

July 8, 2008

Ms. Ann Berkley Rodgers
Chestnut Law Offices
121 Tijeras Ave NE, Suite 2001
Albuquerque, New Mexico 87102

SUBJECT: PUEBLO OF ACOMA COMMENTS ON DRAFT ENVIRONMENTAL
ASSESSMENT RELATED TO THE ISSUANCE OF A LICENSE AMENDMENT
FOR CONSTRUCTION OF A THIRD EVAPORATION POND, HOMESTAKE
MINING COMPANY OF CALIFORNIA, GRANTS, NEW MEXICO PROJECT,
MATERIALS LICENSE SUA-1471

Dear Ms. Berkley Rodgers:

On April 25, 2008, your office submitted comments on behalf of the Pueblo of Acoma to the U.S. Nuclear Regulatory Commission (NRC) regarding the draft "Environmental Assessment related to the Issuance of a License Amendment for Construction of a Third Evaporation Pond, Homestake Mining Company of California, Grants New Mexico Project." The staff has considered your comments and in response, has revised some portions of the environmental assessment (EA). As revised, the EA will now be published in final form in the Federal Register. The enclosure contains a detailed response to the submitted comments.

If you have any questions regarding this letter or the enclosure, please contact me at (301) 415-6607, or by e-mail at john.buckley@nrc.gov.

Sincerely,

/RA/

John T. Buckley, Senior Project Manager
Reactor Decommissioning Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
And Environmental Management Programs

Docket No.: 40-8903
License No.: SUA-1471

Enclosure: Response to Comments

Ms. Ann Berkley Rodgers
Chestnut Law Offices
121 Tijeras Ave NE, Suite 2001
Albuquerque, New Mexico 87102

SUBJECT: PUEBLO OF ACOMA COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT RELATED TO THE ISSUANCE OF A LICENSE AMENDMENT FOR CONSTRUCTION OF A THIRD EVAPORATION POND, HOMESTAKE MINING COMPANY OF CALIFORNIA, GRANTS, NEW MEXICO PROJECT, MATERIALS LICENSE SUA-1471

Dear Ms. Berkley Rodgers:

On April 25, 2008, your office submitted comments on behalf of the Pueblo of Acoma to the U.S. Nuclear Regulatory Commission (NRC) regarding the draft "Environmental Assessment related to the Issuance of a License Amendment for Construction of a Third Evaporation Pond, Homestake Mining Company of California, Grants New Mexico Project." The staff has considered your comments and in response, has revised some portions of the environmental assessment (EA). As revised, the EA will now be published in final form in the Federal Register. The enclosure contains a detailed response to the submitted comments.

If you have any questions regarding this letter or the enclosure, please contact me at (301) 415-6607, or by e-mail at john.buckley@nrc.gov.

Sincerely,

/RA/

John T. Buckley, Senior Project Manager
Reactor Decommissioning Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
And Environmental Management Programs

Docket No.: 40-8903
License No.: SUA-1471

Enclosure: Response to Comments

DISTRIBUTION:

FCFB r/f

Homestake Distribution List

ML081650109

OFFICE	DWMEP	DWMEP	DWMEP	DWMEP	DWMEP
NAME	JBuckley	CHolston	JHull	APersinko	JBuckley
DATE	6/24/08	6/25/08	7/2/08	7/ 08 /08	7/ 08 /08

OFFICIAL RECORD COPY

PUEBLO OF ACOMA COMMENTS ON ENVIRONMENTAL ASSESSMENT RELATED TO THE
ISSUANCE OF A LICENSE AMENDMENT FOR CONSTRUCTION OF A THIRD
EVAPORATION POND, HOMESTAKE MINING COMPANY OF CALIFORNIA, GRANTS, NEW
MEXICO PROJECT, MATERIALS LICENSE SUA-1471

Pueblo of Acoma Comment 1

At page 9 the Assessment states that the Rio San Jose is an ephemeral stream. This is incorrect. While the movement of water goes below the surface at some points along the river, it is considered to be a perennial river in New Mexico. It is the largest freshwater surface water source in west central New Mexico.

NRC Response

The Environmental Assessment (EA) references the Homestake Mining Company (HMC) Uranium Mill License Renewal Application Environmental Report prepared by D'Appolonia, April 1982. This report provides drainage flow data indicating that the Rio San Jose flows only in direct response to local rainstorms or snow melt. The Handbook of Hydrology (Maidment, 1992) defines streamflow as:

(1) *perennial*, in a channel that never dries up; (2) *intermittent*, in a channel which at drier times of year may have some reaches with flowing water interspersed with other reaches in which the water flows below the surface; and (3) *ephemeral*, in a channel which flows only after rainfall.

Given the definitions above, it is not incorrect to characterize the Rio San Jose as ephemeral. The staff is not aware of any data which shows that the Rio San Jose is a perennial river.

