



**North Carolina State Laboratory of Public Health**  
*Environmental Sciences*  
**Microbiology**  
**Certificate of Analysis**

4312 District Drive  
 MSC 1918  
 Raleigh, NC 27699-1918

<http://slph.ncpublichealth.com>  
 Phone: 919-733-7308  
 Fax: 919-715-8611

**FINAL REPORT**

**Report to: ANDREW CURRIN**  
**HARNETT CO ENVIRONMENTAL HEALTH**  
 307 CORNELIUS HARNETT BLVD  
 Lillington, NC 27546

**Name of System:**  
**Jennifer Thoresen**  
 118 Hobson Road  
 Dunn, NC 28334

**EIN: 566000306EH**

**Delivery: NC Courier**

**Harnett County**

StarLiMS ID: **ES180828-0083**

Date Collected: 08/27/2018

Time Collected: 14:00

By: A Currin

Date Received: 08/28/2018

Time Received: 08:33

By: Angela Heybroek

Sample Source: New Well

Sampling Point: Well head

Sample Type:

GPS No.

Treatment:

Well Permit No. 18-5-44110

Comment:

**Colilert Profile**

**Method: SM 9223B**

Analyte	Test Result	Unit	Conclusion	Date Tested
Total Coliform	Absent			08/28/2018
E. coli	Absent			08/28/2018

**Report Date:** 08/30/2018

**Reported By:** Susan Beasley

**Explanations of Coliform Analysis:**

If coliform bacteria are **Absent**, the water is considered safe for drinking purpose. If coliform bacteria are **Present**, the water is considered unsafe for drinking purpose. Presence of *E. coli* (bacteria) generally indicates that the water has been contaminated with fecal material. It must be remembered that a water analysis refers only to the sample received and should not be regarded as a complete report on the water supply.

North Carolina Division of Public Health  
Occupational and Environmental Epidemiology Branch, Epidemiology Section  
BIOLOGICAL ANALYSIS REPORT

Private well water information and recommendations

County: Harnett Name: Jennifer Thoresen Sample ID Number: ES180828-0083  
Location: 118 Hobson Road Reviewer: Andrew Curran/EHS  
Dunn, NC 28334  
Initial Sample  Confirmation Sample

BIOLOGICAL ANALYSIS RESULTS AND RECOMMENDATIONS FOR USES OF YOUR PRIVATE WELL WATER (These recommendations are based on biological analysis only.)

No coliform bacteria were found in your well water. Your water can be used for all purposes including drinking, cooking, washing dishes, bathing and showering.

Total coliform bacteria were detected in the sample which indicates that harmful bacteria from human or animal waste could enter the well. Do not use the water for drinking or cooking unless it has been boiled for 3 minutes. You may use your water for all other purposes including washing dishes, bathing or showering.

Your well water needs to be re-tested to verify that the result is accurate.

Fecal coliform bacteria were detected in the sample. Do not use the water for drinking, cooking, washing dishes, bathing or showering.

If the re-test shows contamination by bacteria contact your local health department for assistance. There may be a problem with the construction of the well, the groundwater source, or operation of the well. The well needs to be inspected by the local health department or a local well contractor to determine the problem with the well and to give guidance on how to correct the problem.

Your well water was tested for biological contaminants (total coliform and fecal coliform bacteria). The results were evaluated using the federal drinking water standards.

Drinking water may contain substances that can occur naturally in water or can be introduced into water from man-made sources. Total coliform bacteria are found in soil and fecal coliform bacteria are found in animal and human waste. Total coliform or fecal coliform bacteria in well water indicate that the well may have structural problems or that the well was not properly disinfected.

If you have been drinking the well water and are pregnant, nursing, have a child in the household under 5 years of age, or immunocompromised (such as an individual with AIDS, cancer, hepatitis, dialysis or surgical procedures) inform your physician of these results at your next visit.

If the contamination continues, you should investigate the possibility of drilling a new well or installing a point-of-entry disinfection unit which can use chlorine, ultraviolet light, or ozone.

For further information please contact your county health department or the Occupational and Environmental Epidemiology Branch at 919-707-5900.



