App I 0520 kw 060500 02-01
12-6-99

[redacted]

OPERATION/CONSTRUCTION MANAGERS
Municipal Services
PO Box 97, Garner, North Carolina 27529 (919) 772-5393

CIVIL/SANITARY ENGINEERS
Engineering Company, P.A.
PO Box 349, Boone, North Carolina 28607 (828) 262-1767

Fac/Perm/Co ID #	Date	Doc ID#
BC	06/13/00	DIN

June 5, 2000

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

JUN 2000

Re: Groundwater Sampling and Report
Alexander County Sanitary Landfill
MESCO Project No. G99006.0

Dear Mr. Rose:

The Alexander County Sanitary Landfill was sampled on December 6, 1999 by Pace Analytical Services, Inc. of Huntersville (Pace) for the Appendix I list of constituents. Pace also completed the lab analyses, the results of which are included herein.

All detected constituents were compared with North Carolina Groundwater Standards (the Standards) for regulatory exceedance. The results are shown in the enclosed table titled "Exceedance Scan". The following table (Table 1) summarizes those constituents that exceeded the standard.

Table 1. Exceedance Summary

Location	Cadmium	Lead	Benzene
MW-1			x
MW-2	x		
MW-3		x	x

x = concentration greater than groundwater standard

Volatile organic constituents (VOCs) were detected in wells (MW-1, MW-2, MW-3, MW-4R, MW-5, MW-6, MW-7, and MW-8). The detected VOCs primarily consist of such chlorinated compounds as 1,1-dichloroethane (CAS# 75-34-3) and cis-1,2-dichloroethene (CAS# 156-59-2), both of which were detected in the majority of the monitoring wells. These compounds are mainly used in manufacturing process as solvents and in medicines, and likely originate from the waste in the landfill. Like the previous sampling event, MW-1—a background well located to the northeast of the waste area—also showed three VOC detections.

Statistical analyses will be conducted shortly on all detected constituents for inter-well and intra-well comparisons, and the results will be submitted to the Section upon

completion. If you have any questions or comments regarding this report, feel free to contact me at 919.772.5393.

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

Kohei Yoshida
Hydrogeologist

Enclosures

cc: Mr. Rick French
Alexander County Manager

Exceedance Scan
Alexander County Closed Landfill

Well ID	Parameter Name [1]	Sample Date	Result	Unit	PQL [2]	MCL	Exceedance
MW-1	Barium, total	12/06/99	0.028	mg/l	0.005	2	
MW-1	Cobalt, total	12/06/99	0.014	mg/l	0.005	-	
MW-1	Nickel, total	12/06/99	0.014	mg/l	0.005	0.1	
MW-1	Zinc, total	12/06/99	0.019	mg/l	0.01	2.1	
MW-1	1,1-Dichloroethane	12/06/99	18	ug/l	5	700	
MW-1	**Benzene**	**12/06/99**	**4.7**	**ug/l**	**5**	**1**	**4.7**
MW-1	cis-1,2-Dichloroethene	12/06/99	8.7	ug/l	5	70	
MW-2	Barium, total	12/06/99	0.15	mg/l	0.005	2	
MW-2	**Cadmium, total**	**12/06/99**	**0.006**	**mg/l**	**0.001**	**0.005**	**0.001**
MW-2	Chromium, total	12/06/99	0.0059	mg/l	0.002	0.05	
MW-2	Cobalt, total	12/06/99	0.4	mg/l	0.005	-	
MW-2	Copper, total	12/06/99	0.046	mg/l	0.002	1	
MW-2	Lead, total	12/06/99	0.014	mg/l	0.005	0.015	
MW-2	Mercury	12/06/99	0.0003	mg/l	0.0002	0.0011	
MW-2	Nickel, total	12/06/99	0.0094	mg/l	0.005	0.1	
MW-2	Vanadium	12/06/99	0.0091	mg/l	0.005	-	
MW-2	Zinc, total	12/06/99	0.34	mg/l	0.01	2.1	
MW-2	1,1-Dichloroethane	12/06/99	12	ug/l	5	700	
MW-2	1,4-Dichlorobenzene	12/06/99	5.1	ug/l	5	75	
MW-2	cis-1,2-Dichloroethene	12/06/99	13	ug/l	5	70	
MW-3	Barium, total	12/06/99	0.1	mg/l	0.005	2	
MW-3	Chromium, total	12/06/99	0.0054	mg/l	0.002	0.05	
MW-3	Cobalt, total	12/06/99	0.0064	mg/l	0.005	-	
MW-3	Copper, total	12/06/99	0.0021	mg/l	0.002	1	
MW-3	**Lead, total**	**12/06/99**	**0.039**	**mg/l**	**0.005**	**0.015**	**0.024**
MW-3	Nickel, total	12/06/99	0.098	mg/l	0.005	0.1	
MW-3	1,4-Dichlorobenzene	12/06/99	7.7	ug/l	5	75	
MW-3	**Benzene**	**12/06/99**	**11**	**ug/l**	**5**	**1**	**10**
MW-3	cis-1,2-Dichloroethene	12/06/99	21	ug/l	5	70	
MW-4R	Barium, total	12/06/99	0.11	mg/l	0.005	2	
MW-4R	Cadmium, total	12/06/99	0.0011	mg/l	0.001	0.005	
MW-4R	Cobalt, total	12/06/99	0.2	mg/l	0.005	-	
MW-4R	Nickel, total	12/06/99	0.014	mg/l	0.005	0.1	
MW-4R	Zinc, total	12/06/99	0.023	mg/l	0.01	2.1	
MW-4R	1,1-Dichloroethane	12/06/99	18	ug/l	5	700	
MW-4R	cis-1,2-Dichloroethene	12/06/99	16	ug/l	5	70	
MW-5	Barium, total	12/06/99	0.094	mg/l	0.005	2	
MW-5	Chromium, total	12/06/99	0.024	mg/l	0.002	0.05	
MW-5	Cobalt, total	12/06/99	0.016	mg/l	0.005	-	
MW-5	Copper, total	12/06/99	0.01	mg/l	0.002	1	
MW-5	Nickel, total	12/06/99	0.015	mg/l	0.005	0.1	
MW-5	Vanadium	12/06/99	0.019	mg/l	0.005	-	
MW-5	Zinc, total	12/06/99	0.053	mg/l	0.01	2.1	
MW-5	1,1-Dichloroethane	12/06/99	13	ug/l	5	700	
MW-6	Barium, total	12/06/99	0.2	mg/l	0.005	2	
MW-6	Chromium, total	12/06/99	0.026	mg/l	0.002	0.05	
MW-6	Cobalt, total	12/06/99	0.058	mg/l	0.005	-	
MW-6	Copper, total	12/06/99	0.0084	mg/l	0.002	1	
MW-6	Mercury	12/06/99	0.0011	mg/l	0.0002	0.0011	

Well ID	Parameter Name [1]	Sample Date	Result	Unit	PQL [2]	MCL [3]	Exceedance
MW-6	Nickel, total	12/06/99	0.024	mg/l	0.005	0.1	
MW-6	Vanadium	12/06/99	0.015	mg/l	0.005	-	
MW-6	Zinc, total	12/06/99	0.046	mg/l	0.01	2.1	
MW-6	cis-1,2-Dichloroethene	12/06/99	11	ug/l	5	70	
MW-7	Barium, total	12/06/99	0.046	mg/l	0.005	2	
MW-7	Beryllium, total	12/06/99	0.0016	mg/l	0.001	-	
MW-7	Chromium, total	12/06/99	0.029	mg/l	0.002	0.05	
MW-7	Cobalt, total	12/06/99	0.0092	mg/l	0.005	-	
MW-7	Copper, total	12/06/99	0.02	mg/l	0.002	1	
MW-7	Lead, total	12/06/99	0.008	mg/l	0.005	0.015	
MW-7	Nickel, total	12/06/99	0.022	mg/l	0.005	0.1	
MW-7	Vanadium	12/06/99	0.024	mg/l	0.005	-	
MW-7	Zinc, total	12/06/99	0.07	mg/l	0.01	2.1	
MW-7	1,1-Dichloroethane	12/06/99	17	ug/l	5	700	
MW-8	Barium, total	12/06/99	0.054	mg/l	0.005	2	
MW-8	Chromium, total	12/06/99	0.0028	mg/l	0.002	0.05	
MW-8	Copper, total	12/06/99	0.0032	mg/l	0.002	1	
MW-8	Mercury	12/06/99	0.00029	mg/l	0.0002	0.0011	
MW-8	Zinc, total	12/06/99	0.021	mg/l	0.01	2.1	
MW-8	1,1-Dichloroethane	12/06/99	8.1	ug/l	5	700	
SW-1	Barium, total	12/06/99	0.1	mg/l	0.005	2	
SW-1	Chromium, total	12/06/99	0.0091	mg/l	0.002	0.05	
SW-1	Cobalt, total	12/06/99	0.14	mg/l	0.005	-	
SW-1	Nickel, total	12/06/99	0.009	mg/l	0.005	0.1	
SW-1	Vanadium	12/06/99	0.0092	mg/l	0.005	-	
SW-1	Zinc, total	12/06/99	0.033	mg/l	0.01	2.1	
SW-3	Barium, total	12/06/99	0.059	mg/l	0.005	2	
SW-3	Chromium, total	12/06/99	0.02	mg/l	0.002	0.05	
SW-3	Copper, total	12/06/99	0.01	mg/l	0.002	1	
SW-3	Lead, total	12/06/99	0.006	mg/l	0.005	0.015	
SW-3	Nickel, total	12/06/99	0.0082	mg/l	0.005	0.1	
SW-3	Vanadium	12/06/99	0.024	mg/l	0.005	-	
SW-3	Zinc, total	12/06/99	0.031	mg/l	0.01	2.1	

[1] Table only contains detected constituents.

[2] PQL = Practical Quantitation Limit

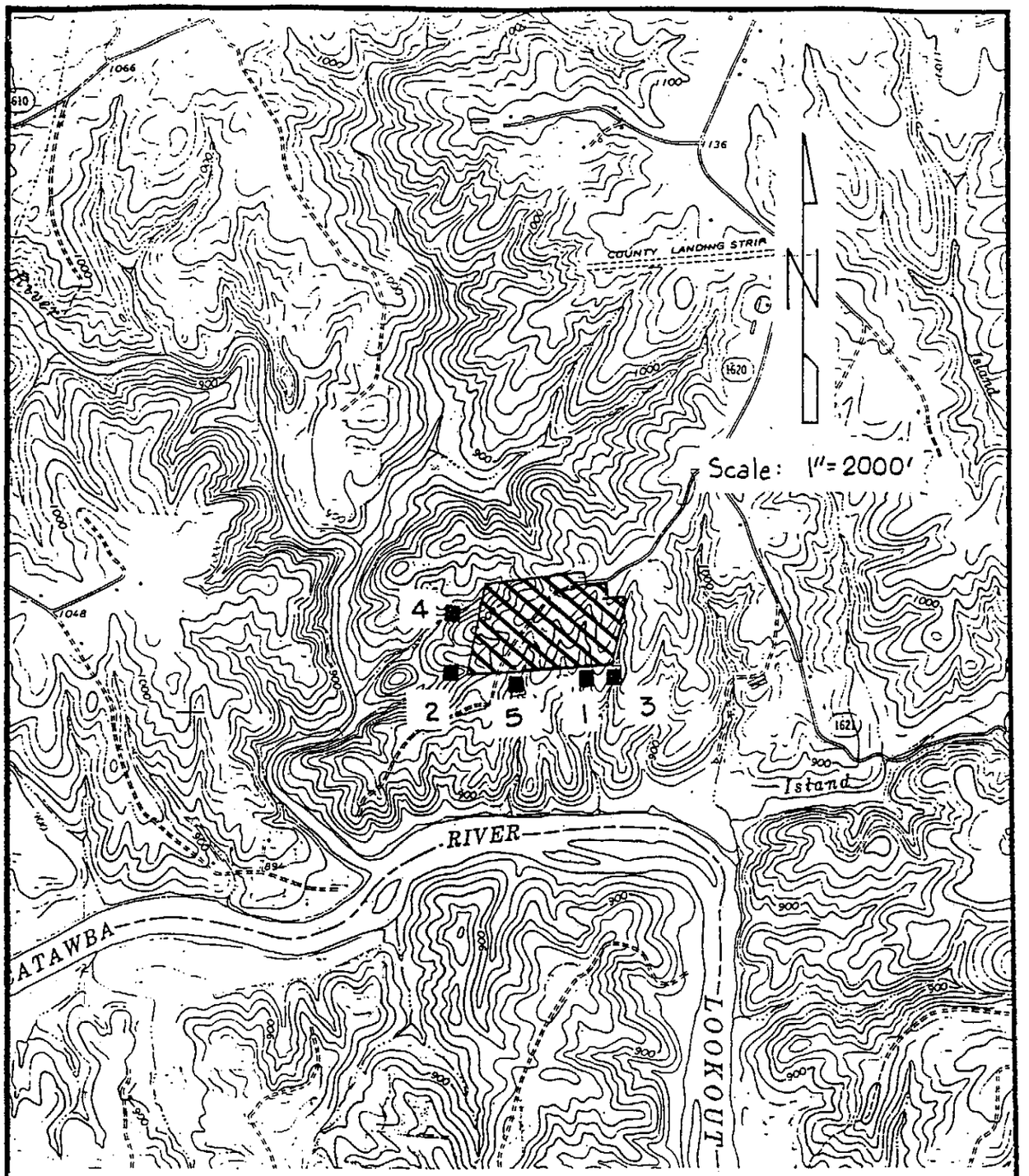
[3] MCL = Maximam Contaminant Level (North Carolina Groundwater Standard)

Hydrologic Properties at Monitoring Well Locations
Iredell County Landfill - Phase 1 & 2

Well	Hydraulic Conductivity (cm/sec)	Effective Porosity (%)	Hydraulic Gradient	Flow Rate (ft/year)	Flow Direction
MW-1	5.6E-05	1%	0.04	205	S 75 W
MW-2	-	-	-	-	N 45 W
MW-3	3.9E-06	1%	0.07	30	S 39 W
MW-4R	4.9E-04	15%	0.12	413	S 15 W
MW-5	6.4E-05	15%	0.06	27	S 17 W
MW-6	2.4E-05	1%	0.03	67	S 62 W
MW-7	1.6E-06	1%	0.12	20	S 52 W
MW-8	1.3E-05	1%	0.17	226	N 42 W

Data for permeability and effective porosity obtained from GAI Consultants Sampling Report (April, 1995).
Other data obtained from December 6, 1999 sampling event.

