



Welcome to the CLU-IN Internet Event

Innovative Approaches to Mining Site Remediation and Reuse Workshop: Opening Plenary Session

Sponsored by: U.S. EPA Office of Superfund Remediation and Technology
Innovation (OSRTI) and the International Committee on Contaminated Land
Delivered: October 6, 2011, 8:30 AM - 10:30 AM, EDT (12:30-14:30 GMT)

Presenters:

Barnes Johnson, Deputy Director, U.S. EPA Office of Superfund Remediation and Technology Innovation
(johnson.barnes@epa.gov)

Velma M. Smith, Officer, Government Relations, Pew Environment Group (vsmith@pewtrusts.org)

Kelly Payne, Manager - Environment, Kennecott Utah Copper LLC (paynek@kennecott.com)

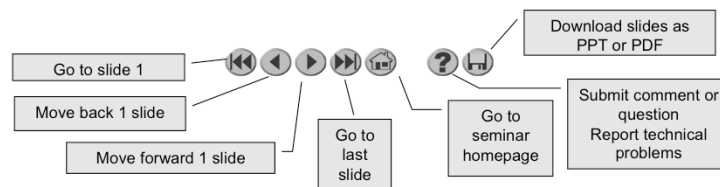
Moderator:

Carlos Pachon, U.S. EPA, Technology Innovation and Field Services Division (pachon.carlos@epa.gov or (703)
603-9904)

Visit the Clean Up Information Network online at www.cluin.org

Housekeeping

- Q&A :
 - Submit questions to the moderator using the ? button.
 - You may submit questions at ANY time.
 - You may also report technical problems using this method.
- Turn off any pop-up blockers
- Move through slides using # links on left or buttons



- This event is being recorded
- Archives accessed for free <http://clu.in.org/live/archive/>

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Although I'm sure that some of you have these rules memorized from previous CLU-IN events, let's run through them quickly for our new participants.

Please mute your phone lines during the seminar to minimize disruption and background noise. If you do not have a mute button, press *6 to mute #6 to unmute your lines at anytime. Also, please do NOT put this call on hold as this may bring delightful, but unwanted background music over the lines and interrupt the seminar.

You should note that throughout the seminar, we will ask for your feedback. You do not need to wait for Q&A breaks to ask questions or provide comments. To submit comments/questions and report technical problems, please use the ? Icon at the top of your screen. You can move forward/backward in the slides by using the single arrow buttons (left moves back 1 slide, right moves advances 1 slide). The double arrowed buttons will take you to 1st and last slides respectively. You may also advance to any slide using the numbered links that appear on the left side of your screen. The button with a house icon will take you back to main seminar page which displays our agenda, speaker information, links to the slides and additional resources. Lastly, the button with a computer disc can be used to download and save today's presentation materials.

With that, please move to slide 3.



CLU-IN.org Live Event

This is the opening plenary session for the Innovative Approaches to Mining Site Remediation and Reuse Workshop.

There is an in-room audience for this event, please be patient. There will be an online moderator to assist with any confusion or disruption that the live event may cause. You may reach the online moderator either through the “?” button (and submit your comment) or at: adam.michael@epa.gov. You may also consult the “Housekeeping” information on the previous slide.

Today’s event is hosted by Bruce Means (U.S. EPA) and after he introduces our first speaker, go to the next slide. The first two speakers do not have slides, but we have inserted title slides for them. Enjoy the plenary!

To submit questions to the moderator, use the  button at the top of the screen.



Opening Remarks

Barnes Johnson

Deputy Director, U.S. EPA Office of Superfund
Remediation and Technology Innovation

Note: Barnes does not have slides to follow
To submit questions to the moderator, use the  button at the top of
the screen.



Global Challenges in Mine Land Remediation: Pew Campaign for Responsible Mining

Velma M. Smith

Officer, Pew Environmental Group, Pew Charitable
Trusts, Washington, DC; and
International Council on Mining and Metals (ICMM)
Sustainable Development Framework

Note: Velma does not have slides to follow
To submit questions to the moderator, use the  button at the top of
the screen.



