

Summary of Interviews

Future of Mining, Minerals and Sustainable Development Project

September 2001

This document provides a detailed summary of the results of interviews with 17 participants in the MMSD scenario project regarding the past, present and future of mining, minerals and sustainable development in North America. The points are grouped together into themes under each interview question. Differing and often conflicting observations under any question indicates the breadth and divergence of opinion on these topics. A companion document provides an “executive summary” of the major themes emerging from the interviews.

Lessons from the Past

Successes, Failures & Changes Over the Past 10+ Years

Thinking back over the past 10 years or so, from your perspective what has gone really well for the mining and minerals industry in NA? What has gone badly?

Sustainability Matters

- Recognition of social and environmental responsibilities by industry
- Acceptance of SD a legitimate concern – “elevated consciousness of the environment”
- Recognition of need to change
- Recognition of importance of public concerns and perceptions
- Public increasingly cynical of mining in NA
- Need to educate and communicate benefits of mining
- Increased NGO pressure
- Globalization – global awareness and scrutiny – nothing can be hidden – role of global electronic communication – e.g. tailing pond failures make headlines
- Mines still being opened by some operators with minimum requirements to get approvals – some companies still don’t get it
- Waste remains major problem
- Better recognition of all costs
- People (urban) divorced from where things come from – creates gap (e.g. cars depend on minerals, beef comes from cows)

Economic Pressures

- Economic pressures have forced change
- Price pressures have driven mining to reduce costs, improve efficiency
- Industry has supplied commodities to society at lower cost

- Low prices mean fewer resources to respond to environmental and social pressures
- Consolidation
- Environmental pressures seen as cost but has contributed to economic efficiency improvements – e.g. less water and energy consumption, improved practices
- Mining remains major employer in many communities – provides economic benefits
- Technology improvements important factor in improving efficiency
- Significant improvements in technology and improved practices
- Industry has met increased demand for minerals in the economy
- Industry has failed to compete for capital with other industries

Power of Local Communities

- Local communities increasingly powerful in permitting and development process
- Up to 10 years for approvals
- Local / national conflicts – e.g. local support countered by national environmental opposition
- Mining shifting to areas that are supportive of mining – e.g. Nevada and Alaska only states with mining support
- Industry learning to work with local communities – need consistent relationships through boom and bust – commitments not only during boom times
- Community engagement often about optics – companies are really not there to listen and understand – local communities bear all the costs
- Twenty years is not a long time for communities – companies need truly long term view
- Industry “coming to grips with aboriginal community needs”

Waning Political Influence

- Major decline in public acceptability of mining and decline of mining as an important player in society
- Industry seen as nasty necessity or sunset industry
- NGOs more effective and credible in communications
- Mining almost irrelevant at national political level – e.g. closure of Bureau of Mines created little opposition outside the mining companies
- Democratization has destroyed old power elite system

Fragmented Industry

- Behavior, response and practices vary across companies
- Commitment to social and environmental practices and community engagement vary between and within companies – uneven
- “One bad apple spoils the reputation of the entire industry”
- Environmental disasters destroy the image of the industry
- Consolidation “raises the bar / standards”

- “Long term industry with short term mentality”

Culture

- Macho culture projected – may not reflect reality
- Continued arrogance shown by the industry – engineering can handle it and solve all problems
- Walk the talk – gap between actions and rhetoric – some don’t even know how their behavior undermines relationships
- Inward focus – seek internal solutions via technology – do it ourselves = unable to engage with outside problems
- Natural science / engineering education unable to project onto social science problems
- Stagnant management – “lost entrepreneurial way”

People & Skills

- Failure to attract new people into the industry at all levels from professionals to skilled mine workers – erodes core competencies
- Evolution of skills – e.g. mine manager role has evolved from technical focus to need for interpersonal, community relations, broader management skills – more than production numbers
- Turnover of old miners has created new potential for learning

Lessons for the Future

What lessons do we need to learn from the past 10 years and carry forward into the future?

