RICHARDSON SMITH GARDNER & ASSOCIATES
Engineering and Geological Services

RECEIVED
MAY 16 2008
SOLID WASTE SECTION

May 14, 2008

Ms. Jackie Drummond
NCDENR Division of Waste Management – Solid Waste Section
401 Oberlin Road, Suite 150
Raleigh, North Carolina 27605

RE: Well Abandonment Report – MW-6A and well installation of CDMW-9A
Johnston County Landfill, Permit No. 51-01 and 51-02
Smithfield, North Carolina

Dear Ms. Drummond:

Richardson Smith Gardner & Associates Inc. is submitting this letter on behalf of Johnson County Landfill to document the well abandonment and replacement conducted on March 10th, 2008. Two monitoring wells, MW-6A and CDMW-9s, required abandonment due to damage by construction equipment. These wells are shown on the attached **Figure 1**. Wells MW-6A and CDMW-9s were abandoned in accordance with the State procedures for permanent abandonment of wells, with grout emplaced by tremie-pipe to fill both wells from bottom to top. David Barron, a licensed driller with Engineering Tectonics, P.A., performed the abandonment services under the supervision of Joan A. Smyth, P.G. of Richardson Smith Gardner & Associates. The well abandonment records are included in **Attachment 1**.

Monitoring well CDMW-9s was replaced with a new well, CDMW-9A. CDMW-9A was installed by Hollow Stem Auger to a depth of 30 feet below grade. This well was constructed with 10 feet of screen and is completed with solid riser pipe and a locking casing. Well installation records are also included in **Attachment 1**.

If you have any questions or require further information, please contact me at (919) 828-0577 ext. 122 or by email at joan@rsgengineers.com.

Sincerely,
Richardson Smith Gardner & Associates, Inc.

