DECEMBER 2003
SEMI-ANNUAL GROUNDWATER MONITORING REPORT
WILCO #211
850 CAPITAL BOULEVARD
RALEIGH, NORTH CAROLINA
DWM INCIDENT NO. 7708

Source of the Release: Gasoline UST System
Date Release Discovered: March 1992
Site Classification: Intermediate Risk
Land Use Classification: Industrial/Commercial
Latitude: 35° 47' 35"
Longitude: 78° 38' 32"

Prepared for:

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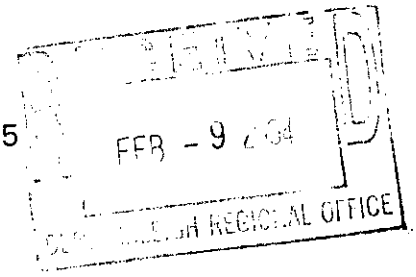

Prepared By:

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February 3, 2004

MID-ATLANTIC ASSOCIATES, INC.
Engineering & Environmental Solutions

1.0 INTRODUCTION

The subject site is the Wilco #211 retail facility located at 850 Capital Boulevard in Raleigh, North Carolina (Drawings 1.1 and 1.2). As a result of the identification of petroleum compounds in the groundwater underlying and adjacent to the Wilco #211 site at concentrations in excess of the North Carolina Groundwater Quality Standards (NCGQS), groundwater remediation activities were initiated at the site in 1995. The groundwater remediation system consists of a combination pump and treat and air sparge/soil vapor extraction system (AS/SVE). The remediation activities continued until July 26, 1996, when Senate Bill 1317 temporarily suspended assessment and remediation activities for sites classified as C, D, or E (low priority).

In 1998, this release was re-classified as an "intermediate risk" site. The site continues to be classified as an "intermediate risk" site because surface water is located within 500 feet of the source area of the release and the maximum groundwater contaminant concentration for benzene and toluene exceed the applicable surface water quality standard and criteria found in 15A NCAC 2B .0200 by more than a factor of 10.

In the fall of 1999, Mid-Atlantic Associates, Inc. (Mid-Atlantic) repaired and restarted the AS/SVE system, which consists of seven paired AS/SVE wells (Drawing 1.2). Due to the prioritization policy instituted by the North Carolina Department of Environment and Natural Resources, Division of Waste Management, UST Section (UST Section) as of November 30, 2003, the remediation system at this "intermediate risk" site was deactivated on December 31, 2003. This report documents the December 2003 groundwater sampling activities, the associated analytical results, free product thickness monitoring, operation of the remediation system, and water-supply well survey information.

2.0 FIELD ACTIVITIES

2.1 Water Level Measurements

On December 18, 2003, Mid-Atlantic visited the site to collect groundwater samples from twelve monitoring wells (Drawing 2.1). MW-1A, MW-2, MW-3, MW-4, MW-13 and MW-14 are located on the Wilco #211 property, and MW-11, MW-16, MW-16D, MW-17, MW-18 and MW-19 are located on the City of Raleigh street maintenance facility property to the west across Capital Boulevard. Monitoring well construction data for all existing wells is provided in Table 2.1.

Prior to sampling, depth-to-groundwater measurements were collected from each well using an electronic water level probe. The relative groundwater elevation was calculated by subtracting the depth-to-groundwater from the pre-determined relative elevation of the top of casing (Table 2.2).

An estimated water table contour map, using water level data collected from the shallow monitoring wells on December 18, 2003, is shown on Drawing 2.2. The water table elevation from monitoring well MW-16D was not used to develop this map because this is a "deep", Type III monitoring well.

As shown in Drawing 2.2, groundwater is flowing in a northwesterly direction across the site under a hydraulic gradient of approximately 0.042 feet per foot. This flow direction is consistent with previous flow directions calculated for the site. The hydraulic gradient was determined by calculating the difference in groundwater elevation between monitoring wells MW-1A and MW-17 (17.57 feet) and dividing that by the horizontal distance between the two monitoring wells (approximately 420 feet).

2.2 Groundwater Sampling Activities

After collecting the depth-to-groundwater measurements, the wells were purged using new disposable Teflon bailers and new nylon rope. A total of three well volumes were purged from each monitoring well prior to collecting the groundwater samples. On December 18, 2003, groundwater samples were collected from monitoring wells MW-1A, MW-2, MW-3, MW-4, MW-13, MW-14, MW-16, MW-16D, MW-17, MW-18, and MW-19. No groundwater sample was collected from monitoring well MW-11, because the well was destroyed. Samples were decanted into pre-labeled, laboratory-supplied containers packed in ice and shipped to Paradigm Analytical Laboratories, Inc. in Wilmington, North Carolina (Paradigm).

Water samples from all monitoring wells were analyzed for purgeable halocarbons according to EPA Method 601, purgeable aromatics according to EPA Method 602 (including total xylenes, methyl-tertiary-butyl ether (MTBE), diisopropyl ether (DIPE), and ethylene dibromide (EDB)), polynuclear aromatic hydrocarbons according to EPA Method 610, and extractable lead with EPA Method 3030C sample preparation.

3.0 GROUNDWATER ANALYTICAL RESULTS

The laboratory analytical report for the December 18, 2003 groundwater sampling event is contained in Appendix A and summarized in Table 3.1. As summarized, water samples collected from MW-2, MW-3, MW-13, MW-14, MW-16, MW-16D, MW-17, and MW-18 contained one or more targeted compounds above their respective NCGQS.

The estimated isoconcentration contour maps for benzene, ethylbenzene, toluene, total xylenes, naphthalene, 1-metylnaphthalene, and 2-methylnaphthalene are shown in Drawings 3.1 through 3.7, respectively. Historical groundwater analytical results for the monitoring wells are summarized in Table 3.2.

4.0 FREE PRODUCT THICKNESS

No measurable free product has been detected in any of the monitoring wells since the December 2000 sampling event.

5.0 REMEDIATION SYSTEM OPERATION

The SVE system is designed to remove free product (if present), remove subsurface petroleum vapors displaced from the groundwater by the AS system, and remediate in-situ soil contamination. To measure the effectiveness of the SVE system, quarterly effluent air samples are collected from the SVE blower discharge stack. For each sample, a total of 10 liters of air is pulled through a carbon trap at a sample flow rate of 200 milliliters per minute. An air sample was collected from the SVE blower's effluent air stream in August 2003. The sample was shipped to Paradigm and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) according to EPA Method 18. The laboratory analytical report for the air sample is provided in Appendix B and summarized in Table 5.1.

On October 24, 2003, the UST Section issued a memorandum summarizing amendments to the UST statutes regarding cleanup prioritization based on the degree of risk. Due to the amended prioritization policy implemented by the UST Section as of November 30, 2003, the AS/SVE system was deactivated on December 31, 2003.

6.0 WATER-SUPPLY WELL SURVEY

A water-supply well survey previously conducted by Mid-Atlantic did not identify any water-supply wells within 1,500 feet of the subject site. However, during reconnaissance activities, Mid-Atlantic identified a surface water body within 1,500 feet of the subject site.

Pigeon House Branch is located approximately 350 feet west of the subject site (Drawing 6.1). According to the North Carolina Department of Environment and Natural Resource's Division of Water Quality, Basinwide Information Management System's webpage (http://h2o.enr.state.nc.us/bims/Reports/reportsWB.html),

Pigeon House Branch is classified as a Class C Nutrient Sensitive Water. A Class C water is defined as one that must be protected for aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. No additional surface water bodies were identified within the 1,500-foot survey radius.

7.0 CONCLUSIONS AND RECOMMENDATIONS

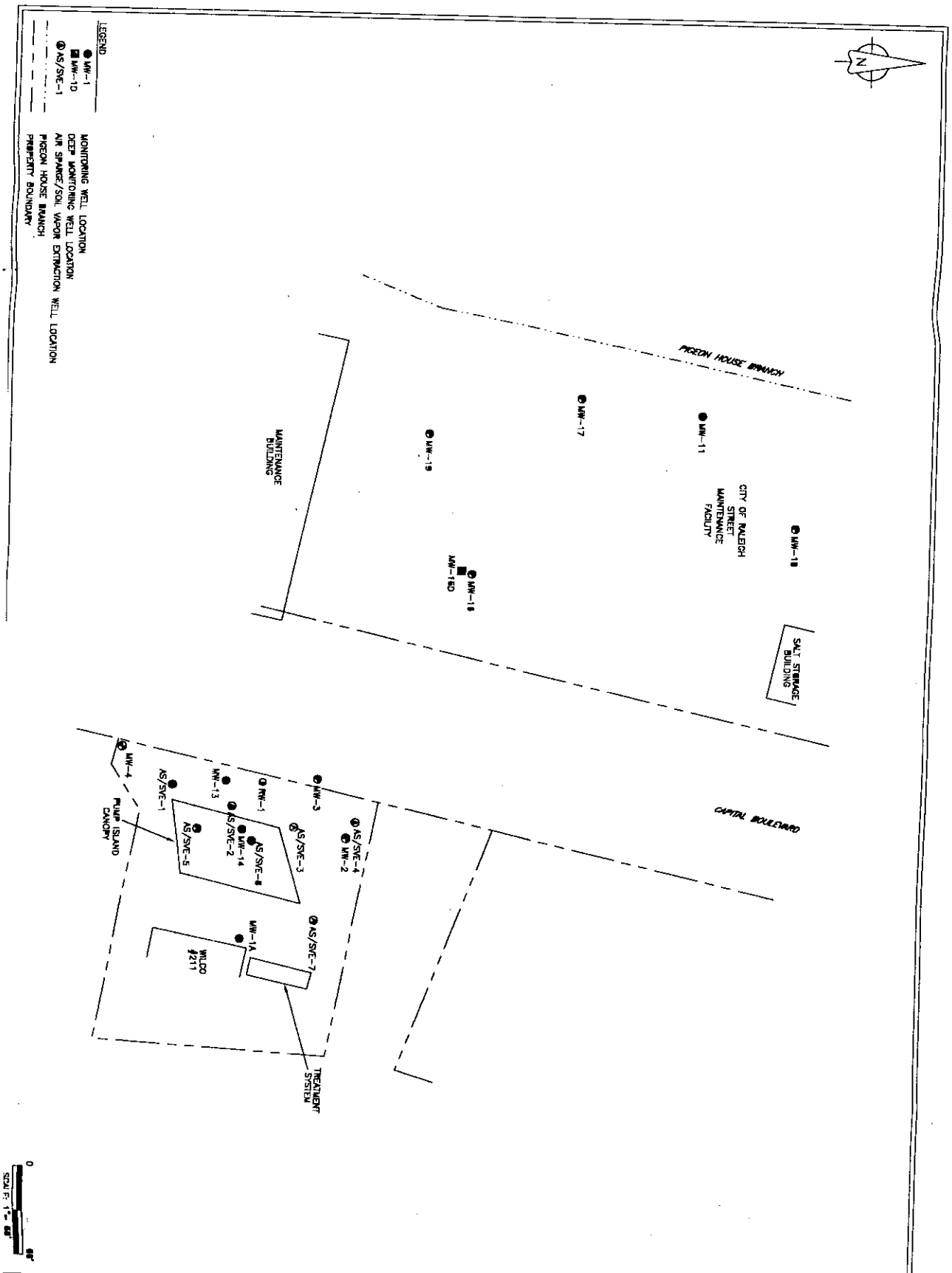
Based on field activities and laboratory analytical results, Mid-Atlantic concludes the following:

- The groundwater samples collected from monitoring wells MW-2, MW-3, MW-13, MW-14, MW-16, MW-16D, MW-17, and MW-18 indicated the presence of targeted compounds in excess of their respective NCGQS;
- The groundwater concentrations for benzene (1,900 µg/L: MW-3) and toluene (14,000 µg/L: MW-3 and 120 µg/L: MW-16) continue to exceed their respective surface water quality standards (71.4 µg/L: benzene and 11 µg/L: toluene) by more than a factor of ten;
- The estimated isoconcentration contour map for benzene (Drawing 3.1) indicates that the leading edge of the benzene contaminant plume is less than 40 feet from the Pigeon House Branch surface water body;
- Chlorinated solvents continue to be detected in the groundwater samples collected from the City of Raleigh street maintenance facility property. Specifically, 1,2-dichloroethane (1.8 µg/L) was detected in MW-16 and cis-1,2-dichloroethene (2.2 µg/L) and vinyl chloride (5 µg/L) were detected in MW-17. Historically, chlorinated solvents have been detected in monitoring wells MW-7 (destroyed), MW-9 (destroyed), MW-11 (destroyed), MW-16, and MW-17, which are all located on the City of Raleigh street maintenance facility property. Mid-Atlantic concludes that the chlorinated solvents on the City of Raleigh street maintenance facility property are not associated with the petroleum release documented at the WILCOHESS facility; and
- Conditions identified during assessment activities continue to characterize the site as "Intermediate Risk".

