Environmental Impact Statement for Roca Honda Mine

Cibola National Forest McKinley and Cibola Counties, New Mexico

Lead Agency:	U.S. Forest Service	
Cooperating Agencies:	U.S. Environmental Protection Agency (Region 6), New Mexico Mining and Minerals Division, New Mexico Environment Department, New Mexico Department of Game and Fish	
Responsible Official:	Nancy Rose, Forest Supervisor Cibola National Forest 2113 Osuna Road, NE Albuquerque, NM 87113	
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Abstract: Roca Honda Resources (RHR), LLC, has submitted a plan of operations to the United States Forest Service proposing to develop and conduct underground uranium mining operations at their mining claims on and near Jesus Mesa in the Mt. Taylor Ranger District of the Cibola National Forest. The proposed Federal action is to: (1) approve RHR's plan of operations with mitigations needed to protect other nonmineral surface resources consistent with the 1985 forest plan, regulations, and other applicable laws, and (2) approve a project-specific forest plan amendment to allow the Roca Honda project to deviate from the forest plan standards of management with regard to historic properties. During the scoping process for the EIS, water and cultural resources issues generated the greatest concern. The EIS finds that, even after the implementation of recommended mitigation measures, adverse significant impacts are likely to remain in the areas of groundwater, cultural and historic resources, environmental justice, human health and safety, and legacy issues. Certain socioeconomic and human health effects are determined to be beneficial and significant. Other adverse and beneficial impacts are identified but not found to be significant.

Reviewers should provide the Forest Service with their comments during the review period of the draft environmental impact statement. This will enable the Forest Service to analyze and respond to the comments at one time and to use information acquired in the preparation of the final environmental impact statement, thus avoiding undue delay in the decisionmaking process. Reviewers have an obligation to structure their participation in the National Environmental Policy

Act process so that it is meaningful and alerts the Agency to the reviewers' position and contentions. Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 553 (1978). Environmental objections that could have been raised at the draft stage may be waived if not raised until after completion of the final environmental impact statement. City of Angoon v. Hodel (9th Circuit, 1986) and Wisconsin Heritages, Inc. v. Harris, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980). Comments on the draft environmental impact statement should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3).

Send Comments to:

Forest Supervisor Cibola National Forest 2113 Osuna Road, NE Albuquerque, NM 87113 <u>comments-southwestern-cibola@fs.fed.us</u>

Please reference Roca Honda Mine DEIS in the subject line of the letter or email.

Date Comments Must Be Received: The 60-day public comment period begins on the day after the Environmental Protection Agency publishes a notice of availability for the draft EIS in the Federal Register. Comments MUST be received before the close of business on the last day of the comment period.

The Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. They may be developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being revised, etc. Using GIS products for purposes other than intended may yield inaccurate or misleading results. The Forest Service reserves the right to correct, update, modify or replace GIS products without notification.

Summary

Roca Honda Resources, LLC (RHR), the applicant, has submitted a plan of operations –a.k.a. mine operations plan (MOP) on the parallel application for a New Mine Permit to the New Mexico Mining and Minerals Division, or the proposed plan – to the Cibola National Forest (U.S. Forest Service) for development of underground uranium mining and surface support facilities on the Mt. Taylor Ranger District near Grants, New Mexico. This draft environmental impact statement (DEIS) assesses the potential environmental impacts of implementing the proposed plan.

Purpose and Need for the Proposed Action

The Forest Service has a need to respond to Roca Honda's proposal to exercise their statutory rights to enter public lands and utilize these particular mining claims in order to access the mineral resources. The Federal action associated with the EIS is the Forest Service's decision on whether to approve the applicant's plan of operations as submitted, or to require further mitigation measures needed to protect other nonmineral surface resources consistent with the 1985 "Cibola National Forest Land and Resource Management Plan" (LRMP or forest plan), Federal regulations, and other applicable laws. An additional Forest Service need is to decide whether to approve a project-specific forest plan amendment that would allow the applicant's project to deviate from the 1985 standards of management with regard to historic properties. The applicant has the right to exercise their rights under U.S. mining laws to develop and remove the mineral resources as set forth by the General Mining Law of 1872, as amended. These laws provide that the public has a statutory right to conduct prospecting, exploration, development, and production activities (1872 Mining Law and 1897 Organic Act), provided they are reasonably incident (1955 Multiple Use Mining Act and case law) to mining and comply with other Federal laws.

