

Rosemont Copper Mine

Objection Review

Objection # (s): 0016-KPaul; 0020-MIngram; 0025-WBunting; 0079-JMoney; 0084-SSSR; 0091-PimaCounty; 0108-DPierson; 0112-KWillmarth; 0122-PimaAssocTaxpayers

Resource Area(s): Mining Plan of Operations – General (MPO-1)

Objection Issue:

- 0084-60: Rosemont is proposing, and the USFS is accepting, an annual mining rate much above that which has been successfully achieved in dry stack operations at copper mines.
- 0084-65: Ore reserves, mining rate: The FEIS states that the proven and probable sulfide reserve is 667.2 million tons. (FEIS at 33.) This is also the figure given in the 2012 Updated Feasibility Study. (at 6, Table 1-3.) However in Table 7, P. 82 the figure for sulfide ore to be produced is 707,471,000 tons and the same figure appears in the draft ROD and is described as the amount of sulfide ore to be mined over the life of the mine. (FEIS at 82, Table 7.) There is not any specific explanation for the 40 million ton discrepancy but elsewhere the FEIS says that oxide ore in the Barrel Alternative (the "preferred alternative") that has a "high enough" grade will be processed along with the sulfide. (FEIS at 35.) Neither the "high enough" grade nor the amount above this grade has been given. Whichever of the above tonnage figures is correct, it will represent an increase from the 546 million tons proven and probable cited in the DEIS. This increase is acceptably explained by the Company using additional drill results and a lower cut-off grade in a re-interpretation of the reserves. However, figures for the mining and processing rate for sulfide ore are inconsistently quoted. In the Revised Feasibility Study (at 125, Table 16-3) the rate starts at 66,000 tons per day in the 205 first year, increases to 75,000 t/d for the next three years, gradually increases to 88,000 t/d over the next seven years, and for the last 10 years is 90,000 t/d. The average per day over this 21 year period works out at 85,400 tons. The FEIS gives the mining rate as an average of 75,000 tons per day for 20 to 25 year. (FEIS at 32.) It also shows the anticipated production schedule for the Barrel Alternative in terms of daily mining rate per day (on a yearly basis) over the full mining period of 19 years. FEIS at 82, Table 7.) This daily rate starts at 27,920 tons in the first year, varies from 27,000 to 42,000 ton in the next 14 years, with a large jump up from 35,000 in year 2 to 42,000 in year three, and then jumps up to 51,000 tons per day in the last four years. There is no explanation of these differing figures for total production and daily mining rate. The sudden increase in mining rate to 51,000 tons per day near then end of the production schedule is especially questionable. Such a high rate would be impossible to attain with the

existing plant and equipment, and installing additional facilities at that late stage would be uneconomic and possibly not permissible under the mining permits. The above discrepancies lead to questions of how thoroughly production plans have been devised, whether mistakes have been made, or whether some aspects have been overlooked in editing the FEIS.

- 0091-2: There is a failure in the FEIS to consistently define mine life when evaluating environmental and social impacts. Until the PAFEIS and FEIS, the inconsistencies pertained to the pre-mining and post-mining periods. The prior documents defined the actual mining operation period as 20 years. For the first time, the PAFEIS expands the total mine life as ranging from 24.5 to 30 years with the active mining period ranging from 20 to 25 years. The FEIS expands active mining life to 25 years. It is not clear from the record that the Forest Service considered environmental impacts, especially groundwater extraction in the Sahuarita wellfield and the dewatering in the Cienega Basin, on a 25-year active mining basis.
- 0122-1: The report did not reveal that Rosemont has refused to limit the pit size of their operation to the size they are requesting when in fact they have triple the patented mining claims adjacent to said pit.
- 0016-2: The above impact alone should stop this mine just as it has stopped this mine proposal before. This company has a new proposal for the very same proposed location that was denied before, the only thing it seems that has changed is their verbiage and where their water will come from for use in the mine. The impacts to the area environment and local water resources have not changed in the slightest. The impacts are the very same as when denied a permit in the past.
- 0083-15: The USFS should have investigated this critical mitigation measure (dry stack tailings) more thoroughly - sought out specific examples where it has been utilized and independently evaluated these applications for suitability to the Rosemont Copper project.
- 0084-59: The FEIS fails to adequately analyze the technical feasibility of the dry-stack tailings. To reference an obviously deficient tailings compaction method (design report by AMEC) in both the DEIS and FEIS, despite the error being highlighted in the DEIS comments, does not lend confidence in the competency of either the Forest Service or its contractors, who probably wrote the response.
- 0091-1: The mine life included in the FEIS and previous drafts is unrealistic. Despite the high likelihood of temporary cessations and the resulting significant extensions of mine life, the FEIS and ROD fail to adequately discuss the impacts of the temporary cessations. In particular, dewatering and other impact-causing activities may occur at the facility during the cessations. The FEIS must identify these activities and the impacts resulting from them. They also fail to analyze impacts resulting from multiple cessations periods. Failure to consider and discuss these impacts flies in the face of the “hard look” standard imposed on federal agencies conducting environmental impact statements. The impacts of highly probable delays in reclamation and closure are “direct effects” as defined by 40 CFR § 1508.8(a) and discussion of those effects is required under 40 CFR § 1502.16. The Forest Service’s failure to recognize these direct

effect also means that the FEIS includes no discussion of mitigation options, as required by 40 CFR § 1502.16(h).

- 0025-20: When best available mining technologies and practices are not good enough, public land managers must not approve proposed mine plans of operation that would employ such unreliable technologies and practices.
- 0084-56: Such rights, or "entitlement" as stated by the USFS, can only accrue to the company if these claims are valid under the 1872 Mining Law. There is no evidence in the record that these claims are valid. The agencies have not even inquired into whether these claims are valid and stated their intention not to conduct such an inquiry.
- 0084-64: These problems (erratic changes in material reaching the mill) could also lead to the need for selective, and therefore reduced rate mining, which could further upset the timely flow and constant grade of ore flowing into and out of the mill.
- 0084-53: Issuing the ROD without an updated and approved Mine Plan of Operations and associated permits is like a city issuing a building permit when all the plans are not complete and/or determined to be appropriate. Only then can the full significance and ramifications of the proposed Rosemont project be understood in accordance with the intent of the National Environmental Policy Act.
- 0108-2: I also question the proven size of the ore body.
- 0112-2: The statement in response to comments on the DEIS that the Forest Service ... "cannot categorically prohibit mining or deny reasonable and legal mineral operations under the mining laws" is irrelevant. The Forest Service has no obligation to make an open pit copper mine an economically viable operation for Rosemont, by leasing public lands to be put to uses which make them unsuitable for all other land uses. This has little to do with leasing, but amounts to a selling of public lands for a pittance.
- 0084-58: The USFS fails to independently assess Rosemont's deposit and the viability of the project. The USFS has done no assessment itself and given no consideration to the possibility that the submitted assay figures or results of preliminary milling tests, used to determine economics of a mine, might be insufficient. The USFS failed to adequately analyze the ore deposit and project viability and disclose that information in the FEIS.
- 0020-2: They have other properties and the current 900 some acres that they own is a part of their holdings, so the notion as mentioned in the FEIS that mining would only occupy 20 to 25 years is ridiculous.
- 0079-3: The MPO should therefore be considered unreasonable and must be rejected (because few people will benefit but many more will be impacted). The MPO must not be approved until the time comes when it is technically, economically, and environmentally feasible (to restore pre-mining conditions, including backfilling the pit).

