

MONITORING WELL INSTALLATION REPORT
PIEDMONT LANDFILL & RECYCLING CENTER
KERNERSVILLE, NORTH CAROLINA

Cameron Johnson

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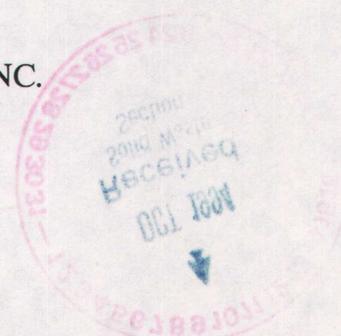
OCTOBER 1994

Larry A. Rasberry
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Engineer

Larry A. Rasberry for
PETER J. WALLS, P.E., P.G.
Project Manager

PREPARED BY:

RUST ENVIRONMENT & INFRASTRUCTURE INC.
GREENVILLE, SOUTH CAROLINA



October 6, 1994

Mr. Edward Gibson
Piedmont Landfill and Recycling Center
9900 Freeman Road
Kernersville, North Carolina 27284

Subject: Monitoring Well Installation Report for System Upgrade
 Piedmont Landfill and Recycling Center
 Kernersville, North Carolina
 RUST Project No. 32066.100

Dear Mr. Gibson:

The following report describes the additional well installation for the ground-water monitoring system upgrade at the landfill. We appreciate this opportunity to work with you, and if you should have any questions please do not hesitate to call me at (803) 234-2261.

Sincerely,

Lang A. Rasberry for

Peter J. Walls, P.G., P.E.
Senior Geological Engineer



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1.0 INTRODUCTION

Waste Management of Carolinas, Inc. (WMCI) operates the Piedmont Landfill and Recycling Center (PLRC). PLRC is located approximately ten miles north of Kernersville, North Carolina, in the northeast corner of Forsyth County. Access to the site is by Goodwill Church - Freeman Road. The current operating landfill occupies a footprint of approximately 38 acres. This report presents the results of the installation of three additional ground-water monitoring wells for the monitoring system upgrade as per the Transitional Water Quality Monitoring Plan.

2.0 OBJECTIVES AND SCOPE

The Transitional Water Quality Monitoring Plan required the installation of three additional new ground-water monitoring wells, MW-7, MW-8 and MW-9. These three wells were installed within 100 feet from the waste boundary, between the waste boundary and the property boundary. However, well MW-8 was installed 125 feet from the waste boundary because it had to be placed across the road. The three 15-foot monitoring well screens were placed at vertical locations that would ensure that future drought conditions, which may lower the water table, would not render the monitoring system ineffective.

During August 1994, these three monitoring wells were installed such that screens were set 1-foot above the seasonal high water table as established in the Transitional Water Quality Monitoring Plan. These wells were set in the residuum/saprolite where first contamination will be encountered.

3.0 INSTALLATION

3.1 Soil Test Boring

Standard soil test borings were drilled at the designated locations for three monitoring wells. The soil test borings were advanced into the residuum/saprolite with a 6-1/4 inch I.D. hollow-stem augers and sampled using a split spoon sampler at 5-foot intervals. Boring MW-9 encountered auger refusal at 35-feet. Drilling was stopped there and the well was set. The soil samples were logged for classification purposes.

3.2 Monitoring Wells

The three borings each had a ground-water monitoring well installed in them. The following paragraph describes the installation methods used. A summary of monitoring well construction data is presented in the table. Detailed monitoring well construction logs are included in Appendix B and state well completion records in Appendix C.

Monitoring wells were installed in accordance with the following procedures. All well screens and risers were steam cleaned and the length of each section was measured to the nearest 0.01 foot immediately prior to installation. Personnel handling well materials were required to wear new disposable latex gloves. Well screens and risers for each well consisted of 2.0-inch I.D., flush threaded, Schedule 40 polyvinyl chloride (PVC). Screens were 15 feet in length with 0.010-inch machined slots. Filter pack material, consisting of a washed medium/fine silica sand, was installed to approximately 1-foot above the top of each well screen. Another foot of washed fine silica sand was placed above the coarser sand pack to act as a filter. Then at least a 3-foot thick bentonite pellet seal was placed above the sands and allowed to hydrate for approximately 3/4 hour. Another 6-inch layer of washed fine silica sand was placed above this bentonite seal. Because the top of screen was so shallow in MW-8, some of the minimum thicknesses had to be further reduced to construct a properly functioning monitoring well. Cement-bentonite grout was pumped via tremie pipe from the top of this upper sand layer to the ground surface. The wells were completed with 4-inch lockable anodized-aluminum protective casings set into a 3 ft. x 3 ft. x 3 in. concrete pads with 4 protective posts. All changes to construction standards were approved by Mr. Bobby Lutfy of the State of North Carolina Department of Environment, Health and Natural Resources, "Division of Solid Waste Management."

