

# Mine Site Reconciliation

Mine Site Reconciliation 2013

04 - 06 December, 2013 - QT Hotel Gold Coast, QLD, Australia



**Mining**  
a division of IQPC



## Presentation

# Minesite Reconciliation

Thursday 05 December 2013 2.20pm

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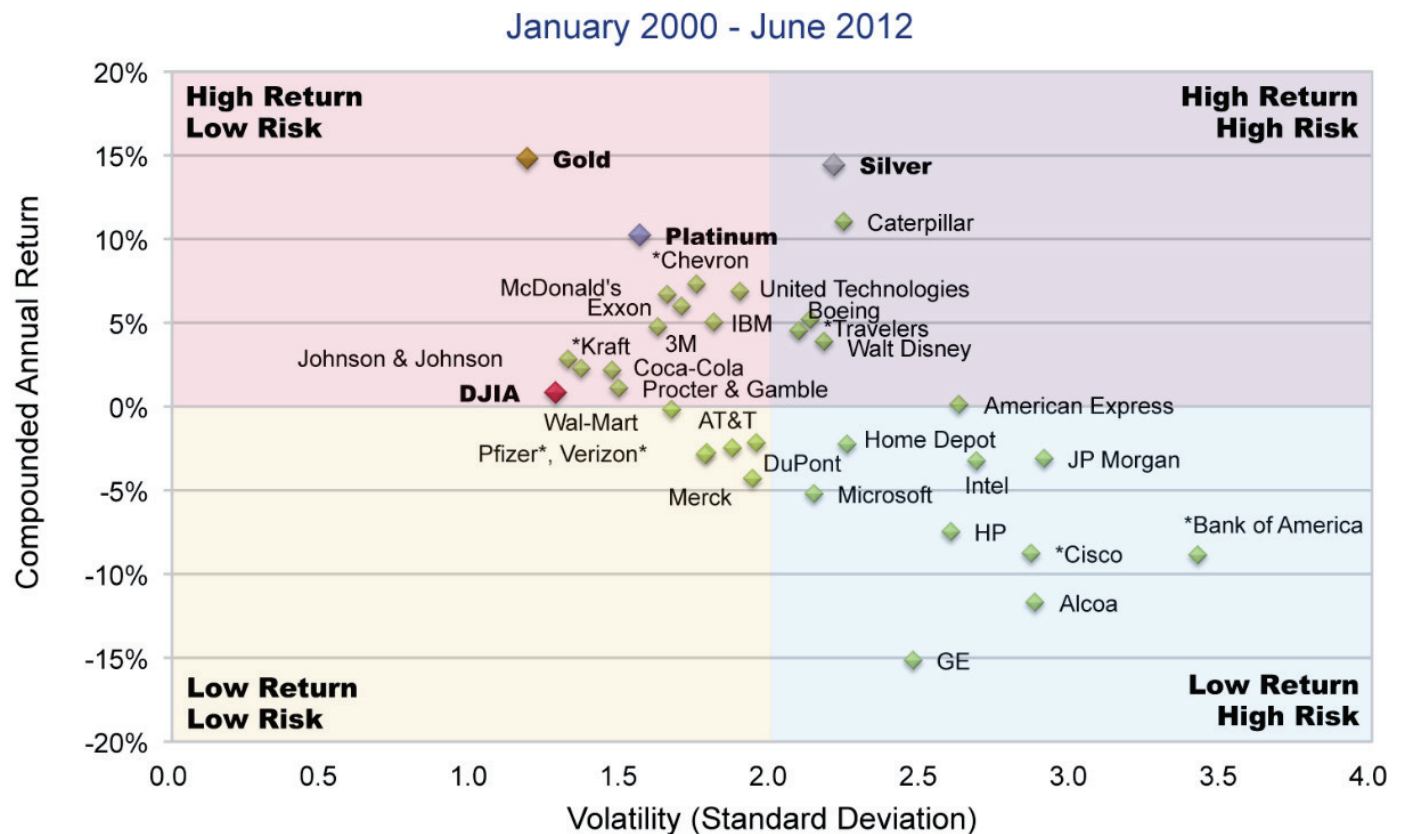
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## Summary