Remedy Supplied by Objector (if any):

0084-60: Address the issues raised above and provide this information in a revised DEIS that is made available to for public review and comment.

0084-65: The whole production schedule should be reviewed by the Company and a corrected version produced.

0091-2: The FEIS must clearly explain the active mine life basis for its impact discussion. Furthermore, if the ROD is based on improper mine life modelling periods, the ROD must limit active mine life to 20 years.

0122-1: Select no action.

0016-2: Prepare and circulate for public review and comment a Revised DEIS or Supplemental Draft EIS.

0083-15: Independently analyze all aspects of the technical feasibility of the dry-stack technology and include this analysis in a revised DEIS.

0084-59: Independently analyze all aspects of the technical feasibility of the dry-stack technology and include this analysis.

0091-1: The Forest Service must supplement the FEIS to include a discussion of temporary cessation impacts and their resulting extension of mine life.

0084-56: No PoO can be approved, and no ROD authorizing mine approval can be issued.

0084-64: Address the issues raised and provide this information in a revised DEIS that is made available to for public review and comment.

0084-53: Include language requiring that the Mine Plan of Operations and all associated plans and permits requiring update or completion be done ahead of the formal issuance of the Record of Decision.

0084-58: The USFS should assess the viability of the ore deposit and the overall project viability and disclose that information in a revised DEIS.

Law, Regulation and/or Policy: 1872 Mining Law; Multiple Use Mining Act of 1955; 36 CFR 228 Subpart A; FLPMA; Council on Environmental Quality (CEQ) Regulations at 40 CFR 1500-1508

Review Team Member Response:

Response to objection issues 0084-59 and 60; and issue 0083-15

The objectors expressed concern about the evaluation and technical feasibility of dry-stacked tailings, and a production rate higher than that used elsewhere for dry stack operations at copper mines.

There is a substantial amount of information in the project record regarding the dry stack tailing facility. A partial list of dry stack tailings analysis and reviews include current uses of dry stacking on other projects in the world [PR 012312]; facility design [PR 011978]; stormwater

management [PR 012427]; geochemistry [PR 012415, PR 013385]; infiltration seepage and transport [PR 013382, PR 017310]; and geotechnical evaluations [PR 011903].

The tailings material has been subject to rigorous testing to ensure it has the proper characteristics for dry stacking. Laboratory testing included index testing (gradation, moisture/density relationship and specific gravity), capillary moisture retention tests, shear strength, consolidation and permeability tests. Testing data was used to conduct analyses regarding seepage, liquefaction potential, slope stability, and materials handling. The results of these analyses are presented in the FEIS and elsewhere in the project record.

Dry stacked (filtered) tailings disposal operations are not as numerous as the more conventional slurry disposal methods, but they have significant environmental, structural stability, and other advantages over slurry deposition. The FEIS states that dry-stack tailings use significantly less water than traditional slurry tailings, thereby reducing water needs and groundwater use [PR 047511_3, p. 359]. The FEIS concludes that infiltration from precipitation over tailings is expected to be negligible [PR 047511_3, p. 377]; that during the active mine life there would be roughly 0.01 gallon per minute seepage per acre of tailings facility [PR 047511_3, p. 378]; that the predicted water quality for seepage from tailings is not expected to exceed any numeric Arizona Aquifer Water Quality Standards [PR 047511_3, p. 379]; and that if tailings seepage were to daylight or appear at the surface downstream, none of the concentrations reported in the tailings seepage would exceed the applicable surface water quality standards in Barrel Canyon [PR 047511_3, p. 380]. The FEIS discloses that the designed tailings facility would be stable under both static and seismic conditions [PR 047511_3, pp. 192-193]

The project record supports the conclusions that the dry stacked tailings process is appropriate for use based on the specific chemical and physical characteristics of the tailings, that it is economically and technically feasible, and that its effects would be substantially less than that of a conventional slurry tailings method. A primary reason why dry stacking has not been as widely used in mining projects is that it is a more expensive disposal method. It is true that Rosemont would be larger than other current dry stacked operations, based on available data. The issue on the size of operation is not so much a technical concern as it is economic.

Response to objection issues 0084-65 and 0084-64

This objection concerns ore reserves and mining/milling rates. The objector correctly noted that the ore reserve and production figures cited in the FEIS and Draft ROD are not consistent. The FEIS [PR 047511_2, p. 33] provides some confusing numbers – 919.3 million tons of measured and indicated sulfide ore, and 667.2 million tons of proven and probable mineral reserves. Additionally, the FEIS [PR 047511_2, Table 7, p. 82] shows sulfide ore to be produced at 707.5 million tons, which is also repeated in the Draft ROD on pages 28 and Table 2 on A-18. Part of this confusion is because we are mixing terms – measured and indicated resources, proven and probable reserves, and production rate or mill feed. There is an error in the 707.5 million ton figure contained in the FEIS and Draft ROD that needs to be corrected, but this does not change the effects analysis (consequences) or the stated mine life of 20 to 25 years. An explanation of the numbers is provided below.

The 919.3 million ton figure on page 33 of the FEIS refers to measured and indicated sulfide and mixed sulfide mineralization and is based on the latest drilling results and certain assumptions about cutoff grades or values [PR 018958, Updated Feasibility Study]. This resource number can be thought of as the larger zone of mineralization that may or may not be mineable based on other constraints and criteria. The 667.2 million ton figure also on page 33 of the FEIS reflects the estimated proven and probable mineral reserves that the company believes can be actually mined at the site considering environmental and facility constraints. It is a subset of the larger mineral resource. One such constraint is to keep the pit wall from encroaching too far to the west where it would be visible from the Tucson valley area. The other major constraint is that the dry stack tailings facility is sized to handle only up to 680 million tons, so this becomes the limiting factor in how much ore can be mined. This limitation is discussed on A-3 of the Draft ROD [PR 047504]. The 707.5 million ton figure referred to by the objector in the FEIS and Draft ROD was inaccurate.

