

US EPA ARCHIVE DOCUMENT

**Response to Comments  
 Carlota Copper Mine Project  
 Supplemental Environmental Assessment**

February 27, 2002

**Contents of this Document:** This document provides a compilation of comments received and agency responses concerning the Supplemental Environmental Assessment (Supplemental EA) to assess the environmental impacts of two withdrawn conditions included in the U.S. Environmental Protection Agency's ("EPA's") final NPDES permit for the Carlota Copper Mine Project. Because of the large number of comments received, comments related to specific issues were combined and summarized where ever possible. Because of the specificity of many of the comments, a conservative approach was used in combining comments and in summarizing comments. This is especially true for comment letters received from *Friends of Pinto Creek* (Comment Letter 26) and *Western Mining Action Project* (Comment Letter 32) where comments are presented verbatim. Each comment summary is provided below in table format along with the numbers assigned to the respective comment letters and the numbers assigned to specific comments contained within those letters. Table 1 provides comment letter numbers that have been assigned for each commenter or agency providing comments. Table 2 provides comment letter numbers, comment numbers, comment summaries, and comment responses.

Based on the analysis in the Supplemental EA as well as comments received and the comment responses provided herein, EPA concludes that the inclusion of the two withdrawn NPDES permit conditions result in an overall positive impact to the environment.

**Table 1. Assigned Comment Letter Numbers.**

Assigned Comment Letter Number	Commenter
1	Kenneth Crockett
2	Greater Globe-Miami Chamber of Commerce
3	Blake & Carpenter Insurance Agency
4	Brenda Gore
5	Kathy Baca
6	Nathen Gore
7	Carl Lopez
8	L. Crandell

Assigned Comment Letter Number	Commenter
9	F. Gore
10	Pat Emery
11	Jerry Barela
12	Becky Noth
13	Robert E. Zache
14	Robert J. Zache
15	Clarence Rice
16	Mary Anne Moreno
17	Southern Gila County Economic Development Corporation
18	Globe Valley Community Hospital
19	Kevin M. Kenney
20	City of Globe
21	Eula Belle Bohme
22	Kendrick Holden
23	Miller Enterprises, Inc.
24	Barbara E. Kannegaard
25	Ram Specialists
26	Friends of Pinto Creek
27	Ray Prendergast
28	Randall Holmes
29	Lola Boan
30	Maricopa Audubon Society
31	Friends of Arizona Rivers
32	Western Mining Action Project
33	Ev Lewis

Assigned Comment Letter Number	Commenter
34	White Mountain Apache Heritage Program
35	Eugene Burdock
36	Lewis Williams
37	Mrs. Roger Huebsch
38	Rob Sanchez
39	Edith Jones
40	Nancy Koerner
41	Western Action Mining Project
42	Phebe Ham

**Comment Categories:** Comment summaries are assigned a general comment category relating to the specific issue. General comment categories are coded by letter (A-E). For categories D and E, numbers were assigned to more specifically delineate a sub-category. Because of the complexity and volume of comments, responsive information may be found throughout this document in addition in the specific response. Assigned comment categories are as follows:

#### Support

**A:** Statement of General Support: there have been too many delays already, and Carlota has complied with all requirements and should be allowed to move forward.

**B:** The Gibson Mine partial cleanup and the wellfield mitigation plan will be beneficial to the environment.

#### Oppose

**C:** General statement of opposition on grounds of harm to the environment (and issues beyond scope of the EA)

**D:** Gibson Mine partial cleanup

1. Copper levels in Pinto Creek
2. TMDL Offset calculations
3. Methodology of cleanup
4. Other

E: Wellfield mitigation plan

1. Temperature
2. Pipeline
3. Methodology, monitoring/testing
4. Alternatives analysis
5. Downstream and other impacts (wetlands, aquatic & wildlife, riparian, etc.) not analyzed
6. Other

**Table 2. Comment Summaries and Comment Responses**

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
1, 3, 16, 21	Support	1	A	There should be no more delays; Carlota Copper has complied with all requirements. The NPDES Permit should be issued.	Comment Noted.
2	Support	1	B	The Gibson Mine cleanup and the wellfield mitigation plan will be beneficial to the environment.	Comment Noted.
		2	A	The Carlota project will provide much needed jobs for the local economy.	Comment Noted.
4 through 15, 17, 18, 19, 20, 22, 23, 24, 25, 36	Support	1	B	The Gibson Mine cleanup and the wellfield mitigation plan will be beneficial to the environment.	Comment Noted.
4 through 15, 17, 20, 22, 24	Support	2	A	The Carlota project has been responsibly planned and has thoroughly addressed all environmental issues.	Comment Noted.
25	Support	2	A	The process has taken far too long and cost both Carlota and the taxpayers far too much already; no more public hearings are needed.	Comment Noted.
	Support	3	B	The Carlota project will be an economic benefit to the local economy.	Comment Noted.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
26	Oppose	1	D.1	<p>What is EPA's position with regard to the extent of improvement, in terms of copper loading, acid, and total hardness resulting from the Gibson Mine cleanup vis-a-vis the loads added to Pinto Creek through potential discharges from the proposed Carlota project?</p>	<p>Section 3.1.3 of the Supplemental EA concludes that a significant reduction in copper loading from the Gibson Mine would be expected as a result of the proposed action which includes the removal of the pregnant leach solution (PLS) pond, the raffinate pond, and relocation of the leach pad. The expected reduction in copper loadings at the Gibson Mine would be significantly greater than loadings expected by the potential discharges from the proposed Carlota Copper Project (EPA, 2001). Additional reductions in copper will be realized by removal of the natural loading from the Cactus Breccia Formation that would be eliminated by project construction (EPA, 2001). As noted in the earlier Response to Comments, discharges from the Carlota Copper Project are expected to be very infrequent.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		2	D.1	EPA should set out its position clearly, cite the reaches of Pinto Creek affected by the Gibson Mine cleanup, provide supporting data, use data that has common criteria, covers the 5 TMDL flow levels, deals with ADEQ data from late 2000 and January 2001, and explain why all other sources of copper from the project area were excluded.	See Response to Comment 26-1, 26-12 and 26-45. EPA used all available and relevant data in conducting the NEPA analysis for the two withdrawn permit conditions. EPA provided public notice on the adoption of the 1997 Final Environmental Impact Statement (FEIS) (USFS, 1997) and the 1998 Corps of Engineers Supplemental Environmental Assessment (Supplemental Corps EA) (Corps, 1998) on July 24, 2000. EPA's position is that the NEPA analysis for this project, which includes the FEIS, the Supplemental Corps EA, and the Supplemental EA that EPA gave public notice of on May 9, 2001, were conducted adequately. EPA notes that the adequacy of the FEIS and the Supplemental Corps EA have recently been upheld in <u>Citizens for the Preservation of Powers Gulch and Pinto Creek vs. U.S.</u> , Memorandum and Order on Pending Motions for Summary Judgment at pages 5-6 (attachment to July 24, 2000 Response to Comments). Other sources from the area are appropriately analyzed and addressed in the TMDL.



Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		3	D.1	<p>After the Gibson Mine cleanup, 3 reaches of the Pinto, perhaps exceeding 6 miles in length will remain as an overexceedance in copper; the Pinto's 303(d) designation will continue and Carlota will have received an NPDES Permit that authorizes addition of copper to a stream that is 303(d) because of excessive copper. Abandoned mine workings (Yo Tambien, Bronx, Swede) will continue to add copper to the 303(d) listed watershed.</p>	<p>See Responses to Comments 26-1, 26-2 and 26-12. Although EPA will have issued an NPDES permit to Carlota Copper that authorized discharges which contain copper during 10-year, 24-hour and 100-year, 24-hour storm events, EPA maintains that the partial remediation of Gibson Mine by Carlota will offset any possible permitted discharges. Discharges from abandoned mine workings and non-point sources are properly addressed by the TMDL, instead of in this NPDES permitting process. As EPA noted in its earlier response to comments, "EPA is limited in issuing an NPDES permit to conditions on the discharge of pollutants to waters of the U.S. As the D.C. Circuit Court of Appeals stated in <u>Natural Resources Defense Council v. U.S. EPA</u>, 'neither the Clean Water Act nor NEPA authorizes EPA's imposition of non-water quality permit conditions.' 859 F.2d 156, 170 (D.C. Cir. 1988) (noting that 'EPA may not impose permit conditions unrelated to the discharge itself.'). Thus, even where, as here, the issuance of an NPDES permit is a major Federal action subject to NEPA, <u>see</u> 33 U.S.C. § 1371(c) (1), 'EPA may not . . . under NEPA transmogrify its obligation to regulate discharges into a mandate to regulate the plants or facilities themselves.' <u>Natural Resources Defense Council v. U.S. EPA</u>, 859 F.2d at 170." Moreover, comments not directed at the two withdrawn permit conditions should have been raised in the earlier comment period and are thus beyond the scope of this action.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		4	D.1	EPA is supporting issuance of an NPDES Permit that perpetuates current exceedances and CWA violations and allows the addition of new in-perpetuity threats to the environment, such as waste rock dumps that can have slides, seeps, and leaks, and a heap-leach pad that can leak.	See Responses to Comments 26-1, 26-2, 26-3 and 26-12. Project alternatives and impacts associated with the disposal of waste rock and the development of a leach pad were evaluated by the FEIS. EPA's position is that the NEPA analysis for this project, which includes the FEIS (USFS, 1997) and the Supplemental Corps EA (Corps, 1998), and the Supplemental EA public noticed on May 9, 2001, was conducted adequately. The FEIS acknowledges some potential for instability in the waste rock dump areas, however, Carlota's final designs for the dumps must demonstrate thorough geotechnical analyses for stability under all conditions, including seismic loadings. These designs must be approved by the U.S. Forest Service (Section 3.2 of the FEIS). Moreover, comments not directed at the two withdrawn permit conditions should have been raised in the earlier comment period and are thus beyond the scope of this action.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		5	D.1	<p>After the Gibson Mine cleanup, the Gibson Mine Tributary (GMT) may continue to discharge copper levels into the Pinto that exceed water quality standards; if this occurs, what will be EPA's position?</p>	<p>Ambient water quality monitoring within Pinto Creek and associated tributaries is specified by the FEIS and the Ground and Surface Water Monitoring Plan (GWRC, 1997). Additional monitoring requirements and specific remediation activities are specified by the Final NPDES permit (Sections I.11.b. and I.A.11). Under the permit, Carlota will also need to submit a plan for the remediation to EPA for approval prior to commencement of activities (Section Part I.A.1.a and Part I.A.11.a). Carlota is not obligated to monitor storm water from the Gibson mine once remediation activities in the permit are completed. Carlota has agreed to inspect the Gibson mine reclamation area once per year for erosion during the operation of the Carlota mine and notify the owners. Carlota is not obligated to perform maintenance or to perform additional surface water monitoring to support the TMDL in the Gibson mine tributary. Once Carlota completes the reclamation work as required by the permit, their legal obligation is satisfied. Areas outside the partial remediation, including discharges, are the responsibility of owners or operators of the Gibson Mine, not Carlota Copper as Carlota Copper is neither the owner or operator of the Gibson Mine. Once the Gibson Mine partial remediation is complete, the remediated areas should not revert. Exceedances of WQs from post reclamation discharges are the responsibility of the owners of Gibson mine. ADEQ, EPA, and the Forest Service retain the authority to evaluate future actions at the Gibson Mine including enforcement. See Response to Comments 26.1, 26.3, 26-4 and 26-20.</p>

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		6	D.4	Why weren't non-copper constituents reported in EA data for Gibson as they were for the Carlota project reaches of the Pinto and Haunted Canyon?	Pinto Creek is listed by the State of Arizona under Section 303(d) of the Clean Water Act (CWA) for non-attainment of the water quality standard for dissolved copper. For this reason, EPA sought a reduction in copper from the remediation project. Thus, water quality impacts associated with potential reductions in copper loading that would result from the partial reclamation of the Gibson Mine were evaluated in the Supplemental EA. In addition, water quality data available for the Gibson Mine area were primarily available for copper and were associated with studies conducted to develop the TMDL (EPA, 2001). See Response to Comments 26-5, 26-12.
		7	D.4	After the partial Gibson Mine cleanup, GMT discharges of non-copper constituents, such as pH and zinc, may still exceed water quality standards; if this occurs, What will be EPA's position? Will there be monitoring for non-copper constituents?	See Response to Comment 26-5. Ambient water quality monitoring within Pinto Creek and associated tributaries would be conducted as specified by the FEIS and the Ground and Surface Water Monitoring Plan (GWRC, 1997) and as specified by the Final NPDES permit (Section I.11.b). Both pH and zinc are required constituents for ambient monitoring.
		8	D.1	Before issuing an NPDES Permit, why not remedy the entire Carlota project area and eliminate (1) discharges that violate the CWA and (2) exceedances in all reaches of Pinto Creek, in and above the project area, and be done with it?	See Responses to Comments 26-1, 26-2, 26-3 and 26-5.

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		9	D.1	With the rapid lowering of copper load with the greater distance from principal sources, how is the 1.71 kg/day figure cited for 100 feet in the Pinto below the GMT possible when that is the precise load in the GMT before it reaches the Pinto, before its discharges are mixed with substantially more water in the Pinto that has a much lighter copper load?	The commenter's interpretation is incorrect. Section 3.1.3.1, Table 3-2 of the Supplemental EA shows water quality data taken from several sources at the Gibson Mine during a flow event. Figure 3-2 demonstrates loading increases with contributions from various mine sources, including 1.78 kg/day from the PLS pond. As presented in the analysis, the loading decreases downstream from unidentified mixing and attenuation factors.
		10	D.2	EPA says that minus <u>1.71 kg/day</u> from Gibson offsets (plus <u>225 kg/day</u> + plus .094 kg/day =) plus <u>225.094 kg/day</u> from Cactus Braccia and Outfalls 001-007 additions. Please clarify the percentage of the current Gibson discharges, after the proposed cleanup, the EPA estimate will be recorded in the Pinto immediately below the GMT, the station EPA presumably is using for its EA offset/additions calculations. Will 100% of Gibson's current discharges will be eliminated, or will it be closer to 80% or 50%?	See Response to Comment 26-1. The loading of dissolved copper from all sources and estimated offsets, including the Gibson Mine tributary and the Cactus Breccia formation are presented in the Final TMDL for Pinto Creek (EPA, 2001). The Final TMDL indicates that up to 99 percent of the loading of dissolved copper from the Gibson Mine area could potentially be achieved by reclamation of several of the existing mine features. As stated in the Supplemental EA, EPA maintains that the Gibson Mine partial remediation would provide an offset to any potential discharges by Carlota Copper as authorized under this NPDES permit. See Response to Comments 26-12.

