

A comparative study of production efficiency improvements between UKCS O&G and global mining

Why mining?



- Extractive, continual process industries
 - Dependant upon process equipment availability
 - Remote locations
 - Harsh environments
 - Tight margins
 - Variations in commodity prices
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- Long history of continuous productivity improvement projects

Findings from mining

26 Case studies

Total

\$300m

Annualised Savings

Improvement activities followed four main themes

- Contract and vendor management
- Working capital (AP/AR)
- Materials & inventory management
- Throughput

All concentrated on human factors and management process

Contractor & vendor management



Copper mine - South Africa

- Reduction in contract & vendor cost
- Focus on main operational activities

Cost reduction \$7.2m annualised

Diamond mine – Canada

- Reduction in operating costs
- Contractor management

Cost reduction \$6.4m annualised



Working capital

Iron & Titanium Division – Global Operations

- Accounts payable
- Account receivable
- Inventory reduction

Cash Release \$65m

Copper Mine – North American Operations

- Accounts payable
- Account receivable
- Inventory reduction

Cash Release \$19m

Materials & inventory management



Mining Division of Major Latin American Conglomerate - Three Mines to Process Plant

- Integrated planning
- External & internal logistics
- Shipped product quality control
- Integrated mining & logistics operations control

Cost reduction \$7.2m annualised



Throughput

Global mining firm - Diamond Division

- Process plant operations
- UG & surface mine services
- Plant maintenance
- Executive management training

15% increase in mean daily production

Global mining firm - Bauxite and Alumina Division

- Mine and process plant operations
- Mine and process maintenance
- End-to-end quality process redesign
- Executive management, supervisor and operator training

\$26m annualised throughput increase

Summary



- Improvement without major capital investment
- Focus on main operational activities
- Seek alignment
- Control process
- Engage with supply chain
- Measure to improve