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		87	%	68-133	500	12/13/11	jq	12/14/11	jq		
1,2-Dichloroethane-d4		100	%	68-133	20000	12/13/11	jq	12/16/11	jq		
Toluene-d8		104	%	75-120	500	12/13/11	jq	12/14/11	jq		
Toluene-d8		92	%	75-120	20000	12/13/11	jq	12/16/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026909											
Bis(2-ethylhexyl)phthalate		**4500**	**mg/kg dry**	**97**	**1000**	**12/15/11**	**kb**	**12/19/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	1000	12/15/11	kb	12/19/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	1000	12/15/11	kb	12/19/11	avl	302	
Terphenyl-d14	*		%	46-109	1000	12/15/11	kb	12/19/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026891											
% Solids		**86**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-58 | Date Collected: 12/12/11 14:07 | Matrix: Soil
Sample ID: SB-11 / (14.5-15.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026915										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Ethylbenzene	**1.1**	**mg/kg dry**	**0.050**	**50**	**12/20/11**	**was**	**12/20/11**	**was**		
m,p-Xylene	**4.4**	**mg/kg dry**	**0.10**	**50**	**12/20/11**	**was**	**12/20/11**	**was**	N	
o-Xylene	**1.3**	**mg/kg dry**	**0.050**	**50**	**12/20/11**	**was**	**12/20/11**	**was**	N	
Xylenes, total	**5.8**	**mg/kg dry**	**0.15**	**50**	**12/20/11**	**was**	**12/20/11**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	96	%	71-131	1	12/14/11	was	12/14/11	was		
1,2-Dichloroethane-d4	85	%	68-133	50	12/20/11	was	12/20/11	was		
Toluene-d8	102	%	70-130	1	12/14/11	was	12/14/11	was		
Toluene-d8	105	%	75-120	50	12/20/11	was	12/20/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	**31**	**mg/kg dry**	**1.8**	**20**	**12/15/11**	**kb**	**12/19/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	20	12/15/11	kb	12/19/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	20	12/15/11	kb	12/19/11	avl	302	
Terphenyl-d14	*	%	46-109	20	12/15/11	kb	12/19/11	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**90**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-59 | Date Collected: 12/12/11 15:05 | Matrix: Soil
Sample ID: SB-10 / (7.0-7.5) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026903										
Benzene	<0.42	mg/kg dry	0.42	500	12/13/11	jq	12/14/11	jq		
Toluene	**2.8**	**mg/kg dry**	**0.42**	**500**	**12/13/11**	**jq**	**12/14/11**	**jq**		
Ethylbenzene	**440**	**mg/kg dry**	**4.2**	**5000**	**12/14/11**	**jq**	**12/15/11**	**jq**		
m,p-Xylene	**1600**	**mg/kg dry**	**8.4**	**5000**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
o-Xylene	**460**	**mg/kg dry**	**4.2**	**5000**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
Xylenes, total	**2100**	**mg/kg dry**	**13**	**5000**	**12/14/11**	**jq**	**12/15/11**	**jq**		
Surrogates:										
1,2-Dichloroethane-d4	85	%	68-133	500	12/13/11	jq	12/14/11	jq		
1,2-Dichloroethane-d4	92	%	68-133	5000	12/14/11	jq	12/15/11	jq		
Toluene-d8	100	%	75-120	500	12/13/11	jq	12/14/11	jq		
Toluene-d8	98	%	75-120	5000	12/14/11	jq	12/15/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	**200**	**mg/kg dry**	**11**	**100**	**12/15/11**	**kb**	**12/19/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	12/15/11	kb	12/19/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	12/15/11	kb	12/19/11	avl	302	
Terphenyl-d14	*	%	46-109	100	12/15/11	kb	12/19/11	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**73**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-60 | Date Collected: 12/12/11 15:15 | Matrix: Soil
Sample ID: SB-10 / (19.5-20.0) | Date Received: 12/13/11 08:29

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026915										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Ethylbenzene	**0.12**	**mg/kg dry**	**0.0050**	**1**	**12/14/11**	**was**	**12/14/11**	**was**		
m,p-Xylene	**0.21**	**mg/kg dry**	**0.10**	**50**	**12/19/11**	**jq**	**12/19/11**	**jq**	N	
o-Xylene	<0.050	mg/kg dry	0.050	50	12/19/11	jq	12/19/11	jq	N	
Xylenes, total	**0.21**	**mg/kg dry**	**0.15**	**50**	**12/19/11**	**jq**	**12/19/11**	**jq**		
Surrogates:										
1,2-Dichloroethane-d4	97	%	71-131	1	12/14/11	was	12/14/11	was		
1,2-Dichloroethane-d4	101	%	68-133	50	12/19/11	jq	12/19/11	jq		
Toluene-d8	95	%	75-120	50	12/19/11	jq	12/19/11	jq		
Toluene-d8	108	%	70-130	1	12/14/11	was	12/14/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	**1.3**	**mg/kg dry**	**0.33**	**1**	**12/15/11**	**kb**	**12/16/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	56	%	36-98	1	12/15/11	kb	12/16/11	avl		
2-Fluorobiphenyl	53	%	44-105	1	12/15/11	kb	12/16/11	avl		
Terphenyl-d14	65	%	46-109	1	12/15/11	kb	12/16/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026891										
% Solids	**97**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-61 | Date Collected: 12/13/11 09:26 | Matrix: Soil
Sample ID: SB-8-10E / (7.5-8.0) | Date Received: 12/14/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026928										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/15/11	was	12/15/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/15/11	was	12/15/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/15/11	was	12/15/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/15/11	was	12/15/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/15/11	was	12/15/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/15/11	was	12/15/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	103	%	71-131	1	12/15/11	was	12/15/11	was		
Toluene-d8	109	%	70-130	1	12/15/11	was	12/15/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	<0.33	mg/kg dry	0.33	1	12/15/11	kb	12/16/11	avl		
Surrogates:										
Nitrobenzene-d5	46	%	36-98	1	12/15/11	kb	12/16/11	avl		
2-Fluorobiphenyl	* **41**	%	44-105	1	12/15/11	kb	12/16/11	avl	802	
Terphenyl-d14	56	%	46-109	1	12/15/11	kb	12/16/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026893										
% Solids	**90**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-62 | Date Collected: 12/13/11 09:31 | Matrix: Soil
Sample ID: SB-8-10E / (19.5-20.0) | Date Received: 12/14/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026928										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/15/11	was	12/15/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/15/11	was	12/15/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/15/11	was	12/15/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/15/11	was	12/15/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/15/11	was	12/15/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/15/11	was	12/15/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	103	%	71-131	1	12/15/11	was	12/15/11	was		
Toluene-d8	107	%	70-130	1	12/15/11	was	12/15/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	**0.60**	**mg/kg dry**	**0.33**	**1**	**12/15/11**	**kb**	**12/17/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	61	%	36-98	1	12/15/11	kb	12/17/11	avl		
2-Fluorobiphenyl	55	%	44-105	1	12/15/11	kb	12/17/11	avl		
Terphenyl-d14	72	%	46-109	1	12/15/11	kb	12/17/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026893										
% Solids	**96**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-63 | Date Collected: 12/13/11 10:58 | Matrix: Soil
Sample ID: SB-3-10E / (5.5-6.0) | Date Received: 12/14/11 10:21

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T026928											
Benzene		<0.0055	mg/kg dry	0.0055	1	12/15/11	was	12/15/11	was		
Toluene		<0.0055	mg/kg dry	0.0055	1	12/15/11	was	12/15/11	was		
Ethylbenzene		<0.0055	mg/kg dry	0.0055	1	12/15/11	was	12/15/11	was		
m,p-Xylene		<0.011	mg/kg dry	0.011	1	12/15/11	was	12/15/11	was	N	
o-Xylene		<0.0055	mg/kg dry	0.0055	1	12/15/11	was	12/15/11	was	N	
Xylenes, total		<0.016	mg/kg dry	0.016	1	12/15/11	was	12/15/11	was	N	
Surrogates:											
1,2-Dichloroethane-d4		106	%	71-131	1	12/15/11	was	12/15/11	was		
Toluene-d8		110	%	70-130	1	12/15/11	was	12/15/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026909											
Bis(2-ethylhexyl)phthalate		**1500**	**mg/kg dry**	**55**	**500**	**12/15/11**	**kb**	**12/19/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	500	12/15/11	kb	12/19/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	500	12/15/11	kb	12/19/11	avl	302	
Terphenyl-d14	*		%	46-109	500	12/15/11	kb	12/19/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026893											
% Solids		**76**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-64 | Date Collected: 12/13/11 11:07 | Matrix: Soil
Sample ID: SB-3-10E / (14.5-15.0) | Date Received: 12/14/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026915										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Ethylbenzene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
m,p-Xylene	<0.010	mg/kg dry	0.010	1	12/14/11	was	12/14/11	was	N	
o-Xylene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was	N	
Xylenes, total	<0.015	mg/kg dry	0.015	1	12/14/11	was	12/14/11	was	N	
Surrogates:										
1,2-Dichloroethane-d4	101	%	71-131	1	12/14/11	was	12/14/11	was		
Toluene-d8	107	%	70-130	1	12/14/11	was	12/14/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	**1.5**	**mg/kg dry**	**0.33**	**1**	**12/15/11**	**kb**	**12/19/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	51	%	36-98	1	12/15/11	kb	12/19/11	avl		
2-Fluorobiphenyl	47	%	44-105	1	12/15/11	kb	12/19/11	avl		
Terphenyl-d14	61	%	46-109	1	12/15/11	kb	12/19/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026893										
% Solids	**86**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-65 | Date Collected: 12/13/11 12:04 | Matrix: Soil
Sample ID: SB-17/ (7.5-8.0) | Date Received: 12/14/11 10:21

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T027090											
Benzene		<0.050	mg/kg dry	0.050	50	12/22/11	jq	12/23/11	jq		
Toluene		<0.10	mg/kg dry	0.10	50	12/22/11	jq	12/23/11	jq		
Ethylbenzene		**15**	**mg/kg dry**	**0.42**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
m,p-Xylene		**47**	**mg/kg dry**	**0.84**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
o-Xylene		**6.1**	**mg/kg dry**	**0.42**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
Xylenes, total		**54**	**mg/kg dry**	**1.3**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		86	%	68-133	500	12/14/11	jq	12/15/11	jq		
1,2-Dichloroethane-d4	*	**49**	%	68-133	50	12/22/11	jq	12/23/11	jq	314.2	
Toluene-d8		100	%	75-120	500	12/14/11	jq	12/15/11	jq		
Toluene-d8		91	%	75-120	50	12/22/11	jq	12/23/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026909											
Bis(2-ethylhexyl)phthalate		**120**	**mg/kg dry**	**4.9**	**50**	**12/15/11**	**kb**	**12/20/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	50	12/15/11	kb	12/20/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	50	12/15/11	kb	12/20/11	avl	302	
Terphenyl-d14	*		%	46-109	50	12/15/11	kb	12/20/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026893											
% Solids		**84**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-66 | Date Collected: 12/13/11 12:06 | Matrix: Soil
Sample ID: SB-17 / (7.5-8.0) /Dup | Date Received: 12/14/11 10:21

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T027090											
Benzene		<0.050	mg/kg dry	0.050	50	12/22/11	jq	12/23/11	jq		
Toluene		<0.10	mg/kg dry	0.10	50	12/22/11	jq	12/23/11	jq		
Ethylbenzene		**30**	**mg/kg dry**	**0.43**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
m,p-Xylene		**96**	**mg/kg dry**	**0.85**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
o-Xylene		**11**	**mg/kg dry**	**0.43**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
Xylenes, total		**110**	**mg/kg dry**	**1.3**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		91	%	68-133	500	12/14/11	jq	12/15/11	jq		
1,2-Dichloroethane-d4	*	**48**	%	68-133	50	12/22/11	jq	12/23/11	jq	314.2	
Toluene-d8		97	%	75-120	500	12/14/11	jq	12/15/11	jq		
Toluene-d8		90	%	75-120	50	12/22/11	jq	12/23/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026909											
Bis(2-ethylhexyl)phthalate		**41**	**mg/kg dry**	**1.9**	**20**	**12/15/11**	**kb**	**12/20/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	20	12/15/11	kb	12/20/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	20	12/15/11	kb	12/20/11	avl	302	
Terphenyl-d14	*		%	46-109	20	12/15/11	kb	12/20/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026893											
% Solids		**86**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-67 | Date Collected: 12/13/11 12:11 | Matrix: Soil
Sample ID: SB-17 / (19.5-20.0) | Date Received: 12/14/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026915										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Ethylbenzene	**0.012**	**mg/kg dry**	**0.0050**	**1**	**12/14/11**	**was**	**12/14/11**	**was**		
m,p-Xylene	**0.040**	**mg/kg dry**	**0.010**	**1**	**12/14/11**	**was**	**12/14/11**	**was**	N	
o-Xylene	**0.0058**	**mg/kg dry**	**0.0050**	**1**	**12/14/11**	**was**	**12/14/11**	**was**	N	
Xylenes, total	**0.045**	**mg/kg dry**	**0.015**	**1**	**12/14/11**	**was**	**12/14/11**	**was**	N	
Surrogates:										
1,2-Dichloroethane-d4	100	%	71-131	1	12/14/11	was	12/14/11	was		
Toluene-d8	106	%	70-130	1	12/14/11	was	12/14/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	**0.73**	**mg/kg dry**	**0.33**	**1**	**12/15/11**	**kb**	**12/19/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	60	%	36-98	1	12/15/11	kb	12/19/11	avl		
2-Fluorobiphenyl	56	%	44-105	1	12/15/11	kb	12/19/11	avl		
Terphenyl-d14	66	%	46-109	1	12/15/11	kb	12/19/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026893										
% Solids	**88**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-68 | Date Collected: 12/13/11 12:57 | Matrix: Soil
Sample ID: SB-18 / (9.5-10.0) | Date Received: 12/14/11 10:21

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T027090											
Benzene		<0.050	mg/kg dry	0.050	50	12/22/11	jq	12/23/11	jq		
Toluene		<0.10	mg/kg dry	0.10	50	12/22/11	jq	12/23/11	jq		
Ethylbenzene		**49**	**mg/kg dry**	**0.42**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
m,p-Xylene		**150**	**mg/kg dry**	**0.85**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
o-Xylene		**2.1**	**mg/kg dry**	**0.42**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
Xylenes, total		**150**	**mg/kg dry**	**1.3**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		91	%	68-133	500	12/14/11	jq	12/15/11	jq		
1,2-Dichloroethane-d4	*	**48**	%	68-133	50	12/22/11	jq	12/23/11	jq	314.2	
Toluene-d8		95	%	75-120	500	12/14/11	jq	12/15/11	jq		
Toluene-d8		92	%	75-120	50	12/22/11	jq	12/23/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026909											
Bis(2-ethylhexyl)phthalate		**590**	**mg/kg dry**	**91**	**1000**	**12/15/11**	**kb**	**12/20/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	1000	12/15/11	kb	12/20/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	1000	12/15/11	kb	12/20/11	avl	302	
Terphenyl-d14	*		%	46-109	1000	12/15/11	kb	12/20/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026893											
% Solids		**91**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-69 | Date Collected: 12/13/11 13:03 | Matrix: Soil
Sample ID: SB-18 / (19.5-20.0) | Date Received: 12/14/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026990										
Benzene	<0.050	mg/kg dry	0.050	50	12/19/11	jq	12/19/11	jq		
Toluene	<0.10	mg/kg dry	0.10	50	12/19/11	jq	12/19/11	jq		
Ethylbenzene	**12**	**mg/kg dry**	**0.41**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
m,p-Xylene	**35**	**mg/kg dry**	**0.83**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
o-Xylene	**0.93**	**mg/kg dry**	**0.41**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
Xylenes, total	**36**	**mg/kg dry**	**1.2**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
Surrogates:										
1,2-Dichloroethane-d4	91	%	68-133	500	12/14/11	jq	12/15/11	jq		
1,2-Dichloroethane-d4	99	%	68-133	50	12/19/11	jq	12/19/11	jq		
Toluene-d8	97	%	75-120	500	12/14/11	jq	12/15/11	jq		
Toluene-d8	94	%	75-120	50	12/19/11	jq	12/19/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	**120**	**mg/kg dry**	**23**	**250**	**12/15/11**	**kb**	**12/20/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	250	12/15/11	kb	12/20/11	avl	302	
2-Fluorobiphenyl	*	%	44-105	250	12/15/11	kb	12/20/11	avl	302	
Terphenyl-d14	*	%	46-109	250	12/15/11	kb	12/20/11	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026893										
% Solids	**89**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-70 | Date Collected: 12/13/11 14:23 | Matrix: Soil
Sample ID: SB-19 / (14.0-14.5) | Date Received: 12/14/11 10:21

PARAMETERS		RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8260B											
Batch: T027090											
Benzene		<0.050	mg/kg dry	0.050	50	12/22/11	jq	12/23/11	jq		
Toluene		**0.13**	**mg/kg dry**	**0.10**	**50**	**12/22/11**	**jq**	**12/23/11**	**jq**		
Ethylbenzene		**18**	**mg/kg dry**	**0.43**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
m,p-Xylene		**74**	**mg/kg dry**	**0.85**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
o-Xylene		**20**	**mg/kg dry**	**0.43**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**	N	
Xylenes, total		**94**	**mg/kg dry**	**1.3**	**500**	**12/14/11**	**jq**	**12/15/11**	**jq**		
Surrogates:											
1,2-Dichloroethane-d4		96	%	68-133	500	12/14/11	jq	12/15/11	jq		
1,2-Dichloroethane-d4	*	**63**	%	68-133	50	12/22/11	jq	12/23/11	jq	314.2	
Toluene-d8		97	%	75-120	500	12/14/11	jq	12/15/11	jq		
Toluene-d8		92	%	75-120	50	12/22/11	jq	12/23/11	jq		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS											
Analysis Method: EPA 8270C											
Batch: T026909											
Bis(2-ethylhexyl)phthalate		**240**	**mg/kg dry**	**45**	**500**	**12/15/11**	**kb**	**12/20/11**	**avl**		
Surrogates:											
Nitrobenzene-d5	*		%	36-98	500	12/15/11	kb	12/20/11	avl	302	
2-Fluorobiphenyl	*		%	44-105	500	12/15/11	kb	12/20/11	avl	302	
Terphenyl-d14	*		%	46-109	500	12/15/11	kb	12/20/11	avl	302	
WET CHEMISTRY											
Analysis Method: % Calculation											
Batch: T026893											
% Solids		**92**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-71 | Date Collected: 12/13/11 14:27 | Matrix: Soil
Sample ID: SB-19 / (19.5-20.0) | Date Received: 12/14/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026915										
Benzene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Toluene	<0.0050	mg/kg dry	0.0050	1	12/14/11	was	12/14/11	was		
Ethylbenzene	**2.6**	**mg/kg dry**	**0.050**	**50**	**12/19/11**	**jq**	**12/19/11**	**jq**		
m,p-Xylene	**11**	**mg/kg dry**	**0.10**	**50**	**12/19/11**	**jq**	**12/19/11**	**jq**	N	
o-Xylene	**2.9**	**mg/kg dry**	**0.050**	**50**	**12/19/11**	**jq**	**12/19/11**	**jq**	N	
Xylenes, total	**14**	**mg/kg dry**	**0.15**	**50**	**12/19/11**	**jq**	**12/19/11**	**jq**		
Surrogates:										
1,2-Dichloroethane-d4	102	%	71-131	1	12/14/11	was	12/14/11	was		
1,2-Dichloroethane-d4	100	%	68-133	50	12/19/11	jq	12/19/11	jq		
Toluene-d8	94	%	75-120	50	12/19/11	jq	12/19/11	jq		
Toluene-d8	103	%	70-130	1	12/14/11	was	12/14/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026909										
Bis(2-ethylhexyl)phthalate	**9.9**	**mg/kg dry**	**0.48**	**5**	**12/15/11**	**kb**	**12/20/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	49	%	36-98	5	12/15/11	kb	12/20/11	avl		
2-Fluorobiphenyl	54	%	44-105	5	12/15/11	kb	12/20/11	avl		
Terphenyl-d14	60	%	46-109	5	12/15/11	kb	12/20/11	avl		
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T026893										
% Solids	**87**	**% by Wt.**	**0.10**	**1**	**12/14/11**	**sm**	**12/14/11**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-72 | Date Collected: 12/11/11 14:30 | Matrix: Ground Water
Sample ID: PW-R-2 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026973										
Benzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Toluene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Ethylbenzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
m,p-Xylene	<1.0	ug/L	1.0	1	12/16/11	was	12/16/11	was	N	
o-Xylene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was	N	
Xylenes, total	<1.5	ug/L	1.5	1	12/16/11	was	12/16/11	was		
Surrogates:										
1,2-Dichloroethane-d4	87	%	68-133	1	12/16/11	was	12/16/11	was		
Toluene-d8	104	%	75-120	1	12/16/11	was	12/16/11	was		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-73 | Date Collected: 12/13/11 10:20 | Matrix: Ground Water
Sample ID: PW-R-2 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026939										
Bis(2-ethylhexyl)phthalate	<5.0	ug/L	5.0	1	12/16/11	kb	12/19/11	avl		
Surrogates:										
Nitrobenzene-d5	55	%	36-103	1	12/16/11	kb	12/19/11	avl		
2-Fluorobiphenyl	55	%	36-119	1	12/16/11	kb	12/19/11	avl		
Terphenyl-d14	53	%	37-109	1	12/16/11	kb	12/19/11	avl		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-74 | Date Collected: 12/11/11 14:20 | Matrix: Ground Water
Sample ID: PW-R-3 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026973										
Benzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Toluene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Ethylbenzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
m,p-Xylene	<1.0	ug/L	1.0	1	12/16/11	was	12/16/11	was	N	
o-Xylene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was	N	
Xylenes, total	<1.5	ug/L	1.5	1	12/16/11	was	12/16/11	was		
Surrogates:										
1,2-Dichloroethane-d4	88	%	68-133	1	12/16/11	was	12/16/11	was		
Toluene-d8	94	%	75-120	1	12/16/11	was	12/16/11	was		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-75 | Date Collected: 12/13/11 13:35 | Matrix: Ground Water
Sample ID: PW-R-3 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026939										
Bis(2-ethylhexyl)phthalate	**50**	**ug/L**	**5.0**	**1**	**12/16/11**	**kb**	**12/19/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	47	%	36-103	1	12/16/11	kb	12/19/11	avl		
2-Fluorobiphenyl	47	%	36-119	1	12/16/11	kb	12/19/11	avl		
Terphenyl-d14	51	%	37-109	1	12/16/11	kb	12/19/11	avl		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-76 | Date Collected: 12/11/11 12:46 | Matrix: Ground Water
Sample ID: PW-R-4 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026973										
Benzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Toluene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Ethylbenzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
m,p-Xylene	<1.0	ug/L	1.0	1	12/16/11	was	12/16/11	was	N	
o-Xylene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was	N	
Xylenes, total	<1.5	ug/L	1.5	1	12/16/11	was	12/16/11	was		
Surrogates:										
1,2-Dichloroethane-d4	89	%	68-133	1	12/16/11	was	12/16/11	was		
Toluene-d8	96	%	75-120	1	12/16/11	was	12/16/11	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026939										
Bis(2-ethylhexyl)phthalate	<5.0	ug/L	5.0	1	12/16/11	kb	12/20/11	avl		
Surrogates:										
Nitrobenzene-d5	40	%	36-103	1	12/16/11	kb	12/20/11	avl		
2-Fluorobiphenyl	39	%	36-119	1	12/16/11	kb	12/20/11	avl		
Terphenyl-d14	48	%	37-109	1	12/16/11	kb	12/20/11	avl		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-77 | Date Collected: 12/11/11 13:22 | Matrix: Ground Water
Sample ID: PW-D-2 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026973										
Benzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Toluene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Ethylbenzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
m,p-Xylene	<1.0	ug/L	1.0	1	12/16/11	was	12/16/11	was	N	
o-Xylene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was	N	
Xylenes, total	<1.5	ug/L	1.5	1	12/16/11	was	12/16/11	was		
Surrogates:										
1,2-Dichloroethane-d4	89	%	68-133	1	12/16/11	was	12/16/11	was		
Toluene-d8	106	%	75-120	1	12/16/11	was	12/16/11	was		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-78 | Date Collected: 12/13/11 10:30 | Matrix: Ground Water
Sample ID: PW-D-2 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026939										
Bis(2-ethylhexyl)phthalate	<5.0	ug/L	5.0	1	12/16/11	kb	12/20/11	avl		
Surrogates:										
Nitrobenzene-d5	50	%	36-103	1	12/16/11	kb	12/20/11	avl		
2-Fluorobiphenyl	46	%	36-119	1	12/16/11	kb	12/20/11	avl		
Terphenyl-d14	53	%	37-109	1	12/16/11	kb	12/20/11	avl		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-79 | Date Collected: 12/13/11 13:45 | Matrix: Ground Water
Sample ID: PW-D-4 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T026939										
Bis(2-ethylhexyl)phthalate	**50**	**ug/L**	**5.0**	**1**	**12/16/11**	**kb**	**12/20/11**	**avl**		
Surrogates:										
Nitrobenzene-d5	57	%	36-103	1	12/16/11	kb	12/20/11	avl		
2-Fluorobiphenyl	52	%	36-119	1	12/16/11	kb	12/20/11	avl		
Terphenyl-d14	59	%	37-109	1	12/16/11	kb	12/20/11	avl		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-80 | Date Collected: 12/14/11 11:00 | Matrix: Ground Water
Sample ID: PW-D-4 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026973										
Benzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Toluene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Ethylbenzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
m,p-Xylene	<1.0	ug/L	1.0	1	12/16/11	was	12/16/11	was	N	
o-Xylene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was	N	
Xylenes, total	<1.5	ug/L	1.5	1	12/16/11	was	12/16/11	was		
Surrogates:										
1,2-Dichloroethane-d4	90	%	68-133	1	12/16/11	was	12/16/11	was		
Toluene-d8	105	%	75-120	1	12/16/11	was	12/16/11	was		

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ANALYTICAL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

Trace ID: T11L056-81 | Date Collected: 11/09/11 | Matrix: Ground Water
Sample ID: TB-01 | Date Received: 12/15/11 10:21

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T026973										
Benzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Toluene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
Ethylbenzene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was		
m,p-Xylene	<1.0	ug/L	1.0	1	12/16/11	was	12/16/11	was	N	
o-Xylene	<0.50	ug/L	0.50	1	12/16/11	was	12/16/11	was	N	
Xylenes, total	<1.5	ug/L	1.5	1	12/16/11	was	12/16/11	was		
Surrogates:										
1,2-Dichloroethane-d4	88	%	68-133	1	12/16/11	was	12/16/11	was		
Toluene-d8	105	%	75-120	1	12/16/11	was	12/16/11	was		

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QUALITY CONTROL RESULTS

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T027060
QC Batch Method: EPA 3051 Microwave Assisted Digestions for Solids
Analysis Description: Chromium, Total
Analysis Method: EPA 6010B

METHOD BLANK: T027060-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Chromium	mg/kg dry	<2.0	2.0	

LABORATORY CONTROL SAMPLE: T027060-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Chromium	mg/kg dry	40.0	38.5	96	80-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T027060-MSD1

Original: **T11L056-47**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Chromium	mg/kg dry	14.8	37.6	51.4	52.0	98	99	75-125	1	20	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026769
QC Batch Method: ASTM D422
Analysis Description: Grain Size (with Hydrometer)
Analysis Method: ASTM D422

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026796
QC Batch Method: ASTM D422
Analysis Description: Grain Size (with Hydrometer)
Analysis Method: ASTM D422

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026839
QC Batch Method: ASTM D422
Analysis Description: Grain Size (with Hydrometer)
Analysis Method: ASTM D422

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026889
QC Batch Method: ASTM D422
Analysis Description: Grain Size (with Hydrometer)
Analysis Method: ASTM D422

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

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QC Batch: T026896
QC Batch Method: ASTM D422

Analysis Description: Grain Size (with Hydrometer)
Analysis Method: ASTM D422

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026771
QC Batch Method: EPA 3550B Ultrasonic Extraction

Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

METHOD BLANK: T026771-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-chloroethyl)ether	mg/kg wet	<0.10	0.10	
2-Chlorophenol	mg/kg wet	<0.33	0.33	
Phenol	mg/kg wet	<0.33	0.33	
1,3-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,4-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,2-Dichlorobenzene	mg/kg wet	<0.33	0.33	
Benzyl alcohol	mg/kg wet	<3.3	3.3	
Bis(2-chloroisopropyl)ether	mg/kg wet	<0.33	0.33	
2-Methylphenol (o-Cresol)	mg/kg wet	<0.33	0.33	
3,4-Methylphenol (m,p Cresol)	mg/kg wet	<0.33	0.33	
N-Nitrosodi-n-propylamine	mg/kg wet	<0.33	0.33	
Hexachloroethane	mg/kg wet	<0.30	0.30	
Nitrobenzene	mg/kg wet	<0.33	0.33	
Isophorone	mg/kg wet	<0.33	0.33	
2-Nitrophenol	mg/kg wet	<0.33	0.33	
2,4-Dimethylphenol	mg/kg wet	<0.33	0.33	
Bis(2-chloroethoxy)methane	mg/kg wet	<0.33	0.33	
Benzoic acid	mg/kg wet	<3.3	3.3	
1,2,4-Trichlorobenzene	mg/kg wet	<0.33	0.33	
2,4-Dichlorophenol	mg/kg wet	<0.33	0.33	
Naphthalene	mg/kg wet	<0.33	0.33	
4-Chloroaniline	mg/kg wet	<0.33	0.33	
Hexachlorobutadiene	mg/kg wet	<0.050	0.050	
4-Chloro-3-methylphenol	mg/kg wet	<0.28	0.28	
2-Methylnaphthalene	mg/kg wet	<0.33	0.33	
Hexachlorocyclopentadiene	mg/kg wet	<0.33	0.33	
2,4,6-Trichlorophenol	mg/kg wet	<0.33	0.33	
2,4,5-Trichlorophenol	mg/kg wet	<0.33	0.33	
2-Chloronaphthalene	mg/kg wet	<0.33	0.33	
2-Nitroaniline	mg/kg wet	<0.83	0.83	
Dimethyl phthalate	mg/kg wet	<0.33	0.33	
Acenaphthylene	mg/kg wet	<0.33	0.33	
2,6-Dinitrotoluene	mg/kg wet	<0.33	0.33	
3-Nitroaniline	mg/kg wet	<0.83	0.83	
Acenaphthene	mg/kg wet	<0.33	0.33	
Dibenzofuran	mg/kg wet	<0.33	0.33	
2,4-Dinitrotoluene	mg/kg wet	<0.33	0.33	
4-Nitrophenol	mg/kg wet	<0.83	0.83	

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METHOD BLANK: T026771-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
2,4-Dinitrophenol	mg/kg wet	<0.83	0.83	
Diethyl phthalate	mg/kg wet	<0.33	0.33	
Fluorene	mg/kg wet	<0.33	0.33	
4-Chlorophenyl phenyl ether	mg/kg wet	<0.33	0.33	
4-Nitroaniline	mg/kg wet	<0.83	0.83	
4,6-Dinitro-2-methylphenol	mg/kg wet	<0.83	0.83	
N-Nitrosodiphenylamine	mg/kg wet	<0.33	0.33	
4-Bromophenyl phenyl ether	mg/kg wet	<0.33	0.33	
Hexachlorobenzene	mg/kg wet	<0.33	0.33	
Pentachlorophenol	mg/kg wet	<0.80	0.80	
Phenanthrene	mg/kg wet	<0.33	0.33	
Anthracene	mg/kg wet	<0.33	0.33	
Carbazole	mg/kg wet	<0.33	0.33	
Di-n-butyl phthalate	mg/kg wet	<0.33	0.33	
Fluoranthene	mg/kg wet	<0.33	0.33	
Pyrene	mg/kg wet	<0.33	0.33	
Butyl benzyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (a) anthracene	mg/kg wet	<0.33	0.33	
Chrysene	mg/kg wet	<0.33	0.33	
3,3'-Dichlorobenzidine	mg/kg wet	<2.0	2.0	
Bis(2-ethylhexyl)phthalate	mg/kg wet	<0.33	0.33	
Di-n-octyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (b) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (k) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (a) pyrene	mg/kg wet	<0.33	0.33	
Indeno (1,2,3-cd) pyrene	mg/kg wet	<0.33	0.33	
Dibenz (a,h) anthracene	mg/kg wet	<0.33	0.33	
Benzo (g,h,i) perylene	mg/kg wet	<0.33	0.33	
2-Fluorophenol (S)	%	75	38-81	
Phenol-d5 (S)	%	72	32-102	
Nitrobenzene-d5 (S)	%	75	36-98	
2-Fluorobiphenyl (S)	%	68	44-105	
2,4,6-Tribromophenol (S)	%	76	38-101	
Terphenyl-d14 (S)	%	71	46-109	

LABORATORY CONTROL SAMPLE: T026771-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
2-Chlorophenol	mg/kg wet	3.31	2.45	74	49-93	
Phenol	mg/kg wet	3.33	2.31	69	40-90	
1,4-Dichlorobenzene	mg/kg wet	1.73	1.20	69	37-106	
1,2,4-Trichlorobenzene	mg/kg wet	2.10	1.54	73	49-100	
4-Chloro-3-methylphenol	mg/kg wet	3.39	2.84	84	50-96	
Acenaphthene	mg/kg wet	1.70	1.31	77	52-105	
2,4-Dinitrotoluene	mg/kg wet	1.68	1.26	75	51-108	
4-Nitrophenol	mg/kg wet	3.36	2.95	88	22-112	

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LABORATORY CONTROL SAMPLE: T026771-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Pentachlorophenol	mg/kg wet	3.36	3.12	93	30-111	
Pyrene	mg/kg wet	1.68	1.38	82	47-114	
2-Fluorophenol (S)	%	3.33	2.58	78	38-81	
Phenol-d5 (S)	%	3.33	2.64	79	32-102	
Nitrobenzene-d5 (S)	%	3.33	2.60	78	36-98	
2-Fluorobiphenyl (S)	%	3.36	2.48	74	44-105	
2,4,6-Tribromophenol (S)	%	3.39	2.84	84	38-101	
Terphenyl-d14 (S)	%	3.49	2.75	79	46-109	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026771-MSD1 Original: **T11L056-09**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
2-Chlorophenol	mg/kg dry	0	6.08	4.22	3.48	70	57	43-93	20	23	
Phenol	mg/kg dry	0	6.11	3.64	3.05	60	50	31-91	18	28	
1,4-Dichlorobenzene	mg/kg dry	0	3.18	2.22	1.82	70	57	43-92	20	33	
1,2,4-Trichlorobenzene	mg/kg dry	0	3.85	2.88	2.38	75	62	43-99	19	33	
4-Chloro-3-methylphenol	mg/kg dry	0	6.24	4.67	4.20	75	67	36-108	11	25	
Acenaphthene	mg/kg dry	0	3.12	2.30	2.11	74	68	46-111	9	31	
2,4-Dinitrotoluene	mg/kg dry	0	3.09	1.52	1.67	49	54	18-128	9	28	
4-Nitrophenol	mg/kg dry	0	6.18	3.46	3.42	56	55	15-125	2	26	
Pentachlorophenol	mg/kg dry	0	6.18	4.92	4.44	80	72	14-125	10	25	
Pyrene	mg/kg dry	0	3.09	2.13	2.02	69	65	40-124	5	33	
2-Fluorophenol (S)	%		6.11	3.80	3.23	62	53	38-81			
Phenol-d5 (S)	%		6.11	3.83	3.29	63	54	32-102			
Nitrobenzene-d5 (S)	%		6.11	4.04	3.68	66	60	36-98			
2-Fluorobiphenyl (S)	%		6.18	4.13	3.86	67	63	44-105			
2,4,6-Tribromophenol (S)	%		6.24	5.14	4.85	83	78	38-101			
Terphenyl-d14 (S)	%		6.42	3.74	3.74	58	58	46-109			

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026865
QC Batch Method: EPA 3550B Ultrasonic Extraction
Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

METHOD BLANK: T026865-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-chloroethyl)ether	mg/kg wet	<0.10	0.10	
2-Chlorophenol	mg/kg wet	<0.33	0.33	
Phenol	mg/kg wet	<0.33	0.33	
1,3-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,4-Dichlorobenzene	mg/kg wet	<0.33	0.33	

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METHOD BLANK: T026865-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
1,2-Dichlorobenzene	mg/kg wet	<0.33	0.33	
Benzyl alcohol	mg/kg wet	<3.3	3.3	
Bis(2-chloroisopropyl)ether	mg/kg wet	<0.33	0.33	
2-Methylphenol (o-Cresol)	mg/kg wet	<0.33	0.33	
3,4-Methylphenol (m,p Cresol)	mg/kg wet	<0.33	0.33	
N-Nitrosodi-n-propylamine	mg/kg wet	<0.33	0.33	
Hexachloroethane	mg/kg wet	<0.30	0.30	
Nitrobenzene	mg/kg wet	<0.33	0.33	
Isophorone	mg/kg wet	<0.33	0.33	
2-Nitrophenol	mg/kg wet	<0.33	0.33	
2,4-Dimethylphenol	mg/kg wet	<0.33	0.33	
Bis(2-chloroethoxy)methane	mg/kg wet	<0.33	0.33	
Benzoic acid	mg/kg wet	<3.3	3.3	
1,2,4-Trichlorobenzene	mg/kg wet	<0.33	0.33	
2,4-Dichlorophenol	mg/kg wet	<0.33	0.33	
Naphthalene	mg/kg wet	<0.33	0.33	
4-Chloroaniline	mg/kg wet	<0.33	0.33	
Hexachlorobutadiene	mg/kg wet	<0.050	0.050	
4-Chloro-3-methylphenol	mg/kg wet	<0.28	0.28	
2-Methylnaphthalene	mg/kg wet	<0.33	0.33	
Hexachlorocyclopentadiene	mg/kg wet	<0.33	0.33	
2,4,6-Trichlorophenol	mg/kg wet	<0.33	0.33	
2,4,5-Trichlorophenol	mg/kg wet	<0.33	0.33	
2-Chloronaphthalene	mg/kg wet	<0.33	0.33	
2-Nitroaniline	mg/kg wet	<0.83	0.83	
Dimethyl phthalate	mg/kg wet	<0.33	0.33	
Acenaphthylene	mg/kg wet	<0.33	0.33	
2,6-Dinitrotoluene	mg/kg wet	<0.33	0.33	
3-Nitroaniline	mg/kg wet	<0.83	0.83	
Acenaphthene	mg/kg wet	<0.33	0.33	
Dibenzofuran	mg/kg wet	<0.33	0.33	
2,4-Dinitrotoluene	mg/kg wet	<0.33	0.33	
4-Nitrophenol	mg/kg wet	<0.83	0.83	
2,4-Dinitrophenol	mg/kg wet	<0.83	0.83	
Diethyl phthalate	mg/kg wet	<0.33	0.33	
Fluorene	mg/kg wet	<0.33	0.33	
4-Chlorophenyl phenyl ether	mg/kg wet	<0.33	0.33	
4-Nitroaniline	mg/kg wet	<0.83	0.83	
4,6-Dinitro-2-methylphenol	mg/kg wet	<0.83	0.83	
N-Nitrosodiphenylamine	mg/kg wet	<0.33	0.33	
4-Bromophenyl phenyl ether	mg/kg wet	<0.33	0.33	
Hexachlorobenzene	mg/kg wet	<0.33	0.33	
Pentachlorophenol	mg/kg wet	<0.80	0.80	
Phenanthrene	mg/kg wet	<0.33	0.33	
Anthracene	mg/kg wet	<0.33	0.33	
Carbazole	mg/kg wet	<0.33	0.33	
Di-n-butyl phthalate	mg/kg wet	<0.33	0.33	

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METHOD BLANK: T026865-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Fluoranthene	mg/kg wet	<0.33	0.33	
Pyrene	mg/kg wet	<0.33	0.33	
Butyl benzyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (a) anthracene	mg/kg wet	<0.33	0.33	
Chrysene	mg/kg wet	<0.33	0.33	
3,3'-Dichlorobenzidine	mg/kg wet	<2.0	2.0	
Bis(2-ethylhexyl)phthalate	mg/kg wet	<0.33	0.33	
Di-n-octyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (b) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (k) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (a) pyrene	mg/kg wet	<0.33	0.33	
Indeno (1,2,3-cd) pyrene	mg/kg wet	<0.33	0.33	
Dibenz (a,h) anthracene	mg/kg wet	<0.33	0.33	
Benzo (g,h,i) perylene	mg/kg wet	<0.33	0.33	
2-Fluorophenol (S)	%	53	38-81	
Phenol-d5 (S)	%	51	32-102	
Nitrobenzene-d5 (S)	%	54	36-98	
2-Fluorobiphenyl (S)	%	53	44-105	
2,4,6-Tribromophenol (S)	%	56	38-101	
Terphenyl-d14 (S)	%	56	46-109	

LABORATORY CONTROL SAMPLE: T026865-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
2-Chlorophenol	mg/kg wet	3.31	1.83	55	49-93	
Phenol	mg/kg wet	3.32	1.78	53	40-90	
1,4-Dichlorobenzene	mg/kg wet	1.73	0.916	53	37-106	
1,2,4-Trichlorobenzene	mg/kg wet	2.09	1.16	55	49-100	
4-Chloro-3-methylphenol	mg/kg wet	3.39	2.04	60	50-96	
Acenaphthene	mg/kg wet	1.69	1.00	59	52-105	
2,4-Dinitrotoluene	mg/kg wet	1.68	0.953	57	51-108	
4-Nitrophenol	mg/kg wet	3.36	1.98	59	22-112	
Pentachlorophenol	mg/kg wet	3.36	2.17	65	30-111	
Pyrene	mg/kg wet	1.68	1.04	62	47-114	
2-Fluorophenol (S)	%	3.32	1.81	55	38-81	
Phenol-d5 (S)	%	3.32	1.80	54	32-102	
Nitrobenzene-d5 (S)	%	3.32	1.84	55	36-98	
2-Fluorobiphenyl (S)	%	3.36	1.84	55	44-105	
2,4,6-Tribromophenol (S)	%	3.39	1.94	57	38-101	
Terphenyl-d14 (S)	%	3.49	2.00	57	46-109	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026880
QC Batch Method: EPA 3550B Ultrasonic Extraction
Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

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METHOD BLANK: T026880-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-chloroethyl)ether	mg/kg wet	<0.10	0.10	
2-Chlorophenol	mg/kg wet	<0.33	0.33	
Phenol	mg/kg wet	<0.33	0.33	
1,3-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,4-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,2-Dichlorobenzene	mg/kg wet	<0.33	0.33	
Benzyl alcohol	mg/kg wet	<3.3	3.3	
Bis(2-chloroisopropyl)ether	mg/kg wet	<0.33	0.33	
2-Methylphenol (o-Cresol)	mg/kg wet	<0.33	0.33	
3,4-Methylphenol (m,p Cresol)	mg/kg wet	<0.33	0.33	
N-Nitrosodi-n-propylamine	mg/kg wet	<0.33	0.33	
Hexachloroethane	mg/kg wet	<0.30	0.30	
Nitrobenzene	mg/kg wet	<0.33	0.33	
Isophorone	mg/kg wet	<0.33	0.33	
2-Nitrophenol	mg/kg wet	<0.33	0.33	
2,4-Dimethylphenol	mg/kg wet	<0.33	0.33	
Bis(2-chloroethoxy)methane	mg/kg wet	<0.33	0.33	
Benzoic acid	mg/kg wet	<3.3	3.3	
1,2,4-Trichlorobenzene	mg/kg wet	<0.33	0.33	
2,4-Dichlorophenol	mg/kg wet	<0.33	0.33	
Naphthalene	mg/kg wet	<0.33	0.33	
4-Chloroaniline	mg/kg wet	<0.33	0.33	
Hexachlorobutadiene	mg/kg wet	<0.050	0.050	
4-Chloro-3-methylphenol	mg/kg wet	<0.28	0.28	
2-Methylnaphthalene	mg/kg wet	<0.33	0.33	
Hexachlorocyclopentadiene	mg/kg wet	<0.33	0.33	
2,4,6-Trichlorophenol	mg/kg wet	<0.33	0.33	
2,4,5-Trichlorophenol	mg/kg wet	<0.33	0.33	
2-Chloronaphthalene	mg/kg wet	<0.33	0.33	
2-Nitroaniline	mg/kg wet	<0.83	0.83	
Dimethyl phthalate	mg/kg wet	<0.33	0.33	
Acenaphthylene	mg/kg wet	<0.33	0.33	
2,6-Dinitrotoluene	mg/kg wet	<0.33	0.33	
3-Nitroaniline	mg/kg wet	<0.83	0.83	
Acenaphthene	mg/kg wet	<0.33	0.33	
Dibenzofuran	mg/kg wet	<0.33	0.33	
2,4-Dinitrotoluene	mg/kg wet	<0.33	0.33	
4-Nitrophenol	mg/kg wet	<0.83	0.83	
2,4-Dinitrophenol	mg/kg wet	<0.83	0.83	
Diethyl phthalate	mg/kg wet	<0.33	0.33	
Fluorene	mg/kg wet	<0.33	0.33	
4-Chlorophenyl phenyl ether	mg/kg wet	<0.33	0.33	
4-Nitroaniline	mg/kg wet	<0.83	0.83	
4,6-Dinitro-2-methylphenol	mg/kg wet	<0.83	0.83	
N-Nitrosodiphenylamine	mg/kg wet	<0.33	0.33	
4-Bromophenyl phenyl ether	mg/kg wet	<0.33	0.33	
Hexachlorobenzene	mg/kg wet	<0.33	0.33	

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METHOD BLANK: T026880-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Pentachlorophenol	mg/kg wet	<0.80	0.80	
Phenanthrene	mg/kg wet	<0.33	0.33	
Anthracene	mg/kg wet	<0.33	0.33	
Carbazole	mg/kg wet	<0.33	0.33	
Di-n-butyl phthalate	mg/kg wet	<0.33	0.33	
Fluoranthene	mg/kg wet	<0.33	0.33	
Pyrene	mg/kg wet	<0.33	0.33	
Butyl benzyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (a) anthracene	mg/kg wet	<0.33	0.33	
Chrysene	mg/kg wet	<0.33	0.33	
3,3'-Dichlorobenzidine	mg/kg wet	<2.0	2.0	
Bis(2-ethylhexyl)phthalate	mg/kg wet	<0.33	0.33	
Di-n-octyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (b) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (k) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (a) pyrene	mg/kg wet	<0.33	0.33	
Indeno (1,2,3-cd) pyrene	mg/kg wet	<0.33	0.33	
Dibenz (a,h) anthracene	mg/kg wet	<0.33	0.33	
Benzo (g,h,i) perylene	mg/kg wet	<0.33	0.33	
2-Fluorophenol (S)	%	61	38-81	
Phenol-d5 (S)	%	59	32-102	
Nitrobenzene-d5 (S)	%	67	36-98	
2-Fluorobiphenyl (S)	%	67	44-105	
2,4,6-Tribromophenol (S)	%	82	38-101	
Terphenyl-d14 (S)	%	67	46-109	

LABORATORY CONTROL SAMPLE: T026880-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
2-Chlorophenol	mg/kg wet	3.31	1.97	60	49-93	
Phenol	mg/kg wet	3.33	1.68	50	40-90	
1,4-Dichlorobenzene	mg/kg wet	1.73	1.01	59	37-106	
1,2,4-Trichlorobenzene	mg/kg wet	2.10	1.31	62	49-100	
4-Chloro-3-methylphenol	mg/kg wet	3.39	2.17	64	50-96	
Acenaphthene	mg/kg wet	1.70	1.10	65	52-105	
2,4-Dinitrotoluene	mg/kg wet	1.68	1.19	71	51-108	
4-Nitrophenol	mg/kg wet	3.36	2.27	68	22-112	
Pentachlorophenol	mg/kg wet	3.36	2.61	78	30-111	
Pyrene	mg/kg wet	1.68	1.14	68	47-114	
2-Fluorophenol (S)	%	3.33	1.98	59	38-81	
Phenol-d5 (S)	%	3.33	1.98	60	32-102	
Nitrobenzene-d5 (S)	%	3.33	2.16	65	36-98	
2-Fluorobiphenyl (S)	%	3.36	2.23	66	44-105	
2,4,6-Tribromophenol (S)	%	3.39	2.84	84	38-101	
Terphenyl-d14 (S)	%	3.49	2.48	71	46-109	

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Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026909
QC Batch Method: EPA 3550B Ultrasonic Extraction
Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

METHOD BLANK: T026909-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-chloroethyl)ether	mg/kg wet	<0.10	0.10	
2-Chlorophenol	mg/kg wet	<0.33	0.33	
Phenol	mg/kg wet	<0.33	0.33	
1,3-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,4-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,2-Dichlorobenzene	mg/kg wet	<0.33	0.33	
Benzyl alcohol	mg/kg wet	<3.3	3.3	
Bis(2-chloroisopropyl)ether	mg/kg wet	<0.33	0.33	
2-Methylphenol (o-Cresol)	mg/kg wet	<0.33	0.33	
3,4-Methylphenol (m,p Cresol)	mg/kg wet	<0.33	0.33	
N-Nitrosodi-n-propylamine	mg/kg wet	<0.33	0.33	
Hexachloroethane	mg/kg wet	<0.30	0.30	
Nitrobenzene	mg/kg wet	<0.33	0.33	
Isophorone	mg/kg wet	<0.33	0.33	
2-Nitrophenol	mg/kg wet	<0.33	0.33	
2,4-Dimethylphenol	mg/kg wet	<0.33	0.33	
Bis(2-chloroethoxy)methane	mg/kg wet	<0.33	0.33	
Benzoic acid	mg/kg wet	<3.3	3.3	
1,2,4-Trichlorobenzene	mg/kg wet	<0.33	0.33	
2,4-Dichlorophenol	mg/kg wet	<0.33	0.33	
Naphthalene	mg/kg wet	<0.33	0.33	
4-Chloroaniline	mg/kg wet	<0.33	0.33	
Hexachlorobutadiene	mg/kg wet	<0.050	0.050	
4-Chloro-3-methylphenol	mg/kg wet	<0.28	0.28	
2-Methylnaphthalene	mg/kg wet	<0.33	0.33	
Hexachlorocyclopentadiene	mg/kg wet	<0.33	0.33	
2,4,6-Trichlorophenol	mg/kg wet	<0.33	0.33	
2,4,5-Trichlorophenol	mg/kg wet	<0.33	0.33	
2-Chloronaphthalene	mg/kg wet	<0.33	0.33	
2-Nitroaniline	mg/kg wet	<0.83	0.83	
Dimethyl phthalate	mg/kg wet	<0.33	0.33	
Acenaphthylene	mg/kg wet	<0.33	0.33	
2,6-Dinitrotoluene	mg/kg wet	<0.33	0.33	
3-Nitroaniline	mg/kg wet	<0.83	0.83	
Acenaphthene	mg/kg wet	<0.33	0.33	
Dibenzofuran	mg/kg wet	<0.33	0.33	
2,4-Dinitrotoluene	mg/kg wet	<0.33	0.33	
4-Nitrophenol	mg/kg wet	<0.83	0.83	
2,4-Dinitrophenol	mg/kg wet	<0.83	0.83	
Diethyl phthalate	mg/kg wet	<0.33	0.33	
Fluorene	mg/kg wet	<0.33	0.33	

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METHOD BLANK: T026909-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
4-Chlorophenyl phenyl ether	mg/kg wet	<0.33	0.33	
4-Nitroaniline	mg/kg wet	<0.83	0.83	
4,6-Dinitro-2-methylphenol	mg/kg wet	<0.83	0.83	
N-Nitrosodiphenylamine	mg/kg wet	<0.33	0.33	
4-Bromophenyl phenyl ether	mg/kg wet	<0.33	0.33	
Hexachlorobenzene	mg/kg wet	<0.33	0.33	
Pentachlorophenol	mg/kg wet	<0.80	0.80	
Phenanthrene	mg/kg wet	<0.33	0.33	
Anthracene	mg/kg wet	<0.33	0.33	
Carbazole	mg/kg wet	<0.33	0.33	
Di-n-butyl phthalate	mg/kg wet	<0.33	0.33	
Fluoranthene	mg/kg wet	<0.33	0.33	
Pyrene	mg/kg wet	<0.33	0.33	
Butyl benzyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (a) anthracene	mg/kg wet	<0.33	0.33	
Chrysene	mg/kg wet	<0.33	0.33	
3,3'-Dichlorobenzidine	mg/kg wet	<2.0	2.0	
Bis(2-ethylhexyl)phthalate	mg/kg wet	<0.33	0.33	
Di-n-octyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (b) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (k) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (a) pyrene	mg/kg wet	<0.33	0.33	
Indeno (1,2,3-cd) pyrene	mg/kg wet	<0.33	0.33	
Dibenz (a,h) anthracene	mg/kg wet	<0.33	0.33	
Benzo (g,h,i) perylene	mg/kg wet	<0.33	0.33	
2-Fluorophenol (S)	%	72	38-81	
Phenol-d5 (S)	%	71	32-102	
Nitrobenzene-d5 (S)	%	71	36-98	
2-Fluorobiphenyl (S)	%	68	44-105	
2,4,6-Tribromophenol (S)	%	76	38-101	
Terphenyl-d14 (S)	%	74	46-109	

LABORATORY CONTROL SAMPLE: T026909-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
2-Chlorophenol	mg/kg wet	3.31	1.74	53	49-93	
Phenol	mg/kg wet	3.32	1.64	49	40-90	
1,4-Dichlorobenzene	mg/kg wet	1.73	0.846	49	37-106	
1,2,4-Trichlorobenzene	mg/kg wet	2.09	1.10	52	49-100	
4-Chloro-3-methylphenol	mg/kg wet	3.39	2.02	60	50-96	
Acenaphthene	mg/kg wet	1.69	0.929	55	52-105	
2,4-Dinitrotoluene	mg/kg wet	1.68	0.953	57	51-108	
4-Nitrophenol	mg/kg wet	3.36	2.02	60	22-112	
Pentachlorophenol	mg/kg wet	3.36	2.31	69	30-111	
Pyrene	mg/kg wet	1.68	1.04	62	47-114	
2-Fluorophenol (S)	%	3.32	1.66	50	38-81	

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LABORATORY CONTROL SAMPLE: T026909-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Phenol-d5 (S)	%	3.32	1.65	50	32-102	
Nitrobenzene-d5 (S)	%	3.32	1.70	51	36-98	
2-Fluorobiphenyl (S)	%	3.36	1.60	48	44-105	
2,4,6-Tribromophenol (S)	%	3.39	1.93	57	38-101	
Terphenyl-d14 (S)	%	3.49	1.99	57	46-109	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026909-MSD1 Original: **T11L056-71**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
2-Chlorophenol	mg/kg dry	0	3.80	2.13	2.16	56	57	43-93	2	23	
Phenol	mg/kg dry	0	3.82	1.91	1.91	50	50	31-91	0.1	28	
1,4-Dichlorobenzene	mg/kg dry	0	1.99	1.01	1.09	51	55	43-92	8	33	
1,2,4-Trichlorobenzene	mg/kg dry	0	2.41	1.38	1.44	57	60	43-99	4	33	
4-Chloro-3-methylphenol	mg/kg dry	0	3.90	2.60	2.58	67	66	36-108	0.8	25	
Acenaphthene	mg/kg dry	0	1.95	1.17	1.19	60	61	46-111	2	31	
2,4-Dinitrotoluene	mg/kg dry	0	1.93	1.34	1.32	70	68	18-128	2	28	
4-Nitrophenol	mg/kg dry	0	3.86	2.82	2.65	73	69	15-125	6	26	
Pentachlorophenol	mg/kg dry	0	3.86	2.74	2.71	71	70	14-125	1	25	
Pyrene	mg/kg dry	0	1.93	1.30	1.22	67	63	40-124	6	33	
2-Fluorophenol (S)	%		3.82	1.91	1.92	50	50	38-81			
Phenol-d5 (S)	%		3.82	2.06	1.94	54	51	32-102			
Nitrobenzene-d5 (S)	%		3.82	1.91	1.87	50	49	36-98			
2-Fluorobiphenyl (S)	%		3.86	2.05	1.96	53	51	44-105			
2,4,6-Tribromophenol (S)	%		3.90	2.73	2.69	70	69	38-101			
Terphenyl-d14 (S)	%		4.01	2.53	2.27	63	56	46-109			

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026939
QC Batch Method: EPA 3510C Separatory Funnel Liquid-Liquid Extr.
Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

METHOD BLANK: T026939-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-ethylhexyl)phthalate	ug/L	<5.0	5.0	
Nitrobenzene-d5 (S)	%	42	36-103	
2-Fluorobiphenyl (S)	%	38	36-119	
Terphenyl-d14 (S)	%	47	37-109	
Bis(2-ethylhexyl)phthalate	ug/L	<5.0	5.0	
2-Fluorophenol (S)	%	27	20-53	
Phenol-d5 (S)	%	16	11-40	
Nitrobenzene-d5 (S)	%	42	36-103	
2-Fluorobiphenyl (S)	%	38	36-119	

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METHOD BLANK: T026939-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
2,4,6-Tribromophenol (S)	%	44	30-105	
Terphenyl-d14 (S)	%	47	37-109	

LABORATORY CONTROL SAMPLE: T026939-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Bis(2-ethylhexyl)phthalate	ug/L	100	61.7	62	57-107	
Nitrobenzene-d5 (S)	%	100	58.7	59	36-103	
2-Fluorobiphenyl (S)	%	101	53.7	53	36-119	
Terphenyl-d14 (S)	%	105	57.0	54	37-109	
2-Chlorophenol	ug/L	100	57.2	57	41-89	
Phenol	ug/L	100	27.0	27	13-39	
1,4-Dichlorobenzene	ug/L	100	50.7	51	39-78	
N-Nitrosodi-n-propylamine	ug/L	100	63.1	63	45-101	
1,2,4-Trichlorobenzene	ug/L	100	56.0	56	34-94	
4-Chloro-3-methylphenol	ug/L	100	64.1	64	45-93	
Acenaphthene	ug/L	100	59.6	60	42-105	
2,4-Dinitrotoluene	ug/L	100	63.3	63	39-105	
4-Nitrophenol	ug/L	100	27.8	28	11-40	
Pentachlorophenol	ug/L	100	82.3	82	38-102	
Pyrene	ug/L	100	60.2	60	47-116	
2-Fluorophenol (S)	%	100	36.0	36	20-53	
Phenol-d5 (S)	%	100	23.1	23	11-40	
Nitrobenzene-d5 (S)	%	100	58.7	59	36-103	
2-Fluorobiphenyl (S)	%	101	53.7	53	36-119	
2,4,6-Tribromophenol (S)	%	102	58.6	57	30-105	
Terphenyl-d14 (S)	%	105	57.0	54	37-109	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026981
QC Batch Method: EPA 3550B Ultrasonic Extraction
Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

METHOD BLANK: T026981-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-chloroethyl)ether	mg/kg wet	<0.10	0.10	
2-Chlorophenol	mg/kg wet	<0.33	0.33	
Phenol	mg/kg wet	<0.33	0.33	
1,3-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,4-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,2-Dichlorobenzene	mg/kg wet	<0.33	0.33	
Benzyl alcohol	mg/kg wet	<3.3	3.3	
Bis(2-chloroisopropyl)ether	mg/kg wet	<0.33	0.33	

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METHOD BLANK: T026981-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
2-Methylphenol (o-Cresol)	mg/kg wet	<0.33	0.33	
3,4-Methylphenol (m,p Cresol)	mg/kg wet	<0.33	0.33	
N-Nitrosodi-n-propylamine	mg/kg wet	<0.33	0.33	
Hexachloroethane	mg/kg wet	<0.30	0.30	
Nitrobenzene	mg/kg wet	<0.33	0.33	
Isophorone	mg/kg wet	<0.33	0.33	
2-Nitrophenol	mg/kg wet	<0.33	0.33	
2,4-Dimethylphenol	mg/kg wet	<0.33	0.33	
Bis(2-chloroethoxy)methane	mg/kg wet	<0.33	0.33	
Benzoic acid	mg/kg wet	<3.3	3.3	
1,2,4-Trichlorobenzene	mg/kg wet	<0.33	0.33	
2,4-Dichlorophenol	mg/kg wet	<0.33	0.33	
Naphthalene	mg/kg wet	<0.33	0.33	
4-Chloroaniline	mg/kg wet	<0.33	0.33	
Hexachlorobutadiene	mg/kg wet	<0.050	0.050	
4-Chloro-3-methylphenol	mg/kg wet	<0.28	0.28	
2-Methylnaphthalene	mg/kg wet	<0.33	0.33	
Hexachlorocyclopentadiene	mg/kg wet	<0.33	0.33	
2,4,6-Trichlorophenol	mg/kg wet	<0.33	0.33	
2,4,5-Trichlorophenol	mg/kg wet	<0.33	0.33	
2-Chloronaphthalene	mg/kg wet	<0.33	0.33	
2-Nitroaniline	mg/kg wet	<0.83	0.83	
Dimethyl phthalate	mg/kg wet	<0.33	0.33	
Acenaphthylene	mg/kg wet	<0.33	0.33	
2,6-Dinitrotoluene	mg/kg wet	<0.33	0.33	
3-Nitroaniline	mg/kg wet	<0.83	0.83	
Acenaphthene	mg/kg wet	<0.33	0.33	
Dibenzofuran	mg/kg wet	<0.33	0.33	
2,4-Dinitrotoluene	mg/kg wet	<0.33	0.33	
4-Nitrophenol	mg/kg wet	<0.83	0.83	
2,4-Dinitrophenol	mg/kg wet	<0.83	0.83	
Diethyl phthalate	mg/kg wet	<0.33	0.33	
Fluorene	mg/kg wet	<0.33	0.33	
4-Chlorophenyl phenyl ether	mg/kg wet	<0.33	0.33	
4-Nitroaniline	mg/kg wet	<0.83	0.83	
4,6-Dinitro-2-methylphenol	mg/kg wet	<0.83	0.83	
N-Nitrosodiphenylamine	mg/kg wet	<0.33	0.33	
4-Bromophenyl phenyl ether	mg/kg wet	<0.33	0.33	
Hexachlorobenzene	mg/kg wet	<0.33	0.33	
Pentachlorophenol	mg/kg wet	<0.80	0.80	
Phenanthrene	mg/kg wet	<0.33	0.33	
Anthracene	mg/kg wet	<0.33	0.33	
Carbazole	mg/kg wet	<0.33	0.33	
Di-n-butyl phthalate	mg/kg wet	<0.33	0.33	
Fluoranthene	mg/kg wet	<0.33	0.33	
Pyrene	mg/kg wet	<0.33	0.33	
Butyl benzyl phthalate	mg/kg wet	<0.33	0.33	

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METHOD BLANK: T026981-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzo (a) anthracene	mg/kg wet	<0.33	0.33	
Chrysene	mg/kg wet	<0.33	0.33	
3,3'-Dichlorobenzidine	mg/kg wet	<2.0	2.0	
Bis(2-ethylhexyl)phthalate	mg/kg wet	<0.33	0.33	
Di-n-octyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (b) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (k) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (a) pyrene	mg/kg wet	<0.33	0.33	
Indeno (1,2,3-cd) pyrene	mg/kg wet	<0.33	0.33	
Dibenz (a,h) anthracene	mg/kg wet	<0.33	0.33	
Benzo (g,h,i) perylene	mg/kg wet	<0.33	0.33	
2-Fluorophenol (S)	%	59	38-81	
Phenol-d5 (S)	%	57	32-102	
Nitrobenzene-d5 (S)	%	58	36-98	
2-Fluorobiphenyl (S)	%	57	44-105	
2,4,6-Tribromophenol (S)	%	58	38-101	
Terphenyl-d14 (S)	%	63	46-109	

LABORATORY CONTROL SAMPLE: T026981-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
2-Chlorophenol	mg/kg wet	3.33	2.63	79	49-93	
Phenol	mg/kg wet	3.33	2.67	80	40-90	
1,4-Dichlorobenzene	mg/kg wet	3.33	2.46	74	37-106	
N-Nitrosodi-n-propylamine	mg/kg wet	3.33	2.82	85	51-106	
1,2,4-Trichlorobenzene	mg/kg wet	3.33	2.57	77	49-100	
4-Chloro-3-methylphenol	mg/kg wet	3.33	2.99	90	50-96	
Acenaphthene	mg/kg wet	3.33	2.66	80	52-105	
2,4-Dinitrotoluene	mg/kg wet	3.33	2.78	83	51-108	
4-Nitrophenol	mg/kg wet	3.33	3.07	92	22-112	
Pentachlorophenol	mg/kg wet	3.33	3.59	108	30-111	
Pyrene	mg/kg wet	3.33	3.09	93	47-114	
2-Fluorophenol (S)	%	3.33	2.60	78	38-81	
Phenol-d5 (S)	%	3.33	2.63	79	32-102	
Nitrobenzene-d5 (S)	%	3.33	2.67	80	36-98	
2-Fluorobiphenyl (S)	%	3.36	2.64	78	44-105	
2,4,6-Tribromophenol (S)	%	3.39	2.88	85	38-101	
Terphenyl-d14 (S)	%	3.49	3.00	86	46-109	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T027170
QC Batch Method: EPA 3550B Ultrasonic Extraction
Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

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METHOD BLANK: T027170-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-chloroethyl)ether	mg/kg wet	<0.10	0.10	
2-Chlorophenol	mg/kg wet	<0.33	0.33	
Phenol	mg/kg wet	<0.33	0.33	
1,3-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,4-Dichlorobenzene	mg/kg wet	<0.33	0.33	
1,2-Dichlorobenzene	mg/kg wet	<0.33	0.33	
Benzyl alcohol	mg/kg wet	<3.3	3.3	
Bis(2-chloroisopropyl)ether	mg/kg wet	<0.33	0.33	
2-Methylphenol (o-Cresol)	mg/kg wet	<0.33	0.33	
3,4-Methylphenol (m,p Cresol)	mg/kg wet	<0.33	0.33	
N-Nitrosodi-n-propylamine	mg/kg wet	<0.33	0.33	
Hexachloroethane	mg/kg wet	<0.30	0.30	
Nitrobenzene	mg/kg wet	<0.33	0.33	
Isophorone	mg/kg wet	<0.33	0.33	
2-Nitrophenol	mg/kg wet	<0.33	0.33	
2,4-Dimethylphenol	mg/kg wet	<0.33	0.33	
Bis(2-chloroethoxy)methane	mg/kg wet	<0.33	0.33	
Benzoic acid	mg/kg wet	<3.3	3.3	
1,2,4-Trichlorobenzene	mg/kg wet	<0.33	0.33	
2,4-Dichlorophenol	mg/kg wet	<0.33	0.33	
Naphthalene	mg/kg wet	<0.33	0.33	
4-Chloroaniline	mg/kg wet	<0.33	0.33	
Hexachlorobutadiene	mg/kg wet	<0.050	0.050	
4-Chloro-3-methylphenol	mg/kg wet	<0.28	0.28	
2-Methylnaphthalene	mg/kg wet	<0.33	0.33	
Hexachlorocyclopentadiene	mg/kg wet	<0.33	0.33	
2,4,6-Trichlorophenol	mg/kg wet	<0.33	0.33	
2,4,5-Trichlorophenol	mg/kg wet	<0.33	0.33	
2-Chloronaphthalene	mg/kg wet	<0.33	0.33	
2-Nitroaniline	mg/kg wet	<0.83	0.83	
Dimethyl phthalate	mg/kg wet	<0.33	0.33	
Acenaphthylene	mg/kg wet	<0.33	0.33	
2,6-Dinitrotoluene	mg/kg wet	<0.33	0.33	
3-Nitroaniline	mg/kg wet	<0.83	0.83	
Acenaphthene	mg/kg wet	<0.33	0.33	
Dibenzofuran	mg/kg wet	<0.33	0.33	
2,4-Dinitrotoluene	mg/kg wet	<0.33	0.33	
4-Nitrophenol	mg/kg wet	<0.83	0.83	
2,4-Dinitrophenol	mg/kg wet	<0.83	0.83	
Diethyl phthalate	mg/kg wet	<0.33	0.33	
Fluorene	mg/kg wet	<0.33	0.33	
4-Chlorophenyl phenyl ether	mg/kg wet	<0.33	0.33	
4-Nitroaniline	mg/kg wet	<0.83	0.83	
4,6-Dinitro-2-methylphenol	mg/kg wet	<0.83	0.83	
N-Nitrosodiphenylamine	mg/kg wet	<0.33	0.33	
4-Bromophenyl phenyl ether	mg/kg wet	<0.33	0.33	
Hexachlorobenzene	mg/kg wet	<0.33	0.33	

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METHOD BLANK: T027170-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Pentachlorophenol	mg/kg wet	<0.80	0.80	
Phenanthrene	mg/kg wet	<0.33	0.33	
Anthracene	mg/kg wet	<0.33	0.33	
Carbazole	mg/kg wet	<0.33	0.33	
Di-n-butyl phthalate	mg/kg wet	<0.33	0.33	
Fluoranthene	mg/kg wet	<0.33	0.33	
Pyrene	mg/kg wet	<0.33	0.33	
Butyl benzyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (a) anthracene	mg/kg wet	<0.33	0.33	
Chrysene	mg/kg wet	<0.33	0.33	
3,3'-Dichlorobenzidine	mg/kg wet	<2.0	2.0	
Bis(2-ethylhexyl)phthalate	mg/kg wet	<0.33	0.33	
Di-n-octyl phthalate	mg/kg wet	<0.33	0.33	
Benzo (b) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (k) fluoranthene	mg/kg wet	<0.33	0.33	
Benzo (a) pyrene	mg/kg wet	<0.33	0.33	
Indeno (1,2,3-cd) pyrene	mg/kg wet	<0.33	0.33	
Dibenz (a,h) anthracene	mg/kg wet	<0.33	0.33	
Benzo (g,h,i) perylene	mg/kg wet	<0.33	0.33	
2-Fluorophenol (S)	**%**	**82**	**38-81**	**312**
Phenol-d5 (S)	%	78	32-102	
Nitrobenzene-d5 (S)	%	76	36-98	
2-Fluorobiphenyl (S)	%	71	44-105	
2,4,6-Tribromophenol (S)	%	74	38-101	
Terphenyl-d14 (S)	%	77	46-109	

