

ADMINISTRATIVE
RECORD



287950

Exhibit 3

316277

RECORD OF DECISION MODIFICATION
YAK TUNNEL OPERABLE UNIT
CALIFORNIA GULCH SITE, LEADVILLE, COLORADO

FILE PLAN
5.04

This document sets forth changes in the Declaration and Decision Summary for the Record of Decision (ROD) for the Yak Tunnel Operable Unit of the California Gulch Site signed on March 29, 1988.

DECLARATION FOR THE RECORD OF DECISION

1. Delete pages 2 and 3 in their entirety and the first full paragraph on page 4. In their place, substitute the following language:

1. A surge pond or ponds to collect flow from the Yak Tunnel and support treatment plant operations;
2. Concrete plugs at a minimum of three locations within the tunnel to flood the sulfide zones, to halt the uncontrolled discharge of tunnel effluent to California Gulch, and to prevent surges;
3. Water control measures to reduce surface water inflow into the tunnel system and to minimize uncontrolled ground water outflow from the tunnel system following plugging, as necessary for proper performance of the remedy;
4. A monitoring program to establish baseline preremediation water quality and to predict and evaluate hydrologic changes;
5. A water collection system to collect water from behind the portal plug;
6. A water treatment facility to treat all flow from the Yak Tunnel prior to release to California Gulch;
7. Operations and maintenance of the selected remedy; and

8. A contingency plan to address any adverse hydrologic changes resulting from tunnel plugging.

2. Delete the fifth and sixth sentences in the fourth paragraph on page 4. In their place, substitute the following sentence:

This remedy is only a first step toward cleanup of California Gulch surface water and is part of a total remedial action for the site.

DECISION SUMMARY

1. Throughout the Decision Summary, substitute the term "water treatment facility" wherever the term "interim treatment facility" appears.

2. Delete the description of the selected remedy on pages 34-35. In its place, substitute the following language:

- o A surge pond or ponds;
- o Tunnel plugs;
- o Water control measures;
- o A water treatment facility;
- o A monitoring program;
- o A contingency plan; and
- o Operations and maintenance.

3. In the first sentence in the second full paragraph on page 38, delete the words "to near zero".

4. Delete the first full paragraph on page 40, and substitute the following language:

Because of the concern about uncontrolled seepage should flooding occur behind the portal plug, the portal plug will be designed primarily for surge control and will incorporate a pumping or draining mechanism for normal flow. Water flowing through the tunnel to the portal plug will be pumped or drained from behind the plug to the treatment plant. Details of the treatment system are discussed later in more detail.

5. After the third full paragraph on page 40, add the following language:

Water control measures need be constructed only to the extent necessary for cost-effective short- and long-term performance of the remedy and as needed to protect human health and the environment. Reducing infiltration of surface waters to the Yak Tunnel behind the portal plug may lead to more consistent tunnel flow and water quality which may in turn lead to more cost-effective treatment plant operations. Water control measures related to the other plugs may reduce the potential for adverse water quality movement and may reduce the long-term cost of a pump-and-treatment system, should problems occur.

6. Delete the term "Water Collection and Interim Treatment" and the third full paragraph on page 41, page 46 in its entirety, and the first two paragraphs on page 47. In their place, substitute the following language:

Water Treatment Facility

As discussed above, a treatment facility will be built to treat flow from the Yak Tunnel. The treatment facility will be constructed and operational before entry into the tunnel for remedial design. It will then be operated continuously to treat all flow from the tunnel.

Once the plugs are constructed, the facility will treat water draining through the portal plug. Water levels behind the portal plug will be controlled by pumping or by a specially designed flow-through system having an upstream invert elevation equal to the level of the base of the Yak Tunnel at that point. A monitoring system will be installed behind the plug to assure that any flow-through system is operating properly and that water levels are not rising behind the plug. After installation of the two upgradient plugs, the average flow rate from the portal plug will be approximately 285 gpm.

The treatment facility will incorporate lime treatment and the use of high density sludge (HDS) technology supplemented with a chemical

addition to assist in the removal of cadmium. The surge pond will be used as an equalization pond to minimize variations in flow rate and chemistry of the water for the treatment plant. The design of the facility will be as flexible as possible to permit integration of the facility with treatment needs associated with the contingency plan described below and additional remedial actions for the California Gulch site.