Based on field activities and laboratory analytical results, Mid-Atlantic recommends the following:

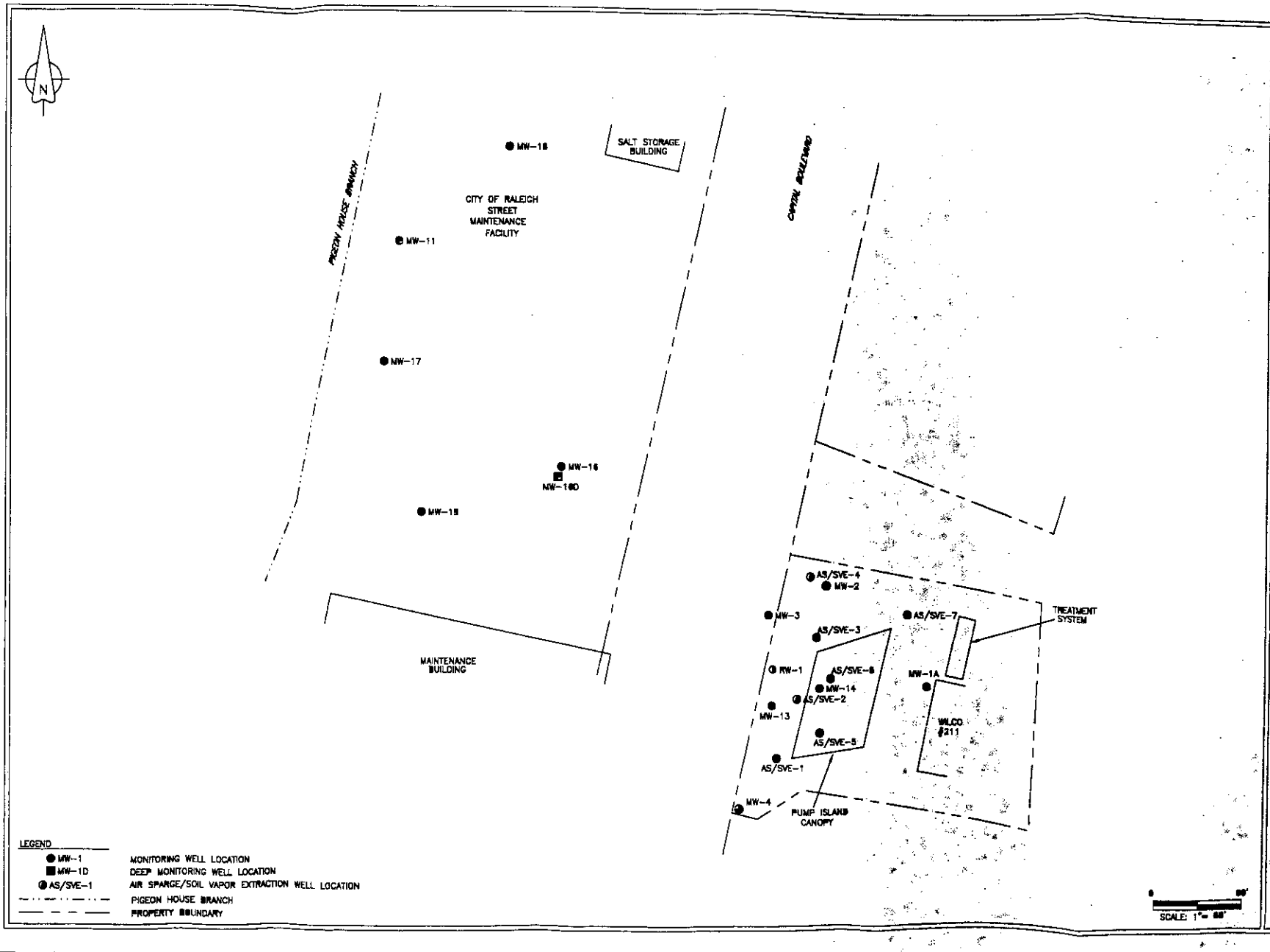
- Submittal of a copy of this report to the UST Section for review and comment; and

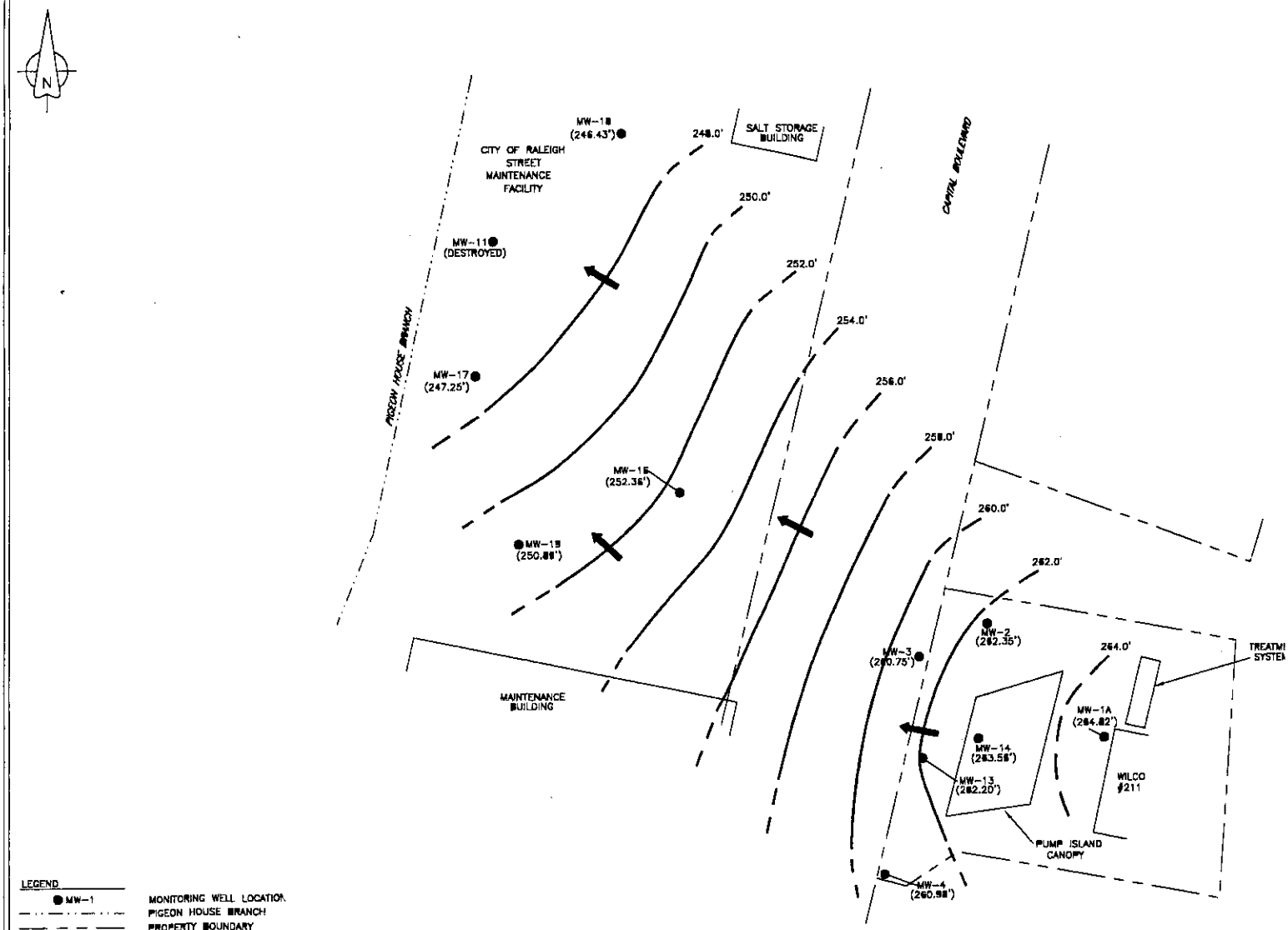
- Consideration by the UST Section to reprioritize this site, which is currently classified as a LUST Trust Fund "Non-Directed" Reimbursement site, to a "Directed" Reimbursement site due to the potential impact to the surface waters of Pigeon House Branch.

