

A large drilling rig, the Lucas Wei D50 Slant, is shown in operation at a construction site during sunset. The rig is a tall, vertical structure with a yellow and black color scheme. A yellow truck is positioned in front of the rig, and a yellow crane is visible in the background. The sky is filled with orange and yellow clouds, and the sun is low on the horizon.

Discover the
LUCAS WEI D50 SLANT

Safer Drilling

Faster Mobilisation

Reliable Results

 **LUCAS**

Introducing The Lucas WEI D50 Slant

The WEI D50 Slant is an intelligent, high-capacity trailer-mounted slant drill rig, specialising in directional, deep exploration, and production drilling programs. Capable of precise slant drilling up to a 70-degree angle, it features a heavy-duty hydraulic system engineered for hands-free operations and the robust handling of Range 3 drill pipe and large-diameter casing strings.



The Lucas WEI D50 Slant is designed to deliver measurable outcomes where it matters most:

- Reduced exposure through the hands-free hydraulic double-clamp operation
- Lower cost per metre through high-torque capacity and enhanced uptime
- Predictable delivery through a rugged, quad-axle mobile carrier design

Advanced Operator Control & Visibility

- High-precision control layout managing a combination of open-loop and closed-loop high-pressure hydraulic systems.
- Intuitive console positioning providing excellent situational visibility during complex angle and vertical operations.
- Real-time parameter tracking across key drilling indicators including rotational torque up to 20,650 ft/lb and feed systems.

Built-In Diagnostics & System Intelligence

- Integrated system diagnostics designed for the harsh demands of deep-hole and directional drilling environments.
- Pre-emptive fault tracking across the robust electric-over-hydraulic valve configurations to maintain peak operational uptime.
- Rig-mounted monitoring networks protecting the high-pressure 3,000 psi API-rated air delivery infrastructure.

Situational Awareness & Site Integration

- Designed to work seamlessly with auxiliary site safety platforms, perimeter zoning, and specialized rig hands.
- Elevated work platform safety supported by a heavy-duty hydraulic leveling system extending up to a maximum elevation of 3.6 meters.
- High-visibility design layouts allowing clear sightlines for the crew across the 12-meter head traverse zone.

Increased Productivity & Operational Efficiency

- Automatic and precise mast angle adjustment routines enabling stable slant operations anywhere from vertical down to 70 °.
- A tilting power swivel configuration that significantly reduces non-productive time during pipe connection changes.
- Silenced Deutz power package unit developing 408 HP at 2200 RPM to streamline daily operations with minimized site noise impact.

Telemetry & Future-Ready Automation

- Telemetry-ready control architecture built to easily integrate advanced digital data logging and remote system access.
- Aligned with modern resource industry shifts toward highly automated, hands-free pipe management and safety isolation zones.

Robust, Mine-Ready System Design

- Engineered on a heavy-duty, semi-trailer quad-axle carrier built to handle tough cross-country mobilisations.
- Rig-mounted air inlets and maximized use of robust hard plumbing ensure durability in rugged exploration climates.
- Massive 41,000 kg gross weight footprint providing a rigid, stable drilling platform for high pull-back operations.



WEI D50 SLANT SPECIFICATIONS

PERFORMANCE LIMITS

Max. Pull Back	50,000 kg (122,400 lbs)
Max. Pull Down	18,000 kg (40,460 lbs)
Max. Rotation Torque	2,800 daN/m (20,650 ft/lb)
Top Head Rotation	0 - 180 RPM

AIR & FLUID SYSTEMS

Rig-mounted air inlets with maximised hard plumbing
3,000 psi API rating on system pressure
Hydraulically driven water injection system

CARRIER & WEIGHT

Carrier	Semi-trailer quad axle
Gross Weight	41,000 kg

DRILL RIG MAST

Mast Type	WEI lattice type with slant capable up to 70 °
Head Traverse	12 m

FEED SYSTEM

Heavy-duty hydraulic system suitable for Range 3 drill pipe and Range 3 casing
Tilting power swivel

ENGINE POWER

Deutz BF8M developing 408 HP @2200 RPM
Fully silenced acoustic enclosure unit

HYDRAULICS & TANK CAPACITY

Combination of open-loop and closed-loop high-pressure systems
1,000 L capacity hydraulic oil tank

BREAKOUT SYSTEM

Hydraulic double clamp with a wide 20.5" opening	
Max. Breakout Torque	8,000 kg/m
Max. Load Capacity	50,000 kg

LEVELLING SETUP

4 x heavy-duty hydraulic levelling jacks	
Max. Elevation	3.6 meters

WINCH CONFIGURATION

Jib boom with remote control operation	
Planetary style with spring-applied brake	
Max. Pull Capacity	3,000 kg



Our Clients

At Lucas, we consider ourselves privileged to have a diverse range of clients, from global industry leaders to local councils. Our commitment to understanding and adapting to each of our clients' unique challenges is what drives us. By forging strong, collaborative relationships, we consistently deliver tailored solutions that meet our clients' specific needs, exceed expectations, and contribute directly to their success.

GLENCORE

arrowenergy

RioTinto

BMA
BHP Mitsubishi Alliance

Peabody

AngloAmerican

QPM
ENERGY

CENTENNIAL

Whitehaven

Evolution
MINING

KESTREL COAL
RESOURCES

fitzroy

origin

TRI-STAR

Santos

GM³

About Us

Who we are

Founded in Sydney, Australia in the 1950's, the company became a highly specialised mining and infrastructure service provider in Australia. AJ Lucas listed on the Australian Stock Exchange in 1999 and saw considerable growth in the following years, concentrating on the resources market and undertaking significant projects in the Water, Oil and Gas segments.



What we do

Lucas Drilling provides a comprehensive suite of drilling services which includes exploration, production and directional drilling. Lucas also provides a range of engineering services including design of wells, drilling optimisation, professional steering services, specialised equipment and geosteering for directional drilling programmes.

Our Experience

With over 40 years of experience in the mining and coal seam gas industries, Lucas has developed a unique operating platform designed to deliver high-value solutions to complex and critical projects.

Our People

Lucas is recognised for having a highly skilled and respected workforce of approximately 285 employees, many of whom live and work within our operating regions. Performance management and leadership development are central to maintaining high levels of team engagement. We prioritise the growth of our people by offering customised training programs and opportunities to gain industry-recognised qualifications. Additionally, our promotion and rotation initiatives across various operational areas enhance our employee's versatility and experience. This commitment to employee development is reflected in retention of our field leadership; with the average tenure in excess of 12 years.

Health & Safety

Our personnel are highly skilled with an outstanding safety record. We are committed to maintaining an injury-free workplace through an embedded safety culture and a comprehensive Occupational Health and Safety System. These ensure effective environmental and safety practices across all our operations. Our Safety and Quality Management Systems are accredited to AS/NZS and ISO standards.

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