OPERATION/CONSTRUCTION MANAGERS
Municipal Services
CIVIL/SANITARY ENGINEERS
Engineering Company, P.A.

Mr. Ervin Lane
Solid Waste Section - Compliance
Division of Waste Management
North Carolina Department of Environment and Natural Resources
401 Oberlin Road, Suite 150
Raleigh, NC 27605

September 28, 2010

Re: **Limited Soil and Surface Water Assessment Report**
Iredell County Municipal Solid Waste Landfill Facility
354 Twin Oaks Road, Statesville, NC
Permit No. 49-03
MESCO Project no. G10121.0

Mr. Lane:

Municipal Engineering Services Co., P.A. (MESCO), on behalf of Iredell County (the County), appreciates the opportunity to submit this brief letter report that presents soil and surface water sample results acquired during a limited assessment performed on August 31, 2010. The limited assessment was performed in response to questions regarding potentially impacted soil associated with breakout locations reported in a *Facility Compliance Audit Report* (Compliance Audit) performed August 10-11, 2010 at the County's Municipal Solid Waste Landfill Facility (MSWLF) located on 354 Twin Oaks Road, Statesville, NC (See **Plate 1**). The assessment was performed in general accordance with MESCO's *Proposed Sample and Analysis Plan* approved with conditions by the North Carolina Department of Environment and Natural Resources (NCDENR), Division of Waste Management (DWM), Solid Waste Section (SWS) on August 27, 2010.

BACKGROUND

On August 10 and 11, 2010, during a comprehensive field audit, Mr. Charles Gerstell, a representative of the SWS, reported:

> *"A leachate outbreak was observed on the south side of Phase 4 adjacent to the transition point from Phase 3 and just north of leachate sump #3. Leachate was observed flowing below the operational cover at multiple points for distance of approximately 25-feet. Leachate from the outbreak was observed flowing beyond the edge of liner marker located near Leachate Sump #3 to a slope located above a sediment basin on the south side of the access road leading around the landfill unit." Mr. Gerstell also reported that " flow from the leachate outbreak was stopped prior to the end of the inspection…" and "…additional soil was placed on the area and was re-graded with a bulldozer."*

PO Box 97, Garner, North Carolina 27529 (919) 772-5393
PO Box 828, Morehead City, NC 28557 (252) 726-9481
PO Box 349, Boone, North Carolina 28607 (828) 262-1767

Although the original breakouts were repaired, Mr. Gerstell issued a *Notice of Violation* to the County indicating that:

> *"…to achieve compliance, Iredell County must complete the following actions"* which included, among other things, *"…assess the impact of the leachate release outside the waste cell…"*

MESCO submitted a P*roposed Sample and Analysis Plan* (SAP) to the SWS on August 20, 2010. On August 27, 2010, you approved MESCO's SAP "…under the following conditions:

- Soil samples should be analyzed for nitrate-nitrite (soluble), phosphorous, sulfate (soluble), and pH in addition to the aforementioned parameters
- A background soil sample should be collected
- A soil sample near the sediment basin outlet should be collected
- A surface water sample from the creek and sediment basin should be collected and analyzed for Appendix I VOCs, Appendix I metals, nitrate-nitrite (soluble), phosphorous, sulfate (soluble), pH, biological oxygen demand (BOD), and chemical oxygen demand (COD)…"

(Prior to submittal and approval of MESCO's SAP, landfill personnel, in a proactive stance, collected two surface water samples (100816-1.1 and 100816-1.2) from the sediment basin on August 16, 2010 and submitted them to Statesville Analytical to be analyzed for the presence of VOCs via EPA Test Method 8260. Statesville Analytical apparently subcontracted the analysis to Pace Analytical Services, (Pace) based in Huntersville, NC. As shown on the attached Pace *ANALYTICAL RESULTS* report, styrene and total xylenes were reported as "ND", defined as "*Not Detected at or above adjusted reporting limit*". None of the other target analytes included in the Appendix I VOC list were reported in the Pace report.)

SCOPE OF SERVICES

As proposed in our August 20, 2010 SAP, confirmation soil samples were collected in the vicinity of the reported breakout (from beyond the edge of liner marker located near Leachate Sump #4 (*inadvertently listed as Leachate Sump #3*) to a slope located above a sediment basin on the south side of the access road leading around the landfill unit). Soil samples were collected using a stainless-steel hand auger and field screened with a photo-ionization detector (PID) and/or a flame-ionization detector (FID) to measure volatile organic compound (VOC) vapors. Boring locations, grab sample elevations reported in feet below the ground surface (bgs), and PID/FID readings were recorded. Sample locations were determined in the field by the environmental professional based on breakout observations, localized topography, visual and/or potential stormwater flow paths, and PID/FID readings.

At most locations, hand auger borings (borings) were advanced to approximately three feet bgs. At some locations (HA-2, HA-3, and HA-4), borings were either moved and restarted or terminated prior to reaching three feet due to encountering debris, water, or soil density (refusal). Samples were collected at approximate 12-inch intervals, placed in re-sealable plastic bags, and allowed to volatilize for approximately 10-15 minutes. PID/FID readings were recorded in each of the sample bags and the soil sample with the highest PID/FID readings was set aside to be containerized. Please note that sample nomenclature represents the primary sample location (i.e.,

HABG, HA1, or HASedBsn, etc.) and the depth of each sample below the ground surface (i.e., HABG-1, HA1-2, or HASedBsn-3, etc.). Between sample locations, the hand auger handle, stems, and bucket were cleaned and decontaminated using phosphate-free soap, isopropyl alcohol, and de-ionized or distilled water.

Initially, soil samples were collected from a location (HABG) relatively upgradient of the breakout location to establish a background level or comparison baseline. Afterwards, five soil samples (HA1 through HA5) were collected downgradient of the breakout at locations approximately 20 feet apart. Sample HASedBsn was collected from the sediment basin. PID/FID readings are presented on **Table 1**. As shown, PID readings ranged from a low reading of 60 recorded at HABG-3 to a high reading of 101 recorded at locations HA3-2 and HA5-1. FID readings ranged from a low reading of –4 recorded at location HABG-3 to a high reading of 1515 recorded at location HA3-2. Initial background levels measured in ambient air were as follows: PID +6.2, FID –10.0.

As requested, soil samples were submitted to a State of North Carolina-certified analytical laboratory (Environmental Science Corporation (ESC), Mt. Juliet, TN) and analyzed for:

- VOCs via EPA Test Method 8260B
- Metals via EPA Test Methods 6010 and 7471
- Nitrate-nitrite (soluble), phosphorous, and sulfate (soluble) via EPA Test Method 9056
- pH via EPA Test Method 9045D

In accordance with directions from SWS representatives, sample results were compared to the Remediation Goals (RGs) established by the NCDENR-DWM-Inactive Hazardous Sites Branch (IHSB), updated January 2010.

Additionally, as requested, the MESCO representative also collected a surface water sample from the aforementioned sediment basin and a sample of surface water from the nearby creek. Both samples were collected in laboratory-prepared containers at approximately six inches beneath the water's surface, submitted to ESC, and analyzed for:

- VOCs via EPA Test Method 8260B
- Metals via EPA Test Methods 6010B and 7470A
- Nitrate-nitrite (soluble) and sulfate (soluble) via EPA Test Method 9056
- Phosphorous via EPA Test Method 365.1
- pH via EPA Test Method 9040C
- BOD via EPA Test Method 5210B, and
- COD via EPA Test Method 410.4

Surface water sample results were compared to their respective North Carolina Surface Waters and Wetlands Standards as promulgated in 15A NCAC 2B (2B Standards) and the Solid Waste Section reporting limits (SWSL).

SAMPLE RESULTS

Soil Sample Results

A review of the soil sample analytical results presented in *Table 2 Soil Sample Analysis* indicates that several Appendix I target metals (antimony, arsenic, cobalt, and vanadium) were detected at levels exceeding their respective RGs. (Thallium and sulfate were also detected at levels above the laboratory detection limits but currently do not have a listed RG.) None of the targeted Appendix I VOCs were detected at levels exceeding their respective RGs.

Surface Water Sample Results

A review of the surface water sample analytical results presented in *Table 3 Surface Water Sample Analysis* indicates that several Appendix I target metals (copper, lead, vanadium, and zinc) were detected at moderate levels exceeding their respective 2B Standards or SWSLs in the sample collected from the sediment basin (SWSedBen). Additionally, phosphorous was moderately elevated (97 µg/L) and the COD level was reported at 20000 µg/L.

In the SW-Inter Stream sample, none of the target analytes were detected at a level exceeding their respective 2B Standards or SWSLs. Again, phosphorous was moderately elevated (52 µg/L), but chemical parameters BOD, COD, and pH levels were detected within "normal ranges" in the stream sample.

[Please note that in the ESC *Report of Analysis,* the sediment basin soil and surface water samples are inadvertently listed as "SED BEN" and "SW-SED BEN", respectively.]

FINDINGS

Seven soil samples and two surface water samples were collected at the Iredell County MWSLF on August 31, 2010 in response a *Facility Compliance Audit Report* performed at the facility on August 10-11, 2010. Elevated levels of several Appendix I target metals (antimony, arsenic, cobalt, and vanadium) were detected at levels exceeding their respective RGs. Detections of sulfate and thallium, neither of which currently have a designated RG, were also reported. None of the Appendix I target VOCs were detected at levels above their respective RG or laboratory method detection limit. It should be noted that elevated levels of sulfate, antimony, arsenic, and cobalt were detected in the background sample collected in a recently-constructed diversion berm located above the reported leachate breakout location. The source of the fill soils was reportedly an off-site borrow located near the adjacent golf course.

Several Appendix I target metals (copper, lead, vanadium, and zinc) were detected at moderate levels exceeding their respective 2B Standards or SWSLs in the sample collected from the sediment basin (SWSedBen). Additionally, phosphorous was moderately elevated (97 µg/L) and the COD level was reported at 20000 µg/L. The purpose of a sediment basin is to trap suspended solids that might be transported during surface runoff events at the facility. It cannot be concluded that the elevated levels of Appendix I metals are attributed to the leachate breakout. A resident turkey buzzard population (i.e., tracks, feathers, excrement, etc.), which uses the

sediment basin as a "watering hole" is the probable source for the elevated COD levels. At the time of sampling, the basin was approximately 10 percent full of "stagnant" water.

In the SW-Inter Stream sample, none of the target analytes were detected at a level exceeding their respective 2B Standards or SWSLs. Again, phosphorous was moderately elevated (52 µg/L), but chemical parameters BOD, COD, and pH levels were detected within "normal ranges" in the stream sample. At the time of the sampling event, the intermittent stream had a moderate flow with no visual, physical, or olfactory indications of an impact by the leachate breakout.

(It should be noted that the "daily cover soils" used in this area were "borrowed" from nearby or adjacent sites which, historically, were used for agricultural purposes and, over the years, were suscepted to numerous applications of herbicides, pesticides, and fertilizers. Additionally, it is our understanding that several of the landfill cell grassed caps had also recently been fertilized just prior to sample collection.)

Based on the sample results presented on the attached tables and discussed above, it is our opinion that:

- The elevated level of target analytes detected in the soil samples cannot be attributed specifically to the reported breakout.
- The elevated levels of target analytes detected in the sediment basin surface water sample cannot be attributed specifically to the reported breakout.
- Although no additional action is required, landfill personnel excavated alluvial sediment from the sediment basin on September 3, 2010 to provide more space in the basin and promote more dissipation/evaporation of stormwater.

The site will continue to have groundwater and surface water monitoring on a semi-annual basis, in accordance with the terms of the Iredell County Sampling and Analysis Plan.

This report summary meets the requirements for the Compliance Order from the Solid Waste Section. All data, information and conclusions contained herein indicate no hindrance to the current operations and procedures of the landfill.

CLOSING

Municipal Engineering Services Co., P.A., on behalf of Iredell County, appreciates the opportunity to submit this brief report to the Solid Waste Section. Please contact us at (919) 772-5393 or mbrown@mesco.com if you have any questions or comments regarding this report.

Sincerely,
MUNICIPAL ENGINEERING SERVICES CO., P.A.

NORTH CAROLINA LICENSED SEAL 1711 9/28/10 GEOLOGIST MARK BROWN

Mark Brown, LG, PG
Senior Professional Geologist

Enclosures

cc: Mr. David Lambert, Solid Waste Director, Iredell County
Mr. Wayne Sullivan, MESCO

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Plates

Topographic Map with Site Location

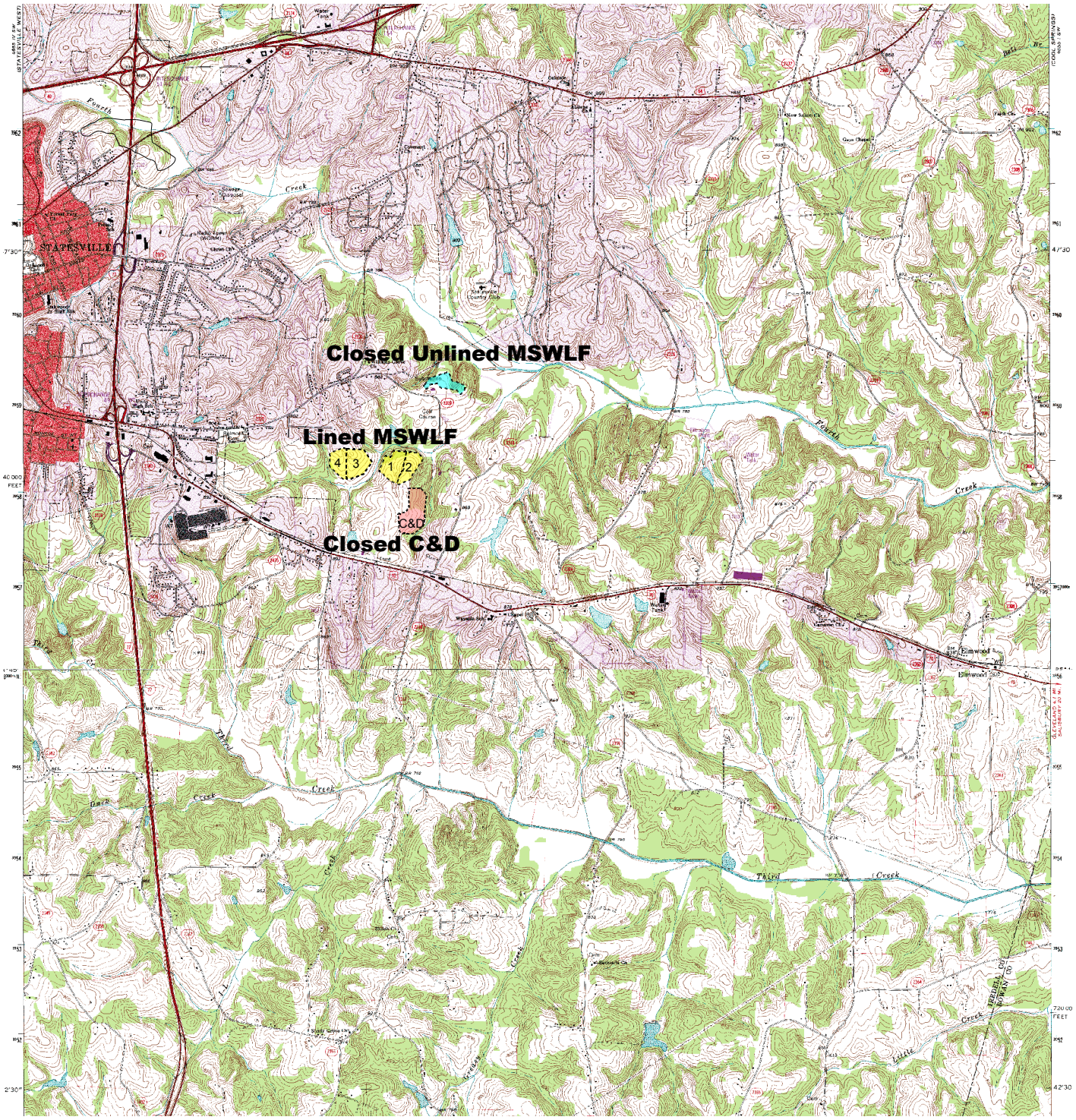
Semi-Annual Sampling Report

Iredell County Landfill

PLATE 1

Date Completed	02/08/2010
Created By	J. Pfohl
Project Name	Semi-Annual Sampling Report
Site Name	Iredell County Landfill
Project Number	G10014.0

Municipal Engineering Services Company, PA



QUADRANGLE LEGEND

2.5 0 2.5 MILES

ROAD CLASSIFICATION

Primary highway, hard surface

Light-duty road, hard or improved surface

Secondary highway, hard surface

Unimproved road

Interstate Route

U. S. Route

State Route

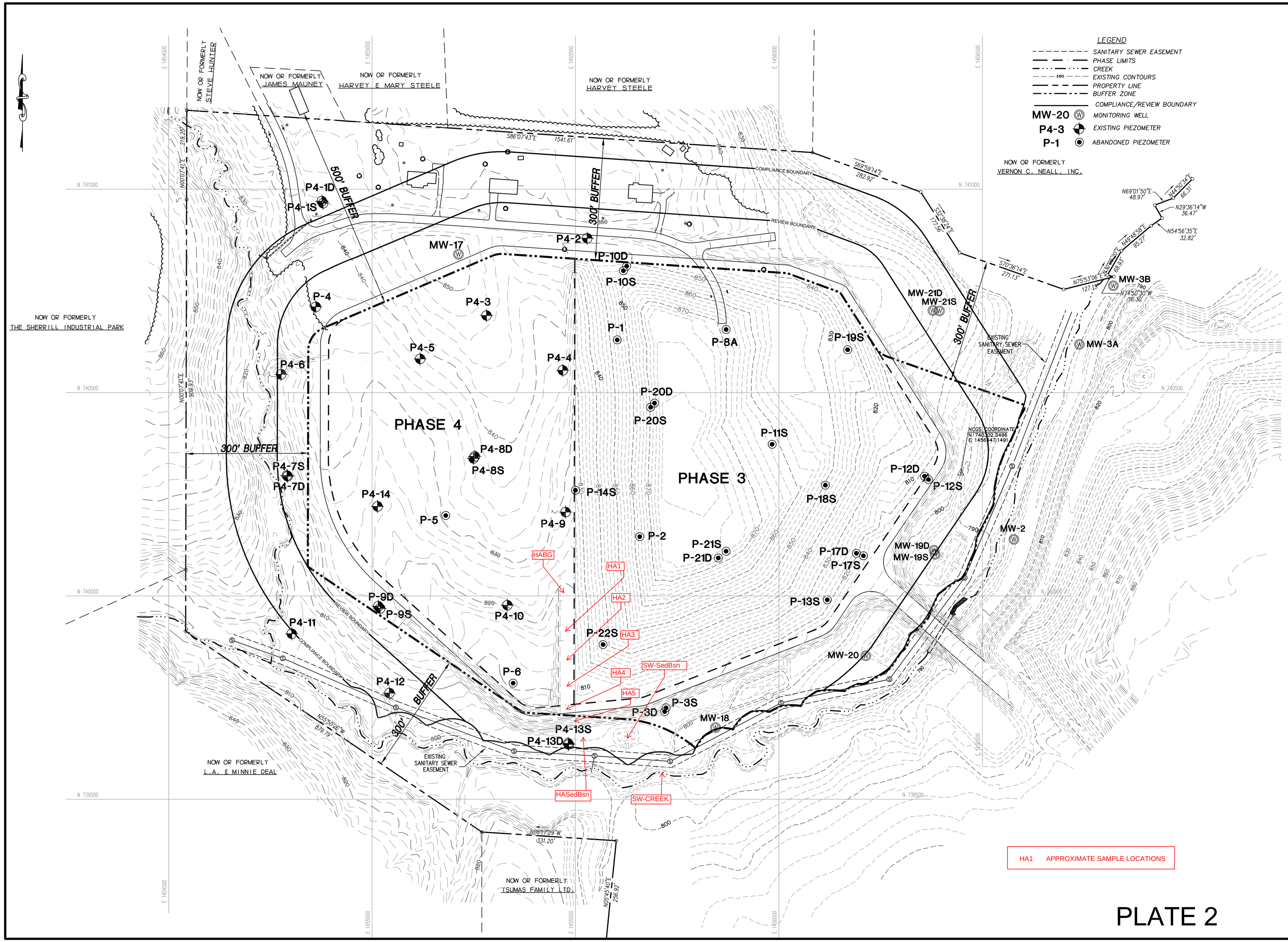


PLATE 2

Municipal Engineering Services Company, P.A.
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P.O. BOX 349 BOONE, N.C. 28607 (828) 262-1767
P.O. BOX 828 MORGANTON, N.C. 28655 (828) 724-4481

MUNICIPAL SOLID WASTE LANDFILL
IREDELL COUNTY NORTH CAROLINA

DATE	BY	REV.	DESCRIPTION

LIMITED SOIL AND SURFACE WATER ASSESSMENT
AUGUST 31, 2010

SCALE:	1" = 100'
DATE:	10/13/06
DRWN. BY:	M. CLEMENT
CHKD. BY:	E. CALDWELL
PROJECT NUMBER	G06035.6
DRAWING NO.	PLATE 2
SHEET NO.	1 of 1

Tables

TABLE 1
Volatile Organic/Inorganic Compound Vapor Analysis
Iredell County MSWLF
MESCO Project Number G10121.0
September 23, 2010

Sample Location Number	Approximate Sampling Depth (feet bgs)	PID	FID	Hand Auger Boring Termination Depth (feet bgs)	Depth to Water (feet bgs)	Comments
HABG-1	1	67	260	3	NE	
HABG-2	2	61	321			Submitted for Analysis
HABG-3	3	60	-4			
HA1-1	1	68	180	3	NE	Submitted for Analysis
HA1-2	2	77	124			
HA1-3	3	75	27			
HA2-1	1	81	10	2	NE	
HA2-2	2	79	269			Submitted for Analysis
HA2-3	3	NA	NA			No sample- organic layer encountered
HA3-1	1	85	475	2	NE	
HA3-2	2	101	1515			Submitted for Analysis
HA3-3	3	NA	NA			No sample-debris layer encountered
HA4-1	1	92	10.7	3	NE	Submitted for Analysis
HA4-2	2	75	-2			
HA4-3	3	91	16			
HA5-1	1	101	-2	3	NE	Submitted for Analysis
HA5-2	2	98	-1			
HA5-3	3	83	-3			
HASedBsn-1	1	89	1165	2	NE	Submitted for Analysis
HASedBsn-2	2	91	1011			
HASedBsn-3	3	NA	NA		3	No sample-water encountered

NOTES:

Approximate sampling depth measured in feet below the ground surface (bgs).

Sample results are presented in "parts per million" (ppm) organic or inorganic vapors.

Initial background reading on Foxboro Toxic Vapor Analyzer (TVA): PID 6.2; FID -10.0

PID Photon ionization detector reports the level of inorganic vapors detected in a resealable sample bag.

FID Flame ionization detector reports the level of organic vapors detected in a resealable sample bag.