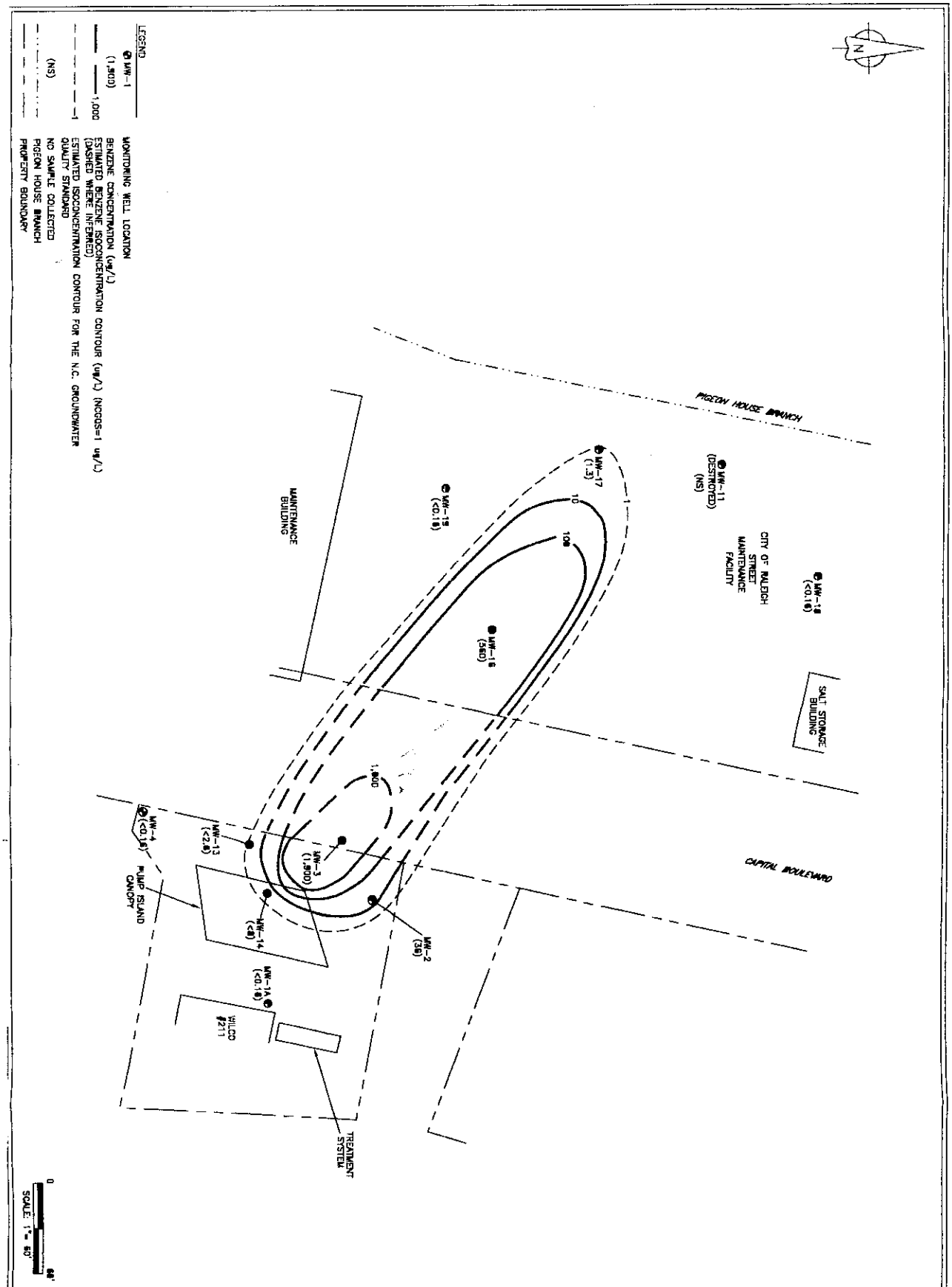


MID-ATLANTIC ASSOCIATES, INC. *Engineering & Environmental Solutions*	SITE MAP WILCO #211 RALEIGH, NORTH CAROLINA	DRAWN BY:	DATE: JANUARY 2004
		DRAFTING CHECK BY:	JOB NO: 098R0730.22
		ENGINEER CHECK BY:	CAD # 01-073002-22
		APPROVED BY:	DWG NO: 1.2

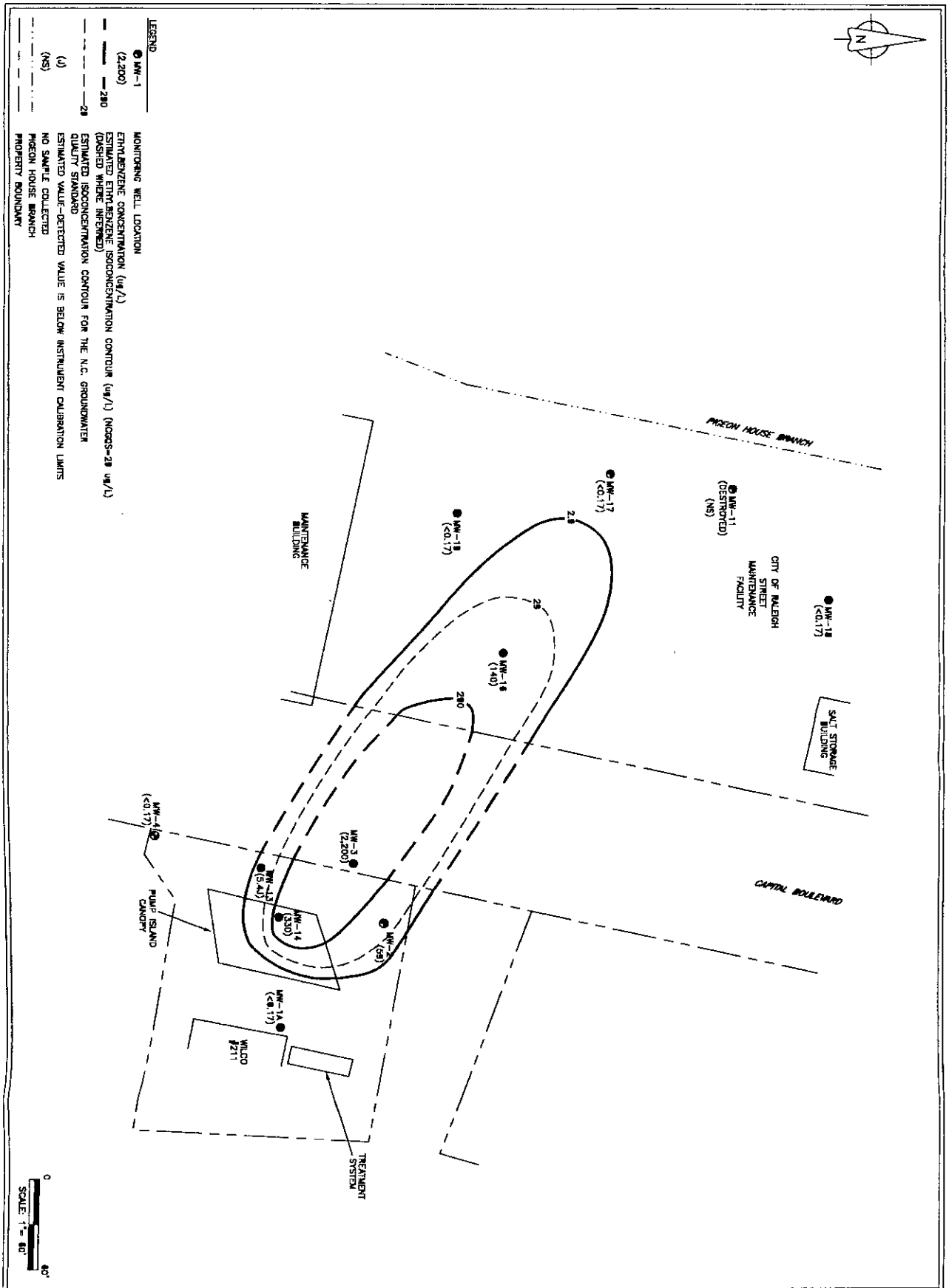
EFERENCE:


N
MW-18
SALT STORAGE BUILDING
CITY OF RALEIGH STREET MAINTENANCE FACILITY
MW-11
MW-17
MW-16
MW-16D
MW-15
MAINTENANCE BUILDING
PIGEON HOUSE BRANCH
CAPITAL BOULEVARD
AS/SVE-4
MW-2
MW-3
AS/SVE-7
TREATMENT SYSTEM
AS/SVE-3
RW-1
AS/SVE-6
MW-1A
MW-14
AS/SVE-2
MW-13
WILCO #211
AS/SVE-5
AS/SVE-1
MW-4
PUMP ISLAND CANOPY
LEGEND
MW-1 MONITORING WELL LOCATION
MW-1D DEEP MONITORING WELL LOCATION
AS/SVE-1 AIR SPARGE/SOIL VAPOR EXTRACTION WELL LOCATION
PIGEON HOUSE BRANCH
PROPERTY BOUNDARY
SCALE: 1" = 60'
DRAWN BY:
DRAFTING CHECK BY:
ENGINEER CHECK BY:
APPROVED BY:
DATE: JANUARY 2004
JOB NO: 098R0730.22
CAD # 01-073002-22
DWG NO: 1.2
SITE MAP
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC ASSOCIATES, INC.
Engineering & Environmental Solutions
REFERENCE:


N
MW-18
(246.43')
248.0'
SALT STORAGE
BUILDING
CITY OF RALEIGH
STREET
MAINTENANCE
FACILITY
250.0'
MW-11
(DESTROYED)
252.0'
254.0'
MW-17
(247.25')
256.0'
PIGEON HOUSE BRANCH
CAPITAL BOULEVARD
MW-15
(252.36')
258.0'
MW-19
(250.89')
260.0'
262.0'
MW-2
(262.35')
MW-3
(260.75')
264.0'
TREATMI
SYSTEI
MAINTENANCE
BUILDING
MW-1A
(264.82')
MW-14
(263.56')
MW-13
(262.20')
WILCO
#211
PUMP ISLAND
CANOPY
MW-4
(260.98')
LEGEND
MW-1
MONITORING WELL LOCATION
PIGEON HOUSE BRANCH
PROPERTY BOUNDARY
GROUNDWATER FLOW DIRECTION
(264.82')
RELATIVE WATER TABLE ELEVATION
264.0'
ESTIMATED WATER TABLE ELEVATION (DASHED WHERE INFERRED)
NOTE: MW-16D IS NOT USED IN CONTOUR MAP CONSTRUCTION.



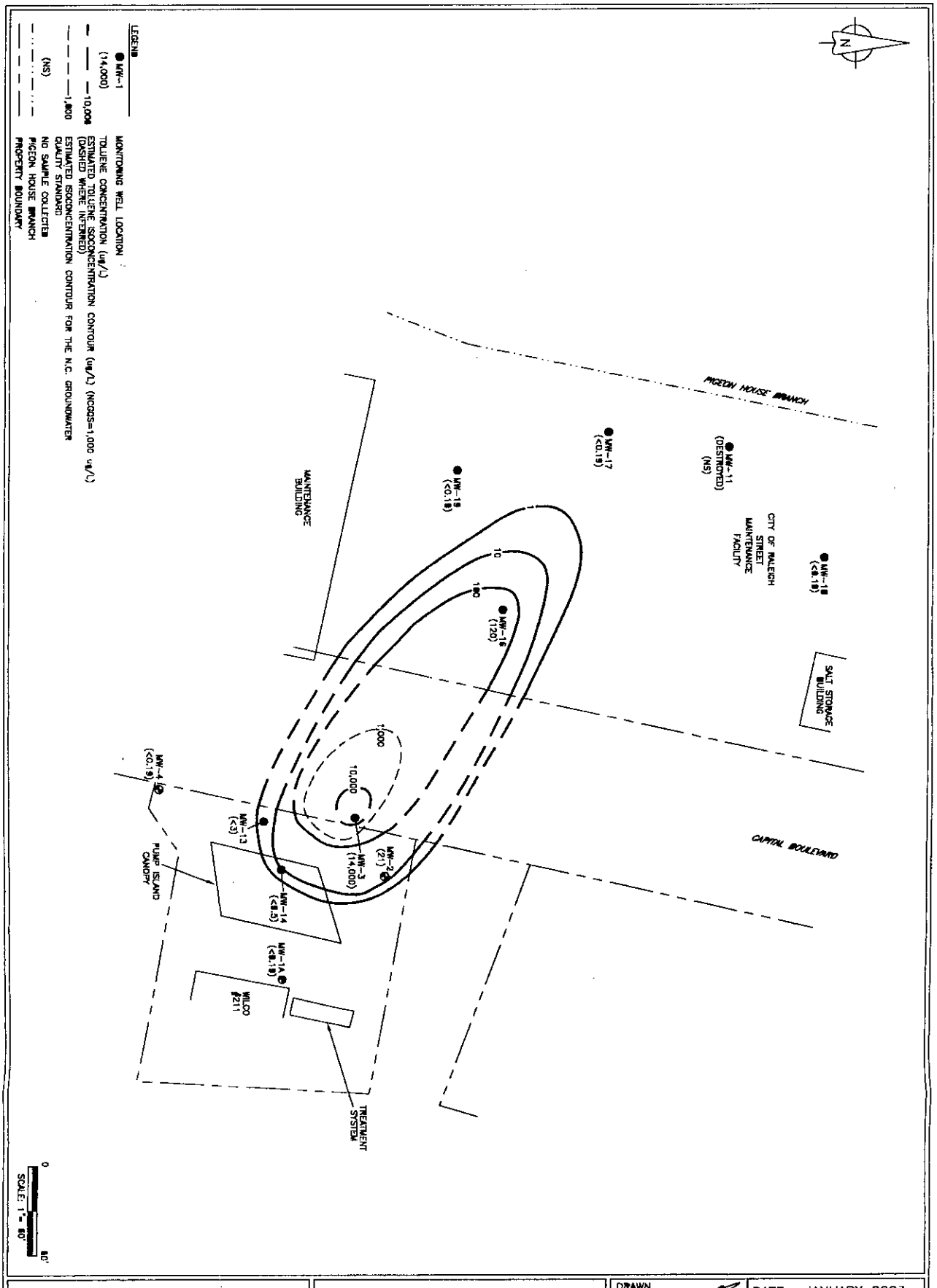
MID-ATLANTIC ASSOCIATES, INC. *Engineering & Environmental Solutions*	ESTIMATED ISOCONCENTRATION CONTOUR MAP – BENZENE DECEMBER 2003 WILCO #211 RALEIGH, NORTH CAROLINA	DRAWN BY:	DATE: JANUARY 2004
		DRAFTING CHECK BY:	JOB NO: 098R0730.22
		ENGINEER CHECK BY:	CAD # 01-073005-22
		APPROVED BY:	DWG NO: 3.1
REFERENCE:			