The 667.2 million ton reserve figure is accurate as reflected in Table 15.11 (page 122) of the Updated Feasibility Study [PR 018958]. However, the Feasibility Study also shows the ore processing at 661.4 million tons as reflected in Table 16.6 (page 164). That table contains the mine production schedule and is probably the better of the two numbers to use (less than 1% difference between the two), because it provides a more detailed schedule of production. The reason for the difference is simple. Table 15.11 projects the approximate 5 million ton difference as going to the mill and the production schedule in Table 16.6 projects that it would go to waste rock. The total tonnage mined (ore and waste) is identical at 1910 million tons. This 1910 million ton figure is cited for the Barrel Alternative on Table 12 of the FEIS [PR 047511_2, p. 123].

The second part of the objection concerns the production rate and the rate of mill feed. This is closely related to the ore reserve concern just discussed. The production schedule will be part of an errata correction. It should reflect a total production of approximately 661.4 million tons of ore over a 20-25 year time period and waste rock production of 1249 million tons for a total amount of rock produced at approximately 1910 million tons (see above).

The objector is correct in stating that the 2012 Updated Feasibility Study (Table 16-3) states the rate of milling starts at 66,000 tons per day (t/d) in the first year, increases to 75,000 t/d for the next three years, gradually increases that to 88,000 t/d over the next seven years, and for the last 10 years is 90,000 t/d. The objector correctly calculated the rate of production as approximately 84,500 tons per day over the 21 years. The objector questions why the average per day over a 21 year period works out at 85,400 tons, yet the FEIS refers to a rate of 75,000 tons per day for 20 to 25 year mine life. The answer is that both of these numbers are correct and are saying essentially the same thing. At 21 years the number is 84,500 tons per day and at 25 years (within the range cited in the FEIS) the rate is somewhat less than 75,000 tons per day (actually 73,000 t/d). It is important to note that total production is the same regardless of whether it is 21 or 25 years, as are the size of the pit, tailings, and other facilities.

As a last concern, the objector questioned whether ramping up the milling rate over time would be uneconomic. The production schedule was carefully analyzed and in the 2012 Feasibility Study and all of the economic and other factors were included in that analysis, which demonstrated that the ramping up over time was economically feasible.

Response to objection issues 0091-1 and 0091-2, and objection issue 0020-2

The objectors expressed concern about different mine life estimates provided in the record, whether mining from additional properties in the area would extend the mine life beyond 25 years, whether the FEIS and Draft ROD adequately discusses the impacts of temporary cessations, whether the effects analysis adequately considered the full mine life, and a request that the mine life should be limited to twenty years.

Mine life is addressed throughout the FEIS and in documents in the project record. The Forest Service recognized that various phases of the mine life differed somewhat among various technical and other documents. Changes made in the FEIS regarding mine life are explained in a Process Memorandum on Reconciliation of Mine Life Phases [PR 046310]. As stated on page 1 of the FEIS: “The draft environmental impact statement (DEIS) gave the mine life as 20 to 25 years. However, this only refers to the operational mine life, and it has been corrected in the FEIS. The stages of mine life are as follows: premining (18 to 24 months), active mining (20 to 25 years), final reclamation and closure activities (3 years), and postclosure (indefinite).” These are the same time periods included in biological opinion [PR 047511_7, Appendix F, p. 17], and the mine life stated in the Draft ROD on pages 28 and A-1.

The concern about whether to include development of other mineral properties in the area into the Rosemont analysis has been adequately addressed in the project record. The FEIS stated that such activities would be speculative and that no proposals for development of the deposits have been submitted to any land management agency [PR 047511_3, p. 140]. It concluded that such development is not reasonably foreseeable at this time. The response to concern statement PCS 419 [PR 047511_7, CD, PCS 419, p. 1] stated that activities that might occur at some unknown time in the future would require further permitting and NEPA analysis should it involve federal lands or resources, including public notice and involvement. An additional response to concern statement PCS 567 [PR 047511_7, CD, PCS 567, p. 3] stated that “the life span for the Rosemont project is the best information currently available. If the life of the project is proposed for extension, additional analysis would be triggered which would include public participation.”

Concern was expressed about the potential for temporary cessation of operations and how that might increase the mine life beyond that analyzed in the FEIS. A temporary cessation is possible with any venture but it is highly speculative as to whether it would happen, the specific timing, and the effect on operations and mine life. Such an occurrence is adequately addressed in General Stipulations 11 and 12 on page 31 of the Draft ROD, which requires notification of any action, activity or occurrence that results in deviation from the expected mine life (Stipulation 11) and that the Forest Service can request a proposed modification to the MPO on minimizing unforeseen significant disturbance of surface resources (Stipulation 12). The Draft ROD also discusses procedures for change during implementation [PR 047504, p. 64]. There it discusses how the Coronado NF would use ongoing monitoring to identify whether impacts of the project are within those projected in the impact analysis disclosed in the FEIS, and criteria to be used to determine whether additional NEPA would be required. These measures are adequate to respond to any changes in mine life or other unforeseen effects of the operation.

One objection specifically questioned whether the Forest Service considered environmental impacts, especially groundwater extraction in the Sahuarita wellfield on a 25-year active mining basis. The FEIS recognizes that the active mining phase of the project is 20 to 25 years, and that the groundwater modeling for the water supply was conducted for only 20 years, which is the life of the current extraction permit issued by the ADWR [PR 047511_3, p. 336]. The FEIS disclosed that, if mining continued for longer than 20 years, then additional water use would occur and there would be additional impacts to groundwater levels above and beyond those described by the modeling. The analysis disclosed in the FEIS includes the effects of active mining on a 25 year basis stating that that “the additional drawdown due to the mine water supply pumping would range from 7.5 to 17.5 feet” [PR 047511_3, p. 336].

There is no basis to arbitrarily limit mine life to twenty years, as requested by an objector. The project record supports the effects analysis for a mine life of 20 to 25 years. In response to comments [PR 047511_7, Appendix G, p. G-13], it notes that changing the mine life does not change the ultimate size of the pit, waste rock dumps, or tailings piles. Modifying the mine life was included in the FEIS as an Alternative Considered but Eliminated from Detailed Study, and the rationale for eliminating it was adequately disclosed [PR 047511_2, p. 107].

Response to objection issues 0091-24 and 0112-2

Objection 0091-24 states that special use permits are needed for portions of the operation but that this was not disclosed in the FEIS or ROD, and 0112-2 disputes the agency’s explanation that the Forest Service cannot “categorically” deny the operation.