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*Environmental Sciences*  
**Inorganic Chemistry**

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**Certificate of Analysis**

**FINAL REPORT**

**Report to: ANDREW CURRIN**

**Name of System:**

**HARNETT CO ENVIRONMENTAL HEALTH**  
 307 CORNELIUS HARNETT BLVD  
 LILLINGTON, NC 27546

**Jennifer Thoresen**  
 118 Hobson Road  
 Dunn, NC 28334

**EIN: 566000306EH**

**Delivery: NC Courier**

StarLiMS ID: **ES180828-0013**

Date Collected: 08/27/2018

Time Collected: 14:00

By: A Currin

Date Received: 08/28/2018

Time Received: 07:38

Sample Type: Raw

Sampling Point: Well head

Well Permit No. 18-5-44110

Sample Source: New Well

Receipt Temp.: 5.0 °C

GPS No.

Comment:

**Profile: New Well I**

Analyte	Test Result	Allowable Limit	Unit	Qualifier(s)
Arsenic	<0.005	0.010	mg/L	
Barium	<0.1	2.0	mg/L	
Cadmium	<0.001	0.005	mg/L	
Calcium	2		mg/L	
Chloride	8.83	250	mg/L	
Chromium	<0.01	0.10	mg/L	
Copper	<0.05	1.3	mg/L	
Fluoride	<0.2	4	mg/L	
Iron	2.01	0.30	mg/L	
Lead	<0.005	0.015	mg/L	
Magnesium	3		mg/L	
Manganese	0.05	0.05	mg/L	
Mercury	<0.0005	0.002	mg/L	
Nitrate	<1	10.0	mg/L	
Nitrite	<0.1	1.00	mg/L	
pH	4.3		N/A	
Selenium	<0.005	0.05	mg/L	
Silver	<0.05	0.10	mg/L	
Sodium	3.9		mg/L	
Sulfate	15.96	250	mg/L	
Total Alkalinity	<1		mg/L	
Total Hardness	18		mg/L	
Zinc	0.13	5.00	mg/L	

Report Date: 09/06/2018

Reported By: **Kenneth Greene**



# Private Well Information and Use Recommendations

## For Inorganic Chemical Contaminants

County: Harnett

Name: Jennifer Thoresen

Sample ID #: ES180828-0013

118 Hobson Rd., Dunn, NC 28334  
Reviewer: Andrew Curran, NCHS

### TEST RESULTS AND USE RECOMMENDATIONS

- Your well water meets federal drinking water standards *for inorganic chemicals*. Your water can be used for drinking, cooking, washing, cleaning, bathing, and showering based on the *inorganic chemical results only*. You may have other water sampling results that are not taken into account in this report.
- The following substance(s) exceeded federal drinking water standards or the North Carolina 2L calculated health levels. The North Carolina Division of Public Health recommends that your well water not be used for drinking and cooking, unless you install a water treatment system to remove the circled substance(s). However, it may be used for washing, cleaning, bathing and showering based on the *inorganic chemical results only*.

Arsenic	Barium	Cadmium	Chromium	Copper	Fluoride	Lead	Iron	
Manganese	Mercury	Nitrate/Nitrite	Selenium	Silver	Magnesium	Zinc	pH	

- a. Sodium levels exceed the U.S. Environmental Protection Agency's (USEPA) Health Advisory level for sodium of 20 mg/l. The North Carolina Division of Public Health recommends that only individuals on no or low sodium restricted diets not use this water for drinking or cooking. It may be used for washing, cleaning, bathing, and showering based on the *inorganic chemical results only*.
   
 b. Levels over 30 mg/l may pose aesthetic problems such as bad taste, odor, staining of porcelain, etc.
- Re-sampling is recommended in \_\_\_\_\_ months.
- Re-sample for lead and /or copper. Take a first draw, 5 minute, and 15 minute sample inside the house (preferably the kitchen) and if possible a first draw, 5 minute and a 15 minute sample at the well head to determine the source of the lead and/or copper.
- The following substance(s) exceeded federal drinking water standards. Your water can be used for drinking, cooking, washing, cleaning, bathing, and showering based on the *inorganic chemical results only*, but aesthetic problems such as bad taste, odor, staining of porcelain, etc. may occur. You may want to install a household water treatment system to address aesthetic problems.