MID-ATLANTIC ASSOCIATES, INC. *Engineering & Environmental Solutions*	ESTIMATED ISOCONCENTRATION CONTOUR MAP – ETHYLBENZENE DECEMBER 2003 WILCO #211 RALEIGH, NORTH CAROLINA

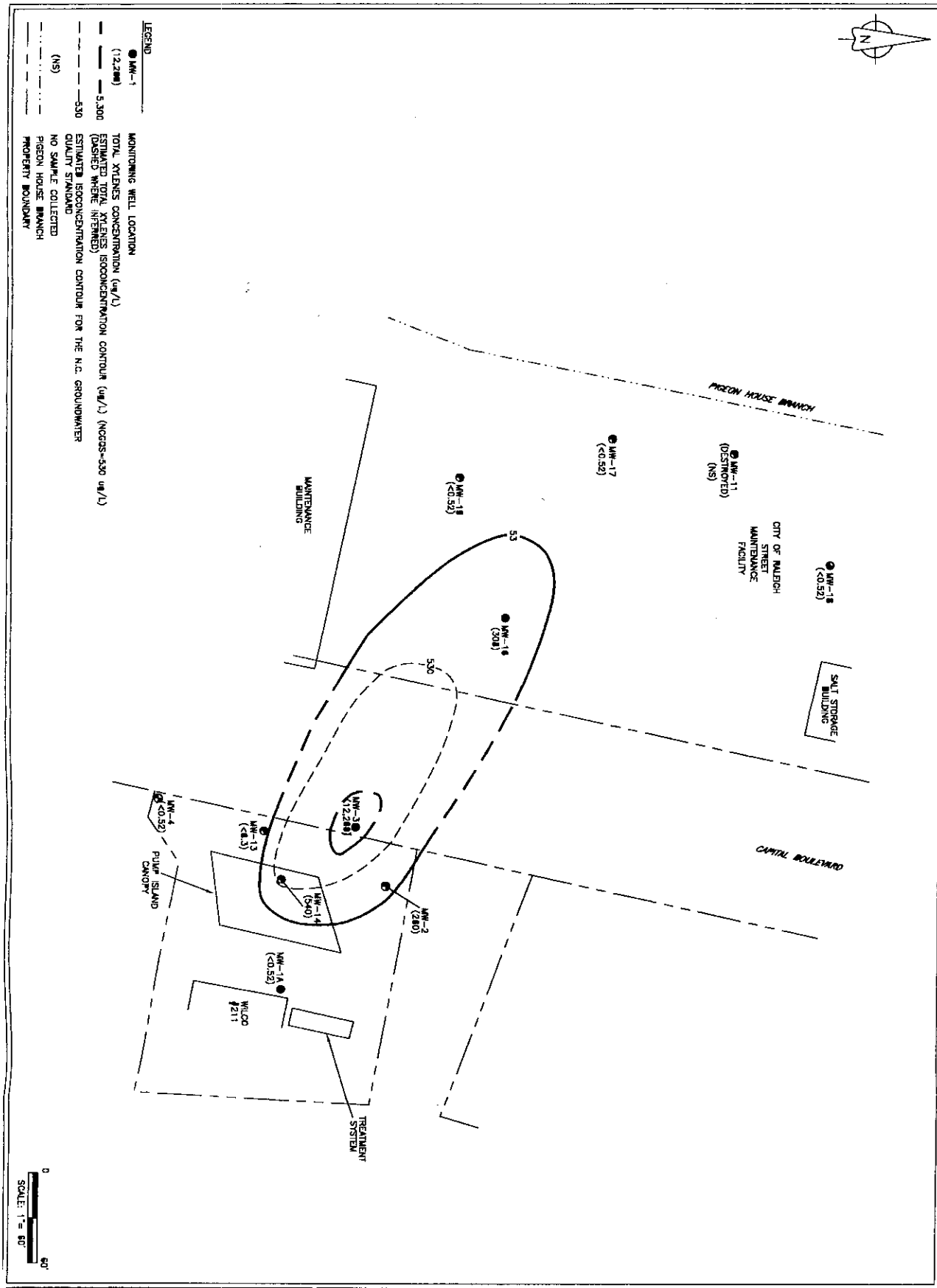
DRAWN BY:	DATE: JANUARY 2004
DRAFTING CHECK BY:	JOB NO: 098R0730.22
ENGINEER CHECK BY:	CAD # 01-073006-22
APPROVED BY:	DWG NO: 3.2

REFERENCE:



MID-ATLANTIC ASSOCIATES, INC. *Engineering & Environmental Solutions*	ESTIMATED ISOCONCENTRATION CONTOUR MAP – TOLUENE DECEMBER 2003 WILCO #211 RALEIGH, NORTH CAROLINA	DRAWN BY:	DATE: JANUARY 2003
		DRAFTING CHECK BY:	JOB NO: 098R0730.22
		ENGINEER CHECK BY:	CAD # 01-073007-22
		APPROVED BY:	DWG NO: 3.3

REFERENCE:



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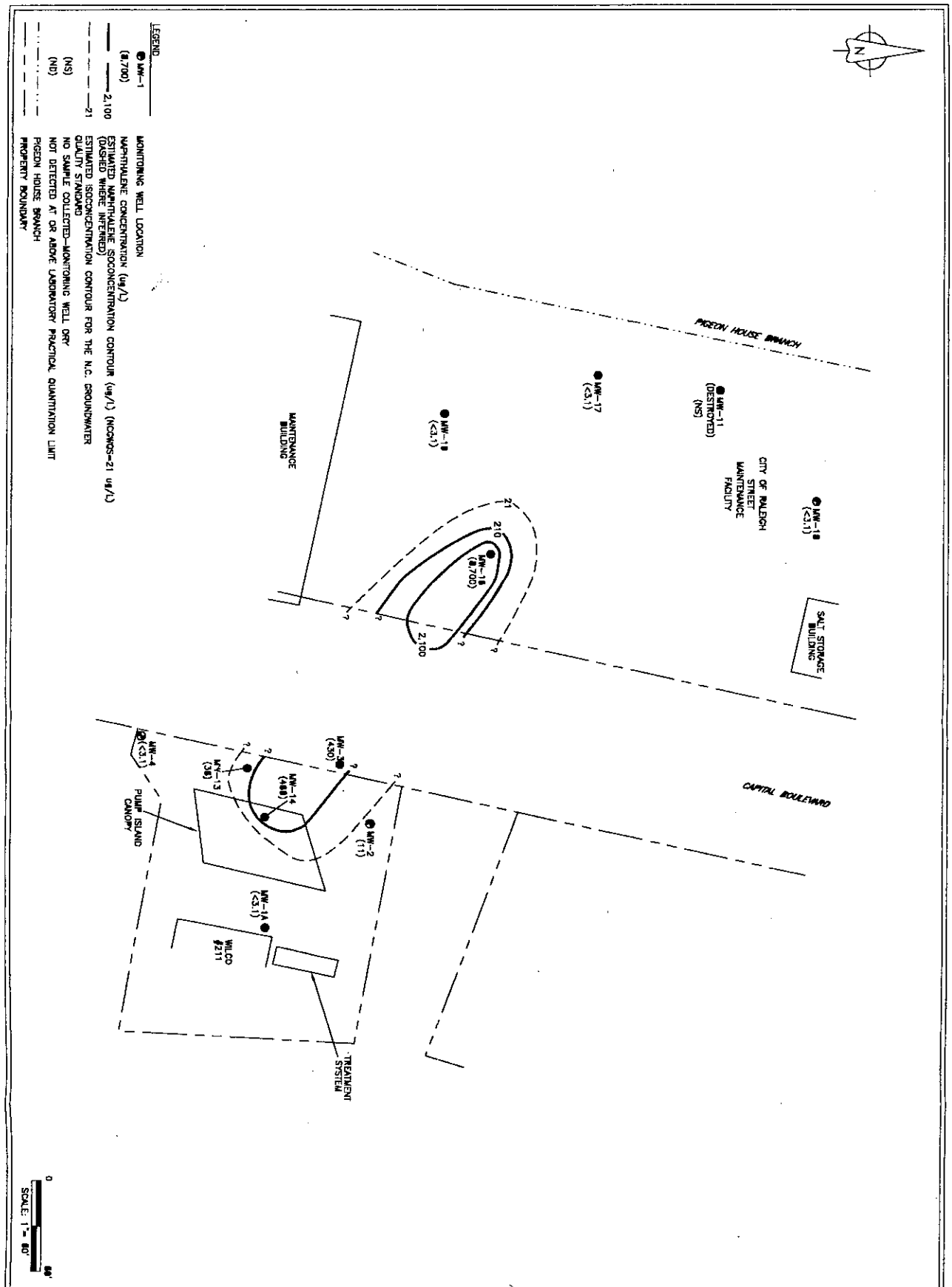
ESTIMATED ISOCONCENTRATION CONTOUR MAP – TOTAL XYLENES
DECEMBER 2003
WILCO #211
RALEIGH, NORTH CAROLINA

DRAWN BY:	DATE: JANUARY 2003
DRAFTING CHECK BY:	JOB NO: 098R0730.22
ENGINEER CHECK BY:	CAD # 01-073008-22
APPROVED BY:	DWG NO: 3.4

REFERENCE:



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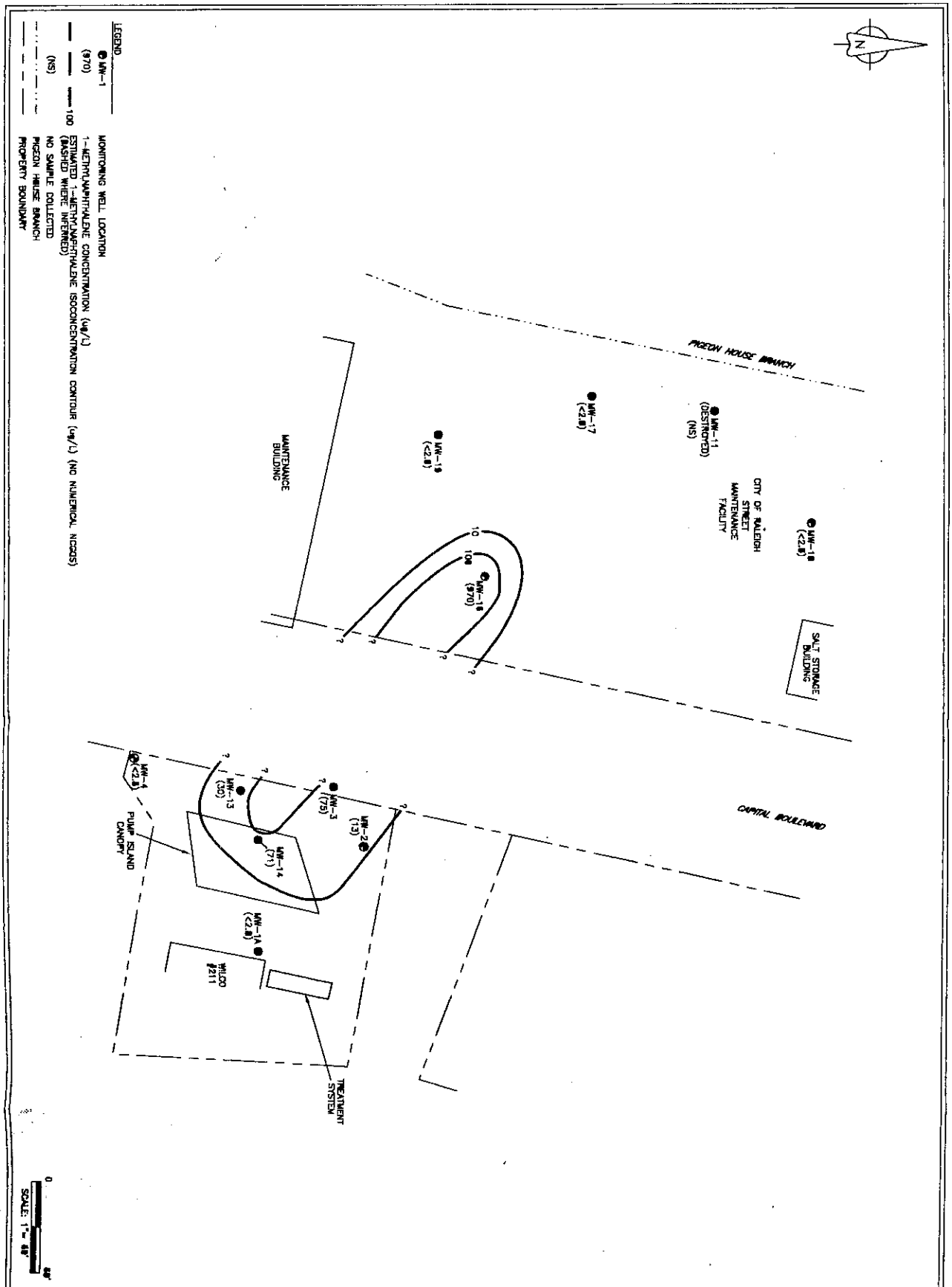
ESTIMATED ISOCONCENTRATION
CONTOUR MAP – NAPHTHALENE
DECEMBER 2003
WILCO #211
RALEIGH, NORTH CAROLINA

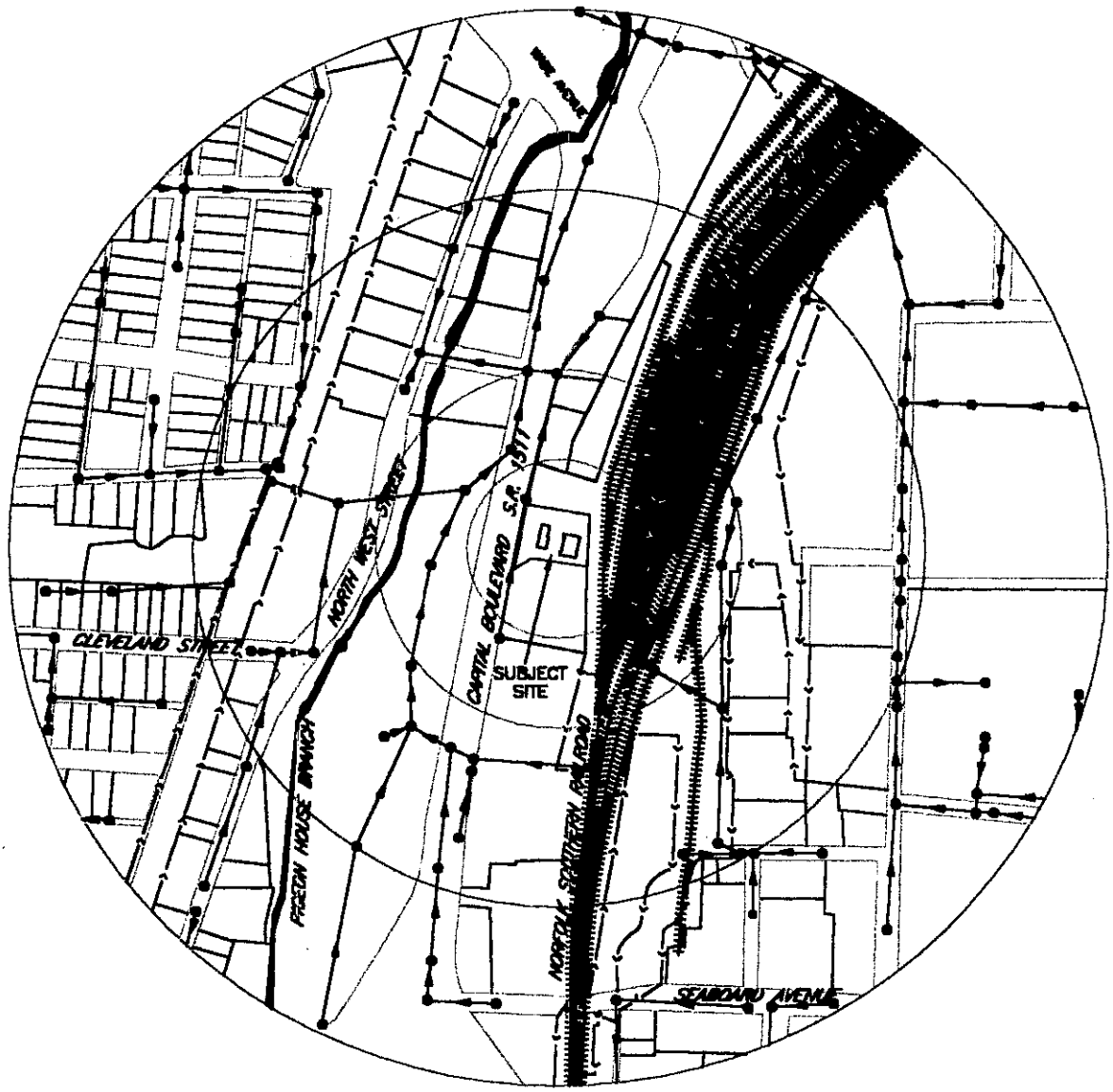
DRAWN BY:	DATE: JANUARY 2003
DRAFTING CHECK BY:	JOB NO: 098R0730.22
ENGINEER CHECK BY:	CAD # 01-073009-22
APPROVED BY:	DWG NO: 3.5

REFERENCE:



MID-ATLANTIC ASSOCIATES, INC. *Engineering & Environmental Solutions*	ESTIMATED ISOCONCENTRATION CONTOUR MAP – 1-METHYLNAPHTHALENE DECEMBER 2003 WILCO #211 RALEIGH, NORTH CAROLINA	DRAWN BY:	DATE: JANUARY 2003
		DRAFTING CHECK BY:	JOB NO: 098R0730.22
		ENGINEER CHECK BY:	CAD # 01-073010-22
		APPROVED BY:	DWG NO: 3.6

REFERENCE:



LEGEND

- MANHOLE
- SEWER PIPE & FLOW DIRECTION
- RAILROAD
- STORM DRAIN
- PIGEON HOUSE BRANCH
- 1,500' RADIUS
- 1,000' RADIUS
- 500' RADIUS
- 250' RADIUS

0 500'

SCALE: 1"= 500'

MID-ATLANTIC ASSOCIATES, INC.
Engineering & Environmental Solutions

RECEPTOR SURVEY MAP
WILCO #211
RALEIGH, NORTH CAROLINA

DRAWN BY:		DATE:	JANUARY 2004
DRAFT CHECK:		JOB NO:	098R0730.22
ENG CHECK:		CAD NO:	01-073001-22
APPROVAL:		DWG NO:	6.1

REFERENCE:

TABLE 2.1
MONITORING WELL CONSTRUCTION DATA
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.22

WELL I.D.	WELL DIAMETER (INCHES)	INSTALLATION DATE	TOTAL WELL DEPTH (FEET)	SCREENED INTERVAL (FEET BLS)
MW-1A	2	6/1/92	18.0	0.5 - 18.0
MW-2	2	6/1/92	14.0	0.5 - 14.0
MW-3	2	6/1/92	13.0	0.5 - 13.0
MW-4	2	6/2/92	7.0	0.5 - 7.0
MW-11	2	10/23/92	16.5	6.5 - 16.5
MW-13	2	2/93 - 8/93	13.0	3.0 - 13.0
MW-14	2	2/93 - 8/93	13.0	3.0 - 13.0
MW-16	2	5/30/02	20.0	10.0 - 20.0
MW-16D	2	5/30/02	50.0	45.0 - 50.0
MW-17	2	5/30/02	20.0	10.0 - 20.0
MW-18	2	5/30/02	20.0	10.0 - 20.0
MW-19	2	5/30/02	20.0	10.0 - 20.0

NOTE:

BLS = Below land surface

TABLE 2.2 WATER LEVEL MEASUREMENTS - DECEMBER 18, 2003 WILCO #211 RALEIGH, NORTH CAROLINA MID-ATLANTIC JOB NO. 099R0730.22			
SHALLOW WELL I.D.	TOP OF CASING ELEVATION	DEPTH TO GROUNDWATER	GROUNDWATER ELEVATION
MW-1A	274.44	9.62	264.82
MW-2	268.24	5.89	262.35
MW-3	266.84	6.09	260.75
MW-4	266.77	5.79	260.98
MW-11	DESTROYED		
MW-13	267.95	5.75	262.20
MW-14	269.15	5.59	263.56
MW-16	265.04	12.68	252.36
MW-17	265.59	18.34	247.25
MW-18	262.62	16.19	246.43
MW-19	263.54	12.65	250.89

NOTE:

All units in feet.