LABORATORY CONTROL SAMPLE: T027170-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
2-Chlorophenol	mg/kg wet	3.33	2.64	79	49-93	
Phenol	mg/kg wet	3.33	2.50	75	40-90	
1,4-Dichlorobenzene	mg/kg wet	3.33	2.42	73	37-106	
N-Nitrosodi-n-propylamine	mg/kg wet	3.33	2.89	87	51-106	
1,2,4-Trichlorobenzene	mg/kg wet	3.33	2.50	75	49-100	
4-Chloro-3-methylphenol	mg/kg wet	3.33	2.96	89	50-96	
Acenaphthene	mg/kg wet	3.33	2.58	77	52-105	
2,4-Dinitrotoluene	mg/kg wet	3.33	2.67	80	51-108	
4-Nitrophenol	mg/kg wet	3.33	2.16	65	22-112	
Pentachlorophenol	mg/kg wet	3.33	3.40	102	30-111	
Pyrene	mg/kg wet	3.33	2.89	87	47-114	
2-Fluorophenol (S)	%	3.33	2.54	76	38-81	
Phenol-d5 (S)	%	3.33	2.57	77	32-102	
Nitrobenzene-d5 (S)	%	3.33	2.64	79	36-98	
2-Fluorobiphenyl (S)	%	3.36	2.42	72	44-105	
2,4,6-Tribromophenol (S)	%	3.39	2.67	79	38-101	

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LABORATORY CONTROL SAMPLE: T027170-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Terphenyl-d14 (S)	%	3.49	2.80	80	46-109	

Trace Project ID: T11L056

Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026801

QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes

Analysis Description: Volatiles, Full MDEQ+ List

Analysis Method: EPA 8260B

METHOD BLANK: T026801-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.0050	0.0050	
Toluene	mg/kg wet	<0.0050	0.0050	
Ethylbenzene	mg/kg wet	<0.0050	0.0050	
m,p-Xylene	mg/kg wet	<0.010	0.010	
o-Xylene	mg/kg wet	<0.0050	0.0050	
Xylenes, total	mg/kg wet	<0.015	0.015	
1,2-Dichloroethane-d4 (S)	%	103	71-131	
Toluene-d8 (S)	%	106	70-130	

LABORATORY CONTROL SAMPLE: T026801-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0213	106	80-120	
Toluene	mg/kg wet	0.0200	0.0206	103	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	25.0	100	71-131	
Toluene-d8 (S)	%	25.0	26.7	107	70-130	

Trace Project ID: T11L056

Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026806

QC Batch Method: EPA 8260B

Analysis Description: Volatiles, BTEX/MTBE (GC/MS)

Analysis Method: EPA 8260B

METHOD BLANK: T026806-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	ug/L	<1.0	1.0	
Toluene	ug/L	<1.0	1.0	
Ethylbenzene	ug/L	<1.0	1.0	
m,p-Xylene	ug/L	<2.0	2.0	
o-Xylene	ug/L	<1.0	1.0	
Xylenes, total	ug/L	<3.0	3.0	
1,2-Dichloroethane-d4 (S)	%	84	68-133	

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METHOD BLANK: T026806-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Toluene-d8 (S)	%	95	75-120	

LABORATORY CONTROL SAMPLE: T026806-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	ug/L	20.0	22.7	113	80-120	
Toluene	ug/L	20.0	22.2	111	80-120	
1,2-Dichloroethane-d4 (S)	%	35.0	29.8	85	68-133	
Toluene-d8 (S)	%	35.0	33.8	96	75-120	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026819
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, Full MDEQ+ List
Analysis Method: EPA 8260B

METHOD BLANK: T026819-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.0050	0.0050	
Toluene	mg/kg wet	<0.0050	0.0050	
Ethylbenzene	mg/kg wet	<0.0050	0.0050	
m,p-Xylene	mg/kg wet	<0.010	0.010	
o-Xylene	mg/kg wet	<0.0050	0.0050	
Xylenes, total	mg/kg wet	<0.015	0.015	
1,2-Dichloroethane-d4 (S)	%	101	71-131	
Toluene-d8 (S)	%	105	70-130	

LABORATORY CONTROL SAMPLE: T026819-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0209	104	80-120	
Toluene	mg/kg wet	0.0200	0.0206	103	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	24.4	97	71-131	
Toluene-d8 (S)	%	25.0	26.7	107	70-130	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026819-MSD1 Original: **T11L056-09**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	**mg/kg dry**	**0**	**0.0247**	**0.0268**	**0.0260**	**76**	**105**	**78-114**	**32**	**11**	**202**
Toluene	**mg/kg dry**	**0**	**0.0247**	**0.0251**	**0.0275**	**71**	**112**	**77-118**	**44**	**10**	**202**
1,2-Dichloroethane-d4 (S)	%		25.0	24.6	23.6	98	94	71-131			
Toluene-d8 (S)	%		25.0	26.8	28.6	107	114	70-130			

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Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026824
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, Full MDEQ+ List
Analysis Method: EPA 8260B

METHOD BLANK: T026824-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.0050	0.0050	
Toluene	mg/kg wet	<0.0050	0.0050	
Ethylbenzene	mg/kg wet	<0.0050	0.0050	
m,p-Xylene	mg/kg wet	<0.010	0.010	
o-Xylene	mg/kg wet	<0.0050	0.0050	
Xylenes, total	mg/kg wet	<0.015	0.015	
1,2-Dichloroethane-d4 (S)	%	94	71-131	
Toluene-d8 (S)	%	105	70-130	

LABORATORY CONTROL SAMPLE: T026824-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0204	102	80-120	
Toluene	mg/kg wet	0.0200	0.0201	101	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	22.5	90	71-131	
Toluene-d8 (S)	%	25.0	25.8	103	70-130	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026851
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, Full MDEQ+ List
Analysis Method: EPA 8260B

METHOD BLANK: T026851-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.0050	0.0050	
Toluene	mg/kg wet	<0.0050	0.0050	
Ethylbenzene	mg/kg wet	<0.0050	0.0050	
m,p-Xylene	mg/kg wet	<0.010	0.010	
o-Xylene	mg/kg wet	<0.0050	0.0050	
Xylenes, total	mg/kg wet	<0.015	0.015	
1,2-Dichloroethane-d4 (S)	%	100	71-131	
Toluene-d8 (S)	%	106	70-130	

LABORATORY CONTROL SAMPLE: T026851-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes

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LABORATORY CONTROL SAMPLE: T026851-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0194	97	80-120	
Toluene	mg/kg wet	0.0200	0.0193	96	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	25.2	101	71-131	
Toluene-d8 (S)	%	25.0	26.2	105	70-130	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026874
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, Full MDEQ+ List
Analysis Method: EPA 8260B

METHOD BLANK: T026874-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.0050	0.0050	
Toluene	mg/kg wet	<0.0050	0.0050	
Ethylbenzene	mg/kg wet	<0.0050	0.0050	
m,p-Xylene	mg/kg wet	<0.010	0.010	
o-Xylene	mg/kg wet	<0.0050	0.0050	
Xylenes, total	mg/kg wet	<0.015	0.015	
1,2-Dichloroethane-d4 (S)	%	100	71-131	
Toluene-d8 (S)	%	104	70-130	

LABORATORY CONTROL SAMPLE: T026874-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0214	107	80-120	
Toluene	mg/kg wet	0.0200	0.0218	109	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	22.4	90	71-131	
Toluene-d8 (S)	%	25.0	26.5	106	70-130	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026898
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T026898-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	

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METHOD BLANK: T026898-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	91	68-133	
Toluene-d8 (S)	%	97	75-120	

LABORATORY CONTROL SAMPLE: T026898-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0200	100	80-120	
Toluene	mg/kg wet	0.0200	0.0209	104	80-120	
1,2-Dichloroethane-d4 (S)	%	35.0	31.2	89	68-133	
Toluene-d8 (S)	%	35.0	34.6	99	75-120	

Trace Project ID: T11L056

Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026903

QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes

Analysis Description: Volatiles, BTEX/MTBE (GC/MS)

Analysis Method: EPA 8260B

METHOD BLANK: T026903-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	88	68-133	
Toluene-d8 (S)	%	98	75-120	

LABORATORY CONTROL SAMPLE: T026903-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0201	100	80-120	
Toluene	mg/kg wet	0.0200	0.0210	105	80-120	
1,2-Dichloroethane-d4 (S)	%	35.0	29.9	85	68-133	
Toluene-d8 (S)	%	35.0	34.7	99	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026903-MSD1 Original: **T11L056-57**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	9.46	9.69	9.46	102	100	78-114	2	11	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026903-MSD1 Original: **T11L056-57**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Toluene	mg/kg dry	4.67	9.46	15.0	14.7	109	106	77-118	3	10	
1,2-Dichloroethane-d4 (S)	%		35.0	28.8	29.2	82	84	68-133			
Toluene-d8 (S)	%		35.0	38.0	37.4	108	107	75-120			

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026915
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, Full MDEQ+ List
Analysis Method: EPA 8260B

METHOD BLANK: T026915-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.0050	0.0050	
Toluene	mg/kg wet	<0.0050	0.0050	
Ethylbenzene	mg/kg wet	<0.0050	0.0050	
m,p-Xylene	mg/kg wet	<0.010	0.010	
o-Xylene	mg/kg wet	<0.0050	0.0050	
Xylenes, total	mg/kg wet	<0.015	0.015	
1,2-Dichloroethane-d4 (S)	%	104	71-131	
Toluene-d8 (S)	%	121	70-130	

LABORATORY CONTROL SAMPLE: T026915-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0199	99	80-120	
Toluene	mg/kg wet	0.0200	0.0205	102	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	23.3	93	71-131	
Toluene-d8 (S)	%	25.0	26.6	106	70-130	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026919
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T026919-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	

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METHOD BLANK: T026919-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
1,2-Dichloroethane-d4 (S)	%	86	68-133	
Toluene-d8 (S)	%	98	75-120	

LABORATORY CONTROL SAMPLE: T026919-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0202	101	80-120	
Toluene	mg/kg wet	0.0200	0.0209	105	80-120	
1,2-Dichloroethane-d4 (S)	%	35.0	29.0	83	68-133	
Toluene-d8 (S)	%	35.0	35.0	100	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026919-MSD1 Original: **T11L056-53**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	16.8	18.4	18.1	110	107	78-114	2	11	
Toluene	mg/kg dry	0	16.8	18.6	17.9	110	107	77-118	4	10	
1,2-Dichloroethane-d4 (S)	%		35.0	30.9	31.2	88	89	68-133			
Toluene-d8 (S)	%		35.0	34.0	34.1	97	97	75-120			

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026927
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T026927-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	87	68-133	
Toluene-d8 (S)	%	99	75-120	

LABORATORY CONTROL SAMPLE: T026927-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0232	116	80-120	
Toluene	mg/kg wet	0.0200	0.0231	115	80-120	
1,2-Dichloroethane-d4 (S)	%	35.0	30.1	86	68-133	
Toluene-d8 (S)	%	35.0	34.6	99	75-120	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026927-MSD1 Original: **T11L056-65**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	9.95	10.1	10.6	101	106	78-114	5	11	
Toluene	mg/kg dry	0	9.95	10.4	10.6	105	107	77-118	2	10	
1,2-Dichloroethane-d4 (S)	%		35.0	30.7	31.4	88	90	68-133			
Toluene-d8 (S)	%		35.0	35.4	34.4	101	98	75-120			

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026928
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, Full MDEQ+ List
Analysis Method: EPA 8260B

METHOD BLANK: T026928-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.0050	0.0050	
Toluene	mg/kg wet	<0.0050	0.0050	
Ethylbenzene	mg/kg wet	<0.0050	0.0050	
m,p-Xylene	mg/kg wet	<0.010	0.010	
o-Xylene	mg/kg wet	<0.0050	0.0050	
Xylenes, total	mg/kg wet	<0.015	0.015	
1,2-Dichloroethane-d4 (S)	%	102	71-131	
Toluene-d8 (S)	%	107	70-130	

LABORATORY CONTROL SAMPLE: T026928-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0184	92	80-120	
Toluene	mg/kg wet	0.0200	0.0196	98	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	24.0	96	71-131	
Toluene-d8 (S)	%	25.0	26.4	106	70-130	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026973
QC Batch Method: EPA 8260B
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T026973-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	ug/L	<1.0	1.0	
Toluene	ug/L	<1.0	1.0	
Ethylbenzene	ug/L	<1.0	1.0	

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www.trace-labs.com

METHOD BLANK: T026973-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
m,p-Xylene	ug/L	<2.0	2.0	
o-Xylene	ug/L	<1.0	1.0	
Xylenes, total	ug/L	<3.0	3.0	
1,2-Dichloroethane-d4 (S)	%	88	68-133	
Toluene-d8 (S)	%	104	75-120	

LABORATORY CONTROL SAMPLE: T026973-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	ug/L	20.0	17.3	86	80-120	
Toluene	ug/L	20.0	20.0	100	80-120	
1,2-Dichloroethane-d4 (S)	%	45.0	39.8	88	68-133	
Toluene-d8 (S)	%	45.0	47.3	105	75-120	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026975
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T026975-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	100	68-133	
Toluene-d8 (S)	%	93	75-120	

LABORATORY CONTROL SAMPLE: T026975-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0203	102	80-120	
Toluene	mg/kg wet	0.0200	0.0209	105	80-120	
1,2-Dichloroethane-d4 (S)	%	35.0	34.2	98	68-133	
Toluene-d8 (S)	%	35.0	34.2	98	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026975-MSD1 Original: **T11L056-57RE1**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	378	340	342	90	90	78-114	0.6	11	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026975-MSD1 Original: **T11L056-57RE1**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Toluene	mg/kg dry	0	378	349	351	92	93	77-118	0.6	10	
1,2-Dichloroethane-d4 (S)	%		35.0	35.2	33.6	101	96	68-133			
Toluene-d8 (S)	%		35.0	32.7	33.4	94	95	75-120			

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026990
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T026990-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	99	68-133	
Toluene-d8 (S)	%	95	75-120	

LABORATORY CONTROL SAMPLE: T026990-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0202	101	80-120	
Toluene	mg/kg wet	0.0200	0.0207	103	80-120	
1,2-Dichloroethane-d4 (S)	%	35.0	33.3	95	68-133	
Toluene-d8 (S)	%	35.0	33.3	95	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026990-MSD1 Original: **T11L056-42RE1**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	187	184	183	98	98	78-114	0.3	11	
Toluene	mg/kg dry	0	187	182	187	97	100	77-118	3	10	
1,2-Dichloroethane-d4 (S)	%		35.0	34.0	33.6	97	96	68-133			
Toluene-d8 (S)	%		35.0	33.3	33.4	95	96	75-120			

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T027008
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

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METHOD BLANK: T027008-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	86	68-133	
Toluene-d8 (S)	%	105	75-120	

LABORATORY CONTROL SAMPLE: T027008-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	0.860	86	80-120	
Toluene	mg/kg wet	1.00	0.955	96	80-120	
1,2-Dichloroethane-d4 (S)	%	45.0	38.6	86	68-133	
Toluene-d8 (S)	%	45.0	46.0	102	75-120	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T027011
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T027011-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	87	68-133	
Toluene-d8 (S)	%	99	75-120	

LABORATORY CONTROL SAMPLE: T027011-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	0.0232	116	80-120	
Toluene	mg/kg wet	0.0200	0.0231	115	80-120	
1,2-Dichloroethane-d4 (S)	%	35.0	30.1	86	68-133	
Toluene-d8 (S)	%	35.0	34.6	99	75-120	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

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QC Batch: T027090
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T027090-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	100	68-133	
Toluene-d8 (S)	%	94	75-120	

LABORATORY CONTROL SAMPLE: T027090-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	0.0200	<0.050	109	80-120	
Toluene	mg/kg wet	0.0200	<0.10	106	80-120	
1,2-Dichloroethane-d4 (S)	%	40.0	39.8	99	68-133	
Toluene-d8 (S)	%	40.0	37.8	94	75-120	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026774
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

SAMPLE DUPLICATE: T026774-DUP1 Original: **T11L056-09**

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
% Solids	% by Wt.	54.5	58.7	7	20	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026821
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026822
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

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QC Batch: T026837
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

SAMPLE DUPLICATE: T026837-DUP1 Original: **T11L056-34**

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
% Solids	% by Wt.	85.7	83.5	3	20	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026891
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

SAMPLE DUPLICATE: T026891-DUP1 Original: **T11L056-45**

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
% Solids	% by Wt.	89.6	90.3	0.7	20	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026893
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

SAMPLE DUPLICATE: T026893-DUP1 Original: **T11L056-61**

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
% Solids	% by Wt.	89.5	91.5	2	20	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026775
QC Batch Method: WALKLEY BLACK
Analysis Description: Total Organic Carbon
Analysis Method: WALKLEY BLACK

METHOD BLANK: T026775-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Total Organic Carbon	mg/kg wet	<1000	1000	

LABORATORY CONTROL SAMPLE: T026775-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Total Organic Carbon	mg/kg wet	10000	9580	96	80-120	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026775-MSD1 Original: **T11L056-09**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Total Organic Carbon	mg/kg dry	29600	31200	55800	59400	90	95	74-134	6	19	

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026826
QC Batch Method: WALKLEY BLACK
Analysis Description: Total Organic Carbon
Analysis Method: WALKLEY BLACK

METHOD BLANK: T026826-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Total Organic Carbon	mg/kg wet	<1000	1000	

LABORATORY CONTROL SAMPLE: T026826-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Total Organic Carbon	mg/kg wet	10000	9290	93	80-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026826-MSD1 Original: **T11L056-22**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Total Organic Carbon	**mg/kg dry**	**53700**	**37700**	**61400**	**60000**	**17**	**17**	**74-134**	**5**	**19**	**222.5**

Trace Project ID: T11L056
Client Project ID: LEC MW-30 RI, 185281.0000.0000

QC Batch: T026913
QC Batch Method: WALKLEY BLACK
Analysis Description: Total Organic Carbon
Analysis Method: WALKLEY BLACK

METHOD BLANK: T026913-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Total Organic Carbon	mg/kg wet	<1000	1000	

LABORATORY CONTROL SAMPLE: T026913-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Total Organic Carbon	mg/kg wet	10000	10000	100	80-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T026913-MSD1 Original: **T11L056-47**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Total Organic Carbon	mg/kg dry	1940	22500	22000	21700	89	88	74-134	1	19	

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Page 1 of 1

TRACE ID NO. T11L056

TRACE USE ONLY
Logged By: [illegible] Checked By: [illegible]
Received on Ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:
Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E. Beltline Ave SE Ste. 402
City, State, Zip Code: Grand Rapids, MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616-915 3604 Sampled by: SP
Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:
Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐
Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval
Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services — ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro.	TOC							REMARKS	Possible Health Hazard
01	12/5/11	1303	—	SED-R-1 (0.0-0.5)	SE	5	X	X	X	X								
02	12/5/11	1332	—	SED-R-2 (0.0-0.5)	SE	5	X	X	X	X								
03	12/5/11	1353	—	SED-R-3 (0.0-0.5)	SE	5	X	X	X	X								
04	12/5/11	1439	—	SED-R-4 (0.0-0.5)	SE	5	X	X	X	X								
05	11/9/11	—	—	TB-01	W	1	X											

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [illegible]	FEDEX	12/5/11	1630	1	3)			
	2) Fed Ex	[illegible]	12/6/11	10:33		4)			

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Report ID: T11L056 FINAL 01 11 12 1056

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TRACE ID NO. T11056

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Logged By: [illegible] Checked By: [illegible]

Received on ice: (Yes) No Preservative Checked: Yes (No) N/A

Soil Volatiles Preserved: (MeOH) (Low Level) Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE Ste. 407

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975-1078

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915-3604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

ANALYSIS REQUESTED

Request for Analytical Services

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	PEHP	Grain Size/Hydro.	TOC							REMARKS	Possible Health Hazard
06	12/6/11	0850	–	SED-R-6 (0.0-0.5)	SE	5	x	x	x	x								
07	12/6/11	1003	–	SED-D-3 (0.0-0.5)	SE	5	x	x	x	x								
08	12/6/11	1055	–	SED-D-1 (0.0-0.5)	SE	5	x	x	x	x								
09	12/6/11	1243	–	SED-D-2 (0.0-0.5)	SE	10	x	x	x	x							MS/MSD	
10	12/6/11	1344	–	SED-D-4 (0.0-0.5)	SE	5	x	x	x	x								
11	12/6/11	1347	–	SED-D-4 (0.0-0.5) dup	SE	5	x	x	x	x								
12	11/9/11	—	–	TB-02	W	1	x											

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) B. Pawlukiewicz	FedEx	12/6/11	1630		3)			
	2) FedEx	[illegible]	12/7/11	10:39		4)			

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Page 2 of 2

TRACE ID NO. T11L056

TRACE USE ONLY
Logged By: Checked By:
Received on ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:
Client Name: TRC
Contact Person: Scott Pawlikiewicz
Mailing Address: 2025 E Beltline Ave SE Ste 402
City, State, Zip Code: Grand Rapids MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlikiewicz@trcsolutions.com
Cell #: 616 975-3604 Sampled by: SP
Project Name & #: LEE MW-30 RI, 185781.0000.0000

Bill To:
Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐
Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval
Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

ANALYSIS REQUESTED

Request for Analytical Services

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	GRAIN SIZE	TOC	Hydro.	REMARKS	Possible Health Hazard
13	12/6/11	0854	–	SED-R-6 (1.0-1.5)	SE	5						Hold Sample	
14		1009	–	SED-D-3 (1.0-1.5)	SE	5						Hold Sample	
15		1100	–	SED-D-1 (1.0-1.5)	SE	5						Hold Sample	
16		1245	–	SED-D-2 (1.0-1.5)	SE	5						Hold Sample	
17		1347	–	SED-D-4 (1.0-1.5)	SE	5						Hold Sample	
18		1455	–	SED-R-1 (0.5-1.0)	SE	5						Hold Sample	

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
1)	S. Pawlikiewicz	FEDEX	12/6/11	1630	3)				
2)	FED-EX	[illegible]	12/7/11	10:39	4)				

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toll-free 800.733.5998
fax 231.773.6537
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2241 Black Creek Road
Muskegon, MI 49444-2673
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www.trace-labs.com

Page 1 of 2

TRACE ID NO. T11L056

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E. Beltline Ave. SE, Ste. 402
City, State, Zip Code: Grand Rapids, MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616 915 3604 Sampled by: SP
Project Name & #: LEC MW-30 RI, 185281.0000.0000

TRACE USE ONLY

Logged By: [signature] Checked By: [signature]
Received on Ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Regulatory Requirements
MERA TMDL's ☐
Drinking Water ☐
NPDES ☐
USACE ☐
Special ☐

Turnaround Requirements
Standard ☒
3-4 Day (RUSH)* ☐
24-48 Hour (RUSH)* ☐
* Requires prior approval

Matrix Key
S = Soil
W = Water
SE = Sediment
OI = Oil
SO = Solid Waste
WI = Wipes
LW = Liquid Waste
A = Air
D = Drinking Water
SL = Sludge

Bill To:

Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BSEX	DEHP	Gain Size/Hydro	TOC						REMARKS	Possible Health Hazard
19	12/8/11	0855	-	SED-R-2 (1.5-2.0)	SE	S	HOLD										
20	12/8/11	1035	-	SED-R-3 (0.5-1.0)	SE	S	HOLD										
21	12/8/11	1120	-	SED-R-4 (1.0-1.5)	SE	S	HOLD										
22	12/8/11	1250	-	SED-DRC-02 (0.0-0.5)	SE	S	X	X	X	X							
23	12/8/11	1255	-	SED-DRC-02 (1.0-1.5)	SE	S	HOLD										
24	12/8/11	1355	-	SED-D-5 (0.0-0.5)	SE	S	X	X	X	X							
25	12/8/11	1400	-	SED-D-5 (1.0-1.5)	SE	S	HOLD										

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [signature]	FEDEX	12/8/11	1730	1	3)			
	2) FED-EX	[signature]	12/9/11	10:40		4)			

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Page 2 of 2

TRACE ID NO. T11056

TRACE USE ONLY
Logged By: Checked By:
Received on Ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:
Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E. Beltline Ave. SE. Ste. 402
City, State, Zip Code: Grand Rapids, MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616 915 3604 Sampled by: SP
Project Name & #: LEC MW-30 RI, 185281.0000-0000

Bill To:
Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services — ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEAP	Grain Size (Hydro)	TOC						REMARKS	Possible Health Hazard
26	12/08/11	1055		SB-5/(5.0-5.5)	S.1	5	X	X	X	X						RUN	
27	12/08/11	1116		SB-5/(10.0-10.5)	S.1	5	X	X	X	X						~~HOLD~~ 12/9 via email	
28	12/08/11	1348		SB-7/(0.5-1.0)	S.1	5	X	X	X	X						RUN	
29	12/08/11	1405		SB-7/(5.0-5.5)	S.1	5	X	X	X	X						~~HOLD~~ 12/9 via email	
30	12/08/11	1517		SB-8/(13.0-13.5)	S.1	5	X	X	X	X						RUN	
31	12/08/11	1525		SB-8/(14.5-15.0)	S.1	5	X	X	X	X						~~HOLD~~ 12/9 via email	
32	12/08/11	1551		SB-9/(0.5-1.0)	S.1	5	X	X	X	X						RUN	
33	12/08/11	1606		SB-9/(4.5-5.0)	S.1	5	X	X	X	X						~~HOLD~~ 12/9 via email	

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) Scott Pawlukiewicz	FedEx	12/8/11	1730	1	3)			
	2) FED-EX	[illegible]	12/9/11	1054		4)			

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TRACE ID NO. T11L056

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E. Beltline Ave. SE, Ste 402
City, State, Zip Code: Grand Rapids, MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616 915-3604 Sampled by: SP
Project Name & #: LEC MW-30 RI, 185781.0000.0000

Bill To:

Billing Address (if different) ____
City, State, Zip Code ____
Attn: ____ Phone: ____ PO #: ____

TRACE USE ONLY

Logged By: [signature] Checked By: BMC
Received on ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size / Hydro.	TOC						REMARKS	Possible Health Hazard
34	12/9/11	0933	–	SB-6/(6.5-7.0)	S	5	X	X	X	X							
35		0940	–	SB-6/(14.0-14.5)	S	5	X	X	X	X							
36		1040	–	SB-4/(6.5-7.0)	S	5	X	X	X	X							
37		1050	–	SB-4/(11.5-12.0)	S	5	X	X	X	X							
38		1250	–	SB-3/(11.0-11.5)	S	5	X	X	X	X							
39		1255	–	SB-3/(14.5-15.0)	S	5	X	X	X	X							
40		1355	–	SB-2/(5.0-5.5)	S	5	X	X	X	X							
41		1400	–	SB-2/(15.0-15.5)	S	5	X	X	X	X							
42		1500	–	SB-12/(8.5-9.0)	S	5	X	X	X	X							
43		1520	–	SB-12/(16.5-17.0)	S	5	X	X	X	X							

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [signature]	FEDEX	12/9/11	1715	1	3) [signature]	[signature]	12/10/11	11:10
	2) [signature]	[signature]	12/10/11	10:15		4) WALK-IN	[signature]	12/12/11	8:16

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Page 2 of 2

TRACE ID NO. T11L056

TRACE USE ONLY

Logged By: [illegible] Checked By: [illegible]

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave, SE Suite 402

City, State, Zip Code: Grand Rapids, MI 49546

Phone: 616 975 5415 Fax: (616) 975-1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: (616) 915-3604 Sampled by: SP

Project Name & #: LEL MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services — ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro	TOC							REMARKS	Possible Health Hazard
44	12/9/11	1545	-	DB-3/(5.0-5.5)	S	5	X	X	X	X								

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [illegible]	FEDEX	12/9/11	1715		3) [illegible]	[illegible]	12/10/11	11:10
	2) [illegible]	[illegible]	12/10/11	10:15		4) WALKIN	[illegible]	12/12/11	8:16

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Report ID: T11L056 FINAL 01 11 12 1056

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Page 1 of 2

TRACE ID NO. T11L056

TRACE USE ONLY

Logged By: [illegible] Checked By: [illegible]

Received on ice: (Yes) No Preservative Checked: Yes No (N/A)

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TIZC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE Ste 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@resolutions.com

Cell #: 616 915 3604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☑	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services — ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size / Hydro	TOC	Total Fe						REMARKS	Possible Health Hazard
45	10DEC11	0845	–	SB-15/(10.0-10.5)	S	5	X	X	X	X			NO	TOC				
46	10DEC11	0850	–	SB-15/(25.0-25.5)	S	5	X	X	X									
47	10DEC11	0935	–	SB-14/(9.5-10.0)	S	6	X	X	X	X	X							
48	10DEC11	~	–	~~SB-14/E~~ SB-DUP-01	S	5	X	X	X	X			NO	TOC				
49	10DEC11	1036	–	SB-1/(7.5-8.0)	S	6	X	X	X	X	X							
50	10DEC11	1043	–	SB-1/(24.5-25.0)	S	5	X	X	X	X			NO	TOC				
51	10DEC11	1350	–	SB-16/(9.5-10.0)	S	6	X	X	X	X	X							
52	10DEC11	1355	–	SB-16/(24.5-25.0)	S	6	X	X	X	X	X							
53	12DEC11	1008	–	SB-13/(9.5-10.0)	S	5	X	X	X									
54	12DEC11	1017		SB-13/(24.5-30.0)	S	4	X	X										

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [illegible]	[illegible]	12/12/11	1730	2	3)			
	2) FED-EX	[illegible]	12/13/11	8:29		4)			

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CHAIN-OF-CUSTODY RECORD

Page 2 of 2

TRACE ID NO. T11L056

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E Beltline Ave. SE Ste. 402
City, State, Zip Code: Grand Rapids MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616 915 3604 Sampled by: SP
Project Name & #: LEC MW-30 RI, 185281.0000.0000

TRACE USE ONLY

Logged By: [signature] Checked By: [signature]
Received on Ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Bill To:

Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro							REMARKS	Possible Health Hazard
55	12/12/11	~~1201~~ 1144	–	SB-13-10s/(9.5-10.0)	S	5	X	X	X								
56	12/12/11	1201	–	SB-13-10s/(21.5-22.0)	S	5	X	X	X								
57	12/12/11	1402	–	SB-11/(7.5-8.0)	S	5	X	X	X								
58	12/12/11	1407	–	SB-11/(14.5-15.0)	S	5	X	X	X								
59	12/12/11	1505	–	SB-10/(7.0-7.5)	S	5	X	X	X								
60	12/12/11	1515	–	SB-10/(19.5-20.0)	S	5	X	X	X								

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [signature]	FedEx	12/12/11	1430	2	3)			
	2) Fed-Ex	[signature]	12/13/11	8:29		4)			

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Page 1 of 2

TRACE ID NO. T11L056

TRACE USE ONLY

Logged By: Julie Denard Checked By: JS

Received on ice: (Yes) No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE Ste 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: DM

Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services — ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro								REMARKS	Possible Health Hazard
601	12/13/11	0926		SB-8-10E/(7.5-8.0)	S	5	X	X	X									
602	12/13/11	0931		SB-8-10E/(19.5-20.0)	S	5	X	X	X									
603	12/13/11	1058		SB-3-10E/(5.5-6.0)	S	5	X	X	X									
604	12/13/11	1107		SB-3-10E/(14.5-15.0)	S	5	X	X	X									
605	12/13/11	1204		SB-17/(7.5-8.0)	S	5	X	X	X									
606	12/13/11	1206		SB-17/(7.5-8.0) dup	S	4	X	X										
607	12/13/11	1211		SB-17/(19.5-20.0)	S	5	X	X	X									
608	12/13/11	1257		SB-18/(9.5-10.0)	S	5	X	X	X									
609	12/13/11	1303		SB-18/(19.5-20.0)	S	5	X	X	X									

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
1)	B. Pawlukiewicz	FedEx	12/13/11	1700	1	3)			
2)	Fedex	Julie Denard	12/14/11	10:21		4)			

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CHAIN-OF-CUSTODY RECORD

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Page 2 of 2

TRACE ID NO. T11L056

TRACE USE ONLY

Logged By: Julie Dewald Checked By:

Received on ice: (Yes) No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE. Ste. 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1088

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: DM

Project Name & #: LEC MW-30 RI, IKS 281.0000.0000

Bill To:

Billing Address (if different) _____

City, State, Zip Code _____

Attn: _____ Phone: _____ PO #: _____

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/hydro							REMARKS	Possible Health Hazard
70	12/13/11	1423		SB-19/(14.0-14.5)	S	5	X	X	X								
71	12/13/11	1427		SB-19/(19.5-20.0)	S	5	X	X	X								

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S Pawlukiewicz	Fedex	12/13/11	1700	1	3)			
	2) Fedex	Julie Dewald	12/14/11	10:21		4)			

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Page 1 of 1

TRACE ID NO. T11L056

TRACE USE ONLY

Logged By: Julie Devald Checked By: JS

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE, Ste 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1088

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP										REMARKS	Possible Health Hazard
72	12/11/11	1430	–	PW-R-2	W	2	2												
73	12/13/11	1020	–	PW-R-2	W	1		1											
74	12/11/11	1420	–	PW-R-3	W	2	2												
75	12/13/11	1335	–	PW-R-3	W	1		1											
76	12/11/11	1246	–	PW-R-4	W	3	2	1											
77	12/11/11	~~1332~~ 1322	–	PW-D-2	W	2	2												
78	12/13/11	1030	–	PW-D-2	W	1		1											
79	12/13/11	1345	–	PW-D-4	W	1		1											
80	12/14/11	1100	–	PW-D-4	W	2	2												
81	11/9/11	—	–	TB-01	W	1	1												

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S. Pawlukiewicz	Fedex	12/14/11	1715		3)			
	2) Fedex	[illegible]	12/15/11	10:21		4)			

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SAMPLE LOG IN CHECKLIST

Date: 12/6/11 Client Name: TRC # of Coolers: 1

Trace ID #: T11L056 Project Name: Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [ ] DHL [ ] FED EX [ ] US Mail [ ]

Did cooler come with a bill of lading? No [ ] Yes [ ] [X] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor +0.1 °C

Date: 12/6/11 Time: 10:33

Temperature Blank: 3.0 °C

Range of 3 samples: 3.6-8.0 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[ ]	[X]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[X]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[X]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[X]

Contact: Date:

Notes:

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SAMPLE LOG IN CHECKLIST

Date: 12-7-11 Client Name: TRC # of Coolers: 1

Trace ID #: T11056 Project Name: Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [X] Yes [ ] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor -0.1 °C

Date: 12-7-11 Time: 10:39

Temperature Blank: 2.7 °C

Range of 3 samples: 1, 2, 3 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[X]	[ ]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[ ]	[ ]	[X]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[X]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

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SAMPLE LOG IN CHECKLIST

Date: 12-9-11 Client Name: TRC # of Coolers: 1
Trace ID #: T11L056 Project Name: Cooler #s:
Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [X] Yes [ ] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor 0.0 °C

Date 12-9-11 Time: 10:40

Temperature Blank: 3.0 °C

Range of 3 samples: 1, 2, 3 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[X]	[ ]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[X]	[ ]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[X]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[X]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

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SAMPLE LOG IN CHECKLIST

Date: 12/10 Client Name: TRC # of Coolers: 1

Trace ID #: T11L056 Project Name: L&C Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [X] Yes [ ] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (If applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor 0.0 °C

Date: 12/10/11 Time: 11:15

Temperature Blank: 2.6 °C

Range of 3 samples: 2.0 - 3.0 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	✓		
All bottles arrived unbroken with labels in good condition?	✓		
Each sample point is in a sealed plastic bag?	✓		
Labels filled out completely?	✓		
All bottle labels agree with Chain of Custody (COC)?			
Sufficient sample to run tests requested?	✓		
pH checked and samples at correct pH?			✓
Correct preservative added to samples?	✓		
DRO/GRO samples received and appropriate check in form completed?			✓
Air bubbles absent from VOAs?			✓
COC filled out properly and signed by client?	✓		
COC signed in by TRACE sample custodian?	✓		
Was project manager called and samples discussed?		✓	

Contact: Date:

Notes:

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SAMPLE LOG IN CHECKLIST

Date: 12-13-11 Client Name: TRC # of Coolers: 2

Trace ID #: T11L056 Project Name: Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [ ] Yes [X] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [ ] Yes [X] [ ] Not Applicable

Custody seals signed by Client? No [ ] Yes [X] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor -0.4 °C

Date: 12/13/11 Time: 8:29

Temperature Blank: 3.3 °C

Range of 3 samples: 2-3 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[X]	[ ]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[ ]	[ ]	[X]
DRO/GRO samples received and appropriate check in form completed?	[X]	[ ]	[ ]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

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SAMPLE LOG IN CHECKLIST

Date: 12-14-11 Client Name: TRC # of Coolers: 1

Trace ID #: T11L056 Project Name: Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [ ] Yes [X] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor -0.4 °C

Date: 12-14-11 Time: 10:21

Temperature Blank: °C

Range of 3 samples: 2, 4, 6 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[X]	[ ]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[ ]	[ ]	[X]
DRO/GRO samples received and appropriate check in form completed?	[X]	[ ]	[ ]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

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2.4

SAMPLE LOG IN CHECKLIST

Date: 12/15/11 Client Name: TRC # of Coolers: 1

Trace ID #: T11L056 Project Name: Cooler #s:

T11L183 Logged in by: Julie Donald Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [ ] Yes [ ] [X] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor -0.3 °C

Date: 12/15/11 Time: 10:21

Temperature Blank: 5.2 °C

Range of 3 samples: 5-7.4 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[ ]	[X]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[X]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[X]
Air bubbles absent from VOAs?	[X]	[ ]	[ ]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[X]

Contact: Date:

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Jon Mink

From: Pawlukiewicz, Scott [SPawlukiewicz@trcsolutions.com]
Sent: Thursday, December 08, 2011 7:00 PM
To: 'jmink@trace-labs.com'
Cc: Culp, Barrett
Subject: RE: LEC

Jon-
Regarding the LEC project:
- 7 sediment samples arriving on 12/9....4 are the deeper interval and are listed as "hold".
- Per conversations with the project team, please proceed with extracting the deeper interval sediment samples from 12/6 and 12/8 that were listed as "hold" samples. Notification to analyze certain deep interval samples will be given once the shallow interval results are received/reviewed.
- 8 soil boring (SB) samples will arrive on 12/9. 4 of the deeper samples were mistakenly listed as "HOLD".....please analyze ALL samples shown on the chain.

- Scott

-----Original Message-----
From: Pawlukiewicz, Scott
Sent: Tuesday, December 06, 2011 6:01 PM
To: 'jmink@trace-labs.com'
Cc: Culp, Barrett
Subject: RE: LEC

Jon-
More sediment samples heading your way.....12 total. Please note that second 6 (on the 2nd COC) are to be held at this time pending the results of the shallow interval results. The chain indicates this, but figured I would remind you.

-Scott

-----Original Message-----
From: Pawlukiewicz, Scott
Sent: Tuesday, December 06, 2011 8:01 AM
To: 'jmink@trace-labs.com'
Subject: LEC

3 sediment samples arriving this morning. More sediment samples today. Drilling starting tomorrow.

CERTIFICATE OF ANALYSIS

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TRACE
the science of compliance

phone 231.773.5998
toll-free 800.733.5998
fax 231.773.6537

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673
info@trace-labs.com
www.trace-labs.com

Boni McDonald

From: Jon Mink [jmink@trace-labs.com]
Sent: Wednesday, January 11, 2012 10:31 AM
To: Boni McDonald
Subject: FW: Emailing: T11L056 Organics Only.pdf

LEC_Sediment Samples COC.pdf Jon Mink.vcf

Jon Mink
Project Manager
Trace Analytical Laboratories, Inc.
231-773-5998 x241
jmink@trace-labs.com

-----Original Message-----
From: Pawlukiewicz, Scott [mailto:SPawlukiewicz@trcsolutions.com]
Sent: Wednesday, January 04, 2012 3:13 PM
To: Jon Mink
Cc: Culp, Barrett
Subject: RE: Emailing: T11L056 Organics Only.pdf

Jon-
Based on the sediment results received, please proceed with analyzing the following ten (10) extracted samples for DEHP (no BTEX).

SED-D-3 (1.0-1.5)
SED-D-1 (1.0-1.5)
SED-D-2 (1.0-1.5)
SED-D-4 (1.0-1.5)
SED-R-1 (0.5-1.0)
SED-R-2 (1.5-2.0)
SED-R-3 (0.5-1.0)
SED-R-4 (1.0-1.5)
SED-DRC-02 (1.0-1.5)
SED-D-5 (1.0-1.5)

Please continue to HOLD SED-R-6 which did not have detections.

