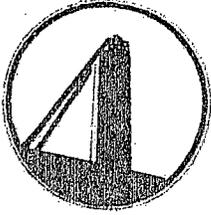


04008914080E

40-8914



# Hecla Mining Company



May 4, 1990



Mr. Ramon Hall, Director  
Uranium Recovery Field Office  
Region IV  
U.S. Nuclear Regulatory Commission  
Box 25325  
Denver, Colorado 80225

**RE: Johnny M Mine - Request for License Amendment**  
**Docket No. 40-8914**  
**License No. SUA-1482**

Dear Mr. Hall:

By this letter, we provide you with an update regarding developments at the Johnny M mine site (the "Site") in New Mexico. These developments now make off-site disposal of byproduct material currently located at the Site the safest and only reasonably achievable disposal method, and further allow for termination of all license obligations upon completion of reclamation work. Toward this end, we hereby submit as part of this letter a certified Application for License Amendment requesting that the U.S. Nuclear Regulatory Commission ("NRC") amend License No. SUA-1482 (the "License") to incorporate the revised reclamation plan enclosed herewith and to authorize removal of byproduct material from the Site for final disposal at Quivira Mining Company's Ambrosia Lake tailings impoundment.

Background information regarding past operations and previous reclamation work conducted at the Site is contained in Section 1.1 of the enclosed "Reclamation Plan, Revision No. 1, Johnny M Mine Site" (February 15, 1990) (the "Revised Plan") and in a separate one-page enclosure to this letter. As noted in Section 1.1 of the Revised Plan, Hecla Mining Company ("Hecla") submitted an initial reclamation plan to NRC on September 26, 1988 which called for disposal of byproduct material (tailings and contaminated soil) on Site in the main mine shaft and in an excavated trench. On-site disposal was selected as the reclamation method at that time because access restrictions rendered it impracticable for Hecla to remove the material to another disposal facility. Since that time, Hecla has successfully negotiated two arrangements which establish off-site disposal as a practicable and sound alternative.

First, an agreement with an adjacent property owner has been reached to allow Hecla to use the private road accessing the Site as access from the San Mateo Highway to the former mining area. This road was once the main thoroughfare to the mine and will provide ready access to the Site for heavy equipment and trucks.

960377

9006220062 XA

90-0547

Second, Hecla has reached an arrangement with Quivira Mining Company ("QMC") to dispose of byproduct material from the Site at QMC's Ambrosia Lake, New Mexico facility located about nine miles northwest of the Site (the "QMC Facility"). As you know, the QMC Facility is licensed by the NRC for storage and disposal of byproduct material. The enclosed correspondence between Hecla and QMC describe the general terms of the arrangement, which requires QMC to assume ownership of and liability for byproduct material from the Site once it is deposited at the QMC Facility. As noted in our letter to QMC, Hecla plans to spell out the specific details of the arrangement in a contract with QMC once the NRC approves the disposal plan.

In light of these new developments, Hecla commissioned AK GeoConsult, Inc., to prepare the enclosed Revised Plan for removal of byproduct material from the Site, disposal thereof at the QMC Facility and performance of verification surveys and revegetation work. As discussed in the Revised Plan, this approach is more efficient and logical from an economic and environmental standpoint, and comports with NRC's own policy to consolidate tailings disposal locations whenever possible. See 10 C.F.R., Part 40, Appendix A, Criterion 2 (1989). Accordingly, by the attached Application for License Amendment (Form NRC-2) and this letter and enclosures incorporated therein, Hecla hereby applies for an amendment to the License requiring implementation of the Revised Plan for final reclamation of the Site and subsequent termination of the License as provided in License Condition No. 4. By approval of the Revised Plan, the amendment to the License would also specifically authorize removal of byproduct material from the Site and disposal thereof at the QMC Facility.

The development of an alternative which allows for transfer of contaminated material from the Site to an NRC-licensed facility also serves to address most of the questions raised by the NRC with regard to Hecla's September 28, 1988 proposal. These issues were raised by the NRC in its letter of March 15, 1989, and we specifically respond to the four questions posed therein:

1. A brief summary of site operations and associated activities is contained in Section I.1. of the Revised Plan and in a separate one-page enclosure to this letter.
2. The need for detailed information regarding the depth to water table for both the main shaft and burial trench has now been alleviated by Hecla's plan to transport byproduct material to the QMC Facility. However, based on information available at this time, the depth to piezometric surface of groundwater at the primary aquifer underlying the Site is approximately 800 feet. (No shallow groundwater has been identified at the Site).
3. As requested, the Revised Plan calls for Hecla to take representative soil samples to supplement gamma surveys for verification purposes.
4. As you know, the land upon which the Johnny M mine is located is not owned by Hecla. By arranging for off-site disposal of byproduct material to the QMC Facility, Hecla has alleviated any need to address or provide for land transfer to the United States or otherwise establish financial assurance or long-term maintenance or surveillance obligations with respect to the Site. Under the provision referenced in your March 15, 1989 letter, Section 83(b)(4) of the Atomic Energy

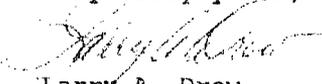
Act of 1985, as amended (the "Act"), NRC may require transfer of such land and interests therein "as described in paragraph (1) of this subsection" to the United States or State in order to address "any effects associated with such byproduct material." 42 U.S.C. § 2113(b)(4). In turn, paragraph (1) of this subsection requires the NRC to consider transfer to the United States of only such "land, including any interests therein ... which is used for the disposal of any byproduct material ..." 42 U.S.C. § 2113(b)(1)(A). NRC's regulations implementing this provision likewise only apply to "byproduct material licensed under this Part and land, including any interest therein (other than land owned by the United States or by a state) which is used for the disposal of any such byproduct material ..." 10 C.F.R., Part 40, Appendix A, Criterion 11.C (1989).

In short, land which has been cleared of "byproduct material" as defined in the Act and has been verified as such is not subject to land transfer requirements. Once the Revised Plan has been approved by NRC and implemented, then, and ownership of all byproduct material has been transferred to QMC, the License is to be terminated under the express terms of License Condition No. 4 without the need to transfer any portion of the Site to the United States.

Likewise, under the requirements of the Act and implementing regulations, no long-term bonds (or other financial sureties), ongoing maintenance or surveillance, or other long-term obligations are applicable where, once the Revised Plan is implemented, no byproduct material will remain on Site. Only "such property" used for disposal of byproduct material and the "material" itself need to be subject to ongoing maintenance or surveillance through issuance of a perpetual license or other mechanisms. 42 U.S.C. § 2113(b)(1)(A). In this regard, annual inspections of the Site are only needed "where tailings, or wastes are stored to confirm the integrity of the stabilized tailings or waste systems and to determine the need, if any, for maintenance and/or monitoring." 10 C.F.R., Part 40, Appendix Z, Criterion 12 (1989). The same conclusion applies to providing financial assurances, which is directly tied to any necessity for ongoing site maintenance. See 42 U.S.C. § 2201(X) (referencing long-term financial assurances as applicable to those "sites, structures and equipment used in conjunction with byproduct material ...").

By the NRC's own standards, then, NRC need only determine that Site reclamation as performed under the Revised Plan is adequate in order to terminate the License without any ongoing obligations on Hecla's part. Accordingly, we would appreciate your prompt review of the Revised Plan and issuance of the requested amendment. In submitting these materials we are not waiving any rights we may have to contest the NRC's authority to impose license conditions on Hecla with regard to the Johnny M site. Please contact me with any questions or comments regarding these documents.

Very truly yours,

  
Larry A. Drew  
Manager - Environmental Affairs

Enclosures  
cc: Dawn Jacoby

1. The Johnny M Mine is located on the eastern end of the Ambrosia Lake Uranium District, Sections 7 and 18, T.13N., R. 8W., McKinley County, New Mexico. Development of the mine by Ranchers Exploration and Development Corporation (predecessor to Hecla) commenced in late 1972 with the production cycle beginning in early 1976 and being complete with the exhaustion of ore reserves in early 1982. The mining sequence at the Johnny M Mine included the backfilling of mined-out working places with uranium mill tailings, and as a result of the backfill activity, two small surface locations were required for the storage of the backfill material.

Reclamation of the mine property began in early 1982 and was carried out in three primary steps. Initially, all backfill material and debris were removed from the areas by loading and scraping. The second step included recontouring the areas, removing and disposing of any anomalous material and the blading and covering of the areas with unaffected adjacent material. The final step was completed by again removing and disposing of any anomalous locations and the blading and covering of the north area with 12 to 24 inches of unaffected adjacent material and 6 to 12 inches at the south location.

Gamma surveys of the licensed areas were conducted throughout the reclamation activity. Surveys were performed by both Ranchers' staff and New Mexico Environmental Improvement Division (EID) field personnel. Each survey followed a distinct phase of reclamation activity which was conducted with the prior knowledge and approval of the EID.