Joan A. Smyth

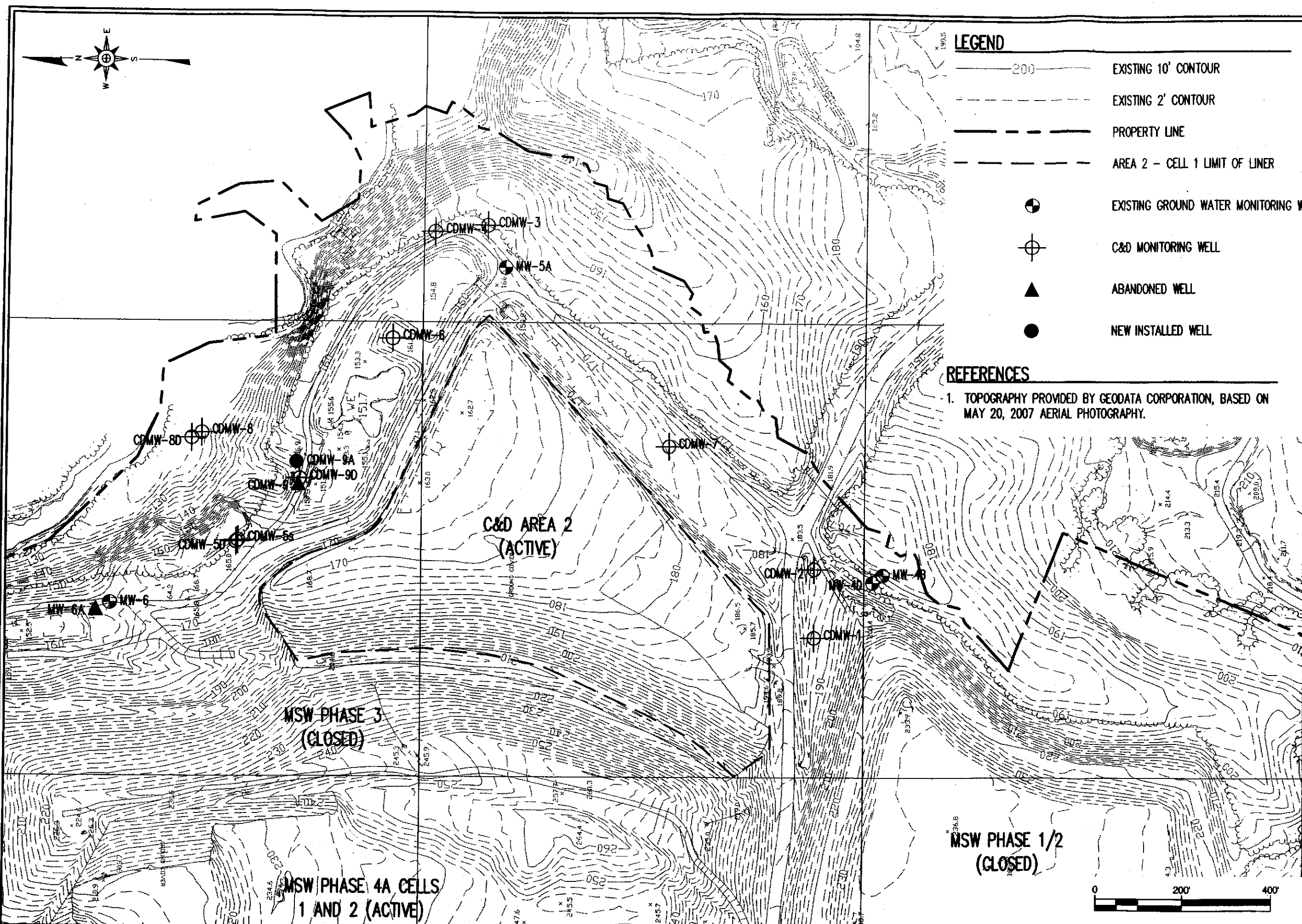
5/14/08

NORTH CAROLINA LICENSED SEAL 1369 GEOLOGIST JOAN A. SMYTH

Joan A. Smyth, P.G.
Senior Hydrogeologist

cc: Rick Proctor – Johnston Co.

Figure 1



LEGEND

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPERTY LINE
- AREA 2 – CELL 1 LIMIT OF LINER
- EXISTING GROUND WATER MONITORING WELL
- C&D MONITORING WELL
- ABANDONED WELL
- NEW INSTALLED WELL

REFERENCES

1. TOPOGRAPHY PROVIDED BY GEODATA CORPORATION, BASED ON MAY 20, 2007 AERIAL PHOTOGRAPHY.

RICHARDSON SMITH GARDNER & ASSOCIATES
14 N. Boylan Ave.
Raleigh, N.C. 27603
ph: 919-828-0577
fax: 919-828-3589
www.rsgengineers.com

FIGURE NO.	1
FILE NAME	JOHN-B0518
SCALE:	AS SHOWN
PROJECT NO.	JOHN-4
CHECKED BY:	J.A.S.
DRAWN BY:	C.T.J.
DATE:	Apr. 2008

TITLE:

JONSTON COUNTY LANDFILL
SMITHFIELD, NC
C&D LANDFILL AREA 2
MONITORING WELL PLAN

G:\CAD\Johnston\John-4\sheets\JOHN-B0518.dwg - 4/2/2008 2:08 PM

Attachment 1

Richardson Smith Gardner and Assoc
14 North Boylan Avenue, Raleigh NC 27603
(919) 828-0577

FIELD BOREHOLE LOG

BOREHOLE NUMBER **CDMW-9A** Page 1 of 1

PROJECT NAME: **Johnston County Landfill**
LOCATION: **Johnston County**
DRILLING CO: **Engineering Techtonics, P.A.**
DRILLING METHOD: **HSA**
FIELD PARTY: **David Barron**
GEOLOGIST: **Joan A. Smyth, P.G.**
DATE BEGUN: **3/10/08** DATE COMPLETED: **3/10/08**

TOTAL DEPTH: **30 ft.**
GROUND SURFACE ELEVATION:
TOP OF CASING ELEVATION:

STATIC WATER LEVEL (TOC)		
Depth (ft)		
Time		
Date		

DEPTH	BLOW COUNT	SAMPLING METHOD	RECOVERY	DRILL METHOD	DESCRIPTION	LITHOLOGY	DEPTH	WELL INSTALLATION
0.0				HSA	CLAYEY SILT: Dry dark brown to light brown (bottom 3") clayey silt. Gray micaceous clayey silt with depth.		0.0	
1.0							1.0	
2.0							2.0	
3.0							3.0	
4.0							4.0	
5.0	4,3,2	SS	16"				5.0	
6.0							6.0	
7.0							7.0	
8.0							8.0	
9.0							9.0	
10.0	3,6,16	SS	16"		SILT: Dry hard gray silt. Slightly moist at 20 feet.		10.0	
11.0							11.0	
12.0							12.0	
13.0							13.0	
14.0							14.0	
15.0	13,40,50/3	SS	16"				15.0	
16.0							16.0	
17.0							17.0	
18.0							18.0	
19.0							19.0	
20.0	50/6	SS	18"				20.0	
21.0							21.0	
22.0							22.0	
23.0							23.0	
24.0							24.0	
25.0	50/3	SS	16"		SILTSTONE: Wet, partially weathered siltstone. B.T. @ 30 feet.		25.0	
26.0							26.0	
27.0							27.0	
28.0							28.0	
29.0							29.0	
30.0							30.0	

NON RESIDENTIAL WELL CONSTRUCTION RECORD

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

WELL CONTRACTOR CERTIFICATION # 2089

1. WELL CONTRACTOR:
DAVID BARRON
Well Contractor (Individual) Name
ENG. TECTONICS
Well Contractor Company Name
STREET ADDRESS 1720 VARGRAVE ST.
W-SALEM N.C. 27107
City or Town State Zip Code
(336) 724-6994
Area code- Phone number

2. WELL INFORMATION:
SITE WELL ID #(if applicable) #9A CDMW
STATE WELL PERMIT#(if applicable) NA
DWQ or OTHER PERMIT #(if applicable) NA
WELL USE (Check Applicable Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)
DATE DRILLED 3/10/08
TIME COMPLETED 5:00 AM ☐ PM ☑

3. WELL LOCATION:
CITY: Smithfield COUNTY Johnston
680 County Home Rd. 27577
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
TOPOGRAPHIC / LAND SETTING:
☑ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other
(check appropriate box)
LATITUDE 3
LONGITUDE
May be in degrees, minutes, seconds or in a decimal format
Latitude/longitude source: ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4. FACILITY- is the name of the business where the well is located.
FACILITY ID #(if applicable)
NAME OF FACILITY Johnston County Landfill
STREET ADDRESS 680 County Home Rd.
Smithfield N.C. 27577
City or Town State Zip Code
CONTACT PERSON Rick Proctor
MAILING ADDRESS 680 County Home Rd.
Smithfield N.C. 27577
City or Town State Zip Code
(919) 938-4750
Area code - Phone number

5. WELL DETAILS:
a. TOTAL DEPTH: 30.0'
b. DOES WELL REPLACE EXISTING WELL? YES ☑ NO ☐
c. WATER LEVEL Below Top of Casing: 15 FT.
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 3 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. YIELD (gpm): NA METHOD OF TEST
f. DISINFECTION: Type NA Amount
g. WATER ZONES (depth):
From To From To
From To From To
From To From To

6. CASING:

From	To	Ft.	Diameter	Thickness/ Weight	Material
20	0		2"	.040	PVC

7. GROUT:

From	To	Ft.	Material	Method
18'	0		Portland	tremie
16'	18'		Bentnite	Pour

8. SCREEN:

From	To	Ft.	Diameter	Slot Size	Material
20	30	2	.010		PVC

9. SAND/GRAVEL PACK:

From	To	Ft.	Size	Material
18	30		#3	Sand

10. DRILLING LOG

From	To	Formation Description

11. REMARKS:

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

David Barron 3-18-08
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE
DAVID BARRON
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days: Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1b
Rev. 7/05

WELL ABANDONMENT RECORD

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

WELL CONTRACTOR CERTIFICATION # _____

1. WELL CONTRACTOR:

David Barron
Well Contractor (Individual) Name

Eng. Tectonics
Well Contractor Company Name

STREET ADDRESS 1720 Vargrave St.