The FEIS and project record identifies and provides substantial analysis of applicable laws, regulations and policy. The Purpose and Need and Decision Framework provide the legal direction for analyzing the proposed MPO [PR 047511_2, pp. 6-11]. Chapter 3 of the FEIS (Affected Environment and Environmental Consequences) includes a section on Relevant Laws, Regulations, Policies, and Plans for each of the twenty-two resource areas evaluated [PR 047511_3, 4, pp. 139-1151].

The specific regulatory language is found in 36 CFR 228.3(a), where it states: “All functions, work, and activities in connection with prospecting, exploration, development, mining, or processing of mineral resources and all uses reasonably incident thereto, including roads and other means of access on lands subject to the regulations in this part, regardless of whether said operations take place on or off mining claims.”

As stated in the DROD the Coronado may impose reasonable conditions to protect surface resources but cannot materially interfere with reasonably necessary activities under the General Mining Law that are otherwise lawful [PR 047504, p. 11]. The decision space for the project is also adequately disclosed in the FEIS [PR 047511_2, p. 10] and other places in the project record.

Response to objection issue 0084-53

The objector would like to see the updated and approved mine plan of operation before the Record of Decision is issued. The updated mine plan of operations cannot be approved until after a ROD is issued and numerous other requirements are met, including the posting of an adequate reclamation bond and acquiring authorizations from other agencies. The decision making sequence and rationale has been adequately disclosed in the FEIS [PR 047511_2, pp. 10-11] and DROD [PR 047504, pp. 44-45, 56].

Response to objection issues 0084-56, 0108-2, and 0084-58

These objections concern the ore deposit, project viability, and mining claim validity.

The FEIS adequately addressed the issue regarding the validity of mining claims associated with proposed plans of operation. The response to comments explains the policy for conducting validity examinations on NFS lands [PR 047511_7, Appendix G, p. G17]. That response goes on to say: “For operations proposed in accordance with Forest Service regulations, and where the above situations do not exist, conducting a validity exam is not in line with Forest Service policy. The placement of waste rock and mill tailings on the Forest are considered to be activities connected to mining and mineral processing as per 36 CFR 228 subpart A, and as such they are authorized activities regardless of whether they are on or off mining claims” (emphasis added). This last sentence is important because the regulations apply even for reasonably incidental activities that are not on mining claims. Therefore, the validity of any particular mining claim is not an issue. Additional explanation is provided in PR 011517 and PR 044822.

Information on the ore deposit and project viability is presented in significant detail in the Updated Feasibility Study – NI 43-101 Technical Report [PR 018958]. Information from this report is presented throughout the FEIS. Both measured and indicated resources and proven and probable reserves are disclosed in the FEIS (p. 33), deposit geology (pp. 154-156 and 163-164), and waste versus ore classification (pp. 165-166).

Response to objection issues 0122-1, 0016-2, 0025-20, and 0079-3

These objections concern the pit size and potential for expansion, requesting that the project be denied as the objector states was previously done, that any approvals should be postponed until such time that better mining technologies and practices are available.

As discussed in response to 0091-1 and 0091-2, and 0020-2 provided above, the mine proposal and associated pit size is the best information available at this time. Adding in additional ore from other deposit – and thereby expanding the pit – would be speculative and not reasonably foreseeable at this time. The pit size is already constrained by the limitation of tailings capacity at the site (see response to 0084-65 above).

It is uncertain what permit for mining in past was denied (0016-2), as the objector did not specify. So no response can be provided other than to state that the FEIS, DROD, and the substantial project record discloses the alternatives and effects of the current mine proposal.

Objectors 0025-20 and 0079-3 request that any approvals for mining be postponed until better mining technologies and practices are available. The FEIS and project record identifies and provides substantial analysis of applicable laws, regulations and policy applicable to this project. The Purpose and Need and Decision Framework [PR 047511_2, pp. 6-11] provide the legal direction for analyzing the proposed MPO. An indefinite delaying of the project is not one of the alternatives available to the decision maker.

Recommended Remedy by Review Team Member: (See 0084-65 review) An errata is needed to correct the 707.5 million ton figure and production schedule, and change the 667.2 million ton reserve figure to 661.4 million tons presented in the FEIS. The Final ROD should include the correct numbers. Table 15 of the FEIS (p. 173) presents the amount of rock removed by formation and using 667.2 million ton figure. Although this might be confusing, there should be no need to change this table to agree with the expected production figure of 661.4 million tons, as the information is within a fraction of one percent, and it is not critical to the issue of total production and production schedule.

The other remedies suggested by the objectors are not warranted.

Review Team Member: Robert Thompson, CNO Minerals & Geology

Rosemont Copper Mine

Objection Review

Objection # (s): 0062-DanMeyer; 0084-SSSR;

Resource Area(s): Mining Plan of Operations – Legal (MPO-2)

Objection Issue:

- 0062-2: I object to the Final EIS and ROD on the Rosemont mine because it fails to meet the Forest Service's criteria for approval, namely consistency with Federal laws, regulations and policies governing the management of the National Forests. He mentions that there is no discussion of why the Mining Act of 1972 and Multiple Use Mining Act of 1955 take precedence over other laws and regulations.
- 0091-24: Forest Service failed to follow its own separate permitting process that requires Rosemont to receive a special use authorization for the installation of wells and pipelines on Forest land. There is no mention of this permitting process in the FEIS or ROD, no disclosure of the environmental and social impacts.
- 0084-57: The USFS violated the Federal Land Policy and Management Act and the 1872 Mining Law, and made an arbitrary and capricious decision without evidentiary support, by not requiring Rosemont to pay Fair Market Value for the use of public lands not covered by valid mining claims, based on the lack of any evidence that the vast majority of the mining claims at the project site contain locatable minerals and the requisite discovery of a valuable mineral deposit. The agency's position also violates provisions of FLPMA and the Multiple Use Sustained Yield Act, NFMA, 1897 Organic Act, and other laws mandating that the agencies manage, or at least consider managing, these lands for non-mineral uses.

Remedy Supplied by Objector (if any):

0084-57: No PoO can be approved, and no ROD authorizing mine approval can be issued.

Law, Regulation and/or Policy: General Mining Law of 1872, Multiple Use Mining Act of 1955, Organic Administration Act of 1897, Multiple Use Sustained Yield Act of 1960, Endangered Species Act, Wilderness Act, Archeological Resources Protection Act of 1979, Federal Land Policy and Management Act of 1976 (FLPMA).