3.3 Well Development

Each well was developed using both bailing techniques and a Grundfos submersible pump. Development proceeded over 3 days and the total amount of water removed is recorded on the well construction logs in Appendix B. Water samples were tested periodically until the parameters stabilized within acceptable limits.

4.0 CONCLUSION

These three ground-water monitoring wells were installed at the water table and set in residuum/saprolite, per the Transitional Water Quality Monitoring Plan. The wells were installed in accordance with both Waste Management and the North Carolina Well Construction Standards (15A NCAC 2C.0108).

The summary of hydrogeologic characteristics at each well are described as follows. At MW-7, the soils have a porosity of 40 percent and a hydraulic conductivity of 10^{-5} cm/sec. The effective porosity is estimated to be 30 percent. The ground-water flow is then estimated to be 0.3 feet/year in a northerly direction. At MW-8, the soils have a porosity of 50 percent and a hydraulic conductivity of 10^{-6} cm/sec. The effective porosity is estimated to be 25 percent. The ground-water flow is then estimated to be 0.08 feet/year in a south-southwest direction. At MW-9, the soils have a porosity of 35 percent and a hydraulic conductivity of 10^{-4} cm/sec. The effective porosity is estimated to be 35 percent. The ground-water flow is then estimated to be 3 feet/year in a westerly direction.

LEGEND:

— 750 = POTENTIOMETRIC CONTOUR
SEASONAL HIGH (10 FT. INTERVAL)

⊙ GROUND WATER MONITORING WELL
INSTALLED AUGUST/SEPTEMBER 1994

⊙ EXISTING GROUND WATER MONITORING WELL

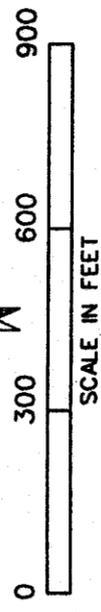
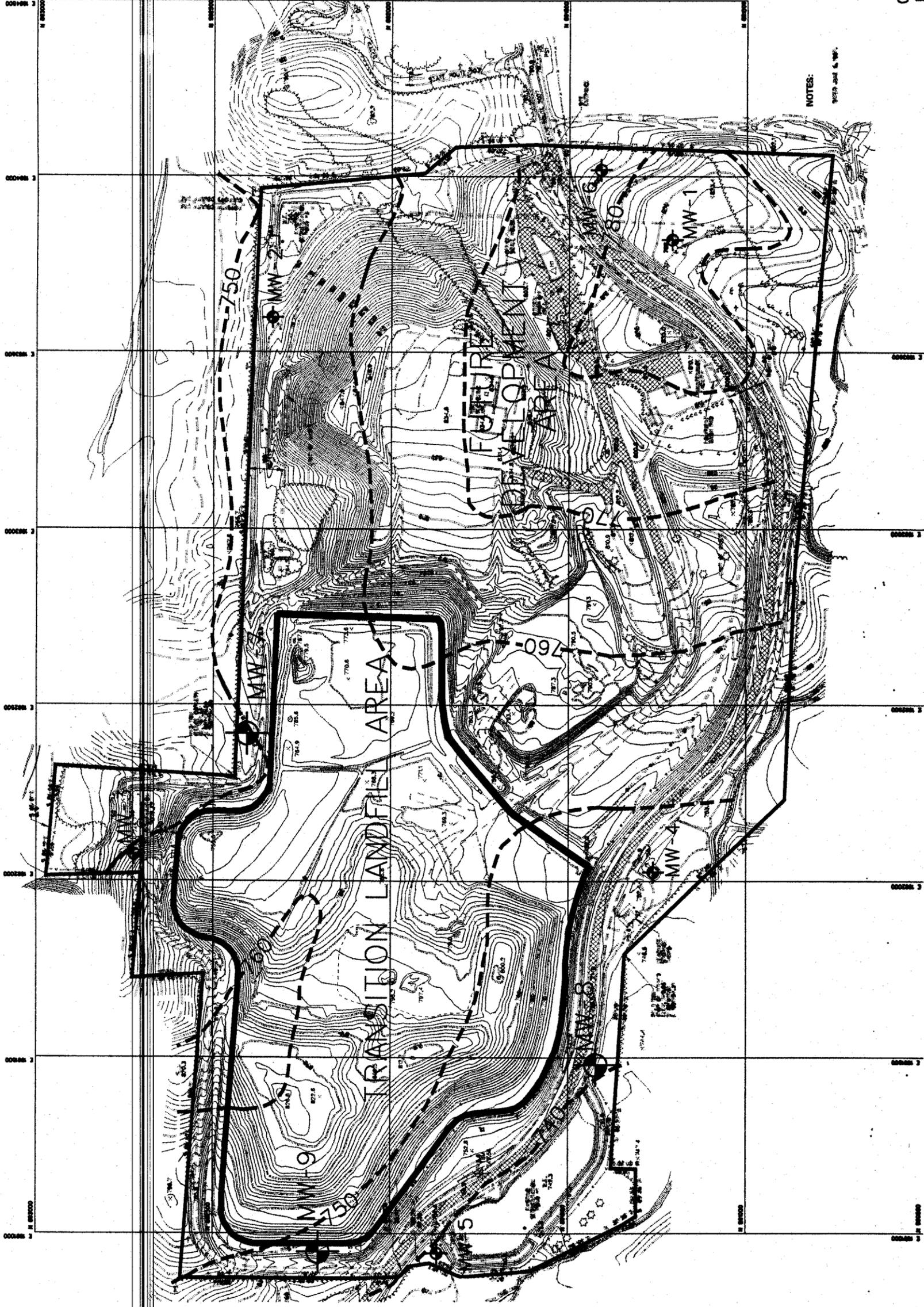