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		11	D.2	What is the exact cutoff point at which the Gibson copper discharge, as measured in the Pinto just below the GMT, must fall in order to offset total Carlota additions? Present this data in a form that is clear, complete, and that uses common data for all listings.	See Response to Comment 26-1 and 26-2. The commenter is referred to Sections 3.1.3.1 of the Supplemental EA and the Final TMDL (EPA, 2001). These analyses conclude that positive water quality impacts in Pinto Creek would result from the Gibson Mine partial remediation notwithstanding any possible discharges authorized under the NPDES permit. Specific quantification of waste load allocations in Pinto Creek were evaluated by the Final TMDL (EPA, 2001).
		12	D.4	Why doesn't EPA wait for the Phase II TMDL study, due from ADEQ in 18-24 months, before making a decision on the issuance of an NPDES Permit?	See Responses to Comments 26-1 and 26-11. EPA maintains that the issuance of the permit subsequent to the issuance of the final TMDL was appropriate. The Final TMDL was issued by EPA in April 2001. To the extent that the commenter is challenging the adequacy of the TMDL, EPA notes that the Environmental Appeals Board has recently held that "where petitioner's allegations are in essence challenges to the underlying determinations of the TMDL . . . we find that this is not the appropriate forum for raising the issue." <u>City of Moscow, Idaho</u> , NPDES Appeal No. 0010, slip op. at 35 (E.A.B. July 27, 2001). "It is well settled that a party dissatisfied with EPA's approval may seek review of EPA's approval decision in United States district court under the APA." <i>Id.</i> at 36.

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		13	D.2	Please present the specific problem(s) and the specific solution(s) that the Gibson Partial Reclamation Alternative Proposal is addressing. The EA suggests that the problem is offsetting Carlota additions whereas the Draft TMDL suggests it is achieving water quality criteria [ <i>i.e.</i> , removing the 303(d) designation for Pinto Creek]. The EA solution is to present offsets that are greater than the additions, but this solution leaves upwards of six miles or more of Pinto reaches with exceedances in copper. Please explain the apparent discrepancies.	See Responses to Comments 26-1, 26-10 and 26-12. EPA disagrees that there is a discrepancy between the NEPA analysis and the Final TMDL. The Supplemental EA analyzes the environmental impacts from the two withdrawn permit conditions. The Supplemental EA concludes that positive water quality impacts in Pinto Creek would result by implementation of the withdrawn NPDES permit conditions. The TMDL notes that the Gibson Mine partial remediation would provide a benefit to Pinto Creek. The Final TMDL provides loading allocations to non-point sources, point sources, background, and for a margin of safety that would achieve attainment of water quality standards in Pinto Creek. To the extent that the commenter is challenging the TMDL, please see Response to Comment 26-12.

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		14	D.1	<p>Why weren't other copper additions included in the EA lists of Carlota copper additions to the watershed, such as: copper known to be in Outfall 008 mitigation pipeline discharges; copper in storm runoff from the Carlota project's 1028 disturbed acres; copper in airborne dust generated by Carlota operations; copper from infiltration from underneath unlined dumps and from pits into groundwater; copper from the Bronx property; copper from various other abandoned mine works in the area (Yo Tambien, Swede); copper in sediment stirred up in stream crossings and dust from tires on vehicles involved in thousands of stream crossings; copper in GMT flows that is not affected by the partial cleanup; copper from existing placer mining runoff in the Pinto Creek drainage; copper in tailings from the Pinto flood plain in the project area from previous spills; and copper from remnants of the 10/22/1997 BHP spill.</p>	<p>See Responses to Comments 26-1, 26-2, 26-3, 26-4, 26-10 and 26-12. The Supplemental EA addresses only the two withdrawn permit conditions. An opportunity to comment on all other aspects of the NPDES permit was provided in the earlier comment period. In addition, a watershed analysis of non-point source copper additions was done for the TMDL.</p>



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		15	D.2	If <i>abandoned</i> Gibson Mine flows, to be reduced by the Alternative Proposal, are counted as offsets, why aren't estimated Gibson Mine flows that would continue after partial reclamation ( <i>e.g.</i> , discharges from the unreclaimed waste dump) counted as additions? Why aren't flows measured in Pinto immediately below Bronx tributary and Yo Tambien tributary confluences under the same conditions as Gibson's flows, measured immediately below its tributary and then counted as additions? If flows into Powers Gulch from six overflowing catchment basins are counted as additions, why aren't flows from other identified (Swede) or yet-to-be-identified significant abandoned mine dischargers into Powers Gulch, measured in Powers Gulch immediately downstream of their tributaries counted as additions? Eight abandoned mines, including Gibson, Swede, and Yo Tambien, but not the Bronx Property, are in the Draft TMDL (Table 5-1, p. A.3).	See Responses to Comments 26-1, 26-2, 26-3, 26-10 and 26-12.
		16	D.2	If the copper input from sources not now included in the EA (see #14 above) is counted, what effect would it have on the offset/addition equation?	See Responses to Comments 26-1, 26-3 and 26-10.
		17	D.1	Why does the EPA give a value to the "unknown" contribution of dissolved copper from specific sources and sites ( <i>e.g.</i> , adits, non-point source sediment, naturally occurring areas of mineralization, etc.) in the TMDL ("natural background," pp. 22-23) via a 10% margin of safety, but no value to these sources (except stoppage of Gibson) in the EA?	The purpose of the Supplemental EA and TMDL are different. The purpose of the Supplemental EA is to analyze the two withdrawn conditions. EPA contends that the analysis is sufficient under NEPA. See Responses to Comments 26-1, 26-3 and 26-12.

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		18	D.1	<p>The FEIS (2-7) indicates that copper in runoff from the planned 161 acres of roads and parking lots will dissipate. However, the EA says that copper from the GMT will not dissipate in its 13-mile journey to the lower Pinto stretch eligible for Wild &amp; Scenic River designation (p. 45), flowing past two downstream Pinto copper detection stations that record zero dissolved copper in storm runoff conditions.</p>	<p>Analyses of impacts for the Supplemental EA used conservative assumptions regarding the attenuation or “dissipation” of contaminants being discharged from significant sources such as the Gibson Mine. By assuming little or no attenuation of contaminants, a worst-case scenario was used for the NEPA analysis. Under this scenario, Section 3.3.8 of the Supplemental EA concludes that the proposed partial reclamation of the Gibson Mine area would potentially provide a positive impact to water quality in Pinto Creek, including the 8-mile perennial section that is eligible for a “Scenic” designation.</p>

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		19	D.1	<p>It is apparent that there is a tremendous falloff of copper load with distance from the prime copper discharge sources. EA Table 3-2 lists 6.88 and 7.87 kg/day Cu loads at the leach pad and north diversion channel confluence with Gibson Tributary, and a 2.10 kg/day load in the GMT above Pinto, whereas Table A-2 has a 1.71 kg/day load at the same GMT (general?) location above Pinto, with no Cu-load/day in Pinto below the GMT. Has EPA developed a formula for this falloff phenomenon? If so, what is it? How does it apply to the adding and subtracting of copper loads from TMDL reach to reach, to the impact of Gibson discharges on downstream Pinto TMDL-defined ten reaches, and to lower Pinto?</p>	<p>See Responses to Comments 26-1, 26-2, 26-3, 26-10, 26-12 and 26-18. The loadings for copper presented in Table 3-2 of the EA were computed using concentrations of total copper. The loadings for copper presented in Table A-2 were computed using concentrations of dissolved copper, as noted in the footnote for that table. This accounts for the difference between the copper load presented in Table 3-2 and the copper load presented in Table A-2 for station 13/H. EPA did not develop a formula or a model to apply an apparent attenuation of copper in some reaches of the watershed either for the TMDL or for this EA. The methods for computing loadings, waste load allocations and load allocations for the TMDL are presented in the Pinto Creek TMDL (EPA 2001). As discussed in response 26-2, EPA used all available and relevant data in conducting the NEPA analysis for the two withdrawn permit conditions.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		20	E.3	It appears that there can be at least four months and conceivably an indefinite additional time, in which water quality violations will be allowed to occur under the mitigation plan's "testing" and "monitoring" conditions. If this is true, on what basis is such a lengthy violation of surface water standards acceptable to EPA?	EPA disagrees with this comment. Both the Wellfield Mitigation Program (Appendix E of the FEIS) and the conditions specified in the Final NPDES permit specify that discharges must comply with applicable Arizona water quality standards prescribed in R18-11-109 of the Arizona Administrative Code (A.A.C.). Under the Wellfield Mitigation Program, Carlota is required to implement measures, as necessary, to ensure that water discharged to supplement stream flows meet all applicable Arizona water quality standards. These measures will be designed as a part of the additional aquifer and wellfield testing that is specified by the mitigation plan. Under Part I.A.11.b of the Final NPDES permit, Carlota may be required to increase the frequency of monitoring, if results exceed applicable Arizona water quality standards. Additionally, the permit may also be reopened to impose additional limits on the discharges based on new information or data under 40 CFR Parts 122 and 124. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement actions up to \$25,000 per day; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal [40 CFR 122.41(a)]. See Response to Comment 26-76.
		21	E.3	If a wellfield mitigation discharge occurs with a copper exceedance, will EPA allow Carlota to violate surface water standards under the guise of testing, monitoring or report submission preparation?	See Response to Comment 26-20.

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		22	E.3	Outfalls 001-007 may not have any discharges into the waters of the U.S. that violate water quality standards, even in heavy rain events. Is Outfall 008 being treated differently?	Under Part I.A.11.b of the final permit, all discharges including discharges from Outfall 008 into Pinto Creek, Haunted Canyon, and Powers Gulch must meet applicable Arizona water quality standards prescribed in R18-11-109 of the A.A.C.
		23	E.3	Under the guise of testing and/or monitoring, would the Permit allow non-copper exceedances in mitigation discharges, in violation of water quality standards?	See Response to Comment 26-20, 26-21 and 26-22.
		24	E.3	After 8 quarterly samples (Outfall 008) of effluent have been taken, the Permittee may prepare a report that tabulates, and assesses any impacts on water quality in Pinto Creek. Does this mean that the Permit would allow 2 years of exceedances before this would be reported, and is this acceptable to EPA?	See Response to Comment 26-20, 26-21 and 26-20.
		25	E.3	Please explain the monitoring and monitoring reporting in one summary section, distinguishing continuous, monthly, quarterly, twice annual monitoring, and the reporting periods of continuous, monthly, quarterly, monthly after quarterly violation is found, etc.	Discharge monitoring and reporting requirements are described in Part I.B of the final permit. Ambient monitoring requirements and conditions are described in Part I.D of the final permit. See Response to Comment 26-2.

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		26	E.3	Considering (1) the copper content of the wellfield water; (2) additional levels may be detected in testing during the start-up phase or monitoring; (3) wellfield discharges with copper content may go into one reach of Haunted Canyon that may have an exceedance in copper [a reading of <.5 mg/L for dissolved copper was recorded at HC-2--a discharge point well below HC-2 (FEIS, p. E-3)] during the four-month period cited above if not longer; how can EPA exclude an Outfall 008copper component in its additions/offset calculations?	The Final TMDL for Pinto Creek included Waste Load Allocations (WLA) for the proposed Outfall 008 (EPA, 2001). The WLA established for Outfall 008 requires that applicable acute and chronic water quality criteria for dissolved copper be met at the outfall. See Response to Comments 26-12. In addition, the permit requires the discharges from Outfall 008 to meet all applicable water quality standards.
		27	E.3	EA Table A-3 indicates wellfield copper averages <.01 mg/L for wells TR-1, TR-2, and TR-3, but does not say whether the data refers to dissolved or total copper, nor does it indicate the hardness of the water, a critical factor in computing dissolved copper content.	Tables A-3 of the Supplemental EA and Table C5-5 of the FEIS present an average copper value of <0.1 mg/L. Average total recoverable copper and average dissolved copper calculated from the data presented in Table C5-6 of the FEIS both report values of <0.1 mg/L. Hardness is not a factor in analytical methods used to measure dissolved or total copper. The toxicity to aquatic organisms of dissolved copper decreases as hardness increases. For this reason, acute and chronic water quality standards are calculated according to criteria set forth by the State of Arizona (A.A.C. Section R18-11-109 ) depending on the hardness of the receiving water.
		28	E.3	Are EA TR-1, TR-2, and TR-3 the same wells as the FEIS TW-1, TW-2, TW-3? If not, please identify the date and source of the data.	Wells TR-1, TR-2, and TR-3 described in the Supplemental EA are the same wells as TW-1, TW-2, and TW-3, respectively of the FEIS.

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		29	E.3	Please explain the discrepancy between the EA Table A-3/FEIS Table C5-5 and the FEIS Table C5-6. The former has an average value of <.01 mg/L for copper in an unknown state and the latter, if average values are calculated, has <.04 mg/L for recoverable copper and <.015 for dissolved copper.	EPA disagrees that there is a discrepancy between the values presented in Table A-3 of the Supplemental EA and Table C5-6 of the FEIS. Tables A-3 of the Supplemental EA and Table C5-5 of the FEIS present an average copper value of <0.1 mg/L. Average total recoverable copper and average dissolved copper calculated from the data presented in Table C5-6 of the FEIS both report values of <0.1 mg/L.