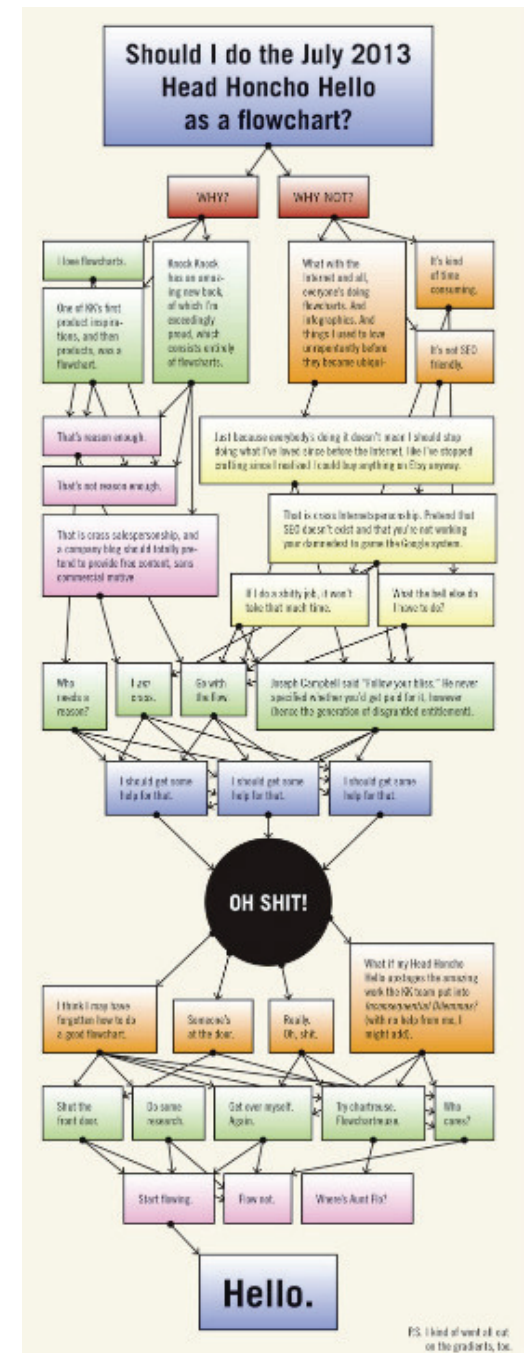
- What is Reconciliation?
- What is Minesite Reconciliation?
- Purpose
- Process
- Stakeholders
- Analysis



\* Not components of the Dow in 2000; replaced Honeywell, Citigroup, Kodak, GM, International Paper Company, Philip Morris

## Summary (cont)

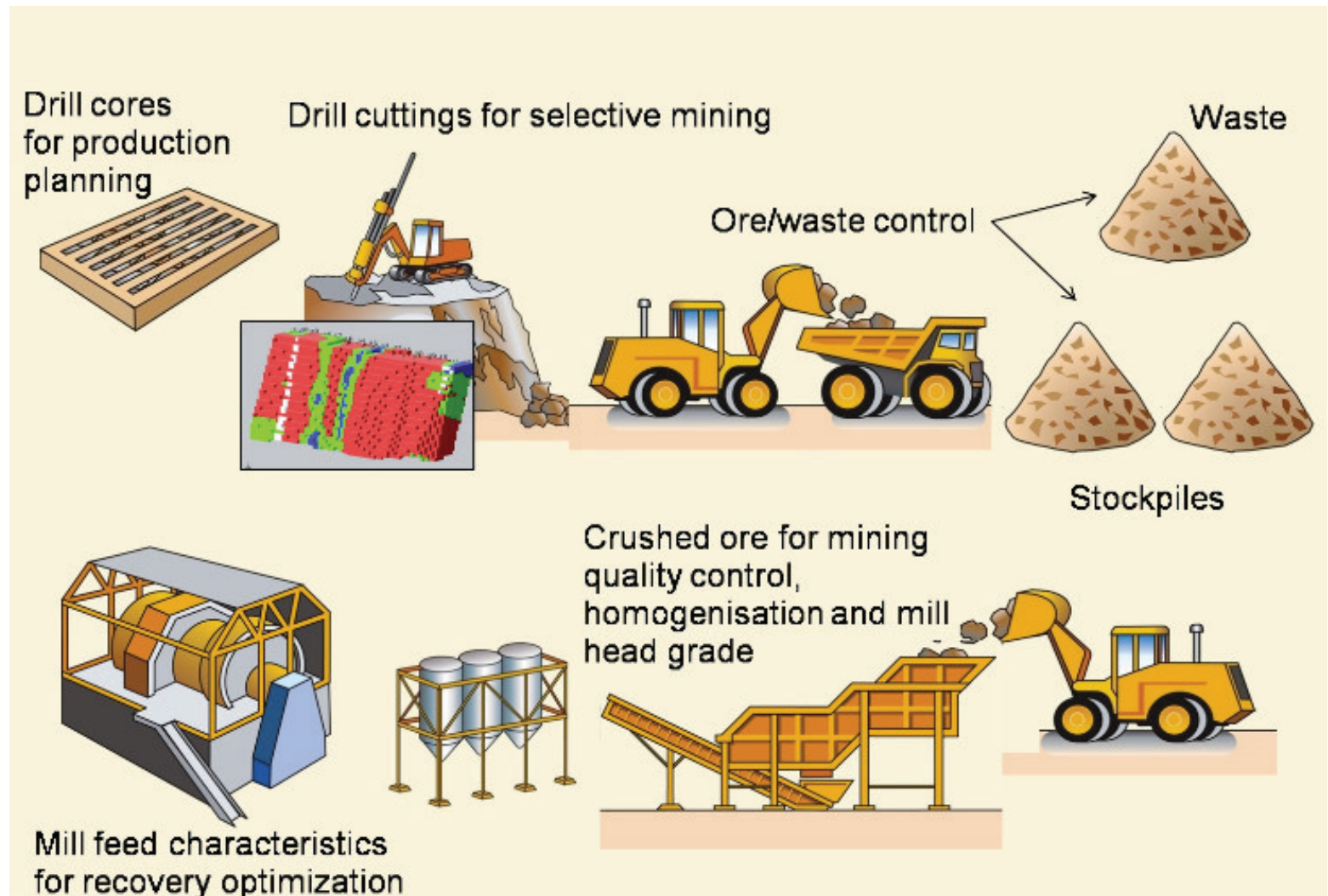
- Limitations
- What else?
- Compliance
- Information Management
- Case Studies