FIGURE
GROUND WATER MONITORING
WELL LOCATIONS

RUST ENVIRONMENT &
INFRASTRUCTURE

PIEDMONT LANDFILL AND RECYCLING CENTER
TRANSITION WATER QUALITY MONITORING PLAN
FORSYTH COUNTY, NORTH CAROLINA
PROJECT NO. 87221.800

TABLE 1

MONITORING WELL CONSTRUCTION DETAILS
 PIEDMONT LANDFILL & RECYCLING CENTER
 KERNERSVILLE, NORTH CAROLINA

Monitoring Well	State Coordinates	Ground Elevation	T.O.C. Elevation	Screen Elevation (Depth)	Sand Pack Elevation (Depth)	Top of Bentonite Seal
MW-7	N 892,405.1909 E 1,692,418.099	768.87	771.57	751.87 - 736.87 (17.00 - 32.00)	753.87 - 735.37 (15.00 - 33.50)	756.87 (12.00)
MW-8	N 891,422.161 E 1,691,479.791	746.15	748.95	741.15 - 726.15 (5.00 - 20.00)	742.20 - 724.15 (3.95 - 22.00)	743.70 (2.45)
MW-9	N 892,202.753 E 1,690,947.720	767.82	770.62	748.01 - 733.01 (19.81 - 34.81)	750.24 - 732.82 (17.58 - 35.00)	753.40 (14.42)

APPENDIX A
SOIL BORING LOGS

SOIL BORING LOG

SITE NAME AND LOCATION				DRILLING METHOD: 6.25-INCH I.D. HOLLOW				BORING NO. MW-7				
PIEDMONT LANDFILL & RECYCLING CENTER KERNERSVILLE, NC				STEM AUGER				SHEET 1 OF 1				
				SAMPLING METHOD: SPLIT SPOON (SPT)				DRILLING				
				WATER LEVEL		24.5	25.0	24.9	START TIME		FINISH TIME	
				TIME		1600	0835	1700	1542		1705	
DATE		8/29/94	9/01/94	9/07/94	DATE		DATE					
CASING DEPTH					8/25/94		8/25/94					
DATUM		ELEVATION		769								
DRILL RIG CME				SURFACE CONDITIONS Weeds approximately 1.5 feet high.								
ANGLE BEARING				some gravel.								
SAMPLE HAMMER TORQUE FT.-LBS												
DEPTH IN FEET (ELEVATION)	BLOWS/ 6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS	
0			SANDY SILT (ML) Stiff, orange brown, very fine, mostly silt, some sand.									
3	5		SILTY CLAY (ML/CL) Stiff, red brown mottled with yellow brown, moist, mostly clay, some silt, with black intrusions.									
5	7 10	(100%)										
			8 feet									
1	4 4 4	(75%)	SANDY SILT (ML) Stiff, medium brown, mostly silt with very fine sand, with 25-30% mica.									
10												
			14 feet									
3	5 4 4	(90%)	SILTY SAND (SM) Medium dense, speckled dark gray and white-yellow brown, mostly very fine grained sand with silt, little mica.									
15												
3	4 7 6	(80%)	Similar to above, except significantly more white, trace yellow brown band.									
20												
3	7 10 14	(95%)	Similar to above, except wet, trace white medium gravel, trace black material (hard, like coal).									
25												
8	12 13 17	(80%)	Saturated at 28.0 feet. Water gone at 30.0 feet. Similar to above, except striated black, yellow brown and white (like zebra stripes).									
30			31.0 - 32.0 feet: saturated 32.0 - 33.0 feet: dry again									
10	12 16	(70%)	Boring Terminated at 33.0 feet									
35												

