SECTION B.11

CYPRUS CLIMAX METALS COMPANY ENGINEERED RISK ASSESSMENT PROGRAM

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Introduction

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- Risk in the mining industry
- Mining operations as engineered systems
- CCMC ERA program
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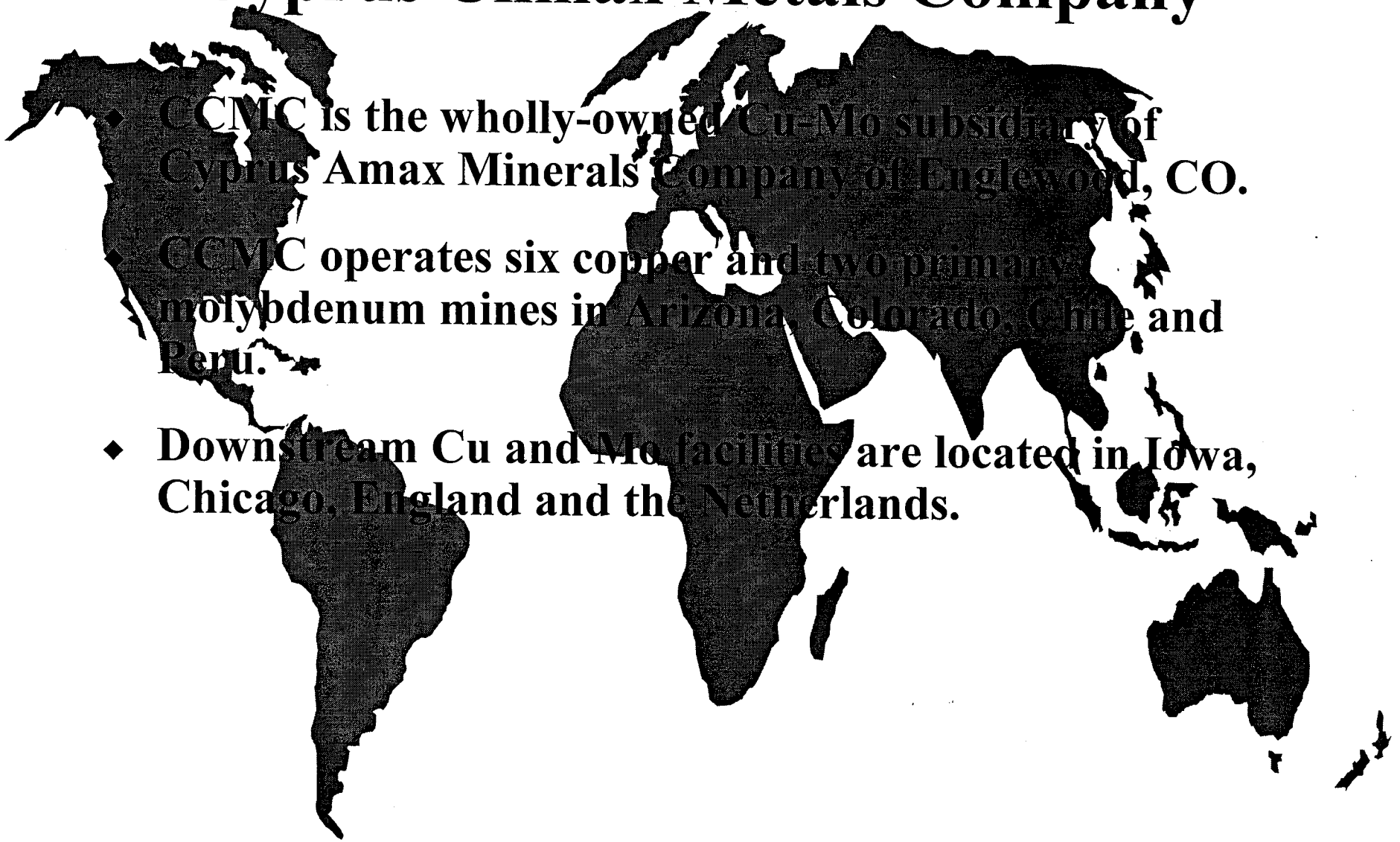
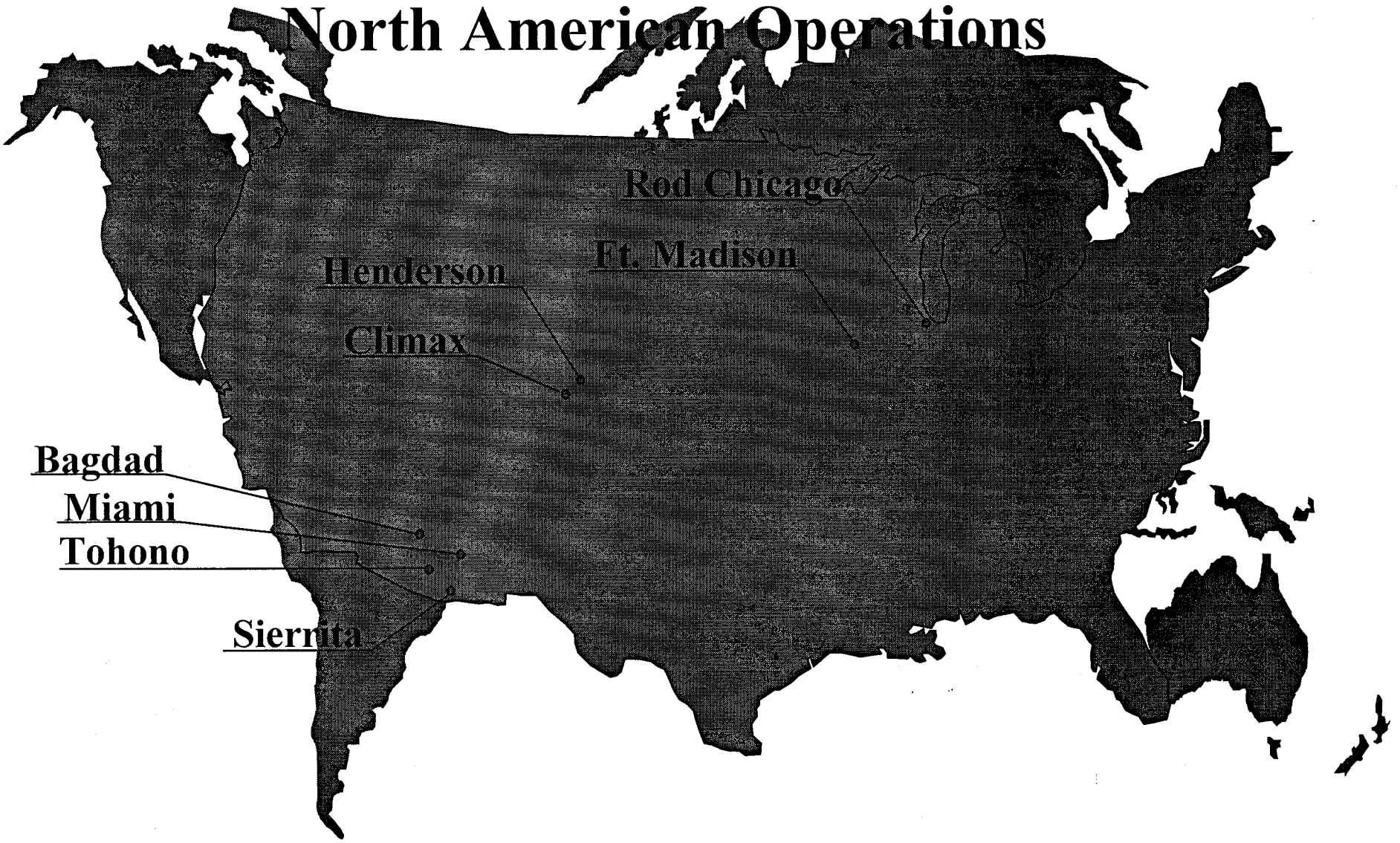
  - Mechanics
  - Output
  - Risk management
- Application of the ERA to acid drainage issues