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		30	E.3	<p>Aquatic Wildlife (warm water fishery) Pinto Creek Water Quality Standards (EA, p. 57 and FEIS Table C 5-5, p. C-23) are identified as <u>acute .0179 mg/L</u> for dissolved copper and <u>chronic .0119</u> for dissolved copper. Aquatic Wildlife (warm water fishery) Water Quality Standards (FEIS Table C 5-6) show <u>acute copper .034 mg/L</u> and for dissolved copper, <u>chronic .021 mg/L</u>. Please explain the discrepancy.</p>	<p>The toxicity to aquatic organisms of dissolved copper decreases as hardness increases. For this reason, acute and chronic water quality standards are calculated according to criteria set forth by the State of Arizona (A.A.C. Section R18-11-109) depending on the hardness of the receiving water. The acute and chronic standards for dissolved copper presented in Table A-3 of the Supplemental EA used a hardness value of 101 mg/L to calculate standards. As discussed in Section 3.1.3.1 of the Supplemental EA, this hardness value is the calculated 5<sup>th</sup> percentile value of all hardness values for samples collected in the Pinto Creek watershed, including Powers Gulch and Haunted Canyon. This value resulted in the calculation of conservative water quality standards for use in the Supplemental EA analysis. Table C5-6 of the FEIS presented acute and chronic copper standards calculated using a hardness value of 211 mg/L. This is the average hardness value observed in Haunted Canyon as shown in Table C 5-6 of the TMDL. (EPA 2001) concluded that a hardness value of 400 mg/L was appropriate to calculate copper standards within Pinto Creek. Using this value, acute and chronic standards for dissolved copper are 0.065 and 0.039 mg/L, respectively. Part I.A.2.e of the Final NPDES permit requires water quality standards for hardness dependent metals to be calculated based on actual measured hardness values in the receiving stream.</p>



Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		31	E.3	Doesn't the FEIS (Table C 5-6) average value of total recoverable copper violate both Aquatic Wildlife standards cited in the EA? Doesn't the FEIS (p.C-23) average value of dissolved copper violate the EA Aquatic Wildlife standard?	Section R18-11-109 of the A.A.C. does not designate water quality standards for total copper. See Response to Comment 26-30.
		32	E.3	Why hasn't the EA taken steps toward rectifying the dearth of knowledge on copper content in wellfield water? It appears that wellfield mitigation copper content is high, possibly an exceedance [ <i>e.g.</i> , a reading of <.08 or <.04 allows for copper at .079 mg/L and .039 mg/L, two to seven times greater than acute and chronic standards cited by the EPA (EA, p. 57)].	See Responses to Comments 26-12, 26-20 and 26-30.
		33	E.3	Is it the EPA position that there will be no copper in the wellfield mitigation discharge? Or is it the case that there will be copper added by Carlota via the wellfield mitigation discharges directly to Powers Gulch, to Haunted Canyon, and to Pinto Creek itself, but that these amounts will not count as additions. If the added copper is not counted as an addition, please explain why, since the copper added after heavy rains from the six Outfalls (catchment basins) in Powers Gulch, upstream of the Powers Gulch mitigation discharge, is counted as an addition.	See Responses to Comments 26-3, 26-22, and 26-26.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		34	E.3	<p>If no impacts are expected from Outfall 008, on what basis were the four wellfield mitigation discharge points collectively designated to be Outfall 008? Outfalls are defined as point sources authorized to discharge <u>pollutant(s)</u> into the waters of the United States.</p>	<p>The Clean Water Act authorizes EPA to permit discharges that may or do contain pollutants, into “waters of the U.S.” An environmental assessment is appropriate where a finding of no significant impact is expected. EPA maintains that there will be no <i>significant</i> impact from outfall 008. Moreover, the proposed outfall locations described in Section 2.2.2 of the Supplemental EA may potentially be modified based on results of additional aquifer and wellfield testing and final design that is specified under the Wellfield Mitigation Program. Under 40 CFR Parts 122 EPA may reopen the permit to impose additional limits or define specific point source outfalls based on new data or information.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		35	E.3	<p>Detection levels were too high to evaluate water quality standards exceedances for cyanide, total phosphorous, antimony, beryllium, cadmium, copper, mercury, selenium, and thallium (FEIS, 3-138). Wellfield water had exceedances in iron, manganese, and gross alpha activity (FEIS 3-101). Gross alpha activity, magnesium, and iron, for example, are not listed in Aquatic Wildlife surface water standards (EA, Table A-3). Does this mean that the above FEIS-cited exceedances in gross alpha activity, magnesium, and iron do not apply to Aquatic Wildlife standards, and hence to correction? Will these parameters be monitored but essentially ignored? What about other constituents not listed in the Aquatic Wildlife surface water standards?</p>	<p>See Responses to Comments 26-2 and 26-20. The bedrock and alluvial aquifers identified in the project areas are classified for a drinking-water protected use prescribed by Section R18-11-4 of the A.A.C. The “exceedances” referenced by the commenter on pages 3-101 and 3-138 of FEIS refer to observed groundwater quality in comparison to the drinking water standards prescribed by Section R18-11-406 of the A.A.C. The designated uses for Pinto Creek, Powers Gulch, and Haunted Canyon are <i>Aquatic and Wildlife (warm water fishery), Recreation Full Body Contact, Fish Consumption, Agricultural Irrigation and Agricultural Livestock Watering</i> prescribed under Section R18-11-104 of the A.A.C. The most stringent of these criteria are for <i>Aquatic and Wildlife</i> and were used for the NEPA analysis. The FEIS concludes that the project is not expected to impact drinking water services downstream, specifically Roosevelt Lake. EPA reiterates that discharges will be required to meet applicable Arizona WQSs. The conditions under Section I.A.11.b.v. require accelerated monitoring in the case of an exceedance of applicable surface WQSs and provide a mechanism for modifying the permit to impose further effluent limitations for the parameters exceeding standards. In addition, there is specific language in the Wellfield Mitigation Plan which requires Carlota to develop a specific plan for wellfield testing that USFS would approve. Also, see FEIS 3.3.3.4 which include the requirements for the wellfield monitoring program. In addition, the additional USFS wellfield samples must be analyzed using the test procedures approved under 40 CFR Part 136.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		36	D.1	<p>Please identify the reaches in the following excerpts from the EA: Water quality in <i>upper Pinto Creek</i> (which part?) periodically is impacted by runoff from the abandoned Gibson Mine site (EA, p. 22, 14 lines from bottom). Samples illustrate the impacts of (Gibson) on the tributary stream and <i>Pinto Creek</i> (which part of Pinto Creek?)(EA, p. 22, 10 lines from bottom). Table A-2 presents values...for samples collected...from <i>Pinto Creek above and below</i> (precisely where?) the Gibson Mine tributary confluence.... As illustrated in Figure 3-4, water quality in <i>Pinto Creek</i> (upper?) is negatively impacted by the intermittent discharges from the Gibson Mine tributary. Water samples collected from the downstream reaches of the Gibson tributary are consistent with this inflow being a significant source contributing to the degradation of <i>Pinto Creek</i> (which part?)(EA, p. 25). The compositions of water samples collected from the <i>downstream reaches</i> (which reaches?) of the Gibson Mine tributary are consistent with this inflow being a significant source contributing to the degradation of <i>Pinto Creek</i> (which portion?)(EA, p. 25).</p>	<p>Descriptions of major tributaries and sub-basins for the Pinto Creek watershed were described in the FEIS (USFS, 1997) and incorporated into the Supplemental EA by reference. Figures 2-2 and 3-1, and Table 3-1 of the Supplemental EA depict locations of subbasins and tributaries. See Response to Comment 26-2.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		37	D.1	<p>ADEQ Oct. 2000 and Jan. 2001 data at the time of storm runoff indicate that no copper was detected at the BHP 005 discharge point some 3.5 miles downstream of the PC-2 monitoring station, immediately downstream of the Gibson Mine tributary, suggesting zero Gibson copper impacts 3.5 miles downstream. This same data has a copper exceedance reading at the US60 monitoring station, approximately 2.5 miles downstream of Gibson (possibly attributable to Gibson); without data from monitoring stations between US60 and PC-2 ruling out new sources of copper, the US60 data is not conclusively attributable to Gibson. Please comment on this conclusion.</p>	<p>See Responses to Comments 26-1 through 26-3.</p>
		38	D.1	<p>Where in the EA is monitoring data from the following sample locations where the "Permittee shall collect samples" (Permit, p. 18), data that applies to the 303(d) listing, the EA offset/addition math, etc.? (1) Pinto Creek: surface water station PC-1 (immediately upstream of 005 Gulch); (2) Pinto Creek: immediately below Outfall 005; Pinto Creek: surface water station PC-6 (above the confluence with Haunted Canyon); (3) Powers Gulch: above Outfall 007 at PG-1 below the diversion channel; (4) Powers Gulch: above Outfall 004 at SW-1; (5) Powers Gulch: below Outfall 001 at PG-4a; (6) No stations are identified between TS-2, Pinto Creek immediately below GMT, and TS-3, Pinto Creek above the Cactus Breccia Formation, location of BHP monitoring site AMP-2 (TMDL, A-13, A-12, A-15).</p>	<p>See Responses to Comments 26-2 and 26-25. References to all data utilized are contained in Section 4.0 of the Supplemental EA and are included in the Administrative Record.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		39	D.1	Please explain how surface water quality station PC-1 can be in EA Table A-2 in <i>Pinto Creek Above Gibson Mine Tributary</i> and in the Permit under <i>in Pinto immediately upstream of the (BHP) 005 Gulch</i> (Permit, p. 19), some 3.5 miles downstream Pinto from the GMT.	The reference for the data for the station designated "PC-1" of Table A-2 is: Arizona Department of Environmental Quality (ADEQ), 1991. <i>Investigation of the Gibson Mine Discharges into Pinto Creek (October 1 &amp; 16, 1990)</i> , Prepared by Peter Hyde, January 15, 1991. Although this station was previously designated as "PC-1" by ADEQ, the ambient monitoring plan established by the Forest Service (GWRC, 1997) and the Final NPDES permit establish a monitoring station also designated as "PC-1" immediately upstream of 005 Gulch.
		40	D.1	Where are the monitoring stations listed in EA Tables A-1 and A-2?	The general location of monitoring stations in Tables A-1 and A-2 of the EA are shown on each of those tables. Table A-1 is divided into three sections: <i>Gibson Mine Tributary Above the Gibson Mine, Gibson Mine Solution Storage Ponds, and Gibson Mine Tributary Below the Gibson Mine</i> . Table A-2 is also divided into three sections: <i>Pinto Creek Above Gibson Mine Tributary, Gibson Mine Tributary Above the Pinto Creek Confluence, and Pinto Creek Below Gibson Mine Tributary</i> . Additional detail describing specific station locations are provided in the references for those data. These references are shown in column 9 of Tables A-1 and A-2 and footnoted. All references are included in the Administrative Record for this Supplemental EA.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		41	D.1	Is the monitoring station identified in EA Figure 3-4 (Below the Gibson Mine Tributary) as TS-2 the station immediately below the Pinto confluence with the Gibson Mine known as PC-2?	Data that has been charted in Figure 3-4 is provided in Table A-2 (see footnote for Figure 3-4). Data charted in Figure 3-4, below the Gibson Mine Tributary, correspond to data for Station PC-2 of Table A-2.
		42	D.1	Please provide the locations of the stations in EA Table A-2 and a map, as well as precise descriptions of referenced reaches of Pinto Creek, to enable the reader to gauge the impact of the Gibson Mine flows on the appropriate point(s) of what now is largely "Pinto Creek" and "Gibson Mine Tributary."	See Response to Comment 26-40.
		43	D.1	Is a more accurate title of this EA Table A-2, the "Effect of Gibson Mine tributary on <i>Pinto 100 feet (or whatever the distance) downstream of the tributary?</i> The current title <i>Effect of Gibson Mine Tributary on Pinto Creek Water Quality</i> does not define the reach of Pinto Creek impacted, but implies a substantially greater distance than the table data warrants. As noted, ADEQ Oct. 2000 and Jan. 2001 data at the time of storm runoff indicated that Gibson discharges have zero impact on Pinto Creek some 3.5 miles downstream of the PC-2 monitoring station immediately downstream of that tributary.	It is EPA's position that the Table is accurately titled. See Responses to Comments 26-2 and 26-9.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		44	D.1	<p>How is it that Station PC-D, identified as "Pinto Creek below the Gibson Mine Tributary" (EA Table A-2) also is referenced as [Gibson Mine] "raffinate pond" (EA Table A-1, middle portion)? How can Station 2 be in the "Gibson Mine Tributary Above Pinto Creek" EA Table A-2, middle portion) and in "Pinto Creek Below Gibson Mine Tributary" (EA Table A-2, bottom portion)? The EA Table A-2 columns "Flow gpm" and "Cu-load kg/day" each have only one station's data of the 21 stations listed, or 4.8% of all stations reporting. Table A-1 has four and three stations out of 15 reporting in the two columns, or 27% and 20% of all stations. Neither A-1 nor A-2 contain the TMDL-style flow tiers, which would provide copper data at different flow levels. The Draft TMDL lists of monitoring stations and locations (TMDL, pp. A-12, Table 7-2 beginning at p. A-7) does not help identify many EA-listed stations.</p>	<p>Please see Response to Comment 26-2, 26-12 and 26-40. Tables A-1 and A-2 incorrectly list the reference for the samples in question as ADEQ (1993). The correct reference is: Mining and Environmental Consultants (MEC) (1993). MEC (1993) reports analytical results for several suites of samples collected in the Gibson Mine area. Sample suites collected on 10/1/90 and 10/16/90 both include a sample designated as PC-D. Table 1 of MEC (1993) identifies sample PC-D collected on 10/1/90 as being from "Pinto Creek at GMT confluence" and sample PC-D collected on 10/16/90 as being from "raffinate pond in Gibson Mine processing area." Sample suites collected on 1/9/91 and 7/30/92 both include a sample designated as 2. Table 1 of MEC (1993) identifies sample 2 collected on 1/9/91 as being from "Pinto Creek 200 feet below GMT" and sample 2 collected on 7/30/92 as being from "GMT 30 paces above Pinto Creek." In all cases, sample designations and analytical values were confirmed from the laboratory analytical forms. These references are included in the administrative record for the Supplemental EA. Tables A-1 and A-2 show the computed instantaneous load (flow * concentration * conversion factor) of dissolved copper for all samples that report flow and dissolved copper concentration values. This is the load measured at the sample location at the time of sampling. Only 3 of 15 samples in Table A-1, and 1 of 21 samples in Table A-2 report the values required to compute instantaneous load.</p>



Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		45	D.1	“Prior to discharging into Pinto Creek, Permittee must perform reclamation work which will result in a reduction in copper loadings into Pinto Creek from upstream sources equal to or greater than the projected copper loading expected through discharges” (Permit, p. 2). When will this point be measured in terms of the project calendar and NPDES Permit issuance—before construction, after construction but before start-up operations, before issuance of the NPDES Permit?	See Responses to Comments 26-10 and 26-25. Discharge requirements and conditions are specified in Part I.A. of the Final NPDES permit. The timing of project operations is beyond the scope of the Supplemental EA, however, as stated in the permit, no discharges from Carlota Copper Project operations are permitted until the reclamation work is finished. Construction associated with the Carlota Copper Project is not covered under this permit.
		46	D.1	Under what specific circumstances will EPA issue the Permit on the basis of successful completion of the partial reclamation? Will EPA issue a Permit without any heavy-rain measurements at PC-2 immediately below Gibson? Or, under what minimum heavy rain conditions? What happens to the Permit, whether issued or not, if such heavy-storm measurements at the monitoring station immediately downstream of Gibson indicate that an exceedance continues, or that the EPA successful cutoff point, not yet defined, has not been reached? What if the reduction in discharge does not offset Carlota copper loadings?	See Responses to Comments 26-1, 26-2, 26-5 and 26-45.
		47	D.1	After the Carlota project commences operations, what action will EPA take if the Gibson Mine reverts back to discharges that are similar to pre-cleanup levels?	See Response to Comment 26-5, 26-45 and 26-46.