Barium	Cadmium	Chromium	Fluoride	<u>Iron</u>	Magnesium
Manganese	Selenium	Silver	pH	Zinc	

For more information regarding your well water results, please call the North Carolina Division of Public Health at 919-707-5900.


The Environmental Protection Agency (EPA) considers Iron as a secondary contaminants which means it does NOT have a direct impact on health.

**North Carolina State Laboratory of Public Health  
Department of Health and Human Services  
4312 District Dr. – P. O. Box 28047, Raleigh, NC 27607  
Tel 919-733-7308 Fax 919-715-8611 MSC 1918**

**Private Well-Water Sample**

**Full Panel**

*Complete all items – please write legibly.*

<b>Well Identification:</b>				<b>Water source:</b>		
Well Permit #: <u>18-5-44110</u>		<input type="checkbox"/> Existing Well		<input checked="" type="checkbox"/> New Well		
Name: <u>Jennifer Thoresen</u>		<input type="checkbox"/> Community/Municipal		<input type="checkbox"/> Other:		
Physical Address: <u>118 Hobson Road</u>				Type of samples: <input checked="" type="checkbox"/> Raw <input type="checkbox"/> Treated		
City: <u>Dunn</u>		Type of treatment:				
Zip: <u>28334</u>		County: <u>Harnett</u>				
GPS Location:						
<b>Sample Collection:</b>			<b>*Report to EIN:</b>			
*Date: <u>08/27/2008</u>		*Time: <u>2:00</u> AM/PM		EH Specialist: <u>Andres Corrin, NCHS</u>		
Sampling point: <u>Well Head</u>			Health Department: <u>Harnett County</u>			
Authorized agent: 			Address: <u>307 W. Cornelius Harnett Blvd</u>			
			City: <u>Lillington</u>		Zip: <u>27546</u>	
<b>Analysis request:</b>				<b>Other request – contact laboratory prior to sample submittal</b>		
Alkalinity	Chromium	Lead	Selenium	<input checked="" type="checkbox"/> Nitrate/Nitrite		
Arsenic	Copper	Manganese	Silver	<input checked="" type="checkbox"/> Total Coliform/ <i>E. coli</i>		
Barium	Fluoride	Magnesium	Sodium	<input type="checkbox"/> Total/Soluble Iron		
Cadmium	Hardness (T)	Mercury	Zinc	<input type="checkbox"/> Other:		
Calcium	Iron	pH				
<b>Laboratory Use Only:</b>			<b>Sample Identification Numbers:</b>			
Date/Time:						
Received by:		AM/PM				
Delivered by:		US Mail Commercial courier				NC Courier Walk-in
Temperature upon receipt:		Nitrate/Nitrite (°C)				
		Other Containers (°C)				

Mandatory North Carolina New Well Ordinance requires at a minimum testing for analytes in the Full Panel list, Nitrate/Nitrite, and for Total Coliform/*E. coli* which is performed in the Environmental Sciences Microbiology Laboratory. Other Microbiological analyses are listed on a separate sample submittal form.

**\*Required fields. Samples may be rejected if this information is not included.**

North Carolina State Laboratory of Public Health  
4312 District Dr. – P. O. Box 28047, Raleigh, NC 27607  
Tel 919-733-7308 Fax 919-715-8611 MSC 1918

**Environmental Microbiology Private Well Water Sample**

Complete all items – please write legibly.

