



# MARINE CAPABILITY STATEMENT



**A LEADER IN GEOTECHNICAL AND  
ENVIRONMENTAL DRILLING SOLUTIONS**

**Over 25 Years Industry Experience**

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## ABOUT US

Centrally located in Canning Vale, Western Australia, Soil Mechanics maintains its position as an industry leader, delivering quality Geotechnical and Environmental Drilling samples and solutions. Our remarkable track record of successfully executing projects in challenging ground conditions across the state speaks volumes of our expertise. With a can-do attitude, we prioritise delivering quality core and sample recovery for our valued clients.

Under the leadership of Daniel Van Liefde (Managing Director), our dedicated team plays a vital role in our success. Highly trained, experienced and certified, our Drillers and Drillers' Assistants possess the skills and expertise needed to deliver exceptional results.

Daniel has over 20 years of experience in the Geotechnical and Environmental Drilling sector. His journey began in New Zealand, working his way up from a Driller's Assistant to a Driller. He furthered his career in South Africa as a Supervisor before moving to Western Australia in 2008. He founded Soil Mechanics in 2014 and has since grown the company into a respected industry player.

# OUR COMMITMENT

## OUR CLIENTS

Fostering strong partnerships with our clients is at the heart of our approach. We understand the significance of aligning our efforts with our client's goals, ensuring successful outcomes and lasting relationships. Our primary focus is achieving successful project outcomes, and all drilling is conducted strictly to individual specifications. We maintain a 'safety-first' culture and a high standard of professionalism within our field crews, allowing us to maintain a proactive, hands-on approach to each contract.

## OUR TEAM

Employee safety is at the forefront of everything we do at Soil Mechanics. Our safe systems of work are maintained to identify potential hazards and implement control measures to minimise risks to our staff and client's safety and well-being. We invest in our team with ongoing learning opportunities, ensuring they remain at the forefront of industry developments. Our commitment to employee safety and training enables us to attract the most experienced and professional drilling industry personnel.

# DRILLING AND SAMPLING CAPABILITIES

As a multifaceted drilling contractor, we provide Geotechnical, Environmental, Air-Core, Reverse Circulation, shallow exploration and Water Monitoring Drilling services. Our extensive experience extends to a wide range of testing and instrumentation equipment, ensuring we deliver exceptional results for our clients.

## EXPERIENCED FIELD TEAMS

Our field teams comprise skilled Driller's and Driller's Assistants with a wealth of experience in a diverse array of drilling techniques. From Diamond Coring to Reverse Circulation, Aircore, Hollow Augers, Mud Rotary, and Air/Hammer methods, our expertise spans the full spectrum of drilling capabilities.



### Diamond Drilling

PQ3/HQ3/NQ3 Diamond Coring  
Depth Capabilities: 80m PQ, 150m HQ and 250m NQ



### Reverse Circulation and Air Core Drilling

Depth Capabilities: 80m



### Rotary Mud Flush and Air Core Drilling

Depth Capabilities: 100m RMF and 80m ACD



### Direct Push Probing (DPP)

Depth Capabilities: 15m

### Including:

- Solid/Hollow Stem Augers
- U-Tube & Piston Sampling
- Groundwater Well Installations
- Standard Penetrometer Testing (SPT)
- Falling/Rising Head Tests
- Packer Testing
- Shear Vane Testing
- Earth Cable/Stake Installations
- Instrumentation Installations
- Pressure Meter Testing
- Piezometer Installations
- Well Developing
- Mud Disposal Services
- Service Locating
- Slope Indicators

# PROJECT RESUME NEARSHORE

## **SM0660 GALT TURKEY POINT AND BRIDGE**

**16 JAN 2023 TO 7 FEB 2023**

Executed geotechnical overwater jack-up barge drilling for the Proposed Turkey Point Public Access Bridge project, situated within Bunbury Port on the south side of Preston River.

## **SM1179 GHD GARDEN ISLAND DEFENCE WHARF**

**JULY 2023**

Geotechnical drilling for the Garden Island Defence Precinct (GIDP) Program, a critical estate renewal initiative aimed at sustaining the facilities and infrastructure.



## **SM0924 MANDURAH ESTUARY BRIDGE**

**20 JUN 2022 TO 23 AUG 2023**

Geotechnical borehole drilling for the Mandurah Bridge duplication project under Main Road Projects, utilising a flat bottom vessel.

## **SM0800 GHD HMAS COONAWARRA**

**31 JAN 2022 TO 1 FEB 2022**

Drilling conducted to assist with the assessment of sediment for dredging purposes. This geotechnical drilling program involved the use of a jack-up barge, tow vessel, and crew transfer vessel.



## **SM0806 FREMANTLE BRIDGE ALLIANCE PHASE 3**

**MAY 2021 TO JULY 2022**

Conducted geotechnical drilling for Fremantle Bridge Alliance.