The Forest Service has the responsibility to protect surface resources. Mining regulations state that "operations shall be conducted so as, where feasible, to minimize adverse environmental effects on National Forest System surface resources (36 CFR 228.8)" provided such regulation does not endanger or materially interfere with prospecting, mining, or processing operations or reasonably incident uses (1955 Multiple Use Mining Act and case law). Under 36 CFR 228.4(a) (Code of Federal Regulations) subsection (4), "If the district ranger determines that any operation is causing or will likely cause significant disturbance of surface resources, the district ranger shall notify the operator that the operator must submit a proposed plan of operations for approval and that the operations cannot be conducted until a plan of operations is approved."

Public Involvement

The notice of intent (NOI) was published in the Federal Register on November 24, 2010. The NOI asked for public comment on the proposal from November 24, 2010, to January 14, 2011. In addition, as part of the public involvement process, the Agency held open house scoping meetings in Grants, New Mexico, on December 14, 2010, and Gallup, New Mexico, on December 16, 2010.

Notices advertising the scoping meetings were printed in the State's newspaper of record, the Albuquerque Journal, and local newspapers (Cibola Beacon in Grants and Gallup Independent in Gallup) in the preceding weeks. In addition, a project newsletter was distributed to agencies, nongovernmental organizations (NGOs), and interested parties. Also, a 30-second public service

announcement (PSA) was aired on local radio stations for the week prior to and the week of the public scoping meetings.

The scoping process itself often involved face-to-face contact and one-on-one participation by stakeholders and members of the interested and affected public. The opportunity for this interaction and exchange came in the form of the two informal, open house style scoping meetings in Grants and Gallup. The Forest Service and the third party contractor then investigated substantive issues raised in scoping, conducted research and analysis, and drafted this EIS. Availability of the DEIS is announced through public notice, including a notice of availability (NOA) in the Federal Register, letters to interested parties, and notices in the print and broadcast news media.

As part of the public involvement process, the Forest Service set up a link on the Southwestern Region's Web site to present information and documentation about the project to interested parties. This information is included in the "Cibola National Forest Schedule of Proposed Actions" (SOPA) report. As part of their responsibilities under Section 106 of the National Historic Preservation Act (NHPA), the Forest Service has been conducting ongoing consultation with tribes and other interested and affected parties and solicited their input on the project. Using comments from the public, agencies, tribes, and other interested parties, the Forest Service developed a list of issues to address in this draft EIS as identified below.

Issues Identified During Scoping

The Forest Service separated the issues into two groups: significant and nonsignificant issues. Significant issues were defined as those directly or indirectly caused by implementing the proposed action. Nonsignificant issues were identified as those: (1) outside the scope of the proposed action; (2) already decided by law, regulation, forest plan, or other higher level decision; (3) irrelevant to the decision to be made; or (4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations explain this delineation in Sec. 1501.7, "…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)...."

The Forest Service identified the following significant issues for discussion in the DEIS:

- Potential impacts on geology and soils at the proposed mine site.
- Need for reclamation and restoration of disturbed land.
- Potential contamination of ground and surface water, and how such contamination would be avoided.
- Predicted effects of mine dewatering on aquifers and springs.
- Potential effects on air quality locally, in particular, the exposure of the public to radioactive radon gas vented from the mine shafts.
- Potential effects on vegetation, habitats, wildlife, and special status species.
- Potential effects on nearby land use and recreation resources.
- Potential effects on environmental justice populations.

- Potential effects on the characteristics that make the Mt. Taylor Traditional Cultural Property TCP) eligible for the National Register of Historic Places (NRHP).
- Potential effects of uranium mining on the local and State economy.
- Risks to the public of hauling of uranium ore out of the Cibola National Forest and along State roads to the Interstate highway system.
- Potential health and safety risks of uranium mining and associated developments (such as an influx of workers) to miners and the wider community.
- Potential impacts on the site's visual resources.
- Cumulative effects of uranium mining with respect to all relevant resource topics.

Proposed Action and Alternatives

Alternative 1 – No Action

Under the no action alternative, the Roca Honda Mine would neither be constructed nor operated. For purposes of NEPA analysis and disclosure, the no action alternative provides a baseline for comparison of the effects of the action alternatives.

The General Mining Act of 1872 confers a statutory right to enter upon public lands open to location in pursuit of locatable minerals, and to conduct mining activities, in compliance with Federal and state statutes and regulations. The Multiple-Use Mining Act of 1955 confirms the ability to conduct mining activities on public lands, locate necessary facilities, and conduct reasonable and incidental uses to mining on public lands, including National Forest System lands. Forest Service locatable mineral mining regulations correspondingly recognize the rights of mining claimants. The Forest Service ensures that proposed activities are required for, and reasonably incidental to, prospecting, mining, or processing operations, and ensure operations minimize adverse environmental effects. The Forest Service may reject an unreasonable or illegal plan of operations, but cannot categorically prohibit mining activity or deny reasonable and legal mineral operations under the mining laws.