The treatment process will result in the generation of sludge. Sludge produced by conventional lime softening is very difficult to dewater due to its dilute, non-dense, non-filterable characteristics. HDS technology circulates the precipitates caused by lime softening to produce discrete, denser particles that are more free-draining and filterable. The recycled sludge particles can then be dewatered in a filter press and subsequently bagged for disposal. Disposal of the sludge will either be through resource recovery to recover zinc and possibly other metals or in an appropriate landfill either on-site or off-site. The requirements governing sludge disposal are discussed in Appendix C.

7. Delete the term "Contingency Plans" between the second and third paragraphs on page 47. In its place, substitute the term "Contingency Plan".

8. Add the following language after the fourth paragraph on page 47:

Other measures may also be necessary to address any adverse effects associated with tunnel plugging. Such measures will be incorporated into a contingency plan to address any impacts due to flooding resulting from plugging.

9. Delete the first sentence in the last paragraph on page 47. In its place, substitute the following language:

Water control measures will be maintained as necessary to ensure cost-effective performance of the remedy.

10. Delete the title and text of the second paragraph on page 48. In its place, substitute the following language:

Water Collection and Treatment Facility.

Routine repair or replacement of pumps, motors, mixers, clarifier rakes, piping, filters and tankage will be required. Inspection and repair of any portal flow-through device and drainage system to the equalization pond will also be necessary. The equalization pond liner will be visually inspected and the leakage detection system monitored regularly. Pond dikes, fencing, barge, barge pumps and piping will also require routine inspection and maintenance. Electrical power is required for pumping and treatment operations. Lime, flocculants and reagents will be consumed in the treatment, collection and shipment of sludge produced from the treatment plant.

11. Delete the first sentence in the fourth paragraph on page 48. In its place, substitute:

The estimated capital cost of the selected remedy is \$12,763,742 and the present-worth estimate using a ten percent discount rate is \$23,835,663.

12. Delete the second and third sentences in the fourth paragraph on page 49. In their place, substitute the following language:

It is estimated that installation of the Ibex-Irene and Resurrection plugs could reduce the flow from the Yak Tunnel system to California Gulch by approximately 50 percent. It is anticipated that the remaining flow will be treated to reduce metal loads in water discharged to California Gulch by 90 to 95 percent.

13. Delete the last full sentence on page 49.

14. Delete the words "and grouting" from the second sentence of the second full paragraph on page 50.

15. Delete the third, fourth, and fifth sentences in the second full paragraph on page 50. In their place, substitute the following language:

The water treatment process will create a sludge which may be processed for resource recovery and thus eliminate the need for land disposal. If land disposal is necessary for

some or all of the sludge produced, the amount of material and its toxic properties will be minimized.

16. In Table 6, page 51, under Surface Water Impacts, in the mitigation measure for "Impacts on floodplains from construction of the interim treatment facility and ponds below Yak Tunnel", substitute the term "500-year flood" for the term "100-year flood".

17. In Table 6, page 51, under Other Impacts, delete the mitigation measure for "Loss of land associated with construction of interim treatment facility" on page 51. In its place, substitute the following language:

The loss of land will be minimized to the extent practicable.

18. Delete the words "interim treatment facility" from the last partial sentence on page 51. In its place, substitute the words "selected remedy."

19. Delete the phrase "except for the interim treatment facility" on the top line of page 53.

20. Delete the first through fourth sentences in the first partial paragraph on page 53. In their place, substitute the following language:

The water treatment facility will be sized, designed, and sited to permit, to the extent practicable, its integration into a full-site remedy.

21. Delete the last sentence from the second full paragraph 2 on page 53.

22. Delete the last sentence in the first partial paragraph on page 54.

23. Delete the word "final" from the second sentence in the third paragraph on page 54.

24. Delete the word "interim" from the sixth sentence in the first full paragraph on page 56.

APPENDIX A

1. Table A-2 has been revised to reflect the modifications in the portal plug. Substitute the attached Table A-2.

2. Figures A.7 and A.8 have been modified to reflect the modified remedy. Substitute the attached figures.

3. Delete the sections titled "Selected Remedy, Black Cloud Pumping" and "Selected Remedy, Black Cloud Not Pumping" on pages A-13 and A-14. In their place, substitute the following language:

SELECTED REMEDY, BLACK CLOUD PUMPING

After installation of the Resurrection and Ibex plugs and the portal flow-through plug, the Yak Tunnel portal flow will be reduced to about 285 gpm (Figure A.7). The proposed location of the plugs is shown in Figure A.4. Water levels in the Resurrection and Ibex Groups would increase to approximately 10,750 feet and 10,650 feet mean sea level (msl), respectively. Sulfide rock would still be present above the water table and some acidic mine drainage formation would persist. Deep ground water flow would total approximately 90 gpm and inflow to Black Cloud would be about 315 gpm. Ground water seepage toward the Leadville Drainage Tunnel and local seeps would be about 10 gpm each.