94120.02

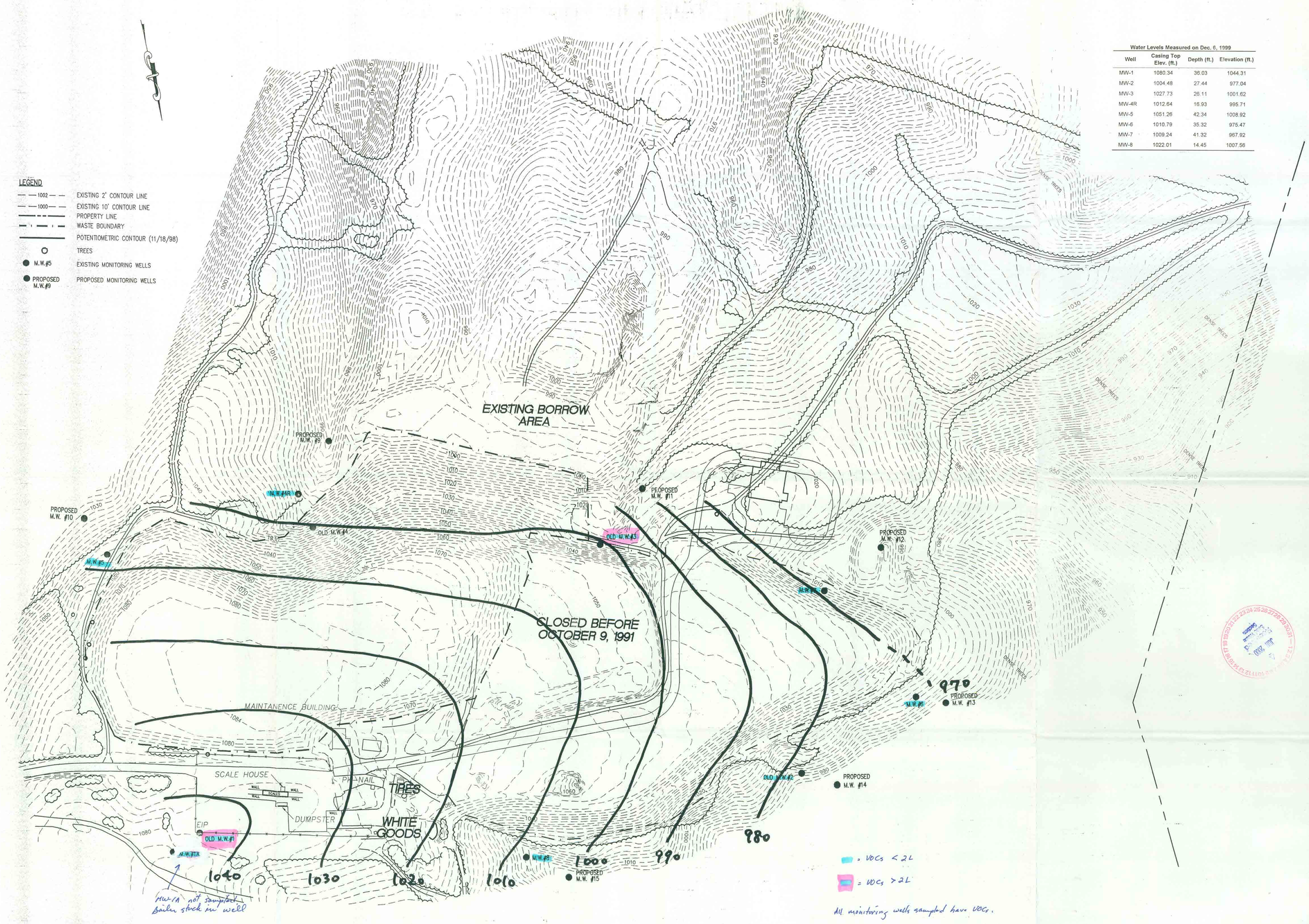


Approximate Location of Landfill

Proposed Surface Water Sampling Locations

Alexander County Landfill

Surface Water Sampling Locations
Plate 4



Water Levels Measured on Dec. 6, 1999

Well	Casing Top Elev. (ft.)	Depth (ft.)	Elevation (ft.)
MW-1	1080.34	36.03	1044.31
MW-2	1004.48	27.44	977.04
MW-3	1027.73	26.11	1001.62
MW-4R	1012.64	16.93	995.71
MW-5	1051.26	42.34	1008.92
MW-6	1010.79	35.32	975.47
MW-7	1009.24	41.32	967.92
MW-8	1022.01	14.45	1007.56

Municipal Engineering Services Company, P.A.
P.O. BOX 97 GARNER, N.C. 27529 (919) 772-5393
P.O. BOX 346 BOONE, N.C. 28607 (828) 262-1767

MUNICIPAL SOLID WASTE LANDFILL FACILITY
ALEXANDER COUNTY
TAYLORSVILLE, NC

DATE	BY	REV.	DESCRIPTION

SCALE: 1" = 100'
DATE: 6/2/00
DRWN. BY: L. HAMPTON
CHKD. BY: K. YOSHIDA
PROJECT NUMBER G99006.0
DRAWING NO. MW
SHEET NO. 1 OF 1

C:\dwgs\alexander\G9006-mw.dwg Fri Jun 02 15:09:29 2000 LCH

NTP CHEMICAL REPOSITORY (RADIAN CORPORATION, AUGUST 29, 1991)
1,1-DICHLOROETHANE

-IDENTIFIERS

*CATALOG ID NUMBER: 000298

*CAS NUMBER: 75-34-3

*BASE CHEMICAL NAME: DICHLOROETHANE,1,1-

*PRIMARY NAME: 1,1-DICHLOROETHANE

*CHEMICAL FORMULA: C2H4Cl2

*STRUCTURAL FORMULA: Cl2CHCH3

*WLN: GYG1

*SYNONYMS:
CHLORINATED HYDROCHLORIC ETHER
DICHLOROETHANE, 1,1-
ETHYLIDENE CHLORIDE
ETHYLIDENE DICHLORIDE
1,1-DICHLORETHANE
NCI-C04535
RCRA WASTE NUMBER U076

-PHYSICAL CHEMICAL DATA

*PHYSICAL DESCRIPTIONS: LITERATURE: Clear, colorless, oily liquid
REPOSITORY: Clear colorless liquid

*MOLECULAR WEIGHT: 98.96

*SPECIFIC GRAVITY: 1.1757 @ 20/4 C [017,031,047,205]

*DENSITY: 1.256 g/cc @ 21 C (RAD)

*MP (DEG C): -97 C [017,051,205,269]

*BP (DEG C): 57.3 C [017,031,421,430]

*SOLUBILITIES:
WATER : <1 mg/mL @ 20 C (RAD)

DMSO : >=100 mg/mL @ 20 C (RAD)

95% ETHANOL : >=100 mg/mL @ 20 C (RAD)

METHANOL : Not available

ACETONE : >=100 mg/mL @ 20 C (RAD)

TOLUENE : Not available

OTHER SOLVENTS:
Ether: Soluble [017,051,062,430]
Benzene: Soluble [017,421]
Alcohol: Soluble [017,051,062,071]
Most common solvents: Miscible [051,071]

Fixed and volatile oils: Soluble [062]

*VOLATILITY:
Vapor pressure: 234 mm Hg @ 25 C [051,055]; 182 mm Hg @ 20 C [051,071,102]
Vapor density : 3.44 [051,071]

*FLAMMABILITY(FLASH POINT):
The flash point of this chemical is -5 C (22 F) [205,269]. It is flammable. Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used [051,071, 371]. The autoignition temperature of this compound is 458 C (856 F) [051,071, 371].

*UEL: 11.4% [043,071,371,430] LEL: 5.6% [043,071,371,430]

*REACTIVITY:
This chemical can react vigorously with oxidizing materials [051,071,102, 346]. It is incompatible with strong bases [269]. Contact with strong caustics will cause formation of flammable and toxic gas. It will attack some forms of plastics, rubber and coatings [102].

*STABILITY:
This compound is heat sensitive [051,071,102]. Solutions of this chemical in water, DMSO, 95% ethanol or acetone should be stable for 24 hours under normal lab conditions (RAD).

*OTHER PHYSICAL DATA:
Refractive index: 1.4164 @ 20 C [017,047,205]
Saccharine taste [062]
Ethereal odor [062]
Saturation concentration: 986 g/cu m @ 20 C; 1,406 g/cu m @ 30 C [055]
Sinks and mixes with water [371]
Evaporation rate (butyl acetate = 1): 11.6 [102]
Critical temperature: 261.5 C [371]
Critical pressure: 734.8 psia [371]
Liquid surface tension: 24.75 dynes/cm [371]
Ratio of specific heat of vapor (gas): 1.136 @ 20 C [371]
Vapor (gas) specific gravity: 3.42 [371]
Latent heat of vaporization: 73.1 cal/g [371]
Heat of combustion: -2,652 cal/g [371]
Reid vapor pressure: 7.35 psia [371]
Percent in saturated air: 30.8 @ 25 C [430]

-TOXICITY
========

*NIOSH REGISTRY NUMBER: KI0175000

*TOXICITY:

typ. dose	mode	specie	amount	units	other
LD50	orl	rat	725	mg/kg	
LCLo	ihl	rat	16000	ppm/4H	

*AQTX/TLM96: Not available

*SAX TOXICITY EVALUATION:
THR: Moderately toxic by ingestion. An experimental tumorigen and teratogen. A suspected carcinogen.

*CARCINOGENICITY:
Tumorigenic Data:
TDLo: orl-mus 185 gm/kg/78W-I
TD : orl-mus 1300 gm/kg/78W-I
Status: NCI Carcinogenesis Bioassay (Gavage); Negative: Male Rat and Male

Mouse [620]
NCI Carcinogenesis Bioassay (Gavage); Equivocal: Female Rat and Female Mouse [620]

*MUTATION DATA:

test	lowest dose	test	lowest dose
Not available			

*TERATOGENICITY:
Reproductive Effects Data:
TCLo: ihl-rat 6000 ppm/7H (6-15D preg)

*STANDARDS, REGULATIONS & RECOMMENDATIONS:
OSHA: Federal Register (1/19/89) and 29 CFR 1910.1000 Subpart Z
Transitional Limit: PEL-TWA 100 ppm [015,327,545,610]
Final Limit: PEL-TWA 100 ppm [015,545,610]
ACGIH: TLV-TWA 200 ppm; STEL 250 ppm [015,610]
NIOSH Criteria Document: Recommended exposure limit of this compound-air: To be handled in the workplace with caution [610]
NFPA Hazard Rating: Health (H): 2
Flammability (F): 3
Reactivity (R): 0
H2: Materials hazardous to health, but areas may be entered freely with full-faced mask self-contained breathing apparatus which provides eye protection (see NFPA for details).
F3: Materials which can be ignited under almost all normal temperature conditions (see NFPA for details).
R0: Materials which are normally stable even under fire exposure conditions and which are not reactive with water (see NFPA for details).

*OTHER TOXICITY DATA:
Review: Toxicology Review-2
Standards and Regulations: DOT-IMO: Flammable liquid; Label: Flammable liquid
Status: NIOSH Analytical Methods: see Hydrocarbons, Halogenated, 1003
NIOSH Current Intelligence Bulletin 27, 1978
EPA TSCA Chemical Inventory, 1986
EPA TSCA Test Submission (TSCATS) Data Base, January 1989
EPA TSCA Section 8(e) Status Report 8EHQ-0680-0345
EPA TSCA Section 8(e) Status Report 8EHQ-0979-0310
Meets criteria for proposed OSHA Medical Records Rule
IDLH: 4,000 ppm [346,371]

-OTHER DATA (Regulatory)

*PROPER SHIPPING NAME (IATA): 1,1-Dichloroethane

*UN/ID NUMBER: UN2362

*HAZARD CLASS: 3 SUBSIDIARY RISK: None PACKING GROUP: II

*LABELS REQUIRED: Flammable liquid label

*PACKAGING: PASSENGER: PKG. INSTR.: 305, Y305 MAXIMUM QUANTITY: 5 L, 1 L
CARGO : PKG. INSTR.: 307 MAXIMUM QUANTITY: 60 L

*SPECIAL PROVISIONS: None

*USES:
This compound is used in vinyl chloride manufacturing, chlorinated solvent intermediate, coupling agent in antiknock gasoline, metal degreasing agent, organic synthesis, ore flotation, manufacturing of H3CCCl3, chemical intermediate, an industrial solvent, in fumigant formulations, extraction solvent,

as a dewaxer of mineral oils, extractant for heat-sensitive substances, manufacturing of high vacuum rubber and silicon grease and as a paint, varnish and finish remover. It was formerly used as an anesthetic.

*COMMENTS: Not available

-HANDLING PROCEDURES

*ACUTE/CHRONIC HAZARDS:
This compound may be harmful by inhalation, ingestion or skin absorption. Vapor or mist is irritating to the eyes, mucous membranes, skin and upper respiratory tract. When heated to decomposition it emits toxic fumes of carbon monoxide, carbon dioxide, hydrogen chloride gas and phosgene [269]. It is narcotic in high concentrations [031,071,151]. It may also have anesthetic effects at high concentrations [051,071,430]. It is a lacrimator [371].

*MINIMUM PROTECTIVE CLOTHING: Not available

*RECOMMENDED GLOVE MATERIALS:
Permeation Test Results For The Neat (Undiluted) Chemical:
The permeation test results for the neat (undiluted) chemical are given below. The breakthrough times of this chemical are given for each glove type tested. The table is a presentation of actual test results, not specific recommendations or suggestions. Avoid glove types which exhibit breakthrough times of less than the anticipated task time plus an adequate safety factor. If this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, replace them at once.

Glove Type	Model Number	Thickness	Breakthrough Time
Viton	North F-091	0.30 mm	115 min
Butyl rubber	North B-174	0.86 mm	75 min
PVA	Edmont 25-545	0.74 mm	125 min
PVC	Edmont 34-100	0.20 mm	1 min

*RECOMMENDED RESPIRATOR:
When working with this chemical, wear a NIOSH-approved full face chemical cartride respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators.