NE Not encountered

NA Not analyzed

TABLE 2
Soil Sample Analysis
Iredell County MSWLF
MESCO Project Number G10121.0
September 23, 2010

SAMPLE LOCATION		HABG-2	HA1-1	HA2-2	HA3-2	HA4-1	HA5-1	HASedBsn-1	IHSB Remediation Goals (RGs)
TARGET ANALYTE	Analytical Method								
Nitrate	9056	<.32	<.32	1.5	<.32	<.32	<.32	<.32	25000
Nitrite	9056	<.14	<.14	<.14	<.14	<.14	<.14	<.14	1600
Sulfate	9056	**9.3**	**9.9**	**37**	**13**	**9.2**	**11**	**8.9**	**NE**
Phosphate (as P)	9056	<0.077	<0.077	<0.077	<0.077	<0.077	<0.077	<0.077	0.31
pH	9045D	5.0	5.1	5.3	5.8	5.2	5.1	5.0	**NE**
Mercury	7471	0.012	<0.034	0.014	0.0091	0.015	0.034	0.081	1.0
Antimony	6010B	**19** [1]	**21** [1]	**10**	**9**	**12**	**15**	**10**	6.3
Arsenic	6010B	**37** [1]	**43** [1]	**15**	**6.2**	**10**	**6.8**	**26**	4.4
Barium	6010B	66 [1]	68 [1]	60	100	150	21	39	3100
Beryllium	6010B	2.8 [1]	3 [1]	1.9	1.6	3	0.99	1.7	31
Cadmium	6010B	1.6 [1]	1.2 [1]	0.56	0.46	0.46	0.066	0.6	14
Chromium	6010B	47 [1]	61 [1]	37	14	44	35	30	23000
Cobalt	6010B	**20** [1]	**9.8** [1]	**20**	**18**	**19**	**3.6**	**15**	4.7
Copper	6010B	13	27	18	18	10	18	12	6300
Lead	6010B	35 [1]	32 [1]	24	16	24	30	20	400
Nickel	6010B	28 [1]	30 [1]	18	8.4	22	11	15	31
Selenium	6010B	<3.2 [1]	<3.2 [1]	<1.6 [2]	<1.6 [2]	<1.6 [2]	<1.6 [2]	<1.6 [2]	78
Silver	6010B	<1.6 [1]	<1.6 [1]	<0.16	<0.16	<0.16	<0.16	<0.16	78
Thallium	6010B	**8** [1]	**7.2** [1]	**3.4**	**3.4**	**6.2**	**6.6**	**3**	**NE**
Vanadium	6010B	62 [1]	**81** [1]	51	60	66	**82**	43	79
Zinc	6010B	47 [1]	53 [1]	44	110	63	16	31	4700
Acetone	8260B	0.024	<0.046	0.91	0.27	0.055	0.019	0.02	12000
2-Butanone (MEK)	8260B	<0.0043	<0.0043	0.48	0.11	<0.0043	<0.0043	<0.0043	5600
4-Methyl-2-pentanone (MIBK)	8260B	<0.0023	<0.0023	0.0059	0.0057	<0.0023	<0.0023	<0.0023	1100

Notes:

Sample results are presented in millograms per kilogram (mg/kg), also referred to as "parts per million" (ppm).

Sample results are presented only in cases where they were reported exceeding the laboratory quanitative limits. Data points at other sample locations are presented as "less than the quantitative limit" (I.e., <0.60) for comparison purposes.

IHSB Remediation Goals (RGs) refer to the cleanup goals established by the NCDENR, Division of Waste Management, Inactive Hazardous Sites Branch (IHSB), January 2010 for the protection of groundwater.

NE Indicates that an RG has not been established. In many cases where an RG (allowable limit) has not been established, a detection might be considered an exceedance.

Bold entries indicate exceedance to IHSB RGs.

1 According to data presented in ESC *Report of Analysis*, sample was diluted 10 times prior to/during analysis.

2 According to data presented in ESC *Report of Analysis*, sample was diluted 5 times prior to/during analysis.

TABLE 3
Surface Water Sample Analysis
Iredell County MSWLF, Statesville, NC
MESCO Project Number G10121.0
September 23, 2010

TARGET ANALYTE	Analytical Method	Dilution Factor	SW-SED BEN[1]	SW-Inter Stream[2]	2B Standards[4]	SWSL[5]
Nitrate	9056	1	1300	820	NE[7]	10000
Nitrite	9056	1	<15	<15	2.7	NE[7]
Sulfate	9056	1	6400	<460	NE[7]	250000
BOD	SM5210B	1	<1600	<1600	NE[7]	NE[7]
COD	410.4	1	**20000**	<1700	NE[7]	NE[7]
pH	9040C	1	7.5	7.4	6.0-9.0	NE[7]
Phosphorous, total	365.1	1	97	52	NE[7]	NE[7]
Antimony	6020	1	<0.21	<0.21	640	NE[7]
Arsenic	6020	5	39 [10]	<0.25	10	NE[7]
Beryllium	6020	1	2	<0.12	6.5	NE[7]
Cadmium	6020	1	<0.16	<0.16	2	NE[7]
Copper	6020	5	**44** [10]	<0.52	7	NE[7]
Lead	6020	1	**40**	<0.24	25	NE[7]
Selenium	6020	5	<1.9 [10]	<0.38	5	NE[7]
Thallium	6020	1	<0.19	<0.19	0.47	NE[7]
Zinc	6020	5	**90** [10]	<2.6	50	NE[7]
Mercury	7470A	1	0.11	0.04	0.012	0.2
Barium	6010B	1	200	23	200 mg/L	100
Chromium	6010B	1	45	<1.7	50	10
Cobalt	6010B	1	21	<1.7	270	10
Nickel	6010B	1	66	<5.3	88	50
Silver	6010B	1	<3.3	<3.3	0.06	10
Vanadium	6010B	1	**88**	<2.2	NE[7]	25
None of target analytes detected above MDL	8260B		NR[9]	NR[9]	varies	varies

Notes:

1. Sample collected from sediment basin located at bottom of slope of Phase 3/4 Units as requested. Sample results and referenced standards are presented in micrograms per liter (ug/L).
2. Sample collected from intermmittent stream located at bottom of slope of Phase 3/4 Units as requested. Sample results and referenced standards are presented in ug/L.
3. **<0.010** Indicates that the target compound was detected at a concentration "less than" or below the respective laboratory method detection limits.
4. **2B Standards** refers to the North Carolina Surface Water and Wetlands Standards for Class C waters as promulgated in 15A NCAC 2B.0211.
5. **SWSL** refers to the Solid Waste Section (reporting) Limits
6. **BDL** Below the laboratory method detection limits
7. **NE** Not Established. In many cases where a standard (allowable limit) has not been established, a detection might be considered an exceedance.
8. **Bold** data indicates an exceedance to the referenced standard.
9. **NR** indicates data not recorded.
10. According to data presented in ESC *Report of Analysis,* sample was diluted five (5) times prior to/during analysis.

Laboratory Analysis Report
Chains of Custody

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Tax I.D. 62-0814289

Est. 1970

Mark Brown
Municipal Engineering Services Company
PO Box 97
Garner, NC 27529

Report Summary

Monday September 13, 2010

Report Number: L476708
Samples Received: 09/01/10
Client Project: G10121.0

Description: Iredell County Leachate

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

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

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

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences.
Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-01

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HABG-2FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 09:00

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Nitrate	U	320	1000	ug/kg	9056	09/03/10	1	
Nitrite	U	140	1000	ug/kg	9056	09/03/10	1	
Sulfate	9300	1200	50000	ug/kg	9056	09/03/10	1	
Phosphate as P	U	77.	1000	ug/kg	9056	09/08/10	1	
pH	5.0			su	9045D	09/09/10	1	
Total Solids	78.0			%	2540G	09/07/10	1	
Mercury	12.	5.3	20.	ug/kg	7471	09/03/10	1	
Antimony	19000	3300	10000	ug/kg	6010B	09/10/10	10	
Arsenic	37000	3200	10000	ug/kg	6010B	09/10/10	10	
Barium	66000	500	2500	ug/kg	6010B	09/10/10	10	
Beryllium	2800	150	1000	ug/kg	6010B	09/10/10	10	
Cadmium	1600	400	2500	ug/kg	6010B	09/10/10	10	
Chromium	47000	850	5000	ug/kg	6010B	09/10/10	10	
Cobalt	20000	850	5000	ug/kg	6010B	09/10/10	10	
Copper	13000	210	1000	ug/kg	6010B	09/13/10	1	
Lead	35000	900	2500	ug/kg	6010B	09/10/10	10	
Nickel	28000	2600	10000	ug/kg	6010B	09/10/10	10	
Selenium	U	3200	10000	ug/kg	6010B	09/10/10	10	
Silver	U	1600	5000	ug/kg	6010B	09/10/10	10	
Thallium	8000	4000	10000	ug/kg	6010B	09/10/10	10	
Vanadium	62000	1100	5000	ug/kg	6010B	09/10/10	10	
Zinc	47000	3400	15000	ug/kg	6010B	09/10/10	10	
Volatile Organics								
Acetone	24.	10.	50.	ug/kg	8260B	09/02/10	1	
Acrylonitrile	U	2.6	10.	ug/kg	8260B	09/02/10	1	
Benzene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Bromobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Bromodichloromethane	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Bromoform	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Bromomethane	U	1.6	5.0	ug/kg	8260B	09/02/10	1	
n-Butylbenzene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
sec-Butylbenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
tert-Butylbenzene	U	0.27	1.0	ug/kg	8260B	09/02/10	1	
Carbon tetrachloride	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Chlorobenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Chlorodibromomethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Chloroethane	U	2.0	5.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
Note:
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L476708-01 (PH) - 5.0@20.3c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-01

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HABG-2FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 09:00

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
2-Chloroethyl vinyl ether	U	18.	50.	ug/kg	8260B	09/02/10	1	
Chloroform	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
Chloromethane	U	1.0	2.5	ug/kg	8260B	09/02/10	1	
2-Chlorotoluene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
4-Chlorotoluene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromo-3-Chloropropane	U	1.1	5.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromoethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Dibromomethane	U	0.45	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichlorobenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichlorobenzene	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,4-Dichlorobenzene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Dichlorodifluoromethane	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethane	U	0.43	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloroethane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethene	U	0.53	1.0	ug/kg	8260B	09/02/10	1	
cis-1,2-Dichloroethene	U	0.51	1.0	ug/kg	8260B	09/02/10	1	
trans-1,2-Dichloroethene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloropropane	U	0.60	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloropropene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichloropropane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
cis-1,3-Dichloropropene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
trans-1,3-Dichloropropene	U	0.40	1.0	ug/kg	8260B	09/02/10	1	
2,2-Dichloropropane	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Di-isopropyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Ethylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Hexachloro-1,3-butadiene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Isopropylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
p-Isopropyltoluene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
2-Butanone (MEK)	U	4.3	10.	ug/kg	8260B	09/02/10	1	
Methylene Chloride	U	0.49	5.0	ug/kg	8260B	09/02/10	1	
4-Methyl-2-pentanone (MIBK)	U	2.3	10.	ug/kg	8260B	09/02/10	1	
Methyl tert-butyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Naphthalene	U	0.28	5.0	ug/kg	8260B	09/02/10	1	
n-Propylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Styrene	U	0.24	1.0	ug/kg	8260B	09/02/10	1	
1,1,1,2-Tetrachloroethane	U	0.41	1.0	ug/kg	8260B	09/02/10	1	
1,1,2,2-Tetrachloroethane	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloro-1,2,2-trifluoro	U	0.85	1.0	ug/kg	8260B	09/02/10	1	
Tetrachloroethene	U	0.44	1.0	ug/kg	8260B	09/02/10	1	
Toluene	U	0.33	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichlorobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trichlorobenzene	U	0.38	1.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-01

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HABG-2FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 09:00

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
1,1,1-Trichloroethane	U	0.47	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloroethane	U	0.54	1.0	ug/kg	8260B	09/02/10	1	
Trichloroethene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Trichlorofluoromethane	U	0.70	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichloropropane	U	0.68	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,3,5-Trimethylbenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Vinyl chloride	U	0.52	1.0	ug/kg	8260B	09/02/10	1	
Xylenes, Total	U	0.46	3.0	ug/kg	8260B	09/02/10	1	
Surrogate Recovery								
Toluene-d8	105.			% Rec.	8260B	09/02/10	1	84
Dibromofluoromethane	131.			% Rec.	8260B	09/02/10	1	80
4-Bromofluorobenzene	95.3			% Rec.	8260B	09/02/10	1	59

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-02

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA1-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 09:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Nitrate	U	320	1000	ug/kg	9056	09/03/10	1	
Nitrite	U	140	1000	ug/kg	9056	09/03/10	1	
Sulfate	9900	1200	50000	ug/kg	9056	09/03/10	1	
Phosphate as P	U	77.	1000	ug/kg	9056	09/08/10	1	
pH	5.1			su	9045D	09/09/10	1	
Total Solids	69.7			%	2540G	09/07/10	1	
Mercury	34.	5.3	20.	ug/kg	7471	09/03/10	1	
Antimony	21000	3300	10000	ug/kg	6010B	09/10/10	10	
Arsenic	43000	3200	10000	ug/kg	6010B	09/10/10	10	
Barium	68000	500	2500	ug/kg	6010B	09/10/10	10	
Beryllium	3000	150	1000	ug/kg	6010B	09/10/10	10	
Cadmium	1200	400	2500	ug/kg	6010B	09/10/10	10	
Chromium	61000	850	5000	ug/kg	6010B	09/10/10	10	
Cobalt	9800	850	5000	ug/kg	6010B	09/10/10	10	
Copper	27000	210	1000	ug/kg	6010B	09/13/10	1	
Lead	32000	900	2500	ug/kg	6010B	09/10/10	10	
Nickel	30000	2600	10000	ug/kg	6010B	09/10/10	10	
Selenium	U	3200	10000	ug/kg	6010B	09/10/10	10	
Silver	U	1600	5000	ug/kg	6010B	09/10/10	10	
Thallium	7200	4000	10000	ug/kg	6010B	09/10/10	10	
Vanadium	81000	1100	5000	ug/kg	6010B	09/10/10	10	
Zinc	53000	3400	15000	ug/kg	6010B	09/10/10	10	
Volatile Organics								
Acetone	46.	10.	50.	ug/kg	8260B	09/02/10	1	
Acrylonitrile	U	2.6	10.	ug/kg	8260B	09/02/10	1	
Benzene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Bromobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Bromodichloromethane	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Bromoform	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Bromomethane	U	1.6	5.0	ug/kg	8260B	09/02/10	1	
n-Butylbenzene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
sec-Butylbenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
tert-Butylbenzene	U	0.27	1.0	ug/kg	8260B	09/02/10	1	
Carbon tetrachloride	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Chlorobenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Chlorodibromomethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Chloroethane	U	2.0	5.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-02

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA1-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 09:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
2-Chloroethyl vinyl ether	U	18.	50.	ug/kg	8260B	09/02/10	1	
Chloroform	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
Chloromethane	U	1.0	2.5	ug/kg	8260B	09/02/10	1	
2-Chlorotoluene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
4-Chlorotoluene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromo-3-Chloropropane	U	1.1	5.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromoethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Dibromomethane	U	0.45	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichlorobenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichlorobenzene	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,4-Dichlorobenzene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Dichlorodifluoromethane	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethane	U	0.43	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloroethane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethene	U	0.53	1.0	ug/kg	8260B	09/02/10	1	
cis-1,2-Dichloroethene	U	0.51	1.0	ug/kg	8260B	09/02/10	1	
trans-1,2-Dichloroethene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloropropane	U	0.60	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloropropene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichloropropane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
cis-1,3-Dichloropropene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
trans-1,3-Dichloropropene	U	0.40	1.0	ug/kg	8260B	09/02/10	1	
2,2-Dichloropropane	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Di-isopropyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Ethylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Hexachloro-1,3-butadiene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Isopropylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
p-Isopropyltoluene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
2-Butanone (MEK)	U	4.3	10.	ug/kg	8260B	09/02/10	1	
Methylene Chloride	U	0.49	5.0	ug/kg	8260B	09/02/10	1	
4-Methyl-2-pentanone (MIBK)	U	2.3	10.	ug/kg	8260B	09/02/10	1	
Methyl tert-butyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Naphthalene	U	0.28	5.0	ug/kg	8260B	09/02/10	1	
n-Propylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Styrene	U	0.24	1.0	ug/kg	8260B	09/02/10	1	
1,1,1,2-Tetrachloroethane	U	0.41	1.0	ug/kg	8260B	09/02/10	1	
1,1,2,2-Tetrachloroethane	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloro-1,2,2-trifluoro	U	0.85	1.0	ug/kg	8260B	09/02/10	1	
Tetrachloroethene	U	0.44	1.0	ug/kg	8260B	09/02/10	1	
Toluene	U	0.33	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichlorobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trichlorobenzene	U	0.38	1.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
Note:
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-02

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA1-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 09:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
1,1,1-Trichloroethane	U	0.47	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloroethane	U	0.54	1.0	ug/kg	8260B	09/02/10	1	
Trichloroethene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Trichlorofluoromethane	U	0.70	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichloropropane	U	0.68	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,3,5-Trimethylbenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Vinyl chloride	U	0.52	1.0	ug/kg	8260B	09/02/10	1	
Xylenes, Total	U	0.46	3.0	ug/kg	8260B	09/02/10	1	
Surrogate Recovery								
Toluene-d8	102.			% Rec.	8260B	09/02/10	1	84
Dibromofluoromethane	133.			% Rec.	8260B	09/02/10	1	80
4-Bromofluorobenzene	96.1			% Rec.	8260B	09/02/10	1	59

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-03

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA2-2FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 09:45

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Nitrate	1500	320	1000	ug/kg	9056	09/03/10	1	
Nitrite	U	140	1000	ug/kg	9056	09/03/10	1	
Sulfate	37000	1200	50000	ug/kg	9056	09/03/10	1	
Phosphate as P	U	77.	1000	ug/kg	9056	09/08/10	1	
pH	5.3			su	9045D	09/09/10	1	
Total Solids	77.5			%	2540G	09/07/10	1	
Mercury	14.	5.3	20.	ug/kg	7471	09/03/10	1	
Antimony	10000	330	1000	ug/kg	6010B	09/10/10	1	
Arsenic	15000	320	1000	ug/kg	6010B	09/10/10	1	
Barium	60000	50.	250	ug/kg	6010B	09/10/10	1	
Beryllium	1900	15.	100	ug/kg	6010B	09/10/10	1	
Cadmium	560	40.	250	ug/kg	6010B	09/10/10	1	
Chromium	37000	85.	500	ug/kg	6010B	09/10/10	1	
Cobalt	20000	85.	500	ug/kg	6010B	09/10/10	1	
Copper	18000	210	1000	ug/kg	6010B	09/13/10	1	
Lead	24000	90.	250	ug/kg	6010B	09/10/10	1	
Nickel	18000	260	1000	ug/kg	6010B	09/10/10	1	
Selenium	U	1600	5000	ug/kg	6010B	09/10/10	5	
Silver	U	160	500	ug/kg	6010B	09/10/10	1	
Thallium	3400	400	1000	ug/kg	6010B	09/10/10	1	
Vanadium	51000	110	500	ug/kg	6010B	09/10/10	1	
Zinc	44000	340	1500	ug/kg	6010B	09/10/10	1	
Volatile Organics								
Acetone	910	10.	50.	ug/kg	8260B	09/02/10	1	
Acrylonitrile	U	2.6	10.	ug/kg	8260B	09/02/10	1	
Benzene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Bromobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Bromodichloromethane	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Bromoform	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Bromomethane	U	1.6	5.0	ug/kg	8260B	09/02/10	1	
n-Butylbenzene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
sec-Butylbenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
tert-Butylbenzene	U	0.27	1.0	ug/kg	8260B	09/02/10	1	
Carbon tetrachloride	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Chlorobenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Chlorodibromomethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Chloroethane	U	2.0	5.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
Note:
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L476708-03 (PH) - 5.3@20.3c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-03

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA2-2FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 09:45

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
2-Chloroethyl vinyl ether	U	18.	50.	ug/kg	8260B	09/02/10	1	
Chloroform	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
Chloromethane	U	1.0	2.5	ug/kg	8260B	09/02/10	1	
2-Chlorotoluene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
4-Chlorotoluene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromo-3-Chloropropane	U	1.1	5.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromoethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Dibromomethane	U	0.45	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichlorobenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichlorobenzene	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,4-Dichlorobenzene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Dichlorodifluoromethane	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethane	U	0.43	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloroethane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethene	U	0.53	1.0	ug/kg	8260B	09/02/10	1	
cis-1,2-Dichloroethene	U	0.51	1.0	ug/kg	8260B	09/02/10	1	
trans-1,2-Dichloroethene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloropropane	U	0.60	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloropropene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichloropropane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
cis-1,3-Dichloropropene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
trans-1,3-Dichloropropene	U	0.40	1.0	ug/kg	8260B	09/02/10	1	
2,2-Dichloropropane	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Di-isopropyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Ethylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Hexachloro-1,3-butadiene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Isopropylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
p-Isopropyltoluene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
2-Butanone (MEK)	480	4.3	10.	ug/kg	8260B	09/02/10	1	
Methylene Chloride	U	0.49	5.0	ug/kg	8260B	09/02/10	1	
4-Methyl-2-pentanone (MIBK)	5.9	2.3	10.	ug/kg	8260B	09/02/10	1	
Methyl tert-butyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Naphthalene	U	0.28	5.0	ug/kg	8260B	09/02/10	1	
n-Propylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Styrene	U	0.24	1.0	ug/kg	8260B	09/02/10	1	
1,1,1,2-Tetrachloroethane	U	0.41	1.0	ug/kg	8260B	09/02/10	1	
1,1,2,2-Tetrachloroethane	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloro-1,2,2-trifluoro	U	0.85	1.0	ug/kg	8260B	09/02/10	1	
Tetrachloroethene	U	0.44	1.0	ug/kg	8260B	09/02/10	1	
Toluene	U	0.33	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichlorobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trichlorobenzene	U	0.38	1.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-03

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA2-2FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 09:45

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
1,1,1-Trichloroethane	U	0.47	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloroethane	U	0.54	1.0	ug/kg	8260B	09/02/10	1	
Trichloroethene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Trichlorofluoromethane	U	0.70	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichloropropane	U	0.68	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,3,5-Trimethylbenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Vinyl chloride	U	0.52	1.0	ug/kg	8260B	09/02/10	1	
Xylenes, Total	U	0.46	3.0	ug/kg	8260B	09/02/10	1	
Surrogate Recovery								
Toluene-d8	106.			% Rec.	8260B	09/02/10	1	84
Dibromofluoromethane	135.			% Rec.	8260B	09/02/10	1	80
4-Bromofluorobenzene	93.9			% Rec.	8260B	09/02/10	1	59

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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-04

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA3-2FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 10:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Nitrate	U	320	1000	ug/kg	9056	09/03/10	1	
Nitrite	U	140	1000	ug/kg	9056	09/03/10	1	
Sulfate	13000	1200	50000	ug/kg	9056	09/03/10	1	
Phosphate as P	U	77.	1000	ug/kg	9056	09/08/10	1	
pH	5.8			su	9045D	09/09/10	1	
Total Solids	80.6			%	2540G	09/07/10	1	
Mercury	9.1	5.3	20.	ug/kg	7471	09/03/10	1	
Antimony	9000	330	1000	ug/kg	6010B	09/10/10	1	
Arsenic	6200	320	1000	ug/kg	6010B	09/10/10	1	
Barium	100000	50.	250	ug/kg	6010B	09/10/10	1	
Beryllium	1600	15.	100	ug/kg	6010B	09/10/10	1	
Cadmium	460	40.	250	ug/kg	6010B	09/10/10	1	
Chromium	14000	85.	500	ug/kg	6010B	09/10/10	1	
Cobalt	18000	85.	500	ug/kg	6010B	09/10/10	1	
Copper	18000	210	1000	ug/kg	6010B	09/13/10	1	
Lead	16000	90.	250	ug/kg	6010B	09/10/10	1	
Nickel	8400	260	1000	ug/kg	6010B	09/10/10	1	
Selenium	U	1600	5000	ug/kg	6010B	09/10/10	5	
Silver	U	160	500	ug/kg	6010B	09/10/10	1	
Thallium	3400	400	1000	ug/kg	6010B	09/10/10	1	
Vanadium	60000	110	500	ug/kg	6010B	09/10/10	1	
Zinc	110000	340	1500	ug/kg	6010B	09/10/10	1	
Volatile Organics								
Acetone	270	10.	50.	ug/kg	8260B	09/02/10	1	
Acrylonitrile	U	2.6	10.	ug/kg	8260B	09/02/10	1	
Benzene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Bromobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Bromodichloromethane	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Bromoform	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Bromomethane	U	1.6	5.0	ug/kg	8260B	09/02/10	1	
n-Butylbenzene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
sec-Butylbenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
tert-Butylbenzene	U	0.27	1.0	ug/kg	8260B	09/02/10	1	
Carbon tetrachloride	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Chlorobenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Chlorodibromomethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Chloroethane	U	2.0	5.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-04