TABLE 3.1 (Page 1 of 2)
GROUNDWATER ANALYTICAL RESULTS - DECEMBER 2003
WILCO #211
RALEIGH, NORTH CAROLINA
SAMPLES COLLECTED DECEMBER 18, 2003
MID-ATLANTIC JOB NO. 099R0730.22

COMPOUND	MW-1A	MW-2	MW-3	MW-4	MW-11	MW-13	NCGQS	GCL
Benzene	<0.16	**36**	**1,900**	<0.16	NO SAMPLE COLLECTED - WELL DESTROYED	<2.6	1	5,000
Ethylbenzene	<0.17	**59**	**2,200**	<0.17		5.4 J	29	29,000
Toluene	<0.19	21	**14,000**	<0.19		<3	1,000	257,500
Total xylenes	<0.52	260	**12,200**	<0.52		<8.3	530	87,500
Methyl-tertiary-butyl ether	<0.35	31	<350	<0.35		**600**	200	200,000
Diisopropyl ether	<0.18	<0.72	<180	<0.18		7.3 J	70	70,000
Naphthalene	<3.1	11	**430**	<3.1		**36**	21	15,500
1-Methylnaphthalene	<2.8	13	75	<2.8		30	NL	NL
2-Methylnaphthalene	<3	**17**	**150**	<3		8.8 J	14	12,500
cis-1,2-Dichloroethene	<0.21	<0.21	<4.2	<0.21		<0.21	70	70,000
Tetrachloroethene	<0.22	<0.22	<4.4	<0.22		<0.22	0.7	700
Vinyl chloride	<0.42	<0.42	<8.4	<0.42		<0.42	0.015	15
Trichloroethene	<0.27	<0.27	<5.4	<0.27		<0.27	2.8	2,800
trans-1,2-Dichloroethene	<0.19	<0.19	<3.8	<0.19		<0.19	70	70,000
1,1,1-Trichloroethane	<0.18	<0.18	<3.6	<0.18		<0.18	200	200,000
Acenaphthylene	<2.9	<2.9	<5.8	<2.9		<2.9	210	1,965
Acenaphthene	<2.8	<2.8	<5.6	<2.8		<2.8	80	2,120
Fluorene	<2.8	<2.8	<5.6	<2.8		<2.8	280	950
Phenanthrene	<2.3	<2.3	<4.6	<2.3		<2.3	210	410
Anthracene	<2.9	<2.9	<5.8	<2.9		<2.9	2,100	2,100
Fluoranthene	<2.4	<2.4	<4.8	<2.4		<2.4	280	280
Pyrene	<2.6	<2.6	<5.2	<2.6		<2.6	210	210
Chrysene	<2.5	<2.5	<5	<2.5		<2.5	4.79	4.79
Methylene chloride	<0.46	<0.46	<9.2	<0.46		<0.46	5	5,000
Chloroform	<0.18	<0.18	<3.6	<0.18		<0.18	0.19	190
Lead	<5	11.6	**128**	8.6		9.33	15	15,000
1,1-Dichloroethane	<0.18	<0.18	<3.6	<0.18		<0.18	700	700,000
1,2-Dichloroethane	<0.19	<0.19	<3.8	<0.19		<0.19	0.38	380
C_5-C_8 Aliphatics	NA	NA	NA	NA		NA	420	NL
C_9-C_{18} Aliphatics	NA	NA	NA	NA		NA	4,200	NL
C_{19}-C_{36} Aliphatics	NA	NA	NA	NA		NA	42,000	NL
C_9-C_{22} Aromatics	NA	NA	NA	NA		NA	210	NL

NOTES:

All units in ug/L (micrograms per liter)

J = Estimated value, detected value is below the instrument calibration limits

NA = Not analyzed for compound

NL = Not listed

NCGQS = North Carolina Groundwater Quality Standard

GCL = Gross Contamination Level

Bold values exceed NCGQS

Shaded values exceed GCL

TABLE 3.1 (Page 2 of 2)
GROUNDWATER ANALYTICAL RESULTS - DECEMBER 2003
WILCO #211
RALEIGH, NORTH CAROLINA
SAMPLES COLLECTED DECEMBER 18, 2003
MID-ATLANTIC JOB NO. 099R0730.22

COMPOUND	MW-14	MW-16	MW-16D	MW-17	MW-18	MW-19	NCGQS	GCL
Benzene	<8	**560**	<0.16	**1.3**	<0.16	<0.16	1	5,000
Ethylbenzene	**330**	**140**	<0.17	<0.17	<0.17	<0.17	29	29,000
Toluene	<9.5	120	<0.19	<0.19	<0.19	<0.19	1,000	257,500
Total xylenes	**540**	308	<0.52	<0.52	<0.52	<0.52	530	87,500
Methyl-tertiary-butyl ether	<18	<14	0.46 J	1.1 J	20	<0.35	200	200,000
Diisopropyl ether	<9	<7.2	<0.18	<0.18	0.75 J	<0.18	70	70,000
Naphthalene	**480**	**8,700**	**64**	<3.1	<3.1	<3.1	21	15,500
1-Methylnaphthalene	71	970	26	<2.8	<2.8	<2.8	NL	NL
2-Methylnaphthalene	**130**	**1,700**	<3	<3	<3	<3	14	12,500
cis-1,2-Dichloroethene	<0.21	<0.21	<0.21	2.2	<0.21	<0.21	70	70,000
Tetrachloroethene	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.7	700
Vinyl chloride	<0.42	<0.42	<0.42	**5**	<0.42	<0.42	0.015	15
Trichloroethene	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	2.8	2,800
trans-1,2-Dichloroethene	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	70	70,000
1,1,1-Trichloroethane	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	200	200,000
Acenaphthylene	<2.9	<58	<2.9	<2.9	<2.9	<2.9	210	1,965
Acenaphthene	<2.8	**880**	33	<2.8	<2.8	<2.8	80	2,120
Fluorene	<2.8	**380**	20	<2.8	<2.8	<2.8	280	950
Phenanthrene	<2.3	**530**	59	<2.3	<2.3	<2.3	210	410
Anthracene	<2.9	<58	<2.9	<2.9	<2.9	<2.9	2,100	2,100
Fluoranthene	<2.4	65 J	34	<2.4	<2.4	<2.4	280	280
Pyrene	<2.6	<52	33	<2.6	<2.6	<2.6	210	210
Chrysene	<2.5	<50	<2.5	<2.5	<2.5	<2.5	4.79	4.79
Methylene chloride	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	5	5,000
Chloroform	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	0.19	190
Lead	5.03	8.95	<5	**1,340**	**172**	6.78	15	15,000
1,1-Dichloroethane	<0.18	<0.18	<0.18	<0.18	<0.18	0.2 J	700	700,000
1,2-Dichloroethane	<0.19	**1.8**	<0.19	<0.19	<0.19	<0.19	0.38	380
C_5-C_8 Aliphatics	NA	NA	NA	NA	NA	NA	420	NL
C_9-C_{18} Aliphatics	NA	NA	NA	NA	NA	NA	4,200	NL
C_{19}-C_{36} Aliphatics	NA	NA	NA	NA	NA	NA	42,000	NL
C_9-C_{22} Aromatics	NA	NA	NA	NA	NA	NA	210	NL

NOTES:
All units in ug/L (micrograms per liter)
J = Estimated value, detected value is below the instrument calibration limits
NA = Not analyzed for compound
NL = Not listed
NCGQS = North Carolina Groundwater Quality Standard
GCL = Gross Contamination Level
Bold values exceed NCGQS
Shaded values exceed GCL

TABLE 3.2 (Page 1 of 12)
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-1A										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/18 AND 12/19/02	6/23/03	12/18/03	
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.16	1
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.17	29
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	1,000
Total xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.52	530
Methyl-tertiary-butyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.35	200
Diisopropyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	70
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<3.1	21
1-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.8	NL
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<3	14
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	70
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	0.7
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.42	0.015
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.27	2.8
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	70
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	200
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.9	210
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.8	80
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.8	280
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.3	210
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.9	2,100
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.4	280
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.6	210
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.5	4.79
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.46	5
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	0.19
Lead	ND	ND	ND	**38.5**	ND	ND	ND	ND	ND	<5	15
C_5-C_8 Aliphatics	NA	NA	NA	NA	NA	NA	< 100	NA	NA	NA	420
C_9-C_{18} Aliphatics	NA	NA	NA	NA	NA	NA	< 100	NA	NA	NA	4,200
C_{19}-C_{36} Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	42,000
C_9-C_{22} Aromatics	NA	NA	NA	NA	NA	NA	< 100	NA	NA	NA	210

NOTES:

All units in ug/L (micrograms per liter)

ND = Not detected at or above the laboratory practical quantitiation limit

NA = Not analyzed for compound

NCGQS = North Carolina Groundwater Quality Standard

NL = Not listed

Bold values exceed NCGQS

TABLE 3.2 (Page 2 of 12)
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-2										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/18/02	6/23/03	12/18/03	
Benzene	**14**	FP	FP	FP	**6**	**8**	9	ND	ND	**36**	1
Ethylbenzene	**170**	FP	FP	FP	**190**	300	2	**82**	27	**59**	29
Toluene	200	FP	FP	FP	12	71	ND	ND	27	21	1,000
Total xylenes	460	FP	FP	FP	170	161	ND	ND	65	260	530
Methyl-tertiary-butyl ether	**270**	FP	FP	FP	16	ND	ND	**2,000**	**430**	31	200
Diisopropyl ether	57	FP	FP	FP	ND	ND	ND	ND	11	<0.72	70
Naphthalene	16	FP	FP	FP	**41**	**63**	ND	**37**	ND	11	21
1-Methylnaphthalene	ND	FP	FP	FP	**63**	**56**	ND	**66**	ND	13	NL
2-Methylnaphthalene	ND	FP	FP	FP	**80**	**73**	ND	**90**	ND	**17**	14
cis-1,2-Dichloroethene	ND	FP	FP	FP	ND	ND	ND	ND	ND	<0.21	70
Tetrachloroethene	ND	FP	FP	FP	ND	ND	ND	ND	ND	<0.22	0.7
Vinyl chloride	ND	FP	FP	FP	ND	ND	ND	ND	ND	<0.42	0.015
Trichloroethene	ND	FP	FP	FP	ND	ND	ND	ND	ND	<0.27	2.8
trans-1,2-Dichloroethene	ND	FP	FP	FP	ND	ND	ND	ND	ND	<0.19	70
1,1,1-Trichloroethane	ND	FP	FP	FP	ND	ND	ND	ND	ND	<0.18	200
Acenaphthylene	40	FP	FP	FP	ND	ND	ND	ND	ND	<2.9	210
Acenaphthene	56	FP	FP	FP	ND	ND	ND	ND	ND	<2.8	80
Fluorene	2.0	FP	FP	FP	ND	ND	ND	ND	ND	<2.8	280
Phenanthrene	0.80	FP	FP	FP	ND	ND	ND	ND	ND	<2.3	210
Anthracene	ND	FP	FP	FP	ND	ND	ND	ND	ND	<2.9	2,100
Fluoranthene	ND	FP	FP	FP	ND	ND	ND	ND	ND	<2.4	280
Pyrene	16	FP	FP	FP	ND	ND	ND	ND	ND	<2.6	210
Chrysene	ND	FP	FP	FP	ND	ND	ND	ND	ND	<2.5	4.79
Methylene chloride	ND	FP	FP	FP	ND	ND	ND	ND	ND	<0.46	5
Chloroform	ND	FP	FP	FP	ND	ND	ND	ND	ND	<0.18	0.19
Lead	ND	FP	FP	FP	ND	ND	**46.2**	5.85	ND	11.6	15
C_5-C_8 Aliphatics	NA	FP	FP	FP	NA	NA	< 100	NA	NA	NA	420
C_9-C_{18} Aliphatics	NA	FP	FP	FP	NA	NA	< 100	NA	NA	NA	4,200
C_{19}-C_{36} Aliphatics	NA	FP	FP	FP	NA	NA	NA	NA	NA	NA	42,000
C_9-C_{22} Aromatics	NA	FP	FP	FP	NA	NA	< 100	NA	NA	NA	210

NOTES:

All units in ug/L (micrograms per liter)

