

MINUTES
SPECIAL JOINT CITY COUNCIL, PUBLIC WORKS COMMITTEE AND WELLHEAD
PROTECTION COMMITTEE MEETING

OCTOBER 23, 2012

The meeting was called to order by Mayor Jeff Thompson at 5:00 p.m. Members present were Mel Schaefer, Steve Robertson, Department of Health; Bob Brauchler, Donavan Mayer, Carrie Raber, SWCD; Ron Mergen, Public Works Director; Chuck DeWolf, Bolton & Menk; Renee Eckerly, City Administrator; Senator Michelle Fischbach, Dennis Zimmerman, Jeff Bertram, Dave Peschong, Dave Neiman, MN Rural Water; and Melinda Erickson, USGS.

Thompson turned the meeting over to Erickson for the presentation on the crude oil ground water contamination.

Erickson described the Bemidji site and gave some site history. In August 1979 a pipeline burst spilling 1.7 million liters of crude oil. Crude oil also sprayed an area of about 7,500 square meters. An estimated 400,000 liters remained after the initial clean up. Bemidji has been studied for over 30 years and won't be clean for at least another 30 plus years.

It was noted that the area being studied has no wells and no sensitive issues within the area and the ground water flow was only 18 meters per year. The process which they are studying is natural attenuation.

The presentation consisted of several phases:

1. The Oil Phase - The oil movement was explained to have moved downward and outward to approximately 40 meters. Degradation of the oil product resulted in loss of soluble and volatile compounds through dissolution and volatilization. The loss of oil was from 0 to 1.25 % per year.
2. Aqueous Phase - The long term monitoring has shown concentrations of total dissolved organic carbon and dissolved O₂ down gradient from the oil body has remained stable suggesting that the degradation of the plume has reached equilibrium. As of 1996 the leading edge of the plume containing BTEX had moved about 200 meters down gradient, the primary reason is that hydrocarbons have biodegraded under oxic and anoxic conditions.
3. Vapor Phase - It was explained that the distribution of gases has changed considerably since the spill. In 1985 the hydrocarbon vapors reading was over 1 parts per million (ppm) and were 150 meters down gradient, as of 1997 it had receded to 75 meters and likely due to aerobic biodegradation.

Objectives for performance monitoring of natural attenuation:

1. Demonstrate that the natural attenuation is occurring according to expectations.
2. Detect changes in the environmental conditions (hydrogeologic, geochemical, microbiological, or other changes that may reduce the efficacy of any of the natural attenuation processes.
3. Identify any potential toxic and or mobile transformation products.
4. Verify that the plume is not expanding down gradient; laterally or vertically.
5. Verify no unacceptable impact to down gradient receptors.
6. Detect new releases of contaminants to the environment that could impact the effectiveness of the natural attenuation.
7. Demonstrate the efficacy of the institutional controls that were put in place to protect potential receptors.
8. Verify attainment of remediation objectives.

A question and answer period followed the presentation. Erickson would not comment on any local condition or recommendation. It was noted that there are many differences between the sites. The Bemidji site has no well pumping influence, they are not testing to drinking water standards, and this was crude oil not petroleum. The meeting concluded with staff (City, Rural Water & Dept. of Health representatives) being directed to meet in the short term and make some recommendations on what the City should request.

There being no further business the meeting adjourned at 6:45 p.m.

Renee Eckerly, City Administrator