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA3-2FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 10:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
2-Chloroethyl vinyl ether	U	18.	50.	ug/kg	8260B	09/02/10	1	
Chloroform	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
Chloromethane	U	1.0	2.5	ug/kg	8260B	09/02/10	1	
2-Chlorotoluene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
4-Chlorotoluene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromo-3-Chloropropane	U	1.1	5.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromoethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Dibromomethane	U	0.45	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichlorobenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichlorobenzene	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,4-Dichlorobenzene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Dichlorodifluoromethane	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethane	U	0.43	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloroethane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethene	U	0.53	1.0	ug/kg	8260B	09/02/10	1	
cis-1,2-Dichloroethene	U	0.51	1.0	ug/kg	8260B	09/02/10	1	
trans-1,2-Dichloroethene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloropropane	U	0.60	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloropropene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichloropropane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
cis-1,3-Dichloropropene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
trans-1,3-Dichloropropene	U	0.40	1.0	ug/kg	8260B	09/02/10	1	
2,2-Dichloropropane	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Di-isopropyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Ethylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Hexachloro-1,3-butadiene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Isopropylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
p-Isopropyltoluene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
2-Butanone (MEK)	110	4.3	10.	ug/kg	8260B	09/02/10	1	
Methylene Chloride	U	0.49	5.0	ug/kg	8260B	09/02/10	1	
4-Methyl-2-pentanone (MIBK)	5.7	2.3	10.	ug/kg	8260B	09/02/10	1	
Methyl tert-butyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Naphthalene	U	0.28	5.0	ug/kg	8260B	09/02/10	1	
n-Propylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Styrene	U	0.24	1.0	ug/kg	8260B	09/02/10	1	
1,1,1,2-Tetrachloroethane	U	0.41	1.0	ug/kg	8260B	09/02/10	1	
1,1,2,2-Tetrachloroethane	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloro-1,2,2-trifluoro	U	0.85	1.0	ug/kg	8260B	09/02/10	1	
Tetrachloroethene	U	0.44	1.0	ug/kg	8260B	09/02/10	1	
Toluene	U	0.33	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichlorobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trichlorobenzene	U	0.38	1.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-04

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA3-2FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 10:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
1,1,1-Trichloroethane	U	0.47	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloroethane	U	0.54	1.0	ug/kg	8260B	09/02/10	1	
Trichloroethene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Trichlorofluoromethane	U	0.70	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichloropropane	U	0.68	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,3,5-Trimethylbenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Vinyl chloride	U	0.52	1.0	ug/kg	8260B	09/02/10	1	
Xylenes, Total	U	0.46	3.0	ug/kg	8260B	09/02/10	1	
Surrogate Recovery								
Toluene-d8	102.			% Rec.	8260B	09/02/10	1	84
Dibromofluoromethane	131.			% Rec.	8260B	09/02/10	1	80
4-Bromofluorobenzene	96.4			% Rec.	8260B	09/02/10	1	59

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
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Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-05

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA4-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 10:30

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Nitrate	U	320	1000	ug/kg	9056	09/03/10	1	
Nitrite	U	140	1000	ug/kg	9056	09/03/10	1	
Sulfate	9200	1200	50000	ug/kg	9056	09/03/10	1	
Phosphate as P	U	77.	1000	ug/kg	9056	09/08/10	1	
pH	5.2			su	9045D	09/09/10	1	
Total Solids	81.4			%	2540G	09/07/10	1	
Mercury	15.	5.3	20.	ug/kg	7471	09/03/10	1	
Antimony	12000	330	1000	ug/kg	6010B	09/10/10	1	
Arsenic	10000	320	1000	ug/kg	6010B	09/10/10	1	
Barium	150000	50.	250	ug/kg	6010B	09/10/10	1	
Beryllium	3000	15.	100	ug/kg	6010B	09/10/10	1	
Cadmium	460	40.	250	ug/kg	6010B	09/10/10	1	
Chromium	44000	85.	500	ug/kg	6010B	09/10/10	1	
Cobalt	19000	85.	500	ug/kg	6010B	09/10/10	1	
Copper	10000	210	1000	ug/kg	6010B	09/13/10	1	
Lead	24000	90.	250	ug/kg	6010B	09/10/10	1	
Nickel	22000	260	1000	ug/kg	6010B	09/10/10	1	
Selenium	U	1600	5000	ug/kg	6010B	09/10/10	5	
Silver	U	160	500	ug/kg	6010B	09/10/10	1	
Thallium	6200	400	1000	ug/kg	6010B	09/10/10	1	
Vanadium	66000	110	500	ug/kg	6010B	09/10/10	1	
Zinc	63000	340	1500	ug/kg	6010B	09/10/10	1	
Volatile Organics								
Acetone	55.	10.	50.	ug/kg	8260B	09/02/10	1	
Acrylonitrile	U	2.6	10.	ug/kg	8260B	09/02/10	1	
Benzene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Bromobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Bromodichloromethane	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Bromoform	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Bromomethane	U	1.6	5.0	ug/kg	8260B	09/02/10	1	
n-Butylbenzene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
sec-Butylbenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
tert-Butylbenzene	U	0.27	1.0	ug/kg	8260B	09/02/10	1	
Carbon tetrachloride	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Chlorobenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Chlorodibromomethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Chloroethane	U	2.0	5.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
Note:
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L476708-05 (PH) - 5.2@20.5c

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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-05

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA4-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 10:30

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
2-Chloroethyl vinyl ether	U	18.	50.	ug/kg	8260B	09/02/10	1	
Chloroform	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
Chloromethane	U	1.0	2.5	ug/kg	8260B	09/02/10	1	
2-Chlorotoluene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
4-Chlorotoluene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromo-3-Chloropropane	U	1.1	5.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromoethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Dibromomethane	U	0.45	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichlorobenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichlorobenzene	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,4-Dichlorobenzene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Dichlorodifluoromethane	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethane	U	0.43	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloroethane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethene	U	0.53	1.0	ug/kg	8260B	09/02/10	1	
cis-1,2-Dichloroethene	U	0.51	1.0	ug/kg	8260B	09/02/10	1	
trans-1,2-Dichloroethene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloropropane	U	0.60	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloropropene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichloropropane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
cis-1,3-Dichloropropene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
trans-1,3-Dichloropropene	U	0.40	1.0	ug/kg	8260B	09/02/10	1	
2,2-Dichloropropane	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Di-isopropyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Ethylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Hexachloro-1,3-butadiene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Isopropylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
p-Isopropyltoluene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
2-Butanone (MEK)	U	4.3	10.	ug/kg	8260B	09/02/10	1	
Methylene Chloride	U	0.49	5.0	ug/kg	8260B	09/02/10	1	
4-Methyl-2-pentanone (MIBK)	U	2.3	10.	ug/kg	8260B	09/02/10	1	
Methyl tert-butyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Naphthalene	U	0.28	5.0	ug/kg	8260B	09/02/10	1	
n-Propylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Styrene	U	0.24	1.0	ug/kg	8260B	09/02/10	1	
1,1,1,2-Tetrachloroethane	U	0.41	1.0	ug/kg	8260B	09/02/10	1	
1,1,2,2-Tetrachloroethane	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloro-1,2,2-trifluoro	U	0.85	1.0	ug/kg	8260B	09/02/10	1	
Tetrachloroethene	U	0.44	1.0	ug/kg	8260B	09/02/10	1	
Toluene	U	0.33	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichlorobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trichlorobenzene	U	0.38	1.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
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Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-05

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA4-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 10:30

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
1,1,1-Trichloroethane	U	0.47	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloroethane	U	0.54	1.0	ug/kg	8260B	09/02/10	1	
Trichloroethene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Trichlorofluoromethane	U	0.70	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichloropropane	U	0.68	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,3,5-Trimethylbenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Vinyl chloride	U	0.52	1.0	ug/kg	8260B	09/02/10	1	
Xylenes, Total	U	0.46	3.0	ug/kg	8260B	09/02/10	1	
Surrogate Recovery								
Toluene-d8	103.			% Rec.	8260B	09/02/10	1	84
Dibromofluoromethane	134.			% Rec.	8260B	09/02/10	1	80
4-Bromofluorobenzene	101.			% Rec.	8260B	09/02/10	1	59

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September 13, 2010

ESC Sample # : L476708-06

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA5-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 11:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Nitrate	U	320	1000	ug/kg	9056	09/03/10	1	
Nitrite	U	140	1000	ug/kg	9056	09/03/10	1	
Sulfate	11000	1200	50000	ug/kg	9056	09/03/10	1	
Phosphate as P	U	77.	1000	ug/kg	9056	09/08/10	1	
pH	5.1			su	9045D	09/09/10	1	
Total Solids	78.0			%	2540G	09/07/10	1	
Mercury	34.	5.3	20.	ug/kg	7471	09/03/10	1	
Antimony	15000	330	1000	ug/kg	6010B	09/09/10	1	
Arsenic	6800	320	1000	ug/kg	6010B	09/09/10	1	
Barium	21000	50.	250	ug/kg	6010B	09/09/10	1	
Beryllium	990	15.	100	ug/kg	6010B	09/09/10	1	
Cadmium	66.	40.	250	ug/kg	6010B	09/09/10	1	
Chromium	35000	85.	500	ug/kg	6010B	09/09/10	1	
Cobalt	3600	85.	500	ug/kg	6010B	09/09/10	1	
Copper	18000	210	1000	ug/kg	6010B	09/13/10	1	
Lead	30000	90.	250	ug/kg	6010B	09/09/10	1	
Nickel	11000	260	1000	ug/kg	6010B	09/09/10	1	
Selenium	U	1600	5000	ug/kg	6010B	09/10/10	5	
Silver	U	160	500	ug/kg	6010B	09/09/10	1	
Thallium	6600	400	1000	ug/kg	6010B	09/09/10	1	
Vanadium	82000	110	500	ug/kg	6010B	09/09/10	1	
Zinc	16000	340	1500	ug/kg	6010B	09/09/10	1	
Volatile Organics								
Acetone	19.	10.	50.	ug/kg	8260B	09/02/10	1	
Acrylonitrile	U	2.6	10.	ug/kg	8260B	09/02/10	1	
Benzene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Bromobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Bromodichloromethane	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Bromoform	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Bromomethane	U	1.6	5.0	ug/kg	8260B	09/02/10	1	
n-Butylbenzene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
sec-Butylbenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
tert-Butylbenzene	U	0.27	1.0	ug/kg	8260B	09/02/10	1	
Carbon tetrachloride	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Chlorobenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Chlorodibromomethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Chloroethane	U	2.0	5.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
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September 13, 2010

ESC Sample # : L476708-06

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA5-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 11:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
2-Chloroethyl vinyl ether	U	18.	50.	ug/kg	8260B	09/02/10	1	
Chloroform	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
Chloromethane	U	1.0	2.5	ug/kg	8260B	09/02/10	1	
2-Chlorotoluene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
4-Chlorotoluene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromo-3-Chloropropane	U	1.1	5.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromoethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Dibromomethane	U	0.45	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichlorobenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichlorobenzene	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,4-Dichlorobenzene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Dichlorodifluoromethane	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethane	U	0.43	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloroethane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethene	U	0.53	1.0	ug/kg	8260B	09/02/10	1	
cis-1,2-Dichloroethene	U	0.51	1.0	ug/kg	8260B	09/02/10	1	
trans-1,2-Dichloroethene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloropropane	U	0.60	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloropropene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichloropropane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
cis-1,3-Dichloropropene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
trans-1,3-Dichloropropene	U	0.40	1.0	ug/kg	8260B	09/02/10	1	
2,2-Dichloropropane	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Di-isopropyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Ethylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Hexachloro-1,3-butadiene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Isopropylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
p-Isopropyltoluene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
2-Butanone (MEK)	U	4.3	10.	ug/kg	8260B	09/02/10	1	
Methylene Chloride	U	0.49	5.0	ug/kg	8260B	09/02/10	1	
4-Methyl-2-pentanone (MIBK)	U	2.3	10.	ug/kg	8260B	09/02/10	1	
Methyl tert-butyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Naphthalene	U	0.28	5.0	ug/kg	8260B	09/02/10	1	
n-Propylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Styrene	U	0.24	1.0	ug/kg	8260B	09/02/10	1	
1,1,1,2-Tetrachloroethane	U	0.41	1.0	ug/kg	8260B	09/02/10	1	
1,1,2,2-Tetrachloroethane	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloro-1,2,2-trifluoro	U	0.85	1.0	ug/kg	8260B	09/02/10	1	
Tetrachloroethene	U	0.44	1.0	ug/kg	8260B	09/02/10	1	
Toluene	U	0.33	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichlorobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trichlorobenzene	U	0.38	1.0	ug/kg	8260B	09/02/10	1	

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September 13, 2010

ESC Sample # : L476708-06

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : HA5-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 11:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
1,1,1-Trichloroethane	U	0.47	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloroethane	U	0.54	1.0	ug/kg	8260B	09/02/10	1	
Trichloroethene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Trichlorofluoromethane	U	0.70	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichloropropane	U	0.68	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,3,5-Trimethylbenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Vinyl chloride	U	0.52	1.0	ug/kg	8260B	09/02/10	1	
Xylenes, Total	U	0.46	3.0	ug/kg	8260B	09/02/10	1	
Surrogate Recovery								
Toluene-d8	102.			% Rec.	8260B	09/02/10	1	84
Dibromofluoromethane	131.			% Rec.	8260B	09/02/10	1	80
4-Bromofluorobenzene	97.6			% Rec.	8260B	09/02/10	1	59

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
Note:
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Reported: 09/13/10 09:49 Printed: 09/13/10 09:49
L476708-06 (PH) - 5.1@20.2c

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-07

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : SED BEN-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 11:32

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Nitrate	U	320	1000	ug/kg	9056	09/05/10	1	
Nitrite	U	140	1000	ug/kg	9056	09/05/10	1	
Sulfate	8900	1200	50000	ug/kg	9056	09/05/10	1	
Phosphate as P	U	77.	1000	ug/kg	9056	09/05/10	1	
pH	5.0			su	9045D	09/09/10	1	
Total Solids	85.1			%	2540G	09/07/10	1	
Mercury	8.1	5.3	20.	ug/kg	7471	09/03/10	1	
Antimony	10000	330	1000	ug/kg	6010B	09/10/10	1	
Arsenic	26000	320	1000	ug/kg	6010B	09/10/10	1	
Barium	39000	50.	250	ug/kg	6010B	09/10/10	1	
Beryllium	1700	15.	100	ug/kg	6010B	09/10/10	1	
Cadmium	600	40.	250	ug/kg	6010B	09/10/10	1	
Chromium	30000	85.	500	ug/kg	6010B	09/10/10	1	
Cobalt	15000	85.	500	ug/kg	6010B	09/10/10	1	
Copper	12000	1000	5000	ug/kg	6010B	09/13/10	5	
Lead	20000	90.	250	ug/kg	6010B	09/10/10	1	
Nickel	15000	260	1000	ug/kg	6010B	09/10/10	1	
Selenium	U	1600	5000	ug/kg	6010B	09/10/10	5	
Silver	U	160	500	ug/kg	6010B	09/10/10	1	
Thallium	3000	400	1000	ug/kg	6010B	09/10/10	1	
Vanadium	43000	110	500	ug/kg	6010B	09/10/10	1	
Zinc	31000	340	1500	ug/kg	6010B	09/10/10	1	
Volatile Organics								
Acetone	20.	10.	50.	ug/kg	8260B	09/02/10	1	
Acrylonitrile	U	2.6	10.	ug/kg	8260B	09/02/10	1	
Benzene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Bromobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Bromodichloromethane	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Bromoform	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Bromomethane	U	1.6	5.0	ug/kg	8260B	09/02/10	1	
n-Butylbenzene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
sec-Butylbenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
tert-Butylbenzene	U	0.27	1.0	ug/kg	8260B	09/02/10	1	
Carbon tetrachloride	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
Chlorobenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
Chlorodibromomethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Chloroethane	U	2.0	5.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
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L476708-07 (PH) - 5.0@20.4c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-07

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : SED BEN-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 11:32

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
2-Chloroethyl vinyl ether	U	18.	50.	ug/kg	8260B	09/02/10	1	
Chloroform	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
Chloromethane	U	1.0	2.5	ug/kg	8260B	09/02/10	1	
2-Chlorotoluene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
4-Chlorotoluene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromo-3-Chloropropane	U	1.1	5.0	ug/kg	8260B	09/02/10	1	
1,2-Dibromoethane	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
Dibromomethane	U	0.45	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichlorobenzene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichlorobenzene	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,4-Dichlorobenzene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Dichlorodifluoromethane	U	0.43	5.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethane	U	0.43	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloroethane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloroethene	U	0.53	1.0	ug/kg	8260B	09/02/10	1	
cis-1,2-Dichloroethene	U	0.51	1.0	ug/kg	8260B	09/02/10	1	
trans-1,2-Dichloroethene	U	0.42	1.0	ug/kg	8260B	09/02/10	1	
1,2-Dichloropropane	U	0.60	1.0	ug/kg	8260B	09/02/10	1	
1,1-Dichloropropene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
1,3-Dichloropropane	U	0.38	1.0	ug/kg	8260B	09/02/10	1	
cis-1,3-Dichloropropene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
trans-1,3-Dichloropropene	U	0.40	1.0	ug/kg	8260B	09/02/10	1	
2,2-Dichloropropane	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Di-isopropyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Ethylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Hexachloro-1,3-butadiene	U	0.35	1.0	ug/kg	8260B	09/02/10	1	
Isopropylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
p-Isopropyltoluene	U	0.31	1.0	ug/kg	8260B	09/02/10	1	
2-Butanone (MEK)	U	4.3	10.	ug/kg	8260B	09/02/10	1	
Methylene Chloride	U	0.49	5.0	ug/kg	8260B	09/02/10	1	
4-Methyl-2-pentanone (MIBK)	U	2.3	10.	ug/kg	8260B	09/02/10	1	
Methyl tert-butyl ether	U	0.36	1.0	ug/kg	8260B	09/02/10	1	
Naphthalene	U	0.28	5.0	ug/kg	8260B	09/02/10	1	
n-Propylbenzene	U	0.32	1.0	ug/kg	8260B	09/02/10	1	
Styrene	U	0.24	1.0	ug/kg	8260B	09/02/10	1	
1,1,1,2-Tetrachloroethane	U	0.41	1.0	ug/kg	8260B	09/02/10	1	
1,1,2,2-Tetrachloroethane	U	0.29	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloro-1,2,2-trifluoro	U	0.85	1.0	ug/kg	8260B	09/02/10	1	
Tetrachloroethene	U	0.44	1.0	ug/kg	8260B	09/02/10	1	
Toluene	U	0.33	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichlorobenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trichlorobenzene	U	0.38	1.0	ug/kg	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 13, 2010

ESC Sample # : L476708-07

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : SED BEN-1FT

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 11:32

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
1,1,1-Trichloroethane	U	0.47	1.0	ug/kg	8260B	09/02/10	1	
1,1,2-Trichloroethane	U	0.54	1.0	ug/kg	8260B	09/02/10	1	
Trichloroethene	U	0.34	1.0	ug/kg	8260B	09/02/10	1	
Trichlorofluoromethane	U	0.70	5.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trichloropropane	U	0.68	1.0	ug/kg	8260B	09/02/10	1	
1,2,4-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,2,3-Trimethylbenzene	U	0.33	1.0	ug/kg	8260B	09/02/10	1	
1,3,5-Trimethylbenzene	U	0.30	1.0	ug/kg	8260B	09/02/10	1	
Vinyl chloride	U	0.52	1.0	ug/kg	8260B	09/02/10	1	
Xylenes, Total	U	0.46	3.0	ug/kg	8260B	09/02/10	1	
Surrogate Recovery								
Toluene-d8	104.			% Rec.	8260B	09/02/10	1	84
Dibromofluoromethane	130.			% Rec.	8260B	09/02/10	1	80
4-Bromofluorobenzene	109.			% Rec.	8260B	09/02/10	1	59

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
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L476708-07 (PH) - 5.0@20.4c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L476708-01	WG497289	SAMP	Cadmium	R1371448	J
	WG497289	SAMP	Selenium	R1371448	O
	WG497289	SAMP	Silver	R1371448	O
	WG497289	SAMP	Thallium	R1371448	J
	WG496522	SAMP	Mercury	R1362990	J
	WG496596	SAMP	Sulfate	R1363808	J
	WG496572	SAMP	Acetone	R1360088	J
L476708-02	WG497289	SAMP	Cadmium	R1371448	J
	WG497289	SAMP	Selenium	R1371448	O
	WG497289	SAMP	Silver	R1371448	O
	WG497289	SAMP	Thallium	R1371448	J
	WG496596	SAMP	Sulfate	R1363808	J
	WG496572	SAMP	Acetone	R1360088	J
L476708-03	WG497289	SAMP	Selenium	R1371448	O
	WG496522	SAMP	Mercury	R1362990	J
	WG496596	SAMP	Sulfate	R1363808	J
	WG496572	SAMP	4-Methyl-2-pentanone (MIBK)	R1360088	J
L476708-04	WG497289	SAMP	Selenium	R1371448	O
	WG496522	SAMP	Mercury	R1362990	J
	WG496596	SAMP	Sulfate	R1363808	J
	WG496572	SAMP	4-Methyl-2-pentanone (MIBK)	R1360088	J
L476708-05	WG497289	SAMP	Selenium	R1371448	O
	WG496522	SAMP	Mercury	R1362990	J
	WG496596	SAMP	Sulfate	R1363808	J
L476708-06	WG497289	SAMP	Cadmium	R1371448	J
	WG497289	SAMP	Selenium	R1371448	O
	WG496596	SAMP	Sulfate	R1363808	J
	WG496572	SAMP	Acetone	R1360088	J
L476708-07	WG497946	SAMP	Copper	R1372071	J3
	WG497289	SAMP	Selenium	R1371448	O
	WG496522	SAMP	Mercury	R1362990	J
	WG496891	SAMP	Sulfate	R1365248	J
	WG496572	SAMP	Acetone	R1360088	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J3	The associated batch QC was outside the established quality control range for precision.
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

Qualifier Report Information

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

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
09/13/10 at 09:49:59

TSR Signing Reports: 350
R5 - Desired TAT

Sample: L476708-01 Account: MUNENGGNC Received: 09/01/10 09:00 Due Date: 09/09/10 00:00 RPT Date: 09/13/10 09:49

Sample: L476708-02 Account: MUNENGGNC Received: 09/01/10 09:00 Due Date: 09/09/10 00:00 RPT Date: 09/13/10 09:49

Sample: L476708-03 Account: MUNENGGNC Received: 09/01/10 09:00 Due Date: 09/09/10 00:00 RPT Date: 09/13/10 09:49

Sample: L476708-04 Account: MUNENGGNC Received: 09/01/10 09:00 Due Date: 09/09/10 00:00 RPT Date: 09/13/10 09:49

Sample: L476708-05 Account: MUNENGGNC Received: 09/01/10 09:00 Due Date: 09/09/10 00:00 RPT Date: 09/13/10 09:49

Sample: L476708-06 Account: MUNENGGNC Received: 09/01/10 09:00 Due Date: 09/09/10 00:00 RPT Date: 09/13/10 09:49

Sample: L476708-07 Account: MUNENGGNC Received: 09/01/10 09:00 Due Date: 09/09/10 00:00 RPT Date: 09/13/10 09:49