Global Challenges in Mine Land Remediation: Mine Site Remediation and Reuse

Kelly Payne

Manager – Environment, Kennecott Utah Copper LLC,
Salt Lake City, UT

Note: Kelly's slides follow

To submit questions to the moderator, use the  button at the top of the screen.

□

RioTinto

Mine Site Remediation and Reuse: A Global Miner's Approach

Innovative Approaches to Mining
Site Remediation and Reuse Workshop

October 6, 2011



Who we are

- We are a leading global business delivering value at each stage of mineral and metal production.
- We employ approximately 77,000 people in over 40 countries
- We fulfil vital consumer needs and improve living standards
- Wherever we operate, safety is our key priority
- Sustainable development is at the heart of our business
- Underlying earnings in 2010 were a record US\$14.0 billion
- Record first half 2011 underlying earnings of US\$7.8 billion

Our diverse products



Bauxite, alumina and aluminium



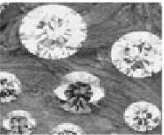
Borates



Coal



Copper



Diamonds



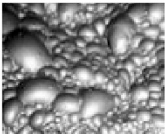
Gold and silver



Gypsum



Iron ore



Molybdenum



Salt



Titanium dioxide



Uranium



Other products, including nickel

Where we operate



The International Council on Mining and Metals



■ ICMM'S MISSION IS TWO-FOLD – TO DISTINGUISH ITS MEMBERS AS INDUSTRY LEADERS AND TO MAKE A CONTRIBUTION TO RAISING STANDARDS ACROSS THE INDUSTRY AS A WHOLE

Vision:

A viable mining, minerals and metals industry that is widely recognised as essential for modern living and a key contributor to sustainable development.

ICMM member companies

BHP Billiton	Australia	Hydro	Norway
Vale	Brazil	African Rainbow Minerals	South Africa
Barrick	Canada	AngloGold Ashanti	
Goldcorp		Gold Fields	
Teck		Xstrata	Switzerland
Codelco	Chile	Anglo American	United Kingdom
MMG	China	Lonmin	
AREVA	France	Rio Tinto	
Mitsubishi Materials	Japan		United States
JX Nippon Mining & Metals		Freeport-McMoRan Copper & Gold	
Sumitomo Metal Mining		Newmont	

Location of member operations



Over 800 sites in 62 countries

What does SD leadership look like?

Leadership means walking the talk: a public statement of SD commitments supported by actions that deliver on the public promise of the CEO



Leadership means addressing both what is done (the substance) and how you do it (the process)

ICMM member commitments

10 principles for sustainable development + 6 position statements

1. Implement ethical business practices and apply good corporate governance
2. Integrate SD in corporate decision-making
3. Uphold fundamental human rights
4. Manage risks based on sound science
- 5/6. Improve environment, health and safety performance continuously
7. Conserve biodiversity & contribute to integrated land use planning
8. Encourage a life cycle approach to materials management
9. Contribute to community development
10. Publicly report, independently assure and engage openly and transparently

