

13851

SCS ENGINEERS

February 22, 2011
File No. 02211009

Jackie Drummond
NCDENR
1646 Mail Service Center
Raleigh, North Carolina 27699-1646



Subject: Landfill Gas Monitoring Well Abandonment
North Wake Landfill – Wake County, North Carolina

Dear Ms. Drummond:

On behalf of Wake County, SCS Engineers, PC (SCS) is pleased to submit to the North Carolina Department of Environment and Natural Resources (NCDENR) a record of Landfill Gas (LFG) monitoring well abandonment at the North Wake Landfill (Solid Waste Permit No. 92-09) in Wake County, North Carolina. This documentation is being submitted to NCDENR within 30 days of the completion of the abandonment.

A total of 3 temporary LFG monitoring wells (TP-5 through TP-7) were abandoned on February 21, 2011 by SCS personnel in accordance with 15A NCAC 2C.0113. The temporary wells were installed in May 2007 as part of a field investigation regarding LFG migration at the Closed Unlined Cell. These three temporary LFG monitoring wells were located along the southern boundary of the Closed Unlined Cell between the two waste disposal units. As such they are not part of the permanent compliance LFG monitoring network at the site.

To abandon each temporary well, the abovegrade portion of the well riser pipe was removed at its base, filled with bentonite (TD-16 granulated), and then hydrated. Minor grading was then performed to backfill soil cover over the bentonite-filled pipe.

A typical Well Abandonment Record, a typical well abandonment log diagram, a LFG monitoring probe abandonment table, and a site plan depicting the surveyed locations of the abandoned monitoring wells are attached. Please note that the LFG monitoring wells were installed adjacent to buried refuse, and hence, no disinfection was performed during well abandonment.



Ms. Jackie Drummond
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If you have questions or require additional information, please feel free to contact either of the undersigned.

Sincerely,



Nicholas S. Guarriello
Associate Staff Engineer



Robert E. Dick, PE
Project Director
SCS ENGINEERS, PC

NSG/RED:asd

Attachments

cc: Lee Squires, Wake County
Craig Moffat, Moffat Piping

TEMPORARY LANDFILL GAS MONITORING PROBE ABANDONMENT TABLE

NORTH WAKE COUNTY LANDFILL
RALEIGH, NORTH CAROLINA

Probe	Date	Easting	Northing	Probe Depth	Depth to Water	Bentonite
TP-5	2/21/11	2126018.78	786611.35	6	Dry	TD-16
TP-6	2/21/11	2125894.34	786677.50	6	Dry	TD-16
TP-7	2/21/11	2125765.00	786745.95	6	Dry	TD-16

Depth to Water as measured from ground surface

SCS ENGINEERS

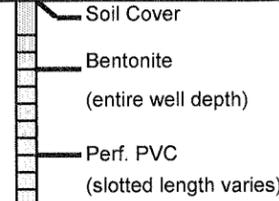
Environmental Consultants
 15521 Midlothian Turnpike
 Suite 305
 Midlothian, VA 23113
 804 378-7440 FAX 804 378-7433

**NORTH WAKE LANDFILL
 RALEIGH, NC**
 Project No. 02211009

Location:
TYPICAL

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Depth in Feet	ABANDONMENT LOG					DESCRIPTION	TEMPORARY LFG MONITORING PROBE
	SAMPLES RECOVERED	PID	GRAPHIC	Groundwater	REMARKS		
+1							
0							
-1							
2							
3						Well abandonment completed with TD-16 granulated, hydrated bentonite	
4							
5							
6							Terminated at bottom of well casing
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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Company Performing
 Abandonment: **SCS ENGINEERS**

Logged By: **Nicholas Guarriello**

Date Started: 2/21/11
 Date Ended: 2/21/11
 Boring Diameter: NA
 Well Diameter: 1.0-inch
 Casing Material: SCH 40 PVC

Time Started: NA
 Time Ended: NA
 Elevation: NA
 Total Depth: varies - refer to Table



WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION #

1. WELL CONTRACTOR:

Nicholas Guarriello
Well Contractor (Individual) Name
SCS Engineers, P.C.
Well Contractor Company Name
15521 Midlothian Turnpike
Street Address
Midlothian VA 23113
City or Town State Zip Code
(804) 378-7440
Area code Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) Refer to attached table
STATE WELL PERMIT # (if applicable)
COUNTY WELL PERMIT # (if applicable)
DWQ or OTHER PERMIT # (if applicable)
WELL USE (Check applicable use) [X] Monitoring [] Residential
[] Municipal/Public [] Industrial/Commercial [] Agricultural
[] Recovery [] Injection [] Irrigation
[] Other (list use)

3. WELL LOCATION:

COUNTY Wake QUADRANGLE NAME Wake Forest
NEAREST TOWN: Intersection of Deponie Drive and
Durant Road
(Latitude/longitude source: [] GPS [X] Topographic map)
LATITUDE 36 DMS OR varies DD
LONGITUDE 75 DMS OR varies DD
TOPOGRAPHIC / LAND SETTING:
[] Slope [] Valley [X] Flat [] Ridge [] Other
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)
(Check appropriate setting)

4a. FACILITY - The name of the business where the well is located. Complete 4a: (If a residential well, skip 4a; complete 4b; well owner information only.)