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		48	D.1	<p>If despite good faith measures, Carlota cannot bring the flows to below established exceedance levels, how then will EPA deal with the Gibson flows? At what point will EPA suspend the NPDES permit or not issue the Permit?</p> <p>Presumably and understandably, Carlota would balk at heavy additional costs to plug additional leaks from the relocated pad and/or discharges from the rock dump and other discharge sources. On the other hand, how can EPA justify allowing a company to start up or continue to operate for an indefinite time when, per the Alternative Proposal, the Gibson offset is not occurring?</p>	<p>See Responses to Comments 26-1, 26-5, 26-11, 26-45 and 26-46. The Supplemental EA evaluated impacts associated with the two withdrawn permit conditions outlined in Section 2.1 of the Supplemental EA.</p>
		49	D.1	<p>What data or estimate does EPA have of the total copper loading in the GMT attributable to the mine (<i>i.e.</i>, ponds, dump, pad, launders, other) and non-mine sources (natural background)? Please provide a complete table. The EA Table A-1 only lists ponds, while Table 3-2 lists leach pads below the north diversion channel confluence, but not, for example, the waste rock dump.</p>	<p>See Response to Comment 26-2 and 26-12. References to all data utilized are contained in Section 4.0 of the Supplemental EA and are included in the Administrative Record. The TMDL provides characteristics of loading for other sources.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		50	D.1	Please provide a complete map with the features in the text and tables, for example, of the location of the monitoring stations in EA Tables A-1 and A-2, the "the diversion channel confluence" and "the north diversion channel" in EA Table 3-2, the location of all Gibson monitoring stations cited ( <i>e.g.</i> , Tables A-1, A-2), the two "existing ditches" shown on the Gibson Mine maps (EA, p. 11). Such a map or maps would also include the divide between Gibson's drainages to Mineral Creek and Pinto, and the entire length of the Gibson Mine tributary to Pinto.	See Responses to Comments 26-2 and 26-49.
		51	D.3	If it is a major source of copper loading (TMDL Public Review Draft, July 2000, p. 26), why is the Gibson Mine waste rock dump not included in the cleanup plan?	Impacts associated with the reclamation or remediation of the waste rock dump at the Gibson Mine is not a proposed action and was not evaluated by this Supplemental EA. See Response to Comment 26-5.
		52	D.3	Was the Gibson waste rock dump measured for copper runoff? Is the copper load cited for the north diversion channel confluence into the GMT, 7.87 kg/day (EA, Table 3-2), largely from dump runoff? If the dump was not measured, why wasn't it? The Carlota dumps were found to release sufficient storm runoff, only in rare 10-year or 100-year rain events, to require seven catchment basins, all categorized as outfalls requiring this Carlota NPDES Permit (FEIS 3-125).	See Responses to Comments 26-1, 26-2, 26-5 and 26-51.
		53	D.3	What is the EPA estimate of the Gibson waste rock dump's copper and acid discharge?	See Response to Comment 26-51.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		54	D.2	The TMDL takes into account natural background loadings of dissolved copper in Pinto Creek and its tributaries . . . .A single sample analysis suggests that natural background in the vicinity of the Gibson Mine may be higher than the background value selected, 0.010 mg/L (TMDL, p. 22). What natural background conditions were added to the Gibson offset calculations?	The Supplemental EA evaluated the impacts associated with the two withdrawn permit conditions described in Section 2.2. It was not in the scope of the Supplemental EA to evaluate the assumptions used in the TMDL. To the extent that the commenter is challenging the TMDL, commenter is directed to Response to Comment 26-12. See also Response to Comment 26-3.
		55	D.1	The natural background value selected for the main stem and tributaries of the Pinto from its headwaters to its Haunted Canyon confluence, .010 mg/L, appears extremely close to the exceedance standard, .0179 mg/L, A&Wb acute standards. Is it true that the addition of only .008 mg/L of copper from any source into the Pinto would create a copper exceedance at that point?	See Response to Comment 26-5, 26-12, 26-54.
		56	D.3	The abandoned precipitation launders, identified as an <i>observed contamination issue from a discrete source which could be completely removed</i> and as a <i>major copper source</i> , are not included in the partial reclamation (TMDL, pp. 33-34). Why is that? If known, what is the contribution of the launders to the Gibson Tributary discharge?	Data providing contaminant concentrations from rainfall that could potentially collect in the precipitation launders were not available. Removal of the precipitation launders is not a condition specified in the Final NPDES permit and associated impacts were not evaluated in the Supplemental EA. However, the removal of the PLS pond would result in the removal or relocation of the precipitation launders away from drainage flowing to the Gibson Mine tributary. Response to Comments 26-5 and 26-12.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		57	D.3	Has the Gibson shaft/well been examined for possible discharges? What discharges could flow into the watershed? Is the "primary mine shaft" (EA, p.6) the same as the "shaft/well?"	The Supplemental EA evaluated impacts associated with the two withdrawn permit conditions which specify the removal of the PLS pond and relocation and capping of the leach pad. Characterization of the Gibson shaft and impacts from potential discharges from that shaft were not within the scope of the proposed action and were not evaluated by the NEPA analysis.
		58	D.3	The EA (p. 37) indicates that the 20-40-acre Gibson Mine site contains a complex system of adits and shafts, in addition to the primary shaft. What discharges flow from this complex into the Pinto Creek watershed?	See Response to Comment 26-57.
		59	D.3	What discharges may have come from a tank car, near the launder unit, evidently marked "sulfuric acid"? The tank car is not referenced in the EA or June 2000 TMDL. [NOTE: In the Carlota Project Area, the FEIS reports that hazardous substances may be present on-site from historic mining operations, including an <i>abandoned railway car</i> . The surrounding soil was not sampled for hazardous substances (FEIS 3-327)].	The reader is referred to Section 3.14 of the FEIS. The abandoned railway car is reported to be located in the northwestern portion of the proposed Carlota/Cactus pit. See Response to Comment 26-2 and 26-5.

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		60	D.3	What discharges are estimated to occur from "treatment and processing facilities" and "other associated features" (EA, p. 36) and from other "unclaimed mine facilities," identified as <i>one source of dissolved copper from the Gibson Mine</i> (TMDL June 2000, p. 26)? What other discharges are there on the Pinto Creek drainage side of the entire 320 acres composing the Gibson mine (EA, p. 6)?	The Supplemental EA evaluated impacts associated with the two withdrawn permit conditions. The characterization, remediation or reclamation of other features at the Gibson Mine were beyond the scope of the proposed action. See Response to Comments 26-2, 26-5, 26-12.
		61	D.3	How is the Gibson hydrology, on the one hand, <i>similar</i> to the Carlota Project Area hydrology, yet on the other, <i>without expected impacts to groundwater</i> that would occur at the Carlota Project area from surface-groundwater interaction, except for mitigation measures ( <i>e.g.</i> , installation of a liner below the leach pad, a drainage pipe system, a 12" layer of tailings, etc.)?	See Response to Comment 26-2 and 26-5. Section 3.1.3.2 of the Supplemental EA concludes that impacts to ground water would not be expected from removal of the PLS pond, raffinate pond, and relocation of the heap leach pad.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		62	D.3	The FEIS (3-118) says that in the absence of engineering controls, a high potential exists for interaction (under the Carlota heap leach pad) between process solution and groundwater from seepage or release of process water. Further, the risk is moderate for the (Carlota) leach pad liner to settle because of subsidence under the Carlota heap (FEIS, p. xiv). On what basis does EPA not expect impacts from under the relocated heap-leach pad, given the similar hydrology as the Carlota Project area, given the above FEIS references, and given the absence of any mitigation measures under the 20,000-ton heap leach pad? Will the location be checked against the possibility of subsidence ( <i>i.e.</i> , collapse due to underground adits, etc.)?	See Responses to Comments 26-2, 26-3 and 26-61. EPA staff, along with a hydrologist from SAIC, conducted a site visit to evaluate a location for the Gibson Mine heap leach pad and determined that there does not appear to be risk of subsidence. In addition, comparison between the Gibson Mine heap leach pad and the proposed heap leach pad for Carlota is not possible as the size of the later is literally orders of magnitude larger than the former. The area of the proposed relocation site is less than ½ acre. The foot print of the Carlota Copper Project heap leach pad will be 342 acres (0.5 square miles)(Section 3.3.2.1 of FEIS) and will range from 150 to 300 feet high (Section 2.1.3.1 FEIS).
		63	D.3	Why are the reclamation measures for the Gibson heap-leach pad limited to relocation, capping, and contouring?	See Response to Comment 26-60. The Gibson Mine partial reclamation is intended as an offset to discharges from the Carlota Copper Mine. All available data indicates that the offset will be more than adequate.

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		64	D.3	To what depth will the relocated pad be capped, per the arrangement between EPA and Carlota? If this depth is less than the Carlota 13" cap, what is the reason?	As described in Section 2.2.1 of the Supplemental EA, there is no specific minimum depth for the surface cap. The relocated pad will be capped with available material and while there may be some erosion, it is expected that there will be vegetative recruitment because the cap will be non-mineralized native soil and the surrounding area is well vegetated. EPA believes that this capping is sufficient and will provide a significant environmental benefit. See Response to Comments 26-62.
		65	D.3	Is EPA saying (EA, p. 17, FEIS, p. 3-159) that the disturbed earth cap of the Gibson leach pad will have the same erosive soil loss as present unvegetated areas not recently disturbed? Is EPA saying that the uncapped, untreated sides will have the same loss?	The commenter's interpretation is correct. The commenter is referred to Section 3.1.2 of the Supplemental EA. The improvement in drainage that is expected to result from the Proposed Action may act to reduce soil erosion. Because the area at the Gibson Mine are presently unvegetated, erosive soil loss is not expected to increase over the present situation. In addition, vegetative recruitment, which would reduce erosion, is expected because the cap will be non-mineralized native soils and the surrounding area is well vegetated.
		66	D.3	The reclaimed Gibson site is not to be revegetated, according to the EA. What is the reason for this? Where is the discussion on reseeded vs. not reseeded?	The proposed action described in Section 2.2.1 of the Supplemental EA does not specify that Carlota reseed the relocated heap leach pad. There is no discussion on reseeded. See Response to Comments 26-2, 26-65 and 26-67.



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		67	D.3	What is the EPA estimate of the degree of effectiveness of the cap; <i>i.e.</i> , would there likely be a time when erosion would expose leach-pad material, fill in reclamation contouring, and result in discharges from storm runoff resume flowing into the watershed?	See Response to Comment 26-65. While there may be some erosion, the removal of the leach pad materials from the storm water channel and capping will result in positive effects over the current condition. The leach pad is currently located in a drainage channel and erodes directly into the creek. Storm water which falls on the relocated heap leach pad should infiltrate and be retained in the soil cap, instead of draining directly into the creek. In addition, vegetative recruitment, which would reduce erosion and increase infiltration, is expected because the cap will be non-mineralized native soils and the surrounding area is well vegetated.
		68	D.3	Why did EPA decide to undertake a partial, rather than total, cleanup of the Gibson site?	The partial reclamation is intended to offset discharges from the Carlota Copper project. See Response to Comment 26-10 and 26-63.
		69	D.3	What measurements have been taken for adits, shafts, other facilities including those engaged in <i>in-situ</i> mining, for discharges into the Mineral Creek Watershed? ADEQ data from 1991-1992 (Mining & Environmental Consultants, p. 130159 or unnumbered page six) suggests exceedances in copper, zinc, and pH in discharges into Mineral Creek, though station locations are not completely clear.	See Response to Comment 26-3, 26-5, 26-12 and 26-60.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		70	D.1	What pollutants are now being discharged into the Mineral Creek drainage? In general, how do these pollutants compare in quantity to those discharging into Pinto Creek?	See Response to Comment 26-5 and 26-12.
		71	D.4	How extensive and reliable is data regarding discharges into the Mineral Creek watershed?	See Response to Comment 26-3 and 26-60.
		72	D.4	The Gibson Mine site covers an area of about 320 acres; EPA has surveyed about 20 acres (EA, p. 37). What percentage of man-made features was surveyed on the Pinto Creek drainage side?	The Supplemental EA evaluated impacts associated with the two withdrawn permit conditions. The area at the Gibson Mine that was surveyed was restricted to the associated with the proposed action. See Response to Comment 26-2.
		73	D.4	If it is not done now, when does EPA envision another opportunity to clean up the Gibson drainage into Mineral Creek?	See Response to Comment 26-60.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		74	E.5	<p>The EA (p. 25) indicates that the wellfield discharge program would not be expected to adversely impact groundwater resources. How does that assessment square with the following: (1) Tonto says that damage to a pipeline carrying low-quality tailings or Pinal Creek water would be a low to moderate risk (FEIS, 3-130); (2) the impact of wellfield pumping on nearby BHP copper mine wells, which share overlapping cones of depression with the Carlota wellfield wells, has not been assessed; (3) the wellfield mitigation plan calls for up to 33% more water pumped from the wellfield; (4) high season mine needs are 890 gpm for mining operations and wellfield mitigation in May is authorized up to 119 gpm, a total of 1009 gpm or 19 gpm more than the high end of the wellfield capacity, estimated at 900-1000 gpm; (5) no one can predict the effect of wellfield pumping on the downstream stretch eligible for Wild and Scenic River nomination (FEIS, p. xviii); (6) it cannot be predicted when the wellfield will recover from pumping (FEIS, p. xiv).</p>	<p>See Response to Comment 26-2. Ground water impacts and water supply source issues that are associated with the Carlota Copper Project, including impacts associated with development of the wellfield and aquifer drawdown, were evaluated by the FEIS.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		75	E.5	<p>The EA states that “Additional short-term adverse impacts would not be expected from the discharge of surface water to Waters of the U.S. (p. 48).” The EA also says that “Table A-3 shows that the alluvial and bedrock aquifer waters are chemically similar to surface water in Haunted Canyon (p. 27).” How is it that short-term adverse impacts are not expected when wellfield bedrock and Haunted Canyon surface water are similar, and in view of the following? (1) Wellfield water has exceedances in iron, manganese, and gross alpha activity (FEIS 3-101); (2) detection levels were not low enough to detect exceedances in 9 constituents: cyanide, total phosphorous, antimony, beryllium, cadmium, copper, mercury, selenium, and thallium (FEIS, 3-138); (3) EPA/Carlota designated the mitigation discharge as NPDES Outfall 008, a point source authorized to discharge pollutants into Waters of the U.S.; (4) The EA (Table A-3) contains 13 examples of wellfield water containing higher levels of constituents than in Pinto Creek and Haunted Canyon; (5) wellfield water would add to the current exceedance in Haunted Canyon of dissolved oxygen (FEIS, 3-86); and (6) total hardness for the bedrock wellfield has not been measured, a key factor in determining dissolved copper readings.</p>	See Responses to Comments 26-1, 26-30 and 26-35.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		76	E.1	<p>Wellfield discharges are required to meet Arizona water quality standards, which preclude an increase of ambient temperature by more than 3EC. Does this requirement also apply to Powers Gulch, where mitigation water is to be discharged also? According to EA Table A-4, bedrock average wellfield temperature is 26.8EC, whereas Pinto Creek and Haunted Canyon are at 16.7 and 17EC, with data from bedrock wells TR-1, TR-2, TR-3, a temperature variance up to 11EC. If the December TW-3 well reading is compared to the minimum Haunted Canyon surface readings, there is a 22.8 EC difference.</p>	<p>This requirement applies to Powers Gulch. The Final NPDES permit section I.A.11, Special Conditions, includes monitoring and mitigation measures for any wellfield discharge. Section I.A.9 (a) “requires compliance with the numeric Arizona surface water quality standard for temperature . . . at the point of discharge to Haunted Canyon or Pinto Creek. . . and must not be less or greater than 3 degrees Celcius from the in-stream temperature at the time of discharge.” In addition, the FEIS and ROD included wellfield mitigation measures WR-2 through WR-4 and a “Wellfield Mitigation Program” was included in Appendix E of the FEIS. Mitigation measure WR-4 directly states that any water discharged to Haunted Canyon or Pinto Creek will have to meet applicable Arizona surface water quality standards which includes temperature. In order to determine if wellfield mitigation discharges comply with the Arizona surface water quality standard for temperature, requirements for discharge and in-stream temperature monitoring have been incorporated into the work plan for mitigation measure WR-2 of the FEIS, specifically: 1) continuous and concurrent temperature monitoring of the wellfield mitigation discharges; 2) a program for mitigation measures, if necessary and; 3) submission monitoring results to EPA and the Forest Service. See Responses to Comments</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		77	E.1	Will the mining phase be delayed until any wellfield temperature variance has been corrected? Once wellfield pumping and mining operations have begun, would pumping stop if the wellfield temperature is in violation, until the temperature variance is corrected?	See Responses to Comments 26-20, 26-22 and 26-76. The timing of project operations is beyond the scope of the Supplemental EA.
		78	E.1	The varieties of temperature remedial methods proposed in the FEIS and by Carlota, the lack of reference to methods that have successfully functioned elsewhere under similar conditions, the magnitude of the potential correction ( <i>e.g.</i> , in December, cooling up to 135 gpm of mitigation water up to 43 degrees F. in distances up to some 7,500 [feet] and likely substantially less, depending on the yet-to-be-determined mix of discharge location points and wellfield pumps) suggest this may not have an immediate, end-of-construction-phase fix.	See Responses to Comments 26-20, 26-22 and 26-77.
		79	E.1	Will wellfield pumping for upstream mining operations be allowed during the EA-referenced temperature-testing program?	See Responses to Comments 26-5, 26-20, 26-22. The pumping of wells by adjacent mining operations or well not associated with the water supply wellfield specified by the Mitigation Plan and potential aquifer impacts were evaluated by the FEIS. The timing of project operations is beyond the scope of the Supplemental EA.
		80	E.6	Must any substitute, non-wellfield water for the mitigation pipeline meet surface water quality standards?	See Response to Comment 26-22.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		81	E.3	If wellfield discharges are to be allowed during the testing program, please explain EPA's understanding with Tonto on the nature of the adjustments that "will be made prior to discharge" ( <i>i.e.</i> , no temperature or constituent exceedances allowed, no wellfield pumping for mining operations allowed, until testing reveals no exceedances?). Otherwise, how is EPA protecting waters of the U.S. if temperature violations are allowed to continue at the same time wellfield pumping for mining operations is underway?	See Responses to Comments 26-20 and 26-22.
		82	E.1	What is the timeframe set up to correct temperature exceedance violations? If there is none, please explain why not.	The timeframe to correct exceedances is immediate because such exceedances are in violation of the permit. See Response to Comments 26-20 and 26-76.
		83	E.1	Since EPA called for continuous temperature monitoring, why did the agency not also call for a Carlota plan for temperature cooling that includes references where such methods have been successful elsewhere under similar conditions?	See Response to Comment 26-20.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		84	E.6	<p>Given the apparent potential and the lengthy list of unknown constituents in wellfield mitigation water, which may violate surface water quality standards; given the lack of a guaranteed, legally available alternative low-quality water source to alleviate or replace wellfield pumping; and given the lack of a substitute water source to replace wellfield mitigation water, why doesn't EPA call for aquifer testing now? Is it not better to test now? Then if exceedances are not found, leave the testing/monitoring program in place. If exceedances are found, require now a specific plan to remedy them, prior to the construction of a multi-million dollar mining operation.</p>	<p>See Response to Comment 26-20.</p>
		85	E.3	<p>The EA did not address biological testing and monitoring of aquatic resources in surface waters to be impacted by wellfield mitigation. What biological testing and monitoring of aquatic resources in surface waters has occurred to date to provide a baseline for such testing and monitoring after wellfield discharges begin? What standards exist that are not to be exceeded? Why is it acceptable to EPA that monitoring twice annually would allow up to six months of unknown and potentially unacceptable impacts to result to aquatic life before detection, particularly during the first six months after the initial mitigation pipeline discharge begins?</p>	<p>See Response to Comment 26-2. Biological testing was performed to support preparation of the project FEIS. Ambient water quality monitoring within Pinto Creek and associated tributaries will be conducted as specified by the FEIS and the Ground and Surface Water Monitoring Plan (GWRC, 1997) and as specified by the Final NPDES permit (Section I.11.b). Sampling of macroinvertebrates is conducted according to protocols established by EPA guidance (EPA, 1997). Sampling is conducted twice per year, once in the spring and once in the fall to correspond with important reproductive cycles under these protocols.</p>



Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		86	E.3	Why doesn't EPA require a test prior to issuance of a permit, and if unacceptable findings result, require the permittee to develop an acceptable plan before issuance of the Permit, in like manner to the Gibson Mine reclamation (Permit, p. 2, A.1).	See Response to Comment 26-2, 26-20 and 26-22.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		87	E.2	<p>The EA states that a detailed design of the pipeline system is not available (p. 39). Is it acceptable to EPA that there is little semblance of a design in the FEIS? There is no sample pipe diameter sufficient to carry 186 gpm (FEIS, p. E-2) and no approximate pipe length. The EA map (EA, p. 12) suggests a 7,500-foot length (1.4 miles). But, why no mention of the system's components (e.g., pipe supports, pump, storage tank, back-up generator)? There is no mention of the nature of installing some 5000+ feet of the pipeline in one mile of pristine wilderness of lower Haunted Canyon, nominated for a "unique waters" designation, and in the pristine lower Powers Gulch segment immediately upstream of Haunted Canyon. There is no discussion of how the installation will be managed in order to minimize destruction to the heavily vegetated Haunted Canyon habitat of fallen trees, patches of heavy vegetation, many 70+ foot-high sycamore, Arizona cypress, etc. What techniques will be used to minimize impacts to this perennial stretch of Haunted Canyon through 20+ years of inspection, emergency repair, monitoring, maintenance, adjustment, official visits and the disassembly of the pipeline? How all this will be done without a road along the 1+ mile of the pipeline? Or will there be a road per the FEIS maps (2-4, 2-9)? How will the current narrow trail be used? Except for several trail stream-crossings, the trail is on the other side of a fence separating it from the undisturbed lower Haunted Canyon riparian habitat. At times, the trail is more than a few dozen feet above and over 100 feet west of the creekbed.</p>	<p>The FEIS concludes that approximately 8 acres would be disturbed for development of the well sites, pipeline, pump station, power line and access roads. The proposed action is to design and use a system of above ground, temporary, flexible, and moveable piping to minimize distances between wells and mitigation discharge points. The Supplemental EA concludes that potential disturbances of vegetation from construction of pipelines from the wellfield to surface water discharge points would occur. These impacts were determined to be minor and insignificant in relation to the site area (Table ES-1). Minor and insignificant impacts to aesthetics and visual resources were also identified and disclosed (Section 3.3.5). Response to Comments 26-2.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		88	E.2	How many acres will be disturbed by the mitigation pipeline? There are several numbers given in the FEIS (2-43, 2-7, G-106, B-1), and the Plan of Operation (Sec. 4, p. 21).	See Responses to Comments 26-2 and 26-87. The FEIS concludes that approximately 8 acres would be disturbed for development of the well sites, pipeline, pump station, power line and access roads.
		89	E.2	Why doesn't the EA list the area to be impacted by the wellfield mitigation pipeline as it listed acreages for the Gibson Mine (EA, pp. v, 7)? What will be the impact in acres on Haunted Canyon's 16.1 acres of riparian habitat (FEIS, pp. G-106, B1)?	See Response to Comments 26-87.
		90	E.2	Why didn't the EA address reclamation of the mitigation pipeline?	See Responses to Comments 26-2, 26-87 and 26-88.
		91	E.2	Are the mitigation pipeline and its components to be removed? The Plan of Operation lists "water supply line removal," presumably the main wellfield pipeline to the Carlota processing area (p. 20), but there is no reference to mitigation pipeline removal. Is it true that no mitigation (e.g., reseeding) is to be performed in Haunted Canyon, and that a 7,500-foot scar, perhaps 3-12 feet wide is to be left in Haunted Canyon and Pinto when the mitigation pipeline is removed? Do the 4.0 acres to be disturbed in Haunted Canyon include all well-field mitigation pipeline or only a percentage, and not the apparent spur (i.e., extension) of the main pipeline/road with the unimproved Haunted Canyon crossing (map at FEIS, 2-9)?	See Responses to Comments 26-2 and 26-87.

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		92	E.5	<p>What impact will the mitigation pipeline discharges have on downstream drinking water? When a similar question was asked during the NPDES comment period, the response referred the commenter to information in the FEIS; please indicate the page number where the information can be found in the FEIS. The response continued that this information resulted in the Tonto determination that the Carlota project is not expected to impact drinking water downstream, specifically Roosevelt Lake; therefore Tonto did not assess the potential for impacts at any point further downstream on Pinto Creek than the Pinto Valley Weir. Please indicate the page in the FEIS where this Tonto determination can be found.</p>	<p>See Responses to Comments 26-1, 26-2 and 26-5. Section 3.1.3.1 of the Supplemental EA concludes that positive water quality impacts would result from implementation of the withdrawn NPDES permit conditions.</p>
		93	C	<p>The FEIS had many references for Carlota project impacts below the Pinto Valley Weir, including: (1) the Wilderness and Wild and Scenic Rivers section (FEIS, pp. 3-287 - 3-291); (2) impacts related to Lake Roosevelt include eagles from a nesting area in the lake that could ingest contaminated prey in lower Pinto (FEIS 3-208); (3) a twin Carlota and BHP embankment collapse possibility during high runoff (FEIS 3-218); (4) spills and leaks that could reach Lake Roosevelt in less than a day (FEIS 3-139); (5) a table with Potential Cumulative Impacts on Recreational Facilities at Lake Roosevelt (FEIS 1-11), but no drinking water information reference.</p>	<p>See Response to Comment 26-5, 26-2.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		94	C	<p>What is the EPA position on the need to look at the Carlota project's impact on downstream drinking water? Does EPA think that Tonto has adequately addressed the issue? EPA responded to the elevated levels of copper and zinc in Roosevelt Lake fish tissue samples and that the ADEQ specifically relates these heavy metals to mining sources, by saying (Responses, WQ-8, p. 88) that a result of the final permit will be a net reduction in copper loading into Pinto Creek. As noted, there is evidence that the net reduction will not be felt 3.5 miles downstream of Gibson, let alone approximately 20 miles from Lake Roosevelt. On the other hand, spills and leaks from Carlota over its in-perpetuity history may significantly add to cumulated heavy metal now in the bottom of Lake Roosevelt.</p>	<p>See Responses to Comments 26-1, 26-2, 26-5 and 26-35.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		95	C	<p>In another previous response (Responses, WQ-10), EPA said all discharges from Carlota outfalls will be required to meet all applicable water quality standards from point of discharge. The question deals with the past history of mining impacts on Lake Roosevelt drinking water and the likelihood of future accidental releases. The BHP mine had six between 1989 and 1997; presumably each happened despite improved requirements of EPA and of other agencies. There were 19 embankment failures in the 1980s of the same rockfill/earth fill as those of the Carlota project (US Committee on Large Dams Nov. 1994 Report, "Tailings Dam Incidents"). Two embankment collapses in the 90s in Colorado and Guyana, as noted, had a Carlota engineering consultant involved in their designs; there are no guarantees that Carlota will not have releases.</p>	<p>See Responses to Comments 26-2, 26-5 and 26-35.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		96	E.4	Does EPA consider the No Action Alternative viable? Does it believe Tonto would accept no wellfield mitigation or delete references to it in the FEIS? Would EPA have adopted the FEIS without a mitigation plan? If the Gibson Mine partial reclamation is deleted, would the EPA issue the Permit? Could it without a substitute plan to remove Pinto copper exceedances? Is not EPA, in fact, presenting one “viable” alternative and another alternative that is not viable?	See Response to Comment 26-2. The Supplemental EA evaluated alternatives and impacts associated with the two withdrawn permit conditions. It is EPA’s position that this analysis was conducted adequately and that the No Action Alternative is a viable alternative. It is the conclusion of the Supplemental EA that the Proposed Action results in overall positive water quality impacts. EPA, therefore, has accepted the Proposed Action. EPA notes that it also considered an alternative whereby the Breccia ore body would be removed and used to offset discharges. This alternative was not fully analyzed in the Supplemental EA because it would not be completed in time to offset early discharges from the Carlota Copper project. See Response to Comment 26-3 regarding the relationship between NEPA and NPDES.
		97	E.4	Is it not true that the No Action Alternative, in which the two specified conditions would not be included in an NPDES permit, is an impossibility? Therefore, the EA, in presenting the Proposed Alternative, in effect, is saying that if there is no Proposed Alternative ( <i>i.e.</i> , no mitigation pipeline and no Gibson cleanup), there is no project.	See Response to Comment 26-96.