Pueblo of Acoma Comment 2

At page 10 of the Assessment it states that the San Andres formation is the principle water-bearing formation in the vicinity of the mill. This is very much an understatement. It is the primary groundwater source for the municipalities in the area, and also served as a source of surface water through discharge at Ojo de Gallo Springs until last year. The Assessment also fails to mention that this key aquifer is the source for the "fresh water from an underlying aquifer" that is pumped to form the "hydraulic barrier to seepage" and "reverse the local groundwater gradient so contaminated water can be retrieved." The failure to acknowledge this important fact severely undermines the credibility of your assessment of the effect of this project on the most important groundwater source in the region.

NRC Response

The staff agrees that additional information will enhance the description of the affected hydrological environment. As such, the staff has revised Section 3.4, paragraph two, to emphasize the importance of the San Andres aquifer as requested. Paragraph two now reads as follows:

At and nearby the HMC site, the saturated drainages are the saturated alluviums or shallow water-bearing units. In the immediate vicinity of the site, the saturated thickness of the San Mateo alluvium varies from 10-to-60 feet (3-to-20 meters). The Chinle formation, comprised

mainly of massive shale interspersed with some sandstone (approximately 800 feet thick), exists below the alluvium. The Chinle formation acts as an effective barrier between the aquifer bearing portion of the alluvium and the underlying San Andres formation, which is the principal water-bearing formation in the vicinity of the mill (Bridges and Meyer, 2007) **and the primary groundwater source for municipalities in the area.** Milling activities at the site have resulted in impacts to the San Mateo alluvial aquifer and Chinle aquifers, which underlie the Grants Mill. A groundwater corrective action program has been implemented at the site since 1977. The corrective action includes the injection of fresh water from **the San Andres** aquifer into the alluvial aquifer near an HMC property boundary to form a hydraulic barrier to the seepage and reverse the local groundwater gradient so contaminated water can be retrieved by a series of collection wells located near the tailings impoundment. The captured water is treated currently through the RO plant or sent directly to synthetically-lined evaporation ponds. The corrective action program appears to be successful in mitigating the negative impacts of seepage from the tailings ponds (Bridges and Meyer, 2007).

Pueblo of Acoma Comment 3

At page 13, the statement of Visual Resources fails to mention the San Mateo Mountains, particularly Mount Taylor, the third tallest mountain in the state of New Mexico, or the Cibola National Forest, and it fails to mention Acoma Village, the oldest continuously inhabited village in the United States. It also fails to mention the existence of the Mount Taylor Traditional Cultural Property that is listed on the State of New Mexico Cultural Properties Register and the parallel designation of a Mount Taylor Traditional Cultural Property that has been determined to be eligible for the National Register of Historic Places. Certainly these locations, all closer to the Homestake Mining Company site than El Morro National Monument, are of equal or greater importance than the "Pueblo of Acoma Historical Marker" which is mentioned under visual and recreational areas.

NRC Response

The staff has revised Section 3.9, Visual Resources, by adding the San Mateo Mountains (including Mt. Taylor), Cibola National Forest, Acoma Village and San Estaban Del Ray Mission to the list of visual resources and recreation areas in Cibola County.

It should be noted that construction and operation of EP3 will have an insignificant impact on the visual resources and recreational areas identified in the EA.

Pueblo of Acoma Comment 4

Water Quality concerns are not addressed in one cohesive section of the Environmental Assessment. Instead, Water Quality is discussed in terms of Fish and Wildlife and Water Resources, etc. In terms of fish and wildlife, the fact that birds who drink from the ponds do not die on site is used to support a finding of minimal impact. There is no analysis of whether there are higher levels of avian mortality in the general region. There has been no attempt to track the birds that consume the water to determine the extent of any effect.

The discussion of water quality in the water resources section is equally without merit. The Pueblo of Acoma water quality standards apply to waters downstream from the mine site. Groundwater aquifers that Acoma Pueblo relies on extend beyond the Pueblo's lands and any

additional contamination of groundwater can be very detrimental to the Pueblo, particularly where there is significant withdrawal from the aquifer so that there is less dilution of contaminants. The area in question is hydrologically complex. For example, although the stream bed may be dry at times, the only uncontaminated groundwater aquifer in the region comes in contact with the surface of the land in the general vicinity of the mine site. Any leakage from the holding ponds can contaminate this aquifer. The problem is compounded because the lack of water flowing in the stream bed of San Mateo Creek except during run-off events does not permit dilution of the contaminated water that ends up in the Creek. Finally, surface water that flows in the Rio San Jose through Acoma Pueblo today is largely supplied by Horace Springs which emits water from the ground into the streambed. The source for this water can be traced back to surface runoff and groundwater flows. The Springs are located just west of the boundary of the Pueblo's federally recognized Pueblo Grant. As such, the water coming out of the Springs would be subject to Acoma Pueblo Water Quality Standards almost immediately. These standards are at least as stringent, if not more stringent than the State water quality standards usually applicable to this type of water source. Any adequate analysis of effects on water quality should consider the more stringent of standards, not the minimum standards. The Assessment does not do this.