Review Team Member Response:Response to objection issue 0062-2

The objector states that the Forest Service is not consistent with a number of laws and states that the Agency does not provide a rationale for why the Mining Act of 1872 and Multiple Use Mining Act of 1955 takes precedence over other laws.

The FEIS and project record identifies and provides substantial analysis of applicable laws, regulations and policy. The Purpose and Need [PR 047511_2, pp. 6-8] and Decision Framework [PR 047511_2, pp. 9-11] provide the legal direction for analyzing the proposed MPO. Chapter 3 of the FEIS [PR 047511_3, 4] includes a section on Relevant Laws, Regulations, Policies, and Plans for each of the twenty-two resource areas evaluated.

The Draft ROD addresses applicable laws, regulations, and policies and concludes that the proposed decision is in compliance with this direction. The DROD states: “The FEIS was prepared in accordance with regulations implementing the NEPA (40 CFR 1500-1508). This decision is consistent with the requirement of the National Forest Management Act (NFMA) (36 CFR 219), Forest Service locatable mineral regulations (36 CFR 228, Subpart A), the 1897 Organic Administration Act (30 Stat. 11), the 1970 Mining and Mineral Policy Act 46 (Public Law (PL) 91-631), and other applicable State and Federal statutes. My decision is made in accordance with the requirements of 36 CFR 228 Subpart A, meets the requirements of the abovementioned State and Federal laws, and addresses the requirements of the 1872 Mining Law (30 U.S.C. 21 et seq.), and the 1955 Multiple-Use Mining Act (30 U.S.C. 612)” [PR 047504, p. 46]. The DROD goes on to provide more compliance details on pages 56-63 on Findings Required by Other Laws, Executive Orders, and Rules.

The project record does not state that the General Mining Law of 1872 and the Multiple Use Mining Act of 1955 takes precedence over all other laws, but does make clear that these two laws (and associated regulations) provide a legal framework for the decision. The project record adequately evaluates applicable laws, regulations and policies and provides support for conclusions regarding compliance with those requirements.

Response to objection issue 0091-24

The objector asserts that the Forest Service failed to follow its own separate permitting process that requires Rosemont to receive a special use authorization for the installation of wells and pipelines on Forest land.

While it may be that in the past, some forests have issued special use permits to mine operators for pipelines, water wells, or roads associated with the operation, those forests are working to correct this improper procedure by putting all of those activities under a plan of operation. Agency policy is that special use permits should not be issued to mining operators because those activities are covered by the plan of operation, but special use permits should be used for third parties that might service a mining operation (e.g., transmission lines or a water line permitted to

the utility company or a road permitted to the County or another public entity). The Forest is following agency policy by authorizing wells and pipelines under to the plan of operation.

Response to objection issues 0084-57

The objector asserts that the Forest Service should not be processing the MPO under the General Mining Law of 1872, as amended, and the implementing regulations in 36 CFR 228 Subpart A. Instead, the objector proposes that the Agency should utilize FLPMA (and special use authorizations) as the basis for the decision and that fair market value should be paid for the use of public lands not covered by mining claims determined to be valid based on mineral discovery.

The response to comments [PR 047511_7, CD, Public Concern Statement 548] states: “The placement of waste rock and mill tailings on the Forest are considered to be activities connected to mining and mineral processing as per 36 CFR 228 subpart A, and as such they are authorized activities regardless of whether they are on or off mining claims. This reasoning also follows direction and policy per section 2800 of the Forest Service Manual concerning administration of locatable minerals on National Forest System lands.” The specific regulatory language for this position is found in 36 CFR 228.3(a), where it states: “All functions, work, and activities in connection with prospecting, exploration, development, mining, or processing of mineral resources and all uses reasonably incident thereto, including roads and other means of access on lands subject to the regulations in this part, regardless of whether said operations take place on or off mining claims.” This would apply to all wells, pipelines, and other facilities for the overall MPO.

The Agency position is clearly stated in the project record that the General Mining Law of 1872, the Multiple Use Mining Act of 1955, and the regulations at 36 CFR 228 Subpart A provide a framework for the decision on the MPO and that the FLPMA requirements for evaluation and collection of fair market value are not applicable to this project.

SSSR cites a variety of superseded legal precedents for the claim that a FLPMA ROW is required for certain ancillary uses of unclaimed lands. However, these earlier precedents were explicitly superseded by later rulemakings and BLM currently implements a similar policy as the Forest Service on this issue.

There is no evidence the hypothetical scenario presented by SSSR of ancillary use on unclaimed lands is or will be present. Rosemont has staked a large block of mining claims on the subject Forest Service lands [PR 012716]. This map does not show current claims but does indicate that as of 2007 virtually the entire project area was under one or more claim by Rosemont. The project area has remained open to location of additional mining claims since that time as alternatives have been developed that may vary the project’s footprint. The area remains open to location of additional claims to cover any areas used for the final approved project. Therefore, there appears to be no factual basis for the hypothetical concern that ancillary uses may occur on unclaimed lands. However, to the extent such use might occur it is legally permissible to permit it under 36 CFR Part 228.

In its 2001 rulemaking, BLM adopted a similar policy to the Forest Service current policy. See 43 CFR 3809.5, defining ‘operations’ subject to approval under that part to include “reasonably incidental uses, whether on a mining claim or not.” This policy of approving all ‘reasonably incidental uses’ under one approval mechanism for locatable mineral operations was discussed at length in a judicial challenge to the rule. See Mineral Policy Center v Norton, 292 F.Supp.2d 30 (D. D. C., 2003). This court upheld BLMs policy. However, it remanded to the Department of Interior for the limited purpose of considering whether fair market value should be required for use of unclaimed lands. In subsequent rulemakings, BLM confirmed that the normal practice of industry is to conduct activities on claimed lands. See 72 Fed. Reg. 8139 (February 23, 2007) and 73 Fed. Reg. 73789 (December 4, 2008) “None of the comments presented factual scenarios in which such ancillary uses took place in association with operations on unclaimed lands that amount to more than initial exploration activities” 73 Fed. Reg. at 73791. BLM further noted that the “court concluded that the Mining Law authorizes operations, including possession, occupancy, and mineral extraction activities, without payment of fair market value for that use.” Id. BLM adopted an interim final rule that did not require FLPMA ‘fair market value’ fees for such ancillary uses. Id.

