

**Roca Honda Resources Response to Agency 11/24/10 Comments
Of Roca Honda Project October 2009 MMD Mine Permit Application No. MK025RN
August 2011**

Agency Review of Roca Honda Resources Reclamation Plan			
Reviewers: Holland Shepherd & DJ Ennis		Review Date: November 24, 2010	
Agency: NM MMD			
Item #	Section/Page (or general)	Topic	Comment
1.	RP - General	General	There appears to be quite a bit of discussion/information about the Mine Operation Plan in the Reclamation Plan, and vice versa. Where possible, details on the Reclamation Plan and the Mine Operation Plan should be kept separate to the maximum extent practicable. MMD realizes that there is some overlap between the documents, however, for clarity to the reviewer, the two should not co-mingle where feasible. For example, Section 3.0 page 24 of the Reclamation Plan discusses a temporary seed mix to stabilize soil stockpiles. These soil stockpiles will be present during the mine life, but will be returned as cover to the disturbed areas during final reclamation at the end of the mine life. Therefore, the temporary stabilization and seeding of these soil stockpiles is better described in the Mine Operation Plan, since the piles will be maintained during mine operation and will not be present during final reclamation. Where possible, the Reclamation Plan should only focus on the final reclamation activities (removal of buildings, foundations, infrastructure, final grading, etc.) and what the site will be like at the conclusion of mine operation. Where appropriate, it would be acceptable in the Reclamation Plan to refer to and cross-reference the Mine Operation Plan rather than repeat details in both plans.

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	RHR Response		<p>RHR has prepared a revised Reclamation Plan (Revision 1, Aug 2011) and removed much of the redundancy between the Reclamation Plan and Mine Operations Plan noted by the reviewer. However, in many areas of the regulations there is overlap between the required information of the two plans. For example, Section 3.2 of the Reclamation Plan addresses contemporaneous reclamation and the collection and preservation of the soil and rock stockpiles. As such, these topics are discussed in the Mine Operations Plan as well as the Reclamation Plan as major activities that support the future reclamation program. RHR referenced the Mine Operations Plan in the revised Reclamation Plan for other redundant sections of the requirements wherever possible.</p>
2.	RP – Sec 2.1	Description of RP	<p>This section indicates that a detailed reclamation plan will be provided after the receipt of comments and their resolution. The reclamation plan provided is very general in nature and lacks the type of detail necessary for this agency to approve it. The reclamation plan commits to meeting the regulatory requirements identified in the NM Mining Act Rules, for Part 6, but does not provide details addressing the specific steps to be followed in implementing the reclamation plan.</p> <p>For example, specific information concerning the volume of topsoil, salvage of topsoil, and the reapplication of topsoils is missing. Additionally, there is no detailed revegetation plan within the reclamation plan. There is little detail concerning the need for soils amendments, or the type, and related, methodologies of soil amendments to be used. There is only general information concerning the type of reclamation criteria to be met, regarding revegetation of the site. Specific parameters for measuring revegetation success and the methodology needs to be provided, as part of the reclamation plan.</p>

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			<p>Additionally, the reclamation plan provides only a very general site-wide regrading and re-contouring plan. A detailed comprehensive site-wide regrading and re-contouring plan needs to be provided. The plan should be based on the principles of geomorphic design. The plan provided provides a start to this concept, but needs to provide more detail explaining how this is to be accomplished for various areas of the site.</p>
	RHR Response		<p>Significant detail has been added in the revised Reclamation Plan to address the reviewer's concerns, including descriptions of topdressing volumes, management (i.e, topsoil salvage) and reapplication (see Section 2.2.10). A detailed revegetation plan has been included as well (see Section 3.7). A discussion of the need and use of soil amendments is found in Section 3.5.6 of the revised Reclamation Plan. A vegetation reference area will be set-aside in Section 16 (see Figure 1-2) of the permit area and used to measure the success of revegetation. The same methodology utilized to select the reference area (see Appendix B) will be utilized to determine the revegetation success. As requested a site-wide regrading and recontouring plan has been provided. Regrading and recontouring based on the geomorphic character of the area is discussed throughout the revised Reclamation Plan. The final reclamation contours of the site are shown in Figures 2-4A, 2-4B, and 2-4C.</p>
3.	RP – Sec 2.0	Post Mining Land Use	<p>This section indicates that the PMLU will be grazing. The section does not provide a description on how the PMLU of grazing will be achieved, and what criteria will be met at the end of mining to achieve this PMLU, i.e. a comparison of reclaimed areas versus reference areas for the grazing land goals.</p>