The initial and second clean-up surveys were conducted by Ranchers using a 100 foot grid pattern and Kerr McGee Corporations' Mesa 2 gamma survey meter. The final clean-up survey was carried out by the Milan field office of the EID. The termination report was submitted to the EID on August 23, 1983.

## 1.0 INTRODUCTION

### 1.1 Background

On October 16, 1978, Hecla Mining Company submitted a "Work Plan for Site Surveys and Cleanup, Johnny M Mine" to the U.S. NRC in response to that agency's request that Hecla address the issue of residual radium contamination of soils due to storage of tailings at the mine site. The first activity in the Work Plan was a survey of the Johnny M site consisting of a land survey to establish a measurement and sampling grid to be used in the second activity, the radiological survey. The radiological survey consisted of scintillometer measurements of gamma radiation and soil sampling and testing to determine background and unacceptable levels of radium on the site. Based on the results of the radiological survey, a reclamation plan was to be prepared, if necessary, to eliminate any excess levels of tailing-related radium at ground surface on the mine site.

The survey portions of the Work Plan were performed from March through May, 1988 and reported in June, 1988 to the NRC. The results of the radiological surveys and soil testing indicated that a small portion of the north area and larger portions of the south area of the Johnny M site have radium levels which exceed the limits allowed under 10 CFR 40, Appendix A due to the presence of uranium milling byproduct (tailings). As a result of these findings and in accordance with the commitments made by Hecla in its Work Plan, a reclamation plan was prepared for the reduction of excess radium concentrations in soils at the Johnny M site. That plan, submitted on September 26, 1988, called for on-site disposal of tailings and contaminated soil in the main mine shaft and in an excavated trench. Both disposal locations were to be protected by a soil cover to limit radon emissions. On-site disposal was selected as the reclamation method because, at that time, Hecla did not have access to the road leading from the highway to the site, making it impracticable to remove the material for off-site disposal.

Since September, 1988 Hecla has succeeded in negotiating two agreements that will make off-site disposal not only practicable but also desirable. The first is an agreement with the property owner to use the road to the site that runs north for one mile from the San Mateo highway to the Johnny M site. This road was the main road to the mine during its operation and will allow easy access by heavy equipment and trucks. The second agreement is a contract with Quivera Mining Company to dispose of contaminated materials (tailings and contaminated soil) in Quivera's tailing impoundment, an NRC-licensed facility. As a result of these two agreements, Hecla is now able to remove all contaminated materials from the mine site. This submittal revises Hecla's reclamation plan from on-site disposal to disposal in a licensed off-site facility. As a result, Figures 1 and 2 have been revised, Figure 3 has been replaced, and Figure 4 has been eliminated from this revision.

## 1.2 Objective of Plan

The primary objective of this reclamation plan is to reduce the tailing-related radium levels of soils at the Johnny M site to acceptable standards. Once this is accomplished, Hecla can demonstrate to the NRC that the site meets those reclamation standards, and Hecla's Source Material License can be terminated. This plan describes the specific methods of reclamation that have been selected by Hecla for its revised plan.

## 1.3 Organization

This plan is organized into the Introduction, Section 1.0; followed by Section 2.0, the Soil Cleanup and Disposal Plan. The north area (Figure 1) and south area (Figure 2) of the Johnny M mine site are separated by an uncontaminated area and, therefore, are described separately under this plan. The Verification Survey which will be used to document satisfactory cleanup of the site is described in Section 3.0. Section 4.0 outlines the Revegetation Plan. The Cost and Schedule Estimates for the implementation of the selected reclamation methodologies are described in Section 5.0.

## 2.0 SOIL CLEANUP AND DISPOSAL PLAN

To accomplish cleanup of soils at the Johnny M site, Hecla considered three methodologies and several variations of those methodologies. These included below-grade disposal, above-grade disposal, and off-site disposal. In the plan submitted in September, 1988 below-grade disposal was selected as the most desirable under the circumstances that prevailed at that time. However, the new circumstances resulting from the agreements described in section 1.1 now make off-site disposal the preferred method from both cost and technical perspectives. This off-site disposal plan also simplifies satisfaction of the requirements of 10 CFR 40 Appendix A in that it eliminates 1) a separate small waste disposal site (Criterion #2), 2) the need for long-term surveillance (Criterion #12) and associated costs (Criterion #10), 3) the earthen cover and erosion protection of materials stabilized on-site (Criterion #6), and 4) the requirement to transfer title of the site to the United States. The last requirement was especially troublesome because Hecla never had title to the land itself.