<b>Well Identification:</b>		<b>Water Source:</b>	
Well Permit #: <u>18-5-44116</u>		<input type="checkbox"/> Existing Well <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Other: _____	
Name: <u>Jennifer Thoresen</u>		<b>Sample Collection:</b>	
Physical Address: <u>118 Hobson Road</u>		*Date: <u>08/27/2018</u>	*Time: <u>2:00</u> AM/PM
City: <u>Dunn</u>		Sampling point: <u>Well Head</u>	
Zip: <u>28334</u> County: <u>Harnett</u>		Collected by: <u>[Signature]</u>	
GPS Location:			
<b>*Report to EIN:</b>		Address: <u>307 W. Cornelius Harnett Blvd</u>	
EH Specialist: <u>Andrew Curran, NCHS</u>		City: <u>Lillington</u>	
Health Department: <u>Harnett County</u>		Zip: <u>27646</u>	Phone: <u>910 893 7547</u>
<b>Analysis Request – Check requested analysis - one per kit</b>			
<input checked="" type="checkbox"/> Total Coliform/ <i>E. coli</i> , P/A	<input type="checkbox"/> Enterococcus, MPN	<input type="checkbox"/> Iron Bacteria/Microscopic Exam	
<input checked="" type="checkbox"/> Total Coliform/ <i>E. coli</i> , MPN	<input type="checkbox"/> Pseudomonas, MPN	<input type="checkbox"/> Sulfur/Sulfate-Reducing Bacteria, P/A	
<input checked="" type="checkbox"/> Fecal Coliform, MPN	<input type="checkbox"/> Heterotrophic Plate Count, cfu/mL	<input type="checkbox"/> New-Well repeat/follow-up	
<input type="checkbox"/> Grade A Milk Program Sample	<input type="checkbox"/> Other (contact laboratory prior to submittal):		
P/A = Presence/Absence		MPN = Most Probable Number (quantitative result)	
<b>Laboratory Use Only:</b>		<b>Sample Identification Numbers:</b>	
Date/Time: _____	AM/PM		
Received by: _____			
Delivered by: <input type="checkbox"/> US Mail <input type="checkbox"/> NC Courier	<input type="checkbox"/> Commercial courier <input type="checkbox"/> Walk-in		
Temperature upon receipt: _____	°C		

DPH Form 4128 (Edited April 2016)

**\*Required fields. Sample may be rejected if this information is not included.**

HARNETT DEPARTMENT OF PUBLIC HEALTH PERMIT  
TO CONSTRUCT A DRINKING WATER SUPPLY WELL

PIN #: 1518-87-7376.000 Parcel #: 021518 0140 Application #: 18-5-44110 Subdivision: \_\_\_\_\_ Lot #: 1

Applicant Name: Jennifer Thoresen  
Address: 520 Zachary Way Garner, NC 27529

Type of Facility Served by Well: SFD

Sewage System: 25% Reduction System

Permit Conditions: Site - 118 Hobson Road (SR 1712)

General Permit Conditions:

- Drinking water supply well construction must meet 15A NCAC 02C.100 rules
- The permitted drinking water supply well shall be located in accordance with the **SITE PLAN**
- **ANY ALTERATION** of the site of the site (including location of structures and appurtenance) or modification in use of the well, may subject this Permit to revocation

Authorized State Agent [Signature] Date 07/06/2018

Grouting Inspection Witnessed \_\_\_\_\_ Date \_\_\_\_\_  
 Grouting self-certified by driller GW-1 provided?  Yes  No

See attachment for construction sketch

WELL CERTIFICATE OF COMPLETION

Date: 07/19/18 Application #: 18-5-44110 Well Contractor: Larry Williford

Applicant Name: Jennifer Thoresen  
Address: 520 Zachary Way Garner, NC 27529  
Directions to Site: 118 Hobson Road (SR 1712)

↓ reference GW-1 Form

Use of Well: \_\_\_\_\_ Date Drilled: \_\_\_\_\_ Total Depth: \_\_\_\_\_ Replacement Well?  Yes  No  
Static Water Level: \_\_\_\_\_ Top of Casing is \_\_\_\_\_ in. above surface. Yield: \_\_\_\_\_ gpm at \_\_\_\_\_ ft.  
Disinfection: Type \_\_\_\_\_ Amount \_\_\_\_\_

**Water Zone (depth)**

**Casing**

**Grout**

From _____ To _____	From _____ To _____	From <u>0</u> To _____
From _____ To _____	Diameter: _____ Material: _____ Thickness: _____	Material: _____ Method: _____
From _____ To _____	From _____ To _____	From _____ To _____
	Diameter: _____ Material: _____ Thickness: _____	Material: _____ Method: _____
	From _____ To _____	From _____ To _____
	Diameter: _____ Material: _____ Thickness: _____	Material: _____ Method: _____

