

**Roca Honda Resources Response to Agency 11/24/10 Comments
Of Roca Honda Project Mine Operations Plan
January 2012**

Agency Review of Strathmore Roca Honda Mine Operations Plan			
Reviewer: Agency: NM MMD			Review Date: November 24, 2010
Item #	Section/Page (or general)	Topic	Comment
1.	General	Document Organization	There appears to be quite a bit of discussion/information about the Mine Operation Plan in the Reclamation Plan, and vice versa. For example, Sections 5.4, 5.6 and 5.7 in the Mine Operation Plan appear to discuss erosion control and revegetation measures during reclamation. Instead, these sections should focus on erosion control and revegetation measures to be implemented only during operation of the mine. Operation of the mine is generally from construction of facilities to the end of the mine life. Reclamation is deconstruction and restorative grading, covering and seeding. 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.
	RHR Response		RHR has prepared a revised Mine Operations Plan, Revision 1, January 2012 and a revised Reclamation Plan, Revision 1, August 2011 and has 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, Sections 5.4, 5.6 and 5.7 of the Mine Operations Plan briefly address site stabilization, erosion control and revegetation and references the Reclamation Plan where these topics are discussed as major activities that support the future reclamation program. RHR referenced the revised Reclamation Plan for other redundant sections of the requirements wherever possible.

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2.	Sec. 2.5, Waste Handling	Stockpile Design	How will temporary stockpiles be designed and placed to prevent mass movement? Will the stockpiles be designed to address a specific factor of safety? What type of geotechnical evaluation will be done to show that these stockpiles will be stable during operation? What is the estimated volume of each of the stockpiles?
	RHR Response		<p>RHR believes that MMD inadvertently referenced Section 2.5, Waste Handling to Facilitate Contemporaneous Reclamation, from RHR's October 2009 Reclamation Plan rather than the Mine Operations Plan. Section 2 of the Mine Operations Plan describes the geologic setting of the Roca Honda Mine.</p> <p>Section 4.0 of the Mine Operations Plan, Revision 1 discusses stockpile design for each of the stockpiles, i.e., topdressing, sub-base rock, shaft excavation material and non-ore material. As described therein, the side-slopes of the stockpiles will all be 3H:1V, except the topdressing stockpile. Its side-slopes will be 4H:1V to provide a more gentle surface to facilitate vegetation growth and maintenance. As described in Sections 4.0 and 5.2, and Section 5.3.7 of the revised Mine Operations Plan, the stockpiles will be constructed by dumping the material on the stockpile, grading it into layers and compacting the material with the weight of the equipment driving over it. The height of the stockpile will be limited to approximately 25 feet. RHR does not believe it necessary to design the stockpiles to a specific factor of safety or perform a specific geotechnical evaluation. The combination of 3H:1V side-slopes, limited height, and compaction of the material will provide sufficient stability of the stockpiles.</p> <p>The estimated volume of each of the stockpiles is contained on Table 4-1 of the Plan and identified on each stockpile in the design drawings of the Mine Operations Plan, Revision 1.</p>

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3.	Sec. 3.2.1, Topsoil Stockpiles	Temporary Seed Mixture	Topsoil needs to be stabilized and protected while acting as storage units. As indicated in the plan, they will need to be seeded with a temporary seed mixture, well marked and bermed (or some other BMP used) to prevent runoff loss of topsoil, or run-on contamination of topsoil. The seed mixture indicated as interim, provides a number of well adapted grass species, however, it should also contain some forbs that are legumes. Additionally, since the U.S. Forest Service is the land management agency, recommendations for a temporary seed mixture should come from them as well as Department of Game and Fish and the NM State Land Office.
	RHR Response		RHR believes that MMD inadvertently referenced Section 3.2.1, Topsoil Stockpile, of the October 2009 Reclamation Plan. The comparable section in the Mine Operations Plan is Section 5.2.2. As noted in this Section, the topdressing stockpiles will be stabilized and protected with drainage swales directing storm water away from the stockpiles. The Mine Operations Plan, Revision 1 no longer refers to an interim seed mixture. The proposed seed mix is found in Table 5-3. This seed mix has been approved for use on state lands within the Lee Ranch Coal Mine area. The New Mexico Department of Game and Fish and the USFS will be consulted for approval before use. A forb legume (Violet Prairie Clover) that can grow in Central New Mexico has been added to the seed mix.
4.	Sec. 3.3.4, Hydrologic Balance	Hydrology	This section needs to address hydrologic balance in regard to potential groundwater impacts from the mine. The mine will be pumping approximately 11.5 million gallons per day, once dewatering of the mine begins. The extent, duration and potential impacts from this activity must be identified. Additionally, as currently proposed in the Mine Operation Plan, the water will be taken out of the groundwater system and placed into the surface water system. What impacts will occur to the hydrologic balance as a result of these impacts? Keep in mind that the hydrologic balance is defined as an accounting of the inflow to outflow from, and storage in, a hydrologic