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Est. 1970

Municipal Engineering Services Company
Mark Brown
PO Box 97

Garner, NC 27529

Quality Assurance Report
Level II

L476708

September 13, 2010

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/kg			WG496572	09/02/10 10:36
1,1,1-Trichloroethane	< .001	mg/kg			WG496572	09/02/10 10:36
1,1,2,2-Tetrachloroethane	< .001	mg/kg			WG496572	09/02/10 10:36
1,1,2-Trichloroethane	< .001	mg/kg			WG496572	09/02/10 10:36
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/kg			WG496572	09/02/10 10:36
1,1-Dichloroethane	< .001	mg/kg			WG496572	09/02/10 10:36
1,1-Dichloroethene	< .001	mg/kg			WG496572	09/02/10 10:36
1,1-Dichloropropene	< .001	mg/kg			WG496572	09/02/10 10:36
1,2,3-Trichlorobenzene	< .001	mg/kg			WG496572	09/02/10 10:36
1,2,3-Trichloropropane	< .001	mg/kg			WG496572	09/02/10 10:36
1,2,3-Trimethylbenzene	< .001	mg/kg			WG496572	09/02/10 10:36
1,2,4-Trichlorobenzene	< .001	mg/kg			WG496572	09/02/10 10:36
1,2,4-Trimethylbenzene	< .001	mg/kg			WG496572	09/02/10 10:36
1,2-Dibromo-3-Chloropropane	< .005	mg/kg			WG496572	09/02/10 10:36
1,2-Dibromoethane	< .001	mg/kg			WG496572	09/02/10 10:36
1,2-Dichlorobenzene	< .001	mg/kg			WG496572	09/02/10 10:36
1,2-Dichloroethane	< .001	mg/kg			WG496572	09/02/10 10:36
1,2-Dichloropropane	< .001	mg/kg			WG496572	09/02/10 10:36
1,3,5-Trimethylbenzene	< .001	mg/kg			WG496572	09/02/10 10:36
1,3-Dichlorobenzene	< .001	mg/kg			WG496572	09/02/10 10:36
1,3-Dichloropropane	< .001	mg/kg			WG496572	09/02/10 10:36
1,4-Dichlorobenzene	< .001	mg/kg			WG496572	09/02/10 10:36
2,2-Dichloropropane	< .001	mg/kg			WG496572	09/02/10 10:36
2-Butanone (MEK)	< .01	mg/kg			WG496572	09/02/10 10:36
2-Chloroethyl vinyl ether	< .001	mg/kg			WG496572	09/02/10 10:36
2-Chlorotoluene	< .001	mg/kg			WG496572	09/02/10 10:36
4-Chlorotoluene	< .001	mg/kg			WG496572	09/02/10 10:36
4-Methyl-2-pentanone (MIBK)	< .01	mg/kg			WG496572	09/02/10 10:36
Acetone	< .05	mg/kg			WG496572	09/02/10 10:36
Acrylonitrile	< .01	mg/kg			WG496572	09/02/10 10:36
Benzene	< .001	mg/kg			WG496572	09/02/10 10:36
Bromobenzene	< .001	mg/kg			WG496572	09/02/10 10:36
Bromodichloromethane	< .001	mg/kg			WG496572	09/02/10 10:36
Bromoform	< .001	mg/kg			WG496572	09/02/10 10:36
Bromomethane	< .005	mg/kg			WG496572	09/02/10 10:36
Carbon tetrachloride	< .001	mg/kg			WG496572	09/02/10 10:36
Chlorobenzene	< .001	mg/kg			WG496572	09/02/10 10:36
Chlorodibromomethane	< .001	mg/kg			WG496572	09/02/10 10:36
Chloroethane	< .005	mg/kg			WG496572	09/02/10 10:36
Chloroform	< .005	mg/kg			WG496572	09/02/10 10:36
Chloromethane	< .0025	mg/kg			WG496572	09/02/10 10:36
cis-1,2-Dichloroethene	< .001	mg/kg			WG496572	09/02/10 10:36
cis-1,3-Dichloropropene	< .001	mg/kg			WG496572	09/02/10 10:36
Di-isopropyl ether	< .001	mg/kg			WG496572	09/02/10 10:36
Dibromomethane	< .001	mg/kg			WG496572	09/02/10 10:36
Dichlorodifluoromethane	< .005	mg/kg			WG496572	09/02/10 10:36
Ethylbenzene	< .001	mg/kg			WG496572	09/02/10 10:36
Hexachloro-1,3-butadiene	< .001	mg/kg			WG496572	09/02/10 10:36
Isopropylbenzene	< .001	mg/kg			WG496572	09/02/10 10:36
Methyl tert-butyl ether	< .001	mg/kg			WG496572	09/02/10 10:36
Methylene Chloride	< .005	mg/kg			WG496572	09/02/10 10:36
n-Butylbenzene	< .001	mg/kg			WG496572	09/02/10 10:36
n-Propylbenzene	< .001	mg/kg			WG496572	09/02/10 10:36
Naphthalene	< .005	mg/kg			WG496572	09/02/10 10:36
p-Isopropyltoluene	< .001	mg/kg			WG496572	09/02/10 10:36
sec-Butylbenzene	< .001	mg/kg			WG496572	09/02/10 10:36
Styrene	< .001	mg/kg			WG496572	09/02/10 10:36
tert-Butylbenzene	< .001	mg/kg			WG496572	09/02/10 10:36
Tetrachloroethene	< .001	mg/kg			WG496572	09/02/10 10:36

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Municipal Engineering Services Company
Mark Brown
PO Box 97

Garner, NC 27529

Quality Assurance Report
Level II

L476708

September 13, 2010

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Toluene	< .005	mg/kg			WG496572	09/02/10 10:36
trans-1,2-Dichloroethene	< .001	mg/kg			WG496572	09/02/10 10:36
trans-1,3-Dichloropropene	< .001	mg/kg			WG496572	09/02/10 10:36
Trichloroethene	< .001	mg/kg			WG496572	09/02/10 10:36
Trichlorofluoromethane	< .005	mg/kg			WG496572	09/02/10 10:36
Vinyl chloride	< .001	mg/kg			WG496572	09/02/10 10:36
Xylenes, Total	< .003	mg/kg			WG496572	09/02/10 10:36
4-Bromofluorobenzene		% Rec.	99.13	59-140	WG496572	09/02/10 10:36
Dibromofluoromethane		% Rec.	120.4	63-139	WG496572	09/02/10 10:36
Toluene-d8		% Rec.	100.5	84-116	WG496572	09/02/10 10:36
Mercury	< .02	mg/kg			WG496522	09/03/10 12:52
Nitrate	< 1	mg/kg			WG496596	09/03/10 09:31
Nitrite	< 1	mg/kg			WG496596	09/03/10 09:31
Sulfate	< 50	mg/kg			WG496596	09/03/10 09:31
Nitrate	< 1	mg/kg			WG496891	09/04/10 21:11
Nitrite	< 1	mg/kg			WG496891	09/04/10 21:11
Phosphate as P	< 1	mg/kg			WG496891	09/04/10 21:11
Sulfate	< 50	mg/kg			WG496891	09/04/10 21:11
Total Solids	< .1	%			WG496884	09/07/10 10:53
Total Solids	< .1	%			WG496885	09/07/10 11:26
Phosphate as P	< 1	mg/kg			WG497296	09/08/10 18:50
pH	5.20	su			WG497387	09/09/10 12:19
Antimony	< 1	mg/kg			WG497289	09/09/10 21:03
Arsenic	< 1	mg/kg			WG497289	09/09/10 21:03
Barium	< .25	mg/kg			WG497289	09/09/10 21:03
Beryllium	< .1	mg/kg			WG497289	09/09/10 21:03
Cadmium	< .25	mg/kg			WG497289	09/09/10 21:03
Chromium	< .5	mg/kg			WG497289	09/09/10 21:03
Cobalt	< .5	mg/kg			WG497289	09/09/10 21:03
Lead	< .25	mg/kg			WG497289	09/09/10 21:03
Nickel	< 1	mg/kg			WG497289	09/09/10 21:03
Selenium	< 1	mg/kg			WG497289	09/09/10 21:03
Silver	< .5	mg/kg			WG497289	09/09/10 21:03
Thallium	< 1	mg/kg			WG497289	09/09/10 21:03
Vanadium	< .5	mg/kg			WG497289	09/09/10 21:03
Zinc	< 1.5	mg/kg			WG497289	09/09/10 21:03
Copper	< 1	mg/kg			WG497946	09/13/10 00:13

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Quality Assurance Report
Level II

L476708

September 13, 2010

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
			Duplicate				
Mercury	mg/kg	0	0	0	20	L476628-08	WG496522
Sulfate	mg/kg	640.	630.	0.948	20	L476230-13	WG496596
Nitrate	mg/kg	0	0	0	20	L476708-01	WG496596
Nitrite	mg/kg	0	0	0	20	L476708-01	WG496596
Sulfate	mg/kg	0	9.30	NA	20	L476708-01	WG496596
Nitrate	mg/kg	160.	168.	1.80	20	L475750-01	WG496891
Nitrite	mg/kg	0	0	0	20	L475750-01	WG496891
Phosphate as P	mg/kg	7.10	7.50	5.48	20	L475750-01	WG496891
Sulfate	mg/kg	220.	240.	6.45	20	L475750-01	WG496891
Nitrate	mg/kg	1.50	1.50	2.70	20	L476593-05	WG496891
Nitrite	mg/kg	1.30	0.960	32.3*	20	L476593-05	WG496891
Phosphate as P	mg/kg	0	0.904	NA	20	L476593-05	WG496891
Sulfate	mg/kg	59.0	69.5	16.3	20	L476593-05	WG496891
Total Solids	%	78.0	78.0	0.582	5	L476708-06	WG496884
Total Solids	%	76.0	77.1	0.820	5	L476724-02	WG496885
Phosphate as P	mg/kg	0	0	0	20	L476668-02	WG497296
pH	su	8.50	8.60	1.17*	1	L476695-02	WG497387
pH	su	12.0	12.0	0	1	L477293-02	WG497387
Antimony	mg/kg	0	0.112	NA	20	L476628-08	WG497289
Arsenic	mg/kg	2.20	1.90	12.3	20	L476628-08	WG497289
Barium	mg/kg	2.90	3.40	15.5	20	L476628-08	WG497289
Beryllium	mg/kg	0	0.00692	NA	20	L476628-08	WG497289
Cadmium	mg/kg	0	0	0	20	L476628-08	WG497289
Chromium	mg/kg	1.10	1.10	3.57	20	L476628-08	WG497289
Cobalt	mg/kg	0	0.405	NA	20	L476628-08	WG497289
Lead	mg/kg	1.00	1.10	7.55	20	L476628-08	WG497289
Nickel	mg/kg	0	0.225	NA	20	L476628-08	WG497289
Selenium	mg/kg	0	0	0	20	L476628-08	WG497289
Silver	mg/kg	0	0	0	20	L476628-08	WG497289
Thallium	mg/kg	0	0.347	NA	20	L476628-08	WG497289
Vanadium	mg/kg	1.10	0.973	8.56	20	L476628-08	WG497289
Zinc	mg/kg	1.60	1.69	4.23	20	L476628-08	WG497289
Copper	mg/kg	16.0	12.0	25.5*	20	L476708-07	WG497946

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
			Laboratory Control Sample			
1,1,1,2-Tetrachloroethane	mg/kg	.025	0.0278	111.	73-134	WG496572
1,1,1-Trichloroethane	mg/kg	.025	0.0275	110.	62-135	WG496572
1,1,2,2-Tetrachloroethane	mg/kg	.025	0.0287	115.	74-129	WG496572
1,1,2-Trichloroethane	mg/kg	.025	0.0273	109.	77-124	WG496572
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	.025	0.0213	85.4	49-155	WG496572
1,1-Dichloroethane	mg/kg	.025	0.0252	101.	61-134	WG496572
1,1-Dichloroethene	mg/kg	.025	0.0237	94.8	53-136	WG496572

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Quality Assurance Report
Level II

L476708

September 13, 2010

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,1-Dichloropropene	mg/kg	.025	0.0240	96.1	63-132	WG496572
1,2,3-Trichlorobenzene	mg/kg	.025	0.0278	111.	62-146	WG496572
1,2,3-Trichloropropane	mg/kg	.025	0.0308	123.	70-133	WG496572
1,2,3-Trimethylbenzene	mg/kg	.025	0.0299	120.	73-126	WG496572
1,2,4-Trichlorobenzene	mg/kg	.025	0.0278	111.	61-148	WG496572
1,2,4-Trimethylbenzene	mg/kg	.025	0.0284	114.	68-135	WG496572
1,2-Dibromo-3-Chloropropane	mg/kg	.025	0.0275	110.	61-134	WG496572
1,2-Dibromoethane	mg/kg	.025	0.0263	105.	76-127	WG496572
1,2-Dichlorobenzene	mg/kg	.025	0.0289	115.	77-123	WG496572
1,2-Dichloroethane	mg/kg	.025	0.0283	113.	58-141	WG496572
1,2-Dichloropropane	mg/kg	.025	0.0236	94.6	71-128	WG496572
1,3,5-Trimethylbenzene	mg/kg	.025	0.0272	109.	71-133	WG496572
1,3-Dichlorobenzene	mg/kg	.025	0.0270	108.	71-132	WG496572
1,3-Dichloropropane	mg/kg	.025	0.0244	97.7	76-120	WG496572
1,4-Dichlorobenzene	mg/kg	.025	0.0280	112.	72-123	WG496572
2,2-Dichloropropane	mg/kg	.025	0.0278	111.	50-147	WG496572
2-Butanone (MEK)	mg/kg	.125	0.125	99.9	51-131	WG496572
2-Chloroethyl vinyl ether	mg/kg	.125	0.0975	78.0	0-188	WG496572
2-Chlorotoluene	mg/kg	.025	0.0265	106.	73-128	WG496572
4-Chlorotoluene	mg/kg	.025	0.0274	109.	72-129	WG496572
4-Methyl-2-pentanone (MIBK)	mg/kg	.125	0.122	97.7	61-143	WG496572
Acetone	mg/kg	.125	0.145	116.	44-140	WG496572
Acrylonitrile	mg/kg	.125	0.130	104.	55-143	WG496572
Benzene	mg/kg	.025	0.0252	101.	65-128	WG496572
Bromobenzene	mg/kg	.025	0.0269	108.	75-123	WG496572
Bromodichloromethane	mg/kg	.025	0.0287	115.	66-126	WG496572
Bromoform	mg/kg	.025	0.0310	124.	64-139	WG496572
Bromomethane	mg/kg	.025	0.0406	162.	41-175	WG496572
Carbon tetrachloride	mg/kg	.025	0.0278	111.	60-140	WG496572
Chlorobenzene	mg/kg	.025	0.0261	104.	75-125	WG496572
Chlorodibromomethane	mg/kg	.025	0.0300	120.	72-137	WG496572
Chloroethane	mg/kg	.025	0.0329	132.	44-159	WG496572
Chloroform	mg/kg	.025	0.0272	109.	63-123	WG496572
Chloromethane	mg/kg	.025	0.0240	95.9	42-149	WG496572
cis-1,2-Dichloroethene	mg/kg	.025	0.0256	102.	71-129	WG496572
cis-1,3-Dichloropropene	mg/kg	.025	0.0267	107.	73-132	WG496572
Di-isopropyl ether	mg/kg	.025	0.0235	93.8	59-143	WG496572
Dibromomethane	mg/kg	.025	0.0260	104.	70-130	WG496572
Dichlorodifluoromethane	mg/kg	.025	0.0250	99.9	26-186	WG496572
Ethylbenzene	mg/kg	.025	0.0253	101.	74-128	WG496572
Hexachloro-1,3-butadiene	mg/kg	.025	0.0263	105.	65-137	WG496572
Isopropylbenzene	mg/kg	.025	0.0238	95.3	73-130	WG496572
Methyl tert-butyl ether	mg/kg	.025	0.0245	97.8	44-148	WG496572
Methylene Chloride	mg/kg	.025	0.0253	101.	57-129	WG496572
n-Butylbenzene	mg/kg	.025	0.0281	112.	60-145	WG496572
n-Propylbenzene	mg/kg	.025	0.0272	109.	71-132	WG496572
Naphthalene	mg/kg	.025	0.0288	115.	61-142	WG496572
p-Isopropyltoluene	mg/kg	.025	0.0267	107.	67-138	WG496572
sec-Butylbenzene	mg/kg	.025	0.0260	104.	71-134	WG496572
Styrene	mg/kg	.025	0.0312	125.	76-133	WG496572
tert-Butylbenzene	mg/kg	.025	0.0263	105.	72-132	WG496572
Tetrachloroethene	mg/kg	.025	0.0242	96.9	65-135	WG496572
Toluene	mg/kg	.025	0.0236	94.3	70-120	WG496572
trans-1,2-Dichloroethene	mg/kg	.025	0.0238	95.0	61-133	WG496572
trans-1,3-Dichloropropene	mg/kg	.025	0.0285	114.	70-135	WG496572
Trichloroethene	mg/kg	.025	0.0227	90.9	71-126	WG496572
Trichlorofluoromethane	mg/kg	.025	0.0312	125.	52-147	WG496572
Vinyl chloride	mg/kg	.025	0.0258	103.	50-151	WG496572
Xylenes, Total	mg/kg	.075	0.0747	99.6	74-127	WG496572

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Quality Assurance Report
Level II

L476708

September 13, 2010

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
4-Bromofluorobenzene				103.0	59-140	
Dibromofluoromethane				114.9	63-139	
Toluene-d8				102.2	84-116	
Mercury	mg/kg	8.77	10.0	114.	71.6-127.7	WG496522
Nitrate	mg/kg	20	19.3	96.5	85-115	WG496596
Nitrite	mg/kg	20	19.7	98.5	85-115	WG496596
Sulfate	mg/kg	200	192.	96.0	85-115	WG496596
Nitrate	mg/kg	20	20.5	103.	85-115	WG496891
Nitrite	mg/kg	20	20.7	104.	85-115	WG496891
Phosphate as P	mg/kg	20	19.3	96.5	85-115	WG496891
Sulfate	mg/kg	200	205.	103.	85-115	WG496891
Total Solids	%	50	50.0	100.	85-115	WG496884
Total Solids	%	50	50.0	100.	85-115	WG496885
Phosphate as P	mg/kg	20	19.3	96.5	85-115	WG497296
pH	su	9.36	9.40	100.	98.9-102.0	WG497387
Antimony	mg/kg	85.1	51.8	60.9	1.2-242.1	WG497289
Arsenic	mg/kg	192	181.	94.3	78.6-120.8	WG497289
Barium	mg/kg	420	422.	100.	78.8-121.4	WG497289
Beryllium	mg/kg	69.3	66.8	96.4	79.8-120.1	WG497289
Cadmium	mg/kg	70.1	66.2	94.4	78.5-121.5	WG497289
Chromium	mg/kg	168	169.	101.	80.4-120.2	WG497289
Cobalt	mg/kg	111	109.	98.2	80.2-119.8	WG497289
Lead	mg/kg	113	111.	98.2	77.3-122.1	WG497289
Nickel	mg/kg	74.1	73.8	99.6	78.8-121.2	WG497289
Selenium	mg/kg	176	162.	92.0	75.6-125.0	WG497289
Silver	mg/kg	115	109.	94.8	66-133.9	WG497289
Thallium	mg/kg	111	111.	100.	77.6-122.5	WG497289
Vanadium	mg/kg	86	93.3	108.	72.0-127.9	WG497289
Zinc	mg/kg	437	417.	95.4	78.5-121.7	WG497289
Copper	mg/kg	122	109.	89.3	81.6-119.7	WG497946

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/kg	0.0284	0.0278	114.	73-134	2.21	20	WG496572
1,1,1-Trichloroethane	mg/kg	0.0275	0.0275	110.	62-135	0.0300	20	WG496572
1,1,2,2-Tetrachloroethane	mg/kg	0.0267	0.0287	107.	74-129	7.26	20	WG496572
1,1,2-Trichloroethane	mg/kg	0.0273	0.0273	109.	77-124	0.190	20	WG496572
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	0.0206	0.0213	82.0	49-155	3.57	20	WG496572
1,1-Dichloroethane	mg/kg	0.0254	0.0252	101.	61-134	0.640	20	WG496572
1,1-Dichloroethene	mg/kg	0.0227	0.0237	91.0	53-136	4.32	20	WG496572
1,1-Dichloropropene	mg/kg	0.0243	0.0240	97.0	63-132	1.06	20	WG496572
1,2,3-Trichlorobenzene	mg/kg	0.0265	0.0278	106.	62-146	4.47	20	WG496572

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Quality Assurance Report
Level II

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September 13, 2010

		Laboratory Control Sample Duplicate						
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,2,3-Trichloropropane	mg/kg	0.0283	0.0308	113.	70-133	8.44	20	WG496572
1,2,3-Trimethylbenzene	mg/kg	0.0298	0.0299	119.	73-126	0.420	20	WG496572
1,2,4-Trichlorobenzene	mg/kg	0.0269	0.0278	107.	61-148	3.27	20	WG496572
1,2,4-Trimethylbenzene	mg/kg	0.0287	0.0284	115.	68-135	0.930	20	WG496572
1,2-Dibromo-3-Chloropropane	mg/kg	0.0237	0.0275	95.0	61-134	14.6	21	WG496572
1,2-Dibromoethane	mg/kg	0.0260	0.0263	104.	76-127	0.960	20	WG496572
1,2-Dichlorobenzene	mg/kg	0.0280	0.0289	112.	77-123	3.13	20	WG496572
1,2-Dichloroethane	mg/kg	0.0276	0.0283	110.	58-141	2.74	20	WG496572
1,2-Dichloropropane	mg/kg	0.0237	0.0236	95.0	71-128	0.170	20	WG496572
1,3,5-Trimethylbenzene	mg/kg	0.0275	0.0272	110.	71-133	1.36	20	WG496572
1,3-Dichlorobenzene	mg/kg	0.0268	0.0270	107.	71-132	0.680	20	WG496572
1,3-Dichloropropane	mg/kg	0.0246	0.0244	98.0	76-120	0.500	20	WG496572
1,4-Dichlorobenzene	mg/kg	0.0275	0.0280	110.	72-123	1.89	20	WG496572
2,2-Dichloropropane	mg/kg	0.0277	0.0278	111.	50-147	0.320	20	WG496572
2-Butanone (MEK)	mg/kg	0.109	0.125	87.0	51-131	13.9	25	WG496572
2-Chloroethyl vinyl ether	mg/kg	0.0953	0.0975	76.0	0-188	2.23	39	WG496572
2-Chlorotoluene	mg/kg	0.0280	0.0265	112.	73-128	5.56	20	WG496572
4-Chlorotoluene	mg/kg	0.0273	0.0274	109.	72-129	0.0700	20	WG496572
4-Methyl-2-pentanone (MIBK)	mg/kg	0.110	0.122	88.0	61-143	10.3	23	WG496572
Acetone	mg/kg	0.128	0.145	102.	44-140	12.4	25	WG496572
Acrylonitrile	mg/kg	0.118	0.130	94.0	55-143	9.43	20	WG496572
Benzene	mg/kg	0.0256	0.0252	102.	65-128	1.60	20	WG496572
Bromobenzene	mg/kg	0.0266	0.0269	106.	75-123	0.990	20	WG496572
Bromodichloromethane	mg/kg	0.0289	0.0287	115.	66-126	0.580	20	WG496572
Bromoform	mg/kg	0.0295	0.0310	118.	64-139	5.14	20	WG496572
Bromomethane	mg/kg	0.0387	0.0406	155.	41-175	4.79	20	WG496572
Carbon tetrachloride	mg/kg	0.0277	0.0278	111.	60-140	0.170	20	WG496572
Chlorobenzene	mg/kg	0.0268	0.0261	107.	75-125	2.81	20	WG496572
Chlorodibromomethane	mg/kg	0.0299	0.0300	120.	72-137	0.0900	20	WG496572
Chloroethane	mg/kg	0.0329	0.0329	131.	44-159	0.180	20	WG496572
Chloroform	mg/kg	0.0274	0.0272	109.	63-123	0.690	20	WG496572
Chloromethane	mg/kg	0.0235	0.0240	94.0	42-149	2.15	20	WG496572
cis-1,2-Dichloroethene	mg/kg	0.0261	0.0256	104.	71-129	1.86	20	WG496572
cis-1,3-Dichloropropene	mg/kg	0.0270	0.0267	108.	73-132	1.08	20	WG496572
Di-isopropyl ether	mg/kg	0.0234	0.0235	94.0	59-143	0.210	20	WG496572
Dibromomethane	mg/kg	0.0253	0.0260	101.	70-130	2.77	20	WG496572
Dichlorodifluoromethane	mg/kg	0.0242	0.0250	97.0	26-186	2.98	22	WG496572
Ethylbenzene	mg/kg	0.0257	0.0253	103.	74-128	1.75	20	WG496572
Hexachloro-1,3-butadiene	mg/kg	0.0263	0.0263	105.	65-137	0.0400	20	WG496572
Isopropylbenzene	mg/kg	0.0241	0.0238	96.0	73-130	1.25	20	WG496572
Methyl tert-butyl ether	mg/kg	0.0230	0.0245	92.0	44-148	6.13	20	WG496572
Methylene Chloride	mg/kg	0.0249	0.0253	100.	57-129	1.31	20	WG496572
n-Butylbenzene	mg/kg	0.0276	0.0281	110.	60-145	1.91	20	WG496572
n-Propylbenzene	mg/kg	0.0271	0.0272	108.	71-132	0.270	20	WG496572
Naphthalene	mg/kg	0.0261	0.0288	104.	61-142	9.79	20	WG496572
p-Isopropyltoluene	mg/kg	0.0271	0.0267	108.	67-138	1.72	20	WG496572
sec-Butylbenzene	mg/kg	0.0261	0.0260	104.	71-134	0.350	20	WG496572
Styrene	mg/kg	0.0313	0.0312	125.	76-133	0.580	20	WG496572
tert-Butylbenzene	mg/kg	0.0268	0.0263	107.	72-132	1.95	20	WG496572
Tetrachloroethene	mg/kg	0.0247	0.0242	99.0	65-135	1.79	20	WG496572
Toluene	mg/kg	0.0244	0.0236	98.0	70-120	3.58	20	WG496572
trans-1,2-Dichloroethene	mg/kg	0.0242	0.0238	97.0	61-133	1.78	20	WG496572
trans-1,3-Dichloropropene	mg/kg	0.0286	0.0285	114.	70-135	0.550	20	WG496572
Trichloroethene	mg/kg	0.0234	0.0227	94.0	71-126	3.02	20	WG496572
Trichlorofluoromethane	mg/kg	0.0297	0.0312	119.	52-147	5.02	20	WG496572
Vinyl chloride	mg/kg	0.0251	0.0258	100.	50-151	2.72	20	WG496572
Xylenes, Total	mg/kg	0.0763	0.0747	102.	74-127	2.06	20	WG496572
4-Bromofluorobenzene				103.9	59-140			WG496572
Dibromofluoromethane				112.7	63-139			WG496572