Alternative 2 – Proposed Action (Two Shaft Alternative)

The proposed action is to approve the plan of operations submitted by RHR to the Forest Service and approve the project-specific forest plan amendment described above. This proposed action is the plan of operations as submitted to the Forest Service by RHR in accordance with its rights under the General Mining Law of 1872, as amended, and Forest Service mining regulations at 36 CFR 228 Subpart A. In addition, the proposed Action is also subject to State of New Mexico permitting and regulatory requirements.

Proposed surface disturbance associated with the underground mine is located within portions of Sections 9, 10, and 16, Township 13 North, Range 8 West, New Mexico Principle Meridian. These sections are located in McKinley County, New Mexico, approximately 3 miles northwest of San Mateo and 22 miles northeast of Grants, New Mexico. Sections 9 and 10 are National Forest System lands, which are open to mineral entry under the General Mining Law of 1872. Section 16 is State of New Mexico land, which is not subject to the regulatory jurisdiction of the Forest Service, but rather under the jurisdiction of the New Mexico State Land Office. RHR proposes a mine permit area of 1,968 acres, including 48 acres of haul roads, utility corridor, and

mine dewater discharge pipeline corridor outside of Sections 9, 10, and 16. There are 183 acres of proposed disturbance within Sections 9, 10, and 16, plus 35 acres outside those sections for a total disturbance area of 218 acres.

Mine Development

Mine development activities would include gathering of baseline characterization data, and construction of depressurizing wells, a water treatment plant, two main production shafts, ventilation shafts, and ancillary surface facilities. RHR estimates that approximately 3.6 years would be required for development activities before ore production can begin. At that point, the mine operation phase would begin at Section 16 and mine development activities would shift to Section 10 thereafter.

Roca Honda proposes to construct 10 water depressurizing wells near the production shaft in Section 16 and 15 depressurizing wells near the production shaft in Section 10. The purpose of these wells is to reduce water pressure and control groundwater inflows during construction of the shafts.

Water pumped from the depressurizing wells may produce natural water quality that does not meet numerical surface water discharge standards. RHR proposes to treat water produced from mine depressurization, as necessary, through construction of a water treatment plant.

RHR proposes to construct a pipeline approximately 5.5 miles in length to transport water produced from the mine offsite. The pipeline would be laid on the ground surface so that no trenching or excavation would be required. Almost the entire length would be across private land; a very small portion of Cibola National Forest land would be crossed as well. The proposed destination of the water would be a water storage tank on private ranchland whose owner intends to use this treated water to irrigate range or pastureland for livestock. As a contingency, Laguna Polvadera and San Lucas Arroyo would be utilized for overflow.

RHR proposes to mine ore that is located at approximately 1,650 to 2,650 feet below the ground surface. Two 18-foot diameter production shafts are proposed to access that ore and to provide a means to move workers, equipment, and rock into and out of the mine.

Mine ventilation is a critical aspect of underground mining. Air must be pumped through the underground mine to provide sufficient fresh air to workers, and to vent or exhaust air from the mine to prevent buildup of contaminants, including radon gas, carbon monoxide, and diesel fumes.

Additional ancillary surface facilities would support the underground mine operation, such as:

- Haul and access roads
- Head frames, hoists, and ventilation shafts
- Soil stockpiles, rock stockpiles, ore pads, and nonore stockpiles
- Fuel, chemical, explosives, and equipment storage areas
- Drill pads to support development drilling and monitoring well construction
- Utility lines, pipelines, storm water control facilities, and fencing.

Mine Operation

Mine operation includes activities directly related to production of uranium ore from the underground mine. Under the proposed action, these activities would commence first in Section 16, with initial production planned to start approximately 3.5 years after all required permits for the mine are received. At that time, ore production would start in Section 16, and mine development would continue in Sections 9 and 10. Ore production from the Section 10 production shaft is planned to start approximately 8.5 years after all required permits for the mine are received. The production phase would last approximately 13 years. However, the ultimate mine life may be extended if additional ore is identified or if economic conditions change.