NRC Response

Section 3.4 of the EA describes the water resources and hydrology "affected environment" at the HMC site. Section 4.1.4 describes the environmental impacts that EP3 construction and operation will have on the "affected environment." Therefore, given the format of an EA, it is not feasible to discuss all water quality issues in one section of the EA.

As stated in Section 4.1.4, paragraph 5, construction and operation of EP3 could affect water quality if the impoundment fails. This section describes the engineering controls employed to ensure that the impoundment does not leak. Since HMC has taken adequate controls to ensure that the liner will not leak, the staff has chosen not to discuss either the State's or Acoma's surface water quality standards. Other than the potential for groundwater contamination due to impoundment leakage, operation of EP3 will improve groundwater quality by reducing the spread of contamination and cleaning up the site at a faster rate.

The quality of the water in the evaporation pond is addressed in Section 4.1.5, Ecology, because the water in the pond may affect the ecology but will not come in contact with surface- or ground water. Therefore, the staff chooses not to discuss EP3 water quality in Section 4.1.4, Water Resources. The staff is not aware of any comprehensive studies done to evaluate whether there are higher levels of avian mortality in the general region due to operation of evaporation ponds, waste water ponds or waste treatment ponds. The U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office recommends on its website, http://www.fws.gov/southwest/es/NewMexico/SBC_NM_rec.cfm?pr=wf, that open structures that contain toxic conditions be constructed with an appropriate exclusion methodology. HMC has been operating evaporation ponds at the site since 1990 with no mortality observed. The staff believes that the operation of EP3 will have no increased effects on migratory birds or waterfowl. HMC has committed to employ exclusion methodology if adverse effects to birds and fowl are observed in the future.

Section 4.1.4 of the EA does indicate that operation of a third evaporation pond would result in an increase in groundwater pumping and therefore have a negative environmental impact. However, the staff believes that the negative impact of pumping more groundwater is outweighed by the positive impacts of controlling the groundwater plume at the site and decreasing the reclamation time for the entire site.

The staff agrees that the regional hydrology and the hydrology at the HMC site are complex, and the staff continues to work with HMC and NMED to refine its understanding of the hydrologic issues. The staff shares Acoma's concern regarding protecting water quality. Groundwater quality at the area is largely dependent upon controlling the contamination plume at the HMC site. The staff has reviewed the EP3 design and evaluated the engineering controls proposed to ensure that leakage from EP3 does not occur. The staff has determined that the environmental impacts associated with potential leakage from the pond is minimal compared to the benefit of controlling the contamination plume through operation of EP3.

Pueblo of Acoma Comment 5

The omissions discussed at paragraph 1 above, are magnified on page 18 in the discussion of water resources. The Assessment incorrectly states that HMC would not be required to obtain additional permit(s) for increased water consumption for this action from the New Mexico Office of the State Engineer (OSE). Acoma Pueblo will engage in government-to-government consultation with the Office of the State Engineer on April 30, 2008 to address the application of Homestake Mining Company to appropriate water from the San Andres aquifer to supply the proposed expansion. The approach taken by the Assessment, by treating the temporary diversion permit as expiring in 2008 leads to inaccurate assessment of the effect of this project on the groundwater resource.

Homestake's own documents establish significant declines in the area's groundwater aquifers, including the San Andres. Additional pumping of up to 4,500 acre-feet of water per year, an amount equivalent to a little less than one half of the annual water use of the largest city in the State of New Mexico, the City of Albuquerque (10,0045.72 AFY in 2004, U.S. Water News, www.uswaternews.com/archives.arconserve/5albuwate1.html) will certainly contribute to the declining water table in the San Andres aquifer. While the Assessment does acknowledge that the withdrawal is greater than natural recharge to the basin, it does not acknowledge the great disparity. The area receives an average of less than 12 inches of precipitation or less. Even if one ignores the fact that all precipitation does not make it into an aquifer, the recharge to the aquifer from the 185 acre proposed expansion in Alternative B, without the expansion is no more than 185 acre-feet per year, leaving a deficit of 4,315 acre-feet to be mined from the aquifer. This simple calculation does not even take into account that if the proposed expansion takes place there will be even less infiltration of precipitation into the aquifer due to runoff and soil covering or compaction. The failure of the Assessment to adequately discuss this effect on the only uncontaminated groundwater aquifer in the region is unsatisfactory.

The Assessment takes the position that it need not discuss the effects of this expanded appropriation of groundwater because it is the responsibility of the New Mexico Office of the State Engineer to grant or deny an appropriation. This approach does not meet the responsibility of a federal agency under the National Environmental Policy Act to take a hard and independent look at the effects of an undertaking.