Water levels in the Iron Hill Group would remain at the current level of 10,350 msl. Changes in water level behind the portal plug are not anticipated since the water level will be controlled either by pumping or by using a specially designed flow-through plug maintained at an elevation equal to the invert elevation of the flow-through device at the floor of the Yak Tunnel at the portal plug location. The plug will prevent surges from occurring due to tunnel deterioration, but will allow normal water flow of about 285 gpm to drain to the treatment plant.

Minimizing the inflow of surface water to the Yak Tunnel may be needed for optimal management of the treatment plant operations. If so, the following areas will probably need grouting: 1) stream channelization where California Gulch flows over the near-surface underground mine workings that connect to the Yak Tunnel; 2) along and to the west of the 10,350 foot contour; and 3) in the area overlying the underground mine workings immediately to the north of the Yak Tunnel portal.

SELECTED REMEDY, BLACK CLOUD NOT PUMPING

When the Black Cloud mine is not pumping and the Resurrection, Ibex, and portal plugs are in place, the water levels in the Irene Group would increase to approximately 10,800 feet msl, while those in the Resurrection Group would increase to 10,900 feet msl. However, acidic mine drainage would likely still occur in these areas because some sulfide rocks would still be exposed. The water level in the Iron Hill Group would not be affected.

The total deep ground water seepage from all mine workings would increase to about 115 gpm and increase the portal flow to about 320 gpm. No increased surface seepage to California Gulch is anticipated. An additional seepage of roughly 15 gpm from the Resurrection Group toward the Evans Gulch area could occur. Due to its small quantity, this seepage is not expected to cause any significant ground water quality deterioration in the Evans Gulch area. The monitoring network, which shows both ground water flow and quality conditions, will provide information to track this condition.

APPENDIX B

1. Delete Tables B-2 and B-3. The modified tables are attached.
2. Delete the section "Comparison with Cost Figures in FS" on page B-4. In its place, substitute the following language:

COMPARISON WITH COST FIGURES IN FS AND ROD

The basis of this estimate is generally similar to that developed in the FS. Exceptions primarily include the grouting and monitoring programs outlined above. The cost associated with the surge pond, which has already been constructed, was provided by the Res-ASARCO Joint Venture. The cost includes pump structures, drainage, by-pass channels, fencing, pond pumps, dams, leak detection, filters, pond barge, etc. Because the pond is in place, the scope and bid contingencies were reduced from 35 percent (in the March 29, 1988, ROD) to 20 percent.

Engineering experience on similar projects was used to estimate costs for the plug drain mechanism and for rehabilitation of the first 1500 feet of the Yak Tunnel to the portal plug location. Costs included mucking, sludge disposal, lighting, and ventilation.

The capital costs and annual O&M costs are shown in Table B-2. The present worth analysis at 10 percent, 5 percent and 3 percent discount rates is shown in Table B-3.

APPENDIX C

1. Add to the table of contents the following language:

V. SUMMARY OF ARARS

- A. Waiver of ARARs
- B. ARARs for Subsequent Operable Units

2. Throughout Appendix C, substitute the term "water treatment facility" wherever the term "interim treatment facility" appears.

3. Insert the following language after the indented quotation on page C-9:

The State has also identified the "Table Values" in 5 Code Colo. Regs. 1002-8, which set concentrations for various parameters based on aquatic life studies, as ARARs to the extent that they are more stringent than ambient water quality criteria.

4. Delete the last sentence on page C-9.

5. At the end of the first full paragraph on page C-13, insert the following language:

In addition, in accordance with the Water Resources Council "Floodplain Management Guidelines," to the extent that portions of the remedy could be considered as a critical action, the remedy will be design for the 500 year flood event.