FACILITY ID # (if applicable) Solid Waste Permit # 92-09
NAME OF FACILITY North Wake County Landfill
STREET ADDRESS 9004 Deponie Drive
Raleigh NC 27615
City or Town State Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Lee Squires/Wake County
STREET ADDRESS 9004 Deponie Drive

5. WELL DETAILS:

a. Total Depth varies ft. Diameter: 1 in.
b. Water Level (Below Measuring Point): varies ft.
Measuring point is 0 ft. above land surface.

6. CASING:

a. Casing Depth (if known): varies ft. 1 in.
b. Casing Removed: varies ft. 1 in.

7. DISINFECTION: none

(Amount of 65%75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement Sand Cement
Cement lb. Cement lb.
Water gal. Water 5 gal.

Bentonite

Bentonite 35-40 lb.
Type: [] Slurry [X] Pellets
Water 5 gal.

Other

Type material
Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Bentonite was poured into the well casing and periodically hydrated multiple times to provide for a continuous seal throughout the entire well depth.

10. WELL DIAGRAM : Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used

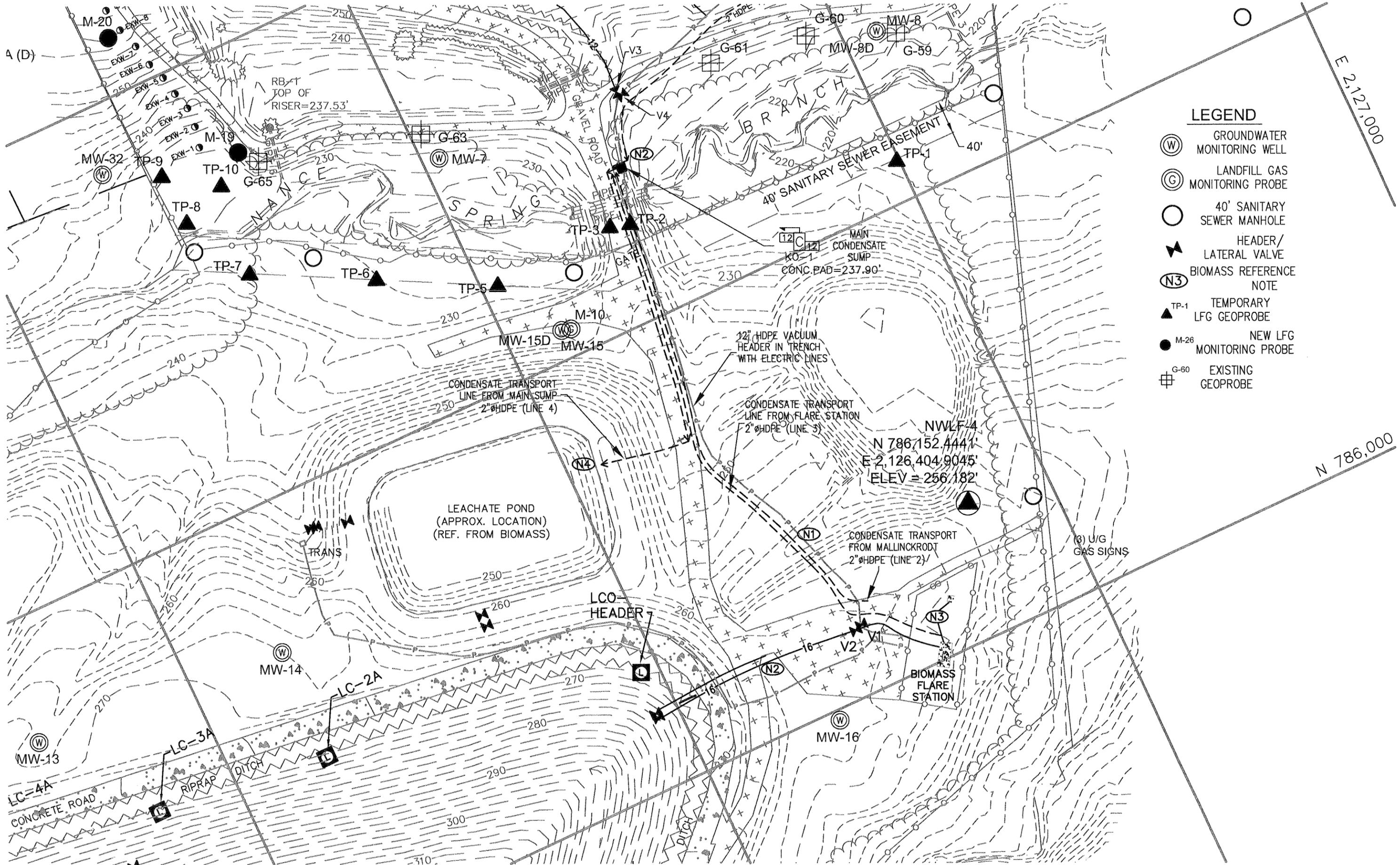
11. DATE WELL ABANDONED 2-21-11

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Signature of Certified Well Contractor 2-22-11
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Signature of Private Well Owner Abandoning the Well
SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL DATE
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Nicholas Guarriello
PRINTED NAME OF PERSON ABANDONING THE WELL



LEGEND

- (W) GROUNDWATER MONITORING WELL
- (C) LANDFILL GAS MONITORING PROBE
- 40' SANITARY SEWER MANHOLE
- ▲ HEADER/LATERAL VALVE
- (N3) BIOMASS REFERENCE NOTE
- ▲ TP-1 TEMPORARY LFG GEOPROBE
- M-26 NEW LFG MONITORING PROBE
- ⊠ G-60 EXISTING GEOPROBE