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		98	D.4	<p>Would EPA accept the following alternative for comparison alongside the proposed Gibson alternative. Prior to issuance of an NPDES Permit, insist that all copper exceedance is removed from Pinto, conduct a full-fledged TMDL with the 18-24 months of data proposed by ADEQ, obtaining a data bank that is complete, consistent, etc. Define the reaches of Pinto that have exceedances and <u>then</u> develop a plan to eliminate them all. Plug up enough of Gibson, if possible with agencies and private people joining Carlota, so that no exceedances flow out into Pinto or Mineral Creek. Plug up other significant abandoned mines (<i>e.g.</i>, Bronx, Yo Tambien, Swede) in similar fashion.</p>	<p>See Responses to Comments 26-1, 26-2, 26-11, 26-12 and 26-96.</p>
		99	E.3	<p>The following is proposed as an alternative to the proposed wellfield alternative. Test the wellfield now for cone of depression, ability to meet maximum pumping demands, measure temperature and pollutants, etc., per the FEIS list (3-137). Establish clearly that all temperature exceedance variances and all pollutant exceedances must be eliminated prior to mitigation discharge during mining operations. If an exceedance occurs, wellfield pumping for mining operations ceases until corrections are done and testing shows the violation has been removed</p>	<p>See Response to Comment 26-2, 26-96 and 26-98.</p>



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		100	D.4	<p>How many owners are there of the Gibson property? What documentation exists involving the owners in the remedial action? What documentation shows consent by the owners to do the proposed partial reclamation? What liability do the owners incur? How are the owners protected from liability for future discharges from the reclamation work; for non-reclamation future discharges; from discharges into Mineral Creek; from contractor accidents? What liability does Carlota incur? Is Carlota liable for contractor accidents, unsuccessful reductions in Gibson discharges, and for further reclamation? The company has requested not to incur any liability for the historic conditions at the site (Walish letter to La Blanc and Gentile, p. 7, Nov. 29, 1999); where is this liability spelled out?</p>	<p>Issues pertaining to liability and indemnification are not within the scope of the NEPA analysis conducted for this Supplemental EA. EPA maintains that Carlota does not become the owner or operator of the Gibson Mine by performing the partial remediation. The owners of Gibson Mine retain full responsibility for controlling discharges from the property. See Response to Comment 26-5 and 26-20.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		101	E.3	<p>The EA states that stream flows would be augmented with groundwater pumped from the wellfield or with water from other suitable sources approved the USFS and other appropriate agencies (p. 9). Whereas the aquifer could be a water source for the water-short Globe (FEIS 3-218) -- [the Southern Gila Development Corporation with Carlota have produced a paper to this effect], neither Globe nor Miami had adequate additional water for Carlota (FEIS 2-88). The wellfield discharge program would not be expected to adversely impact ground water resources (EA, p. vii). How are the above possible, when: (1) the wellfield mitigation discharges will increase wellfield drawdown by up to 31.5%; (2) the wellfield aquifer supply is so uncertain that Carlota is required to acquire an alternative water source based on the average 590/gal. per minute; (3) the FEIS does not provide an assured supply of an alternative source of low-quality water for this project. The four listed are not assured because, as noted in the FEIS, either two companies have higher priority access to the water, leaving Carlota third-listed with no guaranteed sufficient water, and/or legal rights are in dispute, and/or sufficient water quantity at the source is not certain (FEIS 2-66, 2-69, 2-70). The FEIS says that low-quality water <u>can</u> supply up to 59% of mine's water needs (FEIS 2-66; G-56/ 4-9), which may theoretically be true, but in terms of <u>assured</u> low-quality water supply, not relevant. More telling, the FEIS <u>continues to encourage Carlota to find other water sources</u> (FEIS, p. G-57/4-10).</p>	<p>See Responses to Comments 26-2, 26-3, 26-12 and 26-74. Ground water impacts that are associated with the Carlota Copper Project, including impacts associated with development of the wellfield, were evaluated in the FEIS.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		102	E.3	Is EPA satisfied that the increased demand of the wellfield mitigation plan on wellfield drawdowns does not further significantly threaten the capacity of the wellfield aquifer to supply mitigation water for the pipeline? That because of mitigation pipeline priority, there may not be sufficient water for mining operations?	See Response to Comments 26-2 and 26-101.
		103	E.3	Does EPA believe that there is an <u>assured</u> alternative suitable source of good quality water for the wellfield mitigation plan? If so, what is the basis for this belief?	See Response to Comment 26-2 and 26-101. Alternative water supplies were evaluated as a part of the FEIS.
		104	E.3	Is it not within the scope of EPA's authority to have a position on whether the wellfield will have sufficient water to fully supply the mitigation discharges?	See Responses to Comments 26-2, 26-74 and 26-101. Ground water impacts and water supply source issues that are associated with the Carlota Copper Project, including impacts associated with development of the wellfield and aquifer drawdown, were evaluated by the FEIS.
		105	E.6	The EPA in FW-7 (Responses, p. 39) refers to an agreement that Carlota has with Cyprus Miami and BHP in principle to purchase water from BHP's Cottonwood storage pond. Cyprus was sold several years ago to Phelps-Dodge. Is this agreement still valid?	Agreements made between Carlota and other companies are not within the scope of the NEPA analysis, or directly within EPA's regulatory authority. Response to Comment 26-2.

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		106	E.3	Does EPA agree that there is no <u>assured</u> low-quality water source? If so, explain why this is acceptable. If not, please provide, based on Cyprus/Phelps-Dodge and BHP/Magma (previous owner) statistics, the range of gpm Carlota may likely count upon in high season months in drought years left over after Phelps-Dodge/Miami and BHP use the "1000 gpm" from the Cotton storage pond. If the result is zero or near zero, please explain how this is acceptable to EPA. If EPA finds the question too detailed or not pertinent to its permitting interests, then explain the basis upon which EPA believes that Carlota has <u>assured</u> low-quality and high-quality water to fall back on in its first operational years, hence assuring that there is sufficient wellfield water for the mitigation pipeline in the event of wellfield unanticipated deficiencies or Carlota underestimation of needs.	See Responses to Comments 26-2 and 26-101.
		107	E.6	Is EPA one of the "other appropriate agencies" (EA, p. 9) that could approve groundwater pumping from other suitable sources?	The Arizona Department of Water Resources (ADWR) has primary authority in issuing well permits and water rights in the State of Arizona. In Arizona, EPA has regulatory authority governing discharges to Waters of the United States under Section 402 of the Clean Water Act (CWA).
		108	E.6	Why will EPA permit Carlota if Yo Tambien is discharging?	See Responses to Comments 26-1, 26-2, 26-3 and 26-12.

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		109	E.6	Please explain the relevance of ownership in determining which discharges Carlota is responsible for.	See Response to Comment 26-100.
		110	C	At WQ-3 (Response, p. 86) EPA agreed that some of the many small, abandoned tunnels and shafts in the district may impact on water quality. The commenter was addressing abandoned mine workings immediately upstream of Carlota (Bronx) and various others on the project site in which she had identified water quality violations. EPA distinguished these abandoned mine workings' differing compositions from Carlota's waste rock dumps, but did not address an action plan to clean them up. The above stakeholder, resident in the Pinto watershed, asked the EPA to take action to plug the abandoned mine sites in violation of water quality standards that, except for the Bronx, are on the same public land EPA is in effect permitting to Carlota. I, co-owner for 18 years of a ranch in the Pinto Creek watershed and an active stakeholder, ask the same question. Using EPA/ADEQ state-of-the-art science (e.g., dissolved copper, water hardness), why not ascertain precisely what copper and other exceedances these sources contribute to the watershed, then propose a cleanup plan, as was done in the case of Gibson?	See Responses to Comments 26-1, 26-5, 26-3 and 26-12.

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		111	C	Why does the EA not list the Draft TMDL of July 2000, co-authored by EPA, in <i>References Cited</i> ? A March 2000 <i>Revised Technical Support Document TMDL for Copper in Pinto Creek</i> appears in <i>References Cited</i> (EA, p. 51). Why doesn't the EA reference it in text passages?	Comment noted. EPA cited in the text the <i>Revised Technical Support Document TMDL for Copper in Pinto Creek</i> as (EPA, 2001) in Section 3.1.3.1. This reference was mistakenly omitted from Section 4.0 of the Supplemental EA, <i>References Cited</i> .
		112	C	How is it possible to have a successful Alternative Proposal without a successful TMDL, one that has a complete database that supports NPDES Permit assumptions, that addresses what is in the Permit and the TMDL, that addresses what has been excluded from consideration, and that has gone as far as it can go with stakeholders' input?	See Response to Comment 26-12 and 26-54.
		113	C	Why isn't a TMDL with a consistent and complete database and a plan to eliminate all Pinto reaches exceedances in copper, completed prior to issuance of the NPDES Permit? Why aren't the two considered together?	See Response to Comment 26-12 and 26-54

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		114	E.4	Do EPA regulations allow an NPDES Permit to be issued, that is controversial, the subject of lengthy discussion, and under appeal, without an accompanying TMDL implementation plan that spells out the NPDES Permit? How do EPA regulations handle a separation in which (a) an NPDES Permit is issued; (b) a TMDL is issued separately and soon after without benefit of state agency follow-up monitoring, without stakeholders' substantial input ( <i>i.e.</i> , one meeting with EPA and comment on a draft, as opposed to working out differences and questions to the extent possible), but then no follow-up discussion on many issues not resolved nor understood; and then (c) a Phase II TMDL is issued that substantially contradicts the initial TMDL findings and NPDES Permit premises? What then happens to the issued NPDES Permit?	See Response to Comment 26-12 and 26-54.
		115	C	Do regulations allow EPA to call for comments on these two provisions of the NPDES Permit before it has responded to comments on the Draft TMDL? EPA refers to the July 19, 2000 TMDL, which establishes water quality management and remediation goals necessary to achieve water quality criteria (Responses, DP-56, p. 61), but I do not have the benefit of EPA responses to my 33-page comments on that draft TMDL <u>before</u> I send in these comments.	<i>The Responsiveness Summary, Copper TMDL for Pinto Creek, AZ</i> was issued by EPA on April 26, 2001. See Response to Comments 26-12 and 26-54.

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		116	C	<p>“The TMDL must be set at a level equal to or less than the loading capacity . . . at each target site (TMDL, p. 3).” How is this possible at (a) the Cactus Breccia target site, measured at TS-4, which is to remain an exceedance in copper until Carlota-Year Four or Five, at (b) the Pinto TS-1 Target Site above the Gibson Tributary, which is to receive no EA or TMDL remediation, and at (c) TS-3 above the Cactus/Breccia Formation, which is to receive no EA or Draft TMDL remediation?</p>	See Response to Comment 26-12 and 26-54
		117	E.5	<p>The EA states that “No direct, indirect, secondary or cumulative impacts to soil or geologic resources would be expected by discharging ground water to Haunted Canyon, Powers Gulch or Pinto Creek under the conditions specified by the by the wellfield mitigation program. Discharges of ground water under the conditions specified by the wellfield mitigation program would occur during low flow periods. Channel erosion or scouring would not be expected (EA, p. 17).” With discharges up to 186 gallons per minute (if evenly divided by four discharge areas), an average of up to 46 gpm will go into low flow levels of the creeks; how will channel erosion or scouring be avoided? How will water be channeled into the lower Powers Gulch stream channel without erosion or scouring--a channel that often has no water?</p>	Section 3.3.1.2 of the FEIS provides modeled discharges for several storm events in Haunted Canyon below the confluence with Powers Gulch. The estimated discharge for a 2-year runoff event at this location is 594 cubic feet per second (cfs). The 2-year event corresponds to an event with a 50 percent probability of occurrence in any given year. Discharges of 186 gallons per minute convert to less than 0.5 cfs. This flow is significantly less than normal storm flow conditions expected in the channel and would not be expected to cause channel scouring or erosion.



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		118	E.2	<p>What is the EPA estimate for the mitigation pipeline erosion impact on Powers Gulch, Haunted Canyon, and Pinto Creek downstream from pipeline impacts? Please include its construction, particularly if 1.4 miles of pipeline are to be buried, and, during the reclamation disassembly, when it is to be dug up, removed and the trenches filled in. Include the total disturbed acres and runoff from mitigation-caused disturbed acres. Include sediment stirred up by vehicles involved with the mitigation that cross Pinto Creek and possibly Haunted Canyon several times in each round-trip for more than twenty years; and from runoff generated from what appears to be a 1000-foot spur of the main pipeline road to be built southwestward to and across the Haunted Canyon streambed, then turn northward and continue another 1000 feet north to link up with the main pipeline road, also in lower Haunted Canyon near TW-1 test well (map at FEIS, 2-9, which may not be to scale). The general site plan (map at FEIS 2-4) only shows this "spur" route to be the main one, with no main route directly to TW-1. I do not find explanatory details in the FEIS. Whichever map is used, the prime if not sole purpose of what appears to be a pipeline and/or road construction is for the mitigation pipeline, then the length (2000'?) should be included in sediment runoff calculations.</p>	<p>See Responses to Comments 26-2, 26-87 and 26-117.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		119	E.2	What approximate percentage increase does this erosion add to the Carlota project's non-mitigation-pipeline erosion? This may be difficult to calculate, because the FEIS did not provide estimates of how many tons of project-generated sediment are predicted to flow into the watershed.	See Response to Comment 26-2, 26-87 and 26-101.
		120	E.2	The EA indicates that no impacts to air quality or climate would be expected by discharging ground water to Haunted Canyon, Powers Gulch or Pinto Creek (p. 15). Why wouldn't the 1.4 mile-long mitigation pipeline incrementally add to the air pollution generated by this project, for more than 20 years, via (a) its additions to project construction, particularly if air-pollutant emitters are used to haul, assemble, and bury the pipeline; (b) disassembling pipeline facilities some 20 years later; and (c) emissions from transportation to and from the mitigation pipeline of company and agency officials, workmen, consultants, and official visitors, who will build, disassemble, repair, inspect, monitor, maintain, view, and/or adjust (e.g., moving discharge points) the facilities.	See Responses to Comments 26-2, 26-87 and 26-121.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		121	E.6	How can EPA apply its wetlands protection mandate with respect to the wetlands of the wellfield, including those in the Powers Gulch stretch immediately upstream of its confluence with Haunted Canyon, if no wetland delineation in the wellfield area has been conducted (FEIS 3-201)? This question was asked previously and was not adequately answered.	See Responses to Comments 26-2 and 26-87. The proposed action is to design and use a system of above ground, temporary, flexible, and moveable piping to minimize distances between wells and mitigation discharge points. The use of above-ground movable piping, would not result in impacts from the dredging or filling of wetlands under Section 404 of the CWA. The Supplemental EA concludes that potential disturbances of vegetation from construction of pipelines from the wellfield to surface water discharge points would occur. These impacts were determined to be temporary, minor and insignificant in relation to the site area (Table ES-1).
		122	E.5	The Final EIS determined that the Maricopa tiger beetle, Arizona toad, lowland leopard frog, common black-hawk, yellow-billed cuckoo, and loggerhead shrike are the only species of concern with the potential to be impacted by the Carlota project (EA, p. 33); aren't there seven additional special status species of concern which have the potential to be impacted: Longfin dace; Desert Sucker; Southwestern Cave Myotis (bat); Bald eagle; Southwestern Willow Flycatcher; Mexican Garter Snake; and the Lesser Long-Nosed Bat.	See Response to Comment 26-2. Threatened and Endangered (T&E) and special status species that potentially occur in the proposed Carlota Copper project area are presented in Section 3.5 of the FEIS and Section 3.2.2 of the Supplemental EA. Section 3.2.2 of the Supplemental EA concludes that the implementation of the partial reclamation at the Gibson Mine could have positive secondary impacts on many T&E and special status species by improving water quality within Pinto Creek. 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.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		123	E.5	The EA says that the NPDES permit condition allowing the discharge of ground water would mitigate potential impacts to special status species. Please explain positive and negative impacts to these species that would result from the wellfield mitigation plan.	See Response to Comment 26-2 and 26-122.
		124	D.4	A December 13, 2000 consultant's survey of 20 acres of the Gibson Mine revealed two historical sites and six historic isolated occurrences (EA, pp. 36-37). How many of the historic isolated occurrences will be adversely impacted by the Proposed Alternative, and how many are related to Native Americans? If any are related to the tribes, were they consulted? If not, why not?	A detailed report (Giacobbe and Schad, 2001) presents results of the archeological survey conducted at the Gibson Mine. This report is included in the Administrative Record. Section 3.3.1 of the Supplemental EA concludes that no cultural resources would be impacted by the proposed action. No prehistoric sites or sites related to Native Americans were identified in the area of Gibson Mine as a result of the survey.
		125	E.5	Could EPA clarify whether wellfield impacts to cultural resources will occur, in view of the fact that Haunted Canyon and the discharge point in Powers Gulch were not surveyed?	See Response to Comment 26-2. As discussed Section 3.3.1 of the Supplemental EA, the FEIS did not identify impacts to cultural resources that would result from development of the wellfield. Section 3.3.2 of the Supplemental EA indicates that "if cultural resource sites are observed during implementation of the wellfield mitigation program, these sites would be avoided to prevent ground disturbance and impacts to the historical context of the site."