# Introduction

## ➤ Why?



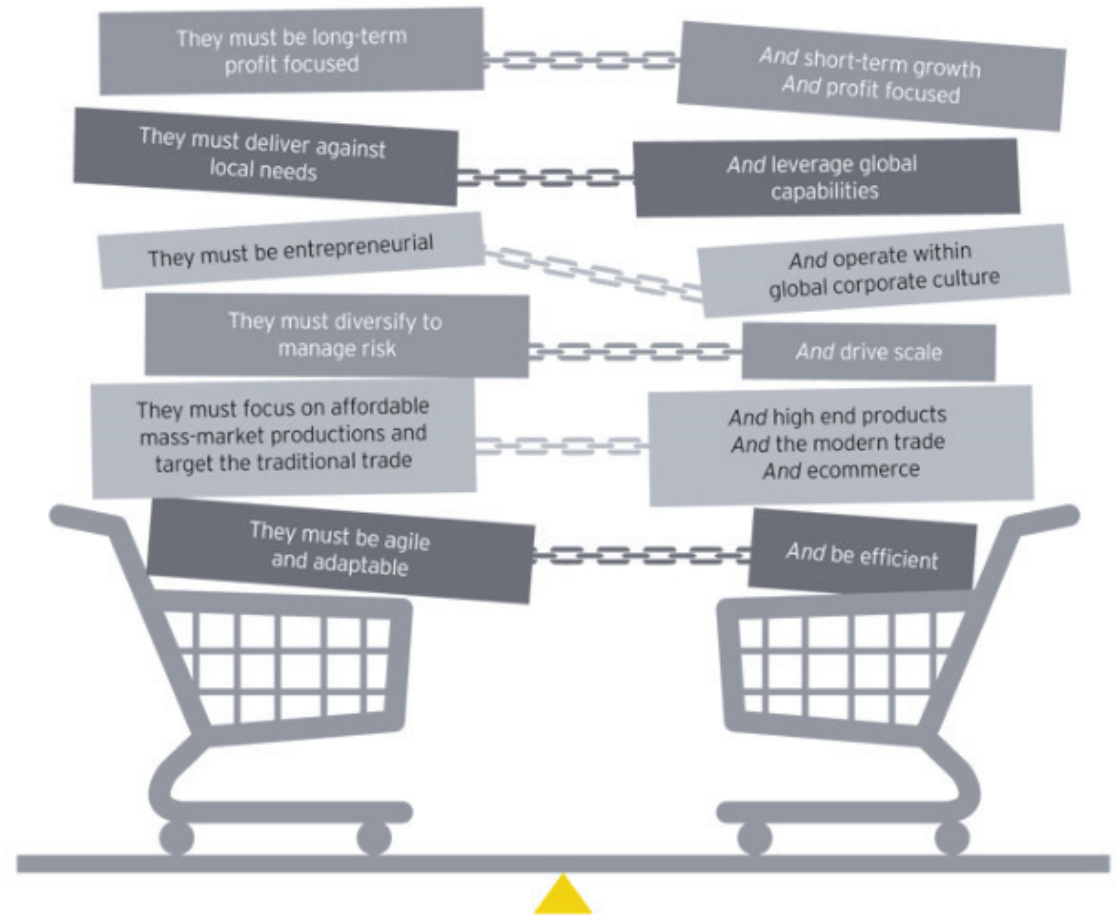
## Purpose

- 'What is a noble goal? .....
- It means listening when conversing, showing kindness and compassion, being generous and giving. It also includes caring for our community and environment,... It is, in fact, the ultimate expression of integrity — a deep alignment between words and deeds.'
- - Irene Ong



## What is Reconciliation?

- Accounting
  - Banking
  - Human rights
  - Mining
- 
- Why?
  - How?
  - What?

