

DOCUMENT REVIEW COMMENT FORM—(ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY)

Commenter	Chapter	Section	Page	Line	Comment/Change requested
J. Emde, D. Turner	Appendix B	OA – GW-01, OA – GW-02, OA – GW-03, OA – GW-04, OA – GW-05, OA – SW-01	66-71		Appendix B of the FEIS contains a series of tables that summarize various requirements by other regulatory and permitting agencies (such as ADEQ) for mitigation and monitoring. In the tables cited at left, the expression is repeated often that “ADEQ is responsible for spot-checking monitoring activities and for evaluating monitoring results to determine compliance with...” [the APP or the stormwater permit]. ADEQ does not understand what “spot-checking” means, unless it means that the agency will perform periodic compliance inspections or that “ADEQ is responsible for determining compliance” as in OA – SW-02. Please remove all references to “spot-checking” and replace with wording such as, “ADEQ is responsible for determining compliance” or “ADEQ is responsible for performing periodic compliance inspections,” as appropriate.
D. Turner	2	Alternative 2 – Proposed Action, Stormwater Controls	42	4-22	ADEQ understands that the forest supervisor has identified Alternative 4 (Barrel) as the Preferred Alternative. However, if the Proposed Action is chosen instead, ADEQ strongly recommends that the Barrel Alternative drainage characteristics be adopted in the Record of Decision (ROD); <i>i.e.</i> , no storage of stormwater on the top or benches of the waste rock/tailings landform. The central drain is problematic after post-closure. ADEQ remains concerned about the drain’s ability over time to allow the passage of unimpacted stormwater. Long-term maintenance may be very difficult to impossible to keep it free-flowing. As noted in the FEIS, there may also be potential for co-mingling of tailings seepage with stormwater.
J. Emde	2	Alternative 3 – Phased Tailings, Stormwater Controls	49	16-17	The last half of this sentence, “precipitation recharge cannot lead to an environmental impact without constituting a violation of Rosemont Copper’s aquifer protection permit,” is not accurate. Actually, it is possible that precipitation recharge could adversely impact the aquifer without automatically leading to an aquifer protection permit violation. Instead, the sentence should be rewritten, “... regulated by ADEQ; therefore, however, <u>precipitation recharge could lead to an environmental impact without actually causing a violation of Rosemont Copper’s aquifer protection permit. Such an impact, under the aquifer protection permit, could require Rosemont to implement a remedial action plan in order to prevent a permit violation.</u> ”

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D. Turner	2	Alternative 3 – Phased Tailings	49	27-32	If the Phased Tailings alternative is chosen, ADEQ strongly recommends that the Barrel Alternative drainage characteristics be adopted in the ROD; <i>i.e.</i> , no storage of stormwater on the top or benches of the waste rock/tailings landform. See also comments to Alternative 2, especially in the context of flow-through drain maintenance.
D. Turner	2	Alternative 5 – Barrel Trail Alternative	61	5-13	If the Barrel Trail alternative is chosen, ADEQ strongly recommends that the ROD not allow any stormwater to be stored on the top or benches of the waste rock/tailings landform. See also comments to Alternative 2, especially in the context of flow-through drain maintenance.
D. Turner	2	Alternative 6 – Scholefield-McCleary Alternative	61-66		If the Scholefield-McCleary alternative is chosen, ADEQ strongly recommends that the Barrel Alternative drainage characteristics be adopted in the ROD; <i>i.e.</i> , no storage of stormwater on the top or benches of the waste rock/tailings landform.
D. Turner	3	Surface Water Quantity			<u>General comment:</u> What are the surface water inputs from the other downstream reaches to Davidson (not just Barrel) and how would these flows affect the concentrations of selenium and the other parameters predicted to exceed surface water standards (fluoride, sulfate and TDS – though it has no standard)?