DRILLING CONTR Graham & Currie

SL

LOGGED BY Heidi Baughman

DATE 8/25/94 CHK'D BY T. Yanoschak

SOIL BORING LOG

SITE NAME AND LOCATION				DRILLING METHOD: 6.25-INCH I.D. HOLLOW				BORING NO. MW-8							
PIEDMONT LANDFILL & RECYCLING CENTER KERNERSVILLE, NC				STEM AUGER				SHEET 1 OF 1							
				SAMPLING METHOD: SPLIT SPOON (SPT)				DRILLING							
				WATER LEVEL		5.4		START TIME		1040		FINISH TIME		1130	
				TIME		1045		DATE		9/07/94		DATE		8/31/94	
DATE		9/07/94		CASING DEPTH				DATE		8/31/94					
DATUM		ELEVATION		746											
DRILL RIG CME				SURFACE CONDITIONS Weeds approximately 1.5 feet high.											
ANGLE				BEARING				very thick.							
SAMPLE HAMMER TORQUE				FT.-LBS											
DEPTH IN FEET (ELEVATION)	BLOWS/ 6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS				
0			SILTY SAND (SM/SP) Loose, brown-yellow brown, wet, medium fine to coarse grained silty sand. Same as above, except water at approximately 4.0 feet, turning gray.												
1	1 1 1		7 feet												
5	(75%)		SANDY SILT (ML) Stiff, light blue-gray speckled with white, moist, medium fine sandy silt, with approximately 25% mica. At 9.0 feet: color change to yellow brown speckled with white and rust (burnt orange) stripe.												
10	2 6 9 19		13 feet												
15	(100%)		SILTY SAND (SM/SP) Medium dense, orange brown, saturated, mostly coarse sand and coarse gravel, slightly silty.												
20	4 5 6 7		14.5 feet												
25	(55%)		SILT (ML) Hard, multi-colored orange brown, pink, light yellow brown, brown, moist, very fine silt.												
30	6 10 29 24		Boring Terminated at 21.0 feet												
35															

DRILLING CONTR Graham & Currie

SL

LOGGED BY Heidi Baughman

DATE 8/31/94 CHK'D BY T. Yanoschak

SOIL BORING LOG

SITE NAME AND LOCATION				DRILLING METHOD: 6.25-INCH I.D. HOLLOW				BORING NO. MW-9			
PIEDMONT LANDFILL & RECYCLING CENTER KERNERSVILLE, NC				STEM AUGER				SHEET 1 OF 1			
				SAMPLING METHOD: SPLIT SPOON (SPT)				DRILLING			
				START		FINISH					
				TIME		TIME					
DATE		DATE		DATE		DATE					
WATER LEVEL		32.0	32.0	31.7	31.9	8/29/94		8/30/94			
TIME		1600	1600	1745	1515	1230		0910			
DATE		8/29/94	8/31/94	9/1/94	9/7/94	8/29/94		8/30/94			
CASING DEPTH											
DATUM		ELEVATION		768							
DRILL RIG				CME				SURFACE CONDITIONS			
ANGLE				BEARING				Weeds			
SAMPLE HAMMER TORQUE				FT.-LBS							
DEPTH IN FEET (ELEVATION)	BLOWS/ SIN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
0			SILTY SAND (SM) Loose, orange brown, very fine silty sand. 3.5 feet								
6	6 6 15		SILTY SAND (SC) Medium dense, brown, moist, coarse grained silty sand, trace clay with some blue gray coarse gravel. 7.0 feet								
5	(95%)										
3	4 6 11		SILT (ML) Stiff, light brown to yellow brown, with black and yellow brown foliations, moist, very fine grained sandy silt, 50% mica, trace coarse grained sand.								
10	(100%)										
4	8 8 16		SANDY SILT (ML) Very stiff, black and white speckled with little sand. 18.0 feet								
15	(60%)										
16	30		SAND (SC) Very dense, yellow brown to brown, coarse grained sand with some quartz, trace silt.								
20	50/0"										
50/4"			Same as above, except weathered rock.								
25											
50/4"											
30											
50/4"											
35			PARTIALLY WEATHERED ROCK Very dense, green gray speckled with some black, saturated, very fine slightly silty sand. Boring Terminated at 35.0 feet								