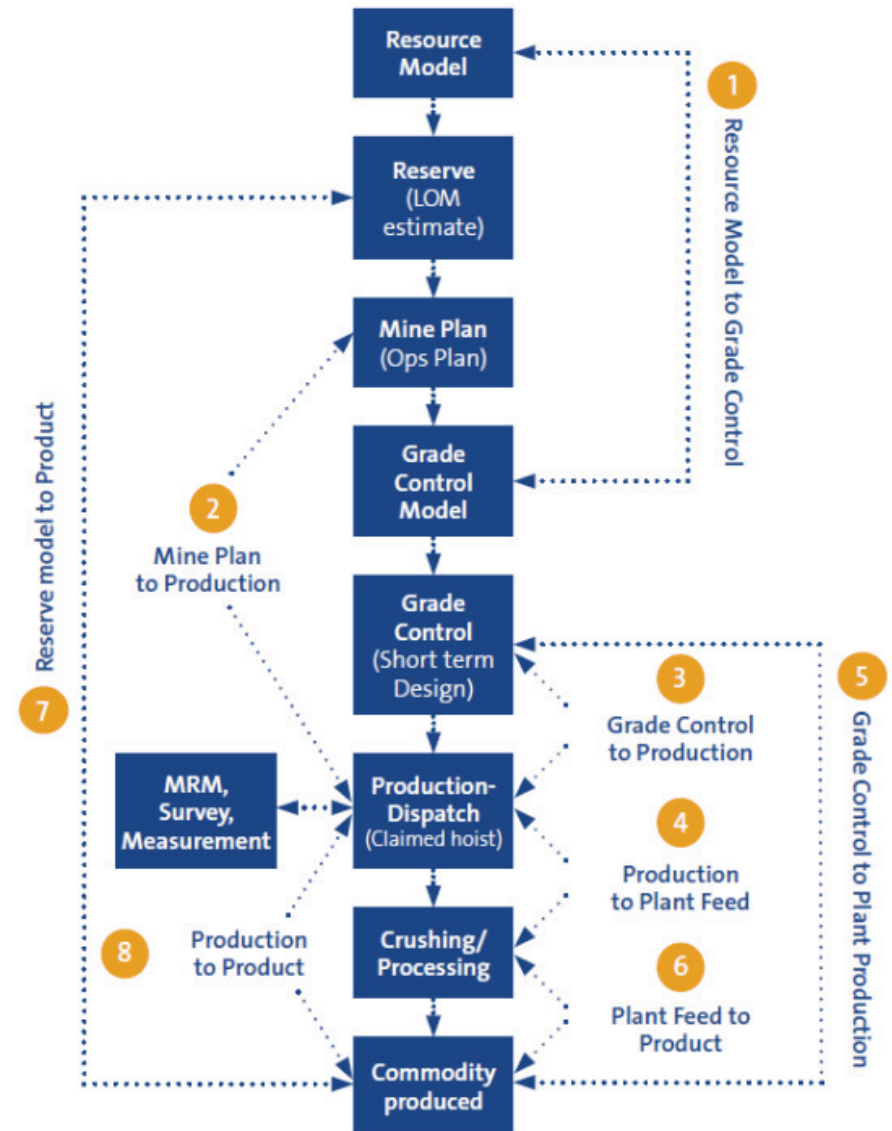






# What is Minesite Reconciliation?

- Involve stakeholders
- Understand criteria
- Value what matters (also known as the 'monetisation principle')
- Only include what is material
- Do not over-claim
- Be transparent
- Verify the result