6. Delete the word "no" in the first sentence of the second paragraph on page C-15.

7. Substitute the word "applicable" for the word "ARARs" in the fifth sentence of the second paragraph on page C-15.

8. After the second paragraph on page C-15, insert the following language as a new paragraph:

In addition, the Colorado Mined Land Reclamation Act, contains additional provisions which may be relevant and appropriate to plugging activities. The State has identified subsections (b), (c), (d), (e), (g), and (i) of Colo. Rev. Stat. § 34-32-116(7) (1988 Supp.) and the corresponding sections of Rule 6 of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board revised as of November 1988 as relevant and appropriate.

9. At the end of the third paragraph on page C-15, add the following sentence:

In addition, subsections (b), (c), (d), (e), (g), and (i) of section 34-32-116(7) of the Colorado Mined Land Reclamation Act and the corresponding rules contain additional provisions which may be relevant and appropriate to implementation of this component of the remedy.

10. Insert the following paragraph at the end of the first partial paragraph on page C-16:

The State has also identified the prospecting requirements of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board as an ARAR. The requirements in Rule 5.3.1, 5.3.2, 5.3.7, 5.4.1, 5.4.3, and 5.4.5 contain substantive requirements pertaining to drilling activities.

11. Delete the second sentence in the second full paragraph on page C-16.

12. Substitute the phrase "any pumping or collection systems constructed as part of the remedy" for the phrase "the collection system" in the fourth sentence of the second full paragraph on page C-16.

13. After the second full paragraph on page C-17, insert the following language:

In addition to technology-based standards, under section 301(b)(1)(C) of the Clean Water Act, 33 U.S.C. § 1311(b)(1)(C), water treatment facilities may be required to meet more stringent water quality-based effluent limitations and standards. Water quality-based effluent limitations are imposed when necessary to assure attainment of State water quality standards. As discussed in Section III(C), the State's water quality standards include table values and a narrative standard prohibiting discharges "in amounts, concentrations, or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life." See Section 3.1.11(d). This "no toxic material in toxic amounts" narrative standard is an ARAR for the effluent discharged from the treatment plant.

It is EPA policy to implement water quality-based effluent limitations, including the narrative "no toxic materials in toxic amounts" prohibition contained in all State standards through an integrated strategy consisting of both biological and chemical methods. See EPA, Development of Water Quality-Based Permit Limitations for Toxic Pollutants; National Policy, 49 Fed. Reg. 9,016-9,019 (1984). The strategy outlined in this policy and related EPA guidance will be used to set effluent limitations for the treatment facility based on attainment of the narrative standard and specific chemical goals.

Initially, the treatment facility will be required to attain an effluent limitation based on acute toxicity testing. When additional cleanup of California Gulch or the upper Arkansas River is achieved, the operative effluent limitation will be modified to protect aquatic life from chronic toxicity.

14. Insert the citation "122.22(b)-(d)" between 122.21 and 122.41 in the fourth sentence in the third full paragraph on page C-17.

15. After the fourth sentence in the third full paragraph on page C-17, add the following sentence:

To the extent that collection of aquatic life is necessary for biological monitoring, the State requirements governing the collection of wildlife for scientific purposes must be met. See 2 Colo. Code Regs. 406-8, ch. 13, art. III, section 1316.

16. Delete Section G on pages C-17 to C-19 in its entirety. In its place, substitute the following section:

G. Management of Sludge and Excavated Soils

During the course of construction and operation of the selected remedy, materials will be produced which will require storage or disposal. These materials include sludges from the surge pond and water treatment facility and excavated soils. The management of each type of material is described below.

1. Sludges

The selected remedy will produce two types of sludges: surge pond sludge and treatment facility sludge. The surge pond system serves as a settling pond and will contain sludges and sediments that settle in the pond during its operation. The water treatment facility will produce a high density sludge. The ARARs vary depending on the characteristics of the sludge and the management technique selected. The first step is to determine if the sludge is a hazardous waste in accordance with 40 C.F.R. § 262.11. As the characteristics of the sludges may vary, the sludges must be analyzed in accordance with 40 C.F.R. § 264.13. The ARARs for hazardous wastes and non-hazardous wastes are described below.

a. Hazardous Wastes

If the sludge is a hazardous waste, it must be stored, transported, and disposed of in compliance with Subtitle C of RCRA and any more stringent State requirements. The specific requirements depend on whether the sludge is managed on-site or off-site.

