

Arsenic and other Heavy Metals in Swimming Pools fed by Hot Springs in Utah Valley and the Wasatch Range

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Abstract. The State of Utah and Utah County are considering regulations on swimming pools fed by hot springs. The issues are whether swimming pool water should meet drinking water standards, especially with regard to As, and whether source water or pool water should be regulated. The objective of this study is to compare As and the heavy metals normally associated with As in pools fed by hot springs with the sources of those pools. The sites under study are three swimming pools in Saratoga Springs that are owned by the Saratoga Springs Homeowners' Association, nine informal swimming pools at Diamond Fork Hot Springs on U.S. Forest Service land, and two illegal swimming pools at Genola Warm Springs Wildlife Management Area. Results thus far indicate elevated As levels for Saratoga Springs (As = (0.063 ± 0.002) mg/L), Diamond Fork (As = (0.15 ± 0.08) mg/L), and Genola Warm Springs (As = (0.046 ± 0.002) mg/L), as compared to the EPA standard of As = 0.010 mg/L for drinking water. Elevated levels of Cu ((2.8 ± 0.4) mg/L) found at Saratoga Springs also exceed the EPA drinking water standard of Cu = 1.3 mg/L. In addition, elevated levels of Cu ((0.07 ± 0.04) mg/L), Co ((0.006 ± 0.004) mg/L), Mn ((0.4 ± 0.1) mg/L) and Zn ((0.07 ± 0.01) mg/L) have been found at Genola Warm Springs. At Genola Warm Springs there are statistically significant differences in source and pool chemistry for Cu, Co, and Ni, but not for Fe, Mn and Zn.

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