Cyprus Climax Metals Company



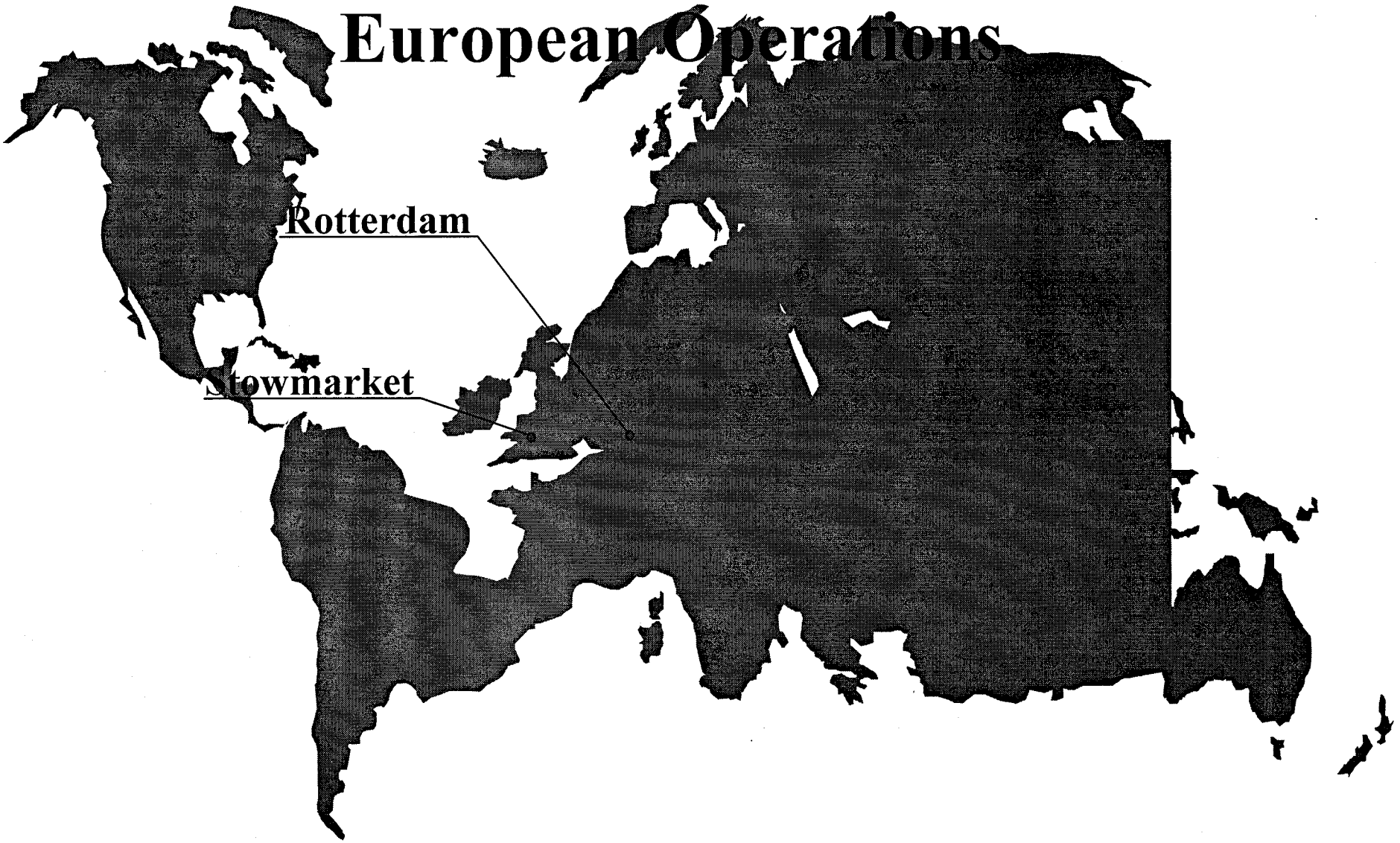
- CCMC is the wholly-owned Cu-Mo subsidiary of Cyprus Amax Minerals Company of Englewood, CO.
- CCMC operates six copper and two primary molybdenum mines in Arizona, Colorado, Chile and Peru.
- Downstream Cu and Mo facilities are located in Iowa, Chicago, England and the Netherlands.