For on-site storage and disposal, a permit is not required, but the substantive requirements of 40 C.F.R. Part 264, Subparts

B, C, D, E, F, and G, and any more stringent State requirements are ARARs. Depending on the method of storage or disposal, the following requirements and any more stringent State requirements would also be ARARs: containers (Subpart I), surface impoundments (Subpart K), or landfills (Subpart N). Disposal would also be governed by the land disposal restrictions established in 42 U.S.C. § 6924(d). In addition, the location-specific requirements discussed above would also be ARARs.

Off-site transportation, storage, and disposal must be conducted in compliance with all applicable laws. If the material is to be disposed of offsite, it must be disposed of in accordance with section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3).

b. Non-hazardous Wastes

If the sludge is not a hazardous waste, it must be stored, transported, and disposed of in compliance with Subtitle D of RCRA and any more stringent State requirements. Again, the specific requirements depend on whether the sludge is managed on-site or off-site.

For on-site storage and disposal, in addition to the location-specific requirements discussed above, provisions of both Federal and State waste management are ARARs for storage or disposal of sludge. The Federal Criteria for Classification of Solid Waste Disposal Facilities and practices, 40 C.F.R. Part 257, establishes minimum criteria for surface water, ground water, air, and safety. 40 C.F.R. sections 257.3-3, .3-4, .3-7, .3-8. In addition, section 30-20-110 of the State Solid Wastes Disposal Sites and Facilities Act and sections 2.1, 2.2, 2.4, 4.1, 4.2, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, and 6.10 of the State Solid Waste Disposal Sites and Facilities Regulations establish further requirements for waste disposal. See 6 Colo. Code Regs. 1007-2.

The following regulations are also ARARs for management of treatment facility sludge: 40 C.F.R. section 264.13(a)(1)-(2) (general waste analysis), 264.14 (security), 264.15

(general inspection requirements), and 264.31 (design and operation of facility). In addition, certain provisions governing landfills would also be ARARs: 40 C.F.R. section 264.301 (design and operating requirements), 264.303(a) (monitoring and inspection), and 264.309 (surveying and recordkeeping).

Off-site transportation, storage, and disposal must be conducted in compliance with all applicable laws. If the material is to be disposed of offsite, it must be disposed of in accordance with section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3).

2. Excavated Soils and Debris

During construction of the remedy, there may be excavations or activities which generate soils and debris requiring disposal. There are two options for disposal of this material. First, the material may be managed in the same manner as the sludges described above. Second, the material can be consolidated onsite with an existing waste pile for remediation in a subsequent operable unit, provided that the soils and debris are stabilized to prevent migration of hazardous substances, pollutants, or contaminants. Specifically, it will be necessary to control run-on, run-off, and fugitive dust. Therefore, 40 C.F.R. sections 264.51(c), (d), and (f) are ARARs for disposal of soil and debris in waste piles. In addition, subsections (b), (c), (d), (e), (g), and (i) of Colo. Rev. Stat. of § 34-32-116(7) are ARARs for disposal of soil and debris. If any migration of substances from the disposal occurs, corrective action must be taken.

17. Insert the following language after the third full paragraph on page C-19:

J. Noise

The State has identified as an ARAR section 25-12-103 of its noise abatement statute. This provision establishes maximum permissible noise levels. See Colo. Rev. Stat. section 25-12-103. While this provision is not applicable because it

relates to civil actions for public nuisance, it is relevant and appropriate to protect the citizens of Leadville from noise pollution during construction activities.

V. SUMMARY OF ARARS

A. Waiver of ARARS

For the chemical-specific ARARs, pursuant to section 121(d)(4)(A) of CERCLA, attainment of the maximum contaminant levels for drinking water, the federal ambient water quality criteria, and the "Table Values" in 5 Code Colo. Regs. 1002-8 is waived. The "basic standards" portion of the Basic Standards and Methodologies, 5 Colo. Code Regs. 1002-8, as quoted on pages C-8 and C-9, and the antidegradation standard are not waived and shall be attained as ARARs for this operable unit.

There are no waivers for attainment of action-specific or location-specific ARARs.

B. ARARs for Subsequent Operable Units

The ARARs for subsequent operable units at the California Gulch site will be addressed in the ROD for those operable units.

I have determined that the selected remedy meets the requirements of CERCLA and the NCP.