Inspector: \_\_\_\_\_ On Hold Date: \_\_\_\_\_ Release Date: \_\_\_\_\_

Remarks: \_\_\_\_\_

**Well Head Information**

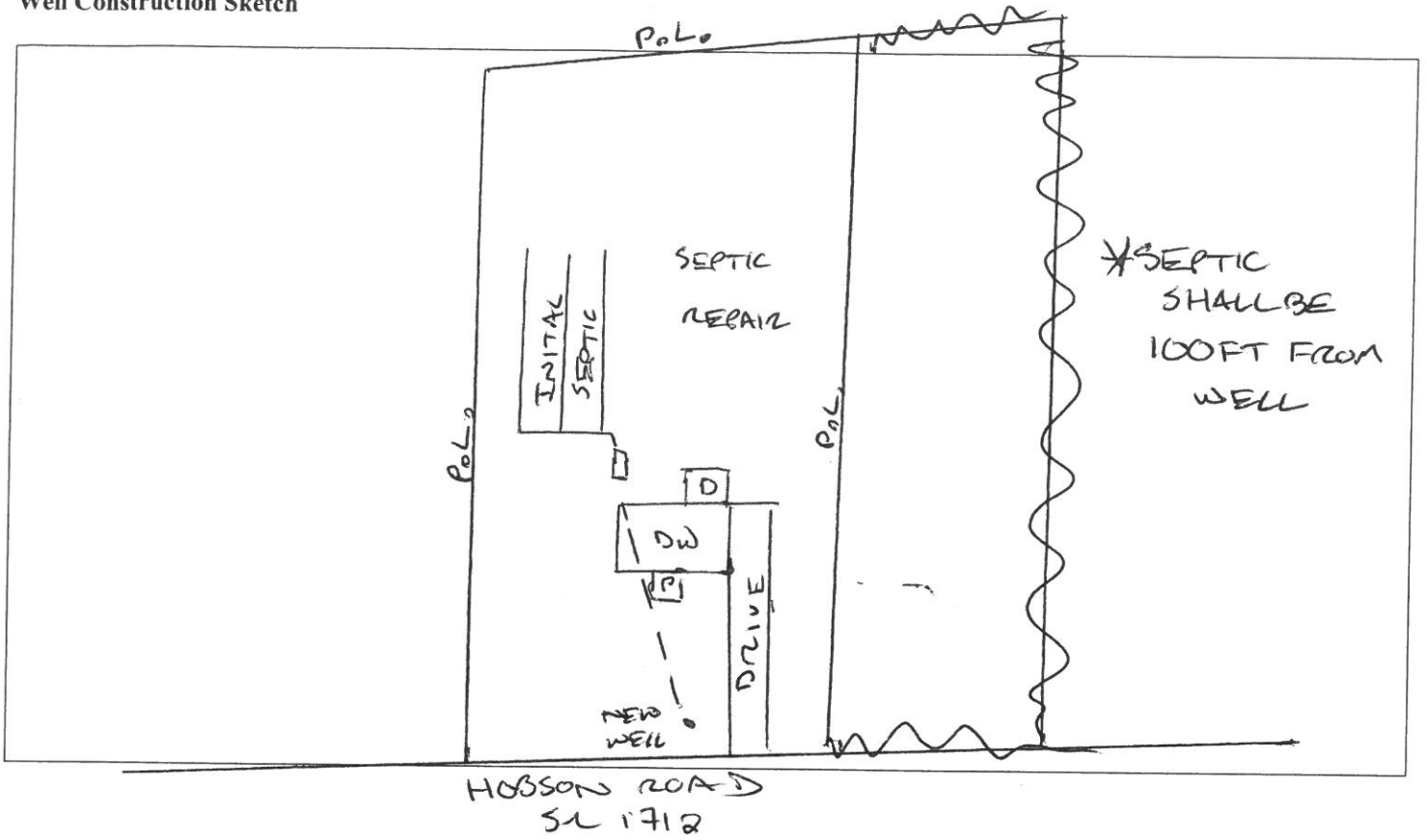
Casing Height: 125 (above finished grade) Access Port: \_\_\_\_\_ Vent Stack: \_\_\_\_\_  
Well ID Tag:  Pump ID Tag:  Sampling Tap:  Backflow Preventer: \_\_\_\_\_  
Sample Taken?  Yes  No Well Head properly sealed:

Remarks: Sample delayed by applicant till power accessible.