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	RHR Response		The Post Mining Land Use (PMLU) is described in Section 2.1 of the revised Reclamation Plan. The effectiveness of the revegetation success of reclamation will be monitored and compared to the reference area established in Section 16 of the permit area as described in Section 3.7. Appendix B of the Reclamation Plan describes the methodology for selecting the reference area and the methodology that will be used to compare the effectiveness of the revegetation.
4.	RP – Sec 2.1.1	Non-ore material	This section indicates excavated non-ore material left on the surface will be returned to the mine workings. This material must be characterized prior to placement back in the mine workings to evaluate possible degradation of water quality. Whether or not this material will be returned to the mine workings will have to be resolved through NMED's Discharge Permit (DP) permitting process.
	RHR Response		Section 2.2.1 of the revised Reclamation Plan describes how non-ore material will be managed. RHR has had ongoing discussions with the NMED regarding the disposition of this material. NMED has requested and RHR has committed to characterization of this material as a condition of its approved Discharge Plan. Based on the results of that characterization, the material will either be transported off site for possible processing through the mill or will be returned to the mine workings.
5.	RP – Sec 2.1.4	Shaft excavation material	Any material returned to the shafts for backfilling will have to be approved through NMED's DP permitting process.
	RHR Response		Section 2.2.1 of the revised Reclamation Plan describes how shaft excavation material will be managed. RHR has had ongoing discussions with the NMED regarding the disposition of this material. NMED has requested and RHR has committed to characterization of this material as a condition of its approved Discharge Plan. Based on the results of that characterization, the

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6.	RP – Sec 2.1.10	Regrading	material will either be transported off site for disposal or will be returned to the mine. Figures 2-1 through 2-6 should be provided at a larger scale, to provide more detail, and to better depict final contours. The maps should be provided at a scale of no greater than 1 inch = 200 ft.
	RHR Response		Figures 2-1 through 2-6 of the original Reclamation Plan have been replaced with other more appropriate figures in the revised Reclamation Plan. Post mining, i.e. reclamation topography of the site, is now shown on revised Figures 2-4, 2-4A, 2-4B, and 2-4C. Copies of these same figures are submitted separately at a scale of 1 inch = 200 feet per MMD request.
7.	RP – Sec 3.3.3	Cultural Resources	The reclamation plan briefly discusses the methodology to preserve cultural resources during reclamation, however, the grading plan figures (Figure 2-1 through 2-6) appear to show earthwork over several of the cultural sites. RHR has had ongoing discussions with the U.S. Forest Service, State Historic Preservation Office and State Land Office archaeologists regarding cultural resources. Sites of concern close to the footprint of the facility operations have been identified and will undergo testing and, depending on results, possible data recovery prior to construction. Mitigation plans based on the testing results will be developed and implemented. Other sites have been identified as requiring protection and will be fenced and avoided. Such protection and mitigation actions will ensure that reclamation is performed in a manner that also avoids impact to archaeological sites.
8.	RP – Sec 2.1.11	Roads	A more detailed description of road reclamation is needed. What type of soil material will be applied to the roads, where will it be obtained, and to what thickness will it be applied?

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	RHR Response		Detailed descriptions of how the roads will be reclaimed are provided in Section 2.2.9 of the revised Reclamation Plan.
9.	RP – Sec 2.2	Schedule	Pursuant to 19.10.7.701 NMAC, reclamation should begin after 180 days after a cessation of mining, even if temporary, unless the operator applies for a standby permit. The reclamation schedule will require further discussion.
	RHR Response		A schedule of reclamation operations is provided in Section 2.3 and Figures 2-1, 2-2, and 2-3 of the revised Reclamation Plan. RHR will apply for the appropriate relief and permissions should a situation occur wherein Section 19.10.7.701 NMAC becomes problematic.
10.	RP – Sec 2.4	Acid/toxic drainage	The operator needs to provide a materials characterization report for all materials to be excavated from the mine, and that will be placed on the ground surface. Additionally, a materials characterization report will be needed of all material to be placed back in the mine. The potential for acid mine drainage from iron sulfides found in mine wastes needs to be evaluated. Additionally, other toxic drainage might result from constituents found in the excavated materials such as, but not limited to: uranium, radium, barium, lead, molybdenum, selenium, vanadium, copper, lead, arsenic and zinc.
	RHR Response		As noted in RHR's response to comments No. 4 and 5 above, RHR has committed to characterizing the materials that will be excavated from the mine and placed on the surface. RHR has committed to drill and core a hole at the Section 16 production shaft location and will conduct a material characterization of the various rock layers encountered from the surface to the bottom. RHR will provide MMD with the results of this analysis.
11.	RP – Sec 3.2	Contemporaneous Reclamation	The reclamation plan needs to identify those portions of the mine, which may no longer be needed for the operation, during the course of the mine life. The reclamation plan and

