

Visual Impacts of the Rosemont Copper Mine on Saguaro National Park

July 28, 2011

The National Park Service, under which Saguaro National Park is administered, was established by the Organic Act of 1916 (16 USC 1) with a mandate “to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” In compliance with that mandate, this report is an analysis of potential visual impacts to Saguaro National Park (Park). Potential visual impacts would be caused by construction and operation of the proposed Rosemont Copper Mine project on public and private lands to the southwest of Saguaro National Park (East District).

The analysis of impacts consists of 1) geographic information systems (GIS) viewshed analyses of areas within the park where the Rosemont mine would potentially be visible; and 2) reviews and assessments of GoogleEarth® simulated views of the project boundary from the top of Rincon Peak (a high elevation view) and along the Tanque Verde Trail above 4000 feet elevation (a low elevation view). The five viewshed analyses (for the proposed action and four alternatives in the Rosemont Copper Mine Draft EIS) are graphically depicted (Figures 1 through 5) and a table showing a comparison of the acres of park visibility and miles of park trail visibility for the proposed action and alternatives are shown in Table 1 below. The Draft EIS visual boundary of analysis for the project area follows the ridge of the Rincon Mountains, and therefore lies within the park. The analysis boundary is shown on the viewshed maps. The simulated high and low elevation views are shown in Figures 6 and 7.

Table 1. Acres of Park Visibility and Miles of Trail Visibility within the Rosemont Bounds of Analysis

	Proposed Action	Phased Tailings	Barrel	Barrel Trail	Scholefield-McCleary
Park Visibility - Acres*	8,537 (14.5)	6,954 (11.9)	13,331 (22.7)	16,000 (27.3)	16,836 (28.7)
Trail Visibility - Miles of Trail	13.0 (10.8)	11.4 (9.4)	19.7 (16.4)	23.2 (19.3)	24.4 (20.3)

*The numbers in parentheses are the percentage of total park acres or percentage of total miles of park trails within the Bounds of Analysis

The viewshed analyses show that visibility of the Rosemont mine pit and waste piles are generally confined to the Tanque Verde Trail ridgeline south to Rincon Peak. Thus, the trail and the peak would serve as useful park features to assess the impacts to park visitors and to park visual quality.

The line-of-sight view from Rincon Peak to the Rosemont project boundary is approximately 23.5 miles. From this point of view (at an elevation of 8482 feet) much of the project area would be visible, with some portions obscured by the intervening topography surrounding Mount Fagan. The pit face and waste rock piles would be

visible, but these features would likely be indistinct to the naked eye because of the long viewing distance, atmospheric haze, heat shimmer, and dust. Magnified views would show mine features more distinctly, but year-round dust production from waste rock dumping and wind-borne dust from the waste rock piles would continue to obscure long-distance visibility. It should be noted that the impacts to scenic quality caused by the mine's surface disturbances and landscape color changes would be consistent with other landscape disturbances within the range of view from the peak. These disturbances would include views of the Tucson metropolitan area, and other large-scale mines northwest of the Santa Rita Mountains.

The view from the Tanque Verde Trail (this point of view is located at Latitude/Longitude 32.200222, -110.616572, elevation 6500 feet) shows the Rosemont project area as being almost entirely obscured from view by Mount Fagan and the elevated topography surrounding that mountain. Some portions of the upper pit face and waste rock piles would likely be visible, but as discussed above for Rincon Peak, the viewing distances from the trail would be long (approximately 25.9 miles from this point of view along the trail). Heat shimmer, and atmospheric dust and haze would likely further obscure the view for naked eye viewers. Magnified views of the project area would show more detail, but much of the project's features would remain hidden from view behind the existing topography.

Note that both simulated views are based on topography alone; vegetation may partially screen views from trails and viewpoints.

In conclusion, the simulated high and low elevation views of the Rosemont project from within the park's eastern district show that there would be impacts to scenic quality because mine features would be visible. However, the degree of visual impacts, reduced by distance, intervening atmospheric conditions, and topography, would not likely cause an impairment of the park's scenic quality.