Mining and Protected Areas

Mining: Partnerships for Development

Climate Change

Mining and Indigenous Peoples

Mercury Risk Management

Transparency of Mineral Revenues

Rio Tinto's Approach to Mined Land Remediation and Reuse

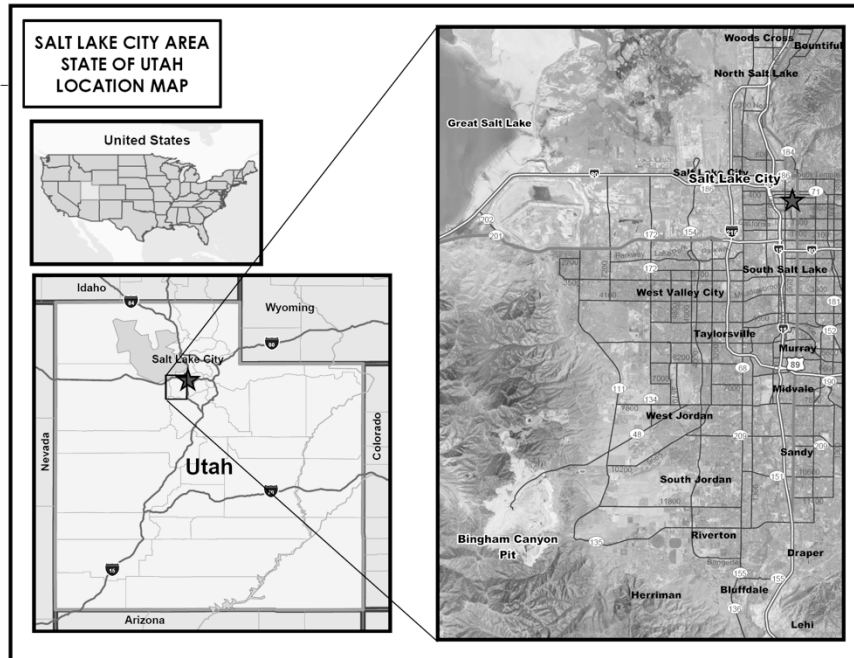


- Robust prevention of new land and water contamination
- Robust and sustainable remedies for contaminated land and water
- Transparency and cooperation with regulatory bodies
- Investments in technology and innovation
- Active community engagement and consultation

The Kennecott Utah Copper Experience



Salt Lake Tribune File Photo



Since the early 1990s

- More than \$500 million spent to clean up historic mining wastes and install source-control measures
- 16.25 million cubic yards of mining wastes isolated, excavated, relocated, disposed of and/or permanently stabilized in place
- 6.25 million cubic yards of clean materials trucked in to support the cleanup work
- More than 3,340 acres of land restored, reclaimed or revegetated, including some 1,000 acres of new wildlife habitat and open space
- Nearly five million square feet of synthetic liner installed on about 100 acres to contain contaminated water and wastes in permitted repositories
- More than 10,000 cubic yards of concrete used to create cutoff walls and reservoir spillways at the Bingham Canyon Mine
- Some 580 groundwater monitoring wells installed throughout the North and South Ends of the property
- More than 5.8 billion gallons of treated groundwater supplied as drinking water to local communities during first 5 years of a 40 year deliver commitment.

Robust and Sustainable Remedies

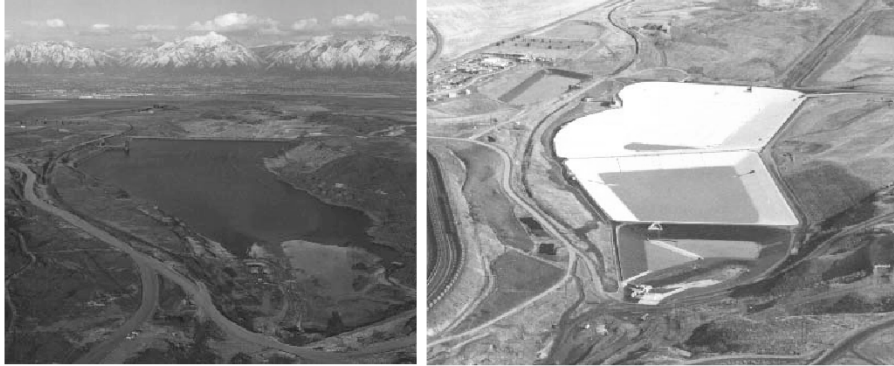


RioTinto

Robust and Sustainable Remedies



Robust and Sustainable Remedies



Robust and Sustainable Remedies



Robust and Sustainable Remedies



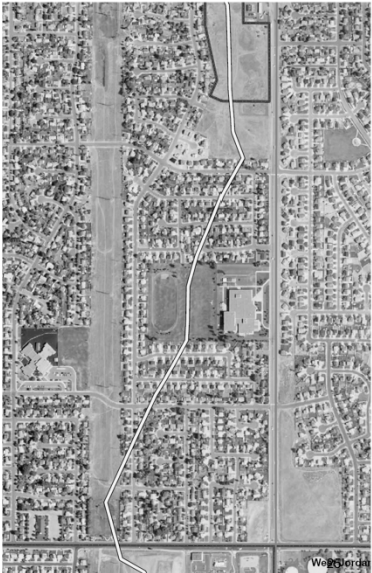
Robust and Sustainable Remedies



DESERET
Morning News

Arsenic found in buried ditch
Kennecott promises to help with cleanup on private land