March 23, 1989
Date

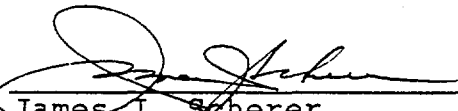

James J. Scherer
Regional Administrator
Region VIII
U.S. Environmental Protection
Agency

Table A-2
SUMMARY OF GROUND WATER FLOW PROJECTIONS UNDER VARIOUS PLUGGING SCENARIOS

| Scenarios | Portal Flow (gpm) | To Leadville Tunnel (gpm) | To Evans Gulch Area (gpm) | To California Gulch Area (gpm) | To Black Cloud (gpm) | To Deep Ground Water (gpm) | Flow Diverted to Other Areas Because of Plug (gpm) | Approximate Water Level Elevations in Mine Areas (steady-state, normal flow, ft msl) | | | |
|--|----------------------|------------------------------|------------------------------|-----------------------------------|-------------------------|-------------------------------|---|--|--------|--------|--------|
| | | | | | | | | Resurrection | Ibex | Irene | Iron |
| <u>Current Conditions</u> | | | | | | | | | | | |
| Normal flow, no plugs Black Cloud Mine pumping | 490 | 10 | -- | 10 | 240 | 70 | 0 | 10,400 | 10,400 | 10,000 | 10,350 |
| Normal flow, no plugs Black Cloud Mine not pumping | 675 | 10 | -- | 10 | -- | 85 | 40 | 10,400 | 10,400 | 10,600 | 10,350 |
| <u>Selected Remedy</u> | | | | | | | | | | | |
| Resurrection and Ibex plugs and portal plug draining Black Cloud Mine pumping | 0 | 10 | -- | 295 | 315 | 90 | 110 | 10,750 | 10,650 | 10,000 | 10,350 |
| Resurrection and Ibex plugs and portal plug draining Black Cloud Mine not pumping | 0 | 10 | 15 | 330 | -- | 115 | 310 | 10,900 | 10,800 | 10,800 | 10,350 |

Note: Yak Tunnel portal invert elevation is 10,333 feet (above msl).