Extraction of ore would use drilling, blasting, and excavation to construct a network of underground tunnels and rooms. Ore would be blasted, loaded in underground mine haulage equipment, and hauled to the surface through the production shaft. The ore would then be placed on the ore pad for temporary storage until it was loaded onto a highway haul truck. The ore would then be hauled from the mine on one of the haul roads to an existing public highway.

Mine Reclamation

Mine reclamation would be the last phase of the proposed operation. Mine reclamation is designed to reclaim the effects of mining and achieve a post-mining land use of grazing. Most reclamation would occur after mining is complete, because major surface facilities are planned to be used for the life of the underground mine. This type of reclamation is termed final reclamation. RHR estimates that the life of the mine would be approximately 18–19 years. Final reclamation would be complete at that time. Some contemporaneous reclamation is planned, which is reclamation that would be conducted during the development or operations period.

Alternative 3 – Require Modified Plan of Operations (One Shaft Alternative)

Under this alternative, the Cibola National Forest supervisor would require RHR to locate most surface facilities and infrastructure associated with the Roca Honda Mine onto Section 16. The production shaft and associated facilities located on Section 10 in the proposed action (alternative 2) would be eliminated in this alternative. The facilities that would be eliminated from Section 10 under alternative 3 duplicate those proposed in alternative 2. The purpose of the Cibola National Forest supervisor requiring this change in the plan of operations would be to reduce the overall acreage of surface impacts from the mine itself by about one-third (from 183 acres to 120 acres).

In the one production shaft alternative, all ore production from the RHR mine would be achieved by constructing only a single production shaft on State-leased lands in Section 16, i.e., the shaft described in RHR's proposed action. All of the ore in the permit area would be accessed by excavating underground mine declines horizontally under the ore and vertical raises up into the ore pods. In this alternative the ore located in Section 10 would be accessed by constructing two long parallel development drifts from the Section 16 shaft northwest into Section 10 to the approximate location where the Section 10 production shaft described in the proposed action would have been constructed.

Under alternative 3, the overall volume of materials mined (ore and nonore) and the configuration of underground mining tunnels and rooms within the ore-bearing Westwater Canyon Formation

would not differ substantially from the proposed action. In other respects as well, the modified plan of operations alternative would be essentially the same as the proposed action. Thus, the description of the three phases in the proposed action—mine development, mine operation, and final reclamation—is applicable to this alternative as well, except that mine development and operation would be mostly limited to Section 16 and avoid most of the disturbance to the land surface in Sections 9 and 10.

Summary of Potential Impacts

Table S-1 summarizes potential environmental impacts associated with the proposed Roca Honda Mine.

Resource	Impacts and Mitigation	
Geology and Soils	• Impacts of both action alternatives on both geology and soils would be less than significant, but initial impacts of alternative 3 on soils would be about 30 percent less than alternative 2.	
	• Implementation of BMPs would reduce impacts to soils.	
	• Upon reclamation, soils should be stabilized sufficiently to support vegetation restoration, but would not recover 100 percent of pre-mining condition for centuries.	
Surface Water	• Majority of action alternatives' potential surface water effects from storm water and it impacts on water quality, sediment movement, and flooding.	
	• Initial impacts of alternative 3 would be less than alternative 2 due to less surface disturbance, but impacts of both alternatives would be less than significant.	
	• Impacts on surface water would be reduced by BMPs.	
Groundwater Resources	• At the mine itself, maximum drawdown of Westwater Canyon Member of Morrison Formation at the mine would be 1,806 feet at the end of mining.	
	• One hundred years after mining has ceased, drawdown in the Westwater would still be both broad (10 foot drawdown about 17 miles out) and shallow (30 foot maximum drawdown at the mine itself).	
	• Action alternatives would both have significant adverse impacts on groundwater quantity.	
	• Limited adverse impacts on springs in the vicinity of the mine from both action alternatives.	
	• Cumulative long-term effects from all possible actions likely to be significant.	
Air Quality	• Short-term effects of both action alternatives limited to fugitive dust and diesel emissions from drilling and heavy equipment during mine development.	
	• Radon doses to people living continuously or collecting wood in the vicinity of the mine would not exceed the Federal safety standard.	
	• Overall impacts on air quality adverse but less than significant.	
Vegetation	• Alternative 2 would disturb about 218 acres of vegetation in total for the duration of the mine; alternative 3 about 155 acres; BMPs would limit impacts of both action alternatives.	
	• Special status plants unlikely to be affected by either action alternative.	
	• Mine site and other disturbed areas would be reclaimed and vegetation restored after mining concludes.	