NRC Response

The discussion of water resources in Section 4.1.4 of the EA is factually accurate. HMC is allowed to consume and divert water as specified in Permits 1605 and B-28. HMC's temporary diversion permit will expire on December 31, 2008. HMC is currently applying for permit renewal.

As noted in the comment above, the EA does recognize that increased water consumption for the operation of EP3 will have a negative impact on the San Andres aquifer. However, the negative impact is outweighed by the positive impact of controlling the contamination plume and speeding up reclamation efforts at the site. The staff believes that the EA does meet the requirements of the National Environmental Policy Act. The staff feels that the New Mexico OSE permitting requirements are stringent enough to ensure that direct impacts from groundwater consumption are minimal. However, the staff also takes an independent look at the indirect and cumulative impacts of pumping from the San Andres to support operation of EP3 to reach the conclusion that the overall impacts will not be significant. Based on what is currently known about the regional and local hydrology, the staff believes that the operation of EP3 is the most effective way to control the groundwater contaminant plume emanating from the HMC site.

Pueblo of Acoma Comment 6

The assessment at Page 16 states that the Alternative B is the only alternative that still has native soils in place on at least a part of the location, and that use of the site will destroy 90% of that remaining native soil cover. In the discussion of Historical and Cultural Resources, the Assessment states that adjacent areas that were bladed in 1995 and exposed "a number of new archaeological sites in the immediate area." It goes on to state that "it is likely that aeolian deposits are covering intact subsurface archaeological remains in the undisturbed portions of the survey area." Therefore, of all the alternatives, the one selected as the preferred alternative is the one with the greatest likelihood of disturbing previously undisturbed archaeological resources. At the same time there is one alternative that does not have any cultural sites located within its boundaries, and includes no native soil cover. That is Alternative D. So, there is one alternative where there could be a significant effect and one where there is none. At the same time, the Assessment concludes that under any alternative the adverse environmental impacts to these resources would be small. This conclusion is inconsistent with the information provided in the analysis.

NRC Response

Section 4.1 of the EA evaluates the environmental impacts associated with construction and operation of EP3. The EA evaluates the impacts of EP3 on: (1) land use; (2) transportation; (3) geology and soils; (4) water resources; (5) ecology; (6) meteorology, climatology, and air quality; (7) noise; (8) historical and cultural resources; (9) visual and scenic resources; (10) socio economic; (11) public and occupational health; and (12) waste management. Although the proposed location for EP3 (Alternative B) may not be the "best" location with regard to the disturbance of native soil, Alternative B minimizes the noise and air quality impacts for the surrounding communities. In addition, the proposed EP3 site location does not have to be the "best" location, it simply has to be an acceptable location. Identification of the "best" location is subjective, and depends on which criteria one finds to be the most important. Section 4.2.2 of the EA describes the requirements on HMC to ensure that cultural resources are not impacted during construction of EP3 at the proposed location. Based on the requirements placed on

HMC, the staff has determined that adverse environmental impacts to cultural resources at the Alternative B location would be small.

Pueblo of Acoma Comment 7

The Pueblo of Acoma submits that the Environmental Assessment prepared for this proposed federal action does not meet the minimal standards required by federal law to support a finding of no significant impact. The Assessment contains clear misstatements of fact and ignores known facts that do not support the selection of Alternative B. The Pueblo submits that if all known facts were considered, there would be a finding of significant effect, if for no other reason that this expansion is being used to attempt to justify increased groundwater mining on an annual basis equal to one half of what a city of 600,000 people requires, and that this is being taken from the only uncontaminated groundwater source in the region. Based on the facts stated in the Assessment, the preferred alternative for the Pueblo of Acoma is the one that disturbs the least area: alternative D.

NRC Response

The staff disagrees with the Pueblo of Acoma's assertion that the EA does not meet the minimal standards required by federal law to support a finding of no significant impact. The EA is factually accurate as described in the responses above. The staff believes that the construction and operation of EP3 will enhance HMC's ability to perform groundwater remediation at the site.

HMC submitted an application to construct and operate a third evaporation pond on HMC property to the north of the large tailings impoundment at a location in Sections 22 and 23. The staff is required to evaluate HMC's application as submitted. NRC must either approve or disapprove the application, including the proposed location. In conducting its review, the staff is required to prepare an EA which includes an evaluation of possible alternative locations. Based on the information presented, the staff has determined that the environmental impacts associated with the construction and operation of EP3 at Alternative B are minimal and outweighed by the environmental benefits associated with remediation of the groundwater beneath the HMC site. It must be remembered that the purpose of the EA is not to determine which alternative is the best or has the least impacts, but to serve as a decision making tool to evaluate the environmental impacts of the proposed action and reasonable alternatives.