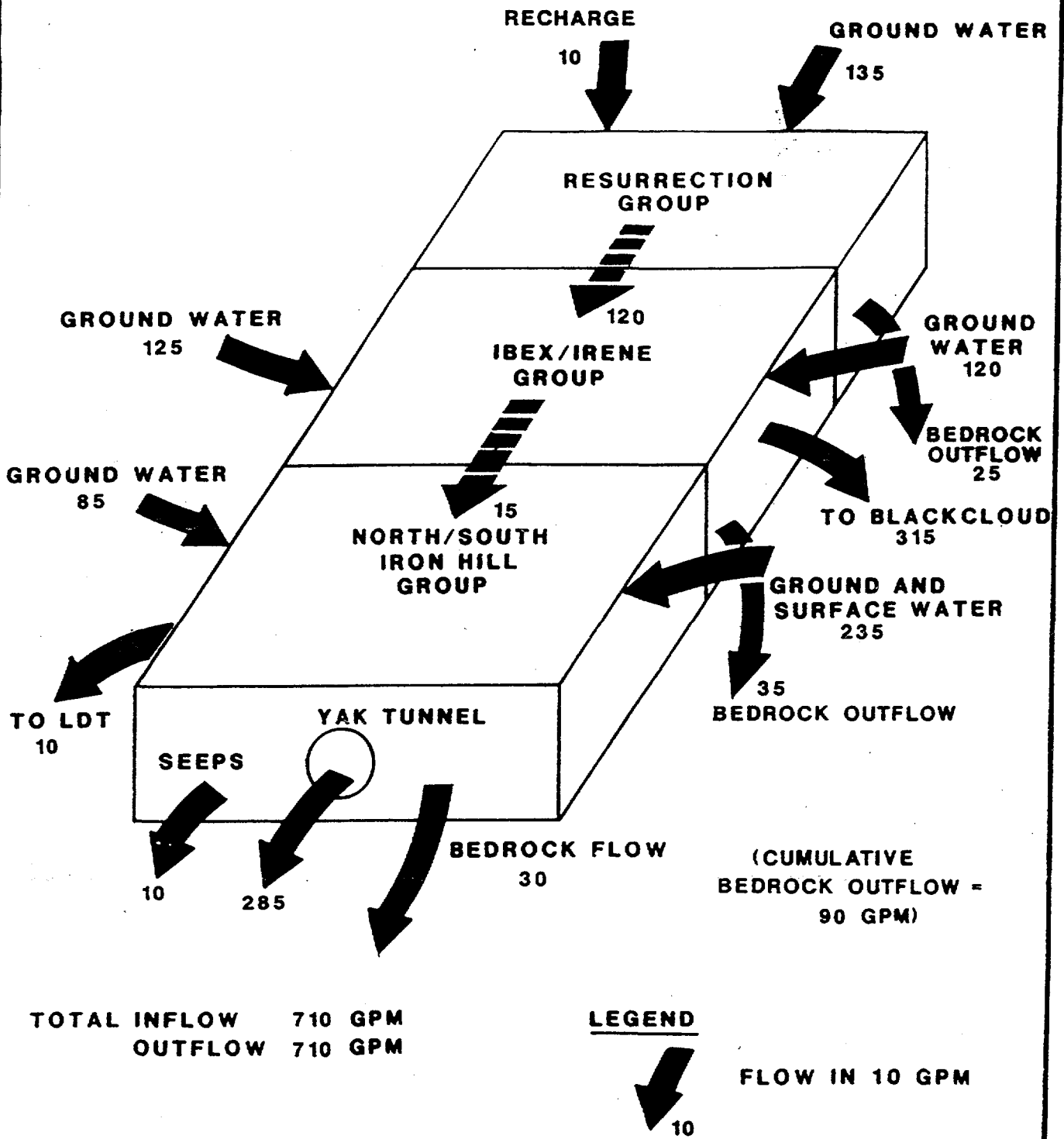


FIGURE A.7
NORMAL FLOW, RESURRECTION AND
IBEX PLUGS WITH PORTAL PLUG DRAINING
BLACK CLOUD PUMPING

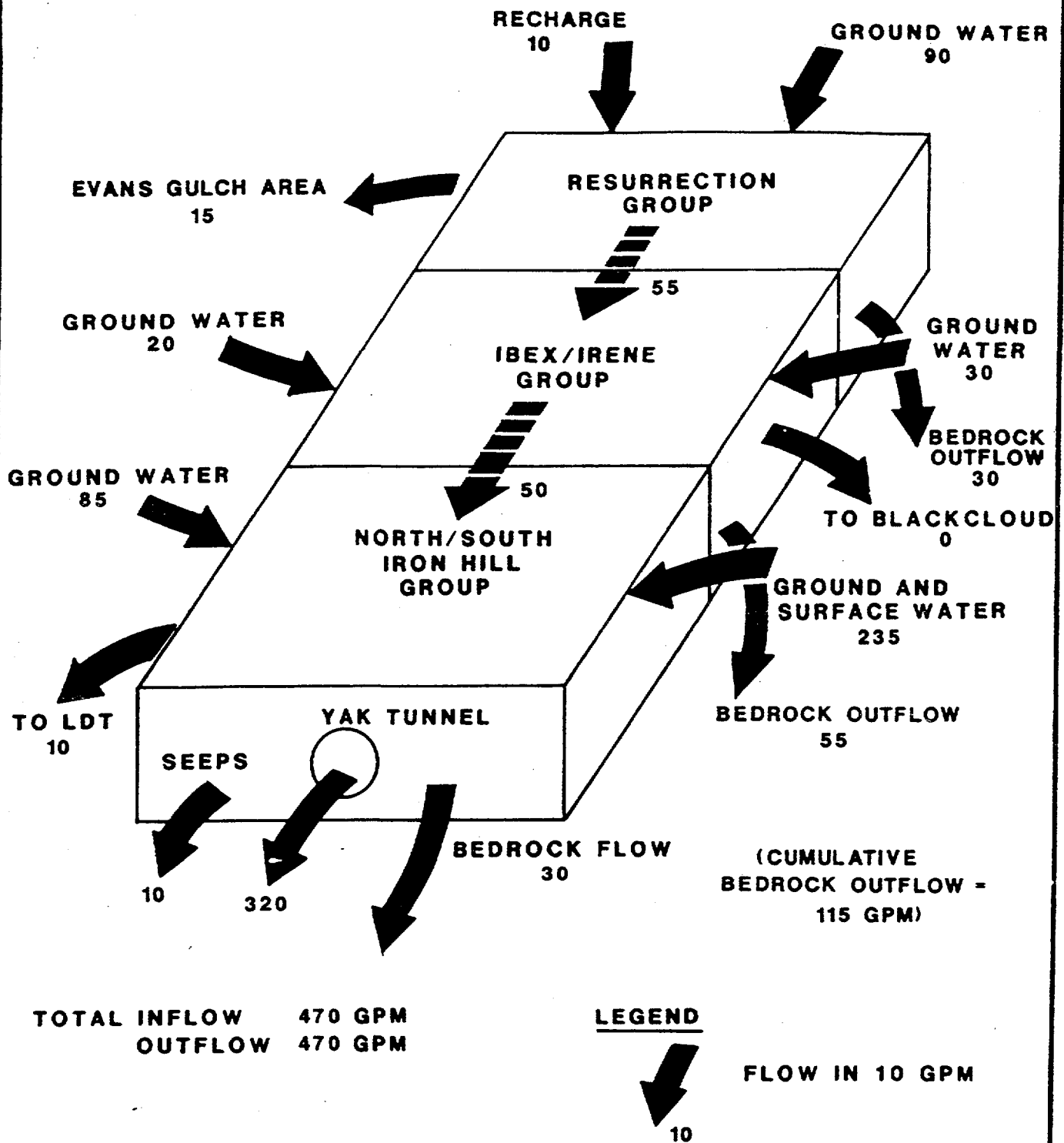


FIGURE A.8

**NORMAL FLOW, RESURRECTION AND
IBEX PLUGS WITH PORTAL PLUG DRAINING
BLACK CLOUD NOT PUMPING**

TABLE B-3

PRESENT WORTH ANALYSIS AT VARIOUS DISCOUNTS RATES

| PARAMETERS | DISCOUNT RATE | 10.00% | | 5.00% | | 3.00% | |
|-----------------------|---------------|----------------------|-----------------------------|----------------------|-----------------------------|----------------------|-----------------------------|
| | | SINKING FUND FACTORS | PRESENT VALUE OF A LUMP SUM | SINKING FUND FACTORS | PRESENT VALUE OF A LUMP SUM | SINKING FUND FACTORS | PRESENT VALUE OF A LUMP SUM |
| ECONOMIC LIVES | | | | | | | |
| CIVIL | 50.00 | YRS | 0.00086 | | 0.00478 | | 0.00887 |
| MECHANICAL/ELECTRICAL | 15.00 | YRS | 0.03147 | | 0.04634 | | 0.05377 |
| MONITORING | 10.00 | YRS | 0.06275 | 0.38554 | 0.07950 | 0.61391 | 0.08723 |
| | | | | | | | 0.74409 |
| PRESENT VALUE COSTS | | | | 23,835,663 | | 35,854,028 | 52,330,813 |
| CAPITAL COSTS | | | | 14,024,952 | | 16,840,642 | 21,219,512 |