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D. Turner	3	Surface Water Quantity OR Seeps, Springs, and Riparian Areas			<p><u>General comment:</u> ADEQ could not find a response to its January 18, 2012 comment regarding the provision of make-up water for what is lost to downstream surface waters due to the mine's presence. This option should be given serious consideration and addressed in one or both of these sections.</p> <p>ADEQ's comment about make-up water is repeated: "The Department asks the Coronado to consider requiring replenishment/ make-up water of comparable quality and quantity to offset the predicted water loss resulting from mining during operations and post-closure. The purpose of these measures would be to supplement water sources that provide surface and groundwater flows that maintain the OAW status of Davidson Canyon and Cienega Creek."</p> <p>The Coronado states on p. 36 – 37 (Seeps, etc.) that "there would be an estimated reduction in surface flow of 4.3 to 11.5 percent, depending on the alternative, but a similar effect on recharge is likely to be overpredicted because of the distance downstream of the project area and the high channel transmission losses. This prediction has a high level of uncertainty." A similar comment is made on p. 42 (Seeps, etc.), lines 7 – 11.</p> <p>Regardless of the uncertainty, this potential reduction raises doubts about whether the project can meet the antidegradation standard, because the reduced volume could increase the concentration of pollutants in the downstream receiving OAWs and degrade aquatic habitat. Any reduction in assimilative capacity could lead to a violation of the antidegradation standard.</p> <p>To this end, serious consideration must be given to requiring contingency plans to mitigate the potential reduction in surface flow by supplying make-up water for the OAWs. In addition, more surface water data must be collected before the project starts to establish baseline data to ensure there will be no degradation in water quality of the OAW. Precedence on this issue of make-up water can be found in the Tonto National Forest Record of Decision for the Carlota Copper Project's FEIS: "<i>Implementation of the wellfield mitigation plan would mitigate impacts to riparian zones and aquatic habitat by ensuring that base flows in Haunted Canyon, Powers Gulch and Pinto Creek do not drop below defined monthly minimum streamflows.</i>"</p>
J. Emde	3	Surface Water Quality	25	22	The phrase "after every major storm event or surface flow event" does not apply to the waste rock facility. The phrase should be "after significant rainfall events." The surface flow event language pertains to the inspections of the three process ponds.

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J. Emde	3	Surface Water Quality	25	24	The phrase “and the physical appraisal of design capacity” does not belong here. It does not relate to the waste rock storage facility, but rather to the inspections for the heap leach pad.
J. Emde	3	Surface Water Quality	25	25	If the preferred Barrel Alternative is adopted, a POC at the Compliance Point Dam may not be required by the APP, although some form of inspection may be required in the MSGP after the stormwater pollution prevention plan (SWPPP) is reviewed. ADEQ notes, however, that the Forest Service does caution the reader that some permits will be modified to conform to the preferred alternative.
J. Emde	3	Surface Water Quality	27	28	An aquifer water quality standard exceedance for selenium during SPLP testing would require segregation, under the waste rock segregation plan. Under that scenario, segregation is would be a requirement, not an option.
D. Turner	3	Surface Water Quality	31-33		<p><u>Conclusions of Ability to Meet Surface Water Quality Standards:</u></p> <p>Pg 33: the third bullet in part states, “runoff from the tailings and waste rock facilities ... <i>is not expected to degrade the existing surface water quality</i> ...” This statement is incongruous with the fourth bullet’s discussion is about selenium exceedances. In addition, no samples were analyzed for dissolved copper yet the results of baseline surface water sampling in Barrel Canyon show persistent exceedances of the dissolved copper standard (Table 102). Based on the information in Table 102 and discussion on page 10 , lines 35-36, the second bullet should read “Existing surface water quality in Barrel Canyon exceeds applicable standards for arsenic, lead, copper and silver.” Barrel Canyon, as an ephemeral stream, carries an aquatic & wildlife ephemeral designated use (A&We). A&We does not have a dissolved copper standard, however, both Davidson Canyon and Cienega Creek carry an aquatic & wildlife warm water designated use for which there is a dissolved copper standard.</p> <p>The Coronado should exercise precision when using the term “degrade water quality” in any discussion in the FEIS about surface water quality standards associated with an OAW. Antidegradation is also a surface water standard and evaluation against that standard will play a prominent role in ADEQ’s reviews of the CWA 401 and MSGP applications. The regulation requires that a discharge must meet <u>all</u> surface water quality standards (including antidegradation as well as chemical concentrations), so there cannot be a simultaneous exceedance of water quality standards and a conclusion of no degradation.</p>

