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SUBJECT: SUSTAINABLE YIELD OF THE WATER-BEARING UNIT
ASSOCIATED WITH WELL 168 AT THE BATTELLE'S
WEST JEFFERSON FACILITY

The Environmental Protection and Performance Assessment Directorate (EPPAD) has conducted a sustainable yield analysis of the water-bearing unit associated with Well 168 at Battelle's West Jefferson Facility. This analysis indicates that the water-bearing unit associated with Well 168 and nearby Wells 150, 155, and 172 will not have the capacity to sustain a household well (that is, 2.75 people in the household using 150 gallons per day per person or 150,666 gallons per year) indefinitely.

The calculation for the maximum yield for this water-bearing unit that includes the area around Well 168 referred to as the Bog Area provides enough water supply for 204.8 days (84,480 gallons), which includes 138.4 days of supply from groundwater stored in the water-bearing unit and 66.4 days of supply from recharge to this unit. This is a conservative estimate of the water supply based upon completely depleting the water-bearing unit and a recharge of 5.76 inches (15 per cent of the annual average precipitation). Future water supply, 66.4 days or 27,398 gallons, is limited to the recharge to this unit because the water-bearing unit has been depleted of groundwater during the first year of pumpage.

Based upon the U.S. Environmental Protection Agency's Guidelines for Ground Water Classification Under the EPA Ground-Water Protection Strategy, groundwater in the area adjacent to Well 168, the Bog Area, can be classified as Subclass IIIA, which is not a potential source of drinking water. This classification is based upon the lack of sustainable yield from this water-bearing unit.

EPPAD has concluded that the water-bearing unit associated with the Well 168 is not a potential source of drinking water because its sustainable yield will not support a household well.

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