*OTHER: Not available

*STORAGE PRECAUTIONS:
You should store this chemical in an explosion-proof freezer, and keep it away from all oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION.

*SPILLS AND LEAKAGE:
If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

*DISPOSAL AND WASTE TREATMENT: Not available

-EMERGENCY PROCEDURES

*SKIN CONTACT:

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water.

If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

*INHALATION:

IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital.

Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.

*EYE CONTACT:

First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center.

Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician.

IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

*INGESTION:

DO NOT INDUCE VOMITING. Volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems.

If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital.

If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.

*SYMPTOMS:

Symptoms of exposure to this compound may include liver and kidney damage, skin and eye irritation, dermatitis and skin burns [051,071]. It may cause unconsciousness, central nervous system depression and drowsiness [346]. It may also cause nausea, vomiting, faintness, irritation of the respiratory tract, salivation, sneezing, coughing, dizziness, lacrimation, reddening of the conjunctiva, cyanosis, circulatory failure and slight smarting of the eyes and respiratory system [371]. It is narcotic in high concentrations [031,051, 071,151].

-SOURCES

*SOURCES:

[015] Lewis, R.J., Sr. and R.L. Tatken, Eds. Registry of Toxic Effects of Chemical Substances. On-line Ed. National Institute for Occupational Safety and Health. Cincinnati, OH. KI0175000. May 1, 1989.

[017] Weast, R.C., M.J. Astle, and W.H. Beyer, Eds. CRC Handbook of Chemistry and Physics. 67th Ed. CRC Press, Inc. Boca Raton, FL. 1986. p. C-264, #6626.

[025] Buckingham, J., Ed. Dictionary of Organic Compounds. 5th Ed. Chapman and Hall. New York. 1982. Vol. 2, p. 1732, #D02629.

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NTP CHEMICAL REPOSITORY (RADIAN CORPORATION, AUGUST 29, 1991)
CIS-1,2-DICHLOROETHYLENE

-IDENTIFIERS

*CATALOG ID NUMBER: 000932

*CAS NUMBER: 156-59-2

*BASE CHEMICAL NAME: DICHLOROETHYLENE,1,2-,CIS-

*PRIMARY NAME: CIS-1,2-DICHLOROETHYLENE

*CHEMICAL FORMULA: C2H2Cl2

*STRUCTURAL FORMULA: CHCl=CHCl

*WLN: G1U1G -Z

*SYNONYMS:
CIS-DICHLOROETHYLENE
(Z)-1,2-DICHLOROETHYLENE

-PHYSICAL CHEMICAL DATA

*PHYSICAL DESCRIPTION: LITERATURE: Clear, colorless liquid
REPOSITORY: Clear, very pale yellow liquid

*MOLECULAR WEIGHT: 96.94

*SPECIFIC GRAVITY: 1.2837 @ 20/4 C [017,047]

*DENSITY: 1.284 g/cc @ 19 C (RAD)

*MP (DEG C): -80.5 C [017,038,043,430]

*BP (DEG C): 60 C [025,269,275,371]

*SOLUBILITIES:
WATER : 1-5 mg/mL @ 16 C (RAD)

DMSO : >=100 mg/mL @ 17 C (RAD)

95% ETHANOL : >=100 mg/mL @ 17 C (RAD)

METHANOL : Not available

ACETONE : >=100 mg/mL @ 17 C (RAD)

TOLUENE : Not available

OTHER SOLVENTS:
Alcohol: Soluble [017,205,421]
Chloroform: Soluble [017,053]
Benzene: Soluble [017,047,053]
Ether: Soluble [017,047,205,421]
Most organic solvents: Soluble [031,421]

*VOLATILITY:
Vapor pressure: 200 mm Hg @ 25 C [055]; 400 mm Hg @ 41 C [038,043,053]
Vapor density : 3.34 [043,102,371,451]

*FLAMMABILITY(FLASH POINT):
This chemical has a flash point of 3.9 C (39 F) [043,062,071,451]. It is flammable. Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. The autoignition temperature of this chemical is 460 C (860 F) [430,451].

*UEL: 12.8% [043,371,430,451] LEL: 9.7% [043,371,430,451]

*REACTIVITY:
This chemical is incompatible with strong oxidizers [043,071,102]. Contact with sodium or solid caustic alkalies (potassium hydroxide, sodium hydroxide) or their concentrated solutions gives an explosive compound. It will form explosive mixtures with nitrogen tetroxide [043,071]. It is also incompatible with copper or copper alloys. It dimerizes in the presence of organic peroxides. Oxidation in the presence of concentrated sulfuric acid or a free radical initiator gives a dangerous compound. The distillate from a mixture of 0.25% sodium hydroxide in ethanol and this compound has ignited. This chemical is corrosive to metals unless inhibited [071]. It will decompose upon contact with hot metal [346]. It will attack some forms of plastics, rubber and coatings [102].

*STABILITY:
This chemical is gradually decomposed by air, light and moisture [031, 062,071,421]. It is stable under nitrogen and protected from light at temperatures up to 60 C [052]. Solutions of this chemical in water, DMSO, 95% ethanol or acetone should be stable for 24 hours under normal lab conditions (RAD).

*OTHER PHYSICAL DATA:
Refractive index: 1.4435 @ 25 C [025,031]; 1.4490 @ 20 C [047,205]
Specific gravity: 1.291 @ 15/4 C [025]; 1.2743 @ 25/4 C [043,053]
Ethereal, slightly acrid odor [031,102,346,371]
Boiling point: 59.6 C @ 745 mm Hg [031]
Vapor pressure: 60 mm Hg @ -0.5 C; 100 mm Hg @ 9.5 C; 760 mm Hg @ 59.0 C [038]
Vapor pressure: 1 mm Hg @ -58.4 C; 5 mm Hg @ -39.2 C; 10 mm Hg @ -29.9 C [038]
Flash point also reported as 6 C (43 F) [066,205,269,275]
Odor threshold: 0.085 ppm [102]
Liquid surface tension: 24 dynes/cm [371]
Liquid water interfacial tension (estimated): 30 dynes/cm [371]
Latent heat of vaporization: 72 cal/g [371]
Heat of combustion: -2692.9 cal/g [371]

-TOXICITY

*NIOSH REGISTRY NUMBER: KV9420000

*TOXICITY:

typ. dose	mode	specie	amount	units	other
LCLo	ihl	mus	65000	mg/m3/2H	
LCLo	ihl	cat	20000	mg/m3/6H	

*AQTX/TLM96: Not available

*SAX TOXICITY EVALUATION:
THR: Mildly toxic by ingestion and inhalation. In high concentrations, it is irritating and narcotic. It has produced liver and kidney injury in experimental animals. A suspected carcinogen. Mutation data. It is sometimes thought to be non-flammable, but it is a dangerous fire hazard when exposed to heat or flame.

*CARCINOGENICITY:
Status: NTP Carcinogenesis Studies; selected, January 1988

*MUTATION DATA:

test	lowest dose	test	lowest dose
mmo-smc	100 mmol/L	hma-mus/smc	1300 mg/kg
mrc-smc	40 mmol/L	dns-rat:lvr	4300 umol/L

*TERATOGENICITY: Not available

*STANDARDS, REGULATIONS & RECOMMENDATIONS:
OSHA: Federal Register (1/19/89) and 29 CFR 1910.1000 Subpart Z
Transitional Limit: PEL-TWA 200 ppm [327,545,610]
Final Limit: PEL-TWA 200 ppm [545,610]
ACGIH: TLV-TWA 200 ppm [415,421,610]
NIOSH Criteria Document: None
NFPA Hazard Rating: Health (H): 2
Flammability (F): 3
Reactivity (R): 2
H2: Materials hazardous to health, but areas may be entered freely with full-faced mask self-contained breathing apparatus which provides eye protection (see NFPA for details).
F3: Materials which can be ignited under almost all normal temperature conditions (see NFPA for details).
R2: Materials which are normally unstable and readily undergo violent chemical change but do not detonate (see NFPA for details).

*OTHER TOXICITY DATA:
Status: EPA TSCA Chemical Inventory, 1986
EPA TSCA Test Submission (TSCATS) Data Base, June 1988
IDLH value: 4000 ppm [071,346]

-OTHER DATA (Regulatory)

*PROPER SHIPPING NAME (IATA): Dichloroethylene

*UN/ID NUMBER: UN1150

*HAZARD CLASS: 3 SUBSIDIARY RISK: None PACKING GROUP: II

*LABELS REQUIRED: Flammable liquid

*PACKAGING: PASSENGER: PKG. INSTR.: 305, Y305 MAXIMUM QUANTITY: 5 L, 1 L
CARGO : PKG. INSTR.: 307 MAXIMUM QUANTITY: 60 L

*SPECIAL PROVISIONS: None

*USES:
This compound is used as a solvent for waxes, resins, fats, phenol, camphor, acetyl cellulose, organic materials and heat-sensitive substances such as caffeine. It is used in rubber manufacture, as a refrigerant, as an additive to dye and lacquer solutions, in retarding fermentation, in organic synthesis, in medicines, in dye extraction, in chlorination reactions and in the manufacture of artificial pearls. It is a constituent of perfumes and thermoplastics.

*COMMENTS: Not available

-HANDLING PROCEDURES

*ACUTE/CHRONIC HAZARDS:
This compound is mildly toxic by ingestion and inhalation. In high concentrations, it is irritating and narcotic [043]. Flashback along the

vapor trail may occur [053,371]. When heated to decomposition it emits toxic fumes of hydrogen chloride gas, phosgene and carbon monoxide [102, 371].

*MINIMUM PROTECTIVE CLOTHING: Not available

*RECOMMENDED GLOVE MATERIALS:
Permeation Test Results For The Neat (Undiluted) Chemical:
The permeation test results for the neat (undiluted) chemical are given below. The breakthrough times of this chemical are given for each glove type tested. The table is a presentation of actual test results, not specific recommendations or suggestions. Avoid glove types which exhibit breakthrough times of less than the anticipated task time plus an adequate safety factor. If this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, replace them at once.

Glove Type	Model Number	Thickness	Breakthrough Time
Viton	North F-091	0.28 mm	95 min
Butyl rubber	North B-174	0.64 mm	15 min
Neoprene	Edmont 29-870	0.46 mm	5 min
PVC	Edmont 34-100	0.15 mm	1 min

*RECOMMENDED RESPIRATOR:
When working with this chemical, wear a NIOSH-approved full face chemical cartride respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators.

*OTHER: Not available

*STORAGE PRECAUTIONS:
You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION.

*SPILLS AND LEAKAGE:
If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

*DISPOSAL AND WASTE TREATMENT: Not available

-EMERGENCY PROCEDURES

*SKIN CONTACT:
IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water.
If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

*INHALATION:
IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital.
Provide proper respiratory protection to rescuers entering an unknown

atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.

*EYE CONTACT:

First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center.

Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician.

IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

*INGESTION:

DO NOT INDUCE VOMITING. Volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems.

If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital.

If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.

*SYMPTOMS:

Symptoms of exposure to this compound may include central nervous system depression, dizziness, nausea and vomiting [071,346,371]. High concentrations cause irritation and narcosis [031,062,071,102]. Irritation of the skin, eyes and mucous membranes may occur [269,301]. Other symptoms may include irritation of the respiratory tract, conjunctivitis and difficult breathing [071]. Weakness and epigastric cramps may occur [371]. Drowsiness and unconsciousness may also occur [102].

-SOURCES

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Laboratory Data

Pace Analytical

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

MUNICIPAL ENGINEERING
RECEIVED
JAN 3 2000
SERVICES COMPANY

December 22, 1999

Mr. Kohei Yoshida
Municipal Engineering Sevices
P.O. Box 97
Garner, NC 27529

RE: Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Dear Mr. Yoshida:

Enclosed are the results of analyses for sample(s)received by the laboratory on December 7, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Kerr
Project Manager

Enclosures

Laboratory Certification IDs	
NC Wastewater	12
NC Drinking Water	37706
SC	99006

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs	
KY Drinking Water	90090
TN UST List	
VA Drinking Water	213

Pace Analytical

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

DATE: 12/22/99
PAGE: 1

Municipal Engineering Sevices
P.O. Box 97
Garner, NC 27529

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Attn: Mr. Kohei Yoshida
Phone: (919)772-5393

Solid results are reported on a wet weight basis

Pace Sample No: 92747393 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: SW3 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	1515			12/06/99	JJQ		
Field pH	6.30	Std. Units		12/06/99	JJQ		
Field Specific Conductance	30	umhos/cm		12/06/99	JJQ		
Field Temperature	12.5	deg C		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/10/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/10/99	RWF	7440-38-2	
Barium	0.059	mg/l	0.005	12/10/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/10/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/10/99	RWF	7440-43-9	
Chromium	0.02	mg/l	0.002	12/10/99	RWF	7440-47-3	
Cobalt	ND	mg/l	0.005	12/10/99	RWF	7440-48-4	
Copper	0.01	mg/l	0.002	12/10/99	RWF	7440-50-8	
Lead	0.006	mg/l	0.005	12/10/99	RWF	7439-92-1	
Nickel	0.0082	mg/l	0.005	12/10/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/10/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/10/99	RWF	7440-22-4	
Vanadium	0.024	mg/l	0.005	12/10/99	RWF	7440-62-2	
Zinc	0.031	mg/l	0.01	12/10/99	RWF	7440-66-6	
Date Digested				12/07/99			

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs
KY Drinking Water 90090
TN UST List
VA Drinking Water 213

Pace Analytical

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747393 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: SW3 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Mercury in Water		Method: EPA 7470			Prep Method: EPA 7470		
Mercury	ND	mg/l	0.0002	12/14/99	TYM	7439-97-6	
Thallium, AAS Furnace		Method: EPA 7841			Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							
GC/MS VOCs by 8260		Method: EPA 8260			Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	ND	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	

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Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747393
Client Sample ID: SW3

Date Collected: 12/06/99
Date Received: 12/07/99

Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	105	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	96	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	92	%		12/11/99	JSS	460-00-4	

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747401 | Date Collected: 12/06/99 | Matrix: Water
Client Sample ID: SW1 | Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	1450			12/06/99	JJQ		
Field pH	7.09	Std. Units		12/06/99	JJQ		
Field Specific Conductance	355	umhos/cm		12/06/99	JJQ		
Field Temperature	12.9	deg C		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	0.10	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	0.0091	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	0.14	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	ND	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	ND	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	0.009	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	0.0092	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	0.033	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/l	0.0002	12/14/99	TYM	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		