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		126	E.5	Is it possible that additional cultural resources may be found when, for example, the following are constructed: the wellfield portion of the service road, power line, and water pipeline connecting the well field to the upstream processing facilities, the spur of the service road into Haunted Canyon upstream of the main service road, also into Haunted Canyon, and the wellfield mitigation pipeline through the pristine lower Haunted Canyon and lower Powers Gulch?	See Response to Comment 26-125.
		127	E.5	The wellfield mitigation program would not cause significant impacts to current land uses of recreation and grazing (EA, p. ix). EPA does not consider significant the noise, dust, visual impact, traffic, and degraded outdoor experience that the mitigation pipeline's construction, disassembly, and twenty years of testing, repair, maintenance, monitoring, inspection, and adjustment over its 1.4-mile length, including through the entire lower Haunted Canyon unique riparian area?	See Response to Comment 26-2. The Supplemental EA identified potential temporary, minor, and localized impacts to Air Quality (3.1.1), Land Use and Infrastructure (Section 3.3.2), Noise (Section 3.3.4) and Visual and Aesthetic Resources (Section 3.3.5) that could result from the proposed action. Identified impacts were not considered significant in context with the total land area or were considered temporary in nature.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		128	D.4	<p>The EA indicates that the PLS pond at the Gibson Mine site occasionally contains leachate and rainwater with high concentrations of copper, acid, sulfate, and other constituents (p. 40). What evidence did the December 2000 survey find of sulfuric acid on the Pinto Creek side of Gibson? Was the interior of the tanker-car by the launder examined, located below the toe of the PLS pond and evidently not affected by the Gibson partial reclamation? Were all of the adits/shafts, in which <i>in-situ</i> (i.e., sulfuric acid injected), located on the Mineral Creek drainage side of the Gibson Mine? Does EPA have any knowledge of what sulfuric acid may remain on the Mineral Creek side?</p>	<p>See Responses to Comments 26-5, 26-57 and 26-59. Characterization of features at the Gibson Mine or impacts associated with adits, shafts, or actions in the Mineral Creek drainage were not within the scope of the proposed actions.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		129	E.5	<p>The EA indicates that activities may require the use of construction equipment to install transmission pipes. These activities would be temporary and noise levels are expected to return to pre-activity levels upon completion of the installation activities (p. 42). Would there not also be noise increases to install mitigation pipe supports and/or, if the pipes are to be buried, to dig trenches and cover them, to install pumps, valves, etc.? Would there not also be noise when the mitigation system is to be removed after mining? And would there be increases in noise each time the pipeline is monitored, inspected, repaired, maintained, tested, and adjusted (<i>e.g.</i>, when discharge points are changed) during the entire 20+ years of the project? If all this requires the presence of construction, agency, company, and consultant personnel, as well as visitors, and the accompanying increase in traffic, is it fair to characterize the noise levels as "temporary" and no longer a factor after installation is concluded?</p>	<p>See Responses to Comments 26-2 and 26-87. Potential adverse noise impacts that would result from the maintenance of the wellfield or maintenance of the mitigation pipeline would be considered localized, temporary, and not significant.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		130	E.2	<p>The EA indicates that the wellfield mitigation program is expected to maintain visual aesthetics at or near current levels. The pipeline may be sited on the ground surface and would be visible to passers-by, detracting from visual aesthetics, but these disturbances would not be considered substantial (p. 43). The above-surface northernmost one-third of the 1.4-mile pipeline, with diameter to carry 186 gpm, which will not be lost among the other construction, but will be a constant companion of the hiker for a half-mile along the access road through the well field. The two-thirds in the pristine Haunted Canyon area could be a constant companion for almost a mile.</p>	<p>See Responses to Comments 26-2, 26-87, and 26-129.</p>
		131	E.5	<p>The EA indicates that the wellfield mitigation program encompasses a small geographic area and is not expected to directly impact recreation. “The wellfield mitigation component of the Proposed Alternative could have an indirect positive impact on recreation to the extent that surface water augmentation maintains the existing aesthetic character of the area (p. 45).”</p>	<p>Comment noted. These conclusions were presented in the Supplemental EA.</p>



Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		132	E.5	<p>The EA says that the Gibson Mine cleanup could lead to minor improvements in the scenic, riparian, and ecological values of downstream reaches of Pinto Creek, including the 8-mile reach considered for Scenic River designation (p. 46). Please explain how these impacts could occur some 13 miles from the Gibson tributary confluence with Pinto, in light of several findings by ADEQ that copper exceedances are not present that far downstream.</p>	<p>See Responses to Comments 26-2, 26-18, and 26-35.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		133	E.5	<p>The EA indicates that the Proposed Action Alternative is not expected to have any significant effect on transportation in the wellfield mitigation area. The Proposed Action would require trucking pipe to the wellfield mitigation site and transportation of workers to the job site. Neither of these activities represents a significant impact to traffic and safety (p. 47). Would not the mitigation pipeline significantly increase project wellfield traffic in the follow aspects: (1) trucking 1.4 miles of mitigation pipe, other pipeline equipment (e.g., pumps, supports, valves, possibly cooling devices) and workers to the site, once daily during construction and reclamation disassembly; (2) hauling equipment to and from the site and operating on the road during the twenty years of testing, inspection, maintenance, monitoring, emergency repair and adjustment (e.g., moving the discharge points) of 7,500 feet of pipeline, supports, cooling measures, etc., on the part of company officials, work crews, agency personnel, consultants, and official visitors; (3) the installation of 5,000 feet of pipeline in lower Haunted Canyon would increase traffic from zero to 100% on the apparent 2,000' road to be added (FEIS, 2-5 and 2-9 maps) to a fenced-off stretch of perennial Haunted Canyon that now has a narrow trail unsuitable for pickups.</p>	See Responses to Comments 26-2 and 26-87.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		134	E.1	<p>The EA indicates that short-term adverse impacts are not expected to occur as a result of wellfield discharges (p. 48). How does EPA reconcile that statement with the following: (1) during the testing/monitoring phase, wellfield discharges that have possible temperature or other exceedances may enter the waters of the U.S.; (2) the wellfield mitigation discharges will severely tax if not exceed the established wellfield capacity, and there are no guaranteed water sources available in case of pump breakdowns or other irregularities; (3) Tonto assesses any low-quality water pipeline damage as high as a moderate possibility, which could mean putting exceedance temperature water directly into waters of the U.S.</p>	<p>See Responses to Comments 26-2, 26-20, and 26-35. EPA notes that any exceedances of water quality standards is a violation of the permit.</p>

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		135	D.4	<p>A sister tributary to the GMT runs possibly through but evidently north of the Gibson Mine site into Pinto Creek; the unnamed tributary evidently is connected upstream to the "Yan Property" Mine (TMDL, A-12).</p> <p>Please establish water monitoring stations immediately above (<i>e.g.</i>, TS-2A) and below (<i>e.g.</i>, TS-2B) this sister tributary, at least to sufficiently to acquire readings with one or several storm runoffs. This would have the following advantages: (a) TS-2A could check the dissipation, if any, of Gibson discharge at the PC-2 station 1500' upstream; (b) TS-2B would measure the copper input of the sister tributary to Pinto that would enable (c) the sister's tributary input to be subtracted from further downstream copper loads (<i>e.g.</i>, at the ADEQ US60 monitoring station), the readings of which are now possibly being attributed to Gibson; (d) provide a useful model to compare to Gibson loads; and (e) rule out one obvious additional adjustment to the EPA offset/addition math, or, particularly if a copper exceedance is detected, to include the sister tributary's addition to that math.</p>	See Responses to Comments 26-1, 26-2, 26-3, 26-12 and 26-13.
		136	D.4	<p>The Tonto Forest Service Map (Gila and Salt River Meridian, 1991) shows two private property areas intercepting the Gibson Tributary between the Gibson Mine and the GMT's confluence with Pinto. Are either of these areas abandoned mines? If so, has their input into the GMT's flow been measured?</p>	See Responses to Comments 26-1, 26-2, 26-3

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		137	D.4	What data does the EPA have from stations downstream from the Gibson Mine input into the GMT but upstream of the tributary's confluence with Pinto Creek, that indicate that there are no non-Gibson copper exceedances added in the non-Gibson lower portion of the GMT?	See Responses to Comments 26-38, 26-40 and 26-49.
27	Oppose	1	D.1	Pinto Creek already exceeds the total maximum daily load of copper and the proposed mitigation plan is inadequate.	See Responses to Comments 26-1, 26-2, and 26-3.
		2	C	An extremely heavy rainfall could threaten containment of Carlota's acid leaching pits and sent contaminants into Roosevelt Lake, a drinking water source for Phoenix.	See Responses to Comments 26-2, 26-4, 26-5 and 26-35.
		3	C	It is impossible for Carlota to retain the essence of Pinto Creek and the surrounding environment and habitat, when it scrapes out a path to redirect the creek into a concrete flume.	See Responses to Comments 26-2, 26-3, 26-4, 26-5 and 26-38. EPA evaluated impacts associated with the two withdrawn permit conditions. Impacts associated with the rechanneling of Pinto Creek, including the impacts to wetlands were previously analyzed in the FEIS and Supplemental Corps EA.
28	Oppose	1	C	Damage to the Sonoran Desert represented by the Carlota project is irrevocable and cannot be mitigated.	See Responses to Comments 26-2 and 27-5.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		2	C	Carlota's parent company, Cambior, has filed for bankruptcy protection; Carlota's financial condition is therefore unstable.	Impacts associated with project closure or termination of project operations were evaluated by the FEIS. EPA evaluated impacts associated with the two withdrawn permit conditions in the Supplemental EA. It was not within the scope of the Supplemental EA to evaluate the solvency or financial condition of Cambior or the Carlota Copper Company. Should operations at the Carlota terminate, the NPDES permit would be terminated. See Response to Comment 26-5. EPA notes that this comment was addressed in EPA's earlier Response to Comment document at FE-19.
		3	C	The ADEQ Phase II study should be completed before a final decision is made on the Carlota project.	See Responses to Comments 26-1, 26-11 and 26-12.
		4	C	The Carlota project will require a grossly excessive amount of scarce Sonoran Desert water.	See Responses to Comments 26-2 and 26-74.
		5	C	Carlota has not indicated a backup source of water and should be required to do so.	See Responses to Comments 26-2 and 26-74.
		6	E.1	Variances in water temperature from wellfield sources could endanger the fish in Pinto Creek.	See Response to Comment 26-20 and 26-76.
		7	E.3	Monitoring by itself will not offer sufficient protection from the potentially harmful temperature variations in the wellfield mitigation plan.	See Response to Comment 26-20 and 26-76.

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		8	C	After the Carlota project is concluded, how will the produced toxins be permanently contained?	See Response to Comment 26-2 and 26-5. The Supplemental EA evaluated impacts associated with the two withdrawn permit conditions. Final closure requirements for the project were evaluated in the FEIS.
29	Oppose	1	C	The Carlota project should not be approved, because of its poor location, irrevocable impacts, and its potential negative impacts on plant and wildlife habitat.	See Responses to Comments 26-2, 26-5 and 26-87.
		2	D.1	The maximum daily load of copper for Pinto Creek has been exceeded and Carlota does not have a reasonable plan to remedy these exceedances.	See Responses to Comments 26-1, 26-2, 26-10, 26-11, and 26-13.
		3	E.5	Carlota's proposals will not adequately protect wetlands; there has been no wetlands delineation in the wellfield area.	See Responses to Comments 26-87 and 26-121.
30	Oppose	1	E.2	Location of a pipeline in the riparian zone of Haunted Canyon would severely impact sensitive species, including the leopard frog, black hawk, and others. The pipeline has not yet been designed, leaving many questions unanswered.	See Responses to Comments 26-87 and 26-122.
		2	E.1	The temperature difference between the wellfield and Pinto Creek is a major potential hazard to aquatic organisms.	See Response to Comment 26-20 and 26-76.
		3	E.3	What are the details of the methodology Carlota will employ to cool wellfield water? Where else have such methods been used successfully?	See Response to Comment 26-20.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		4	E.3	What alternatives have been considered for a source of water supply, that would be less potentially harmful?	See Response to Comments 26-2 and 26-74. The FEIS (USFS, 1997) describes 14 alternatives and additional options for alternate water supplies for the Carlota Copper Project. These alternatives are described in Sections 2.2.1.4 and 2.2.2.5 of the FEIS. These alternatives were subsequently eliminated from detailed consideration and analysis because they were found to be not economically or technically feasible, or they clearly lacked an environmental advantage over the proposed action.
		5	E.3	To minimize wellfield pumping, has the alternative of trucking water been considered?	See Responses to Comments 26-2, 26-74. Trucking of water was not considered as a delivery mechanism for this project. As described in Sections 2.2.1.4 and 2.2.2.5 of the FEIS (USFS, 1997), piping was generally considered as a delivery mechanism to the site from identified water supply sources. Piping of water is usually more economic and is less environmentally intrusive than hauling with diesel or gasoline fueled trucks.
31	Oppose	1	E.4	The wellfield mitigation plan fails to describe the net negative environmental consequences of this proposal.	See Response to Comment 26-2, 26-5 and 26-74. EPA maintains that the Supplemental EA adequately analyzes the effects of the discharges from the wellfield mitigation. To the extent that commenter is talking about the net environmental consequences of the entire project, EPA refers the commenter to Response to Comment 26-3.



Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		2	E.3	Wellfield pumping will draw down the aquifer whose waters flow toward the surface; further, the plan calls for pumping even more water from the aquifer to replace the diminished surface flow. It is illogical to propose that the solution to the dewatering of Haunted Canyon is to dewater it even more, and EPA's failure to describe the consequences of this proposal is contrary to NEPA.	See Responses to Comments 26-2, 26-74 and 31-1.
		3	E.4	The way the two Proposed Alternatives are presented in the EA seems to indicate that approval of the Carlota project is a foregone conclusion, which contradicts the intent of NEPA.	See Responses to Comments 26-96 and 26-97.
		4	E.5	There has been no detailed inventory taken of riparian resources; triggers for mitigation require knowledge and assessment of water-dependent vegetation.	See Responses to Comments 26.2, 26-87 and 26-121. The non-discharge related impacts from the wellfield discharges, including the need for the wellfield discharge as mitigation, are the responsibility of the Forest Service and are analyzed in the FEIS. To the extent that commenter is referring to mitigation of waters of the U.S., see the Supplemental Corps EA.
		5	D.1	The EA does not demonstrate that the Gibson Mine cleanup will affect the Pinto Creek reach downstream of the Carlota project.	See Responses to Comments 26-1 through 26-3, and 26-35. EPA maintains that there is sufficient data regarding the offset.