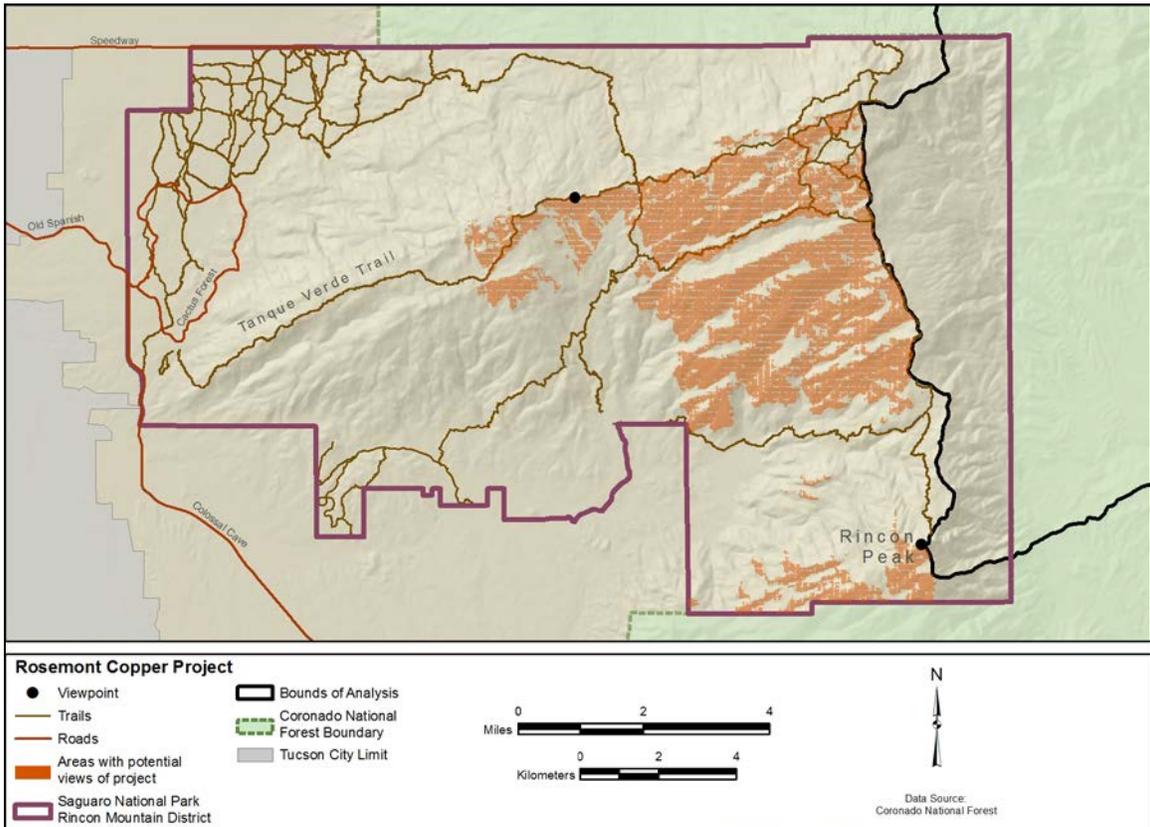


Figure 1. Visibility of the Rosemont Proposed Action

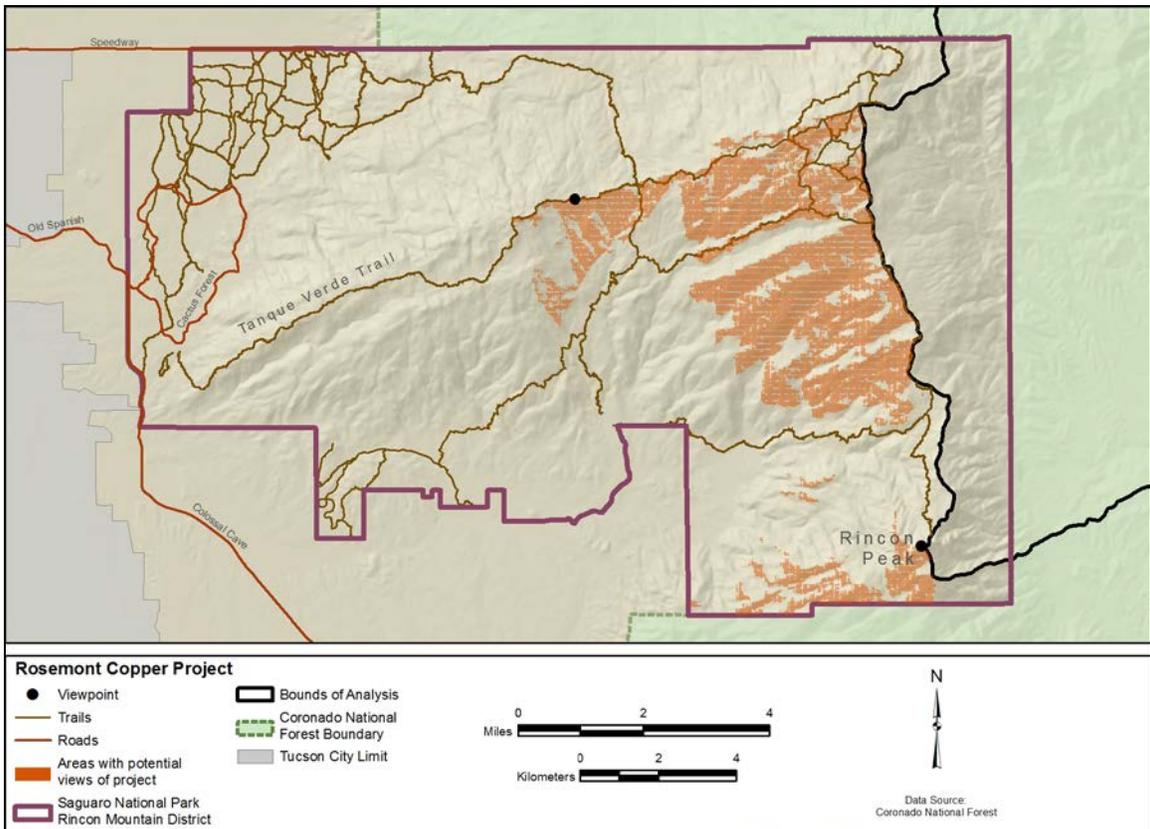


Figure 2. Visibility of Rosemont Phased Tailings Alternative

