

6 Summary of Findings

Overall, this evaluation indicates a trend toward decreasing cumulative cancer risk estimates and noncancer hazards for all contaminants of potential concern (COPCs), except 1, 3-butadiene, at all four monitoring sites (Bell, Rulison or Battlement Mesa, Parachute, and Rifle) from 2008 to 2012. The major findings for the site-by-site comparison across the three sites (Bell, Parachute, and Rifle) with air monitoring data for all five years are summarized in Table 14.

The specific findings across the four monitoring sites are briefly discussed below:

1. Cancer Risk – Six carcinogenic COPCs with known toxicity values include acetaldehyde, 1, 3-butadiene, benzene, crotonaldehyde, ethylbenzene, and formaldehyde (Table 1). The majority of these chemicals are classified as “known” or “probable” human carcinogens by the federal agencies (Table G1). In addition, EPA’s provisional screening-level surrogate toxicity values are available to evaluate 45 aliphatic hydrocarbons C₅-C₁₈ with suggestive evidence of the carcinogenic potential (Table G1).

- From 2008 to 2012, the estimated cumulative lifetime cancer risks for all carcinogenic air toxics range from 98 to 443 in one million, with the highest estimate of 443 in one million in 2008 and the lowest estimate of 98 in one million in 2012 (vs. EPA’s acceptable cancer risk range of 1 to 100 excess cancers in one million or 1E-06 to 1E-04) across all four monitoring sites (Table 8 and Figure 1a). This finding indicates a low to moderate increased risk of developing cancer.
- There is a 1- to 4.5-fold decrease in the cumulative cancer risk estimates from 2008 to 2012 based on the monitoring site location (Table 9; Figure 1a).
 - the highest decrease (4.5-fold) is at the Parachute monitoring site
 - the lowest decrease (1.4-fold) is at the Rifle monitoring site
 - an average decrease (2-fold) is at the Bell Monitoring site
- At the Rifle monitoring site, there is no change in the estimated cancer risk pattern in terms of the major risk contributing chemicals from 2008 to 2012 (Tables 9 and 14).
 - the percent contribution of carbonyls to total risk is the highest from 2008 to 2012
- At the Bell and Parachute monitoring sites, there is a change in the estimated risk pattern in terms of the major risk contributing chemicals from 2008 to 2012 (Tables 9 and 14).
 - the percent contribution of aliphatic hydrocarbons C₅-C₁₉ to total risk is the highest in 2008