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Tel: 704-875-9092
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DATE: 12/22/99
PAGE: 5

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747401
Client Sample ID: SW1
Date Collected: 12/06/99
Date Received: 12/07/99
Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	ND	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs
KY Drinking Water 90090
TN UST List
VA Drinking Water 213

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747401 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: SW1 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	108	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	103	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	93	%		12/11/99	JSS	460-00-4	

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Huntersville, NC 28078
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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747419 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: MW4R Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	1445			12/06/99	JJQ		
Field pH	5.91	Std. Units		12/06/99	JJQ		
Field Specific Conductance	327	umhos/cm		12/06/99	JJQ		
Field Temperature	17.8	deg C		12/06/99	JJQ		
Static Water Level	16.93	feet		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	0.11	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	0.0011	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	ND	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	0.20	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	ND	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	ND	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	0.014	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	ND	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	0.023	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/l	0.0002	12/14/99	TYM	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747419 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: MW4R Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	18	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	16	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078

Tel: 704-875-9092
Fax: 704-875-9091

DATE: 12/22/99

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747419
Client Sample ID: MW4R

Date Collected: 12/06/99
Date Received: 12/07/99

Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	104	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	101	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	91	%		12/11/99	JSS	460-00-4	

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Huntersville, NC 28078

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747427
Client Sample ID: MW5

Date Collected: 12/06/99
Date Received: 12/07/99

Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	1400			12/06/99	JJQ		
Field pH	6.53	Std. Units		12/06/99	JJQ		
Field Specific Conductance	240	umhos/cm		12/06/99	JJQ		
Field Temperature	15.4	deg C		12/06/99	JJQ		
Static Water Level	42.34	feet		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	0.094	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	0.024	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	0.016	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	0.01	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	ND	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	0.015	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	0.019	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	0.053	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/l	0.0002	12/21/99	AST	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							

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Tel: 704-875-9092
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DATE: 12/22/99
PAGE: 11

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747427
Client Sample ID: MW5

Date Collected: 12/06/99
Date Received: 12/07/99

Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
GC/MS VOCs by 8260		Method: EPA 8260			Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	13	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	

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NC Drinking Water 37706
SC 99006

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KY Drinking Water 90090
TN UST List
VA Drinking Water 213

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747427 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: MW5 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	106	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	101	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	91	%		12/11/99	JSS	460-00-4	

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Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747435 | Date Collected: 12/06/99 | Matrix: Water
Client Sample ID: MW3 | Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	1315			12/06/99	JJQ		
Field pH	6.18	Std. Units		12/06/99	JJQ		
Field Specific Conductance	474	umhos/cm		12/06/99	JJQ		
Field Temperature	16.1	deg C		12/06/99	JJQ		
Static Water Level	26.11	feet		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	0.10	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	0.0054	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	0.0064	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	0.0021	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	0.039	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	0.098	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	ND	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	ND	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/l	0.0002	12/21/99	AST	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

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Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747435 | Date Collected: 12/06/99 | Matrix: Water
Client Sample ID: MW3 | Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	ND	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	21	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	11	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747435 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: MW3 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	7.7	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	109	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	105	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	94	%		12/11/99	JSS	460-00-4	

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747443
Client Sample ID: MW7
Date Collected: 12/06/99
Date Received: 12/07/99
Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	1245			12/06/99	JJQ		
Field pH	6.83	Std. Units		12/06/99	JJQ		
Field Specific Conductance	524	umhos/cm		12/06/99	JJQ		
Field Temperature	15.8	deg C		12/06/99	JJQ		
Static Water Level	41.32	feet		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	0.046	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	0.0016	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	0.029	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	0.0092	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	0.02	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	0.008	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	0.022	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	0.024	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	0.07	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/l	0.0002	12/21/99	AST	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							

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Fax: 704-875-9091

DATE: 12/22/99
PAGE: 17

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747443
Client Sample ID: MW7

Date Collected: 12/06/99
Date Received: 12/07/99

Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	17	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	

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Huntersville, NC 28078

Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747443
Client Sample ID: MW7

Date Collected: 12/06/99
Date Received: 12/07/99

Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	109	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	105	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	97	%		12/11/99	JSS	460-00-4	

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747450 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: MW6 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	1145			12/06/99	JJQ		
Field pH	5.46	Std. Units		12/06/99	JJQ		
Field Specific Conductance	127	umhos/cm		12/06/99	JJQ		
Field Temperature	14.8	deg C		12/06/99	JJQ		
Static Water Level	35.32	feet		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	0.20	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	0.026	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	0.058	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	0.0084	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	ND	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	0.024	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	0.015	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	0.046	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	0.0011	mg/l	0.0002	12/21/99	AST	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							

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Pace Analytical

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747450 | Date Collected: 12/06/99 | Matrix: Water
Client Sample ID: MW6 | Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	ND	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	11	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	

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Huntersville, NC 28078

Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747450
Client Sample ID: MW6

Date Collected: 12/06/99
Date Received: 12/07/99

Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	108	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	105	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	95	%		12/11/99	JSS	460-00-4	

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747468 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: MW2 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	1100			12/06/99	JJQ		
Field pH	6.24	Std. Units		12/06/99	JJQ		
Field Specific Conductance	489	umhos/cm		12/06/99	JJQ		
Field Temperature	15.3	deg C		12/06/99	JJQ		
Static Water Level	27.44	feet		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	0.15	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	0.006	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	0.0059	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	0.40	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	0.046	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	0.014	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	0.0094	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.025	12/11/99	RWF	7782-49-2	1
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	0.0091	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	0.34	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	0.0003	mg/l	0.0002	12/21/99	AST	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747468 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: MW2 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	12	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	13	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078

Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747468 | Date Collected: 12/06/99 | Matrix: Water
Client Sample ID: MW2 | Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	5.1	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	109	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	106	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	95	%		12/11/99	JSS	460-00-4	

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747476
Client Sample ID: MW8
Date Collected: 12/06/99
Date Received: 12/07/99
Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	1000			12/06/99	JJQ		
Field pH	5.51	Std. Units		12/06/99	JJQ		
Field Specific Conductance	87	umhos/cm		12/06/99	JJQ		
Field Temperature	15.6	deg C		12/06/99	JJQ		
Static Water Level	14.45	feet		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	0.054	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	0.0028	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	ND	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	0.0032	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	ND	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	ND	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	ND	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	0.021	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	0.00029	mg/l	0.0002	12/21/99	AST	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747476
Client Sample ID: MW8

Date Collected: 12/06/99
Date Received: 12/07/99

Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	8.1	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747476 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: MW8 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	104	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	100	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	91	%		12/11/99	JSS	460-00-4	

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Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747484 | Date Collected: 12/06/99 | Matrix: Water
Client Sample ID: MW1 | Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Field Services							
Monitoring Well Data	Method:				Prep Method:		
Collected By	JJQ			12/06/99	JJQ		
Collected Date	120699			12/06/99	JJQ		
Collected Time	0915			12/06/99	JJQ		
Field pH	5.77	Std. Units		12/06/99	JJQ		
Field Specific Conductance	194	umhos/cm		12/06/99	JJQ		
Field Temperature	16.1	deg C		12/06/99	JJQ		
Static Water Level	36.03	feet		12/06/99	JJQ		
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	0.028	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	ND	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	0.014	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	ND	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	ND	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	0.014	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	ND	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	0.019	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/l	0.0002	12/21/99	AST	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747484 | Date Collected: 12/06/99 | Matrix: Water
Client Sample ID: MW1 | Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	18	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	8.7	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	5.7	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	

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Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747484 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: MW1 Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	105	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	101	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	91	%		12/11/99	JSS	460-00-4	

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Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747492 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: EQUIPMENT BLANK Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	ND	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	ND	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	ND	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	ND	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	ND	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	ND	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	ND	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	ND	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/l	0.0002	12/21/99	AST	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747492 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: EQUIPMENT BLANK Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	ND	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	105	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%		12/11/99	JSS	17060-07-0	

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747492 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: EQUIPMENT BLANK Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Toluene-d8 (S)	103	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	91	%		12/11/99	JSS	460-00-4	

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747500 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: FIELD BLANK Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Metals							
Metals by Trace ICP	Method: EPA 6010				Prep Method: EPA 3010		
Antimony	ND	mg/l	0.005	12/11/99	RWF	7440-36-0	
Arsenic	ND	mg/l	0.005	12/11/99	RWF	7440-38-2	
Barium	ND	mg/l	0.005	12/11/99	RWF	7440-39-3	
Beryllium	ND	mg/l	0.001	12/11/99	RWF	7440-41-7	
Cadmium	ND	mg/l	0.001	12/11/99	RWF	7440-43-9	
Chromium	ND	mg/l	0.002	12/11/99	RWF	7440-47-3	
Cobalt	ND	mg/l	0.005	12/11/99	RWF	7440-48-4	
Copper	ND	mg/l	0.002	12/11/99	RWF	7440-50-8	
Lead	ND	mg/l	0.005	12/11/99	RWF	7439-92-1	
Nickel	ND	mg/l	0.005	12/11/99	RWF	7440-02-0	
Selenium	ND	mg/l	0.005	12/11/99	RWF	7782-49-2	
Silver	ND	mg/l	0.002	12/11/99	RWF	7440-22-4	
Vanadium	ND	mg/l	0.005	12/11/99	RWF	7440-62-2	
Zinc	ND	mg/l	0.01	12/11/99	RWF	7440-66-6	
Date Digested				12/11/99			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/l	0.0002	12/21/99	AST	7439-97-6	
Thallium, AAS Furnace	Method: EPA 7841				Prep Method: EPA 3020		
Thallium	ND	mg/l	0.002	12/15/99	TYM	7440-28-0	
Date Digested				12/07/99			
GC/MS Volatiles							
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747500 | Date Collected: 12/06/99 | Matrix: Water
Client Sample ID: FIELD BLANK | Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	ND	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	106	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%		12/11/99	JSS	17060-07-0	

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs
KY Drinking Water 90090
TN UST List
VA Drinking Water 213

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747500 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: FIELD BLANK Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Toluene-d8 (S)	104	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	91	%		12/11/99	JSS	460-00-4	

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747518 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: TRIP BLANK Date Received: 12/07/99

GC/MS Volatiles

GC/MS VOCs by 8260 Method: EPA 8260 Prep Method: EPA 8260

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Chloromethane	ND	ug/l	10	12/11/99	JSS	74-87-3	
Vinyl Chloride	ND	ug/l	10	12/11/99	JSS	75-01-4	
Bromomethane	ND	ug/l	10	12/11/99	JSS	74-83-9	
Chloroethane	ND	ug/l	10	12/11/99	JSS	75-00-3	
Trichlorofluoromethane	ND	ug/l	10	12/11/99	JSS	75-69-4	
Acetone	ND	ug/l	100	12/11/99	JSS	67-64-1	
1,1-Dichloroethene	ND	ug/l	5	12/11/99	JSS	75-35-4	
Iodomethane	ND	ug/l	5	12/11/99	JSS	74-88-4	
Acrylonitrile	ND	ug/l	100	12/11/99	JSS	107-13-1	
Methylene Chloride	ND	ug/l	5	12/11/99	JSS	75-09-2	
Carbon Disulfide	ND	ug/l	5	12/11/99	JSS	75-15-0	
trans-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-60-5	
1,1-Dichloroethane	ND	ug/l	5	12/11/99	JSS	75-34-3	
Vinyl Acetate	ND	ug/l	50	12/11/99	JSS	108-05-4	
2-Butanone	ND	ug/l	100	12/11/99	JSS	78-93-3	
cis-1,2-Dichloroethene	ND	ug/l	5	12/11/99	JSS	156-59-2	
Chloroform	ND	ug/l	5	12/11/99	JSS	67-66-3	
Bromochloromethane	ND	ug/l	5	12/11/99	JSS	74-97-5	
1,1,1-Trichloroethane	ND	ug/l	5	12/11/99	JSS	71-55-6	
1,2-Dichloroethane	ND	ug/l	5	12/11/99	JSS	107-06-2	
Carbon Tetrachloride	ND	ug/l	5	12/11/99	JSS	56-23-5	
Benzene	ND	ug/l	5	12/11/99	JSS	71-43-2	
Trichloroethene	ND	ug/l	5	12/11/99	JSS	79-01-6	
1,2-Dichloropropane	ND	ug/l	5	12/11/99	JSS	78-87-5	
Dibromomethane	ND	ug/l	5	12/11/99	JSS	74-95-3	
Bromodichloromethane	ND	ug/l	5	12/11/99	JSS	75-27-4	
4-Methyl-2-Pentanone	ND	ug/l	50	12/11/99	JSS	108-10-1	
cis-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-01-5	
Toluene	ND	ug/l	5	12/11/99	JSS	108-88-3	
trans-1,3-Dichloropropene	ND	ug/l	5	12/11/99	JSS	10061-02-6	
1,1,2-Trichloroethane	ND	ug/l	5	12/11/99	JSS	79-00-5	
2-Hexanone	ND	ug/l	50	12/11/99	JSS	591-78-6	
Dibromochloromethane	ND	ug/l	5	12/11/99	JSS	124-48-1	
Tetrachloroethene	ND	ug/l	5	12/11/99	JSS	127-18-4	
1,2-Dibromoethane	ND	ug/l	5	12/11/99	JSS	106-93-4	
Chlorobenzene	ND	ug/l	5	12/11/99	JSS	108-90-7	

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Pace Sample No: 92747518 Date Collected: 12/06/99 Matrix: Water
Client Sample ID: TRIP BLANK Date Received: 12/07/99

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,1,1,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	630-20-6	
Ethylbenzene	ND	ug/l	5	12/11/99	JSS	100-41-4	
m&p-Xylene	ND	ug/l	10	12/11/99	JSS	7816-60-0	
Styrene	ND	ug/l	5	12/11/99	JSS	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/l	5	12/11/99	JSS	95-47-6	
Bromoform	ND	ug/l	5	12/11/99	JSS	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/l	5	12/11/99	JSS	79-34-5	
1,2,3-Trichloropropane	ND	ug/l	5	12/11/99	JSS	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/l	5	12/11/99	JSS	110-57-6	
1,4-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	106-46-7	
1,2-Dichlorobenzene	ND	ug/l	5	12/11/99	JSS	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/l	5	12/11/99	JSS	96-12-8	
Dibromofluoromethane (S)	108	%		12/11/99	JSS	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%		12/11/99	JSS	17060-07-0	
Toluene-d8 (S)	105	%		12/11/99	JSS	2037-26-5	
4-Bromofluorobenzene (S)	91	%		12/11/99	JSS	460-00-4	

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Huntersville, NC 28078
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Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

PARAMETER FOOTNOTES

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting Limit
(S)	Surrogate
[1]	The sample was diluted to reduce matrix interference, resulting in elevated reporting limits.