Communication

- Industry needs to actively engage communities through all phases of development, operations and closure – i.e. Lifecycle of mine
- Industry needs to communicate the benefits of mining more effectively
- Leave behind self-image of hard working, technically advanced industry producing essential products – not shared or believed by public

Adaptation

- Industry needs to adapt more effectively to change – be nimble
- Industry needs to change mindset – people and attitudes – the onus is on industry to change
- Industry needs to internalize and make real commitment to SD
- Management needs wider education and experience

New Politics

- Mining industry formal political influence declining – must find new ways to influence its future
- Mining is bordering on being irrelevant in NA (particularly in the US)

Expectations

- Need to bridge the gap between wealth expectations (i.e. Mining seen as sudden wealth able to meet all local needs) and reality of low margin mining in global industry

Mining Practices

- Need industry wide practices and standards – peer pressure can be effective (but may need strong penalties) – need to “raise the bar”
- Need to share best practices
- Need lifecycle view of mining – development, operations and reclamation

Manage Waste

- Waste is major problem and major opportunity – need better risk management

Challenges and Barriers

What current challenges are vital for the future success of the industry? What barriers to change does the mining and minerals industry need to overcome?

Public Legitimacy

- Benefits of mining not understood
- Must deliver improved performance
- Mining seen as causing permanent damage – must learn to work in sensitive areas – recognized as temporary land use
- How to build trust? How to “walk the talk”? – needs open dialogue on risks
- Language is a barrier
- “Mining is included in the general dislike of corporate America”
- How to convince government that mining is part of the “new economy”?
- “Public contempt for mining in the US. – still reputable in Canada”
- Many talented NGOs not at the table
- Many rural people not represented
- Strong local / national cultural differences

People and Technology

- Need replacement of trained personnel – 50% of personnel eligible for retirement in 5 years
- Implementing new technology – automation of mining, robotics etc.
- Does the industry need breakthrough technology?
- How does the industry find cost efficient ways of dealing with waste?

Capital and Costs

- Low returns => unattractive to investors
- Reclamation costs rising at 15% annually
- Severe pressure to reduce costs
- How can the industry generate \$\$ for communities and environmental protection?

- How does the industry balance social / environmental responsibilities with economic viability?
- Does the industry understand the potential for technology to reduce costs?

Regulation

- Industry needs effective regulation – do we know what is effective?
- Can self-regulation work? Does the industry need a central body for audits of performance?
- Can regulation be effective without strong penalties imposed by governments?

Measurement

- Need holistic / integrated approaches to measurement of performance – balanced scorecard approach
- Compensation must support common purpose
- Need to measure true costs of energy, water, waste, etc – need to internalize externalities in decision making

Attitudes / Culture / Mindset

- Macho image is false
- Some people still in denial stage re SD responsibilities
- “Corporate narcissism” – views of selves in conflict with actions – e.g. displays of wealth and claims of low margins – don’t see selves as others see them which limits ability to learn
- Openness to discuss risks
- Willingness to build true partnerships, build trust and not exploit differences in power
- Lack of dialogue, direction, commitment from isolated middle management

Community Dialogue (including NGOs and governments)

- Demonstrate mining can be SD – lifecycle concept – long view – no examples currently exist
- Mechanisms to deal with conflict and controversy – operate collaboratively
- Build alliances with government, aboriginal / native groups, NGOs, local community supporters
- “Most NGOs are not interested in improving mining” – need new ways to connect and new ground rules for dialogue and working together

Good Future

If you looked back 10 years hence and told the triumph of the mining and minerals industry in NA, what would be the story? What went right?

Joint Benefits

- Public understands benefits and risks of mining – social value of minerals in everyday life
- Fair distribution of benefits and risks – investors, employees, communities
- Commitment to ongoing community process
- Performance matches expectations
- Joint planning of projects
- Genuine alliances and partnerships with communities, other industries and learning institutions
- Local cooperation among different mining companies

Community Engagement

- Explicit process throughout lifecycle of projects – exploration to restoration
- Need local support – necessary condition for any development – mining as a legitimate option for development
- Need national support – major limitation on any development
- Communication building trust throughout the lifecycle – not just front end
- Open communication and understanding of risks – no secrets

Industry

- SD commitment by senior management – onus on industry to change its attitude
- Performance AND communication by industry
- Performance = repeated delivery on commitments
- New business models – integrated / holistic view of mining and development
- Business models have evolved embedding lifecycle concept – e.g. material use and recycling opportunities
- Clean up abandoned mine sites – act not talk
- Need examples of success – cycle of wellness – “fewer funerals”
- Reduced waste – dramatic decline in pollution
- More selective in ore bodies developed – need to know more about ore bodies before development
- Reclamation plans before development

Government

- Effective regulation – which is more effective, enforced standards or self-regulation?
- Raise standards and share best practices – e.g. zero discharge mining
- Industry leadership to gain government support
- Settle land claims

Technological Breakthroughs

- Open pits disappear
- Dramatically improved waste management
- R&D partnerships
- Transportation innovation