### 2.1 North Area

The results of the site radiological survey and soil tests reported in June, 1988 indicate that there are two sources of radium levels that exceed 10 CFR 40, Appendix A standards in the north area of the Johnny M site. With the exception of the northeast portion of the north area, excess levels of radium in the north area are the result of ore remaining at or near ground surface. This material is not by-product and therefore not subject to cleanup under this plan. The northeast portion of the area, delineated in the radiological survey and illustrated in Figure 1 of this plan, is

contaminated primarily by residual tailings used in the backfilling of mine space through the north vent hole. Predictably, the highest levels of contamination in the north area are adjacent to this north vent hole.

Clean-up of the tailing-contaminated soil around the north vent hole will begin with burning of vegetation in the contaminated area. Once vegetation is removed the contaminated soil will be excavated by dozer and front-end loader and loaded into trucks for haulage to the Quivera tailing pile. The excavation of the soil will start at the most distal portion of the contaminated area so that once a portion of the contaminated area has been sufficiently cleaned of contaminated soil, no further traffic will occur on that soil, reducing the risk of recontamination. When the verification survey shows that clean-up has been satisfactory, the excavated area will be graded to establish smooth contours prior to revegetation.

## 2.2 South Area

As the first step in the reclamation of the south area, vegetation will be burned from the areas to be cleaned up, as shown in Figure 2. The contaminated soil will be excavated by dozer or scraper, and concentrated at one location on the north side of the area for loading into haul trucks. To minimize the risk of recontaminating the excavated ground, excavation will begin at those locations farthest from the truck-loading point, progressing toward that location as contaminated soil is removed to acceptable levels. The need for cleanup of the travel corridors to the south area will be determined by field gamma measurements made during and after excavation. After the verification survey determines that required clean-up has been achieved, the excavated area will be graded to restore smooth contours prior to revegetation.

## 2.3 Hauling and Disposal

The contaminated soil from both the north and south areas will be loaded into highway haul trucks and taken to the Quivera Mining Company tailing impoundment for disposal. The Quivera impoundment is located about nine road miles northwest of the Johnny M site. The contaminated soil will be covered by a tarpaulin before leaving the site to minimize the risk of fugitive dust release from the trucks enroute to Quivera.

The haul route is illustrated on Figure 3 (this figure replaces the Figure 3 of the original plan). It follows the site access road for about one mile to State Route 605 (formerly route 53). The route follows route 605 westward to State Route 509, then northwest along 509 to Quivera. This route has been used for nearly four decades to haul ore, tailings, and chemicals to and from the many mines and several mills in the Ambrosia Lake district. Many millions of tons of ore have traveled the same highways that this haul route will follow. The accumulation of fugitive dust from thousands of previous truck trips has undoubtedly resulted in

elevated concentrations of radionuclides (including Ra-226). The contribution to these concentrations that would result from the 400 to 450 trips of covered trucks would be undetectable. Therefore, Hecla will not be performing any radiological measurements or monitoring along the haul route and will take responsibility only for protecting the haul route from fugitive dust from transport of Johnny M cleanup materials. Hecla assumes no responsibility for existing contamination along this haul route.

The contaminated soils and tailings removed from the Johnny M site will be disposed at the Quivera tailing impoundment. They will be dumped at locations on or near the impoundment selected by Quivera. Once dumped from the truck, each load becomes the property and responsibility of Quivera. Hecla will have no future role in, or responsibility for, the stabilization of the materials delivered to the Quivera facility.

### 3.0 VERIFICATION SURVEY

After the cleanup of contaminated soils has been completed in both the north and south areas, a verification survey will be performed using the same survey grid on which the original radiological survey was performed. Gamma readings will be used to determine the adequacy of cleanup. Correlations between the gamma readings and radium levels have already been tested and documented in the report of the radiological survey and testing submitted in June, 1988. However, in response to comment #3 in the NRC's letter to Hecla dated March 15, 1989 Hecla has proposed to obtain and test soil samples for Ra-226 from 10%, but not fewer than three, of the primary and secondary grid node locations in both the north and south areas.

