



**KLEINFELDER**

*An employee owned company*

June 26, 2006

Ron Linton  
Uranium Processing Section  
Fuel Cycle Facilities Branch  
Division of Fuel Cycle Safety and Safeguards  
Office of Nuclear Material Safety and Safeguards  
11545 Rockville Pike  
Two White Flint North  
Rockville, Maryland 20852-2738

**RE: Homestake Mining Company of California, Construction of Evaporation Pond #3 and Site Boundary Expansion**

Dear Ron Linton,

Kleinfelder Inc. has been tasked by Homestake Mining Company of California (HMCo) Grants Project to develop an Environmental Assessment (EA) that assesses the environmental affects associated with siting of a new evaporation pond and attendant expansion of the current Nuclear Regulatory Commission (NRC) License site boundary at the HMCo facility. This evaporation pond is referred to as Evaporation Pond #3 (EP3) and is intended to expand and enhance the water evaporation capacity at the project to assist in timely groundwater site remediation and cleanup activities.

HMCo has, through a variety of partnerships and joint venture associations, operated a uranium milling operation located in Cibola County, New Mexico north of the City of Grants in Section 26, T12N, R10W (Figure 1) since the late 1950's to 1990. During the 1990s this facility was closed, and final surface reclamation was commenced in accordance with NRC requirements.

HMCo currently manages a ground water restoration program as defined by NRC License SUA-1471, and New Mexico Environment Department (NMED) Discharge Plans, DP-200 and DP-725. An amendment to the NRC Site License and amendment of NMED DP-725 will be required to address the addition of EP3 and the attendant site boundary expansion. The restoration program is a dynamic on-going strategy based on a ground water restoration plan, which began in 1977, and is scheduled for completion in 2015.

HMCo's long-term goal is to restore the ground water aquifer system in the area to levels as close as practicable to the up-gradient ground water quality background levels. A ground water collection area has been established and is hydraulically bounded by a down-gradient perimeter of injection and infiltration systems comprised of wells and infiltration lines. Alluvial ground water that flows beneath the tailings pile area enters this bounded collection area. Ground water in the alluvial aquifer that is within the collection area is eventually captured by the collection well system. Once ground water quality restoration within the zone is complete and approved by the agencies, the site is to be transferred to the U.S. Department of Energy (DOE), which will have the responsibility for long-term site care and maintenance.

The restoration program is designed to remove target contaminants from the ground water by flushing the alluvial aquifer with deep-well supplied fresh water or water produced from a reverse osmosis (R.O.) plant which has been in operation at the site since late 1999 to augment ground water cleanup activities. A series of collection wells is used to collect the contaminated water, which is pumped to the R.O. plant for treatment or, alternatively, reported to a series of evaporation ponds.

The purpose of HMCo's request is to seek NRC and NMED approval to construct an additional evaporation pond (EP3) for assisting and enhancing ground water restoration activities at the HMCo mill site located in Grants, New Mexico. The construction of EP3 would include an associated expansion of the licensed operations boundary. In this regard, uranium mill tailings site reclamation is regulated by the NRC pursuant to the requirements of Part 40 of Title 10 of the Code of Federal Regulations (10 CFR Part 40), "Domestic Licensing of Source Material".

The pond siting alternatives and associated boundary expansion options for EP3 include the following:

*Alternative A* is the No Action Alternative, which provides for the ground water reclamation at the HMCo facility under current capacities and at the direction of the NRC and NMED. No substantial changes to the reclamation plan would occur except for the likely need to extend the time period for completion of the reclamation. All current operations and maintenance programs would continue as planned according to the general provisions of the HMCo Closure Plan dated 12 May 1993.

*Alternative B* involves expanding the current licensed boundary by 192.32 acres and constructing EP3 approximately 1,800 feet north of County Road 63. Access to the proposed site will be via a 50-foot wide access corridor (see figure 1).

The placement of EP3 north of County Road 63 under this alternative will impact approximately 33 acres of land and be square in shape except for the access corridor. The proposed 33-acre project area includes the access corridor and earthen containment dike. The pond is designed to provide 24 acres of surface area for evaporation and water storage purposes. The pond will be constructed as an at-grade facility, with cut and fill designed to be in rough balance. Therefore, no significant

quantities of soil will be brought onto or removed from the site. The pond will have a double High Density Polyethylene (HDPE) liner with a leak detection/collection system. County Road 63 could be closed temporarily during the construction of EP3 to facilitate installation of piping systems necessary to connect the pond with water management pipe systems in the tailings site area south of the county road.

*Alternative C* involves expanding the current licensed boundary by 68.88 acres and constructing EP3 within the SE ¼ of Section 23 along County Road 63 and within 1,800 feet of state highway NM 605. The evaporation pond is proposed to be square in shape and impact approximately 33 acres of land including the access corridor and earthen containment dike. The pond is anticipated to provide 24 acres of surface area for the evaporation and water storage purposes. The pond will be constructed as an at-grade facility, with cut and fill designed to be in rough balance. Therefore, no significant quantities of soil will be brought onto or removed from the site. The pond will have a double HDPE liner with a leak detection/collection system. County Road 63 may be closed temporarily during the construction of EP3 to facilitate installation of piping systems necessary to connect the pond with water management piping systems in the tailings site area south of the county road.

*Alternative D* involves constructing EP3 on the southwest side of Evaporative Pond #2 (EP2) located south of the large tailings pile impoundment in the SW ¼ of Section 26. Under this alternative EP3 will share the southwest dike wall of EP2 within the existing licensed boundary. The evaporation pond is proposed to be square in shape and impact approximately 33 acres of land including the access corridor and earthen containment dike. The pond is anticipated to provide 24 acres of surface area for the evaporation and water storage purposes. The pond will be constructed as an at-grade facility, with cut and fill designed to be in rough balance. Therefore, no significant quantities of soil will be brought onto or removed from the site. The pond will have a double HDPE liner with a leak detection/collection system. Alternative D would not require an NRC license boundary change, as it would be within the bounds of the present NRC licensed area.