DRILLING CONTR Graham & Currie

SL

LOGGED BY Heidi Baughman

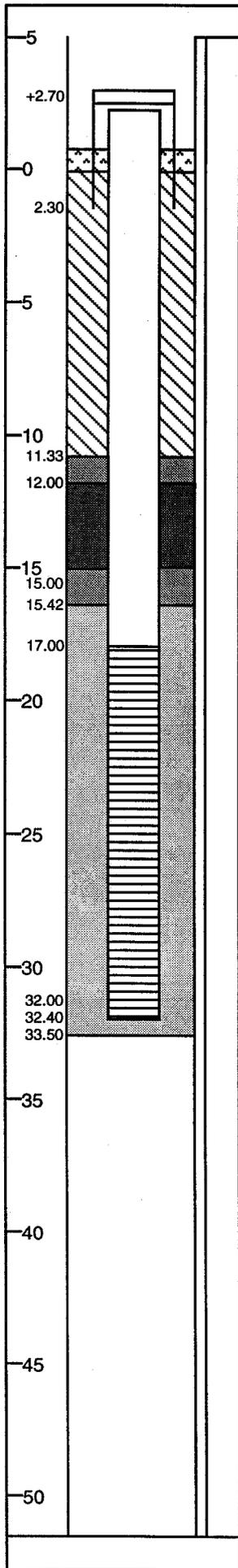
DATE 8/29/94 CHK'D BY T. Yanoschak

APPENDIX B
MONITORING WELL CONSTRUCTION SUMMARY

Well No.: MW-7
 Boring No. X-Ref: MW-7

MONITORING WELL CONSTRUCTION SUMMARY

Survey Coords: 892,405.1909 N Elevation Ground Level: 768.87
1,692,418.099 E Top of Casing: 771.57



Drilling Summary:

Total Depth: 33.5 ft.
 Borehole Diameter: HSA - 11 inches
 Casing Stick-up Height: +2.7 ft.
 Driller: Graham & Currie
 Rig: CME
 Bit(s): 6.25-in. I.D. HSA
 Drilling Fluid: N/A
 Protective Casing: 5.0 ft. x 4.0 in. x 4.0 in. anodized aluminum

Well Design & Specifications

Basis: Geologic Log: x Geophysical Log:
 Casing String (s): C = Casing S = Screen

Depth	String(s)	Elevation
+2.70 - 2.30	C1	771.57 - 766.57
+2.70 - 17.00	C2	771.57 - 751.87
17.00 - 32.00	S1	751.87 - 736.87
32.00 - 32.40	P1	736.87 - 736.47

Casing: C1 5.0 ft. x 4.0 in. x 4.0 in. anodized aluminum
 C2 2.0 in. I.D. Schedule 40 PVC
 Screen: S1 2.0 in. I.D. Schedule 40 PVC
 P1 0.010 in. slot
2.0 in. I.D. PVC plug

Filter Pack: 33.50 to 15.42 ft.: medium sand.
15.42 to 15.00 ft.: fine sand.
12.00 to 11.33 ft.: fine sand
 Grout Seal: 11.33 to 0.0 ft.: bentonite/cement grout
 Bentonite Seal: 15.00 to 12.00 ft.: bentonite pellets

Comments: Surface seal = 3 ft. x 3 ft. x 3 in. concrete pad with protective post.

Construction Time Log:

Task	Start		Finish	
	Date	Time	Date	Time
Drilling	8/25/94	15:42	8/25/94	17:05
Geophys. Logging:	NA	NA	NA	NA
Casing:	8/26/94	10:00	8/26/94	11:00
Filter Placement:	8/26/94	11:00	8/26/94	12:00
Bentonite Seal:	8/26/94	12:00	8/26/94	12:50
Grout:	8/26/94	12:50	8/26/94	15:15
Development:	9/1/94	08:34	9/7/94	18:01

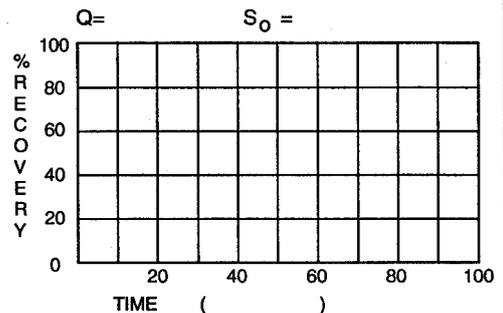
Well Development:

Bailer/Grundfos
 Total gallons removed = 100 gallons

Stabilization Test Data: * 9/1/94, v 9/7/94

Time	pH	Spec. Cond.	Temp (C)
08:34*	6.02	250	19
10:37*	5.86	100	18
15:59*	5.67	110	19
17:25v	5.87	110	20
17:56v	5.97	100	19

Recovery Data:



SITE NAME: Piedmont Landfill
 LOCATION: Kernersville, N.C.