The Forest Service regulations and policy is consistent with existing BLM regulation and policy and with the provisions of FLPMA and the Mining Laws. The Forest Service interpretation in its regulations implements a longstanding policy of the Forest Service to efficiently administer locatable mineral operations including their ancillary uses whether or not they are on mining claims. As indicated in BLM’s lengthy rulemakings and litigation, many initial activities might occur before claims are located. However, it is common industry practice to stake claims in areas used for mineral operations. Mixed ownership of an ore body (private patented and mining claims) is also a common scenario. Application of 36 CFR Part 228 authorizations to the factual scenario of mixed patented and claimed lands such as present in the Rosemont project has been explicitly upheld. See Okanogan Highlands Alliance v. U.S. Forest Service, E.D.WA, CV-07-251-RHW (2007). This is factually different from simple access to a private inholding which does not involve reasonably incidental use of Federal lands under the Mining laws in support of mining claims. Such instances may be subject to a FLPMA authorization. See Virgil Horn 117 IBLA 10 (1990) and FSM 2817.25 “Access to patented mining claims, mineral leases, and private property inholdings are not subject to 36 CFR part 228.” However, that factual scenario of ‘access only’ to a patented inholding is not present here. The application of 36 CFR Part 228 to the authorization of all reasonably incidental and ancillary uses of Forest Service lands, whether on or off mining claims, is consistent with applicable law.

Recommended Remedy by Review Team Member: The remedy suggested by the objector is not warranted. No remedy is required.

Review Team Member: Robert Thompson, M&G CNO

Rosemont Copper Mine

Objection Review

Objection # (s): 0010-BManderscheid; 0024-DBabson; 0037-EmpireRanchFoundation; 0038-KBeck; 0048-RBarthelson; 0058-NWall; 0084-SSSR; 0091-PimaCounty; 0092-GFurnier; 0118-KLowery;

Resource Area(s): Mining Plan of Operations – Bonding (MPO-3)

Objection Issue:

- 0037-3: The concern for a mitigation plan (bond or other financial instrument) was completely dismissed as stated in the USFS response Document 322.
- 0038-1: How has the Forest Service determined if the money set aside is adequate? What will the requirement for reclamation be- that will go beyond what the mining plan offers? Beyond closure of the mine? How will taxpayers be protected from having to fund this reclamation?
- 0084-66: The USFS fails to review bond/financial assurance issues during the NEPA process. No discussion of the actual bond amount is provided. This violates NEPA's requirement for a full discussion of all mitigation measures and impacts.
- 0091-30: Little or no information has been provided regarding the financial assurances to be provided by Rosemont to offset costs that would be incurred by the federal tax payer if the project causes air and/or water pollution that endangers the public health. No discussion has been completed that established any type of performance to assure mitigation and remediation of impacts should the project proponent fail to perform the mitigating or restoration actions stated.
- 0010-13: Some articles seem to suggest a hint of money problems for this company, but I have no proof. If it did happen when the mine was half completed, with trees gone, streams contaminated, air polluted, who would take responsibility?
- 0024-2: Given Rosemont's questionable financial status, the Forest Service has an obligation to insure adequate protection in the event of bankruptcy or sale of assets to another company.
- 0058-10: I also wonder what will happen if the price of copper should fall drastically, as it has done in the past. Or what if the company cannot meet their financial obligations at some point in the process? Will they simply fold up operations, cut their losses, and leave?
- 0118-6: My concern is that Rosemont may not fulfill their (financial) obligation. There is no guarantee that they will not file bankruptcy, or not be able to continue to contribute to those funds.

- 0084-63: No realistic plan for financing has been detailed (in the Updated Feasibility Study, Aug. 2012) or provided to the public, and if no loan is forthcoming the project could go bankrupt due to under-capitalization, before any ore is produced.
- 0048-10: Re-remediation plans are only as reliable as long as Rosemont Copper exists as a reliable financial entity.
- 0084-77: The Forest Service did not respond to any of the Coalition's comments concerning the financial capability of Augusta Resource and its subsidiary, Rosemont Copper Company, to execute the Mine Plan of Operations.
- 0092-5: The only ways to avoid the public having to assume the costs so that a private company can gain is to not approve the mine or to require a multi-billion dollar deposit placed in escrow before any construction begins. The potential mitigation and rehabilitation costs will likely be in that cost range. The USFS has not taken either of these actions.

Remedy Supplied by Objector (if any):

0037-3: 1. The Forest Service and the State Historic Preservation Office (SHPO) include the Empire Ranch Foundation as a party to the Section 106 Agreement; 2. The USFS must conduct a proper and independent study on the effect of vibrations, both airborne and ground on the Empire Ranch Headquarter Buildings and on the Las Cienegas National Conservation Area; 3. A mitigation plan (bond or other financial instrument) must be established for the Historic Buildings of the Empire Ranch, its implementation and funds must be administered by a neutral, third party, nonprofit organization; 4. The USFS should abandon this version of a FEIS and prepare and circulate for public review and comment a Revised DEIS or Supplemental Draft EIS.

0084-66: Information including an analysis to determine whether Rosemont's suggested reclamation bonds are sufficient to protect the public's resources must be included in a revised DEIS.

0091-30: Significant and substantial financial assurances must be provided.

0084-63: Provide information regarding the financing for this project in order to provide assurances to the public that the proponent has the necessary funds to accomplish all the required reclamation and other mitigation, and regardless ensure that the proponent provides sufficient bonding to cover such expenses.

0084-77: The USFS must respond to these concerns regarding the real possibility that Augusta Resources does not or will not have the financial capability to meet its bonding requirements.

0092-5: Require a multi-billion dollar deposit in a USFS escrow account to cover potential environmental and economic damages to others and require the company guarantee the baseline flow and water quality in Ciénega Creek.

Law, Regulation and/or Policy: Council on Environmental Quality (CEQ) Regulations at 40 CFR 1500-1508; 36 CFR 228 Subpart A

Review Team Member Response:Response to objection issue 0037-3

In public concern statement (PCS) 322 the Forest stated: “Impacts to historical structures at Empire Ranch are not anticipated. Please refer to the Noise section in Chapter 3 of the FEIS for more detailed information. Because the proposed project is not expected to impact these structures, there is not any mitigation for restoration” [PR 047511_7, CD, PCS 322, pp. 5-6]. The objector takes exception to this response.

The FEIS discusses the concern about the potential effect that vibrations, both airborne and ground, would have on the Empire Ranch Headquarter Buildings [PR 047511_4, p. 1038]. The Empire Ranch is located more than 6 miles from the easternmost edge of the proposed mine pit. A study was conducted based on modeled ground vibrations, sound measurements, noise modeling, and noise predictions for the area around the project area. That study reported that airborne vibrations may be capable of rattling loose objects or windows at a distance of 0.5 mile from the blast site, but they fall off rapidly 5 miles away from the site. Therefore, no impacts from vibrations or blasting are expected for the Empire Ranch buildings and there is no need to bond for damage to the structures. There is a substantial amount of documentation in the project record supporting this conclusion.