| ORIGINAL | | | 12,763,742 | | 12,763,742 | | 12,763,742 |
| REPLACEMENT | | CIVIL | 44,390 | | 493,584 | | 1,526,799 |
| | | ELEC/MECH | 1,216,820 | | 3,583,315 | | 6,928,971 |
| ANNUAL COSTS | | | | 9,710,711 | | 18,813,387 | 30,777,968 |
| O&M | | | 7,561,465 | | 15,122,931 | | 25,204,884 |
| MONITORING | | | 2,149,245 | | 3,690,456 | | 5,573,083 |
| 5.00 YEAR REVIEW @ | | \$50,000 | 100,000 | 100,000 | 200,000 | 200,000 | 333,333 |
| | | | | | | | 333,333 |

B-5

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the original of the attached ADMINISTRATIVE ORDER FOR YAK TUNNEL OPERABLE UNIT REMEDIAL DESIGN/REMEDIAL ACTION was hand-carried to the Regional Hearing Clerk, EPA Region VIII, 999 18th Street, Suite 500, Denver, Colorado, and that a true copy of same was hand-delivered to:

Bradley, Campbell & Carney
Attorneys for ASARCO Incorporated and the
Res-ASARCO Joint Venture
1717 Washington Avenue
Golden, Colorado

and

Sherman & Howard
Attorneys for Newmont Mining Corporation
and Resurrection Mining Company
Suite 3000
633 Seventeenth Street
Denver, Colorado

March 30, 1989
Date

Elizabeth D. Mullen
Name