DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Municipal Engineering Services Co., PA

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Jonathan Pfohl Phone: (919)772-5393

E-mail: jpfohl@mesco.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Iredell County Subtitle D Lined MSWLF, Phases 3 & 4	354 Twin Oaks Road Statesville, NC 28625	49-03	.1600	July 23-24, 2014 August 12, 2014 (MW-21 verification sample)

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☒ Leachate monitoring data
☒ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify) _____

Notification attached?

☐ No. No groundwater or surface water standards were exceeded.
☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Steven R. Gandy, Ph.D., P.E. | Senior Project Manager | (919) 772-5393

Facility Representative Name (Print) | Title | (Area Code) Telephone Number

Signature: Steven R. Gandy PhD PE Date: 5/8/2015

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA PROFESSIONAL SEAL 31020 ENGINEER STEVEN R. GANDY

P.O. BOX 97, Garner, NC 27529

Facility Representative Address

C-0281

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009

Semi-Annual Water Quality Monitoring Report

Prepared for

Iredell County Subtitle D Lined MSWLF, Phases 3 & 4
Statesville, North Carolina

July 2014

Permit Number: 49-03
MESCO Project Number: G14014.0

Submittal Date: May 8, 2015

P.O. Box 97
Garner, NC 27529
License No. C-0281

Municipal Services Garner, NC
Engineering Company, P.A. Boone, NC
Municipal Engineering Services Company, P.A.
Garner and Boone, North Carolina

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License No. C-0281

CIVIL/SANITARY/ENVIRONMENTAL ENGINEERS

SOLID WASTE MANAGEMENT

Municipal Services Engineering Company, P.A.

SITE PLANNING/SUBDIVISIONS

SUBSURFACE UTILITY ENGINEERING (SUE)

May 8, 2015

Mr. Ervin Lane
Solid Waste Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
217 West Jones Street
Raleigh, NC 27603

Re: ***Semi-Annual Water Quality Monitoring Report***
Iredell County Subtitle D Lined MSWLF, Phases 3 & 4
Permit No. 49-03
MESCO Project No. G14014.0
Event Date(s): July 23-24, 2014 (MW-21S verification August 12, 2014)

Dear Mr. Lane:

Introduction

On behalf of Iredell County, Municipal Engineering Services Company, P.A. (MESCO) is pleased to present this *Semi-Annual Water Quality Report* for the summer 2014 event performed at the Iredell County Subtitle D Lined Municipal Solid Waste Landfill (MSWLF), Phases 3 & 4. NCDENR Solid Waste Rules 15A NCAC 13B.1632 requires that Iredell County provide this report to the SWS on a semi-annual basis. This report documents the quality of the ground and surface waters during this monitoring event performed on July 23-24, 2014. In response to an unprecedented concentration of vinyl chloride in sample MW-21S a verification sample was collected on August 12, 2014. Laboratory analytical results indicate that total chromium was detected in concentrations above the NC 2L Standard in MW-28 and also in background well MW-17 with the origin attributed to erosion of natural deposits. Vinyl chloride was detected in excess of the 2L Standard in sample MW-21D in two samples collected 19 days apart; however the latest result is below the SWSL thus "j-qualified". No parameters were detected in any ground or surface water sample above federal "Primary Drinking Water Standards".

Background

The Iredell County Subtitle D lined MSWLF, permit #49-03, is located at 354 Twin Oaks Road, Statesville, North Carolina. The site location topographic map is depicted in the attached **Figure 1**. The lined MSWLF is comprised of contiguous Phase 3 (inactive) & Phase 4 (active) which are treated as a single unit in this report.

Water quality at this facility has been monitored at least semi-annually since prior to operation in 2002 with all historical data available and reviewed in support of this report. This event was performed in accordance with the NC SWS rules/regulations as promulgated in 15A NCAC 13B and as a condition of the permit to operate.

As specified within 15A NCAC 13B.1632(j) and the SWS Environmental Monitoring Report Form this report contains sampling procedures, field and laboratory results, groundwater and surface water characterization. Detections compared to Standards tables, a groundwater flow directions/rates table, a field observations table, a field data results table, potentiometric map, quality assurance/quality control data, and laboratory analytical data results are also enclosed.

Sampling Procedure

MESCO performed the sampling in general accordance with the SWS approved *Ground and Surface Water Sampling and Analysis Plan* contained in the *Hydrogeologic Design Study* revised on May 8, 2007. Groundwater sample collection for this event included ten downgradient groundwater monitoring wells (MW-18, MW-19SR, MW-19D, MW-21S, MW-21D, MW-27S, MW-27D, MW-28, MW-29 and MW-30), one background well (MW-17), and one leachate sample (FORCEMAIN). The unnamed tributary of Fourth Creek, which serves as the local discharge feature between both distinct units (Phases 3&4 and Phases 1 &2) was monitored at three locations (SW-1, SW-2 and SW-5). Quality control measures were implemented during this event, including submittal and subsequent blank quantification, equipment blank (EB), field blank (FB) and travel blank (TB). Monitoring locations are shown on the potentiometric map **(Figure 2)**.

A summary detailing the construction of the water monitoring wells is presented on **Table 1**. The function and integrity of all monitoring locations were visually evaluated and deficiencies rectified as documented on **Table 2.** The depth to water in each well was electronically gaged prior to purging to quantify the static water level elevation. Low-flow pumping methodology or bailing was utilized to purge the wells to a minimum of three times the volume of standing water in the well or until dry. Surface water samples were collected from previously designated locations. The leachate sample was taken directly from the Phase 3 forcemain (FORCEMAIN) which contains leachate originating from both Phases 3 & 4. During well purging and surface water sample collection the required field parameters were recorded. The samples were then placed into laboratory-prepared, pre-preserved containers via a new disposable polyethylene bailer. Samples were collected, kept on ice, and transported to a NC-certified laboratory under proper chain of custody (C-O-C) protocols within the specified hold times for each analysis.

Field Parameter Data

Stabilized field parameters were recorded during purging which included static water depth, pH, specific conductance, temperature, total dissolved solids (TDS) and visual turbidity. A summary of the field parameter data is presented in **Table 3** and the field sampling data sheet is enclosed in **Appendix B.**

Laboratory Results

Pace Analytical Laboratory (PACE) of Huntersville and Asheville, NC performed the laboratory analysis on the groundwater and surface water samples for the constituents listed in 40 CFR 258 Appendix I. A raw leachate sample was analyzed for the required leachate specific list, which includes Appendix I, nitrate, phosphorus, chemical oxygen demand (COD), biological oxygen demand (BOD), and sulfate. A sampling and analysis table summarizing the locations, targeted constituents, and methods is presented on **Table 4**. Laboratory results and C-O-Cs are presented in **Appendix A**.

Water samples were analyzed to the laboratory-established Method Detection Limits (MDL), which are at or below the current Solid Waste Section Limit (SWSL). **Table 5** summarizes constituents detected in groundwater and surface water samples that attain or were above the current SWSL, Groundwater Protection Standards (GWP), North Carolina Groundwater Standards (2L) or the North Carolina Surface Water Standards (2B) for a Class C water-body.

Quality Control Samples

None of the targeted constituents were detected in the quality control samples (EB, FB, TB). Therefore the data set appears to be unaffected by false positives or high bias attributed to field or laboratory induced artifact contamination.

Groundwater Samples

Total chromium was detected in sample MW-28 (13.8 µg/L) in excess of the 2L Standard (10 µg/L). Total cadmium was also detected in a higher concentration (20.7 µg/L) in hydraulically upgradient background well (MW-17).

Vinyl chloride was detected above 2L Standards (1.0 µg/L) in samples collected from MW-21S on July 24, 2014 (1.4 µg/L) but in a lower "j-qualified" level (0.81 µg/L) on August 17, 2014.

Surfacewater Samples

No constituents were detected above the applicable 2B Standard in the surface water samples.

Leachate Samples

The leachate sample (FORCEMAIN) contained quantifiable concentrations of six total metals and eight VOCs as listed in **Table 6**. Vinyl chloride the lone VOC 2L exceedance (MW-21S) was absent from the leachate sample collected this event and every other historical event except for July 20, 2007. The concentrations of analytes detected in the leachate samples are much lower (by an order of magnitude) then averages of leachate from similar landfills as published by the EPA [1] which is generally consistent with results historically reported.

Groundwater and Surface Water Characterization

MESCO prepared a potentiometric map from groundwater elevation data for the uppermost aquifer recorded during this event (**Figure 2**). Groundwater flow rates and directions were calculated and are included on **Table 7**. Groundwater flows in a general northeasterly direction towards the unnamed tributary of Fourth Creek, which serves as the local discharge feature. Groundwater flow rates ranged from approximately 1 feet/year (MW-21S) to 120 feet/year (MW-30) averaging about 55 feet/year. The flow directions and gradients are generally consistent with historically reported observations. Streams located within the facility boundaries were visually observed to have low seasonal volume and flow with low turbidity.

Findings

The detections of total chromium detected in sample MW-28 is not attributed to an anthropogenic source, rather a product of natural deposit erosion. Total chromium was previously detected in much higher levels in MW-28 during the pre-operation baseline and in the upgradient background well MW-17.

The unprecedented quantifiable concentration of vinyl chloride (VCM) detected in MW-21S during the routine event fell below the SWSL three weeks later. The source of vinyl chloride as detected in MW-21S may be anthropogenic but the specific release mechanism is currently unestablished. Landfill gas may be the transport mechanism as methane has been detected in a LFG monitoring probe located adjacent to MW-21S.

The only constituent detected site-wide in excess of federal "Primary Drinking Water Standards" was total antimony in the raw leachate (FORCEMAIN) sample.

Closing

Semi-annual water quality detection monitoring was performed again in February 2015. If you have any questions regarding this report, please contact us at (919) 772-5393 or by email at jpfohl@mesco.com or sgandy@mesco.com if you have any questions or comments.

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

Jonathan Pfohl
Environmental Specialist

Steven R. Gandy, Ph.D, P.E.
Senior Project Manager

Enclosures

cc: Mr. David Lambert
Iredell County

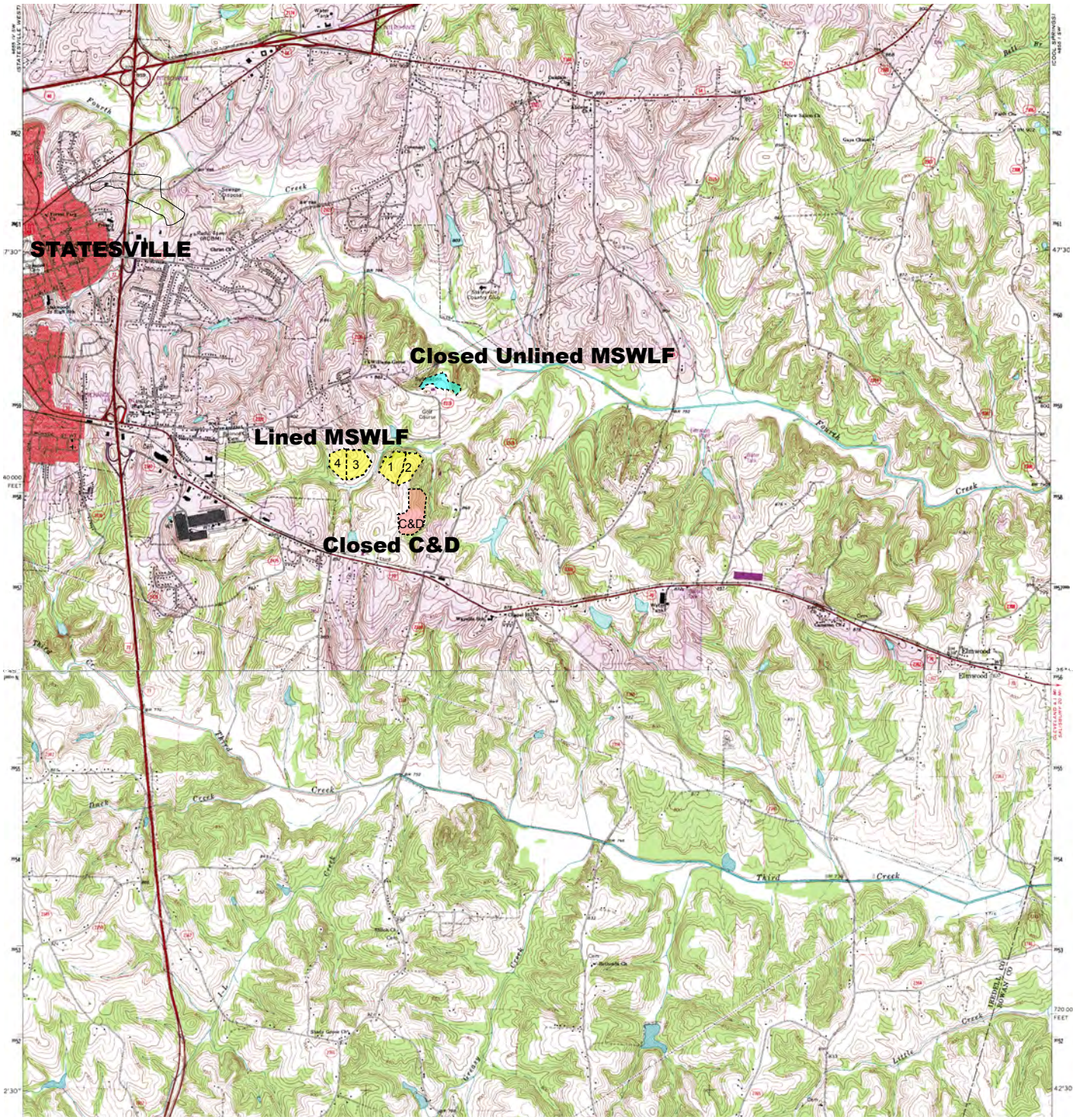
[1] 1988 EPA document-Summary of Data on MSWLFLeachate Characteristics – EPA/530-SW-88-038

Figures

Topographic Map with Site Location

Iredell County Landfill

N



354 Twin Oaks Rd
Statesville, NC 28625
Lat:35-46-17.8012
Long:-80-49-22.2973
Northing:740719.35
Easting:1459306.76

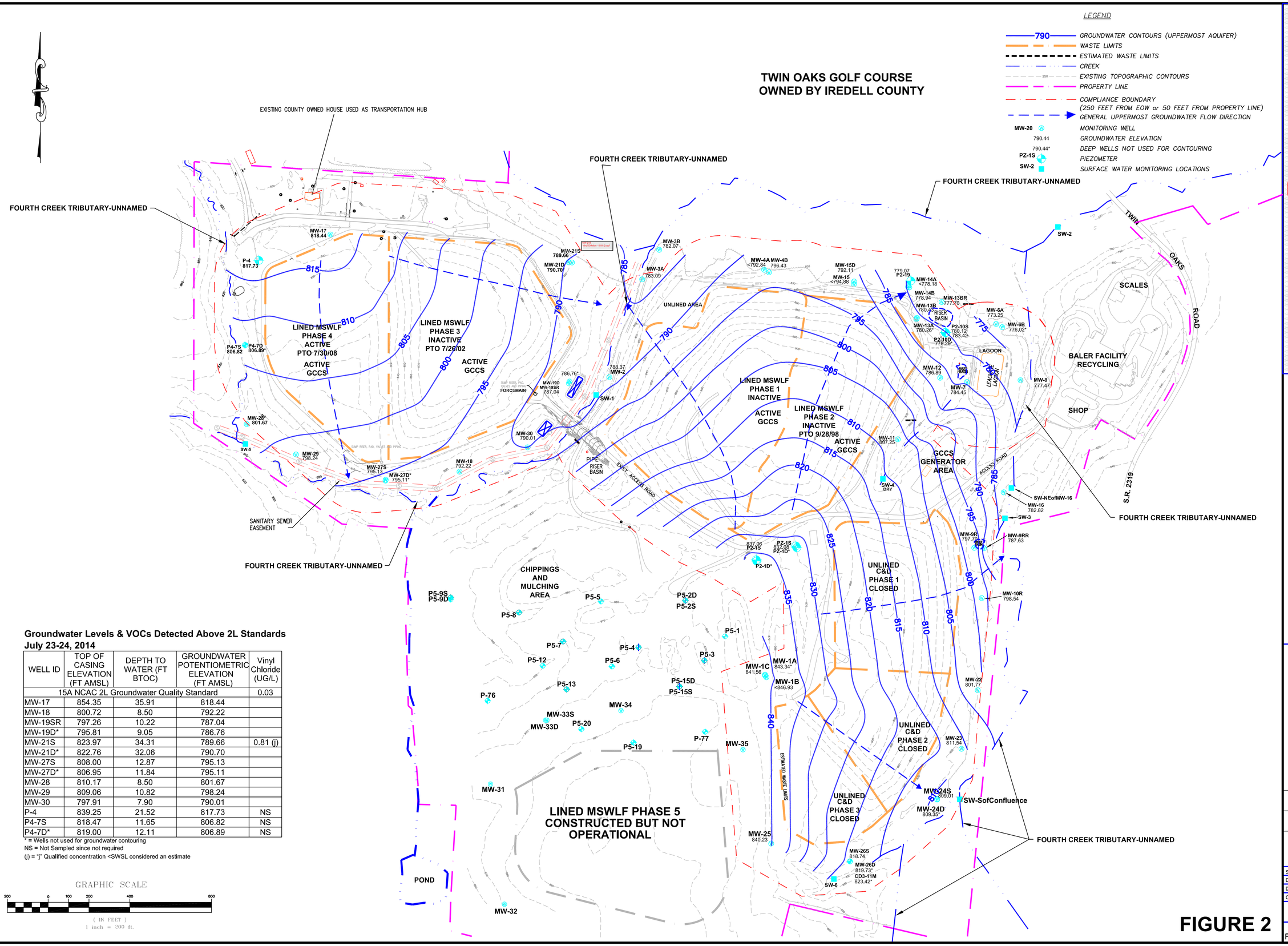
STATESVILLE EAST QUADRANGLE

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

2.5 0 2.5 MILES

Figure 1



Groundwater Levels & VOCs Detected Above 2L Standards
July 23-24, 2014

WELL ID	TOP OF CASING ELEVATION (FT AMSL)	DEPTH TO WATER (FT BTOC)	GROUNDWATER POTENTIOMETRIC ELEVATION (FT AMSL)	Vinyl Chloride (UG/L)
15A NCAC 2L Groundwater Quality Standard				0.03
MW-17	854.35	35.91	818.44	
MW-18	800.72	8.50	792.22	
MW-19SR	797.26	10.22	787.04	
MW-19D*	795.81	9.05	786.76	
MW-21S	823.97	34.31	789.66	0.81 (j)
MW-21D*	822.76	32.06	790.70	
MW-27S	808.00	12.87	795.13	
MW-27D*	806.95	11.84	795.11	
MW-28	810.17	8.50	801.67	
MW-29	809.06	10.82	798.24	
MW-30	797.91	7.90	790.01	
P-4	839.25	21.52	817.73	NS
P4-7S	818.47	11.65	806.82	NS
P4-7D*	819.00	12.11	806.89	NS

* = Wells not used for groundwater contouring
NS = Not Sampled since not required
(j) = "j" Qualified concentration <SWSL considered an estimate

FIGURE 2

Municipal Engineering Services Company, P.A.
P.O. BOX 97 GARNER, N.C. 27529 (919) 772-5393
P.O. BOX 349 BOONE, N.C. 28607 (828) 262-1767
LICENSE NUMBER: C-0281

SUBTITLE D LINED MSWLF PHASES 1-4
CLOSED C&D PHASES 1-3
IREDELL COUNTY
NORTH CAROLINA

POTENTIOMETRIC MAP OF UPPERMOST AQUIFER w/ VOCs DETECTED ABOVE 2L STANDARDS

DATE	BY	REV.	DESCRIPTION

SCALE:	1" = 200'
DATE:	12/15/14
DRWN. BY:	R. MOSS
CHKD. BY:	S. GANDY
PROJECT NUMBER	G14014.0
DRAWING NO.	FIGURE 2
SHEET NO.	1 OF 1

Tables

Table 1
Groundwater Monitoring Well Construction Table
July 23-24, 2014

Monitoring Well	Date Installed	Well Diameter (inches)	Total Well Depth (ft bgs)	Top of Screen Depth (ft bgs)	Screen Length (ft)	Geology of Screened Interval	Top of Casing Elevation (ft amsl)	Ground Elevation (ft amsl)	Groundwater Elevation (ft amsl)	Depth to Water (ft btoc)	Latitude	Longitude
MW-17	5/9/02	2	45.00	30.00	15	Soil	854.35	850.94	818.44	35.91	35.7717	-80.8367
MW-18	6/2/00	2	20.00	5.00	15	Soil	800.72	796.09	792.22	8.50	35.7685	-80.8345
MW-19SR	6/30/06	2	22.02	7.02	15	Sandy Silt	797.26	794.54	787.04	10.22	35.7698	-80.8327
MW-19D	5/9/02	2	59.00	49.00	10	Rock	795.81	793.26	786.76	9.05	35.7685	-80.8345
MW-21S	6/2/00	2	41.00	26.00	15	Silt	823.97	821.03	789.66	34.31	35.7714	-80.8327
MW-21D	6/17/00	2	138.25	128.25	10	Rock	822.76	819.25	790.70	32.06	35.7714	-80.8327
MW-27S	1/3/05	2	20.09	5.09	15	Sandy Silt	808.00	803.90	795.13	12.87	35.7684	-80.8357
MW-27D	1/3/05	2	44.42	39.42	5	Silty Sand	806.95	804.69	795.11	11.84	35.7684	-80.8357
MW-28	12/27/04	2	12.42	7.42	5	Sandy Silt	810.17	807.49	801.67	8.50	35.7691	-80.8380
MW-29	12/27/04	2	17.68	7.68	10	Silty Sand	809.06	806.49	798.24	10.82	35.7687	-80.8372
MW-30	12/14/10	2	17.40	6.40	11	Silt	797.91	794.91	790.01	7.90	35.7689	-80.8333

NOTE:
bgs = below ground surface
amsl= above mean sea level
btoc = below top of casing (PVC well casing)

Table 2
Field Observations of Monitoring Locations
July 23-24, 2014

Sample Location	Viable Monitoring Location	Lack of Any Evidence of Tampering	Locked	Hinge/Hasp Operational	Tagged or Labeled	Concrete Surface Pad Effective	Comments
MW-17	Yes	Yes	Yes	Yes	Yes	Yes	
MW-18	Yes	Yes	Yes	Yes	Yes	Yes	
MW-19SR	Yes	Yes	Yes	Yes	Yes	Yes	Could hear water cascade into well
MW-19D	Yes	Yes	Yes	Yes	Yes	Yes	Very fast recharge
MW-21S	Yes	Yes	Yes	Yes	Yes	Yes	
MW-21D	Yes	Yes	Yes	Yes	Yes	Yes	Sulfur smell
MW-27S	Yes	Yes	Yes	Yes	Yes	Yes	Repaired by MESCO in June 2014
MW-27D	Yes	Yes	Yes	Yes	Yes	Yes	
MW-28	Yes	Yes	Yes	Yes	Yes	Yes	
MW-29	Yes	Yes	Yes	Yes	Yes	Yes	
MW-30	Yes	Yes	Yes	Yes	Yes	Yes	
SW-1	Yes	na	na	na	na	na	
SW-2	Yes	na	na	na	na	na	
SW-5	Yes	na	na	na	na	na	
P4-7S	Yes	Yes	Yes	Yes	Yes	Yes	
P4-7D	Yes	Yes	Yes	Yes	Yes	Yes	
P-4	Yes	Yes	Yes	Yes	Yes	Yes	
FORCEMAIN	Yes	na	na	na	na	na	Sample from valve as typical

na = not available or applicable

Any unusual field conditions, observations, or events:

MW-27S repaired by MESCO in June 2014 after being bumped by mower.
MW-27S top of PVC elevation changed to 808.00 amsl was 807.25 amsl. Elevation determined in field by string level pulled from MW-27D.