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					<p>The third bullet should be revised to read, “The results of baseline surface water sampling indicate that stormwater runoff from the tailings and waste rock facilities from all action alternatives <u>may exceed the surface water quality standard for is not expected to degrade the existing surface water quality in the project area, with the exception of selenium.</u>” The fourth bullet in part states, “Predicting the likely selenium concentration in runoff from waste rock is not feasible.” ADEQ acknowledges the difficulty of the task, but, in order to lay the groundwork for a prediction of whether surface water quality may be degraded, it should be done.</p> <p>The final three bullets rely on Rosemont’s ability to make a demonstration under the MSGP (Part 1.1.4.6(2)) that the antidegradation standard can be met. This demonstration has not yet been made, because Rosemont has not yet submitted its SWPPP to ADEQ. ADEQ’s approval to discharge under the MSGP will hinge on whether discharges will meet surface water quality standards, including the antidegradation standard (see also MSGP Part 1.1.4.6(3)). These bullets should be rephrased or deleted, because the conclusion that the mine can meet surface water standards is premature, in part because the information in the SWPPP, which is required by the MSGP, is not yet available. If Rosemont is unable to make an adequate demonstration for the MSGP that its stormwater discharges will not degrade existing water quality in Barrel Canyon or the downstream OAW, then coverage under an individual AZPDES permit may be necessary to demonstrate that standards can be met. The individual permit may require additional controls (in addition to what the Coronado may require in its mine plan of operations), as well as expanded and more frequent monitoring and reporting.</p> <p>See also ADEQ’s comment to p. 15-16 of the Seeps section, below.</p>

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D. Turner	3	Seeps, etc.	15-16	31-42, 1-2	<p>The Coronado's conclusion about the MSGP issuance is fundamentally incorrect. Any facility that lies within 2.5 miles of an impaired water or OAW is automatically required to submit its SWPPP before coverage is granted. However, ADEQ always has authority to call in any SWPPP for review and require additional monitoring, inspections or other appropriate additions to the SWPPP. For example, Table OA-SW-01, Appendix B, (also in the draft Biological Opinion) correctly states that specific sampling locations would be defined in the SWPPP only after the selection of an alternative in the ROD. Table OA-SW-02 correctly describes the relationship of the SWPPP to the stormwater general permits. Consider referencing these tables when re-writing these paragraphs.</p> <p>In ADEQ's February 7, 2013 letter to Rosemont, the Department stated that the mine will be required to submit an up-to-date SWPPP at least 60 days prior to commencement of either construction or mining activities. Based on further analysis of the SWPPP at that time, the Department may require additional monitoring, inspections and may impose additional requirements (e.g., additional control measures) to mitigate the discharge of selenium, copper or other potential pollutants deemed to threaten the water quality of Barrel Canyon or the downstream OAWs. If Rosemont is unable to make an adequate demonstration for the MSGP that its stormwater discharges will not degrade existing water quality in Barrel Canyon or the downstream OAWs, then coverage under an individual AZPDES permit may be necessary with additional controls, as discussed in the comment immediately above. The extent of the additional controls and monitoring will depend on the demonstration needed to satisfy the antidegradation standard. Nevertheless, the Coronado's decision to undertake a more thorough analysis is still warranted for all the reasons stated on page 16 of this section.</p>

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D. Turner	3	Seeps, etc., Table 108	20	20-21	<p><u>Issue 4.4: Qualitative assessment of ability to meet legal and regulatory requirements for riparian areas.</u> The conclusion for the Proposed Action and Barrel Alternative is that there will be “no change in ability to meet regulatory requirements for either Cienega or Davidson”. This includes the analysis for “Change in surface water quality”:</p> <p>“For Upper Cienega Creek, there is no direct potential to affect surface water quality, unless changes in stream flow indirectly affect aspects of water quality (temperature, for instance). For Lower Davidson Canyon and the portion of Lower Cienega Creek downstream of the confluence with Davidson Canyon, there is the potential to directly affect surface water quality through stormwater runoff.”</p> <p>In the context of antidegradation, this conclusion, although qualitative, is premature because the Department will not make a determination on whether the mine will degrade the OAW reach of Davidson Canyon until it first evaluates the project for the activities under the 404 permit for CWA 401 Certification and then evaluates the stormwater discharges from the project for issuance of the MSGP. In both of these actions, the Department must find the ability to meet surface water quality standards, including antidegradation, has been demonstrated.</p> <p>Below is an excerpt from ADEQ’s response to comments in its 2002 rulemaking for A.A.C. R-18-11 (note that terminology in this rule for a “unique water” was changed in 2007 to an “outstanding Arizona water”):</p> <p>“A unique waters classification also can affect land use activities within a unique waters watershed. Land use activities that cause nonpoint source [and point source] pollution are not exempt from the provisions of Arizona’s Tier 3 antidegradation policy. For example, cattle grazing, mining, timber harvesting, agriculture, and other land uses that result in the nonpoint source [and point source] discharge of pollutants to a surface water could be affected by a unique waters classification. Once a surface water is classified as a unique water, <i>land use activities in the watershed have to be conducted in a way that prevents the degradation of existing water quality in the unique water.</i> While Arizona does not have a regulatory program to directly control nonpoint sources of pollution, the intention of the Tier 3 antidegradation policy is that best management practices be developed and implemented to prevent the degradation of existing water quality in a unique water.”</p> <p>Page 20, lines 20-21, the following language should be removed: “With respect to the outstanding Arizona water in Davidson Canyon, degradation of existing water quality is prohibited, but the reach does not meet the definitions of a wadeable, perennial stream.”</p>