SUPERVISED BY: Heidi Baughman
 DATE: 8/26/94

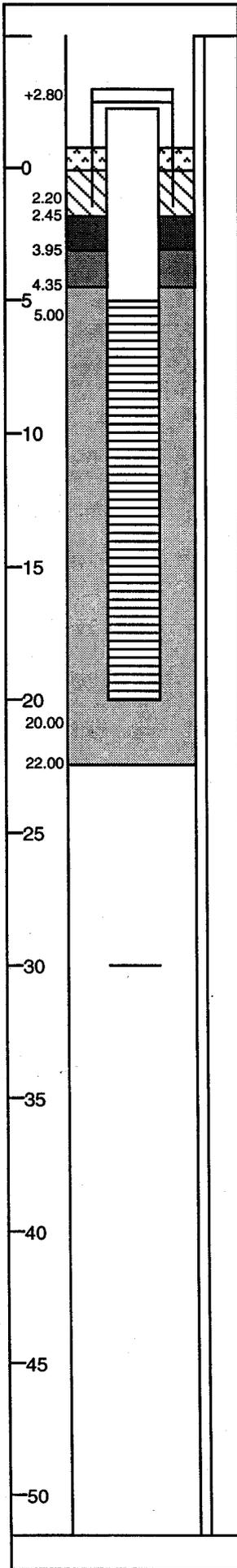
Well No.: MW-8

Boring No. X-Ref: MW-8

MONITORING WELL CONSTRUCTION SUMMARY

Survey Coords: 891,422.161 N
1,691,479.791 E

Elevation Ground Level: 746.15
Top of Casing: 748.95



Drilling Summary:

Total Depth: 22.0 ft.
Borehole Diameter: HSA - 11 inches
Casing Stick-up Height: +2.8 ft.
Driller: Graham & Currie

Rig: CME
Bit(s): 6.25-in. I.D. HSA

Drilling Fluid: N/A
Protective Casing: 5.0 ft. x 4.0 in. x 4.0 in. anodized aluminum

Well Design & Specifications

Basis: Geologic Log: X Geophysical Log:
Casing String (s): C = Casing S = Screen

Depth	String(s)	Elevation
+2.80 - 2.20	C1	748.95 - 743.95
+2.80 - 5.00	C2	748.95 - 741.15
5.00 - 20.00	S1	741.15 - 726.15
-	-	-
-	-	-

Casing: C1 5.0 ft. x 4.0 in. x 4.0 in. anodized aluminum
C2 2.0 in. I.D. Schedule 40 PVC
Screen: S1 2.0 in. I.D. Schedule 40 PVC
S2 0.010 in. slot

Filter Pack: 22.00 to 4.35 ft.: medium sand. 4.35 to 3.95 ft.: fine sand.

Grout Seal: 2.45 to 0.0 ft.: bentonite/cement grout

Bentonite Seal: 3.95 to 2.45 ft.: bentonite pellets

Comments: Surface seal = 3 ft. x 3 ft. x 3 in. concrete pad with protective post.

Construction Time Log:

Task	Start		Finish	
	Date	Time	Date	Time
Drilling	8/31/94	10:30	8/31/94	12:30
Geophys. Logging:	NA	NA	NA	NA
Casing:	8/31/94	12:30	8/31/94	12:45
Filter Placement:	8/31/94	12:45	8/31/94	13:00
Bentonite Seal:	8/31/94	13:00	8/31/94	13:45
Grout:	8/31/94	13:45	8/31/94	14:15
Development:	9/2/94	8:30	9/7/94	13:18

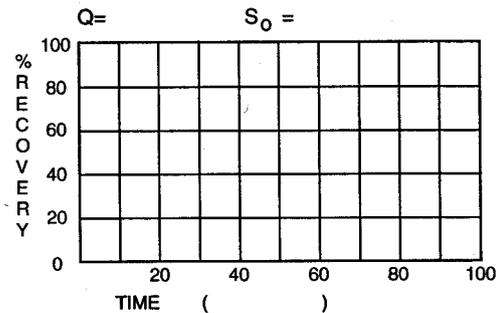
Well Development:

Bailer/Grundfos
Total gallons removed = 154 gallons

Stabilization Test Data: 9/7/94

Time	pH	Spec. Cond.	Temp (C)
10:50	5.86	250	21
12:09	6.12	200	20
12:46	6.18	150	20.5
13:01	6.18	140	21.5
13:18	6.18	140	21

Recovery Data:



SITE NAME Piedmont Landfill
 LOCATION Kernersville, N.C.