Thanks-
Scott

-----Original Message-----
From: Jon Mink [mailto:jmink@trace-labs.com]
Sent: Wednesday, January 04, 2012 11:10 AM
To: Pawlukiewicz, Scott
Subject: Emailing: T11L056 Organics Only.pdf

~~~~TRACE IS NOW PAPERLESS~~~~

This email will be the only copy of your report you will be receiving from us. Please contact me if you have any questions or concerns. Thank you for your cooperation.

1

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If you have questions regarding this data, please contact me:

Jon Mink

Project Manager

Trace Analytical Labs
231.773.5998 x 241
jmink@trace-labs.com <mailto:jmink@trace-labs.com>

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The message is ready to be sent with the following file or link attachments:

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January 10, 2012

Mr. Scott Pawlukiewicz
TRC Solutions
2025 E. Beltline Ave., SE, Ste 402
Grand Rapids, MI 49546

Phone: (201) 636-5884
Fax: (616) 975-1098

RE: Trace Project T11L056
Client Project LEC MW-30 RI, 185281.0000.0000

Dear Mr. Pawlukiewicz:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Project Manager

Enclosures

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GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-01 **Sample Number:** SED-R-1 (0.0-0.5)

Material Description: Sample appears to be mostly clay
Moisture content as received =34.722%

Sample Date: 12/5/11

Date Received: 12/6/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/8/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
138.90	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	0.00	0.00	100.0
		2.00 mm	107.41	100.13	94.8
50.91	0.00	0.850 mm	110.72	100.13	75.0
		0.425 mm	117.18	100.13	43.3
		0.180 mm	115.02	100.13	15.6
		0.150 mm	101.49	100.13	13.1
		0.075 mm	102.55	100.13	8.6
		0.053 mm	101.68	100.13	5.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =94.8
Weight of hydrometer sample =50.91
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	20.0	1.0060	1.0020	0.0136	5.0	15.0	0.0373	5.9
5.00	20.1	1.0060	1.0020	0.0136	5.0	15.0	0.0236	5.9
15.00	20.3	1.0060	1.0020	0.0136	5.0	15.0	0.0136	6.0
30.00	20.4	1.0060	1.0020	0.0136	5.0	15.0	0.0096	6.1
60.00	20.8	1.0050	1.0011	0.0135	4.0	15.2	0.0068	3.2
250.00	18.3	1.0050	1.0008	0.0139	4.0	15.2	0.0034	2.3
1440.00	17.4	1.0050	1.0006	0.0141	4.0	15.2	0.0015	1.9

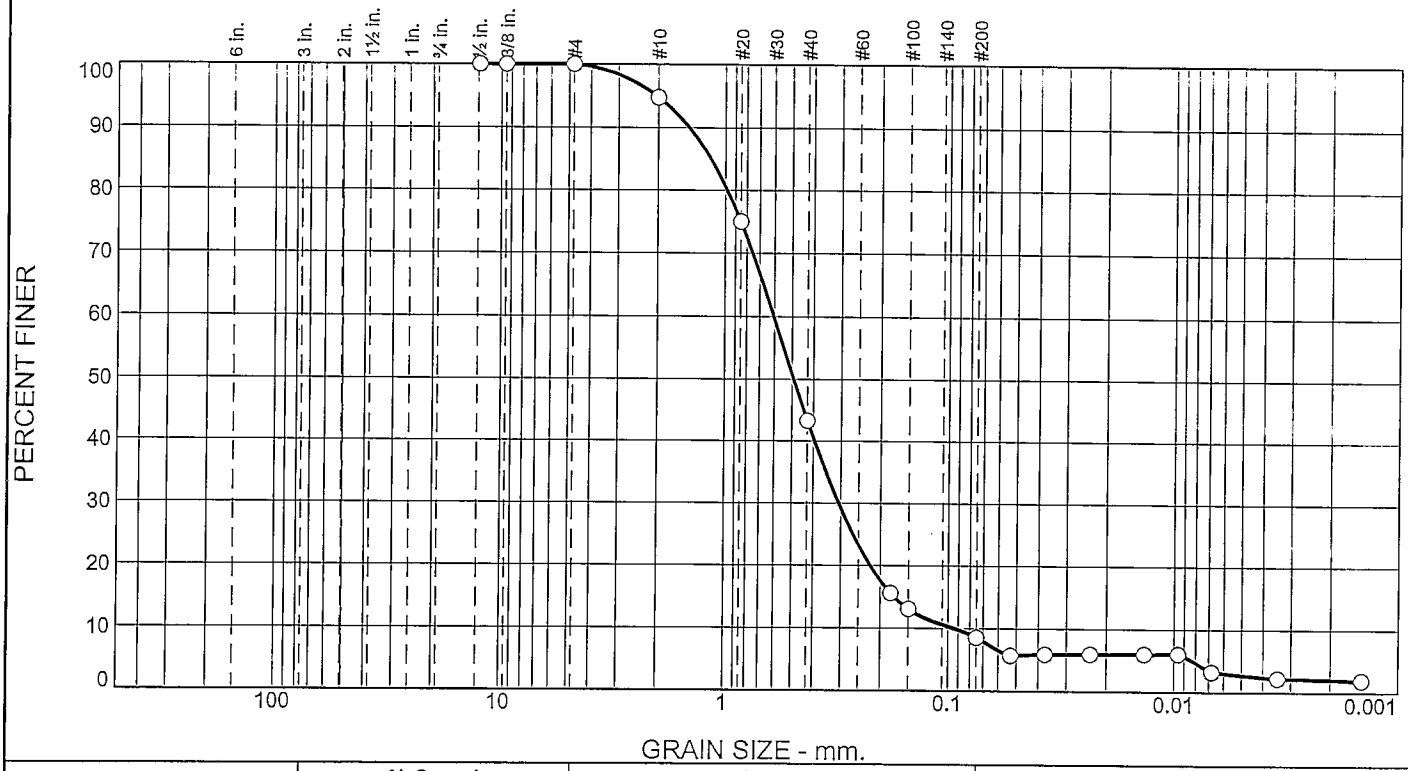
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	5.2	51.5	34.7	91.4	5.9	2.7	8.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0939	0.1736	0.2215	0.3066	0.4905	0.6038	0.9784	1.1632	1.4582	2.0415

Fineness Modulus	C_u	C_c
2.16	6.43	1.66

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	5.2	51.5	34.7	5.9	2.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	100.0		
2.00 mm	94.8		
0.850 mm	75.0		
0.425 mm	43.3		
0.180 mm	15.6		
0.150 mm	13.1		
0.075 mm	8.6		
0.053 mm	5.7		
0.0373 mm.	5.9		
0.0236 mm.	5.9		
0.0136 mm.	6.0		
0.0096 mm.	6.1		
0.0068 mm.	3.2		
0.0034 mm.	2.3		
0.0015 mm.	1.9		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received =34.722%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 1.4582 D_{85}= 1.1632 D_{60}= 0.6038
D_{50}= 0.4905 D_{30}= 0.3066 D_{15}= 0.1736
D_{10}= 0.0939 C_u= 6.43 C_c= 1.66

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/6/11 **Date Tested:** 12/8/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SED-R-1 (0.0-0.5) **Depth:** T11L056-01 **Date Sampled:** 12/5/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-02 **Sample Number:** SED-R-2 (0.0-0.5)
Material Description: Sample appears to be mostly silt
Moisture content as received =43.093%
Sample Date: 12/5/11
Date Received: 12/6/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12-8-11
Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
50.75	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	0.00	0.00	100.0
		2.00 mm	117.42	100.13	65.9
		0.850 mm	105.51	100.13	55.3
		0.425 mm	106.12	100.13	43.5
		0.180 mm	106.47	100.13	31.0
		0.150 mm	101.12	100.13	29.1
		0.075 mm	101.46	100.13	26.5
		0.053 mm	101.42	100.13	23.9

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =65.9
Weight of hydrometer sample =50.75
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.8	1.0150	1.0109	0.0137	14.0	12.6	0.0343	22.8
5.00	19.9	1.0150	1.0110	0.0137	14.0	12.6	0.0217	22.9
15.00	20.1	1.0140	1.0100	0.0136	13.0	12.9	0.0126	20.8
30.00	20.2	1.0130	1.0090	0.0136	12.0	13.1	0.0090	18.8
60.00	20.8	1.0110	1.0071	0.0135	10.0	13.6	0.0064	14.8
250.00	18.1	1.0090	1.0047	0.0140	8.0	14.2	0.0033	9.9
1440.00	17.6	1.0080	1.0037	0.0141	7.0	14.4	0.0014	7.6

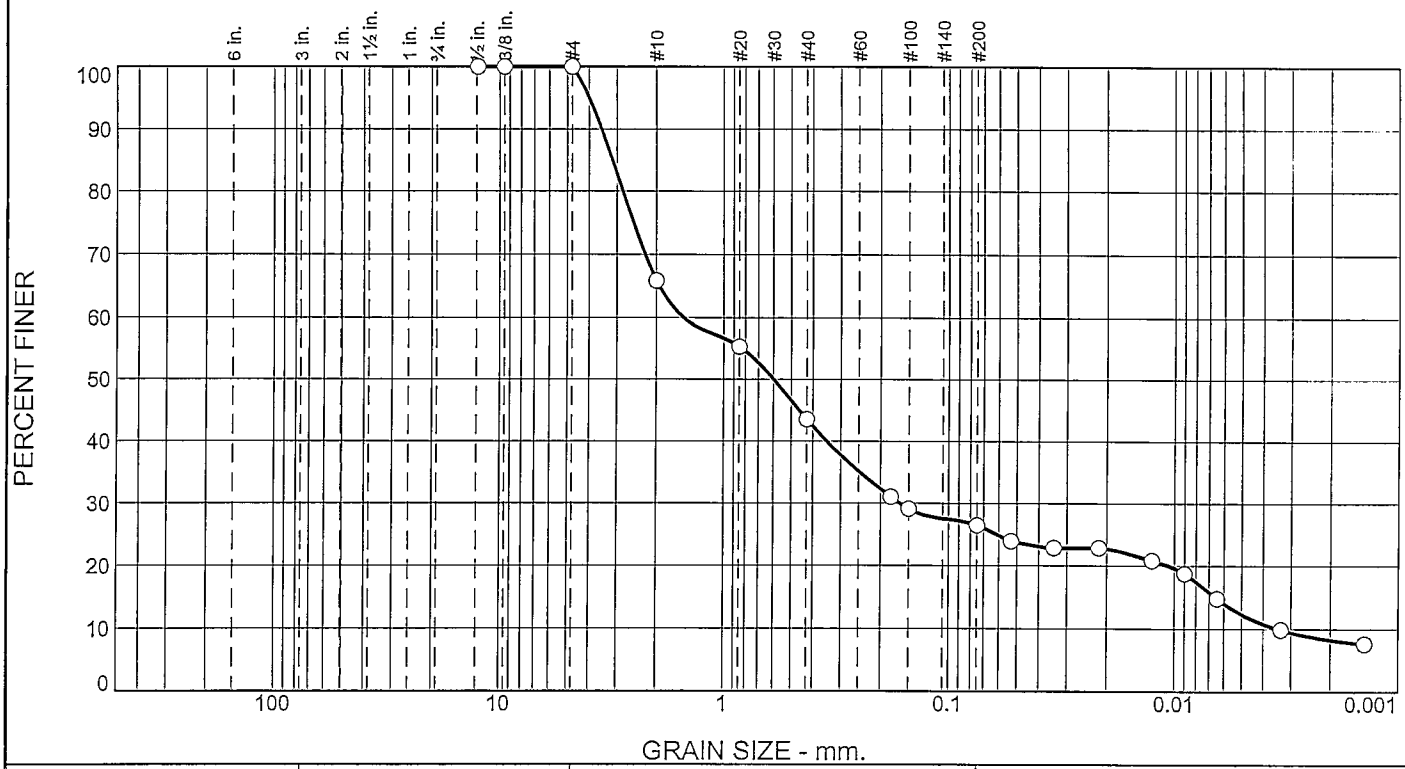
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	34.1	22.4	17.0	73.5	14.2	12.3	26.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0034	0.0066	0.0106	0.1646	0.5973	1.5142	2.8207	3.1415	3.5145	3.9884

Fineness Modulus	C_u	C_c
2.53	441.42	5.21

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	34.1	22.4	17.0	14.2	12.3

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	100.0		
2.00 mm	65.9		
0.850 mm	55.3		
0.425 mm	43.5		
0.180 mm	31.0		
0.150 mm	29.1		
0.075 mm	26.5		
0.053 mm	23.9		
0.0343 mm.	22.8		
0.0217 mm.	22.9		
0.0126 mm.	20.8		
0.0090 mm.	18.8		
0.0064 mm.	14.8		
0.0033 mm.	9.9		
0.0014 mm.	7.6		

* (no specification provided)

Material Description

Sample appears to be mostly silt
Moisture content as received =43.093%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 3.5145 D_{85}= 3.1415 D_{60}= 1.5142
D_{50}= 0.5973 D_{30}= 0.1646 D_{15}= 0.0066
D_{10}= 0.0034 C_u= 441.42 C_c= 5.21

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/6/11 **Date Tested:** 12-8-11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SED-R-2 (0.0-0.5) **Depth:** T11L056-02 **Date Sampled:** 12/5/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-03 **Sample Number:** SED-R-3 (0.0-0.5)

Material Description: Sample appears to be mostly clay.
Moisture content as received = 53.714%

Sample Date: 12-5-11

Date Received: 12-6-11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/8/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
145.16	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	2.88	0.00	98.0
		4.75 mm	16.41	0.00	86.7
		2.00 mm	24.44	0.00	69.9
50.13	0.00	0.850 mm	103.83	100.13	64.7
		0.425 mm	108.11	100.13	53.6
		0.180 mm	113.67	100.13	34.7
		0.150 mm	103.24	100.13	30.4
		0.075 mm	106.78	100.13	21.1
		0.053 mm	101.89	100.13	18.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =69.9
Weight of hydrometer sample =50.13
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.5	1.0120	1.0079	0.0137	11.0	13.4	0.0355	17.7
5.00	19.5	1.0120	1.0079	0.0137	11.0	13.4	0.0225	17.7
15.00	19.8	1.0110	1.0069	0.0137	10.0	13.6	0.0130	15.6
30.00	20.0	1.0100	1.0060	0.0136	9.0	13.9	0.0093	13.4
60.00	19.6	1.0090	1.0049	0.0137	8.0	14.2	0.0067	11.0
250.00	19.2	1.0080	1.0039	0.0138	7.0	14.4	0.0033	8.7
1440.00	19.1	1.0060	1.0019	0.0138	5.0	15.0	0.0014	4.2

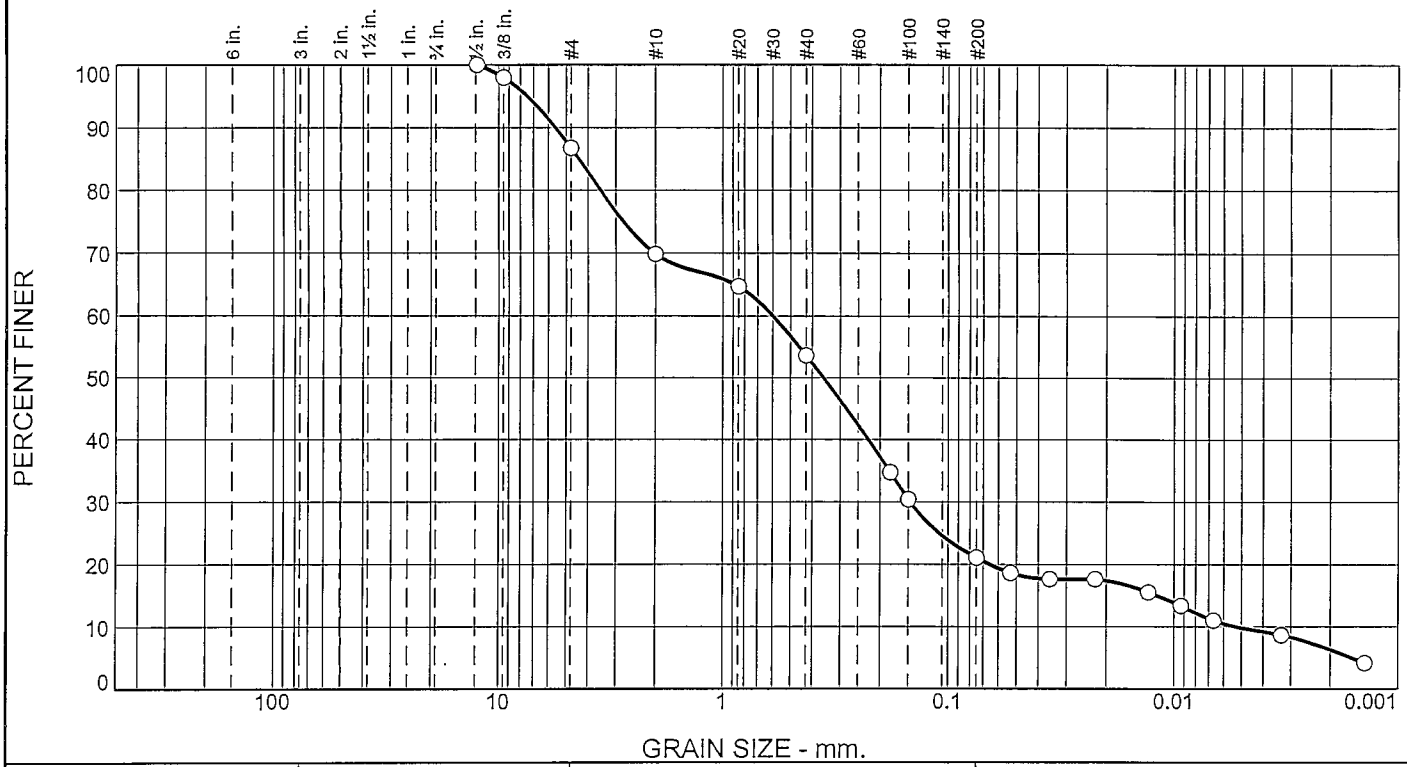
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	13.3	13.3	16.8	16.3	32.5	65.6	11.3	9.8	21.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0053	0.0119	0.0653	0.1473	0.3562	0.5979	3.5065	4.3902	5.5753	7.4339

Fineness Modulus	C_u	C_c
2.40	112.37	6.82

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	13.3	16.8	16.3	32.5	11.3	9.8

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	98.0		
4.75 mm	86.7		
2.00 mm	69.9		
0.850 mm	64.7		
0.425 mm	53.6		
0.180 mm	34.7		
0.150 mm	30.4		
0.075 mm	21.1		
0.053 mm	18.7		
0.0355 mm.	17.7		
0.0225 mm.	17.7		
0.0130 mm.	15.6		
0.0093 mm.	13.4		
0.0067 mm.	11.0		
0.0033 mm.	8.7		
0.0014 mm.	4.2		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 53.714%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 5.5753 D_{85}= 4.3902 D_{60}= 0.5979
D_{50}= 0.3562 D_{30}= 0.1473 D_{15}= 0.0119
D_{10}= 0.0053 C_u= 112.37 C_c= 6.82

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12-6-11 **Date Tested:** 12/8/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SED-R-3 (0.0-0.5) **Depth:** T11L056-03 **Date Sampled:** 12-5-11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-04 **Sample Number:** SED-R-4 (0.0-0.5)

Material Description: Sample appears to be mostly sand.
Moisture content as received = 34.709%

Sample Date: 12/5/11

Date Received: 12/6/11

USCS Classification: SP

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/8/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
269.57	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	6.17	0.00	97.7
		2.00 mm	20.45	0.00	90.1
100.45	0.00	0.850 mm	121.68	100.10	70.8
		0.425 mm	141.43	100.10	33.7
		0.180 mm	130.90	100.10	6.0
		0.150 mm	101.87	100.10	4.5
		0.075 mm	101.91	100.10	2.8
		0.053 mm	100.45	100.10	2.5

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =90.1
Weight of hydrometer sample =100.45
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.0	1.0060	1.0018	0.0138	5.0	15.0	0.0378	2.7
5.00	19.1	1.0060	1.0019	0.0138	5.0	15.0	0.0239	2.7
15.00	19.4	1.0060	1.0019	0.0137	5.0	15.0	0.0137	2.7
30.00	19.8	1.0050	1.0009	0.0137	4.0	15.2	0.0097	1.4
60.00	19.9	1.0050	1.0010	0.0137	4.0	15.2	0.0069	1.4
250.00	19.5	1.0050	1.0009	0.0137	4.0	15.2	0.0034	1.3
1440.00	19.1	1.0050	1.0009	0.0138	4.0	15.2	0.0014	1.2

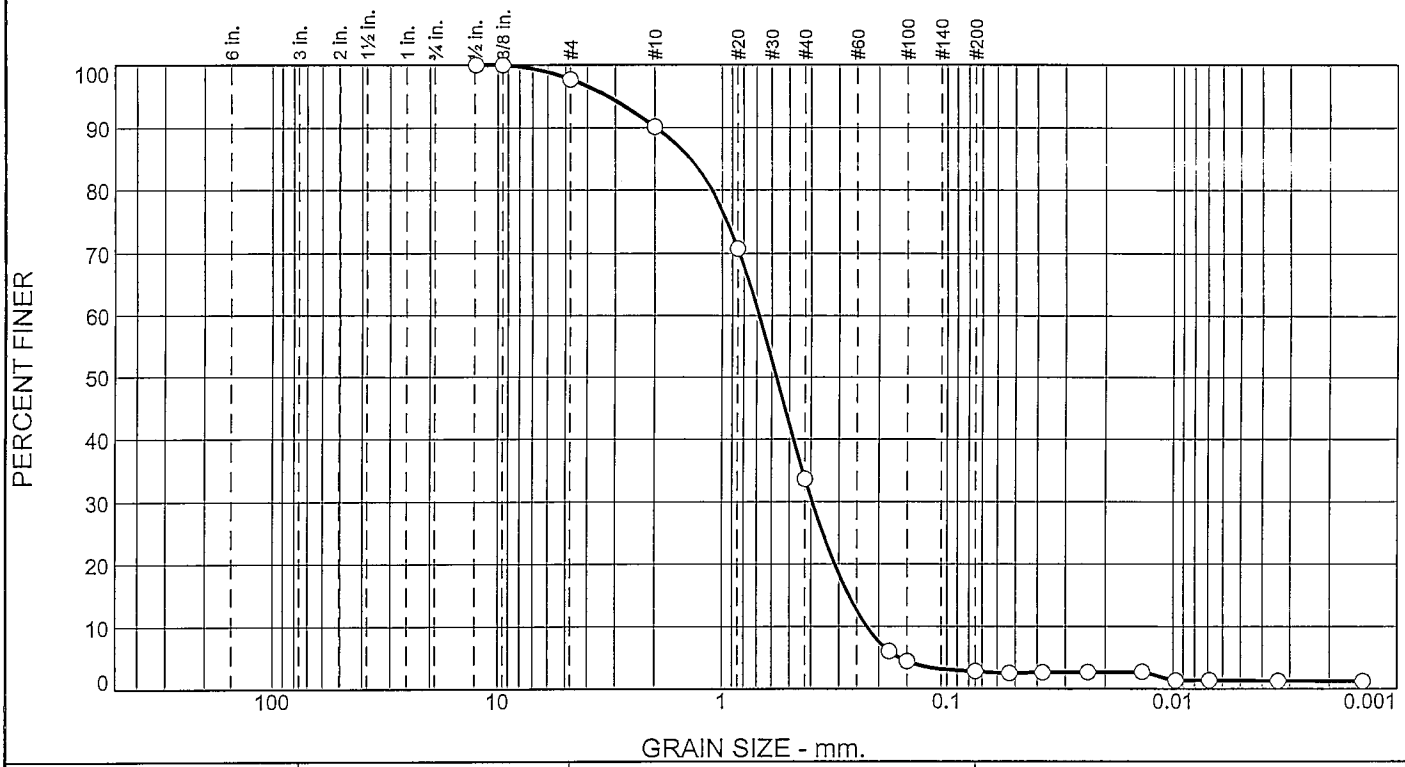
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.3	2.3	7.6	56.4	30.9	94.9	1.5	1.3	2.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2254	0.2710	0.3130	0.3947	0.5705	0.6822	1.1103	1.3874	1.9782	3.2599

Fineness Modulus	C_u	C_c
2.53	3.03	1.01

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.3	7.6	56.4	30.9	1.5	1.3

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	97.7		
2.00 mm	90.1		
0.850 mm	70.8		
0.425 mm	33.7		
0.180 mm	6.0		
0.150 mm	4.5		
0.075 mm	2.8		
0.053 mm	2.5		
0.0378 mm.	2.7		
0.0239 mm.	2.7		
0.0137 mm.	2.7		
0.0097 mm.	1.4		
0.0069 mm.	1.4		
0.0034 mm.	1.3		
0.0014 mm.	1.2		

* (no specification provided)

Material Description

Sample appears to be mostly sand.
Moisture content as received = 34.709%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= SP AASHTO (M 145)=

Coefficients

D_{90}= 1.9782 D_{85}= 1.3874 D_{60}= 0.6822
D_{50}= 0.5705 D_{30}= 0.3947 D_{15}= 0.2710
D_{10}= 0.2254 C_u= 3.03 C_c= 1.01

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/6/11 **Date Tested:** 12/8/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SED-R-4 (0.0-0.5) **Depth:** T11L056-04 **Date Sampled:** 12/5/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-06 **Sample Number:** SED-R-6 (0.0-0.5)
Material Description: Sample appears to be mostly sand.
Moisture content as received = 12.967%
Sample Date: 12/6/11
Date Received: 12/7/11
USCS Classification: SW
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/9/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
283.65	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	83.82	0.00	70.4
		2.00 mm	96.94	0.00	36.3
100.26	0.00	0.850 mm	133.66	100.09	24.1
		0.425 mm	141.60	100.09	9.1
		0.180 mm	120.70	100.09	1.7
		0.150 mm	100.90	100.09	1.4
		0.075 mm	101.05	100.09	1.0
		0.053 mm	100.26	100.09	1.0

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =36.3
Weight of hydrometer sample =100.26
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.4	1.0050	1.0009	0.0137	4.0	15.2	0.0379	0.5
5.00	19.5	1.0050	1.0009	0.0137	4.0	15.2	0.0240	0.5
15.00	19.6	1.0050	1.0009	0.0137	4.0	15.2	0.0138	0.5
30.00	19.9	1.0050	1.0010	0.0137	4.0	15.2	0.0097	0.6
60.00	20.1	1.0050	1.0010	0.0136	4.0	15.2	0.0069	0.6
250.00	19.0	1.0050	1.0008	0.0138	4.0	15.2	0.0034	0.5
1440.00	19.1	1.0050	1.0009	0.0138	4.0	15.2	0.0014	0.5

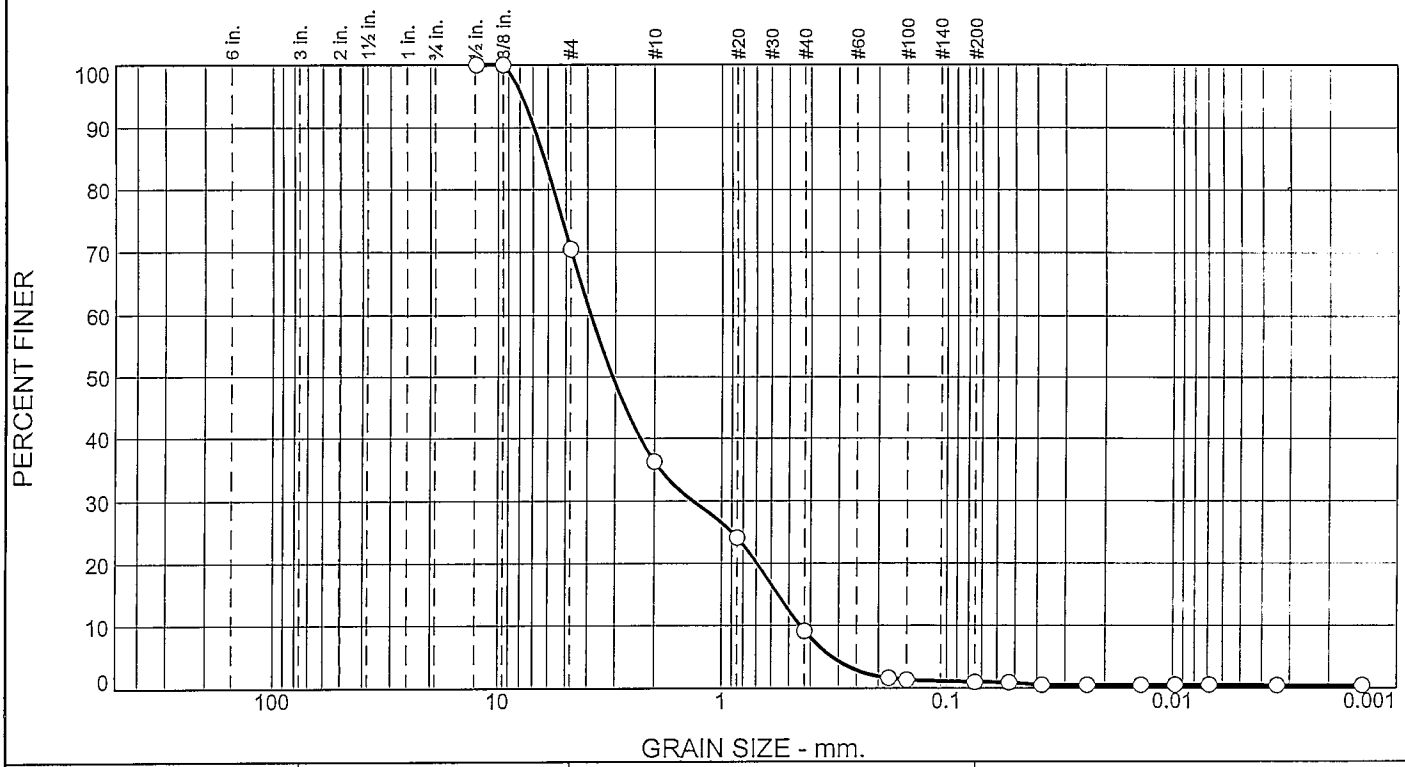
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	29.6	29.6	34.1	27.2	8.1	69.4	0.5	0.5	1.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.4452	0.5585	0.6926	1.3459	3.0789	3.8630	5.6656	6.2297	6.9043	7.7950

Fineness Modulus	C_u	C_c
4.38	8.68	1.05

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	29.6	34.1	27.2	8.1	0.5	0.5

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	70.4		
2.00 mm	36.3		
0.850 mm	24.1		
0.425 mm	9.1		
0.180 mm	1.7		
0.150 mm	1.4		
0.075 mm	1.0		
0.053 mm	1.0		
0.0379 mm.	0.5		
0.0240 mm.	0.5		
0.0138 mm.	0.5		
0.0097 mm.	0.6		
0.0069 mm.	0.6		
0.0034 mm.	0.5		
0.0014 mm.	0.5		

* (no specification provided)

Material Description

Sample appears to be mostly sand.
Moisture content as received = 12.967%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= SW AASHTO (M 145)=

Coefficients

D_{90}= 6.9043 D_{85}= 6.2297 D_{60}= 3.8630
D_{50}= 3.0789 D_{30}= 1.3459 D_{15}= 0.5585
D_{10}= 0.4452 C_u= 8.68 C_c= 1.05

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/7/11 **Date Tested:** 12/9/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SED-R-6 (0.0-0.5) **Depth:** T11L056-06 **Date Sampled:** 12/6/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-07 **Sample Number:** SED-D-3 (0.0-0.5)

Material Description: Sample appears to be mostly clay.
Moisture content as received = 26.451%

Sample Date: 12/6/11

Date Received: 12/7/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/9/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
138.51	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	126.14	100.11	81.2
		2.00 mm	114.23	100.11	71.0
50.17	0.00	0.850 mm	109.33	100.11	58.0
		0.425 mm	107.62	100.11	47.3
		0.180 mm	108.90	100.11	34.9
		0.150 mm	101.90	100.11	32.4
		0.075 mm	104.45	100.11	26.2
		0.053 mm	101.53	100.11	24.2

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =71.0
Weight of hydrometer sample =50.17
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.8	1.0140	1.0099	0.0137	13.0	12.9	0.0347	22.6
5.00	19.8	1.0140	1.0099	0.0137	13.0	12.9	0.0219	22.6
15.00	20.0	1.0130	1.0090	0.0136	12.0	13.1	0.0128	20.4
30.00	20.2	1.0120	1.0080	0.0136	11.0	13.4	0.0091	18.2
60.00	20.5	1.0100	1.0060	0.0136	9.0	13.9	0.0065	13.7
250.00	19.6	1.0100	1.0059	0.0137	9.0	13.9	0.0032	13.5
1440.00	18.9	1.0080	1.0038	0.0138	7.0	14.4	0.0014	8.7

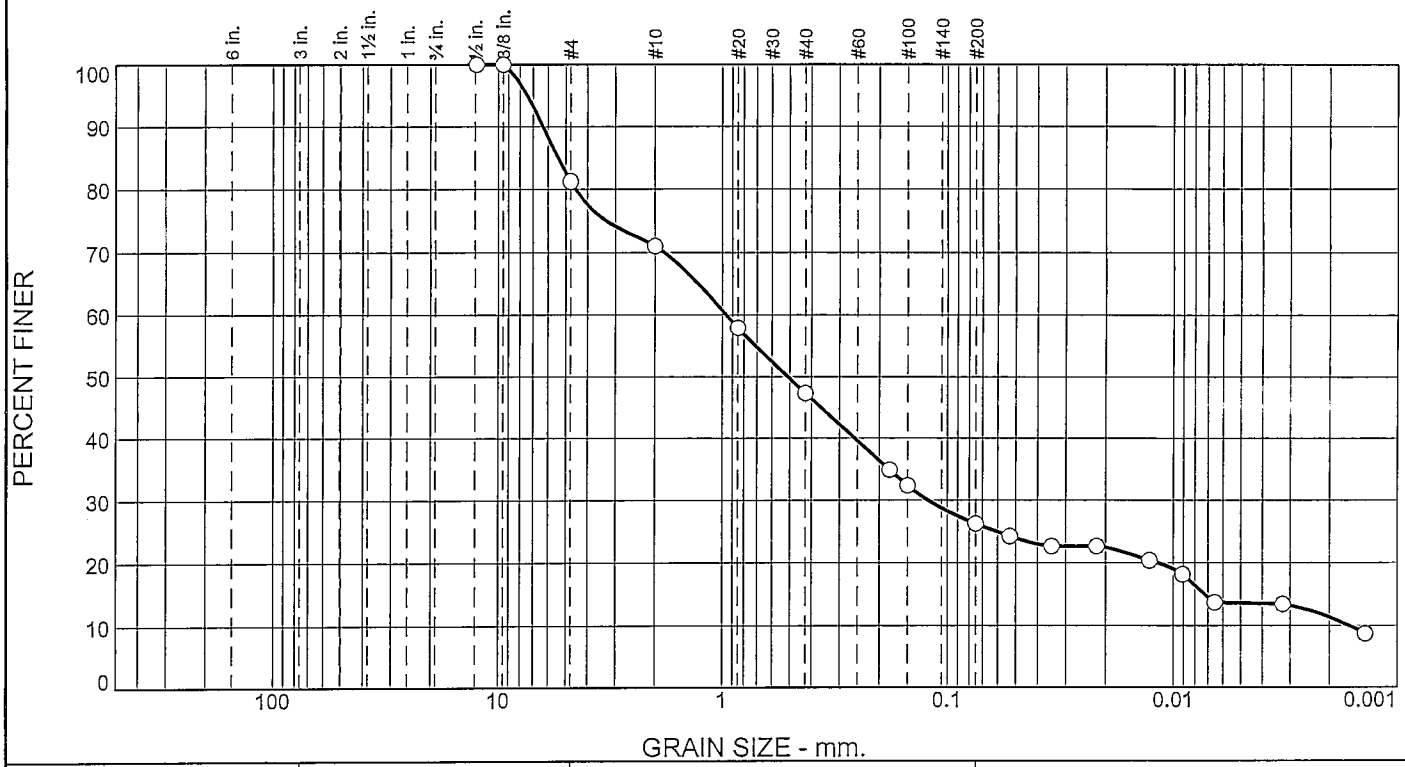
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	18.8	18.8	10.2	23.7	21.1	55.0	12.6	13.6	26.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0016	0.0072	0.0117	0.1220	0.5098	0.9581	4.5186	5.4183	6.3179	7.4189

Fineness Modulus	C_u	C_c
2.56	587.51	9.52

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	18.8	10.2	23.7	21.1	12.6	13.6

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	81.2		
2.00 mm	71.0		
0.850 mm	58.0		
0.425 mm	47.3		
0.180 mm	34.9		
0.150 mm	32.4		
0.075 mm	26.2		
0.053 mm	24.2		
0.0347 mm.	22.6		
0.0219 mm.	22.6		
0.0128 mm.	20.4		
0.0091 mm.	18.2		
0.0065 mm.	13.7		
0.0032 mm.	13.5		
0.0014 mm.	8.7		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 26.451%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 6.3179 D_{85}= 5.4183 D_{60}= 0.9581
D_{50}= 0.5098 D_{30}= 0.1220 D_{15}= 0.0072
D_{10}= 0.0016 C_u= 587.51 C_c= 9.52

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/7/11 **Date Tested:** 12/9/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SED-D-3 (0.0-0.5) **Depth:** T11L056-07 **Date Sampled:** 12/6/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-08 **Sample Number:** SED-D-1 (0.0-0.5)

Material Description: Sample appears to be mostly clay.
Moisture content as received = 21.389%

Sample Date: 12/6/11

Date Received: 12/7/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/9/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
229.18	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	47.09	0.00	79.5
		4.75 mm	25.87	0.00	68.2
		2.00 mm	35.81	0.00	52.5
50.91	0.00	0.850 mm	115.66	100.09	36.5
		0.425 mm	111.70	100.09	24.5
		0.180 mm	108.24	100.09	16.1
		0.150 mm	101.29	100.09	14.8
		0.075 mm	103.17	100.09	11.7
		0.053 mm	100.90	100.09	10.8

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =52.5
Weight of hydrometer sample =50.91
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.8	1.0100	1.0059	0.0137	9.0	13.9	0.0361	9.9
5.00	19.8	1.0100	1.0059	0.0137	9.0	13.9	0.0228	9.9
15.00	19.9	1.0090	1.0050	0.0137	8.0	14.2	0.0133	8.2
30.00	20.3	1.0080	1.0040	0.0136	7.0	14.4	0.0094	6.7
60.00	20.4	1.0070	1.0030	0.0136	6.0	14.7	0.0067	5.0
250.00	18.8	1.0070	1.0028	0.0139	6.0	14.7	0.0034	4.7
1440.00	18.9	1.0070	1.0028	0.0138	6.0	14.7	0.0014	4.7

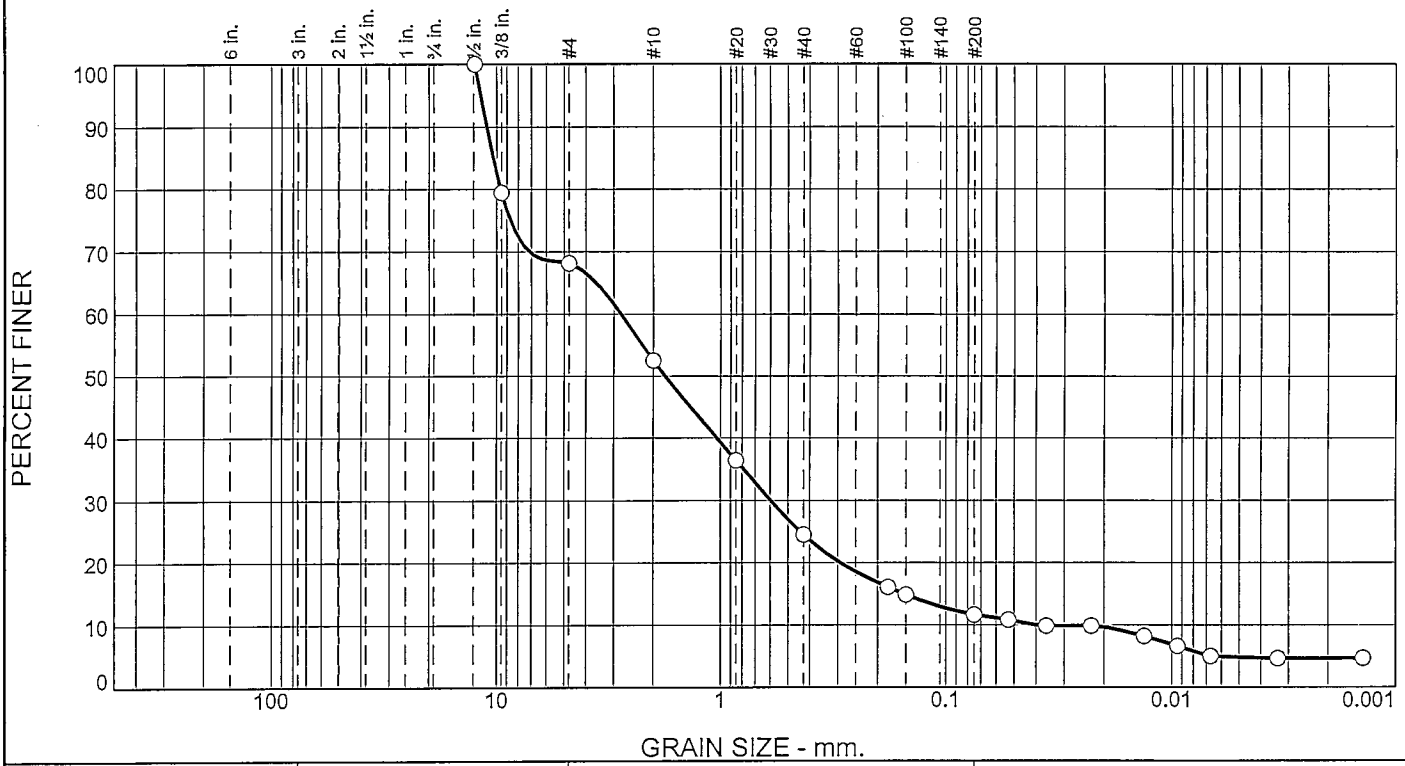
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	31.8	31.8	15.7	28.0	12.8	56.5	6.9	4.8	11.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0393	0.1537	0.2913	0.5959	1.7734	2.7833	9.5908	10.3560	11.0686	11.7742

Fineness Modulus	C_u	C_c
3.88	70.79	3.24

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	31.8	15.7	28.0	12.8	6.9	4.8

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	79.5		
4.75 mm	68.2		
2.00 mm	52.5		
0.850 mm	36.5		
0.425 mm	24.5		
0.180 mm	16.1		
0.150 mm	14.8		
0.075 mm	11.7		
0.053 mm	10.8		
0.0361 mm.	9.9		
0.0228 mm.	9.9		
0.0133 mm.	8.2		
0.0094 mm.	6.7		
0.0067 mm.	5.0		
0.0034 mm.	4.7		
0.0014 mm.	4.7		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 21.389%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 11.0686 D_{85}= 10.3560 D_{60}= 2.7833
D_{50}= 1.7734 D_{30}= 0.5959 D_{15}= 0.1537
D_{10}= 0.0393 C_u= 70.79 C_c= 3.24

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/7/11 **Date Tested:** 12/9/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SED-D-1 (0.0-0.5) **Depth:** T11L056-08 **Date Sampled:** 12/6/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-09 **Sample Number:** SED-D-2 (0.0-0.5)

Material Description: Sample appears to be mostly clay.
Moisture content as received = 45.481%

Sample Date: 12/6/11

Date Received: 12/7/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/9/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
177.78	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	112.58	100.09	93.0
		4.75 mm	113.27	100.09	85.6
		2.00 mm	130.51	100.09	68.4
50.41	0.00	0.850 mm	104.30	100.09	62.7
		0.425 mm	106.14	100.09	54.5
		0.180 mm	108.32	100.09	43.3
		0.150 mm	100.68	100.09	42.5
		0.075 mm	103.27	100.09	38.2
		0.053 mm	101.14	100.09	36.8

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =68.4
Weight of hydrometer sample =50.41
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.6	1.0200	1.0158	0.0139	19.0	11.3	0.0330	34.4
5.00	18.7	1.0200	1.0158	0.0139	19.0	11.3	0.0208	34.5
15.00	18.9	1.0170	1.0128	0.0138	16.0	12.1	0.0124	28.0
30.00	19.4	1.0160	1.0119	0.0137	15.0	12.3	0.0088	25.9
60.00	19.9	1.0140	1.0100	0.0137	13.0	12.9	0.0063	21.7
250.00	19.8	1.0120	1.0079	0.0137	11.0	13.4	0.0032	17.3
1440.00	18.7	1.0100	1.0058	0.0139	9.0	13.9	0.0014	12.7

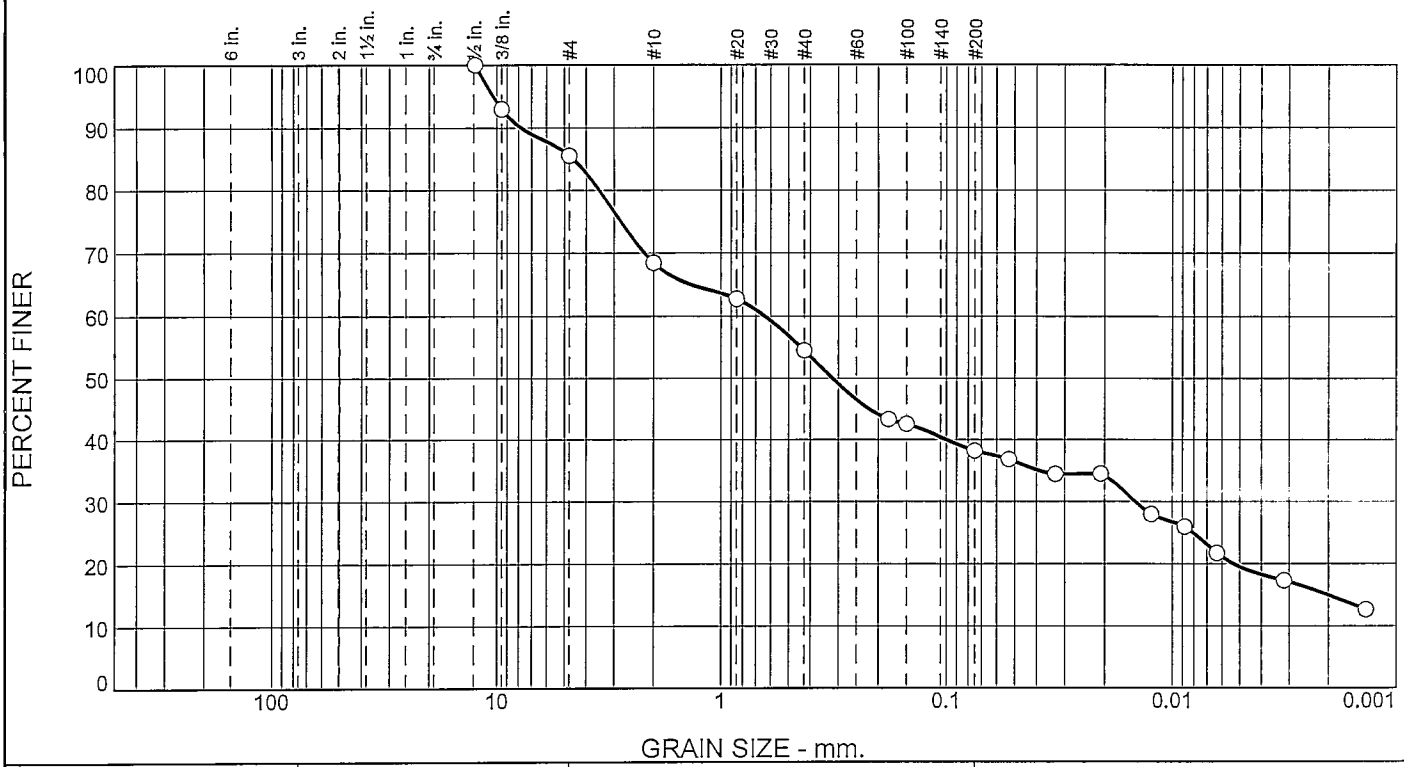
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	14.4	14.4	17.2	13.9	16.3	47.4	18.7	19.5	38.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0020	0.0053	0.0146	0.3188	0.6333	3.4990	4.5643	7.7794	10.3965

Fineness Modulus
2.35

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	14.4	17.2	13.9	16.3	18.7	19.5

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	93.0		
4.75 mm	85.6		
2.00 mm	68.4		
0.850 mm	62.7		
0.425 mm	54.5		
0.180 mm	43.3		
0.150 mm	42.5		
0.075 mm	38.2		
0.053 mm	36.8		
0.0330 mm.	34.4		
0.0208 mm.	34.5		
0.0124 mm.	28.0		
0.0088 mm.	25.9		
0.0063 mm.	21.7		
0.0032 mm.	17.3		
0.0014 mm.	12.7		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 45.481%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 7.7794 D_{85}= 4.5643 D_{60}= 0.6333
D_{50}= 0.3188 D_{30}= 0.0146 D_{15}= 0.0020
D_{10}= C_u= C_c=

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/7/11 **Date Tested:** 12/9/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SED-D-2 (0.0-0.5) **Depth:** T11L056-09 **Date Sampled:** 12/6/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-10
Sample Number: SED-D-4 (0.0-0.5)
Material Description: Sample appears to be mostly clay.
Moisture content as received = 46.644%
Sample Date: 12/6/11
Date Received: 12/7/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as
Test Date: 12/9/11
Checked By: jm
Title: project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
178.57	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	17.46	0.00	90.2
		4.75 mm	26.16	0.00	75.6
		2.00 mm	30.87	0.00	58.3
50.90	0.00	0.850 mm	108.55	100.09	48.6
		0.425 mm	109.87	100.09	37.4
		0.180 mm	109.63	100.09	26.5
		0.150 mm	101.75	100.09	24.6
		0.075 mm	104.37	100.09	19.7
		0.053 mm	101.47	100.09	18.1

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =58.3
Weight of hydrometer sample =50.9
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.7	1.0140	1.0098	0.0139	13.0	12.9	0.0352	18.0
5.00	18.8	1.0140	1.0098	0.0139	13.0	12.9	0.0222	18.1
15.00	18.8	1.0110	1.0068	0.0139	10.0	13.6	0.0132	12.5
30.00	19.4	1.0100	1.0059	0.0137	9.0	13.9	0.0094	10.8
60.00	19.9	1.0080	1.0040	0.0137	7.0	14.4	0.0067	7.3
250.00	19.8	1.0070	1.0029	0.0137	6.0	14.7	0.0033	5.4
1440.00	19.7	1.0060	1.0019	0.0137	5.0	15.0	0.0014	3.6

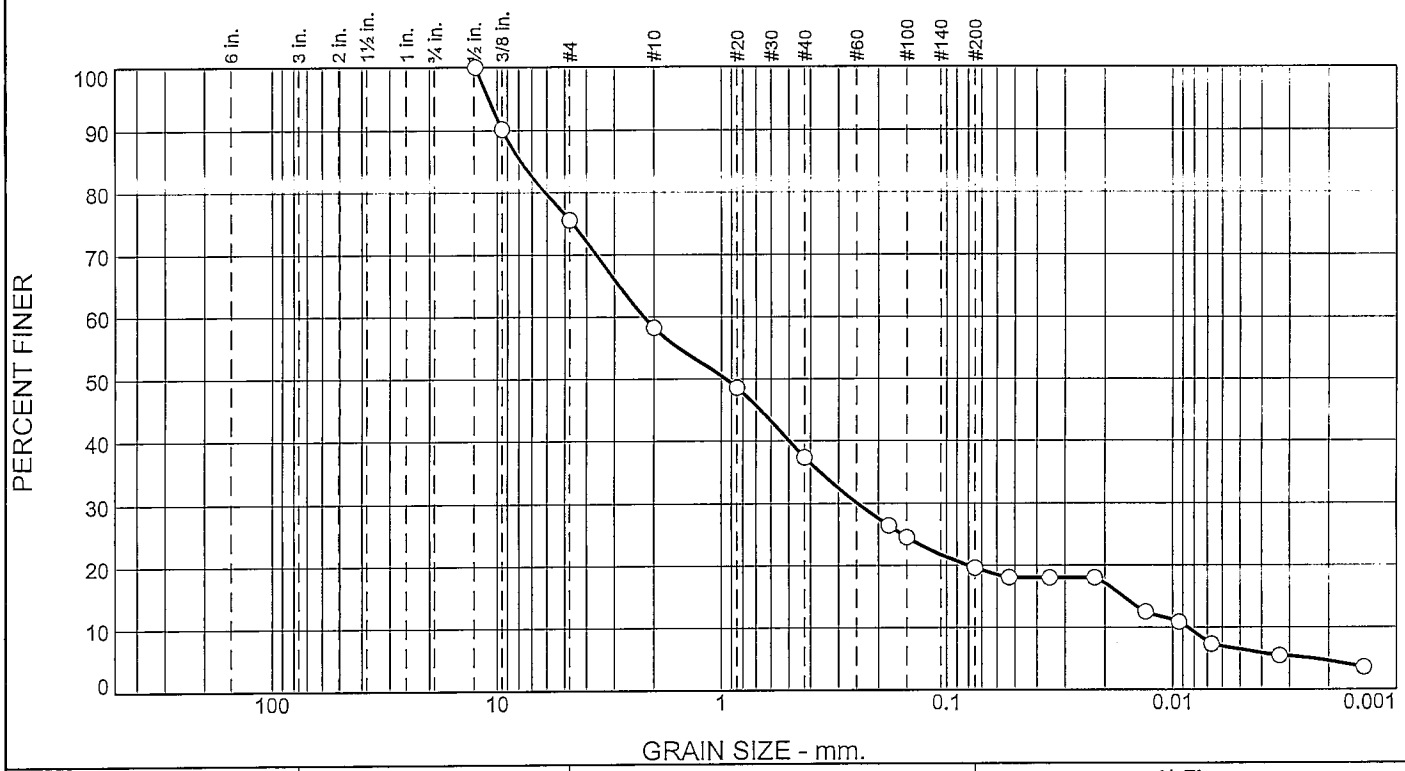
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	24.4	24.4	17.3	20.9	17.7	55.9	13.2	6.5	19.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0085	0.0166	0.0795	0.2464	0.9534	2.2179	6.0794	7.8107	9.4317	10.9354

Fineness Modulus	C_u	C_c
3.21	259.52	3.20

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	24.4	17.3	20.9	17.7	13.2	6.5

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	90.2		
4.75 mm	75.6		
2.00 mm	58.3		
0.850 mm	48.6		
0.425 mm	37.4		
0.180 mm	26.5		
0.150 mm	24.6		
0.075 mm	19.7		
0.053 mm	18.1		
0.0352 mm.	18.0		
0.0222 mm.	18.1		
0.0132 mm.	12.5		
0.0094 mm.	10.8		
0.0067 mm.	7.3		
0.0033 mm.	5.4		
0.0014 mm.	3.6		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 46.644%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 9.4317 D_{85}= 7.8107 D_{60}= 2.2179
D_{50}= 0.9534 D_{30}= 0.2464 D_{15}= 0.0166
D_{10}= 0.0085 C_u= 259.52 C_c= 3.20

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/7/11 **Date Tested:** 12/9/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SED-D-4 (0.0-0.5) **Depth:** T11L056-10 **Date Sampled:** 12/6/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-22 **Sample Number:** SED-DRC-02 (0.0-0.5)
Material Description: Sample appears to be mostly claY
Moisture content as received = 54.897%
Sample Date: 12/8/11
Date Received: 12/9/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/12/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
140.13	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	132.25	101.11	77.8
		4.75 mm	108.46	101.11	72.5
		2.00 mm	114.29	101.11	63.1
50.12	0.00	0.850 mm	107.65	101.11	54.9
		0.425 mm	110.54	101.11	43.0
		0.180 mm	112.82	101.11	28.3
		0.150 mm	101.92	101.11	27.2
		0.075 mm	103.82	101.11	23.8
		0.053 mm	101.11	101.11	23.8

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =63.1
Weight of hydrometer sample =50.12
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	20.3	1.0120	1.0080	0.0136	11.0	13.4	0.0352	16.2
5.00	20.3	1.0110	1.0070	0.0136	10.0	13.6	0.0225	14.2
15.00	20.5	1.0110	1.0070	0.0136	10.0	13.6	0.0129	14.2
30.00	20.7	1.0090	1.0051	0.0135	8.0	14.2	0.0093	10.2
60.00	20.3	1.0090	1.0050	0.0136	8.0	14.2	0.0066	10.1
250.00	19.0	1.0070	1.0028	0.0138	6.0	14.7	0.0034	5.8
1440.00	18.3	1.0000	0.9958	0.0139	-1.0	16.6	0.0015	-8.6

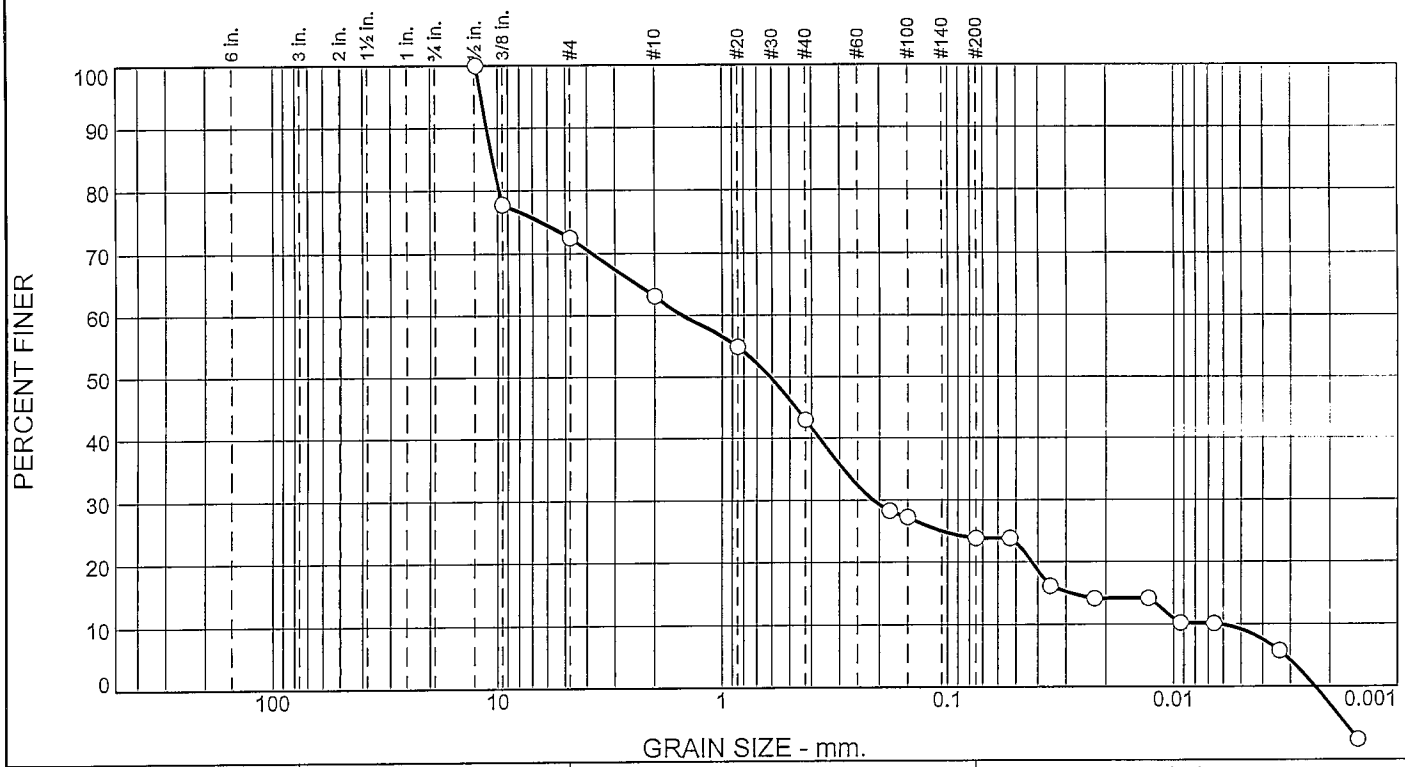
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	27.5	27.5	9.4	20.1	19.2	48.7	14.6	9.2	23.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0061	0.0283	0.0425	0.2132	0.6105	1.5047	9.8456	10.5425	11.1945	11.8393

Fineness Modulus	C_u	C_c
3.14	245.50	4.93

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	27.5	9.4	20.1	19.2	14.6	9.2

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	77.8		
4.75 mm	72.5		
2.00 mm	63.1		
0.850 mm	54.9		
0.425 mm	43.0		
0.180 mm	28.3		
0.150 mm	27.2		
0.075 mm	23.8		
0.053 mm	23.8		
0.0352 mm.	16.2		
0.0225 mm.	14.2		
0.0129 mm.	14.2		
0.0093 mm.	10.2		
0.0066 mm.	10.1		
0.0034 mm.	5.8		
0.0015 mm.			

* (no specification provided)

Material Description

Sample appears to be mostly claY
Moisture content as received = 54.897%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 11.1945 D_{85}= 10.5425 D_{60}= 1.5047
D_{50}= 0.6105 D_{30}= 0.2132 D_{15}= 0.0283
D_{10}= 0.0061 C_u= 245.50 C_c= 4.93

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/12/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SED-DRC-02 (0.0-0.5) **Depth:** T11L056-22 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-24 **Sample Number:** SED-D-5 (0.0-0.5)

Material Description: Sample appears to be mostly silt.
Moisture content as received = 76.580%

Sample Date: 12/8/11

Date Received: 12/9/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/12/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
50.35	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	0.00	0.00	100.0
		2.00 mm	101.22	100.11	97.8
		0.850 mm	108.93	100.11	80.3
		0.425 mm	110.07	100.11	60.5
		0.180 mm	107.22	100.11	46.4
		0.150 mm	101.17	100.11	44.3
		0.075 mm	102.63	100.11	39.3
		0.053 mm	100.67	100.11	38.2

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =97.8
Weight of hydrometer sample =50.35
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	17.8	1.0150	1.0107	0.0140	14.0	12.6	0.0352	33.4
5.00	18.0	1.0120	1.0077	0.0140	11.0	13.4	0.0229	24.1
15.00	18.6	1.0100	1.0058	0.0139	9.0	13.9	0.0134	18.1
30.00	18.7	1.0080	1.0038	0.0139	7.0	14.4	0.0096	11.9
60.00	19.5	1.0070	1.0029	0.0137	6.0	14.7	0.0068	9.1
250.00	18.5	1.0060	1.0018	0.0139	5.0	15.0	0.0034	5.6
1440.00	18.1	1.0060	1.0017	0.0140	5.0	15.0	0.0014	5.4

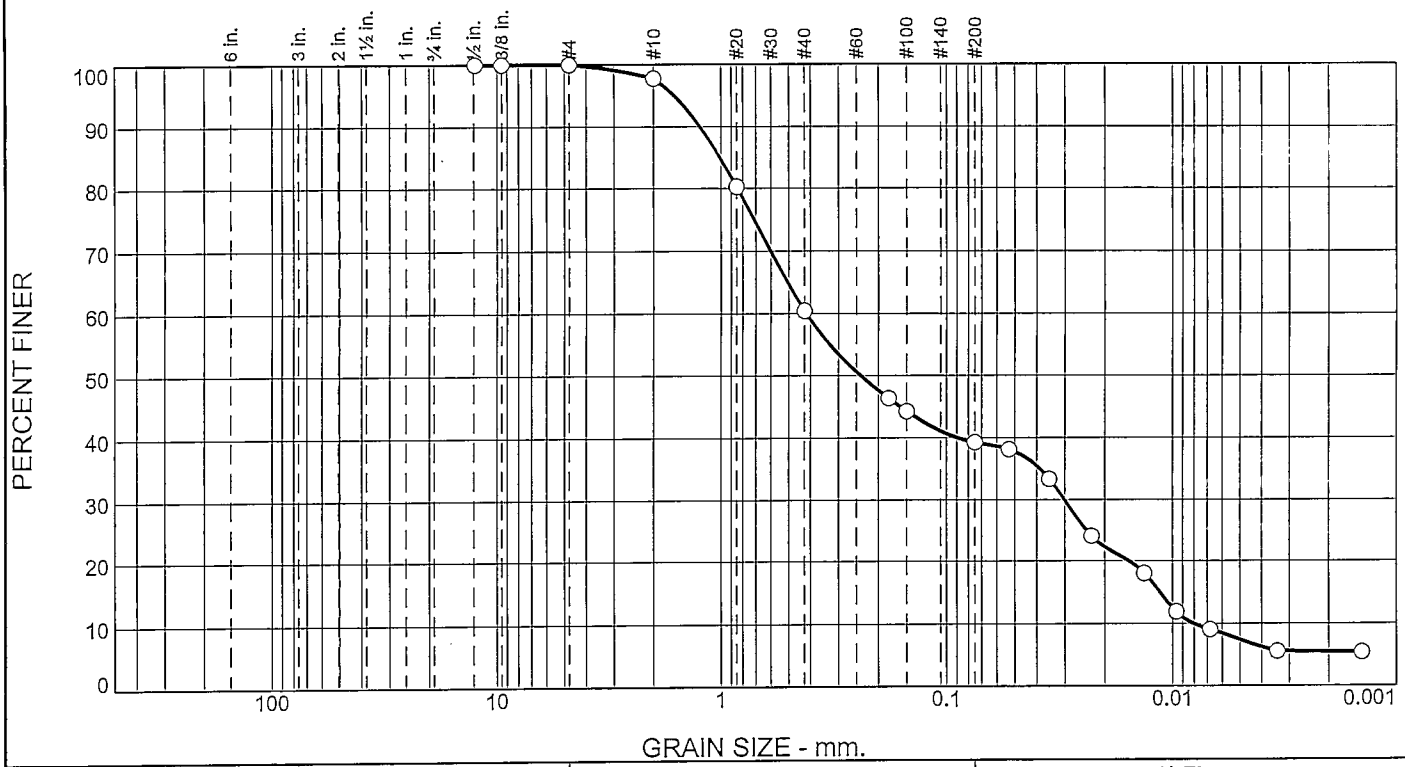
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	2.2	37.3	21.2	60.7	31.9	7.4	39.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0080	0.0114	0.0156	0.0302	0.2392	0.4163	0.8417	1.0115	1.2465	1.6197

Fineness Modulus	C_u	C_c
1.45	51.76	0.27

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	2.2	37.3	21.2	31.9	7.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	100.0		
2.00 mm	97.8		
0.850 mm	80.3		
0.425 mm	60.5		
0.180 mm	46.4		
0.150 mm	44.3		
0.075 mm	39.3		
0.053 mm	38.2		
0.0352 mm.	33.4		
0.0229 mm.	24.1		
0.0134 mm.	18.1		
0.0096 mm.	11.9		
0.0068 mm.	9.1		
0.0034 mm.	5.6		
0.0014 mm.	5.4		

* (no specification provided)

Material Description

Sample appears to be mostly silt.
Moisture content as received = 76.580%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 1.2465 D_{85}= 1.0115 D_{60}= 0.4163
D_{50}= 0.2392 D_{30}= 0.0302 D_{15}= 0.0114
D_{10}= 0.0080 C_u= 51.76 C_c= 0.27

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/12/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SED-D-5 (0.0-0.5) **Depth:** T11L056-24 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-26 **Sample Number:** SB-5 (5.0-5.5)

Material Description: Sample appears to be mostly clay.

Moisture content as received = 15.347 %

Sample Date: 12/8/11

Date Received: 12/9/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/12/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
192.31	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	127.26	100.11	85.9
		4.75 mm	127.76	100.11	71.5
		2.00 mm	135.51	100.11	53.1
50.42	0.00	0.850 mm	111.10	100.11	41.5
		0.425 mm	109.04	100.11	32.1
		0.180 mm	108.98	100.11	22.8
		0.150 mm	101.63	100.11	21.2
		0.075 mm	104.09	100.11	17.0
		0.053 mm	101.01	100.11	16.0

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =53.1
Weight of hydrometer sample =50.42
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	17.5	1.0130	1.0087	0.0141	12.0	13.1	0.0361	14.6
5.00	17.5	1.0120	1.0077	0.0141	11.0	13.4	0.0230	12.9
15.00	17.9	1.0120	1.0077	0.0140	11.0	13.4	0.0132	13.0
30.00	18.0	1.0110	1.0067	0.0140	10.0	13.6	0.0094	11.4
60.00	19.0	1.0100	1.0058	0.0138	9.0	13.9	0.0067	9.9
250.00	19.6	1.0070	1.0029	0.0137	6.0	14.7	0.0033	4.9
1440.00	18.1	1.0060	1.0017	0.0140	5.0	15.0	0.0014	2.9

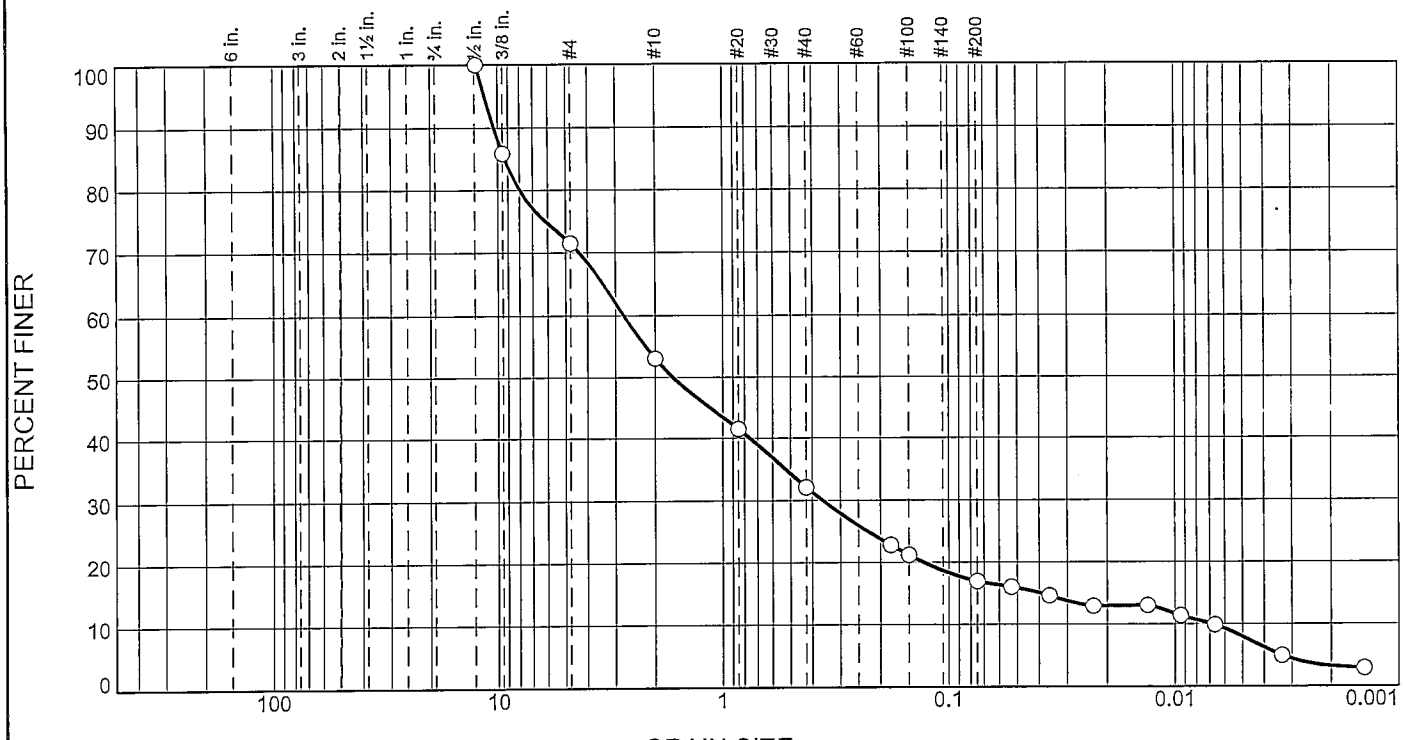
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	28.5	28.5	18.4	21.0	15.1	54.5	9.0	8.0	17.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0068	0.0392	0.1292	0.3590	1.6695	2.7492	7.9646	9.2957	10.3905	11.4284

Fineness Modulus	C_u	C_c
3.55	403.83	6.89

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	28.5	18.4	21.0	15.1	9.0	8.0

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	85.9		
4.75 mm	71.5		
2.00 mm	53.1		
0.850 mm	41.5		
0.425 mm	32.1		
0.180 mm	22.8		
0.150 mm	21.2		
0.075 mm	17.0		
0.053 mm	16.0		
0.0361 mm.	14.6		
0.0230 mm.	12.9		
0.0132 mm.	13.0		
0.0094 mm.	11.4		
0.0067 mm.	9.9		
0.0033 mm.	4.9		
0.0014 mm.	2.9		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 15.347 %

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 10.3905 D_{85}= 9.2957 D_{60}= 2.7492
D_{50}= 1.6695 D_{30}= 0.3590 D_{15}= 0.0392
D_{10}= 0.0068 C_u= 403.83 C_c= 6.89

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/12/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-5 (5.0-5.5) **Depth:** T11L056-26 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: TlIL056-27 **Sample Number:** SB-5 (10.0-10.5)

Material Description: Sample appears to be mostly clay.
Moisture content as received = 30%

Sample Date: 12/8/11

Date Received: 12/9/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/12/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
50.76	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	0.00	0.00	100.0
		2.00 mm	0.00	0.00	100.0
		0.850 mm	100.85	100.11	98.5
		0.425 mm	101.52	100.11	95.8
		0.180 mm	103.30	100.11	89.5
		0.150 mm	100.43	100.11	88.8
		0.075 mm	102.68	100.11	83.8
		0.053 mm	100.55	100.11	82.9

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =100.0
Weight of hydrometer sample =50.76
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.1	1.0300	1.0259	0.0138	29.0	8.6	0.0287	81.8
5.00	19.2	1.0260	1.0219	0.0138	25.0	9.7	0.0192	69.2
15.00	19.4	1.0230	1.0189	0.0137	22.0	10.5	0.0115	59.8
30.00	19.5	1.0210	1.0169	0.0137	20.0	11.0	0.0083	53.5
60.00	19.8	1.0200	1.0159	0.0137	19.0	11.3	0.0059	50.5
250.00	19.0	1.0140	1.0098	0.0138	13.0	12.9	0.0031	31.1
1440.00	19.1	1.0100	1.0059	0.0138	9.0	13.9	0.0014	18.5

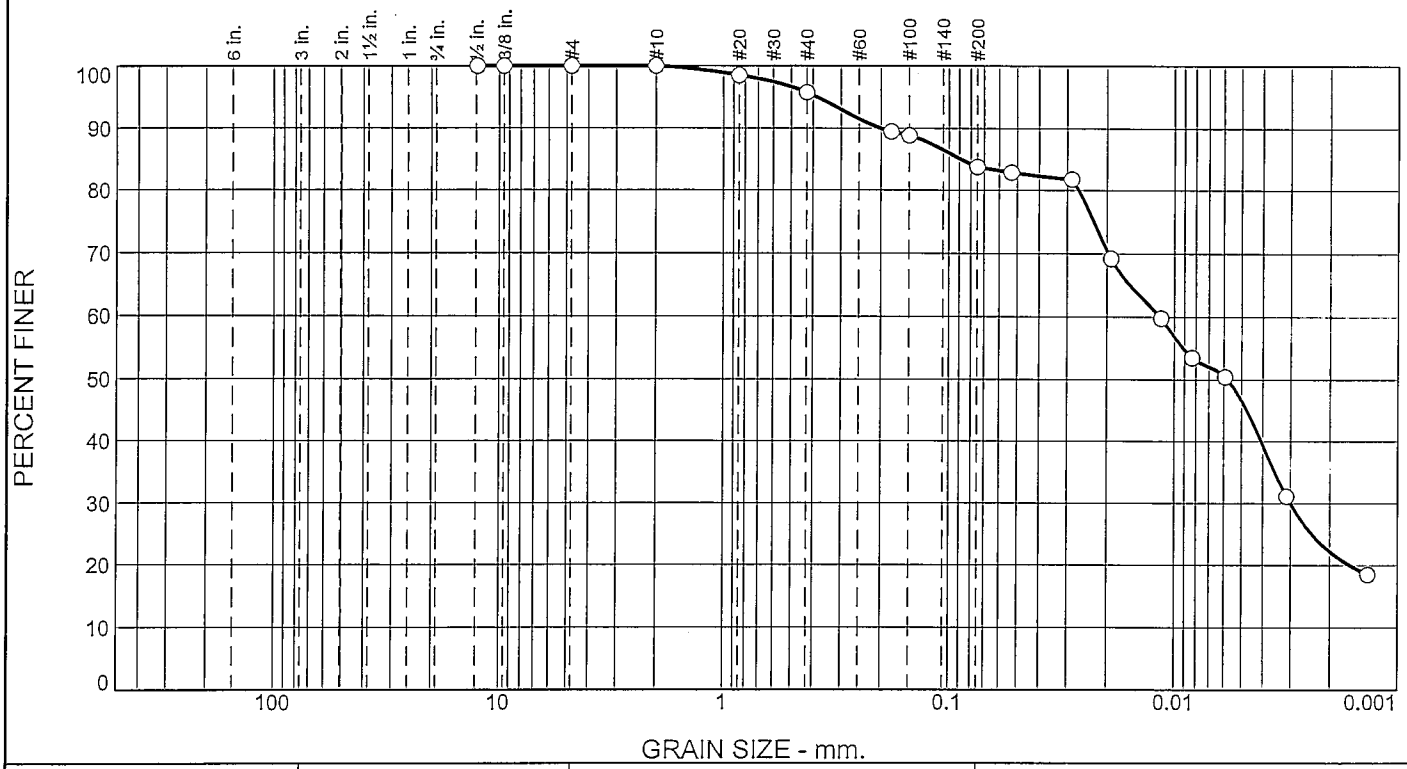
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	4.2	12.0	16.2	37.1	46.7	83.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0016	0.0030	0.0058	0.0116	0.0267	0.0886	0.2007	0.3822

Fineness Modulus
0.21

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.2	12.0	37.1	46.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	100.0		
2.00 mm	100.0		
0.850 mm	98.5		
0.425 mm	95.8		
0.180 mm	89.5		
0.150 mm	88.8		
0.075 mm	83.8		
0.053 mm	82.9		
0.0287 mm.	81.8		
0.0192 mm.	69.2		
0.0115 mm.	59.8		
0.0083 mm.	53.5		
0.0059 mm.	50.5		
0.0031 mm.	31.1		
0.0014 mm.	18.5		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 30%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 0.2007 D_{85}= 0.0886 D_{60}= 0.0116
D_{50}= 0.0058 D_{30}= 0.0030 D_{15}=
D_{10}= C_u= C_c=

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/12/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-5 (10.0-10.5) **Depth:** TlIL056-27 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-28 **Sample Number:** SB-7 (0.5-1.0)

Material Description: Sample appears to be mostly clay.
Moisture content as received = 26.296%

Sample Date: 12/8/11

Date Received: 12/9/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/12/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
175.39	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	24.21	0.00	86.2
		4.75 mm	20.26	0.00	74.6
		2.00 mm	39.55	0.00	52.1
50.50	0.00	0.850 mm	103.83	100.11	48.3
		0.425 mm	104.06	100.11	44.2
		0.180 mm	105.78	100.11	38.3
		0.150 mm	102.10	100.11	36.3
		0.075 mm	102.35	100.11	34.0
		0.053 mm	100.84	100.11	33.2

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =52.1
Weight of hydrometer sample =50.5
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.3	1.0230	1.0188	0.0139	22.0	10.5	0.0319	31.1
5.00	18.4	1.0210	1.0168	0.0139	20.0	11.0	0.0207	27.8
15.00	18.7	1.0190	1.0148	0.0139	18.0	11.5	0.0122	24.5
30.00	19.1	1.0170	1.0129	0.0138	16.0	12.1	0.0088	21.3
60.00	19.6	1.0160	1.0119	0.0137	15.0	12.3	0.0062	19.8
250.00	19.0	1.0140	1.0098	0.0138	13.0	12.9	0.0031	16.3
1440.00	19.6	1.0110	1.0069	0.0137	10.0	13.6	0.0013	11.5

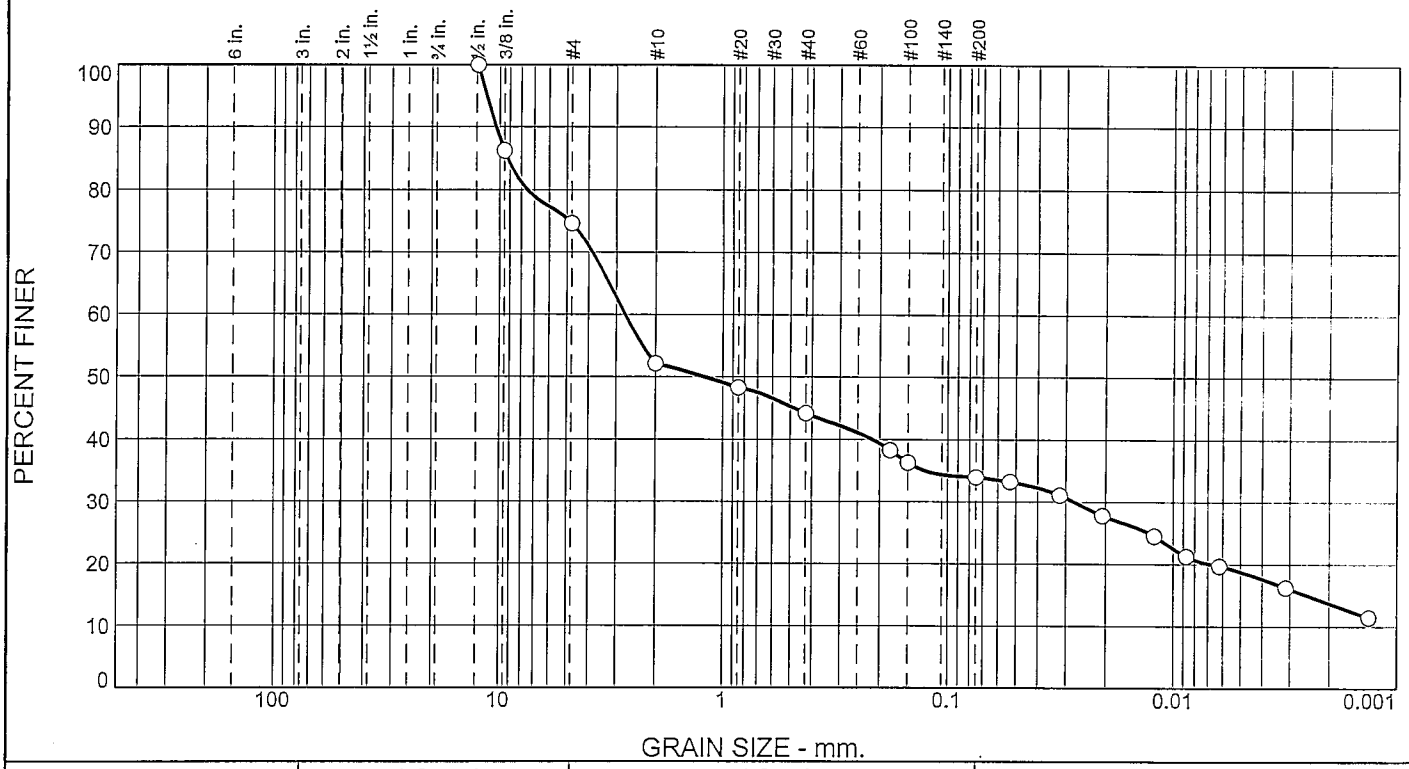
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	25.4	25.4	22.5	7.9	10.2	40.6	15.2	18.8	34.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0025	0.0067	0.0276	1.2097	2.7399	7.5073	9.1952	10.3650	11.4225

Fineness Modulus
3.08

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	25.4	22.5	7.9	10.2	15.2	18.8

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	86.2		
4.75 mm	74.6		
2.00 mm	52.1		
0.850 mm	48.3		
0.425 mm	44.2		
0.180 mm	38.3		
0.150 mm	36.3		
0.075 mm	34.0		
0.053 mm	33.2		
0.0319 mm.	31.1		
0.0207 mm.	27.8		
0.0122 mm.	24.5		
0.0088 mm.	21.3		
0.0062 mm.	19.8		
0.0031 mm.	16.3		
0.0013 mm.	11.5		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 26.296%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 10.3650 D_{85}= 9.1952 D_{60}= 2.7399
D_{50}= 1.2097 D_{30}= 0.0276 D_{15}= 0.0025
D_{10}= C_u= C_c=

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/12/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-7 (0.5-1.0) **Depth:** T11L056-28 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-29 **Sample Number:** SB-7 (5.0-5.5)

Material Description: Sample appears to be mostly clay
Moisture content as received = 25.144%

Sample Date: 12/8/11

Date Received: 12/9/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/12/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
125.14	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	5.50	0.00	95.6
		2.00 mm	15.80	0.00	83.0
50.56	0.00	0.850 mm	104.17	100.11	76.3
		0.425 mm	104.28	100.11	69.5
		0.180 mm	104.55	100.11	62.2
		0.150 mm	100.95	100.11	60.8
		0.075 mm	103.39	100.11	55.4
		0.053 mm	101.01	100.11	53.9

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =83.0
Weight of hydrometer sample =50.56
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.8	1.0240	1.0199	0.0137	23.0	10.2	0.0309	52.6
5.00	19.8	1.0220	1.0179	0.0137	21.0	10.7	0.0200	47.3
15.00	20.1	1.0190	1.0150	0.0136	18.0	11.5	0.0120	39.5
30.00	20.2	1.0170	1.0130	0.0136	16.0	12.1	0.0086	34.3
60.00	20.3	1.0160	1.0120	0.0136	15.0	12.3	0.0062	31.7
250.00	18.9	1.0130	1.0088	0.0138	12.0	13.1	0.0032	23.3
1440.00	19.4	1.0090	1.0049	0.0137	8.0	14.2	0.0014	12.9

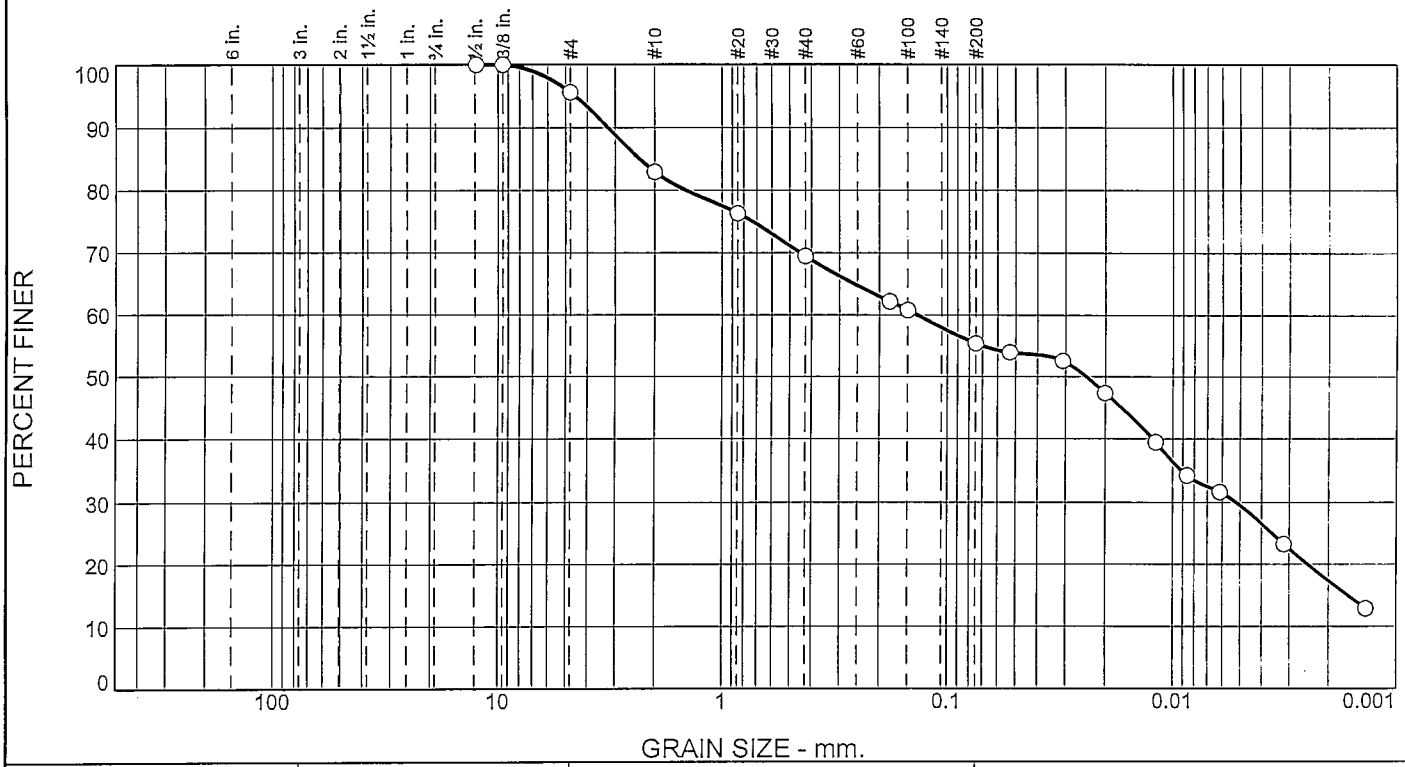
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	4.4	4.4	12.6	13.5	14.1	40.2	25.8	29.6	55.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0016	0.0025	0.0052	0.0243	0.1356	1.4505	2.3352	3.2296	4.5256

Fineness Modulus
1.41

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.4	12.6	13.5	14.1	25.8	29.6

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	95.6		
2.00 mm	83.0		
0.850 mm	76.3		
0.425 mm	69.5		
0.180 mm	62.2		
0.150 mm	60.8		
0.075 mm	55.4		
0.053 mm	53.9		
0.0309 mm.	52.6		
0.0200 mm.	47.3		
0.0120 mm.	39.5		
0.0086 mm.	34.3		
0.0062 mm.	31.7		
0.0032 mm.	23.3		
0.0014 mm.	12.9		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 25.144%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 3.2296 D_{85}= 2.3352 D_{60}= 0.1356
D_{50}= 0.0243 D_{30}= 0.0052 D_{15}= 0.0016
D_{10}= C_u= C_c=

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/12/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-7 (5.0-5.5) **Depth:** T11L056-29 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-30 **Sample Number:** SB-8 (13.0-13.5)

Material Description: sample appears to be mostly clay.
Moisture content as received = 11.201 %.

Sample Date: 12/8/11

Date Received: 12/9/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/12/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
163.62	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	124.46	100.60	85.4
		4.75 mm	134.00	100.60	65.0
		2.00 mm	127.31	100.60	48.7
50.29	0.00	0.850 mm	111.60	100.60	38.0
		0.425 mm	106.89	100.60	31.9
		0.180 mm	105.78	100.60	26.9
		0.150 mm	101.43	100.60	26.1
		0.075 mm	104.25	100.60	22.6
		0.053 mm	101.40	100.60	21.8

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =48.7
Weight of hydrometer sample =50.29
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.4	1.0180	1.0139	0.0137	17.0	11.8	0.0334	21.6
5.00	19.5	1.0170	1.0129	0.0137	16.0	12.1	0.0213	20.1
15.00	19.8	1.0150	1.0109	0.0137	14.0	12.6	0.0125	17.0
30.00	20.0	1.0130	1.0090	0.0136	12.0	13.1	0.0090	14.0
60.00	20.1	1.0110	1.0070	0.0136	10.0	13.6	0.0065	10.9
250.00	19.2	1.0100	1.0059	0.0138	9.0	13.9	0.0033	9.1
1440.00	19.4	1.0080	1.0039	0.0137	7.0	14.4	0.0014	6.1

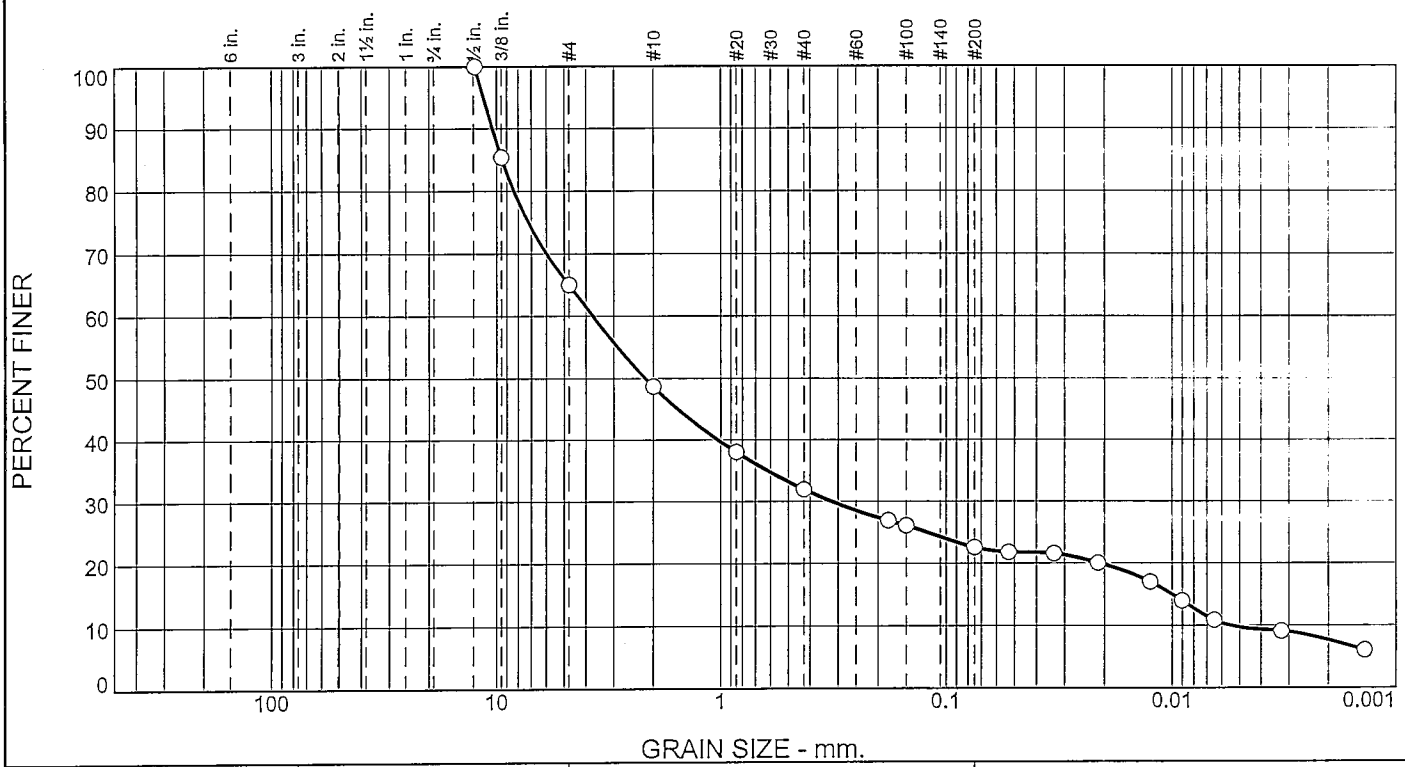
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	35.0	35.0	16.3	16.8	9.3	42.4	12.9	9.7	22.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0055	0.0100	0.0210	0.3204	2.1700	3.7186	8.3516	9.4144	10.4222	11.4345

Fineness Modulus	C_u	C_c
3.66	671.75	4.99

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	35.0	16.3	16.8	9.3	12.9	9.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	85.4		
4.75 mm	65.0		
2.00 mm	48.7		
0.850 mm	38.0		
0.425 mm	31.9		
0.180 mm	26.9		
0.150 mm	26.1		
0.075 mm	22.6		
0.053 mm	21.8		
0.0334 mm.	21.6		
0.0213 mm.	20.1		
0.0125 mm.	17.0		
0.0090 mm.	14.0		
0.0065 mm.	10.9		
0.0033 mm.	9.1		
0.0014 mm.	6.1		

* (no specification provided)

Material Description

sample appears to be mostly clay.
Moisture content as received = 11.201 %.

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 10.4222 D_{85}= 9.4144 D_{60}= 3.7186
D_{50}= 2.1700 D_{30}= 0.3204 D_{15}= 0.0100
D_{10}= 0.0055 C_u= 671.75 C_c= 4.99

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/12/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-8 (13.0-13.5) **Depth:** T11L056-30 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/9/2012

Client: TRC Solutions

Depth: T11L056-31 **Sample Number:** SB-8 (14.5-15.0)

Material Description: Sample appears to be mostly clay with rocks
Moisture content as received = 7.251%

Sample Date: 12/8/11

Date Received: 12/9/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/12/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
228.58	0.00	25.0 mm	100.12	100.12	100.0
		19.0 mm	129.06	100.12	87.3
		9.5 mm	145.15	100.12	67.6
		4.75 mm	135.11	100.12	52.3
		2.00 mm	135.29	100.12	36.9
50.92	0.00	0.850 mm	118.47	100.60	24.0
		0.425 mm	109.75	100.60	17.3
		0.180 mm	107.20	100.60	12.6
		0.150 mm	101.71	100.60	11.7
		0.075 mm	104.74	100.60	8.7
		0.053 mm	101.59	100.60	8.0

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =36.9
Weight of hydrometer sample =50.92
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.2	1.0110	1.0069	0.0138	10.0	13.6	0.0360	8.0
5.00	19.2	1.0100	1.0059	0.0138	9.0	13.9	0.0230	6.8
15.00	19.4	1.0100	1.0059	0.0137	9.0	13.9	0.0132	6.9
30.00	19.8	1.0080	1.0039	0.0137	7.0	14.4	0.0095	4.6
60.00	20.0	1.0080	1.0040	0.0136	7.0	14.4	0.0067	4.6
250.00	18.9	1.0070	1.0028	0.0138	6.0	14.7	0.0034	3.3
1440.00	18.1	1.0060	1.0017	0.0140	5.0	15.0	0.0014	2.0

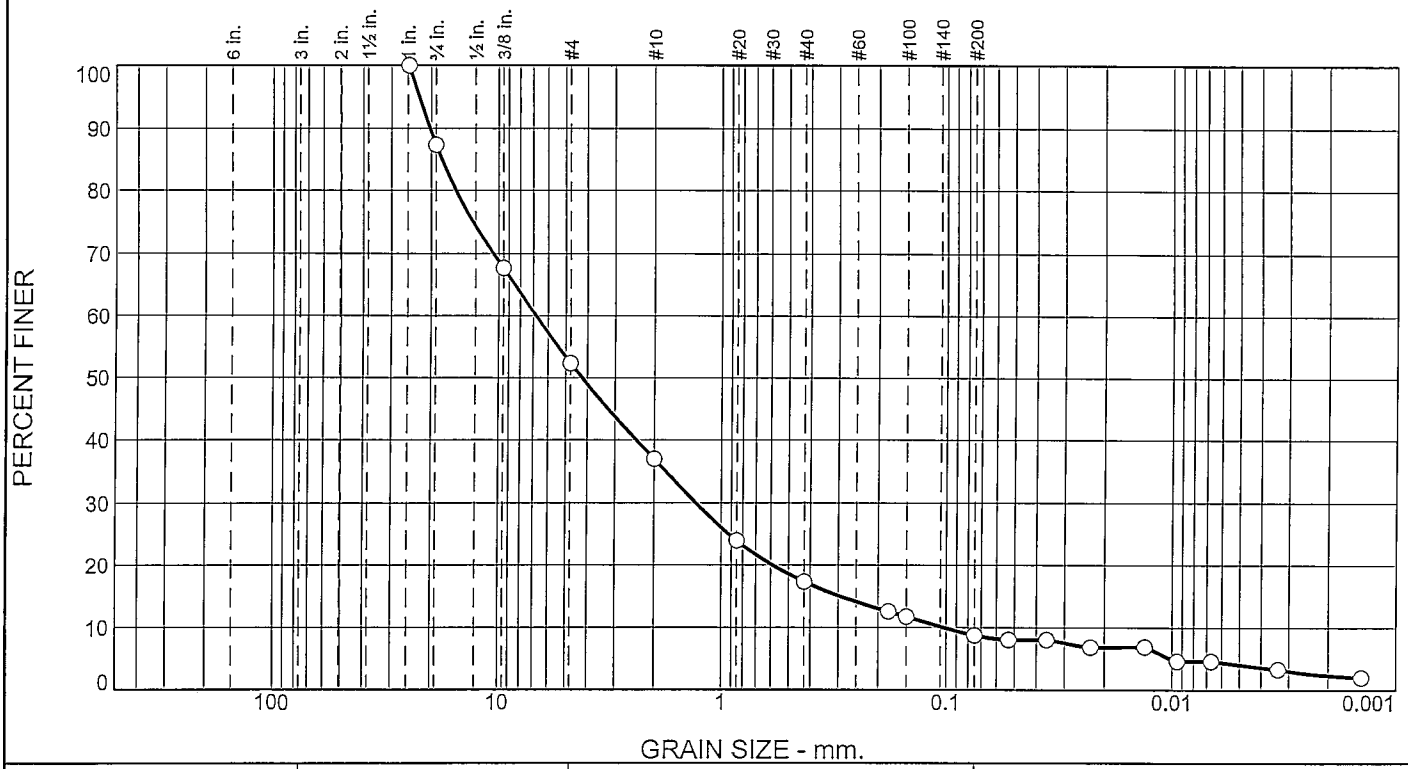
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	12.6	35.1	47.7	15.4	19.6	8.6	43.6	4.7	4.0	8.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1027	0.2949	0.5874	1.3019	4.2231	6.7795	15.4883	17.9054	20.2234	22.5426

Fineness Modulus	C_u	C_c
4.77	66.02	2.43

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.6	35.1	15.4	19.6	8.6	4.7	4.0

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
25.0 mm	100.0		
19.0 mm	87.3		
9.5 mm	67.6		
4.75 mm	52.3		
2.00 mm	36.9		
0.850 mm	24.0		
0.425 mm	17.3		
0.180 mm	12.6		
0.150 mm	11.7		
0.075 mm	8.7		
0.053 mm	8.0		
0.0360 mm.	8.0		
0.0230 mm.	6.8		
0.0132 mm.	6.9		
0.0095 mm.	4.6		
0.0067 mm.	4.6		
0.0034 mm.	3.3		
0.0014 mm.	2.0		

* (no specification provided)

Material Description

Sample appears to be mostly clay with rocks
Moisture content as received = 7.251%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 20.2234 D_{85}= 17.9054 D_{60}= 6.7795
D_{50}= 4.2231 D_{30}= 1.3019 D_{15}= 0.2949
D_{10}= 0.1027 C_u= 66.02 C_c= 2.43

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/12/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-8 (14.5-15.0) **Depth:** T11L056-31 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-32 **Sample Number:** SB-9 (0.5-1.0)