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D. Turner	3	Seeps, etc.	42	2-3	Table 111 (<i>Potential to affect Outstanding Arizona Water in Davidson Canyon and Lower Cienega Creek</i>) – As written, the surface water quality impact summary could be interpreted to contradict Table 97 (Issue 3E.1), p. 4, Surface Water Quality section and the statement on p. 43 (lines 8 – 10). See also comment to p. 44, lines 31 – 40 (Seeps, etc.).
D. Turner	3	Seeps, etc.	42	7-8, 12-17	<p>The statements “Direct comparison of predicted water quality from waste rock runoff to the existing water quality in Davidson Canyon and Lower Cienega Creek is problematic and not appropriate (lines 7-8) and “a more appropriate comparison is to compare the predicted water quality from waste rock runoff to the existing water quality for runoff in Barrel Canyon (lines 12-13)” are incorrect. Discharges under CWA 402 or 404 permits must meet surface water quality standards <i>in the receiving water</i>. No degradation of existing water quality is only applicable to Tier 1 (impaired water) and Tier 3 (outstanding Arizona waters). Likewise, the concluding statement “...there is little likelihood that existing water quality in Davidson Canyon or Lower Cienega Creek would be affected” is inaccurate.</p> <p>When considering the antidegradation standard, water quantity is a key factor inasmuch as assimilative capacity may be reduced when flow is reduced, which could affect the concentrations of pollutants. More data will be required for ADEQ’s antidegradation review. ADEQ must evaluate water quality and quantity changes from all sources entering Davidson Canyon when determining whether the mine’s discharges can meet the antidegradation standard. All three statements should be deleted or modified to reflect the comments above.</p>
D. Turner	3	Seeps, etc.	43		Table 112 (<i>Summary of predicted water quality for waste rock runoff, etc.</i>) – ADEQ understands this table was not updated after removal of the heap leach facility. The table’s data is not current regarding predicted water quality runoff from the waste pile. ADEQ further understands that data from the Abrigo Formation may have been transposed with the arkose formations (Table 105 – <i>Water quality for selected waste rock type and applicable designated uses (Barrel Canyon)</i>). Please also note that the values for total and dissolved metals for copper appear to be reversed.

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D. Turner	3	Seeps, etc.	43-44	15-18, 1-13	<p>The Coronado cites two reasons why it is not possible to predict whether stormwater discharges with elevated selenium will degrade water quality in lower Davidson Canyon. The first reason incorrectly infers that ADEQ's issuance of the mining multi-sector general stormwater permit (MSGP) is the agency's final decision and that there is no possibility of a review and modification of the SWPPP, if necessary, before construction/mining starts. See comment to the Seeps section above, p. 15 – 16.</p> <p>ADEQ concurs with the second reason that it is problematic to predict whether elevated selenium runoff from the waste rock pile will degrade water quality in Lower Davidson Canyon, given the proposed waste rock segregation plan.</p>
D. Turner	3	Seeps, etc.	44	31-40	<p>In reviewing the CWA Section 404 application, ADEQ must determine whether the applicant has demonstrated that the proposed discharge will meet surface water quality standards, including antidegradation, in the downstream OAW. States Lines 37 – 40 should be revised or deleted because it is premature to make this statement until ADEQ conducts its review of the application.</p>
D. Turner	Appendix B	Table RC-SW-01			<p>Rosemont has voluntarily agreed to continued operation/ monitoring and data gathering at the USGS flow gage in lower Barrel Canyon. Although this answers ADEQ's request in our January 18, 2012 letter to restore funding for continued monitoring, the Forest Service explains in the opening text of Appendix B that it does not have the authority to require this monitoring measure. ADEQ strongly urges the Coronado to re-evaluate this determination of its authority, because this information will be necessary in ADEQ's evaluation of downstream impacts to Davidson Canyon and Cienega Creek, which may be an ongoing process over the life of the mine (during MSGP permit coverage) including both water quality, quantity and sediment loadings.</p>