Table 3
Summary of Field Parameter Data
July 23-24, 2014

Location	Water Depth	Water Elevation	TOC Elevation	Temperature	ORP	DO	pH	Specific Conductance	TDS	Turbidity of Metal Sample
Units	**ft (btoc)**	**ft (amsl)**	**ft (amsl)**	**C**	**mV**	**mg/L**	**SU**	**µs/cm**	**ppt**	**visual**
MW-17	35.91	818.44	854.35	16.3	NR	NR	5.81	0	0	NR
MW-18	8.50	792.22	800.72	15.9	NR	NR	6.83	40	10	Clear
MW-19SR	10.22	787.04	797.26	17.3	NR	NR	6.93	1890	910	Clear
MW-19D	9.05	786.76	795.81	16.6	NR	NR	7.12	60	20	Clear
MW-21S	34.31	789.66	823.97	17.6	NR	NR	6.44	10	0	Clear
MW-21D	32.06	790.7	822.76	17.5	NR	NR	9.09	190	80	Clear
MW-27S	12.87	795.13	808.00	15.9	NR	NR	6.41	100	40	Clear
MW-27D	11.84	795.11	806.95	15.5	NR	NR	7.28	110	50	Clear
MW-28	8.50	801.67	810.17	18.1	NR	NR	7.09	90	40	Clear
MW-29	10.82	798.24	809.06	18.3	NR	NR	6.87	60	20	Clear
MW-30	7.90	790.01	797.91	15.1	NR	NR	7.16	80	30	Slight
Minimum	7.9	786.76	795.81	15.1	NR	NR	5.81	0	0	Clear
Average	16.54	795.00	811.54	16.7	NR	NR	7.00	239	109	Clear
Maximum	35.91	818.44	854.35	18.3	NR	NR	9.09	1890	910	Slight
SW-1	-	-	-	23.5	NR	NR	7.28	80	40	Clear
SW-2	-	-	-	23.5	NR	NR	7.33	40	10	Clear
SW-5	-	-	-	23.6	NR	NR	7.31	80	40	Clear
Minimum	-	-	-	23.5	NR	NR	7.28	40	10	Clear
Average	-	-	-	23.5	NR	NR	7.31	67	30	Clear
Maximum	-	-	-	23.6	NR	NR	7.33	80	40	Clear

Table 4
Sampling and Analysis Summary
July 23-24, 2014
August 12, 2014 verification event at MW-21S

		App. I		Field Parameter						Leachate					
	Reason Not Sampled	VOCs	Total Metals	Oxidation Reduction Potential (ORP)	Temperature	Conductivity	Total Dissolved Solids (TDS)	pH	Turbidity	Sulfate	pH	Phosphorus	BOD, 5 day	COD	Nitrate
		Lab EPA 8260B	Lab EPA 6000/7000	Field Meter	Field Meter	Field Meter	Field Meter	Field Meter	Field Visual	Lab ASTM D516-90	Lab SM 4500-H/B	Lab EPA365.4	Lab SM 5210B	Lab SM 5220D	Lab EPA 353.2
MW-17		x	x		x	x	x	x	x						
MW-18		x	x		x	x	x	x	x						
MW-19SR		x	x		x	x	x	x	x						
MW-19D		x	x		x	x	x	x	x						
MW-21S		V	x		x	x	x	x	x						
MW-21D		x	x		x	x	x	x	x						
MW-27S		x	x		x	x	x	x	x						
MW-27D		x	x		x	x	x	x	x						
MW-28		x	x		x	x	x	x	x						
MW-29		x	x		x	x	x	x	x						
MW-30		x	x		x	x	x	x	x						
SW-1		x	x		x	x	x	x	x						
SW-2		x	x		x	x	x	x	x						
SW-5		x	x		x	x	x	x	x						
FORCEMAIN		x	x							x	x	x	x	x	x
EB		x	x												
FB		x	x												
TB		x													

App I & II = Appendix I & II List from current 40 CFR 258

V = Verification resampled on August 12, 2014

Table 5
Detections in Water Samples above SWSL, GWP, 2L or 2B (Appendix I)
July 23-24, 2014
August 12, 2014 verification event at MW-21S

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	2L [4]	2B [5]	GWP [6]	MCL [7]	Preliminary Cause [8]
MW-17	Copper, total	7/24/14	16.4	ug/L	5	10	1000			1300	
MW-17	Chromium, total	7/24/14	20.7	ug/L	5	10	**10**			100	B & N
MW-17	Barium, total	7/24/14	130	ug/L	5	100	700			2000	
MW-17	Zinc, total	7/24/14	43.7	ug/L	10	10	1050			5000	
MW-17	Vanadium, total	7/24/14	24.9,j	ug/L	5	25			**3.5**	NE	
MW-17	Cobalt, total	7/24/14	12	ug/L	5	10			70	NE	
MW-18	Cadmium, total	7/24/14	1.3	ug/L	1	1	1.75			5	
MW-19D	Zinc, total	7/24/14	11.4	ug/L	10	10	1050			5000	
MW-19SR	Zinc, total	7/24/14	19.8	ug/L	10	10	1050			5000	
MW-19SR	Cobalt, total	7/24/14	17.2	ug/L	5	10			70		
MW-19SR	Barium, total	7/24/14	217	ug/L	5	100	700			2000	
MW-21S	Vinyl chloride	7/24/14	1.4	ug/L	0.62	1	**0.03**			5	L &/or LFG
MW-21S	Vinyl chloride	8/12/14	0.81,j	ug/L	0.62	1	**0.03**			5	L &/or LFG
MW-27D	Vanadium, total	7/24/14	6.3,j	ug/L	5	25			**3.5**	NE	
MW-28	Chromium, total	7/23/14	13.8	ug/L	5	10	**10**			100	N

[1] Table contains Appendix I constituents detected above SWSL, GWP, 2L, or 2B
[2] MDL = Method Detection Limit
[3] SWSL = Solid Waste Section Reporting Limit
[4] 2L = North Carolina 15A NCAC 2L Groundwater Quality Standard
[5] 2B = North Carolina 15 NCAC 2B Surface Water Quality Standard for this Specific Stream Classification
[6] GWP = Groundwater Protection Standard
[7] MCL = Maximum Contaminant Level aks "Federal Primary Drinking Water Standard" (not currently applicable for regulatory comparisons)
[8] Preliminary Cause = Refers to a preliminary analysis of the cause and/or source of a detection over the respective 2L/2B Standard.
A definitive source of the detection was not determined as part of this report.
j =The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable
B = Background as detected upgradient/upstream of facility
N = Natural from erosion of natural deposits
L = Leachate
LFG = Landfill Gas
BOLD = Concentration above respective 2L, 2B or MCL Standard

Table 6
Detections in Leachate Sample Above SWSL, GWP, 2L, or 2B
July 23, 2014

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	2L [4]	2B [5]	GWP [6]	MCL [7]	"Average Leachate" [8]
FORCEMAIN	1,2-Dichloroethane	7/23/14	1.3	ug/L	0.12	1	**0.38**	37		5	1841
FORCEMAIN	1,4-Dichlorobenzene	7/23/14	1.9	ug/L	0.33	1	6	100		75	13.2
FORCEMAIN	2-Butanone (MEK)	7/23/14	509	ug/L	4.8	100	4200	160000			4151
FORCEMAIN	Acetone	7/23/14	377	ug/L	10	100	6000	2000			NE
FORCEMAIN	Benzene	7/23/14	2.5	ug/L	0.25	1	**1**	51		5	221
FORCEMAIN	Toluene	7/23/14	4.5	ug/L	0.26	1	600	11		1000	1016
FORCEMAIN	Xylene (Total)	7/23/14	32.4	ug/L	0.66	5	530	670		10000	NE
FORCEMAIN	Ethylbenzene	7/23/14	17.8	ug/L	0.3	1	550	NE		700	274
FORCEMAIN	Antimony, total	7/23/14	13.6	ug/L	5	6		640	**1.4**	**6**	4520
FORCEMAIN	Barium, total	7/23/14	796	ug/L	5	100	**700**	20000		2000	850
FORCEMAIN	Chromium, total	7/23/14	35.3	ug/L	5	10	**10**	50		100	175
FORCEMAIN	Cobalt, total	7/23/14	11.6	ug/L	5	10		70	70		90
FORCEMAIN	Copper, total	7/23/14	14.2	ug/L	5	10	1000	**7**		1300	168
FORCEMAIN	Nickel, total	7/23/14	117	ug/L	5	50	**100**	**88**			325.5
FORCEMAIN	Vanadium, total	7/23/14	17.6,j	ug/L	5	25		NE	**3.5**	NE	17.9
FORCEMAIN	Zinc, total	7/23/14	36.8	ug/L	10	10	1050	50		5000	8320
FORCEMAIN	BOD, 5 day	7/23/14	207000	ug/L	2000	NE		NE			3837000
FORCEMAIN	Phosphorus	7/23/14	1050	ug/L	25	NE		NE			7820
FORCEMAIN	COD	7/23/14	13600000	ug/L	1250000	NE		NE			**4773000**
FORCEMAIN	Sulfate	7/23/14	3000j	ug/L	1000	250000	250000				244000

[1] Table contains only constituents detected at or above SWSL, GWP, 2L or 2B

[2] MDL = Method Detection Limit

[3] SWSL = Solid Waste Section Reporting Limit

[4] 2L = North Carolina 15A NCAC 2L Groundwater Quality Standard

[5] 2B = North Carolina 15 NCAC 2B Surface Water Quality Standard for the Nearest Potential Specific Stream Classification

[6] GWP = Groundwater Protection Standard

[7] MCL = Primary Drinking Water Standard (not currently applicable for regulatory comparisons)

[8] Average concentration of leachate from a comparable "Dry Tomb" Landfill published in 1988 by EPA document *Summary of Data on MSWLF Leachate Characteristics*

j =The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable

NE = Not Established

BOLD = Concentration > "Average Leachate", 2L, 2B or MCL Standard

Table 7
Hydrologic Properties at Monitoring Well Locations
July 23-24, 2014

Monitoring Well	Hydraulic Conductivity (cm/sec)	Effective Porosity (%)	Hydraulic Gradient (ft/ft)	Average Linear Velocity Rate (ft/yr)	Flow Direction	Depth to Groundwater (ft btoc)	Groundwater Potentiometric Elevation (ft amsl)	Screened Interval Lithology
MW-17	3.73E-05	21.7	0.024	4	S71E	35.91	818.44	Silt
MW-18	7.43E-04	21.7	0.019	66	S36E	8.50	792.22	Silt
MW-19SR	4.54E-04	21.7	0.019	42	N89E	10.22	787.04	Sandy Silt
MW-19D	2.81E-03	21.7	n/a	n/a	n/a	9.05	786.76	Fractured Rock
MW-21S	1.67E-05	21.7	0.016	1	S41E	34.31	789.66	Saprolite
MW-21D	9.08E-07	21.7	n/a	n/a	n/a	32.06	790.70	Fractured Rock
MW-27S	5.62E-04	17.0	0.004	14	S22E	12.87	795.13	Silty Sand
MW-27D	4.67E-04	6.0	n/a	n/a	n/a	11.84	795.11	Clayey Sand
MW-28	1.52E-03	17.0	0.011	100	S35E	8.50	801.67	Silty Sand
MW-29	7.70E-04	17.0	0.020	94	S13E	10.82	798.24	Silty Sand
MW-30	2.66E-03	21.7	0.009	120	S38E	7.90	790.01	Silt
Minimum	9.08E-07	6.0	0.004	1	-	7.90	786.76	-
Average	9.13E-04	19.0	0.015	55	-	16.54	795.00	-
Maximum	2.81E-03	21.7	0.024	120	-	35.91	818.44	-

NOTE: Values for hydraulic conductivity previously determined via slug test by MESCO.
Wells screened in rock or deeper cluster counterparts not utilized for flow directions/gradients.
Hydraulic Conductivity value for MW-19SR assumed identical to previously adjacent MW-19S.
Hydrologic Gradient calculated from groundwater elevations recorded on July 23-24, 2014
Average linear velocity rate (*Q*) is defined by modified Darcy's equation:

$$Q = -\frac{K}{n_e} \cdot \frac{dh}{dl}$$

K = hydraulic conductivity
n*e* = effective porosity
dh = head difference
dl = horizontal distance

Appendix A
Laboratory Analysis Reports
Chains of Custody

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

August 06, 2014

Mr. Jonathan Pfohl
Municipal Engineering Services
PO Box 97
Garner, NC 27529

RE: Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Dear Mr. Pfohl:
Enclosed are the analytical results for sample(s) received by the laboratory between July 24, 2014 and July 25, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92210555001	**MW-28**	Water	07/23/14 15:35	07/24/14 12:50
92210555002	**MW-29**	Water	07/23/14 16:30	07/24/14 12:50
92210555003	**FORCEMAIN**	Water	07/23/14 17:00	07/24/14 12:50
92210555004	**MW-17**	Water	07/24/14 09:00	07/25/14 14:00
92210555005	**MW-18**	Water	07/24/14 15:10	07/25/14 14:00
92210555006	**MW-19SR**	Water	07/24/14 14:35	07/25/14 14:00
92210555007	**MW-19D**	Water	07/24/14 14:10	07/25/14 14:00
92210555008	**MW-21S**	Water	07/24/14 13:35	07/25/14 14:00
92210555009	**MW-21D**	Water	07/24/14 11:40	07/25/14 14:00
92210555010	**MW-27S**	Water	07/24/14 10:05	07/25/14 14:00
92210555011	**MW-27D**	Water	07/24/14 09:30	07/25/14 14:00
92210555012	**MW-30**	Water	07/24/14 11:00	07/25/14 14:00

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SAMPLE ANALYTE COUNT

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92210555001	**MW-28**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555002	**MW-29**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555003	**FORCEMAIN**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
		SM 5210B	MAB	1	PASI-A
		EPA 9040	MDW	1	PASI-A
		EPA 300.0	SAE	1	PASI-A
		EPA 353.2	DMN	1	PASI-A
		EPA 365.1	JDA	1	PASI-A
		SM 5220D	SMW	1	PASI-A
92210555004	**MW-17**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555005	**MW-18**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555006	**MW-19SR**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555007	**MW-19D**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555008	**MW-21S**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555009	**MW-21D**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555010	**MW-27S**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555011	**MW-27D**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210555012	**MW-30**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-28 **Lab ID: 92210555001** Collected: 07/23/14 15:35 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/25/14 13:45	07/29/14 12:48	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:05	7440-38-2	
Barium	**9.4J**	ug/L	100	5.0	1	07/25/14 13:45	07/28/14 17:05	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:05	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:05	7440-43-9	
Chromium	**13.8**	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:05	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:05	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:05	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:05	7439-92-1	
Nickel	**6.8J**	ug/L	50.0	5.0	1	07/25/14 13:45	07/28/14 17:05	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:05	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:05	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/25/14 13:45	07/28/14 17:05	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/25/14 13:45	07/28/14 17:05	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:05	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		07/25/14 18:33	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		07/25/14 18:33	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		07/25/14 18:33	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		07/25/14 18:33	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		07/25/14 18:33	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		07/25/14 18:33	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		07/25/14 18:33	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		07/25/14 18:33	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		07/25/14 18:33	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		07/25/14 18:33	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		07/25/14 18:33	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		07/25/14 18:33	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		07/25/14 18:33	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		07/25/14 18:33	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		07/25/14 18:33	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		07/25/14 18:33	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		07/25/14 18:33	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		07/25/14 18:33	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		07/25/14 18:33	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		07/25/14 18:33	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		07/25/14 18:33	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		07/25/14 18:33	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/25/14 18:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		07/25/14 18:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		07/25/14 18:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		07/25/14 18:33	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		07/25/14 18:33	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		07/25/14 18:33	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		07/25/14 18:33	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-28 **Lab ID: 92210555001** Collected: 07/23/14 15:35 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		07/25/14 18:33	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/25/14 18:33	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		07/25/14 18:33	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		07/25/14 18:33	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		07/25/14 18:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		07/25/14 18:33	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		07/25/14 18:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		07/25/14 18:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		07/25/14 18:33	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		07/25/14 18:33	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		07/25/14 18:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		07/25/14 18:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		07/25/14 18:33	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		07/25/14 18:33	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		07/25/14 18:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		07/25/14 18:33	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		07/25/14 18:33	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		07/25/14 18:33	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		07/25/14 18:33	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		07/25/14 18:33	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		07/25/14 18:33	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		07/25/14 18:33	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-29 **Lab ID: 92210555002** Collected: 07/23/14 16:30 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/25/14 13:45	07/29/14 12:51	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:08	7440-38-2	
Barium	**24.6J**	ug/L	100	5.0	1	07/25/14 13:45	07/28/14 17:08	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:08	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:08	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:08	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:08	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:08	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:08	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/25/14 13:45	07/28/14 17:08	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:08	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:08	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/25/14 13:45	07/28/14 17:08	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/25/14 13:45	07/28/14 17:08	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:08	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		07/25/14 18:49	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		07/25/14 18:49	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		07/25/14 18:49	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		07/25/14 18:49	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		07/25/14 18:49	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		07/25/14 18:49	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		07/25/14 18:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		07/25/14 18:49	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		07/25/14 18:49	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		07/25/14 18:49	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		07/25/14 18:49	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		07/25/14 18:49	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		07/25/14 18:49	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		07/25/14 18:49	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		07/25/14 18:49	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		07/25/14 18:49	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		07/25/14 18:49	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		07/25/14 18:49	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		07/25/14 18:49	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		07/25/14 18:49	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		07/25/14 18:49	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		07/25/14 18:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/25/14 18:49	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		07/25/14 18:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		07/25/14 18:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		07/25/14 18:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		07/25/14 18:49	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		07/25/14 18:49	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		07/25/14 18:49	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-29 **Lab ID: 92210555002** Collected: 07/23/14 16:30 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		07/25/14 18:49	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/25/14 18:49	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		07/25/14 18:49	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		07/25/14 18:49	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		07/25/14 18:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		07/25/14 18:49	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		07/25/14 18:49	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		07/25/14 18:49	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		07/25/14 18:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		07/25/14 18:49	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		07/25/14 18:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		07/25/14 18:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		07/25/14 18:49	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		07/25/14 18:49	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		07/25/14 18:49	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		07/25/14 18:49	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		07/25/14 18:49	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		07/25/14 18:49	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		07/25/14 18:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		07/25/14 18:49	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		07/25/14 18:49	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		07/25/14 18:49	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: FORCEMAIN **Lab ID: 92210555003** Collected: 07/23/14 17:00 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	**13.6**	ug/L	6.0	5.0	1	07/25/14 13:45	07/29/14 12:54	7440-36-0	
Arsenic	**9.6J**	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:21	7440-38-2	
Barium	**796**	ug/L	100	5.0	1	07/25/14 13:45	07/28/14 17:21	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:21	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:21	7440-43-9	
Chromium	**35.3**	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:21	7440-47-3	
Cobalt	**11.6**	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:21	7440-48-4	
Copper	**14.2**	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:21	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:21	7439-92-1	
Nickel	**117**	ug/L	50.0	5.0	1	07/25/14 13:45	07/28/14 17:21	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:21	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:21	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/25/14 13:45	07/28/14 17:21	7440-28-0	
Vanadium	**17.6J**	ug/L	25.0	5.0	1	07/25/14 13:45	07/28/14 17:21	7440-62-2	
Zinc	**36.8**	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:21	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	**377**	ug/L	100	10.0	1		07/25/14 19:05	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		07/25/14 19:05	107-13-1	
Benzene	**2.5**	ug/L	1.0	0.25	1		07/25/14 19:05	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		07/25/14 19:05	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		07/25/14 19:05	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		07/25/14 19:05	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		07/25/14 19:05	74-83-9	
2-Butanone (MEK)	**509**	ug/L	500	4.8	5		07/29/14 17:30	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		07/25/14 19:05	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		07/25/14 19:05	56-23-5	
Chlorobenzene	**0.52J**	ug/L	3.0	0.23	1		07/25/14 19:05	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		07/25/14 19:05	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		07/25/14 19:05	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		07/25/14 19:05	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		07/25/14 19:05	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		07/25/14 19:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		07/25/14 19:05	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		07/25/14 19:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		07/25/14 19:05	95-50-1	
1,4-Dichlorobenzene	**1.9**	ug/L	1.0	0.33	1		07/25/14 19:05	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		07/25/14 19:05	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		07/25/14 19:05	75-34-3	
1,2-Dichloroethane	**1.3**	ug/L	1.0	0.12	1		07/25/14 19:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		07/25/14 19:05	75-35-4	
cis-1,2-Dichloroethene	**0.73J**	ug/L	5.0	0.19	1		07/25/14 19:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		07/25/14 19:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		07/25/14 19:05	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		07/25/14 19:05	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		07/25/14 19:05	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: FORCEMAIN **Lab ID: 92210555003** Collected: 07/23/14 17:00 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		07/25/14 19:05	10061-02-6	
Ethylbenzene	**17.8**	ug/L	1.0	0.30	1		07/25/14 19:05	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		07/25/14 19:05	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		07/25/14 19:05	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		07/25/14 19:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	**20.8J**	ug/L	100	0.33	1		07/25/14 19:05	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		07/25/14 19:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		07/25/14 19:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		07/25/14 19:05	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		07/25/14 19:05	127-18-4	
Toluene	**4.5**	ug/L	1.0	0.26	1		07/25/14 19:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		07/25/14 19:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		07/25/14 19:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		07/25/14 19:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		07/25/14 19:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		07/25/14 19:05	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		07/25/14 19:05	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		07/25/14 19:05	75-01-4	
Xylene (Total)	**32.4**	ug/L	5.0	0.66	1		07/25/14 19:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		07/25/14 19:05	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		07/25/14 19:05	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		07/25/14 19:05	2037-26-5	
5210B BOD, 5 day	Analytical Method: SM 5210B								
BOD, 5 day	**207000**	ug/L	2000	2000	1	07/25/14 07:38	07/30/14 02:30		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		07/25/14 11:02		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**3000J**	ug/L	250000	1000	1		08/05/14 16:33	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2								
Nitrogen, Nitrate	ND	ug/L	10000	10.0	1		07/24/14 23:11		
365.1 Phosphorus, Total	Analytical Method: EPA 365.1								
Phosphorus	**1050**	ug/L	50.0	25.0	1		08/01/14 15:09	7723-14-0	
5220D COD	Analytical Method: SM 5220D								
Chemical Oxygen Demand	**13600000**	ug/L	2500000	1250000	100		08/01/14 23:34		

