



"creating healthy communities"

UTAH COUNTY HEALTH DEPARTMENT

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To: Dr. Joseph Miner
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17 March 20, 2006

From: John B. Amadio PhD *JBA*
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Subject: **Saratoga Springs residents environmental concerns.**

As per your request of early January 2006, I have checked all available state and local records that measure environmental conditions in Saratoga Springs, Utah. My preliminary findings were shared with you on 2 February 2006. Since then I have talked with some of the concerned residents of the Harvest Hills subdivision in Saratoga Springs. They questioned the safety of the water supply and the irrigation water. They also expressed concerns about any possible effects of local radon levels, chemical contaminants and the impact of explosives used at the nearby Camp Williams. From their discussions with each other they have become aware of what they think are high levels of fetal deaths, miscarriages, leukemia, and Multiple Sclerosis. I have delayed this final report until I could obtain the most up to date information. The records indicate the following:

1. **The drinking water in Saratoga Springs** comes from six deep wells. The Harvest hills subdivision is served by well # 4.
2. The drinking water is tested for **bacteria** monthly at many sites throughout the system. All tests in 2005 indicated that the water was safe from bacterial contamination.
3. The drinking water is tested every three years for potentially harmful **chemicals**. The 2003 tests and the just completed 2006 tests found that all chemicals present were well below allowable levels. Lead levels vary slightly between the wells. The 80 + sampling sites around the town were all found to be well below the 15 ppb safety level for lead. Well # 4 had lead levels ranging from 1 to 2 ppb in the 40 tests conducted in December of 2005. The **Arsenic level** in the most recent tests of well # 4 showed the water to contain 3.3ppb. That is less than 1/3 of the new EPA maximum allowable level of 10ppb. The EPA arsenic standard was recently reduced from 50 ppb.
4. **Pesticide residuals** tested for in the drinking water in November 2005, were either not detected or were found to be considerably below allowable safe levels.
5. The City of Saratoga Springs distributes an **Annual Drinking Water Quality Report** to residents that contains details of the above information.
6. **Lawn irrigation water** comes from separate wells in the area. It does not operate in the winter. Chemical and bacteria test of irrigation water are planned by the City for late April to provide reassurance to the residents.

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7. **The Radon levels** in the area are near normal for Utah. Approximately 10% of Radon tests in the zip code that includes Lehi, Saratoga Springs and some of Eagle Mountain showed slightly elevated radon levels. There were no elevated test addresses that specified the Harvest Hills location. Radon is easily removed by proper venting. I instructed the concerned citizens to purchase a simple radon test kit from local hardware stores and perform a test of their own homes if they were still concerned.
8. **Cancer data** on the area is very limited. The Utah Cancer Registry shows that the incidence of all types of cancer, in the census tracts in the 84043 zip code area, is below the expected level as compared to the State of Utah. The leukemia levels are considerably below the state level.
9. **The 5 fetal deaths** in the area came after two years of zero fetal deaths being reported in the area. Normally, in such a population we would expect about 5 fetal deaths per 1000 live births. With about 350 births per year in the area 5 seemed high. Upon closer examination of the official reports on the fetal deaths, I learned that two of the deaths related to maternal problems and an additional death was related to an injury during the pregnancy. That information reduces the number of fetal deaths from other causes to 2 in 350 births for 2005. This level is not statistically higher than what would have been expected.
10. **Multiple Sclerosis.** One of the concerned citizens agreed to collect more details on the MS cases that she had heard about. As of today, I have not received that information. No detailed information was found as to exactly how many new cases of MS occurred in the area in 2005. The predominant age of the residents of Harvest Hills is 25-35. This is the age group in which MS is usually first detected, so some cases would be expected. It is not known what triggers MS.
11. **Miscarriages** are not tracked by state or local statistics. With the high number of births in the population of Saratoga Springs, a fair number of miscarriages would be expected. Without good statistical data there is no way to determine if an unusual level of miscarriages is occurring. Inadequate prenatal care, stress and spacing of children play an important role in miscarriages. A study of these factors would be difficult and costly.
12. **Explosives** used at Camp Williams are a considerable distance from the homes in Harvest Hills. The prevailing wind patterns are away from the subdivision. Nitrates are the primary by-products of explosive chemicals. The nitrate levels in the Saratoga Springs drinking water were found to be very low.

Conclusions:

Due to the social communication and interaction of the residents of Harvest Hills, they are more aware of the illnesses occurring in their area than most people are. This awareness may give the residents a perception that they are experiencing a higher than normal incidence of disease even though these common diseases may be occurring at normal levels. **The disease rates in Saratoga Springs, Utah, appear to be normal. No environmental hazards have been detected by environmental tests conducted over the recent past.**