Material Description: Sample appears to be mostly clay.
Moisture content as received = 19.208%

Sample Date: 12/8/11

Date Received: 12/9/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/12/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
129.22	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	114.46	100.60	89.3
		2.00 mm	130.16	100.60	66.4
50.10	0.00	0.850 mm	106.38	100.60	58.7
		0.425 mm	106.20	100.60	51.3
		0.180 mm	106.30	100.60	43.8
		0.150 mm	102.06	100.60	41.8
		0.075 mm	104.01	100.60	37.3
		0.053 mm	101.50	100.60	36.1

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =66.4
Weight of hydrometer sample =50.1
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.9	1.0210	1.0168	0.0138	20.0	11.0	0.0325	35.8
5.00	19.0	1.0180	1.0138	0.0138	17.0	11.8	0.0212	29.5
15.00	19.2	1.0160	1.0119	0.0138	15.0	12.3	0.0125	25.3
30.00	19.5	1.0150	1.0109	0.0137	14.0	12.6	0.0089	23.2
60.00	19.9	1.0140	1.0100	0.0137	13.0	12.9	0.0063	21.2
250.00	18.6	1.0120	1.0078	0.0139	11.0	13.4	0.0032	16.6
1440.00	18.8	1.0100	1.0058	0.0139	9.0	13.9	0.0014	12.4

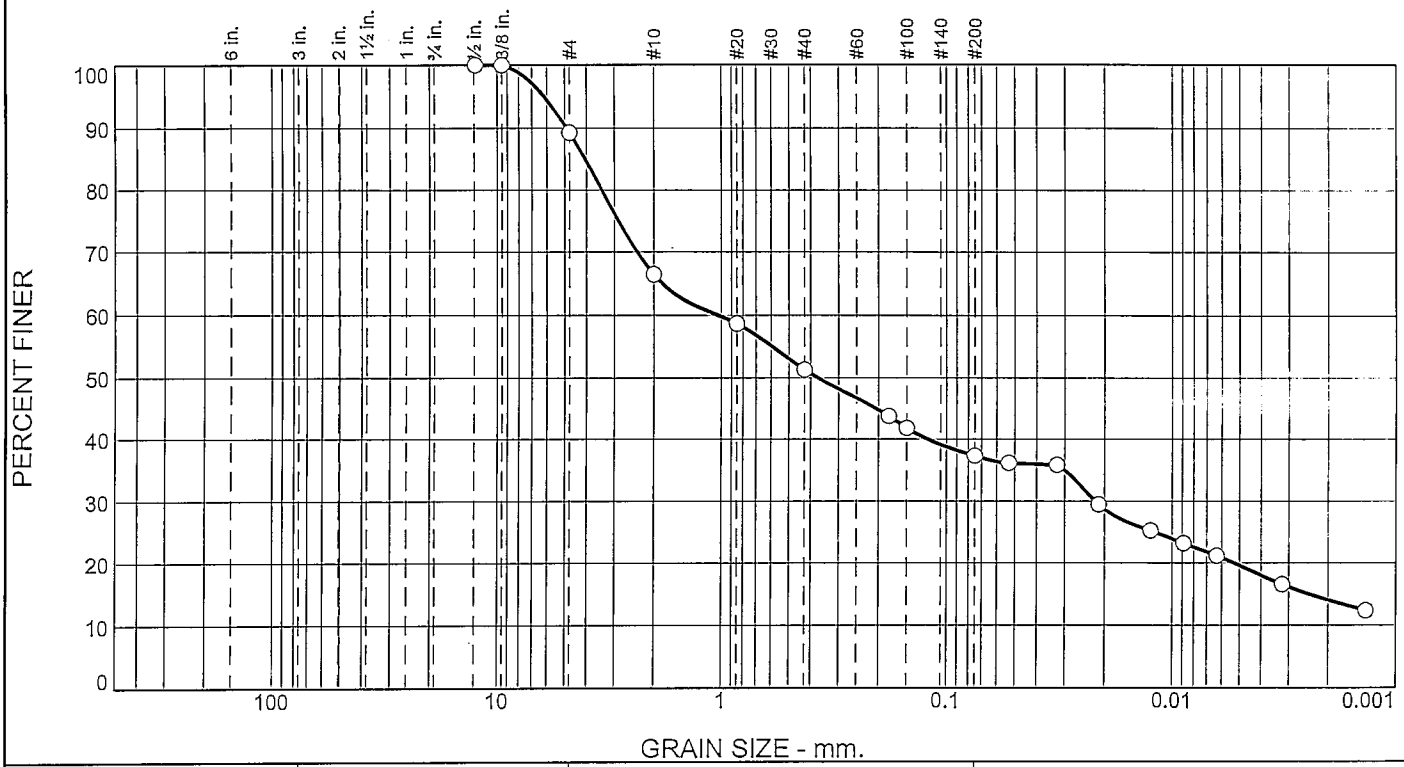
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	10.7	10.7	22.9	15.1	14.0	52.0	17.7	19.6	37.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0024	0.0053	0.0220	0.3705	1.0230	3.4127	4.0558	4.8891	6.1479

Fineness Modulus
2.35

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	10.7	22.9	15.1	14.0	17.7	19.6

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	89.3		
2.00 mm	66.4		
0.850 mm	58.7		
0.425 mm	51.3		
0.180 mm	43.8		
0.150 mm	41.8		
0.075 mm	37.3		
0.053 mm	36.1		
0.0325 mm.	35.8		
0.0212 mm.	29.5		
0.0125 mm.	25.3		
0.0089 mm.	23.2		
0.0063 mm.	21.2		
0.0032 mm.	16.6		
0.0014 mm.	12.4		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 19.208%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 4.8891 D_{85}= 4.0558 D_{60}= 1.0230
D_{50}= 0.3705 D_{30}= 0.0220 D_{15}= 0.0024
D_{10}= C_u= C_c=

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/12/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-9 (0.5-1.0) **Depth:** T11L056-32 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-33 **Sample Number:** SB-9 (4.5-5.0)

Material Description: Sample appears to be mostly clay.
Moisture content as received = 9.594%

Sample Date: 12/8/11

Date Received: 12/9/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/19/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
168.79	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	105.18	100.10	97.0
		4.75 mm	125.06	100.10	82.2
		2.00 mm	135.81	100.10	61.0
50.48	0.00	0.850 mm	113.78	100.60	45.1
		0.425 mm	109.57	100.60	34.3
		0.180 mm	106.47	100.60	27.2
		0.150 mm	101.70	100.60	25.8
		0.075 mm	103.75	100.60	22.0
		0.053 mm	101.45	100.60	21.0

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =61.0
Weight of hydrometer sample =50.48
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.0	1.0130	1.0088	0.0138	12.0	13.1	0.0354	17.2
5.00	19.0	1.0120	1.0078	0.0138	11.0	13.4	0.0226	15.2
15.00	19.2	1.0110	1.0069	0.0138	10.0	13.6	0.0131	13.3
30.00	19.8	1.0110	1.0069	0.0137	10.0	13.6	0.0092	13.5
60.00	20.2	1.0090	1.0050	0.0136	8.0	14.2	0.0066	9.7
250.00	18.2	1.0080	1.0037	0.0140	7.0	14.4	0.0034	7.3
1440.00	17.9	1.0070	1.0027	0.0140	6.0	14.7	0.0014	5.3

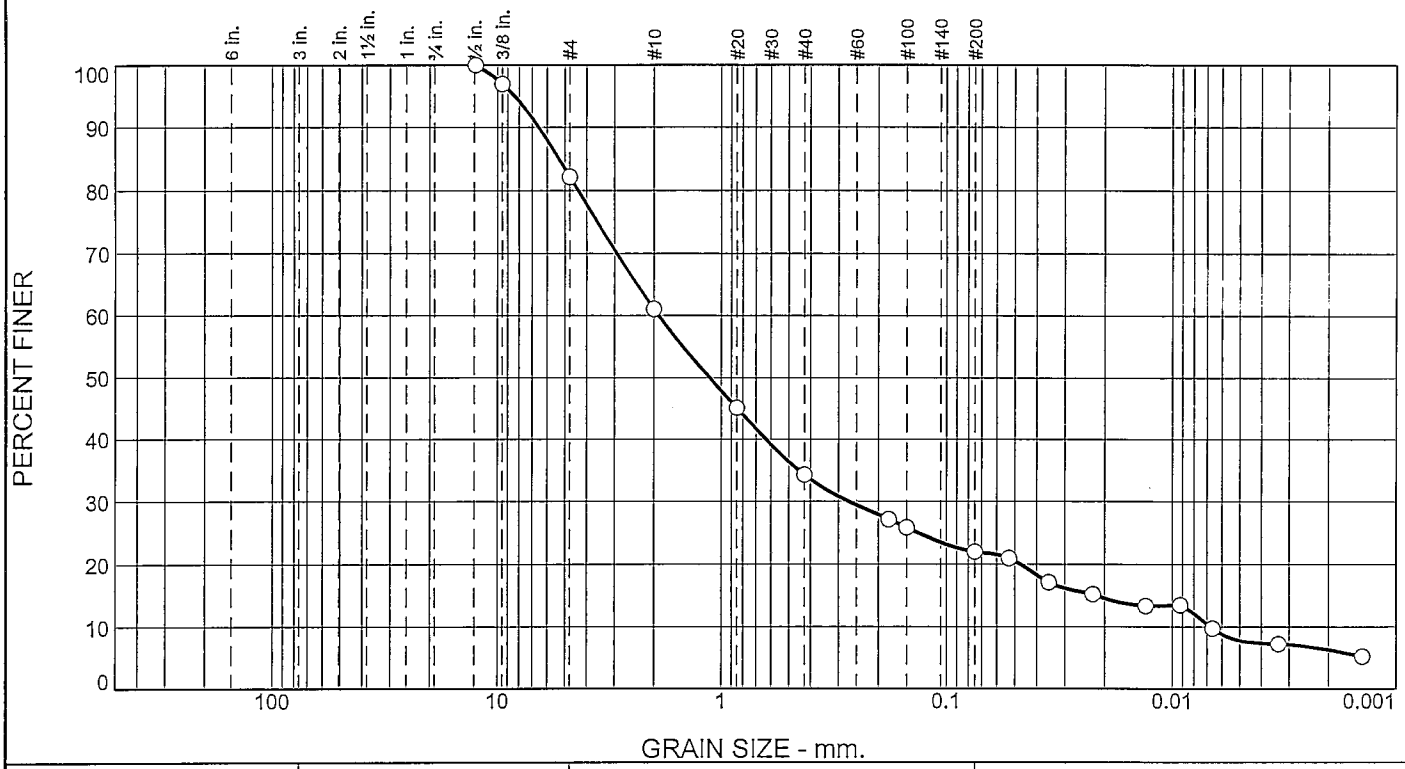
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	17.8	17.8	21.2	26.7	12.3	60.2	14.2	7.8	22.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0068	0.0217	0.0470	0.2704	1.1268	1.9044	4.3570	5.3068	6.5397	8.3700

Fineness Modulus	C_u	C_c
3.09	280.71	5.66

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	17.8	21.2	26.7	12.3	14.2	7.8

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	97.0		
4.75 mm	82.2		
2.00 mm	61.0		
0.850 mm	45.1		
0.425 mm	34.3		
0.180 mm	27.2		
0.150 mm	25.8		
0.075 mm	22.0		
0.053 mm	21.0		
0.0354 mm.	17.2		
0.0226 mm.	15.2		
0.0131 mm.	13.3		
0.0092 mm.	13.5		
0.0066 mm.	9.7		
0.0034 mm.	7.3		
0.0014 mm.	5.3		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 9.594%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 6.5397 D_{85}= 5.3068 D_{60}= 1.9044
D_{50}= 1.1268 D_{30}= 0.2704 D_{15}= 0.0217
D_{10}= 0.0068 C_u= 280.71 C_c= 5.66

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/9/11 **Date Tested:** 12/19/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-9 (4.5-5.0) **Depth:** T11L056-33 **Date Sampled:** 12/8/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-34 **Sample Number:** SB-6 (6.5-7.0)

Material Description: sample appears to be mostly clay.
Moisture content as received = 14.262%.

Sample Date: 12-9-11

Date Received: 12-10-11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12-19-11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
159.23	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	113.02	100.10	91.9
		4.75 mm	129.04	100.10	73.7
		2.00 mm	132.21	100.10	53.5
50.25	0.00	0.850 mm	108.59	100.60	45.0
		0.425 mm	105.89	100.60	39.4
		0.180 mm	106.11	100.60	33.5
		0.150 mm	101.38	100.60	32.7
		0.075 mm	103.55	100.60	29.5
		0.053 mm	101.27	100.60	28.8

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =53.5
Weight of hydrometer sample =50.25
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.9	1.0210	1.0168	0.0138	20.0	11.0	0.0325	28.8
5.00	18.9	1.0200	1.0158	0.0138	19.0	11.3	0.0208	27.1
15.00	19.1	1.0170	1.0129	0.0138	16.0	12.1	0.0124	22.0
30.00	19.5	1.0170	1.0129	0.0137	16.0	12.1	0.0087	22.1
60.00	19.9	1.0130	1.0090	0.0137	12.0	13.1	0.0064	15.3
250.00	18.4	1.0110	1.0068	0.0139	10.0	13.6	0.0033	11.6
1440.00	18.8	1.0080	1.0038	0.0139	7.0	14.4	0.0014	6.5

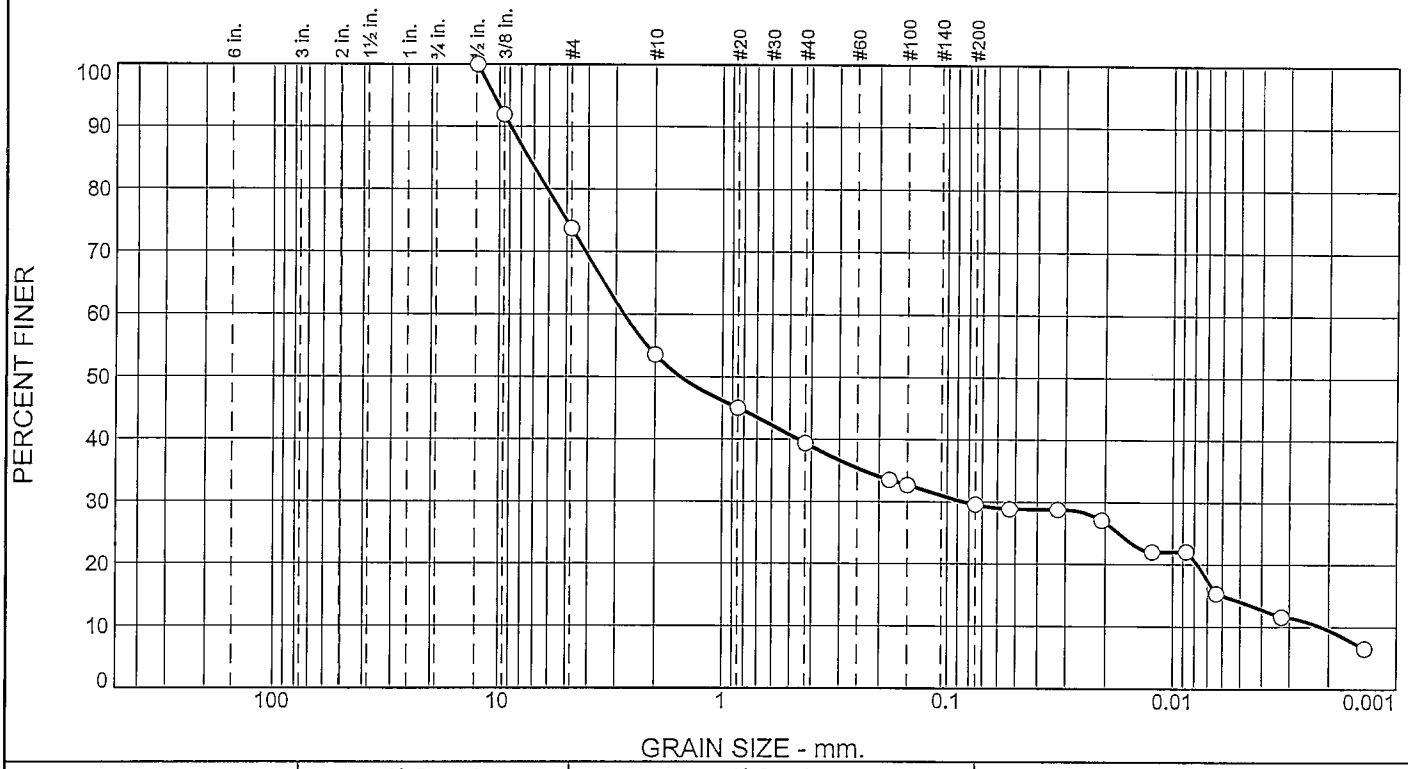
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	26.3	26.3	20.2	14.1	9.9	44.2	15.5	14.0	29.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0022	0.0060	0.0078	0.0848	1.5447	2.7579	6.0772	7.3776	8.8834	10.5755

Fineness Modulus	C_u	C_c
3.19	1271.98	1.20

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	26.3	20.2	14.1	9.9	15.5	14.0

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	91.9		
4.75 mm	73.7		
2.00 mm	53.5		
0.850 mm	45.0		
0.425 mm	39.4		
0.180 mm	33.5		
0.150 mm	32.7		
0.075 mm	29.5		
0.053 mm	28.8		
0.0325 mm.	28.8		
0.0208 mm.	27.1		
0.0124 mm.	22.0		
0.0087 mm.	22.1		
0.0064 mm.	15.3		
0.0033 mm.	11.6		
0.0014 mm.	6.5		

* (no specification provided)

Material Description

sample appears to be mostly clay.
Moisture content as received = 14.262%.

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 8.8834 D_{85}= 7.3776 D_{60}= 2.7579
D_{50}= 1.5447 D_{30}= 0.0848 D_{15}= 0.0060
D_{10}= 0.0022 C_u= 1271.98 C_c= 1.20

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12-10-11 **Date Tested:** 12-19-11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-6 (6.5-7.0) **Depth:** T11L056-34 **Date Sampled:** 12-9-11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-35 **Sample Number:** SB-6 (14.0-14.5)

Material Description: Sample appears to be mostly clay.
Moisture content as received = 8.482%.

Sample Date: 12/9/11

Date Received: 12/10/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/19/11

Checked By: jm **Title:** project mgr

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
258.92	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	164.38	100.60	75.4
		4.75 mm	141.59	100.60	59.5
		2.00 mm	140.84	100.60	44.0
50.49	0.00	0.850 mm	112.03	100.60	34.0
		0.425 mm	110.13	100.60	25.7
		0.180 mm	111.11	100.60	16.6
		0.150 mm	102.30	100.60	15.1
		0.075 mm	104.50	100.60	11.7
		0.053 mm	102.07	100.60	10.4

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =44.0
Weight of hydrometer sample =50.49
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.6	1.0110	1.0069	0.0137	10.0	13.6	0.0358	9.7
5.00	19.6	1.0110	1.0069	0.0137	10.0	13.6	0.0227	9.7
15.00	19.7	1.0100	1.0059	0.0137	9.0	13.9	0.0132	8.3
30.00	20.1	1.0100	1.0060	0.0136	9.0	13.9	0.0093	8.4
60.00	20.3	1.0090	1.0050	0.0136	8.0	14.2	0.0066	7.0
250.00	17.5	1.0080	1.0037	0.0141	7.0	14.4	0.0034	5.1
1440.00	18.6	1.0070	1.0028	0.0139	6.0	14.7	0.0014	3.9

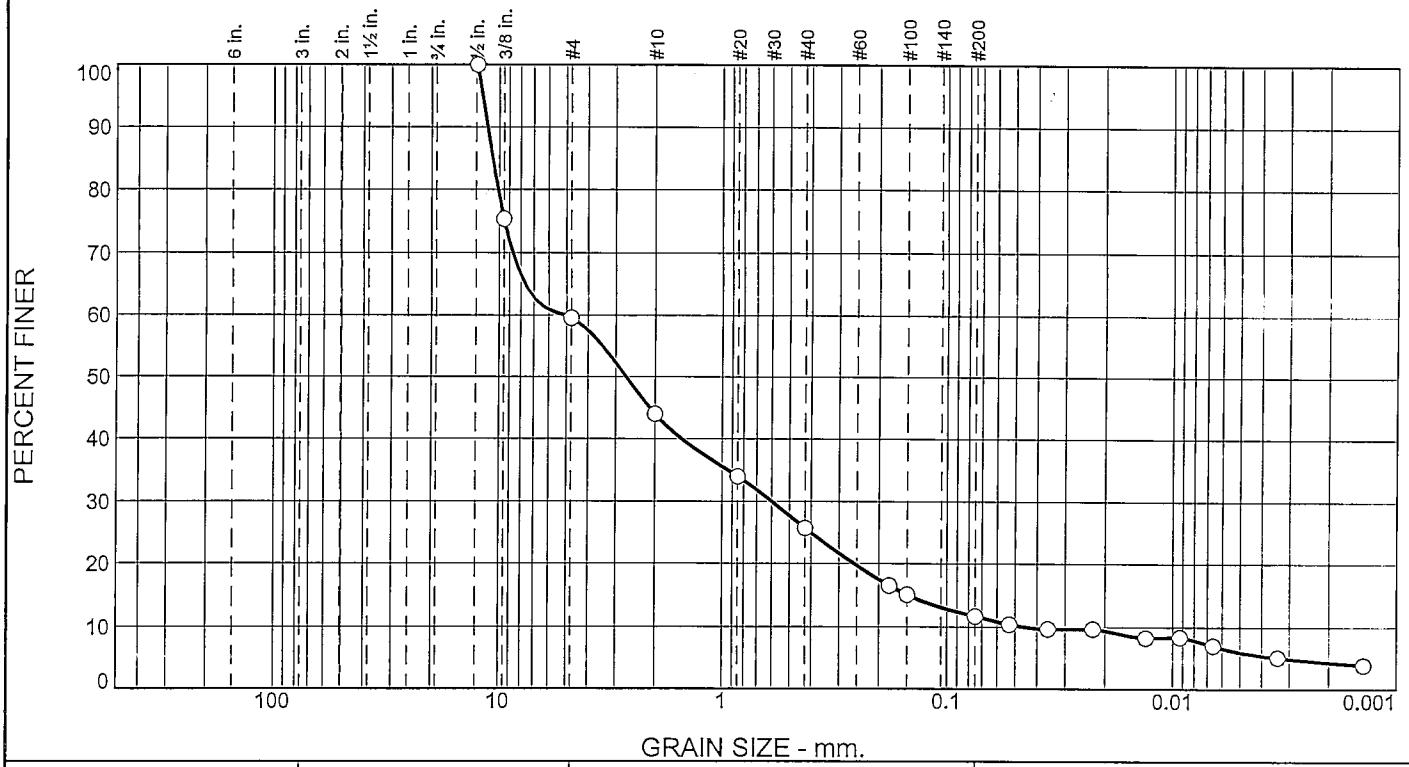
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	40.5	40.5	15.5	18.3	14.0	47.8	5.7	6.0	11.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0455	0.1481	0.2570	0.5990	2.6968	5.1006	10.1005	10.7048	11.2947	11.8885

Fineness Modulus	C_u	C_c
4.14	112.09	1.55

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	40.5	15.5	18.3	14.0	5.7	6.0

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	75.4		
4.75 mm	59.5		
2.00 mm	44.0		
0.850 mm	34.0		
0.425 mm	25.7		
0.180 mm	16.6		
0.150 mm	15.1		
0.075 mm	11.7		
0.053 mm	10.4		
0.0358 mm.	9.7		
0.0227 mm.	9.7		
0.0132 mm.	8.3		
0.0093 mm.	8.4		
0.0066 mm.	7.0		
0.0034 mm.	5.1		
0.0014 mm.	3.9		

* (no specification provided)

Material Description

Sample appears to be mostly clay.
Moisture content as received = 8.482%.

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 11.2947 D_{85}= 10.7048 D_{60}= 5.1006
D_{50}= 2.6968 D_{30}= 0.5990 D_{15}= 0.1481
D_{10}= 0.0455 C_u= 112.09 C_c= 1.55

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/19/11
Tested By: as
Checked By: jm
Title: project mgr

Sample Number: SB-6 (14.0-14.5) **Depth:** T11L056-35 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-36 **Sample Number:** SB-4 (6.5-7.0)

Material Description: Sample appears to be mostly clay
Moisture content as received = 22.1%

Sample Date: 12/9/11

Date Received: 12/10/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/13/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
209.25	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	119.87	100.60	90.8
		4.75 mm	131.50	100.60	76.0
		2.00 mm	142.38	100.60	56.1
50.37	0.00	0.850 mm	108.82	100.60	46.9
		0.425 mm	107.34	100.60	39.4
		0.180 mm	107.53	100.60	31.7
		0.150 mm	102.12	100.60	30.0
		0.075 mm	104.81	100.60	25.3
		0.053 mm	102.24	100.60	23.5

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =56.1
Weight of hydrometer sample =50.37
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.3	1.0170	1.0129	0.0138	16.0	12.1	0.0338	23.0
5.00	19.4	1.0160	1.0119	0.0137	15.0	12.3	0.0216	21.3
15.00	19.6	1.0130	1.0089	0.0137	12.0	13.1	0.0128	15.9
30.00	20.0	1.0120	1.0080	0.0136	11.0	13.4	0.0091	14.3
60.00	19.7	1.0110	1.0069	0.0137	10.0	13.6	0.0065	12.4
250.00	19.3	1.0090	1.0049	0.0138	8.0	14.2	0.0033	8.7
1440.00	18.8	1.0070	1.0028	0.0139	6.0	14.7	0.0014	5.0

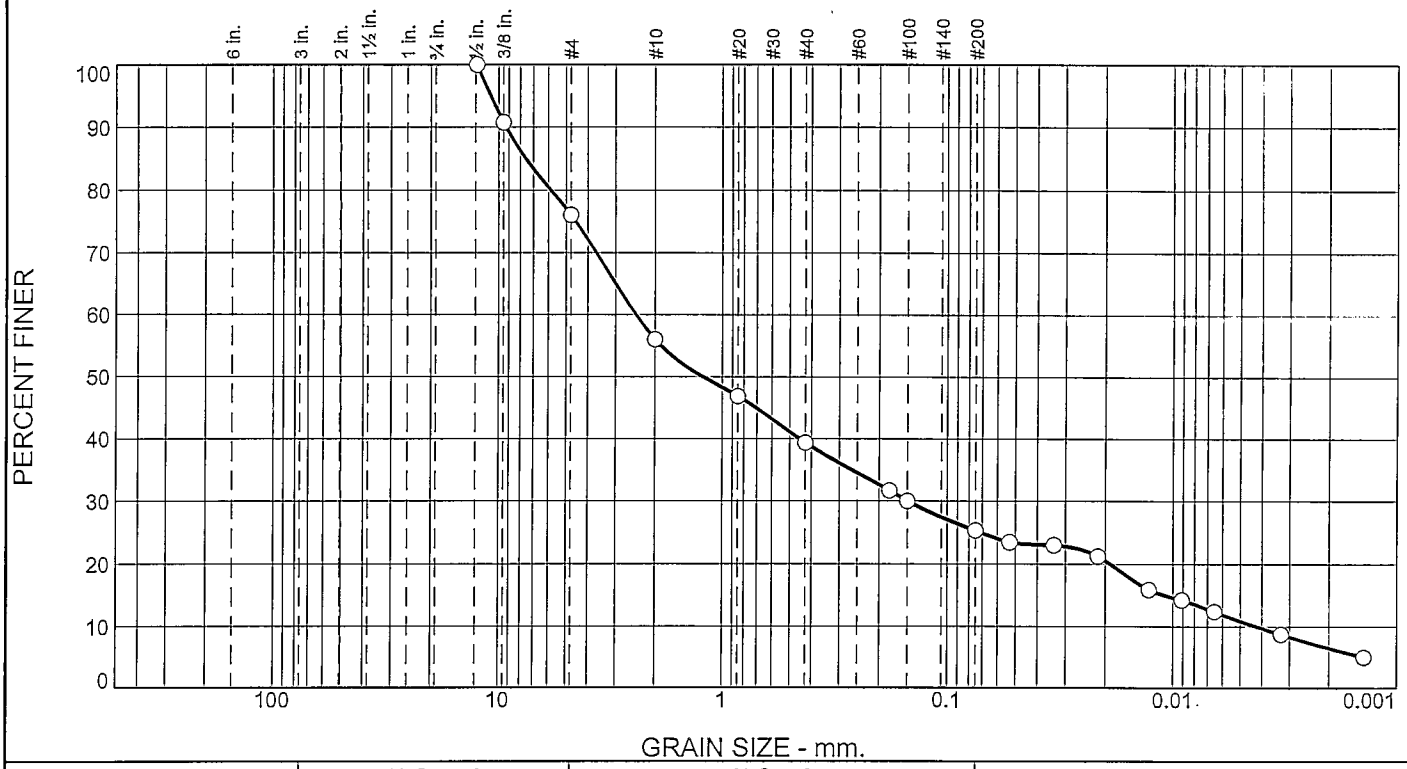
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	24.0	24.0	19.9	16.7	14.1	50.7	14.4	10.9	25.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0042	0.0109	0.0189	0.1499	1.2213	2.4309	5.8240	7.5303	9.2422	10.8398

Fineness Modulus	C_u	C_c
3.15	573.59	2.18

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	24.0	19.9	16.7	14.1	14.4	10.9

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	90.8		
4.75 mm	76.0		
2.00 mm	56.1		
0.850 mm	46.9		
0.425 mm	39.4		
0.180 mm	31.7		
0.150 mm	30.0		
0.075 mm	25.3		
0.053 mm	23.5		
0.0338 mm.	23.0		
0.0216 mm.	21.3		
0.0128 mm.	15.9		
0.0091 mm.	14.3		
0.0065 mm.	12.4		
0.0033 mm.	8.7		
0.0014 mm.	5.0		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 22.1%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 9.2422 D_{85}= 7.5303 D_{60}= 2.4309
D_{50}= 1.2213 D_{30}= 0.1499 D_{15}= 0.0109
D_{10}= 0.0042 C_u= 573.59 C_c= 2.18

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/13/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-4 (6.5-7.0) **Depth:** T11L056-36 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-37 **Sample Number:** SB-4 (11.5-12.0)

Material Description: Sample appears to be mostly clay
Moisture content as received = 11.8%

Sample Date: 12/9/11

Date Received: 12/10/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/13/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
178.52	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	112.78	100.60	93.2
		4.75 mm	112.60	100.60	86.5
		2.00 mm	124.92	100.60	72.8
50.76	0.00	0.850 mm	107.36	100.60	63.1
		0.425 mm	107.49	100.60	53.2
		0.180 mm	108.38	100.60	42.1
		0.150 mm	102.20	100.60	39.8
		0.075 mm	105.26	100.60	33.1
		0.053 mm	102.30	100.60	30.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =72.8
Weight of hydrometer sample =50.76
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.1	1.0170	1.0129	0.0138	16.0	12.1	0.0339	29.6
5.00	19.2	1.0140	1.0099	0.0138	13.0	12.9	0.0221	22.7
15.00	19.8	1.0110	1.0069	0.0137	10.0	13.6	0.0130	16.0
30.00	19.8	1.0110	1.0069	0.0137	10.0	13.6	0.0092	16.0
60.00	19.6	1.0100	1.0059	0.0137	9.0	13.9	0.0066	13.6
250.00	19.6	1.0080	1.0039	0.0137	7.0	14.4	0.0033	9.0
1440.00	19.5	1.0070	1.0029	0.0137	6.0	14.7	0.0014	6.7

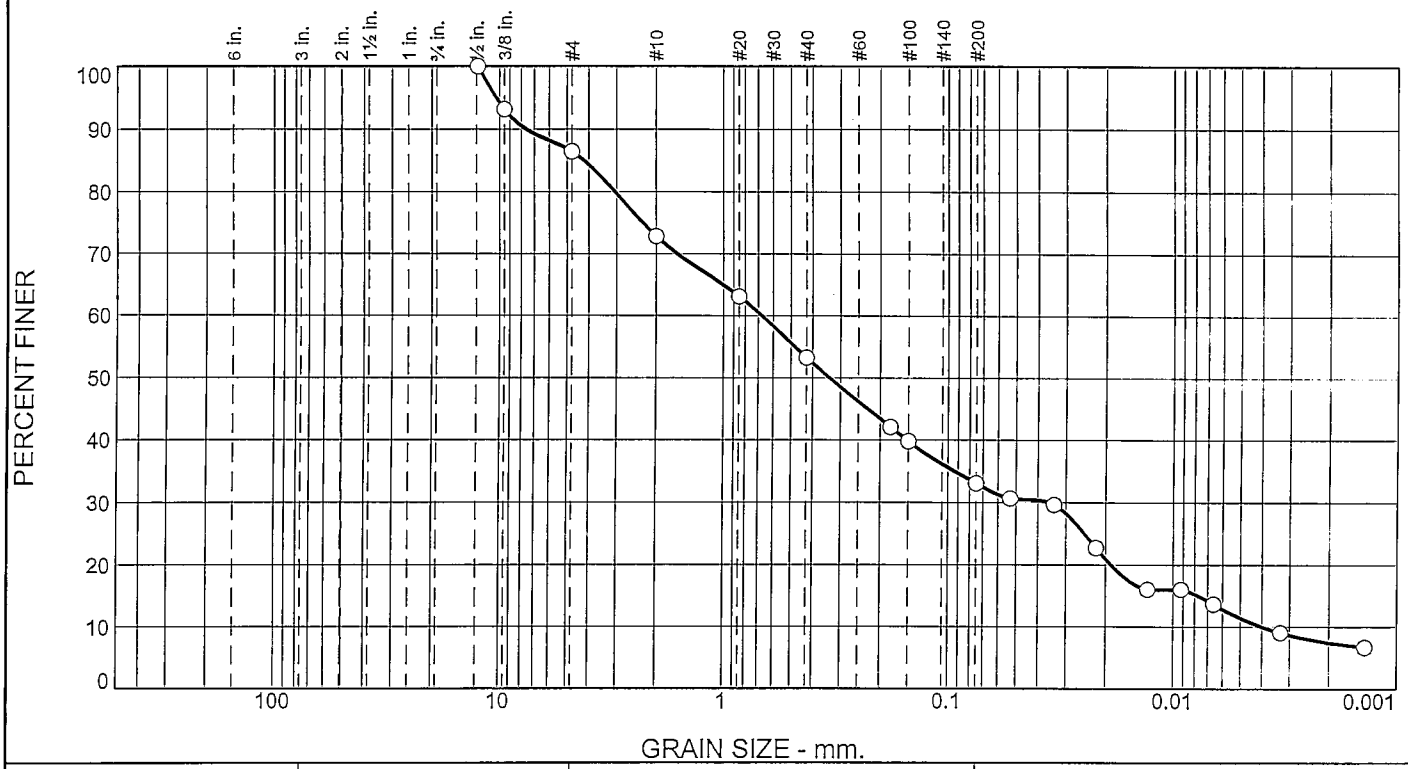
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	13.5	13.5	13.7	19.6	20.1	53.4	21.7	11.4	33.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0040	0.0077	0.0189	0.0357	0.3355	0.6720	3.0512	4.1884	7.5957	10.3301

Fineness Modulus	C_u	C_c
2.31	168.44	0.48

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	13.5	13.7	19.6	20.1	21.7	11.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	93.2		
4.75 mm	86.5		
2.00 mm	72.8		
0.850 mm	63.1		
0.425 mm	53.2		
0.180 mm	42.1		
0.150 mm	39.8		
0.075 mm	33.1		
0.053 mm	30.7		
0.0339 mm.	29.6		
0.0221 mm.	22.7		
0.0130 mm.	16.0		
0.0092 mm.	16.0		
0.0066 mm.	13.6		
0.0033 mm.	9.0		
0.0014 mm.	6.7		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 11.8%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 7.5957 D_{85}= 4.1884 D_{60}= 0.6720
D_{50}= 0.3355 D_{30}= 0.0357 D_{15}= 0.0077
D_{10}= 0.0040 C_u= 168.44 C_c= 0.48

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/13/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-4 (11.5-12.0) **Depth:** T11L056-37 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-38 **Sample Number:** SB-3 (11.0-11.5)

Material Description: Sample appears to be mostly clay
Moisture content as received = 23.0%

Sample Date: 12/9/11

Date Received: 12/10/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/13/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
232.56	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	109.94	100.61	96.0
		4.75 mm	117.97	100.61	88.5
		2.00 mm	143.34	100.61	70.1
50.41	0.00	0.850 mm	105.82	100.61	62.9
		0.425 mm	104.40	100.61	57.6
		0.180 mm	105.50	100.61	50.8
		0.150 mm	102.31	100.61	48.5
		0.075 mm	104.59	100.61	42.9
		0.053 mm	101.09	100.61	42.2

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =70.1
Weight of hydrometer sample =50.41
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.7	1.0230	1.0188	0.0139	22.0	10.5	0.0317	42.0
5.00	18.8	1.0220	1.0178	0.0139	21.0	10.7	0.0203	39.8
15.00	18.9	1.0200	1.0158	0.0138	19.0	11.3	0.0120	35.4
30.00	19.4	1.0170	1.0129	0.0137	16.0	12.1	0.0087	28.8
60.00	19.3	1.0160	1.0119	0.0138	15.0	12.3	0.0062	26.6
250.00	18.3	1.0120	1.0078	0.0139	11.0	13.4	0.0032	17.3
1440.00	18.3	1.0080	1.0038	0.0139	7.0	14.4	0.0014	8.4

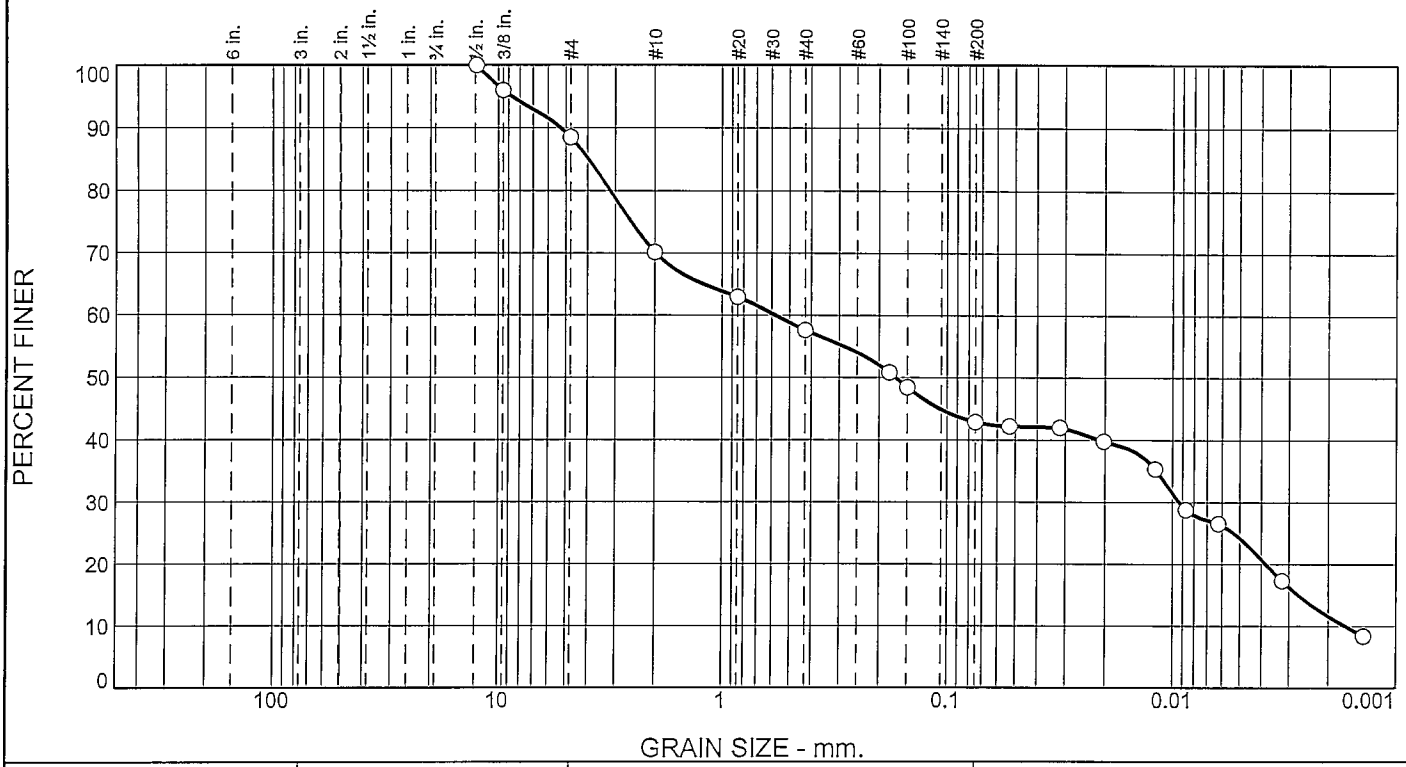
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	11.5	11.5	18.4	12.5	14.7	45.6	18.6	24.3	42.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0017	0.0027	0.0038	0.0093	0.1688	0.5766	3.1600	3.9381	5.2646	8.7137

Fineness Modulus	C_u	C_c
2.13	342.34	0.09

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	11.5	18.4	12.5	14.7	18.6	24.3

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	96.0		
4.75 mm	88.5		
2.00 mm	70.1		
0.850 mm	62.9		
0.425 mm	57.6		
0.180 mm	50.8		
0.150 mm	48.5		
0.075 mm	42.9		
0.053 mm	42.2		
0.0317 mm.	42.0		
0.0203 mm.	39.8		
0.0120 mm.	35.4		
0.0087 mm.	28.8		
0.0062 mm.	26.6		
0.0032 mm.	17.3		
0.0014 mm.	8.4		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 23.0%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 5.2646 D_{85}= 3.9381 D_{60}= 0.5766
D_{50}= 0.1688 D_{30}= 0.0093 D_{15}= 0.0027
D_{10}= 0.0017 C_u= 342.34 C_c= 0.09

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/13/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-3 (11.0-11.5) **Depth:** T11L056-38 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-39 **Sample Number:** SB-3 (14.5-15.0)

Material Description: Sample appears to be mostly clay
Moisture content as received = 9.2%

Sample Date: 12/9/11

Date Received: 12/10/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/13/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
273.76	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	139.30	100.52	85.8
		4.75 mm	133.37	100.52	73.8
		2.00 mm	158.45	100.52	52.7
50.20	0.00	0.850 mm	109.68	100.52	43.1
		0.425 mm	107.27	100.52	36.0
		0.180 mm	108.71	100.52	27.4
		0.150 mm	101.98	100.52	25.9
		0.075 mm	105.07	100.52	21.1
		0.053 mm	102.55	100.52	19.0

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =52.7
Weight of hydrometer sample =50.20
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.9	1.0150	1.0108	0.0138	14.0	12.6	0.0347	18.3
5.00	18.9	1.0140	1.0098	0.0138	13.0	12.9	0.0222	16.6
15.00	19.1	1.0130	1.0089	0.0138	12.0	13.1	0.0129	14.9
30.00	19.5	1.0120	1.0079	0.0137	11.0	13.4	0.0092	13.3
60.00	19.6	1.0110	1.0069	0.0137	10.0	13.6	0.0065	11.7
250.00	18.6	1.0090	1.0048	0.0139	8.0	14.2	0.0033	8.1
1440.00	18.5	1.0080	1.0038	0.0139	7.0	14.4	0.0014	6.4

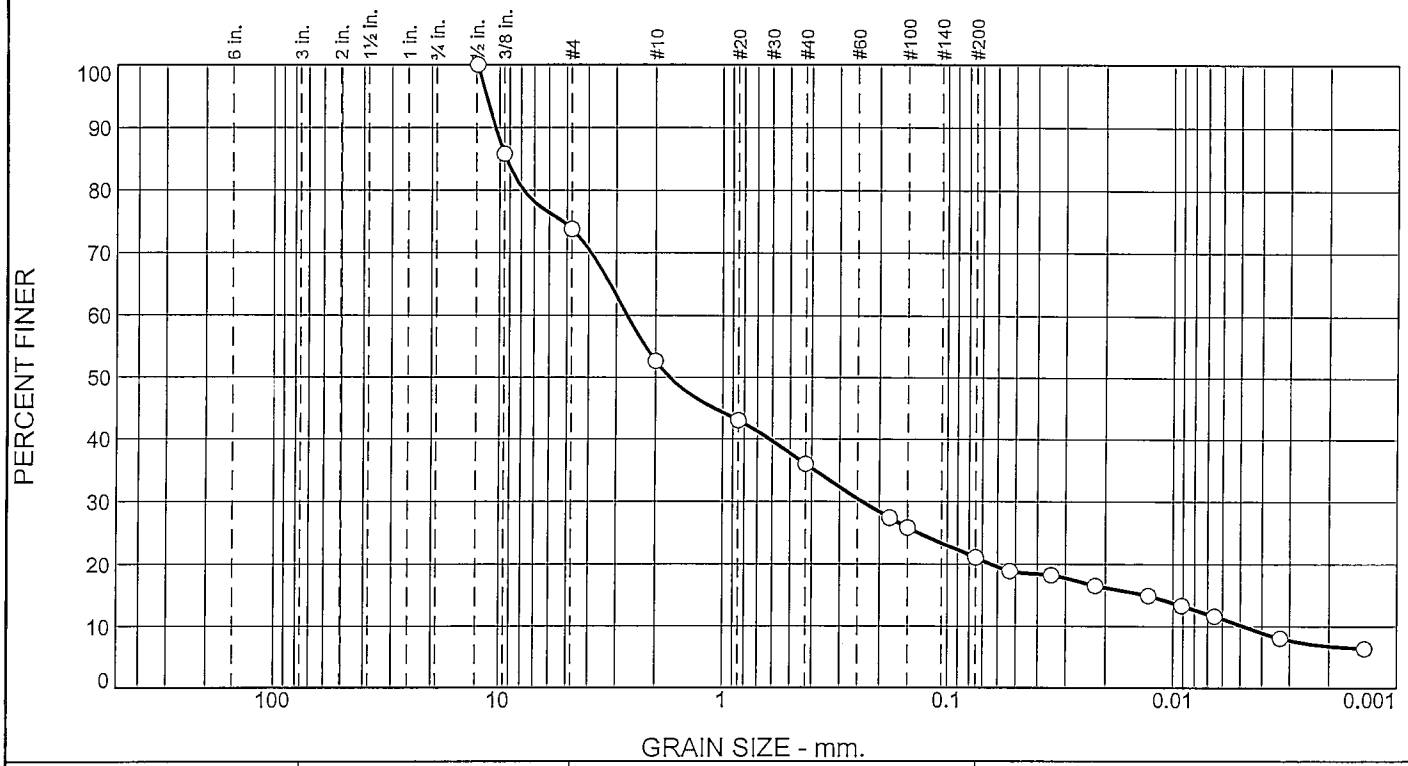
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	26.2	26.2	21.1	16.7	14.9	52.7	10.9	10.2	21.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0048	0.0132	0.0643	0.2387	1.7282	2.6797	7.7933	9.2982	10.4153	11.4458

Fineness Modulus	C_u	C_c
3.40	553.03	4.39

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	26.2	21.1	16.7	14.9	10.9	10.2

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	85.8		
4.75 mm	73.8		
2.00 mm	52.7		
0.850 mm	43.1		
0.425 mm	36.0		
0.180 mm	27.4		
0.150 mm	25.9		
0.075 mm	21.1		
0.053 mm	19.0		
0.0347 mm.	18.3		
0.0222 mm.	16.6		
0.0129 mm.	14.9		
0.0092 mm.	13.3		
0.0065 mm.	11.7		
0.0033 mm.	8.1		
0.0014 mm.	6.4		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 9.2%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 10.4153 D_{85}= 9.2982 D_{60}= 2.6797
D_{50}= 1.7282 D_{30}= 0.2387 D_{15}= 0.0132
D_{10}= 0.0048 C_u= 553.03 C_c= 4.39

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/13/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-3 (14.5-15.0) **Depth:** T11L056-39 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-40 **Sample Number:** SB-2 (5.0-5.5)

Material Description: Sample appears to be mostly clay
Moisture content as received = 15.5%

Sample Date: 12/9/11

Date Received: 12/10/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/13/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
271.22	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	168.81	100.52	74.8
		4.75 mm	145.10	100.52	58.4
		2.00 mm	148.15	100.52	40.8
50.89	0.00	0.850 mm	109.23	100.52	33.8
		0.425 mm	107.00	100.52	28.6
		0.180 mm	107.54	100.52	23.0
		0.150 mm	101.82	100.52	22.0
		0.075 mm	104.65	100.52	18.7
		0.053 mm	101.95	100.52	17.5

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =40.8
Weight of hydrometer sample =50.89
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.3	1.0180	1.0138	0.0139	17.0	11.8	0.0339	17.7
5.00	18.4	1.0170	1.0128	0.0139	16.0	12.1	0.0216	16.4
15.00	18.8	1.0150	1.0108	0.0139	14.0	12.6	0.0127	13.9
30.00	18.9	1.0140	1.0098	0.0138	13.0	12.9	0.0091	12.7
60.00	20.2	1.0130	1.0090	0.0136	12.0	13.1	0.0064	11.6
150.00	18.3	1.0100	1.0058	0.0139	9.0	13.9	0.0042	7.4
1440.00	17.6	1.0090	1.0047	0.0141	8.0	14.2	0.0014	6.0

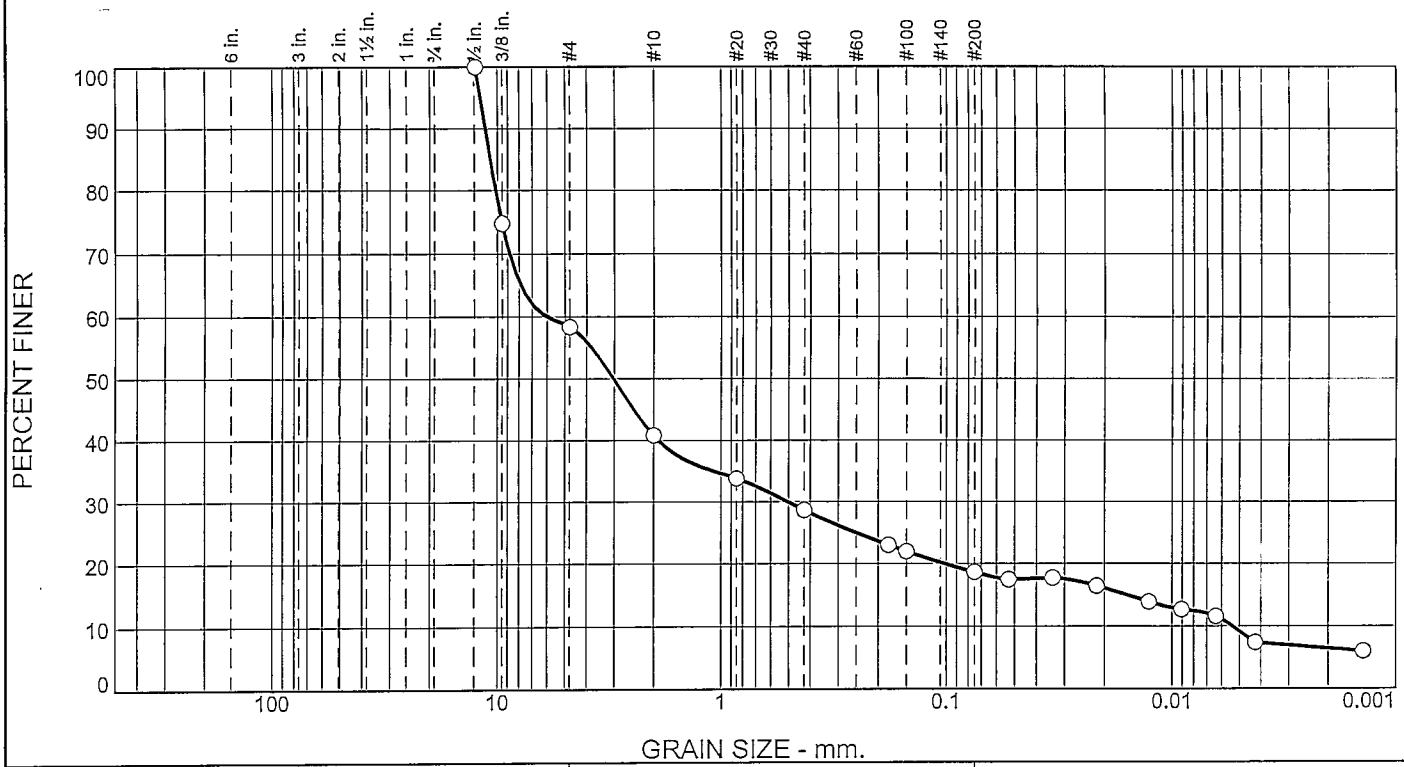
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	41.6	41.6	17.6	12.2	9.9	39.7	9.5	9.2	18.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0054	0.0158	0.1014	0.5041	3.0269	5.9656	10.1547	10.7440	11.3208	11.9018

Fineness Modulus	C_u	C_c
4.07	1113.05	7.95

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	41.6	17.6	12.2	9.9	9.5	9.2

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	74.8		
4.75 mm	58.4		
2.00 mm	40.8		
0.850 mm	33.8		
0.425 mm	28.6		
0.180 mm	23.0		
0.150 mm	22.0		
0.075 mm	18.7		
0.053 mm	17.5		
0.0339 mm.	17.7		
0.0216 mm.	16.4		
0.0127 mm.	13.9		
0.0091 mm.	12.7		
0.0064 mm.	11.6		
0.0042 mm.	7.4		
0.0014 mm.	6.0		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 15.5%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 11.3208 D_{85}= 10.7440 D_{60}= 5.9656
D_{50}= 3.0269 D_{30}= 0.5041 D_{15}= 0.0158
D_{10}= 0.0054 C_u= 1113.05 C_c= 7.95

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/13/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-2 (5.0-5.5) **Depth:** T11L056-40 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/9/2012

Client: TRC Solutions

Depth: T11L056-41 **Sample Number:** SB-2 (15.0-15.5)

Material Description: Sample appears to be mostly clay
Moisture content as received = 9.9%

Sample Date: 12/9/11

Date Received: 12/10/11

USCS Classification: SP

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/13/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
296.48	0.00	25.0 mm	100.52	100.52	100.0
		12.5 mm	148.79	100.52	83.7
		9.5 mm	135.30	100.52	72.0
		4.75 mm	145.32	100.52	56.9
		2.00 mm	133.93	100.52	45.6
50.71	0.00	0.850 mm	128.04	100.52	20.9
		0.425 mm	112.52	100.52	10.1
		0.180 mm	105.34	100.52	5.7
		0.150 mm	101.09	100.52	5.2
		0.075 mm	101.74	100.52	4.1
		0.053 mm	101.00	100.52	3.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =45.6
Weight of hydrometer sample =50.71
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.8	1.0070	1.0028	0.0139	6.0	14.7	0.0376	4.1
5.00	19.0	1.0070	1.0028	0.0138	6.0	14.7	0.0237	4.1
15.00	19.3	1.0060	1.0019	0.0138	5.0	15.0	0.0138	2.7
30.00	19.7	1.0060	1.0019	0.0137	5.0	15.0	0.0097	2.8
60.00	20.1	1.0060	1.0020	0.0136	5.0	15.0	0.0068	2.9
250.00	18.2	1.0060	1.0017	0.0140	5.0	15.0	0.0034	2.5
1440.00	17.7	1.0060	1.0017	0.0140	5.0	15.0	0.0014	2.4

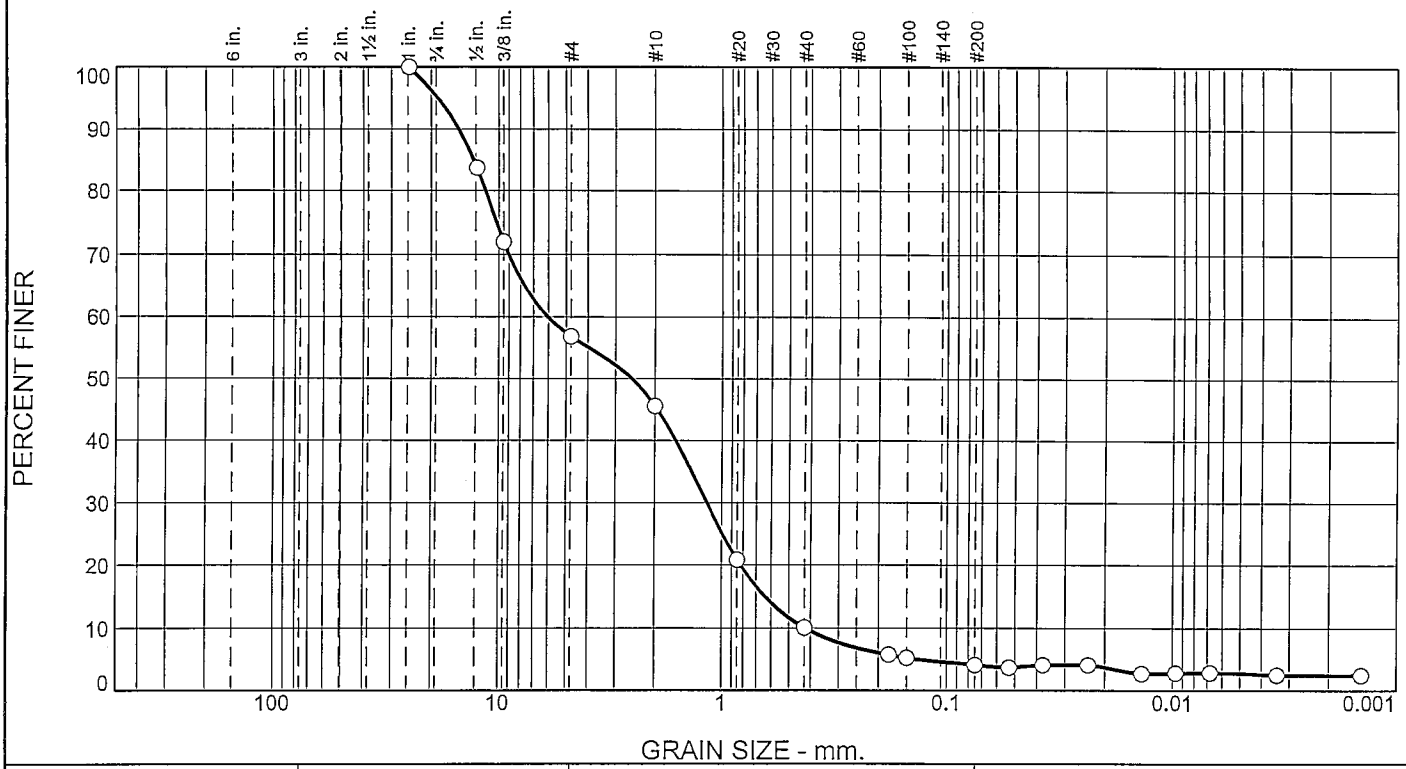
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	4.5	38.6	43.1	11.3	35.5	6.0	52.8	1.4	2.7	4.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.4219	0.6380	0.8205	1.1677	2.5363	6.0284	11.4410	12.9235	15.0630	18.5982

Fineness Modulus	C_u	C_c
4.69	14.29	0.54

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.5	38.6	11.3	35.5	6.0	1.4	2.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
25.0 mm	100.0		
12.5 mm	83.7		
9.5 mm	72.0		
4.75 mm	56.9		
2.00 mm	45.6		
0.850 mm	20.9		
0.425 mm	10.1		
0.180 mm	5.7		
0.150 mm	5.2		
0.075 mm	4.1		
0.053 mm	3.7		
0.0376 mm.	4.1		
0.0237 mm.	4.1		
0.0138 mm.	2.7		
0.0097 mm.	2.8		
0.0068 mm.	2.9		
0.0034 mm.	2.5		
0.0014 mm.	2.4		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 9.9%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= SP AASHTO (M 145)=

Coefficients

D_{90}= 15.0630 D_{85}= 12.9235 D_{60}= 6.0284
D_{50}= 2.5363 D_{30}= 1.1677 D_{15}= 0.6380
D_{10}= 0.4219 C_u= 14.29 C_c= 0.54

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/13/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-2 (15.0-15.5) **Depth:** T11L056-41 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-42 **Sample Number:** SB-12 (8.5-9.0)

Material Description: Sample appears to be mostly clay
Moisture content as received = 9.6%

Sample Date: 12/9/11

Date Received: 12/10/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/19/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
128.64	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	111.25	100.12	91.3
		4.75 mm	115.09	100.12	79.7
		2.00 mm	129.22	100.12	57.1
50.41	0.00	0.850 mm	111.41	100.61	44.9
		0.425 mm	109.28	100.61	35.0
		0.180 mm	108.32	100.61	26.3
		0.150 mm	102.05	100.61	24.7
		0.075 mm	104.26	100.61	20.5
		0.053 mm	101.78	100.61	19.2

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =57.1
Weight of hydrometer sample =50.41
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.2	1.0140	1.0097	0.0140	13.0	12.9	0.0354	17.7
5.00	18.3	1.0130	1.0088	0.0139	12.0	13.1	0.0226	15.9
15.00	18.5	1.0120	1.0078	0.0139	11.0	13.4	0.0131	14.2
30.00	19.0	1.0110	1.0068	0.0138	10.0	13.6	0.0093	12.4
60.00	19.7	1.0110	1.0069	0.0137	10.0	13.6	0.0065	12.6
250.00	18.0	1.0100	1.0057	0.0140	9.0	13.9	0.0033	10.4
1440.00	17.6	1.0100	1.0057	0.0141	9.0	13.9	0.0014	10.3

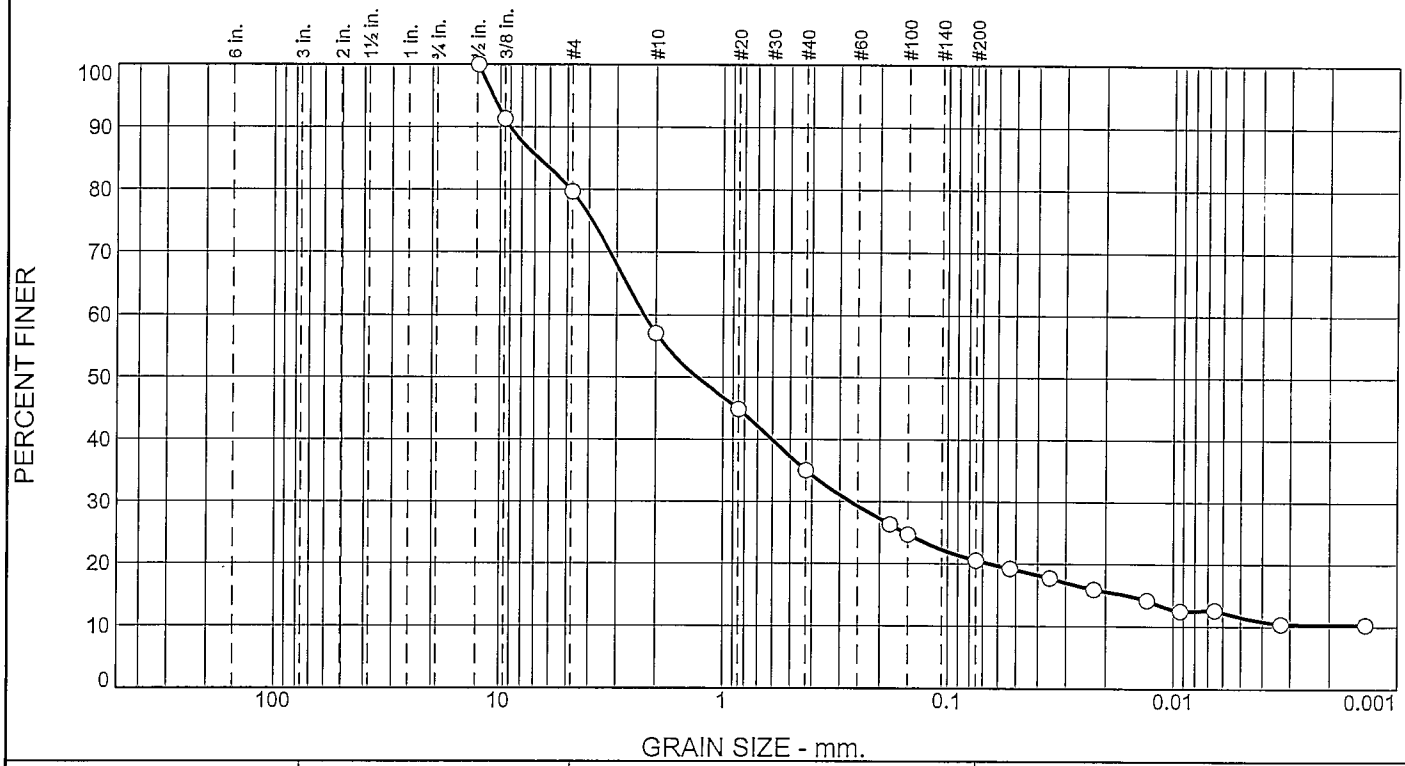
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	20.3	20.3	22.6	22.1	14.5	59.2	9.0	11.5	20.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0162	0.0655	0.2693	1.3086	2.2565	4.8231	6.7446	8.9898	10.7653

Fineness Modulus
3.23

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	20.3	22.6	22.1	14.5	9.0	11.5

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	91.3		
4.75 mm	79.7		
2.00 mm	57.1		
0.850 mm	44.9		
0.425 mm	35.0		
0.180 mm	26.3		
0.150 mm	24.7		
0.075 mm	20.5		
0.053 mm	19.2		
0.0354 mm.	17.7		
0.0226 mm.	15.9		
0.0131 mm.	14.2		
0.0093 mm.	12.4		
0.0065 mm.	12.6		
0.0033 mm.	10.4		
0.0014 mm.	10.3		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 9.6%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 8.9898 D_{85}= 6.7446 D_{60}= 2.2565
D_{50}= 1.3086 D_{30}= 0.2693 D_{15}= 0.0162
D_{10}= C_u= C_c=

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/19/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-12 (8.5-9.0) **Depth:** T11L056-42 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-43 **Sample Number:** SB-12 (16.5-17.0

Material Description: Sample appears to be mostly clay
Moisture content as received = 17.0%

Sample Date: 12/9/11

Date Received: 12/10/11

USCS Classification: SP

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/19/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
221.66	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	105.41	100.12	97.6
		4.75 mm	110.86	100.12	92.8
		2.00 mm	121.36	100.61	83.4
50.75	0.00	0.850 mm	121.67	100.61	48.8
		0.425 mm	120.22	100.61	16.6
		0.180 mm	107.18	100.61	5.8
		0.150 mm	100.98	100.61	5.2
		0.075 mm	101.37	100.61	3.9
		0.053 mm	100.66	100.61	3.8

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =83.4
Weight of hydrometer sample =50.75
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	17.7	1.0060	1.0017	0.0140	5.0	15.0	0.0384	4.4
5.00	17.9	1.0060	1.0017	0.0140	5.0	15.0	0.0242	4.5
15.00	18.0	1.0060	1.0017	0.0140	5.0	15.0	0.0140	4.5
30.00	18.3	1.0060	1.0018	0.0139	5.0	15.0	0.0098	4.6
60.00	19.0	1.0050	1.0008	0.0138	4.0	15.2	0.0070	2.2
250.00	18.3	1.0050	1.0008	0.0139	4.0	15.2	0.0034	2.0
1440.00	17.7	1.0050	1.0007	0.0140	4.0	15.2	0.0014	1.8

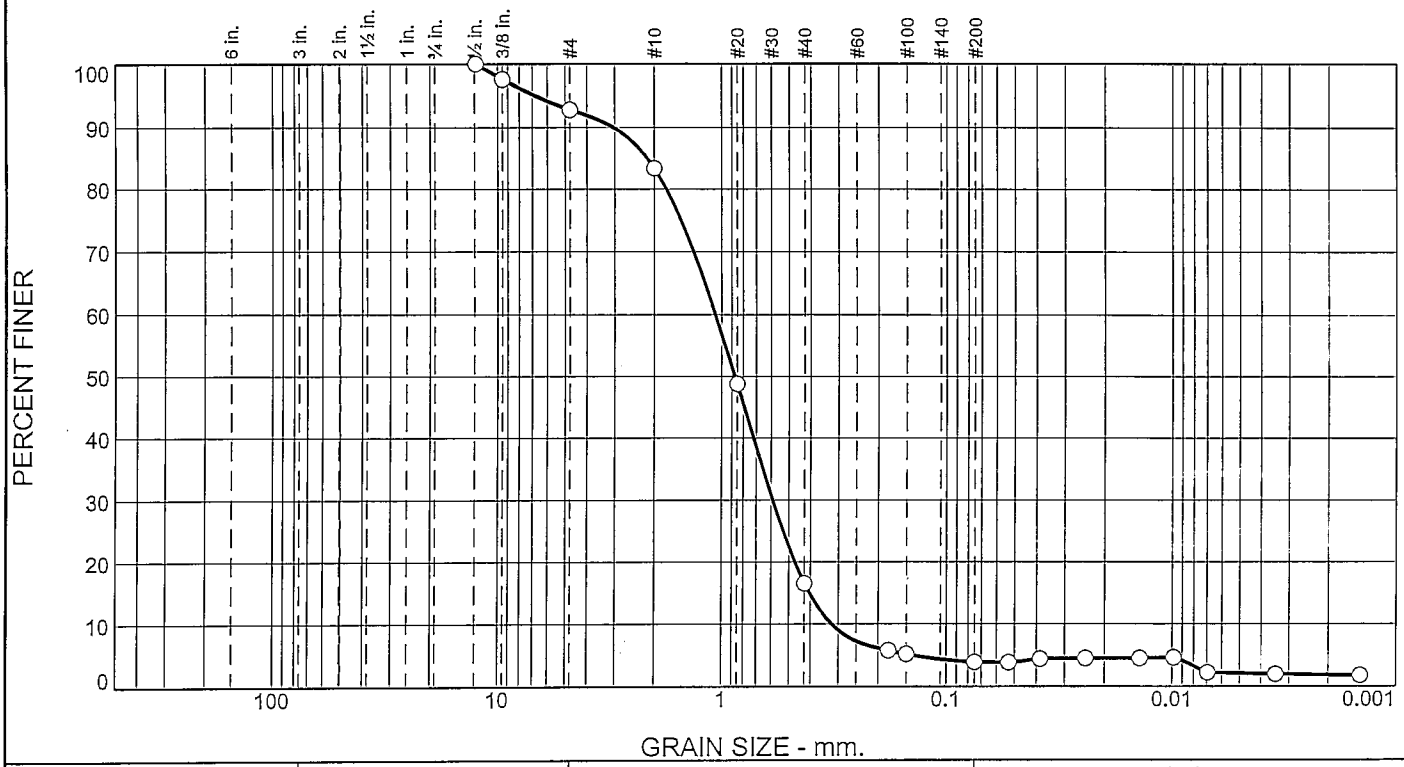
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	7.2	7.2	9.4	66.8	12.7	88.9	1.8	2.1	3.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.3212	0.4036	0.4685	0.5887	0.8702	1.0659	1.7656	2.1458	3.0323	6.7919

Fineness Modulus	C_u	C_c
3.13	3.32	1.01

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	7.2	9.4	66.8	12.7	1.8	2.1

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	97.6		
4.75 mm	92.8		
2.00 mm	83.4		
0.850 mm	48.8		
0.425 mm	16.6		
0.180 mm	5.8		
0.150 mm	5.2		
0.075 mm	3.9		
0.053 mm	3.8		
0.0384 mm.	4.4		
0.0242 mm.	4.5		
0.0140 mm.	4.5		
0.0098 mm.	4.6		
0.0070 mm.	2.2		
0.0034 mm.	2.0		
0.0014 mm.	1.8		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 17.0%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= SP AASHTO (M 145)=

Coefficients

D_{90}= 3.0323 D_{85}= 2.1458 D_{60}= 1.0659
D_{50}= 0.8702 D_{30}= 0.5887 D_{15}= 0.4036
D_{10}= 0.3212 C_u= 3.32 C_c= 1.01

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/19/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-12 (16.5-17.0 **Depth:** T11L056-43 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-44 **Sample Number:** SB-3 (5.0-5.5)

Material Description: Sample appears to be mostly clay
Moisture content as received = 27.4%

Sample Date: 12/9/11

Date Received: 12/10/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/19/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
149.16	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	108.08	100.61	95.0
		4.75 mm	112.82	100.61	86.8
		2.00 mm	136.94	100.61	62.4
50.13	0.00	0.850 mm	106.73	100.61	54.8
		0.425 mm	105.19	100.61	49.1
		0.180 mm	105.44	100.61	43.1
		0.150 mm	101.42	100.61	42.1
		0.075 mm	103.43	100.61	38.6
		0.053 mm	101.55	100.61	37.4

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =62.4
Weight of hydrometer sample =50.13
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	20.9	1.0220	1.0181	0.0135	21.0	10.7	0.0313	36.2
5.00	21.0	1.0220	1.0181	0.0135	21.0	10.7	0.0198	36.2
15.00	21.3	1.0220	1.0181	0.0134	21.0	10.7	0.0114	36.3
30.00	21.5	1.0200	1.0162	0.0134	19.0	11.3	0.0082	32.4
60.00	20.7	1.0170	1.0131	0.0135	16.0	12.1	0.0061	26.1
250.00	20.2	1.0160	1.0120	0.0136	15.0	12.3	0.0030	24.0
1440.00	19.7	1.0150	1.0109	0.0137	14.0	12.6	0.0013	21.9

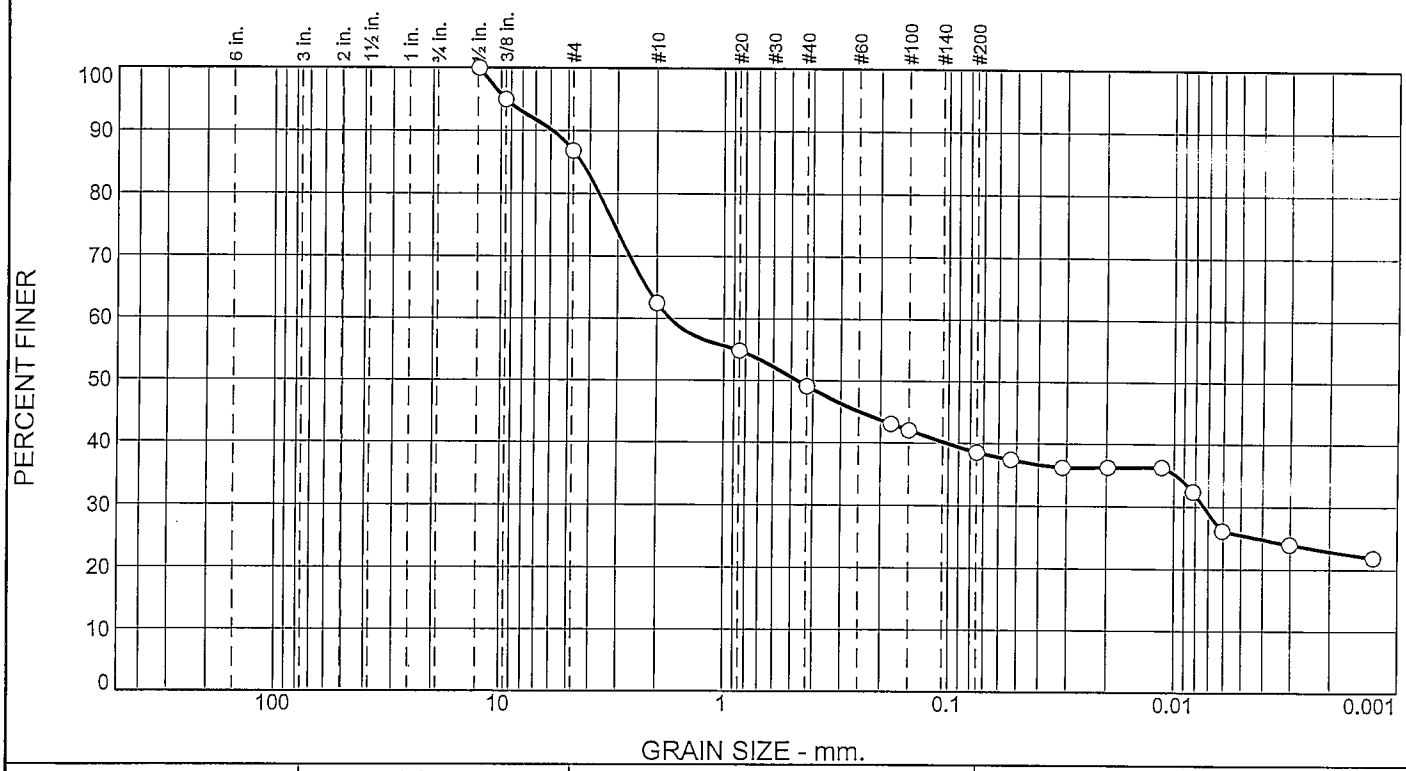
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	13.2	13.2	24.4	13.3	10.5	48.2	13.1	25.5	38.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0073	0.4691	1.7483	3.6408	4.3740	5.8724	9.5052

Fineness Modulus
2.55

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	13.2	24.4	13.3	10.5	13.1	25.5

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	95.0		
4.75 mm	86.8		
2.00 mm	62.4		
0.850 mm	54.8		
0.425 mm	49.1		
0.180 mm	43.1		
0.150 mm	42.1		
0.075 mm	38.6		
0.053 mm	37.4		
0.0313 mm.	36.2		
0.0198 mm.	36.2		
0.0114 mm.	36.3		
0.0082 mm.	32.4		
0.0061 mm.	26.1		
0.0030 mm.	24.0		
0.0013 mm.	21.9		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 27.4%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 5.8724 D_{85}= 4.3740 D_{60}= 1.7483
D_{50}= 0.4691 D_{30}= 0.0073 D_{15}=
D_{10}= C_u= C_c=

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/10/11 **Date Tested:** 12/19/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-3 (5.0-5.5) **Depth:** T11L056-44 **Date Sampled:** 12/9/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-45 **Sample Number:** SB-15 (10.0-10.5)

Material Description: Sample appears to be mostly clay
Moisture content as received = 10.4%

Sample Date: 12/10/11

Date Received: 12/13/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/19/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
194.32	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	109.99	100.61	95.2
		4.75 mm	112.53	100.61	89.0
		2.00 mm	135.45	100.61	71.1
50.34	0.00	0.850 mm	109.28	100.61	58.9
		0.425 mm	108.05	100.61	48.4
		0.180 mm	109.89	100.61	35.2
		0.150 mm	102.88	100.61	32.0
		0.075 mm	105.79	100.61	24.7
		0.053 mm	101.66	100.61	23.2

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =71.1
Weight of hydrometer sample =50.34
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.5	1.0140	1.0099	0.0137	13.0	12.9	0.0348	22.5
5.00	19.5	1.0130	1.0089	0.0137	12.0	13.1	0.0222	20.2
15.00	19.6	1.0120	1.0079	0.0137	11.0	13.4	0.0130	18.0
30.00	19.9	1.0110	1.0070	0.0137	10.0	13.6	0.0092	15.8
60.00	20.0	1.0100	1.0060	0.0136	9.0	13.9	0.0066	13.6
250.00	18.7	1.0090	1.0048	0.0139	8.0	14.2	0.0033	10.9
1440.00	18.8	1.0080	1.0038	0.0139	7.0	14.4	0.0014	8.7

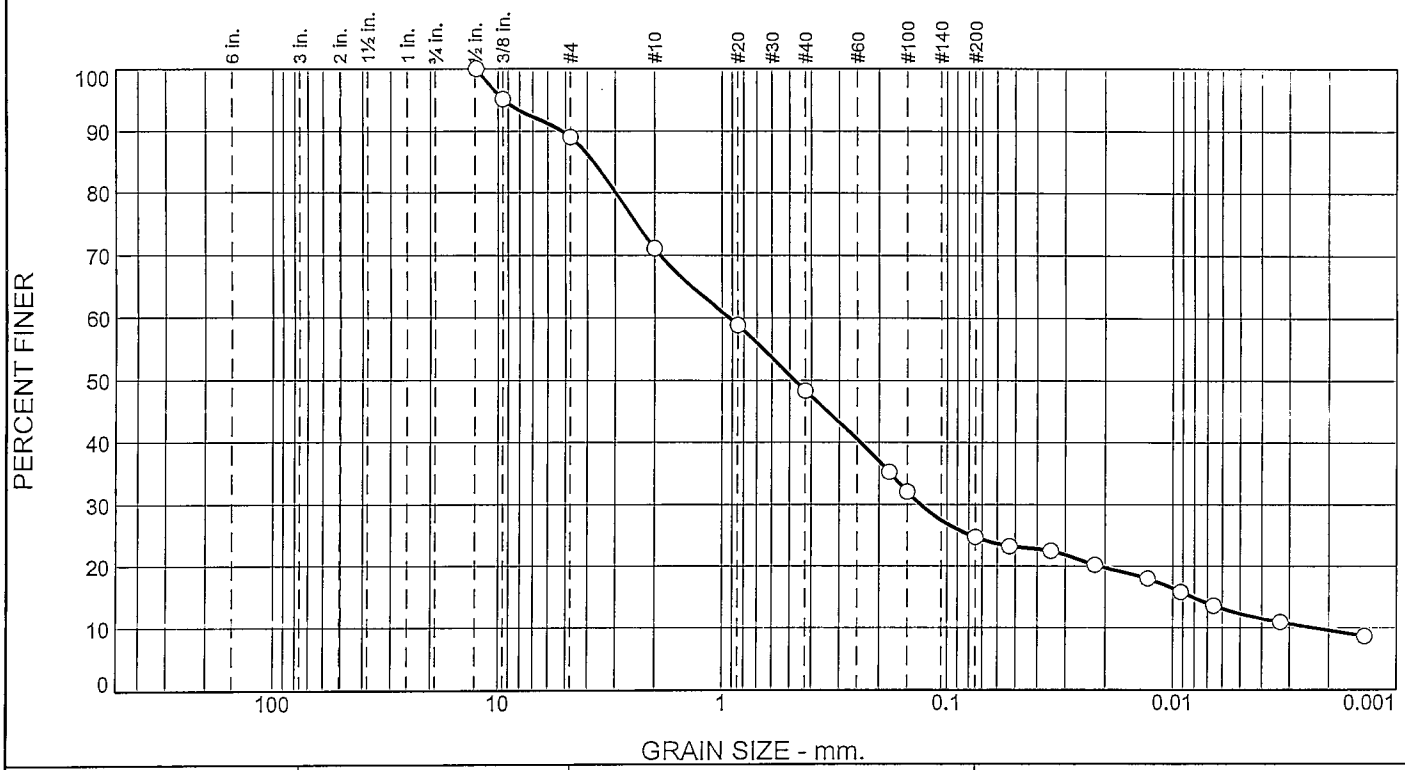
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	11.0	11.0	17.9	22.7	23.7	64.3	12.5	12.2	24.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0024	0.0082	0.0213	0.1312	0.4732	0.9261	2.9786	3.7404	5.1631	9.3800

Fineness Modulus	C_u	C_c
2.49	392.91	7.88

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	11.0	17.9	22.7	23.7	12.5	12.2

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	95.2		
4.75 mm	89.0		
2.00 mm	71.1		
0.850 mm	58.9		
0.425 mm	48.4		
0.180 mm	35.2		
0.150 mm	32.0		
0.075 mm	24.7		
0.053 mm	23.2		
0.0348 mm.	22.5		
0.0222 mm.	20.2		
0.0130 mm.	18.0		
0.0092 mm.	15.8		
0.0066 mm.	13.6		
0.0033 mm.	10.9		
0.0014 mm.	8.7		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 10.4%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 5.1631 D_{85}= 3.7404 D_{60}= 0.9261
D_{50}= 0.4732 D_{30}= 0.1312 D_{15}= 0.0082
D_{10}= 0.0024 C_u= 392.91 C_c= 7.88

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/19/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-15 (10.0-10.5) **Depth:** T11L056-45 **Date Sampled:** 12/10/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-46 **Sample Number:** SB-15 (25.0-25.5)

Material Description: Sample appears to be mostly clay
Moisture content as received = 14.0%

Sample Date: 12/10/11

Date Received: 12/13/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/19/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
176.17	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	104.90	100.61	97.6
		4.75 mm	106.90	100.61	94.0
		2.00 mm	122.38	100.61	81.6
50.58	0.00	0.850 mm	115.25	100.61	58.0
		0.425 mm	117.37	100.61	31.0
		0.180 mm	113.07	100.61	10.8
		0.150 mm	101.93	100.61	8.7
		0.075 mm	102.64	100.61	5.4
		0.053 mm	101.11	100.61	4.6

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =81.6
Weight of hydrometer sample =50.58
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.1	1.0060	1.0019	0.0138	5.0	15.0	0.0378	4.8
5.00	19.2	1.0050	1.0009	0.0138	4.0	15.2	0.0241	2.3
15.00	19.5	1.0050	1.0009	0.0137	4.0	15.2	0.0138	2.4
30.00	19.9	1.0050	1.0010	0.0137	4.0	15.2	0.0097	2.5
60.00	19.9	1.0050	1.0010	0.0137	4.0	15.2	0.0069	2.5
250.00	19.7	1.0050	1.0009	0.0137	4.0	15.2	0.0034	2.4
1440.00	19.8	1.0050	1.0009	0.0137	4.0	15.2	0.0014	2.5

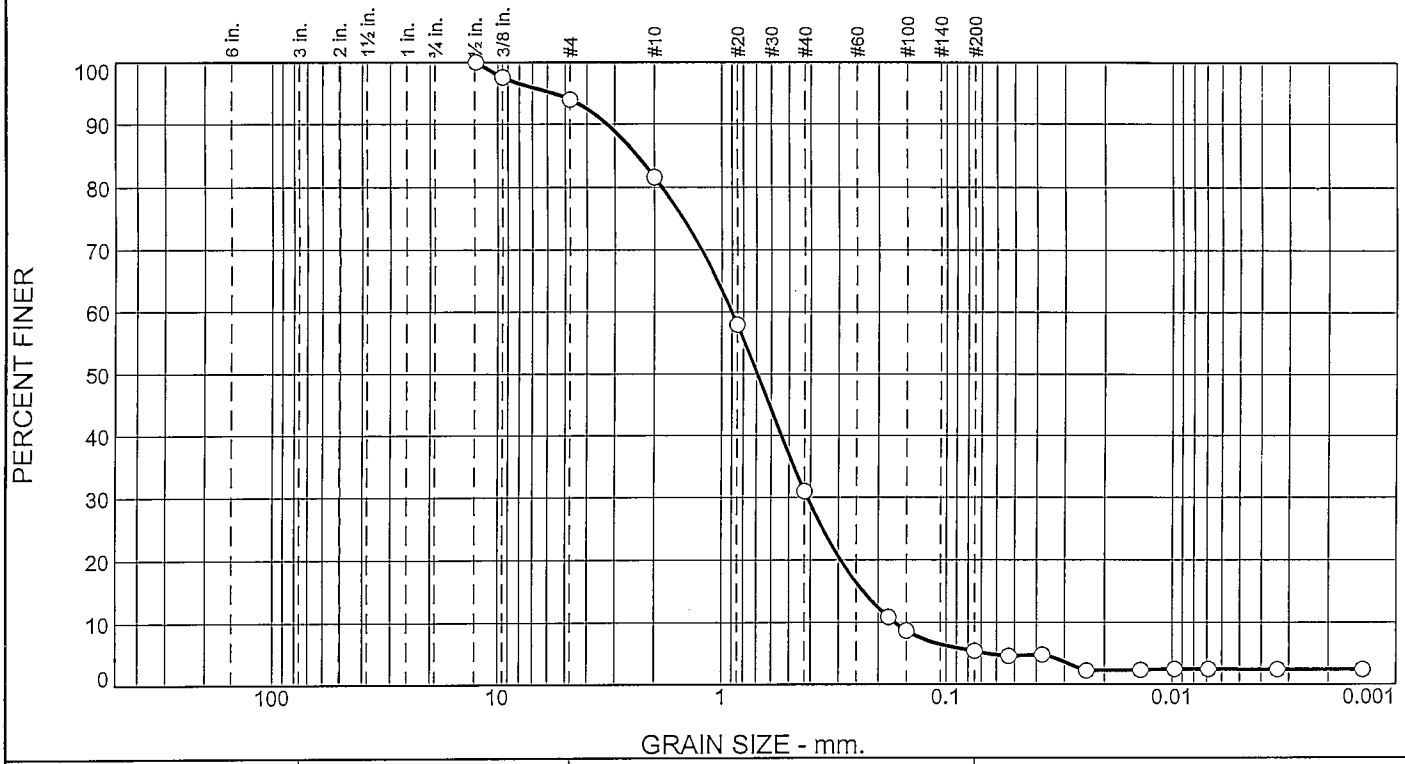
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	6.0	6.0	12.4	50.6	25.6	88.6	2.9	2.5	5.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1686	0.2327	0.2933	0.4134	0.6912	0.8984	1.8497	2.3795	3.2526	5.6190

Fineness Modulus	C_u	C_c
2.81	5.33	1.13

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.0	12.4	50.6	25.6	2.9	2.5

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	97.6		
4.75 mm	94.0		
2.00 mm	81.6		
0.850 mm	58.0		
0.425 mm	31.0		
0.180 mm	10.8		
0.150 mm	8.7		
0.075 mm	5.4		
0.053 mm	4.6		
0.0378 mm.	4.8		
0.0241 mm.	2.3		
0.0138 mm.	2.4		
0.0097 mm.	2.5		
0.0069 mm.	2.5		
0.0034 mm.	2.4		
0.0014 mm.	2.5		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 14.0%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 3.2526 D_{85}= 2.3795 D_{60}= 0.8984
D_{50}= 0.6912 D_{30}= 0.4134 D_{15}= 0.2327
D_{10}= 0.1686 C_u= 5.33 C_c= 1.13

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/19/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-15 (25.0-25.5) **Depth:** T11L056-46 **Date Sampled:** 12/10/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-47 **Sample Number:** SB-14 (9.5-10.0)
Material Description: Sample appears to be mostly clay
Moisture content as received = 8.1%
Sample Date: 12/10/11
Date Received: 12/13/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/19/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
189.84	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	123.74	100.61	87.8
		4.75 mm	127.33	100.61	73.7
		2.00 mm	136.41	100.61	54.9
50.39	0.00	0.850 mm	113.08	100.61	41.3
		0.425 mm	109.19	100.61	32.0
		0.180 mm	108.90	100.61	22.9
		0.150 mm	104.55	100.61	18.6
		0.075 mm	103.58	100.61	15.4
		0.053 mm	102.13	100.61	13.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =54.9
Weight of hydrometer sample =50.39
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.3	1.0120	1.0079	0.0138	11.0	13.4	0.0356	13.8
5.00	19.3	1.0100	1.0059	0.0138	9.0	13.9	0.0230	10.3
15.00	19.4	1.0100	1.0059	0.0137	9.0	13.9	0.0132	10.3
30.00	19.9	1.0100	1.0060	0.0137	9.0	13.9	0.0093	10.4
60.00	19.8	1.0100	1.0059	0.0137	9.0	13.9	0.0066	10.4
250.00	19.2	1.0080	1.0039	0.0138	7.0	14.4	0.0033	6.8
1440.00	19.4	1.0070	1.0029	0.0137	6.0	14.7	0.0014	5.1

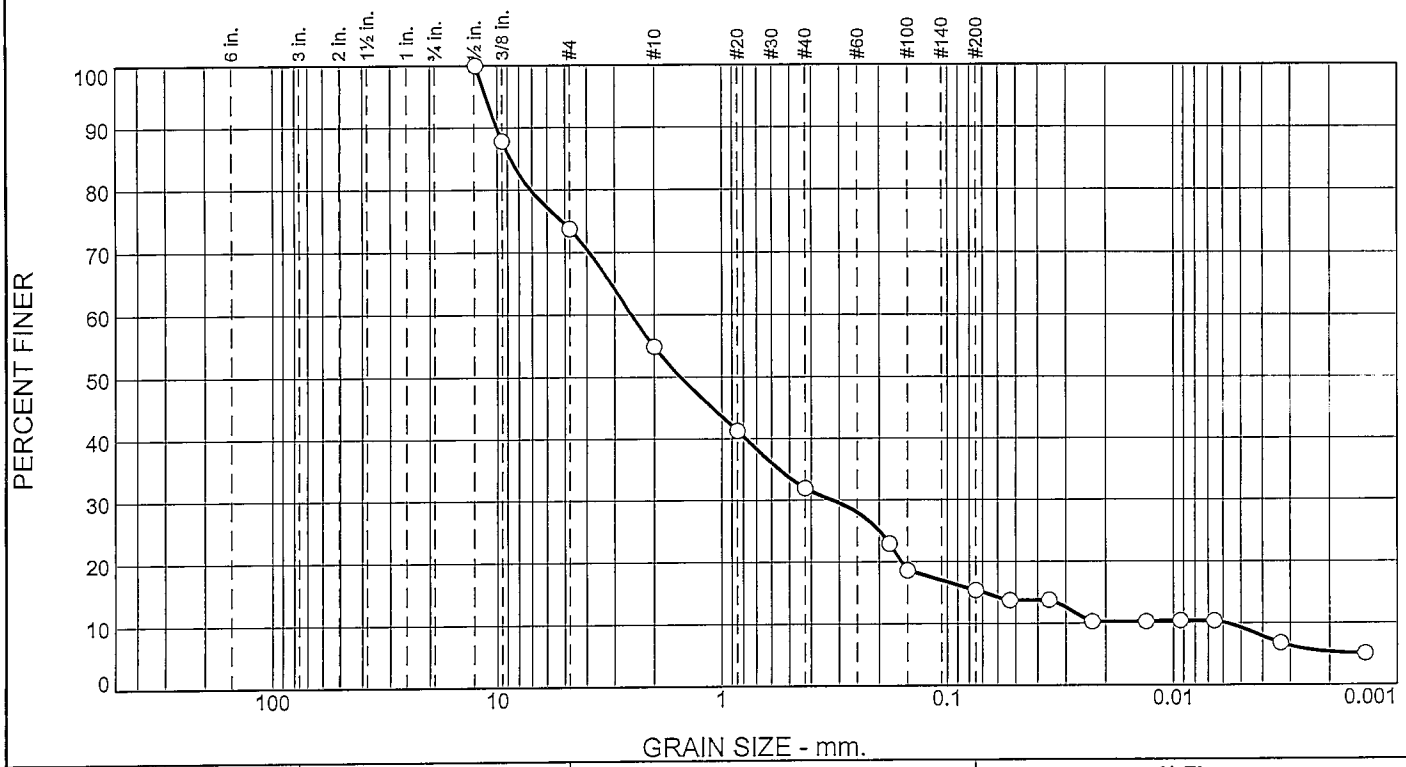
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	26.3	26.3	18.8	22.9	16.6	58.3	6.1	9.3	15.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0058	0.0684	0.1595	0.3234	1.5299	2.5232	7.0826	8.7300	10.0487	11.2558

Fineness Modulus	C_u	C_c
3.50	435.67	7.16

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	26.3	18.8	22.9	16.6	6.1	9.3

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	87.8		
4.75 mm	73.7		
2.00 mm	54.9		
0.850 mm	41.3		
0.425 mm	32.0		
0.180 mm	22.9		
0.150 mm	18.6		
0.075 mm	15.4		
0.053 mm	13.7		
0.0356 mm.	13.8		
0.0230 mm.	10.3		
0.0132 mm.	10.3		
0.0093 mm.	10.4		
0.0066 mm.	10.4		
0.0033 mm.	6.8		
0.0014 mm.	5.1		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 8.1%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 10.0487 D_{85}= 8.7300 D_{60}= 2.5232
D_{50}= 1.5299 D_{30}= 0.3234 D_{15}= 0.0684
D_{10}= 0.0058 C_u= 435.67 C_c= 7.16

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/19/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-14 (9.5-10.0) **Depth:** T11L056-47 **Date Sampled:** 12/10/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/5/2012

Client: TRC Solutions

Depth: T11L056-48 **Sample Number:** SB-DUP-01

Material Description: Sample appears to be mostly clay
Moisture content as recevied = 8.7%

Sample Date: 12/10/11

Date Received: 12/13/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/28/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
200.85	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	119.98	100.61	90.4
		4.75 mm	121.45	100.61	80.0
		2.00 mm	139.57	100.61	60.6
50.55	0.00	0.850 mm	113.89	100.61	44.7
		0.425 mm	108.89	100.61	34.7
		0.180 mm	109.50	100.61	24.1
		0.150 mm	102.26	100.61	22.1
		0.075 mm	105.56	100.61	16.2
		0.053 mm	102.20	100.61	14.3

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =60.6
Weight of hydrometer sample =50.55
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.6	1.0110	1.0069	0.0137	10.0	13.6	0.0358	13.3
5.00	19.6	1.0100	1.0059	0.0137	9.0	13.9	0.0229	11.4
15.00	19.8	1.0100	1.0059	0.0137	9.0	13.9	0.0132	11.4
30.00	20.0	1.0100	1.0060	0.0136	9.0	13.9	0.0093	11.5
60.00	20.1	1.0090	1.0050	0.0136	8.0	14.2	0.0066	9.6
250.00	17.9	1.0080	1.0037	0.0140	7.0	14.4	0.0034	7.1
1440.00	17.9	1.0070	1.0027	0.0140	6.0	14.7	0.0014	5.2

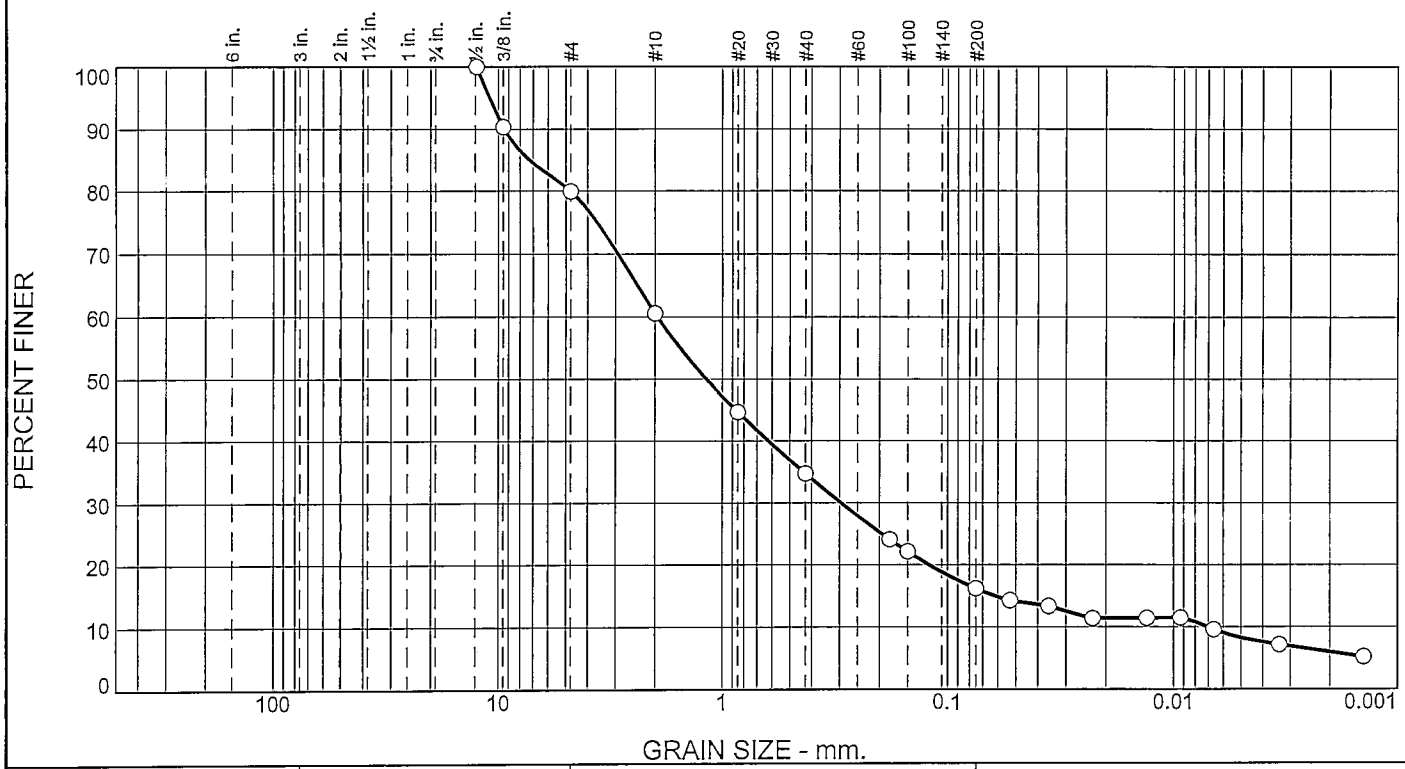
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	20.0	20.0	19.4	25.9	18.5	63.8	7.9	8.3	16.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0071	0.0622	0.1209	0.2953	1.1794	1.9502	4.7566	7.2839	9.3791	10.9504

Fineness Modulus	C_u	C_c
3.23	276.13	6.33

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	20.0	19.4	25.9	18.5	7.9	8.3

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	90.4		
4.75 mm	80.0		
2.00 mm	60.6		
0.850 mm	44.7		
0.425 mm	34.7		
0.180 mm	24.1		
0.150 mm	22.1		
0.075 mm	16.2		
0.053 mm	14.3		
0.0358 mm.	13.3		
0.0229 mm.	11.4		
0.0132 mm.	11.4		
0.0093 mm.	11.5		
0.0066 mm.	9.6		
0.0034 mm.	7.1		
0.0014 mm.	5.2		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as recevied = 8.7%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 9.3791 D_{85}= 7.2839 D_{60}= 1.9502
D_{50}= 1.1794 D_{30}= 0.2953 D_{15}= 0.0622
D_{10}= 0.0071 C_u= 276.13 C_c= 6.33

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/28/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-DUP-01 **Depth:** T11L056-48 **Date Sampled:** 12/10/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-49 **Sample Number:** SB-1 (7.5-8.0)

Material Description: Sample appears to be mostly clay
Moisture content as received = 9.2%

Sample Date: 12/10/11

Date Received: 12/13/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/28/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
204.04	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	123.45	100.61	88.8
		4.75 mm	128.30	100.61	75.2
		2.00 mm	140.15	100.61	55.9
50.42	0.00	0.850 mm	119.70	100.61	34.7
		0.425 mm	113.29	100.61	20.7
		0.180 mm	106.74	100.61	13.9
		0.150 mm	101.68	100.61	12.7
		0.075 mm	102.56	100.61	10.5
		0.053 mm	101.36	100.61	9.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =55.9
Weight of hydrometer sample =50.42
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.8	1.0090	1.0049	0.0137	8.0	14.2	0.0364	8.8
5.00	19.9	1.0090	1.0050	0.0137	8.0	14.2	0.0230	8.8
15.00	20.0	1.0090	1.0050	0.0136	8.0	14.2	0.0133	8.8
30.00	20.1	1.0090	1.0050	0.0136	8.0	14.2	0.0094	8.9
60.00	20.1	1.0090	1.0050	0.0136	8.0	14.2	0.0066	8.9
250.00	18.4	1.0070	1.0028	0.0139	6.0	14.7	0.0034	4.9
1440.00	18.2	1.0070	1.0027	0.0140	6.0	14.7	0.0014	4.9

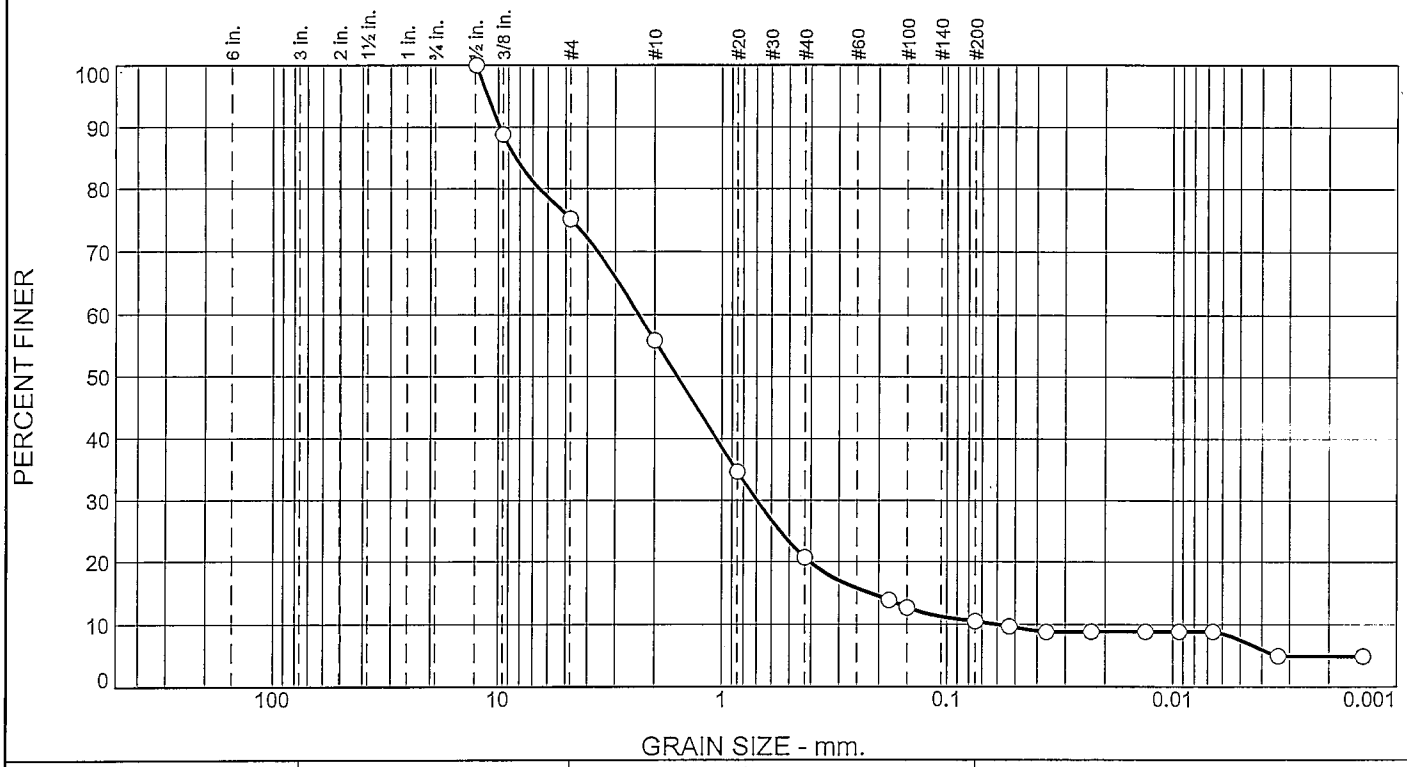
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	24.8	24.8	19.3	35.2	10.2	64.7	3.0	7.5	10.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0596	0.2176	0.4047	0.6947	1.5856	2.3560	6.5281	8.3577	9.8273	11.1447