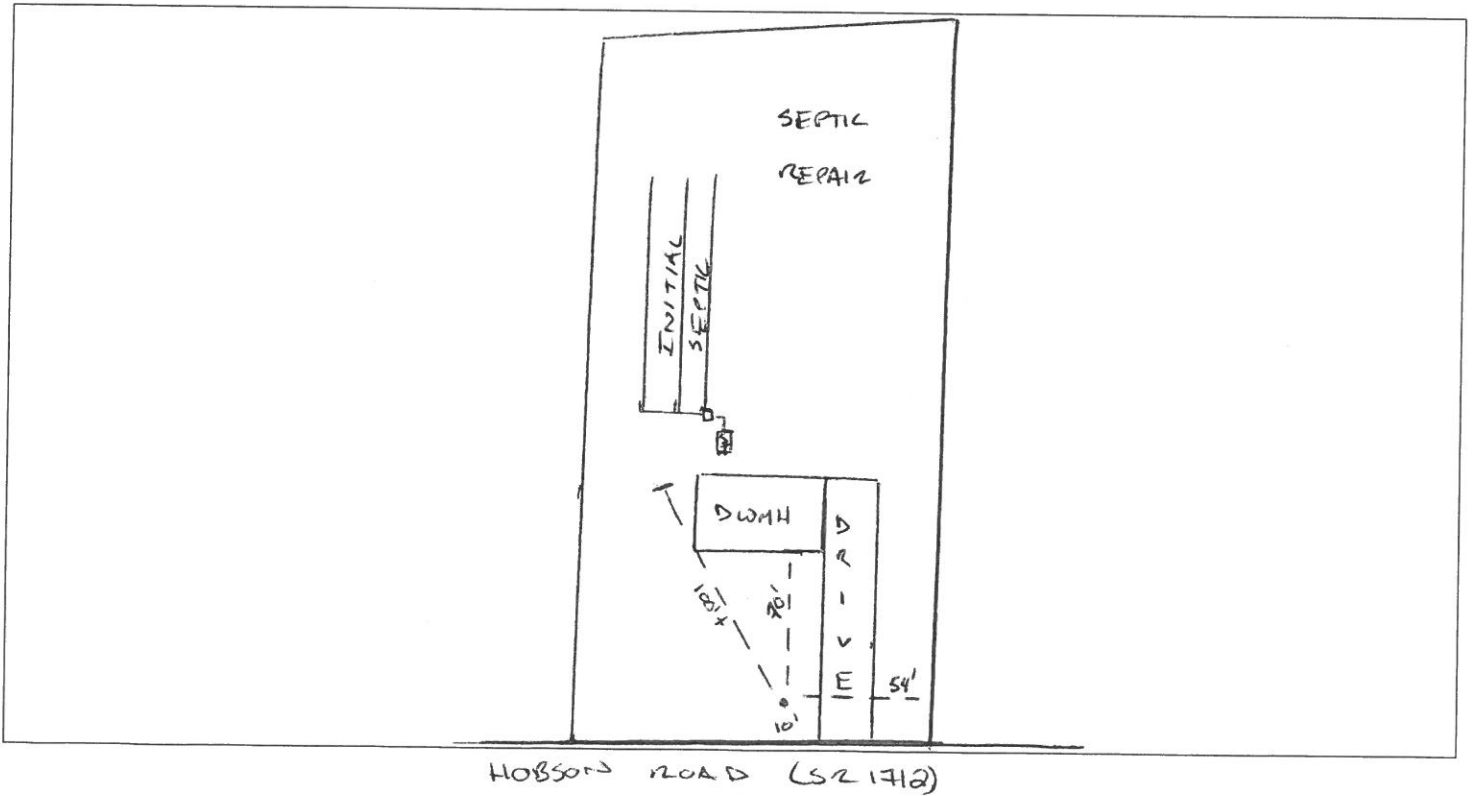
Authorized State Agent [Signature] Date 08/03/18

See Attachment for completion sketch

Well Construction Sketch



Well Completion Sketch





**WELL CONSTRUCTION RECORD (GW-1)**

**1. Well Contractor Information:**

Larry williford  
 Well Contractor Name  
2863-A  
 NC Well Contractor Certification Number  
Williford's Well Drilling  
 Company Name

**2. Well Construction Permit #:** 18-5-44110  
List all applicable well construction permits (i.e. UIC, County, State, Variance, etc.)