## Purpose



- Supply chain vs value chain

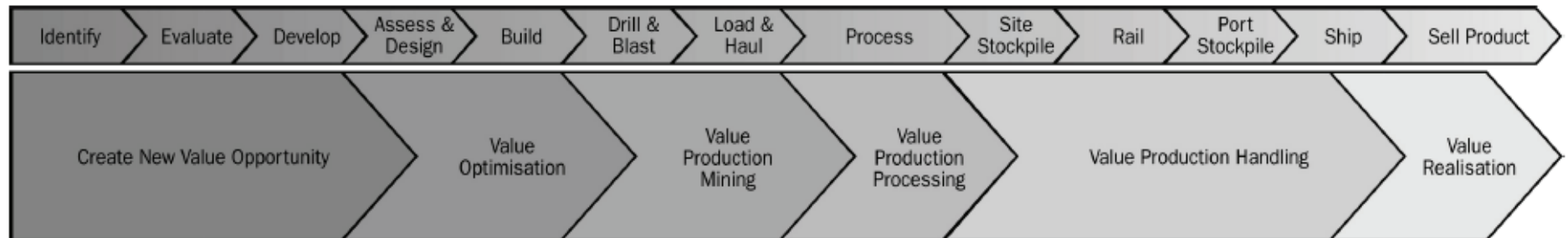






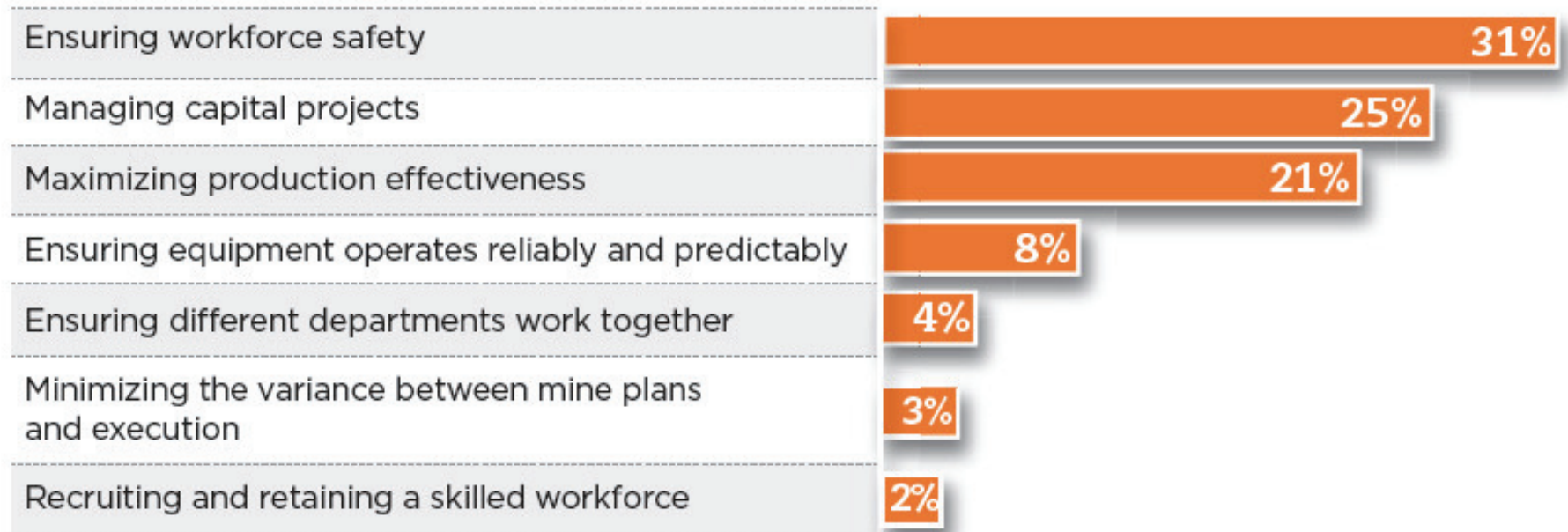
## Process

- Defining the boundaries
- Identification and selection of key stakeholders
- Developing a system for reconciliation
- What goes in (identifying inputs)
- What comes out (identifying results)
- Valuation
- Calculation and definitions
- Verification
- Narrative



# Stakeholders

- Who are the stakeholders?
- What are their requirements





## Stakeholders

- Business risk
- Business management
- Benefits of metal accounting vs financial accounting

Improved production planning, forecasting and risk management

52%

Timely and relevant production information for the monthly financial reporting cycle

50%

Enhanced production performance measurement

41%

Increased accuracy in matching production costs to stages in the production process

34%

Early detection of plant performance and measurement problems

28%



## Analysis

- Mineral balance
- Metal balance
- Planned vs actual



<http://mysocialface.com/178/>, retrieved 02 December 2013

## What Else?

- Safety
- Social License to Operate
- Environment
- Carbon
- Regulatory
- Community engagement







## Limitations

- Inconsistent procedures
- Insufficient training
- Management not supporting process
- Not effectively monitoring
- Bias