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-17 **Lab ID: 92210555004** Collected: 07/24/14 09:00 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 22:54	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:54	7440-38-2	
Barium	**130**	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 22:54	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 22:54	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 22:54	7440-43-9	
Chromium	**20.7**	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:54	7440-47-3	
Cobalt	**12.0**	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:54	7440-48-4	
Copper	**16.4**	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:54	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:54	7439-92-1	
Nickel	**14.6J**	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 22:54	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 22:54	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:54	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 22:54	7440-28-0	
Vanadium	**24.9J**	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 22:54	7440-62-2	
Zinc	**43.7**	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 22:54	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		08/01/14 00:22	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/01/14 00:22	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/01/14 00:22	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/01/14 00:22	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/01/14 00:22	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/01/14 00:22	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/01/14 00:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/01/14 00:22	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/01/14 00:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/01/14 00:22	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/01/14 00:22	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/01/14 00:22	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/01/14 00:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/01/14 00:22	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/01/14 00:22	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/01/14 00:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/01/14 00:22	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/01/14 00:22	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/01/14 00:22	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/01/14 00:22	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/01/14 00:22	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/01/14 00:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/14 00:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/01/14 00:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/01/14 00:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/01/14 00:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/01/14 00:22	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/01/14 00:22	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/01/14 00:22	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-17 **Lab ID: 92210555004** Collected: 07/24/14 09:00 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/01/14 00:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/14 00:22	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/01/14 00:22	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/01/14 00:22	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/01/14 00:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/01/14 00:22	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/01/14 00:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/01/14 00:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/01/14 00:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/01/14 00:22	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/01/14 00:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/01/14 00:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/01/14 00:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/01/14 00:22	79-01-6	
Trichlorofluoromethane	**0.85J**	ug/L	1.0	0.20	1		08/01/14 00:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/01/14 00:22	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/01/14 00:22	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/01/14 00:22	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/01/14 00:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		1		08/01/14 00:22	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		08/01/14 00:22	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		08/01/14 00:22	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-18 **Lab ID: 92210555005** Collected: 07/24/14 15:10 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 22:57	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:57	7440-38-2	
Barium	**21.4J**	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 22:57	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 22:57	7440-41-7	
Cadmium	**1.3**	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 22:57	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:57	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:57	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:57	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:57	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 22:57	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 22:57	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:57	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 22:57	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 22:57	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 22:57	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		08/01/14 00:37	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/01/14 00:37	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/01/14 00:37	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/01/14 00:37	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/01/14 00:37	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/01/14 00:37	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/01/14 00:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/01/14 00:37	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/01/14 00:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/01/14 00:37	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/01/14 00:37	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/01/14 00:37	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/01/14 00:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/01/14 00:37	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/01/14 00:37	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/01/14 00:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/01/14 00:37	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/01/14 00:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/01/14 00:37	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/01/14 00:37	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/01/14 00:37	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/01/14 00:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/14 00:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/01/14 00:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/01/14 00:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/01/14 00:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/01/14 00:37	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/01/14 00:37	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/01/14 00:37	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-18 **Lab ID: 92210555005** Collected: 07/24/14 15:10 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/01/14 00:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/14 00:37	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/01/14 00:37	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/01/14 00:37	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/01/14 00:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/01/14 00:37	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/01/14 00:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/01/14 00:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/01/14 00:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/01/14 00:37	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/01/14 00:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/01/14 00:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/01/14 00:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/01/14 00:37	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/01/14 00:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/01/14 00:37	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/01/14 00:37	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/01/14 00:37	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/01/14 00:37	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		08/01/14 00:37	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		08/01/14 00:37	17060-07-0	
Toluene-d8 (S)	113	%	70-130		1		08/01/14 00:37	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-19SR **Lab ID: 92210555006** Collected: 07/24/14 14:35 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 23:00	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:00	7440-38-2	
Barium	**217**	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 23:00	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:00	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:00	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:00	7440-47-3	
Cobalt	**17.2**	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:00	7440-48-4	
Copper	**5.8J**	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:00	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:00	7439-92-1	
Nickel	**11.3J**	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 23:00	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:00	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:00	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 23:00	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 23:00	7440-62-2	
Zinc	**19.8**	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:00	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		08/01/14 00:53	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/01/14 00:53	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/01/14 00:53	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/01/14 00:53	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/01/14 00:53	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/01/14 00:53	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/01/14 00:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/01/14 00:53	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/01/14 00:53	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/01/14 00:53	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/01/14 00:53	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/01/14 00:53	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/01/14 00:53	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/01/14 00:53	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/01/14 00:53	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/01/14 00:53	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/01/14 00:53	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/01/14 00:53	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/01/14 00:53	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/01/14 00:53	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/01/14 00:53	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/01/14 00:53	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/14 00:53	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/01/14 00:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/01/14 00:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/01/14 00:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/01/14 00:53	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/01/14 00:53	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/01/14 00:53	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-19SR **Lab ID: 92210555006** Collected: 07/24/14 14:35 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/01/14 00:53	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/14 00:53	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/01/14 00:53	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/01/14 00:53	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/01/14 00:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/01/14 00:53	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/01/14 00:53	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/01/14 00:53	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/01/14 00:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/01/14 00:53	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/01/14 00:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/01/14 00:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/01/14 00:53	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/01/14 00:53	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/01/14 00:53	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/01/14 00:53	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/01/14 00:53	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/01/14 00:53	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/01/14 00:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		08/01/14 00:53	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		08/01/14 00:53	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		08/01/14 00:53	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-19D **Lab ID: 92210555007** Collected: 07/24/14 14:10 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 23:03	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:03	7440-38-2	
Barium	ND	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 23:03	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:03	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:03	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:03	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:03	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:03	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:03	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 23:03	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:03	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:03	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 23:03	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 23:03	7440-62-2	
Zinc	**11.4**	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:03	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		08/01/14 01:08	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/01/14 01:08	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/01/14 01:08	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/01/14 01:08	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/01/14 01:08	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/01/14 01:08	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/01/14 01:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/01/14 01:08	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/01/14 01:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/01/14 01:08	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/01/14 01:08	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/01/14 01:08	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/01/14 01:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/01/14 01:08	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/01/14 01:08	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/01/14 01:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/01/14 01:08	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/01/14 01:08	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/01/14 01:08	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/01/14 01:08	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/01/14 01:08	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/01/14 01:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/14 01:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/01/14 01:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/01/14 01:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/01/14 01:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/01/14 01:08	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/01/14 01:08	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/01/14 01:08	10061-01-5	

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9800 Kincey Ave. Suite 100
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(704)875-9092

ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-19D **Lab ID: 92210555007** Collected: 07/24/14 14:10 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/01/14 01:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/14 01:08	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/01/14 01:08	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/01/14 01:08	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/01/14 01:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/01/14 01:08	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/01/14 01:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/01/14 01:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/01/14 01:08	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/01/14 01:08	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/01/14 01:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/01/14 01:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/01/14 01:08	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/01/14 01:08	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/01/14 01:08	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/01/14 01:08	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/01/14 01:08	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/01/14 01:08	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/01/14 01:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		08/01/14 01:08	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		08/01/14 01:08	17060-07-0	
Toluene-d8 (S)	86	%	70-130		1		08/01/14 01:08	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-21S **Lab ID: 92210555008** Collected: 07/24/14 13:35 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 23:06	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:06	7440-38-2	
Barium	**70.7J**	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 23:06	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:06	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:06	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:06	7440-47-3	
Cobalt	**9.6J**	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:06	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:06	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:06	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 23:06	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:06	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:06	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 23:06	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 23:06	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:06	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		08/01/14 01:24	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/01/14 01:24	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/01/14 01:24	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/01/14 01:24	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/01/14 01:24	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/01/14 01:24	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/01/14 01:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/01/14 01:24	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/01/14 01:24	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/01/14 01:24	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/01/14 01:24	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/01/14 01:24	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/01/14 01:24	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/01/14 01:24	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/01/14 01:24	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/01/14 01:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/01/14 01:24	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/01/14 01:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/01/14 01:24	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/01/14 01:24	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/01/14 01:24	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/01/14 01:24	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/14 01:24	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/01/14 01:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/01/14 01:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/01/14 01:24	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/01/14 01:24	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/01/14 01:24	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/01/14 01:24	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-21S **Lab ID: 92210555008** Collected: 07/24/14 13:35 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/01/14 01:24	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/14 01:24	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/01/14 01:24	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/01/14 01:24	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/01/14 01:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/01/14 01:24	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/01/14 01:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/01/14 01:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/01/14 01:24	79-34-5	
Tetrachloroethene	**0.51J**	ug/L	1.0	0.46	1		08/01/14 01:24	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/01/14 01:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/01/14 01:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/01/14 01:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/01/14 01:24	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/01/14 01:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/01/14 01:24	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/01/14 01:24	108-05-4	
Vinyl chloride	**1.4**	ug/L	1.0	0.62	1		08/01/14 01:24	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/01/14 01:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		1		08/01/14 01:24	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		08/01/14 01:24	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		08/01/14 01:24	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-21D **Lab ID: 92210555009** Collected: 07/24/14 11:40 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 23:09	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:09	7440-38-2	
Barium	**11.0J**	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 23:09	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:09	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:09	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:09	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:09	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:09	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:09	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 23:09	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:09	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:09	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 23:09	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 23:09	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:09	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		08/01/14 01:40	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/01/14 01:40	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/01/14 01:40	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/01/14 01:40	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/01/14 01:40	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/01/14 01:40	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/01/14 01:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/01/14 01:40	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/01/14 01:40	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/01/14 01:40	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/01/14 01:40	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/01/14 01:40	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/01/14 01:40	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/01/14 01:40	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/01/14 01:40	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/01/14 01:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/01/14 01:40	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/01/14 01:40	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/01/14 01:40	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/01/14 01:40	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/01/14 01:40	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/01/14 01:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/14 01:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/01/14 01:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/01/14 01:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/01/14 01:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/01/14 01:40	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/01/14 01:40	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/01/14 01:40	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-21D **Lab ID: 92210555009** Collected: 07/24/14 11:40 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/01/14 01:40	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/14 01:40	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/01/14 01:40	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/01/14 01:40	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/01/14 01:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/01/14 01:40	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/01/14 01:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/01/14 01:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/01/14 01:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/01/14 01:40	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/01/14 01:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/01/14 01:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/01/14 01:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/01/14 01:40	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/01/14 01:40	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/01/14 01:40	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/01/14 01:40	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/01/14 01:40	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/01/14 01:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		08/01/14 01:40	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		08/01/14 01:40	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		08/01/14 01:40	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-27S **Lab ID: 92210555010** Collected: 07/24/14 10:05 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 23:12	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:12	7440-38-2	
Barium	**18.3J**	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 23:12	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:12	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:12	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:12	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:12	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:12	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:12	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 23:12	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:12	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:12	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 23:12	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 23:12	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:12	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		08/01/14 01:55	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/01/14 01:55	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/01/14 01:55	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/01/14 01:55	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/01/14 01:55	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/01/14 01:55	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/01/14 01:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/01/14 01:55	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/01/14 01:55	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/01/14 01:55	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/01/14 01:55	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/01/14 01:55	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/01/14 01:55	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/01/14 01:55	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/01/14 01:55	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/01/14 01:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/01/14 01:55	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/01/14 01:55	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/01/14 01:55	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/01/14 01:55	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/01/14 01:55	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/01/14 01:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/14 01:55	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/01/14 01:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/01/14 01:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/01/14 01:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/01/14 01:55	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/01/14 01:55	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/01/14 01:55	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-27S **Lab ID: 92210555010** Collected: 07/24/14 10:05 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/01/14 01:55	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/14 01:55	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/01/14 01:55	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/01/14 01:55	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/01/14 01:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/01/14 01:55	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/01/14 01:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/01/14 01:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/01/14 01:55	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/01/14 01:55	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/01/14 01:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/01/14 01:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/01/14 01:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/01/14 01:55	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/01/14 01:55	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/01/14 01:55	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/01/14 01:55	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/01/14 01:55	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/01/14 01:55	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		08/01/14 01:55	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		08/01/14 01:55	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		08/01/14 01:55	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-27D **Lab ID: 92210555011** Collected: 07/24/14 09:30 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 23:16	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:16	7440-38-2	
Barium	**10.3J**	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 23:16	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:16	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:16	7440-43-9	
Chromium	**6.2J**	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:16	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:16	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:16	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:16	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 23:16	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:16	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:16	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 23:16	7440-28-0	
Vanadium	**6.3J**	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 23:16	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:16	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		08/01/14 02:11	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/01/14 02:11	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/01/14 02:11	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/01/14 02:11	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/01/14 02:11	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/01/14 02:11	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/01/14 02:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/01/14 02:11	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/01/14 02:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/01/14 02:11	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/01/14 02:11	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/01/14 02:11	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/01/14 02:11	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/01/14 02:11	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/01/14 02:11	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/01/14 02:11	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/01/14 02:11	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/01/14 02:11	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/01/14 02:11	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/01/14 02:11	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/01/14 02:11	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/01/14 02:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/14 02:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/01/14 02:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/01/14 02:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/01/14 02:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/01/14 02:11	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/01/14 02:11	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/01/14 02:11	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-27D **Lab ID: 92210555011** Collected: 07/24/14 09:30 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/01/14 02:11	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/14 02:11	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/01/14 02:11	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/01/14 02:11	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/01/14 02:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/01/14 02:11	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/01/14 02:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/01/14 02:11	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/01/14 02:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/01/14 02:11	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/01/14 02:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/01/14 02:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/01/14 02:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/01/14 02:11	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/01/14 02:11	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/01/14 02:11	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/01/14 02:11	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/01/14 02:11	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/01/14 02:11	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		08/01/14 02:11	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		08/01/14 02:11	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		08/01/14 02:11	2037-26-5	

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(704)875-9092

ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-30 **Lab ID: 92210555012** Collected: 07/24/14 11:00 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 23:28	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:28	7440-38-2	
Barium	**16.5J**	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 23:28	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:28	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 23:28	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:28	7440-47-3	
Cobalt	**9.2J**	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:28	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:28	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:28	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 23:28	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:28	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 23:28	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 23:28	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 23:28	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 23:28	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		08/01/14 02:27	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/01/14 02:27	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/01/14 02:27	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/01/14 02:27	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/01/14 02:27	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/01/14 02:27	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/01/14 02:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/01/14 02:27	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/01/14 02:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/01/14 02:27	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/01/14 02:27	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/01/14 02:27	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/01/14 02:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/01/14 02:27	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/01/14 02:27	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/01/14 02:27	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/01/14 02:27	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/01/14 02:27	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/01/14 02:27	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/01/14 02:27	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/01/14 02:27	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/01/14 02:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/14 02:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/01/14 02:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/01/14 02:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/01/14 02:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/01/14 02:27	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/01/14 02:27	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/01/14 02:27	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Sample: MW-30 **Lab ID: 92210555012** Collected: 07/24/14 11:00 Received: 07/25/14 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/01/14 02:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/14 02:27	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/01/14 02:27	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/01/14 02:27	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/01/14 02:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/01/14 02:27	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/01/14 02:27	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/01/14 02:27	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/01/14 02:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/01/14 02:27	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/01/14 02:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/01/14 02:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/01/14 02:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/01/14 02:27	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/01/14 02:27	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/01/14 02:27	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/01/14 02:27	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/01/14 02:27	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/01/14 02:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		08/01/14 02:27	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		08/01/14 02:27	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		08/01/14 02:27	2037-26-5	

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: MPRP/16529 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92210555001, 92210555002, 92210555003

METHOD BLANK: 1249993 | Matrix: Water
Associated Lab Samples: 92210555001, 92210555002, 92210555003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	07/28/14 16:19	
Arsenic	ug/L	ND	10.0	07/28/14 16:19	
Barium	ug/L	ND	100	07/28/14 16:19	
Beryllium	ug/L	ND	1.0	07/28/14 16:19	
Cadmium	ug/L	ND	1.0	07/28/14 16:19	
Chromium	ug/L	ND	10.0	07/28/14 16:19	
Cobalt	ug/L	ND	10.0	07/28/14 16:19	
Copper	ug/L	ND	10.0	07/28/14 16:19	
Lead	ug/L	ND	10.0	07/28/14 16:19	
Nickel	ug/L	ND	50.0	07/28/14 16:19	
Selenium	ug/L	ND	10.0	07/28/14 16:19	
Silver	ug/L	ND	10.0	07/28/14 16:19	
Thallium	ug/L	ND	5.5	07/28/14 16:19	
Vanadium	ug/L	ND	25.0	07/28/14 16:19	
Zinc	ug/L	ND	10.0	07/28/14 16:19	

LABORATORY CONTROL SAMPLE: 1249994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	502	100	80-120	
Arsenic	ug/L	500	487	97	80-120	
Barium	ug/L	500	488	98	80-120	
Beryllium	ug/L	500	497	99	80-120	
Cadmium	ug/L	500	500	100	80-120	
Chromium	ug/L	500	483	97	80-120	
Cobalt	ug/L	500	488	98	80-120	
Copper	ug/L	500	504	101	80-120	
Lead	ug/L	500	491	98	80-120	
Nickel	ug/L	500	497	99	80-120	
Selenium	ug/L	500	496	99	80-120	
Silver	ug/L	250	248	99	80-120	
Thallium	ug/L	500	494	99	80-120	
Vanadium	ug/L	500	493	99	80-120	
Zinc	ug/L	500	484	97	80-120	

