

91st & College Well Survey Summary

There are many chemicals in drinking water, which are bad for health when consumed more than the maximum contaminant level. Arsenic is one of the chemicals, which is a concern in drinking water and it is a chemical, which exists as a metal and non-metal state (Metalloid). Arsenic (III) and Arsenic (V) are widely distributed through out the earth crust. Arsenic is ubiquitous in Asia and North America.

Arsenic introduced into water through the dissolution of minerals ores (Arsenic sulfide), discharge of industrial wastes, burning fossil fuels, metal production, agricultural use (pesticides and feed additives), and waste burning, etc.

Arsenic in drinking water is absorbed by the body and distributed by the blood stream. Arsenic does not enter through the skin. The body gets rid off arsenic mostly through urine and smaller amount removed through the skin, hair, nails, and sweat. The international agency for research on cancer considers arsenic a human cancer-causing agent. Arsenic effects have been studied in a population such as Taiwan, Bangladesh where the drinking water with very high level (0.35ppm even more up to 1.8ppm). Some of the long term health effects are thickening and discoloration of the skin; decreased production of blood cell, abnormal heart rhythm and blood vessel damage and numbness in the hands and feet. Some of the short term exposures will cause abdominal pain muscular cramping or pain weakness and flushing of skin, skin rash, burning or tingling sensation or pain in hands and feet (black foot disease).

The project Arsenic in wells was started due to a request from residents who have a concern about the quality of water they are using for culinary and bathing. The residents of the 91st on Pennsylvania Street, College Ave and Broad way street were the target population. Overall 53 properties were targeted for this project and out of fifty-three only thirteen of them were willing to participate. Samples were taken for chemical and bacteria analysis.

The out come of the laboratory result indicated that 11 out of 13 samples were above the maximum contaminated level (EPA safe drinking water standard) which is 10 parts per billion).

The laboratory report was given to epidemiology department to make sure whether the elevation of the arsenic content in the drinking water is causing health problem in the focused area and the department could not come up with high incident rate with chronic diseases.

To avoid the unnecessary amount of arsenic from the water it is advised to use alternate source with low arsenic concentration; connect to a public water distribution system, install a water treatment device that can reduce the level (devices that have been certified by an accredited certification organization such as National Science Foundation international, and educate the public about the danger.

Arsenic Project