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	RHR Response		
12.	RP – Sec 3.2.1	Topsoil stockpile	<p>Topsoil salvage locations and depths must be identified in the final reclamation plan, along with the appropriate soil suitability analyses. A mass balance exercise needs to be addressed in the plan identifying where the topsoil will come from and the volume. The mass balance exercise needs to correspond to the amount of topsoil needed for reclaiming various portions of the site.</p> <p>Locations where topdressing will be salvaged are coincident with the areas that will be disturbed while constructing surface facilities and developing and operating the mine. As such the locations are identified in the Mine Operation Plan submitted in October 2009. Generally, topdressing salvage will be accomplished by removal of the upper portions of cut areas during surface facility construction and stockpiling the material as shown in the Mine Operations Plan. The depth of suitable topdressing in these areas is greater than two feet. It is anticipated that there is more than sufficient amounts of salvageable topdressing available from these areas for use in reclamation. The volume of topdressing required for reclamation is provided in Section 3.2.1 of the revised Reclamation Plan.</p>
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13.	RP – Sec 3.2.1	Diversion ditches	Please provide more detail concerning the type of diversion ditches that will be constructed around the base of the stockpiles. A description of diversion ditches to be constructed around stockpiles is provided in the October 2009 Mine Operations Plan in Sections 5.2 and 5.3. These ditches or swales will be constructed in the surface materials around the stockpiles and graded with a slope to drain the runoff to the nearest evaporation pond. Steep grades and turns will be rip-rapped for erosion protection.
14.	RP – Sec 3.2.2	Subsoil stockpile	Identification of subsoils to be stockpile for use in reclamation also need to be further addressed in the reclamation plan. The location of the subsoils and their approximate volumes should be addressed, along with an evaluation of soil suitability. As describe in Section 5.2.3 of the October 2009 Mine Operations Plan, subsoil is described as the soil below the first foot of topsoil or until rock was encountered. The soil survey results reported in the BDR Rev 1 submitted to MMD in January 2011 indicates that the subsoil and topsoil are very similar. As such, the subsoil and topsoil may be combined and become suitable topdressing for reclamation purposes. The final volume of subsoil to be generated will not be known until the cut and fill design is finalized. This design will be submitted to MMD as part of the revised Mine Operations Plan to be submitted in late 2011.
15.	RP – Sec 3.3.5	Stream diversions	It is unclear from this section what stream channel diversion(s) may be left at reclamation, or how they will be configured. Stream channel diversions must be identified on a map, and cross sections provided. No stream channel diversions are currently planned to be retained, and will be reclaimed to meet the geomorphic character of the surrounding region and upgradient and downgradient

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16.	RP – Sec 3.7	Revegetation	<p>This section indicates that a “detailed revegetation plan will be included in the final Reclamation Plan, to be completed when the mine project design is completed.” Additionally, this section indicates that reclamation costs will not be made available until these details of the reclamation plan are developed. The section provides a very general description of a revegetation plan. However, the details of a revegetation plan must be provided before approval can be granted. The operator must provide accurate topsoil depths for various portions of the mine, to be reclaimed. A description of monitoring techniques to meet the success criteria should be provided in the Reclamation Plan.</p> <p>Twelve (12) inches may not be enough cover for some areas of the site where more cover may be needed to address high levels of metals or radionuclides in stockpiled material. A more robust seed mixture will be required including grasses, forbs, and shrubs. The seed mixture provided includes only grasses. The section indicates that this is a seed mixture recommended by the BLM, however, the federal lands that will be reclaimed are managed by the U.S. Forest Service. Forest Service input will be needed in developing a seed mixture for the area.</p> <p>Only a reference area, north of the permit area, is identified as the area to be used for meeting</p>

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RHR Response			<p>RHR has submitted a revised Reclamation Plan to MMD that provides the details of its proposed reclamation . The Plan also includes information regarding topsoil depths as requested (see Section 3.2.1) as well as a description of monitoring techniques that will be used to determine the success of reclamation (see Appendix B). RHR believes that it is premature to discuss reclamation cover in terms of metals or radionuclide levels that may or may not be present on site at the time of reclamation as no criteria have been established at this time. RHR anticipates that there will be no elevated metals or radionuclides on site at the time of reclamation as those materials will either be removed from the permit area or returned to the mine. RHR has proposed a more robust seed mix in the revised Reclamation Plan as requested. It is the seed mix previously approved by MMD for the Lee Ranch Coal Mine which is located less than ten miles north of the Roca Honda Mine in an area with similar soils, elevation, precipitation regime and geomorphological character. As noted by the reviewer, because Sections 9 and 10 of the permit area are managed by the U.S. Forest Service they will also have input as to the approved seed mix that will be used. Similarly, the New Mexico State Land Office will have input to the seed mix to be used on Section 16 reclamation as it is the surface owner of this Section of land. A reclamation reference area has been provided within Section 16 of the permit area, see Section 3.7, Figure 3-3, and Appendix B of the revised Reclamation Plan. The area is representative of a vegetative community that is native to the region, is capable of supporting the approved post-mining land use of grazing.</p>