SUPERVISED BY: Heidi Baughman
 DATE: 8/31/94

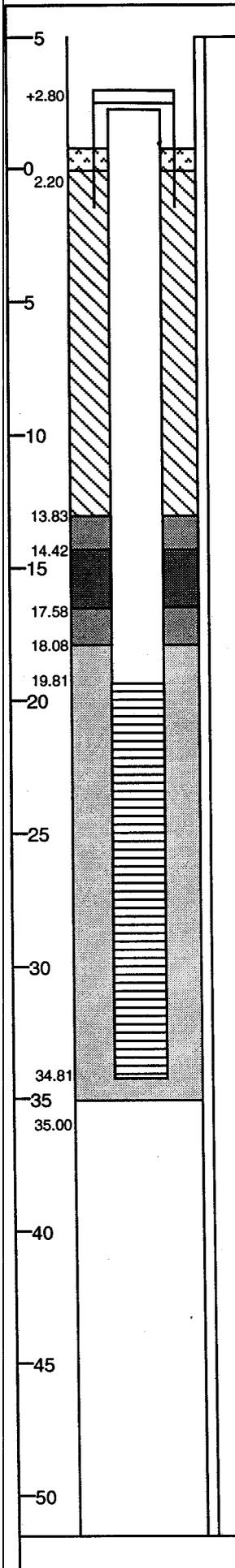
Well No.: MW-9

Boring No. X-Ref: MW-9

MONITORING WELL CONSTRUCTION SUMMARY

Survey Coords: 892,202.753 N
1,690,947.720 E

Elevation Ground Level: 767.82
Top of Casing: 770.62



Drilling Summary:

Total Depth: 35.0 ft.
Borehole Diameter: HSA - 11 inches
Casing Stick-up Height: +2.8 ft.
Driller: Graham & Currie
Rig: CME
Bit(s): 6.25-in. I.D. HSA
Drilling Fluid: N/A
Protective Casing: 5.0 ft. x 4.0 in. x 4.0 in. anodized aluminum

Well Design & Specifications

Basis: Geologic Log: x Geophysical Log:
Casing String (s): C = Casing S = Screen

Depth	String(s)	Elevation
+2.80 - 2.20	C1	770.62 - 765.62
+2.80 - 19.81	C2	770.62 - 748.01
19.81 - 34.81	S1	748.01 - 733.01
-	-	-
-	-	-

Casing: C1 5.0 ft. x 4.0 in. x 4.0 in. anodized aluminum
C2 2.0 in. I.D. Schedule 40 PVC
Screen: S1 2.0 in. I.D. Schedule 40 PVC
S2 0.010 in. slot

Filter Pack: 35.00 to 18.08 ft.: medium sand. 18.08 to 17.58 ft.: fine sand. 14.42 to 13.83 ft.: fine sand.
Grout Seal: 13.83 to 0.0 ft.: bentonite/cement grout
Bentonite Seal: 17.58 to 14.42 ft.: bentonite pellets

Comments: Surface seal = 3 ft. x 3 ft. x 3 in. concrete pad with protective post.

Construction Time Log:

Task	Start		Finish	
	Date	Time	Date	Time
Drilling	8/29/94	12:30	8/30/94	14:45
Geophys. Logging:	NA	NA	NA	NA
Casing:	8/30/94	15:00	8/30/94	15:15
Filter Placement:	8/30/94	15:15	8/30/94	15:45
Bentonite Seal:	8/30/94	15:45	8/30/94	16:30
Grout:	8/30/94	16:30	8/30/94	17:30
Development:	9/1/94	16:00	9/7/94	16:18

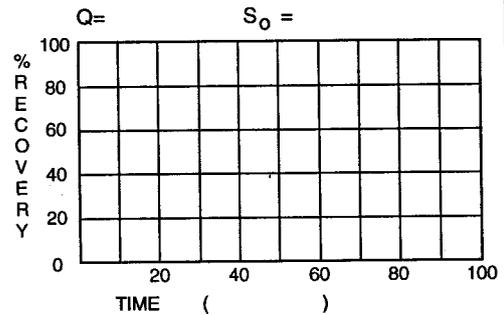
Well Development:

Bailer/Grundfos
Total gallons removed = 105 gallons

Stabilization Test Data: *9/1/94, v 9/7/94

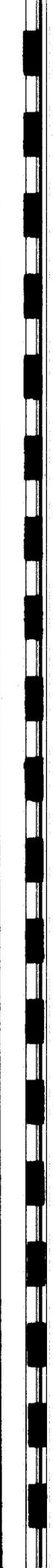
Time	pH	Spec. Cond.	Temp (C)
16:08*	6.42	530	--
16:40*	6.15	290	--
17:20*	6.01	260	--
15:13v	6.10	280	21
16:18v	6.12	260	20

Recovery Data:



SITE NAME Piedmont Landfill
LOCATION Kernersville, N.C.