Response to objection issues 0010-13, 0024-2, 0058-10, 0118-6, 0084-63, 0048-10, and 0084-77

These objections all expressed concern about the financial status of the company and whether the area could be reclaimed if the company went bankrupt.

Bonding is the mechanism used to assure that funds are available to reclaim the mine site should the proponent fail to carry out their obligations. Financial assurance (bonding) requirements are discussed in many places throughout the main body of the FEIS [PR 047511_2, pp. 10-11, 25, 53-54, 96-100, 186; PR 047511_3, p. 186], in the comment responses on the DEIS [PR 047511_7, pp. G-19-20], and in the Draft ROD [PR 047504]. The bond must be in place before surface disturbing operations can begin. The financial assurance does not depend on the financial condition of the company, so it would be in effect even in the case of the company going bankrupt.

Response to objection issues 0038-1, 0084-66 and 0092-5

These objections are concerned with the specific reclamation requirements, protecting taxpayers from having to fund reclamation, and wanting the actual bond amount to be provided for review at this time.

Bonding is the mechanism used to assure that funds are available to reclaim the mine site should the proponent fail to carry out their obligations. Financial assurance (bonding) requirements are discussed in many places throughout the main body of the FEIS [PR 047511_2, pp. 10-11, 25, 53-54, 96-100, 186; PR 047511_3, p. 186], in the comment responses on the DEIS [PR 047511_7, p. G-19-20], and in the Draft ROD [PR 047504]. The bond must be in place before

surface disturbing operations can begin. The financial assurance does not depend on the financial condition of the company, so it would be in effect even in the case of the company going bankrupt.

As presented in the response to comments, the discussion on financial assurance and bonding has been revised in the FEIS [PR 047511_7, Appendix G, p. 19]. For the Rosemont project, the plan of operation will not be approved until after the Record of Decision is signed to ensure that the plan contains all requirements from the FEIS and ROD. Bond calculations will be made at that time and prior to approving the plan of operation. The bond will address all Forest Service costs that would be incurred in taking over operations because of operator default. The bond will be estimated based on contracting the required reclamation work according to the Federal Acquisition Regulations (FAR).

The FEIS includes a thorough discussion of the Financial Assurance process which describes the sequence and timing, regulatory and other guidance, and coordination between Forest Service reclamation/closure bonding and other agencies that also have administrative responsibilities [PR 047511_2, pp. 97-99]. These other agencies include the USACE, Arizona State Mine Inspector, and ADEQ.

Reclamation and bonding requirements have been adequately evaluated and disclosed in the project record, including the FEIS and DROD.

Recommended Remedy by Review Team Member: The remedies suggested by the objectors are not warranted. No remedy is required.

Review Team Member: Robert Thompson, M&G CNO

Rosemont Copper Mine

Objection Review

Objection # (s): 0036-Rosemont; 0084-SSSR

Resource Area(s): Mining Plan of Operations – Mitigation (MPO-4)

Objection Issue:

- 0036-19: Rosemont requests that the Forest Service add a term to the ROD that generally identifies adaptive management as an appropriate tool for review, modification, and amendment of plans, monitoring terms and requirements, as well as for mitigation requirements.
- 0036-21: Weekly inspections of the construction to ensure "buildings are built according to plans and the final MPO." It is unclear what will be documented on weekly inspections or what the duration of the inspections is supposed to be. Rosemont requests that the requirement for weekly inspections be modified so the requirement is to complete "inspections to ensure that buildings are built according to the plans and the final MPO." Rosemont also objects to quarterly reporting and asks that the report be an annual report. (Volume 5, Appendix B, FS- BR-01, page B-26).
- 0036-15: "...a final engineering design ..." (DROD, page 36 #1) implies the requirement is 100% complete detailed design engineering, this is not what is described in items a and b listed below number 1, which are more realistic for a facility that is not static. Rosemont objects to providing final detailed designs for the facilities.
- 0036-12: There is a discussion regarding the Forest Service reviewing and approving all final designs. Rosemont objects to the term "final" as this implies a review of 100% engineering drawings that run many pages. The implication is that the Forest Service will review designs that are appropriate to describe the level of impact on the Forest Service resources and not to provide oversight on engineering design. Rosemont objects to the term as written and suggests removing "final" from the term so there is some flexibility to the level of design being reviewed. Additionally, Rosemont believes specific deadlines for design and plan reviews by the Coronado need to be included to ensure that activities are not delayed by more than a few days. (DROD, page 33)
- 0036-3: Specific requirements related to the BO and the MOA/HPTP are in some cases specified and in other cases incorporated by reference (draft ROD, p. 30). Please acknowledge that specifically identifying such requirements in the MPO will satisfy compliance with the applicable terms and conditions. DROD, page 30, number 1 and page 31 number 5
- 0036-13: Rosemont objects to the formation of the "interagency task group" if the group is then required to review all plans. (DROD, page 33)

- 0036-8: A 72-hour requirement for reporting a monitoring result not meeting effectiveness criteria needs to be specifically related to the applicable item being monitored in Appendix B and not simply across the board (DROD, page 32, number 15). Effectiveness criteria are only specified in FS-BR-10 for Pima Pineapple Cactus. Rosemont requests this term be clarified to apply to the specific criteria only.
- 0036-7: This specific provision (DROD, page 32, #15) is part of the Biological Opinion and should be specified as such. Compiling all monitoring into a quarterly report is unrealistic. Rosemont requests that the term be clarified to specify the terms in the BO that the requirement applies to.
- 0036-9: This item (DROD, page 32, #16) should be modified to recognize the quarterly reports as required in number 15 on page 32 are specific to the BO.
- 0036-20: There is an implication that the Forest Service will negotiate with MSHA to change the standards. As a matter of practice, Rosemont objects to any modification of standards that could compromise our employees' health or safety. (DROD, page A-16, 2nd paragraph)
- 0036-5: A requirement that Rosemont provide written plans describing how Rosemont will comply with permits administered by other agencies is outside the authority of the Forest Service (DROD, page 31-32).
- 0036-4: This statement (DROD, page 31, #6) implies some authority that other agencies have over the Forest Service or that the Forest Service may have over enforcement of permits issued by other agencies. It is Rosemont's obligation to comply with permits - notification to the Coronado of non-compliance tiers the permit compliance issues (i.e., is Rosemont out of compliance with the permit and the MPO if there is a permit compliance issue) and is not clear in this context. What exactly is non-compliance in this context? Rosemont objects to notification being tied to non-compliance and requests that the term be changed to reflect that the Coronado is requesting a courtesy notification IF notification is required under the permit issued by the agency with regulatory authority. (First sentence "issues" should be "issued.") DROD, page 31, number 6.
- 0036-6: Requirement to provide names of company and consultant personnel is unrealistic. The requirement exceeds the agency's authority (DROD, page 31-32).
- 0036-10: A voluntary collection agreement specified by the ROD should only include those Coronado employees and not cooperators or consultants. Rosemont objects to the requirement that we sign collection agreements with cooperators or consultants. (DROD, page 32, #17).
- 0084-114: The USFS fails to fully review, reclaim, and require protective measures/mitigation to prevent the contaminated pit lake. The failure to have any mitigation plan for the contaminated pit lake itself violates NEPA. If a contaminated pit lake forms, the USFS also has a duty to require a financial assurance/bond from Rosemont to prevent the contamination. By creating a toxic and contaminated lake, the agency has violated 36 CFR 228.8(g).

