#98-01

ENVIRONMENTAL INVESTIGATIONS
TEL (919) 544-7500 • FAX (919) 544-2199
2327 Englert Drive, Suite 1
Durham, NC 27713

OCT 1994
Received
Solid Waste
Section

October 7, 1994

Mr. G. Steven Clayton
Wilson County Department of Solid Waste Management
P.O. Box 1728
Wilson, North Carolina 27894-1728

RE: IMPLEMENTATION OF WATER QUALITY MONITORING PLAN
AND PERMANENT GAS DETECTION SYSTEM
WILSON COUNTY LANDFILL FACILITY
PERMIT NO. 98-01

Fac/Perm/Co ID #	Date	Doc ID#
9801	7/20/2011	DIN 14610

Dear Steve:

This letter documents the activities performed at the Wilson County Landfill Facility to achieve compliance with the NC DEHNR Solid Waste Section's (SWS) requirements for October 9, 1994. This letter shall be placed in the Operating Record for the facility. Environmental Investigations will forward a copy of this letter to the SWS central office. This letter addresses the following 15A NCAC 13B requirements:

- 1626 (4) EXPLOSIVE GAS CONTROL. Construction of a permanent monitoring system and compliance monitoring.

- 1630 (b)(3) GROUNDWATER MONITORING COMPLIANCE DEMONSTRATION. Implementation of the detection monitoring system for Appendix I parameters.

In the Transition Plan submitted to the SWS in April 1994, Wilson County proposed an expansion to their facility boundary for compliance monitoring and to address an intermittent gas migration compliance issue. At our September 15, 1994 meeting with the Mr. Lutfy (SWS), we discussed the County's plan for property acquisition and implementation of the proposed monitoring systems. As described in our September 16, 1994 letter to the SWS, installation of gas detection probe GP-3 and groundwater monitoring wells 6A/6B and 7 are pending the current property owner's approval. When the necessary authorization is received, this additional work can be completed.

EXPLOSIVE GAS CONTROL

GP-1 and GP-2 were installed on October 6, 1994 for implementation of the permanent gas detection system. As proposed in the Transition Plan application submitted to the SWS in April 1994, the system incorporates three gas detection probes located close to

the facility boundary. The probe locations were targeted for areas of the site where gas migration is likely. Constructed under the original landfill design, perimeter ditches parallel the facility boundary. The ditch grade encounters the top of groundwater, effectively providing a barrier to subsurface gas migration. The gas probe locations are based site geology, depth of the unsaturated zone, proximity to potential receptors, and the pipeline. GP-3 will be installed when the necessary authorization is received.

The permanent system was monitored on October 6, 1994 by Environmental Investigations. Boring logs and completion records for all gas probes will be submitted to the SWS after GP-3 is installed and monitored. All gas probes will be located by the surveyor.

GROUNDWATER MONITORING COMPLIANCE DEMONSTRATION

Two new groundwater monitoring wells were installed on September 30, 1994. MW-1A and MW-8 were installed as Type II wells, with a screened interval below the adjacent ditch elevation. A representative sample was obtained for laboratory porosity determination. Draft well documentation is included in Appendix B. Following completion, the new wells were developed using clean, disposable bailers. Final well records will be completed submitted with a comprehensive monitoring report for the initial baseline sampling event. MW-6A, 6B, and 7 will be installed when the necessary authorization is received.

EI conducted the initial baseline monitoring event on October 7, 1994. The sampling event incorporated sampling for all existing wells and three surface water stations. Analytical results for the event are expected within 15 days. A copy of the analytical data shall be provided to the SWS as required by permit conditions.

EI conducted aquifer testing for four groundwater monitoring wells on October 6, 1994. Currently, the data is being processed to determine hydraulic conductivity of the aquifer. All wells and gas probes will be located by a North Carolina Registered Land Surveyor following completion of the well/probe installations. Laboratory results for the porosity determination are expected next week. With this information, a final report will be completed following receipt of the analytical/aquifer data from wells MW-6A, 6B, and 7. The final report shall include groundwater flow velocities at each well and a potentiometric map, illustrating the Detection Monitoring Plan and groundwater flow direction. A copy of the final report will be forwarded to the SWS for their records.

Should you have any questions concerning this report, please contact me.

Sincerely,

Environmental Investigations, P.A.