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Municipal Engineering Sevices
P.O. Box 97
Garner, NC 27529

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Attn: Mr. Kohei Yoshida
Phone: (919)772-5393

QC Batch ID: 20329
Analysis Method: EPA 6010
Associated Pace Samples: 92747393

QC Batch Method: EPA 3010
Analysis Description: Metals by Trace ICP

METHOD BLANK: 92747997
Associated Pace Samples:
92747393

Parameter	Units	Method Blank Result	PRL	Footnotes
Antimony	mg/l	ND	0.005	
Arsenic	mg/l	ND	0.005	
Barium	mg/l	ND	0.005	
Beryllium	mg/l	ND	0.001	
Cadmium	mg/l	ND	0.001	
Chromium	mg/l	ND	0.002	
Cobalt	mg/l	ND	0.005	
Copper	mg/l	ND	0.002	
Lead	mg/l	ND	0.005	
Nickel	mg/l	ND	0.005	
Selenium	mg/l	ND	0.005	
Silver	mg/l	ND	0.002	
Vanadium	mg/l	ND	0.005	
Zinc	mg/l	ND	0.01	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92748003 92748011

Parameter	Units	92746973	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Antimony	mg/l	0	0.2500	0.2150	86.0	0.2120	84.8	1	
Arsenic	mg/l	0	0.2500	0.2220	88.8	0.2210	88.4	0	
Barium	mg/l	0.01040	0.2500	0.2310	88.2	0.2290	87.4	1	
Beryllium	mg/l	0	0.2500	0.2340	93.6	0.2310	92.4	1	
Cadmium	mg/l	0.0001090	0.2500	0.2140	85.6	0.2090	83.6	2	

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Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92748003 92748011

Parameter	Units	92746973	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Chromium	mg/l	0	0.2500	0.2270	90.8	0.2230	89.2	2	
Cobalt	mg/l	0.0002000	0.2500	0.2290	91.5	0.2250	89.9	2	
Copper	mg/l	0.01040	0.2500	0.2400	91.8	0.2390	91.4	0	
Lead	mg/l	0.002650	0.2500	0.2140	84.5	0.2100	82.9	2	
Nickel	mg/l	0	0.2500	0.2220	88.8	0.2170	86.8	2	
Selenium	mg/l	0.002540	0.2500	0.2100	83.0	0.2080	82.2	1	
Silver	mg/l	0.0003890	0.2500	0.2280	91.0	0.2210	88.2	3	
Vanadium	mg/l	0.0009880	0.2500	0.2270	90.4	0.2240	89.2	1	
Zinc	mg/l	0.01390	0.2500	0.2420	91.2	0.2360	88.8	3	

LABORATORY CONTROL SAMPLE: 92748037

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Antimony	mg/l	0.2500	0.2120	84.8	
Arsenic	mg/l	0.2500	0.2180	87.2	
Barium	mg/l	0.2500	0.2190	87.6	
Beryllium	mg/l	0.2500	0.2300	92.0	
Cadmium	mg/l	0.2500	0.2100	84.0	
Chromium	mg/l	0.2500	0.2230	89.2	
Cobalt	mg/l	0.2500	0.2250	90.0	
Copper	mg/l	0.2500	0.2300	92.0	
Lead	mg/l	0.2500	0.2110	84.4	
Nickel	mg/l	0.2500	0.2180	87.2	
Selenium	mg/l	0.2500	0.2060	82.4	
Silver	mg/l	0.2500	0.2250	90.0	
Vanadium	mg/l	0.2500	0.2230	89.2	
Zinc	mg/l	0.2500	0.2230	89.2	

SAMPLE DUPLICATE: 92748029

Parameter	Units	92746999	Dup. Result	RPD	Footnotes
Antimony	mg/l	ND	ND	NC	
Arsenic	mg/l	ND	ND	NC	
Barium	mg/l	0.01000	0.01000	0	
Beryllium	mg/l	ND	ND	NC	
Cadmium	mg/l	ND	ND	NC	
Chromium	mg/l	ND	ND	NC	

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078

Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

SAMPLE DUPLICATE: 92748029

Parameter	Units	92746999	Dup. Result	RPD	Footnotes
Cobalt	mg/l	ND	ND	NC	
Copper	mg/l	0.006600	0.005800	12	
Lead	mg/l	ND	ND	NC	
Nickel	mg/l	ND	ND	NC	
Selenium	mg/l	ND	ND	NC	
Silver	mg/l	ND	ND	NC	
Vanadium	mg/l	ND	ND	NC	
Zinc	mg/l	ND	0.02900	NC	

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Municipal Engineering Sevices
P.O. Box 97
Garner, NC 27529

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Attn: Mr. Kohei Yoshida
Phone: (919)772-5393

QC Batch ID: 20330
QC Batch Method: EPA 3020
Analysis Method: EPA 7841
Analysis Description: Thallium, AAS Furnace
Associated Pace Samples: 92747393 92747401 92747419 92747427 92747435 92747443 92747450 92747468 92747476 92747484 92747492 92747500

METHOD BLANK: 92748177
Associated Pace Samples:
92747393 92747401 92747419 92747427 92747435 92747443 92747450 92747468 92747476 92747484 92747492 92747500

Parameter	Units	Method Blank Result	PRL	Footnotes
Thallium	mg/l	ND	0.002	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92748185 92748193

Parameter	Units	92747393	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Thallium	mg/l	0.001100	0.0250	0.02350	89.6	0.01980	74.8	18	

LABORATORY CONTROL SAMPLE: 92748219

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Thallium	mg/l	0.0250	0.02650	106	

SAMPLE DUPLICATE: 92748201

Parameter	Units	92747401	Dup. Result	RPD	Footnotes
Thallium	mg/l	ND	ND	NC	

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Municipal Engineering Sevices
P.O. Box 97
Garner, NC 27529

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Attn: Mr. Kohei Yoshida
Phone: (919)772-5393

QC Batch ID: 20439
Analysis Method: EPA 8260
Associated Pace Samples: 92747393 92747401 92747419 92747427

QC Batch Method: EPA 8260
Analysis Description: GC/MS VOCs by 8260

METHOD BLANK: 92754860
Associated Pace Samples:
92747393 92747401 92747419 92747427

Parameter	Units	Method Blank Result	PRL	Footnotes
Chloromethane	ug/l	ND	10	
Vinyl Chloride	ug/l	ND	10	
Bromomethane	ug/l	ND	10	
Chloroethane	ug/l	ND	10	
Trichlorofluoromethane	ug/l	ND	10	
Acetone	ug/l	ND	100	
1,1-Dichloroethene	ug/l	ND	5	
Iodomethane	ug/l	ND	5	
Acrylonitrile	ug/l	ND	100	
Methylene Chloride	ug/l	ND	5	
Carbon Disulfide	ug/l	ND	5	
trans-1,2-Dichloroethene	ug/l	ND	5	
1,1-Dichloroethane	ug/l	ND	5	
Vinyl Acetate	ug/l	ND	50	
2-Butanone	ug/l	ND	100	
cis-1,2-Dichloroethene	ug/l	ND	5	
Chloroform	ug/l	ND	5	
Bromochloromethane	ug/l	ND	5	
1,1,1-Trichloroethane	ug/l	ND	5	
1,2-Dichloroethane	ug/l	ND	5	
Carbon Tetrachloride	ug/l	ND	5	
Benzene	ug/l	ND	5	
Trichloroethene	ug/l	ND	5	
1,2-Dichloropropane	ug/l	ND	5	
Dibromomethane	ug/l	ND	5	

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QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

METHOD BLANK: 92754860
Associated Pace Samples:
92747393 92747401 92747419 92747427

Parameter	Units	Method Blank Result	PRL	Footnotes
Bromodichloromethane	ug/l	ND	5	
4-Methyl-2-Pentanone	ug/l	ND	50	
cis-1,3-Dichloropropene	ug/l	ND	5	
Toluene	ug/l	ND	5	
trans-1,3-Dichloropropene	ug/l	ND	5	
1,1,2-Trichloroethane	ug/l	ND	5	
2-Hexanone	ug/l	ND	50	
Dibromochloromethane	ug/l	ND	5	
Tetrachloroethene	ug/l	ND	5	
1,2-Dibromoethane	ug/l	ND	5	
Chlorobenzene	ug/l	ND	5	
1,1,1,2-Tetrachloroethane	ug/l	ND	5	
Ethylbenzene	ug/l	ND	5	
m&p-Xylene	ug/l	ND	10	
Styrene	ug/l	ND	5	
o-Xylene (1,2-Dimethylbenzene)	ug/l	ND	5	
Bromoform	ug/l	ND	5	
1,1,2,2-Tetrachloroethane	ug/l	ND	5	
1,2,3-Trichloropropane	ug/l	ND	5	
trans-1,4-Dichloro-2-Butene	ug/l	ND	5	
1,4-Dichlorobenzene	ug/l	ND	5	
1,2-Dichlorobenzene	ug/l	ND	5	
1,2-Dibromo-3-Chloropropane	ug/l	ND	5	
Dibromofluoromethane (S)	%	102		
1,2-Dichloroethane-d4 (S)	%	103		
Toluene-d8 (S)	%	100		
4-Bromofluorobenzene (S)	%	92		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92753003 92753011

Parameter	Units	92745223	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
1,1-Dichloroethene	ug/l	2.847	50	50.50	95.3	45.64	85.6	11	
Benzene	ug/l	0	50	44.10	88.2	46.26	92.5	5	
Trichloroethene	ug/l	10.39	50	52.00	83.2	45.54	70.3	17	
Toluene	ug/l	0	50	43.20	86.4	41.70	83.4	4	
Chlorobenzene	ug/l	0	50	38.00	76.0	37.02	74.0	3	

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QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92753003 92753011

Parameter	Units	92745223	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Dibromofluoromethane (S)					107		99		
1,2-Dichloroethane-d4 (S)					104		100		
Toluene-d8 (S)					103		99		
4-Bromofluorobenzene (S)					91		89		

LABORATORY CONTROL SAMPLE: 92752997

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Chloromethane	ug/l	50	42.97	85.9	
Vinyl Chloride	ug/l	50	37.63	75.3	
Bromomethane	ug/l	50	22.52	45.0	1
Chloroethane	ug/l	50	45.28	90.6	
Trichlorofluoromethane	ug/l	50	47.56	95.1	
Acetone	ug/l	100	122.1	122	
1,1-Dichloroethene	ug/l	50	48.10	96.2	
Iodomethane	ug/l	100	80.28	80.3	
Acrylonitrile	ug/l	500	500.0	100	
Methylene Chloride	ug/l	50	48.59	97.2	
Carbon Disulfide	ug/l	100	93.96	94.0	
trans-1,2-Dichloroethene	ug/l	50	46.23	92.5	
1,1-Dichloroethane	ug/l	50	45.21	90.4	
Vinyl Acetate	ug/l	100	36.02	36.0	1
2-Butanone	ug/l	100	104.3	104	
cis-1,2-Dichloroethene	ug/l	50	44.40	88.8	
Chloroform	ug/l	50	46.61	93.2	
Bromochloromethane	ug/l	50	42.24	84.5	
1,1,1-Trichloroethane	ug/l	50	48.17	96.3	
1,2-Dichloroethane	ug/l	50	46.81	93.6	
Carbon Tetrachloride	ug/l	50	46.26	92.5	
Benzene	ug/l	50	43.60	87.2	
Trichloroethene	ug/l	50	42.73	85.5	
1,2-Dichloropropane	ug/l	50	42.88	85.8	
Dibromomethane	ug/l	50	40.10	80.2	
Bromodichloromethane	ug/l	50	44.21	88.4	
4-Methyl-2-Pentanone	ug/l	100	88.97	89.0	
cis-1,3-Dichloropropene	ug/l	50	39.94	79.9	
Toluene	ug/l	50	43.14	86.3	
trans-1,3-Dichloropropene	ug/l	50	40.42	80.8	
1,1,2-Trichloroethane	ug/l	50	43.00	86.0	

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Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

LABORATORY CONTROL SAMPLE: 92752997

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
2-Hexanone	ug/l	100	86.93	86.9	
Dibromochloromethane	ug/l	50	38.53	77.1	
Tetrachloroethene	ug/l	50	35.80	71.6	
1,2-Dibromoethane	ug/l	50	38.53	77.1	
Chlorobenzene	ug/l	50	36.61	73.2	
1,1,1,2-Tetrachloroethane	ug/l	50	37.06	74.1	
Ethylbenzene	ug/l	50	41.35	82.7	
m&p-Xylene	ug/l	100	82.07	82.1	
Styrene	ug/l	50	39.56	79.1	
o-Xylene (1,2-Dimethylbenzene)	ug/l	50	40.19	80.4	
Bromoform	ug/l	50	39.87	79.7	
1,1,2,2-Tetrachloroethane	ug/l	50	39.00	78.0	
1,2,3-Trichloropropane	ug/l	50	41.39	82.8	
trans-1,4-Dichloro-2-Butene	ug/l	50	27.53	55.1	1
1,4-Dichlorobenzene	ug/l	50	39.53	79.1	
1,2-Dichlorobenzene	ug/l	50	41.26	82.5	
1,2-Dibromo-3-Chloropropane	ug/l	50	60.41	121	
Dibromofluoromethane (S)				106	
1,2-Dichloroethane-d4 (S)				106	
Toluene-d8 (S)				104	
4-Bromofluorobenzene (S)				92	

SAMPLE DUPLICATE: 92753029

Parameter	Units	92745231	Dup. Result	RPD	Footnotes
Chloromethane	ug/l	ND	ND	NC	
Vinyl Chloride	ug/l	15.00	11.00	30	
Bromomethane	ug/l	ND	ND	NC	
Chloroethane	ug/l	13.00	11.00	17	
Trichlorofluoromethane	ug/l	ND	ND	NC	
Acetone	ug/l	ND	ND	NC	
1,1-Dichloroethene	ug/l	20.00	15.00	31	
Iodomethane	ug/l	ND	ND	NC	
Acrylonitrile	ug/l	ND	ND	NC	
Methylene Chloride	ug/l	26.00	22.00	14	
Carbon Disulfide	ug/l	ND	ND	NC	
trans-1,2-Dichloroethene	ug/l	ND	ND	NC	
1,1-Dichloroethane	ug/l	170.0	140.0	18	
Vinyl Acetate	ug/l	ND	ND	NC	