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1249995 1249996

Parameter	Units	92210419001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	480	492	96	98	75-125	2	25	
Arsenic	ug/L	ND	500	500	467	467	93	93	75-125	0	25	
Barium	ug/L	6.0	500	500	474	475	94	94	75-125	0	25	
Beryllium	ug/L	ND	500	500	478	480	96	96	75-125	0	25	
Cadmium	ug/L	ND	500	500	477	476	95	95	75-125	0	25	
Chromium	ug/L	ND	500	500	462	466	92	93	75-125	1	25	
Cobalt	ug/L	ND	500	500	462	460	92	92	75-125	0	25	
Copper	ug/L	28.1	500	500	508	510	96	96	75-125	0	25	
Lead	ug/L	ND	500	500	467	465	92	92	75-125	0	25	
Nickel	ug/L	ND	500	500	469	471	94	94	75-125	0	25	
Selenium	ug/L	ND	500	500	472	469	94	94	75-125	1	25	
Silver	ug/L	ND	250	250	237	237	95	94	75-125	0	25	
Thallium	ug/L	ND	500	500	467	464	93	93	75-125	1	25	
Vanadium	ug/L	ND	500	500	474	476	95	95	75-125	1	25	
Zinc	ug/L	ND	500	500	461	463	92	92	75-125	1	25	

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: MPRP/16565 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92210555004, 92210555005, 92210555006, 92210555007, 92210555008, 92210555009, 92210555010, 92210555011, 92210555012

METHOD BLANK: 1252869 | Matrix: Water
Associated Lab Samples: 92210555004, 92210555005, 92210555006, 92210555007, 92210555008, 92210555009, 92210555010, 92210555011, 92210555012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	07/31/14 22:17	
Arsenic	ug/L	ND	10.0	07/31/14 22:17	
Barium	ug/L	ND	100	07/31/14 22:17	
Beryllium	ug/L	ND	1.0	07/31/14 22:17	
Cadmium	ug/L	ND	1.0	07/31/14 22:17	
Chromium	ug/L	ND	10.0	07/31/14 22:17	
Cobalt	ug/L	ND	10.0	07/31/14 22:17	
Copper	ug/L	ND	10.0	07/31/14 22:17	
Lead	ug/L	ND	10.0	07/31/14 22:17	
Nickel	ug/L	ND	50.0	07/31/14 22:17	
Selenium	ug/L	ND	10.0	07/31/14 22:17	
Silver	ug/L	ND	10.0	07/31/14 22:17	
Thallium	ug/L	ND	5.5	07/31/14 22:17	
Vanadium	ug/L	ND	25.0	07/31/14 22:17	
Zinc	ug/L	ND	10.0	07/31/14 22:17	

LABORATORY CONTROL SAMPLE: 1252870

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	488	98	80-120	
Arsenic	ug/L	500	474	95	80-120	
Barium	ug/L	500	478	96	80-120	
Beryllium	ug/L	500	486	97	80-120	
Cadmium	ug/L	500	482	96	80-120	
Chromium	ug/L	500	478	96	80-120	
Cobalt	ug/L	500	477	95	80-120	
Copper	ug/L	500	497	99	80-120	
Lead	ug/L	500	480	96	80-120	
Nickel	ug/L	500	482	96	80-120	
Selenium	ug/L	500	480	96	80-120	
Silver	ug/L	250	242	97	80-120	
Thallium	ug/L	500	473	95	80-120	
Vanadium	ug/L	500	486	97	80-120	
Zinc	ug/L	500	472	94	80-120	

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1252871 1252872

Parameter	Units	92210772008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	468	470	94	94	75-125	0	25	
Arsenic	ug/L	ND	500	500	477	480	95	96	75-125	1	25	
Barium	ug/L	132	500	500	617	626	97	99	75-125	1	25	
Beryllium	ug/L	ND	500	500	490	495	98	99	75-125	1	25	
Cadmium	ug/L	ND	500	500	484	487	97	97	75-125	1	25	
Chromium	ug/L	ND	500	500	482	483	96	96	75-125	0	25	
Cobalt	ug/L	ND	500	500	483	488	96	97	75-125	1	25	
Copper	ug/L	7.8J	500	500	511	517	101	102	75-125	1	25	
Lead	ug/L	ND	500	500	476	484	95	97	75-125	2	25	
Nickel	ug/L	6.3J	500	500	487	491	96	97	75-125	1	25	
Selenium	ug/L	ND	500	500	478	485	96	97	75-125	1	25	
Silver	ug/L	ND	250	250	240	243	96	97	75-125	1	25	
Thallium	ug/L	ND	500	500	472	474	94	95	75-125	0	25	
Vanadium	ug/L	7.9J	500	500	493	497	97	98	75-125	1	25	
Zinc	ug/L	22.5	500	500	491	497	94	95	75-125	1	25	

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: MSV/27724 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92210555001, 92210555002, 92210555003

METHOD BLANK: 1250066 Matrix: Water
Associated Lab Samples: 92210555001, 92210555002, 92210555003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	07/25/14 15:21	
1,1,1-Trichloroethane	ug/L	ND	1.0	07/25/14 15:21	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	07/25/14 15:21	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/25/14 15:21	
1,1-Dichloroethane	ug/L	ND	5.0	07/25/14 15:21	
1,1-Dichloroethene	ug/L	ND	5.0	07/25/14 15:21	
1,2,3-Trichloropropane	ug/L	ND	1.0	07/25/14 15:21	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	07/25/14 15:21	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	07/25/14 15:21	
1,2-Dichlorobenzene	ug/L	ND	5.0	07/25/14 15:21	
1,2-Dichloroethane	ug/L	ND	1.0	07/25/14 15:21	
1,2-Dichloropropane	ug/L	ND	1.0	07/25/14 15:21	
1,3-Dichloropropane	ug/L	ND	1.0	07/25/14 15:21	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/25/14 15:21	
2-Butanone (MEK)	ug/L	ND	100	07/25/14 15:21	
2-Hexanone	ug/L	ND	50.0	07/25/14 15:21	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	07/25/14 15:21	
Acetone	ug/L	ND	100	07/25/14 15:21	
Acrylonitrile	ug/L	ND	200	07/25/14 15:21	
Benzene	ug/L	ND	1.0	07/25/14 15:21	
Bromochloromethane	ug/L	ND	3.0	07/25/14 15:21	
Bromodichloromethane	ug/L	ND	1.0	07/25/14 15:21	
Bromoform	ug/L	ND	3.0	07/25/14 15:21	
Bromomethane	ug/L	ND	10.0	07/25/14 15:21	
Carbon disulfide	ug/L	ND	100	07/25/14 15:21	
Carbon tetrachloride	ug/L	ND	1.0	07/25/14 15:21	
Chlorobenzene	ug/L	ND	3.0	07/25/14 15:21	
Chloroethane	ug/L	ND	10.0	07/25/14 15:21	
Chloroform	ug/L	ND	5.0	07/25/14 15:21	
Chloromethane	ug/L	ND	1.0	07/25/14 15:21	
cis-1,2-Dichloroethene	ug/L	ND	5.0	07/25/14 15:21	
cis-1,3-Dichloropropene	ug/L	ND	1.0	07/25/14 15:21	
Dibromochloromethane	ug/L	ND	3.0	07/25/14 15:21	
Dibromomethane	ug/L	ND	10.0	07/25/14 15:21	
Ethylbenzene	ug/L	ND	1.0	07/25/14 15:21	
Iodomethane	ug/L	ND	10.0	07/25/14 15:21	
Methylene Chloride	ug/L	ND	1.0	07/25/14 15:21	
Styrene	ug/L	ND	1.0	07/25/14 15:21	
Tetrachloroethene	ug/L	ND	1.0	07/25/14 15:21	
Toluene	ug/L	ND	1.0	07/25/14 15:21	
trans-1,2-Dichloroethene	ug/L	ND	5.0	07/25/14 15:21	

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

METHOD BLANK: 1250066 Matrix: Water
Associated Lab Samples: 92210555001, 92210555002, 92210555003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	07/25/14 15:21	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	07/25/14 15:21	
Trichloroethene	ug/L	ND	1.0	07/25/14 15:21	
Trichlorofluoromethane	ug/L	ND	1.0	07/25/14 15:21	
Vinyl acetate	ug/L	ND	50.0	07/25/14 15:21	
Vinyl chloride	ug/L	ND	1.0	07/25/14 15:21	
Xylene (Total)	ug/L	ND	5.0	07/25/14 15:21	
1,2-Dichloroethane-d4 (S)	%	108	70-130	07/25/14 15:21	
4-Bromofluorobenzene (S)	%	101	70-130	07/25/14 15:21	
Toluene-d8 (S)	%	100	70-130	07/25/14 15:21	

LABORATORY CONTROL SAMPLE: 1250067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.2	106	80-125	
1,1,1-Trichloroethane	ug/L	50	52.9	106	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	52.0	104	79-124	
1,1,2-Trichloroethane	ug/L	50	55.2	110	85-125	
1,1-Dichloroethane	ug/L	50	49.7	99	73-126	
1,1-Dichloroethene	ug/L	50	54.6	109	66-135	
1,2,3-Trichloropropane	ug/L	50	55.5	111	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	55.0	110	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	55.4	111	83-124	
1,2-Dichlorobenzene	ug/L	50	54.0	108	80-133	
1,2-Dichloroethane	ug/L	50	51.9	104	67-128	
1,2-Dichloropropane	ug/L	50	52.7	105	75-132	
1,3-Dichloropropane	ug/L	50	53.5	107	76-131	
1,4-Dichlorobenzene	ug/L	50	56.7	113	78-130	
2-Butanone (MEK)	ug/L	100	109	109	61-144	
2-Hexanone	ug/L	100	107	107	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	72-135	
Acetone	ug/L	100	97.8J	98	48-146	
Acrylonitrile	ug/L	250	247	99	40-160	
Benzene	ug/L	50	55.5	111	80-125	
Bromochloromethane	ug/L	50	42.4	85	71-125	
Bromodichloromethane	ug/L	50	62.9	126	78-124	L0
Bromoform	ug/L	50	59.0	118	71-128	
Bromomethane	ug/L	50	31.8	64	40-160	
Carbon disulfide	ug/L	50	50.5J	101	50-160	
Carbon tetrachloride	ug/L	50	60.1	120	69-131	
Chlorobenzene	ug/L	50	53.0	106	81-122	
Chloroethane	ug/L	50	37.1	74	39-148	
Chloroform	ug/L	50	59.3	119	73-127	
Chloromethane	ug/L	50	26.7	53	44-146	

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

LABORATORY CONTROL SAMPLE: 1250067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	56.3	113	74-124	
cis-1,3-Dichloropropene	ug/L	50	56.3	113	72-132	
Dibromochloromethane	ug/L	50	63.7	127	78-125	L0
Dibromomethane	ug/L	50	59.0	118	82-120	
Ethylbenzene	ug/L	50	55.5	111	79-121	
Iodomethane	ug/L	100	70.5	71	39-154	
Methylene Chloride	ug/L	50	42.6	85	64-133	
Styrene	ug/L	50	56.0	112	84-126	
Tetrachloroethene	ug/L	50	54.6	109	78-122	
Toluene	ug/L	50	54.2	108	80-121	
trans-1,2-Dichloroethene	ug/L	50	55.6	111	71-127	
trans-1,3-Dichloropropene	ug/L	50	57.5	115	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	51.5J	103	40-160	
Trichloroethene	ug/L	50	55.7	111	78-122	
Trichlorofluoromethane	ug/L	50	49.7	99	53-137	
Vinyl acetate	ug/L	100	112	112	40-160	
Vinyl chloride	ug/L	50	43.2	86	58-137	
Xylene (Total)	ug/L	150	166	110	81-126	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1250701 1250702

Parameter	Units	92210555002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	50.6	61.1	101	122	70-166	19	30	
Benzene	ug/L	ND	50	50	51.3	58.6	103	117	70-148	13	30	
Chlorobenzene	ug/L	ND	50	50	48.5	56.6	97	113	70-146	15	30	
Toluene	ug/L	ND	50	50	50.6	57.2	101	114	70-155	12	30	
Trichloroethene	ug/L	ND	50	50	54.7	62.4	109	124	69-151	13	30	
1,2-Dichloroethane-d4 (S)	%						109	108	70-130			
4-Bromofluorobenzene (S)	%						102	100	70-130			
Toluene-d8 (S)	%						100	97	70-130			

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: MSV/27788 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92210555004, 92210555005, 92210555006, 92210555007, 92210555008, 92210555009, 92210555010, 92210555011, 92210555012

METHOD BLANK: 1253990 Matrix: Water
Associated Lab Samples: 92210555004, 92210555005, 92210555006, 92210555007, 92210555008, 92210555009, 92210555010, 92210555011, 92210555012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	07/31/14 22:01	
1,1,1-Trichloroethane	ug/L	ND	1.0	07/31/14 22:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	07/31/14 22:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/31/14 22:01	
1,1-Dichloroethane	ug/L	ND	5.0	07/31/14 22:01	
1,1-Dichloroethene	ug/L	ND	5.0	07/31/14 22:01	
1,2,3-Trichloropropane	ug/L	ND	1.0	07/31/14 22:01	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	07/31/14 22:01	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	07/31/14 22:01	
1,2-Dichlorobenzene	ug/L	ND	5.0	07/31/14 22:01	
1,2-Dichloroethane	ug/L	ND	1.0	07/31/14 22:01	
1,2-Dichloropropane	ug/L	ND	1.0	07/31/14 22:01	
1,3-Dichloropropane	ug/L	ND	1.0	07/31/14 22:01	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/31/14 22:01	
2-Butanone (MEK)	ug/L	ND	100	07/31/14 22:01	
2-Hexanone	ug/L	ND	50.0	07/31/14 22:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	07/31/14 22:01	
Acetone	ug/L	ND	100	07/31/14 22:01	
Acrylonitrile	ug/L	ND	200	07/31/14 22:01	
Benzene	ug/L	ND	1.0	07/31/14 22:01	
Bromochloromethane	ug/L	ND	3.0	07/31/14 22:01	
Bromodichloromethane	ug/L	ND	1.0	07/31/14 22:01	
Bromoform	ug/L	ND	3.0	07/31/14 22:01	
Bromomethane	ug/L	ND	10.0	07/31/14 22:01	
Carbon disulfide	ug/L	ND	100	07/31/14 22:01	
Carbon tetrachloride	ug/L	ND	1.0	07/31/14 22:01	
Chlorobenzene	ug/L	ND	3.0	07/31/14 22:01	
Chloroethane	ug/L	ND	10.0	07/31/14 22:01	
Chloroform	ug/L	ND	5.0	07/31/14 22:01	
Chloromethane	ug/L	ND	1.0	07/31/14 22:01	
cis-1,2-Dichloroethene	ug/L	ND	5.0	07/31/14 22:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	07/31/14 22:01	
Dibromochloromethane	ug/L	ND	3.0	07/31/14 22:01	
Dibromomethane	ug/L	ND	10.0	07/31/14 22:01	
Ethylbenzene	ug/L	ND	1.0	07/31/14 22:01	
Iodomethane	ug/L	ND	10.0	07/31/14 22:01	
Methylene Chloride	ug/L	ND	1.0	07/31/14 22:01	
Styrene	ug/L	ND	1.0	07/31/14 22:01	
Tetrachloroethene	ug/L	ND	1.0	07/31/14 22:01	
Toluene	ug/L	ND	1.0	07/31/14 22:01	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

METHOD BLANK: 1253990 Matrix: Water

Associated Lab Samples: 92210555004, 92210555005, 92210555006, 92210555007, 92210555008, 92210555009, 92210555010, 92210555011, 92210555012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	5.0	07/31/14 22:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	07/31/14 22:01	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	07/31/14 22:01	
Trichloroethene	ug/L	ND	1.0	07/31/14 22:01	
Trichlorofluoromethane	ug/L	ND	1.0	07/31/14 22:01	
Vinyl acetate	ug/L	ND	50.0	07/31/14 22:01	
Vinyl chloride	ug/L	ND	1.0	07/31/14 22:01	
Xylene (Total)	ug/L	ND	5.0	07/31/14 22:01	
1,2-Dichloroethane-d4 (S)	%	103	70-130	07/31/14 22:01	
4-Bromofluorobenzene (S)	%	99	70-130	07/31/14 22:01	
Toluene-d8 (S)	%	98	70-130	07/31/14 22:01	

LABORATORY CONTROL SAMPLE: 1253991

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	47.4	95	80-125	
1,1,1-Trichloroethane	ug/L	50	46.5	93	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	47.9	96	79-124	
1,1,2-Trichloroethane	ug/L	50	47.6	95	85-125	
1,1-Dichloroethane	ug/L	50	42.3	85	73-126	
1,1-Dichloroethene	ug/L	50	46.1	92	66-135	
1,2,3-Trichloropropane	ug/L	50	48.3	97	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	49.1	98	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	48.3	97	83-124	
1,2-Dichlorobenzene	ug/L	50	50.0	100	80-133	
1,2-Dichloroethane	ug/L	50	42.6	85	67-128	
1,2-Dichloropropane	ug/L	50	47.1	94	75-132	
1,3-Dichloropropane	ug/L	50	49.0	98	76-131	
1,4-Dichlorobenzene	ug/L	50	49.9	100	78-130	
2-Butanone (MEK)	ug/L	100	93.9J	94	61-144	
2-Hexanone	ug/L	100	101	101	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.1J	97	72-135	
Acetone	ug/L	100	102	102	48-146	
Acrylonitrile	ug/L	250	240	96	40-160	
Benzene	ug/L	50	46.3	93	80-125	
Bromochloromethane	ug/L	50	48.1	96	71-125	
Bromodichloromethane	ug/L	50	51.1	102	78-124	
Bromoform	ug/L	50	55.8	112	71-128	
Bromomethane	ug/L	50	40.1	80	40-160	
Carbon disulfide	ug/L	50	40.0J	80	50-160	
Carbon tetrachloride	ug/L	50	50.8	102	69-131	
Chlorobenzene	ug/L	50	48.6	97	81-122	
Chloroethane	ug/L	50	46.2	92	39-148	

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

LABORATORY CONTROL SAMPLE: 1253991

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	50	50.8	102	73-127	
Chloromethane	ug/L	50	46.7	93	44-146	
cis-1,2-Dichloroethene	ug/L	50	48.4	97	74-124	
cis-1,3-Dichloropropene	ug/L	50	48.6	97	72-132	
Dibromochloromethane	ug/L	50	56.3	113	78-125	
Dibromomethane	ug/L	50	49.5	99	82-120	
Ethylbenzene	ug/L	50	48.9	98	79-121	
Iodomethane	ug/L	100	82.1	82	39-154	
Methylene Chloride	ug/L	50	49.0	98	64-133	
Styrene	ug/L	50	51.6	103	84-126	
Tetrachloroethene	ug/L	50	50.6	101	78-122	
Toluene	ug/L	50	46.1	92	80-121	
trans-1,2-Dichloroethene	ug/L	50	46.5	93	71-127	
trans-1,3-Dichloropropene	ug/L	50	48.0	96	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	72.9J	146	40-160	
Trichloroethene	ug/L	50	47.2	94	78-122	
Trichlorofluoromethane	ug/L	50	44.5	89	53-137	
Vinyl acetate	ug/L	100	92.2	92	40-160	
Vinyl chloride	ug/L	50	46.4	93	58-137	
Xylene (Total)	ug/L	150	148	99	81-126	
1,2-Dichloroethane-d4 (S)	%			90	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1253992 1253993

Parameter	Units	92210555012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	56.2	55.3	112	111	70-166	2	30	
Benzene	ug/L	ND	50	50	53.6	52.2	107	104	70-148	3	30	
Chlorobenzene	ug/L	ND	50	50	51.9	51.2	104	102	70-146	1	30	
Toluene	ug/L	ND	50	50	50.2	49.0	100	98	70-155	2	30	
Trichloroethene	ug/L	ND	50	50	58.2	56.7	116	113	69-151	3	30	
1,2-Dichloroethane-d4 (S)	%						105	105	70-130			
4-Bromofluorobenzene (S)	%						98	97	70-130			
Toluene-d8 (S)	%						97	97	70-130			

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: WET/32277
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 92210555003

METHOD BLANK: 1249502
Matrix: Water
Associated Lab Samples: 92210555003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	ug/L	ND	2000	07/30/14 02:30	

LABORATORY CONTROL SAMPLE: 1249503

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	ug/L	198000	197000	99	84.5-115.4	

SAMPLE DUPLICATE: 1249504

Parameter	Units	92210521003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	ug/L	ND	ND		10	

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: WET/32290
QC Batch Method: EPA 9040
Analysis Method: EPA 9040
Analysis Description: 9040 pH
Associated Lab Samples: 92210555003

SAMPLE DUPLICATE: 1249730

Parameter	Units	92210513001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	9.6	9.6	0	9	H6

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: WETA/19773
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 92210555003

METHOD BLANK: 1255072
Matrix: Water
Associated Lab Samples: 92210555003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	ug/L	ND	250000	08/05/14 11:07	

LABORATORY CONTROL SAMPLE: 1255073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	20000	18800J	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1255074 1255075

Parameter	Units	92210129006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	ug/L	17.8 mg/L	20000	20000	41700J	43900J	119	130	90-110	5	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1255076 1255077

Parameter	Units	92210129016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	ug/L	29.2 mg/L	20000	20000	44500J	51500J	77	112	90-110	15	10	M1,R1

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: WETA/19692
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 92210555003