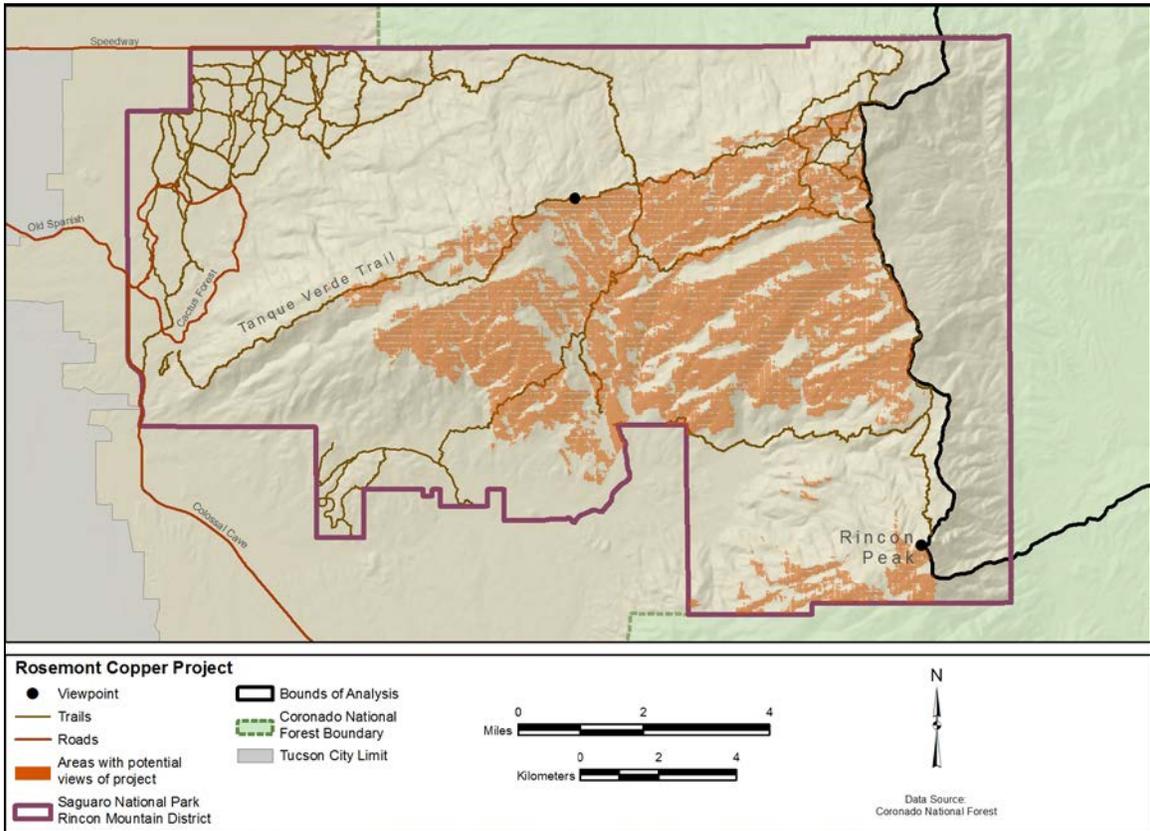


Figure 3. Visibility of the Rosemont Barrel Alternative

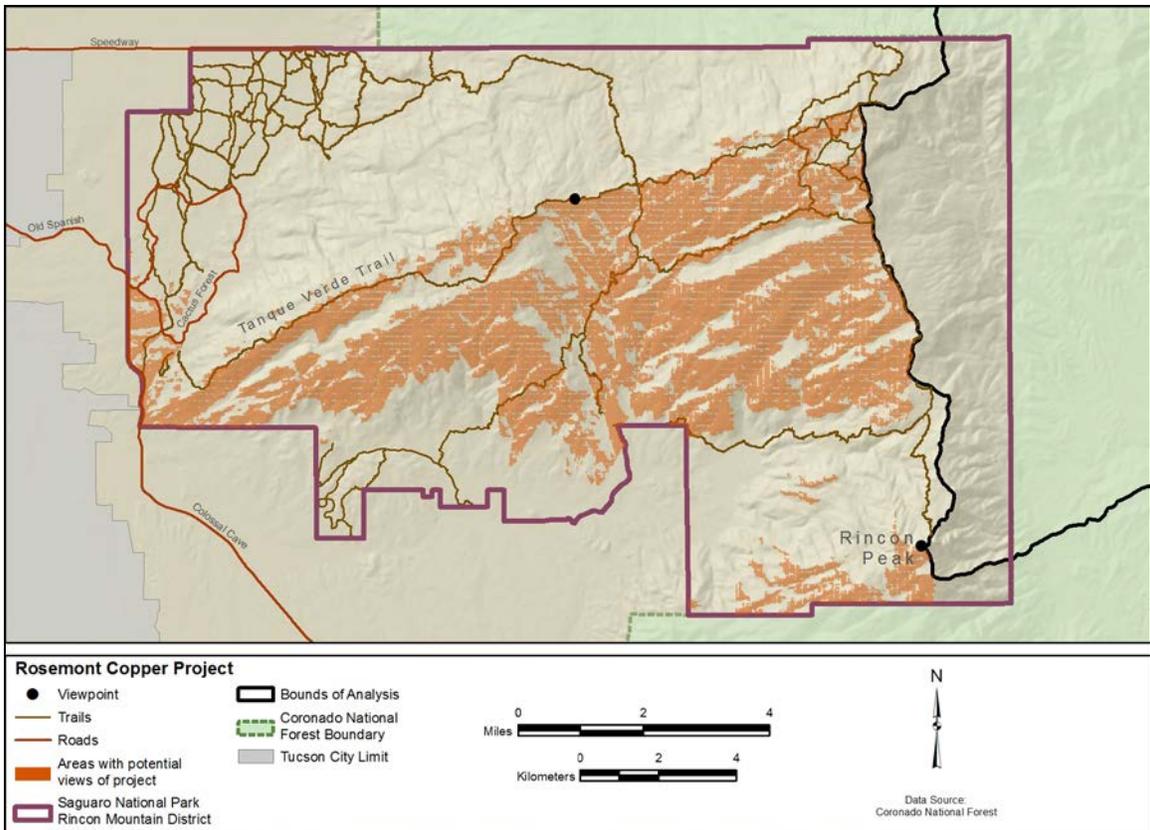


Figure 4. Visibility of the Rosemont