### Geology

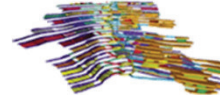
- Samples
- GeoTech
- GeoMet



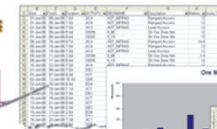
### Mining Scenarios

- Underground
- Open Pit
- Selective
- Bulk

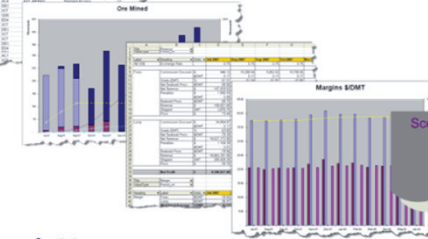
### Design



### Schedule



### Financials



## Mine Feasibility

Repeatable  
Reliable  
Robust



Xemplex

Unites Financial  
and Physicals data

Scenario 1

Financials

- NPV
- Balance Sheet
- Cash Flow
- P&L



## Benefits

- Transparency
- Corporate governance
- Accuracy
- AMIRA P754
- JORC 2012



# Compliance

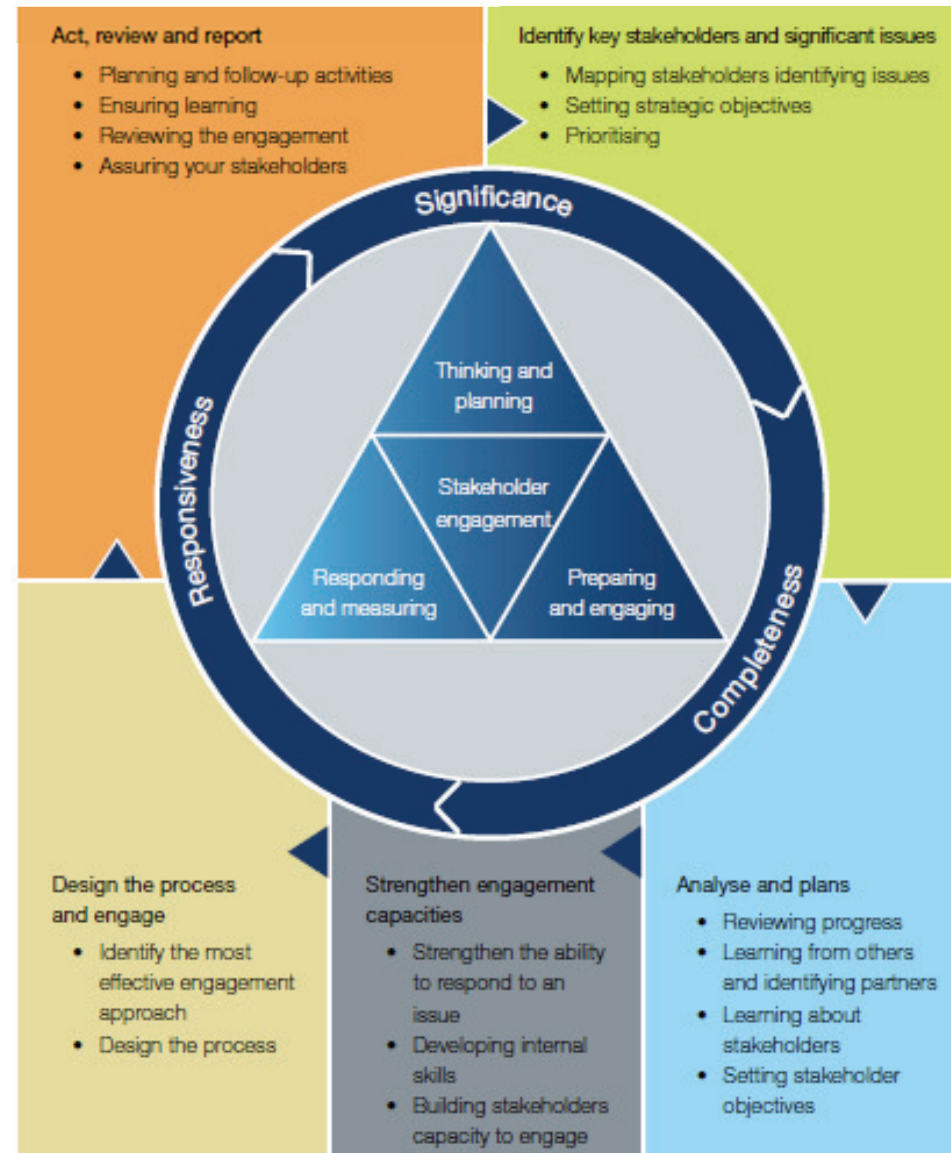
- Measurement
- Methods
- Aims
- Monetisation
- Business Excellence
- Compliance





# Implementing appropriate tools for information management

- Risk Assessment
- Protocols
- Processes

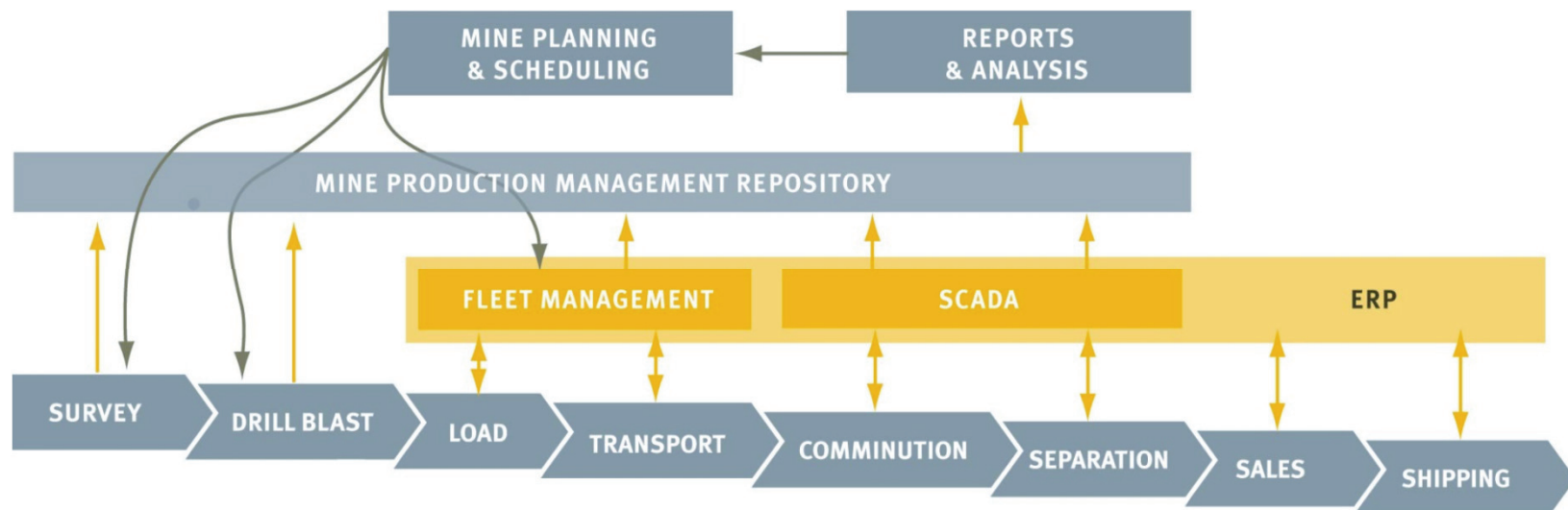


Adapted from Stakeholder Engagement Standard AA1000SES (Institute of Social and Ethical Accountability 2005), [http://www.immi.gov.au/about/stakeholder-engagement/\\_pdf/stakeholder-engagement-practitioner-handbook.pdf](http://www.immi.gov.au/about/stakeholder-engagement/_pdf/stakeholder-engagement-practitioner-handbook.pdf), retrieved 03 December 2012