SUPERVISED BY: Heidi Baughman
DATE: 8/29/94



APPENDIX C
MONITORING WELL COMPLETION RECORDS

N. C. Department of Human Resources
Division of Health Services

WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRAN P. O. BOX 2091, RALEIGH, N.C. 27602

NAME OF SITE: Piedmont Landfill & Recycling Center		PERMIT NO.: 34-6
ADDRESS: 9900 Freeman Road, Kernersville, NC 27284		OWNER (print): Waste Management of Carolinas, Inc.
DRILLING CONTRACTOR: Graham & Currie Well Drilling Inc.		REGISTRATION NO.: MW-7

Casing Type: PVC Sch. 40 dia. 2 in.
 Casing Depth: from +2.70 to 17.00 ft. - dia. 2 in.
 Screen Type: PVC Sch. 40 dia. 2 in.
 Screen Depth: from 17.00 to 32.00 ft. - dia. 2 in.
 Grout Depth: from 0.0 to 11.3 ft. - dia. 11"
 Bentonite Seal: from 12.0 to 15.0 ft. - dia. 11"
 Sand/Gravel PK: from 15.0 to 33.5 ft. - dia. 11"
 Total Well Depth: from +2.7 to 32.4 ft. - dia. 11"
 Static Water Level: 27.60 feet from top of casing
 Yield (gpm): N/A Method of Testing: N/A Date Measured 9 / 7 /
 Casing is 2.70 feet above land sur

DRILLING LOG		
DEPTH		FORMATION DESCRIPTION
FROM	TO	
0'	14'	Stiff, orange brown to red brown sandy silt to silty clay.
14'	33'	Medium dense, gray white yellow brown silty sand with foliations.

LOCATION SKETCH
(show distance to numbered roads, or other map reference points)
See attached location plan

REMARKS:

DATE: 10/6/94 SIGNATURE:

N. C. Department of Human Resources
Division of Health Services
WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

NAME OF SITE: Piedmont Landfill & Recycling Center	PERMIT NO.: 34-6.
ADDRESS: 9900 Freeman Road, Kernersville, NC 27284	OWNER (print): Waste Management of Carolinas, Inc.
DRILLING CONTRACTOR: Graham & Currie Well Drilling Inc.	REGISTRATION NO.: MW-8

Casing Type: PVC Sch. 40 dia. 2 in.	Grout Depth: from 0.0 to 2.45 ft. - dia. 11"
Casing Depth: from +2.80 to 5.00 ft. - dia. in.	Bentonite Seal: from 2.45 to 3.95 ft. - dia. 11"
Screen Type: PVC Sch. 40 dia. 2 in.	Sand/Gravel PK: from 3.95 to 22.00 ft. - dia. 11"
Screen Depth: from 5.00 to 20.00 ft. - dia. in.	Total Well Depth: from +2.80 to 20.00 ft. - dia. 11"

Static Water Level: 8.20 feet from top of casing **Date Measured** 9 / 7 /
Yield (gpm): N/A **Method of Testing:** N/A **Casing is** 2.80 feet above land su

DRILLING LOG		
DEPTH		FORMATION DESCRIPTION
FROM	TO	
0'	7'	Loose brown to yellow brown silty sand fill.
7'	9'	Stiff light blue gray sandy silt alluvium.
9'	20'	Very stiff to hard yellow brown to orange Brown sandy silt with a 1 1/2 foot sand lense.

LOCATION SKETCH
(show distance to numbered roads, or other map reference poi
See attached location plan

REMARKS: _____

DATE: 10/6/94 **SIGNATURE:** _____

WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

NAME OF SITE: Piedmont Landfill & Recycling Center	PERMIT NO.: 34-6
ADDRESS: 9900 Freeman Road, Kernersville, NC 27284	OWNER (print): Waste Management of Carolinas, Inc.
DRILLING CONTRACTOR: Graham & Currie Well Drilling Inc.	REGISTRATION NO.: MW-9

Casing Type: PVC Sch. 40 dia. 2 in. Casing Depth: from +2.80 to 19.81 ft. - dia. 2 in. Screen Type: PVC Sch. 40 dia. 2 in. Screen Depth: from 19.81 to 34.81 ft. - dia. 2 in.	Grout Depth: from 0.0 to 13.8 ft. - dia. 11" Bentonite Seal: from 14.4 to 17.6 ft. - dia. 11" Sand/Gravel PK: from 17.6 to 35.0 ft. - dia. 11" Total Well Depth: from +2.8 to 34.8 ft. - dia. 11"
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Static Water Level: 34.71 feet from top of casing
Yield (gpm): N/A **Method of Testing:** N/A **Date Measured:** 9 / 7 / 94
Casing is 2.80 feet above land sur.

DRILLING LOG		
DEPTH		FORMATION DESCRIPTION
FROM	TO	
0'	7'	Loose to medium dense orange brown to brown silty sand.
7'	18'	Stiff to very stiff, brown, sandy silt.
18'	35'	Very dense, yellow brown, green gray speckled with black silty sand.

LOCATION SKETCH
(show distance to numbered roads, or other map reference point)
See attached location plan

REMARKS: _____

DATE: 10/6/94 **SIGNATURE:** _____

RUST ENVIRONMENT &
INFRASTRUCTURE

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