METHOD BLANK: 1249496
Matrix: Water
Associated Lab Samples: 92210555003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	ug/L	ND	20.0	07/24/14 22:39	

LABORATORY CONTROL SAMPLE: 1249497

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	ug/L	2500	2530	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1249498 1249499

Parameter	Units	92210521001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	ug/L	2.0 mg/L	2500	2500	4280	4230	92	90	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1249500 1249501

Parameter	Units	92210521006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	ug/L	2.4 mg/L	2500	2500	4620	4610	88	88	90-110	0	10	M1

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QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: WETA/19738
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Phosphorus, Total
Associated Lab Samples: 92210555003

METHOD BLANK: 1252187
Matrix: Water
Associated Lab Samples: 92210555003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	ug/L	ND	50.0	08/01/14 15:00	

LABORATORY CONTROL SAMPLE: 1252188

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	ug/L	2500	2570	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1252189 1252190

Parameter	Units	92210933001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphorus	ug/L	2.9 mg/L	2500	2500	5500	5590	103	107	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1252191 1252192

Parameter	Units	92210629001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphorus	ug/L	0.073 mg/L	2500	2500	2610	2610	102	102	90-110	0	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

QC Batch: WETA/19779
QC Batch Method: SM 5220D
Analysis Method: SM 5220D
Analysis Description: 5220D COD
Associated Lab Samples: 92210555003

METHOD BLANK: 1255438
Matrix: Water
Associated Lab Samples: 92210555003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	ug/L	ND	25000	08/01/14 23:34	

LABORATORY CONTROL SAMPLE: 1255439

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	ug/L	750000	721000	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1255440 1255441

Parameter	Units	92211131002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	ug/L	24600 mg/L	15000000	15000000	36100000	35200000	76	71	90-110	2	3	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1255442 1255443

Parameter	Units	92211469002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	ug/L	102 mg/L	750000	750000	1030000	1040000	123	124	90-110	1	3	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IREDELL LINED 3&4
Pace Project No.: 92210555

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92210555001	**MW-28**	EPA 3010	MPRP/16529	EPA 6010	ICP/14929
92210555002	**MW-29**	EPA 3010	MPRP/16529	EPA 6010	ICP/14929
92210555003	**FORCEMAIN**	EPA 3010	MPRP/16529	EPA 6010	ICP/14929
92210555004	**MW-17**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210555005	**MW-18**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210555006	**MW-19SR**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210555007	**MW-19D**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210555008	**MW-21S**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210555009	**MW-21D**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210555010	**MW-27S**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210555011	**MW-27D**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210555012	**MW-30**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210555001	**MW-28**	EPA 8260	MSV/27724		
92210555002	**MW-29**	EPA 8260	MSV/27724		
92210555003	**FORCEMAIN**	EPA 8260	MSV/27724		
92210555004	**MW-17**	EPA 8260	MSV/27788		
92210555005	**MW-18**	EPA 8260	MSV/27788		
92210555006	**MW-19SR**	EPA 8260	MSV/27788		
92210555007	**MW-19D**	EPA 8260	MSV/27788		
92210555008	**MW-21S**	EPA 8260	MSV/27788		
92210555009	**MW-21D**	EPA 8260	MSV/27788		
92210555010	**MW-27S**	EPA 8260	MSV/27788		
92210555011	**MW-27D**	EPA 8260	MSV/27788		
92210555012	**MW-30**	EPA 8260	MSV/27788		
92210555003	**FORCEMAIN**	SM 5210B	WET/32277	SM 5210B	WET/32284
92210555003	**FORCEMAIN**	EPA 9040	WET/32290		
92210555003	**FORCEMAIN**	EPA 300.0	WETA/19773		
92210555003	**FORCEMAIN**	EPA 353.2	WETA/19692		
92210555003	**FORCEMAIN**	EPA 365.1	WETA/19738		
92210555003	**FORCEMAIN**	SM 5220D	WETA/19779		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Municipal

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 T1401 **Type of Ice:** Wet Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 5.8 °C **Biological Tissue is Frozen:** Yes No N/A

Date and Initials of person examining contents: aw 7/24/14

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☒Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:_____	☐Yes ☒No ☐N/A	12. Samples have no date/time on bottles - ALL
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13. Sample 9 - pH is 3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	Sample 12 - pH of metals bottle is 5
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☒Yes ☐No	
Samples checked for dechlorination:	☒Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☒No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☒N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: JG Date: 7/24/14

SRF Review: JG Date: 7/24/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92210555

92210555

(if no label available)

Partial others to follow

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:

Company:	Municipal Engineering Services
Address:	P.O. Box 97
	Garner, NC 27529
Email To:	jpfohl@mesco.com
Phone:	919-772-5393 Fax:
Requested Due Date/TAT:	10 Day (Default)

Section B Required Project Information:

Report To:	Jonathan Pfohl
Copy To:	
Purchase Order No.	
Client Project ID:	Iredell Lined 3&4
Container Order Number:	

Section C Invoice Information:

Attention:	Municipal Engineering Services
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Godwin
Pace Profile #:	

Regulatory Agency
State / Location
North Carolina

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	VOCs- App 1	Metals-App 1		COD	BOD	NITRATE	PHOSPHORUS	SULFATE		pH			
																			N	N	N	N	N	N	N	N	N	N	N	N	
1	MW-17	WT	G						4			1	3						x	x											
2	MW-18	WT	G						4			1	3						x	x											
3	MW-19SR	WT	G						4			1	3						x	x											
4	MW-19D	WT	G						4			1	3						x	x											
5	MW-21S	WT	G						4			1	3						x	x											
6	MW-21D	WT	G						4			1	3						x	x											
7	MW-27S	WT	G						4			1	3						x	x											
8	MW-27D	WT	G						4			1	3						x	x											
9	MW-28	WT	G			7/23/14	3:35		4			1	3						x	x											
10	MW-29	WT	G			7/23/14	4:30		4			1	3						x	x											
11	MW-30	WT	G						4			1	3						x	x											
12	FORCEMAIN	WW	G			7/23/14	5:00PM					1	3						x	x		X	X	X	X	X		X			

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

92210555

001
002
003

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	MESCO	7/24/14	10:30		7/24	10:55				
		7/24/14	1200	Pace	7/24/14	1250	5.8	Y	N	Y

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: Jonathan Pfohl	
SIGNATURE of SAMPLER:	DATE Signed: 7/24/14

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A
Required Client Information:

Company:	Municipal Engineering Services
Address:	P.O. Box 97
	Garner, NC 27529
Email To:	jpfohl@mesco.com
Phone:	919-772-5393 Fax:
Requested Due Date/TAT:	10 Day (Default)

Section B
Required Project Information:

Report To:	Jonathan Pfohl
Copy To:	
Purchase Order No.	
Client Project ID:	Iredell Lined 3&4
Container Order Number:	

Section C
Invoice Information:

Attention:	Municipal Engineering Services
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Godwin
Pace Profile #:	

Regulatory Agency
State / Location
North Carolina

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	VOCs- App 1 N	Metals-App 1 N	N	COD N	BOD N	NITRATE N	PHOSPHORUS N	SULFATE N	N	pH N	N	N	92210555
1	MW-17	WT	G			7/24/14	9:00		4			1	3						x	x											004
2	MW-18	WT	G				3:10		4			1	3						x	x											005
3	MW-19SR	WT	G				2:35		4			1	3						x	x											006
4	MW-19D	WT	G				2:10		4			1	3						x	x											007
5	MW-21S	WT	G				1:35		4			1	3						x	x											008
6	MW-21D	WT	G				11:40		4			1	3						x	x											009
7	MW-27S	WT	G				10:05		4			1	3						x	x											010
8	MW-27D	WT	G				9:30		4			1	3						x	x											011
9	MW-28 P	WT	G						4			1	3						x	x											
10	MW-29 P	WT	G						4			1	3						x	x											
11	MW-30	WT	G			7/24/14	11:00		4			1	3						x	x											012
12	FORCEMAIN P	WW	G									1	3						x	x		X	X	X	X	X		X			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	MESCO	7/25/14	2:00	[illegible]	7/25/14	14:00
P= Previously Submitted						

SAMPLE CONDITIONS			
1.8	Y	N	Y
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jonathan Pfohl

SIGNATURE of SAMPLER: [signature]

DATE Signed: 7/25/14

Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Municipal Engineering Services

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 (T1401) **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 1.8 °C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Optional
Proj. Due Date:
Proj. Name:

Date and Initials of person examining contents: CE 7-25-14

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:_____	☐Yes ☑No ☐N/A	12. Dates & times are not on bottles
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13. #2, 3, 4, 5, 6, 7, 8, & 11 do not fit EPA rec.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: KJ Date: 7/25/14

SRF Review: NS Date: 7/26/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

9 22/0 555 OR

Handwrite project number (if no label available)

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

August 21, 2014

Mr. Jonathan Pfohl
Municipal Engineering Services
PO Box 97
Garner, NC 27529

RE: Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

Dear Mr. Pfohl:
Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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Huntersville, NC 28078
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SAMPLE SUMMARY

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92213159001	**MW-21S**	Water	08/12/14 14:00	08/13/14 12:45

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SAMPLE ANALYTE COUNT

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92213159001	**MW-21S**	EPA 8260	MCK	51	PASI-C

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

Sample: MW-21S **Lab ID: 92213159001** Collected: 08/12/14 14:00 Received: 08/13/14 12:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	**12.0J**	ug/L	100	10.0	1		08/18/14 15:46	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/18/14 15:46	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/18/14 15:46	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/18/14 15:46	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/18/14 15:46	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/18/14 15:46	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/18/14 15:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/18/14 15:46	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/18/14 15:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/18/14 15:46	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/18/14 15:46	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/18/14 15:46	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/18/14 15:46	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/18/14 15:46	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/18/14 15:46	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/18/14 15:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/18/14 15:46	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/18/14 15:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/18/14 15:46	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/18/14 15:46	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/18/14 15:46	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/18/14 15:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/18/14 15:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/18/14 15:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/18/14 15:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/18/14 15:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/18/14 15:46	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		08/18/14 15:46	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/18/14 15:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/18/14 15:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/18/14 15:46	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/18/14 15:46	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/18/14 15:46	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/18/14 15:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/18/14 15:46	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/18/14 15:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/18/14 15:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/18/14 15:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/18/14 15:46	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/18/14 15:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/18/14 15:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/18/14 15:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/18/14 15:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/18/14 15:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/18/14 15:46	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/18/14 15:46	108-05-4	

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(704)875-9092

ANALYTICAL RESULTS

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

Sample: MW-21S **Lab ID: 92213159001** Collected: 08/12/14 14:00 Received: 08/13/14 12:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Vinyl chloride	**0.81J**	ug/L	1.0	0.62	1		08/18/14 15:46	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/18/14 15:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		08/18/14 15:46	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		08/18/14 15:46	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		08/18/14 15:46	2037-26-5	

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QUALITY CONTROL DATA

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

QC Batch: MSV/27989
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92213159001

METHOD BLANK: 1266231
Matrix: Water
Associated Lab Samples: 92213159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	08/18/14 15:14	
1,1,1-Trichloroethane	ug/L	ND	1.0	08/18/14 15:14	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	08/18/14 15:14	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/18/14 15:14	
1,1-Dichloroethane	ug/L	ND	5.0	08/18/14 15:14	
1,1-Dichloroethene	ug/L	ND	5.0	08/18/14 15:14	
1,2,3-Trichloropropane	ug/L	ND	1.0	08/18/14 15:14	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	08/18/14 15:14	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	08/18/14 15:14	
1,2-Dichlorobenzene	ug/L	ND	5.0	08/18/14 15:14	
1,2-Dichloroethane	ug/L	ND	1.0	08/18/14 15:14	
1,2-Dichloropropane	ug/L	ND	1.0	08/18/14 15:14	
1,3-Dichloropropane	ug/L	ND	1.0	08/18/14 15:14	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/18/14 15:14	
2-Butanone (MEK)	ug/L	ND	100	08/18/14 15:14	
2-Hexanone	ug/L	ND	50.0	08/18/14 15:14	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	08/18/14 15:14	
Acetone	ug/L	ND	100	08/18/14 15:14	
Acrylonitrile	ug/L	ND	200	08/18/14 15:14	
Benzene	ug/L	ND	1.0	08/18/14 15:14	
Bromochloromethane	ug/L	ND	3.0	08/18/14 15:14	
Bromodichloromethane	ug/L	ND	1.0	08/18/14 15:14	
Bromoform	ug/L	ND	3.0	08/18/14 15:14	
Bromomethane	ug/L	ND	10.0	08/18/14 15:14	
Carbon disulfide	ug/L	ND	100	08/18/14 15:14	
Carbon tetrachloride	ug/L	ND	1.0	08/18/14 15:14	
Chlorobenzene	ug/L	ND	3.0	08/18/14 15:14	
Chloroethane	ug/L	ND	10.0	08/18/14 15:14	
Chloroform	ug/L	ND	5.0	08/18/14 15:14	
Chloromethane	ug/L	ND	1.0	08/18/14 15:14	
cis-1,2-Dichloroethene	ug/L	ND	5.0	08/18/14 15:14	
cis-1,3-Dichloropropene	ug/L	ND	1.0	08/18/14 15:14	
Dibromochloromethane	ug/L	ND	3.0	08/18/14 15:14	
Dibromomethane	ug/L	ND	10.0	08/18/14 15:14	
Ethylbenzene	ug/L	ND	1.0	08/18/14 15:14	
Iodomethane	ug/L	ND	10.0	08/18/14 15:14	
Methylene Chloride	ug/L	ND	1.0	08/18/14 15:14	
Styrene	ug/L	ND	1.0	08/18/14 15:14	
Tetrachloroethene	ug/L	ND	1.0	08/18/14 15:14	
Toluene	ug/L	ND	1.0	08/18/14 15:14	
trans-1,2-Dichloroethene	ug/L	ND	5.0	08/18/14 15:14	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

METHOD BLANK: 1266231 Matrix: Water
Associated Lab Samples: 92213159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	08/18/14 15:14	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	08/18/14 15:14	
Trichloroethene	ug/L	ND	1.0	08/18/14 15:14	
Trichlorofluoromethane	ug/L	ND	1.0	08/18/14 15:14	
Vinyl acetate	ug/L	ND	50.0	08/18/14 15:14	
Vinyl chloride	ug/L	ND	1.0	08/18/14 15:14	
Xylene (Total)	ug/L	ND	5.0	08/18/14 15:14	
1,2-Dichloroethane-d4 (S)	%	97	70-130	08/18/14 15:14	
4-Bromofluorobenzene (S)	%	103	70-130	08/18/14 15:14	
Toluene-d8 (S)	%	98	70-130	08/18/14 15:14	

LABORATORY CONTROL SAMPLE: 1266232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	51.8	104	80-125	
1,1,1-Trichloroethane	ug/L	50	48.3	97	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	50.2	100	79-124	
1,1,2-Trichloroethane	ug/L	50	52.3	105	85-125	
1,1-Dichloroethane	ug/L	50	46.6	93	73-126	
1,1-Dichloroethene	ug/L	50	52.3	105	66-135	
1,2,3-Trichloropropane	ug/L	50	52.4	105	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	49.5	99	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	51.3	103	83-124	
1,2-Dichlorobenzene	ug/L	50	50.6	101	80-133	
1,2-Dichloroethane	ug/L	50	47.6	95	67-128	
1,2-Dichloropropane	ug/L	50	50.7	101	75-132	
1,3-Dichloropropane	ug/L	50	50.6	101	76-131	
1,4-Dichlorobenzene	ug/L	50	51.3	103	78-130	
2-Butanone (MEK)	ug/L	100	100	100	61-144	
2-Hexanone	ug/L	100	100	100	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.2J	98	72-135	
Acetone	ug/L	100	93.4J	93	48-146	
Acrylonitrile	ug/L	250	239	96	40-160	
Benzene	ug/L	50	50.8	102	80-125	
Bromochloromethane	ug/L	50	52.2	104	71-125	
Bromodichloromethane	ug/L	50	56.0	112	78-124	
Bromoform	ug/L	50	60.6	121	71-128	
Bromomethane	ug/L	50	48.1	96	40-160	
Carbon disulfide	ug/L	50	48.1J	96	50-160	
Carbon tetrachloride	ug/L	50	54.2	108	69-131	
Chlorobenzene	ug/L	50	51.4	103	81-122	
Chloroethane	ug/L	50	45.5	91	39-148	
Chloroform	ug/L	50	54.9	110	73-127	
Chloromethane	ug/L	50	44.3	89	44-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

LABORATORY CONTROL SAMPLE: 1266232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	52.2	104	74-124	
cis-1,3-Dichloropropene	ug/L	50	52.1	104	72-132	
Dibromochloromethane	ug/L	50	60.3	121	78-125	
Dibromomethane	ug/L	50	55.0	110	82-120	
Ethylbenzene	ug/L	50	51.7	103	79-121	
Iodomethane	ug/L	100	87.8	88	39-154	
Methylene Chloride	ug/L	50	48.3	97	64-133	
Styrene	ug/L	50	54.1	108	84-126	
Tetrachloroethene	ug/L	50	54.6	109	78-122	
Toluene	ug/L	50	51.0	102	80-121	
trans-1,2-Dichloroethene	ug/L	50	52.0	104	71-127	
trans-1,3-Dichloropropene	ug/L	50	51.4	103	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	54.0J	108	40-160	
Trichloroethene	ug/L	50	51.9	104	78-122	
Trichlorofluoromethane	ug/L	50	50.6	101	53-137	
Vinyl acetate	ug/L	100	108	108	40-160	
Vinyl chloride	ug/L	50	46.6	93	58-137	
Xylene (Total)	ug/L	150	155	103	81-126	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266233 1266234

Parameter	Units	92213505008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	44.4	44.5	89	89	70-166	0	30	
Benzene	ug/L	ND	50	50	49.3	48.6	99	97	70-148	2	30	
Chlorobenzene	ug/L	ND	50	50	49.8	49.1	100	98	70-146	1	30	
Toluene	ug/L	ND	50	50	47.8	47.5	96	95	70-155	1	30	
Trichloroethene	ug/L	ND	50	50	53.0	53.6	106	107	69-151	1	30	
1,2-Dichloroethane-d4 (S)	%						95	94	70-130			
4-Bromofluorobenzene (S)	%						103	103	70-130			
Toluene-d8 (S)	%						99	99	70-130			

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QUALIFIERS

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IREDELL LINED PH 3&4
Pace Project No.: 92213159

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92213159001	**MW-21S**	EPA 8260	MSV/27989		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Municipal Engineering

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other_____

Thermometer Used: IR Gun T1102 T1401 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 11 °C **Biological Tissue is Frozen:** Yes No N/A

Date and Initials of person examining contents: _____

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	JJ	Date:	8/13/14
SRF Review:	JJ	Date:	8/13/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

WO# : 92213159

92213159

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A
Required Client Information:

Company:	Municipal Engineering Services
Address:	P.O. Box 97
	Garner, NC 27529
Email To:	jpfohl@mesco.com
Phone:	919-772-5393 Fax:
Requested Due Date/TAT:	10 Day (Default)

Section B
Required Project Information:

Report To:	Jonathan Pfohl
Copy To:	
Purchase Order No.	
Client Project ID:	Iredell Lined Ph ~~1&2~~ 3&4
Container Order Number:	

Section C
Invoice Information:

Attention:	Municipal Engineering Services
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Godwin
Pace Profile #:	

Regulatory Agency
State / Location
North Carolina

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECT	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test	VOCs- App I	Metals App I	Pesticides	Herbicides	Solvents						
																		Y/N	N	N	N	N	N	N	N	N	N	N	N
1	~~LACCOH~~	WW	G			8/12/14	2:00													X	X	X	X	X	X			X	X
2	MW-215																												
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

922359
001

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	/ MESCO	8/12/14	2:30	12 monday - Pace	08-13-14	08:30
	left @ Cemex	08-13-14	12:45	Longwich/Pace	8-13-14	1245
Verification Resample due to VC hit						

SAMPLE CONDITIONS			
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.1	Y	N	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jonathan Pfohl
SIGNATURE of SAMPLER:
DATE Signed: 8/12/14

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

July 31, 2014

Mr. Jonathan Pfohl
Municipal Engineering Services
PO Box 97
Garner, NC 27529

RE: Project: IREDELL SW-1_5
Pace Project No.: 92210568

Dear Mr. Pfohl:
Enclosed are the analytical results for sample(s) received by the laboratory on July 24, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: IREDELL SW-1_5
Pace Project No.: 92210568

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: IREDELL SW-1_5
Pace Project No.: 92210568

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92210568001	**SW-1**	Water	07/23/14 15:45	07/24/14 12:50
92210568002	**SW-5**	Water	07/23/14 16:45	07/24/14 12:50

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SAMPLE ANALYTE COUNT

Project: IREDELL SW-1_5
Pace Project No.: 92210568

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92210568001	**SW-1**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C
92210568002	**SW-5**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	51	PASI-C