ND = Not detected at or above the laboratory practical quantitiation limit

FP = Not sampled due to the presence of free product

NA = Not analyzed for compound

NCGQS = North Carolina Groundwater Quality Standard

NL = Not listed

Bold values exceed NCGQS

TABLE 3.2 (Page 3 of 12)
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-3										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/18/02	6/23/03	12/18/03	
Benzene	**11,000**	**13,000**	**16,000**	**899**	**8,400**	**5,000**	**3,000**	**4,400**	**1,100**	**1,900**	1
Ethylbenzene	**1,700**	ND	**2,600**	**2,399**	**2,200**	**2,000**	**1,900**	**3,200**	**890**	**2,200**	29
Toluene	**19,000**	**35,000**	36	**23,001**	**23,000**	**17,000**	**19,000**	**27,000**	**6,600**	**14,000**	1,000
Total xylenes	**9,800**	**7,000**	**16,200**	**12,499**	**11,300**	**10,100**	**10,900**	**17,200**	**4,700**	**12,200**	530
Methyl-tertiary-butyl ether	80	90	ND	89	ND	ND	ND	ND	**3,600**	<350	200
Diisopropyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	<180	70
Naphthalene	**8,500**	**420**	**480**	**570**	**120**	**480**	**670**	**350**	**220**	**430**	21
1-Methylnaphthalene	ND	ND	170	170	110	91	110	92	40	75	NL
2-Methylnaphthalene	ND	ND	**250**	**290**	**220**	**180**	**210**	**190**	**77**	**150**	14
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<4.2	70
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<4.4	0.7
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<8.4	0.015
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.4	2.8
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<3.8	70
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<3.6	200
Acenaphthylene	**2,700**	ND	ND	ND	ND	ND	ND	ND	ND	<5.8	210
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.6	80
Fluorene	3.4	ND	ND	ND	ND	ND	ND	ND	ND	<5.6	280
Phenanthrene	0.49	ND	ND	ND	ND	ND	ND	ND	ND	<4.6	210
Anthracene	0.53	ND	ND	ND	ND	ND	ND	ND	ND	<5.8	2,100
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<4.8	280
Pyrene	0.51	ND	ND	ND	ND	ND	ND	ND	ND	<5.2	210
Chrysene	0.29	ND	ND	ND	ND	ND	ND	ND	ND	<5	4.79
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<9.2	5
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	<3.6	0.19
Lead	**55**	**134**	**200**	**490**	**157**	**69.1**	**341**	**375**	**16.1**	**128**	15
C_5-C_8 Aliphatics	NA	NA	NA	NA	NA	NA	**19,000**	NA	**760**	NA	420
C_9-C_{18} Aliphatics	NA	NA	NA	NA	NA	NA	**14,000**	NA	1,400	NA	4,200
C_{19}-C_{36} Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	< 100	NA	42,000
C_9-C_{22} Aromatics	NA	NA	NA	NA	NA	NA	**1,600**	NA	< 300	NA	210

NOTES:

All units in ug/L (micrograms per liter)

ND = Not detected at or above the laboratory practical quantitiation limit

NA = Not analyzed for compound

NCGQS = North Carolina Groundwater Quality Standard

NL = Not listed

Bold values exceed NCGQS

TABLE 3.2 (Page 4 of 12)
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-4										NCGQS
	4/15/98	11/23/98	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/18/02*	6/23/03	12/18/03	
Benzene	NO SAMPLE COLLECTED - WELL DRY	NO SAMPLE COLLECTED - WELL DRY	NO SAMPLE COLLECTED - WELL DRY	NO SAMPLE COLLECTED - WELL DRY	NO SAMPLE COLLECTED - WELL DRY	ND	ND	NO SAMPLE COLLECTED	ND	<0.16	1
Ethylbenzene						ND	ND		ND	<0.17	29
Toluene						ND	ND		ND	<0.19	1,000
Total xylenes						ND	ND		ND	<0.52	530
Methyl-tertiary-butyl ether						ND	3		ND	<0.35	200
Diisopropyl ether						ND	ND		ND	<0.18	70
Naphthalene						63	ND		ND	<3.1	21
1-Methylnaphthalene						56	ND		ND	<2.8	NL
2-Methylnaphthalene						73	ND		ND	<3	14
cis-1,2-Dichloroethene						ND	ND		ND	<0.21	70
Tetrachloroethene						ND	ND		ND	<0.22	0.7
Vinyl chloride						ND	ND		ND	<0.42	0.015
Trichloroethene						ND	ND		ND	<0.27	2.8
trans-1,2-Dichloroethene						ND	ND		ND	<0.19	70
1,1,1-Trichloroethane						ND	ND		ND	<0.18	200
Acenaphthylene						ND	ND		ND	<2.9	210
Acenaphthene						ND	ND		ND	<2.8	80
Fluorene						ND	ND		ND	<2.8	280
Phenanthrene						ND	ND		ND	<2.3	210
Anthracene						ND	ND		ND	<2.9	2,100
Fluoranthene						ND	ND		ND	<2.4	280
Pyrene						ND	ND		ND	<2.6	210
Chrysene						ND	ND		ND	<2.5	4.79
Methylene chloride						ND	ND		ND	<0.46	5
Chloroform						ND	ND		ND	<0.18	0.19
Lead						9.19	**23.5**		5.65	8.6	15
C_5-C_8 Aliphatics						NA	< 100		NA	NA	420
C_9-C_{18} Aliphatics						NA	< 100		NA	NA	4,200
C_{19}-C_{36} Aliphatics						NA	NA		NA	NA	42,000
C_9-C_{22} Aromatics						NA	< 100		NA	NA	210

NOTES:

All units in ug/L (micrograms per liter)

ND = Not detected at or above the laboratory practical quantitiation limit

NA = Not analyzed for compound

NCGQS = North Carolina Groundwater Quality Standard

NL = Not listed

Bold values exceed NCGQS

*MW-4 not located during December 2002 groundwater monitoring event

TABLE 3.2 (Page 5 of 12)
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-11										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/19/02	6/23/03	12/18/03	
Benzene	NI	ND	ND	ND	ND	ND	ND	ND	NO SAMPLE COLLECTED - WELL DRY	NO SAMPLE COLLECTED - WELL DESTROYED	1
Ethylbenzene	NI	ND	ND	ND	ND	ND	ND	ND			29
Toluene	NI	27	360	ND	2	ND	ND	ND			1,000
Total xylenes	NI	ND	ND	ND	ND	ND	ND	ND			530
Methyl-tertiary-butyl ether	NI	ND	ND	ND	ND	ND	ND	ND			200
Diisopropyl ether	NI	ND	ND	ND	ND	ND	ND	ND			70
Naphthalene	NI	ND	ND	ND	ND	ND	ND	ND			21
1-Methylnaphthalene	NI	ND	ND	ND	ND	ND	ND	ND			NL
2-Methylnaphthalene	NI	ND	ND	ND	ND	ND	ND	ND			14
cis-1,2-Dichloroethene	NI	ND	ND	ND	ND	ND	ND	ND			70
Tetrachloroethene	NI	ND	ND	ND	ND	ND	ND	ND			0.7
Vinyl chloride	NI	1	ND	ND	ND	ND	ND	ND			0.015
Trichloroethene	NI	ND	ND	ND	ND	ND	ND	ND			2.8
trans-1,2-Dichloroethene	NI	ND	ND	ND	ND	ND	ND	ND			70
1,1,1-Trichloroethane	NI	ND	ND	ND	ND	ND	ND	ND			200
Acenaphthylene	NI	ND	ND	ND	ND	ND	ND	ND			210
Acenaphthene	NI	ND	ND	ND	ND	ND	ND	ND			80
Fluorene	NI	ND	ND	ND	ND	ND	ND	ND			280
Phenanthrene	NI	ND	ND	ND	ND	ND	ND	ND			210
Anthracene	NI	ND	ND	ND	ND	ND	ND	ND			2,100
Fluoranthene	NI	ND	ND	ND	ND	ND	ND	ND			280
Pyrene	NI	ND	ND	ND	ND	ND	ND	ND			210
Chrysene	NI	ND	ND	ND	ND	ND	ND	ND			4.79
Methylene chloride	NI	ND	ND	ND	ND	ND	16	ND			5
Chloroform	NI	ND	ND	ND	ND	ND	ND	ND			0.19
Lead	NI	**94.2**	**249**	**111**	**482**	**33.4**	**49.4**	**228**			15
C_5-C_8 Aliphatics	NI	NA	NA	NA	NA	NA	< 100	NA			420
C_9-C_{18} Aliphatics	NI	NA	NA	NA	NA	NA	< 100	NA			4,200
C_{19}-C_{36} Aliphatics	NI	NA	NA	NA	NA	NA	NA	NA			42,000
C_9-C_{22} Aromatics	NI	NA	NA	NA	NA	NA	< 100	NA			210

NOTES:

All units in ug/L (micrograms per liter)

ND = Not detected at or above the laboratory practical quantitiation limit

NI = Monitoring well not installed at time of groundwater monitoring event

NA = Not analyzed for compound

NCGQS = North Carolina Groundwater Quality Standard

NL = Not listed

Bold values exceed NCGQS

TABLE 3.2 (Page 6 of 12)
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-13										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/18/02	6/23/03	12/18/03	
Benzene	ND	ND	ND	ND	ND	**3**	ND	ND	**100**	<2.6	1
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	**650**	5.4 J	29
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	450	<3	1,000
Total xylenes	ND	ND	ND	ND	ND	ND	ND	ND	**1,310**	<8.3	530
Methyl-tertiary-butyl ether	**610**	**3,800**	**750**	5	150	19	19	**6,000**	**1,700**	**600**	200
Diisopropyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.3 J	70
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	**800**	**36**	21
1-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	120	30	NL
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	**240**	8.8 J	14
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	70
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	0.7
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.42	0.015
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.27	2.8
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	70
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	200
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.9	210
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.8	80
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.8	280
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.3	210
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.9	2,100
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.4	280
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.6	210
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.5	4.79
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.46	5
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	0.19
Lead	6.1	ND	6.71	14.1	**17.4**	12.2	9.95	ND	ND	9.33	15
C_5-C_8 Aliphatics	NA	NA	NA	NA	NA	NA	< 100	NA	**1,000**	NA	420
C_9-C_{18} Aliphatics	NA	NA	NA	NA	NA	NA	< 100	NA	**5,120**	NA	4,200
C_{19}-C_{36} Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	< 100	NA	42,000
C_9-C_{22} Aromatics	NA	NA	NA	NA	NA	NA	< 100	NA	**2,400**	NA	210

NOTES:

All units in ug/L (micrograms per liter)

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NCGQS = North Carolina Groundwater Quality Standard