The final verification survey will confirm and provide formal documentation of the adequacy of the cleanup efforts after the cleanup work is completed. However, during the cleanup excavation frequent gamma readings will be made by field personnel working side by side with the contractor. These readings will not be part of the verification survey but will be used to guide heavy equipment operators to the contaminated soils requiring removal. After an excavator pass across a contaminated soil location has been made, gamma readings will be made along the path of excavation to determine whether radium levels still exceed acceptable limits. If the readings indicate that the gamma levels are still above the predetermined limiting values, then another pass of the excavating equipment will be made, followed by another reading, until acceptable levels of gamma radiation are measured. This practice will be conducted routinely during the excavation process and is intended primarily to guide the excavation work.

The formal verification survey will be a separate and final survey of the ground which was monitored during excavation. This final verification survey will be performed at the grid node points before the contractor has demobilized from the site.

#### 4.0 REVEGETATION

The revegetation plan has been developed based on species native to the area, on the ability to provide species diversity, and on adaptability of the species to the area. Both sod and bunchgrass species have been included in the seed mixture to help provide soil stability and minimize erosion. The seed mixture selected is shown in Table 1. If possible in the reclamation schedule, the seed mixture will be planted between mid-June and mid-September to take advantage of favorable soil moisture and temperature conditions for germination.

After radiological survey verification of cleanup, the areas to be revegetated will have seed beds prepared as follows:

North Area: Upon completion of the removal of contaminated soil material, the site will be regraded to establish smooth contours blending into adjacent terrain. In addition, the travel corridors used to haul the soil material to the access road will be ripped with a bulldozer or equivalent equipment to loosen the compacted soil. The areas will be disked or harrowed to provide a surface for either drill or broadcast seeding.

South Area: All excavated surfaces will require regrading after contaminated soil removal. Due to the depths (6 inches to 36 inches) that contaminated soil will probably be removed, recontouring will be performed to tie the disturbed areas into existing contours and eliminate closed depressions. Areas where equipment has compacted the soil during removal will be ripped as discussed above. All disturbed areas will be disked or harrowed to provide a surface for drill or broadcast seeding.

All seeding will occur as closely as possible after seed bed preparation has been accomplished for each area, as discussed above, within constraints of the reclamation schedule and climatic conditions. In order to provide soil stabilization if revegetation cannot occur during the period of June-September, a hay or straw mulch will be applied at 2000 pounds per acre prior to seeding to provide soil stabilization.

Two methods of effectively seeding the areas to be revegetated include drill and broadcast seeding. For the Johnny M Mine site, if all areas can be seeded at approximately the same time, drill seeding will be the primary method of seeding. Drill seeding provides a uniform placement of seeds, requires fewer seeds per acre, and provides a uniform stand of seeded plants. All seeding will be conducted on the contour or at a right angle to the prevailing wind.

If broadcast seeding is used, seeding will be accomplished using a cyclone-type broadcaster. After seeding, the area will be conditioned by raking, harrowing or other methods to ensure proper

seed coverage with soil. Conditioning will be conducted on the contour or at a right angle to the prevailing wind.

All areas revegetated will have fertilizer applied. Advice from the local Soil Conservation Service (SCS) will be obtained to determine the amount of nutrients and application rate. Straw or hay mulch will be applied at 2000 pounds per acre after seeding and fertilization and anchored with a straw crimper.

#### 5.0 COST AND SCHEDULE ESTIMATES

The estimated cost of this revised reclamation plan described on the preceding pages is about \$131,600. The details of this estimate are shown on Table 2. The largest single cost in this estimate is hauling of the contaminated soil to Quivera. At this time the quantity of this material can be estimated only approximately because of the uncertainty of the volume of the contaminated soil which will have to be excavated and removed to Quivera. For estimating purposes, conservatively large quantities have been used for the major cost activities.

The schedule for the performance of this work has been estimated to be four weeks. It is estimated that approximately five days will be needed to complete the cleanup in the north area and approximately 15 days for the cleanup in the south area.