Cyprus Climax Metals Company
North American Operations

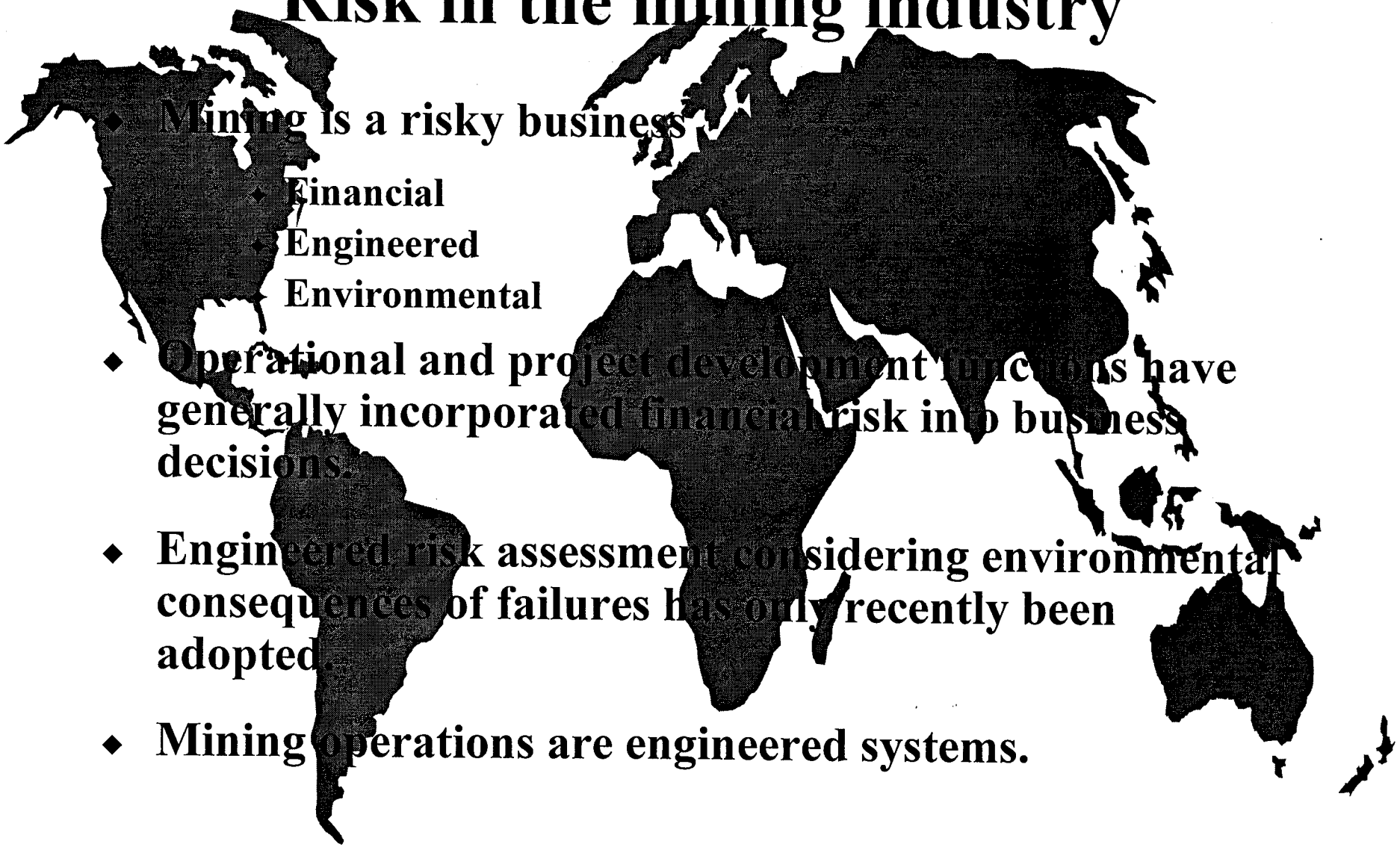


Cyprus Climax Metals Company
South American Operations

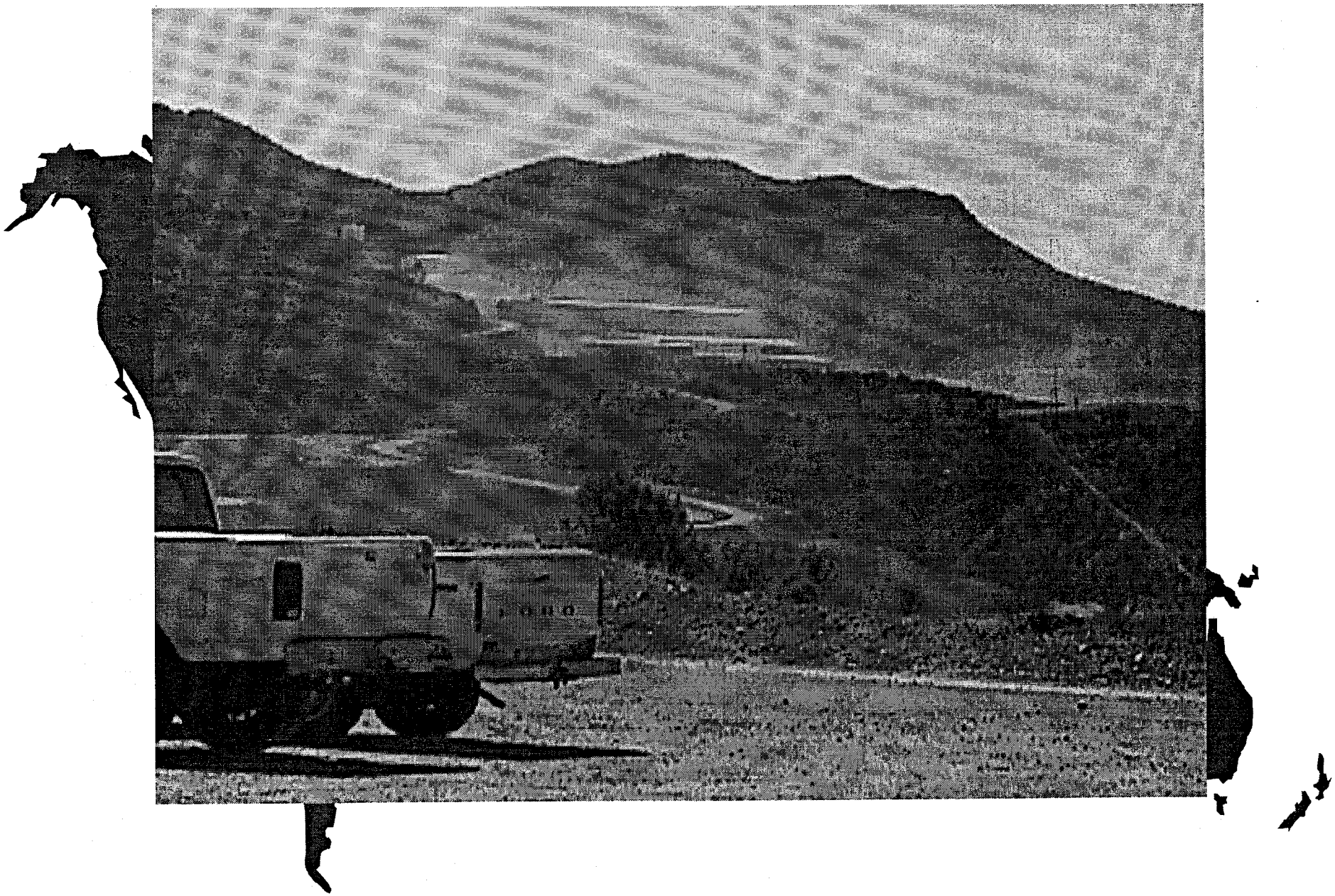
Cyprus Climax Metals Company
European Operations