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ANALYTICAL RESULTS

Project: IREDELL SW-1_5
Pace Project No.: 92210568

Sample: SW-1 **Lab ID: 92210568001** Collected: 07/23/14 15:45 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/25/14 13:45	07/29/14 17:51	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:43	7440-38-2	
Barium	**21.4J**	ug/L	100	5.0	1	07/25/14 13:45	07/28/14 17:43	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:43	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:43	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:43	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:43	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:43	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:43	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/25/14 13:45	07/28/14 17:43	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:43	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:43	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/25/14 13:45	07/28/14 17:43	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/25/14 13:45	07/28/14 17:43	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:43	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		07/25/14 20:10	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		07/25/14 20:10	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		07/25/14 20:10	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		07/25/14 20:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		07/25/14 20:10	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		07/25/14 20:10	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		07/25/14 20:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		07/25/14 20:10	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		07/25/14 20:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		07/25/14 20:10	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		07/25/14 20:10	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		07/25/14 20:10	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		07/25/14 20:10	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		07/25/14 20:10	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		07/25/14 20:10	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		07/25/14 20:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		07/25/14 20:10	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		07/25/14 20:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		07/25/14 20:10	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		07/25/14 20:10	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		07/25/14 20:10	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		07/25/14 20:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/25/14 20:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		07/25/14 20:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		07/25/14 20:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		07/25/14 20:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		07/25/14 20:10	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		07/25/14 20:10	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		07/25/14 20:10	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL SW-1_5
Pace Project No.: 92210568

Sample: SW-1 **Lab ID: 92210568001** Collected: 07/23/14 15:45 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		07/25/14 20:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/25/14 20:10	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		07/25/14 20:10	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		07/25/14 20:10	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		07/25/14 20:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		07/25/14 20:10	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		07/25/14 20:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		07/25/14 20:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		07/25/14 20:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		07/25/14 20:10	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		07/25/14 20:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		07/25/14 20:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		07/25/14 20:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		07/25/14 20:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		07/25/14 20:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		07/25/14 20:10	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		07/25/14 20:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		07/25/14 20:10	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		07/25/14 20:10	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		07/25/14 20:10	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		07/25/14 20:10	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		07/25/14 20:10	2037-26-5	

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ANALYTICAL RESULTS

Project: IREDELL SW-1_5
Pace Project No.: 92210568

Sample: SW-5 **Lab ID: 92210568002** Collected: 07/23/14 16:45 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/28/14 16:30	07/30/14 08:20	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/28/14 16:30	07/30/14 08:20	7440-38-2	
Barium	**21.0J**	ug/L	100	5.0	1	07/28/14 16:30	07/30/14 08:20	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/28/14 16:30	07/30/14 08:20	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/28/14 16:30	07/30/14 08:20	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/28/14 16:30	07/30/14 08:20	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/28/14 16:30	07/30/14 08:20	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/28/14 16:30	07/30/14 17:18	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/28/14 16:30	07/30/14 08:20	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/28/14 16:30	07/30/14 08:20	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/28/14 16:30	07/30/14 08:20	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/28/14 16:30	07/30/14 08:20	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/28/14 16:30	07/30/14 08:20	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/28/14 16:30	07/30/14 08:20	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/28/14 16:30	07/30/14 08:20	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		07/25/14 20:26	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		07/25/14 20:26	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		07/25/14 20:26	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		07/25/14 20:26	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		07/25/14 20:26	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		07/25/14 20:26	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		07/25/14 20:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		07/25/14 20:26	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		07/25/14 20:26	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		07/25/14 20:26	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		07/25/14 20:26	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		07/25/14 20:26	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		07/25/14 20:26	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		07/25/14 20:26	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		07/25/14 20:26	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		07/25/14 20:26	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		07/25/14 20:26	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		07/25/14 20:26	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		07/25/14 20:26	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		07/25/14 20:26	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		07/25/14 20:26	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		07/25/14 20:26	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/25/14 20:26	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		07/25/14 20:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		07/25/14 20:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		07/25/14 20:26	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		07/25/14 20:26	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		07/25/14 20:26	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		07/25/14 20:26	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL SW-1_5
Pace Project No.: 92210568

Sample: SW-5 **Lab ID: 92210568002** Collected: 07/23/14 16:45 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		07/25/14 20:26	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/25/14 20:26	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		07/25/14 20:26	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		07/25/14 20:26	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		07/25/14 20:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		07/25/14 20:26	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		07/25/14 20:26	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		07/25/14 20:26	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		07/25/14 20:26	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		07/25/14 20:26	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		07/25/14 20:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		07/25/14 20:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		07/25/14 20:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		07/25/14 20:26	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		07/25/14 20:26	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		07/25/14 20:26	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		07/25/14 20:26	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		07/25/14 20:26	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		07/25/14 20:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		07/25/14 20:26	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		07/25/14 20:26	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		07/25/14 20:26	2037-26-5	

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QUALITY CONTROL DATA

Project: IREDELL SW-1_5
Pace Project No.: 92210568

QC Batch: MPRP/16529
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92210568001

METHOD BLANK: 1249993
Matrix: Water
Associated Lab Samples: 92210568001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	07/28/14 16:19	
Arsenic	ug/L	ND	10.0	07/28/14 16:19	
Barium	ug/L	ND	100	07/28/14 16:19	
Beryllium	ug/L	ND	1.0	07/28/14 16:19	
Cadmium	ug/L	ND	1.0	07/28/14 16:19	
Chromium	ug/L	ND	10.0	07/28/14 16:19	
Cobalt	ug/L	ND	10.0	07/28/14 16:19	
Copper	ug/L	ND	10.0	07/28/14 16:19	
Lead	ug/L	ND	10.0	07/28/14 16:19	
Nickel	ug/L	ND	50.0	07/28/14 16:19	
Selenium	ug/L	ND	10.0	07/28/14 16:19	
Silver	ug/L	ND	10.0	07/28/14 16:19	
Thallium	ug/L	ND	5.5	07/28/14 16:19	
Vanadium	ug/L	ND	25.0	07/28/14 16:19	
Zinc	ug/L	ND	10.0	07/28/14 16:19	

LABORATORY CONTROL SAMPLE: 1249994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	502	100	80-120	
Arsenic	ug/L	500	487	97	80-120	
Barium	ug/L	500	488	98	80-120	
Beryllium	ug/L	500	497	99	80-120	
Cadmium	ug/L	500	500	100	80-120	
Chromium	ug/L	500	483	97	80-120	
Cobalt	ug/L	500	488	98	80-120	
Copper	ug/L	500	504	101	80-120	
Lead	ug/L	500	491	98	80-120	
Nickel	ug/L	500	497	99	80-120	
Selenium	ug/L	500	496	99	80-120	
Silver	ug/L	250	248	99	80-120	
Thallium	ug/L	500	494	99	80-120	
Vanadium	ug/L	500	493	99	80-120	
Zinc	ug/L	500	484	97	80-120	

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QUALITY CONTROL DATA

Project: IREDELL SW-1_5
Pace Project No.: 92210568

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1249995 1249996

Parameter	Units	92210419001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	480	492	96	98	75-125	2	25	
Arsenic	ug/L	ND	500	500	467	467	93	93	75-125	0	25	
Barium	ug/L	6.0	500	500	474	475	94	94	75-125	0	25	
Beryllium	ug/L	ND	500	500	478	480	96	96	75-125	0	25	
Cadmium	ug/L	ND	500	500	477	476	95	95	75-125	0	25	
Chromium	ug/L	ND	500	500	462	466	92	93	75-125	1	25	
Cobalt	ug/L	ND	500	500	462	460	92	92	75-125	0	25	
Copper	ug/L	28.1	500	500	508	510	96	96	75-125	0	25	
Lead	ug/L	ND	500	500	467	465	92	92	75-125	0	25	
Nickel	ug/L	ND	500	500	469	471	94	94	75-125	0	25	
Selenium	ug/L	ND	500	500	472	469	94	94	75-125	1	25	
Silver	ug/L	ND	250	250	237	237	95	94	75-125	0	25	
Thallium	ug/L	ND	500	500	467	464	93	93	75-125	1	25	
Vanadium	ug/L	ND	500	500	474	476	95	95	75-125	1	25	
Zinc	ug/L	ND	500	500	461	463	92	92	75-125	1	25	

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QUALITY CONTROL DATA

Project: IREDELL SW-1_5
Pace Project No.: 92210568

QC Batch: MPRP/16541
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92210568002

METHOD BLANK: 1251119
Matrix: Water
Associated Lab Samples: 92210568002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	07/30/14 08:14	
Arsenic	ug/L	ND	10.0	07/30/14 08:14	
Barium	ug/L	ND	100	07/30/14 08:14	
Beryllium	ug/L	ND	1.0	07/30/14 08:14	
Cadmium	ug/L	ND	1.0	07/30/14 08:14	
Chromium	ug/L	ND	10.0	07/30/14 08:14	
Cobalt	ug/L	ND	10.0	07/30/14 08:14	
Copper	ug/L	ND	10.0	07/30/14 17:12	
Lead	ug/L	ND	10.0	07/30/14 08:14	
Nickel	ug/L	ND	50.0	07/30/14 08:14	
Selenium	ug/L	ND	10.0	07/30/14 08:14	
Silver	ug/L	ND	10.0	07/30/14 08:14	
Thallium	ug/L	ND	5.5	07/30/14 08:14	
Vanadium	ug/L	ND	25.0	07/30/14 08:14	
Zinc	ug/L	ND	10.0	07/30/14 08:14	

LABORATORY CONTROL SAMPLE: 1251120

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	490	98	80-120	
Arsenic	ug/L	500	477	95	80-120	
Barium	ug/L	500	447	89	80-120	
Beryllium	ug/L	500	488	98	80-120	
Cadmium	ug/L	500	492	98	80-120	
Chromium	ug/L	500	471	94	80-120	
Cobalt	ug/L	500	474	95	80-120	
Copper	ug/L	500	495	99	80-120	
Lead	ug/L	500	476	95	80-120	
Nickel	ug/L	500	488	98	80-120	
Selenium	ug/L	500	482	96	80-120	
Silver	ug/L	250	242	97	80-120	
Thallium	ug/L	500	483	97	80-120	
Vanadium	ug/L	500	487	97	80-120	
Zinc	ug/L	500	471	94	80-120	

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QUALITY CONTROL DATA

Project: IREDELL SW-1_5
Pace Project No.: 92210568

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1251121 1251122

Parameter	Units	92210568002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	478	473	96	95	75-125	1	25	
Arsenic	ug/L	ND	500	500	470	466	94	93	75-125	1	25	
Barium	ug/L	21.0J	500	500	461	456	88	87	75-125	1	25	
Beryllium	ug/L	ND	500	500	482	474	96	95	75-125	2	25	
Cadmium	ug/L	ND	500	500	483	478	97	95	75-125	1	25	
Chromium	ug/L	ND	500	500	467	463	93	92	75-125	1	25	
Cobalt	ug/L	ND	500	500	464	455	93	91	75-125	2	25	
Copper	ug/L	ND	500	500	490	480	98	96	75-125	2	25	
Lead	ug/L	ND	500	500	463	457	93	91	75-125	1	25	
Nickel	ug/L	ND	500	500	476	473	95	94	75-125	1	25	
Selenium	ug/L	ND	500	500	470	468	94	94	75-125	0	25	
Silver	ug/L	ND	250	250	239	237	95	95	75-125	1	25	
Thallium	ug/L	ND	500	500	471	463	94	92	75-125	2	25	
Vanadium	ug/L	ND	500	500	481	478	96	95	75-125	1	25	
Zinc	ug/L	ND	500	500	464	459	92	91	75-125	1	25	

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QUALITY CONTROL DATA

Project: IREDELL SW-1_5
Pace Project No.: 92210568

QC Batch: MSV/27725 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92210568001, 92210568002

METHOD BLANK: 1250070 | Matrix: Water
Associated Lab Samples: 92210568001, 92210568002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	07/25/14 15:37	
1,1,1-Trichloroethane	ug/L	ND	1.0	07/25/14 15:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	07/25/14 15:37	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/25/14 15:37	
1,1-Dichloroethane	ug/L	ND	5.0	07/25/14 15:37	
1,1-Dichloroethene	ug/L	ND	5.0	07/25/14 15:37	
1,2,3-Trichloropropane	ug/L	ND	1.0	07/25/14 15:37	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	07/25/14 15:37	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	07/25/14 15:37	
1,2-Dichlorobenzene	ug/L	ND	5.0	07/25/14 15:37	
1,2-Dichloroethane	ug/L	ND	1.0	07/25/14 15:37	
1,2-Dichloropropane	ug/L	ND	1.0	07/25/14 15:37	
1,3-Dichloropropane	ug/L	ND	1.0	07/25/14 15:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/25/14 15:37	
2-Butanone (MEK)	ug/L	ND	100	07/25/14 15:37	
2-Hexanone	ug/L	ND	50.0	07/25/14 15:37	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	07/25/14 15:37	
Acetone	ug/L	ND	100	07/25/14 15:37	
Acrylonitrile	ug/L	ND	200	07/25/14 15:37	
Benzene	ug/L	ND	1.0	07/25/14 15:37	
Bromochloromethane	ug/L	ND	3.0	07/25/14 15:37	
Bromodichloromethane	ug/L	ND	1.0	07/25/14 15:37	
Bromoform	ug/L	ND	3.0	07/25/14 15:37	
Bromomethane	ug/L	ND	10.0	07/25/14 15:37	
Carbon disulfide	ug/L	ND	100	07/25/14 15:37	
Carbon tetrachloride	ug/L	ND	1.0	07/25/14 15:37	
Chlorobenzene	ug/L	ND	3.0	07/25/14 15:37	
Chloroethane	ug/L	ND	10.0	07/25/14 15:37	
Chloroform	ug/L	ND	5.0	07/25/14 15:37	
Chloromethane	ug/L	ND	1.0	07/25/14 15:37	
cis-1,2-Dichloroethene	ug/L	ND	5.0	07/25/14 15:37	
cis-1,3-Dichloropropene	ug/L	ND	1.0	07/25/14 15:37	
Dibromochloromethane	ug/L	ND	3.0	07/25/14 15:37	
Dibromomethane	ug/L	ND	10.0	07/25/14 15:37	
Ethylbenzene	ug/L	ND	1.0	07/25/14 15:37	
Iodomethane	ug/L	ND	10.0	07/25/14 15:37	
Methylene Chloride	ug/L	ND	1.0	07/25/14 15:37	
Styrene	ug/L	ND	1.0	07/25/14 15:37	
Tetrachloroethene	ug/L	ND	1.0	07/25/14 15:37	
Toluene	ug/L	ND	1.0	07/25/14 15:37	
trans-1,2-Dichloroethene	ug/L	ND	5.0	07/25/14 15:37	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IREDELL SW-1_5
Pace Project No.: 92210568

METHOD BLANK: 1250070 Matrix: Water
Associated Lab Samples: 92210568001, 92210568002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	07/25/14 15:37	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	07/25/14 15:37	
Trichloroethene	ug/L	ND	1.0	07/25/14 15:37	
Trichlorofluoromethane	ug/L	ND	1.0	07/25/14 15:37	
Vinyl acetate	ug/L	ND	50.0	07/25/14 15:37	
Vinyl chloride	ug/L	ND	1.0	07/25/14 15:37	
Xylene (Total)	ug/L	ND	5.0	07/25/14 15:37	
1,2-Dichloroethane-d4 (S)	%	108	70-130	07/25/14 15:37	
4-Bromofluorobenzene (S)	%	101	70-130	07/25/14 15:37	
Toluene-d8 (S)	%	99	70-130	07/25/14 15:37	

LABORATORY CONTROL SAMPLE: 1250071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	55.7	111	80-125	
1,1,1-Trichloroethane	ug/L	50	52.7	105	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	53.7	107	79-124	
1,1,2-Trichloroethane	ug/L	50	54.8	110	85-125	
1,1-Dichloroethane	ug/L	50	50.1	100	73-126	
1,1-Dichloroethene	ug/L	50	56.0	112	66-135	
1,2,3-Trichloropropane	ug/L	50	57.8	116	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	54.3	109	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	57.1	114	83-124	
1,2-Dichlorobenzene	ug/L	50	55.2	110	80-133	
1,2-Dichloroethane	ug/L	50	52.1	104	67-128	
1,2-Dichloropropane	ug/L	50	54.2	108	75-132	
1,3-Dichloropropane	ug/L	50	56.0	112	76-131	
1,4-Dichlorobenzene	ug/L	50	56.0	112	78-130	
2-Butanone (MEK)	ug/L	100	105	105	61-144	
2-Hexanone	ug/L	100	108	108	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	72-135	
Acetone	ug/L	100	103	103	48-146	
Acrylonitrile	ug/L	250	250	100	40-160	
Benzene	ug/L	50	56.8	114	80-125	
Bromochloromethane	ug/L	50	50.3	101	71-125	
Bromodichloromethane	ug/L	50	63.3	127	78-124	L0
Bromoform	ug/L	50	61.6	123	71-128	
Bromomethane	ug/L	50	48.8	98	40-160	
Carbon disulfide	ug/L	50	50.8J	102	50-160	
Carbon tetrachloride	ug/L	50	60.1	120	69-131	
Chlorobenzene	ug/L	50	55.3	111	81-122	
Chloroethane	ug/L	50	39.1	78	39-148	
Chloroform	ug/L	50	60.7	121	73-127	
Chloromethane	ug/L	50	43.1	86	44-146	

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QUALITY CONTROL DATA

Project: IREDELL SW-1_5
Pace Project No.: 92210568

LABORATORY CONTROL SAMPLE: 1250071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	57.3	115	74-124	
cis-1,3-Dichloropropene	ug/L	50	57.9	116	72-132	
Dibromochloromethane	ug/L	50	65.1	130	78-125	L0
Dibromomethane	ug/L	50	59.1	118	82-120	
Ethylbenzene	ug/L	50	57.5	115	79-121	
Iodomethane	ug/L	100	87.5	87	39-154	
Methylene Chloride	ug/L	50	49.2	98	64-133	
Styrene	ug/L	50	58.3	117	84-126	
Tetrachloroethene	ug/L	50	56.9	114	78-122	
Toluene	ug/L	50	56.1	112	80-121	
trans-1,2-Dichloroethene	ug/L	50	56.4	113	71-127	
trans-1,3-Dichloropropene	ug/L	50	57.9	116	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	55.2J	110	40-160	
Trichloroethene	ug/L	50	56.6	113	78-122	
Trichlorofluoromethane	ug/L	50	51.7	103	53-137	
Vinyl acetate	ug/L	100	112	112	40-160	
Vinyl chloride	ug/L	50	50.3	101	58-137	
Xylene (Total)	ug/L	150	173	115	81-126	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1250072 1250073

Parameter	Units	92210562001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	53.8	57.0	108	114	70-166	6	30	
Benzene	ug/L	ND	50	50	51.1	53.9	102	108	70-148	5	30	
Chlorobenzene	ug/L	ND	50	50	51.9	51.7	104	103	70-146	0	30	
Toluene	ug/L	ND	50	50	49.3	52.7	99	105	70-155	7	30	
Trichloroethene	ug/L	ND	50	50	54.1	58.7	108	117	69-151	8	30	
1,2-Dichloroethane-d4 (S)	%						108	110	70-130			
4-Bromofluorobenzene (S)	%						103	102	70-130			
Toluene-d8 (S)	%						98	101	70-130			

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QUALIFIERS

Project: IREDELL SW-1_5
Pace Project No.: 92210568

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IREDELL SW-1_5
Pace Project No.: 92210568

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92210568001	**SW-1**	EPA 3010	MPRP/16529	EPA 6010	ICP/14929
92210568002	**SW-5**	EPA 3010	MPRP/16541	EPA 6010	ICP/14938
92210568001	**SW-1**	EPA 8260	MSV/27725		
92210568002	**SW-5**	EPA 8260	MSV/27725		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Municipal

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 (T1401) **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 2.7 °C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AAS 7/24/14

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☒No ☐N/A	12. No dates/times on bottles ALL
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☒Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☒No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☒N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: JG **Date:** 7/24/14

SRF Review: JG **Date:** 7/24/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 92210568

92210568

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:

Company: Municipal Engineering Services
Address: P.O. Box 97
Garner, NC 27529
Email To: jpfohl@mesco.com
Phone: 919-772-5393 Fax:
Requested Due Date/TAT: 10 Day (Default)

Section B Required Project Information:

Report To: Jonathan Pfohl
Copy To:
Purchase Order No.
Client Project ID: Iredell SW-1_5
Container Order Number:

Section C Invoice Information:

Attention: Municipal Engineering Services
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Kevin Godwin
Pace Profile #:

Regulatory Agency:
State / Location: North Carolina

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	VOCs- App I	Metals-App I											9221505 68
																			N	N		N	N	N	N	N	N	N	N		
1	SW-1	WT	G			7/23/14	3:45		4			1	3						X	X											001
2	SW-5	WT	G			7/23/14	4:45		4			1	3						x	x											002
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Matrix codes: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	MESCO	7/23/14	10:30		7/24	10:55				
		7/24	1250	PACE	7/24/14	1250	2.7	Y	N	Y

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jonathan Pfohl

SIGNATURE of SAMPLER:

DATE Signed: 7/24/14

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

July 31, 2014

Mr. Jonathan Pfohl
Municipal Engineering Services
PO Box 97
Garner, NC 27529

RE: Project: IREDELL SW-2
Pace Project No.: 92210562

Dear Mr. Pfohl:
Enclosed are the analytical results for sample(s) received by the laboratory on July 24, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: IREDELL SW-2
Pace Project No.: 92210562

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: IREDELL SW-2
Pace Project No.: 92210562

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92210562001	**SW-2**	Water	07/23/14 17:30	07/24/14 12:50