Fineness Modulus	C_u	C_c
3.77	39.55	3.44

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	24.8	19.3	35.2	10.2	3.0	7.5

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	88.8		
4.75 mm	75.2		
2.00 mm	55.9		
0.850 mm	34.7		
0.425 mm	20.7		
0.180 mm	13.9		
0.150 mm	12.7		
0.075 mm	10.5		
0.053 mm	9.7		
0.0364 mm.	8.8		
0.0230 mm.	8.8		
0.0133 mm.	8.8		
0.0094 mm.	8.9		
0.0066 mm.	8.9		
0.0034 mm.	4.9		
0.0014 mm.	4.9		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 9.2%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 9.8273 D_{85}= 8.3577 D_{60}= 2.3560
D_{50}= 1.5856 D_{30}= 0.6947 D_{15}= 0.2176
D_{10}= 0.0596 C_u= 39.55 C_c= 3.44

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/28/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-1 (7.5-8.0) **Depth:** T11L056-49 **Date Sampled:** 12/10/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-50 **Sample Number:** SB-1 (24.5-25.0)
Material Description: Sample appears to be mostly clay
Moisture content as received = 15.3%
Sample Date: 12/10/11
Date Received: 12/13/11
USCS Classification: SP
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/28/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
341.19	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	160.57	100.61	82.4
		4.75 mm	145.12	100.61	69.4
		2.00 mm	146.40	100.61	56.0
50.71	0.00	0.850 mm	114.29	100.61	40.9
		0.425 mm	117.23	100.61	22.5
		0.180 mm	112.52	100.61	9.4
		0.150 mm	102.01	100.61	7.8
		0.075 mm	103.30	100.61	4.9
		0.053 mm	100.80	100.61	4.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =56.0
Weight of hydrometer sample =50.71
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.0	1.0070	1.0027	0.0140	6.0	14.7	0.0379	4.8
5.00	18.2	1.0060	1.0017	0.0140	5.0	15.0	0.0242	3.1
15.00	18.3	1.0060	1.0018	0.0139	5.0	15.0	0.0139	3.1
30.00	18.6	1.0050	1.0008	0.0139	4.0	15.2	0.0099	1.4
60.00	18.4	1.0050	1.0008	0.0139	4.0	15.2	0.0070	1.4
250.00	17.9	1.0050	1.0007	0.0140	4.0	15.2	0.0035	1.2
1440.00	18.0	1.0050	1.0007	0.0140	4.0	15.2	0.0014	1.3

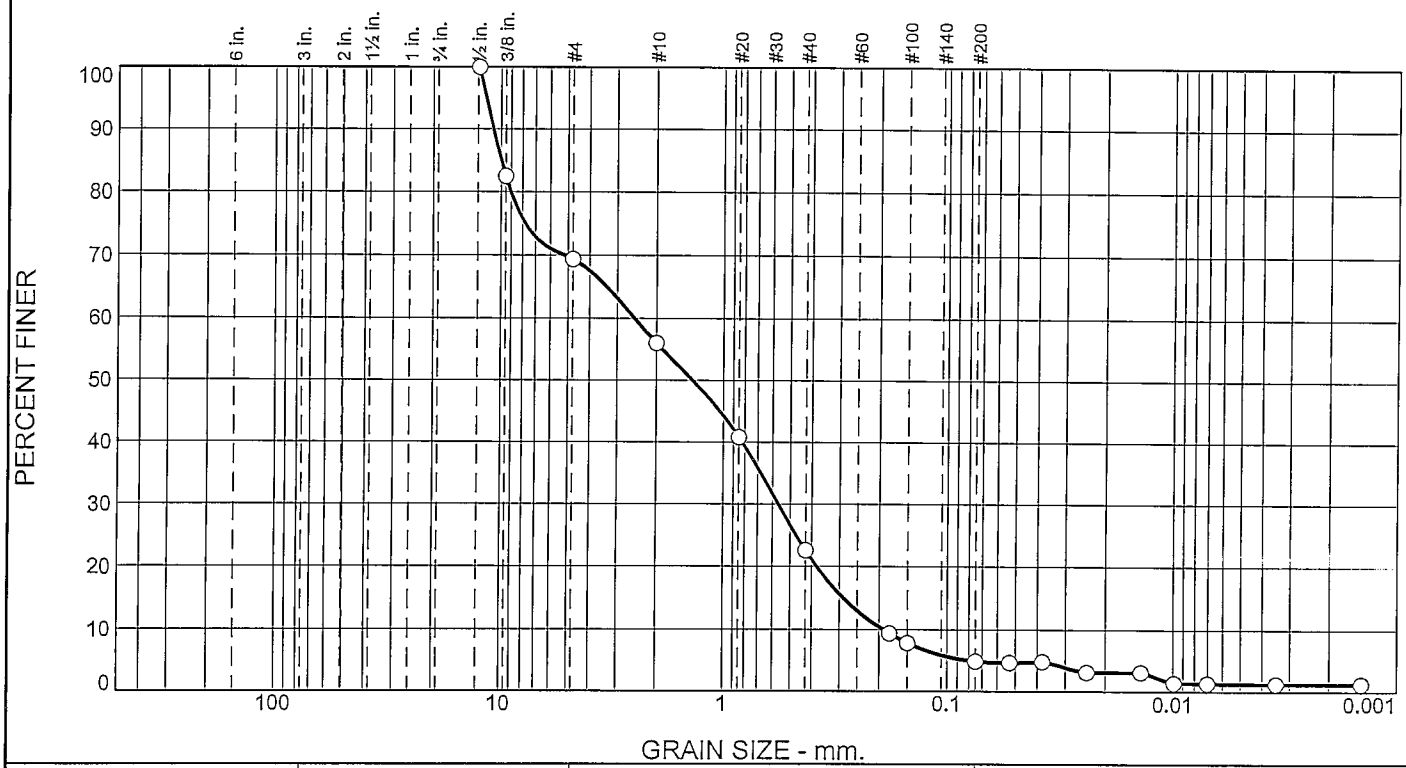
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	30.6	30.6	13.4	33.5	17.6	64.5	3.6	1.3	4.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1920	0.2876	0.3795	0.5653	1.3774	2.5138	9.0160	9.9670	10.8139	11.6439

Fineness Modulus	C_u	C_c
3.87	13.09	0.66

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	30.6	13.4	33.5	17.6	3.6	1.3

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	82.4		
4.75 mm	69.4		
2.00 mm	56.0		
0.850 mm	40.9		
0.425 mm	22.5		
0.180 mm	9.4		
0.150 mm	7.8		
0.075 mm	4.9		
0.053 mm	4.7		
0.0379 mm.	4.8		
0.0242 mm.	3.1		
0.0139 mm.	3.1		
0.0099 mm.	1.4		
0.0070 mm.	1.4		
0.0035 mm.	1.2		
0.0014 mm.	1.3		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 15.3%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= SP AASHTO (M 145)=

Coefficients

D_{90}= 10.8139 D_{85}= 9.9670 D_{60}= 2.5138
D_{50}= 1.3774 D_{30}= 0.5653 D_{15}= 0.2876
D_{10}= 0.1920 C_u= 13.09 C_c= 0.66

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/28/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-1 (24.5-25.0) **Depth:** T11L056-50 **Date Sampled:** 12/10/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-51 **Sample Number:** SB-16 (9.5-10)
Material Description: Sample appears to be mostly clay
Moisture content as received = 14.5%
Sample Date: 12/10/11
Date Received: 12/13/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/28/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
251.06	0.00	25.0 mm	0.00	0.00	100.0
		12.5 mm	117.02	100.61	93.5
		9.5 mm	121.92	100.61	85.0
		4.75 mm	133.23	100.61	72.0
		2.00 mm	133.19	100.61	59.0
50.02	0.00	0.850 mm	114.02	100.61	43.2
		0.425 mm	109.12	100.61	33.1
		0.180 mm	107.41	100.61	25.1
		0.150 mm	101.71	100.61	23.8
		0.075 mm	103.26	100.61	20.7
		0.053 mm	101.59	100.61	19.5

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =59.0
Weight of hydrometer sample =50.02
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	20.0	1.0130	1.0090	0.0136	12.0	13.1	0.0350	17.0
5.00	20.0	1.0120	1.0080	0.0136	11.0	13.4	0.0223	15.1
15.00	20.1	1.0110	1.0070	0.0136	10.0	13.6	0.0130	13.2
30.00	20.5	1.0100	1.0060	0.0136	9.0	13.9	0.0092	11.4
60.00	20.1	1.0100	1.0060	0.0136	9.0	13.9	0.0066	11.3
250.00	20.1	1.0090	1.0050	0.0136	8.0	14.2	0.0032	9.4
1440.00	19.8	1.0070	1.0029	0.0137	6.0	14.7	0.0014	5.6

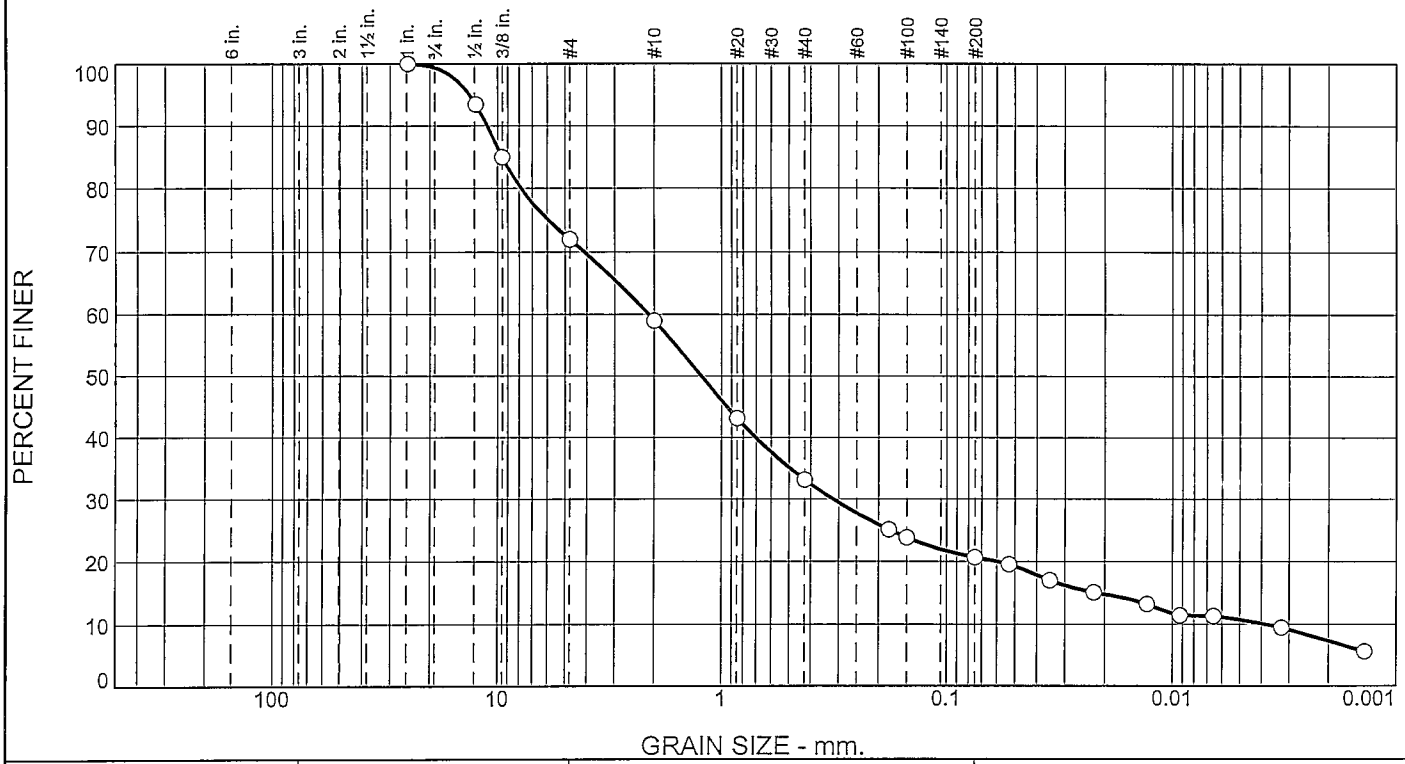
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.6	27.4	28.0	13.0	25.9	12.4	51.3	10.0	10.7	20.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0038	0.0215	0.0592	0.3179	1.2324	2.1188	7.8187	9.5077	11.1243	13.3206

Fineness Modulus	C_u	C_c
3.42	552.92	12.45

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.6	27.4	13.0	25.9	12.4	10.0	10.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
25.0 mm	100.0		
12.5 mm	93.5		
9.5 mm	85.0		
4.75 mm	72.0		
2.00 mm	59.0		
0.850 mm	43.2		
0.425 mm	33.1		
0.180 mm	25.1		
0.150 mm	23.8		
0.075 mm	20.7		
0.053 mm	19.5		
0.0350 mm.	17.0		
0.0223 mm.	15.1		
0.0130 mm.	13.2		
0.0092 mm.	11.4		
0.0066 mm.	11.3		
0.0032 mm.	9.4		
0.0014 mm.	5.6		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 14.5%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 11.1243 D_{85}= 9.5077 D_{60}= 2.1188
D_{50}= 1.2324 D_{30}= 0.3179 D_{15}= 0.0215
D_{10}= 0.0038 C_u= 552.92 C_c= 12.45

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/28/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-16 (9.5-10) **Depth:** T11L056-51 **Date Sampled:** 12/10/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-52 **Sample Number:** SB-16 (24.5-25.0)
Material Description: Sample appears to be mostly clay
Moisture content as received = 8.4%
Sample Date: 12/10/11
Date Received: 12/13/11
USCS Classification: GW
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/29/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
418.69	0.00	25.0 mm	0.00	0.00	100.0
		12.5 mm	155.43	100.61	86.9
		9.5 mm	221.98	100.61	57.9
		4.75 mm	160.05	100.61	43.7
		2.00 mm	170.89	100.61	26.9
50.30	0.00	0.850 mm	121.22	100.61	15.9
		0.425 mm	110.76	100.61	10.5
		0.180 mm	109.21	100.61	5.9
		0.150 mm	101.92	100.61	5.2
		0.075 mm	104.08	100.61	3.3
		0.053 mm	101.71	100.61	2.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =26.9
Weight of hydrometer sample =50.30
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	20.9	1.0060	1.0021	0.0135	5.0	15.0	0.0369	1.8
5.00	20.8	1.0060	1.0021	0.0135	5.0	15.0	0.0234	1.8
15.00	21.0	1.0060	1.0021	0.0135	5.0	15.0	0.0135	1.8
30.00	21.1	1.0060	1.0021	0.0135	5.0	15.0	0.0095	1.8
60.00	20.1	1.0060	1.0020	0.0136	5.0	15.0	0.0068	1.7
250.00	20.0	1.0060	1.0020	0.0136	5.0	15.0	0.0033	1.7
1440.00	19.8	1.0060	1.0019	0.0137	5.0	15.0	0.0014	1.7

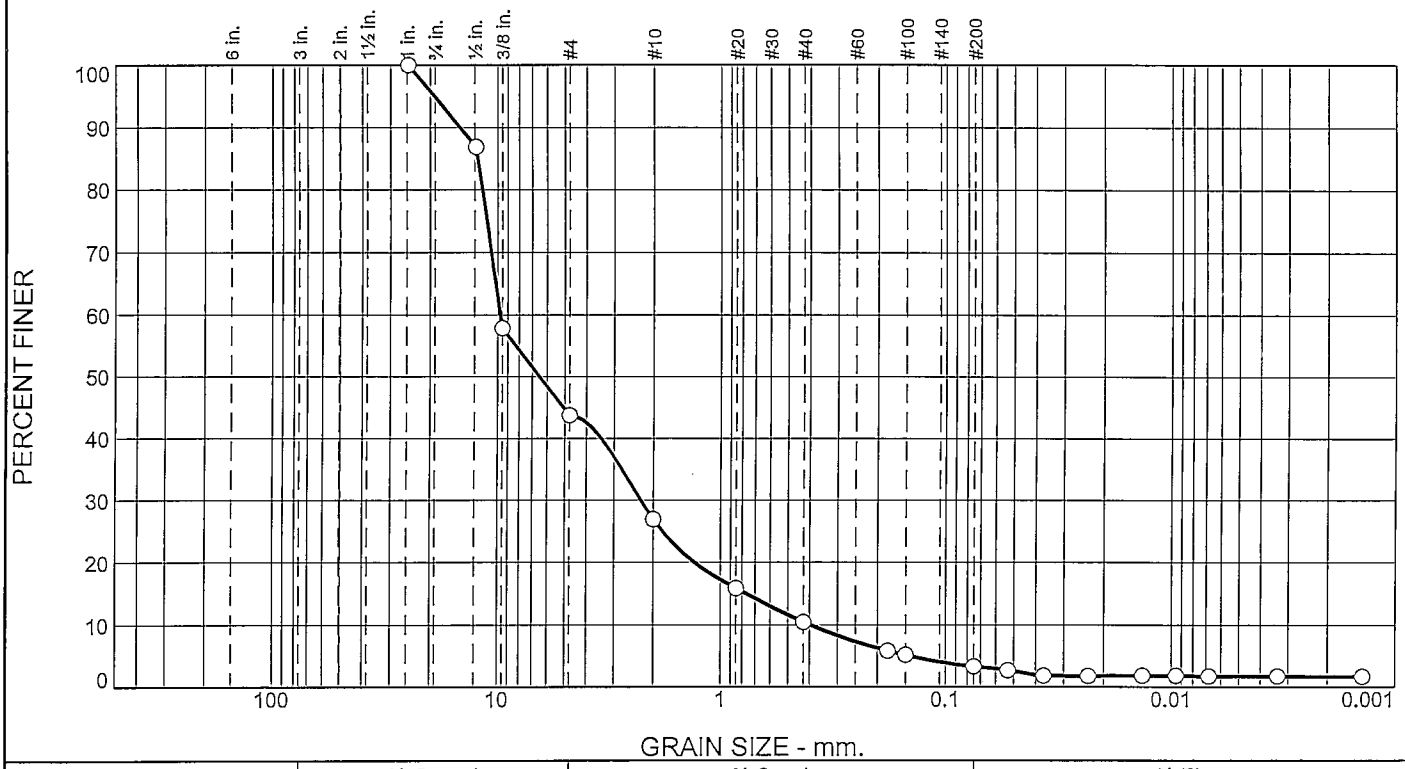
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	5.1	51.2	56.3	16.8	16.4	7.2	40.4	1.6	1.7	3.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.3968	0.7628	1.3090	2.2758	6.4797	9.7155	11.6744	12.2519	14.7240	19.1860

Fineness Modulus	C_u	C_c
5.27	24.49	1.34

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	5.1	51.2	16.8	16.4	7.2	1.6	1.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
25.0 mm	100.0		
12.5 mm	86.9		
9.5 mm	57.9		
4.75 mm	43.7		
2.00 mm	26.9		
0.850 mm	15.9		
0.425 mm	10.5		
0.180 mm	5.9		
0.150 mm	5.2		
0.075 mm	3.3		
0.053 mm	2.7		
0.0369 mm.	1.8		
0.0234 mm.	1.8		
0.0135 mm.	1.8		
0.0095 mm.	1.8		
0.0068 mm.	1.7		
0.0033 mm.	1.7		
0.0014 mm.	1.7		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 8.4%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= GW AASHTO (M 145)=

Coefficients

D_{90}= 14.7240 D_{85}= 12.2519 D_{60}= 9.7155
D_{50}= 6.4797 D_{30}= 2.2758 D_{15}= 0.7628
D_{10}= 0.3968 C_u= 24.49 C_c= 1.34

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/29/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-16 (24.5-25.0) **Depth:** T11L056-52 **Date Sampled:** 12/10/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-53 **Sample Number:** SB-13 (9.5-10.0)
Material Description: Sample appears to be mostly clay
Moisture content as received = 6.3%
Sample Date: 12/12/11
Date Received: 12/13/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/29/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
192.97	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	128.42	100.61	85.6
		4.75 mm	117.27	100.61	77.0
		2.00 mm	133.67	100.61	59.8
50.13	0.00	0.850 mm	109.95	100.61	48.7
		0.425 mm	108.30	100.61	39.5
		0.180 mm	110.88	100.61	27.2
		0.150 mm	102.60	100.61	24.9
		0.075 mm	105.92	100.61	18.5
		0.053 mm	102.44	100.61	16.3

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =59.8
Weight of hydrometer sample =50.13
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	20.4	1.0120	1.0080	0.0136	11.0	13.4	0.0351	15.4
5.00	20.5	1.0120	1.0080	0.0136	11.0	13.4	0.0222	15.4
15.00	20.6	1.0100	1.0061	0.0135	9.0	13.9	0.0130	11.6
30.00	20.8	1.0100	1.0061	0.0135	9.0	13.9	0.0092	11.7
60.00	20.1	1.0080	1.0040	0.0136	7.0	14.4	0.0067	7.6
250.00	20.0	1.0080	1.0040	0.0136	7.0	14.4	0.0033	7.6
1440.00	18.9	1.0060	1.0018	0.0138	5.0	15.0	0.0014	3.5

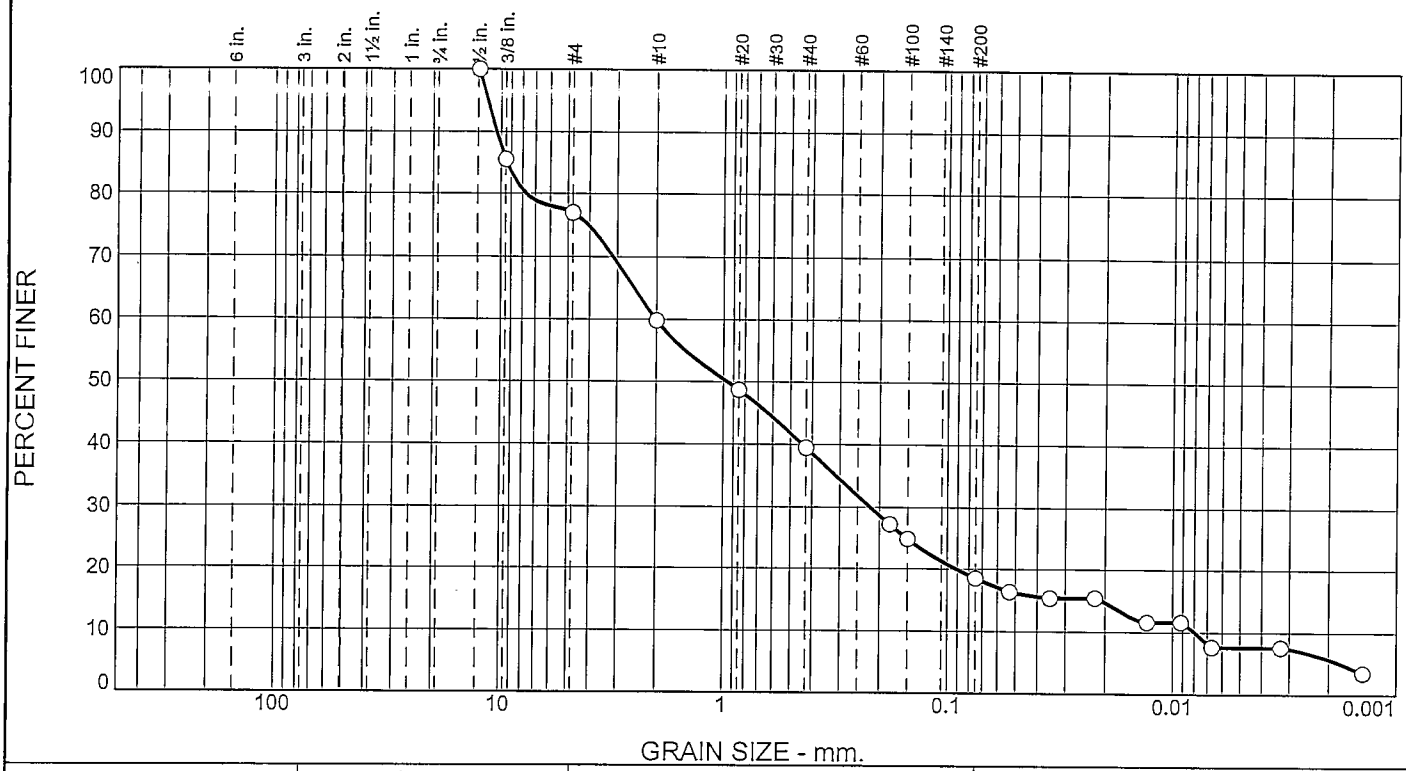
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	23.0	23.0	17.2	20.3	21.0	58.5	10.9	7.6	18.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0079	0.0207	0.0912	0.2197	0.9589	2.0180	7.6813	9.3552	10.4667	11.4749

Fineness Modulus	C_u	C_c
3.18	254.11	3.01

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	23.0	17.2	20.3	21.0	10.9	7.6

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	85.6		
4.75 mm	77.0		
2.00 mm	59.8		
0.850 mm	48.7		
0.425 mm	39.5		
0.180 mm	27.2		
0.150 mm	24.9		
0.075 mm	18.5		
0.053 mm	16.3		
0.0351 mm.	15.4		
0.0222 mm.	15.4		
0.0130 mm.	11.6		
0.0092 mm.	11.7		
0.0067 mm.	7.6		
0.0033 mm.	7.6		
0.0014 mm.	3.5		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 6.3%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 10.4667 D_{85}= 9.3552 D_{60}= 2.0180
D_{50}= 0.9589 D_{30}= 0.2197 D_{15}= 0.0207
D_{10}= 0.0079 C_u= 254.11 C_c= 3.01

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/29/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-13 (9.5-10.0) **Depth:** T11L056-53 **Date Sampled:** 12/12/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T111056-55 **Sample Number:** SB-13-10S (9.5-10.0)
Material Description: Sample appears to be mostly clay
Moisture content as received = 8.3%
Sample Date: 12/12/11
Date Received: 12/13/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/29/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
327.76	0.00	25.0 mm	0.00	0.00	100.0
		12.5 mm	111.26	0.00	66.1
		9.5 mm	125.28	100.61	58.5
		4.75 mm	134.86	100.61	48.1
		2.00 mm	142.44	100.61	35.3
50.33	0.00	0.850 mm	109.32	100.61	29.2
		0.425 mm	108.27	100.61	23.8
		0.180 mm	109.47	100.61	17.6
		0.150 mm	102.78	100.61	16.1
		0.075 mm	106.16	100.61	12.2
		0.053 mm	102.75	100.61	10.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =35.3
Weight of hydrometer sample =50.33
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	17.8	1.0130	1.0087	0.0140	12.0	13.1	0.0359	9.8
5.00	17.8	1.0120	1.0077	0.0140	11.0	13.4	0.0230	8.7
15.00	18.3	1.0110	1.0068	0.0139	10.0	13.6	0.0133	7.6
30.00	18.8	1.0110	1.0068	0.0139	10.0	13.6	0.0093	7.7
60.00	19.2	1.0100	1.0059	0.0138	9.0	13.9	0.0066	6.6
250.00	19.8	1.0070	1.0029	0.0137	6.0	14.7	0.0033	3.3
1440.00	19.4	1.0070	1.0029	0.0137	6.0	14.7	0.0014	3.3

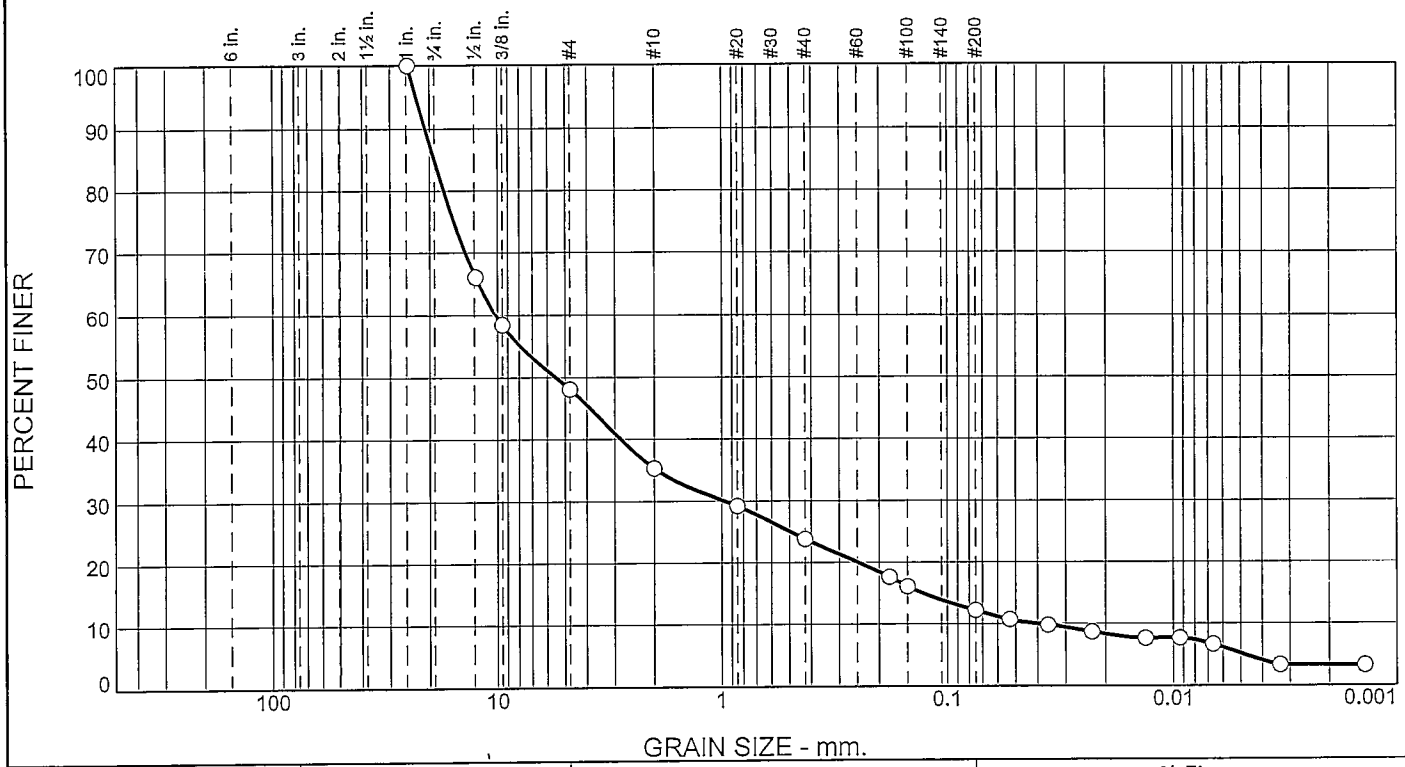
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	15.0	36.9	51.9	12.8	11.5	11.6	35.9	7.0	5.2	12.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0399	0.1288	0.2466	0.9660	5.4890	10.1375	17.2737	19.0353	20.8886	22.8653

Fineness Modulus	C_u	C_c
4.76	254.33	2.31

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	15.0	36.9	12.8	11.5	11.6	7.0	5.2

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
25.0 mm	100.0		
12.5 mm	66.1		
9.5 mm	58.5		
4.75 mm	48.1		
2.00 mm	35.3		
0.850 mm	29.2		
0.425 mm	23.8		
0.180 mm	17.6		
0.150 mm	16.1		
0.075 mm	12.2		
0.053 mm	10.7		
0.0359 mm.	9.8		
0.0230 mm.	8.7		
0.0133 mm.	7.6		
0.0093 mm.	7.7		
0.0066 mm.	6.6		
0.0033 mm.	3.3		
0.0014 mm.	3.3		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 8.3%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 20.8886 D_{85}= 19.0353 D_{60}= 10.1375
D_{50}= 5.4890 D_{30}= 0.9660 D_{15}= 0.1288
D_{10}= 0.0399 C_u= 254.33 C_c= 2.31

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/29/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-13-10S (9.5-10.0) **Depth:** T111056-55 **Date Sampled:** 12/12/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-56 **Sample Number:** SB-13-10S (21.5-22.)

Material Description: Sample appears to be mostly clay with small stones

Moisture content as received = 9.7%

Sample Date: 12/12/11

Date Received: 12/13/11

USCS Classification: SP

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/29/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
324.76	0.00	25.0 mm	0.00	0.00	100.0
		12.5 mm	125.95	100.61	92.2
		9.5 mm	160.71	100.61	73.7
		4.75 mm	147.68	100.61	59.2
		2.00 mm	161.44	100.61	40.5
50.92	0.00	0.850 mm	120.43	100.61	24.7
		0.425 mm	114.86	100.61	13.4
		0.180 mm	112.19	100.61	4.2
		0.150 mm	101.39	100.61	3.6
		0.075 mm	102.23	100.61	2.3
		0.053 mm	100.99	100.61	2.0

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =40.5
Weight of hydrometer sample =50.92
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	17.0	1.0060	1.0016	0.0142	5.0	15.0	0.0388	2.0
5.00	17.1	1.0050	1.0006	0.0142	4.0	15.2	0.0247	0.8
15.00	17.4	1.0050	1.0006	0.0141	4.0	15.2	0.0142	0.8
30.00	17.8	1.0050	1.0007	0.0140	4.0	15.2	0.0100	0.9
60.00	18.5	1.0050	1.0008	0.0139	4.0	15.2	0.0070	1.0
250.00	18.1	1.0050	1.0007	0.0140	4.0	15.2	0.0035	0.9
1440.00	17.5	1.0050	1.0007	0.0141	4.0	15.2	0.0014	0.8

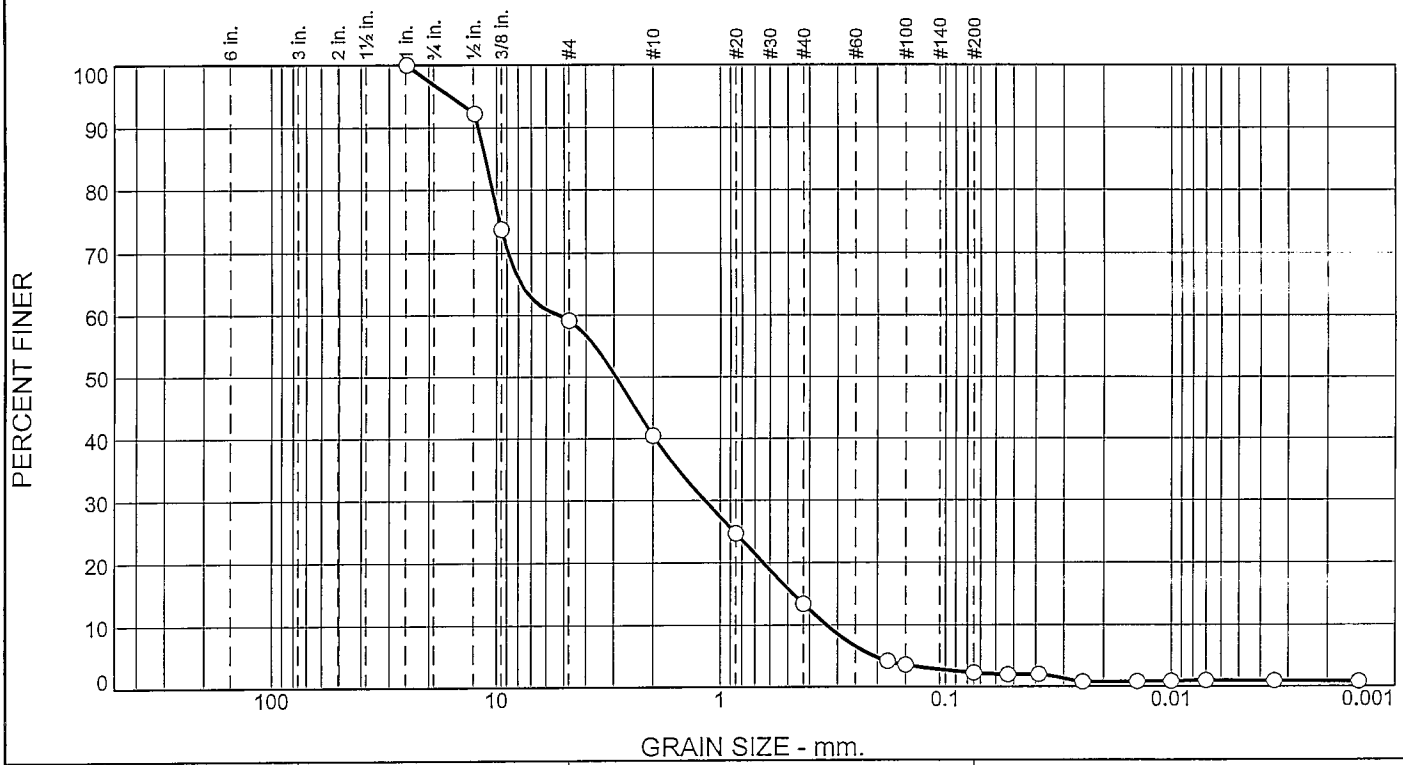
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	3.1	37.7	40.8	18.7	27.1	11.1	56.9	1.3	1.0	2.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.3350	0.4716	0.6407	1.1709	2.9285	5.2249	10.4508	11.2064	12.0581	16.0339

Fineness Modulus	C_u	C_c
4.64	15.60	0.78

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.1	37.7	18.7	27.1	11.1	1.3	1.0

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
25.0 mm	100.0		
12.5 mm	92.2		
9.5 mm	73.7		
4.75 mm	59.2		
2.00 mm	40.5		
0.850 mm	24.7		
0.425 mm	13.4		
0.180 mm	4.2		
0.150 mm	3.6		
0.075 mm	2.3		
0.053 mm	2.0		
0.0388 mm.	2.0		
0.0247 mm.	0.8		
0.0142 mm.	0.8		
0.0100 mm.	0.9		
0.0070 mm.	1.0		
0.0035 mm.	0.9		
0.0014 mm.	0.8		

* (no specification provided)

Material Description

Sample appears to be mostly clay with small stones
Moisture content as received = 9.7%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= SP AASHTO (M 145)=

Coefficients

D_{90}= 12.0581 D_{85}= 11.2064 D_{60}= 5.2249
D_{50}= 2.9285 D_{30}= 1.1709 D_{15}= 0.4716
D_{10}= 0.3350 C_u= 15.60 C_c= 0.78

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/29/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-13-10S (21.5-22.) **Depth:** T11L056-56 **Date Sampled:** 12/12/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-57 **Sample Number:** SB-11 (7.5-8.0)

Material Description: Sample appears to be mostly clay
Moisture content as received =14.4%

Sample Date: 12/12/11

Date Received: 12/13/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/29/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
227.12	0.00	25.0 mm	0.00	0.00	100.0
		12.5 mm	110.50	100.61	95.6
		9.5 mm	127.36	100.61	83.9
		4.75 mm	120.98	100.61	74.9
		2.00 mm	144.67	100.61	55.5
50.29	0.00	0.850 mm	116.56	100.61	37.9
		0.425 mm	110.42	100.61	27.1
		0.180 mm	107.07	100.61	19.9
		0.150 mm	101.70	100.61	18.7
		0.075 mm	103.41	100.61	15.6
		0.053 mm	101.67	100.61	14.5

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =55.5
Weight of hydrometer sample =50.29
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.3	1.0120	1.0078	0.0139	11.0	13.4	0.0361	13.7
5.00	18.3	1.0110	1.0068	0.0139	10.0	13.6	0.0230	12.0
15.00	18.5	1.0110	1.0068	0.0139	10.0	13.6	0.0133	12.0
30.00	18.6	1.0110	1.0068	0.0139	10.0	13.6	0.0094	12.0
60.00	19.2	1.0100	1.0059	0.0138	9.0	13.9	0.0066	10.4
250.00	19.4	1.0090	1.0049	0.0137	8.0	14.2	0.0033	8.7
1440.00	19.5	1.0080	1.0039	0.0137	7.0	14.4	0.0014	6.9

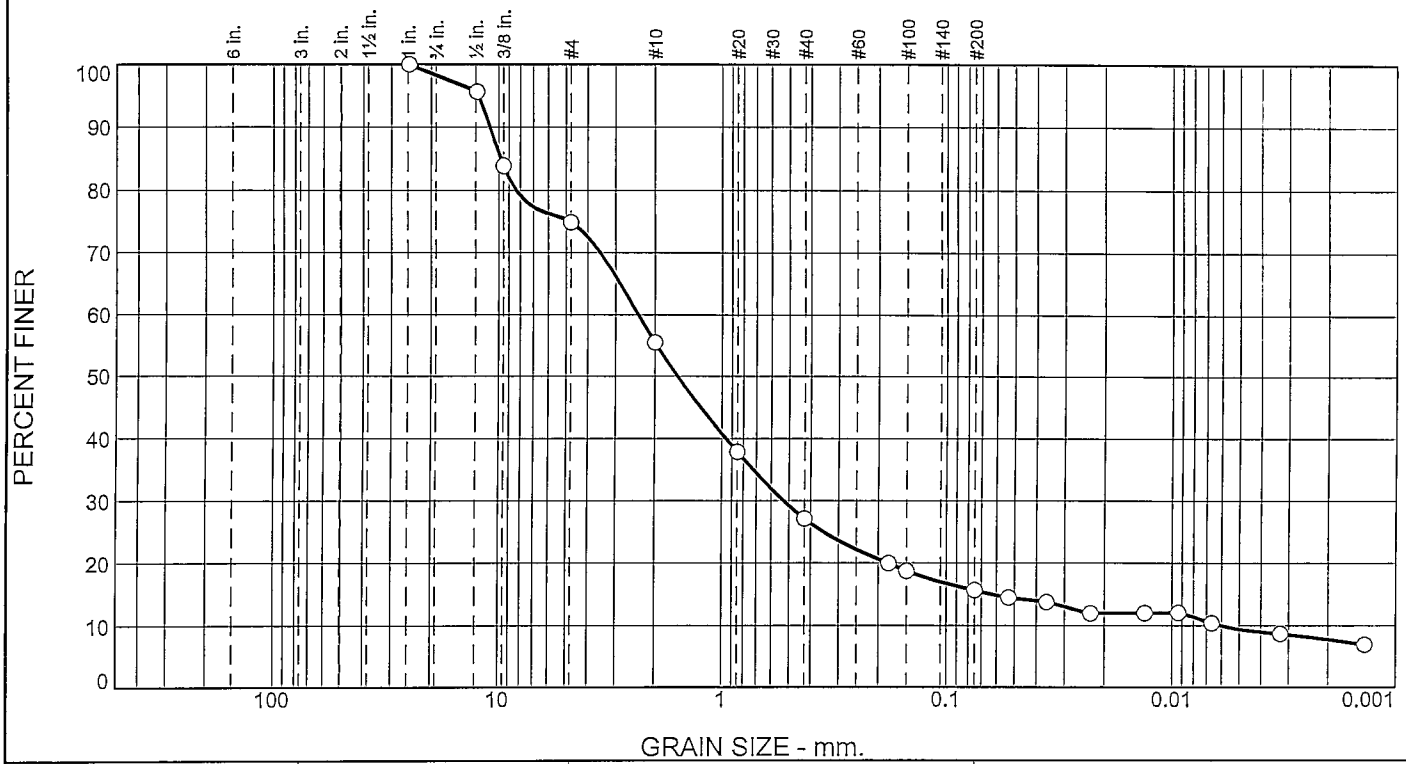
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	1.7	23.4	25.1	19.4	28.4	11.5	59.3	6.2	9.4	15.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0060	0.0631	0.1816	0.5279	1.5853	2.3732	8.3214	9.7813	10.9531	12.2887

Fineness Modulus	C_u	C_c
3.65	392.40	19.42

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	1.7	23.4	19.4	28.4	11.5	6.2	9.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
25.0 mm	100.0		
12.5 mm	95.6		
9.5 mm	83.9		
4.75 mm	74.9		
2.00 mm	55.5		
0.850 mm	37.9		
0.425 mm	27.1		
0.180 mm	19.9		
0.150 mm	18.7		
0.075 mm	15.6		
0.053 mm	14.5		
0.0361 mm.	13.7		
0.0230 mm.	12.0		
0.0133 mm.	12.0		
0.0094 mm.	12.0		
0.0066 mm.	10.4		
0.0033 mm.	8.7		
0.0014 mm.	6.9		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received =14.4%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 10.9531 D_{85}= 9.7813 D_{60}= 2.3732
D_{50}= 1.5853 D_{30}= 0.5279 D_{15}= 0.0631
D_{10}= 0.0060 C_u= 392.40 C_c= 19.42

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/29/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-11 (7.5-8.0) **Depth:** T11L056-57 **Date Sampled:** 12/12/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-58 **Sample Number:** SB-11 (14.5-15.0)

Material Description: Sample appears to be mostly clay with stones
Moisture content as received = 9.8%

Sample Date: 12/12/11

Date Received: 12/13/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/29/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
241.82	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	150.84	100.61	79.2
		4.75 mm	135.71	100.61	64.7
		2.00 mm	133.98	100.61	50.9
50.31	0.00	0.850 mm	113.42	100.61	38.0
		0.425 mm	110.67	100.61	27.8
		0.180 mm	111.39	100.61	16.9
		0.150 mm	102.54	100.61	14.9
		0.075 mm	104.39	100.61	11.1
		0.053 mm	101.93	100.61	9.7

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =50.9
Weight of hydrometer sample =50.31
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	18.9	1.0100	1.0058	0.0138	9.0	13.9	0.0365	9.5
5.00	19.0	1.0100	1.0058	0.0138	9.0	13.9	0.0231	9.5
15.00	19.3	1.0100	1.0059	0.0138	9.0	13.9	0.0133	9.6
30.00	19.5	1.0080	1.0039	0.0137	7.0	14.4	0.0095	6.4
60.00	19.8	1.0070	1.0029	0.0137	6.0	14.7	0.0068	4.8
250.00	18.7	1.0070	1.0028	0.0139	6.0	14.7	0.0034	4.6
1440.00	19.5	1.0070	1.0029	0.0137	6.0	14.7	0.0014	4.7

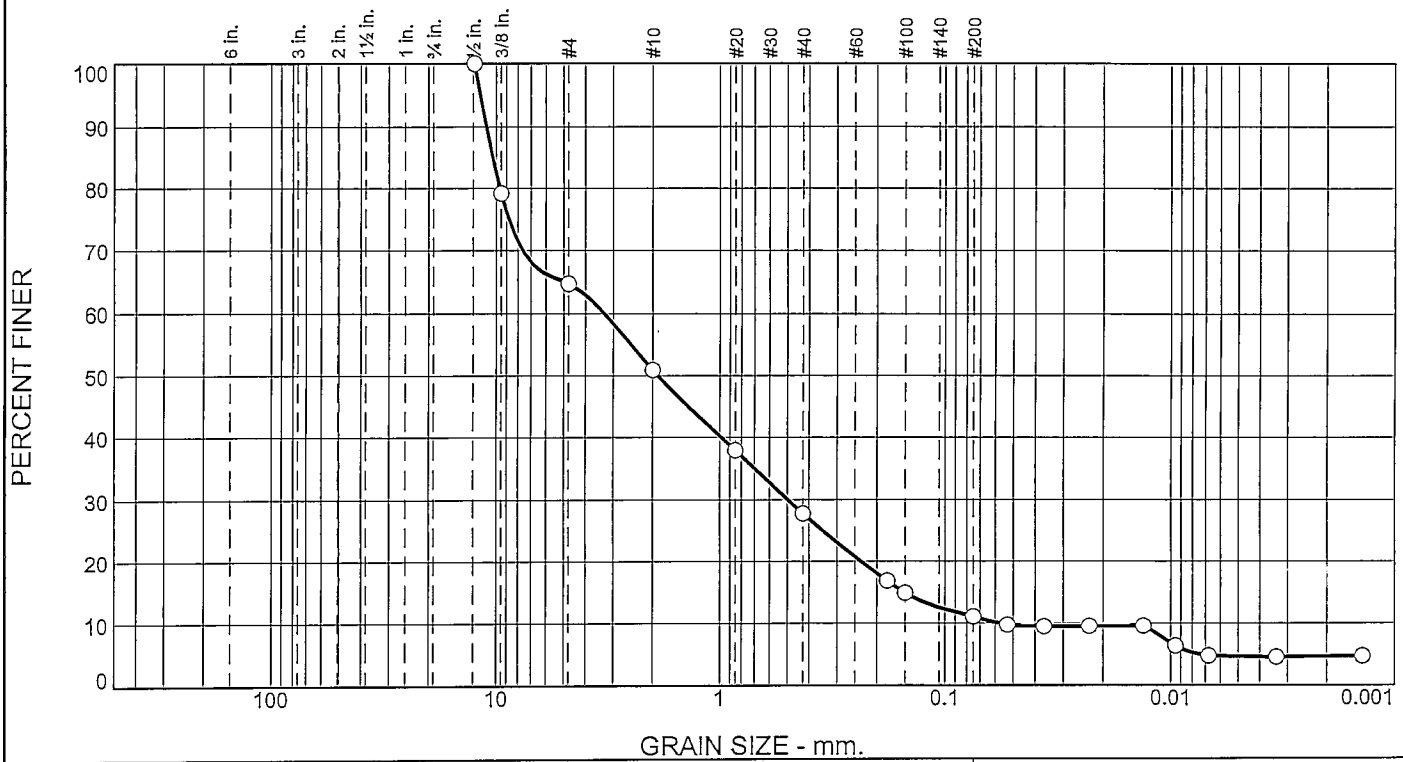
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	35.3	35.3	13.8	23.1	16.7	53.6	6.4	4.7	11.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0578	0.1515	0.2349	0.4962	1.8982	3.2869	9.6226	10.3662	11.0711	11.7744

Fineness Modulus	C_u	C_c
3.89	56.84	1.30

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	35.3	13.8	23.1	16.7	6.4	4.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	79.2		
4.75 mm	64.7		
2.00 mm	50.9		
0.850 mm	38.0		
0.425 mm	27.8		
0.180 mm	16.9		
0.150 mm	14.9		
0.075 mm	11.1		
0.053 mm	9.7		
0.0365 mm.	9.5		
0.0231 mm.	9.5		
0.0133 mm.	9.6		
0.0095 mm.	6.4		
0.0068 mm.	4.8		
0.0034 mm.	4.6		
0.0014 mm.	4.7		

* (no specification provided)

Material Description

Sample appears to be mostly clay with stones
Moisture content as received = 9.8%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 11.0711 D_{85}= 10.3662 D_{60}= 3.2869
D_{50}= 1.8982 D_{30}= 0.4962 D_{15}= 0.1515
D_{10}= 0.0578 C_u= 56.84 C_c= 1.30

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/29/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-11 (14.5-15.0) **Depth:** T11L056-58 **Date Sampled:** 12/12/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-59 **Sample Number:** SB-10 (7.0-7.5)

Material Description: Sample appears to be mostly clay with stones
Moisture content as received = 27.2%

Sample Date: 12/12/11

Date Received: 12/13/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/30/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
151.34	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	0.00	0.00	100.0
		4.75 mm	103.76	100.58	97.9
		2.00 mm	110.66	100.58	91.2
50.35	0.00	0.850 mm	104.09	100.58	84.9
		0.425 mm	104.38	100.58	78.0
		0.180 mm	106.79	100.58	66.7
		0.150 mm	102.97	100.58	62.4
		0.075 mm	105.80	100.58	52.9
		0.053 mm	101.15	100.58	51.9

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =91.2
Weight of hydrometer sample =50.35
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.2	1.0210	1.0169	0.0138	20.0	11.0	0.0323	49.1
5.00	19.3	1.0210	1.0169	0.0138	20.0	11.0	0.0204	49.1
15.00	19.4	1.0180	1.0139	0.0137	17.0	11.8	0.0122	40.4
30.00	19.5	1.0170	1.0129	0.0137	16.0	12.1	0.0087	37.6
60.00	20.0	1.0160	1.0120	0.0136	15.0	12.3	0.0062	34.8
250.00	18.5	1.0130	1.0088	0.0139	12.0	13.1	0.0032	25.6
1440.00	19.3	1.0130	1.0089	0.0138	12.0	13.1	0.0013	25.9

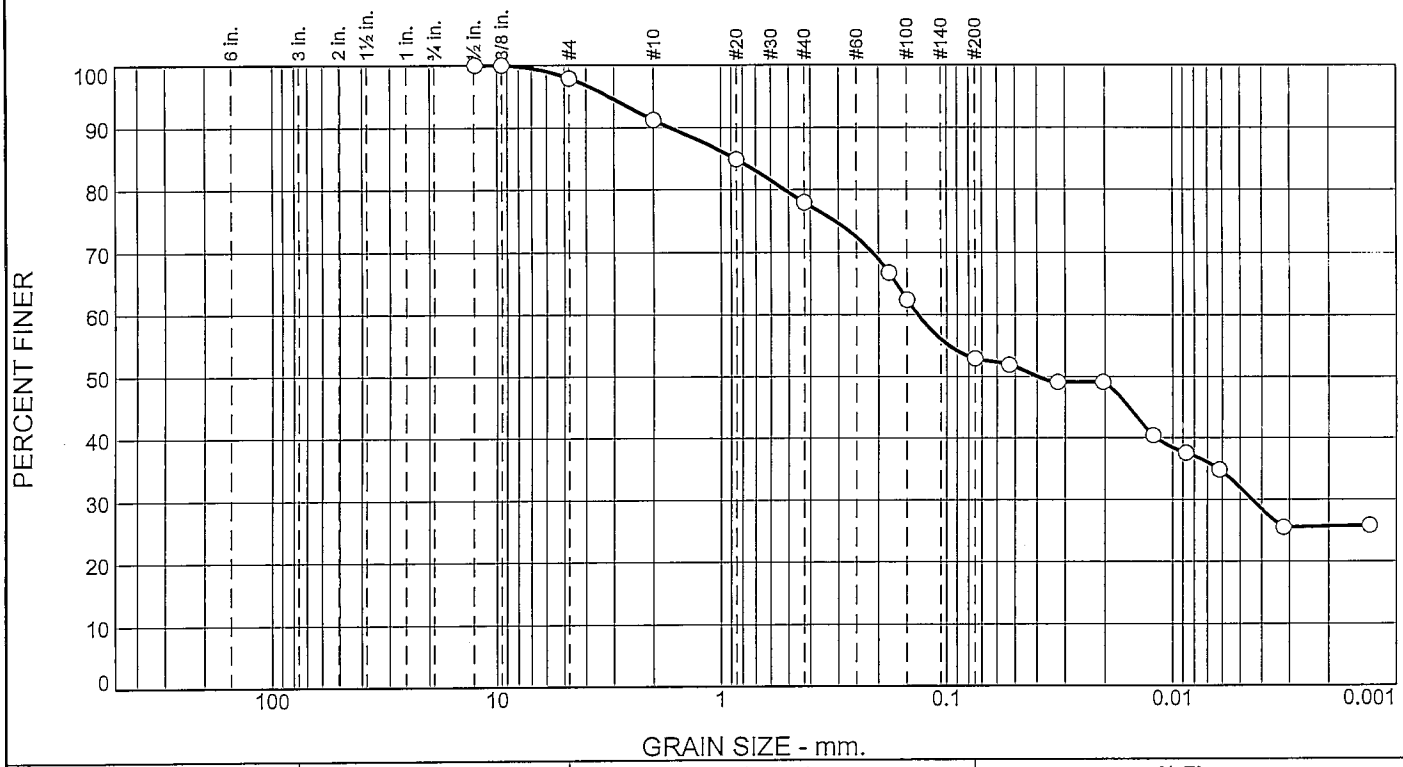
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.1	2.1	6.7	13.2	25.1	45.0	21.0	31.9	52.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0044	0.0399	0.1342	0.5199	0.8619	1.6905	3.1696

Fineness Modulus
1.04

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.1	6.7	13.2	25.1	21.0	31.9

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	100.0		
4.75 mm	97.9		
2.00 mm	91.2		
0.850 mm	84.9		
0.425 mm	78.0		
0.180 mm	66.7		
0.150 mm	62.4		
0.075 mm	52.9		
0.053 mm	51.9		
0.0323 mm.	49.1		
0.0204 mm.	49.1		
0.0122 mm.	40.4		
0.0087 mm.	37.6		
0.0062 mm.	34.8		
0.0032 mm.	25.6		
0.0013 mm.	25.9		

* (no specification provided)

Material Description

Sample appears to be mostly clay with stones
Moisture content as received = 27.2%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 1.6905 D_{85}= 0.8619 D_{60}= 0.1342
D_{50}= 0.0399 D_{30}= 0.0044 D_{15}=
D_{10}= C_u= C_c=

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-10 (7.0-7.5) **Depth:** T11L056-59 **Date Sampled:** 12/12/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-60 **Sample Number:** SB-10 (19.5-20.0)

Material Description: Sample appears to be mostly stones
Moisture content as received = 3.3%

Sample Date: 12/12/11

Date Received: 12/13/11

USCS Classification: GP

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/30/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
396.38	0.00	25.0 mm	0.00	0.00	100.0
		12.5 mm	160.20	100.60	85.0
		9.5 mm	199.58	100.60	60.0
		4.75 mm	170.12	100.60	42.5
		2.00 mm	214.46	100.60	13.7
50.45	0.00	0.850 mm	144.03	100.60	1.9
		0.425 mm	104.58	100.60	0.8
		0.180 mm	101.33	100.60	0.6
		0.150 mm	100.71	100.60	0.6
		0.075 mm	100.98	100.60	0.5
		0.053 mm	100.79	100.60	0.4

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =13.7
Weight of hydrometer sample =50.45
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.4	1.0050	1.0009	0.0137	4.0	15.2	0.0379	0.4
5.00	19.4	1.0050	1.0009	0.0137	4.0	15.2	0.0240	0.4
15.00	19.6	1.0050	1.0009	0.0137	4.0	15.2	0.0138	0.4
30.00	19.8	1.0050	1.0009	0.0137	4.0	15.2	0.0097	0.4
60.00	20.2	1.0050	1.0010	0.0136	4.0	15.2	0.0069	0.4
250.00	19.2	1.0050	1.0009	0.0138	4.0	15.2	0.0034	0.4
1440.00	18.3	1.0050	1.0008	0.0139	4.0	15.2	0.0014	0.3

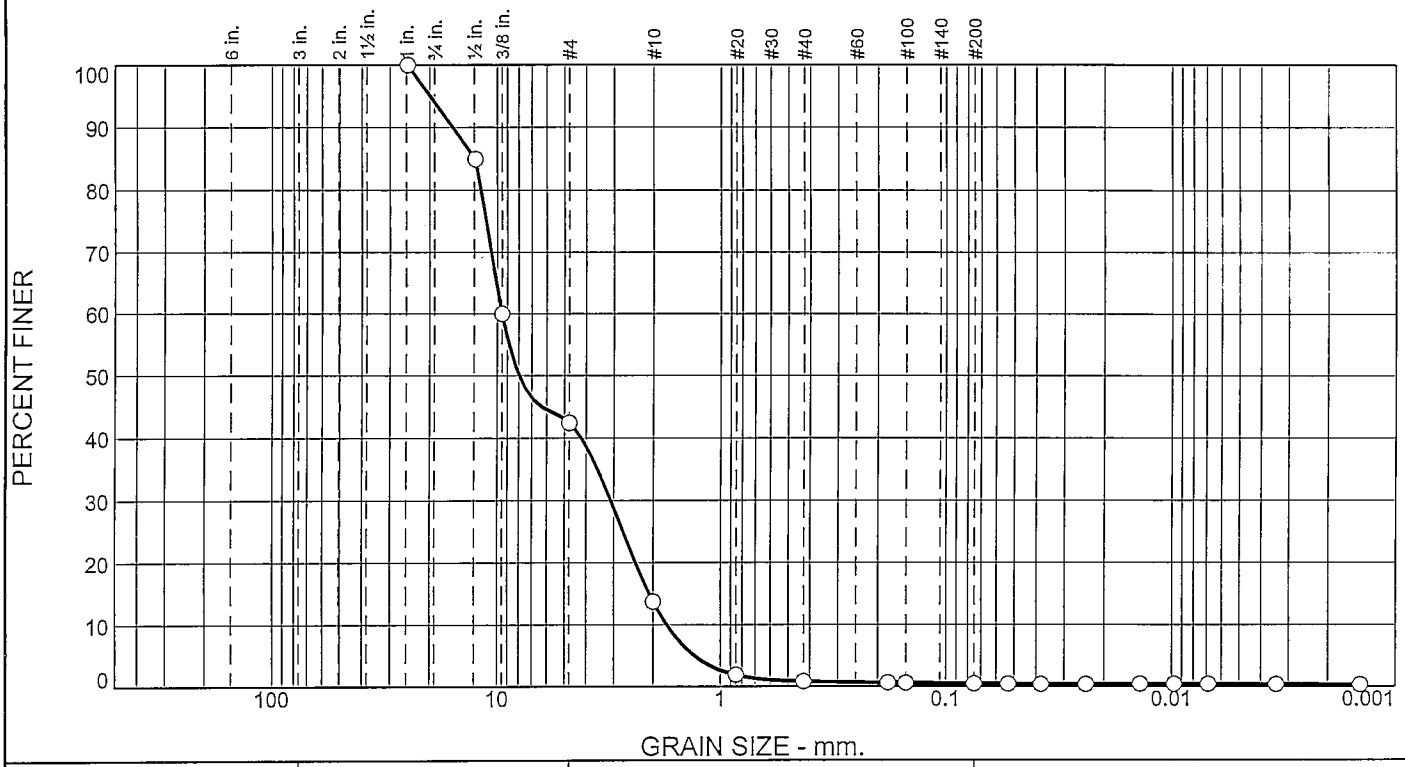
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	5.9	51.6	57.5	28.8	12.9	0.3	42.0	0.1	0.4	0.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
1.7419	2.0820	2.3973	3.0990	7.9543	9.5009	11.8027	12.5208	15.7665	19.8535

Fineness Modulus	C_u	C_c
5.78	5.45	0.58

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	5.9	51.6	28.8	12.9	0.3	0.1	0.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
25.0 mm	100.0		
12.5 mm	85.0		
9.5 mm	60.0		
4.75 mm	42.5		
2.00 mm	13.7		
0.850 mm	1.9		
0.425 mm	0.8		
0.180 mm	0.6		
0.150 mm	0.6		
0.075 mm	0.5		
0.053 mm	0.4		
0.0379 mm.	0.4		
0.0240 mm.	0.4		
0.0138 mm.	0.4		
0.0097 mm.	0.4		
0.0069 mm.	0.4		
0.0034 mm.	0.4		
0.0014 mm.	0.3		

* (no specification provided)

Material Description

Sample appears to be mostly stones
Moisture content as received = 3.3%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= GP AASHTO (M 145)=

Coefficients

D_{90}= 15.7665 D_{85}= 12.5208 D_{60}= 9.5009
D_{50}= 7.9543 D_{30}= 3.0990 D_{15}= 2.0820
D_{10}= 1.7419 C_u= 5.45 C_c= 0.58

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/13/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-10 (19.5-20.0) **Depth:** T11L056-60 **Date Sampled:** 12/12/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-61 **Sample Number:** SB-8-10E (7.5-8.0)

Material Description: Sample appears to be mostlt clay

Moisture content as received = 10.5%

Sample Date: 12/13/11

Date Received: 12/14/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/30/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
162.86	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	115.90	100.58	90.6
		4.75 mm	121.36	100.58	77.8
		2.00 mm	136.12	100.58	56.0
50.14	0.00	0.850 mm	106.61	100.58	49.3
		0.425 mm	105.98	100.58	43.2
		0.180 mm	106.97	100.58	36.1
		0.150 mm	102.03	100.58	34.5
		0.075 mm	104.51	100.58	30.1
		0.053 mm	102.36	100.58	28.1

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =56.0
Weight of hydrometer sample =50.14
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.5	1.0190	1.0149	0.0137	18.0	11.5	0.0330	26.7
5.00	19.6	1.0160	1.0119	0.0137	15.0	12.3	0.0215	21.4
15.00	19.8	1.0150	1.0109	0.0137	14.0	12.6	0.0125	19.6
30.00	20.0	1.0130	1.0090	0.0136	12.0	13.1	0.0090	16.1
60.00	20.6	1.0110	1.0071	0.0135	10.0	13.6	0.0065	12.7
250.00	18.3	1.0100	1.0058	0.0139	9.0	13.9	0.0033	10.3
1440.00	19.4	1.0070	1.0029	0.0137	6.0	14.7	0.0014	5.2

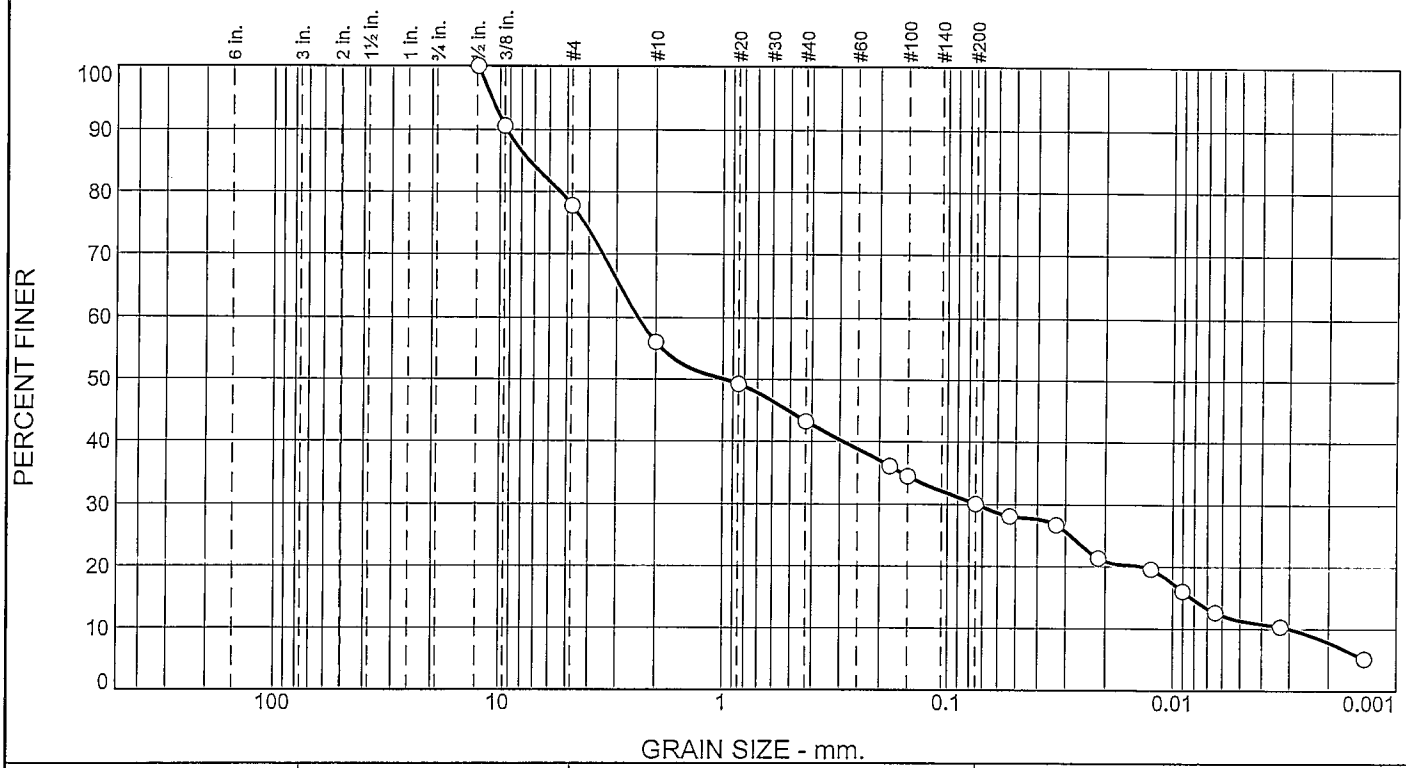
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	22.2	22.2	21.8	12.8	13.1	47.7	18.7	11.4	30.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0030	0.0082	0.0135	0.0739	0.9814	2.4028	5.3504	7.3710	9.2996	10.8977

Fineness Modulus	C_u	C_c
3.00	800.54	0.76

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	22.2	21.8	12.8	13.1	18.7	11.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	90.6		
4.75 mm	77.8		
2.00 mm	56.0		
0.850 mm	49.3		
0.425 mm	43.2		
0.180 mm	36.1		
0.150 mm	34.5		
0.075 mm	30.1		
0.053 mm	28.1		
0.0330 mm.	26.7		
0.0215 mm.	21.4		
0.0125 mm.	19.6		
0.0090 mm.	16.1		
0.0065 mm.	12.7		
0.0033 mm.	10.3		
0.0014 mm.	5.2		

* (no specification provided)

Material Description

Sample appears to be mostlt clay
Moisture content as received = 10.5%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 9.2996 D_{85}= 7.3710 D_{60}= 2.4028
D_{50}= 0.9814 D_{30}= 0.0739 D_{15}= 0.0082
D_{10}= 0.0030 C_u= 800.54 C_c= 0.76

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-8-10E (7.5-8.0) **Depth:** T11L056-61 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-62 **Sample Number:** SB-8-10E (19.5-20.0)

Material Description: Sample appears to be mostly stones
Moisture content as received = 3.7%

Sample Date: 12/13/11

Date Received: 12/14/11

USCS Classification: SP

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/30/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
283.54	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	150.58	100.58	82.4
		4.75 mm	167.82	100.58	58.7
		2.00 mm	193.30	100.58	26.0
50.88	0.00	0.850 mm	137.88	100.58	6.9
		0.425 mm	109.98	100.58	2.1
		0.180 mm	103.14	100.58	0.8
		0.150 mm	100.86	100.58	0.7
		0.075 mm	100.94	100.58	0.5
		0.053 mm	100.66	100.58	0.5

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =26.0
Weight of hydrometer sample =50.88
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	17.4	1.0050	1.0006	0.0141	4.0	15.2	0.0389	0.5
5.00	17.5	1.0050	1.0007	0.0141	4.0	15.2	0.0246	0.5
15.00	17.6	1.0050	1.0007	0.0141	4.0	15.2	0.0142	0.5
30.00	17.8	1.0050	1.0007	0.0140	4.0	15.2	0.0100	0.6
60.00	17.6	1.0050	1.0007	0.0141	4.0	15.2	0.0071	0.5
250.00	17.5	1.0050	1.0007	0.0141	4.0	15.2	0.0035	0.5
1440.00	17.6	1.0050	1.0007	0.0141	4.0	15.2	0.0014	0.5

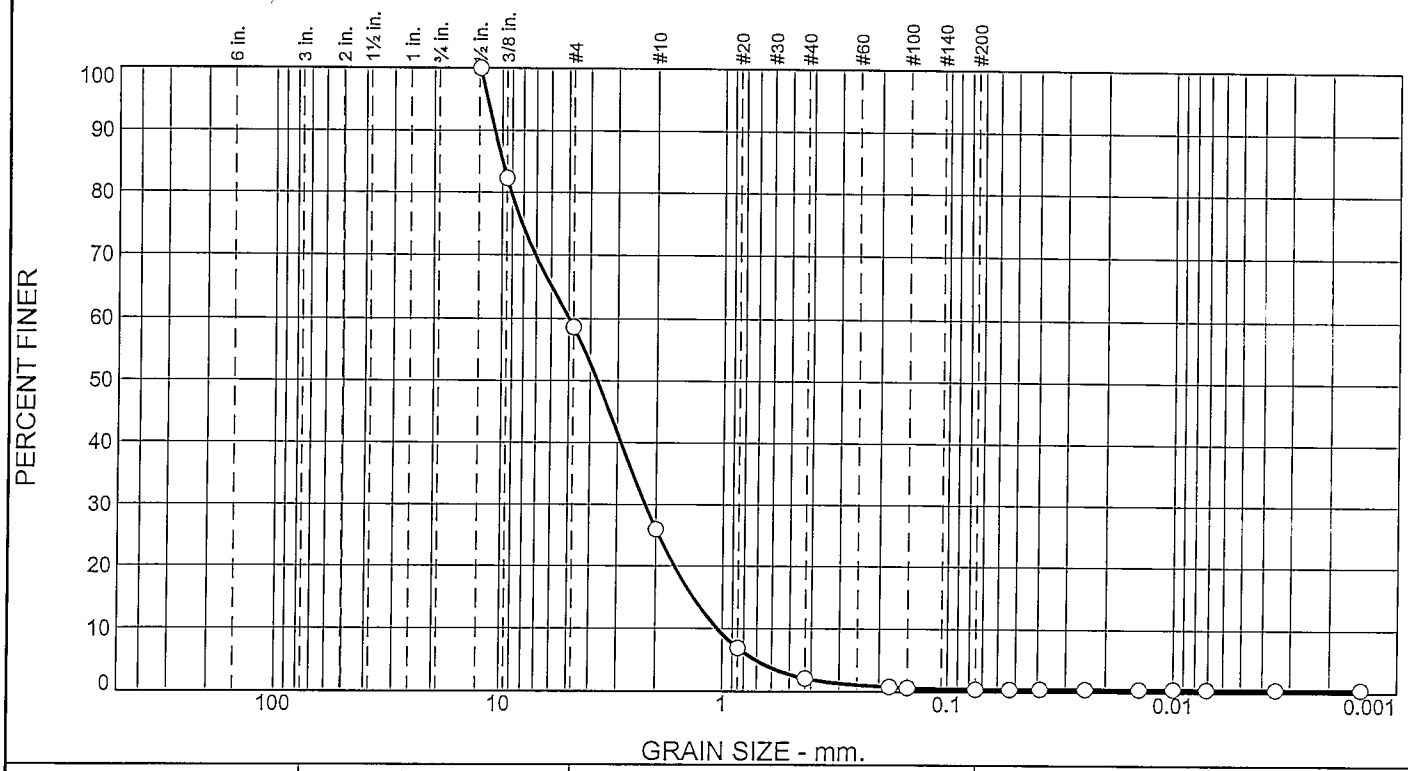
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	41.3	41.3	32.7	23.9	1.6	58.2	0.0	0.5	0.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
1.0538	1.3591	1.6530	2.2391	3.7113	4.9671	9.0780	9.9511	10.7846	11.6241

Fineness Modulus	C_u	C_c
5.09	4.71	0.96

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	41.3	32.7	23.9	1.6	0.0	0.5

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	82.4		
4.75 mm	58.7		
2.00 mm	26.0		
0.850 mm	6.9		
0.425 mm	2.1		
0.180 mm	0.8		
0.150 mm	0.7		
0.075 mm	0.5		
0.053 mm	0.5		
0.0389 mm.	0.5		
0.0246 mm.	0.5		
0.0142 mm.	0.5		
0.0100 mm.	0.6		
0.0071 mm.	0.5		
0.0035 mm.	0.5		
0.0014 mm.	0.5		

* (no specification provided)

Material Description

Sample appears to be mostly stones
Moisture content as received = 3.7%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= SP AASHTO (M 145)=

Coefficients

D_{90}= 10.7846 D_{85}= 9.9511 D_{60}= 4.9671
D_{50}= 3.7113 D_{30}= 2.2391 D_{15}= 1.3591
D_{10}= 1.0538 C_u= 4.71 C_c= 0.96

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-8-10E (19.5-20.0) **Depth:** T11L056-62 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-63 **Sample Number:** SB-3-10E (5.5-6.0)
Material Description: Sample appears to be mostly clay
Moisture content as received = 24.3%
Sample Date: 12/13/11
Date Received: 12/14/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/30/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
107.97	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	113.61	100.58	87.9
		4.75 mm	114.36	100.58	75.2
		2.00 mm	113.63	100.58	63.1
50.19	0.00	0.850 mm	107.77	100.58	54.0
		0.425 mm	106.05	100.58	47.2
		0.180 mm	106.26	100.58	40.0
		0.150 mm	101.98	100.58	38.3
		0.075 mm	105.10	100.58	32.6
		0.053 mm	101.40	100.58	31.6

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =63.1
Weight of hydrometer sample =50.19
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.4	1.0190	1.0149	0.0137	18.0	11.5	0.0330	30.1
5.00	19.4	1.0180	1.0139	0.0137	17.0	11.8	0.0211	28.1
15.00	19.6	1.0160	1.0119	0.0137	15.0	12.3	0.0124	24.1
30.00	19.8	1.0140	1.0099	0.0137	13.0	12.9	0.0090	20.1
60.00	20.2	1.0130	1.0090	0.0136	12.0	13.1	0.0064	18.2
250.00	17.9	1.0110	1.0067	0.0140	10.0	13.6	0.0033	13.5
1440.00	17.7	1.0100	1.0057	0.0140	9.0	13.9	0.0014	11.5

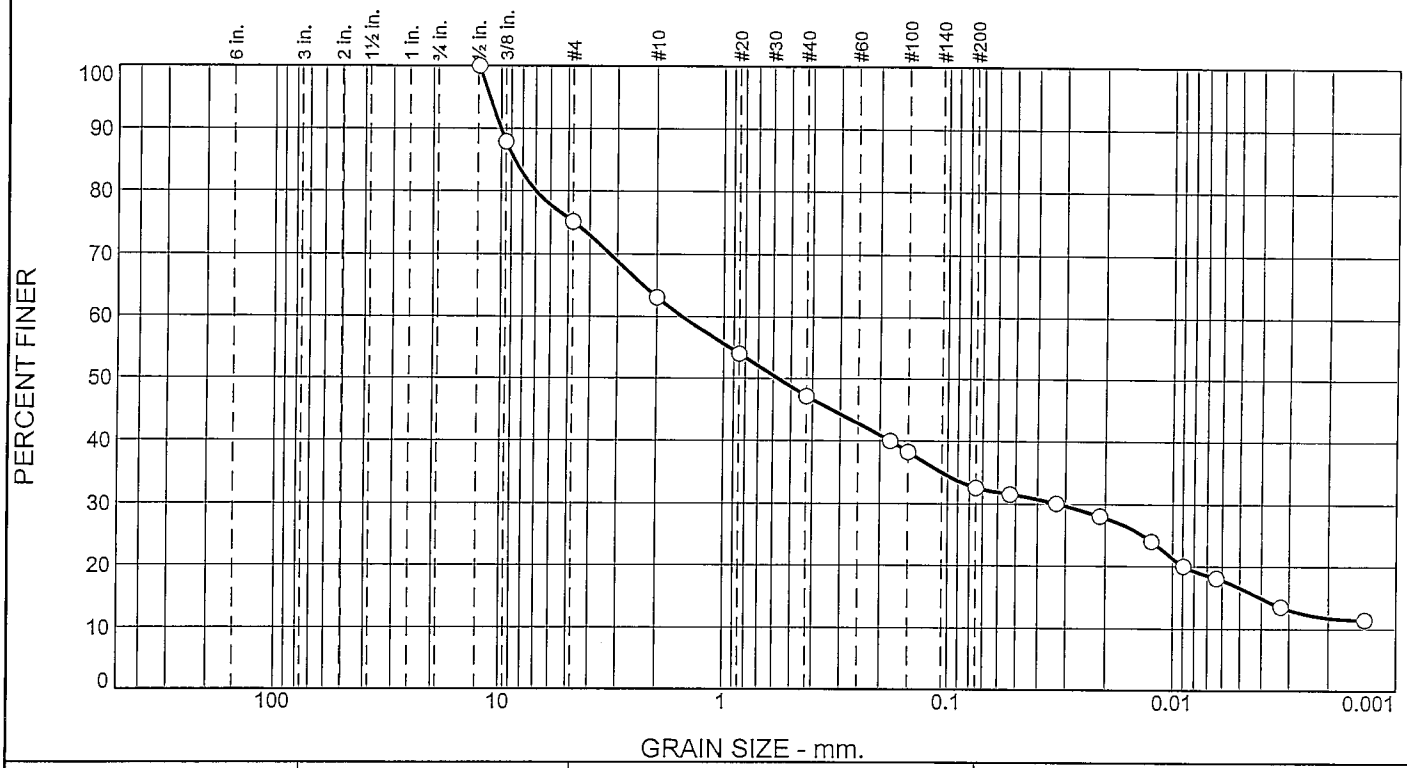
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	24.8	24.8	12.1	15.9	14.6	42.6	16.0	16.6	32.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0041	0.0089	0.0324	0.5705	1.5427	6.9620	8.6862	10.0255	11.2446

Fineness Modulus
2.81

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	24.8	12.1	15.9	14.6	16.0	16.6

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	87.9		
4.75 mm	75.2		
2.00 mm	63.1		
0.850 mm	54.0		
0.425 mm	47.2		
0.180 mm	40.0		
0.150 mm	38.3		
0.075 mm	32.6		
0.053 mm	31.6		
0.0330 mm.	30.1		
0.0211 mm.	28.1		
0.0124 mm.	24.1		
0.0090 mm.	20.1		
0.0064 mm.	18.2		
0.0033 mm.	13.5		
0.0014 mm.	11.5		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 24.3%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 10.0255 D_{85}= 8.6862 D_{60}= 1.5427
D_{50}= 0.5705 D_{30}= 0.0324 D_{15}= 0.0041
D_{10}= C_u= C_c=

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-3-10E (5.5-6.0) **Depth:** T11L056-63 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-64 **Sample Number:** SB-3-10E (14.5-15.0)

Material Description: Sample appears to be mostly clay
Moisture content as received = 14.4%

Sample Date: 12/13/11

Date Received: 12/14/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/30/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
208.04	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	106.49	100.58	97.2
		4.75 mm	123.57	100.58	86.1
		2.00 mm	137.50	100.58	68.4
50.67	0.00	0.850 mm	110.38	100.58	55.1
		0.425 mm	107.32	100.58	46.0
		0.180 mm	107.31	100.58	37.0
		0.150 mm	102.18	100.58	34.8
		0.075 mm	104.44	100.58	29.6
		0.053 mm	102.27	100.58	27.3

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =68.4
Weight of hydrometer sample =50.67
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	17.2	1.0170	1.0126	0.0141	16.0	12.1	0.0347	27.3
5.00	17.2	1.0160	1.0116	0.0141	15.0	12.3	0.0222	25.2
15.00	17.4	1.0140	1.0096	0.0141	13.0	12.9	0.0131	20.9
30.00	17.8	1.0120	1.0077	0.0140	11.0	13.4	0.0094	16.7
60.00	18.2	1.0110	1.0067	0.0140	10.0	13.6	0.0067	14.6
250.00	19.1	1.0090	1.0049	0.0138	8.0	14.2	0.0033	10.5
1440.00	19.2	1.0070	1.0029	0.0138	6.0	14.7	0.0014	6.2

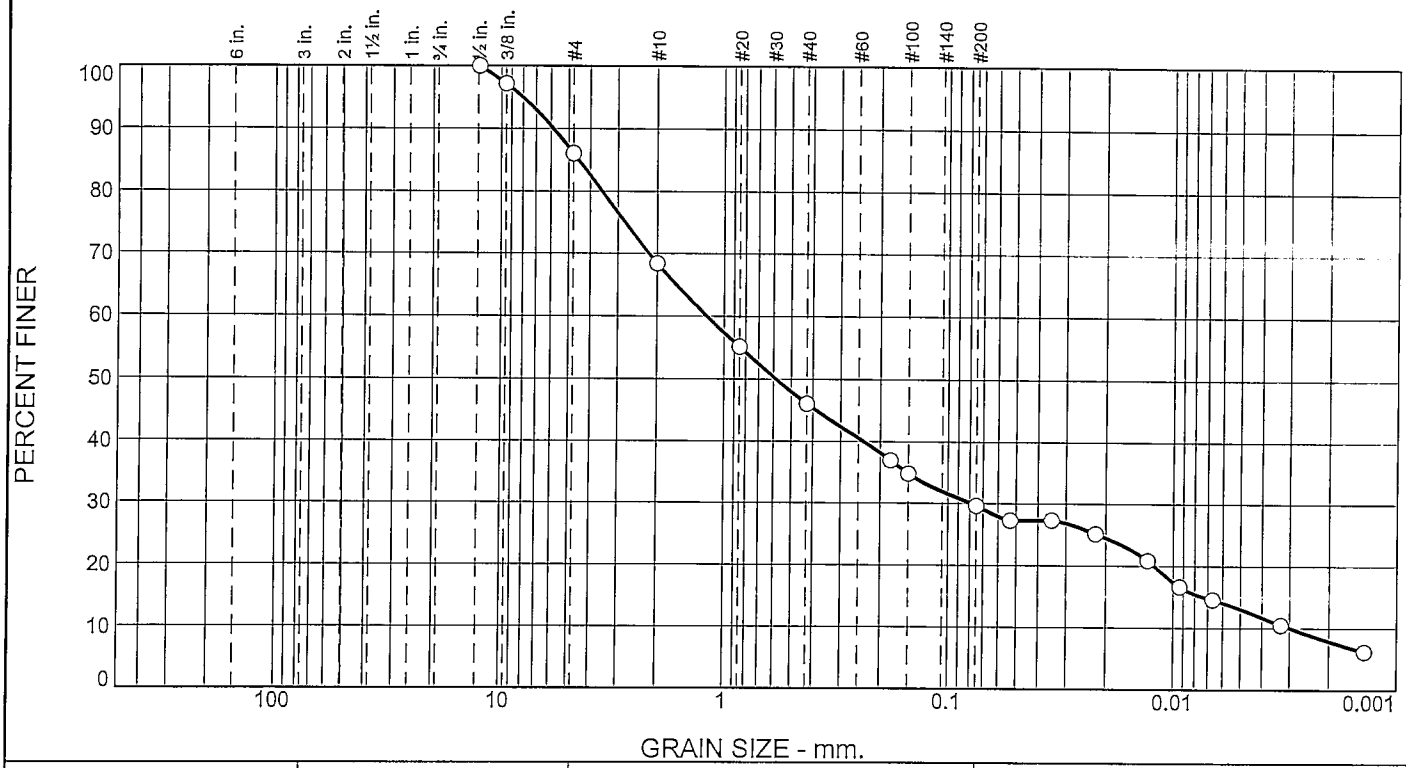
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	13.9	13.9	17.7	22.4	16.4	56.5	16.5	13.1	29.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0030	0.0073	0.0122	0.0793	0.5841	1.1983	3.5289	4.4918	5.8534	8.0266

Fineness Modulus	C_u	C_c
2.58	399.67	1.75

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	13.9	17.7	22.4	16.4	16.5	13.1

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	97.2		
4.75 mm	86.1		
2.00 mm	68.4		
0.850 mm	55.1		
0.425 mm	46.0		
0.180 mm	37.0		
0.150 mm	34.8		
0.075 mm	29.6		
0.053 mm	27.3		
0.0347 mm.	27.3		
0.0222 mm.	25.2		
0.0131 mm.	20.9		
0.0094 mm.	16.7		
0.0067 mm.	14.6		
0.0033 mm.	10.5		
0.0014 mm.	6.2		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 14.4%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 5.8534 D_{85}= 4.4918 D_{60}= 1.1983
D_{50}= 0.5841 D_{30}= 0.0793 D_{15}= 0.0073
D_{10}= 0.0030 C_u= 399.67 C_c= 1.75

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-3-10E (14.5-15.0) **Depth:** T11L056-64 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-65 **Sample Number:** SB-17 (7.5-8.0)
Material Description: Sample appears to b mostly clay
Moisture content as received = 15.6%
Sample Date: 12/13/11
Date Received: 12/14/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 12/30/11
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
199.49	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	122.97	100.58	88.8
		4.75 mm	122.64	100.58	77.7
		2.00 mm	138.00	100.58	59.0
50.17	0.00	0.850 mm	113.38	100.58	43.9
		0.425 mm	109.66	100.58	33.2
		0.180 mm	109.14	100.58	23.2
		0.150 mm	102.05	100.58	21.5
		0.075 mm	104.11	100.58	17.3
		0.053 mm	101.74	100.58	15.9

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =59.0
Weight of hydrometer sample =50.17
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	17.5	1.0120	1.0077	0.0141	11.0	13.4	0.0364	14.4
5.00	17.6	1.0120	1.0077	0.0141	11.0	13.4	0.0230	14.5
15.00	18.1	1.0110	1.0067	0.0140	10.0	13.6	0.0133	12.7
30.00	18.3	1.0110	1.0068	0.0139	10.0	13.6	0.0094	12.8
60.00	19.9	1.0100	1.0060	0.0137	9.0	13.9	0.0066	11.3
250.00	19.1	1.0100	1.0059	0.0138	9.0	13.9	0.0033	11.1
1440.00	19.7	1.0080	1.0039	0.0137	7.0	14.4	0.0014	7.4

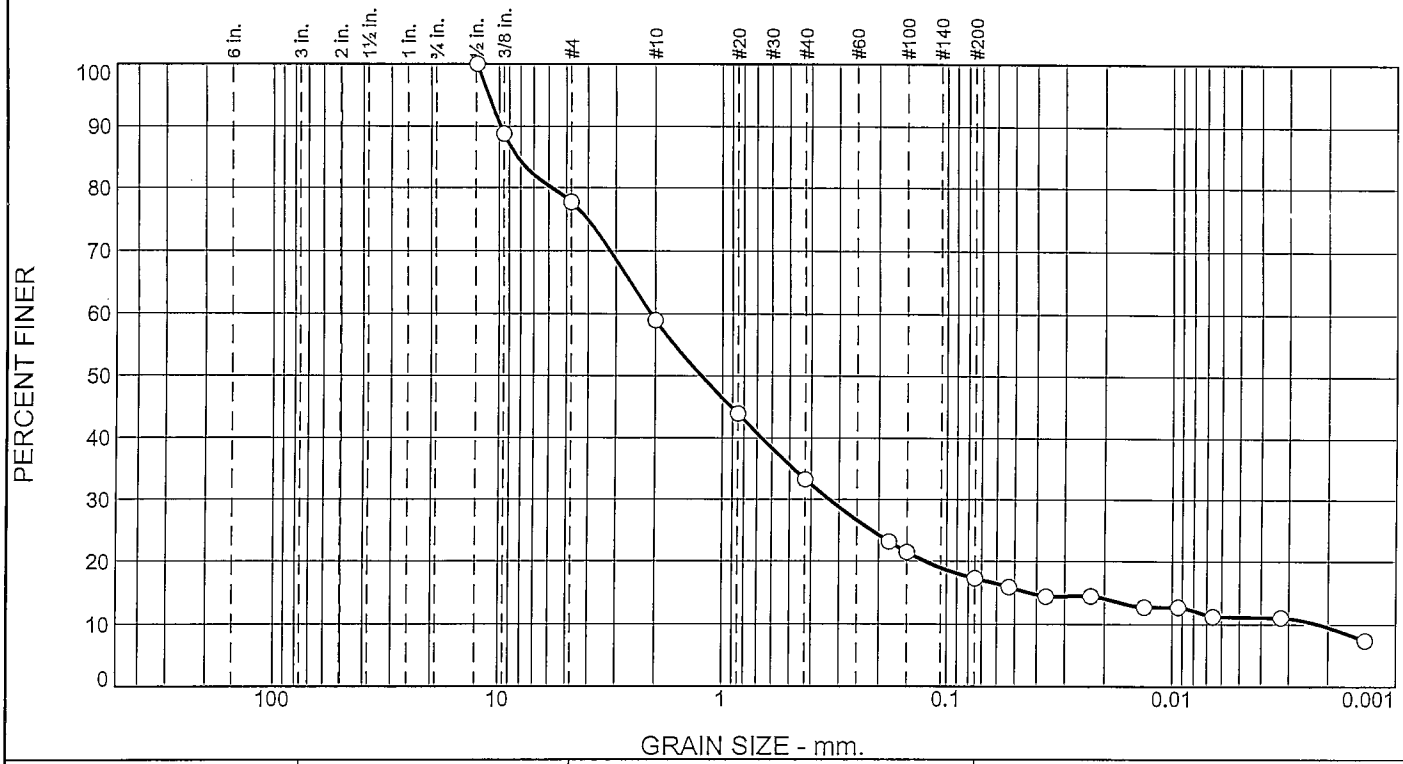
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	22.3	22.3	18.7	25.8	15.9	60.4	6.1	11.2	17.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0022	0.0433	0.1246	0.3327	1.2457	2.0950	5.7994	8.2570	9.8461	11.1665

Fineness Modulus	C_u	C_c
3.33	948.49	23.92

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	22.3	18.7	25.8	15.9	6.1	11.2

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	88.8		
4.75 mm	77.7		
2.00 mm	59.0		
0.850 mm	43.9		
0.425 mm	33.2		
0.180 mm	23.2		
0.150 mm	21.5		
0.075 mm	17.3		
0.053 mm	15.9		
0.0364 mm.	14.4		
0.0230 mm.	14.5		
0.0133 mm.	12.7		
0.0094 mm.	12.8		
0.0066 mm.	11.3		
0.0033 mm.	11.1		
0.0014 mm.	7.4		

* (no specification provided)

Material Description

Sample appears to b mostly clay
Moisture content as received = 15.6%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 9.8461 D_{85}= 8.2570 D_{60}= 2.0950
D_{50}= 1.2457 D_{30}= 0.3327 D_{15}= 0.0433
D_{10}= 0.0022 C_u= 948.49 C_c= 23.92

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-17 (7.5-8.0) **Depth:** T11L056-65 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-67 **Sample Number:** SB-17 (19.5-20.0)

Material Description: Sample appears to be mostly clay
Moisture content as received = 12.0%

Sample Date: 12/13/11

Date Received: 12/14/11

USCS Classification: SW

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/30/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
239.05	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	120.49	100.58	91.7
		4.75 mm	122.12	100.58	82.7
		2.00 mm	152.24	100.58	61.0
50.68	0.00	0.850 mm	122.12	100.58	35.1
		0.425 mm	115.22	100.58	17.5
		0.180 mm	108.72	100.58	7.7
		0.150 mm	101.65	100.58	6.4
		0.075 mm	102.50	100.58	4.1
		0.053 mm	101.30	100.58	3.2

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =61.0
Weight of hydrometer sample =50.68
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	17.1	1.0060	1.0016	0.0142	5.0	15.0	0.0387	3.1
5.00	17.5	1.0060	1.0017	0.0141	5.0	15.0	0.0244	3.2
15.00	18.0	1.0050	1.0007	0.0140	4.0	15.2	0.0141	1.4
30.00	18.7	1.0050	1.0008	0.0139	4.0	15.2	0.0099	1.6
60.00	19.8	1.0050	1.0009	0.0137	4.0	15.2	0.0069	1.8
250.00	19.2	1.0050	1.0009	0.0138	4.0	15.2	0.0034	1.7
1440.00	19.7	1.0050	1.0009	0.0137	4.0	15.2	0.0014	1.8

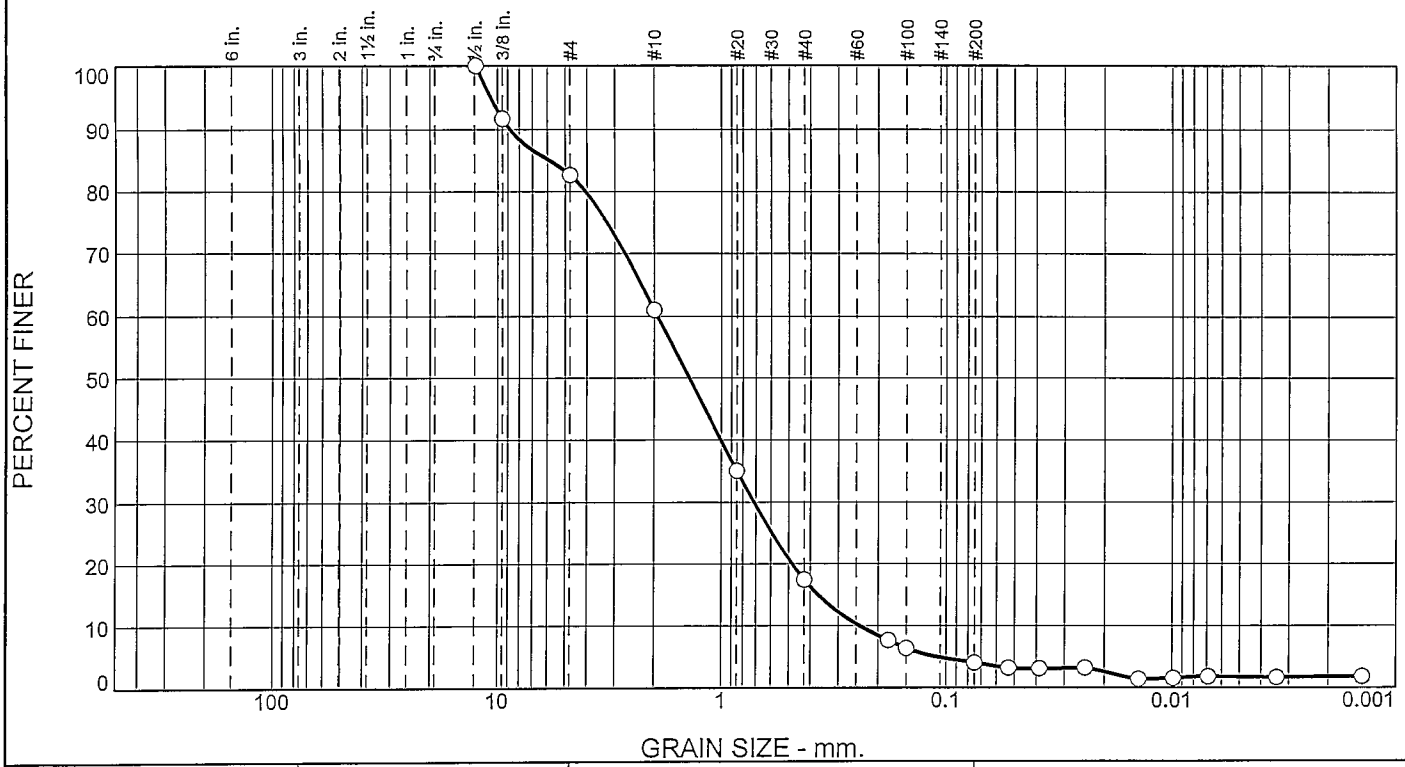
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	17.3	17.3	21.7	43.5	13.4	78.6	2.4	1.7	4.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2409	0.3682	0.4809	0.7122	1.3950	1.9327	4.0537	5.8646	8.7974	10.7154

Fineness Modulus	C_u	C_c
3.71	8.02	1.09

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	17.3	21.7	43.5	13.4	2.4	1.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	91.7		
4.75 mm	82.7		
2.00 mm	61.0		
0.850 mm	35.1		
0.425 mm	17.5		
0.180 mm	7.7		
0.150 mm	6.4		
0.075 mm	4.1		
0.053 mm	3.2		
0.0387 mm.	3.1		
0.0244 mm.	3.2		
0.0141 mm.	1.4		
0.0099 mm.	1.6		
0.0069 mm.	1.8		
0.0034 mm.	1.7		
0.0014 mm.	1.8		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 12.0%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= SW AASHTO (M 145)=

Coefficients

D_{90}= 8.7974 D_{85}= 5.8646 D_{60}= 1.9327
D_{50}= 1.3950 D_{30}= 0.7122 D_{15}= 0.3682
D_{10}= 0.2409 C_u= 8.02 C_c= 1.09

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-17 (19.5-20.0) **Depth:** T11L056-67 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11056-68 **Sample Number:** SB-18 (9.5-10.0)

Material Description: Sample appears to be mostly clay with stones
Moisture content as received = 9.1%

Sample Date: 12/13/11

Date Received: 12/14/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/30/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
202.10	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	130.16	100.61	85.4
		4.75 mm	144.00	100.61	63.9
		2.00 mm	137.97	100.61	45.4
50.14	0.00	0.850 mm	110.72	100.61	36.3
		0.425 mm	109.39	100.61	28.3
		0.180 mm	109.71	100.61	20.1
		0.150 mm	102.44	100.61	18.4
		0.075 mm	104.81	100.61	14.6
		0.053 mm	102.13	100.61	13.2

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =45.4
Weight of hydrometer sample =50.14
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.2	1.0130	1.0089	0.0138	12.0	13.1	0.0353	12.9
5.00	19.2	1.0120	1.0079	0.0138	11.0	13.4	0.0226	11.5
15.00	19.8	1.0100	1.0059	0.0137	9.0	13.9	0.0132	8.7
30.00	20.1	1.0100	1.0060	0.0136	9.0	13.9	0.0093	8.7
60.00	20.1	1.0100	1.0060	0.0136	9.0	13.9	0.0066	8.7
250.00	18.1	1.0100	1.0057	0.0140	9.0	13.9	0.0033	8.3
1440.00	18.1	1.0070	1.0027	0.0140	6.0	14.7	0.0014	4.0

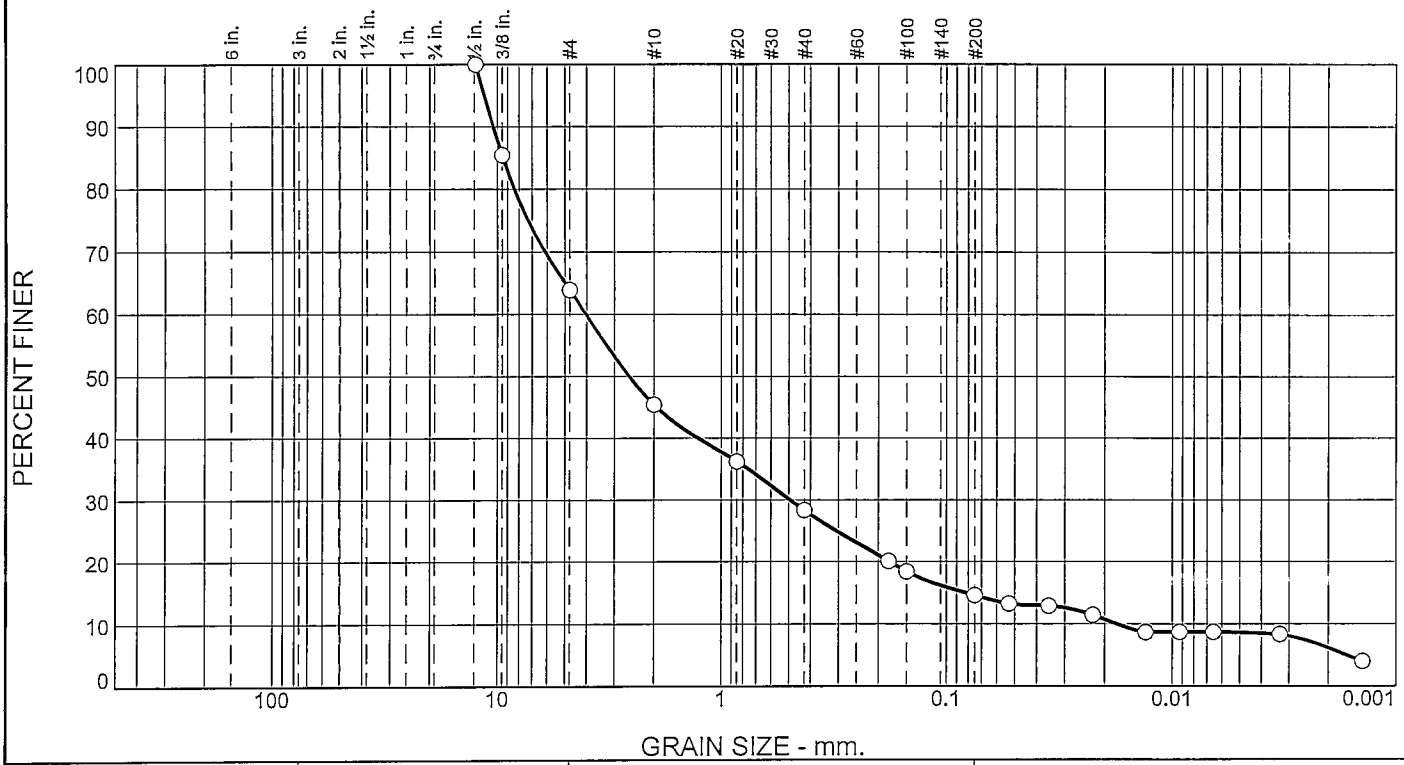
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	36.1	36.1	18.5	17.1	13.7	49.3	6.0	8.6	14.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0177	0.0820	0.1787	0.4927	2.5779	4.0280	8.3758	9.4231	10.4249	11.4351

Fineness Modulus	C_u	C_c
3.87	226.94	3.40

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	36.1	18.5	17.1	13.7	6.0	8.6

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	85.4		
4.75 mm	63.9		
2.00 mm	45.4		
0.850 mm	36.3		
0.425 mm	28.3		
0.180 mm	20.1		
0.150 mm	18.4		
0.075 mm	14.6		
0.053 mm	13.2		
0.0353 mm.	12.9		
0.0226 mm.	11.5		
0.0132 mm.	8.7		
0.0093 mm.	8.7		
0.0066 mm.	8.7		
0.0033 mm.	8.3		
0.0014 mm.	4.0		

* (no specification provided)

Material Description

Sample appears to be mostly clay with stones
Moisture content as received = 9.1%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 10.4249 D_{85}= 9.4231 D_{60}= 4.0280
D_{50}= 2.5779 D_{30}= 0.4927 D_{15}= 0.0820
D_{10}= 0.0177 C_u= 226.94 C_c= 3.40