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

<p>1. (Check one)</p> <p><input type="checkbox"/> (a) New license</p> <p><input checked="" type="checkbox"/> (b) Amendment to License No. <u>SUA-1482</u></p> <p><input type="checkbox"/> (c) Renewal of License No. _____</p> <p><input type="checkbox"/> (d) Previous License No. _____</p>		<p>2. NAME OF APPLICANT</p> <p>Hecla Mining Company</p>																	
<p>4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED</p>		<p>3. PRINCIPAL BUSINESS ADDRESS</p> <p>6500 Mineral Drive P. O. Box C-8000 Coeur d'Alene, Idaho 83814-1931</p>																	
<p>5. NAME OF PERSON TO BE CONTACTED CONCERNING THIS APPLICATION</p> <p>Mr. Larry Drew</p>		<p>6. TELEPHONE NO. OF INDIVIDUAL NAMED IN ITEM 5</p> <p>208-769-4100</p>																	
<p>7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED</p> <p>The attached letter and enclosures therewith, which are incorporated by reference into this application, describe the purposes of this Application for License Amendment.</p>																			
<p>8. STATE THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, POSSESS, USE, OR TRANSFER UNDER THE LICENSE</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">(a) TYPE</th> <th style="width:25%;">(b) CHEMICAL FORM</th> <th style="width:25%;">(c) PHYSICAL FORM (Including % U or Th.)</th> <th style="width:25%;">(d) MAXIMUM AMOUNT AT ANY ONE TIME (kilograms)</th> </tr> </thead> <tbody> <tr> <td>NATURAL URANIUM</td> <td></td> <td></td> <td></td> </tr> <tr> <td>URANIUM DEPLETED IN THE U-235 ISOTOPE</td> <td></td> <td></td> <td></td> </tr> <tr> <td>THORIUM (ISO TOPL)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (kilograms)</p>				(a) TYPE	(b) CHEMICAL FORM	(c) PHYSICAL FORM (Including % U or Th.)	(d) MAXIMUM AMOUNT AT ANY ONE TIME (kilograms)	NATURAL URANIUM				URANIUM DEPLETED IN THE U-235 ISOTOPE				THORIUM (ISO TOPL)			
(a) TYPE	(b) CHEMICAL FORM	(c) PHYSICAL FORM (Including % U or Th.)	(d) MAXIMUM AMOUNT AT ANY ONE TIME (kilograms)																
NATURAL URANIUM																			
URANIUM DEPLETED IN THE U-235 ISOTOPE																			
THORIUM (ISO TOPL)																			
<p>9. DESCRIBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL BE USED INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING A THOROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES</p>																			
<p>10. LIST THE NAMES AND ATTACH A RESUME OF THE TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE OF APPLICANT'S SUPERVISORY PERSONNEL AND THE PERSON RESPONSIBLE FOR THE RADIATION SAFETY PROGRAM (OR OF APPLICANT IF AN INDIVIDUAL)</p>																			
<p>11. DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY AND RELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9. INCLUDE (a) RADIATION DETECTION AND RELATED INSTRUMENTS (including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate. The description of radiation detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each instrument)</p>																			
<p>(b) METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN (a) ABOVE INCLUDING AIR SAMPLING EQUIPMENT (for film badges, specify method of calibrating and processing, or name supplier).</p>																			

11(c) VENTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING PLAN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS, MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PROCEDURES FOR TESTING SUCH EQUIPMENT

12 DESCRIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE AND PROPERTY AND RELATE THESE PROCEDURES TO THE OPERATIONS LISTED IN ITEM 9. INCLUDE (a) SAFETY FEATURES AND PROCEDURES TO AVOID NONNUCLEAR ACCIDENTS, SUCH AS FIRE, EXPLOSION, ETC., IN SOURCE MATERIAL STORAGE AND PROCESSING AREAS

(b) EMERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL

(c) DETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES

13 WASTE PRODUCTS: If none will be generated, state "None" opposite (a), below. If waste products will be generated, check here  and explain on a supplemental sheet:

- (a) Quantity and type of radioactive waste that will be generated.
- (b) Detailed procedures for waste disposal.

14 IF PRODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 10 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

- (a) PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.
- (b) PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.
- (c) BETA AND BETA PLUS GAMMA RADIATION LEVELS (Specify instrument used, date of calibration and calibration technique used) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.
- (d) METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MANUFACTURED PRODUCT.

### CERTIFICATE

(This item must be completed by applicant)

15 The applicant, and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 40, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

BY: Larry A. Drew  
(Signature)

Dated May 4, 1990

Larry A. Drew  
(Print or type name)

Manager - Environmental Affairs  
(Title of certifying official authorized to act on behalf of the applicant)

WARNING: 18 U.S.C. Section 1001; Act of June 25, 1949; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

**AK** GeoConsult, Inc.

**RECLAMATION PLAN**

**REVISION NO. 1**

**JOHNNY M MINE SITE**

**NEAR SAN MATEO, NEW MEXICO**

**HECLA MINING COMPANY**

**FEBRUARY 15, 1990**

**DOCKET NO. 40-8914  
LICENSE NO. SUA-1482**

9603270368 900504  
PDR ADOCK 04008914  
C PDR