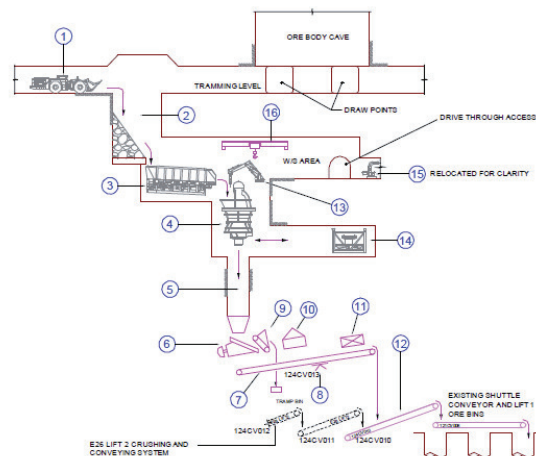
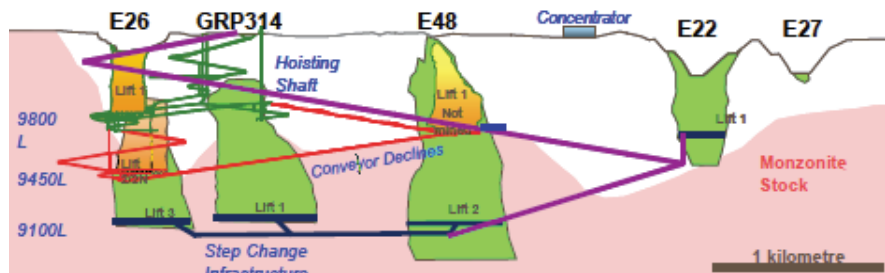
## Case Studies- Document and Process Management

- Mining operations
- Evaluation/Analysis
- Design/Construction/Mine Planning
- Geology
- Ore Control
- Transport
- Exploration
- Depletion/Mine Closure



## Case studies- Northparkes

- Mine planning – PCBC
- Cave management
- Cave recovery



| Reserves - 31 December 2010 |            |            |
|-----------------------------|------------|------------|
| Tonnage (Mt)                | Copper (%) | Gold (g/t) |
| 75.51                       | 0.82       | 0.32       |

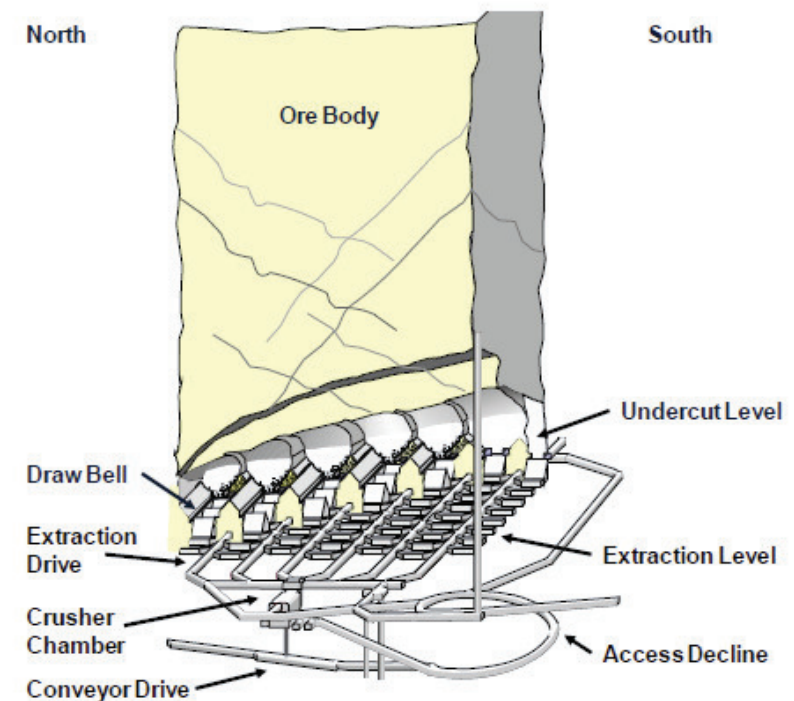
  

| Inferred Resources as of 31 December 2010 |            |            |
|---|------------|------------|
| Tonnage (Mt)                              | Copper (%) | Gold (g/t) |
| 270.50                                    | 0.55       | 0.26       |