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Quality Assurance Report
Level II

L476708

September 13, 2010

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Toluene-d8				104.0	84-116			
Nitrate	mg/kg	19.2	19.3	96.0	85-115	0.519	20	WG496596
Nitrite	mg/kg	19.7	19.7	98.0	85-115	0	20	WG496596
Sulfate	mg/kg	193.	192.	96.0	85-115	0.519	20	WG496596
Nitrate	mg/kg	20.4	20.5	102.	85-115	0.489	20	WG496891
Nitrite	mg/kg	20.7	20.7	104.	85-115	0	20	WG496891
Phosphate as P	mg/kg	19.8	19.3	99.0	85-115	2.56	20	WG496891
Sulfate	mg/kg	205.	205.	102.	85-115	0	20	WG496891
Phosphate as P	mg/kg	19.7	19.3	98.0	85-115	2.05	20	WG497296
pH	su	9.40	9.40	100.	98.9-102.0	0	20	WG497387

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/kg	0.131	0	.025	105.	29-145	L476725-01	WG496572
1,1,1-Trichloroethane	mg/kg	0.125	0	.025	99.8	23-147	L476725-01	WG496572
1,1,2,2-Tetrachloroethane	mg/kg	0.123	0	.025	98.3	18-150	L476725-01	WG496572
1,1,2-Trichloroethane	mg/kg	0.124	0	.025	99.3	35-140	L476725-01	WG496572
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	0.0923	0	.025	73.8	10-145	L476725-01	WG496572
1,1-Dichloroethane	mg/kg	0.115	0	.025	92.3	24-148	L476725-01	WG496572
1,1-Dichloroethene	mg/kg	0.0986	0	.025	78.9	10-149	L476725-01	WG496572
1,1-Dichloropropene	mg/kg	0.103	0	.025	82.8	10-141	L476725-01	WG496572
1,2,3-Trichlorobenzene	mg/kg	0.108	0	.025	86.7	10-129	L476725-01	WG496572
1,2,3-Trichloropropane	mg/kg	0.128	0	.025	103.	30-148	L476725-01	WG496572
1,2,3-Trimethylbenzene	mg/kg	0.135	0	.025	108.	10-137	L476725-01	WG496572
1,2,4-Trichlorobenzene	mg/kg	0.107	0	.025	85.2	10-119	L476725-01	WG496572
1,2,4-Trimethylbenzene	mg/kg	0.124	0	.025	98.9	10-145	L476725-01	WG496572
1,2-Dibromo-3-Chloropropane	mg/kg	0.109	0	.025	87.4	19-145	L476725-01	WG496572
1,2-Dibromoethane	mg/kg	0.114	0	.025	91.1	24-145	L476725-01	WG496572
1,2-Dichlorobenzene	mg/kg	0.124	0	.025	99.4	12-130	L476725-01	WG496572
1,2-Dichloroethane	mg/kg	0.124	0	.025	99.0	21-155	L476725-01	WG496572
1,2-Dichloropropane	mg/kg	0.111	0	.025	88.8	28-144	L476725-01	WG496572
1,3,5-Trimethylbenzene	mg/kg	0.120	0	.025	96.2	10-135	L476725-01	WG496572
1,3-Dichlorobenzene	mg/kg	0.115	0	.025	91.7	10-129	L476725-01	WG496572
1,3-Dichloropropane	mg/kg	0.111	0	.025	88.9	31-137	L476725-01	WG496572
1,4-Dichlorobenzene	mg/kg	0.119	0	.025	95.5	10-121	L476725-01	WG496572
2,2-Dichloropropane	mg/kg	0.131	0	.025	105.	18-144	L476725-01	WG496572
2-Butanone (MEK)	mg/kg	0.508	0	.125	81.2	21-143	L476725-01	WG496572
2-Chloroethyl vinyl ether	mg/kg	0.444	0	.125	71.1	0-176	L476725-01	WG496572
2-Chlorotoluene	mg/kg	0.118	0	.025	94.3	10-132	L476725-01	WG496572
4-Chlorotoluene	mg/kg	0.119	0	.025	94.9	10-129	L476725-01	WG496572
4-Methyl-2-pentanone (MIBK)	mg/kg	0.515	0	.125	82.3	31-151	L476725-01	WG496572
Acetone	mg/kg	0.590	0	.125	94.5	13-158	L476725-01	WG496572
Acrylonitrile	mg/kg	0.546	0	.125	87.3	20-154	L476725-01	WG496572
Benzene	mg/kg	0.114	0	.025	90.8	16-143	L476725-01	WG496572
Bromobenzene	mg/kg	0.118	0	.025	94.3	14-135	L476725-01	WG496572
Bromodichloromethane	mg/kg	0.133	0	.025	107.	27-139	L476725-01	WG496572
Bromoform	mg/kg	0.133	0	.025	107.	21-144	L476725-01	WG496572
Bromomethane	mg/kg	0.171	0	.025	137.	0-180	L476725-01	WG496572
Carbon tetrachloride	mg/kg	0.123	0	.025	98.2	12-149	L476725-01	WG496572
Chlorobenzene	mg/kg	0.120	0	.025	95.8	17-134	L476725-01	WG496572
Chlorodibromomethane	mg/kg	0.136	0	.025	109.	28-147	L476725-01	WG496572
Chloroethane	mg/kg	0.142	0	.025	113.	0-172	L476725-01	WG496572

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Level II

L476708

September 13, 2010

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Chloroform	mg/kg	0.126	0	.025	101.	28-138	L476725-01	WG496572
Chloromethane	mg/kg	0.0975	0	.025	78.0	10-158	L476725-01	WG496572
cis-1,2-Dichloroethene	mg/kg	0.117	0	.025	93.7	21-147	L476725-01	WG496572
cis-1,3-Dichloropropene	mg/kg	0.121	0	.025	97.2	17-145	L476725-01	WG496572
Di-isopropyl ether	mg/kg	0.111	0	.025	88.7	31-153	L476725-01	WG496572
Dibromomethane	mg/kg	0.112	0	.025	89.9	24-147	L476725-01	WG496572
Dichlorodifluoromethane	mg/kg	0.0997	0	.025	79.8	0-192	L476725-01	WG496572
Ethylbenzene	mg/kg	0.115	0	.025	92.1	12-137	L476725-01	WG496572
Hexachloro-1,3-butadiene	mg/kg	0.108	0	.025	86.2	10-123	L476725-01	WG496572
Isopropylbenzene	mg/kg	0.107	0	.025	85.4	14-134	L476725-01	WG496572
Methyl tert-butyl ether	mg/kg	0.109	0	.025	87.6	21-157	L476725-01	WG496572
Methylene Chloride	mg/kg	0.111	0	.025	88.7	12-149	L476725-01	WG496572
n-Butylbenzene	mg/kg	0.116	0	.025	93.0	10-130	L476725-01	WG496572
n-Propylbenzene	mg/kg	0.119	0	.025	95.2	10-130	L476725-01	WG496572
Naphthalene	mg/kg	0.115	0	.025	91.9	0-146	L476725-01	WG496572
p-Isopropyltoluene	mg/kg	0.115	0	.025	92.3	10-131	L476725-01	WG496572
sec-Butylbenzene	mg/kg	0.114	0	.025	91.4	10-134	L476725-01	WG496572
Styrene	mg/kg	0.141	0	.025	113.	10-140	L476725-01	WG496572
tert-Butylbenzene	mg/kg	0.119	0	.025	95.3	11-137	L476725-01	WG496572
Tetrachloroethene	mg/kg	0.105	0	.025	84.1	10-131	L476725-01	WG496572
Toluene	mg/kg	0.108	0	.025	86.3	12-136	L476725-01	WG496572
trans-1,2-Dichloroethene	mg/kg	0.102	0	.025	81.7	10-143	L476725-01	WG496572
trans-1,3-Dichloropropene	mg/kg	0.129	0	.025	103.	16-147	L476725-01	WG496572
Trichloroethene	mg/kg	0.105	0	.025	84.4	10-155	L476725-01	WG496572
Trichlorofluoromethane	mg/kg	0.129	0	.025	104.	10-154	L476725-01	WG496572
Vinyl chloride	mg/kg	0.107	0	.025	85.3	10-159	L476725-01	WG496572
Xylenes, Total	mg/kg	0.339	0	.075	90.3	10-138	L476725-01	WG496572
4-Bromofluorobenzene					103.3	59-140		WG496572
Dibromofluoromethane					113.2	63-139		WG496572
Toluene-d8					102.0	84-116		WG496572
Mercury	mg/kg	0.244	0	.25	97.6	70-130	L476628-08	WG496522
Nitrate	mg/kg	45.4	0	50	90.8	80-120	L476627-02	WG496596
Nitrite	mg/kg	45.8	0	50	91.6	80-120	L476627-02	WG496596
Sulfate	mg/kg	646.	200.	500	89.2	80-120	L476627-02	WG496596
Nitrate	mg/kg	56.9	2.80	50	108.	80-120	L476593-04	WG496891
Nitrite	mg/kg	54.5	0.746	50	108.	80-120	L476593-04	WG496891
Phosphate as P	mg/kg	3.90	1.39	50	5.02*	80-120	L476593-04	WG496891
Sulfate	mg/kg	565.	28.6	500	107.	80-120	L476593-04	WG496891
Antimony	mg/kg	45.0	0.112	50	89.8	75-125	L476628-08	WG497289
Arsenic	mg/kg	50.0	1.90	50	96.2	75-125	L476628-08	WG497289
Barium	mg/kg	50.2	3.40	50	93.6	75-125	L476628-08	WG497289
Beryllium	mg/kg	48.7	0.00692	50	97.4	75-125	L476628-08	WG497289
Cadmium	mg/kg	49.5	0	50	99.0	75-125	L476628-08	WG497289
Chromium	mg/kg	50.9	1.10	50	99.6	75-125	L476628-08	WG497289
Cobalt	mg/kg	51.0	0.405	50	101.	75-125	L476628-08	WG497289
Lead	mg/kg	50.9	1.10	50	99.6	75-125	L476628-08	WG497289
Nickel	mg/kg	46.8	0.225	50	93.2	75-125	L476628-08	WG497289
Selenium	mg/kg	47.0	0	50	94.0	75-125	L476628-08	WG497289
Silver	mg/kg	46.7	0	50	93.4	75-125	L476628-08	WG497289
Thallium	mg/kg	51.1	0.347	50	102.	75-125	L476628-08	WG497289
Vanadium	mg/kg	49.4	0.973	50	96.8	75-125	L476628-08	WG497289

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Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Zinc	mg/kg	48.3	1.69	50	93.2	75-125	L476628-08	WG497289
Copper	mg/kg	57.8	12.0	10	91.6	75-125	L476708-07	WG497946

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/kg	0.132	0.131	106.	29-145	0.680	31	L476725-01	WG496572
1,1,1-Trichloroethane	mg/kg	0.137	0.125	109.	23-147	9.23	32	L476725-01	WG496572
1,1,2,2-Tetrachloroethane	mg/kg	0.128	0.123	102.	18-150	4.29	33	L476725-01	WG496572
1,1,2-Trichloroethane	mg/kg	0.128	0.124	102.	35-140	2.95	29	L476725-01	WG496572
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	0.0988	0.0923	79.0	10-145	6.82	35	L476725-01	WG496572
1,1-Dichloroethane	mg/kg	0.121	0.115	96.4	24-148	4.35	31	L476725-01	WG496572
1,1-Dichloroethene	mg/kg	0.108	0.0986	86.3	10-149	8.98	34	L476725-01	WG496572
1,1-Dichloropropene	mg/kg	0.114	0.103	91.0	10-141	9.46	34	L476725-01	WG496572
1,2,3-Trichlorobenzene	mg/kg	0.105	0.108	84.2	10-129	2.87	43	L476725-01	WG496572
1,2,3-Trichloropropane	mg/kg	0.141	0.128	112.	30-148	9.13	32	L476725-01	WG496572
1,2,3-Trimethylbenzene	mg/kg	0.134	0.135	107.	10-137	0.800	36	L476725-01	WG496572
1,2,4-Trichlorobenzene	mg/kg	0.102	0.107	81.3	10-119	4.67	44	L476725-01	WG496572
1,2,4-Trimethylbenzene	mg/kg	0.124	0.124	98.9	10-145	0.0400	41	L476725-01	WG496572
1,2-Dibromo-3-Chloropropane	mg/kg	0.121	0.109	96.7	19-145	10.2	35	L476725-01	WG496572
1,2-Dibromoethane	mg/kg	0.120	0.114	95.8	24-145	5.01	31	L476725-01	WG496572
1,2-Dichlorobenzene	mg/kg	0.123	0.124	98.7	12-130	0.730	35	L476725-01	WG496572
1,2-Dichloroethane	mg/kg	0.128	0.124	102.	21-155	3.61	29	L476725-01	WG496572
1,2-Dichloropropane	mg/kg	0.110	0.111	88.0	28-144	0.880	30	L476725-01	WG496572
1,3,5-Trimethylbenzene	mg/kg	0.121	0.120	96.8	10-135	0.660	39	L476725-01	WG496572
1,3-Dichlorobenzene	mg/kg	0.111	0.115	88.7	10-129	3.26	38	L476725-01	WG496572
1,3-Dichloropropane	mg/kg	0.114	0.111	91.0	31-137	2.36	29	L476725-01	WG496572
1,4-Dichlorobenzene	mg/kg	0.115	0.119	92.4	10-121	3.29	36	L476725-01	WG496572
2,2-Dichloropropane	mg/kg	0.142	0.131	114.	18-144	7.88	32	L476725-01	WG496572
2-Butanone (MEK)	mg/kg	0.574	0.508	91.8	21-143	12.2	37	L476725-01	WG496572
2-Chloroethyl vinyl ether	mg/kg	0.485	0.444	77.5	0-176	8.69	50	L476725-01	WG496572
2-Chlorotoluene	mg/kg	0.118	0.118	94.8	10-132	0.530	37	L476725-01	WG496572
4-Chlorotoluene	mg/kg	0.116	0.119	93.0	10-129	2.00	38	L476725-01	WG496572
4-Methyl-2-pentanone (MIBK)	mg/kg	0.552	0.515	88.3	31-151	6.99	36	L476725-01	WG496572
Acetone	mg/kg	0.660	0.590	106.	13-158	11.2	34	L476725-01	WG496572
Acrylonitrile	mg/kg	0.595	0.546	95.2	20-154	8.61	35	L476725-01	WG496572
Benzene	mg/kg	0.120	0.114	95.8	16-143	5.33	31	L476725-01	WG496572
Bromobenzene	mg/kg	0.120	0.118	95.6	14-135	1.35	39	L476725-01	WG496572
Bromodichloromethane	mg/kg	0.134	0.133	107.	27-139	0.510	30	L476725-01	WG496572
Bromoform	mg/kg	0.141	0.133	112.	21-144	5.42	34	L476725-01	WG496572
Bromomethane	mg/kg	0.170	0.171	136.	0-180	0.650	41	L476725-01	WG496572
Carbon tetrachloride	mg/kg	0.137	0.123	110.	12-149	11.1	34	L476725-01	WG496572
Chlorobenzene	mg/kg	0.122	0.120	97.3	17-134	1.59	34	L476725-01	WG496572
Chlorodibromomethane	mg/kg	0.141	0.136	113.	28-147	3.74	32	L476725-01	WG496572
Chloroethane	mg/kg	0.147	0.142	118.	0-172	3.98	38	L476725-01	WG496572
Chloroform	mg/kg	0.130	0.126	104.	28-138	3.23	30	L476725-01	WG496572
Chloromethane	mg/kg	0.0999	0.0975	79.9	10-158	2.45	35	L476725-01	WG496572
cis-1,2-Dichloroethene	mg/kg	0.122	0.117	97.6	21-147	4.02	31	L476725-01	WG496572
cis-1,3-Dichloropropene	mg/kg	0.121	0.121	97.0	17-145	0.120	32	L476725-01	WG496572
Di-isopropyl ether	mg/kg	0.114	0.111	91.5	31-153	3.13	29	L476725-01	WG496572
Dibromomethane	mg/kg	0.118	0.112	94.1	24-147	4.53	30	L476725-01	WG496572
Dichlorodifluoromethane	mg/kg	0.110	0.0997	87.8	0-192	9.56	38	L476725-01	WG496572
Ethylbenzene	mg/kg	0.115	0.115	91.7	12-137	0.450	36	L476725-01	WG496572
Hexachloro-1,3-butadiene	mg/kg	0.103	0.108	82.1	10-123	4.89	50	L476725-01	WG496572
Isopropylbenzene	mg/kg	0.110	0.107	88.4	14-134	3.43	37	L476725-01	WG496572
Methyl tert-butyl ether	mg/kg	0.118	0.109	94.1	21-157	7.18	31	L476725-01	WG496572
Methylene Chloride	mg/kg	0.114	0.111	91.0	12-149	2.56	31	L476725-01	WG496572

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

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Est. 1970

Municipal Engineering Services Company
Mark Brown
PO Box 97

Garner, NC 27529

Quality Assurance Report
Level II

L476708

September 13, 2010

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
n-Butylbenzene	mg/kg	0.111	0.116	88.5	10-130	4.96	48	L476725-01	WG496572
n-Propylbenzene	mg/kg	0.117	0.119	93.6	10-130	1.65	40	L476725-01	WG496572
Naphthalene	mg/kg	0.118	0.115	94.6	0-146	2.84	43	L476725-01	WG496572
p-Isopropyltoluene	mg/kg	0.114	0.115	91.0	10-131	1.46	43	L476725-01	WG496572
sec-Butylbenzene	mg/kg	0.114	0.114	91.4	10-134	0.0600	43	L476725-01	WG496572
Styrene	mg/kg	0.138	0.141	111.	10-140	1.83	35	L476725-01	WG496572
tert-Butylbenzene	mg/kg	0.121	0.119	97.2	11-137	1.97	39	L476725-01	WG496572
Tetrachloroethene	mg/kg	0.109	0.105	87.4	10-131	3.86	35	L476725-01	WG496572
Toluene	mg/kg	0.110	0.108	87.7	12-136	1.59	32	L476725-01	WG496572
trans-1,2-Dichloroethene	mg/kg	0.111	0.102	88.5	10-143	8.00	33	L476725-01	WG496572
trans-1,3-Dichloropropene	mg/kg	0.128	0.129	102.	16-147	0.480	32	L476725-01	WG496572
Trichloroethene	mg/kg	0.107	0.105	85.4	10-155	1.25	33	L476725-01	WG496572
Trichlorofluoromethane	mg/kg	0.145	0.129	116.	10-154	11.0	32	L476725-01	WG496572
Vinyl chloride	mg/kg	0.114	0.107	91.5	10-159	6.95	36	L476725-01	WG496572
Xylenes, Total	mg/kg	0.340	0.339	90.6	10-138	0.360	36	L476725-01	WG496572
4-Bromofluorobenzene				102.6	59-140				WG496572
Dibromofluoromethane				116.7	63-139				WG496572
Toluene-d8				102.3	84-116				WG496572
Mercury	mg/kg	0.236	0.244	94.4	70-130	3.33	20	L476628-08	WG496522
Nitrate	mg/kg	44.8	45.4	89.6	80-120	1.33	20	L476627-02	WG496596
Nitrite	mg/kg	45.1	45.8	90.2	80-120	1.54	20	L476627-02	WG496596
Sulfate	mg/kg	639.	646.	87.8	80-120	1.09	20	L476627-02	WG496596
Nitrate	mg/kg	56.0	56.9	106.	80-120	1.59	20	L476593-04	WG496891
Nitrite	mg/kg	53.3	54.5	105.	80-120	2.23	20	L476593-04	WG496891
Phosphate as P	mg/kg	3.42	3.90	4.06*	80-120	13.1	20	L476593-04	WG496891
Sulfate	mg/kg	554.	565.	105.	80-120	1.97	20	L476593-04	WG496891
Antimony	mg/kg	46.3	45.0	92.4	75-125	2.85	20	L476628-08	WG497289
Arsenic	mg/kg	50.8	50.0	97.8	75-125	1.59	20	L476628-08	WG497289
Barium	mg/kg	51.4	50.2	96.0	75-125	2.36	20	L476628-08	WG497289
Beryllium	mg/kg	49.0	48.7	98.0	75-125	0.614	20	L476628-08	WG497289
Cadmium	mg/kg	50.7	49.5	101.	75-125	2.40	20	L476628-08	WG497289
Chromium	mg/kg	52.0	50.9	102.	75-125	2.14	20	L476628-08	WG497289
Cobalt	mg/kg	52.2	51.0	104.	75-125	2.33	20	L476628-08	WG497289
Lead	mg/kg	51.7	50.9	101.	75-125	1.56	20	L476628-08	WG497289
Nickel	mg/kg	47.7	46.8	95.0	75-125	1.90	20	L476628-08	WG497289
Selenium	mg/kg	47.6	47.0	95.2	75-125	1.27	20	L476628-08	WG497289
Silver	mg/kg	47.9	46.7	95.8	75-125	2.54	20	L476628-08	WG497289
Thallium	mg/kg	52.0	51.1	103.	75-125	1.75	20	L476628-08	WG497289
Vanadium	mg/kg	50.4	49.4	98.8	75-125	2.00	20	L476628-08	WG497289
Zinc	mg/kg	49.7	48.3	96.0	75-125	2.86	20	L476628-08	WG497289
Copper	mg/kg	67.5	57.8	111.	75-125	15.5	20	L476708-07	WG497946

Batch number /Run number / Sample number cross reference

WG496572: R1360088: L476708-01 02 03 04 05 06 07
WG496522: R1362990: L476708-01 02 03 04 05 06 07
WG496596: R1363808: L476708-01 02 03 04 05 06
WG496891: R1365248: L476708-07

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

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Mark Brown
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Garner, NC 27529

Quality Assurance Report
Level II

L476708

September 13, 2010

WG496884: R1366008: L476708-01 02 03 04 05 06
WG496885: R1366009: L476708-07
WG497296: R1368369: L476708-01 02 03 04 05 06
WG497387: R1369068: L476708-01 02 03 04 05 06 07
WG497289: R1371448: L476708-01 02 03 04 05 06 07
WG497946: R1372071: L476708-01 02 03 04 05 06 07

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

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Quality Assurance Report
Level II

L476708

September 13, 2010

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

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

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

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

Company Name/Address

Municipal Engineering
1140 Benson Rd.
Garner, NC 27529

Alternate Billing

Report to: Mark Brown

E-mail to: mbrown@mesco.com

Project Description: Iredell County Leachate

City/State: Iredell Co., NC

PHONE: (919) 772-5393

FAX: (919) 772-1176

Client Project No.: G10121.0

Lab Project #

Collected by: MARK BROWN

Site/Facility ID#

P.O.#

Collected by(signature):

Packed on Ice N (Y)