NL = Not listed

Bold values exceed NCGQS

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HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-14										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/18/02	6/23/03	12/18/03	
Benzene	ND	ND	ND	**9**	ND	ND	**3,300**	**630**	**100**	<8	1
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	**1,500**	**1,100**	**330**	29
Toluene	ND	ND	ND	ND	ND	ND	290	**1,100**	ND	<9.5	1,000
Total xylenes	ND	ND	ND	ND	ND	ND	290	**5,500**	**2,310**	**540**	530
Methyl-tertiary-butyl ether	**11,000**	5	73	**239**	ND	2	**5,300**	**6,600**	**240**	<18	200
Diisopropyl ether	ND	ND	1	ND	ND	ND	ND	**230**	ND	<9	70
Naphthalene	ND	ND	ND	ND	ND	ND	**100**	**700**	**670**	**480**	21
1-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	110	110	71	NL
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	**16**	**220**	**230**	**130**	**14**
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	70
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	0.7
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.42	0.015
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.27	2.8
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	70
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	200
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.9	210
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.8	80
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.8	280
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.3	210
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.9	2,100
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.4	280
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.6	210
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.5	4.79
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.46	5
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	0.19
Lead	ND	7.69	ND	ND	**25**	11.9	ND	7.50	ND	5.03	15
C_5-C_8 Aliphatics	NA	NA	NA	NA	NA	NA	**6,300**	NA	< 1,000	NA	420
C_9-C_{18} Aliphatics	NA	NA	NA	NA	NA	NA	< 1,000	NA	**6,300**	NA	4,200
C_{19}-C_{36} Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	< 100	NA	42,000
C_9-C_{22} Aromatics	NA	NA	NA	NA	NA	NA	< 1,000	NA	**1,300**	NA	210

NOTES:

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NL = Not listed

Bold values exceed NCGQS

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HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-16										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/19/02	6/23/03	12/18/03	
Benzene	NI	NI	NI	NI	NI	NI	**340**	**240**	**480**	**560**	1
Ethylbenzene	NI	NI	NI	NI	NI	NI	**140**	**92**	**150**	**140**	29
Toluene	NI	NI	NI	NI	NI	NI	120	78	120	120	1,000
Total xylenes	NI	NI	NI	NI	NI	NI	246	207	397	308	530
Methyl-tertiary-butyl ether	NI	NI	NI	NI	NI	NI	ND	ND	27	<14	200
Diisopropyl ether	NI	NI	NI	NI	NI	NI	ND	ND	ND	<7.2	70
Naphthalene	NI	NI	NI	NI	NI	NI	**6,700**	**6,900**	**7,700**	**8,700**	21
1-Methylnaphthalene	NI	NI	NI	NI	NI	NI	440	850	850	970	NL
2-Methylnaphthalene	NI	NI	NI	NI	NI	NI	**560**	**1,400**	**1,500**	**1,700**	14
cis-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.21	70
Tetrachloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.22	0.7
Vinyl chloride	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.42	0.015
Trichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.27	2.8
trans-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.19	70
1,1,1-Trichloroethane	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	200
Acenaphthylene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<58	210
Acenaphthene	NI	NI	NI	NI	NI	NI	**300**	ND	**690**	**880**	80
Fluorene	NI	NI	NI	NI	NI	NI	ND	**280**	**300**	**380**	280
Phenanthrene	NI	NI	NI	NI	NI	NI	ND	**390**	**400**	**530**	210
Anthracene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<58	2,100
Fluoranthene	NI	NI	NI	NI	NI	NI	ND	ND	ND	65 J	280
Pyrene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<52	210
Chrysene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<50	4.79
Methylene chloride	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.46	5
Chloroform	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	0.19
Lead	NI	NI	NI	NI	NI	NI	**15.3**	11.6	ND	8.95	15
1,2-Dichloroethane	NI	NI	NI	NI	NI	NI	ND	ND	**1.4**	**1.8**	0.38
C_5-C_8 Aliphatics	NI	NI	NI	NI	NI	NI	**860**	NA	**1,100**	NA	420
C_9-C_{18} Aliphatics	NI	NI	NI	NI	NI	NI	**840**	NA	1,400	NA	4,200
C_{19}-C_{36} Aliphatics	NI	NI	NI	NI	NI	NI	NA	NA	< 100	NA	42,000
C_9-C_{22} Aromatics	NI	NI	NI	NI	NI	NI	**110**	NA	**1,660**	NA	210

NOTES:

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HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-16D										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/19/02	6/23/03	12/18/03	
Benzene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.16	1
Ethylbenzene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.17	29
Toluene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.19	1,000
Total xylenes	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.52	530
Methyl-tertiary-butyl ether	NI	NI	NI	NI	NI	NI	ND	ND	ND	0.46 J	200
Diisopropyl ether	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	70
Naphthalene	NI	NI	NI	NI	NI	NI	**160**	**48**	**35**	**64**	21
1-Methylnaphthalene	NI	NI	NI	NI	NI	NI	110	24	29	26	NL
2-Methylnaphthalene	NI	NI	NI	NI	NI	NI	**150**	**24**	ND	<3	14
cis-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.21	70
Tetrachloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.22	0.7
Vinyl chloride	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.42	0.015
Trichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.27	2.8
trans-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.19	70
1,1,1-Trichloroethane	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	200
Acenaphthylene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.9	210
Acenaphthene	NI	NI	NI	NI	NI	NI	**150**	35	50	33	80
Fluorene	NI	NI	NI	NI	NI	NI	58	45	36	20	280
Phenanthrene	NI	NI	NI	NI	NI	NI	76	**240**	93	59	210
Anthracene	NI	NI	NI	NI	NI	NI	ND	21	11	<2.9	2,100
Fluoranthene	NI	NI	NI	NI	NI	NI	24	95	42	34	280
Pyrene	NI	NI	NI	NI	NI	NI	16	59	25	33	210
Chrysene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.5	4.79
Methylene chloride	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.46	5
Chloroform	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	0.19
Lead	NI	NI	NI	NI	NI	NI	ND	ND	ND	<5	15
C_5-C_8 Aliphatics	NI	NI	NI	NI	NI	NI	< 100	NA	< 100	NA	420
C_9-C_{18} Aliphatics	NI	NI	NI	NI	NI	NI	< 100	NA	140	NA	4,200
C_{19}-C_{36} Aliphatics	NI	NI	NI	NI	NI	NI	NA	NA	< 100	NA	42,000
C_9-C_{22} Aromatics	NI	NI	NI	NI	NI	NI	< 100	NA	< 200	NA	210

NOTES:

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HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-17										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/19/02	6/23/03	12/18/03	
Benzene	NI	NI	NI	NI	NI	NI	ND	**1**	**1.6**	**1.3**	1
Ethylbenzene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.17	29
Toluene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.19	1,000
Total xylenes	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.52	530
Methyl-tertiary-butyl ether	NI	NI	NI	NI	NI	NI	ND	ND	ND	1.1 J	200
Diisopropyl ether	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	70
Naphthalene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<3.1	21
1-Methylnaphthalene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.8	NL
2-Methylnaphthalene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<3	14
cis-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	2	30	28	2.2	70
Tetrachloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.22	0.7
Vinyl chloride	NI	NI	NI	NI	NI	NI	**3**	**18**	**21**	**5**	0.015
Trichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.27	2.8
trans-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.19	70
1,1,1-Trichloroethane	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	200
Acenaphthylene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.9	210
Acenaphthene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.8	80
Fluorene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.8	280
Phenanthrene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.3	210
Anthracene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.9	2,100
Fluoranthene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.4	280
Pyrene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.6	210
Chrysene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.5	4.79
Methylene chloride	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.46	5
Chloroform	NI	NI	NI	NI	NI	NI	**4**	ND	ND	<0.18	0.19
Lead	NI	NI	NI	NI	NI	NI	**23.9**	**149**	**53.4**	**1,340**	15
C_5-C_8 Aliphatics	NI	NI	NI	NI	NI	NI	< 100	NA	< 100	NA	420
C_9-C_{18} Aliphatics	NI	NI	NI	NI	NI	NI	< 100	NA	< 200	NA	4,200
C_{19}-C_{36} Aliphatics	NI	NI	NI	NI	NI	NI	NA	NA	< 100	NA	42,000
C_9-C_{22} Aromatics	NI	NI	NI	NI	NI	NI	< 100	NA	< 200	NA	210

NOTES:

All units in ug/L (micrograms per liter)

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Bold values exceed NCGQS

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HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-18										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/19/02	6/23/03	12/18/03	
Benzene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.16	1
Ethylbenzene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.17	29
Toluene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.19	1,000
Total xylenes	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.52	530
Methyl-tertiary-butyl ether	NI	NI	NI	NI	NI	NI	11	30	81	20	200
Diisopropyl ether	NI	NI	NI	NI	NI	NI	ND	ND	3.7	0.75 J	70
Naphthalene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<3.1	21
1-Methylnaphthalene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.8	NL
2-Methylnaphthalene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<3	14
cis-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.21	70
Tetrachloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.22	0.7
Vinyl chloride	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.42	0.015
Trichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.27	2.8
trans-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.19	70
1,1,1-Trichloroethane	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	200
Acenaphthylene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.9	210
Acenaphthene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.8	80
Fluorene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.8	280
Phenanthrene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.3	210
Anthracene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.9	2,100
Fluoranthene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.4	280
Pyrene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.6	210
Chrysene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.5	4.79
Methylene chloride	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.46	5
Chloroform	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	0.19
Lead	NI	NI	NI	NI	NI	NI	ND	**213**	**90.6**	**172**	15
C_5-C_8 Aliphatics	NI	NI	NI	NI	NI	NI	< 100	NA	NA	NA	420
C_9-C_{18} Aliphatics	NI	NI	NI	NI	NI	NI	< 100	NA	NA	NA	4,200
C_{19}-C_{36} Aliphatics	NI	NI	NI	NI	NI	NI	NA	NA	NA	NA	42,000
C_9-C_{22} Aromatics	NI	NI	NI	NI	NI	NI	< 100	NA	NA	NA	210

NOTES:

All units in ug/L (micrograms per liter)

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Bold values exceed NCGQS

TABLE 3.2 (Page 12 of 12)
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
WILCO #211
RALEIGH, NORTH CAROLINA
MID-ATLANTIC JOB NO. 099R0730.19

COMPOUND	MW-19										NCGQS
	11/23/98	11/23/99	6/13/00	12/15/00	6/13/01	12/5/01	7/1/02	12/19/02	6/23/03	12/18/03	
Benzene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.16	1
Ethylbenzene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.17	29
Toluene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.19	1,000
Total xylenes	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.52	530
Methyl-tertiary-butyl ether	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.35	200
Diisopropyl ether	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	70
Naphthalene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<3.1	21
1-Methylnaphthalene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.8	NL
2-Methylnaphthalene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<3	14
cis-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.21	70
Tetrachloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.22	0.7
Vinyl chloride	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.42	0.015
Trichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.27	2.8
trans-1,2-Dichloroethene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.19	70
1,1,1-Trichloroethane	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	200
Acenaphthylene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.9	210
Acenaphthene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.8	80
Fluorene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.8	280
Phenanthrene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.3	210
Anthracene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.9	2,100
Fluoranthene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.4	280
Pyrene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.6	210
Chrysene	NI	NI	NI	NI	NI	NI	ND	ND	ND	<2.5	4.79
Methylene chloride	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.46	5
Chloroform	NI	NI	NI	NI	NI	NI	ND	ND	ND	<0.18	0.19
Lead	NI	NI	NI	NI	NI	NI	6.35	17.1	ND	6.78	15
1,1-Dichloroethane	NI	NI	NI	NI	NI	NI	ND	ND	1.4	0.2 J	700
C_5-C_8 Aliphatics	NI	NI	NI	NI	NI	NI	< 100	NA	NA	NA	420
C_9-C_{18} Aliphatics	NI	NI	NI	NI	NI	NI	< 100	NA	NA	NA	4,200
C_{19}-C_{36} Aliphatics	NI	NI	NI	NI	NI	NI	NA	NA	NA	NA	42,000
C_9-C_{22} Aromatics	NI	NI	NI	NI	NI	NI	< 100	NA	NA	NA	210

NOTES:

All units in ug/L (micrograms per liter)

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