**3. Well Use (check well use):**

**Water Supply Well:**

Agricultural  Municipal/Public  
 Geothermal (Heating/Cooling Supply)  Residential Water Supply (single)  
 Industrial/Commercial  Residential Water Supply (shared)  
 Irrigation

**Non-Water Supply Well:**

Monitoring  Recovery

**Injection Well:**

Aquifer Recharge  Groundwater Remediation  
 Aquifer Storage and Recovery  Salinity Barrier  
 Aquifer Test  Stormwater Drainage  
 Experimental Technology  Subsidence Control  
 Geothermal (Closed Loop)  Tracer  
 Geothermal (Heating/Cooling Return)  Other (explain under #21 Remarks)

**4. Date Well(s) Completed:** 7-19-18 Well ID# \_\_\_\_\_

**5a. Well Location:**  
Jennifer Thoresen  
 Facility/Owner Name  
118 Hobson Rd Dunn NC 28334  
 Physical Address, City, and Zip  
Harnett  
 County  
1518-87-7376  
 Facility ID# (if applicable)  
 Parcel Identification No. (PIN)

**5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:**  
(if well field, one lat/long is sufficient)  
35° 21.857' N 78° 36.020' W

**6. Is (are) the well(s)  Permanent or  Temporary**

**7. Is this a repair to an existing well:**  Yes or  No  
If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

**8. For Geoprobe/DPT or Closed-Loop Geothermal Wells** having the same construction, only 1 GW-1 is needed. Indicate TOTAL NUMBER of wells drilled: \_\_\_\_\_

**9. Total well depth below land surface:** 35ft (ft.)  
For multiple wells list all depths if different (example- 3@200' and 2@100')

**10. Static water level below top of casing:** 15 (ft.)  
If water level is above casing, use "+"

**11. Borehole diameter:** 6 (in.)

**12. Well construction method:** Mud rotary  
(i.e. auger, rotary, cable, direct push, etc.)

**FOR WATER SUPPLY WELLS ONLY:**

**13a. Yield (gpm)** 12 Method of test: pumping

**13b. Disinfection type:** HTH Amount: 1/4 cup

For Internal Use Only:

14. WATER ZONE					
FROM	TO	DESCRIPTION			
30 ft.	35 ft.	tan sand			
ft.	ft.				
15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)					
FROM	TO	DIAMETER	THICKNESS	MATERIAL	
1 ft.	30 ft.	2 in.		SCH40 PVC	
16. INNER CASING OR TUBING (geothermal closed-loop)					
FROM	TO	DIAMETER	THICKNESS	MATERIAL	
ft.	ft.	in.			
ft.	ft.	in.			
17. SCREEN					
FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
30 ft.	35 ft.	2 in.	.012		SCH40 PVC
ft.	ft.	in.			
18. GROUT					
FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT		
0 ft.	20 ft.	Bentonite	pour/gravity		
ft.	ft.		3-50lb bags		
ft.	ft.				
19. SAND/GRAVEL PACK (if applicable)					
FROM	TO	MATERIAL	EMPLACEMENT METHOD		
20 ft.	35 ft.	#2 sand	pour/gravity		
ft.	ft.				
20. DRILLING LOG (attach additional sheets if necessary)					
FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)			
0 ft.	2 ft.	topsoil			
2 ft.	7 ft.	sandy clay			
7 ft.	26 ft.	tan clay			
26 ft.	30 ft.	black clay			
30 ft.	35 ft.	tan sand			
ft.	ft.				
ft.	ft.				
21. REMARKS					

**22. Certification:**  
Larry williford jr 7-21-18  
 Signature of Certified Well Contractor Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

**23. Site diagram or additional well details:**  
 You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

**SUBMITTAL INSTRUCTIONS**

**24a. For All Wells:** Submit this form within 30 days of completion of well construction to the following:

Division of Water Resources, Information Processing Unit,  
 1617 Mall Service Center, Raleigh, NC 27699-1617

**24b. For Injection Wells:** In addition to sending the form to the address in 24a above, also submit one copy of this form within 30 days of completion of well construction to the following:

Division of Water Resources, Underground Injection Control Program,  
 1636 Mall Service Center, Raleigh, NC 27699-1636

**24c. For Water Supply & Injection Wells:** In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.