Rush? (Lab MUST be Notified)
_____Same Day.....200%
_____Next Day.....100%
_____Two Day.....50%

Date Results Needed: REG TURN

Email? ___No ___Yes

FAX? ___No ___Yes

Chain of Custody
Page___of___

Prepared by:
ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Road
Mt. Juliet TN 37122
Phone (615)758-5858
Phone (800) 767-5859

F122

CoCode (lab use only)

MUNENGGNC
Template/Prelogin

Shipped Via: Raleigh Service Center

Sample ID	Comp/Grab	Matrix*	Depth/Elev	Date	Time	No of Cntrs	Append 1 Metals: 1 x 4-oz clear glass	VOCs x 8260B: 1 x 2-oz clear glass + 1 x 40-ml amber VOA w/15-ml methanol + 2 x 40-ml amber VOAs w/5-ml sodium bisulfate	Phosphorous: 1 x 4-oz clear class	Nitrate-Nitrite (Soluble): Combine w/Phos. bottle	Sulfate (soluble): combine w/Phos. bottle	pH: 1 x 2-oz clear glass			Remarks/contaminant	Sample # (lab only)
HABG-2	G	SS	2'	8/31/10	0900	7	1	4	1	*	*	1				L476708-01
HA 1-1			1'		0915	7	1	4	1	—	—	1				-02
HA 2-2			2'		0945	7	1	4	1	—	—	1				-03
HA 3-2			2'		1015	7	1	4	1	—	—	1				-04
HA 4-1			1'		1030	7	1	4	1	—	—	1				-05
HA 5-1			1'		1115	7	1	4	1	—	—	1				-06
SED BEN-1			1'		1132	7	1	4	1	—	—	1				-07

*Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other_____

pH_____ Temp_____

Remarks: ********** **Report in NC Solid Waste format.**********

Relinquisher by:(Signature	Date:	Time:	Received by:(Signature)	Samples returned via: FedEx ✓ UPS__Other__		Condition	(lab use only)
	8/31/10	1708		439190037031			OK
Relinquisher by:(Signature	Date:	Time:	Received by: (Signature)	Temp: 3.4°C	Bottles Received: 49 1TB		
Relinquisher by:(Signature	Date:	Time:	Received for lab by: (Signature) Jeremy	Date: 9/1/10	Time: 0900	pH Checked:	NCF:

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Mark Brown
Municipal Engineering Services Company
PO Box 97
Garner, NC 27529

Report Summary

Thursday September 09, 2010

Report Number: L476539
Samples Received: 09/01/10
Client Project: G10121.0

Description: Iredell County Leachate

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

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

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

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

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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 09, 2010

ESC Sample # : L476539-01

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : SW-SED BEN

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 12:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Nitrate	1300	41.	100	ug/l	9056	09/01/10	1	10000
Nitrite	U	15.	100	ug/l	9056	09/01/10	1	
Sulfate	6400	460	5000	ug/l	9056	09/01/10	1	250000
BOD	U	1600	5000	ug/l	SM5210B	09/06/10	1	
COD	20000	1700	10000	ug/l	410.4	09/08/10	1	
pH	7.5			su	9040C	09/09/10	1	
Phosphorus,Total	97.	19.	100	ug/l	365.1	09/08/10	1	
Antimony	U	0.21	1.0	ug/l	6020	09/02/10	1	
Arsenic	39.	1.3	5.0	ug/l	6020	09/02/10	5	
Beryllium	2.0	0.12	1.0	ug/l	6020	09/02/10	1	
Cadmium	U	0.16	0.50	ug/l	6020	09/02/10	1	
Copper	44.	2.6	10.	ug/l	6020	09/02/10	5	
Lead	40.	0.24	1.0	ug/l	6020	09/02/10	1	
Selenium	U	1.9	5.0	ug/l	6020	09/02/10	5	
Thallium	U	0.19	1.0	ug/l	6020	09/02/10	1	
Zinc	90.	13.	50.	ug/l	6020	09/02/10	5	
Mercury	0.11	0.017	0.20	ug/l	7470A	09/03/10	1	.2
Barium	200	1.0	5.0	ug/l	6010B	09/03/10	1	100
Chromium	45.	1.7	10.	ug/l	6010B	09/03/10	1	10
Cobalt	21.	1.7	10.	ug/l	6010B	09/03/10	1	10
Nickel	66.	5.3	20.	ug/l	6010B	09/03/10	1	50
Silver	U	3.3	10.	ug/l	6010B	09/03/10	1	10
Vanadium	88.	2.2	10.	ug/l	6010B	09/03/10	1	25
Volatile Organics								
Acetone	U	16.	50.	ug/l	8260B	09/02/10	1	100
Acrylonitrile	U	1.9	10.	ug/l	8260B	09/02/10	1	200
Benzene	U	0.23	1.0	ug/l	8260B	09/02/10	1	1
Bromochloromethane	U	0.25	1.0	ug/l	8260B	09/02/10	1	3
Bromodichloromethane	U	0.23	1.0	ug/l	8260B	09/02/10	1	1
Bromoform	U	0.37	1.0	ug/l	8260B	09/02/10	1	3
Bromomethane	U	1.6	5.0	ug/l	8260B	09/02/10	1	10
Carbon disulfide	U	0.29	1.0	ug/l	8260B	09/02/10	1	100
Carbon tetrachloride	U	0.20	1.0	ug/l	8260B	09/02/10	1	1
Chlorobenzene	U	0.30	1.0	ug/l	8260B	09/02/10	1	3

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
Note:
The reported analytical results relate only to the sample submitted.
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L476539-01 (PH) - 7.5@14.1c

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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 09, 2010

ESC Sample # : L476539-01

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : SW-SED BEN

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 12:15

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Chlorodibromomethane	U	0.24	1.0	ug/l	8260B	09/02/10	1	3
Chloroethane	U	0.87	5.0	ug/l	8260B	09/02/10	1	10
Chloroform	U	0.27	5.0	ug/l	8260B	09/02/10	1	5
Chloromethane	U	0.76	2.5	ug/l	8260B	09/02/10	1	1
Dibromomethane	U	0.35	1.0	ug/l	8260B	09/02/10	1	10
1,2-Dichlorobenzene	U	0.29	1.0	ug/l	8260B	09/02/10	1	5
1,4-Dichlorobenzene	U	0.31	1.0	ug/l	8260B	09/02/10	1	1
trans-1,4-Dichloro-2-butene	U	0.83	2.5	ug/l	8260B	09/02/10	1	100
1,1-Dichloroethane	U	0.32	1.0	ug/l	8260B	09/02/10	1	5
1,2-Dichloroethane	U	0.25	1.0	ug/l	8260B	09/02/10	1	1
1,1-Dichloroethene	U	0.41	1.0	ug/l	8260B	09/02/10	1	5
cis-1,2-Dichloroethene	U	0.34	1.0	ug/l	8260B	09/02/10	1	5
trans-1,2-Dichloroethene	U	0.26	1.0	ug/l	8260B	09/02/10	1	5
1,2-Dichloropropane	U	0.39	1.0	ug/l	8260B	09/02/10	1	1
cis-1,3-Dichloropropene	U	0.25	1.0	ug/l	8260B	09/02/10	1	1
trans-1,3-Dichloropropene	U	0.24	1.0	ug/l	8260B	09/02/10	1	1
Ethylbenzene	U	0.22	1.0	ug/l	8260B	09/02/10	1	1
2-Hexanone	U	3.6	10.	ug/l	8260B	09/02/10	1	50
Iodomethane	U	1.9	5.0	ug/l	8260B	09/02/10	1	10
2-Butanone (MEK)	U	3.4	10.	ug/l	8260B	09/02/10	1	100
Methylene Chloride	U	0.91	5.0	ug/l	8260B	09/02/10	1	1
4-Methyl-2-pentanone (MIBK)	U	1.7	10.	ug/l	8260B	09/02/10	1	100
Styrene	U	0.24	1.0	ug/l	8260B	09/02/10	1	1
1,1,1,2-Tetrachloroethane	U	0.32	1.0	ug/l	8260B	09/02/10	1	5
1,1,2,2-Tetrachloroethane	U	0.25	1.0	ug/l	8260B	09/02/10	1	3
Tetrachloroethene	U	0.32	1.0	ug/l	8260B	09/02/10	1	1
Toluene	U	0.32	5.0	ug/l	8260B	09/02/10	1	1
1,1,1-Trichloroethane	U	0.31	1.0	ug/l	8260B	09/02/10	1	1
1,1,2-Trichloroethane	U	0.29	1.0	ug/l	8260B	09/02/10	1	1
Trichloroethene	U	0.31	1.0	ug/l	8260B	09/02/10	1	1
Trichlorofluoromethane	U	1.1	5.0	ug/l	8260B	09/02/10	1	1
1,2,3-Trichloropropane	U	0.75	1.0	ug/l	8260B	09/02/10	1	1
Vinyl acetate	U	4.0	5.0	ug/l	8260B	09/02/10	1	50
Vinyl chloride	U	0.34	1.0	ug/l	8260B	09/02/10	1	1
Xylenes, Total	U	0.86	3.0	ug/l	8260B	09/02/10	1	5
Surrogate Recovery								
Toluene-d8	97.7			% Rec.	8260B	09/02/10	1	
Dibromofluoromethane	116.			% Rec.	8260B	09/02/10	1	
4-Bromofluorobenzene	98.5			% Rec.	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
Note:
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L476539-01 (PH) - 7.5@14.1c

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 09, 2010

ESC Sample # : L476539-02

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : SW-INTER STREAM

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 12:30

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Nitrate	820	41.	100	ug/l	9056	09/01/10	1	10000
Nitrite	U	15.	100	ug/l	9056	09/01/10	1	
Sulfate	U	460	5000	ug/l	9056	09/01/10	1	250000
BOD	U	1600	5000	ug/l	SM5210B	09/06/10	1	
COD	U	1700	10000	ug/l	410.4	09/08/10	1	
pH	7.4			su	9040C	09/09/10	1	
Phosphorus,Total	52.	19.	100	ug/l	365.1	09/08/10	1	
Antimony	U	0.21	1.0	ug/l	6020	09/02/10	1	
Arsenic	U	0.25	1.0	ug/l	6020	09/02/10	1	
Beryllium	U	0.12	1.0	ug/l	6020	09/02/10	1	
Cadmium	U	0.16	0.50	ug/l	6020	09/02/10	1	
Copper	U	0.52	2.0	ug/l	6020	09/02/10	1	
Lead	U	0.24	1.0	ug/l	6020	09/02/10	1	
Selenium	U	0.38	1.0	ug/l	6020	09/02/10	1	
Thallium	U	0.19	1.0	ug/l	6020	09/02/10	1	
Zinc	U	2.6	10.	ug/l	6020	09/02/10	1	
Mercury	0.040	0.017	0.20	ug/l	7470A	09/03/10	1	.2
Barium	23.	1.0	5.0	ug/l	6010B	09/03/10	1	100
Chromium	U	1.7	10.	ug/l	6010B	09/03/10	1	10
Cobalt	U	1.7	10.	ug/l	6010B	09/03/10	1	10
Nickel	U	5.3	20.	ug/l	6010B	09/03/10	1	50
Silver	U	3.3	10.	ug/l	6010B	09/03/10	1	10
Vanadium	U	2.2	10.	ug/l	6010B	09/03/10	1	25
Volatile Organics								
Acetone	U	16.	50.	ug/l	8260B	09/02/10	1	100
Acrylonitrile	U	1.9	10.	ug/l	8260B	09/02/10	1	200
Benzene	U	0.23	1.0	ug/l	8260B	09/02/10	1	1
Bromochloromethane	U	0.25	1.0	ug/l	8260B	09/02/10	1	3
Bromodichloromethane	U	0.23	1.0	ug/l	8260B	09/02/10	1	1
Bromoform	U	0.37	1.0	ug/l	8260B	09/02/10	1	3
Bromomethane	U	1.6	5.0	ug/l	8260B	09/02/10	1	10
Carbon disulfide	U	0.29	1.0	ug/l	8260B	09/02/10	1	100
Carbon tetrachloride	U	0.20	1.0	ug/l	8260B	09/02/10	1	1
Chlorobenzene	U	0.30	1.0	ug/l	8260B	09/02/10	1	3

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
RDL = Reported Detection Limit = LOQ = PQL = EQL = MQL(TRRP)
Note:
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Reported: 09/09/10 14:43 Printed: 09/09/10 14:43
L476539-02 (PH) - 7.4@15.1c

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(615) 758-5858
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Brown
Municipal Engineering Services Comp
PO Box 97
Garner, NC 27529

September 09, 2010

ESC Sample # : L476539-02

Date Received : September 01, 2010
Description : Iredell County Leachate

Site ID : IREDELL COUNTY, NC

Sample ID : SW-INTER STREAM

Project # : G10121.0

Collected By : Mark Brown
Collection Date : 08/31/10 12:30

Parameter	Result	MDL	RDL	Units	Method	Date	Dil.	SWSL
Chlorodibromomethane	U	0.24	1.0	ug/l	8260B	09/02/10	1	3
Chloroethane	U	0.87	5.0	ug/l	8260B	09/02/10	1	10
Chloroform	U	0.27	5.0	ug/l	8260B	09/02/10	1	5
Chloromethane	U	0.76	2.5	ug/l	8260B	09/02/10	1	1
Dibromomethane	U	0.35	1.0	ug/l	8260B	09/02/10	1	10
1,2-Dichlorobenzene	U	0.29	1.0	ug/l	8260B	09/02/10	1	5
1,4-Dichlorobenzene	U	0.31	1.0	ug/l	8260B	09/02/10	1	1
trans-1,4-Dichloro-2-butene	U	0.83	2.5	ug/l	8260B	09/02/10	1	100
1,1-Dichloroethane	U	0.32	1.0	ug/l	8260B	09/02/10	1	5
1,2-Dichloroethane	U	0.25	1.0	ug/l	8260B	09/02/10	1	1
1,1-Dichloroethene	U	0.41	1.0	ug/l	8260B	09/02/10	1	5
cis-1,2-Dichloroethene	U	0.34	1.0	ug/l	8260B	09/02/10	1	5
trans-1,2-Dichloroethene	U	0.26	1.0	ug/l	8260B	09/02/10	1	5
1,2-Dichloropropane	U	0.39	1.0	ug/l	8260B	09/02/10	1	1
cis-1,3-Dichloropropene	U	0.25	1.0	ug/l	8260B	09/02/10	1	1
trans-1,3-Dichloropropene	U	0.24	1.0	ug/l	8260B	09/02/10	1	1
Ethylbenzene	U	0.22	1.0	ug/l	8260B	09/02/10	1	1
2-Hexanone	U	3.6	10.	ug/l	8260B	09/02/10	1	50
Iodomethane	U	1.9	5.0	ug/l	8260B	09/02/10	1	10
2-Butanone (MEK)	U	3.4	10.	ug/l	8260B	09/02/10	1	100
Methylene Chloride	U	0.91	5.0	ug/l	8260B	09/02/10	1	1
4-Methyl-2-pentanone (MIBK)	U	1.7	10.	ug/l	8260B	09/02/10	1	100
Styrene	U	0.24	1.0	ug/l	8260B	09/02/10	1	1
1,1,1,2-Tetrachloroethane	U	0.32	1.0	ug/l	8260B	09/02/10	1	5
1,1,2,2-Tetrachloroethane	U	0.25	1.0	ug/l	8260B	09/02/10	1	3
Tetrachloroethene	U	0.32	1.0	ug/l	8260B	09/02/10	1	1
Toluene	U	0.32	5.0	ug/l	8260B	09/02/10	1	1
1,1,1-Trichloroethane	U	0.31	1.0	ug/l	8260B	09/02/10	1	1
1,1,2-Trichloroethane	U	0.29	1.0	ug/l	8260B	09/02/10	1	1
Trichloroethene	U	0.31	1.0	ug/l	8260B	09/02/10	1	1
Trichlorofluoromethane	U	1.1	5.0	ug/l	8260B	09/02/10	1	1
1,2,3-Trichloropropane	U	0.75	1.0	ug/l	8260B	09/02/10	1	1
Vinyl acetate	U	4.0	5.0	ug/l	8260B	09/02/10	1	50
Vinyl chloride	U	0.34	1.0	ug/l	8260B	09/02/10	1	1
Xylenes, Total	U	0.86	3.0	ug/l	8260B	09/02/10	1	5
Surrogate Recovery								
Toluene-d8	99.0			% Rec.	8260B	09/02/10	1	
Dibromofluoromethane	113.			% Rec.	8260B	09/02/10	1	
4-Bromofluorobenzene	104.			% Rec.	8260B	09/02/10	1	

U = ND (Not Detected)
SWSL = Solid Waste Section Limit
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
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L476539-02 (PH) - 7.4@15.1c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L476539-01	WG497385	SAMP	pH	R1369071	T8
	WG496569	SAMP	Selenium	R1360408	O
	WG496746	SAMP	Phosphorus,Total	R1368010	J
	WG496627	SAMP	Mercury	R1362969	J
L476539-02	WG497385	SAMP	pH	R1369071	T8
	WG496746	SAMP	Phosphorus,Total	R1368010	J
	WG496627	SAMP	Mercury	R1362969	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
09/09/10 at 14:43:55

TSR Signing Reports: 350
R5 - Desired TAT

Sample: L476539-01 Account: MUNENGGNC Received: 09/01/10 09:00 Due Date: 09/09/10 00:00 RPT Date: 09/09/10 14:43
EDD = NCLF SWSL
Sample: L476539-02 Account: MUNENGGNC Received: 09/01/10 09:00 Due Date: 09/09/10 00:00 RPT Date: 09/09/10 14:43
EDD = NCLF SWSL

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Municipal Engineering Services Company
Mark Brown
PO Box 97

Garner, NC 27529

Quality Assurance Report
Level II

L476539

September 09, 2010

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Nitrate	< .1	mg/l			WG496416	09/01/10 09:41
Nitrite	< .1	mg/l			WG496416	09/01/10 09:41
Sulfate	< 5	mg/l			WG496416	09/01/10 09:41
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG496565	09/01/10 23:59
1,1,1-Trichloroethane	< .001	mg/l			WG496565	09/01/10 23:59
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG496565	09/01/10 23:59
1,1,2-Trichloroethane	< .001	mg/l			WG496565	09/01/10 23:59
1,1-Dichloroethane	< .001	mg/l			WG496565	09/01/10 23:59
1,1-Dichloroethene	< .001	mg/l			WG496565	09/01/10 23:59
1,2,3-Trichloropropane	< .001	mg/l			WG496565	09/01/10 23:59
1,2-Dichlorobenzene	< .001	mg/l			WG496565	09/01/10 23:59
1,2-Dichloroethane	< .001	mg/l			WG496565	09/01/10 23:59
1,2-Dichloropropane	< .001	mg/l			WG496565	09/01/10 23:59
1,4-Dichlorobenzene	< .001	mg/l			WG496565	09/01/10 23:59
2-Butanone (MEK)	< .01	mg/l			WG496565	09/01/10 23:59
2-Hexanone	< .01	mg/l			WG496565	09/01/10 23:59
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG496565	09/01/10 23:59
Acetone	< .05	mg/l			WG496565	09/01/10 23:59
Acrylonitrile	< .01	mg/l			WG496565	09/01/10 23:59
Benzene	< .001	mg/l			WG496565	09/01/10 23:59
Bromochloromethane	< .001	mg/l			WG496565	09/01/10 23:59
Bromodichloromethane	< .001	mg/l			WG496565	09/01/10 23:59
Bromoform	< .001	mg/l			WG496565	09/01/10 23:59
Bromomethane	< .005	mg/l			WG496565	09/01/10 23:59
Carbon disulfide	< .001	mg/l			WG496565	09/01/10 23:59
Carbon tetrachloride	< .001	mg/l			WG496565	09/01/10 23:59
Chlorobenzene	< .001	mg/l			WG496565	09/01/10 23:59
Chlorodibromomethane	< .001	mg/l			WG496565	09/01/10 23:59
Chloroethane	< .001	mg/l			WG496565	09/01/10 23:59
Chloroform	< .005	mg/l			WG496565	09/01/10 23:59
Chloromethane	< .001	mg/l			WG496565	09/01/10 23:59
cis-1,2-Dichloroethene	< .001	mg/l			WG496565	09/01/10 23:59
cis-1,3-Dichloropropene	< .001	mg/l			WG496565	09/01/10 23:59
Dibromomethane	< .001	mg/l			WG496565	09/01/10 23:59
Ethylbenzene	< .001	mg/l			WG496565	09/01/10 23:59
Iodomethane	< .01	mg/l			WG496565	09/01/10 23:59
Methylene Chloride	< .005	mg/l			WG496565	09/01/10 23:59
Styrene	< .001	mg/l			WG496565	09/01/10 23:59
Tetrachloroethene	< .001	mg/l			WG496565	09/01/10 23:59
Toluene	< .005	mg/l			WG496565	09/01/10 23:59
trans-1,2-Dichloroethene	< .001	mg/l			WG496565	09/01/10 23:59
trans-1,3-Dichloropropene	< .001	mg/l			WG496565	09/01/10 23:59
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG496565	09/01/10 23:59
Trichloroethene	< .001	mg/l			WG496565	09/01/10 23:59
Trichlorofluoromethane	< .005	mg/l			WG496565	09/01/10 23:59
Vinyl acetate	< .01	mg/l			WG496565	09/01/10 23:59
Vinyl chloride	< .001	mg/l			WG496565	09/01/10 23:59
Xylenes, Total	< .003	mg/l			WG496565	09/01/10 23:59
4-Bromofluorobenzene		% Rec.	104.2	75-128	WG496565	09/01/10 23:59
Dibromofluoromethane		% Rec.	114.0	79-125	WG496565	09/01/10 23:59
Toluene-d8		% Rec.	97.35	87-114	WG496565	09/01/10 23:59
Antimony	< .001	mg/l			WG496569	09/02/10 11:25
Arsenic	< .001	mg/l			WG496569	09/02/10 11:25
Beryllium	< .001	mg/l			WG496569	09/02/10 11:25
Cadmium	< .0005	mg/l			WG496569	09/02/10 11:25

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

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Quality Assurance Report
Level II

L476539

September 09, 2010

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Copper	< .002	mg/l			WG496569	09/02/10 11:25
Lead	< .001	mg/l			WG496569	09/02/10 11:25
Selenium	< .001	mg/l			WG496569	09/02/10 11:25
Thallium	< .001	mg/l			WG496569	09/02/10 11:25
Zinc	< .01	mg/l			WG496569	09/02/10 11:25
Mercury	< .0002	mg/l			WG496627	09/03/10 09:59
Barium	< .005	mg/l			WG496801	09/03/10 17:58
Chromium	< .01	mg/l			WG496801	09/03/10 17:58
Cobalt	< .01	mg/l			WG496801	09/03/10 17:58
Nickel	< .02	mg/l			WG496801	09/03/10 17:58
Silver	< .01	mg/l			WG496801	09/03/10 17:58
Vanadium	< .01	mg/l			WG496801	09/03/10 17:58
BOD	-0.0900	mg/l			WG496398	09/06/10 16:31
COD	< 10	mg/l			WG496612	09/08/10 11:36
Phosphorus,Total	< .1	mg/l			WG496746	09/08/10 15:17
pH	5.50	su			WG497385	09/09/10 09:59

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Nitrate	mg/l	0	0	0	20	L476560-01	WG496416
Nitrite	mg/l	0	0	0	20	L476560-01	WG496416
Sulfate	mg/l	21.0	20.5	2.41	20	L476560-01	WG496416
Nitrate	mg/l	0	0	0	20	L476538-03	WG496416
Nitrite	mg/l	0	0	0	20	L476538-03	WG496416
Sulfate	mg/l	58.0	59.0	0.851	20	L476538-03	WG496416
Antimony	mg/l	0	0	0	20	L476171-01	WG496569
Arsenic	mg/l	0	0	0	20	L476171-01	WG496569
Beryllium	mg/l	0	0	0	20	L476171-01	WG496569
Cadmium	mg/l	0	0	0	20	L476171-01	WG496569
Copper	mg/l	0.00390	0.00370	4.49	20	L476171-01	WG496569
Lead	mg/l	0.00430	0.00410	4.06	20	L476171-01	WG496569
Selenium	mg/l	0.00240	0.00230	3.84	20	L476171-01	WG496569
Thallium	mg/l	0	0	0	20	L476171-01	WG496569
Zinc	mg/l	0.160	0.160	3.08	20	L476171-01	WG496569
Mercury	mg/l	0	0	0	20	L476490-03	WG496627
Barium	mg/l	0.00780	0.00760	2.47	20	L476490-03	WG496801
Chromium	mg/l	0	0	0	20	L476490-03	WG496801
Cobalt	mg/l	0	0	0	20	L476490-03	WG496801
Nickel	mg/l	0	0	0	20	L476490-03	WG496801
Silver	mg/l	0	0	0	20	L476490-03	WG496801