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		6	D.1	Surface disturbances at the site of the proposed Carlota pit in the last 20 years could be a cause of copper exceedances in Pinto Creek; if that is true, the Gibson Mine cleanup is irrelevant.	See Responses to Comments 26-1, 26-2 and 26-12. Non-point discharges were characterized in the TMDL. EPA maintains that the analysis of the Gibson Mine discharges which will be mitigated by the partial remediation and the attendant reduction in copper loading is well substantiated in the Supplemental EA and in the Administrative Record for this permit.

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32	Oppose	1	E.4	EPA has failed to recognize that without the wellfield mitigation plan, the NPDES Permit cannot be issued and the Carlota project cannot proceed; thus the no action alternative cannot be a reasonable option. The proposed alternative is the only possible choice—this manipulation of alternatives is a violation of NEPA.	See Responses to Comments 26-2, 26-3, 26-5, 26-96 and 26-97. The NPDES permit was appealed on the basis that the two withdrawn conditions, which had not been included in the draft permit, were changes to the project which had not been sufficiently analyzed under NEPA. The Council on Environmental Quality NEPA regulations are also explicit. 40 CFR section 1502.9 states that “. . . environmental impact statements shall be prepared in two stages and may be supplemented.” As a result of this comment, EPA undertook further NEPA analysis in the Supplemental EA. See also <u>Idaho Sporting Congress, Inc. v. Alexander</u> , 222 F.3d 562, 566 (9 <sup>th</sup> Cir. 2000)(“once an agency determines that new information is significant, it must prepare a supplemental EA or EIS . . . . ‘[I]f the environmental impacts resulting from the design change are significant or uncertain, as compared with the original design's impacts, a supplemental EA is required.’”)(quoting <u>Price Road Neighborhood Assn. v. U.S. Dept. of Transportation</u> , 113 F.3d 1505, 1508-09 (9 <sup>th</sup> Cir. 1997)). Thus, EPA maintains that the supplementation of existing NEPA documents, as with the Supplemental EA at issue, does not violate NEPA.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		2	E.4	The decision reached in the Supplemental EA seems to have been predetermined, while NEPA requires that environmental analysis occur <i>prior</i> to EPA's ultimate decision to issue a permit or approve an action.	See Responses to Comments 26-2, 26-96, 26-97 and 32-1. EPA maintains that it's decision was not predetermined and that the Supplemental EA was a good faith effort to look at the environmental consequences of the two withdrawn conditions. Moreover, commenter has not submitted any evidence to the contrary. See <u>Friends of Richards-Gebaur Airport v. FAA</u> , 251 F.3d 1178, 1187 n.3 (8 <sup>th</sup> 2001) (holding that a party failed to show bad faith or improper motives on the part of the agency, thus party did not overcome the presumption of regularity accorded an agency action); <u>National Audubon Soc'y v. Hoffman</u> , 132 F.3d 7, 25 (2nd 1997) (upholding district court determination that party failed to make the required 'strong showing' of bad faith despite affidavit from former agency employee that agency had decided to issue decision prior to completing EA.).
		3	E.6	EPA appears to have failed to consult with Native American Tribes.	EPA maintains that it extensively consulted with Native American Tribes. EPA refers the commenter to the earlier Response to Comments, including FE 130-132. See Responses to Comments 26-124 and 26-125. Moreover, Native American Tribes were given notice of the preparation of this Supplemental EA and, in fact, submitted comments.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		4	E.6	The entire Carlota project violates the CWA requirement that all beneficial uses of every stream reach be preserved. Powers Gulch and Pinto Creek would be re-routed into channels essentially devoid of aquatic life.	See Responses to Comments 26-1, 26-2, 26-3, 26-11 and 26-12. EPA notes that the rerouting of the channel was permitted under section 404 of the Clean Water Act by the Army Corps of Engineers.
		5	E.4	EPA's alternative analysis is flawed. The EA states that environmental impacts would be greater without the proposed mitigation, but does not acknowledge that without the mitigation the entire project would be illegal and could not go forward. While the no action alternative equates to no mitigation, it also equates to no mine at all.	See Responses to Comments 26-3, 26-5, 26-96, 26-97 and 32-1.
		6	E.4	The EA fails to explain how the Gibson Mine cleanup and the wellfield mitigation plan will have the claimed beneficial impact with respect to excessive levels of copper and other pollutants in several distinct stretches of Pinto Creek, Powers Gulch, and Haunted Canyon.	See Responses to Comments 26-1, 26-2, 26-3, 26-10 and 26-13.

Letter #	Support/ Oppose	Comment #	Comment Category	Comment Summary	Response
		7	D.1	<p>The EA states that the Gibson Mine cleanup will have a net beneficial effect on the water quality of Pinto Creek. It does not explain whether and to what extent EPA expects this action to eliminate metals exceedances in the creek; these unsupported claims are meaningless, because <i>any</i> exceedances of copper would preclude <i>any</i> additional discharges of copper under the CWA's TMDL requirements and non-degradation prescriptions for 303(d) listed streams such as Pinto Creek.</p>	<p>See Responses to Comments 26-1, 26-2, 26-3, 26-10, 26-12 and 26-13. EPA notes that the permit to Carlota Copper Project is consistent with the TMDL. The TMDL takes into account both the discharges from the Carlota Copper Project and the Gibson Mine partial remediation that would be performed by Carlota as a requirement of the permit. As stated in the EA, the Gibson Mine partial remediation will more than offset any potential discharges from the Carlota Copper Project and thus there will be a net reduction in copper loadings to Pinto Creek from this project, which includes the Gibson Mine partial remediation. Arizona Water Quality Standards provide that where the existing water quality does not meet Water Quality Standards, there shall be no degradation of those waters. EPA maintains that there will be no degradation as a result of the discharges from the Carlota Copper Project because these discharges are more than offset by the Gibson Mine partial remediation. EPA notes that the Arizona Department of Environmental Quality has certified this project under section 401 of the Clean Water Act, which is a certification that all of Arizona's Water Quality Standards are met, including the antidegradation prohibition in such standards.</p>

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		8	D.4	The EA fails to consider other sources of copper pollution besides the Gibson Mine, such as runoff from the full acreage of the Carlota Copper Mine site, as well as potential and ongoing discharges from the Yo Tambien and Bronx properties.	See Responses to Comments 26-2, 26-3, 26-5, 26-12 and 26-13. The Pinto Creek Final TMDL characterized copper loadings to Pinto Creek. The Supplemental EA analyzed the two withdrawn permit conditions, including the impact of the Gibson Mine partial remediation. Section 3.1.3 of the Supplemental EA concludes that there would be a significant reduction in copper loading to Pinto Creek from the Gibson Mine partial remediation and that such a reduction would more than offset any potential copper loading from discharges from the Carlota Copper Project. EPA maintains that the NEPA analysis for this project including the Supplemental EA, Supplemental Corps EA and FEIS are sufficient under both NEPA and the CWA.
		9	D.1	Without a loading analysis of the entire affected stretch of Pinto Creek, EPA cannot predict the impacts of the Gibson Mine cleanup on each distinct reach of Pinto Creek—upstream of the Gibson Mine, downstream of the Gibson Mine but upstream of the Carlota project, downstream of the Carlota project, and the confluence of Pinto Creek and Haunted Canyon.	See Responses to Comments 26-2, 26-3, 26-12 and 26-13.

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		10	D.3	The EA does not discuss surface water quality impacts of facilities at the Gibson property which would not be affected by the limited cleanup, such as the waste rock dump, abandoned precipitation launders, numerous mining shafts, adits, and runoff from the entire property.	See Responses to Comments 26-2, 26-3, 26-12, 26-57 and 26-128. Section 3.1.3 of the Supplemental EA concluded that there would be a significant reduction in copper loading to Pinto Creek from the Gibson Mine partial remediation and that such a reduction would more than offset any potential copper loading from the Carlota Copper Project.
		11	D.4	The EA does not adequately discuss impacts to wildlife and plants that would result from the Gibson Mine partial cleanup.	See Response to Comment 26-2. The commenter is referred to Section 3.2.1 of the Supplemental EA. Minor and insignificant impacts to vegetation were identified from the construction of a temporary road and from preparation of the disposal site. Additionally, Section 3.1.2 of the Supplemental EA concludes that erosive soil loss is not expected to increase over the present situation.



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		12	D.4	Because the Biological Opinion (BO) was done in 1996, it is now outdated and should be revisited in light of development in the area since that time and attendant threats to various species.	See Response to Comment 26-2, 26-3, 26-4 and 26-5. As stated in the Supplemental EA, the area of the Gibson Mine partial remediation was visited by the U.S. Forest Service who determined that there were no threatened species on that site. Moreover, by adopting the FEIS on July 4, 2000, EPA adopted conclusions of the BO for this project and EPA is permitted to rely on the expert opinion of the Fish and Wildlife Service. Commenter has not pointed to any new threat to listed species or newly listed species that would require EPA to reinitiate consultation. See 50 C.F.R. §§ 402.14(i)(4), 402.16 (reinitiation required where additional consultation is needed to ensure the protection of listed species and critical habitat).
		13	E.5	The EA does not justify its conclusion that the wellfield pumping plan will produce no impacts on groundwater. EPA has not quantified the impacts to neighboring surface waters, wetlands in the vicinity of Powers Gulch and Haunted Canyon, nearby water wells, or nearby Wild and Scenic Rivers, and has not determined the recharge rate for depleted groundwater supplies.	See Response to Comment 26-2, 26-74 and 31-4.
		14	E.5	The EA does not identify potential impacts to Lake Roosevelt from the wellfield mitigation plan.	See Responses to Comments 26-2 and 26-35.

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		15	E.5	The EA has not quantified the impacts of pipeline systems, pumping stations, storage facilities, road widening, additional power lines, construction traffic, increased noise, etc., which would be associated with the wellfield mitigation plan.	See Response to Comment 26-87.
		16	E.1	Monitoring alone will not provide sufficient protection to ensure that variations in water temperature from wellfield pumping will not exceed 3EC, given that wellfield water temperatures have in some instances been 11EC higher than surface water temperatures. Substantive mitigation measures are necessary to prevent temperature impacts.	See Response to Comment 26-20 and 26-76.
		17	E.4	The EA fails to comply with the NEPA requirement that agencies conduct an analysis on all reasonable alternatives. EPA should have analyzed the alternative of the Gibson Mine cleanup alone or the wellfield mitigation plan alone, rather than packaging the two.	See Responses to Comments 26-2, 26-96 and 26-97. EPA disagrees with the commenter. Such a separation would be impermissible segmentation or piece mealing under NEPA. See <u>Stop H-3 Ass'n v. Dole</u> , 870 F.2d 1419, 1427 (9 <sup>th</sup> Cir. 1989) (noting NEPA's prohibition against piece mealing actions).
		18	D.4	Although there are facilities above and below ground at the Gibson Mine which contribute to pollutant loadings in Pinto Creek (such as the Yo Tambien and Bronx properties), the EA does not consider the possibility of requiring Carlota to remediate or remove these potential pollution sources in addition to the limited Gibson Mine cleanup.	See Responses to Comments 26-1, 26-2, 26-3, 26-12 26-13 and 26-96.

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		19	D.3	The EA fails to adequately discuss alternatives regarding how Carlota is to reclaim the Gibson facilities, whether by seeding, revegetating, or other means.	See Response to Comment 26-2, 26-66 and 26-96.
		20	E.4	EPA also failed to analyze alternatives to the wellfield mitigation plan. The EA should have considered an alternative whereby monitoring and analysis of wellfield pumping is done prior to mine facility construction, as well as alternatives that discuss how Carlota will mitigate for water temperature variances.	See Response to Comment 26-2, 26-20 and 26-76.
33	Oppose	1	C	Do not permit the Carlota mine to leach poisons into the riparian stream canyon.	See Response to Comment 26-2. EPA evaluated impacts associated with the two withdrawn permit conditions. It was not within the scope of the Supplemental EA to evaluate impacts that were previously analyzed in the FEIS and Supplemental Corps EA.
34	Oppose	1	C	Tribal consultations, required under NEPA, remain incomplete. No meaningful attention has been given to mitigation of damages to places of Apache cultural importance, which encompass the entire area that would be affected by the Carlota project.	See Response to Comment 26-2, 26-5, 26-124 and 32-3.
35	Oppose	1	C	Protect the Pinto Creek area from any of man's intrusions.	See Response to Comment 26-2 and 26-3.
37	Oppose	1	C	Statement of support for the Friends of Pinto Creek and the National Wildlife Federation, who oppose the Carlota project.	Comment noted.

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38	Oppose	1	D.4	The EA proposed actions would allow other abandoned mines to continue to pollute the watershed, and the bulk of the Gibson Mine complex on its Mineral Creek watershed side will continue to produce pollutants.	See Responses to Comments 26-2, 26-3, 26-12, 26-13 and 26-128. Discharges from these sources are appropriately dealt with in the TMDL.
		2	D.1	After the Gibson Mine limited cleanup, 3 reaches of Pinto Creek (one above Gibson, a second immediately upstream of the Carlota project, and a third at the project) will continue to have copper exceedances.	See Responses to Comments 26-1, 26-2, 26-3, 26-12, 26-13 and 38-1.
		3	E.1	Despite the fact that water from the well fields has varied by up to 8EC over temperature limits, there is no clear statement from EPA that no temperature exceedance will be tolerated, nor is there a requirement that Carlota present a specific plan to remedy this potential problem.	See Response to Comment 26-20 and 26-76.
39	Oppose	1	D.1	It does not seem clear that the Gibson Mine cleanup would reduce copper exceedances in Pinto Creek.	See Responses to Comments 26-1, 26-3, 26-10, 26-12 and 26-13.
		2	E.6	It is also not evident that the wellfield mitigation plan would be successful.	See Responses to Comments 26-2, 26-5 and 26-20. The wellfield mitigation project is required by the U.S. Forest Service and was analyzed in the FEIS. EPA's action is limited to permitting the discharge and analyzing the effects of the discharge.
40	Oppose	1	C	Objection to allowing discharge of pollutants to the waters of the United States.	See Responses to Comments 26-1, 26-2, 26-3, 26-12 and 26-20.

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41	Oppose	1	C	Request for an additional 30 days to comment on the Supplemental EA.	EPA public noticed the Supplemental EA on May 9, 2001 and allowed a 30-day public comment period as specified under 40 CFR Part 6. EPA then extended the comment period for an additional 15 days until June 25, 2001. EPA maintains that this was sufficient time for public comment.
42	Oppose	1	D.1	No copper loadings of any kind should be released to Pinto Creek.	See Responses to Comments 26-1, 26-3 and 26-12.
		2	C	Any discharges of groundwater which are in any way harmful to the environment should not be permitted.	See Response to Comments 26-1, 26-2 and 26-3.

## References

U.S. Environmental Protection Agency (EPA). 2001. *Total Maximum Daily Load for Copper in Pinto Creek*, U.S. EPA Region 9, April 2001.

U.S. Environmental Protection Agency (EPA). 1997. Revision to Rapid Bioassessment Protocols for Use in Streams and Rivers USEPA Office of Water(EPA 841-D-97-002) July 1997