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	RHR Response		RHR believes that MMD inadvertently referenced Section 3.3.4, Hydrologic Balance from the October 2009 Reclamation Plan. The comparable section in the Mine Operations Plan is Section 5.3.4. The Mine Operations Plan, Revision 1 contains a detailed discussion in Section 3.3 on the potential impacts from mine dewatering. Section 3.3 is summarized in Section 5.3.4. In addition, RHR has submitted to MMD and the Office of the State Engineer a detailed hydrologic analysis of the proposed mine dewatering that identifies the extent, duration and potential impacts. The analysis indicates that the only potential to existing water rights may occur to rights owned by the Lee Ranch and these impacts will be mitigated via an agreement between the ranch and RHR. The Acoma Pueblo has protested RHR's permit application to dewater the mine. A hearing to be held in 2012 by Office of the State Engineer will resolve this issue. Impacts to the surface water system will be minimized as the water produced from mine dewatering will be used for irrigation and not discharged to San Mateo Creek.
5.	Sec. 5.1, Most Appropriate Technology & Best Management Practices	Best Management Practices	For the Mine Operation Plan, this section should briefly describe why the proposed mining technique of room and pillar is the most appropriate mining technology, for this location (as opposed to another type of mining technique), and what best management practices will be used during mining and surface processing of ore and waste. Best management practices that pertain to mine operation should include all non-erosion items such as housekeeping techniques, employee training, health and safety, use of spill kits, designated areas for fueling, designated areas for equipment repair, etc. Other best management practices related to erosion and stormwater control

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			would be better discussed under the topic of Erosion Control (Section 5.6 of the Mine Operation Plan).
	RHR Response		Section 5.1 of the Mine Operations Plan, Revision 1 has been revised to briefly address the reason why the type of mining chosen by RHR is the most appropriate technique for the project. Section 3.6 of the revised MOP describes the mining methods and techniques. Because of the mine location, and more specifically, the depth of the ore body below ground surface, the mining technique chosen for mining will be a step room and pillar and a drift and fill method. Best management practices during mine operations are discussed in Section 5.1 and include housekeeping, fueling controls, etc. Details on employee training and health and safety will be a major section of the Operation Manual and Employee Manual developed before plant operation and hiring begins. As mentioned in Comment No. 1, Section 5.6, Erosion Control, is more related to reclamation activities but is discussed in the Mine Operations Plan to ensure the construction grading activities are conducted and completed to reduce and control erosion until vegetation has reestablished.
6.	Sec. 5.2, Contemporaneous Reclamation	Reclamation	The acts of contemporaneous reclamation associated with the Mine Operation Plan appear to be the occasional relocation of stockpiled material back into the mine workings, and the reclamation of mud pits/drill pits. The remainder of the discussion, in Sections 5.2.2 through 5.2.6 appears to be more appropriately located under the topic of Erosion Control (Section 5.6 of the Mine Operation Plan). Section 19.10.6.603.B NMAC, requires that contemporaneous reclamation be used to the maximum extent possible, and that it be consistent with the approved reclamation plan. The operation plan needs to specifically address this rule, or explain why contemporaneous reclamation is impracticable for this mine operation.

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	RHR Response		<p>MMD inadvertently numbered this comment No. 5 as well as the previous comment. This comment has been changed to No. 6. Section 5.2 of the Mine Operations Plan, Revision 1 provides an explanation as requested by MMD as to why the contemporaneous reclamation has limited application at the RHR mine. It notes that unlike surface mining, the facilities at a conventional underground mine above and below the ground are typically needed throughout the life of the mine and remain until completion of mining. The schedule assumes reclamation will begin immediately after cessation of mining. The items discussed as contemporaneous reclamation are representative of activities that can be implemented in advance of final reclamation to the maximum extent possible. For example, drill pads and the roads to them will be reclaimed as soon as possible after closure. The stockpiling and protection of topdressing ensures it will be available for contemporaneous and final reclamation. The remaining stockpiled material will be used as site fill when required, and returned to the mine as backfill for stabilization. These stockpile footprints will also be reclaimed early if the area will not be used during mine operations.</p>