Gary W. Ahlberg, PE

cc: Ms. Sherri Hoyt
Mr. Robert Harding

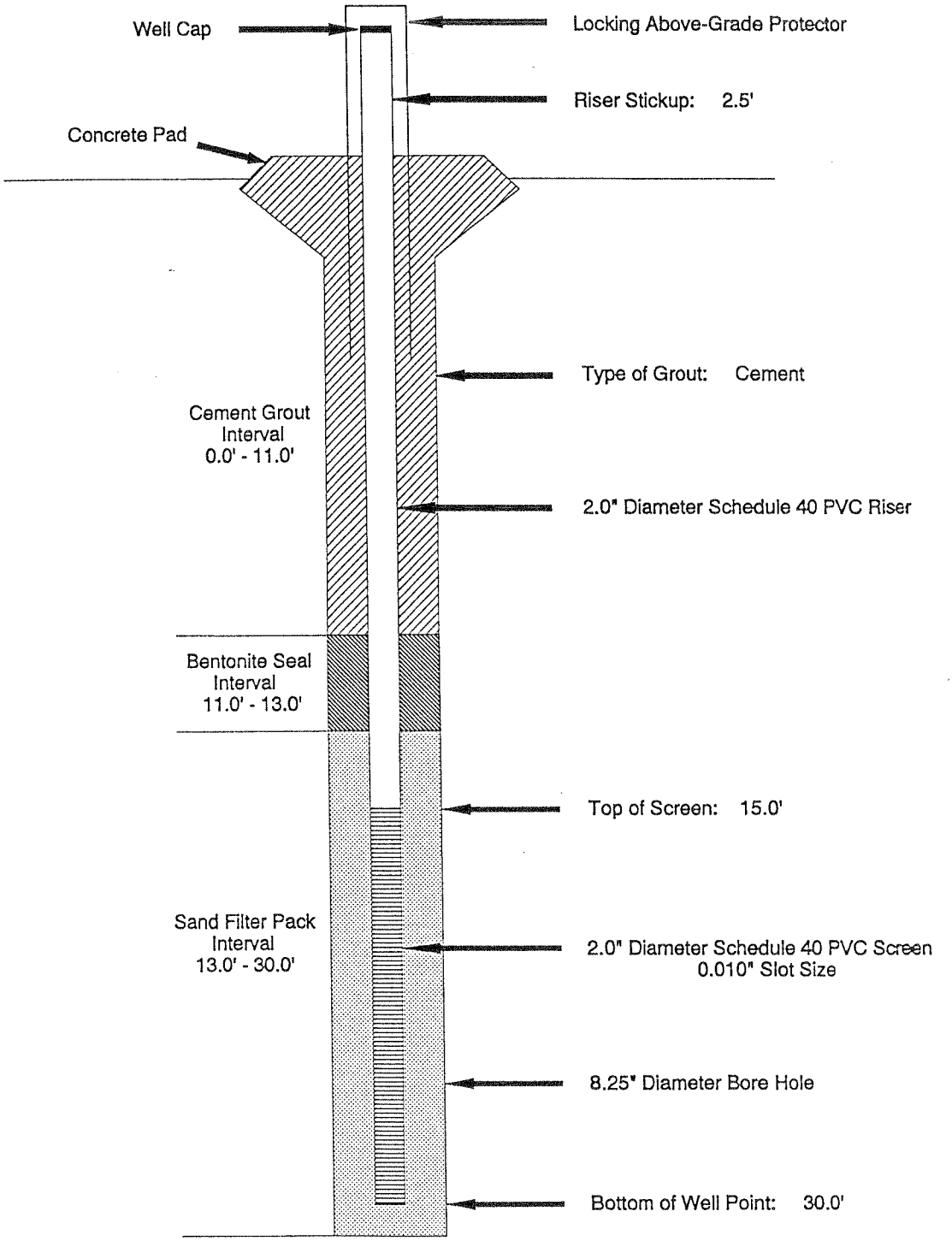
APPENDIX A

GAS PROBE DOCUMENTATION

APPENDIX B

DRAFT MONITORING WELL DOCUMENTATION

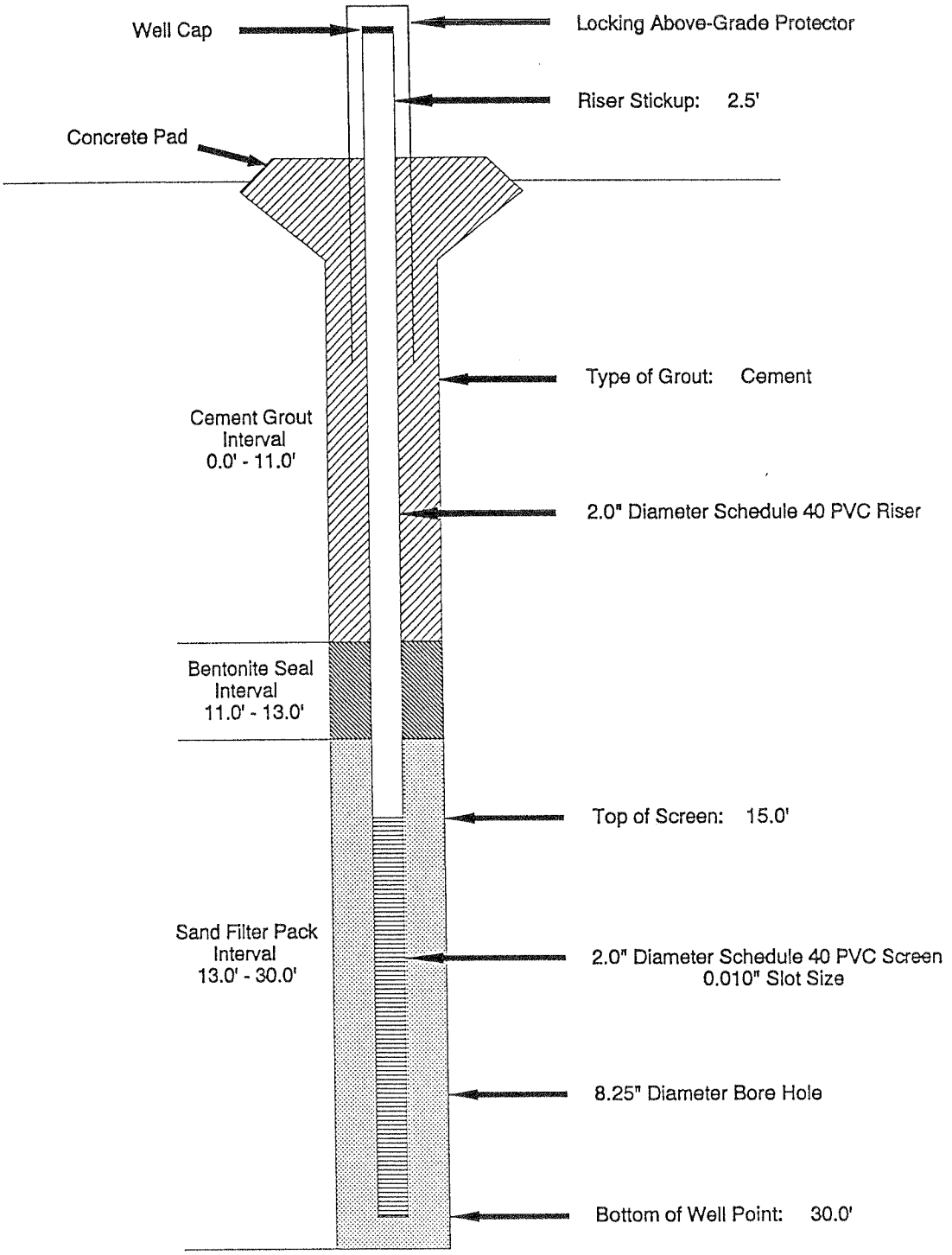
TYPE II MONITOR WELL INSTALLATION DATA



ENVIRONMENTAL INVESTIGATIONS PA

PROJECT TITLE:	PROJECT NO.:	MONITOR WELL NO.:
MW INSTALLATION DATA	14-409-007	MW-1A
Wilson County MSWLF Landfill Road Wilson County, North	INSTALLED BY: BEL	INSTALLATION DATE: 9-30-94
10-7-94	GW ELEVATION:	TOP OF CASING ELEV.:

TYPE II MONITOR WELL INSTALLATION DATA



ENVIRONMENTAL INVESTIGATIONS PA	*PROJECT TITLE:* MW INSTALLATION DATA Wilson County MSWLF Landfill Road Wilson County, North 10-7-94	*PROJECT NO.:* 14-409-007	*MONITOR WELL NO.:* MW-8
		INSTALLED BY: BEL	*INSTALLATION DATE:* 9-30-94
		GW ELEVATION:	*TOP OF CASING ELEV.:*

FIELD BORING LOG

PROJECT NUMBER: 14-409-007	I.D. NUMBER: MW-1A	GEOLOGIST: B. Lefler
PROJECT NAME: Wilson County MSWLF		
SAMPLE LOCATION:	START DATE: 9-30-94	COMPLETE DATE: 9-30-94
Contractor: Fisburne Drilling, Inc.		
Drilling Methods: Hollow-stem augers		

Depth (feet)	Sample I.D.	Blows/0.5′ 1	2	3	4	Recovery	Visual Field Classification	OVA/HNu Readings (ppm)
4								
6	1A	3	4	5	6	6″	CL-ML: Red, sandy silty CLAY	
9								
11	1B	3	2	4	4	24″	CL: Gray, CLAY with sand	
14								
16	1C	1	1	1	2	24″	CL: Gray, CLAY with sand	
19								
21	1D	2	2	2	4	24″	CL: Dark gray, CLAY with trace sand	
24								
26	1E	5	4	3	2	22″	SC: Dark gray, clayey SAND	
29								
31	1F	5	5	9	13	24″	SW: Dark gray, well graded SAND (fossiliferous)	
							End Of Boring	

NOTES: 1) Groundwater measured at xx.xx′ (top of casing) on 10-x-94.

