

Evaluating Cultural Resources for Alternatives to the Rosemont Mine Plan of Operation.

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Nov. 18, 2009

Summary: The Coronado National Forest is in the process of preparing a Draft Environmental Impact Statement (DEIS) for the proposed Rosemont Copper Mine Plan of Operation. The DEIS will include evaluation of environmental effects for an as yet finalized number of alternatives. Included in those environmental effects are likely impacts to cultural resource sites. At the present time, review of existing data from past field investigations is considered to be an adequate and appropriate method for comparing the likely effects of different alternatives. The one exception to the recommended review of existing data is the “modified MPO” developed largely by Rosemont, and specifically the new proposed access route. Review of existing cultural resource site information suggests the new access route will likely affect a number of sites, including AA:. We recommend that alternatives to the mapped route be considered to minimize impacts to significant archaeological sites.

Current Status: SWCA conducted archaeological survey of the Area of Potential Effect (APE) for the Rosemont MPO as it was proposed in 2007. The SWCA survey entailed inventory survey (i.e, a USDI Class III survey) of some 6224 acres, including 5261 acres around the mine footprint (the pit, processing plant, tailings, and waste rock storage areas), 638 acres along proposed utility corridors, and 325 acres along proposed access routes.

Since that survey was conducted, a number of alternatives to be considered in the EIS have been proposed by the proponent, the Forest Service, and by cooperating agencies. While alternatives have received considerable attention, the list of specific alternatives to receive more detailed environmental effects analysis has not yet been finalized. Alternatives have been proposed with the goal of reducing the effects of the mining project on a suite of environmental resources and issues, including archaeological sites. Different alternatives would change the Area of Potential Effect to varying extents.

SWCA’s survey for the MPO covered the core area of all proposed alternatives, since all involve the same pit and processing facilities locations. The alternatives that have been under consideration differ in the location and extent of tailings and waste dumps. Most of these alternatives include additional land that is outside the area of the SWCA survey. However, virtually all of the additional land was included in the previous ANAMAX-Rosemont archaeological investigations.

Ideally, to compare the effects of the MPO on archaeological resources with the effects of the alternatives on archaeological resources, we would use comparable data. That is, the additional areas would be surveyed for cultural resources with the same quality and intensity of SWCA’s survey of the MPO, using the same survey procedures and site recognition and description criteria. However, if time constraints prevent inventory survey of all alternatives, an alternative approach could provide a basis for comparison. Specifically, a more expeditious approach is considered acceptable for the following reasons:

First, the footprints for some of the alternatives have not yet been determined, so the APEs are as yet undefined. Even if all APEs could be defined immediately, there is insufficient time to complete survey of the additional areas before the Draft EIS is scheduled for completion.

Second, some of the alternatives are likely to be practically or environmentally infeasible, and will drop out of consideration.

Third, all of the areas currently under consideration have been subject to previous inventory survey, primarily by the Arizona State Museum for the ANAMAX-Rosemont project in the 1970s-1980s. Because site definition procedures employed by the initial ANAMAX survey differ from current standards, the ANAMAX survey data will not be sufficient for final identification and evaluation of heritage resources. However, they do allow a general comparison of different alternatives in regard to the number and types of archaeological sites that are likely present and subject to impact by the project. Comparison of SWCA's recent survey results for the MPO with previous survey data suggests that the previous survey data can be reliably used to make predictions about the density and types of archaeological sites that will be present in the APE's of the alternatives.

Fourth, mitigation measures for archaeological sites are expected to be similar no matter which alternative is selected. If an alternative other than the proposed MPO is selected, a complete, comparable archaeological inventory survey of additional areas will be required before the decision and the Final EIS.

Recommendations: If complete inventory surveys of the APE of all alternatives for the DEIS is not feasible, we recommend that the assessment of the relative potential impacts of each alternative be made on the basis of review of previous survey and excavation data (i.e., a USDI Class I survey). We recommend that SWCA review ANAMAX survey and excavation data for the areas in question, particularly the loci recorded during the initial surveys. Review should include maps, cards, the computer spreadsheet, Debowski's draft survey report, and published reports on excavations. The initial ANAMAX survey, reported by Debowski, identified archaeological "loci" rather than sites. A review should include a preliminary determination of which loci are probable sites, and which are Isolated Occurrences. In addition, we request that SWCA conduct field reconnaissance visits to a selection of loci judged to be probable sites to see if they indeed meet current site-definition standards.

One alternative under consideration – the modified Rosemont MPO -- stands out from the others in that it involves little change in the geographic extent of the mine footprint. However, one fundamental difference from the initial MPO is the location of the proposed access route. The new access route appears to have greater probable impacts than the initial route. cursory review shows that the proposed route crosses at least 9 previously recorded sites, including the Ballcourt Site. Given that Rosemont Copper has indicated that they are willing to avoid impacts to the Ballcourt Site, the layout of the route through the site may be subject to change. In this case, we recommend a new inventory survey be made soon to identify sites that would be affected by the new proposed route. We also recommend that additional alternatives routes be considered with Rosemont Copper to avoid impacts to the Ballcourt Site.