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-18 (9.5-10.0) **Depth:** T11056-68 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-69 **Sample Number:** SB-18 (19.5-20.0)

Material Description: Sample appears to be mostly clay with stones
Moisture content as received = 10.6%

Sample Date: 12/13/11

Date Received: 12/14/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 12/30/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
237.38	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	112.98	100.61	94.8
		4.75 mm	142.60	100.61	77.1
		2.00 mm	169.47	100.61	48.1
50.36	0.00	0.850 mm	119.31	100.61	30.2
		0.425 mm	113.45	100.61	18.0
		0.180 mm	109.86	100.61	9.1
		0.150 mm	101.92	100.61	7.9
		0.075 mm	102.96	100.61	5.6
		0.053 mm	101.41	100.61	4.9

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =48.1
Weight of hydrometer sample =50.36
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.2	1.0070	1.0029	0.0138	6.0	14.7	0.0374	4.4
5.00	19.2	1.0070	1.0029	0.0138	6.0	14.7	0.0236	4.4
15.00	20.1	1.0060	1.0020	0.0136	5.0	15.0	0.0136	3.0
30.00	20.1	1.0060	1.0020	0.0136	5.0	15.0	0.0096	3.0
60.00	19.9	1.0060	1.0020	0.0137	5.0	15.0	0.0068	3.0
250.00	18.6	1.0050	1.0008	0.0139	4.0	15.2	0.0034	1.2
1440.00	18.2	1.0050	1.0007	0.0140	4.0	15.2	0.0014	1.1

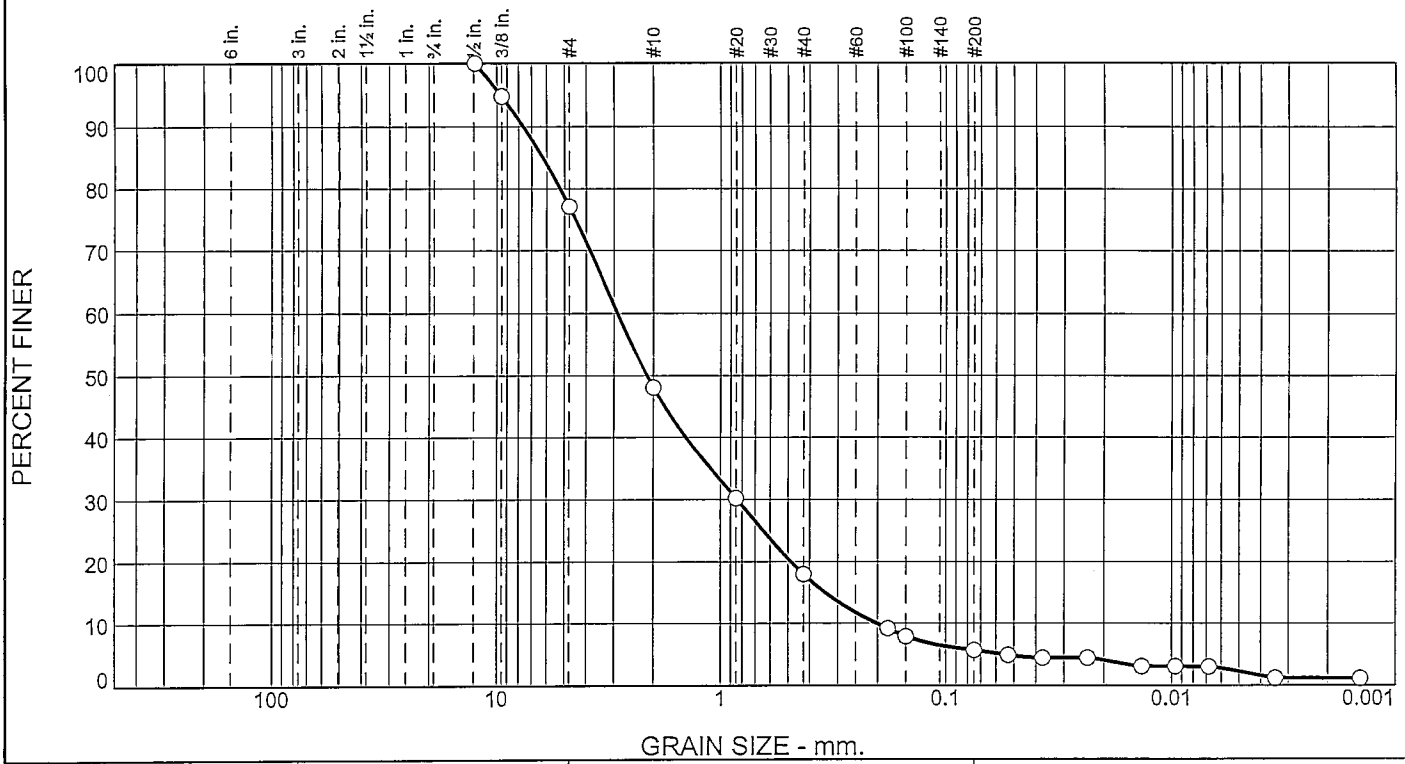
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	22.9	22.9	29.0	30.1	12.4	71.5	3.3	2.3	5.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2016	0.3402	0.4834	0.8392	2.1352	2.8934	5.2191	6.2318	7.6176	9.6003

Fineness Modulus	C_u	C_c
3.94	14.35	1.21

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	22.9	29.0	30.1	12.4	3.3	2.3

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	94.8		
4.75 mm	77.1		
2.00 mm	48.1		
0.850 mm	30.2		
0.425 mm	18.0		
0.180 mm	9.1		
0.150 mm	7.9		
0.075 mm	5.6		
0.053 mm	4.9		
0.0374 mm.	4.4		
0.0236 mm.	4.4		
0.0136 mm.	3.0		
0.0096 mm.	3.0		
0.0068 mm.	3.0		
0.0034 mm.	1.2		
0.0014 mm.	1.1		

* (no specification provided)

Material Description

Sample appears to be mostly clay with stones
Moisture content as received = 10.6%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 7.6176 D_{85}= 6.2318 D_{60}= 2.8934
D_{50}= 2.1352 D_{30}= 0.8392 D_{15}= 0.3402
D_{10}= 0.2016 C_u= 14.35 C_c= 1.21

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 12/30/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-18 (19.5-20.0) **Depth:** T11L056-69 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions
Depth: T11L056-70 **Sample Number:** SB-19 (14.0-14.5)
Material Description: Sample appears to be mostly stones
Mositure content as received = 7.5%
Sample Date: 12/13/11
Date Received: 12/14/11
Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216
Tested By: as **Test Date:** 1/3/12
Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
254.40	0.00	25.0 mm	0.00	0.00	100.0
		12.5 mm	113.73	100.61	94.8
		9.5 mm	160.17	100.61	71.4
		4.75 mm	144.23	100.61	54.3
		2.00 mm	149.46	100.61	35.1
50.30	0.00	0.850 mm	122.25	100.61	20.0
		0.425 mm	110.54	100.61	13.1
		0.180 mm	107.17	100.61	8.5
		0.150 mm	101.67	100.61	7.7
		0.075 mm	102.94	100.61	6.1
		0.053 mm	101.41	100.61	5.6

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =35.1
Weight of hydrometer sample =50.30
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.0	1.0090	1.0048	0.0138	8.0	14.2	0.0368	5.4
5.00	19.0	1.0080	1.0038	0.0138	7.0	14.4	0.0235	4.3
15.00	19.7	1.0080	1.0039	0.0137	7.0	14.4	0.0134	4.4
30.00	20.3	1.0080	1.0040	0.0136	7.0	14.4	0.0094	4.5
60.00	20.8	1.0080	1.0041	0.0135	7.0	14.4	0.0066	4.6
250.00	18.4	1.0080	1.0038	0.0139	7.0	14.4	0.0033	4.2
1440.00	17.6	1.0060	1.0017	0.0141	5.0	15.0	0.0014	1.9

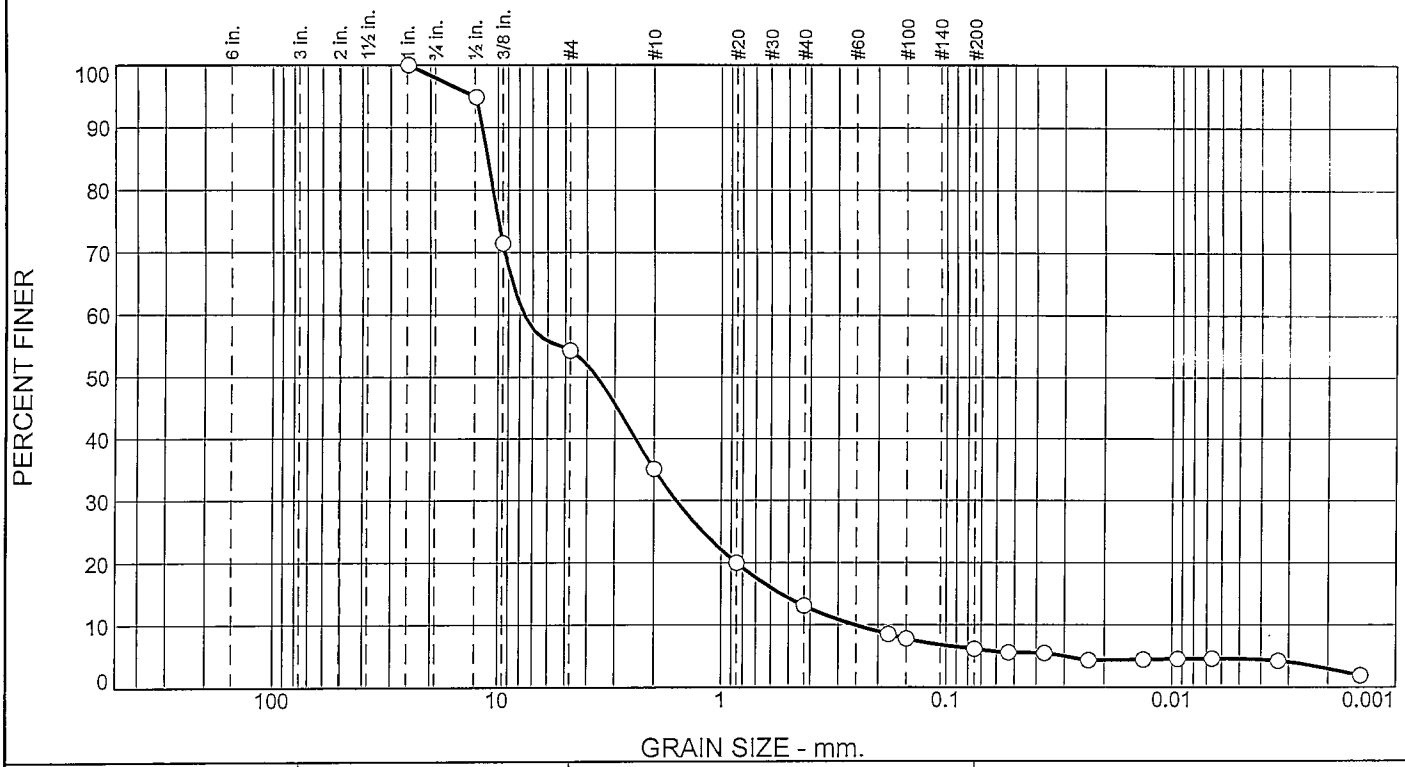
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	2.0	43.7	45.7	19.2	22.0	7.0	48.2	1.6	4.5	6.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2531	0.5370	0.8507	1.5921	3.6088	7.6115	10.5126	11.1056	11.7533	12.7670

Fineness Modulus	C_u	C_c
4.77	30.07	1.32

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	2.0	43.7	19.2	22.0	7.0	1.6	4.5

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
25.0 mm	100.0		
12.5 mm	94.8		
9.5 mm	71.4		
4.75 mm	54.3		
2.00 mm	35.1		
0.850 mm	20.0		
0.425 mm	13.1		
0.180 mm	8.5		
0.150 mm	7.7		
0.075 mm	6.1		
0.053 mm	5.6		
0.0368 mm.	5.4		
0.0235 mm.	4.3		
0.0134 mm.	4.4		
0.0094 mm.	4.5		
0.0066 mm.	4.6		
0.0033 mm.	4.2		
0.0014 mm.	1.9		

* (no specification provided)

Material Description

Sample appears to be mostly stones
Mositure content as received = 7.5%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 11.7533 D_{85}= 11.1056 D_{60}= 7.6115
D_{50}= 3.6088 D_{30}= 1.5921 D_{15}= 0.5370
D_{10}= 0.2531 C_u= 30.07 C_c= 1.32

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 1/3/12
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-19 (14.0-14.5) **Depth:** T11L056-70 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

GRAIN SIZE DISTRIBUTION TEST DATA

1/10/2012

Client: TRC Solutions

Depth: T11L056-71 **Sample Number:** SB-19 (19.5-20.0)

Material Description: Sample appears to be mostly clay
Moisture content as received = 13.0%

Sample Date: 12/13/11

Date Received: 12/14/11

Testing Remarks: Test Methods Used: ASTM D-421, D-422 and D-2216

Tested By: as **Test Date:** 1/3/11

Checked By: jm **Title:** project manager

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
231.76	0.00	12.5 mm	0.00	0.00	100.0
		9.5 mm	119.68	100.61	91.8
		4.75 mm	142.32	100.61	73.8
		2.00 mm	151.51	100.61	51.8
50.45	0.00	0.850 mm	118.44	100.61	33.5
		0.425 mm	111.47	100.61	22.3
		0.180 mm	109.59	100.61	13.1
		0.150 mm	102.00	100.61	11.7
		0.075 mm	103.94	100.61	8.3
		0.053 mm	101.54	100.61	7.3

Hydrometer Test Data

Hydrometer test uses material passing#10
Percent passing #10 based upon complete sample =51.8
Weight of hydrometer sample =50.45
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =4
Meniscus correction only =-1.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	19.6	1.0080	1.0039	0.0137	7.0	14.4	0.0369	6.5
5.00	19.7	1.0080	1.0039	0.0137	7.0	14.4	0.0233	6.5
15.00	20.2	1.0070	1.0030	0.0136	6.0	14.7	0.0135	4.9
30.00	20.7	1.0070	1.0031	0.0135	6.0	14.7	0.0095	5.1
60.00	21.1	1.0070	1.0031	0.0135	6.0	14.7	0.0067	5.1
250.00	18.8	1.0070	1.0028	0.0139	6.0	14.7	0.0034	4.7
1440.00	17.7	1.0060	1.0017	0.0140	5.0	15.0	0.0014	2.8

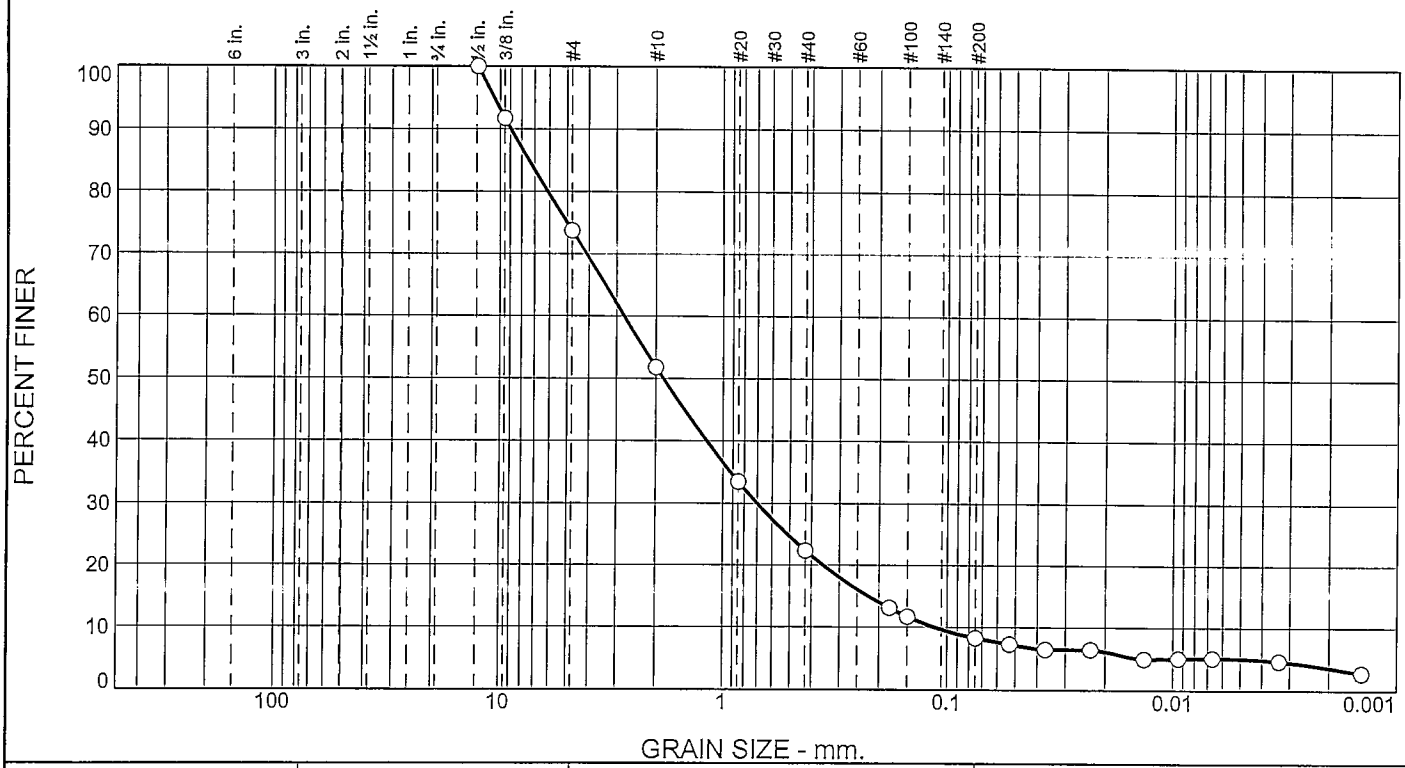
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	26.2	26.2	22.0	29.5	14.0	65.5	3.3	5.0	8.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1142	0.2225	0.3542	0.6988	1.8540	2.7769	6.0917	7.4111	8.9237	10.6035

Fineness Modulus	C_u	C_c
3.81	24.32	1.54

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	26.2	22.0	29.5	14.0	3.3	5.0

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
12.5 mm	100.0		
9.5 mm	91.8		
4.75 mm	73.8		
2.00 mm	51.8		
0.850 mm	33.5		
0.425 mm	22.3		
0.180 mm	13.1		
0.150 mm	11.7		
0.075 mm	8.3		
0.053 mm	7.3		
0.0369 mm.	6.5		
0.0233 mm.	6.5		
0.0135 mm.	4.9		
0.0095 mm.	5.1		
0.0067 mm.	5.1		
0.0034 mm.	4.7		
0.0014 mm.	2.8		

* (no specification provided)

Material Description

Sample appears to be mostly clay
Moisture content as received = 13.0%

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 8.9237 D_{85}= 7.4111 D_{60}= 2.7769
D_{50}= 1.8540 D_{30}= 0.6988 D_{15}= 0.2225
D_{10}= 0.1142 C_u= 24.32 C_c= 1.54

Remarks

Test Methods Used: ASTM D-421, D-422 and D-2216

Date Received: 12/14/11 **Date Tested:** 1/3/11
Tested By: as
Checked By: jm
Title: project manager

Sample Number: SB-19 (19.5-20.0) **Depth:** T11L056-71 **Date Sampled:** 12/13/11

TRACE ANALYTICAL LABORATORIES

Client: TRC Solutions
Project:
Project No: **Figure**

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CHAIN-OF-CUSTODY RECORD

Page 1 of 1

TRACE ID NO. T11L056

TRACE USE ONLY

Logged By: [illegible] Checked By: [illegible]

Received on ice: (Yes) No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: (MeOH) (Low Level) Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave SE Ste. 402

City, State, Zip Code: Grand Rapids, MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616-915 3604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		Oi = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	GRAIN SIZE/HYDRO.	TOC							REMARKS	Possible Health Hazard
01	12/5/11	1303	—	SED-R-1 (0.0-0.5)	SE	5	X	X	X	X								
02	12/5/11	1332	—	SED-R-2 (0.0-0.5)	SE	5	X	X	X	X								
03	12/5/11	1353	—	SED-R-3 (0.0-0.5)	SE	5	X	X	X	X								
04	12/5/11	1439	—	SED-R-4 (0.0-0.5)	SE	5	X	X	X	X								
05	11/9/11	—	—	TB-01	W	1	X											

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S. Pawlukiewicz	FEDEX	12/5/11	1630	1	3)			
	2) Fed Ex	[illegible]	12/6/11	10:33		4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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Page 1 of 2

TRACE ID NO. T11056

TRACE USE ONLY

Logged By: [illegible] Checked By: [illegible]

Received on ice: (Yes) No Preservative Checked: Yes (No) N/A

Soil Volatiles Preserved: (MeOH) (Low Level) Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE Ste. 407

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975-1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915-3604 Sampled by: SP

Project Name & #: LEC MW-30 RI 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DENP	Grain Size/Hydro	TOC							REMARKS	Possible Health Hazard
06	12/6/11	0850	—	SED-R-6 (0.0-0.5)	SE	5	X	X	X	X								
07	12/6/11	1003	-	SED-D-3 (0.0-0.5)	SE	5	X	X	X	X								
08	12/6/11	1055	-	SED-D-1 (0.0-0.5)	SE	5	X	X	X	X								
09	12/6/11	1243	-	SED-D-2 (0.0-0.5)	SE	~~5~~ 10	X	X	X	X							MS/MSD	
10	12/6/11	1344	-	SED-D-4 (0.0-0.5)	SE	5	X	X	X	X								
11	12/6/11	1347	-	SED-D-4 (0.0-0.5) dup	SE	5	X	X	X	X								
12	11/9/11	—	—	TB-02	W	1	X											

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
1)	B. Pawlukiewicz	FEDEX	12/6/11	1630	3)				
2)	Fed-Ex	[illegible]	12/7/11	10:39	4)				

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CHAIN-OF-CUSTODY RECORD

Page 2 of 2

TRACE ID NO. T11L056

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E Beltline Ave SE Ste. 402
City, State, Zip Code: Grand Rapids MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616 975-3604 Sampled by: SP
Project Name & #: LEC MW-30 RI, 185281.0000.0000

TRACE USE ONLY

Logged By: [signature] Checked By: [signature]
Received on ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Regulatory Requirements
MERA TMDL's ☐
Drinking Water ☐
NPDES ☐
USACE ☐
Special ☐

Turnaround Requirements
Standard ☒
3-4 Day (RUSH)* ☐
24-48 Hour (RUSH)* ☐
* Requires prior approval

Matrix Key
S = Soil
W = Water
SE = Sediment
OI = Oil
SO = Solid Waste
WI = Wipes
LW = Liquid Waste
A = Air
D = Drinking Water
SL = Sludge

Bill To:

Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size / Hydro.	TOC						REMARKS	Possible Health Hazard
13	12/6/11	0854	-	SED-R-6 (1.0-1.5)	SE	5										Hold Sample	
14		1009	-	SED-D-3 (1.0-1.5)	SE	5										Hold Sample	
15		1100	-	SED-D-1 (1.0-1.5)	SE	5										Hold Sample	
16		1245	-	SED-D-2 (1.0-1.5)	SE	5										Hold Sample	
17		1347	-	SED-D-4 (1.0-1.5)	SE	5										Hold Sample	
18		1455	-	SED-R-1 (0.5-1.0)	SE	5										Hold Sample	

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S. Pawlukiewicz	FEDEX	12/6/11	1630		3)			
	2) FED-EX	[signature]	12/7/11	10:39		4)			

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CHAIN-OF-CUSTODY RECORD

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Page 1 of 2

TRACE ID NO. T11L056

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E. Beltline Ave. SE, Ste. 402
City, State, Zip Code: Grand Rapids, MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616 915 3604 Sampled by: SP
Project Name & #: LEC MW-30 RI, 185281.0000.0000

TRACE USE ONLY

Logged By: [signature] Checked By: [signature]
Received on Ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Regulatory Requirements
MERA TMDL's ☐
Drinking Water ☐
NPDES ☐
USACE ☐
Special ☐

Turnaround Requirements
Standard ☒
3-4 Day (RUSH)* ☐
24-48 Hour (RUSH)* ☐
* Requires prior approval

Matrix Key
S = Soil
W = Water
SE = Sediment
OI = Oil
SO = Solid Waste
WI = Wipes
LW = Liquid Waste
A = Air
D = Drinking Water
SL = Sludge

Bill To:

Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BSEX	DEHP	Gain Size/Hydro	TOC						REMARKS	Possible Health Hazard
19	12/8/11	0855	-	SED-R-2 (1.5-2.0)	SE	5	HOLD										
20	12/8/11	1035	-	SED-R-3 (0.5-1.0)	SE	5	HOLD										
21	12/8/11	1120	-	SED-R-4 (1.0-1.5)	SE	5	HOLD										
22	12/8/11	1250	-	SED-DRC-02 (0.0-0.5)	SE	5	X	X	X	X							
23	12/8/11	1255	-	SED-DRC-02 (1.0-1.5)	SE	5	HOLD										
24	12/8/11	1355	-	SED-D-5 (0.0-0.5)	SE	5	X	X	X	X							
25	12/8/11	1400	-	SED-D-5 (1.0-1.5)	SE	5	HOLD										

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) Scott Pawlukiewicz	FedEx	12/8/11	1730	1	3)			
	2) FED-EX	[signature]	12/9/11	10:40		4)			

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CHAIN-OF-CUSTODY RECORD

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Page 2 of 2

TRACE ID NO. T11056

TRACE USE ONLY

Logged By: Checked By:

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE. Ste. 402

City, State, Zip Code: Grand Rapids, MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185281.0000-0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

ANALYSIS REQUESTED

Request for Analytical Services

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size (Wet)	TOC							REMARKS	Possible Health Hazard
26	12/08/11	1045		SB-5/(5.0-5.5)	S.1	5	X	X	X	X							RUN	
27	12/08/11	1116		SB-5/(10.0-10.5)	S.1	5	X	X	X	X							~~HOLD~~ 12/9 via email	
28	12/08/11	1348		SB-7/(0.5-1.0)	S.1	5	X	X	X	X							RUN	
29	12/08/11	1405		SB-7/(5.0-5.5)	S.1	5	X	X	X	X							~~HOLD~~ 12/9 via email	
30	12/08/11	1517		SB-8/(13.0-13.5)	S.1	5	X	X	X	X							RUN	
31	12/08/11	1525		SB-8/(14.5-15.0)	S.1	5	X	X	X	X							~~HOLD~~ 12/9 via email	
32	12/08/11	1551		SB-9/(0.5-1.0)	S.1	5	X	X	X	X							RUN	
33	12/08/11	1606		SB-9/(4.5-5.0)	S.1	5	X	X	X	X							~~HOLD~~ 12/9 via email	

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) Scott Pawlukiewicz	FedEx	12/8/11	1730	1	3)			
	2) FED-EX	[illegible]	12/9/11	10:40		4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/coctern

CHAIN-OF-CUSTODY RECORD

TRACE
the science of compliance

phone 231.773.5998
toll-free 800.733.5998
fax 231.773.6537

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2241 Black Creek Road
Muskegon, MI 49444-2673
www.trace-labs.com

Page 1 of 2

TRACE ID NO. T11L056

TRACE USE ONLY

Logged By: [signature] Checked By: BMC

Received on Ice: (Yes) No Preservative Checked: Yes No (N/A)

Soil Volatiles Preserved: (MeOH) (Low Level) Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE, Ste 402

City, State, Zip Code: Grand Rapids, MI 49546

Phone: 616 975 5415 Fax: 616 975 1028

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915-3604 Sampled by: SP

Project Name & #: CEC MW-30 RI, 185782.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☒	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services — ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size / Hydro.	TOC							REMARKS	Possible Health Hazard
34	12/9/11	0933	–	SB-6/(6.5-7.0)	S	5	X	X	X	X								
35		0940	–	SB-6/(14.0-14.5)	S	5	X	X	X	X								
36		1040	–	SB-4/(6.5-7.0)	S	5	X	X	X	X								
37		1050	–	SB-4/(11.5-12.0)	S	5	X	X	X	X								
38		1250	–	SB-3/(11.0-11.5)	S	5	X	X	X	X								
39		1255	–	SB-3/(14.5-15.0)	S	5	X	X	X	X								
40		1355	–	SB-2/(5.0-5.5)	S	5	X	X	X	X								
41		1400	–	SB-2/(15.0-15.5)	S	5	X	X	X	X								
42		1500	–	SB-12/(8.5-9.0)	S	5	X	X	X	X								
43		1520	–	SB-12/(16.5-17.0)	S	5	X	X	X	X								

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [signature]	[signature]	12/9/11	1715		3) [signature]	[signature]	12/10/11	11:10
	2) [signature]	[signature]	12/10/11	10:15		4) WALK-IN	[signature]	12/12/11	8:10

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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Page 2 of 2

TRACE ID NO. T11L056

TRACE USE ONLY

Logged By: [signature] Checked By: [signature]

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave, SE Suite 402

City, State, Zip Code: Grand Rapids, MI 49546

Phone: 616 975 5415 Fax: (616) 975-1098

Email Address: spawlukiewicz@trcsolutions.com

Cell #: (616) 915-3604 Sampled by: SP

Project Name & #: LEL MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro	TOC						REMARKS	Possible Health Hazard
44	12/9/11	1545	-	DB-3/(5.0-5.5)	S	5	X	X	X	X							

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [signature]	FEDEX	12/9/11	1715		3) [signature]	[signature]	12/10/11	11:10
	2) [signature]	[signature]	12/10/11	10:15		4) WALK-IN	[signature]	12/12/11	8:10

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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Page 1 of 2

TRACE ID NO. T11L056

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E. Beltline Ave. SE Ste 402
City, State, Zip Code: Grand Rapids MI 49541
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616 915 3604 Sampled by: SP
Project Name & #: LEC MW-30 RI, 185281.0000.0000

TRACE USE ONLY

Logged By: [signature] Checked By: [signature]
Received on ice: (Yes) No Preservative Checked: Yes No (N/A)
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Regulatory Requirements
MERA TMDL's ☐
Drinking Water ☐
NPDES ☐
USACE ☐
Special ☐

Turnaround Requirements
Standard ☒
3-4 Day (RUSH)* ☐
24-48 Hour (RUSH)* ☐
* Requires prior approval

Matrix Key
S = Soil
W = Water
SE = Sediment
OI = Oil
SO = Solid Waste
WI = Wipes
LW = Liquid Waste
A = Air
D = Drinking Water
SL = Sludge

Bill To:

Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro	TOC	Tot Fe						REMARKS	Possible Health Hazard
45	10DEC11	0845	–	SB-15/(10.0-10.5)	S	5	X	X	X	X			NO	TOC				
46	10DEC11	0850	–	SB-15/(25.0-25.5)	S	5	X	X	X									
47	10DEC11	0935	–	SB-14/(9.5-10.0)	S	6	X	X	X	X	X							
48	10DEC11	—	–	~~SB-14/(~~ SB-DUP-01	S	5	X	X	X	X			NO	TOC				
49	10DEC11	1036	–	SB-1/(7.5-8.0)	S	6	X	X	X	X	X							
50	10DEC11	1043	–	SB-1/(24.5-25.0)	S	5	X	X	X	X			NO	TOC				
51	10DEC11	1350	–	SB-16/(9.5-10.0)	S	6	X	X	X	X	X							
52	10DEC11	1355	–	SB-16/(24.5-25.0)	S	6	X	X	X	X	X							
53	12DEC11	1008	–	SB-13/(9.5-10.0)	S	5	X	X	X									
54	12DEC11	1017		SB-13/(29.5-30.0)	S	4	X	X										

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [signature]	FedEx	12/12/11	1730	2	3)			
	2) FED-EX	[signature]	12/13/11	8:29		4)			

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Page 2 of 2

TRACE ID NO. T11L056

TRACE USE ONLY

Logged By: Checked By:

Received on Ice: (Yes) No Preservative Checked: Yes No (N/A)

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E Beltline Ave. SE Ste. 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 5604 Sampled by: SP

Project Name & #: LEC MW-30 RI, 185251.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

ANALYSIS REQUESTED

Request for Analytical Services

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DRNP	Grain Size Hydro								REMARKS	Possible Health Hazard
55	12/12/11	~~1201~~ 1144	–	SB-13-10S/(9.5-10.0)	S	5	X	X	X									
56	12/12/11	1201	–	SB-13-10S/(21.5-22.0)	S	5	X	X	X									
57	12/12/11	1402	–	SB-11/(7.5-8.0)	S	5	X	X	X									
58	12/12/11	1407	–	SB-11/(14.5-15.0)	S	5	X	X	X									
59	12/12/11	1505	–	SB-10/(7.0-7.5)	S	5	X	X	X									
60	12/12/11	1515	–	SB-10/(19.5-20.0)	S	5	X	X	X									

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S Pawlukiewicz	FedEx	12/12/11	1430	2	3)			
	2) FED-EX	[signature]	12/13/11	8:29		4)			

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Page 1 of 2

TRACE ID NO. JJL056

TRACE USE ONLY
Logged By: Julie Denald Checked By: JS
Received on ice: (Yes) No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC
Contact Person: Scott Pawlukiewicz
Mailing Address: 2025 E. Beltline Ave. SE Ste 402
City, State, Zip Code: Grand Rapids MI 49546
Phone: 616 975 5415 Fax: 616 975 1098
Email Address: SPawlukiewicz@trcsolutions.com
Cell #: 616 915 3604 Sampled by: DM
Project Name & #: LEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)
City, State, Zip Code
Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/Hydro								REMARKS	Possible Health Hazard
601	12/13/11	0926		SB-8-10E/(7.5-8.0)	S	5	X	X	X									
602	12/13/11	0931		SB-8-10E/(19.5-20.0)	S	5	X	X	X									
603	12/13/11	1058		SB-3-10E/(5.5-6.0)	S	5	X	X	X									
604	12/13/11	1107		SB-3-10E/(14.5-15.0)	S	5	X	X	X									
605	12/13/11	1204		SB-17/(7.5-8.0)	S	5	X	X	X									
606	12/13/11	1206		SB-17/(7.5-8.0) dup	S	4	X	X										
607	12/13/11	1211		SB-17/(19.5-20.0)	S	5	X	X	X									
608	12/13/11	1257		SB-18/(9.5-10.0)	S	5	X	X	X									
609	12/13/11	1303		SB-18/(19.5-20.0)	S	5	X	X	X									

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) B. Pawlukiewicz	FedEx	12/13/11	1700	1	3)			
	2) Fedex	Julie Denald	12/14/11	10:21		4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms

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Page 2 of 2

TRACE ID NO. T1L056

TRACE USE ONLY

Logged By: Julie Dewald Checked By:

Received on ice: (Yes) No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE. Ste. 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1098

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: DM

Project Name & #: LEC MW-30 RI, 1KS 281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	Grain Size/hydro								REMARKS	Possible Health Hazard
70	12/13/11	1423		SB-19/(14.0-14.5)	S	5	X	X	X									
71	12/13/11	1427		SB-19/(19.5-20.0)	S	5	X	X	X									

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S Pawlukiewicz	FedEx	12/13/11	1700	1	3)			
	2) FedEx	Julie Dewald	12/14/11	10:21		4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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Page 1 of 1

TRACE ID NO. T11056

TRACE USE ONLY

Logged By: Julie Derald Checked By: JS

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Scott Pawlukiewicz

Mailing Address: 2025 E. Beltline Ave. SE, Ste 402

City, State, Zip Code: Grand Rapids MI 49546

Phone: 616 975 5415 Fax: 616 975 1088

Email Address: SPawlukiewicz@trcsolutions.com

Cell #: 616 915 3604 Sampled by: SP

Project Name & #: CEC MW-30 RI, 185281.0000.0000

Bill To:

Billing Address (if different)

City, State, Zip Code

Attn: Phone: PO #:

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☒ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	8260	DEHP									REMARKS	Possible Health Hazard
72	12/11/11	1430	–	PW-R-2	W	2	2											
73	12/13/11	1020	–	PW-R-2	W	1		1										
74	12/11/11	1420	–	PW-R-3	W	2	2											
75	12/13/11	1335	–	PW-R-3	W	1		1										
76	12/11/11	1246	–	PW-R-4	W	3	2	1										
77	12/11/11	~~1338~~ 1322	–	PW-D-2	W	2	2											
78	12/13/11	1030	–	PW-D-2	W	1		1										
79	12/13/11	1345	–	PW-D-4	W	1		1										
80	12/14/11	1100	–	PW-D-4	W	2	2											
81	11/9/11	—	–	TB-01	W	1	1											

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) S. Pawlukiewicz	Fedex	12/14/11	1715		3)			
	2) Fedex	[illegible]	12/15/11	10:21		4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

SAMPLE LOG IN CHECKLIST

Date: 12/6/11 Client Name: TRC # of Coolers: 1

Trace ID #: T11L056 Project Name: Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [ ] DHL [ ] FED EX [ ] US Mail [ ]

Did cooler come with a bill of lading? No [ ] Yes [ ] [X] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor +0.1 °C

Date: 12/6/11 Time: 10:33

Temperature Blank: 3.0 °C

Range of 3 samples: 3.6-8.0 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[ ]	[X]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[X]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[X]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[X]

Contact: Date:

Notes:

SAMPLE LOG IN CHECKLIST

Date: 12-7-11 Client Name: TRC # of Coolers: 1

Trace ID #: T110560 Project Name: Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [X] Yes [ ] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor -0.1 °C

Date: 12-7-11 Time: 10:39

Temperature Blank: 2.7 °C

Range of 3 samples: 1, 2, 3 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[X]	[ ]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[ ]	[ ]	[X]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[X]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

SAMPLE LOG IN CHECKLIST

Date: 12-9-11 Client Name: TRC # of Coolers: 1

Trace ID #: T114056 Project Name: Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [✓] Name of delivery person: UPS [ ] DHL [ ] FED EX [✓] US Mail [ ]

Did cooler come with a bill of lading? No [✓] Yes [ ] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [✓] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [✓] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[✓]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor 0.0 °C

Date 12-9-11 Time: 10:40

Temperature Blank: 3.0 °C

Range of 3 samples: 1, 2, 3 °C

Melt Water: °C

Ice still present upon receipt: [✓] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[✓]	[ ]	[ ]
All bottles arrived unbroken with labels in good condition?	[✓]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[✓]	[ ]	[ ]
Labels filled out completely?	[✓]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[✓]	[ ]	[ ]
Sufficient sample to run tests requested?	[✓]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[✓]
Correct preservative added to samples?	[✓]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[✓]
Air bubbles absent from VOAs?	[ ]	[ ]	[✓]
COC filled out properly and signed by client?	[✓]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[✓]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

SAMPLE LOG IN CHECKLIST

Date: 12/10 Client Name: TRC # of Coolers: 1

Trace ID #: T111056 Project Name: LEC Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [✓] Name of delivery person: UPS [ ] DHL [ ] FED EX [✓] US Mail [ ]

Did cooler come with a bill of lading? No [✓] Yes [ ] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [✓] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [✓] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[✓]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor 0.0 °C

Date: 12/10/11 Time: 11:15

Temperature Blank: 2.6 °C

Range of 3 samples: 2.0 - 3.0 °C

Melt Water: °C

Ice still present upon receipt: [✓] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[✓]	[ ]	[ ]
All bottles arrived unbroken with labels in good condition?	[✓]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[✓]	[ ]	[ ]
Labels filled out completely?	[✓]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[ ]	[ ]	[ ]
Sufficient sample to run tests requested?	[✓]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[✓]
Correct preservative added to samples?	[✓]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[✓]
Air bubbles absent from VOAs?	[ ]	[ ]	[✓]
COC filled out properly and signed by client?	[✓]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[✓]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[✓]	[ ]

Contact: Date:

Notes:

SAMPLE LOG IN CHECKLIST

Date: 12-13-11 | Client Name: TRC | # of Coolers: 2

Trace ID #: T11L056 | Project Name: | Cooler #s:

Logged in by: | Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] | Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [ ] Yes [X] | [ ] Not Applicable | Way Bill or Tracking #:

COC Seals present and intact on cooler? No [ ] Yes [X] | [ ] Not Applicable

Custody seals signed by Client? No [ ] Yes [X] | Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor -0.4 °C

Date: 12/13/11 Time: 8:29

Temperature Blank: 3.3 °C

Range of 3 samples: 2-3 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[X]	[ ]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[ ]	[ ]	[X]
DRO/GRO samples received and appropriate check in form completed?	[X]	[ ]	[ ]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

SAMPLE LOG IN CHECKLIST

Date: 12-14-11 Client Name: TRC # of Coolers: 1

Trace ID #: T11L056 Project Name: Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person:

UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [ ] Yes [X] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor -0.4 °C

Date: 12-14-11 Time: 10:21

Temperature Blank: °C

Range of 3 samples: 2, 4, 6 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[X]	[ ]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[ ]	[ ]	[X]
DRO/GRO samples received and appropriate check in form completed?	[X]	[ ]	[ ]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

2.4

SAMPLE LOG IN CHECKLIST

Date: 12/15/11 | Client Name: TRC | # of Coolers: 1

Trace ID #: T11L056 | Project Name: | Cooler #s:

T11L183 | Logged in by: Julie Dewald | Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] | Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [ ] Yes [ ] [X] Not Applicable | Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] | Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor -0.3 °C

Date: 12/15/11 Time: 10:21

Temperature Blank: 5.2 °C

Range of 3 samples: 5-7.4 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[ ]	[X]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[X]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[X]
Air bubbles absent from VOAs?	[X]	[ ]	[ ]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[X]

Contact: Date:

Notes:

Appendix D
Treatability Testing Results

Laboratory Scale
Biodegradation Study Report

Introduction

A laboratory-scale biodegradation study was conducted on soils collected from the Dayco Corporation/L.E. Carpenter Site to evaluate the potential for enhancement of biological degradation of benzene, toluene, ethylbenzene, and xylenes (BTEX) and *bis* (2-ethylhexyl) phthalate (DEHP) within site soils as described in the Addendum to the Remedial Action Work Plan for Source Remediation (TRC, July 2011, revised October 2011). Replicate soil cores were collected at the site during the focused Remedial Action (RA) conducted in December 2011 and shipped intact to the TRC Applied Chemistry Laboratory. The sections of each core anticipated to contain the highest concentrations of site-related constituents of concern (COCs) based on field screening methods were composited into a single sample and subjected to a variety of aerobic degradation test conditions. Samples were collected from an untreated control and four test conditions at 15-day, 30-day, and 45-day intervals for analysis of site COCs, as defined above, and heterotrophic plate counts. This report presents the results of the laboratory-scale biodegradation study.

A summary of the experimental procedure is provided in Attachment 1.

Sample Preparation

Two soil cores were collected for evaluation in the laboratory-scale biodegradation study – SB-14A and SB-14B. Field screening indicated that the zone of highest site COC concentrations was located between 7.5 and 12.5 feet below ground surface (fbgs). Therefore, soil in the bottom half of the 5 to 10 ft core and the top half of the 10 to 15 ft cores were composite for use in the evaluation. Sufficient water was added to form a slurry, and stones removed by passing the slurry through a ¼ inch sieve. Information on the sample preparation is given in Table 1:

Table 1
Soil Sample Preparation Results

PARAMETER	SOIL	
	SB-14A	SB-14B
Wet weight of soil, g	14,140	13,722
Water added to form slurry, mL	1,500	1,500
Weight of soil after stones removed, g	7,039	7,924
Solids content of soil slurry, %	78.2	81.0

The soils were divided into five 1.5 L aliquots and placed in 2 L vacuum flasks. The flasks were used for the following treatments:

- Treatment 1. Control
- Treatment 2. Air addition
- Treatment 3. Nutrient Addition
- Treatment 4. Air plus Nutrient Addition
- Treatment 5. Ozone addition

Air was added using small air pumps generating 1.2 L per minute of air. The nutrient addition was done by adding sufficient nutrients to make a 1:10 Modified Hoagland's solution in the water added to slurry the soil. Modified Hoagland's solution (Table 2) is a common nutrient solution used in plant growth studies. Ozone was added using an OZV-8 ozone generator from Ozone Solutions, Hull, IA.

Table 2
Modified Hoagland's Solution Used in Study

COMPONENT	CONCENTRATION	STOCK SOLUTION	ML STOCK SOLUTION/L
MAJOR CONSTITUENTS			
KNO_3	2 M	202 g/L	2.5
$Ca(NO_3)_2 \cdot 4H_2O$	2 M	236 g/0.5 L	2.5
$MgSO_4$	2 M	493 g/L	1.5
NH_4NO_3	1 M	80 g/L	1
TRACE CONSTITUENTS			
KH_2PO_4	1 M	136 g/L	0.5
H_3BO_3		2.86 g/L	
$MnCl_2 \cdot 4H_2O$		1.81 g/L	
$ZnSO_4 \cdot 7H_2O$		0.22 g/L	
$CuSO_4$		0.051 g/l	
$Na_2MoO_4 \cdot 2H_2O$		0.12 g/L	

Make up stock solutions and store in separate bottles.
Add sufficient stock to make up a 1:10 Hoagland's solution in the 1.5 L water added to each soil slurry.

The flasks were shaken daily, and water added to make up for any evaporation. Samples were collected by emptying the flask into a mixing bowl, homogenizing the sample, then removing the samples for analysis. Samples were sent by overnight carrier to Trace Analytical Laboratories, Muskegon, Michigan, for analysis. All samples were analyzed within the

required hold times except for the 45-day sample, where fog in Michigan delayed the receipt of the sample by the lab until after the hold time for the bacterial analysis.

Results

The results for the analyses are presented in Tables 3 and 4 for SB 14A and SB 14-B, respectively. Laboratory data sheets are provided in Attachment 2. The results show a significant reduction in the concentrations of all measured organics over the 45-day period for all test conditions, including the control. A significant increase in bacterial populations was also noted for all samples except for the ozone-treated samples, in which the bacterial populations were below detection. Benzene and toluene concentrations were below detection in all samples, including the original soils.

Table 3
Degradation Study Results: Soil 14A

PARAMETER	REACTION TIME			
	ORIGINAL	15 DAYS	30 DAYS	45 DAYS
CONTROL				
Solids, %	73/80	62	82	77
Ethylbenzene, mg/kg	13/14	13	2.8	0.78
m,p-xylene, mg/kg	49/52	44	3.3	0.13
o-xylene, mg/kg	9.5/10	10	0.94	<0.050
Total xylenes, mg/kg	59/62	54	4.3	<0.15
DEHP, µg/kg	180,000/160,000	210,000	70,000	36,000
HPT, CFU/g	170,000/190,000	63,000	5,900,000	4,600,000
AIR				
Solids, %	73/80	70	84	74
Ethylbenzene, mg/kg	13/14	5.1	2.1	4.6
M,p-xylene, mg/kg	49/52	12	2.9	3.4
o-xylene, mg/kg	9.6/10	3.7	0.69	0.79
Total xylenes, mg/kg	59/62	16	3.6	4.2
DEHP, µg/kg	180,000/160,000	190,000	90,000	71,000
HPC, CFU/g	170,000	190,000	10,000,000	670,000
NUTRIENTS				
Solids, %	73/80	68	86	69
Ethylbenzene, mg/kg	13/14	11	2.4	1.1
m,p-xylene, mg/kg	49/52	40	7.9	1.5
o-xylene, mg/kg	9.6/10	6.6	2.0	0.79
Total xylenes, mg/kg	59/62	46	9.9	2.3
DEHP, µg/kg	180,000/160,000	220,000	120,000	48,000
HPC, CFU/g	170,000	1,300,000	2,400,000	15,000,000

Table 3
Degradation Study Results: Soil 14A

PARAMETER	REACTION TIME			
	ORIGINAL	15 DAYS	30 DAYS	45 DAYS
AIR PLUS NUTRIENTS				
Solids, %	73/80	77	87	79
Ethylbenzene, mg/kg	13/14	6.2	1.5	3.6
m,p-xylene, mg/kg	49/52	21	4.8	5.2
o-xylene, mg/kg	9.6/10	4.7	1.2	2.6
Total xylenes, mg/kg	59/62	25	6.0	7.8
DEHP, µg/kg	180,000/160,000	160,000	52,000	35,000
HPC, CFU/g	170,000	880,000	12,000,000	1,300,000
OZONE				
Solids, %	73/80	80	88	82
Ethylbenzene, mg/kg	13/14	6.3	1.9	0.68
m,p-xylene, mg/kg	49/52	24	7.3	2.9
o-xylene, mg/kg	9.6/10	4	1.5	0.48
Total xylenes, mg/kg	59/62	27	8.8	3.4
DEHP, µg/kg	180,000/160,000	100,000	92,000	32,000
HPC, CFU/g	170,000	<100	<100	<100

Table 4
Degradation Study Results: Soil 14B

PARAMETER	REACTION TIME			
	ORIGINAL	15 DAYS	30 DAYS	45 DAYS
CONTROL				
Solids, %	82/80	85	90	84
Ethylbenzene, mg/kg	90/70	44	18	5.4
m,p-xylene, mg/kg	350/260	200	95	37
o-xylene, mg/kg	85/64	53	26	10
Total xylenes, mg/kg	430/330	260	120	47
DEHP, µg/kg	1,200,000/860,000	900,000	170,000	200,000
HPC, CFU/g	1,000,000/880,000	1,300,000	8,500,000	4,400,000

Table 4
Degradation Study Results: Soil 14B

PARAMETER	REACTION TIME			
	ORIGINAL	15 DAYS	30 DAYS	45 DAYS
AIR				
Solids, %	82/80	86	89	83
Ethylbenzene, mg/kg	90/70	40	9.3	4.4
m,p-xylene, mg/kg	350/260	180	59	24
o-xylene, mg/kg	85/64	42	13	7.1
Total xylenes, mg/kg	430/330	220	72	31
DEHP, µg/kg	1,200,000/860,000	1,300,000	440,000	360,000
HPC, CFU/g	1,000,000/880,000	110,000	29,000,000	11,000,000
NUTRIENTS				
Solids, %	82/80	85	89	85
Ethylbenzene, mg/kg	90/70	58	28	9.7
m,p-xylene, mg/kg	350/260	270	150	89
o-xylene, mg/kg	85/64	67	42	21
Total xylenes, mg/kg	430/330	340	190	110
DEHP, µg/kg	1,200,000/860,000	910,000	380,000	160,000
HPC, CFU/g	1,000,000/880,000	1,200,000	17,000,000	1,300,000
AIR PLUS NUTRIENTS				
Solids, %	82/80	86	90	83
Ethylbenzene, mg/kg	90/70	51	8.7	4.8
m,p-xylene, mg/kg	350/260	210	52	23
o-xylene, mg/kg	85/64	51	11	6.2
Total xylenes, mg/kg	430/330	260	63	29
DEHP, µg/kg	1,200,000/860,000	1,200,000	380,000	300,000
HPC, CFU/g	1,000,000/880,000	2,000,000	26,000,000	13,000,000
OZONE				
Solids, %	82/80	85	87	84
Ethylbenzene, mg/kg	90/70	40	23	18
m,p-xylene, mg/kg	350/260	160	110	79
o-xylene, mg/kg	85/64	38	22	16
Total xylenes, mg/kg	430/330	200	130	95
DEHP, µg/kg	1,200,000/860,000	920,000	230,000	280,000
HPC, CFU/g	1,000,000/880,000	<100	<100	<100

The percentage reductions for the organic constituents after 45 days for each condition are given in Table 5. DEHP concentrations decrease by between 58 percent and 81 percent. DEHP concentrations decreased steadily over the reaction time period (Figure 1), suggesting that the reduction in concentrations will continue if the reaction is extended for a longer time period.

Also, the decrease in concentration for ethylbenzene and DEHP after 45 days are correlated (Figure 2), suggesting that there are pockets of material contained both ethylbenzene and DEHP that are somewhat protected from degradation. The similarity in degradation between ethylbenzene and DEHPO also indicates that the loss is due to degradation rather than volatilization, since ethylbenzene is much more volatile. The vapor pressure of ethylbenzene is 9.5 mm Hg at 25°C, while the vapor pressure of DEHP is 1.0 x 10^{-7} mm Hg.

Table 5
Percentage Reduction in Organic Constituent Concentrations after 45 Days

SAMPLE	REDUCTION AFTER 45 DAYS, %		
	ETHYLBENZENE	TOTAL XYLENE	DEHP
Control	94	99+	79
Air	67	93	58
Nutrients	92	96	72
Air plus Nutrients	74	87	79
Ozone	95	94	81

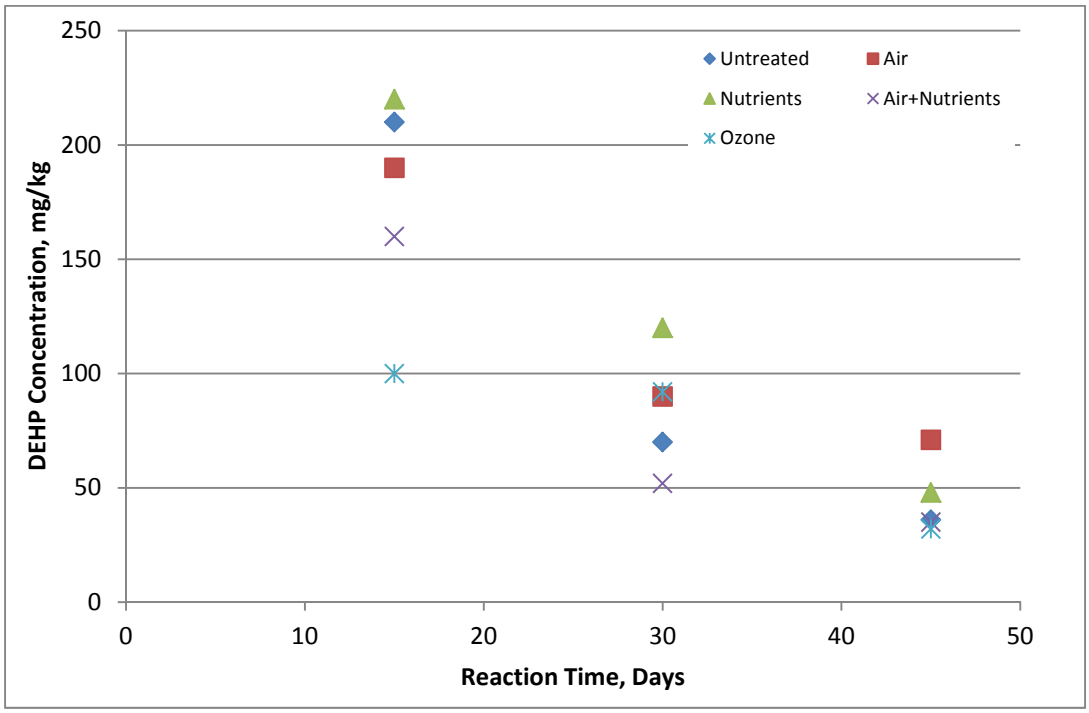

Figure 1. DEHP Concentrations versus Time

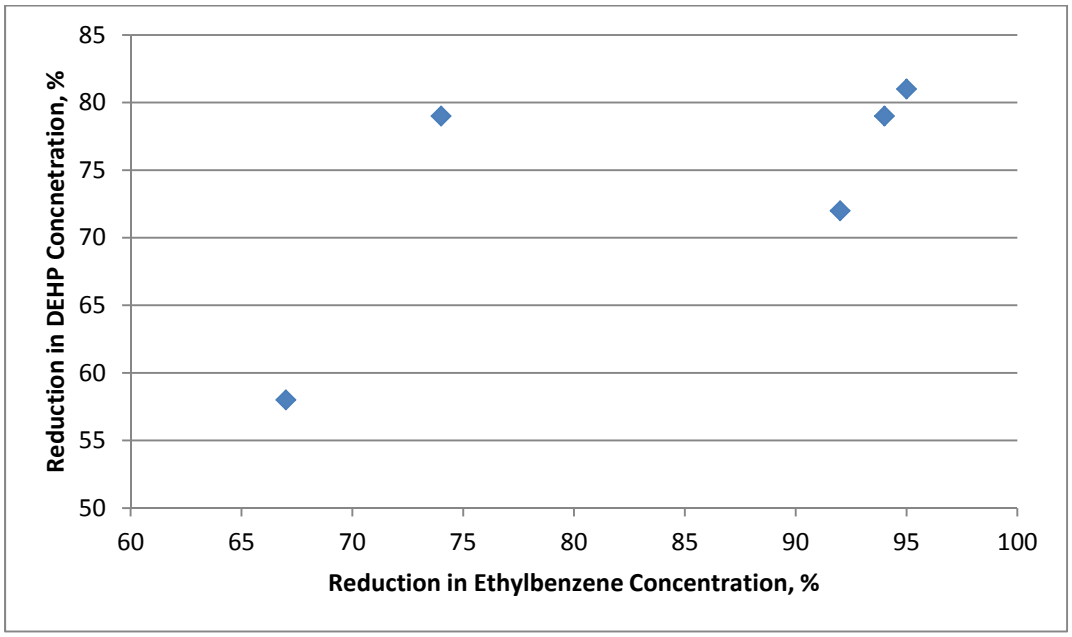

Figure 2. Relative Reduction in DEHP Concentration After 45 Days versus Reduction in Ethylbenzene Concentration After 45 days

Discussion and Conclusions

None of the treatments had dramatically different results from the other treatments, including the control sample. This indicates that the concentration reduction was due to exposing the samples to air and enhancing the aerobic bacteria in the soil. Addition of nutrients did not improve treatment, nor did bubbling air through the samples, as they were already aerobic. Ozone was as successful as air, but no more so. DEHP can be degraded by creating aerobic conditions in the soil, but more aggressive measures such as nutrient addition and ozone injection are not warranted.

Attachment 1
Work Plan
for LE Carpenter Soil DEHP
Laboratory-Scale Degradation Study

Work Plan for LE Carpenter Soil DEHP Laboratory-Scale Degradation Study

Steps. For each core (14A and 14B)

1. Composite the soil in the 7.5 – 10 ft range (bottom half of the 5-10 ft core) and the 10 - 12.5 ft range (top half of the 10-15 ft core) by
    a. placing both sections of the core in a tared large metal basin, which has been washed with detergent, rinsed with deionized (DI) water and then wiped with methanol
    b. weighing the soil
    c. adding sufficient DI water to form a thick slurry (probably 15 to 20 percent of the weight)
    d. thoroughly mixing the soil and water
    e. Sieve out the stones by passing the slurry through a ¼" sieve
    f. Weigh the remaining slurry
2. Remove a 100 mL sample for laboratory analysis. Also, measure the solids content of the slurry.
3. Place five 1.5 L aliquots in clean glass Erlenmeyer flasks
4. Mark the level of the top of the slurry on the side of the flask
5. Introduce the treatment process as described below:
    a. Flask 1 Untreated (Control)
    b. Flask 2 Air
    c. Flask 3 Nutrients (add sufficient nutrients to make a 1:10 Hoagland's solution of the water added)
    d. Flask 4 Air + nutrients