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Quality Assurance Report
Level II

L476539

September 09, 2010

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
			Duplicate				
Vanadium	mg/l	0	0	0	20	L476490-03	WG496801
BOD	mg/l	0	0	0	5	L476497-02	WG496398
BOD	mg/l	0	0	0	5	L476549-02	WG496398
BOD	mg/l	0	0	0	5	L476550-04	WG496398
COD	mg/l	270.	270.	0.738	5	L476533-01	WG496612
COD	mg/l	54.0	52.0	4.51	5	L476549-01	WG496612
Phosphorus,Total	mg/l	0	0	0	20	L476571-02	WG496746
Phosphorus,Total	mg/l	0.480	0.530	9.49	20	L476492-01	WG496746
pH	su	7.90	7.90	0	1	L476520-01	WG497385

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
			Laboratory Control Sample			
Nitrate	mg/l	8	8.28	104.	90-110	WG496416
Nitrite	mg/l	8	8.09	101.	90-110	WG496416
Sulfate	mg/l	40	40.1	100.	90-110	WG496416
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0270	108.	75-134	WG496565
1,1,1-Trichloroethane	mg/l	.025	0.0246	98.4	67-137	WG496565
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0243	97.1	72-128	WG496565
1,1,2-Trichloroethane	mg/l	.025	0.0259	104.	79-123	WG496565
1,1-Dichloroethane	mg/l	.025	0.0241	96.5	67-133	WG496565
1,1-Dichloroethene	mg/l	.025	0.0256	102.	60-130	WG496565
1,2,3-Trichloropropane	mg/l	.025	0.0260	104.	68-130	WG496565
1,2-Dichlorobenzene	mg/l	.025	0.0264	106.	75-122	WG496565
1,2-Dichloroethane	mg/l	.025	0.0234	93.7	63-137	WG496565
1,2-Dichloropropane	mg/l	.025	0.0223	89.2	74-122	WG496565
1,4-Dichlorobenzene	mg/l	.025	0.0262	105.	70-121	WG496565
2-Butanone (MEK)	mg/l	.125	0.102	82.0	53-132	WG496565
2-Hexanone	mg/l	.125	0.120	95.7	56-147	WG496565
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.101	80.4	60-142	WG496565
Acetone	mg/l	.125	0.119	95.4	48-134	WG496565
Acrylonitrile	mg/l	.125	0.114	91.4	60-140	WG496565
Benzene	mg/l	.025	0.0236	94.6	67-126	WG496565
Bromochloromethane	mg/l	.025	0.0259	104.	75-128	WG496565
Bromodichloromethane	mg/l	.025	0.0246	98.3	68-133	WG496565
Bromoform	mg/l	.025	0.0276	110.	60-139	WG496565
Bromomethane	mg/l	.025	0.0390	156.	45-175	WG496565
Carbon disulfide	mg/l	.025	0.0277	111.	41-148	WG496565
Carbon tetrachloride	mg/l	.025	0.0252	101.	64-141	WG496565
Chlorobenzene	mg/l	.025	0.0262	105.	77-125	WG496565
Chlorodibromomethane	mg/l	.025	0.0284	114.	73-138	WG496565
Chloroethane	mg/l	.025	0.0319	127.	49-155	WG496565
Chloroform	mg/l	.025	0.0249	99.7	66-126	WG496565
Chloromethane	mg/l	.025	0.0237	94.7	45-152	WG496565
cis-1,2-Dichloroethene	mg/l	.025	0.0252	101.	72-128	WG496565
cis-1,3-Dichloropropene	mg/l	.025	0.0235	94.2	73-131	WG496565
Dibromomethane	mg/l	.025	0.0233	93.4	73-125	WG496565
Ethylbenzene	mg/l	.025	0.0247	98.8	76-129	WG496565
Iodomethane	mg/l	.125	0.128	103.	61-148	WG496565

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Est. 1970

Municipal Engineering Services Company
Mark Brown
PO Box 97

Garner, NC 27529

Quality Assurance Report
Level II

L476539

September 09, 2010

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Methylene Chloride	mg/l	.025	0.0235	94.0	64-125	WG496565
Styrene	mg/l	.025	0.0238	95.3	78-130	WG496565
Tetrachloroethene	mg/l	.025	0.0253	101.	67-135	WG496565
Toluene	mg/l	.025	0.0233	93.4	72-122	WG496565
trans-1,2-Dichloroethene	mg/l	.025	0.0251	100.	67-129	WG496565
trans-1,3-Dichloropropene	mg/l	.025	0.0243	97.2	66-137	WG496565
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0183	73.3	48-139	WG496565
Trichloroethene	mg/l	.025	0.0238	95.3	74-126	WG496565
Trichlorofluoromethane	mg/l	.025	0.0276	111.	54-156	WG496565
Vinyl acetate	mg/l	.125	0.106	84.7	34-178	WG496565
Vinyl chloride	mg/l	.025	0.0261	104.	55-153	WG496565
Xylenes, Total	mg/l	.075	0.0742	98.9	75-128	WG496565
4-Bromofluorobenzene				101.6	75-128	WG496565
Dibromofluoromethane				105.5	79-125	WG496565
Toluene-d8				100.1	87-114	WG496565
Antimony	mg/l	.0567	0.0531	93.7	85-115	WG496569
Arsenic	mg/l	.0567	0.0514	90.7	85-115	WG496569
Beryllium	mg/l	.0567	0.0522	92.1	85-115	WG496569
Cadmium	mg/l	.0567	0.0515	90.8	85-115	WG496569
Copper	mg/l	.0567	0.0520	91.7	85-115	WG496569
Lead	mg/l	.0567	0.0518	91.4	85-115	WG496569
Selenium	mg/l	.0567	0.0501	88.4	85-115	WG496569
Thallium	mg/l	.0567	0.0523	92.2	85-115	WG496569
Zinc	mg/l	.0567	0.0515	90.8	85-115	WG496569
Mercury	mg/l	.003	0.00310	103.	85-115	WG496627
Barium	mg/l	1.13	1.13	100.	85-115	WG496801
Chromium	mg/l	1.13	1.21	107.	85-115	WG496801
Cobalt	mg/l	1.13	1.25	111.	85-115	WG496801
Nickel	mg/l	1.13	1.13	100.	85-115	WG496801
Silver	mg/l	1.13	1.15	102.	85-115	WG496801
Vanadium	mg/l	1.13	1.19	105.	85-115	WG496801
BOD	mg/l	198	180.	90.9	84.6-115.4	WG496398
BOD	mg/l	198	171.	86.4	84.6-115.4	WG496398
BOD	mg/l	198	189.	95.5	84.6-115.4	WG496398
BOD	mg/l	198	181.	91.4	84.6-115.4	WG496398
BOD	mg/l	198	184.	92.9	84.6-115.4	WG496398
BOD	mg/l	198	206.	104.	84.6-115.4	WG496398
COD	mg/l	262	255.	97.3	90-110	WG496612
Phosphorus,Total	mg/l	1	1.15	115.	85-115	WG496746
pH	su	9.36	9.30	99.4	98.9-102.0	WG497385

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Nitrate	mg/l	8.25	8.28	103.	90-110	0.363	20	WG496416

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Quality Assurance Report
Level II

L476539

September 09, 2010

		Laboratory Control Sample Duplicate						
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Nitrite	mg/l	8.09	8.09	101.	90-110	0	20	WG496416
Sulfate	mg/l	40.1	40.1	100.	90-110	0	20	WG496416
1,1,1,2-Tetrachloroethane	mg/l	0.0271	0.0270	108.	75-134	0.360	20	WG496565
1,1,1-Trichloroethane	mg/l	0.0258	0.0246	103.	67-137	4.80	20	WG496565
1,1,2,2-Tetrachloroethane	mg/l	0.0253	0.0243	101.	72-128	4.00	20	WG496565
1,1,2-Trichloroethane	mg/l	0.0262	0.0259	105.	79-123	0.900	20	WG496565
1,1-Dichloroethane	mg/l	0.0247	0.0241	99.0	67-133	2.42	20	WG496565
1,1-Dichloroethene	mg/l	0.0251	0.0256	100.	60-130	1.86	20	WG496565
1,2,3-Trichloropropane	mg/l	0.0274	0.0260	110.	68-130	5.29	20	WG496565
1,2-Dichlorobenzene	mg/l	0.0263	0.0264	105.	75-122	0.390	20	WG496565
1,2-Dichloroethane	mg/l	0.0242	0.0234	97.0	63-137	3.22	20	WG496565
1,2-Dichloropropane	mg/l	0.0226	0.0223	90.0	74-122	1.27	20	WG496565
1,4-Dichlorobenzene	mg/l	0.0259	0.0262	104.	70-121	0.950	20	WG496565
2-Butanone (MEK)	mg/l	0.107	0.102	86.0	53-132	4.65	20	WG496565
2-Hexanone	mg/l	0.121	0.120	96.0	56-147	0.860	20	WG496565
4-Methyl-2-pentanone (MIBK)	mg/l	0.106	0.101	84.0	60-142	4.86	20	WG496565
Acetone	mg/l	0.122	0.119	97.0	48-134	2.03	20	WG496565
Acrylonitrile	mg/l	0.120	0.114	96.0	60-140	4.76	20	WG496565
Benzene	mg/l	0.0246	0.0236	98.0	67-126	3.85	20	WG496565
Bromochloromethane	mg/l	0.0270	0.0259	108.	75-128	4.09	20	WG496565
Bromodichloromethane	mg/l	0.0251	0.0246	100.	68-133	2.22	20	WG496565
Bromoform	mg/l	0.0286	0.0276	114.	60-139	3.72	20	WG496565
Bromomethane	mg/l	0.0365	0.0390	146.	45-175	6.47	20	WG496565
Carbon disulfide	mg/l	0.0277	0.0277	111.	41-148	0.0800	20	WG496565
Carbon tetrachloride	mg/l	0.0264	0.0252	105.	64-141	4.35	20	WG496565
Chlorobenzene	mg/l	0.0265	0.0262	106.	77-125	1.10	20	WG496565
Chlorodibromomethane	mg/l	0.0286	0.0284	114.	73-138	0.800	20	WG496565
Chloroethane	mg/l	0.0318	0.0319	127.	49-155	0.240	20	WG496565
Chloroform	mg/l	0.0257	0.0249	103.	66-126	3.01	20	WG496565
Chloromethane	mg/l	0.0231	0.0237	92.0	45-152	2.45	20	WG496565
cis-1,2-Dichloroethene	mg/l	0.0257	0.0252	103.	72-128	2.10	20	WG496565
cis-1,3-Dichloropropene	mg/l	0.0242	0.0235	97.0	73-131	2.78	20	WG496565
Dibromomethane	mg/l	0.0238	0.0233	95.0	73-125	1.94	20	WG496565
Ethylbenzene	mg/l	0.0251	0.0247	100.	76-129	1.66	20	WG496565
Iodomethane	mg/l	0.127	0.128	101.	61-148	1.14	20	WG496565
Methylene Chloride	mg/l	0.0251	0.0235	100.	64-125	6.46	20	WG496565
Styrene	mg/l	0.0242	0.0238	97.0	78-130	1.39	20	WG496565
Tetrachloroethene	mg/l	0.0251	0.0253	100.	67-135	0.690	20	WG496565
Toluene	mg/l	0.0238	0.0233	95.0	72-122	2.03	20	WG496565
trans-1,2-Dichloroethene	mg/l	0.0250	0.0251	100.	67-129	0.220	20	WG496565
trans-1,3-Dichloropropene	mg/l	0.0250	0.0243	100.	66-137	2.78	20	WG496565
trans-1,4-Dichloro-2-butene	mg/l	0.0195	0.0183	78.0	48-139	6.23	20	WG496565
Trichloroethene	mg/l	0.0245	0.0238	98.0	74-126	2.94	20	WG496565
Trichlorofluoromethane	mg/l	0.0265	0.0276	106.	54-156	4.09	20	WG496565
Vinyl acetate	mg/l	0.115	0.106	92.0	34-178	8.15	26	WG496565
Vinyl chloride	mg/l	0.0249	0.0261	99.0	55-153	4.91	20	WG496565
Xylenes, Total	mg/l	0.0746	0.0742	99.0	75-128	0.600	20	WG496565
4-Bromofluorobenzene				104.8	75-128			WG496565
Dibromofluoromethane				107.3	79-125			WG496565
Toluene-d8				101.4	87-114			WG496565
COD	mg/l	267.	255.	102.	90-110	4.60	5	WG496612
Phosphorus,Total	mg/l	1.03	1.15	103.	85-115	11.0	20	WG496746

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Quality Assurance Report
Level II

L476539

September 09, 2010

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
pH	su	9.40	9.30	100.	98.9-102.0	1.07	20	WG497385

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Nitrate	mg/l	4.87	0	5	97.4	80-120	L476511-06	WG496416
Nitrite	mg/l	5.01	0	5	100.	80-120	L476511-06	WG496416
Sulfate	mg/l	215.	192.	50	46.0*	80-120	L476511-06	WG496416
1,1,1,2-Tetrachloroethane	mg/l	0.0264	0	.025	105.	45-152	L476539-01	WG496565
1,1,1-Trichloroethane	mg/l	0.0224	0	.025	89.6	31-161	L476539-01	WG496565
1,1,2,2-Tetrachloroethane	mg/l	0.0291	0	.025	116.	49-149	L476539-01	WG496565
1,1,2-Trichloroethane	mg/l	0.0268	0	.025	107.	46-145	L476539-01	WG496565
1,1-Dichloroethane	mg/l	0.0209	0	.025	83.4	30-159	L476539-01	WG496565
1,1-Dichloroethene	mg/l	0.0186	0	.025	74.3	10-162	L476539-01	WG496565
1,2,3-Trichloropropane	mg/l	0.0306	0	.025	122.	48-148	L476539-01	WG496565
1,2-Dichlorobenzene	mg/l	0.0273	0	.025	109.	40-139	L476539-01	WG496565
1,2-Dichloroethane	mg/l	0.0229	0	.025	91.7	29-167	L476539-01	WG496565
1,2-Dichloropropane	mg/l	0.0209	0	.025	83.7	39-148	L476539-01	WG496565
1,4-Dichlorobenzene	mg/l	0.0259	0	.025	104.	32-136	L476539-01	WG496565
2-Butanone (MEK)	mg/l	0.118	0	.125	94.7	32-151	L476539-01	WG496565
2-Hexanone	mg/l	0.142	0	.125	114.	41-155	L476539-01	WG496565
4-Methyl-2-pentanone (MIBK)	mg/l	0.118	0	.125	94.5	40-160	L476539-01	WG496565
Acetone	mg/l	0.129	0	.125	103.	25-157	L476539-01	WG496565
Acrylonitrile	mg/l	0.128	0	.125	102.	37-162	L476539-01	WG496565
Benzene	mg/l	0.0211	0	.025	84.6	16-158	L476539-01	WG496565
Bromochloromethane	mg/l	0.0241	0	.025	96.3	36-154	L476539-01	WG496565
Bromodichloromethane	mg/l	0.0247	0	.025	99.0	45-147	L476539-01	WG496565
Bromoform	mg/l	0.0305	0	.025	122.	38-152	L476539-01	WG496565
Bromomethane	mg/l	0.0277	0	.025	111.	0-191	L476539-01	WG496565
Carbon disulfide	mg/l	0.0153	0	.025	61.3	10-166	L476539-01	WG496565
Carbon tetrachloride	mg/l	0.0229	0	.025	91.7	22-168	L476539-01	WG496565
Chlorobenzene	mg/l	0.0250	0	.025	100.	33-148	L476539-01	WG496565
Chlorodibromomethane	mg/l	0.0290	0	.025	116.	48-151	L476539-01	WG496565
Chloroethane	mg/l	0.0258	0	.025	103.	4-176	L476539-01	WG496565
Chloroform	mg/l	0.0225	0	.025	90.0	37-147	L476539-01	WG496565
Chloromethane	mg/l	0.0173	0	.025	69.2	10-174	L476539-01	WG496565
cis-1,2-Dichloroethene	mg/l	0.0220	0	.025	88.0	29-156	L476539-01	WG496565
cis-1,3-Dichloropropene	mg/l	0.0236	0	.025	94.5	35-148	L476539-01	WG496565
Dibromomethane	mg/l	0.0238	0	.025	95.2	36-152	L476539-01	WG496565
Ethylbenzene	mg/l	0.0236	0	.025	94.3	29-150	L476539-01	WG496565
Iodomethane	mg/l	0.0984	0	.125	78.7	9-169	L476539-01	WG496565
Methylene Chloride	mg/l	0.0211	0	.025	84.3	23-151	L476539-01	WG496565
Styrene	mg/l	0.0293	0	.025	117.	38-149	L476539-01	WG496565
Tetrachloroethene	mg/l	0.0223	0	.025	89.2	13-157	L476539-01	WG496565
Toluene	mg/l	0.0208	0	.025	83.2	22-152	L476539-01	WG496565
trans-1,2-Dichloroethene	mg/l	0.0201	0	.025	80.5	11-160	L476539-01	WG496565
trans-1,3-Dichloropropene	mg/l	0.0245	0	.025	97.8	33-153	L476539-01	WG496565
trans-1,4-Dichloro-2-butene	mg/l	0.0253	0	.025	101.	19-151	L476539-01	WG496565
Trichloroethene	mg/l	0.0206	0	.025	82.5	18-163	L476539-01	WG496565
Trichlorofluoromethane	mg/l	0.0234	0	.025	93.7	10-177	L476539-01	WG496565
Vinyl acetate	mg/l	0.107	0	.125	85.5	0-196	L476539-01	WG496565
Vinyl chloride	mg/l	0.0204	0	.025	81.4	0-179	L476539-01	WG496565
Xylenes, Total	mg/l	0.0695	0	.075	92.7	27-151	L476539-01	WG496565
4-Bromofluorobenzene					102.7	75-128		WG496565
Dibromofluoromethane					106.7	79-125		WG496565
Toluene-d8					100.5	87-114		WG496565

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Quality Assurance Report
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September 09, 2010

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Antimony	mg/l	0.0551	0	.0567	97.2	75-125	L476171-01	WG496569
Arsenic	mg/l	0.0544	0	.0567	95.9	75-125	L476171-01	WG496569
Beryllium	mg/l	0.0502	0	.0567	88.5	75-125	L476171-01	WG496569
Cadmium	mg/l	0.0525	0	.0567	92.6	75-125	L476171-01	WG496569
Copper	mg/l	0.0555	0.00370	.0567	91.4	75-125	L476171-01	WG496569
Lead	mg/l	0.0560	0.00410	.0567	91.5	75-125	L476171-01	WG496569
Selenium	mg/l	0.0539	0.00230	.0567	91.0	75-125	L476171-01	WG496569
Thallium	mg/l	0.0531	0	.0567	93.6	75-125	L476171-01	WG496569
Zinc	mg/l	0.219	0.160	.0567	104.	75-125	L476171-01	WG496569
Mercury	mg/l	0.00306	0	.003	102.	70-130	L476490-03	WG496627
Barium	mg/l	1.11	0.00760	1.13	97.6	75-125	L476490-03	WG496801
Chromium	mg/l	1.18	0	1.13	104.	75-125	L476490-03	WG496801
Cobalt	mg/l	1.21	0	1.13	107.	75-125	L476490-03	WG496801
Nickel	mg/l	1.11	0	1.13	98.2	75-125	L476490-03	WG496801
Silver	mg/l	1.04	0	1.13	92.0	75-125	L476490-03	WG496801
Vanadium	mg/l	1.16	0	1.13	103.	75-125	L476490-03	WG496801
COD	mg/l	445.	42.0	400	101.	90-110	L476535-01	WG496612
Phosphorus,Total	mg/l	2.63	0.0970	2.5	101.	80-120	L476539-01	WG496746

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Nitrate	mg/l	4.82	4.87	96.4	80-120	1.03	20	L476511-06	WG496416
Nitrite	mg/l	4.97	5.01	99.4	80-120	0.802	20	L476511-06	WG496416
Sulfate	mg/l	214.	215.	44.0*	80-120	0.466	20	L476511-06	WG496416
1,1,1,2-Tetrachloroethane	mg/l	0.0252	0.0264	101.	45-152	4.39	21	L476539-01	WG496565
1,1,1-Trichloroethane	mg/l	0.0220	0.0224	87.9	31-161	1.86	23	L476539-01	WG496565
1,1,2,2-Tetrachloroethane	mg/l	0.0273	0.0291	109.	49-149	6.70	22	L476539-01	WG496565
1,1,2-Trichloroethane	mg/l	0.0262	0.0268	105.	46-145	2.23	20	L476539-01	WG496565
1,1-Dichloroethane	mg/l	0.0203	0.0209	81.0	30-159	2.91	21	L476539-01	WG496565
1,1-Dichloroethene	mg/l	0.0176	0.0186	70.5	10-162	5.33	23	L476539-01	WG496565
1,2,3-Trichloropropane	mg/l	0.0282	0.0306	113.	48-148	8.08	23	L476539-01	WG496565
1,2-Dichlorobenzene	mg/l	0.0259	0.0273	104.	40-139	5.03	23	L476539-01	WG496565
1,2-Dichloroethane	mg/l	0.0229	0.0229	91.5	29-167	0.260	21	L476539-01	WG496565
1,2-Dichloropropane	mg/l	0.0206	0.0209	82.4	39-148	1.60	20	L476539-01	WG496565
1,4-Dichlorobenzene	mg/l	0.0245	0.0259	98.0	32-136	5.64	23	L476539-01	WG496565
2-Butanone (MEK)	mg/l	0.113	0.118	90.6	32-151	4.46	26	L476539-01	WG496565
2-Hexanone	mg/l	0.128	0.142	103.	41-155	9.94	28	L476539-01	WG496565
4-Methyl-2-pentanone (MIBK)	mg/l	0.111	0.118	88.8	40-160	6.31	28	L476539-01	WG496565
Acetone	mg/l	0.120	0.129	96.0	25-157	7.47	26	L476539-01	WG496565
Acrylonitrile	mg/l	0.121	0.128	97.2	37-162	5.00	24	L476539-01	WG496565
Benzene	mg/l	0.0206	0.0211	82.4	16-158	2.58	21	L476539-01	WG496565
Bromochloromethane	mg/l	0.0237	0.0241	94.7	36-154	1.68	21	L476539-01	WG496565
Bromodichloromethane	mg/l	0.0243	0.0247	97.2	45-147	1.77	20	L476539-01	WG496565
Bromoform	mg/l	0.0287	0.0305	115.	38-152	6.10	20	L476539-01	WG496565
Bromomethane	mg/l	0.0280	0.0277	112.	0-191	0.970	35	L476539-01	WG496565
Carbon disulfide	mg/l	0.0146	0.0153	58.2	10-166	5.08	25	L476539-01	WG496565
Carbon tetrachloride	mg/l	0.0222	0.0229	88.7	22-168	3.33	24	L476539-01	WG496565
Chlorobenzene	mg/l	0.0238	0.0250	95.3	33-148	4.98	22	L476539-01	WG496565

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

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Municipal Engineering Services Company
Mark Brown
PO Box 97