Barrel Trail Alternative

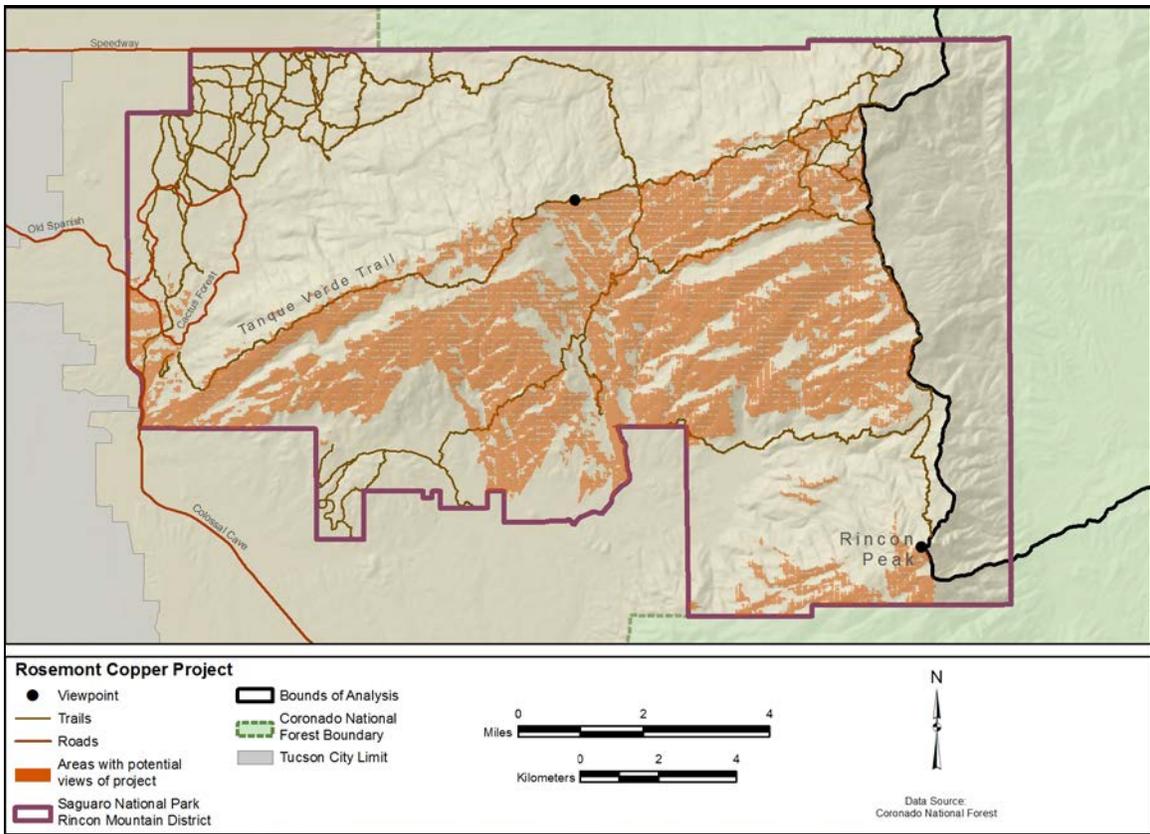


Figure 5. Visibility of the Rosemont Scholefield-McCleary Alternative

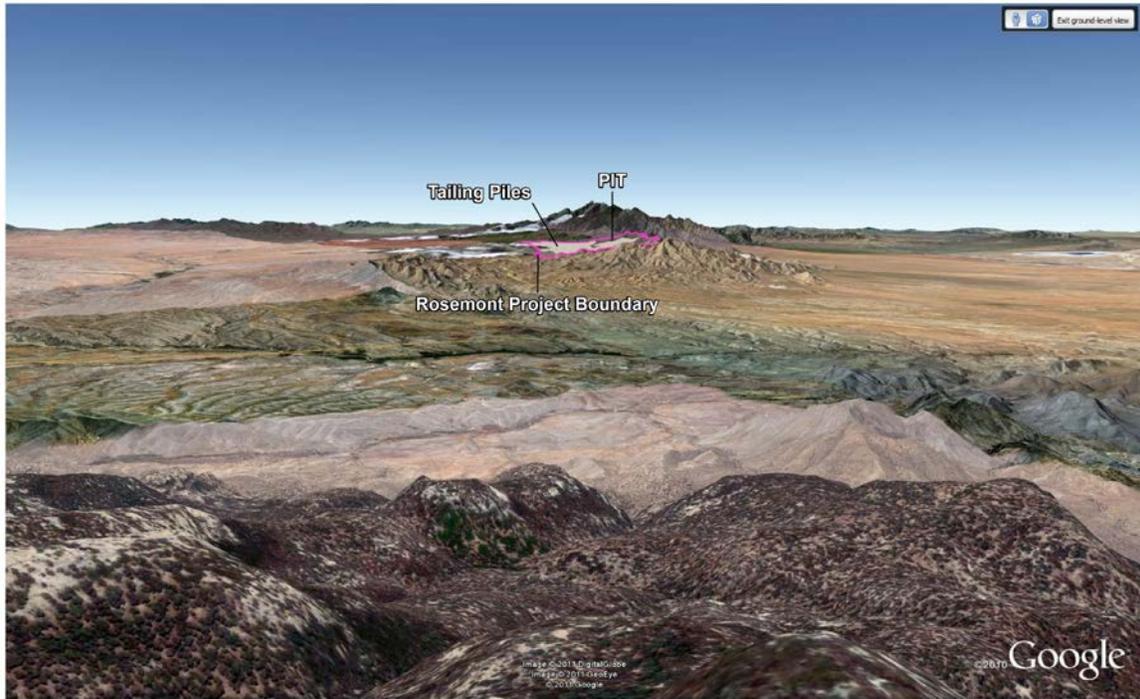