    e. Flask 5 Ozone (using compressed air and a OZV-8 ozone generator from Ozone Solutions)
6. Shake the flask to homogenize the samples on a daily basis. Also, check to ensure that the level remains the same. If the sample level is dropping, add DI water to bring the level back to the original line.
7. On sampling days, make sure that the sample is well homogenized then remove 100 mL for analysis. Add 100 mL DI water to replace the sampled volume.
8. Continue until the final sample.

Sample Collection Days:

1. 15 Days
2. 30 Days
3. 45 days

Analysis for

- DEHP
- BETX
- Heterotrophic plate count

Attachment 2
Analytical Reports

TRACE
the science of compliance

phone 231.773.5998
toll-free 800.733.5998
fax 231.773.6537

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673
info@trace-labs.com
www.trace-labs.com

February 09, 2012

Mr. Bob Stanforth
TRC Solutions
708 Heartland Trail
Madison, WI 53717

Phone: (608) 826-3660
Fax: (608) 826-3941

RE: Trace Project T12B021
Client Project LEC 185281.0000.0000

Dear Mr. Stanforth:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Project Manager

Enclosures

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the science of compliance

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NJDEP Accreditation No. MI008 PADEP Accreditation No. 68-04471

CERTIFICATE OF ANALYSIS

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SAMPLE SUMMARY

Trace Project ID: T12B021
Client Project ID: LEC 185281.0000.0000

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
T12B021-01	AC1202011-A	Soil	ag	02/01/12 11:20	02/02/12 10:14
T12B021-02	AC1202011-B	Soil	ag	02/01/12 11:30	02/02/12 10:14
T12B021-03	AC1202012-A	Soil	ag	02/01/12 14:00	02/02/12 10:14
T12B021-04	AC1202012-B	Soil	ag	02/01/12 14:00	02/02/12 10:14

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the compound has not been evaluated by NELAC
NA	Indicates that the compound is not available.

DATA QUALIFIERS

Trace ID: T027581-MS1

Analysis: EPA 8270C

Bis(2-ethylhexyl)phthalate	Note 605 : The result for this analyte was quantitated from the initial calibration, but is estimated due to the amount found being above the linear range of the calibration curve.

Trace ID: T027581-MSD1

Analysis: EPA 8270C

Bis(2-ethylhexyl)phthalate	Note 605 : The result for this analyte was quantitated from the initial calibration, but is estimated due to the amount found being above the linear range of the calibration curve.

Trace ID: T12B021-01

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B021-02

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B021-03RE1

Analysis: EPA 8270C

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2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B021-04RE1

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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ANALYTICAL RESULTS

Trace Project ID: T12B021
Client Project ID: LEC 185281.0000.0000

Trace ID: T12B021-01 | Date Collected: 02/01/12 11:20 | Matrix: Soil
Sample ID: AC1202011-A | Date Received: 02/02/12 10:14

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027586										
Benzene	<0.050	mg/kg dry	0.050	50	02/03/12	was	02/03/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/03/12	was	02/03/12	was		
Ethylbenzene	**13**	**mg/kg dry**	**0.40**	**500**	**02/03/12**	**was**	**02/03/12**	**was**		
m,p-Xylene	**49**	**mg/kg dry**	**0.81**	**500**	**02/03/12**	**was**	**02/03/12**	**was**	N	
o-Xylene	**9.5**	**mg/kg dry**	**0.40**	**500**	**02/03/12**	**was**	**02/03/12**	**was**	N	
Xylenes, total	**59**	**mg/kg dry**	**1.2**	**500**	**02/03/12**	**was**	**02/03/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	88	%	68-133	50	02/03/12	was	02/03/12	was		
1,2-Dichloroethane-d4	91	%	68-133	500	02/03/12	was	02/03/12	was		
Toluene-d8	102	%	75-120	50	02/03/12	was	02/03/12	was		
Toluene-d8	103	%	75-120	500	02/03/12	was	02/03/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027581										
Bis(2-ethylhexyl)phthalate	**180000**	**ug/kg dry**	**11000**	**100**	**02/06/12**	**kb**	**02/07/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	02/06/12	kb	02/07/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	02/06/12	kb	02/07/12	avl	302	
Terphenyl-d14	*	%	46-109	100	02/06/12	kb	02/07/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027628										
% Solids	**73**	**% by Wt.**	**0.10**	**1**	**02/08/12**	**bd**	**02/08/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027565										
Heterotrophic Plate Count	**170000**	**CFU/g**	**9300**	**1**	**02/02/12**	**bd**	**02/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B021
Client Project ID: LEC 185281.0000.0000

Trace ID: T12B021-02 | Date Collected: 02/01/12 11:30 | Matrix: Soil
Sample ID: AC1202011-B | Date Received: 02/02/12 10:14

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027586										
Benzene	<0.050	mg/kg dry	0.050	50	02/03/12	was	02/03/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/03/12	was	02/03/12	was		
Ethylbenzene	**14**	**mg/kg dry**	**0.40**	**500**	**02/03/12**	**was**	**02/03/12**	**was**		
m,p-Xylene	**52**	**mg/kg dry**	**0.80**	**500**	**02/03/12**	**was**	**02/03/12**	**was**	N	
o-Xylene	**10**	**mg/kg dry**	**0.40**	**500**	**02/03/12**	**was**	**02/03/12**	**was**	N	
Xylenes, total	**62**	**mg/kg dry**	**1.2**	**500**	**02/03/12**	**was**	**02/03/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	89	%	68-133	50	02/03/12	was	02/03/12	was		
1,2-Dichloroethane-d4	92	%	68-133	500	02/03/12	was	02/03/12	was		
Toluene-d8	100	%	75-120	50	02/03/12	was	02/03/12	was		
Toluene-d8	104	%	75-120	500	02/03/12	was	02/03/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027581										
Bis(2-ethylhexyl)phthalate	**160000**	**ug/kg dry**	**10000**	**100**	**02/06/12**	**kb**	**02/07/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	02/06/12	kb	02/07/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	02/06/12	kb	02/07/12	avl	302	
Terphenyl-d14	*	%	46-109	100	02/06/12	kb	02/07/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027628										
% Solids	**80**	**% by Wt.**	**0.10**	**1**	**02/08/12**	**bd**	**02/08/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027565										
Heterotrophic Plate Count	**190000**	**CFU/g**	**10000**	**1**	**02/02/12**	**bd**	**02/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B021
Client Project ID: LEC 185281.0000.0000

Trace ID: T12B021-03 | Date Collected: 02/01/12 14:00 | Matrix: Soil
Sample ID: AC1202012-A | Date Received: 02/02/12 10:14

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027586										
Benzene	<0.050	mg/kg dry	0.050	50	02/03/12	was	02/03/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/03/12	was	02/03/12	was		
Ethylbenzene	**90**	**mg/kg dry**	**3.9**	**5000**	**02/03/12**	**was**	**02/03/12**	**was**		
m,p-Xylene	**350**	**mg/kg dry**	**7.8**	**5000**	**02/03/12**	**was**	**02/03/12**	**was**	N	
o-Xylene	**85**	**mg/kg dry**	**3.9**	**5000**	**02/03/12**	**was**	**02/03/12**	**was**	N	
Xylenes, total	**430**	**mg/kg dry**	**12**	**5000**	**02/03/12**	**was**	**02/03/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	88	%	68-133	50	02/03/12	was	02/03/12	was		
1,2-Dichloroethane-d4	91	%	68-133	5000	02/03/12	was	02/03/12	was		
Toluene-d8	100	%	75-120	50	02/03/12	was	02/03/12	was		
Toluene-d8	104	%	75-120	5000	02/03/12	was	02/03/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027581										
Bis(2-ethylhexyl)phthalate	**1200000**	**ug/kg dry**	**51000**	**500**	**02/06/12**	**kb**	**02/07/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	500	02/06/12	kb	02/07/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	500	02/06/12	kb	02/07/12	avl	302	
Terphenyl-d14	*	%	46-109	500	02/06/12	kb	02/07/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027628										
% Solids	**82**	**% by Wt.**	**0.10**	**1**	**02/08/12**	**bd**	**02/08/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027565										
Heterotrophic Plate Count	**1000000**	**CFU/g**	**9400**	**1**	**02/02/12**	**bd**	**02/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B021
Client Project ID: LEC 185281.0000.0000

Trace ID: T12B021-04 | Date Collected: 02/01/12 14:00 | Matrix: Soil
Sample ID: AC1202012-B | Date Received: 02/02/12 10:14

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027586										
Benzene	<0.050	mg/kg dry	0.050	50	02/03/12	was	02/03/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/03/12	was	02/03/12	was		
Ethylbenzene	**70**	**mg/kg dry**	**3.6**	**5000**	**02/06/12**	**was**	**02/06/12**	**was**		
m,p-Xylene	**260**	**mg/kg dry**	**7.3**	**5000**	**02/06/12**	**was**	**02/06/12**	**was**	N	
o-Xylene	**64**	**mg/kg dry**	**3.6**	**5000**	**02/06/12**	**was**	**02/06/12**	**was**	N	
Xylenes, total	**330**	**mg/kg dry**	**11**	**5000**	**02/06/12**	**was**	**02/06/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	87	%	68-133	50	02/03/12	was	02/03/12	was		
1,2-Dichloroethane-d4	92	%	68-133	5000	02/06/12	was	02/06/12	was		
Toluene-d8	97	%	75-120	50	02/03/12	was	02/03/12	was		
Toluene-d8	103	%	75-120	5000	02/06/12	was	02/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027581										
Bis(2-ethylhexyl)phthalate	**860000**	**ug/kg dry**	**52000**	**500**	**02/06/12**	**kb**	**02/07/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	500	02/06/12	kb	02/07/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	500	02/06/12	kb	02/07/12	avl	302	
Terphenyl-d14	*	%	46-109	500	02/06/12	kb	02/07/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027628										
% Solids	**80**	**% by Wt.**	**0.10**	**1**	**02/08/12**	**bd**	**02/08/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027565										
Heterotrophic Plate Count	**880000**	**CFU/g**	**9800**	**1**	**02/02/12**	**bd**	**02/04/12**	**bd**	N	

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QUALITY CONTROL RESULTS

Trace Project ID: T12B021

Client Project ID: LEC 185281.0000.0000

QC Batch: T027581
QC Batch Method: EPA 3550B Ultrasonic Extraction

Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

METHOD BLANK: T027581-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-ethylhexyl)phthalate	ug/kg wet	<330	330	
Nitrobenzene-d5 (S)	%	71	36-98	
2-Fluorobiphenyl (S)	%	67	44-105	
Terphenyl-d14 (S)	%	84	46-109	

LABORATORY CONTROL SAMPLE: T027581-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Bis(2-ethylhexyl)phthalate	ug/kg wet	3330	2640	79	49-121	
Nitrobenzene-d5 (S)	%	3330	2590	78	36-98	
2-Fluorobiphenyl (S)	%	3370	2610	77	44-105	
Terphenyl-d14 (S)	%	3500	2210	63	46-109	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T027581-MSD1

Original: **T12B021-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Bis(2-ethylhexyl)phthalate	**ug/kg dry**	**179000**	**4570**	**184000**	**186000**	**120**	**173**	**40-124**	**36**	**35**	**605**
Nitrobenzene-d5 (S)	%		4570	3310	3510	72	77	36-98			
2-Fluorobiphenyl (S)	%		4620	3490	3700	75	80	44-105			
Terphenyl-d14 (S)	%		4800	3440	4100	72	85	46-109			

Trace Project ID: T12B021

Client Project ID: LEC 185281.0000.0000

QC Batch: T027586
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes

Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T027586-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	89	68-133	
Toluene-d8 (S)	%	102	75-120	

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LABORATORY CONTROL SAMPLE: T027586-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	0.978	98	80-120	
Toluene	mg/kg wet	1.00	1.07	107	80-120	
1,2-Dichloroethane-d4 (S)	%	28.0	24.8	89	68-133	
Toluene-d8 (S)	%	28.0	29.2	104	75-120	

Trace Project ID: T12B021
Client Project ID: LEC 185281.0000.0000

QC Batch: T027588
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T027588-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	89	68-133	
Toluene-d8 (S)	%	102	75-120	

LABORATORY CONTROL SAMPLE: T027588-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	0.978	98	80-120	
Toluene	mg/kg wet	1.00	1.07	107	80-120	
1,2-Dichloroethane-d4 (S)	%	28.0	24.8	89	68-133	
Toluene-d8 (S)	%	28.0	29.2	104	75-120	

Trace Project ID: T12B021
Client Project ID: LEC 185281.0000.0000

QC Batch: T027603
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T027603-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	

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METHOD BLANK: T027603-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	91	68-133	
Toluene-d8 (S)	%	104	75-120	

LABORATORY CONTROL SAMPLE: T027603-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	0.950	95	80-120	
Toluene	mg/kg wet	1.00	1.04	104	80-120	
1,2-Dichloroethane-d4 (S)	%	28.0	25.3	90	68-133	
Toluene-d8 (S)	%	28.0	29.2	104	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T027603-MSD1 Original: **T12B021-04RE1**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	90.6	86.9	86.1	96	95	78-114	0.9	11	
Toluene	mg/kg dry	0	90.6	95.2	94.0	105	104	77-118	1	10	
1,2-Dichloroethane-d4 (S)	%		28.0	25.1	25.5	90	91	68-133			
Toluene-d8 (S)	%		28.0	29.3	29.6	105	106	75-120			

Trace Project ID: T12B021
Client Project ID: LEC 185281.0000.0000

QC Batch: T027628
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

Trace Project ID: T12B021
Client Project ID: LEC 185281.0000.0000

QC Batch: T027565
QC Batch Method: SM9215B
Analysis Description: Heterotrophic Plate Count
Analysis Method: SM9215B

METHOD BLANK: T027565-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Heterotrophic Plate Count	CFU/g	<100	100	

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CHAIN-OF-CUSTODY RECORD

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2/9/12 Page 1 of 1

TRACE ID NO. T12B021

TRACE USE ONLY
Logged By: Checked By:
Received on ice: Yes No Preservative Checked: Yes No N/A
Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:
Client Name: LE Carpenter
Contact Person: Bob Stanforth
Mailing Address: 708 Heartland Trail
City, State, Zip Code: Madison, Wi, 53717
Phone: 608-826-3660 Fax: 608-826-3941
Email Address: rstanforth@trcsolutions.com
Cell #:
Sampled by: Alex Boergen
Project Name & #: LE Carpenter - 185281.0000.0000

Bill To:
Billing Address (if different) 21 Griffin Road North
City, State, Zip Code Windsor, Ct, 06095
Attn: Accounts Payable Phone: 860-298-9692 PO #: 40850

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐
Turnaround Requirements: Standard ☐ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval
Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services — ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	BTEX	DEHP	HPC								REMARKS	Possible Health Hazard
01	2/1/12	11:30		AC1202011-A	S	4	X	X	X									
02	2/1/12	11:30		AC 1202011-B	S	4	X	X	X									
03	2/1/12	14:00		AC 1202012-A	S	4	X	X	X									
04	2/1/12	14:00		AC 1202012-B	S	4	X	X	X									

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1)		2/1/12	4:30	1	3)			
	ASAP FED-EX		2/6/12	10:14		4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/coctems.php

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SAMPLE LOG IN CHECKLIST

Date: 2-2-12
Trace ID #: T12B021
Client Name: TRC
Project Name:
Logged in by:
# of Coolers:
Cooler #s:
Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X]
Name of delivery person:
UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [X] Yes [ ] Not Applicable [ ]
Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] Not Applicable [ ]

Custody seals signed by Client? No [X] Yes [ ]
Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[ ]	[ ]
Ice Packs/ Blue ice :	[X]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor +0.3 °C

Date: 2-2-12 Time: 10:14
Temperature Blank: 8.5 °C
Range of 3 samples: 11, 11, 12 °C
Melt Water: °C
Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[X]	[ ]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[X]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[X]	[ ]	[ ]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact:
Date:

Notes:

Form 70-A.8
Effective 10/26/11

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February 24, 2012

Mr. Bob Stanforth
TRC Solutions
708 Heartland Trail
Madison, WI 53717

Phone: (608) 826-3660
Fax: (608) 826-3941

RE: Trace Project T12B157
Client Project LEC MW19HS1 Remediation / 6527.40

Dear Mr. Stanforth:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Project Manager

Enclosures

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NJDEP Accreditation No. MI008 PADEP Accreditation No. 68-04471

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SAMPLE SUMMARY

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
T12B157-01	14A-Untreated	Soil	ag	02/16/12 11:00	02/17/12 10:28
T12B157-02	14A-Nutrients	Soil	ag	02/16/12 11:00	02/17/12 10:28
T12B157-03	14A-Air	Soil	ag	02/16/12 11:00	02/17/12 10:28
T12B157-04	14A-Air & Nutrients	Soil	ag	02/16/12 11:00	02/17/12 10:28
T12B157-05	14A-Ozone	Soil	ag	02/16/12 11:00	02/17/12 10:28
T12B157-06	14B-Untreated	Soil	ag	02/16/12 11:00	02/17/12 10:28
T12B157-07	14B-Nutrients	Soil	ag	02/16/12 11:00	02/17/12 10:28
T12B157-08	14B-Air	Soil	ag	02/16/12 11:00	02/17/12 10:28
T12B157-09	14B-Air & Nutrients	Soil	ag	02/16/12 11:00	02/17/12 10:28
T12B157-10	14B-Ozone	Soil	ag	02/16/12 11:00	02/17/12 10:28

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the compound has not been evaluated by NELAC
NA	Indicates that the compound is not available.

DATA QUALIFIERS

Trace ID: T027764-MS1

Analysis: EPA 8270C

Bis(2-ethylhexyl)phthalate	Note 222 : The MS and MSD recoveries were out of control. Because the sample background concentration of this analyte is greater than four times the spike amount, no data require qualification.

Trace ID: T027764-MSD1

Analysis: EPA 8270C

Bis(2-ethylhexyl)phthalate	Note 222 : The MS and MSD recoveries were out of control. Because the sample background concentration of this analyte is greater than four times the spike amount, no data require qualification.

Trace ID: T12B157-01

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B157-02

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B157-03

Analysis: EPA 8270C

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2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B157-04

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B157-05

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B157-06

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B157-07

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B157-08

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B157-09

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12B157-10

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Analysis: SM9215B

Heterotrophic Plate Count	Note 701 : All plates had fewer than the method recommended number of colonies. The result must be considered estimated.

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-01 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14A-Untreated | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**13**	**mg/kg dry**	**0.42**	**500**	**02/20/12**	**was**	**02/20/12**	**was**		
m,p-Xylene	**44**	**mg/kg dry**	**0.84**	**500**	**02/20/12**	**was**	**02/20/12**	**was**	N	
o-Xylene	**10**	**mg/kg dry**	**0.42**	**500**	**02/20/12**	**was**	**02/20/12**	**was**	N	
Xylenes, total	**54**	**mg/kg dry**	**1.3**	**500**	**02/20/12**	**was**	**02/20/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	92	%	68-133	50	02/17/12	was	02/17/12	was		
1,2-Dichloroethane-d4	127	%	68-133	500	02/20/12	was	02/20/12	was		
Toluene-d8	105	%	75-120	50	02/17/12	was	02/17/12	was		
Toluene-d8	102	%	75-120	500	02/20/12	was	02/20/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**210000**	**ug/kg dry**	**13000**	**100**	**02/20/12**	**kb**	**02/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	02/20/12	kb	02/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	02/20/12	kb	02/22/12	avl	302	
Terphenyl-d14	*	%	46-109	100	02/20/12	kb	02/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**62**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	**63000**	**CFU/g**	**100**	**1**	**02/17/12**	**sm**	**02/19/12**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-02 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14A-Nutrients | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**11**	**mg/kg dry**	**0.050**	**50**	**02/17/12**	**was**	**02/17/12**	**was**		
m,p-Xylene	**40**	**mg/kg dry**	**0.80**	**500**	**02/20/12**	**was**	**02/20/12**	**was**	N	
o-Xylene	**6.6**	**mg/kg dry**	**0.40**	**500**	**02/20/12**	**was**	**02/20/12**	**was**	N	
Xylenes, total	**46**	**mg/kg dry**	**1.2**	**500**	**02/20/12**	**was**	**02/20/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	92	%	68-133	50	02/17/12	was	02/17/12	was		
1,2-Dichloroethane-d4	123	%	68-133	500	02/20/12	was	02/20/12	was		
Toluene-d8	104	%	75-120	50	02/17/12	was	02/17/12	was		
Toluene-d8	101	%	75-120	500	02/20/12	was	02/20/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**220000**	**ug/kg dry**	**12000**	**100**	**02/20/12**	**kb**	**02/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	02/20/12	kb	02/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	02/20/12	kb	02/22/12	avl	302	
Terphenyl-d14	*	%	46-109	100	02/20/12	kb	02/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**68**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	**1300000**	**CFU/g**	**100**	**1**	**02/17/12**	**sm**	**02/19/12**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-03 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14A-Air | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**5.1**	**mg/kg dry**	**0.050**	**50**	**02/17/12**	**was**	**02/17/12**	**was**		
m,p-Xylene	**12**	**mg/kg dry**	**0.10**	**50**	**02/17/12**	**was**	**02/17/12**	**was**	N	
o-Xylene	**3.7**	**mg/kg dry**	**0.050**	**50**	**02/17/12**	**was**	**02/17/12**	**was**	N	
Xylenes, total	**16**	**mg/kg dry**	**0.15**	**50**	**02/17/12**	**was**	**02/17/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	92	%	68-133	50	02/17/12	was	02/17/12	was		
Toluene-d8	103	%	75-120	50	02/17/12	was	02/17/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**190000**	**ug/kg dry**	**12000**	**100**	**02/20/12**	**kb**	**02/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	02/20/12	kb	02/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	02/20/12	kb	02/22/12	avl	302	
Terphenyl-d14	*	%	46-109	100	02/20/12	kb	02/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**70**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	**190000**	**CFU/g**	**100**	**1**	**02/17/12**	**sm**	**02/19/12**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-04 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14A-Air & Nutrients | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**6.2**	**mg/kg dry**	**0.050**	**50**	**02/17/12**	**was**	**02/17/12**	**was**		
m,p-Xylene	**21**	**mg/kg dry**	**0.10**	**50**	**02/17/12**	**was**	**02/17/12**	**was**	N	
o-Xylene	**4.7**	**mg/kg dry**	**0.050**	**50**	**02/17/12**	**was**	**02/17/12**	**was**	N	
Xylenes, total	**25**	**mg/kg dry**	**0.15**	**50**	**02/17/12**	**was**	**02/17/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	92	%	68-133	50	02/17/12	was	02/17/12	was		
Toluene-d8	105	%	75-120	50	02/17/12	was	02/17/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**160000**	**ug/kg dry**	**11000**	**100**	**02/20/12**	**kb**	**02/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	02/20/12	kb	02/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	02/20/12	kb	02/22/12	avl	302	
Terphenyl-d14	*	%	46-109	100	02/20/12	kb	02/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**77**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	**880000**	**CFU/g**	**100**	**1**	**02/17/12**	**sm**	**02/19/12**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-05 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14A-Ozone | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**6.3**	**mg/kg dry**	**0.050**	**50**	**02/17/12**	**was**	**02/17/12**	**was**		
m,p-Xylene	**24**	**mg/kg dry**	**0.77**	**500**	**02/20/12**	**was**	**02/20/12**	**was**	N	
o-Xylene	**4.0**	**mg/kg dry**	**0.38**	**500**	**02/20/12**	**was**	**02/20/12**	**was**	N	
Xylenes, total	**27**	**mg/kg dry**	**1.2**	**500**	**02/20/12**	**was**	**02/20/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	92	%	68-133	50	02/17/12	was	02/17/12	was		
1,2-Dichloroethane-d4	124	%	68-133	500	02/20/12	was	02/20/12	was		
Toluene-d8	104	%	75-120	50	02/17/12	was	02/17/12	was		
Toluene-d8	103	%	75-120	500	02/20/12	was	02/20/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**100000**	**ug/kg dry**	**10000**	**100**	**02/20/12**	**kb**	**02/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	02/20/12	kb	02/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	02/20/12	kb	02/22/12	avl	302	
Terphenyl-d14	*	%	46-109	100	02/20/12	kb	02/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**80**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	<100	CFU/g	100	1	02/17/12	sm	02/19/12	sm	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-06 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14B-Untreated | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**44**	**mg/kg dry**	**4.1**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
m,p-Xylene	**200**	**mg/kg dry**	**8.2**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
o-Xylene	**53**	**mg/kg dry**	**4.1**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
Xylenes, total	**260**	**mg/kg dry**	**12**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	91	%	68-133	50	02/17/12	was	02/17/12	was		
1,2-Dichloroethane-d4	93	%	68-133	5000	02/21/12	was	02/21/12	was		
Toluene-d8	103	%	75-120	50	02/17/12	was	02/17/12	was		
Toluene-d8	102	%	75-120	5000	02/21/12	was	02/21/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**900000**	**ug/kg dry**	**49000**	**500**	**02/20/12**	**kb**	**02/23/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	500	02/20/12	kb	02/23/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	500	02/20/12	kb	02/23/12	avl	302	
Terphenyl-d14	*	%	46-109	500	02/20/12	kb	02/23/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**85**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	**1300000**	**CFU/g**	**100**	**1**	**02/17/12**	**sm**	**02/19/12**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-07 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14B-Nutrients | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**58**	**mg/kg dry**	**3.6**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
m,p-Xylene	**270**	**mg/kg dry**	**7.1**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
o-Xylene	**67**	**mg/kg dry**	**3.6**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
Xylenes, total	**340**	**mg/kg dry**	**11**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	92	%	68-133	50	02/17/12	was	02/17/12	was		
1,2-Dichloroethane-d4	93	%	68-133	5000	02/21/12	was	02/21/12	was		
Toluene-d8	100	%	75-120	50	02/17/12	was	02/17/12	was		
Toluene-d8	101	%	75-120	5000	02/21/12	was	02/21/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**910000**	**ug/kg dry**	**49000**	**500**	**02/20/12**	**kb**	**02/23/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	500	02/20/12	kb	02/23/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	500	02/20/12	kb	02/23/12	avl	302	
Terphenyl-d14	*	%	46-109	500	02/20/12	kb	02/23/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**85**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	**1200000**	**CFU/g**	**100**	**1**	**02/17/12**	**sm**	**02/19/12**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-08 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14B-Air | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**40**	**mg/kg dry**	**3.5**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
m,p-Xylene	**180**	**mg/kg dry**	**6.9**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
o-Xylene	**42**	**mg/kg dry**	**3.5**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
Xylenes, total	**220**	**mg/kg dry**	**10**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	89	%	68-133	50	02/17/12	was	02/17/12	was		
1,2-Dichloroethane-d4	92	%	68-133	5000	02/21/12	was	02/21/12	was		
Toluene-d8	101	%	75-120	50	02/17/12	was	02/17/12	was		
Toluene-d8	101	%	75-120	5000	02/21/12	was	02/21/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**1300000**	**ug/kg dry**	**48000**	**500**	**02/20/12**	**kb**	**02/23/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	500	02/20/12	kb	02/23/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	500	02/20/12	kb	02/23/12	avl	302	
Terphenyl-d14	*	%	46-109	500	02/20/12	kb	02/23/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**86**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	**110000**	**CFU/g**	**100**	**1**	**02/17/12**	**sm**	**02/19/12**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-09 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14B-Air & Nutrients | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**51**	**mg/kg dry**	**4.1**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
m,p-Xylene	**210**	**mg/kg dry**	**8.2**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
o-Xylene	**51**	**mg/kg dry**	**4.1**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
Xylenes, total	**260**	**mg/kg dry**	**12**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	89	%	68-133	50	02/17/12	was	02/17/12	was		
1,2-Dichloroethane-d4	94	%	68-133	5000	02/21/12	was	02/21/12	was		
Toluene-d8	101	%	75-120	50	02/17/12	was	02/17/12	was		
Toluene-d8	101	%	75-120	5000	02/21/12	was	02/21/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**1200000**	**ug/kg dry**	**48000**	**500**	**02/20/12**	**kb**	**02/23/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	500	02/20/12	kb	02/23/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	500	02/20/12	kb	02/23/12	avl	302	
Terphenyl-d14	*	%	46-109	500	02/20/12	kb	02/23/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**86**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	**2000000**	**CFU/g**	**100**	**1**	**02/17/12**	**sm**	**02/19/12**	**sm**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12B157-10 | Date Collected: 02/16/12 11:00 | Matrix: Soil
Sample ID: 14B-Ozone | Date Received: 02/17/12 10:28

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T027757										
Benzene	<0.050	mg/kg dry	0.050	50	02/17/12	was	02/17/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	02/17/12	was	02/17/12	was		
Ethylbenzene	**40**	**mg/kg dry**	**3.7**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
m,p-Xylene	**160**	**mg/kg dry**	**7.4**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
o-Xylene	**38**	**mg/kg dry**	**3.7**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**	N	
Xylenes, total	**200**	**mg/kg dry**	**11**	**5000**	**02/21/12**	**was**	**02/21/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	90	%	68-133	50	02/17/12	was	02/17/12	was		
1,2-Dichloroethane-d4	95	%	68-133	5000	02/21/12	was	02/21/12	was		
Toluene-d8	103	%	75-120	50	02/17/12	was	02/17/12	was		
Toluene-d8	103	%	75-120	5000	02/21/12	was	02/21/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027764										
Bis(2-ethylhexyl)phthalate	**920000**	**ug/kg dry**	**48000**	**500**	**02/20/12**	**kb**	**02/23/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	500	02/20/12	kb	02/23/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	500	02/20/12	kb	02/23/12	avl	302	
Terphenyl-d14	*	%	46-109	500	02/20/12	kb	02/23/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027770										
% Solids	**85**	**% by Wt.**	**0.10**	**1**	**02/20/12**	**as**	**02/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T027758										
Heterotrophic Plate Count	**100**	**CFU/g**	**100**	**1**	**02/17/12**	**sm**	**02/19/12**	**sm**	701, N	

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QUALITY CONTROL RESULTS

Trace Project ID: T12B157

Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T027764
QC Batch Method: EPA 3550B Ultrasonic Extraction

Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

METHOD BLANK: T027764-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-ethylhexyl)phthalate	ug/kg wet	<330	330	
Nitrobenzene-d5 (S)	%	48	36-98	
2-Fluorobiphenyl (S)	%	46	44-105	
Terphenyl-d14 (S)	%	52	46-109	

LABORATORY CONTROL SAMPLE: T027764-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Bis(2-ethylhexyl)phthalate	ug/kg wet	3320	3040	91	49-121	
Nitrobenzene-d5 (S)	%	3320	2370	71	36-98	
2-Fluorobiphenyl (S)	%	3360	2230	67	44-105	
Terphenyl-d14 (S)	%	3490	2840	81	46-109	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T027764-MSD1

Original: **T12B157-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Bis(2-ethylhexyl)phthalate	**ug/kg dry**	**210000**	**5410**	**172000**	**167000**	**-697**	**-804**	**40-124**	**-14**	**35**	**222**
Nitrobenzene-d5 (S)	%		5410	3440	3650	64	68	36-98			
2-Fluorobiphenyl (S)	%		5470	3550	3800	65	69	44-105			
Terphenyl-d14 (S)	%		5690	3650	3940	64	69	46-109			

Trace Project ID: T12B157

Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T027757
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes

Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T027757-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	93	68-133	
Toluene-d8 (S)	%	105	75-120	

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LABORATORY CONTROL SAMPLE: T027757-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	1.05	105	80-120	
Toluene	mg/kg wet	1.00	1.13	113	80-120	
1,2-Dichloroethane-d4 (S)	%	28.0	26.2	94	68-133	
Toluene-d8 (S)	%	28.0	29.8	107	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T027757-MSD1 Original: **T12B157-10**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	0.871	0.906	0.885	104	102	78-114	2	11	
Toluene	mg/kg dry	0.0244	0.871	0.953	0.937	107	105	77-118	2	10	
1,2-Dichloroethane-d4 (S)	%		28.0	24.5	24.7	88	88	68-133			
Toluene-d8 (S)	%		28.0	28.0	28.4	100	101	75-120			

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T027794
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T027794-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	123	68-133	
Toluene-d8 (S)	%	103	75-120	

LABORATORY CONTROL SAMPLE: T027794-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	1.08	108	80-120	
Toluene	mg/kg wet	1.00	1.00	100	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	29.8	119	68-133	
Toluene-d8 (S)	%	25.0	25.4	102	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T027794-MSD1 Original: **T12B157-01RE1**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	13.6	13.8	13.7	102	100	78-114	1	11	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T027794-MSD1 Original: **T12B157-01RE1**

Parameter	Units	Original Result	Spike Conc	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Toluene	mg/kg dry	0	13.6	11.9	12.2	88	90	77-118	2	10	
1,2-Dichloroethane-d4 (S)	%		25.0	31.3	30.5	125	122	68-133			
Toluene-d8 (S)	%		25.0	24.9	25.3	100	101	75-120			

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T027800
QC Batch Method: EPA 5035 Purge-and-Trap for Solids and Wastes
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T027800-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	92	68-133	
Toluene-d8 (S)	%	101	75-120	

LABORATORY CONTROL SAMPLE: T027800-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	1.04	104	80-120	
Toluene	mg/kg wet	1.00	1.06	106	80-120	
1,2-Dichloroethane-d4 (S)	%	28.0	25.5	91	68-133	
Toluene-d8 (S)	%	28.0	28.7	103	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T027800-MSD1 Original: **T12B157-10RE1**

Parameter	Units	Original Result	Spike Conc	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	117	120	121	103	103	78-114	0.4	11	
Toluene	mg/kg dry	0	117	124	127	106	108	77-118	2	10	
1,2-Dichloroethane-d4 (S)	%		28.0	25.7	26.0	92	93	68-133			
Toluene-d8 (S)	%		28.0	28.6	29.1	102	104	75-120			

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T027770
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

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SAMPLE DUPLICATE: T027770-DUP1 Original: **T12B157-01**

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
% Solids	% by Wt.	61.6	62.4	1	20	

Trace Project ID: T12B157
Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T027758
QC Batch Method: SM9215B

Analysis Description: Heterotrophic Plate Count
Analysis Method: SM9215B

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CHAIN-OF-CUSTODY RECORD

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2/24/12 Page____ of____

TRACE ID NO. T12B157

TRACE USE ONLY

Logged By: GS Checked By: BMC

Received on ice: (Yes) No Preservative Checked: Yes No (N/A)

Soil Volatiles Preserved: (MeOH) Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Bob Stanforth

Mailing Address: 708 Heartland Trail

City, State, Zip Code: Madison WI 53717

Phone: 608-826-3660 Fax: 608-826-3941

Email Address: rstanforth@trcsolutions.com

Cell #: Sampled by: Alex Goerger

Project Name & #: LE Carpenter 185281

Bill To:

Billing Address (if different) 21 Griffin ~~Road N~~ North Road

City, State, Zip Code Windsor, Ct 06095

Attn: Accounts Payable Phone: 860-298-9692 PO #: 40850

Regulatory Requirements: MERA TMDL's ☐ Drinking Water ☐ NPDES ☐ USACE ☐ Special ☐

Turnaround Requirements: Standard ☐ 3-4 Day (RUSH)* ☐ 24-48 Hour (RUSH)* ☐ * Requires prior approval

Matrix Key: S = Soil, W = Water, SE = Sediment, OI = Oil, SO = Solid Waste, WI = Wipes, LW = Liquid Waste, A = Air, D = Drinking Water, SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	DEHP	BETX	TPC							REMARKS	Possible Health Hazard
01	2/16	11:00		14A - untreated			X	X	X								
02	↓	↓		14A - nutrients			X	X	X								
03	↓	↓		14A - Air			X	X	X								
04	↓	↓		14A - Air + nutrients			X	X	X								
05	↓	↓		14A - ozone			X	X	X								
06	↓	↓		14B - untreated			X	X	X								
07	↓	↓		14B - nutrients			X	X	X								
08	↓	↓		14B - Air			X	X	X								
09	↓	↓		14B - Air + nutrients			X	X	X								
10	2/16	11:00		14B - ozone			X	X	X								

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [illegible]	Fed Ex	2/16/12			3)			
	2) Fed-EX	[illegible]	2/17/12	10:28		4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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SAMPLE LOG IN CHECKLIST

Date: 2-17-12 Client Name: TRC # of Coolers: 1

Trace ID #: T12B157 Project Name: Cooler #s:

Logged in by: Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person: UPS [X] DHL [ ] FED EX [ ] US Mail [ ]

Did cooler come with a bill of lading? No [X] Yes [ ] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [X] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor -0.2 °C

Date: 2-17-12 Time: 10:28

Temperature Blank: °C

Range of 3 samples: 4, 2, 1 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[X]	[ ]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[X]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[X]	[ ]	[ ]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

Form 70-A.8
Effective 10/26/11

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March 09, 2012

Mr. Bob Stanforth
TRC Solutions
708 Heartland Trail
Madison, WI 53717

Phone: (608) 826-3660
Fax: (608) 826-3941

RE: Trace Project T12C019
Client Project LEC 185281

Dear Mr. Stanforth:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Project Manager

Enclosures

ACCREDITED IN ACCORDANCE WITH nelac

NJDEP Accreditation No. MI008 PADEP Accreditation No. 68-04471

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SAMPLE SUMMARY

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
T12C019-01	AC 1202001	Soil	ag	03/01/12 10:00	03/02/12 10:19
T12C019-02	AC 1202002	Soil	ag	03/01/12 10:00	03/02/12 10:19
T12C019-03	AC 1202003	Soil	ag	03/01/12 10:00	03/02/12 10:19
T12C019-04	AC 1202004	Soil	ag	03/01/12 10:00	03/02/12 10:19
T12C019-05	AC 1202005	Soil	ag	03/01/12 10:00	03/02/12 10:19
T12C019-06	AC 1202006	Soil	ag	03/01/12 10:00	03/02/12 10:19
T12C019-07	AC 1202007	Soil	ag	03/01/12 10:00	03/02/12 10:19
T12C019-08	AC 1202008	Soil	ag	03/01/12 10:00	03/02/12 10:19
T12C019-09	AC 1202009	Soil	ag	03/01/12 10:00	03/02/12 10:19
T12C019-10	AC 1202010	Soil	ag	03/01/12 10:00	03/02/12 10:19

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the compound has not been evaluated by NELAC
NA	Indicates that the compound is not available.

DATA QUALIFIERS

Trace ID: T027976-BLK1

Analysis: EPA 8270C