By Joe Bauman
Deseret Morning News



RioTinto

Innovative Reuse Daybreak Residential Development



Daybreak Development

- Energy Star certified homes
- Over 1,000 acres of open space
- Secondary irrigation of public open spaces
- Over 80% of residential and commercial construction waste recycled
- All storm water retained on-site
- Light Rail Line Service
- Renewable energy sources
- Solar & Geo-exchange



Transparency and Cooperation

MEMORANDUM OF UNDERSTANDING

Kennecott Utah Copper Corporation
Utah Department of Environmental Quality
U.S. Environmental Protection Agency

INTRODUCTION

In the fall of 1993, the U. S. Environmental Protection Agency (EPA) began data for the purpose of preparing documentation to determine if the properties Kennecott Utah Copper Corporation (KUC) and nearby impacted properties are on the National Priorities List (NPL) of sites eligible for federal cleanup funding Comprehensive Environmental Response, Compensation, and Liability Act of 1980 amended in 1986 by the Superfund Amendments and Reauthorization Act. Although could not agree on the terms of a site-wide Consent Decree, EPA proposed to list Kennecott North Site and the Kennecott South Site, for listing on the NPL in January 1994.

Beginning in early 1994, KUC began to cooperate with EPA and the Utah Department of Environmental Quality (UDEQ) in identifying the environmental problems and these Sites, studying these problems, and developing work plans with EPA to resolve them. These data, developed with KUC, have identified and documented the environmental problems at the Kennecott North Site and the Kennecott South Site. A UDEQ, the Force, of a National U.C. is currently mining and Administrative cleanup deal potential problems with EPA.

EPA United States Environmental Protection Agency

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Newsroom

You are here: EPA Home » Newsroom » Verity View » EPA withdraws proposal to list Kennecott South Zone

Verity View

EPA withdraws proposal to list Kennecott South Zone as Superfund site

Release date: 09/03/2008

Contact information: Peggy Linn, 303-312-6622, linn.peggy@epa.gov Rebecca Thomas, 303-312-6552, thomas.rebecca@epa.gov

Kennecott honors commitment to complete cleanup projects

(Denver, Colo. – September 3, 2008) The U. S. Environmental Protection Agency and the Utah Department of Environmental Quality (UDEQ) today announced that the proposal to list the Kennecott South Zone Site on the National Priorities List (NPL) of Superfund sites has been withdrawn. The site was originally proposed for the NPL on January 18, 1994.

Abandoned Mine Lands Case Study

Kennecott Mining Site

Transformation through Collaboration at a Superfund Alternative Site

This case study presents the story of the cleanup and site reuse successes achieved at the Kennecott Utah Copper Corporation (Kennecott) mining operations in Salt Lake County, Utah. It can be used as a resource for mining companies, the federal government, state governments, and other interested stakeholders. The three main lessons that can be learned from this case study are:

- How various regulatory agencies and Kennecott developed strategies for cooperating with one another to clean up mining wastes at the site.
- How cleaning up the site without listing it on the Superfund National Priorities List (NPL) resulted in significant environmental, social, regulatory, and economic benefits, and
- How Kennecott was able not only to financially survive the cleanup costs, but to create an entirely new economic future.

¹ The name "Kennecott" has been used by various entities, some of which are associated with mining, milling, and smelting activities in the Salt Lake Valley and others which are not. In this document "Kennecott" refers to the Kennecott Utah Copper Corporation.