To identify issues concerning the HMCo proposed action, input is solicited from many sources including interested parties and the general public. This information, gathered from the public and HMCo, will form the basis for evaluating various strategies that will assist in making final decisions regarding the HMCo proposal and the various alternatives as presented above. HMCo will keep interested parties informed about the progress of the EA. If you have additional questions or comments, please contact Dr. Louis Bridges @ 303.901.9317 or Dr. Alan Kuhn @ 505.344.7373. If you would like to submit your comments or questions in writing, please submit your comments to:

**Kleinfelder Inc.**  
c/o Dr. Louis Bridges  
25493 North Road  
Hotchkiss, CO 81419

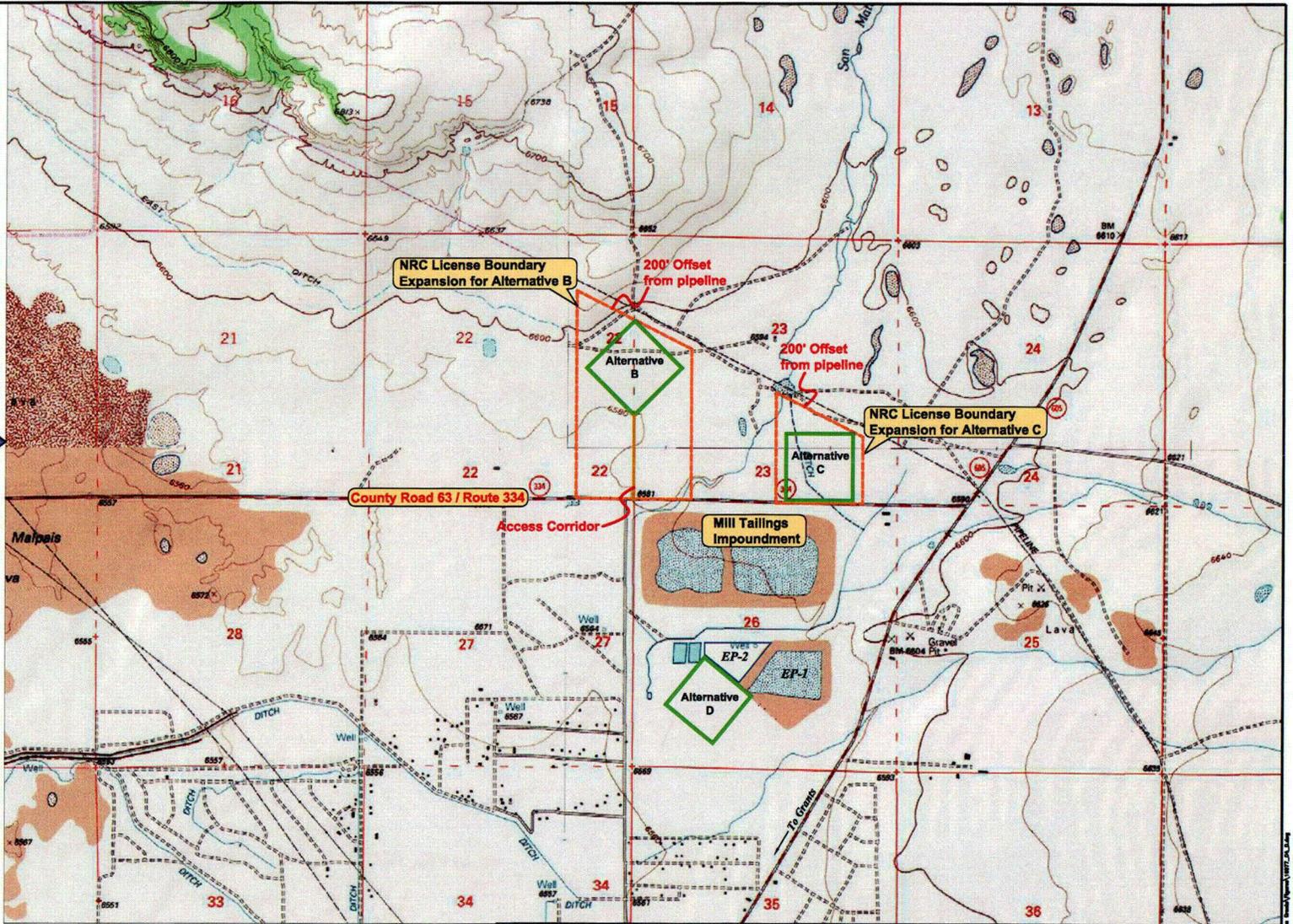
Sincerely,



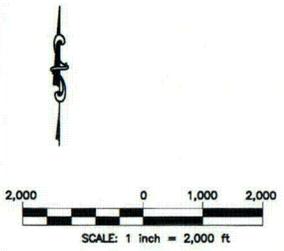
Louis J. Bridges, Ph.D.  
Senior Project Manager

LJB/xr

Attachment



□ = Alternative Evaporation Pond Locations



Source: Map created with TOPO! 2003 National Geographic

<b>KLEINFELDER</b>	
Drawn By: C. Landon	Date: June 2006
Project No.: 16977	Filename: 16977_04_0.dwg
Scale: 1" = 2,000'	Revision: -

**SITE LOCATION MAP**  
**Homestake Grants Project**  
 9km North of Grants of New Mexico  
 Grants, New Mexico

FIGURE  
**1**