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QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

SAMPLE DUPLICATE: 92753029

Parameter	Units	92745231	Dup. Result	RPD	Footnotes
2-Butanone	ug/l	ND	ND	NC	
cis-1,2-Dichloroethene	ug/l	96.00	81.00	17	
Chloroform	ug/l	ND	ND	NC	
Bromochloromethane	ug/l	ND	ND	NC	
1,1,1-Trichloroethane	ug/l	ND	ND	NC	
1,2-Dichloroethane	ug/l	ND	ND	NC	
Carbon Tetrachloride	ug/l	ND	ND	NC	
Benzene	ug/l	ND	ND	NC	
Trichloroethene	ug/l	69.00	51.00	29	
1,2-Dichloropropane	ug/l	ND	ND	NC	
Dibromomethane	ug/l	ND	ND	NC	
Bromodichloromethane	ug/l	ND	ND	NC	
4-Methyl-2-Pentanone	ug/l	ND	ND	NC	
cis-1,3-Dichloropropene	ug/l	ND	ND	NC	
Toluene	ug/l	ND	ND	NC	
trans-1,3-Dichloropropene	ug/l	ND	ND	NC	
1,1,2-Trichloroethane	ug/l	ND	ND	NC	
2-Hexanone	ug/l	ND	ND	NC	
Dibromochloromethane	ug/l	ND	ND	NC	
Tetrachloroethene	ug/l	110.0	70.00	47	
1,2-Dibromoethane	ug/l	ND	ND	NC	
Chlorobenzene	ug/l	ND	ND	NC	
1,1,1,2-Tetrachloroethane	ug/l	ND	ND	NC	
Ethylbenzene	ug/l	ND	ND	NC	
m&p-Xylene	ug/l	ND	ND	NC	
Styrene	ug/l	ND	ND	NC	
o-Xylene (1,2-Dimethylbenzene)	ug/l	ND	ND	NC	
Bromoform	ug/l	ND	ND	NC	
1,1,2,2-Tetrachloroethane	ug/l	ND	ND	NC	
1,2,3-Trichloropropane	ug/l	ND	ND	NC	
trans-1,4-Dichloro-2-Butene	ug/l	ND	ND	NC	
1,4-Dichlorobenzene	ug/l	ND	ND	NC	
1,2-Dichlorobenzene	ug/l	ND	ND	NC	
1,2-Dibromo-3-Chloropropane	ug/l	ND	ND	NC	
Dibromofluoromethane (S)	%	110	101	0	
1,2-Dichloroethane-d4 (S)	%	112	101	0	
Toluene-d8 (S)	%	107	101	0	
4-Bromofluorobenzene (S)	%	100	94	0	

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Fax: 704-875-9091

QUALITY CONTROL DATA

Municipal Engineering Sevices
P.O. Box 97
Garner, NC 27529

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Attn: Mr. Kohei Yoshida
Phone: (919)772-5393

QC Batch ID: 20476
Analysis Method: EPA 8260
Associated Pace Samples: 92747435 92747443 92747450 92747468 92747476 92747484 92747492 92747500 92747518

QC Batch Method: EPA 8260
Analysis Description: GC/MS VOCs by 8260

METHOD BLANK: 92754787
Associated Pace Samples:
92747435 92747443 92747450 92747468

Parameter	Units	Method Blank Result	PRL	Footnotes
Chloromethane	ug/l	ND	10	
Vinyl Chloride	ug/l	ND	10	
Bromomethane	ug/l	ND	10	
Chloroethane	ug/l	ND	10	
Trichlorofluoromethane	ug/l	ND	10	
Acetone	ug/l	ND	100	
1,1-Dichloroethene	ug/l	ND	5	
Iodomethane	ug/l	ND	5	
Acrylonitrile	ug/l	ND	100	
Methylene Chloride	ug/l	ND	5	
Carbon Disulfide	ug/l	ND	5	
trans-1,2-Dichloroethene	ug/l	ND	5	
1,1-Dichloroethane	ug/l	ND	5	
Vinyl Acetate	ug/l	ND	50	
2-Butanone	ug/l	ND	100	
cis-1,2-Dichloroethene	ug/l	ND	5	
Chloroform	ug/l	ND	5	
Bromochloromethane	ug/l	ND	5	
1,1,1-Trichloroethane	ug/l	ND	5	
1,2-Dichloroethane	ug/l	ND	5	
Carbon Tetrachloride	ug/l	ND	5	
Benzene	ug/l	ND	5	
Trichloroethene	ug/l	ND	5	
1,2-Dichloropropane	ug/l	ND	5	

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QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

METHOD BLANK: 92754787
Associated Pace Samples:

92747435 92747443 92747450 92747468

Parameter	Units	Method Blank Result	PRL	Footnotes
Dibromomethane	ug/l	ND	5	
Bromodichloromethane	ug/l	ND	5	
4-Methyl-2-Pentanone	ug/l	ND	50	
cis-1,3-Dichloropropene	ug/l	ND	5	
Toluene	ug/l	ND	5	
trans-1,3-Dichloropropene	ug/l	ND	5	
1,1,2-Trichloroethane	ug/l	ND	5	
2-Hexanone	ug/l	ND	50	
Dibromochloromethane	ug/l	ND	5	
Tetrachloroethene	ug/l	ND	5	
1,2-Dibromoethane	ug/l	ND	5	
Chlorobenzene	ug/l	ND	5	
1,1,1,2-Tetrachloroethane	ug/l	ND	5	
Ethylbenzene	ug/l	ND	5	
m&p-Xylene	ug/l	ND	10	
Styrene	ug/l	ND	5	
o-Xylene (1,2-Dimethylbenzene)	ug/l	ND	5	
Bromoform	ug/l	ND	5	
1,1,2,2-Tetrachloroethane	ug/l	ND	5	
1,2,3-Trichloropropane	ug/l	ND	5	
trans-1,4-Dichloro-2-Butene	ug/l	ND	5	
1,4-Dichlorobenzene	ug/l	ND	5	
1,2-Dichlorobenzene	ug/l	ND	5	
1,2-Dibromo-3-Chloropropane	ug/l	ND	5	
Dibromofluoromethane (S)	%	102		
1,2-Dichloroethane-d4 (S)	%	103		
Toluene-d8 (S)	%	100		
4-Bromofluorobenzene (S)	%	92		

METHOD BLANK: 92754837
Associated Pace Samples:

92747476 92747484 92747492 92747500 92747518

Parameter	Units	Method Blank Result	PRL	Footnotes
Chloromethane	ug/l	ND	10	

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Fax: 704-875-9091

QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

METHOD BLANK: 92754837
Associated Pace Samples:

92747476 92747484 92747492 92747500 92747518

Parameter	Units	Method Blank Result	PRL	Footnotes
Vinyl Chloride	ug/l	ND	10	
Bromomethane	ug/l	ND	10	
Chloroethane	ug/l	ND	10	
Trichlorofluoromethane	ug/l	ND	10	
Acetone	ug/l	ND	100	
1,1-Dichloroethene	ug/l	ND	5	
Iodomethane	ug/l	ND	5	
Acrylonitrile	ug/l	ND	100	
Methylene Chloride	ug/l	ND	5	
Carbon Disulfide	ug/l	ND	5	
trans-1,2-Dichloroethene	ug/l	ND	5	
1,1-Dichloroethane	ug/l	ND	5	
Vinyl Acetate	ug/l	ND	50	
2-Butanone	ug/l	ND	100	
cis-1,2-Dichloroethene	ug/l	ND	5	
Chloroform	ug/l	ND	5	
Bromochloromethane	ug/l	ND	5	
1,1,1-Trichloroethane	ug/l	ND	5	
1,2-Dichloroethane	ug/l	ND	5	
Carbon Tetrachloride	ug/l	ND	5	
Benzene	ug/l	ND	5	
Trichloroethene	ug/l	ND	5	
1,2-Dichloropropane	ug/l	ND	5	
Dibromomethane	ug/l	ND	5	
Bromodichloromethane	ug/l	ND	5	
4-Methyl-2-Pentanone	ug/l	ND	50	
cis-1,3-Dichloropropene	ug/l	ND	5	
Toluene	ug/l	ND	5	
trans-1,3-Dichloropropene	ug/l	ND	5	
1,1,2-Trichloroethane	ug/l	ND	5	
2-Hexanone	ug/l	ND	50	
Dibromochloromethane	ug/l	ND	5	
Tetrachloroethene	ug/l	ND	5	
1,2-Dibromoethane	ug/l	ND	5	
Chlorobenzene	ug/l	ND	5	
1,1,1,2-Tetrachloroethane	ug/l	ND	5	
Ethylbenzene	ug/l	ND	5	
m&p-Xylene	ug/l	ND	10	

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QUALITY CONTROL DATA

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Client Project ID: Alexander Co Landfill

METHOD BLANK: 92754837
Associated Pace Samples:
92747476 92747484 92747492 92747500 92747518

Parameter	Units	Method Blank Result	PRL	Footnotes
Styrene	ug/l	ND	5	
o-Xylene (1,2-Dimethylbenzene)	ug/l	ND	5	
Bromoform	ug/l	ND	5	
1,1,2,2-Tetrachloroethane	ug/l	ND	5	
1,2,3-Trichloropropane	ug/l	ND	5	
trans-1,4-Dichloro-2-Butene	ug/l	ND	5	
1,4-Dichlorobenzene	ug/l	ND	5	
1,2-Dichlorobenzene	ug/l	ND	5	
1,2-Dibromo-3-Chloropropane	ug/l	ND	5	
Dibromofluoromethane (S)	%	107		
1,2-Dichloroethane-d4 (S)	%	108		
Toluene-d8 (S)	%	106		
4-Bromofluorobenzene (S)	%	96		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92754803 92754811

Parameter	Units	92747435	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
1,1-Dichloroethene	ug/l	0	50	65.17	130	55.21	110	17	
Benzene	ug/l	10.63	50	70.16	119	60.81	100	17	
Trichloroethene	ug/l	2.429	50	57.56	110	50.37	95.9	14	
Toluene	ug/l	1.928	50	61.24	119	52.56	101	16	
Chlorobenzene	ug/l	0	50	51.18	102	45.61	91.2	12	
Dibromofluoromethane (S)					112		109		
1,2-Dichloroethane-d4 (S)					111		108		
Toluene-d8 (S)					108		106		
4-Bromofluorobenzene (S)					97		97		

LABORATORY CONTROL SAMPLE: 92754795

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Chloromethane	ug/l	50	42.92	85.8	
Vinyl Chloride	ug/l	50	40.91	81.8	
Bromomethane	ug/l	50	22.23	44.5	1
Chloroethane	ug/l	50	46.58	93.2	

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Fax: 704-875-9091

QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

LABORATORY CONTROL SAMPLE: 92754795

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Trichlorofluoromethane	ug/l	50	51.12	102	
Acetone	ug/l	100	133.2	133	
1,1-Dichloroethene	ug/l	50	50.54	101	
Iodomethane	ug/l	100	88.13	88.1	
Acrylonitrile	ug/l	500	524.2	105	
Methylene Chloride	ug/l	50	48.57	97.1	
Carbon Disulfide	ug/l	100	98.90	98.9	
trans-1,2-Dichloroethene	ug/l	50	48.03	96.1	
1,1-Dichloroethane	ug/l	50	46.94	93.9	
Vinyl Acetate	ug/l	100	48.75	48.7	
2-Butanone	ug/l	100	112.0	112	
cis-1,2-Dichloroethene	ug/l	50	46.60	93.2	
Chloroform	ug/l	50	48.15	96.3	
Bromochloromethane	ug/l	50	45.52	91.0	
1,1,1-Trichloroethane	ug/l	50	51.57	103	
1,2-Dichloroethane	ug/l	50	47.19	94.4	
Carbon Tetrachloride	ug/l	50	52.80	106	
Benzene	ug/l	50	47.78	95.6	
Trichloroethene	ug/l	50	46.52	93.0	
1,2-Dichloropropane	ug/l	50	46.27	92.5	
Dibromomethane	ug/l	50	47.00	94.0	
Bromodichloromethane	ug/l	50	47.27	94.5	
4-Methyl-2-Pentanone	ug/l	100	98.84	98.8	
cis-1,3-Dichloropropene	ug/l	50	47.16	94.3	
Toluene	ug/l	50	48.41	96.8	
trans-1,3-Dichloropropene	ug/l	50	48.07	96.1	
1,1,2-Trichloroethane	ug/l	50	48.38	96.8	
2-Hexanone	ug/l	100	101.4	101	
Dibromochloromethane	ug/l	50	45.67	91.3	
Tetrachloroethene	ug/l	50	44.46	88.9	
1,2-Dibromoethane	ug/l	50	45.68	91.4	
Chlorobenzene	ug/l	50	43.73	87.5	
1,1,1,2-Tetrachloroethane	ug/l	50	44.55	89.1	
Ethylbenzene	ug/l	50	48.39	96.8	
m&p-Xylene	ug/l	100	95.58	95.6	
Styrene	ug/l	50	46.23	92.5	
o-Xylene (1,2-Dimethylbenzene)	ug/l	50	46.68	93.4	
Bromoform	ug/l	50	48.63	97.3	
1,1,2,2-Tetrachloroethane	ug/l	50	50.40	101	
1,2,3-Trichloropropane	ug/l	50	48.81	97.6	
trans-1,4-Dichloro-2-Butene	ug/l	50	38.31	76.6	

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

LABORATORY CONTROL SAMPLE: 92754795

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
1,4-Dichlorobenzene	ug/l	50	45.33	90.7	
1,2-Dichlorobenzene	ug/l	50	46.98	94.0	
1,2-Dibromo-3-Chloropropane	ug/l	50	68.72	137	
Dibromofluoromethane (S)				97	
1,2-Dichloroethane-d4 (S)				97	
Toluene-d8 (S)				98	
4-Bromofluorobenzene (S)				96	