Remedy Supplied by Objector (if any):

0084-114: Reject the plan of operations.

Law, Regulation and/or Policy: 36 CFR 228 subpart AResponse to objection issues 0036-3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 15, 19, 20, and 21.

Many of the “objections” to the project from Rosemont Copper shown here are better characterized as comments to the DROD, rather than in the form of objections to the FEIS. Almost all of these are being submitted for review for the first time. Any needed changes as a result of these comments are more appropriately handled in the Final ROD and subsequent development of the mine plan of operations. For the objections listed above, clarification and/or additional wording will be added in the Final ROD (and subsequent MPO) to address areas of confusion that Rosemont has pointed to.

The objections to some of the specific wording in the General Stipulations section of the DROD [PR 047511_2, pp, 30-32] raised several good points that will be considered in the Final ROD. For example, holding the company responsible for compliance and monitoring, rather than asking for names of specific employees is an issue which can easily be re-stated to meet the primary purpose. Another example is regarding arbitrary mitigation requirements versus those measures required that meet the intent of the mitigations purpose. In other words, there may be more efficient and meaningful ways to accomplish the intent of specific mitigation measures and should work with Rosemont to include language in the Final ROD to reflect that flexibility. If for example, weekly inspections (0039-21) during construction phases at the mine are not practical due to various reasons such as mine inactivity, delays due to equipment malfunctions, weather, etc., then the required mitigations and frequency of inspections could be re-written slightly to add reasonable flexibility where it needs to be. As another example, adaptive management (0039-19) is one of the guiding principles that will be employed in striving to continually monitor and update the mine plan’s mitigation requirements in order to achieve the best results, and in that regard, language which can convey the intent of the monitoring and mitigation measures will be reviewed and clarified to better meet that goal.

The objection to the formation of an interagency task group (0039-13) is noted and the roles and responsibilities will be better clarified in the Final ROD. A memorandum of understanding (MOU) may be developed between the agencies invited to participate prior to the approval of the mine plan of operations as to better define the process and roles for members of the task group. The sharing of information amongst the agencies which have joint responsibilities and roles in the project will promote better communication between those agencies. The task group will actually improve the efficiency between agencies. However, as we state in the Draft ROD [PR 047504, p. 33], the Forest Service has sole authority to approve and administer the MPO.

Response to objection 0084-114

This objection issue is specific to pit lake water quality, and focuses specifically on a lack of mitigation and financial assurance for mitigation.

Groundwater quality was identified as a significant issue in the FEIS [PR 047511_2, Issue 3C, p. 17]. The FEIS describes the development and modeling of the mine pit lake [PR 047511_3, pp. 291, 302-316, 339, 353]. Water quality of the pit lake is also thoroughly addressed [PR

047511_3, pp. 362-398]. On page 387, under the section titled “Impacts from Mine Pit Lake,” there is a full description of analyses regarding predicted pit lake water levels/ balance and pit lake geochemistry. The conclusions of the models that were run on 4 different scenarios is that the pit lake chemistry will not be acidic, and thus geochemical loading (contamination) from the wall rocks should not be a significant problem. It is predicted that pit lake water quality may not meet standards for wildlife for some constituents [PR 047511_3, p. 389]. Recognition of potential contamination of pit lake water is recognized in the Biological Opinion [PR 047511_7, Appendix F, pp. 206-217].

Due to uncertainties inherent in all modeling, as well as concerns expressed by cooperating agencies and others over the ultimate fate of the mine pit lake, an additional mitigation measure was developed and agreed to by Rosemont [PR 047511_7, Appendix B, FS-GW-04, B-21-22]. In general, concerns were raised about pit lake water quality and there was a desire to either mitigate pit lake water quality or monitor pit lake water quality in the future.

At this point in time it would be premature to propose any specific monitoring methodology or protocol, since the pit lake would not be expected to develop for years after final reclamation and closure of the mine. However, it was realized that as better information about the geochemistry of the exposed rock is developed as the mine develops, the predictions of pit lake water quality could be refined. This will allow the best available information to be in hand upon closure when concrete mitigation strategies can be developed. The purpose of mitigation FS-GW-04 is to rerun the groundwater and geochemical models as new information is known to better understand the dynamics of the mine pit at final closing of the mine, when pumping would cease.

Financial assurance (bonding) requirements are discussed in many places throughout the main body of the FEIS, in the response to comments on the DEIS (Appendix G of the FEIS), and in the Draft ROD. As presented in the response to comments, the discussion on financial assurance and bonding has been revised in the FEIS [PR 047511_7, Appendix G, p. 19]. For the Rosemont project, the plan of operation will not be approved until after the Record of Decision is signed to ensure that the plan contains all requirements from the FEIS and ROD. Bond calculations will be made at that time and prior to approving the plan of operation. The bond will address all Forest Service costs that would be incurred in taking over operations because of operator default. The bond will be estimated based on contracting the required reclamation work according to the Federal Acquisition Regulations (FAR).

The FEIS includes a thorough discussion of the Financial Assurance process which describes the sequence and timing, regulatory and other guidance, and coordination between Forest Service reclamation/closure bonding and other agencies that also have administrative responsibilities [PR 047511_2, pp. 97-99]. These other agencies include the USACE, Arizona State Mine Inspector, and ADEQ.

The agency has not violated the requirements under 36 CFR 228.8(g), related to environmental protection and reclamation. The regulations allow for reasonable mining impacts, including the creation of pit lakes, which in most cases of open pit mining can't be avoided, unless the entire mining operation is prohibited from operating.

The FEIS is adequate in regards to the pit lake chemistry, possibility of contamination and reclamation.

Recommended Remedy by Review Team Member (if any): The remedy suggested by the objector is not warranted. No remedy is required.

Review Team Member: Michael Linden, Regional Liaison Minerals and Geology