Table S-1. Summary of potential environmental impacts associated with the project

Resource	Impacts and Mitigation	
	• Overall impacts on vegetation would be adverse but less than significant.	
Wildlife	• Under both action alternatives, mine may impact wildlife through mortality; habitat loss, alteration, degradation, and fragmentation; displacement; and exposure to chemical and radiation hazards associated with bioaccumulation in the air, soil, vegetation, and prey species.	
	• Alternative 3 would reduce alternative 2's disturbance of wildlife habitat by about 30 percent—155 acres vs. 218 acres.	
	• Special status wildlife unlikely to be affected by either action alternative.	
	• No significant impacts on expected Forest Service listed sensitive, management indicator species, migratory bird species, or their habitat.	
	Habitats and populations likely to recover fully after mine reclamation.	
	• Overall impacts on wildlife of either action alternative would be adverse but less than significant.	
Land Use	• Under both action alternatives, the mine would limit access to all of the development and operations areas to the extent necessary to protect public safety and control the work space.	
	• Proposed post-mining land use of grazing is consistent with the Cibola National Forest LRMP.	
	• Overall impact on land use, while adverse, would not be significant.	
Recreation	• Distance of mine operations from designated recreation sites is great enough that there would be a negligible direct effect on the recreation experience at these sites.	
	• Existing onsite recreational activities, such as hunting, on and near the permit itself would be curtailed or restricted for the duration of the mine, or about 2 decades.	
	• Adverse effects of alternative 3 on recreation are qualitatively similar to those of alternative 2, but on a somewhat smaller scale.	
	• Impact of action alternatives adverse but less than significant.	
Environmental Justice and	• Action alternatives would potentially create beneficial impacts due to the provision of jobs and economic opportunities in minority and low-income communities.	
Protection of Children	• Adverse mental health impacts of moderate magnitude would occur to tribal environmental justice communities due to mine development so close to spiritually significant Mt. Taylor.	
	• Neither action alternative expected to disproportionately expose children to toxic substances, radionuclides, or other safety hazards.	
	• Beneficial and adverse effects on environmental justice of the action alternatives, as well as cumulative effects both positive and negative, are likely to be significant.	
Socioeconomics	• Overall, both action alternatives would support over a billion dollars in economic activity, about 2,400 jobs with salaries worth \$355 million, and generate \$81 million in local and State revenue during the life of the project.	
	• Although the mine would yield tangible economic benefits for the region during its 2 decades of construction, operation, and reclamation, it remains controversial due to the historical uranium boom and bust cycles that have occurred in the region and elsewhere.	
	• Mine would likely contribute to significantly beneficial cumulative economic impacts within the region of influence (ROI) over the coming decades, though perhaps not permanent prosperity.	

Resource	Impacts and Mitigation	
Cultural and Historic Resources	• Both action alternatives would cause adverse impacts to tribal cultural resources and practices related to the sacred character of Mt. Taylor for the Acoma, Laguna, Zuni, Hopi, and Navajo in particular.	
	• Both action alternatives would adversely affect the Mt. Taylor TCP and cause irreparable harm to surrounding tribes and their traditional cultural practices.	
	• Both action alternatives would have a perceived impact upon the Spirit Beings associated with the TCP.	
	• Ground disturbance from construction activities of both action alternatives would result in direct physical impacts to four historic properties.	
	• Due to less development in Section 10 with less ground disturbance, fewer surface facilities, and less activity and traffic, the totality of the impacts to the Mt. Taylor TCP and related resources would be less than alternative 2.	
	• Impacts of both action alternatives on cultural resources would be significant, and would result in an adverse effect to historic properties.	
	• Cumulative effects of both action alternatives in combination with other past, present, and reasonably foreseeable future actions would be adverse and significant, exacerbating loss of integrity of Mt. Taylor TCP.	
Visual Resources	• Magnitude of impacts of both action alternatives would fit in with the Forest Service visual quality objectives for the area. Therefore, the magnitude of impacts would be minor.	
	• Largest impact would be from viewers on Mt. Taylor.	
	• Viewshed of alternative 3 is smaller than that of alternative 2, in that the area east and northeast of Section 10 would not be impacted.	
	• Overall impacts to visual resources would be adverse but not significant.	
	• Cumulative impact on visual resources would be medium term but impermanent and adverse but not significantly adverse.	
Transportation	• Both action alternatives would have short- and long-term minor effects on transportation.	
	• Long-term minor effects would be due to ore hauling trucks, continued delivery of supplies, and worker commutes.	
	• Risks from transportation of uranium ore are dominated by conventional risks associated with virtually all commercial transportation and the probability of accident related fatalities is no different than those associated with conventional truck transportation.	
	• Long-term beneficial effects would be due to upgrades to roadways.	
	No significant cumulative effects expected.	
Human Health and Safety	• Action alternatives may entail direct and indirect effects on five important pathways related to the health and safety: traffic safety; noise; environmental exposure; impacts stemming from employment; and impacts stemming from in-migrating workers.	
	• While actual contamination of water, air, and soil is predicted to be minor at most, perceived contamination on the part of Native Americans and others, along with actual changes to water and land from the project in the vicinity of sacred lands, especially within the context of uranium mining and milling legacy issues, may have real effects on the mental and physical health of some community members.	
	• Jobs and income are strongly associated with a number of beneficial health outcomes such as an increase in life expectancy, improved child health status, improved mental health, and reduced rates of chronic and acute disease morbidity and mortality.	
	• Stress and anxiety levels of residents in the ROI and, in turn, the mental, physical, and social health effects of these feelings, are affected by both historical and present-day factors, which include known and unknown health effects of uranium mining and large	