SAMPLE DUPLICATE: 92754829

Parameter	Units	92747443	Dup. Result	RPD	Footnotes
Chloromethane	ug/l	ND	ND	NC	
Vinyl Chloride	ug/l	ND	ND	NC	
Bromomethane	ug/l	ND	ND	NC	
Chloroethane	ug/l	ND	ND	NC	
Trichlorofluoromethane	ug/l	ND	ND	NC	
Acetone	ug/l	ND	ND	NC	
1,1-Dichloroethene	ug/l	ND	ND	NC	
Iodomethane	ug/l	ND	ND	NC	
Acrylonitrile	ug/l	ND	ND	NC	
Methylene Chloride	ug/l	ND	ND	NC	
Carbon Disulfide	ug/l	ND	ND	NC	
trans-1,2-Dichloroethene	ug/l	ND	ND	NC	
1,1-Dichloroethane	ug/l	17.00	14.00	18	
Vinyl Acetate	ug/l	ND	ND	NC	
2-Butanone	ug/l	ND	ND	NC	
cis-1,2-Dichloroethene	ug/l	ND	ND	NC	
Chloroform	ug/l	ND	ND	NC	
Bromochloromethane	ug/l	ND	ND	NC	
1,1,1-Trichloroethane	ug/l	ND	ND	NC	
1,2-Dichloroethane	ug/l	ND	ND	NC	
Carbon Tetrachloride	ug/l	ND	ND	NC	
Benzene	ug/l	ND	ND	NC	
Trichloroethene	ug/l	ND	ND	NC	
1,2-Dichloropropane	ug/l	ND	ND	NC	
Dibromomethane	ug/l	ND	ND	NC	
Bromodichloromethane	ug/l	ND	ND	NC	
4-Methyl-2-Pentanone	ug/l	ND	ND	NC	
cis-1,3-Dichloropropene	ug/l	ND	ND	NC	

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QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

SAMPLE DUPLICATE: 92754829

Parameter	Units	92747443	Dup. Result	RPD	Footnotes
Toluene	ug/l	ND	ND	NC	
trans-1,3-Dichloropropene	ug/l	ND	ND	NC	
1,1,2-Trichloroethane	ug/l	ND	ND	NC	
2-Hexanone	ug/l	ND	ND	NC	
Dibromochloromethane	ug/l	ND	ND	NC	
Tetrachloroethene	ug/l	ND	ND	NC	
1,2-Dibromoethane	ug/l	ND	ND	NC	
Chlorobenzene	ug/l	ND	ND	NC	
1,1,1,2-Tetrachloroethane	ug/l	ND	ND	NC	
Ethylbenzene	ug/l	ND	ND	NC	
m&p-Xylene	ug/l	ND	ND	NC	
Styrene	ug/l	ND	ND	NC	
o-Xylene (1,2-Dimethylbenzene)	ug/l	ND	ND	NC	
Bromoform	ug/l	ND	ND	NC	
1,1,2,2-Tetrachloroethane	ug/l	ND	ND	NC	
1,2,3-Trichloropropane	ug/l	ND	ND	NC	
trans-1,4-Dichloro-2-Butene	ug/l	ND	ND	NC	
1,4-Dichlorobenzene	ug/l	ND	ND	NC	
1,2-Dichlorobenzene	ug/l	ND	ND	NC	
1,2-Dibromo-3-Chloropropane	ug/l	ND	ND	NC	
Dibromofluoromethane (S)	%	109	106	0	
1,2-Dichloroethane-d4 (S)	%	111	107	0	
Toluene-d8 (S)	%	105	101	0	
4-Bromofluorobenzene (S)	%	97	95	0	

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Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Municipal Engineering Sevices
P.O. Box 97
Garner, NC 27529

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Attn: Mr. Kohei Yoshida
Phone: (919)772-5393

QC Batch ID: 20496
Analysis Method: EPA 6010
Associated Pace Samples: 92747401 92747419 92747427 92747435 92747443 92747450 92747468 92747476 92747484 92747492 92747500

QC Batch Method: EPA 3010
Analysis Description: Metals by Trace ICP

METHOD BLANK: 92756253
Associated Pace Samples: 92747401 92747419 92747427 92747435 92747443 92747450 92747468 92747476 92747484 92747492 92747500

Parameter	Units	Method Blank Result	PRL	Footnotes
Antimony	mg/l	ND	0.005	
Arsenic	mg/l	ND	0.005	
Barium	mg/l	ND	0.005	
Beryllium	mg/l	ND	0.001	
Cadmium	mg/l	ND	0.001	
Chromium	mg/l	ND	0.002	
Cobalt	mg/l	ND	0.005	
Copper	mg/l	ND	0.002	
Lead	mg/l	ND	0.005	
Nickel	mg/l	ND	0.005	
Selenium	mg/l	ND	0.005	
Silver	mg/l	ND	0.002	
Vanadium	mg/l	ND	0.005	
Zinc	mg/l	ND	0.01	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92756261 92756279

Parameter	Units	92747401	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Antimony	mg/l	0.0002750	0.2500	0.2240	89.5	0.2290	91.5	2	
Arsenic	mg/l	0.001380	0.2500	0.2320	92.2	0.2370	94.2	2	

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078

Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92756261 92756279

Parameter	Units	92747401	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Barium	mg/l	0.1000	0.2500	0.3350	94.0	0.3350	94.0	0	
Beryllium	mg/l	0.0002390	0.2500	0.2330	93.1	0.2360	94.3	1	
Cadmium	mg/l	0	0.2500	0.2250	90.0	0.2300	92.0	2	
Chromium	mg/l	0.009140	0.2500	0.2470	95.1	0.2490	95.9	1	
Cobalt	mg/l	0.1450	0.2500	0.3780	93.2	0.3840	95.6	3	
Copper	mg/l	0.0009290	0.2500	0.2300	91.6	0.2310	92.0	0	
Lead	mg/l	0.003530	0.2500	0.2210	87.0	0.2260	89.0	2	
Nickel	mg/l	0.009010	0.2500	0.2440	94.0	0.2480	95.6	2	
Selenium	mg/l	0.004410	0.2500	0.2290	89.8	0.2350	92.2	3	
Silver	mg/l	0.0005240	0.2500	0.2240	89.4	0.2270	90.6	1	
Vanadium	mg/l	0.009230	0.2500	0.2380	91.5	0.2410	92.7	1	
Zinc	mg/l	0.03260	0.2500	0.2580	90.2	0.2640	92.6	3	

LABORATORY CONTROL SAMPLE: 92756295

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Antimony	mg/l	0.2500	0.2390	95.6	
Arsenic	mg/l	0.2500	0.2410	96.4	
Barium	mg/l	0.2500	0.2320	92.8	
Beryllium	mg/l	0.2500	0.2370	94.8	
Cadmium	mg/l	0.2500	0.2360	94.4	
Chromium	mg/l	0.2500	0.2380	95.2	
Cobalt	mg/l	0.2500	0.2390	95.6	
Copper	mg/l	0.2500	0.2280	91.2	
Lead	mg/l	0.2500	0.2280	91.2	
Nickel	mg/l	0.2500	0.2400	96.0	
Selenium	mg/l	0.2500	0.2330	93.2	
Silver	mg/l	0.2500	0.2280	91.2	
Vanadium	mg/l	0.2500	0.2310	92.4	
Zinc	mg/l	0.2500	0.2460	98.4	

SAMPLE DUPLICATE: 92756287

Parameter	Units	92747419	Dup. Result	RPD	Footnotes
Antimony	mg/l	ND	ND	NC	
Arsenic	mg/l	ND	ND	NC	
Barium	mg/l	0.1100	0.1000	3	

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs
KY Drinking Water 90090
TN UST List
VA Drinking Water 213

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

SAMPLE DUPLICATE: 92756287

Parameter	Units	92747419	Dup. Result	RPD	Footnotes
Beryllium	mg/l	ND	ND	NC	
Cadmium	mg/l	0.001100	0.001400	25	2
Chromium	mg/l	ND	ND	NC	
Cobalt	mg/l	0.2000	0.2000	0	
Copper	mg/l	ND	0.002000	NC	
Lead	mg/l	ND	ND	NC	
Nickel	mg/l	0.01400	0.01300	5	
Selenium	mg/l	ND	ND	NC	
Silver	mg/l	ND	ND	NC	
Vanadium	mg/l	ND	ND	NC	
Zinc	mg/l	0.02300	0.02800	18	

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Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

Municipal Engineering Sevices
P.O. Box 97
Garner, NC 27529

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Attn: Mr. Kohei Yoshida
Phone: (919)772-5393

QC Batch ID: 20525
Analysis Method: EPA 7470
Associated Pace Samples: 92747393 92747401 92747419

QC Batch Method: EPA 7470
Analysis Description: Mercury in Water

METHOD BLANK: 92757400
Associated Pace Samples:
92747393 92747401 92747419

Parameter	Units	Method Blank Result	PRL	Footnotes
Mercury	mg/l	ND	0.0002	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92757434 92757442

Parameter	Units	92747401	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Mercury	mg/l	0	0.0050	0.001350	27.0	0.001310	26.2	3	3,3

LABORATORY CONTROL SAMPLE: 92757426

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Mercury	mg/l	0.0050	0.004900	98.0	

SAMPLE DUPLICATE: 92757418

Parameter	Units	92747393	Dup. Result	RPD	Footnotes
Mercury	mg/l	ND	ND	NC	

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Fax: 704-875-9091

QUALITY CONTROL DATA

Municipal Engineering Sevices
P.O. Box 97
Garner, NC 27529

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

Attn: Mr. Kohei Yoshida
Phone: (919)772-5393

QC Batch ID: 20797
Analysis Method: EPA 7470
Associated Pace Samples: 92747427 92747435 92747443 92747450 92747468 92747476 92747484 92747492

QC Batch Method: EPA 7470
Analysis Description: Mercury in Water

METHOD BLANK: 92768795
Associated Pace Samples:
92747427 92747435 92747443 92747450 92747468 92747476 92747484 92747492 92747500

Parameter	Units	Method Blank Result	PRL	Footnotes
Mercury	mg/l	ND	0.0002	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 92768803 92768811

Parameter	Units	92747427	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Mercury	mg/l	0	0.0050	0.003470	69.4	0.002710	54.2	25	3,2,3

LABORATORY CONTROL SAMPLE: 92768837

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Mercury	mg/l	0.0050	0.005630	113	

SAMPLE DUPLICATE: 92768829

Parameter	Units	92747435	Dup. Result	RPD	Footnotes
Mercury	mg/l	ND	ND	NC	

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Fax: 704-875-9091

Pace Project Number: 9210546
Client Project ID: Alexander Co Landfill

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	The surrogate and/or spike recovery was outside acceptance limits.
[2]	The calculated RPD was outside QC acceptance limits.
[3]	The spike recovery was outside acceptance limits for the MS and /or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

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Field Data Sheet

Well Sampling

Client: Municipal Eng. Location: Alexander Co. Project #: _____

Well Information:

Well ID: SW-3 Locked: yes no

Well Diameter : _____ pvc steel stainless steel

Total Well Depth: _____ feet Multi Factor*: _____ [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: _____ feet Casing Volume: _____ gal.

Height of Water Col.: _____ feet Cal. 3 Volume: _____ gal.

Purge Information:

Date Purged: _____ Time Purged: _____ Purge Rate: _____

Purging Method: _____ Total Volume Purged: _____ gal.

Sampling Information:

Date Sample Collected: 12-6-99 Time Sample Collected: 1515

Sampling Equipment Used: GRAB

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	12.5	1517	Turbidity (ntu):	—	—
Sample pH (s.u.):	6.30	1517	D.O. (mg/L):	—	—
Specific Cond. (uS):	30	1517	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—

Odor: Sulfurous Appearance: Reddish

Bottle Type	Preservation	Analysis Required
4-40ml VOA	HCl	App I VOA
1-500ml	HNO_3	App I metals
1-250ml	None	Res-Cl-x

Name & Affiliation of Samplers: JTA - PASI

Name & Affiliation of Inspector: N/A

Weather Conditions: wind / cool / overcast

Observations: _____

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

Field Data Sheet

Well Sampling

Client: Municipal Eng Location: Alexander Co. LANDFILL Project #: _____

Well Information:

Well ID: SW-1 Locked: yes no

Well Diameter : _____ pvc steel stainless steel

Total Well Depth: _____ feet Multi Factor*: _____ [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: _____ feet Casing Volume: _____ gal.

Height of Water Col.: _____ feet Cal. Volume: _____ gal.*

Purge Information:

Date Purged: _____ Time Purged: _____ Purge Rate: _____

Purging Method: _____ Total Volume Purged: _____ gal.

Sampling Information:

Date Sample Collected: 12/6/99 Time Sample Collected: 1450

Sampling Equipment Used: Grab

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	12.9	1451	Turbidity (ntu):	—	—
Sample pH (s.u.):	7.09	1451	D.O. (mg/L):	—	—
Specific Cond. (uS):	355	1451	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—
Odor:	Yes		Appearance:	Reddish	

Bottle Type	Preservation	Analysis Required
4-40ml VOA	HCl	App IX VOC
1-500ml	HNO_3	App IX metals
1-250ml	NONE	Rad-Cl-X

Name & Affiliation of Samplers: JOB - PASE

Name & Affiliation of Inspector: N/A

Weather Conditions: overcast / windy / cool

Observations: _____

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

Field Data Sheet

Well Sampling

Client: Municipal Eng Location: Alexander Co. Landfill Project #: _____

Well Information:

Well ID: MW 4R Locked: (yes) no

Well Diameter: 2" (pvc) steel stainless steel

Total Well Depth: 24.95 feet Multi Factor*: 0.163 [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: 16.93 feet Casing Volume: 1.3 gal.

Height of Water Col.: 8.02 feet Cal. 3 Volume: 3.9 gal.

Purge Information:

Date Purged: 12-6-99 Time Purged: 1424 Purge Rate: N/A

Purging Method: Teflon Bailer Total Volume Purged: 3.9 gal.