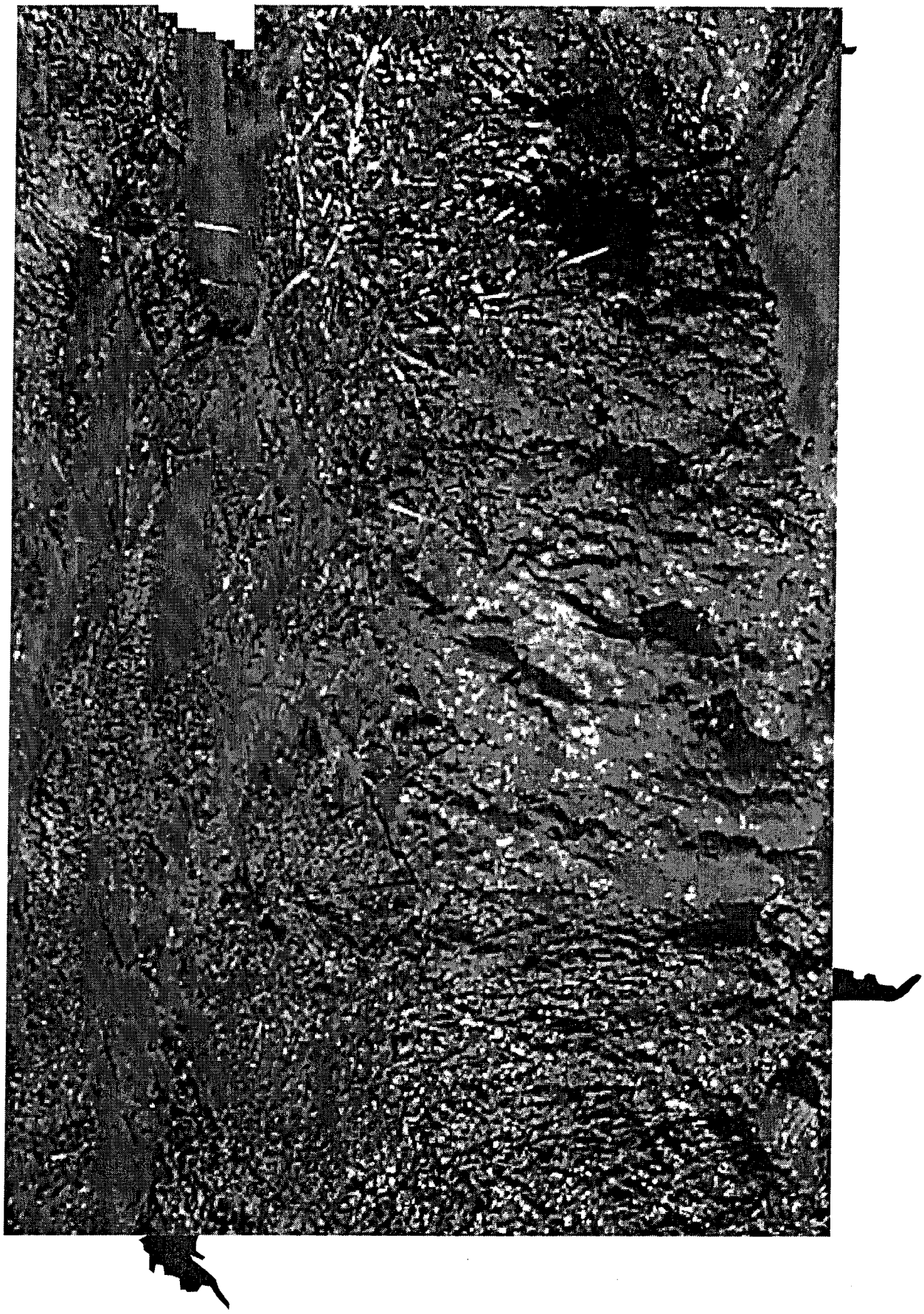


Risk in the mining industry

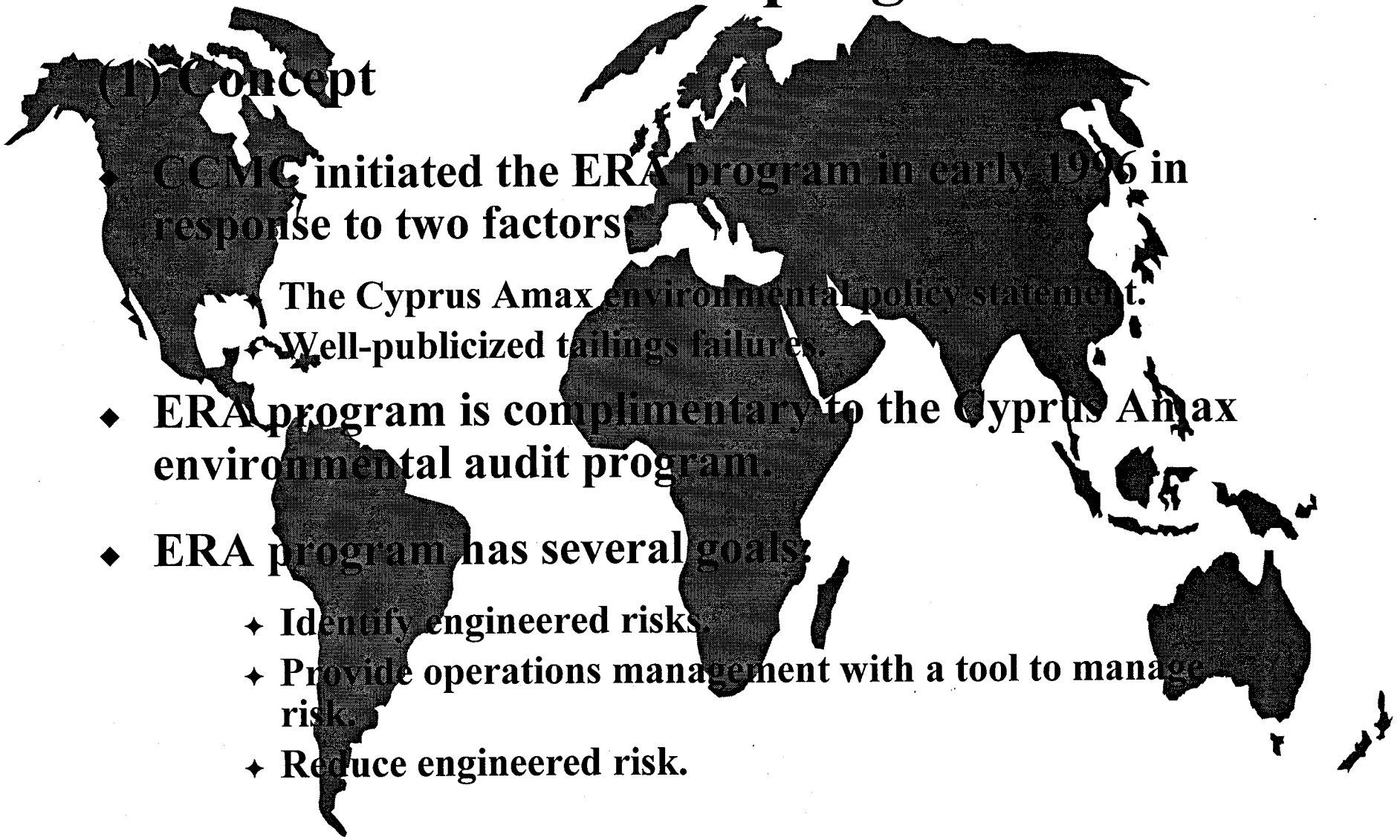


- Mining is a risky business
  - Financial
  - Engineered
  - Environmental
- Operational and project development functions have generally incorporated financial risk into business decisions.
- Engineered risk assessment considering environmental consequences of failures has only recently been adopted.
- Mining operations are engineered systems.