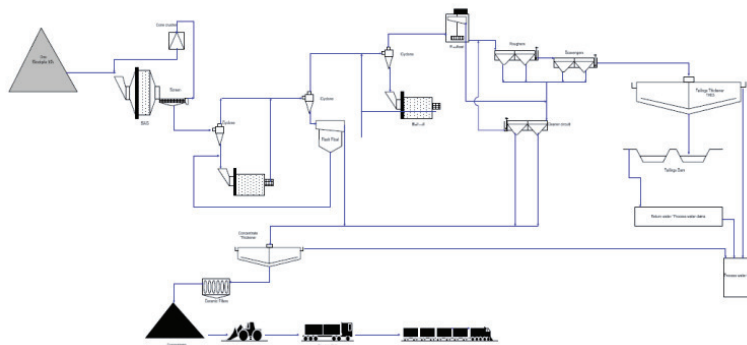
| Total Resources as of 31 December 2010 |            |            |
|--|------------|------------|
| Tonnage (Mt)                           | Copper (%) | Gold (g/t) |
| 287.83                                 | 0.57       | 0.26       |

| Block        | Block footprint | Block height | Reserve                             | Draw points | Years of operation |
|--------------|-----------------|--------------|-------------------------------------|-------------|--------------------|
| E26 Lift 1   | 200 x 200 m     | 450 m        | 27.2 Mt at 1.44 %Cu and 0.41 g/t Au | 122         | 1997-2003          |
| E26 Lift 2   | 180 x 180 m     | 350 m        | 24.5 Mt at 1.21 %Cu and 0.47 g/t Au | 102         | 2004-2007          |
| E26 Lift 2N* | 180 x 90 m      | >350 m       | 9.3 Mt at 0.82 %Cu and 0.23 g/t Au  | 69          | 2008-2010          |
| E48 Lift 1   | 200 x 300 m     | 500 m        | 63.4 Mt at 0.85 %Cu and 0.34 g/t Au | 214         | 2010 Onwards       |



## Case studies- Northparkes

- Open cut sampling
- Resource modelling methods
- Risk management
- Metal accounting
- Penalties



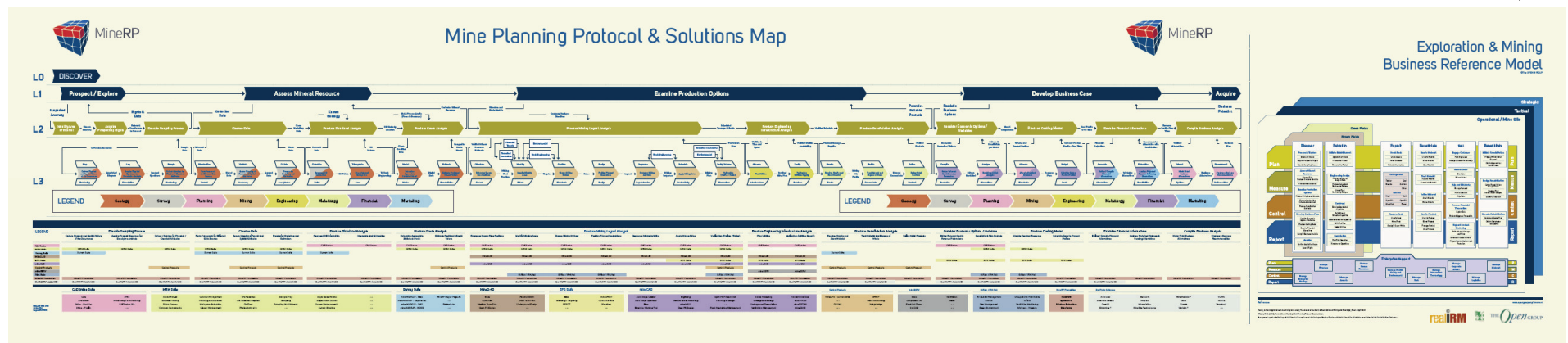
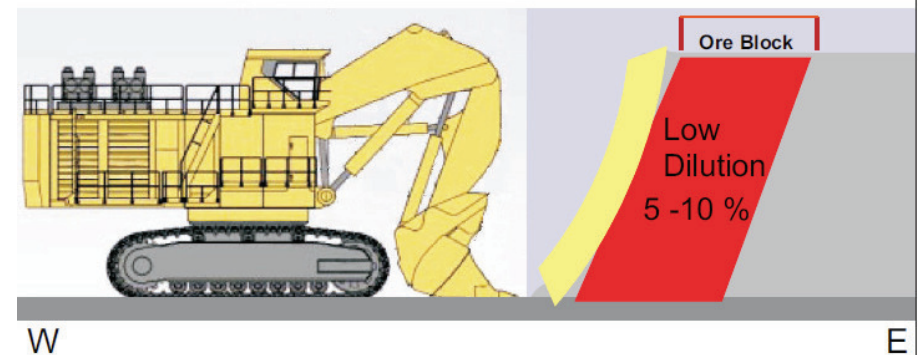




## Case studies- KCGM

- Dispatch systems
- Stockpiling
- DOM vs ROM
- Assumptions
- Rolling averages
- Feedback into mine planning

Fimiston lodes generally dip at 70 - 80° to the west. Ore is extracted from west to east with minimal dilution and ore loss.



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**Thank you.  
Any  
Questions?**

**Presentation**

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