Resource	Impacts and Mitigation
	number of unreclaimed and contaminated mine sites within the area.
	• Overall cumulative impacts on human health and safety would be significant.
Legacy Issues	 Legacy issues associated with contamination and health and safety impacts from past uranium mining and milling would continue for the foreseeable future. The lack of open pit mining, leachate treatment, ore milling, in situ leachate handling, and wastepile disposal; and the requirements for ventilation and similar health and safety requirements of current uranium mining regulations suggest that there is little or no connection between the legacy health issues of uranium mining and processing in the past, and anticipated health and safety effects from the proposed Roca Honda Mine.

Decision Framework

The Cibola National Forest supervisor will use the EIS process to develop the necessary information to make an informed decision on whether or not to approve the proposed plan (alternative 2) as submitted, to approve the modified plan (alternative 3), or to decide what additional mitigation measures are needed to protect other resources as provided for in 36 CFR 228.8. The decision would ensure that the project conforms to provisions set forth in the existing 1985 Cibola National Forest LRMP.

Table S-2 lists the various permits and approvals that may be needed to protect the environment, health, and safety before the Roca Honda Mine could begin operations.

Agency	Permit or Approval	
Federal		
U.S. Forest Service	 Plan of Operations (plan) Special use permits (rights-of-way (ROWs), etc.) 	
U.S. Army Corps of Engineers	• No evidence of jurisdictional waters or wetlands of sufficient quantity as to trigger Sec. 404 permitting requirements.	
U.S. Environmental Protection Agency	 Spill Prevention Control and Countermeasures Plan (SPCC) Notification of Hazardous Waste Activity Storm Water Pollution Prevention Plan (SWPPP) Subpart A of the Radionuclide National Emission Standards for Hazardous Air Pollutants (NESHAPs) National Pollutant Discharge Elimination Plan (NPDES) permit 	
U.S. Fish and Wildlife Service	Threatened and Endangered Species (Section 7 Consultation)	
Federal Communications Commission	Radio authorizations	
U.S. Department of Transportation, 49 CFR	Requirements for transport and handing of radioactive materials including ore	
Treasury Department (Bureau of Alcohol, Tobacco, Firearms and Explosives)	• Explosives use permits	

Table S-2. Potential permits and approvals

Agency	Permit or Approval	
Mine Safety and Health Administration	 Mine Identification Number Legal Identity Report Ground Control Plan Miner Training Plan Worker exposure standards 	
	State	
New Mexico Energy, Minerals and Natural Resources, Department, Mining and Minerals Division	New Mine Permit	
New Mexico Environment Department Groundwater Bureau	Discharge Permit	
New Mexico Environment Department Drinking Water Bureau	Public water supply system	
New Mexico Environment Department Waste, Management Bureau	Solid Waste System Permit	
New Mexico Environment Department Petroleum Storage Tank Bureau	Registration of diesel and petroleum tanks	
New Mexico Environment Department Radiation Control Bureau	Radiation Control License for Nuclear Density Gauge	
New Mexico Office of the State Engineer	 Permit to Appropriate Public Waters Mine Dewatering Permit Dam Safety Drilling Permit 	
New Mexico Game & Fish Department	Wildlife consultation	
State Historic Preservation Office	Section 106 (NHPA) consultation	
New Mexico Highway and Transportation Department	Road access	
McKinley County		
Building Department	Building PermitsSeptic System Approval	