Figure 6. View of the Rosemont Project from the top of Rincon Peak. Note that the obvious landscape discolorations and abrupt color changes in these images are artifacts of the GoogleEarth® aerial photos and do not show true landscape and vegetation colors.

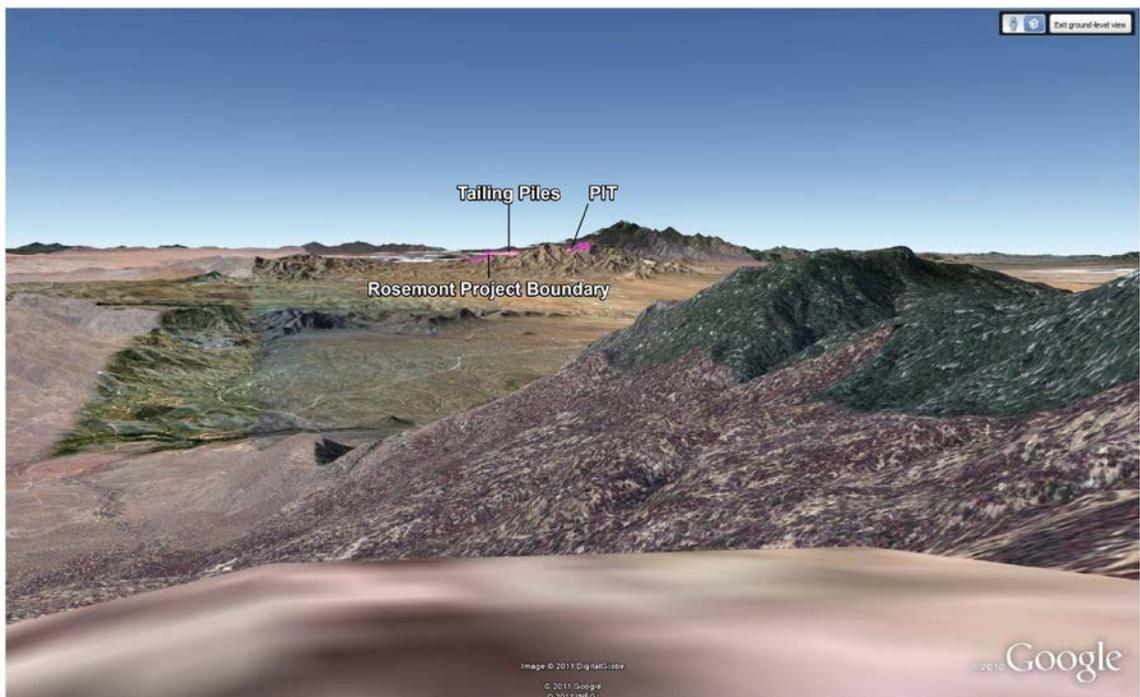


Figure 7. View of the Rosemont Project from a point along the Tanque Verde Trail