Preliminary Assessment of Alternatives

The following comments on the potential effects of the different alternatives identified as of September 2009 are based on those made in Gillespie.

Proposed Action (initial MPO): Specifics are best known since SWCA has completed survey of the proposed action, identifying some 93 sites. In addition to the "mine footprint" (i.e., the area inclosing the pit, processing plant, waste rock and tailings disposal, the survey included two access routes and a waterline route. The majority of sites are in the mine footprint area, and the majority of sites identified there were initially located during the ANAMAX survey, though only those loci that were subsequently tested were

given site numbers. Major sites that would be impacted include the Rosemont Ranch Site (the longest-lived precontact habitation with the greatest number of burials) and several smaller habitation sites. Bumblebee Village is just outside the area of direct disturbance, but close enough that it could be impacted. Historic sites that would be impacted include the historic component of Rosemont Ranch, Old Rosemont, the Rosemont Ranger Station, and Martinez Ranch.

Rosemont's Modified MPO: The Rosemont's modification has a similar footprint to the MPO with only minor changes. Changed location for the main access route from Scholefield Canyon to a location farther south; as shown on maps, this new route has greater probability of impacting sites. cursory review shows that the proposed route crosses at least 9 previously recorded sites, including the Ballcourt Site. These additional impacts may be avoidable: alternatives to the route need to be considered and inventory survey conducted.

Sycamore Canyon: The Sycamore Exclusion Area as mapped by TetraTech includes approximately 917 acres in addition to the SWCA MPO survey. The additional area was surveyed during ANAMAX project. The southern portion, was included in the initial Fritz et al. survey as Study Area 4, and reported by Debowski. The northern portion was included in the 1981 supplemental survey of 3.5 square miles by Ferg, Huckell and Ervin (ref. date). The 1981 survey used more standard site definition criteria, rather than the Fritz locus system, which makes the results easier to assess. The survey located only two sites (b) (3) [REDACTED], both of which were subsequently excavated and reported by Tagg and Huckell (1984).

It appears that seven loci were initially identified by the Fritz survey; five in upper Sycamore and two in upper Scholefield, north of the SWCA survey area. Only one of these was excavated (b) (3) (A) [REDACTED] a historic building platform and associated trash that was reported in Ayres (1984). The others appear to be isolated occurrences rather than sites, but field verification would be useful???or not?.

Together, the two ANAMAX surveys in upper Sycamore found less than one site/square mile, a notable contrast to their results immediately to the south and east in the Barrel-Davidson drainage. Resurvey may result in additional sites, but these previous results, and our past visits to the canyon, suggest it's very unlikely that any major habitation sites are present.

Barrel Only Alternative: A number of different versions of this alternative have been proposed. At present, no decision of specific footprint has been made. A version on the Rosemont WebEx site indicates approximately 190 acres outside the SWCA survey area would be added. This area is in what ANAMAX archaeologists called South Canyon and Rosemont Copper calls Trail Canyon. The ANAMAX Rosemont project investigated a number of sites in this area; approximately 40 loci were recorded during survey and 3 sites were excavated (b) (3) (A) [REDACTED]

Scholefield/McCleary Alternative: TetraTech's Scholefield Exclusion Area boundary includes most of Scholefield Canyon west of the Hidden Valley Ranch. Approximately 780 acres are outside the SWCA MPO Survey area. SWCA did survey the initially proposed access route through Scholefield Canyon and reported two sites within the added area. The ANAMAX survey located some 40 loci within this area, most of along the east side, in the vicinity of Scholefield Ranch. The western portion of the area is dominated by steep rocky hillsides where site probability is low. None of these loci was investigated during testing or

data recovery phases; accordingly, no ASM site numbers were assigned during the ANAMAX project. Many of the ANAMAX loci are probable isolated occurrences that do not meet site-definition criteria.

Future Cultural Resource Requirements: We also emphasize that cultural resource obligations do not end with the EIS and a decision on an alternative. If an action alternative is selected, additional phases of investigation must be undertaken. These include inventory survey of all parts of the APE and evaluations of National Register eligibility for recorded sites, archaeological testing for sites where eligibility is uncertain based on available data, development of a data recovery plan for eligible sites that will be affected, including plans for archaeological data recovery, treatment of human remains, and a memorandum of agreement with consulting parties under Section 106 of the National Historic Preservation Act. In addition, evaluation of the impacts to Traditional Cultural Properties will take place.

From the archaeological perspective, it would be possible to mitigate the effects of the mine on the scientific values of the sites through a program of archaeological testing and data recovery. However, the sites are significant beyond their information potential: to the Four Southern Tribes, the pre-contact villages mark the territory of their ancestors, and the graves of their ancestors should be respected, and not disturbed. To the Hopi Tribe and the Pueblo of Zuni, the sites are the footprints of their ancestral clans who passed through southern Arizona. To the San Carlos Apache Tribe, the MPO is a holy place, where medicinal plants are still collected. To the Mescalero Apache Tribe, the MPO is a storehouse of important traditional plants and mineral resources. To some of the current residents of the region, the MPO is a historic cultural landscape.