Garner, NC 27529

Quality Assurance Report
Level II

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Analyte	Units	MSD	Matrix Spike Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Chlorodibromomethane	mg/l	0.0277	0.0290	111.	48-151	4.82	21	L476539-01	WG496565
Chloroethane	mg/l	0.0252	0.0258	101.	4-176	2.33	27	L476539-01	WG496565
Chloroform	mg/l	0.0221	0.0225	88.4	37-147	1.87	21	L476539-01	WG496565
Chloromethane	mg/l	0.0175	0.0173	70.1	10-174	1.28	28	L476539-01	WG496565
cis-1,2-Dichloroethene	mg/l	0.0217	0.0220	86.8	29-156	1.42	22	L476539-01	WG496565
cis-1,3-Dichloropropene	mg/l	0.0233	0.0236	93.1	35-148	1.45	21	L476539-01	WG496565
Dibromomethane	mg/l	0.0232	0.0238	92.8	36-152	2.55	20	L476539-01	WG496565
Ethylbenzene	mg/l	0.0220	0.0236	87.8	29-150	7.15	24	L476539-01	WG496565
Iodomethane	mg/l	0.0951	0.0984	76.1	9-169	3.41	27	L476539-01	WG496565
Methylene Chloride	mg/l	0.0207	0.0211	82.9	23-151	1.68	21	L476539-01	WG496565
Styrene	mg/l	0.0273	0.0293	109.	38-149	7.06	23	L476539-01	WG496565
Tetrachloroethene	mg/l	0.0214	0.0223	85.4	13-157	4.30	24	L476539-01	WG496565
Toluene	mg/l	0.0202	0.0208	80.9	22-152	2.76	22	L476539-01	WG496565
trans-1,2-Dichloroethene	mg/l	0.0192	0.0201	76.7	11-160	4.75	23	L476539-01	WG496565
trans-1,3-Dichloropropene	mg/l	0.0245	0.0245	97.9	33-153	0.0600	22	L476539-01	WG496565
trans-1,4-Dichloro-2-butene	mg/l	0.0208	0.0253	83.4	19-151	19.3	29	L476539-01	WG496565
Trichloroethene	mg/l	0.0196	0.0206	78.5	18-163	5.02	21	L476539-01	WG496565
Trichlorofluoromethane	mg/l	0.0231	0.0234	92.4	10-177	1.40	24	L476539-01	WG496565
Vinyl acetate	mg/l	0.104	0.107	83.0	0-196	2.86	26	L476539-01	WG496565
Vinyl chloride	mg/l	0.0191	0.0204	76.5	0-179	6.21	26	L476539-01	WG496565
Xylenes, Total	mg/l	0.0657	0.0695	87.6	27-151	5.65	23	L476539-01	WG496565
4-Bromofluorobenzene				101.7	75-128				WG496565
Dibromofluoromethane				108.8	79-125				WG496565
Toluene-d8				102.6	87-114				WG496565
Antimony	mg/l	0.0565	0.0551	99.6	75-125	2.51	20	L476171-01	WG496569
Arsenic	mg/l	0.0535	0.0544	94.4	75-125	1.67	20	L476171-01	WG496569
Beryllium	mg/l	0.0495	0.0502	87.3	75-125	1.40	20	L476171-01	WG496569
Cadmium	mg/l	0.0530	0.0525	93.5	75-125	0.948	20	L476171-01	WG496569
Copper	mg/l	0.0542	0.0555	89.1	75-125	2.37	20	L476171-01	WG496569
Lead	mg/l	0.0546	0.0560	89.1	75-125	2.53	20	L476171-01	WG496569
Selenium	mg/l	0.0543	0.0539	91.7	75-125	0.739	20	L476171-01	WG496569
Thallium	mg/l	0.0519	0.0531	91.5	75-125	2.29	20	L476171-01	WG496569
Zinc	mg/l	0.218	0.219	102.	75-125	0.458	20	L476171-01	WG496569
Mercury	mg/l	0.00325	0.00306	108.	70-130	6.02	20	L476490-03	WG496627
Barium	mg/l	1.10	1.11	96.7	75-125	0.905	20	L476490-03	WG496801
Chromium	mg/l	1.16	1.18	103.	75-125	1.71	20	L476490-03	WG496801
Cobalt	mg/l	1.20	1.21	106.	75-125	0.830	20	L476490-03	WG496801
Nickel	mg/l	1.10	1.11	97.3	75-125	0.905	20	L476490-03	WG496801
Silver	mg/l	1.01	1.04	89.4	75-125	2.93	20	L476490-03	WG496801
Vanadium	mg/l	1.15	1.16	102.	75-125	0.866	20	L476490-03	WG496801
COD	mg/l	439.	445.	99.2	90-110	1.36	5	L476535-01	WG496612
Phosphorus,Total	mg/l	2.62	2.63	101.	80-120	0.381	20	L476539-01	WG496746

Batch number /Run number / Sample number cross reference

WG496416: R1359588: L476539-01 02
WG496565: R1359909: L476539-01 02
WG496569: R1360408: L476539-01 02

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

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Quality Assurance Report
Level II

L476539

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WG496627: R1362969: L476539-01 02
WG496801: R1364254: L476539-01 02
WG496398: R1365848: L476539-01 02
WG496612: R1367269: L476539-01 02
WG496746: R1368010: L476539-01 02
WG497385: R1369071: L476539-01 02

* * Calculations are performed prior to rounding of reported values .
* Performance of this Analyte is outside of established criteria.
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The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

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

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

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

Company Name/Address

Municipal Engineering
1140 Benson Rd.
Garner, NC 27529

Alternate Billing

Report to: Mark Brown

E-mail to: mbrown@mesco.com

Project Description: Iredell County Leachate

City/State: Iredell Co., NC

PHONE: (919) 772-5393

FAX: (919) 772-1176

Client Project No.: G10121.0

Lab Project #

Collected by: MARK BROWN

Site/Facility ID#

P.O.#

Collected by(signature):

Packed on Ice N (Y)

Rush? (Lab MUST be Notified)
_____Same Day.....200%
_____Next Day.....100%
_____Two Day.....50%

Date Results Needed: REG TURN

Email? ___No ___Yes

FAX? ___No ___Yes

Analysis/Container/Preservative

Chain of Custody
Page___of___

D120

Prepared by:
ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Road
Mt. Juliet TN 37122
Phone (615)758-5858
Phone (800) 767-5859

CoCode (lab use only)
MUNENGGNC
Template/Prelogin

Shipped Via: Raleigh Service Center

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	Append. 1 Metals x 200.7: 1 x 500-ml HDPE w/Nitric ✓2	Append. I VOCs x 8260B: 2 x 40-ml amb. VOA w/HCl	Phosporous (Total): 1 x 250-ml HDPE w/Sulfuric	Nitrate-Nitrite (soluble): Combine with Phos. bottle ✓2	Sulfate (soluble): 1 x 125-ml HDPE w/no preserv.	BOD: 1 x 1-Liter HDPE w/no preserv.	COD: 1 x 250-ml HDPE w/sulfuric ✓2	pH: 1 x 125-ml HDPE w/no preserv.	Remarks/contaminant	Sample # (lab only)
SW - SED BEN	G	OT	SURF WATER	8/31/10	1215	8	1	2	1	*	1	1	1	1		L476539-01
SW - INTERMITTEN STREAM	G	OT	SURF WATER	8/31/10	1230	8	1	2	1	*	1	1	1	1		02

*Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other SURFACE WATER

pH_____ Temp_____

Remarks: ********** **Report in NC Solid Waste format.**********

Relinquisher by:(Signature	Date:	Time:	Received by:(Signature)	Samples returned via: FedEx ✓ UPS__Other__	Condition (lab use only)
	8/31/10	1700		4134 1 9803 7042	OK
Relinquisher by:(Signature	Date:	Time:	Received by: (Signature)	Temp: 3.8°C / Bottles Received: 16 + 1TB	
Relinquisher by:(Signature	Date:	Time:	Received for lab by: (Signature) Kenn Walker	Date: 9/1/10 / Time: 0900	pH Checked: <2 / NCF: HEN

NCDENR CORRESPONDENCE

North Carolina Department of Environment and Natural Resources
Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director

Dee Freeman
Secretary

August 27, 2010

Dave Lambert
Iredell County Solid Waste Director
354 Twin Oaks Road
Statesville, NC 28625

Re: Proposed Sample and Analysis Plan
Iredell County Landfill, Permit #49-03

Dear Mr. Lambert,

The Solid Waste Section (Section) has completed a review of the *Proposed Sample and Analysis Plan* submitted on August 23, 2010 on behalf of Iredell County by Municipal Engineering Services Company, P.A. (MESCO). The work plan was submitted in accordance with the Notice of Violation issued by the Section on August 18, 2010.

MESCO proposes to collect a minimum of six soil samples in the vicinity of the leachate breakouts with a stainless steel hand auger from borings approximately five feet below ground surface. The soil samples are proposed to be field screened using and flame ionization detector and/or photo-ionization detector and analyzed for Appendix I volatile organic compounds (VOCs) and metals. Excavation of soils will be dependent on laboratory analytical results. The Section approves the *Proposed Sample and Analysis Plan* under the following conditions:

- Soil samples should be analyzed for nitrate-nitrite(soluble), phosphorus, sulfate(soluble), and ph in addition to the aforementioned parameters
- A background soil sample should be collected
- A soil sample near the sediment basin outlet should be collected
- A surface water sample from the creek and sediment basin should be collected and analyzed for Appendix I VOCs, Appendix I metals, nitrate-nitrite(soluble), phosphorus, sulfate(soluble), ph, biological oxygen demand, and chemical oxygen demand.

Please contact me at (919) 508-8516 or by e-mail at ervin.lane@ncdenr.gov if you have any questions or concerns regarding this letter. Thank you in advance for your anticipated cooperation with this matter.

Sincerely,

Ervin Lane
Compliance Hydrogeologist
Solid Waste Section

Cc: Mark Brown, P.G., MESCO
Mark Poindexter, Field Operations Branch Head
Deb Aja, Western District Supervisor
Charles Gerstell, Environmental Senior Specialist

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-508-8400 \ FAX: 919-733-4810 \ Internet: www.wastenotnc.org

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FACILITY COMPLIANCE AUDIT REPORT
Division of Waste Management
Solid Waste Section

UNIT TYPE:												
Lined MSWLF	X	LCID		YW		Transfer		Compost	X	SLAS		COUNTY: Iredell
Closed MSWLF		HHW		White goods	X	Incin		T&P	X	FIRM		PERMIT NO.: 49-03
CDLF	X	Tire T&P / Collection	X	Tire Monofill		Industrial Landfill		DEMO		SDTF		FILE TYPE: COMPLIANCE

Date of Audit: August 10, 2010 and August 11, 2010 **Date of Last Audit:** April 7, 2010

FACILITY NAME AND ADDRESS:
Iredell County Landfill
354 Twin Oaks Road
Statesville, North Carolina 28625

GPS COORDINATES: N: 35.77114 **W:** 80.82346

FACILITY CONTACT NAME AND PHONE NUMBER:
David Lambert, Solid Waste Director (704) 878-5430

FACILITY CONTACT ADDRESS:
Same

AUDIT PARTICIPANTS:
David Lambert, Solid Waste Director
Terry Church, Landfill Supervisor
Charles Gerstell, NCDENR-Solid Waste Section

STATUS OF PERMIT:
The Permit to Operate a Municipal Solid Waste Landfill Unit Phase 4 was issued on July 30, 2008 and shall expire on July 30, 2013.

PURPOSE OF AUDIT:
Comprehensive Audit

NOTICE OF VIOLATION(S):
15A North Carolina Administrative Code 13B .1626(8)(d) states: *Leachate shall be contained on site or properly treated prior to discharge. An NPDES permit may be required prior to the discharge of leachate to surface waters.*

Iredell County is in violation of 15A NCAC 13B .1626(8)(d) in that during the inspection performed on August 10, 2010, a leachate outbreak was observed on the southern portion of Phase 4 near the transition from the inactive Phase 3. Leachate from this outbreak was observed flowing beyond the edge of liner marker. Therefore, leachate was not properly treated prior to discharge.

To achieve compliance, Iredell County must complete the following actions:

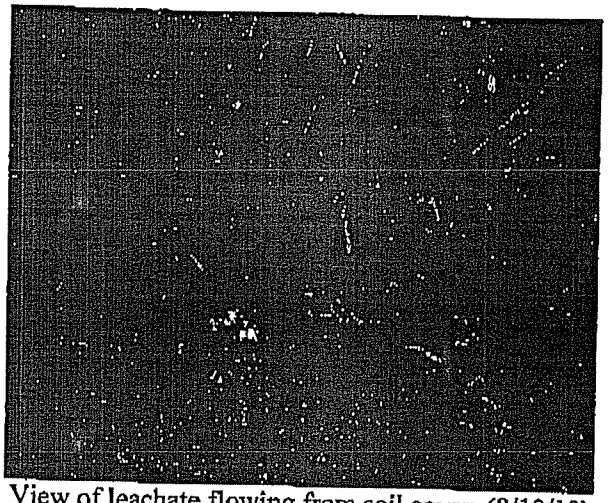
1. Monitor to assure leachate is contained on site or properly treated prior to discharge in accordance with 15A NCAC 13B .1626(8)(d).

2. To assess the impact of the leachate release outside the waste cell, Iredell County shall acquire the services of a N.C. licensed geologist with experience in assessment and remediation of ground water contamination and submit a phased assessment plan to the Division. The professional geologist shall consult with the Solid Waste Section Hydrogeologist about the site prior to developing the plan. The Section will review the submitted plan, approve, or request more information or amendments before implementation. The plan shall be implemented as approved. Within 30 days, submit this plan to:

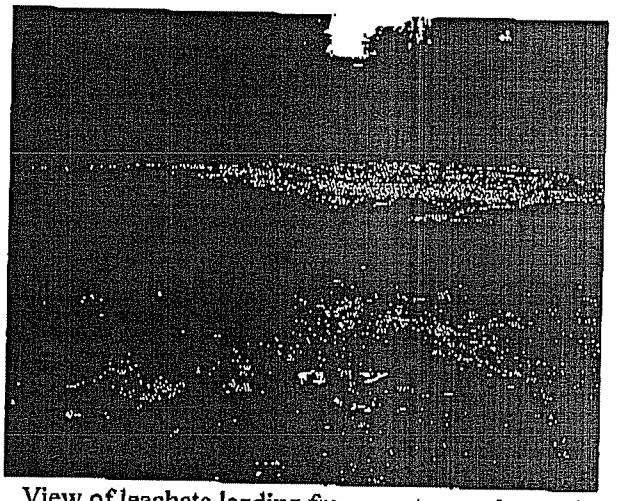
Ervin Lane, Compliance Hydrogeologist
NCDENR-Division of Waste Management
Solid Waste Section
410 Oberlin Road, Suite 150
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

3. Within 30 days, submit a revised leachate management plan to detail procedures to identify and repair any future leachate seeps and to prevent a leachate release beyond the liner system. Submit the revised plan to:

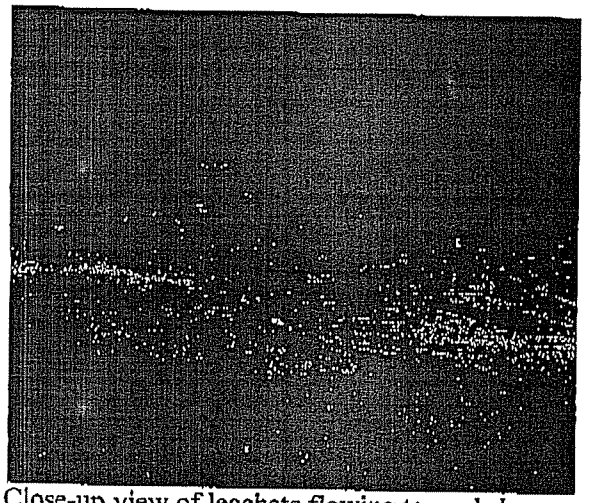
Larry Frost, Regional Engineer
NCDENR-Division of Waste Management
Solid Waste Section
2090 US Highway 7



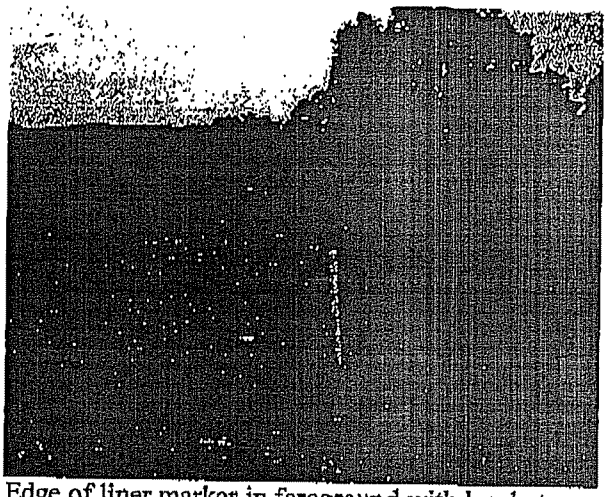
View of leachate flowing from soil cover. (8/10/10)



View of leachate leading from waste area beyond edge of liner. (8/10/10)



Close-up view of leachate flowing toward slope beyond edge of liner. (8/10/10)



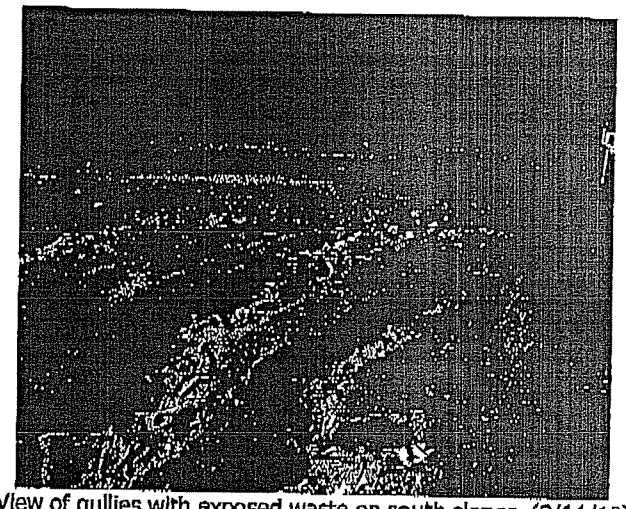
Edge of liner marker in foreground with leachate flowing beyond in background. (8/10/10)

15A North Carolina Administrative Code 13B .1626(2)(a) states: *Except as provided in (2)(b) of this Paragraph, the owners or operators of all MSWLF units must cover disposed solid waste with six inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.*

Operational cover was inadequate on inactive areas south of the working face of the MSWLF unit during both inspections performed on August 10, 2010 and August 11, 2010.

To achieve compliance, Iredell County must cover all inactive areas with a minimum of six inches of earthen material within 5 days of this audit report with Notice of Violation(s).

View of exposed waste at top of southern slope. (8/10/10)



View of gullies with exposed waste on south slopes. (8/11/10)

You are hereby advised that, pursuant to N.C.G.S. 130A-22, an administrative penalty of up to $15,000 per day may be assessed for each violation of the Solid Waste Statute or Regulations. For the violation(s) noted here, you may be subject to enforcement actions including penalties, injunction from operation of a solid waste management facility or a solid waste collection service and any such further relief as may be necessary to achieve compliance with the North Carolina Solid Waste Management Act and Rules.

STATUS OF PAST NOTED VIOLATIONS:
None

AREAS OF CONCERN AND COMMENTS:

1. An initial inspection was performed on August 10, 2010. A follow-up inspection was performed on August 11, 2010 to review facility records and re-evaluate the conditions observed within the MSW Landfill Unit.
2. The permit and operations plan were reviewed. These documents were current and available for review.
3. The facility is currently receiving approximately 564 tons of waste each operating day.

Records Review:

4. Financial assurance document was reviewed and was approved on February 18, 2010
5. Ground water monitoring was being performed semi-annually as required.
6. Methane monitoring was being performed quarterly as required.
7. The leachate inspection log was reviewed.
   - Leachate sumps 3 & 4 were flushed and vacuumed on June 15, 2009.
   - Leachate lines were flushed using high pressure water jetting on August 11, 2009.
   - Leachate lines were flushed with a water truck approximately 2-3 weeks prior to inspection.
   - Leachate lagoon inspection log was reviewed. No damage was reported for the year 2010.
8. Waste screening forms were reviewed and appeared adequate. Unacceptable waste streams are being noted when observed. It appeared that there was a need to spread screenings out to different times of day to ensure that multiple trucks and waste types are being monitored.
9. Leachate sampling was being performed semi-annually as required.
10. Tire certification forms were reviewed and found to be properly completed and signed.
11. Certified Landfill Managers:
    - David Lambert (expires 5/7/13)
    - Terry Church (expires 5/7/13)
    - Susan Cornell (expires 5/7/13
12. Certified Landfill Operations Specialists:
    - Randy Bass (expires 3/12/13)
    - Wesley Feimster (expires 3/12/13)
    - Jeff Freeze (expires 3/12/13)
    - Terry Mills (expires 2/3/13)

Operations Inspection of the MSW Landfill Unit (**August 10th inspection**):

13. Was being placed into Phase 4 at the time of inspection.
14. An area of dead vegetation approximately 15-feet X 25-feet was observed at the southeast corner of the inactive Phase 2. Two small leachate stains were observed at the top of the bare area. An observation of this area on the August 11th inspection found that additional soil had been placed and re-graded in this area. Continue to monitor this area for leachate outbreaks and ensure that all bare soil is stabilized with a groundcover sufficient to restrain erosion.
15. Twelve tires were observed near the working face which had been removed from the landfill staff. Continue efforts to remove unacceptable waste streams form he landfill when they are observed.
16. No unacceptable waste streams were observed within the working face at the time of inspection.
17. Earthen material was being placed on the northern slopes of the working face.
18. Windblown waste was well managed during both inspections performed on August 10th and August 11th.
19. Landfill staff began applying Posi-Shell on the working face during the inspection. Mr. Lambert notified staff by two-way radio to ensure that the material was placed properly.

20. Operational cover was inadequate on inactive areas south of the working face. A significant amount of waste was visible above the soil. Severely eroded slopes were observed on the southern slopes of the landfill exposing waste. Mr. Lambert stated that waste had not been placed in the southern portion of the landfill for approximately one month.
21. A leachate outbreak was observed on the south side of Phase 4 adjacent to the transition point from Phase 3 and just north of leachate sump #3. Leachate was observed flowing from below the operational cover at multiple points for distance of approximately 25-feet. Leachate from the outbreak was observed flowing beyond the edge of liner marker located near leachate sump #3 to a slope located above a sediment basin on the south side of the access road leading around the landfill unit. A sediment basin is located below the fill slope south of the leachate outbreak. Mr. Lambert stated that landfill staff was unaware of the leachate outbreak.
    - Flow from the leachate outbreak was stopped prior to the end of the inspection. Additional soil was placed on the area and was re-graded with a bulldozer.
22. Two additional leachate outbreaks were observed northeast of the aforementioned outbreak. Leachate from these outbreaks appeared to stay within the berm located inside the edge of liner markers.
23. Multiple mattresses were piled up on the southwest portion of the landfill. Mr. Lambert stated that these mattresses were exposed due to recent rains and moved to be buried. These mattresses must be properly covered with operational cover immediately.
24. It appeared that majority of edge of liner markers located along the south side of phase 3 had been removed. All edge of liner markers must be reinstalled to ensure proper verification of the liner edge.
25. All primary access roads were stable and in good operational condition.

Operations Inspection of the MSW Landfill Unit (**August 11th inspection**):

26. Observed the location of the severe leachate outbreak adjacent to the transition point from Phase 3. The area had been re-graded with additional soil as observed the previous day. No leachate was observed.
27. Work had commenced to place soil on the severely eroded gullies with exposed waste located on the southern slopes of the landfill. Soil was being placed at the top of the slope to be pushed over waste. Some gullies had been covered, but additional work was needed to cover remaining exposed waste.

Operations Inspection of the White Goods Collection Area:

28. This area was well managed at the time of inspection. All white goods containing Freon were in an upright position.

Operations Inspection of the Tire Collection Area:

29. This area was well managed at the time of inspection. All tires were being collected into covered trailers and stored properly.

Operations Inspection of the Treatment and Processing Area:

30. This area was observed during the August 11th inspection and found to be well managed.
31. Compost was placed into windrows with good access for firefighting equipment.
32. Land Clearing waste is kept separate from leaves and landscape material.
33. Land clearing waste was being ground at the time of inspection.
34. Please ensure that freshly ground yard waste is placed into proper windrows.

FACILITY COMPLIANCE AUDIT REPORT
Division of Waste Management
Solid Waste Section

Please contact me if you have any questions or concerns regarding this audit report.

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Environmental Senior Specialist
Regional Representative

Phone: (704) 235-2144.

Delivered on : 8/18/10 by		Hand delivery		Electronic Correspondence	X	Certified No. [7008 1140 0002 2716 2821]

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