June 2, 2006

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Technology and Innovation



Community Engagement

- Public Meetings and Open Houses
- Technical Review Committees
- Technical Assistance Grants
- Stakeholder Forum
- Newsletters

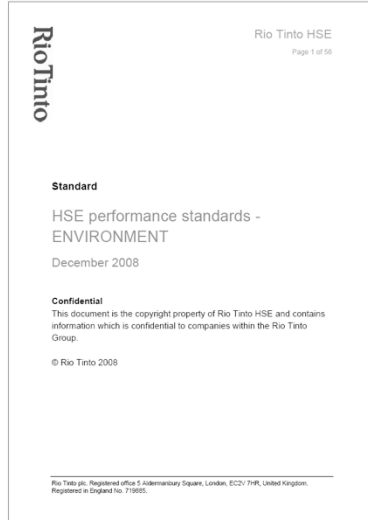


Prevention of New Contaminated Land and Water



Wherever possible we prevent, or else minimise, reduce and remedy the disturbance of the environment.

Environmental Performance Standards



- Air quality control
- Acid rock drainage prediction and control
- Greenhouse gas emissions
- Hazardous materials and contamination control
- Noise and vibration control
- Non-mineral waste management
- Mineral waste management
- Land use stewardship
- Water use and quality control

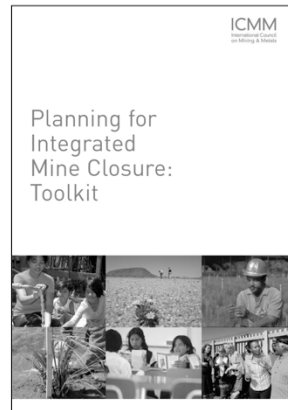
Closure Standard



The intent of this standard is to ensure that Rio Tinto managed activities are left in a condition which minimises adverse impacts on the human and natural environment, and that a legacy remains which makes a positive contribution to sustainable development.

New Closure Toolkit Published August 2008

- Promoting a more disciplined approach to integrated closure planning
- Apply to both large and small companies
- Useful for Greenfield projects, but can also be used for Brownfield projects/operating mines



Communities Policy and Standard



We set out to build enduring relationships with our neighbours that are characterised by mutual respect, active partnership and long term commitment.

Biodiversity Strategy



Our goal is to have a net positive impact on biodiversity by minimising the negative impacts of our activities and by making appropriate contributions to conservation in the regions in which we operate.

www.riotinto.com

www.kennecott.com

www.icmm.com



Global Challenges in Mine Land Remediation: Mine Site Remediation and Reuse

Question and Answer Session

Hosted by:

*Bruce Means, U.S. EPA Office of Superfund Remediation and Technology
Innovation*

Moderator:

Carlos Pachon, U.S. EPA, Technology Innovation and Field Services Division

To submit questions to the moderator, use the  button at the top of
the screen.

Resources & Feedback

- Thank You for attending today's event!
- To view a complete list of resources for this seminar, please visit the **Additional Resources**
- Please complete the **Feedback Form** to help ensure events like this are offered in the future

The screenshot shows a web browser window with the U.S. EPA Technology Innovation Program logo at the top. The page title is "U.S. EPA Technical Support Project Engineering Forum Green Remediation: Opening the Door to Field Use Session C (Green Remediation Tools and Examples) Seminar Feedback Form". The main content area contains a message: "We would like to receive any feedback you might have that would make this service more valuable. Please take the time to fill out this form before leaving the site." Below this message are several input fields: "First Name:" (with "Jan" entered), "Last Name:" (with "Bent" entered), "Daytime Phone Number:" (with "703-603-9924" entered), and "Email Address:" (with "bent.jan@epa.gov" entered). There is also a "Date of Seminar:" field with a dropdown menu showing "December 15, 2009". At the bottom of the form is a checkbox labeled "Please send a copy of my feedback confirmation as a record of my participation to this address." and a "Delivery Media" dropdown menu.

Need confirmation of your participation today?

Fill out the feedback form and check box for confirmation email.