

Curriculum Vitae

Douwene (Denni) Cartwright - Principal Engineer



Profession:

Mechanical Engineer

Education:

- BSc Eng. (Mechanical) First Class Honours – University of Cape Town

**Registrations /
Affiliations:**

- Candidate Engineer, Engineering Council of South Africa
- Member, SAIMM
- Golden Key International Honour Society, Member

Expertise

Mechanical Engineering. Design and specification of mine support infrastructure and services (i.e. piping and pumping, ventilation, workshops, etc.), bulk materials handling networks, backfill reticulation systems and smelter off-gas handling systems. Simulation of dynamic systems of personnel and material fleet networks, mine ventilation and fluid reticulation (steady state and transient).

Project and Package Engineering. Specification and selection of mechanical equipment based on engineering design. Coordination between disciplines and supervision of design work and integration. Package engineering involving compilation of tender documents, bid evaluations, liaison with vendors and final integration on site.

Project Management. Project Leader of Due Diligence and Asset Valuations work. Leadership and management of multi-disciplinary project teams as both Project Manager and Lead Engineer. Strong interpersonal skills resulting in exceptional rapport with clients and colleagues. Willing to accept decision-making responsibility and take initiative.

Computer skills. Advanced competency in MS Office suite, including Project and Excel. Proficiency in Engineering Packages: AutoCAD, AFT Fathom (Fluid simulation), Arena (Dynamic Simulation), AFT Impulse (Transient Analysis), Caesar II (Pipe Stress Analysis), Ventsim (Ventilation simulation), Helix Delta (Conveyor simulation), Microstation.



Employment History

20113- Present	Principal Engineer	BARA Consulting
2010 - 2013	Mechanical Engineer	RHDHV
2009 – 2010	Site Engineer & Mechanical Engineer	Group Five
2009	Project Manager	DB Thermal
2008-2009	Lead Engineer	Hatch Africa
2007 -2008	Analyst Consultant	Burlington Strategy Advisors
2006 – 2007	Site Engineer	Hatch Africa
2004 – 2006	Engineer in Traning	Samancor Ferrometals

Recent Key Experience:

- Systems Assessment – Kusasalethu Mine (Harmony Gold / South Africa)
- Review and assessment of engineering management information and communication systems at Kusasalethu Mine, to resolve operational issues.
- Logistics Simulation Engineer – Khalifa Port Logistics Study (UAE / Netherlands)
- Simulation of logistics at Khalifa Port (Abu Dhabi) to determine the impact of expansion projects at the EMAL quay on the production of Aluminium. Worked as part of the Rotterdam-based RHDHV Maritime Team.
- Insurance Valuations – ARM and Harmony Mines and Smelters (South Africa)
- Annual valuations of smelter infrastructure, mechanical equipment and site infrastructure for insurance purposes. Valuation Project Lead on Smelter work.
- Backfill Engineer – various projects for AngloGold Ashanti (South Africa):
- Moab Khotsong Mine: 2014, Backfill and Infrastructure Design and financial cost modelling (design for implementation and Class 1 costing).
- Savuka Mine: 2012, Mine Expansion, Backfill and Infrastructure Design (feasibility design). Financial cost modelling.
- Moab Khotsong Mine: 2011, Backfill and Infrastructure Design and financial cost modelling (feasibility design).
- Mponeng Mine: 2010, 2011 and 2012, Mine Expansion, Backfill and Infrastructure Design (prefeasibility to detail design). Financial cost modelling.
- Trackless Fleet Specialist – support for various projects
- Selection, costing, vendor liaison and financial modelling of trackless equipment for underground and surface mining. Fleet dynamic simulation and optimisation using Arena. Design and layouts of fuel and lubrication facilities and fleet workshops.



- Major projects included: Kongoni Bankable Feasibility Study (2013 – 2014), Modder North Prefeasibility Study (2013), De-Bron Definitive Feasibility (2013), Ventersburg Definitive Feasibility (2012 - 2013), Bulyanhulu Mine (2012 – 2013), Letseng Life of Mine (2011).
- Project Manager – Elandsfontein Phosphate Mine (South Africa)
- Project Management of design and submission of Mine Works Programme (MWP) for open pit phosphate mine. Surface Infrastructure and logistics design for the processing and handling of the mined and processed materials to Saldanha Port.
- Independent Engineer – Kongoni Mine Review (South Africa)
- Peer Review of Bankable Feasibility Cost Model conducted by other consultants.
- Mechanical Engineer – Modder East Dirty Water Pumping Trade-off (South Africa)
- Design of dirty water pumping system, trade-off against clear water system, including costing and scheduling.
- Project Manager and Mechanical Engineer – internal projects (Liberia)
- Project co-ordination of two of the first post-merger internal projects for the RHDHV Mining component.
- Conceptual engineering design of the infrastructure and handling of Iron Ore Concentrate at a marine loading facility in Monrovia, Liberia (Western Cluster Limited) and concept analysis of the logistics chain for an Iron Ore Tailings dump in Buchanan, Liberia (Buchanan Iron Ore).
- Simulation Engineer - Bulk Materials Handling at Optimum Colliery (South Africa)
- Simulation and optimisation of coal handling system and processing of Coal Colliery using Arena.
- Mechanical Project Engineer – Greenside Coal (South Africa)
- Cost model generation and financial simulation of coal mine dump rehabilitation project. Design of fuel and lubrication facility.
- Project Engineer – Tshipi Borwa Mine Mining Contract (South Africa)
- Responsible for the management and co-ordination of the tender process for the contract mining on behalf of the client.
- Mechanical Project Engineer – Canyon Springs Coal Mine (South Africa)
- Infrastructure design, labour assessment, financial modelling and Mining Rights Application for a greenfields coal mine.
- SASOL – Secunda, 2010, Site Engineer for commissioning of OCGT Balance of Plant.
- Richards Bay Minerals, 2009, Mechanical Lead on Co-generation project to generate power from furnace flue-gas.
- Hatch Africa, 2007 – 2009, Project Engineer for various projects, responsible for sizing, specification and selection of mechanical equipment.
- Richards Bay Minerals, 2007, Site Engineer for dredger refurbishment, relocation and commissioning.
- Highveld Steel, 2006: Project Engineer involved in Furnace 1 Rebuild.



- Samancor Chrome, 2002 – 2005, Engineer-in-Training, as part of Maintenance Crew for materials handling and furnace production.