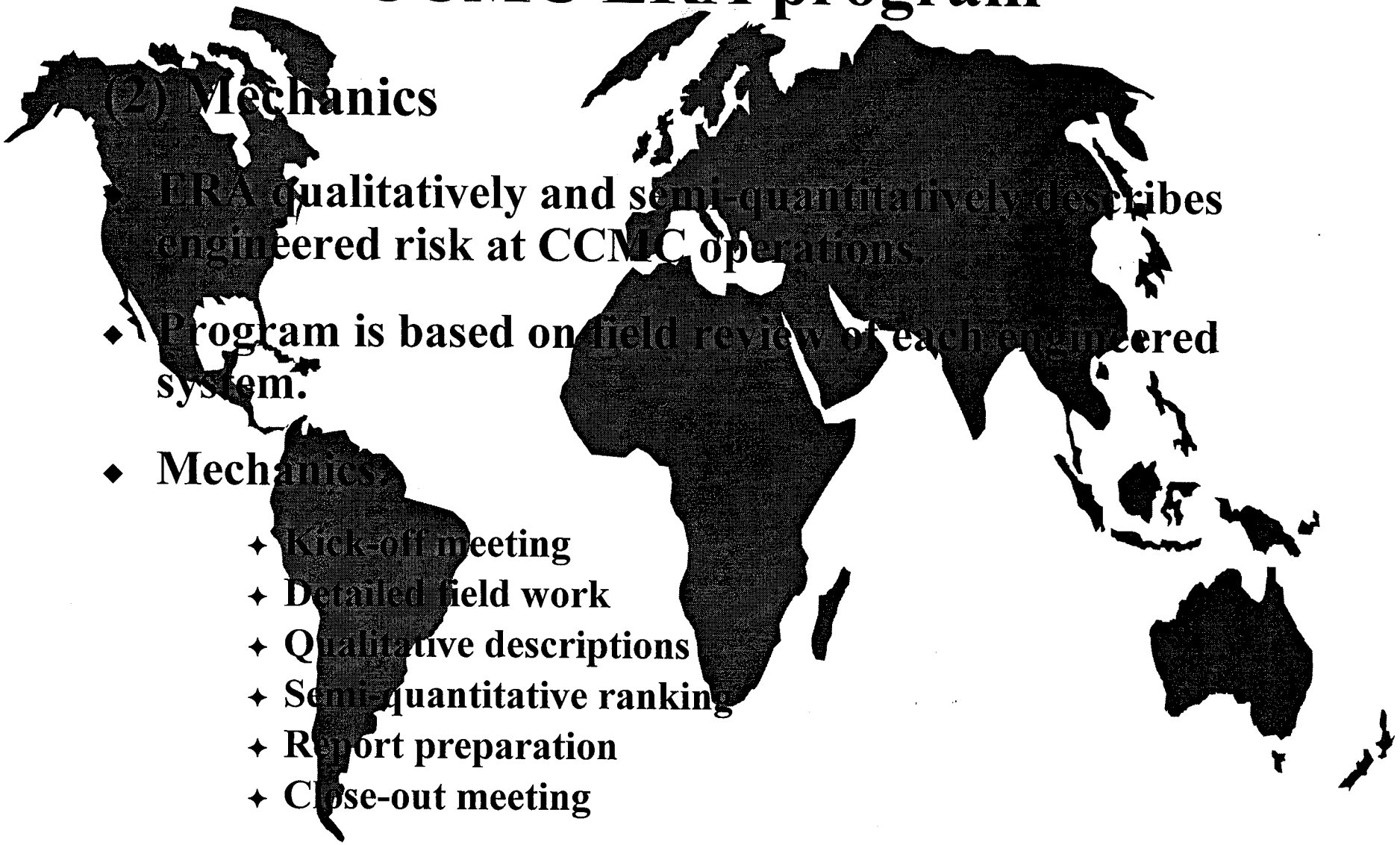
CCMC ERA program



(1) Concept

- CCMC initiated the ERA program in early 1996 in response to two factors:
  - The Cyprus Amax environmental policy statement.
  - Well-publicized tailings failures.
- ERA program is complimentary to the Cyprus Amax environmental audit program.
- ERA program has several goals:
  - Identify engineered risks.
  - Provide operations management with a tool to manage risk.
  - Reduce engineered risk.