Economics

- Improved commodity prices => greater resources for local communities & SD
- Consolidation – attracts quality people, raises the bar, provides technological and financial resources, removes “bad apples”, rationalize marginal production
- Community capacity building
- Industry integration – mining through marketing and recycling
- Speculative investors to fund junior exploration

High Quality People

- Recruit, train and develop “good people”
- Training and education is essential
- New people with new attitudes – no baggage
- Talented people anticipate problems, devise solutions and create value – instead of always reacting to problems

New Perspectives

- Fundamental change in understanding mining’s relationship with the environment – respect for the earth and physical environment – ecological view
- Understanding of long term consequences and risks of mining
- Less driven by short term financial markets
- “Some companies will awaken to the new realities”

Survival

- “Mining is unlikely to survive in the US – there is hope in Canada”
- “Difficult to see a good future for mining and minerals”

Dark Spot

There is a dark spot on the horizon. It is not here now but could impact the industry in the future. What is it?

- Mines are bigger today and the closure issue becomes much more difficult
- Access to land – Aboriginal rights and protected spaces
- Volatile political landscape.
- High expectations by 3rd world govts of mine contributions are not met – industry’s ability to meet these high expectations is not high
- The exporting of poor N. American mining operation practices to developing countries is not ethically right
- Our engineering practices do not have a long term time frame – e.g. 50 years
- The mining business does not change – no new perspectives – we may have young people coming up in mining companies but ‘they are talking old’
- Toxicity of metals = restrictions and banning of some minerals
- Arrogance of large companies

- Uneven bargaining power forces deals that can't work – short term financial gains = long term destruction of relationships
- “Recreational colonization” – pressure to preserve wilderness experiences for distant urbanites
- Consolidation – good (rationalization, best practices, financial strength) or bad – divorced from local community – individuals lost in machinery
- Financial pressures – leaner and meaner industry
- Declining mineral demand – e.g. substitutes such as glass fiber replacing copper in telecommunications
- Mining sees self as powerless victim – doesn't take responsibility for its actions and doesn't act
- Energy pricing
- Re-nationalization of industry in developing countries – return of protectionism & nationalism generally – anti-capitalism and anti-foreign investment
- Water and waste
- Recreational protection of areas limits access for mining
- Mining becomes irrelevant in NA
- Environmental mishaps – “mining is one tailings dam break from extinction”
- Unsavory reputation financially – e.g. another BreX
- Economic slowdown = drive to reduce costs = rejection of SD and community engagement = long term catastrophe
- Ecologically pushing the edge – tipping point leads to ecological and social disaster
- National / local conflicts and tensions persist indefinitely
- Regulations established and implemented straight from academics and idealists without testing and flexibility – no balance

Oracle

The future is unknowable, but suppose you could spend time with an oracle who could predict the future, what two questions would you ask?

1. Will the environmental movement begin to accept a reformed mining industry?
2. Will new technology create breakthroughs or involve innovations on existing methods?
3. Could treatment at mine sites (e.g. new leaching technologies) radically change transportation costs?
4. How do you know when a company is sincere? (openness and willingness to deal with problems)
5. What is the future of the permitting process? Will it focus on restricting development or ensure best practices and clear rules?
6. Can we rebuild the trust? How do we rebuild trust?
7. Will prices provide the income to do the right thing? Will mechanisms be in place to ensure money is spent wisely?
8. Will the industry survive?

9. Will the way we value ore bodies change? Will we include the true costs of water, waste, environment, etc in our calculations?
10. How do we determine whether mining is the best use of land in the long term?
11. Are we kidding ourselves about technology breakthroughs?
12. Will mining remain a fractious (and fractured) industry?
13. Will mining “play out its string” or renew itself through new mines?
14. Does the industry open up to collaborative decision-making?
15. Does the industry exploit opportunities in recycling and live with lower demand for virgin materials?
16. Will recreational colonization replace economic colonization?
17. How will governance evolve in the world – economically / socially / environmentally – central command and control or more market / local community driven?
18. What new business models will evolve to take advantage of opportunities and create wealth for society?
19. How will we resolve the cultural impacts of our business in remote areas and how will we be judged on our interactions
20. Will the economics ever improve?
21. Will we solve the geo-chemical challenges of acid drainage?
22. What is the ultimate impact of mining on water quality?
23. Will we reach social consensus on best practices and end land uses?
24. Will market conditions allow us to respond to the challenges of SD?