Sampling Information:

Date Sample Collected: 12-6-99 Time Sample Collected: 1445

Sampling Equipment Used: Teflon Bailer

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	17.8	1445	Turbidity (ntu):	—	—
Sample pH (s.u.):	5.91	1445	D.O. (mg/L):	—	—
Specific Cond. (uS):	327	1445	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—
Odor:	yes		Appearance:	cloudy	

Bottle Type	Preservation	Analysis Required
4-40ml VOA	HCl	App I VOA
1-500ml	HNO3	App I metals
1-250ml	NONE	Res-Cl-x

Name & Affiliation of Samplers: JB - ASI

Name & Affiliation of Inspector: N/A

Weather Conditions: overcast / windy / cool

Observations: _____

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

Field Data Sheet

Well Sampling

Client: Municipal Eng. Location: Alexander Co. Landfill Project #: _____

Well Information:

Well ID: MW5 Locked: yes no

Well Diameter: 2" PVC steel stainless steel

Total Well Depth: 50.80 feet Multi Factor*: 0.163 [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: 42.34 feet Casing Volume: 1.4 gal.

Height of Water Col.: 8.46 feet Cal. 3 Volume: 4.2 gal.

Purge Information:

Date Purged: 12-6-99 Time Purged: 1335 Purge Rate: N/A

Purging Method: Tef. Bailer Total Volume Purged: ~~1400~~ 4.2 gal.

Sampling Information:

Date Sample Collected: 12-6-99 Time Sample Collected: 1400

Sampling Equipment Used: Tef. Bailer

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	15.4	1402	Turbidity (ntu):	—	—
Sample pH (s.u.):	6.53	1402	D.O. (mg/L):	—	—
Specific Cond. (uS):	240	1402	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—
Odor:	YES		Appearance:	Gray	

Bottle Type	Preservation	Analysis Required
4-40ml VOA	HCl	App I VOA
1-500ml	HNO3	App I metals
1-250ml	NONE	Nos-Cl-x

Name & Affiliation of Samplers: JJB-PASI

Name & Affiliation of Inspector: N/A

Weather Conditions: overcast breezy & cool

Observations:

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

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Field Data Sheet

Well Sampling

Client: Municipal Eng. Location: Alexander Co Landfill Project #: _____

Well Information:

Well ID: MW3 Locked: (yes) no

Well Diameter: 2" (pvc) steel stainless steel

Total Well Depth: 35.33 feet Multi Factor*: 0.163 [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: 26.11 feet Casing Volume: 1.5 gal.

Height of Water Col.: 9.22 feet Cal. 3 Volume: 4.5 gal.

Purge Information:

Date Purged: 12-6-99 Time Purged: 12:55 Purge Rate: N/A

Purging Method: Teflon Bailer Total Volume Purged: 1.75 gal. & Dry

Sampling Information:

Date Sample Collected: 12-6-99 Time Sample Collected: 1315

Sampling Equipment Used: Teflon Bailer

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	16.1	1317	Turbidity (ntu):	—	—
Sample pH (s.u.):	6.18	1317	D.O. (mg/L):	—	—
Specific Cond. (uS):	474	1317	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—
Odor:	yes		Appearance:	~~Turbid~~ cloudy	

Bottle Type	Preservation	Analysis Required
4-40 mL VOA	HCl	App I VOA
1-500 mL	HNO3	App I metals
1-250 mL	NONE	Rad-Cl-x

Name & Affiliation of Samplers: JDR - PASI

Name & Affiliation of Inspector: N/A

Weather Conditions: overcast breezy cool

Observations: _____

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

Field Data Sheet

Well Sampling

Client: Municipal Eng Alexander Co. Location: Alexander Co Landfill Project #: _____

Well Information:

Well ID: MW7 Locked: (yes) no

Well Diameter: 2" (pvc) steel stainless steel

Total Well Depth: 56.95 feet Multi Factor*: 0.163 [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: 41.32 feet Casing Volume: 2.5 gal.

Height of Water Col.: 15.63 feet Cal. 3 Volume: 7.5 gal.

Purge Information:

Date Purged: 12-6-99 Time Purged: 12:05 Purge Rate: N/A

Purging Method: Tef. Bailer Total Volume Purged: 6.0 gal. 4 dry

Sampling Information:

Date Sample Collected: 12-6-99 Time Sample Collected: 1245

Sampling Equipment Used: Tef. Bailer

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	15.8	1250	Turbidity (ntu):	—	—
Sample pH (s.u.):	6.83	1250	D.O. (mg/L):	—	—
Specific Cond. (uS):	524	1250	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—
Odor:	Sulfurous		Appearance:	turbid	

Bottle Type	Preservation	Analysis Required
4-40 ml VOA	HCl	App I VOC
1-500 ml	HNO3	App I metal
1-250 ml	NONE	Pos-cl-x

Name & Affiliation of Samplers: JJC - PASE

Name & Affiliation of Inspector: N/A

Weather Conditions: mostly cloudy

Observations:

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

Field Data Sheet

Well Sampling

Client: Municipal Eng. Location: Alexander Co Landfill Project #: _____

Well Information:

Well ID: mw 6 Locked: (yes) no

Well Diameter: 2" (pvc) steel stainless steel

Total Well Depth: 43.73 feet Multi Factor*: 0.163 [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: 35.32 feet Casing Volume: 1.4 gal.

Height of Water Col.: 8.41 feet Cal. 3 Volume: 4.2 gal.

Purge Information:

Date Purged: 12-6-99 Time Purged: 11:30 Purge Rate: N/A

Purging Method: Tef Bailer Total Volume Purged: 3.5 gal.
Gals & Dry

Sampling Information:

Date Sample Collected: 12-6-99 Time Sample Collected: 1145

Sampling Equipment Used: Tef Bailer

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	14.8	1150	Turbidity (ntu):	—	—
Sample pH (s.u.):	5.46	1150	D.O. (mg/L):	—	—
Specific Cond. (uS):	127	1150	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—

Odor: ~~musty~~ sulfurous Appearance: turbid

Bottle Type	Preservation	Analysis Required
4-40ml VOA	HCL	App I VOC
1-500ml	HNO3	App I metals
1-250ml	NONE	Res-Cl-X

Name & Affiliation of Samplers: JJC - PASI

Name & Affiliation of Inspector: N/A

Weather Conditions: overcast & cool

Observations:

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

Field Data Sheet

Well Sampling

Client: Municipal Eng Location: Alexander Co Landfill Project #: _____

Well Information:

Well ID: MW2 Locked: (yes) no

Well Diameter: 2" (pvc) steel stainless steel

Total Well Depth: 32.68 feet Multi Factor*: 0.163 [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: 27.44 feet Casing Volume: 0.9 gal.

Height of Water Col.: 5.24 feet Cal. 3 Volume: 2.7 gal.

Purge Information:

Date Purged: 12-6-99 Time Purged: 10:29 Purge Rate: N/A

Purging Method: Tef Bailer Total Volume Purged: 0.9 gal.

Dry 10:44 Am

Sampling Information:

Date Sample Collected: 12-6-99 Time Sample Collected: 11:00

Sampling Equipment Used: Tef Bailer

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	15.3	1109	Turbidity (ntu):	—	—
Sample pH (s.u.):	6.24	1109	D.O. (mg/L):	—	—
Specific Cond. (uS):	489	1109	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—

Odor: Sulfurous Appearance: turbid

Bottle Type	Preservation	Analysis Required
4-40ml VOA	HCl	App TVOC
1-250ml	None	Res-Cl-Y
1-500ml	HNO3	App Metals

Name & Affiliation of Samplers: JJQ - PASI

Name & Affiliation of Inspector: N/A

Weather Conditions: partly cloudy & warm

Observations:

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

Field Data Sheet

Well Sampling

Client: Municipal Eng Location: Alexander Co Landfill Project #: _____

Well Information:

Well ID: MW8 Locked: (yes) no

Well Diameter: 2" (pvc) steel stainless steel

Total Well Depth: 29.58 feet Multi Factor*: 0.163 [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: 14.45 feet Casing Volume: 2.5 gal.

Height of Water Col.: 15.13 feet Cal. 3 Volume: 7.5 gal.

Purge Information:

Date Purged: 12-6-1999 Time Purged: 0936 Purge Rate: N/A

Purging Method: Tef Bailer Total Volume Purged: 6.75 gal. + Dry

Sampling Information:

Date Sample Collected: 12-6-1999 Time Sample Collected: 1000

Sampling Equipment Used: Tef Bailer

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	15.6	1005	Turbidity (ntu):	—	—
Sample pH (s.u.):	5.51	1005	D.O. (mg/L):	—	—
Specific Cond. (uS):	87	1005	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—

Odor: musty Appearance: reddish

Bottle Type	Preservation	Analysis Required
4-40ml vol	HCl	App I voc
1-250ml	None	Reg-Cl-x
1-250ml	HNO_3	App I metals

Name & Affiliation of Samplers: JJE - PASI

Name & Affiliation of Inspector: N/A

Weather Conditions: overcast & cool

Observations: _____

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

Field Data Sheet

Well Sampling

Client: Municipal Eng. Location: Alexander Co. Landfill Project #: _____

Well Information:

Well ID: MW 1 Locked: (yes) no

Well Diameter: 2" (PVC) steel stainless steel

Total Well Depth: 43.02 feet Multi Factor*: 0.163 [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: 36.03 feet Casing Volume: 1.1 gal.

Height of Water Col.: 6.99 feet Cal. 3 Volume: 3.4 gal.

Purge Information:

Date Purged: 12-6-1999 Time Purged: 0834 Purge Rate: N/A

Purging Method: Tef Bailer Total Volume Purged: 1.75 gal. 8 Dry

Sampling Information:

Date Sample Collected: 12-6-1999 Time Sample Collected: 0915

Sampling Equipment Used: Tef. Bailer

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):	16.1	0920	Turbidity (ntu):	—	—
Sample pH (s.u.):	5.77	0920	D.O. (mg/L):	—	—
Specific Cond. (uS):	194	0920	Res. Cl (mg/L):	—	—
ReDox.:	—	—	Other:	—	—
Odor:	NONE		Appearance:	cloudy	

Bottle Type	Preservation	Analysis Required
4-40ml VOA	HCl	App I VOC
1-250ml	None	Res-Cl-x
1-500ml	HNO3	App I metals

Name & Affiliation of Samplers: JJQ - PASP

Name & Affiliation of Inspector: N/A

Weather Conditions: 12-6-1999 Weather = overcast / cool

Observations: pH cal 0554 Hrs 7.00 su Buffer = 7.03 su Equip Blank collected @ 0838 Hrs 12-6-99
OK 4.01 su Buffer = 4.00 su
Spcond cal see ORion 126-2 QC 10.01 su Buffer = 10.05 su Field Blank collected @ 0855 Hrs 12/6/99
Log Book: JJQ 12-6-1999 0554 Hrs

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

Field Data Sheet

Well Sampling

Client: Municipal Eng. Location: Alexander Co. Landfill Project #: _____

Well Information:

Well ID: MW 1A Locked: (yes) no

Well Diameter: _____ pvc steel stainless steel

Total Well Depth: _____ feet Multi Factor*: _____ [*(Radius / 12)^2 x 3.14 x 7.48]

Static Water Level: _____ feet Casing Volume: _____ gal.

Height of Water Col.: _____ feet Cal. 3 Volume: _____ gal.

Purge Information:

Date Purged: _____ Time Purged: _____ Purge Rate: _____

Purging Method: _____ Total Volume Purged: _____ gal.

Sampling Information:

Date Sample Collected: _____ Time Sample Collected: _____

Sampling Equipment Used: _____

Field Measurements		Time (hr)	Field Measurements		Time (hr)
Sample Temp. (°C):			Turbidity (ntu):		
Sample pH (s.u.):			D.O. (mg/L):		
Specific Cond. (uS):			Res. Cl (mg/L):		
ReDox.:			Other:		
Odor:			Appearance:		

Bottle Type	Preservation	Analysis Required

Name & Affiliation of Samplers: JTO - PASE

Name & Affiliation of Inspector: N/A

Weather Conditions: _____

Observations: Bailer stuck in well from previous sampling events unable to retrieve it could not sample well

JTO 08:20 HRS 12-6-1999

Stabilization Test:

Time Purged	pH (s.u.)	Specific Conductance (uS)	Temperature (°C)	Volume Removed (gallons)	Other

Pace Analytical

The Right Chemistry, The Right Solution®

CHAIN-OF-CUSTODY / Analytical Request Document

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

498594

Page: of

Required Client Information: **Section A**

Company: Municipal Eng
Address: P.O. Box 92
Garner NC 27529
Phone:
Fax:

Required Client Information: **Section B**

Report To: Mr. Kohei Yoshida
Invoice To:
P.O.
Project Name: Alexander Co. Landfill
Project Number:

Client Information (Check quote/contract):
Requested Due Date:
*TAT:

* Under 14 day turnaround subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calender days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager: RDK
Project #: 9210546
Profile #:
Requested Analysis:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED mm / dd / yy	TIME COLLECTED mm:hh a/p	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	App-IVOC	App-I metals	Pb-Cu-Zn	Gw-Field	Remarks / Lab ID
1	SW3	WT	12/6/99	1515	6	1		1	4			✓	✓	✓	✓	92747393
2	SW1	WT	12/6/99	1450	6	1		1	4			✓	✓	✓	✓	92747401
3	mW4R	WT	12/6/99	1445	6	1		1	4			✓	✓	✓	✓	92747419
4	mW5	WT	12/6/99	1400	6	1		1	4			✓	✓	✓	✓	92747427
5	mW3	WT	12/6/99	1315	6	1		1	4			✓	✓	✓	✓	92747435
6	mW7	WT	12/6/99	1245	6	1		1	4			✓	✓	✓	✓	92747443
7	mW6	WT	12/6/99	1145	6	1		1	4			✓	✓	✓	✓	92747450
8	mW2	WT	12/6/99	1100	6	1		1	4			✓	✓	✓	✓	92747468
9	mW8	WT	12/6/99	1000	6	1		1	4			✓	✓	✓	✓	92747476
10	mW1	WT	12/6/99	0915	6	1		1	4			✓	✓	✓	✓	92747484
11	Equip. Blank	WT	12/6/99	0838	6	1		1	4			✓	✓	✓	✗	92747492
12	Field Blank	WT	12/6/99	0855	6	1		1	4			✓	✓	✓	✗	92747500
	Trip Blank	WT	12/6/99	—	2				2			✓				92747518

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	NB			J. Quelton / PASI	12/7	800	C Harris	12/7	800
Received on ICE:	Y / N								
Sealed Cooler:	Y / N								
Samples Intact:	Y / N								

Additional Comments:

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JTQ

SIGNATURE of SAMPLER: J. Quelton

DATE Signed: (MM / DD / YY) 12-6-1999

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical Services, Inc. Form COC

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