



PROJECT PROFILE

MINING VEHICLE DESIGN

CLIENT CHALLENGE

A large manufacturer of heavy specialized mining and industrial vehicles required on-site design assistance with their ongoing production projects. Their vehicles often require customization to suit individual customer needs. The assistance involved engineering expertise in several stages of the Product Development Cycle:

- Concept Development
- Machine Design
- Design for manufacturing
- Knowledgeable sourcing expertise
- Scheduling and Budgetary constraints

SOLUTION

Palladium was retained for our expertise in mechanical design and overall experience in the New Product Development field. The following tasks were accomplished:

- Design of Articulated Mining Vehicles including Drill rigs, Scissor decks and Bolters, Boom Anfo loaders, Lube trucks and Cab forward engines. The scope of the design tasks include:
 - Breather and Exhaust systems
 - Radiator systems
 - Suspension systems
 - Drivelines
 - Remote drives
 - Engine configs
 - Axle configs
 - Hydraulic cylinders
 - Hose/cable management
 - Sensors and other auxiliary equipment
 - Heavy metal work
 - Welding
 - Hydraulic test rig for destructive testing of worm drives for man basket lift devices. The data was used to determine failure load and validate certifications.
- Other responsibilities:
 - Full documentation on Solidworks and ACAD using PDM
 - Regulatory and ergonomic Compliance
 - ECN creation
 - Developing of marketing materials



PROJECT HIGHLIGHTS

Palladium has supplied experienced personnel that surpass client expectations. The best evidence of this is repeated extension of contracts by the client.