

# Water Treatment Plant water quality information

## **Background:**

Before the reverse osmosis was installed the treatment process consisted of running well water through eight greensand manganese pressure filters. This process would eliminate high concentrations of iron and manganese but not the ammonia that naturally occurs from the raw water wells. In order to remove ammonia, it is needed to add high amounts of chlorine to the water. The average of chlorine added was **10kg** per day to remove the ammonia to reach **Break Point**.

With the reverse osmosis system that is online it removes ammonia and now the water treatment plant uses between one and two kg per day of chlorine. On average the water treatment plant distribution water chlorine levels are between **0.58 – 0.62 mg/l** for total chlorine which is **Break Point**.

**Break Point** is the comfortable level of chlorine due to a couple factors. It is mandatory to have a free chlorine residual present at the furthest fire hydrant in the Town of Nipawin. Chlorine levels decrease as it travels through the water mains. The plan is to have a high enough level when it reaches the furthest hydrant. It also gives the Town of Nipawin Utilities department enough time to react if the Town of Nipawin has an increased demand for water (ex. House Fire).

By **Saskatchewan Water Security Agency**, The Town of Nipawin needs to have a minimum no lower than 0.50 mg/l of total chlorine. (The residual before any disinfection takes place) leaving the water treatment plant. Town water is tested weekly throughout town and sent to the lab for results to meet the Saskatchewan Water Security standards.

Administration understands that someday people will notice a smell or a taste in the water. This is mainly happening when chlorine levels in the water is not at Break Point. It would be due to either a little too much chlorine or not enough would cause this. In the last few months, the utilities department has been keeping the chlorine levels in Break Point leaving the water treatment plant. Levels of Chlorine may change in the distribution system.

Treating water is a complicated process and there is many factors the Utilities department come across on a daily basis and also the water supply from the raw water wells can change unexpectedly. The utilities department does its best to provide the Town with safe, drinkable water while meeting the required standards.