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Report for Jambo Properties

October 27, 2021

Introduction

This report has been prepared following a pump test and water system inspection at 1473 Shore Road in Kingston.

Site Information

Well: drilled
Pump: submersible (1 hp, 230 V)
Aeration System: micronizer with air tank and backwashing filter
Softener: Autotrol (1 cft)
UV Unit: Viqua VH410 with 20" by 2" prefilter

Raw water testing was not done to see what is coming up from the well but an aeration system is normally installed to address sulphur odour and/or iron in the water. (Both are common in this area.)

The water softener is, of course, to soften the water with the intent of improving the aesthetics of the water and protecting other equipment – such as the UV unit and kitchen appliances – from fouling due to hard water scale.

The UV unit is intended to sterilize the water as a barrier against any bacteria that may come up from the well.

Well Yield

Raw data and calculations for well yield have been attached.

The pumping capacity calculation was omitted because the water level in the well did not fall far enough during pumping. To obtain a valid pumping capacity calculation we would need to repeat the test with a more powerful pump.

The calculated recovery capacity was 66 L/min (~ 17 gpm). This is the rate at which the well refilled when pumping stopped and is the number that should be used when discussing the yield of the well.

The real question, of course, is whether the output of this well is sufficient to supply a home.

Going “by the book”, one is supposed to allow 100 gallons of water per day for each member of the family. A family of four would thus be expected to use 400 gallons of water per day. This well pumped about 900 gallons of water in a single hour without running dry.

All yield information is based on the data available at the time of testing only and can change at any time.

Water Quality

Water testing was undertaken for two measures of disease-related bacteria. No total coliform or E. coli were detected in the sample from a tap inside the house (see attached lab report).

Conclusion

We hope that this report contains all the information you require. Please do not hesitate to contact me with any questions.

Sincerely,

William Vander Wilp
MacLellan Water Technology
1-800-200-0865 x 24

Well Yield Raw Data and Calculations

The following is the raw data for the pump test.

Static Level: 7.21 m

Well Depth: 39.93 m

Pumping Rate: 56 L/min

Volume Pumped: 3360 L

Recovery After 50 Minutes: 99 %

Time (min)	Drawdown (m)*	Recovery (m)*
0	7.21	10.26
1	7.70	10.08
2	8.02	9.87
3	8.11	9.55
4	8.25	9.36
5	8.32	9.19
6	8.43	9.01
7	8.60	8.86
8	8.69	8.69
9	8.77	8.51
10	8.90	8.38
15	9.18	8.13
20	9.45	8.00
25	9.62	7.76
30	9.88	7.50
40	9.99	7.39
50	10.12	7.25
60	10.26	

* indicates the water level in the well as measured from the top of the casing

Calculated Pumping Capacity

Omitted.

Calculated Recovery Capacity

Calculated Recovery Capacity = $(3360 \text{ L} * 0.99) / 50 \text{ min}$
= 66 L/min (~17 gpm)