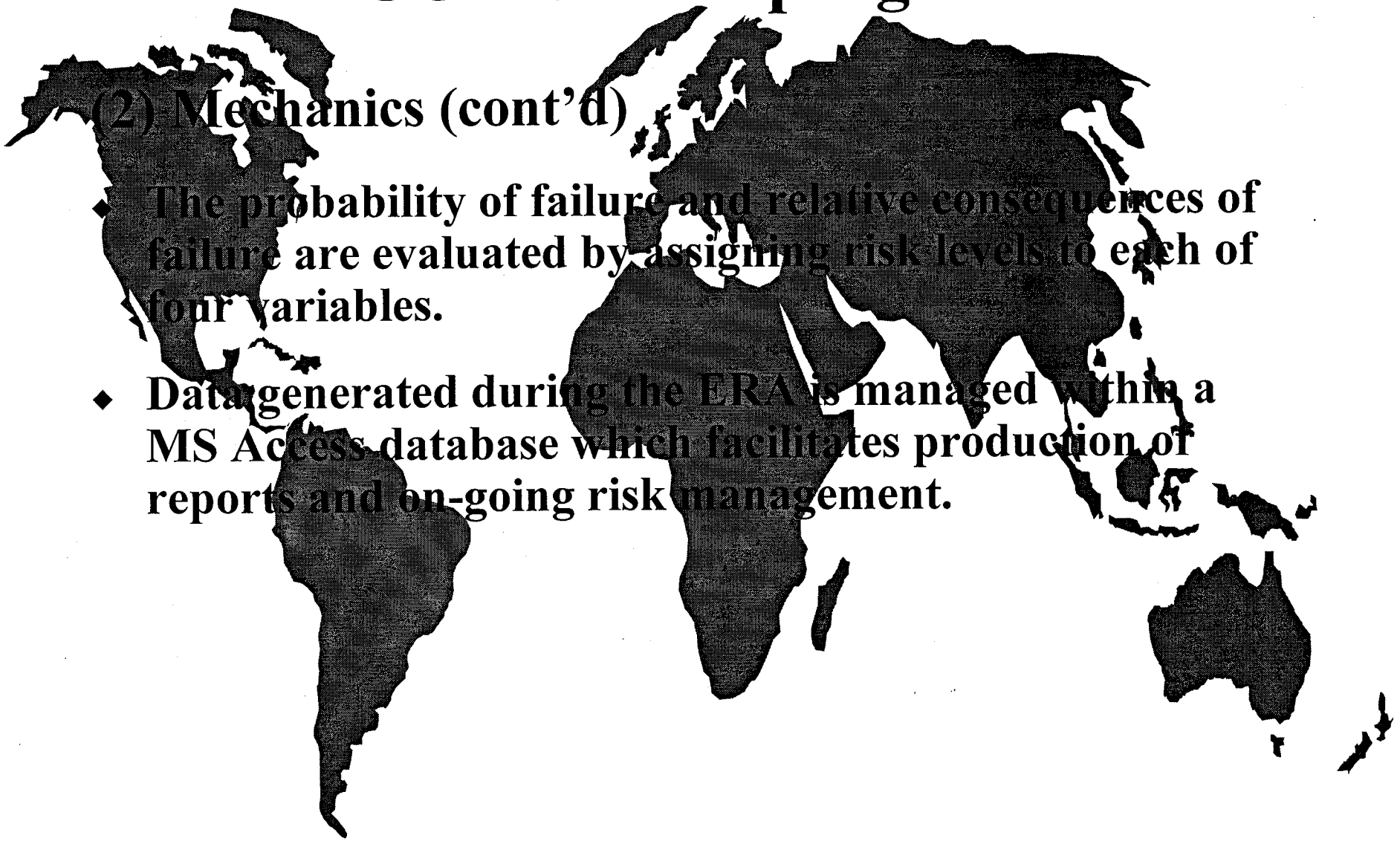
CCMC ERA program



(2) Mechanics

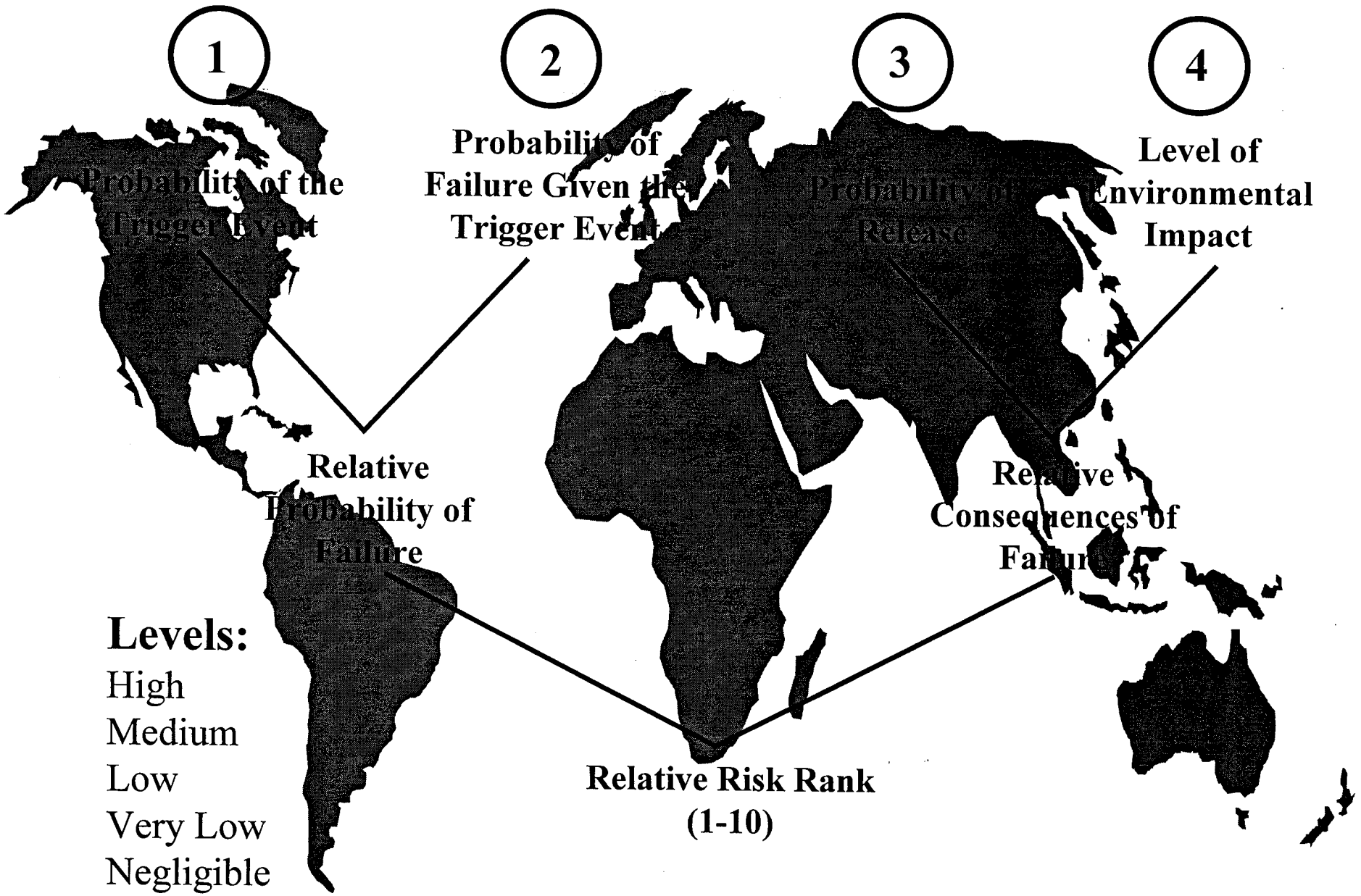
- ERA qualitatively and semi-quantitatively describes engineered risk at CCMC operations.
- Program is based on field review of each engineered system.
- Mechanics:
  - Kick-off meeting
  - Detailed field work
  - Qualitative descriptions
  - Semi-quantitative ranking
  - Report preparation
  - Close-out meeting

