



Water Treatment and Well Pumping System Solutions

To: Radwa Saad

From: John A. Kistler

Date: 8/3/2021

RE: Well inspection 3640 Lawrenceville Rd

On 7/30/2021 we conducted an inspection of the well pumping system. The system is rated as in poor condition and requires substantial improvement work in order to be used as intended for use of delivering reliable and safe water from the well to the residence. The inspection was limited/noninvasive and did not include an in-well camera review, assessment of the in well pipe/wire or the lateral pipe/wire. Nor was a flow test or full water analysis conducted.

Notable issues:

Well Pump / Control Box. The residence is serviced by a 3/4 HP 3 wire 230-volt submersible pump. It is manufactured by Deming (To the best of our knowledge Deming is no longer in business). The pump GPM is unknown. It is serviced by a 12/3 wire and the amperage draw was 5.9 as tested. It is not grounded, and the amp reading is below the running amps as noted on the control box of 6.45 – 7.75. It is not known if the pump is on a dedicated circuit, nor is the breaker size reported. The pump was working at the time of inspection, short cycling and producing pressure. Based on the inspection It is reasonable to conclude that the pump is working at this time, and well beyond its duty cycle. Pump replacement is advised.

Average life expectancy for submersible pumps is 12 to 15 years and it is advised that property owners with well systems budget for the unexpected failure and replacement of a pump.

Most 3/4 HP pumps are set in the well at a depth no greater than 250'. And although we do not know the pump set depth of this pump it is reasonable to conclude that it is within this parameter.

The control box is a Deming and date coded 1962. Based on this we assume the pump is also from 1962. Advise replacement.

The down-well and lateral electric wires, and pipe were not inspected. However, a 12-gauge wire is present and servicing the pump. There is some exposed wire servicing the pressure switch that should be properly shielded.

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Note: With age, galvanized pipe deteriorates and in time will leak water back into the well. Common symptoms indicating this may have occurred include short cycling of the pump, a reduction in pressure, introduction of sediment in the water, and high electrical bills due to excessive pump run time. It is advised that when the pump is changed the pipe is inspected and replaced as needed. So too, the wire. At the time of inspection there was no evidence of a problem with the well water service pipe. Similarly, lateral water lines are subject to leaking, most commonly at the well head due to freeze thaw cycles and other issues associated with the construction. Common symptoms include those listed for galvanized leakage as well as ponding near the leak, and evidence of an over irrigation of the lawn from below. No such evidence of an issue with the lateral line was identified during the inspection.

Well Head: The well head is buried and not inspected. It is advised that the well head is located, excavated and raised for serviceability.

Well Tank and Fittings: The well tank is a Deming and assumed to be original from 1962. It is a bleed back system made of galvanized metal with galvanized fittings. The tank is waterlogged and has not been maintained. There is a broken gauge and no pressure relief valve. It is advised that the tank is replaced with all associated fittings.

Average anticipated and conditional life expectancy of a well tank is 10 to 12 years. A water-logged tank causes the pump to rapidly cycle and shortens the life of a pump.

Filtration and Treatment: A Clack water softener is present. The head unit is off, and the system is in disrepair. Replacement of the system is advised.

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Recommendations:

- Have a comprehensive water test completed which includes arsenic and bacteria/coliform, nitrates/nitrites and other analytcs. We can coordinate this test with an approved DEP lab.
- Locate, excavate and raise the well head (casing)
- Replace the well pump, down well wire, down well pipe and well install a new well cap.
- Replace the water softener
- Properly ground the pump and install a new control box
- Install wire shielding as needed.
- Locate and determine if the system is serviced by a dedicated circuit. Supply one as needed.
- Obtain any service records and information regarding the well and the water delivery system to assist in future service work that may be required.

Blue Heron Water rates well water systems as poor, satisfactory and good for their intended use. This system is rated as poor and requires a complete overhaul.

Blue Heron Water makes no representations on the life expectancy or operational efficiency of any components inspected and is not liable or responsible for any failures or operational issue involving the system, or those that may occur to the well pumping system. The purpose of the inspection is to provide the consumer with a general overview of the well water pumping system. All systems are subject to change due to factors beyond our control, and many issues are not identifiable due to the limited nature of our inspection.

Thank you for providing us with this opportunity to help you better understand the well system inspected. Please telephone with any questions you may have.

Thank you.

John A. Kistler

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