Bis(2-ethylhexyl)phthalate	Note 614 : The analyte was present in the blank. Because the analyte concentration in the blank is less than five percent of the concentration in the sample, no data require qualification.

Trace ID: T028021-MS1

Analysis: EPA 8260B

Benzene	Note 208 : The MS recovery was out of control. Because the MSD recovery and the RPD between the MS and the MSD were in control, no data require qualification.

Trace ID: T028021-MSD1

Analysis: EPA 8260B

Benzene	Note 208 : The MS recovery was out of control. Because the MSD recovery and the RPD between the MS and the MSD were in control, no data require qualification.

Trace ID: T12C019-01

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12C019-02

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12C019-03

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12C019-04

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12C019-05

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12C019-06

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12C019-07

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12C019-08

Analysis: EPA 8270C

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2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12C019-09

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Trace ID: T12C019-10

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-01 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202001 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**2.8**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
m,p-Xylene	**3.3**	**mg/kg dry**	**0.10**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
o-Xylene	**0.94**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
Xylenes, total	**4.3**	**mg/kg dry**	**0.15**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	86	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	90	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**70000**	**ug/kg dry**	**5000**	**50**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	50	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**82**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	**5900000**	**CFU/g**	**100**	**1**	**03/02/12**	**bd**	**03/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-02 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202002 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**18**	**mg/kg dry**	**0.41**	**500**	**03/05/12**	**was**	**03/05/12**	**was**		
m,p-Xylene	**95**	**mg/kg dry**	**0.83**	**500**	**03/05/12**	**was**	**03/05/12**	**was**	N	
o-Xylene	**26**	**mg/kg dry**	**0.41**	**500**	**03/05/12**	**was**	**03/05/12**	**was**	N	
Xylenes, total	**120**	**mg/kg dry**	**1.2**	**500**	**03/05/12**	**was**	**03/05/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	98	%	68-133	500	03/05/12	was	03/05/12	was		
1,2-Dichloroethane-d4	94	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	108	%	75-120	500	03/05/12	was	03/05/12	was		
Toluene-d8	87	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**170000**	**ug/kg dry**	**9200**	**100**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	100	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**90**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	**8500000**	**CFU/g**	**100**	**1**	**03/02/12**	**bd**	**03/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-03 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202003 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**2.4**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
m,p-Xylene	**7.9**	**mg/kg dry**	**0.10**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
o-Xylene	**2.0**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
Xylenes, total	**9.9**	**mg/kg dry**	**0.15**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	87	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	86	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**120000**	**ug/kg dry**	**4800**	**50**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	50	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**86**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	**24000000**	**CFU/g**	**100**	**1**	**03/02/12**	**bd**	**03/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-04 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202004 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**28**	**mg/kg dry**	**0.38**	**500**	**03/05/12**	**was**	**03/05/12**	**was**		
m,p-Xylene	**150**	**mg/kg dry**	**0.75**	**500**	**03/05/12**	**was**	**03/05/12**	**was**	N	
o-Xylene	**42**	**mg/kg dry**	**0.38**	**500**	**03/05/12**	**was**	**03/05/12**	**was**	N	
Xylenes, total	**190**	**mg/kg dry**	**1.1**	**500**	**03/05/12**	**was**	**03/05/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	98	%	68-133	500	03/05/12	was	03/05/12	was		
1,2-Dichloroethane-d4	90	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	108	%	75-120	500	03/05/12	was	03/05/12	was		
Toluene-d8	83	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**380000**	**ug/kg dry**	**19000**	**200**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	200	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	200	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	200	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**89**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	**17000000**	**CFU/g**	**100**	**1**	**03/02/12**	**bd**	**03/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-05 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202005 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**2.1**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
m,p-Xylene	**2.9**	**mg/kg dry**	**0.10**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
o-Xylene	**0.69**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
Xylenes, total	**3.6**	**mg/kg dry**	**0.15**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	91	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	87	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**90000**	**ug/kg dry**	**4900**	**50**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	50	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**84**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	**10000000**	**CFU/g**	**100**	**1**	**03/02/12**	**bd**	**03/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-06 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202006 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**9.3**	**mg/kg dry**	**0.30**	**500**	**03/02/12**	**was**	**03/02/12**	**was**		
m,p-Xylene	**59**	**mg/kg dry**	**0.61**	**500**	**03/02/12**	**was**	**03/02/12**	**was**	N	
o-Xylene	**13**	**mg/kg dry**	**0.30**	**500**	**03/02/12**	**was**	**03/02/12**	**was**	N	
Xylenes, total	**72**	**mg/kg dry**	**0.91**	**500**	**03/02/12**	**was**	**03/02/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	110	%	68-133	500	03/02/12	was	03/02/12	was		
1,2-Dichloroethane-d4	93	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	94	%	75-120	500	03/02/12	was	03/02/12	was		
Toluene-d8	85	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**440000**	**ug/kg dry**	**19000**	**200**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	200	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	200	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	200	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**89**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	**29000000**	**CFU/g**	**100**	**1**	**03/02/12**	**bd**	**03/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-07 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202007 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**1.5**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
m,p-Xylene	**4.8**	**mg/kg dry**	**0.10**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
o-Xylene	**1.2**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
Xylenes, total	**6.0**	**mg/kg dry**	**0.15**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	92	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	89	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**52000**	**ug/kg dry**	**2400**	**25**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	25	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	25	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	25	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**87**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	**12000000**	**CFU/g**	**100**	**1**	**03/02/12**	**bd**	**03/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-08 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202008 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**8.7**	**mg/kg dry**	**0.31**	**500**	**03/02/12**	**was**	**03/02/12**	**was**		
m,p-Xylene	**52**	**mg/kg dry**	**0.63**	**500**	**03/02/12**	**was**	**03/02/12**	**was**	N	
o-Xylene	**11**	**mg/kg dry**	**0.31**	**500**	**03/02/12**	**was**	**03/02/12**	**was**	N	
Xylenes, total	**63**	**mg/kg dry**	**0.94**	**500**	**03/02/12**	**was**	**03/02/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	110	%	68-133	500	03/02/12	was	03/02/12	was		
1,2-Dichloroethane-d4	93	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	92	%	75-120	500	03/02/12	was	03/02/12	was		
Toluene-d8	87	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**380000**	**ug/kg dry**	**18000**	**200**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	200	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	200	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	200	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**90**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	**26000000**	**CFU/g**	**100**	**1**	**03/02/12**	**bd**	**03/04/12**	**bd**	N	

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-09 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202009 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**1.9**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
m,p-Xylene	**7.3**	**mg/kg dry**	**0.10**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
o-Xylene	**1.5**	**mg/kg dry**	**0.050**	**50**	**03/06/12**	**was**	**03/06/12**	**was**	N	
Xylenes, total	**8.8**	**mg/kg dry**	**0.15**	**50**	**03/06/12**	**was**	**03/06/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	94	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	87	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**92000**	**ug/kg dry**	**4700**	**50**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	50	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**88**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	<100	CFU/g	100	1	03/02/12	bd	03/04/12	bd	N	

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ANALYTICAL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

Trace ID: T12C019-10 | Date Collected: 03/01/12 10:00 | Matrix: Soil
Sample ID: AC 1202010 | Date Received: 03/02/12 10:19

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028021										
Benzene	<0.050	mg/kg dry	0.050	50	03/06/12	was	03/06/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/06/12	was	03/06/12	was		
Ethylbenzene	**23**	**mg/kg dry**	**0.38**	**500**	**03/02/12**	**was**	**03/02/12**	**was**		
m,p-Xylene	**110**	**mg/kg dry**	**0.75**	**500**	**03/02/12**	**was**	**03/02/12**	**was**	N	
o-Xylene	**22**	**mg/kg dry**	**0.38**	**500**	**03/02/12**	**was**	**03/02/12**	**was**	N	
Xylenes, total	**130**	**mg/kg dry**	**1.1**	**500**	**03/02/12**	**was**	**03/02/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	110	%	68-133	500	03/02/12	was	03/02/12	was		
1,2-Dichloroethane-d4	92	%	68-133	50	03/06/12	was	03/06/12	was		
Toluene-d8	93	%	75-120	500	03/02/12	was	03/02/12	was		
Toluene-d8	87	%	75-120	50	03/06/12	was	03/06/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T027976										
Bis(2-ethylhexyl)phthalate	**230000**	**ug/kg dry**	**9500**	**100**	**03/02/12**	**kb**	**03/06/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	03/02/12	kb	03/06/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	03/02/12	kb	03/06/12	avl	302	
Terphenyl-d14	*	%	46-109	100	03/02/12	kb	03/06/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T027984										
% Solids	**87**	**% by Wt.**	**0.10**	**1**	**03/02/12**	**bd**	**03/02/12**	**bd**	N	
Analysis Method: SM9215B										
Batch: T027972										
Heterotrophic Plate Count	<100	CFU/g	100	1	03/02/12	bd	03/04/12	bd	N	

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QUALITY CONTROL RESULTS

Trace Project ID: T12C019
Client Project ID: LEC 185281

QC Batch: T027976
QC Batch Method: EPA 3550B Ultrasonic Extraction
Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

METHOD BLANK: T027976-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-ethylhexyl)phthalate	**ug/kg wet**	**751**	**330**	**614**
Nitrobenzene-d5 (S)	%	75	36-98	
2-Fluorobiphenyl (S)	%	73	44-105	
Terphenyl-d14 (S)	%	79	46-109	

LABORATORY CONTROL SAMPLE: T027976-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Bis(2-ethylhexyl)phthalate	ug/kg wet	3330	3070	92	49-121	
Nitrobenzene-d5 (S)	%	3330	2530	76	36-98	
2-Fluorobiphenyl (S)	%	3370	2570	76	44-105	
Terphenyl-d14 (S)	%	3500	2480	71	46-109	

Trace Project ID: T12C019
Client Project ID: LEC 185281

QC Batch: T028002
QC Batch Method: EPA 8260B
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T028002-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	110	68-133	
Toluene-d8 (S)	%	94	75-120	

LABORATORY CONTROL SAMPLE: T028002-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	1.03	103	80-120	
Toluene	mg/kg wet	1.00	0.908	91	80-120	
1,2-Dichloroethane-d4 (S)	%	25.0	27.0	108	68-133	
Toluene-d8 (S)	%	25.0	24.2	97	75-120	

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Trace Project ID: T12C019
Client Project ID: LEC 185281

QC Batch: T028017
QC Batch Method: EPA 8260B
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T028017-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	97	68-133	
Toluene-d8 (S)	%	109	75-120	

LABORATORY CONTROL SAMPLE: T028017-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	1.01	101	80-120	
Toluene	mg/kg wet	1.00	1.14	114	80-120	
1,2-Dichloroethane-d4 (S)	%	28.0	27.1	97	68-133	
Toluene-d8 (S)	%	28.0	30.4	109	75-120	

Trace Project ID: T12C019
Client Project ID: LEC 185281

QC Batch: T028021
QC Batch Method: EPA 8260B
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T028021-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	93	68-133	
Toluene-d8 (S)	%	89	75-120	

LABORATORY CONTROL SAMPLE: T028021-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	1.16	116	80-120	

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LABORATORY CONTROL SAMPLE: T028021-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Toluene	mg/kg wet	1.00	0.948	95	80-120	
1,2-Dichloroethane-d4 (S)	%	40.0	39.0	97	68-133	
Toluene-d8 (S)	%	40.0	35.4	89	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T028021-MSD1 Original: **T12C019-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	**mg/kg dry**	**0**	**0.989**	**1.13**	**1.13**	**115**	**114**	**78-114**	**0.3**	**11**	**208**
Toluene	mg/kg dry	0	0.989	0.997	0.914	101	92	77-118	9	10	
1,2-Dichloroethane-d4 (S)	%		40.0	35.5	36.0	89	90	68-133			
Toluene-d8 (S)	%		40.0	36.0	34.8	90	87	75-120			

Trace Project ID: T12C019
Client Project ID: LEC 185281

QC Batch: T027984
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

Trace Project ID: T12C019
Client Project ID: LEC 185281

QC Batch: T027972
QC Batch Method: SM9215B
Analysis Description: Heterotrophic Plate Count
Analysis Method: SM9215B

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CHAIN-OF-CUSTODY RECORD

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3/9/12 Page_____of_____

TRACE ID NO. T12C019

TRACE USE ONLY

Logged By: JS Checked By: BMC

Received on ice: Yes No Preservative Checked: Yes No N/A

Soil Volatiles Preserved: MeOH Low Level Lab Sampling Time:

Report Results To:

Client Name: TRC

Contact Person: Bob Stanforth

Mailing Address: 708 Heartland Trail

City, State, Zip Code: Madison Wi 53717

Phone: 608-826-3660 Fax: 608-826-3941

Email Address: rstanforth@trcsolutions.com

Cell #: Sampled by: Alex Goergen

Project Name & #: LE Carpenter 185281

Bill To:

Billing Address (if different) 21 Griffin road north

City, State, Zip Code Windsor Ct 06095

Attn: Accounts Payable Phone: 860 298-9692 PO #: 40850

Regulatory Requirements		Turnaround Requirements		Matrix Key	
MERA TMDL's	☐	Standard	☐	S = Soil	WI = Wipes
Drinking Water	☐	3-4 Day (RUSH)*	☐	W = Water	LW = Liquid Waste
NPDES	☐	24-48 Hour (RUSH)*	☐	SE = Sediment	A = Air
USACE	☐	* Requires prior approval		OI = Oil	D = Drinking Water
Special	☐			SO = Solid Waste	SL = Sludge

Request for Analytical Services

ANALYSIS REQUESTED

TRACE NO.	DATE TAKEN	TIME TAKEN	METALS FIELD FILTERED	CLIENT SAMPLE ID	MATRIX	NUMBER OF CONTAINERS	DEHP	BETX	HPC							REMARKS	Possible Health Hazard
01	3/1	10:00	N	AC 1202001	S	4	X	X	X								
02	↓	↓	↓	AC 1202002	S	4	X	X	X								
03	↓	↓	↓	AC 1202003	S	4	X	X	X								
04	↓	↓	↓	AC 1202004	S	4	X	X	X								
05	↓	↓	↓	AC 1202005	S	4	X	X	X								
06	↓	↓	↓	AC 1202006	S	4	X	X	X								
07	↓	↓	↓	AC 1202007	S	4	X	X	X								
08	↓	↓	↓	AC 1202008	S	4	X	X	X								
09	↓	↓	↓	AC 1202009	S	4	X	X	X								
10	3/1	10:00	N	AC 1202010	S	4	X	X	X								

Please Sign

Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME
	1) [signature]	Fed Ex	3/1/12	1:00		3)			
	2) Fed Ex	[signature]	3/2/12	10:19		4)			

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at http://www.trace-labs.com/cocterms.php

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SAMPLE LOG IN CHECKLIST

Date: 3/2/12 Client Name: TRC # of Coolers:

Trace ID #: T12C019 Project Name: LEC Cooler #s:

Logged in by: OS Cooler #s:

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [ ] Name of delivery person: UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [X] Yes [ ] [ ] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [✓] Yes [ ] [ ] Not Applicable

Custody seals signed by Client? No [X] Yes [ ] Client custody seal # (if applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[✓]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor +0.1 °C

Date: 3/2/12 Time: 10:19

Temperature Blank: 6.9 °C

Range of 3 samples: 11, 15, 17 °C

Melt Water: °C

Ice still present upon receipt: [✓] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[✓]	[ ]
All bottles arrived unbroken with labels in good condition?	[✓]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[✓]	[ ]	[ ]
Labels filled out completely?	[✓]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[✓]	[ ]	[ ]
Sufficient sample to run tests requested?	[✓]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[✓]
Correct preservative added to samples?	[✓]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[✓]	[ ]	[ ]
Air bubbles absent from VOAs?	[ ]	[ ]	[✓]
COC filled out properly and signed by client?	[✓]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[✓]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[✓]	[ ]

Contact: Date:

Notes:

Form 70-A.8
Effective 10/26/11

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March 23, 2012

Mr. Bob Stanforth
TRC Solutions
708 Heartland Trail
Madison, WI 53717

Phone: (608) 826-3660
Fax: (608) 826-3941

RE: Trace Project T12C165
Client Project LEC MW19HS1 Remediation / 6527.40

Dear Mr. Stanforth:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Project Manager

Enclosures

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SAMPLE SUMMARY

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
T12C165-01	AC1202001	Soil	ag	03/15/12 08:00	03/16/12 17:07
T12C165-02	AC1202002	Soil	ag	03/15/12 08:00	03/16/12 17:07
T12C165-03	AC1202003	Soil	ag	03/15/12 08:00	03/16/12 17:07
T12C165-04	AC1202004	Soil	ag	03/15/12 08:00	03/16/12 17:07
T12C165-05	AC1202005	Soil	ag	03/15/12 08:00	03/16/12 17:07
T12C165-06	AC1202006	Soil	ag	03/15/12 08:00	03/16/12 17:07
T12C165-07	AC1202007	Soil	ag	03/15/12 08:00	03/16/12 17:07
T12C165-08	AC1202008	Soil	ag	03/15/12 08:00	03/16/12 17:07
T12C165-09	AC1202009	Soil	ag	03/15/12 08:00	03/16/12 17:07
T12C165-10	AC1202010	Soil	ag	03/15/12 08:00	03/16/12 17:07

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the compound has not been evaluated by NELAC
NA	Indicates that the compound is not available.

DATA QUALIFIERS

Trace ID: T12C165-01

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Analysis: SM9215B

Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

Trace ID: T12C165-02

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Analysis: SM9215B

Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

Trace ID: T12C165-03

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Analysis: SM9215B	
Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

Trace ID: T12C165-04

Analysis: EPA 8270C	
2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Analysis: SM9215B	
Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

Trace ID: T12C165-05

Analysis: EPA 8270C	
2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Analysis: SM9215B	
Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

Trace ID: T12C165-06

Analysis: EPA 8270C	
2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Analysis: SM9215B	
Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

Trace ID: T12C165-07

Analysis: EPA 8270C	
2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Analysis: SM9215B

Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

Trace ID: T12C165-08

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Analysis: SM9215B

Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

Trace ID: T12C165-09

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Analysis: SM9215B

Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

Trace ID: T12C165-10

Analysis: EPA 8270C

2-Fluorobiphenyl	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Nitrobenzene-d5	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.
Terphenyl-d14	Note 302 : A dilution of 1:10 or greater was required on this sample. Consequently, surrogate recoveries are not available.

Analysis: SM9215B

Heterotrophic Plate Count	Note 511 : The sample was received and, therefore, analyzed beyond the established EPA hold time. The result must be considered estimated.

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-01 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202001 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**0.78**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
m,p-Xylene	**0.13**	**mg/kg dry**	**0.10**	**50**	**03/19/12**	**was**	**03/19/12**	**was**	N	
o-Xylene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was	N	
Xylenes, total	<0.15	mg/kg dry	0.15	50	03/19/12	was	03/19/12	was		
Surrogates:										
1,2-Dichloroethane-d4	91	%	68-133	50	03/19/12	was	03/19/12	was		
Toluene-d8	102	%	75-120	50	03/19/12	was	03/19/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**36000**	**ug/kg dry**	**5400**	**50**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	50	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**77**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	**4600000**	**CFU/g**	**100**	**1**	**03/16/12**	**sm**	**03/18/12**	**sm**	511, N	

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-02 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202002 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**5.4**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
m,p-Xylene	**37**	**mg/kg dry**	**0.73**	**500**	**03/20/12**	**was**	**03/20/12**	**was**	N	
o-Xylene	**10**	**mg/kg dry**	**0.37**	**500**	**03/20/12**	**was**	**03/20/12**	**was**	N	
Xylenes, total	**47**	**mg/kg dry**	**1.1**	**500**	**03/20/12**	**was**	**03/20/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	93	%	68-133	50	03/19/12	was	03/19/12	was		
1,2-Dichloroethane-d4	95	%	68-133	500	03/20/12	was	03/20/12	was		
Toluene-d8	97	%	75-120	50	03/19/12	was	03/19/12	was		
Toluene-d8	98	%	75-120	500	03/20/12	was	03/20/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**200000**	**ug/kg dry**	**9900**	**100**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	100	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**84**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	**4400000**	**CFU/g**	**100**	**1**	**03/16/12**	**sm**	**03/18/12**	**sm**	511, N	

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-03 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202003 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**1.1**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
m,p-Xylene	**1.5**	**mg/kg dry**	**0.10**	**50**	**03/19/12**	**was**	**03/19/12**	**was**	N	
o-Xylene	**0.79**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**	N	
Xylenes, total	**2.3**	**mg/kg dry**	**0.15**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	93	%	68-133	50	03/19/12	was	03/19/12	was		
Toluene-d8	102	%	75-120	50	03/19/12	was	03/19/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**48000**	**ug/kg dry**	**6000**	**50**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	50	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**69**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	**15000000**	**CFU/g**	**100**	**1**	**03/16/12**	**sm**	**03/18/12**	**sm**	511, N	

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-04 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202004 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**9.7**	**mg/kg dry**	**3.5**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**		
m,p-Xylene	**89**	**mg/kg dry**	**7.0**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**	N	
o-Xylene	**21**	**mg/kg dry**	**3.5**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**	N	
Xylenes, total	**110**	**mg/kg dry**	**10**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	94	%	68-133	50	03/19/12	was	03/19/12	was		
1,2-Dichloroethane-d4	93	%	68-133	5000	03/20/12	was	03/20/12	was		
Toluene-d8	100	%	75-120	50	03/19/12	was	03/19/12	was		
Toluene-d8	99	%	75-120	5000	03/20/12	was	03/20/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**160000**	**ug/kg dry**	**20000**	**200**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	200	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	200	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	200	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**85**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	**1300000**	**CFU/g**	**100**	**1**	**03/16/12**	**sm**	**03/18/12**	**sm**	511, N	

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-05 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202005 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**4.6**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
m,p-Xylene	**3.4**	**mg/kg dry**	**0.10**	**50**	**03/19/12**	**was**	**03/19/12**	**was**	N	
o-Xylene	**0.79**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**	N	
Xylenes, total	**4.2**	**mg/kg dry**	**0.15**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	117	%	68-133	50	03/19/12	was	03/19/12	was		
Toluene-d8	86	%	75-120	50	03/19/12	was	03/19/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**71000**	**ug/kg dry**	**5600**	**50**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	50	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**74**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	**670000**	**CFU/g**	**100**	**1**	**03/16/12**	**sm**	**03/18/12**	**sm**	511, N	

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-06 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202006 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**4.4**	**mg/kg dry**	**2.9**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**		
m,p-Xylene	**24**	**mg/kg dry**	**5.8**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**	N	
o-Xylene	**7.1**	**mg/kg dry**	**2.9**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**	N	
Xylenes, total	**31**	**mg/kg dry**	**8.7**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	120	%	68-133	50	03/19/12	was	03/19/12	was		
1,2-Dichloroethane-d4	93	%	68-133	5000	03/20/12	was	03/20/12	was		
Toluene-d8	84	%	75-120	50	03/19/12	was	03/19/12	was		
Toluene-d8	102	%	75-120	5000	03/20/12	was	03/20/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**360000**	**ug/kg dry**	**20000**	**200**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	200	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	200	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	200	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**83**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	**11000000**	**CFU/g**	**100**	**1**	**03/16/12**	**sm**	**03/18/12**	**sm**	511, N	

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-07 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202007 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**3.6**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
m,p-Xylene	**5.2**	**mg/kg dry**	**0.10**	**50**	**03/19/12**	**was**	**03/19/12**	**was**	N	
o-Xylene	**2.6**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**	N	
Xylenes, total	**7.8**	**mg/kg dry**	**0.15**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	121	%	68-133	50	03/19/12	was	03/19/12	was		
Toluene-d8	87	%	75-120	50	03/19/12	was	03/19/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**35000**	**ug/kg dry**	**2600**	**25**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	25	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	25	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	25	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**79**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	**1300000**	**CFU/g**	**100**	**1**	**03/16/12**	**sm**	**03/18/12**	**sm**	511, N	

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-08 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202008 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**4.8**	**mg/kg dry**	**3.9**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**		
m,p-Xylene	**23**	**mg/kg dry**	**7.9**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**	N	
o-Xylene	**6.2**	**mg/kg dry**	**3.9**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**	N	
Xylenes, total	**29**	**mg/kg dry**	**12**	**5000**	**03/20/12**	**was**	**03/20/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	119	%	68-133	50	03/19/12	was	03/19/12	was		
1,2-Dichloroethane-d4	92	%	68-133	5000	03/20/12	was	03/20/12	was		
Toluene-d8	83	%	75-120	50	03/19/12	was	03/19/12	was		
Toluene-d8	101	%	75-120	5000	03/20/12	was	03/20/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**300000**	**ug/kg dry**	**20000**	**200**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	200	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	200	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	200	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**83**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	**13000000**	**CFU/g**	**100**	**1**	**03/16/12**	**sm**	**03/18/12**	**sm**	511, N	

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-09 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202009 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**0.68**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
m,p-Xylene	**2.9**	**mg/kg dry**	**0.10**	**50**	**03/19/12**	**was**	**03/19/12**	**was**	N	
o-Xylene	**0.48**	**mg/kg dry**	**0.050**	**50**	**03/19/12**	**was**	**03/19/12**	**was**	N	
Xylenes, total	**3.4**	**mg/kg dry**	**0.15**	**50**	**03/19/12**	**was**	**03/19/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	93	%	68-133	50	03/19/12	was	03/19/12	was		
Toluene-d8	101	%	75-120	50	03/19/12	was	03/19/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**32000**	**ug/kg dry**	**5000**	**50**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	50	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	50	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	50	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**82**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	<100	CFU/g	100	1	03/16/12	sm	03/18/12	sm	511, N	

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ANALYTICAL RESULTS

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

Trace ID: T12C165-10 | Date Collected: 03/15/12 08:00 | Matrix: Soil
Sample ID: AC1202010 | Date Received: 03/16/12 17:07

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260B										
Batch: T028248										
Benzene	<0.050	mg/kg dry	0.050	50	03/19/12	was	03/19/12	was		
Toluene	<0.10	mg/kg dry	0.10	50	03/19/12	was	03/19/12	was		
Ethylbenzene	**18**	**mg/kg dry**	**0.32**	**500**	**03/19/12**	**was**	**03/19/12**	**was**		
m,p-Xylene	**79**	**mg/kg dry**	**0.64**	**500**	**03/19/12**	**was**	**03/19/12**	**was**	N	
o-Xylene	**16**	**mg/kg dry**	**0.32**	**500**	**03/19/12**	**was**	**03/19/12**	**was**	N	
Xylenes, total	**95**	**mg/kg dry**	**0.96**	**500**	**03/19/12**	**was**	**03/19/12**	**was**		
Surrogates:										
1,2-Dichloroethane-d4	92	%	68-133	50	03/19/12	was	03/19/12	was		
1,2-Dichloroethane-d4	90	%	68-133	500	03/19/12	was	03/19/12	was		
Toluene-d8	103	%	75-120	50	03/19/12	was	03/19/12	was		
Toluene-d8	99	%	75-120	500	03/19/12	was	03/19/12	was		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270C										
Batch: T028242										
Bis(2-ethylhexyl)phthalate	**280000**	**ug/kg dry**	**9900**	**100**	**03/21/12**	**kb**	**03/22/12**	**avl**		
Surrogates:										
Nitrobenzene-d5	*	%	36-98	100	03/21/12	kb	03/22/12	avl	302	
2-Fluorobiphenyl	*	%	44-105	100	03/21/12	kb	03/22/12	avl	302	
Terphenyl-d14	*	%	46-109	100	03/21/12	kb	03/22/12	avl	302	
WET CHEMISTRY										
Analysis Method: % Calculation										
Batch: T028217										
% Solids	**84**	**% by Wt.**	**0.10**	**1**	**03/20/12**	**as**	**03/20/12**	**as**	N	
Analysis Method: SM9215B										
Batch: T028199										
Heterotrophic Plate Count	<100	CFU/g	100	1	03/16/12	sm	03/18/12	sm	511, N	

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QUALITY CONTROL RESULTS

Trace Project ID: T12C165

Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T028242
QC Batch Method: EPA 3550B Ultrasonic Extraction

Analysis Description: Semi-volatiles, TCL list
Analysis Method: EPA 8270C

METHOD BLANK: T028242-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-ethylhexyl)phthalate	ug/kg wet	<330	330	
Nitrobenzene-d5 (S)	%	79	36-98	
2-Fluorobiphenyl (S)	%	77	44-105	
Terphenyl-d14 (S)	%	86	46-109	

LABORATORY CONTROL SAMPLE: T028242-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Bis(2-ethylhexyl)phthalate	ug/kg wet	3320	2940	88	49-121	
Nitrobenzene-d5 (S)	%	3320	2780	84	36-98	
2-Fluorobiphenyl (S)	%	3360	2710	81	44-105	
Terphenyl-d14 (S)	%	3490	3510	101	46-109	

Trace Project ID: T12C165

Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T028248
QC Batch Method: EPA 8260B

Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T028248-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	90	68-133	
Toluene-d8 (S)	%	102	75-120	

LABORATORY CONTROL SAMPLE: T028248-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	0.840	84	80-120	
Toluene	mg/kg wet	1.00	0.893	89	80-120	
1,2-Dichloroethane-d4 (S)	%	45.0	41.0	91	68-133	
Toluene-d8 (S)	%	45.0	45.6	101	75-120	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T028248-MSD1 Original: **T12C165-10RE1**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	7.64	7.19	7.15	94	94	78-114	0.5	11	
Toluene	mg/kg dry	0	7.64	7.60	8.07	100	106	77-118	6	10	
1,2-Dichloroethane-d4 (S)	%		45.0	42.0	41.2	93	92	68-133			
Toluene-d8 (S)	%		45.0	45.4	46.1	101	102	75-120			

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T028257
QC Batch Method: EPA 8260B
Analysis Description: Volatiles, BTEX/MTBE (GC/MS)
Analysis Method: EPA 8260B

METHOD BLANK: T028257-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzene	mg/kg wet	<0.050	0.050	
Toluene	mg/kg wet	<0.10	0.10	
Ethylbenzene	mg/kg wet	<0.050	0.050	
m,p-Xylene	mg/kg wet	<0.10	0.10	
o-Xylene	mg/kg wet	<0.050	0.050	
Xylenes, total	mg/kg wet	<0.15	0.15	
1,2-Dichloroethane-d4 (S)	%	93	68-133	
Toluene-d8 (S)	%	99	75-120	

LABORATORY CONTROL SAMPLE: T028257-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	mg/kg wet	1.00	0.819	82	80-120	
Toluene	mg/kg wet	1.00	0.856	86	80-120	
1,2-Dichloroethane-d4 (S)	%	45.0	41.6	92	68-133	
Toluene-d8 (S)	%	45.0	45.7	102	75-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T028257-MSD1 Original: **T12C165-08RE1**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Benzene	mg/kg dry	0	95.3	78.0	80.0	82	84	78-114	3	11	
Toluene	mg/kg dry	0	95.3	87.5	87.1	92	91	77-118	0.5	10	
1,2-Dichloroethane-d4 (S)	%		45.0	41.3	42.4	92	94	68-133			
Toluene-d8 (S)	%		45.0	46.3	47.8	103	106	75-120			

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T028217
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: % Calculation

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SAMPLE DUPLICATE: T028217-DUP1 Original: **T12C165-01**

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
% Solids	% by Wt.	76.9	71.6	7	20	

Trace Project ID: T12C165
Client Project ID: LEC MW19HS1 Remediation / 6527.40

QC Batch: T028199
QC Batch Method: SM9215B

Analysis Description: Heterotrophic Plate Count
Analysis Method: SM9215B

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Page 1 of

T12C165

3/20/12

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	TRC
Branch/Location:	Madison
Project Contact:	Bob Stanforth
Phone:	608-826-3660
Project Number:	185281
Project Name:	LE Carpenter
Project State:	
Sampled By (Print):	Alex Georgen
Sampled By (Sign):	
PO #:	40850
Regulatory Program:	

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	Accounts Payable
Invoice To Company:	TRC Companies
Invoice To Address:	21 Griffin Road North Windsor CT 06095
Invoice To Phone:	860-298-9692

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: BTEX HP	BETX	HPC	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
01	AC1202001	3/15	8:00	S	N		X	X	X	4 containers per		
02	AC1202002	↓	↓	↓			X	X	X	sample		
03	AC1202003						X	X	X			
04	AC1202004						X	X	X			
05	AC1202005						X	X	X			
06	AC1202006						X	X	X			
07	AC1202007						X	X	X			
08	AC1202008			↓			X	X	X	↓		
09	AC1202009	↓	↓				X	X	X	4 containers per		
10	AC1202010	3/15	8:00	S			X	X	X	sample		

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature] 10:00	[signature] 3/15/12	[signature]	
Fed Ex		[signature]	3/16/12 17:07

PACE Project No.
Receipt Temp = °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

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SAMPLE LOG IN CHECKLIST

Date: 3/16/12 Client Name: TRC # of Coolers: 1

Trace ID #: T12C165 Project Name: Cooler #s: —

Logged in by: [illegible] Cooler #s: —

Cooler Receipt

Cooler/samples delivered by: Trace courier [ ] Hand delivered [ ] Commercial courier [X] Name of delivery person:

UPS [ ] DHL [ ] FED EX [X] US Mail [ ]

Did cooler come with a bill of lading? No [ ] Yes [ ] [X] Not Applicable Way Bill or Tracking #:

COC Seals present and intact on cooler? No [ ] Yes [ ] [X] Not Applicable

Custody seals signed by Client? No [ ] Yes [ ] Client custody seal # (If applicable):

Coolant and Temperature

Type of Coolant Used

	Yes	No
Slurry w/ crushed, cubed, or chip ice?	[ ]	[ ]
Multiple bags of ice around samples?	[X]	[ ]
Ice Packs/ Blue Ice :	[ ]	[ ]
No Coolant Present:	[ ]	

Cooler Temperature

Correction Factor _____ °C

Date: 3/16/12 Time: 17:07

Temperature Blank: 4.9 °C

Range of 3 samples: 19-21.2 °C

Melt Water: °C

Ice still present upon receipt: [X] Yes [ ] No

General

	Yes	No	NA
COC taped to inside of cooler lid?	[ ]	[X]	[ ]
All bottles arrived unbroken with labels in good condition?	[X]	[ ]	[ ]
Each sample point is in a sealed plastic bag?	[ ]	[X]	[ ]
Labels filled out completely?	[X]	[ ]	[ ]
All bottle labels agree with Chain of Custody (COC)?	[X]	[ ]	[ ]
Sufficient sample to run tests requested?	[X]	[ ]	[ ]
pH checked and samples at correct pH?	[ ]	[ ]	[X]
Correct preservative added to samples?	[X]	[ ]	[ ]
DRO/GRO samples received and appropriate check in form completed?	[ ]	[ ]	[X]
Air bubbles absent from VOAs?	[ ]	[ ]	[X]
COC filled out properly and signed by client?	[X]	[ ]	[ ]
COC signed in by TRACE sample custodian?	[X]	[ ]	[ ]
Was project manager called and samples discussed?	[ ]	[ ]	[ ]

Contact: Date:

Notes:

Form 70-A.8
Effective 10/26/11

TRACE Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

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