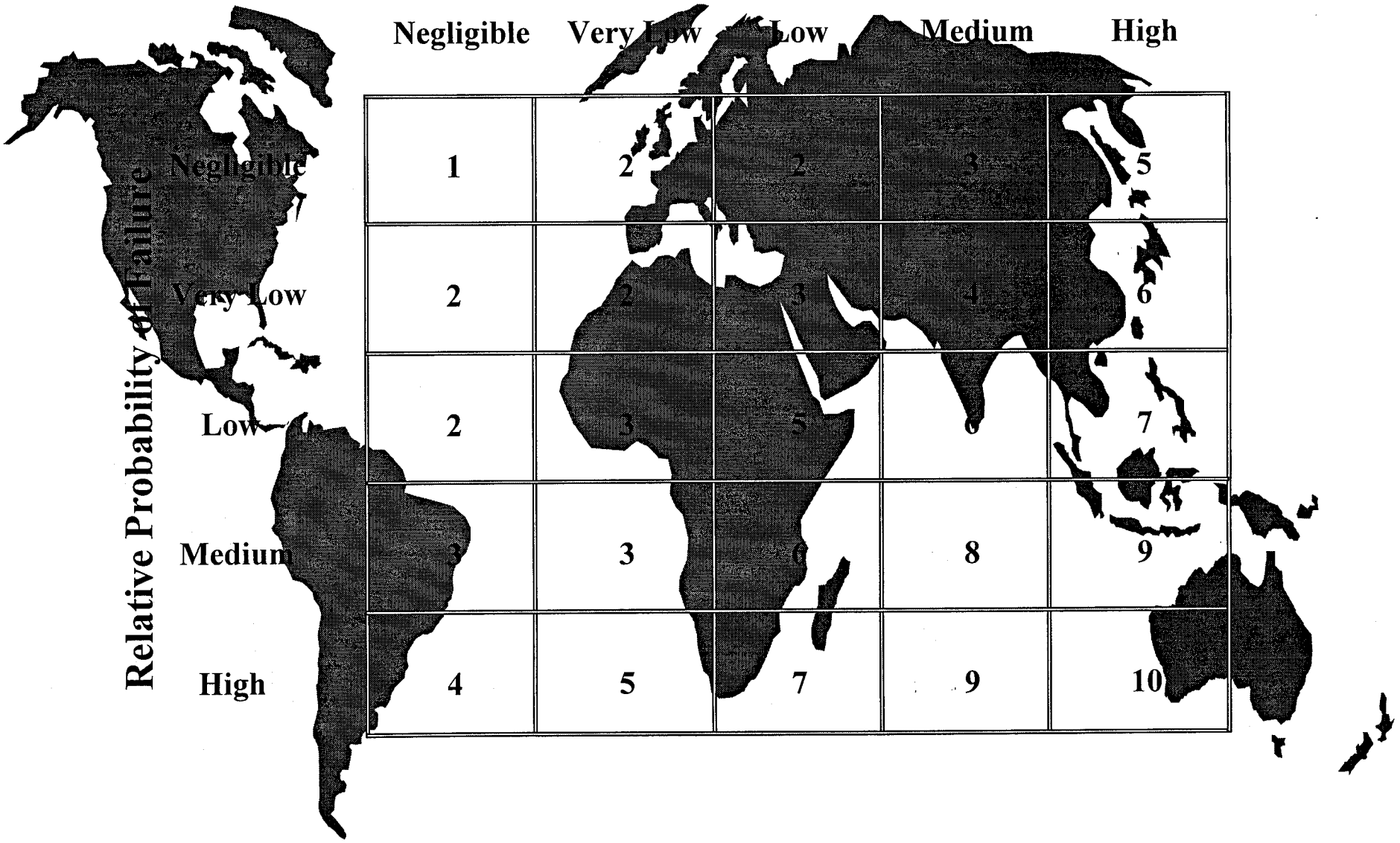
CCMC ERA program



(2) Mechanics (cont'd)

- The probability of failure and relative consequences of failure are evaluated by assigning risk levels to each of four variables.
- Data generated during the ERA is managed within a MS Access database which facilitates production of reports and on-going risk management.


1
2
3
4
Probability of the Trigger Event
Probability of Failure Given the Trigger Event
Probability of Release
Level of Environmental Impact
Relative Probability of Failure
Relative Consequences of Failure
Levels:
High
Medium
Low
Very Low
Negligible
Relative Risk Rank (1-10)


Relative Consequences of Failure
Negligible
Very Low
Low
Medium
High
Relative Probability of Failure
Negligible
Very Low
Low
Medium
High
1
2
2
3
5
2
2
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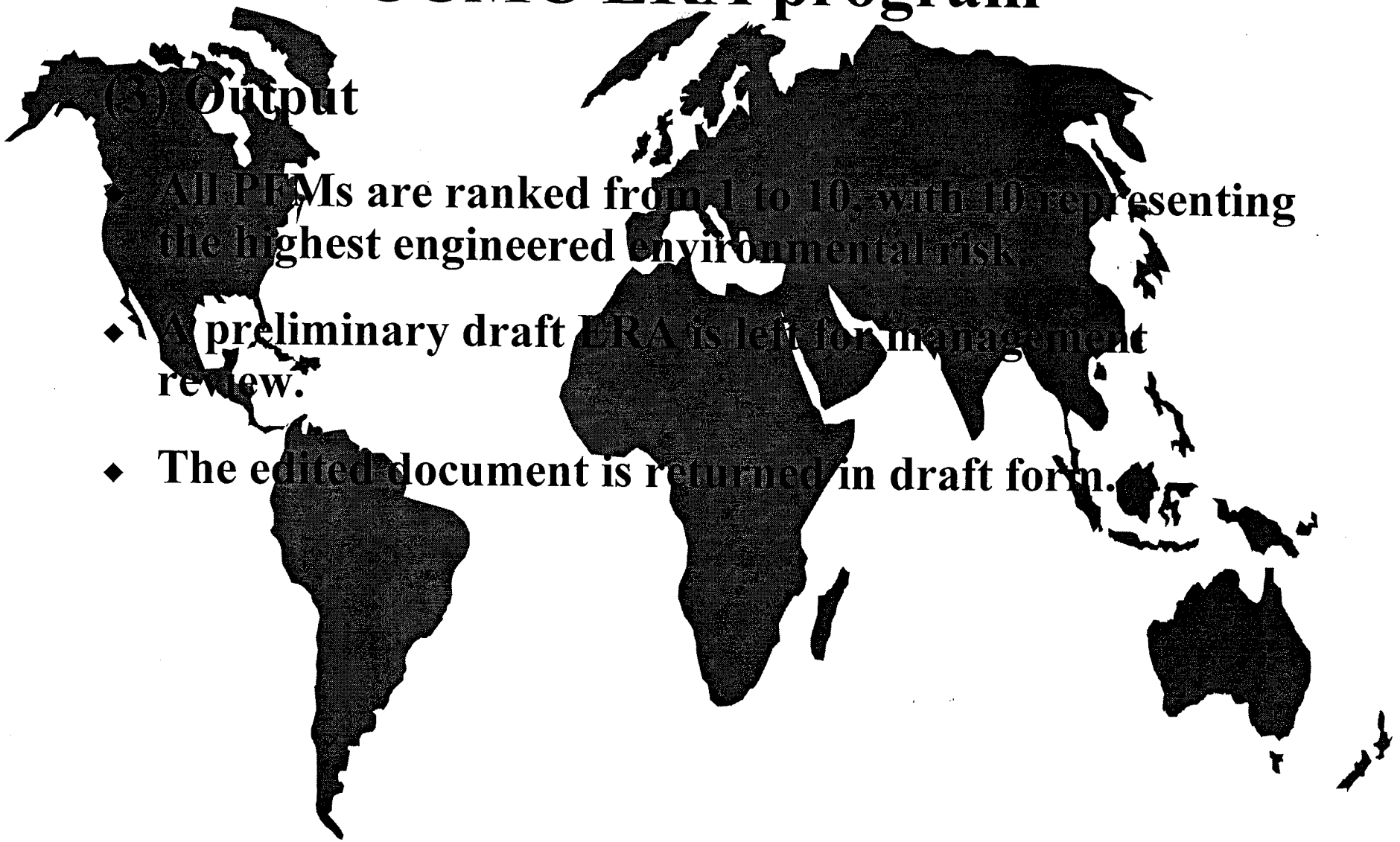
10

