North Carolina Department of Health and Human Services
Division of Public Health

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Governor

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Ambassador (Ret.)
Secretary DHHS

Daniel Staley
Acting Division Director

Onsite Water Protection Branch
February 17, 2014

David and Kathy Mock
467 Murdock Rd
Troutman, NC 28166

Re: Approval No. JMB321

Private Well Located Less than 25' from Building Perimeter [Rule 15A NCAC 2C .0107(a)(2)(M)]

Property location:
467 Murdock Rd
Troutman, NC 28166

Dear Mr. and Mrs. Mock:

On February 10, 2014 the On-site Water Protection Branch received your request for a variance from the Well Construction standards, Title 15A North Carolina Administrative Code Subchapter 2C .0100. The request for a variance concerns a water supply well on the referenced property that currently serves a single family dwelling and a garage addition is planned for the property.

Specifically, the variance request grants you permission to use an existing water supply well at a distance closer than the twenty five foot setback to a building perimeter. Achieving the twenty five foot setback would be difficult given the challenges of the property.

Based upon information provided by the Iredell County Health Department and the property owner, it is my finding that based upon current conditions as the site exist today (as well as the current proposal for use of the structure) you meet the conditions necessary for approval of a variance as specified by 15A NCAC .0118 (a) (1) and (2). On that basis and if the following conditions are met, the requested variance is approved:

1) The wellhead shall meet all current 2C. 0100 standards, including but not limited to being **properly grouted** , terminated at least 12" above land surface, properly sealed, etc .
2) The well shall be sampled for the same parameters as required for newly constructed wells. If samples indicate contaminants, further repairs/treatment may be required.
3) No potential sources of groundwater contamination shall be stored near the well-head.

The granting of this variance is for the well location only. It in no way relieves the owner or agent from other requirements of the North Carolina Well Construction Standards including, but not limited to the requirements in 15A NCAC 2C .0113(b) to repair or to abandon any well which acts as a source or channel for the migration of contamination. This approval does not imply sufficient water quality. Further, the approval does not relieve your responsibility to comply with any other applicable Federal, State, or local laws or regulations.

If you have any questions regarding this variance, please contact me at (828) 713-3335.

Sincerely,

John Brooks

John M. Brooks R.E.H.S, MS

Maximum Contaminant Levels (MCLs) for Drinking Water

Notes: **mg/l** (milligrams per liter) is same as **ppm** (parts per million).
Primary MCL refers to health-related effects.
Secondary MCL refers to cosmetic (skin or tooth discoloration) or aesthetic (taste, odor, or color) effects.
For more detailed information, go to the EPA website www.epa.gov/safewater.

Result	Parameter	Primary MCL	Secondary MCL	Potential Effects
39.2	**Alkalinity**	None	None	Alkalinity is influenced by local rock type and reflects the chemical properties of dissolved constituents.
ND	**Arsenic**	**0.01 mg/l**	None	Arsenic is a carcinogen.
0.013	**Barium**	**2 mg/l**	None	Can cause increase in blood pressure.
ND	**Cadmium**	**0.005 mg/l**	None	Can cause liver damage.
8.9	**Calcium**	None	None	
ND	**Chromium**	**0.1 mg/l**	None	Can cause allergic dermatitis.
ND	**Chloride**	**250 mg/l**	None	Chloride can affect taste, and can indicate salt water intrusion.
ND	**Copper**	**1.3 mg/l**	**1.0 mg/l**	In large doses, copper is dangerous to infants and people with certain metabolic disorders. However, lack of copper intake causes anemia, growth inhibition, and problems with blood circulation.
0.11	**Fluoride**	**4.0 mg/l**	**2.0 mg/l**	Fluoride in concentrations above 4 mg/l can cause skeletal damage. Fluoride in concentrations above 2 mg/l can cause staining.
31.5	**Hardness**	None	None	Indicates the presence of dissolved ions in water.
ND	**Iron**	None	**0.30 mg/l**	Iron may contribute to bad taste, pipe clogging, and clothes, tub, sink, and teeth staining.
0.0018	**Lead**	**0.015 mg/l** (action level)	None	Lead can cause neurological and physical problems, especially in young children.
2.3	**Magnesium**	None	None	
ND	**Manganese**	None	**0.05 mg/l**	In large doses, manganese can cause headaches, apathy, irritability, insomnia, and weakness of the legs. Long-term heavy exposure may result in nervous-system disorders.
ND	**Mercury**	**0.002 mg/l**	None	Can cause kidney damage.
0.39	**Nitrate**	**10.0 mg/l**	None	Nitrates and Nitrites can cause shortness of breath and "blue baby syndrome" in children under the age of 6 months.
ND	**Nitrite**	**1.0 mg/l**	None	Nitrites and Nitrates can cause shortness of breath and "blue baby syndrome" in children under the age of 6 months.
7.5	**pH**	None	**6.5-8.5**	Low pH (less than 6.5) can contribute to the corrosiveness of water and can allow leaching of impurities from pipes into drinking water.
0.0011	**Selenium**	**0.05 mg/l**	None	Too much selenium can cause hair or fingernail loss, numbness in fingers or toes, and circulatory problems.
ND	**Silver**	None	**0.10 mg/l**	Silver can cause skin discoloration (Argyria) if ingested. Additionally, silver is used as an antibacterial agent in home water treatment systems.
4.8	**Sodium**	None	None	Water softeners can contribute to the level of sodium in water.
0.63	**Zinc**	None	**5.0 mg/l**	More than 5.0 mg/l causes a metallic bitter taste and 25 – 40 mg/l may cause nausea and vomiting.

Sources: North Carolina Cooperative Extension Service special project number 91-EWQI-1-9274.
Environmental Engineering and Sanitation, Third Edition; Joseph A. Salvato, P.E..
EPA National Primary Drinking Water Standards June 2003; from www.epa.gov/safewater.

DEH's On-Site Water Supply Branch appreciates the efforts of Mr. Mark Murosky, Craven County Health Department, in the development of this table.