FIELD BORING LOG

PROJECT NUMBER: 14-409-007	I.D. NUMBER: MW-8	GEOLOGIST: B. Lefler
PROJECT NAME: Wilson County MSWLF		
SAMPLE LOCATION:	START DATE: 9-30-94	COMPLETE DATE: 9-30-94
Contractor: Fisburne Drilling, Inc.		
Drilling Methods: Hollow-stem augers		

Depth (feet)	Sample I.D.	Blows/0.5′ 1	2	3	4	Recovery	Visual Field Classification	OVA/HNu Readings (ppm)
4								
	8A	6	7	7	8	18″	SP-SC: Red, poorly graded SAND with trace clay	
6								
9								
	8B	5	6	3	4	24″	CL: Red/Gray, CLAY with sand	
11								
14								
	8C	2	2	2	2	24″	SP-SC: Red, poorly graded SAND with clay	
16								
19								
	8D	6	12	9	13	24″	SW: Red/tan, well graded SAND	
21								
24								
	8E	2	0	1	1	24″	CL: Dark gray, CLAY with sand	
26								
29								
	8F	4	9	11	10	24″	SW: Dark gray, well graded SAND (fossiliferous)	
31							End Of Boring	

NOTES: 1) Groundwater measured at xx.xx′ (top of casing) on 10-x-94.

ENVIRONMENTAL INVESTIGATIONS
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September 16, 1994

VIA TELEFAX (919) 733-4810

Mr. Bobby Lutfy
NC DEHNR - DSWM
Solid Waste Section
P.O. Box 27687
Raleigh, NC 27611-7687

RE: WILSON COUNTY MSWLF FACILITY
MONITORING SYSTEM INSTALLATION
PERMIT NO. 98-01

Dear Mr. Lutfy:

In behalf of Wilson County, we appreciated the opportunity to meet with you yesterday and discuss implementation of the monitoring system improvements for the MSWLF facility. This letter summarizes the purpose of our meeting and outlines the County's plan for implementing the new monitoring system in accordance with 15A NCAC 13B .1630 (b)(3).

As proposed in the Water Quality Monitoring Plan (WQMP), four new monitor wells will be installed for detection monitoring, including the replacement of MW-1. As requested by the Solid Waste Section, Wilson County will install one additional well, MW-8, at the general location illustrated on Drawing 6A (attached). Presently, the County is in the process of acquiring the property proposed for additional buffer around the MSW landfill unit. Acquisition of this property and approval of the Transition Plan with the modified facility property boundary will provide a detection monitoring system which conforms to .1631. Wilson County will proceed with implementation of the WQMP as follows:

1. Seek property owner's permission to install MW-7, MW-6A, MW-6B, and GP-3.
2. Continue procurement procedures for buffer property.
3. Schedule well/probe installations and the initial sampling event for completion prior to October 9, 1994.
4. For wells installed close to ditch or stream channels, the top of the screened interval will be below the channel elevation.
5. Surface water monitoring stations located in the Toisnot Swamp shall not be included in routine detection monitoring. An additional station will be established in the channel after the discharge from the main sediment basin. A total of three surface water stations are include in the detection monitoring plan.
6. Complete a survey plat which describes the facility boundary with the additional buffer zone.

Mr. Bobby Lutfy
September 16, 1994

The monitoring system and additional buffer zone included in the Transition Plan are proposed to establish the relevant point of compliance defined in .1631 (a)(2). In addition, the forested property will provide a visual screen for the facility. As a component of the Transition Plan and in accordance with 15A NCAC 13B .1603 (a)(3), we are requesting a modification to the existing permit to include this property. Wilson County will submit a survey plat prepared by a NC Registered Land Surveyor. This property is proposed for inclusion in the facility property boundary and will not be used to expand the MSWLF unit boundary.

We appreciate your assistance with implementation of a WQMP which meets the intent of Section .1600. Should you have any questions concerning this letter, please contact me at your earliest convenience. We will keep you advised on this project's status and will maintain copies of relevant correspondence in the Operating Record.

Sincerely,

Environmental Investigations, P.A.

Gary W. Ahlberg, PE

cc: Steve Clayton
Sherri Hoyt
Ed Mussler