CCMC ERA program



(3) Output

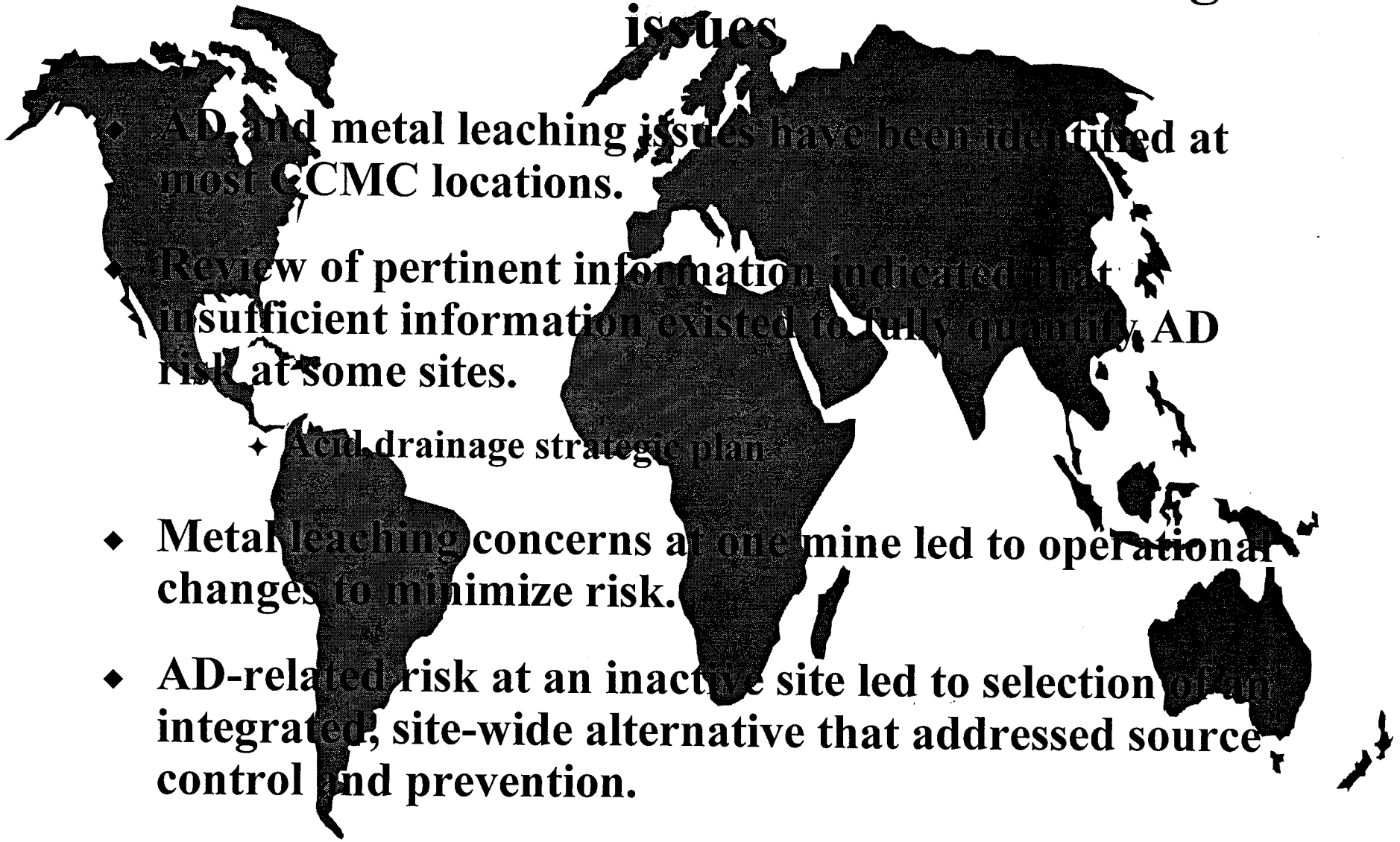
- All PEMs are ranked from 1 to 10, with 10 representing the highest engineered environmental risk.
- A preliminary draft ERA is left for management review.
- The edited document is returned in draft form.

CCMC ERA program

(4) Risk Management

- Risk management updates are provided to CCMC senior management semi-annually.
- ERA re-scores are performed every two years to evaluate risk management.
- Operations personnel are encouraged to apply ERA methodology in evaluation of alternatives.
- ERA-type reviews are applied to major expansions and new projects.

Application of the ERA to acid drainage issues



- AD and metal leaching issues have been identified at most CCMC locations.
- Review of pertinent information indicated that insufficient information existed to fully quantify AD risk at some sites.
  - Acid drainage strategic plan
- Metal leaching concerns at one mine led to operational changes to minimize risk.
- AD-related risk at an inactive site led to selection of an integrated, site-wide alternative that addressed source control and prevention.

Summary

- Since its inception in 1996, the baseline ERA has been completed at all twelve active CCMC operations.
- Four ERA re-scores have been completed, with impressive results.
- The ERA has been successfully implemented at the operator level at several operations.
- The ERA is perceived by operations personnel as a useful tool in project and budget planning.