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SAMPLE ANALYTE COUNT

Project: IREDELL SW-2
Pace Project No.: 92210562

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92210562001	**SW-2**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	52	PASI-C

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ANALYTICAL RESULTS

Project: IREDELL SW-2
Pace Project No.: 92210562

Sample: SW-2 **Lab ID: 92210562001** Collected: 07/23/14 17:30 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/25/14 13:45	07/29/14 17:45	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:36	7440-38-2	
Barium	**23.9J**	ug/L	100	5.0	1	07/25/14 13:45	07/28/14 17:36	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:36	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/25/14 13:45	07/28/14 17:36	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:36	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:36	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:36	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:36	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/25/14 13:45	07/28/14 17:36	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:36	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/25/14 13:45	07/28/14 17:36	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/25/14 13:45	07/28/14 17:36	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/25/14 13:45	07/28/14 17:36	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/25/14 13:45	07/28/14 17:36	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		07/25/14 19:21	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		07/25/14 19:21	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		07/25/14 19:21	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		07/25/14 19:21	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		07/25/14 19:21	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		07/25/14 19:21	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		07/25/14 19:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		07/25/14 19:21	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		07/25/14 19:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		07/25/14 19:21	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		07/25/14 19:21	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		07/25/14 19:21	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		07/25/14 19:21	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		07/25/14 19:21	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		07/25/14 19:21	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		07/25/14 19:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		07/25/14 19:21	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		07/25/14 19:21	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		07/25/14 19:21	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		07/25/14 19:21	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		07/25/14 19:21	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		07/25/14 19:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/25/14 19:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		07/25/14 19:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		07/25/14 19:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		07/25/14 19:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		07/25/14 19:21	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		07/25/14 19:21	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		07/25/14 19:21	10061-01-5	

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ANALYTICAL RESULTS

Project: IREDELL SW-2
Pace Project No.: 92210562

Sample: SW-2 **Lab ID: 92210562001** Collected: 07/23/14 17:30 Received: 07/24/14 12:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		07/25/14 19:21	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/25/14 19:21	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		07/25/14 19:21	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		07/25/14 19:21	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		07/25/14 19:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		07/25/14 19:21	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		07/25/14 19:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		07/25/14 19:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		07/25/14 19:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		07/25/14 19:21	127-18-4	
Tetrahydrofuran	**5.0J**	ug/L	10.0	3.1	1		07/25/14 19:21	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		07/25/14 19:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		07/25/14 19:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		07/25/14 19:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		07/25/14 19:21	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		07/25/14 19:21	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		07/25/14 19:21	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		07/25/14 19:21	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		07/25/14 19:21	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		07/25/14 19:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		07/25/14 19:21	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		07/25/14 19:21	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		07/25/14 19:21	2037-26-5	

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QUALITY CONTROL DATA

Project: IREDELL SW-2
Pace Project No.: 92210562

QC Batch: MPRP/16529
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92210562001

METHOD BLANK: 1249993
Matrix: Water
Associated Lab Samples: 92210562001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	07/28/14 16:19	
Arsenic	ug/L	ND	10.0	07/28/14 16:19	
Barium	ug/L	ND	100	07/28/14 16:19	
Beryllium	ug/L	ND	1.0	07/28/14 16:19	
Cadmium	ug/L	ND	1.0	07/28/14 16:19	
Chromium	ug/L	ND	10.0	07/28/14 16:19	
Cobalt	ug/L	ND	10.0	07/28/14 16:19	
Copper	ug/L	ND	10.0	07/28/14 16:19	
Lead	ug/L	ND	10.0	07/28/14 16:19	
Nickel	ug/L	ND	50.0	07/28/14 16:19	
Selenium	ug/L	ND	10.0	07/28/14 16:19	
Silver	ug/L	ND	10.0	07/28/14 16:19	
Thallium	ug/L	ND	5.5	07/28/14 16:19	
Vanadium	ug/L	ND	25.0	07/28/14 16:19	
Zinc	ug/L	ND	10.0	07/28/14 16:19	

LABORATORY CONTROL SAMPLE: 1249994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	502	100	80-120	
Arsenic	ug/L	500	487	97	80-120	
Barium	ug/L	500	488	98	80-120	
Beryllium	ug/L	500	497	99	80-120	
Cadmium	ug/L	500	500	100	80-120	
Chromium	ug/L	500	483	97	80-120	
Cobalt	ug/L	500	488	98	80-120	
Copper	ug/L	500	504	101	80-120	
Lead	ug/L	500	491	98	80-120	
Nickel	ug/L	500	497	99	80-120	
Selenium	ug/L	500	496	99	80-120	
Silver	ug/L	250	248	99	80-120	
Thallium	ug/L	500	494	99	80-120	
Vanadium	ug/L	500	493	99	80-120	
Zinc	ug/L	500	484	97	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: IREDELL SW-2
Pace Project No.: 92210562

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1249995 1249996

Parameter	Units	92210419001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	480	492	96	98	75-125	2	25	
Arsenic	ug/L	ND	500	500	467	467	93	93	75-125	0	25	
Barium	ug/L	6.0	500	500	474	475	94	94	75-125	0	25	
Beryllium	ug/L	ND	500	500	478	480	96	96	75-125	0	25	
Cadmium	ug/L	ND	500	500	477	476	95	95	75-125	0	25	
Chromium	ug/L	ND	500	500	462	466	92	93	75-125	1	25	
Cobalt	ug/L	ND	500	500	462	460	92	92	75-125	0	25	
Copper	ug/L	28.1	500	500	508	510	96	96	75-125	0	25	
Lead	ug/L	ND	500	500	467	465	92	92	75-125	0	25	
Nickel	ug/L	ND	500	500	469	471	94	94	75-125	0	25	
Selenium	ug/L	ND	500	500	472	469	94	94	75-125	1	25	
Silver	ug/L	ND	250	250	237	237	95	94	75-125	0	25	
Thallium	ug/L	ND	500	500	467	464	93	93	75-125	1	25	
Vanadium	ug/L	ND	500	500	474	476	95	95	75-125	1	25	
Zinc	ug/L	ND	500	500	461	463	92	92	75-125	1	25	

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QUALITY CONTROL DATA

Project: IREDELL SW-2
Pace Project No.: 92210562

QC Batch: MSV/27725
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92210562001

METHOD BLANK: 1250070
Matrix: Water
Associated Lab Samples: 92210562001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	07/25/14 15:37	
1,1,1-Trichloroethane	ug/L	ND	1.0	07/25/14 15:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	07/25/14 15:37	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/25/14 15:37	
1,1-Dichloroethane	ug/L	ND	5.0	07/25/14 15:37	
1,1-Dichloroethene	ug/L	ND	5.0	07/25/14 15:37	
1,2,3-Trichloropropane	ug/L	ND	1.0	07/25/14 15:37	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	07/25/14 15:37	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	07/25/14 15:37	
1,2-Dichlorobenzene	ug/L	ND	5.0	07/25/14 15:37	
1,2-Dichloroethane	ug/L	ND	1.0	07/25/14 15:37	
1,2-Dichloropropane	ug/L	ND	1.0	07/25/14 15:37	
1,3-Dichloropropane	ug/L	ND	1.0	07/25/14 15:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/25/14 15:37	
2-Butanone (MEK)	ug/L	ND	100	07/25/14 15:37	
2-Hexanone	ug/L	ND	50.0	07/25/14 15:37	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	07/25/14 15:37	
Acetone	ug/L	ND	100	07/25/14 15:37	
Acrylonitrile	ug/L	ND	200	07/25/14 15:37	
Benzene	ug/L	ND	1.0	07/25/14 15:37	
Bromochloromethane	ug/L	ND	3.0	07/25/14 15:37	
Bromodichloromethane	ug/L	ND	1.0	07/25/14 15:37	
Bromoform	ug/L	ND	3.0	07/25/14 15:37	
Bromomethane	ug/L	ND	10.0	07/25/14 15:37	
Carbon disulfide	ug/L	ND	100	07/25/14 15:37	
Carbon tetrachloride	ug/L	ND	1.0	07/25/14 15:37	
Chlorobenzene	ug/L	ND	3.0	07/25/14 15:37	
Chloroethane	ug/L	ND	10.0	07/25/14 15:37	
Chloroform	ug/L	ND	5.0	07/25/14 15:37	
Chloromethane	ug/L	ND	1.0	07/25/14 15:37	
cis-1,2-Dichloroethene	ug/L	ND	5.0	07/25/14 15:37	
cis-1,3-Dichloropropene	ug/L	ND	1.0	07/25/14 15:37	
Dibromochloromethane	ug/L	ND	3.0	07/25/14 15:37	
Dibromomethane	ug/L	ND	10.0	07/25/14 15:37	
Ethylbenzene	ug/L	ND	1.0	07/25/14 15:37	
Iodomethane	ug/L	ND	10.0	07/25/14 15:37	
Methylene Chloride	ug/L	ND	1.0	07/25/14 15:37	
Styrene	ug/L	ND	1.0	07/25/14 15:37	
Tetrachloroethene	ug/L	ND	1.0	07/25/14 15:37	
Tetrahydrofuran	ug/L	ND	10.0	07/25/14 15:37	
Toluene	ug/L	ND	1.0	07/25/14 15:37	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: IREDELL SW-2
Pace Project No.: 92210562

METHOD BLANK: 1250070 Matrix: Water
Associated Lab Samples: 92210562001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	5.0	07/25/14 15:37	
trans-1,3-Dichloropropene	ug/L	ND	1.0	07/25/14 15:37	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	07/25/14 15:37	
Trichloroethene	ug/L	ND	1.0	07/25/14 15:37	
Trichlorofluoromethane	ug/L	ND	1.0	07/25/14 15:37	
Vinyl acetate	ug/L	ND	50.0	07/25/14 15:37	
Vinyl chloride	ug/L	ND	1.0	07/25/14 15:37	
Xylene (Total)	ug/L	ND	5.0	07/25/14 15:37	
1,2-Dichloroethane-d4 (S)	%	108	70-130	07/25/14 15:37	
4-Bromofluorobenzene (S)	%	101	70-130	07/25/14 15:37	
Toluene-d8 (S)	%	99	70-130	07/25/14 15:37	

LABORATORY CONTROL SAMPLE: 1250071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	55.7	111	80-125	
1,1,1-Trichloroethane	ug/L	50	52.7	105	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	53.7	107	79-124	
1,1,2-Trichloroethane	ug/L	50	54.8	110	85-125	
1,1-Dichloroethane	ug/L	50	50.1	100	73-126	
1,1-Dichloroethene	ug/L	50	56.0	112	66-135	
1,2,3-Trichloropropane	ug/L	50	57.8	116	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	54.3	109	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	57.1	114	83-124	
1,2-Dichlorobenzene	ug/L	50	55.2	110	80-133	
1,2-Dichloroethane	ug/L	50	52.1	104	67-128	
1,2-Dichloropropane	ug/L	50	54.2	108	75-132	
1,3-Dichloropropane	ug/L	50	56.0	112	76-131	
1,4-Dichlorobenzene	ug/L	50	56.0	112	78-130	
2-Butanone (MEK)	ug/L	100	105	105	61-144	
2-Hexanone	ug/L	100	108	108	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	72-135	
Acetone	ug/L	100	103	103	48-146	
Acrylonitrile	ug/L	250	250	100	40-160	
Benzene	ug/L	50	56.8	114	80-125	
Bromochloromethane	ug/L	50	50.3	101	71-125	
Bromodichloromethane	ug/L	50	63.3	127	78-124	L0
Bromoform	ug/L	50	61.6	123	71-128	
Bromomethane	ug/L	50	48.8	98	40-160	
Carbon disulfide	ug/L	50	50.8J	102	50-160	
Carbon tetrachloride	ug/L	50	60.1	120	69-131	
Chlorobenzene	ug/L	50	55.3	111	81-122	
Chloroethane	ug/L	50	39.1	78	39-148	
Chloroform	ug/L	50	60.7	121	73-127	

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QUALITY CONTROL DATA

Project: IREDELL SW-2
Pace Project No.: 92210562

LABORATORY CONTROL SAMPLE: 1250071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloromethane	ug/L	50	43.1	86	44-146	
cis-1,2-Dichloroethene	ug/L	50	57.3	115	74-124	
cis-1,3-Dichloropropene	ug/L	50	57.9	116	72-132	
Dibromochloromethane	ug/L	50	65.1	130	78-125	L0
Dibromomethane	ug/L	50	59.1	118	82-120	
Ethylbenzene	ug/L	50	57.5	115	79-121	
Iodomethane	ug/L	100	87.5	87	39-154	
Methylene Chloride	ug/L	50	49.2	98	64-133	
Styrene	ug/L	50	58.3	117	84-126	
Tetrachloroethene	ug/L	50	56.9	114	78-122	
Tetrahydrofuran	ug/L	500	497	99	69-148	
Toluene	ug/L	50	56.1	112	80-121	
trans-1,2-Dichloroethene	ug/L	50	56.4	113	71-127	
trans-1,3-Dichloropropene	ug/L	50	57.9	116	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	55.2J	110	40-160	
Trichloroethene	ug/L	50	56.6	113	78-122	
Trichlorofluoromethane	ug/L	50	51.7	103	53-137	
Vinyl acetate	ug/L	100	112	112	40-160	
Vinyl chloride	ug/L	50	50.3	101	58-137	
Xylene (Total)	ug/L	150	173	115	81-126	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1250072 1250073

Parameter	Units	92210562001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	53.8	57.0	108	114	70-166	6	30	
Benzene	ug/L	ND	50	50	51.1	53.9	102	108	70-148	5	30	
Chlorobenzene	ug/L	ND	50	50	51.9	51.7	104	103	70-146	0	30	
Toluene	ug/L	ND	50	50	49.3	52.7	99	105	70-155	7	30	
Trichloroethene	ug/L	ND	50	50	54.1	58.7	108	117	69-151	8	30	
1,2-Dichloroethane-d4 (S)	%						108	110	70-130			
4-Bromofluorobenzene (S)	%						103	102	70-130			
Toluene-d8 (S)	%						98	101	70-130			

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REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: IREDELL SW-2
Pace Project No.: 92210562

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IREDELL SW-2
Pace Project No.: 92210562

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92210562001	**SW-2**	EPA 3010	MPRP/16529	EPA 6010	ICP/14929
92210562001	**SW-2**	EPA 8260	MSV/27725		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Municipal

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 T1401 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 2.7 °C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: TA 7/24/14

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☐Yes ☑No ☐N/A	12. No Date/time on labels
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	JG	**Date:**	7/24/14
SRF Review:	JG	**Date:**	7/24/14

WO#: 92210562

92210562

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:

Company:	Municipal Engineering Services
Address:	P.O. Box 97
	Garner, NC 27529
Email To:	jpfohl@mesco.com
Phone:	919-772-5393 Fax:
Requested Due Date/TAT:	10 Day (Default)

Section B Required Project Information:

Report To:	Jonathan Pfohl
Copy To:	
Purchase Order No.	
Client Project ID:	Iredell SW-2
Container Order Number:	

Section C Invoice Information:

Attention:	Municipal Engineering Services
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Godwin
Pace Profile #:	

Regulatory Agency:

State / Location: North Carolina

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	VOCs- App I	Metals-App I	Tetrahydrofuran										
																			N	N	N	N	N	N	N	N	N	N	N	N	
1	SW-2	WT	G			7/23/14	5:30		4			1	3						X	X	x										001
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

9222 10562

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	MESCO	7/24/14	10:30		7/24	1055				
		7/24	1250	PACE	7/24/14	1250	2.7	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jonathan Pfohl

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/24

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

August 06, 2014

Mr. Jonathan Pfohl
Municipal Engineering Services
PO Box 97
Garner, NC 27529

RE: Project: Iredell Blanks
Pace Project No.: 92210774

Dear Mr. Pfohl:
Enclosed are the analytical results for sample(s) received by the laboratory on July 25, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: Iredell Blanks
Pace Project No.: 92210774

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: Iredell Blanks
Pace Project No.: 92210774

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92210774001	**EB**	Water	07/25/14 14:00	07/25/14 14:06
92210774002	**FB**	Water	07/25/14 14:05	07/25/14 14:06
92210774003	**TB**	Water	07/25/14 14:00	07/25/14 14:06

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SAMPLE ANALYTE COUNT

Project: Iredell Blanks
Pace Project No.: 92210774

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92210774001	**EB**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	52	PASI-C
92210774002	**FB**	EPA 8260	MCK	52	PASI-C
92210774003	**TB**	EPA 8260	MCK	52	PASI-C

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ANALYTICAL RESULTS

Project: Iredell Blanks
Pace Project No.: 92210774

Sample: EB **Lab ID: 92210774001** Collected: 07/25/14 14:00 Received: 07/25/14 14:06 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	6.0	5.0	1	07/30/14 15:25	07/31/14 22:50	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:50	7440-38-2	
Barium	ND	ug/L	100	5.0	1	07/30/14 15:25	07/31/14 22:50	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 22:50	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	07/30/14 15:25	07/31/14 22:50	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:50	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:50	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:50	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:50	7439-92-1	
Nickel	ND	ug/L	50.0	5.0	1	07/30/14 15:25	07/31/14 22:50	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 22:50	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	07/30/14 15:25	07/31/14 22:50	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	07/30/14 15:25	07/31/14 22:50	7440-28-0	
Vanadium	ND	ug/L	25.0	5.0	1	07/30/14 15:25	07/31/14 22:50	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	07/30/14 15:25	07/31/14 22:50	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		07/29/14 23:23	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		07/29/14 23:23	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		07/29/14 23:23	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		07/29/14 23:23	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		07/29/14 23:23	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		07/29/14 23:23	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		07/29/14 23:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		07/29/14 23:23	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		07/29/14 23:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		07/29/14 23:23	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		07/29/14 23:23	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		07/29/14 23:23	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		07/29/14 23:23	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		07/29/14 23:23	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		07/29/14 23:23	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		07/29/14 23:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		07/29/14 23:23	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		07/29/14 23:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		07/29/14 23:23	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		07/29/14 23:23	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		07/29/14 23:23	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		07/29/14 23:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/29/14 23:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		07/29/14 23:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		07/29/14 23:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		07/29/14 23:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		07/29/14 23:23	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		07/29/14 23:23	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		07/29/14 23:23	10061-01-5	

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ANALYTICAL RESULTS

Project: Iredell Blanks
Pace Project No.: 92210774

Sample: EB **Lab ID: 92210774001** Collected: 07/25/14 14:00 Received: 07/25/14 14:06 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		07/29/14 23:23	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/29/14 23:23	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		07/29/14 23:23	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		07/29/14 23:23	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		07/29/14 23:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		07/29/14 23:23	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		07/29/14 23:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		07/29/14 23:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		07/29/14 23:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		07/29/14 23:23	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	3.1	1		07/29/14 23:23	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		07/29/14 23:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		07/29/14 23:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		07/29/14 23:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		07/29/14 23:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		07/29/14 23:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		07/29/14 23:23	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		07/29/14 23:23	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		07/29/14 23:23	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		07/29/14 23:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		07/29/14 23:23	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		07/29/14 23:23	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		07/29/14 23:23	2037-26-5	

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ANALYTICAL RESULTS

Project: Iredell Blanks
Pace Project No.: 92210774

Sample: FB **Lab ID: 92210774002** Collected: 07/25/14 14:05 Received: 07/25/14 14:06 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		07/29/14 23:39	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		07/29/14 23:39	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		07/29/14 23:39	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		07/29/14 23:39	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		07/29/14 23:39	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		07/29/14 23:39	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		07/29/14 23:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		07/29/14 23:39	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		07/29/14 23:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		07/29/14 23:39	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		07/29/14 23:39	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		07/29/14 23:39	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		07/29/14 23:39	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		07/29/14 23:39	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		07/29/14 23:39	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		07/29/14 23:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		07/29/14 23:39	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		07/29/14 23:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		07/29/14 23:39	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		07/29/14 23:39	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		07/29/14 23:39	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		07/29/14 23:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/29/14 23:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		07/29/14 23:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		07/29/14 23:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		07/29/14 23:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		07/29/14 23:39	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		07/29/14 23:39	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		07/29/14 23:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		07/29/14 23:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/29/14 23:39	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		07/29/14 23:39	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		07/29/14 23:39	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		07/29/14 23:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		07/29/14 23:39	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		07/29/14 23:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		07/29/14 23:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		07/29/14 23:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		07/29/14 23:39	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	3.1	1		07/29/14 23:39	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		07/29/14 23:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		07/29/14 23:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		07/29/14 23:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		07/29/14 23:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		07/29/14 23:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		07/29/14 23:39	96-18-4	

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ANALYTICAL RESULTS

Project: Iredell Blanks
Pace Project No.: 92210774

Sample: FB **Lab ID: 92210774002** Collected: 07/25/14 14:05 Received: 07/25/14 14:06 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Vinyl acetate	ND	ug/L	50.0	0.35	1		07/29/14 23:39	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		07/29/14 23:39	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		07/29/14 23:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		07/29/14 23:39	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130		1		07/29/14 23:39	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		07/29/14 23:39	2037-26-5	