W-Salem N.C. 27107
City or Town State Zip Code

(336) - 724-6994
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) #6A

STATE WELL PERMIT # (if applicable) NA

COUNTY WELL PERMIT # (if applicable) NA

DWQ or OTHER PERMIT # (if applicable) NA

WELL USE (Circle applicable use): **Monitoring** **Residential** **Municipal/Public** **Industrial/Commercial** **Agricultural** **Recovery** **Injection** **Irrigation**

Other (list use) _____

3. WELL LOCATION:

COUNTY Johnston QUADRANGLE NAME _____

NEAREST TOWN: Smithfield

680 County Home Rd. 27577
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
Slope Valley Flat Ridge Other_____
(Circle appropriate setting)

LATITUDE __ __ _____

LONGITUDE __ __ _____

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: GPS Topographic map

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY- The name of the business where the well is located. Complete 4a and4b. (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID #(if applicable) _____

NAME OF FACILITY Johnston County Landfill

STREET ADDRESS 680 County Home Rd.

Smithfield N.C. 27577
City or Town State Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Rick Proctor

STREET ADDRESS 680 County Home Rd.

Smithfield N.C. 27577
City or Town State Zip Code

(919) - 938-4750
Area code - Phone number

5. WELL DETAILS:

a. Total Depth: 52.1 ft. Diameter: 2" in.

b. Water Level (Below Measuring Point): 32 ft.

Measuring point is 2 ft. above land surface.

6. CASING:

	Length	Diameter
a. Casing Depth (if known):	32 ft.	2" in.
b. Casing Removed:	5' ft.	2" in.

7. DISINFECTION: NA

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Cement 94 lb.
Water 5 gal.

Sand Cement

Cement_____lb.
Water_____gal.

Bentonite

Bentonite 50 lb.
Type: Slurry__ Pellets__
Water 20 gal.

Other

Type material _____

Amount _____

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Grout Pump & Tremie Pipe

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 3/10/08

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.

David Barron 3-18-08
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

_____
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.)

David Barron
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

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

WELL CONTRACTOR CERTIFICATION # 2089

1. WELL CONTRACTOR:

David Barron
Well Contractor (Individual) Name

Eng. Tectonics
Well Contractor Company Name

STREET ADDRESS 1720 Vargrave St.

W-Salem N.C. 27107
City or Town State Zip Code

(336) - 724-6994
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) CDMW-#9

STATE WELL PERMIT # (if applicable) NA

COUNTY WELL PERMIT # (if applicable) NA

DWQ or OTHER PERMIT # (if applicable) NA

WELL USE (Circle applicable use): **Monitoring** **Residential** **Municipal/Public** **Industrial/Commercial** **Agricultural** **Recovery** **Injection** **Irrigation**

Other (list use) _____

3. WELL LOCATION:

COUNTY Johnston QUADRANGLE NAME _____

NEAREST TOWN: Smithfield

680 County Home Rd. 27577
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
Slope Valley Flat Ridge Other _____
(Circle appropriate setting)

LATITUDE __ __ _____

LONGITUDE __ __ _____

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: GPS Topographic map

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY- The name of the business where the well is located. Complete 4a and4b. (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID #(if applicable) _____

NAME OF FACILITY Johnston County Landfill

STREET ADDRESS 680 County Home Rd

Smithfield N.C. 27577
City or Town State Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Rick Proctor

STREET ADDRESS 680 County Home Rd.

Smithfield N.C. 27577
City or Town State Zip Code

(919) - 938-4750
Area code - Phone number

5. WELL DETAILS:

a. Total Depth: 23 ft. Diameter: 2 in.

b. Water Level (Below Measuring Point): 14.64 ft.

Measuring point is 3 ft. above land surface.

6. CASING:

	Length	Diameter
a. Casing Depth (if known):	8' ft.	2" in.
b. Casing Removed:	3' [redacted] ft.	2" [redacted] in.

7. DISINFECTION: NA

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Cement 94 lb.
Water 5 gal.

Sand Cement

Cement _____ lb.
Water _____ gal.

Bentonite

Bentonite 60 lb.
Type: Slurry Pellets __
Water 20 gal.

Other

Type material _____

Amount _____

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Grout Pump & Tremie Pipe

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 3/10/08

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.

David Barron 3-18-08
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

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.)

DAVID BARRON
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06