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ANALYTICAL RESULTS

Project: Iredell Blanks
Pace Project No.: 92210774

Sample: TB **Lab ID: 92210774003** Collected: 07/25/14 14:00 Received: 07/25/14 14:06 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		07/29/14 23:55	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		07/29/14 23:55	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		07/29/14 23:55	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		07/29/14 23:55	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		07/29/14 23:55	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		07/29/14 23:55	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		07/29/14 23:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		07/29/14 23:55	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		07/29/14 23:55	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		07/29/14 23:55	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		07/29/14 23:55	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		07/29/14 23:55	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		07/29/14 23:55	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		07/29/14 23:55	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		07/29/14 23:55	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		07/29/14 23:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		07/29/14 23:55	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		07/29/14 23:55	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		07/29/14 23:55	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		07/29/14 23:55	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		07/29/14 23:55	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		07/29/14 23:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/29/14 23:55	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		07/29/14 23:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		07/29/14 23:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		07/29/14 23:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		07/29/14 23:55	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		07/29/14 23:55	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		07/29/14 23:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		07/29/14 23:55	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/29/14 23:55	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		07/29/14 23:55	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		07/29/14 23:55	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		07/29/14 23:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		07/29/14 23:55	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		07/29/14 23:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		07/29/14 23:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		07/29/14 23:55	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		07/29/14 23:55	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	3.1	1		07/29/14 23:55	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		07/29/14 23:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		07/29/14 23:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		07/29/14 23:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		07/29/14 23:55	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		07/29/14 23:55	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		07/29/14 23:55	96-18-4	

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ANALYTICAL RESULTS

Project: Iredell Blanks
Pace Project No.: 92210774

Sample: TB **Lab ID: 92210774003** Collected: 07/25/14 14:00 Received: 07/25/14 14:06 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Vinyl acetate	ND	ug/L	50.0	0.35	1		07/29/14 23:55	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		07/29/14 23:55	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		07/29/14 23:55	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130		1		07/29/14 23:55	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		07/29/14 23:55	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		07/29/14 23:55	2037-26-5	

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QUALITY CONTROL DATA

Project: Iredell Blanks
Pace Project No.: 92210774

QC Batch: MPRP/16565
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92210774001

METHOD BLANK: 1252869
Matrix: Water
Associated Lab Samples: 92210774001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	07/31/14 22:17	
Arsenic	ug/L	ND	10.0	07/31/14 22:17	
Barium	ug/L	ND	100	07/31/14 22:17	
Beryllium	ug/L	ND	1.0	07/31/14 22:17	
Cadmium	ug/L	ND	1.0	07/31/14 22:17	
Chromium	ug/L	ND	10.0	07/31/14 22:17	
Cobalt	ug/L	ND	10.0	07/31/14 22:17	
Copper	ug/L	ND	10.0	07/31/14 22:17	
Lead	ug/L	ND	10.0	07/31/14 22:17	
Nickel	ug/L	ND	50.0	07/31/14 22:17	
Selenium	ug/L	ND	10.0	07/31/14 22:17	
Silver	ug/L	ND	10.0	07/31/14 22:17	
Thallium	ug/L	ND	5.5	07/31/14 22:17	
Vanadium	ug/L	ND	25.0	07/31/14 22:17	
Zinc	ug/L	ND	10.0	07/31/14 22:17	

LABORATORY CONTROL SAMPLE: 1252870

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	488	98	80-120	
Arsenic	ug/L	500	474	95	80-120	
Barium	ug/L	500	478	96	80-120	
Beryllium	ug/L	500	486	97	80-120	
Cadmium	ug/L	500	482	96	80-120	
Chromium	ug/L	500	478	96	80-120	
Cobalt	ug/L	500	477	95	80-120	
Copper	ug/L	500	497	99	80-120	
Lead	ug/L	500	480	96	80-120	
Nickel	ug/L	500	482	96	80-120	
Selenium	ug/L	500	480	96	80-120	
Silver	ug/L	250	242	97	80-120	
Thallium	ug/L	500	473	95	80-120	
Vanadium	ug/L	500	486	97	80-120	
Zinc	ug/L	500	472	94	80-120	

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QUALITY CONTROL DATA

Project: Iredell Blanks
Pace Project No.: 92210774

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1252871 1252872

Parameter	Units	92210772008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	468	470	94	94	75-125	0	25	
Arsenic	ug/L	ND	500	500	477	480	95	96	75-125	1	25	
Barium	ug/L	132	500	500	617	626	97	99	75-125	1	25	
Beryllium	ug/L	ND	500	500	490	495	98	99	75-125	1	25	
Cadmium	ug/L	ND	500	500	484	487	97	97	75-125	1	25	
Chromium	ug/L	ND	500	500	482	483	96	96	75-125	0	25	
Cobalt	ug/L	ND	500	500	483	488	96	97	75-125	1	25	
Copper	ug/L	7.8J	500	500	511	517	101	102	75-125	1	25	
Lead	ug/L	ND	500	500	476	484	95	97	75-125	2	25	
Nickel	ug/L	6.3J	500	500	487	491	96	97	75-125	1	25	
Selenium	ug/L	ND	500	500	478	485	96	97	75-125	1	25	
Silver	ug/L	ND	250	250	240	243	96	97	75-125	1	25	
Thallium	ug/L	ND	500	500	472	474	94	95	75-125	0	25	
Vanadium	ug/L	7.9J	500	500	493	497	97	98	75-125	1	25	
Zinc	ug/L	22.5	500	500	491	497	94	95	75-125	1	25	

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QUALITY CONTROL DATA

Project: Iredell Blanks
Pace Project No.: 92210774

QC Batch: MSV/27757 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92210774001, 92210774002, 92210774003

METHOD BLANK: 1251833 Matrix: Water
Associated Lab Samples: 92210774001, 92210774002, 92210774003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	07/29/14 17:15	
1,1,1-Trichloroethane	ug/L	ND	1.0	07/29/14 17:15	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	07/29/14 17:15	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/29/14 17:15	
1,1-Dichloroethane	ug/L	ND	5.0	07/29/14 17:15	
1,1-Dichloroethene	ug/L	ND	5.0	07/29/14 17:15	
1,2,3-Trichloropropane	ug/L	ND	1.0	07/29/14 17:15	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	07/29/14 17:15	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	07/29/14 17:15	
1,2-Dichlorobenzene	ug/L	ND	5.0	07/29/14 17:15	
1,2-Dichloroethane	ug/L	ND	1.0	07/29/14 17:15	
1,2-Dichloropropane	ug/L	ND	1.0	07/29/14 17:15	
1,3-Dichloropropane	ug/L	ND	1.0	07/29/14 17:15	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/29/14 17:15	
2-Butanone (MEK)	ug/L	ND	100	07/29/14 17:15	
2-Hexanone	ug/L	ND	50.0	07/29/14 17:15	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	07/29/14 17:15	
Acetone	ug/L	ND	100	07/29/14 17:15	
Acrylonitrile	ug/L	ND	200	07/29/14 17:15	
Benzene	ug/L	ND	1.0	07/29/14 17:15	
Bromochloromethane	ug/L	ND	3.0	07/29/14 17:15	
Bromodichloromethane	ug/L	ND	1.0	07/29/14 17:15	
Bromoform	ug/L	ND	3.0	07/29/14 17:15	
Bromomethane	ug/L	ND	10.0	07/29/14 17:15	
Carbon disulfide	ug/L	ND	100	07/29/14 17:15	
Carbon tetrachloride	ug/L	ND	1.0	07/29/14 17:15	
Chlorobenzene	ug/L	ND	3.0	07/29/14 17:15	
Chloroethane	ug/L	ND	10.0	07/29/14 17:15	
Chloroform	ug/L	ND	5.0	07/29/14 17:15	
Chloromethane	ug/L	ND	1.0	07/29/14 17:15	
cis-1,2-Dichloroethene	ug/L	ND	5.0	07/29/14 17:15	
cis-1,3-Dichloropropene	ug/L	ND	1.0	07/29/14 17:15	
Dibromochloromethane	ug/L	ND	3.0	07/29/14 17:15	
Dibromomethane	ug/L	ND	10.0	07/29/14 17:15	
Ethylbenzene	ug/L	ND	1.0	07/29/14 17:15	
Iodomethane	ug/L	ND	10.0	07/29/14 17:15	
Methylene Chloride	ug/L	ND	1.0	07/29/14 17:15	
Styrene	ug/L	ND	1.0	07/29/14 17:15	
Tetrachloroethene	ug/L	ND	1.0	07/29/14 17:15	
Tetrahydrofuran	ug/L	ND	10.0	07/29/14 17:15	
Toluene	ug/L	1.0	1.0	07/29/14 17:15	

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(704)875-9092

QUALITY CONTROL DATA

Project: Iredell Blanks
Pace Project No.: 92210774

METHOD BLANK: 1251833 Matrix: Water
Associated Lab Samples: 92210774001, 92210774002, 92210774003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	5.0	07/29/14 17:15	
trans-1,3-Dichloropropene	ug/L	ND	1.0	07/29/14 17:15	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	07/29/14 17:15	
Trichloroethene	ug/L	ND	1.0	07/29/14 17:15	
Trichlorofluoromethane	ug/L	ND	1.0	07/29/14 17:15	
Vinyl acetate	ug/L	ND	50.0	07/29/14 17:15	
Vinyl chloride	ug/L	ND	1.0	07/29/14 17:15	
Xylene (Total)	ug/L	ND	5.0	07/29/14 17:15	
1,2-Dichloroethane-d4 (S)	%	113	70-130	07/29/14 17:15	
4-Bromofluorobenzene (S)	%	104	70-130	07/29/14 17:15	
Toluene-d8 (S)	%	103	70-130	07/29/14 17:15	

LABORATORY CONTROL SAMPLE: 1251834

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	55.9	112	80-125	
1,1,1-Trichloroethane	ug/L	50	55.8	112	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	54.5	109	79-124	
1,1,2-Trichloroethane	ug/L	50	55.5	111	85-125	
1,1-Dichloroethane	ug/L	50	49.8	100	73-126	
1,1-Dichloroethene	ug/L	50	58.3	117	66-135	
1,2,3-Trichloropropane	ug/L	50	57.3	115	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	58.4	117	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	57.1	114	83-124	
1,2-Dichlorobenzene	ug/L	50	56.2	112	80-133	
1,2-Dichloroethane	ug/L	50	54.8	110	67-128	
1,2-Dichloropropane	ug/L	50	54.1	108	75-132	
1,3-Dichloropropane	ug/L	50	54.7	109	76-131	
1,4-Dichlorobenzene	ug/L	50	55.4	111	78-130	
2-Butanone (MEK)	ug/L	100	115	115	61-144	
2-Hexanone	ug/L	100	116	116	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	111	111	72-135	
Acetone	ug/L	100	116	116	48-146	
Acrylonitrile	ug/L	250	273	109	40-160	
Benzene	ug/L	50	56.1	112	80-125	
Bromochloromethane	ug/L	50	53.3	107	71-125	
Bromodichloromethane	ug/L	50	63.9	128	78-124	L3
Bromoform	ug/L	50	63.0	126	71-128	
Bromomethane	ug/L	50	41.1	82	40-160	
Carbon disulfide	ug/L	50	51.6J	103	50-160	
Carbon tetrachloride	ug/L	50	60.9	122	69-131	
Chlorobenzene	ug/L	50	55.5	111	81-122	
Chloroethane	ug/L	50	45.2	90	39-148	
Chloroform	ug/L	50	63.4	127	73-127	

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QUALITY CONTROL DATA

Project: Iredell Blanks
Pace Project No.: 92210774

LABORATORY CONTROL SAMPLE: 1251834

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloromethane	ug/L	50	46.5	93	44-146	
cis-1,2-Dichloroethene	ug/L	50	58.7	117	74-124	
cis-1,3-Dichloropropene	ug/L	50	58.5	117	72-132	
Dibromochloromethane	ug/L	50	66.0	132	78-125	L3
Dibromomethane	ug/L	50	61.8	124	82-120	L3
Ethylbenzene	ug/L	50	56.8	114	79-121	
Iodomethane	ug/L	100	85.3	85	39-154	
Methylene Chloride	ug/L	50	52.4	105	64-133	
Styrene	ug/L	50	57.8	116	84-126	
Tetrachloroethene	ug/L	50	56.6	113	78-122	
Tetrahydrofuran	ug/L	500	550	110	69-148	
Toluene	ug/L	50	57.3	115	80-121	
trans-1,2-Dichloroethene	ug/L	50	58.5	117	71-127	
trans-1,3-Dichloropropene	ug/L	50	59.1	118	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	60.0J	120	40-160	
Trichloroethene	ug/L	50	56.7	113	78-122	
Trichlorofluoromethane	ug/L	50	57.1	114	53-137	
Vinyl acetate	ug/L	100	118	118	40-160	
Vinyl chloride	ug/L	50	51.6	103	58-137	
Xylene (Total)	ug/L	150	169	112	81-126	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1251835 1251836

Parameter	Units	92210772010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	52.4	54.3	105	109	70-166	4	30	
Benzene	ug/L	ND	50	50	51.1	53.1	102	106	70-148	4	30	
Chlorobenzene	ug/L	ND	50	50	50.3	52.0	101	104	70-146	3	30	
Toluene	ug/L	ND	50	50	48.2	49.2	96	98	70-155	2	30	
Trichloroethene	ug/L	ND	50	50	55.1	56.5	110	113	69-151	2	30	
1,2-Dichloroethane-d4 (S)	%						95	96	70-130			
4-Bromofluorobenzene (S)	%						96	95	70-130			
Toluene-d8 (S)	%						97	97	70-130			

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QUALIFIERS

Project: Iredell Blanks
Pace Project No.: 92210774

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Iredell Blanks
Pace Project No.: 92210774

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92210774001	**EB**	EPA 3010	MPRP/16565	EPA 6010	ICP/14957
92210774001	**EB**	EPA 8260	MSV/27757		
92210774002	**FB**	EPA 8260	MSV/27757		
92210774003	**TB**	EPA 8260	MSV/27757		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Municipal Engineering Services

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 (T1401) **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 1.8 °C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Optional
Proj. Due Date:
Proj. Name:

Date and Initials of person examining contents: CE 7-25-14

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☐Yes ☑No ☐N/A	8. # 2 Metals bottle is missing
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:_____	☐Yes ☑No ☐N/A	12. Times are not on bottles + dates
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	CE 7-25-14 ☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Jonathan Pfohl Date/Time: 7/28/14

Comments/ Resolution: Jonathan informed the EB was collected @ 14:00.

SCURF Review:	JY	Date:	7/25/14
SRF Review:	JDB	Date:	7/25/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 92210774

92210774

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Municipal Engineering Services	Report To:	Jonathan Pfohl	Attention:	Municipal Engineering Services
Address:	P.O. Box 97	Copy To:		Company Name:	
Garner, NC 27529				Address:	
Email To:	jpfohl@mesco.com	Purchase Order No.		Pace Quote Reference:	
Phone: 919-772-5393	Fax:	Client Project ID:	Iredell Blanks	Pace Project Manager:	Kevin Godwin
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	

Regulatory Agency	
State / Location	
North Carolina	

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	VOCs- App I	Metals-App I	Tetrahydrofuran										PLEASE PROVIDE Liter of DI water from same source as TB
																			N	N	N	N	N	N	N	N	N	N	N	N	92210774
1	EB	WT	G			7/25/14	~~2:10~~ 2:06		4			1	3						X	X	X										001
2	FB	WT	G				2:05		4			1	3						X	X	X										002
3	TB	WT	G				2:00		2				2						X		X										003
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
TB was filled on 7/25/14 in my presence	/ MESCO	7/25/14	2:06	CE 7-25-14	7/25/14	14:06	1.8	Y	N	Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Jonathan Pfohl		
SIGNATURE of SAMPLER:		DATE Signed:	7/25/14

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Appendix B
Field Sampling Parameter Data Sheet(s)

Sampling Data Sheet

Municipal Services Engineering Company — Garner, NC — Boone, NC

Project: Iredell County Subtitle D MSWLF, Phase 3 & 4

Samplers: J. Pfohl Page 1 of 1

Monitoring Point	Sample Date	Sample Time	Sampling Parameters: Depth to Water (BTOP) 7/ /13	Depth to Water (BTOP) Static Sample Time	Lab Parameters to be analyzed for	Volume Purged (Gal)	Sample Type	Goes Dry During Purge	Comments	Total Depth Expected	Water Quality Parameters: Locked & Tagged	DO (mg/L)	~~ORP~~	pH	Temp. ©	Specific Cond. (us/cm	TDS (mg/L)	~~Turbidity~~ CH4 in Headsp.	CH4 Gas Vapors (ppm) Turbidity
MW-17	7/24/14	9:00	35.91		App I	5	P&DB	N		Y 45	Y			5.81 ~~6.63~~	16.3	0	0	NR	C NR
MW-18	7/24/14	3:10	8.50		App I	9	P&DB	N		Y 20	Y			6.83	15.9	40	10		C
MW-19SR	7/24/14	2:35	10.22		App I	12	P&DB	N	near cascade	22.02	Y			6.93	17.3	1,890	910		C
MW-19D	7/24/14	2:10	9.05		App I	18	P&DB	N	Fast Recharge	59	Y			7.12	16.6	60	20		C
MW-21S	↓	1:35	34.31		App I	12	P&DB	N		41	Y			6.44	17.6	10	0		C
MW-21D	↓	11:40	32.06		App I	26	P&DB	N		138.25	Y			9.09	17.5	190	80		C
MW-27S Thurs	7/24/14	10:05	12.87		App I	8	P&DB	N	Repaired in June → New stickup is 1.05 above MW-27D Top of Pvc	20.09				6.41	15.9	100	40		C
MW-27D Thurs	7/24/14	9:30	11.84		App I	18	P&DB	Y		44.42				7.28	15.5	110	50		C
MW-28 Wed	7/23/14	3:35	8.50	7/23	App I	2	DB	Y		12.42	Y			7.09	18.1	90	40		C
MW-29 Weds	7/23/14	4:30	10.82	7/23	App I	3.5	P&DB	Y		17.68	Y			6.87	18.3	60	20		C
MW-30	7/24/14	11:00	7.90		App I	12	P&DB	N		18				7.16	15.1	80	30		Slight
FORCEMAIN Wed	7/23/14	5:00	—	7/23	Leachate	—	Pour	From valve (typical)		22.91				~~7.18~~	~~19.1~~	~~80~~	~~30~~		
P4-7S	-	-	11.65	-	WLR only	-	-	-	-	-	-	-	-	-	-	-	-	-	
P4-7D	-	-	12.11	-	WLR only	-	-	-	-	-	-	-	-	-	-	-	-	-	
P-4	-	-	21.52	-	WLR only	-	-	-	-	-	-	-	-	-	-	-	-	-	
New Top of Case is 808.00																			

Comments

SS B=Stainless Steel Baler, D B=Disposable Baler, P=Low flow Pump, PD=Purged Dry

VT=Very Turbid, MT=Moderately Turbid, ST=Slightly Turbid, C=Clear

NR=No Reading Attempted, NS=No Sample Obtained

MW-27S Datum changed since 1/14 Due to Repair in 6/14. New Top of Case is 1.05' above MW-27D Top of Case. Used Line level.

Sampling Data Sheet

Municipal Services Engineering Company
Garner, NC Boone, NC

Project: Iredell County Subtitle D MSWLF Common Surface Waters Between Ph 1 & 3/4)

Samplers: J. Pfohl Page__1__of___1__

Monitoring Point	Sample Date	Sample Time	Sampling Parameters								Water Quality Parameters								
			Depth to Water (BTOP) 1/ /10	Depth to Water (BTOP) Static Sample Time	Lab Parameters to be analyzed for	Volume Purged (Gal)	Sample Type	Gage Height	Flow Rate	Comments	CO2 (mg/l)	DO (mg/L)	ORP	pH	Temp. ©	Specific Cond. (us/cm	TDS (mg/L)	Turbidity	CH4 Gas Vapors (ppm)
SW-1	7/23/14		-	-	1	-	Dip	Low	Low		-	-	-	7.28	23.5	80	40	c	-
SW-5	7/23/14				1		Dip	Low	Low		-	-	-	7.31	23.6	80	40	c	-

Comments

SS B=Stainless Steel Baler, D B=Disposable Baler, P=Low flow Pump, PD=Purged Dry

VT=Very Turbid, MT=Moderately Turbid, ST=Slightly Turbid, C=Clear

NR=No Reading Attempted, NS=No Sample Obtained

Sampling Data Sheet

Municipal Services Engineering Company
Garner, NC Boone, NC

Project: Iredell County Subtitle D MSWLF and CDLF (Common Downstream Surface Water Point)

Samplers: J. Pfohl Page__1__of___1__

Monitoring Point	Sample Date	Sample Time	Sampling Parameters								Water Quality Parameters								
			Depth to Water (BTOP) 1/ /10	Depth to Water (BTOP) Static Sample Time	Lab Parameters to be analyzed for	Volume Purged (Gal)	Sample Type	Gage Height	Flow Rate	Comments	CO2 (mg/l)	DO (mg/L)	ORP	pH	Temp. ©	Specific Cond. (us/cm	TDS (mg/L)	Turbidity	CH4 Gas Vapors (ppm)
SW-2	7/23/14	5:30	-	-	I	-	dip	low	Low					7.33	23.5	40	10	<	-
																			-

Comments

SS B=Stainless Steel Baler, D B=Disposable Baler, P=Low flow Pump, PD=Purged Dry

VT=Very Turbid, MT=Moderately Turbid, ST=Slightly Turbid, C=Clear

NR=No Reading Attempted, NS=No Sample Obtained