# PROJECT RESUME NEARSHORE



## **SM0802 PORT HEDLAND GEOTECHNICAL**

**04 OCTOBER 2021 TO 28 OCTOBER 2021**

Soil Mechanics conducted nearshore geotechnical investigations for Pilbara Ports Port Hedland which consisted of several individual work packages including work on the Spoilbank Marina Project, a marina development on the spoil bank east of the Port Hedland shipping channel, as well as the Channel Entry Project aimed at increasing navigable depth for bulk carrier vessels entering the Port of Port Hedland.

## **SM0757 SWAN RIVER CROSSING CYCLE PATH**

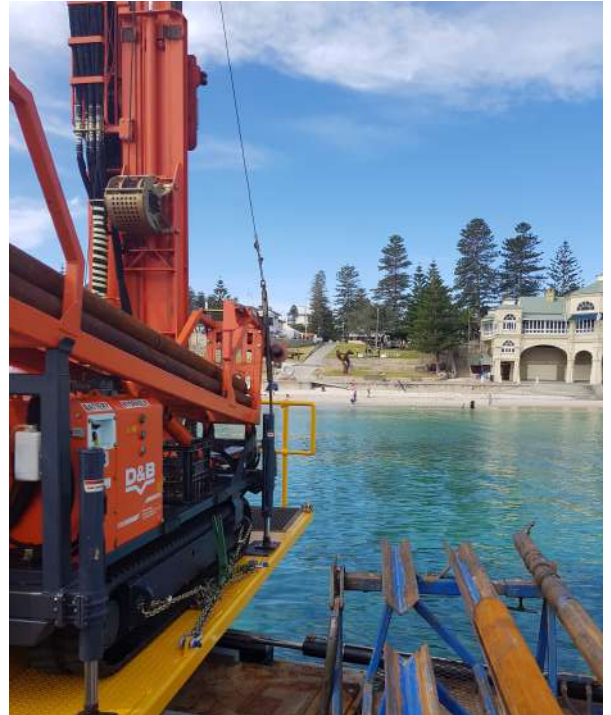
**29 JUNE 2021 TO 13 AUGUST 2021**

Geotechnical overwater drilling was conducted for the Swan River Crossing Cycle Path project, for the construction of two connected bridges alongside the Causeway to create a 6-meter wide shared path connecting the Victoria Park foreshore with Heirisson Island.

## **SM0678 ONSLOW OUTFALL**

**18 NOV 2020 TO 17 DEC 2020**

A geotechnical drilling program was conducted for the Department for Water Corp's Desal Plant project, involving both on-land and overwater operations for the proposed facility located north of Beadon Creek Road in Onslow, with pipeline extensions into Beadon Bay.



## **SM0226 SMC MARINE GROUND ANCHORS**

**MAY 2018**

For the Cottesloe Pylon Refurbishment project, drilling of ground anchor holes was performed, including shallow boreholes cored using a jack-up barge. The Cottesloe Beach Pylon, constructed in 1936 as the northwest corner support for a shark-proof enclosure (a project never completed), requires remediation with a focus on preserving the existing structure.

## **SM0620 GALT HMAS STIRLING**

Soil Mechanics conducted geotechnical drilling investigation work for Lend Lease and the Department of Defence at HMAS Stirling Careening Bay, Garden Island, including drilling below seabed level, utilising a jack-up barge. The assembly and sea fastening of the drilling rig and equipment occurred in Henderson before being transported to Garden Island.

# DRILLING RIGS AND SUPPORT VEHICLES AND EQUIPMENT

## DRILLING AND SUPPORT VEHICLE AND EQUIPMENT

Soil Mechanic's fleet of drilling equipment is perfectly suited to cater to diverse requirements in provide Geotechnical, Environmental, Air-Core, RC, shallow exploration and Water Monitoring Drilling services. With cutting-edge land-based conventional rigs, heli-portable rigs, and specialised over-water drilling equipment, we guarantee high-quality service, consistently exceeding client expectations.

Our expertise extends across various terrains and conditions. We have played a pivotal role in some of the largest Geotechnical and Environmental projects in Australia. Our can-do attitude drives us to deliver quality core and sample recovery while adhering to stringent environmental constraints.

## OVER-WATER DRILLING PLATFORMS

Soil Mechanics specialises in overwater drilling, we can provide floating and/or jack-up platforms nation wide, offering stability and versatility in unique settings. Soil Mechanics specialises in customising and modifying machinery tailored to our client's specific needs and challenges. Our comprehensive supplier network provides us with access to an array of barges and support equipment, including support vessels and tugs.

## WELL-MAINTAINED PLANT AND EQUIPMENT

Our equipment is a source of pride, and we place great emphasis on its regular maintenance and upkeep. Our drilling equipment and support vehicles undergo regular checks and inspections to ensure their reliability and safety. Additionally, all of our drill rigs, support vehicles and equipment undergo daily pre-start checks and inspections. Ensuring strict adherence to industry standards.

# OUR FLEET

## DR001 JACRO 200

Designed to be simple and versatile, the Jacro 200 DR001 has a lightweight aluminium frame and can be easily dismantled. Jacro 200 is mounted on a tandem trailer, making it easily removable and mountable on drilling skids, as well as onto custom drilling platforms. It can also be efficiently craned into challenging access locations or restricted access areas.

## DR002 HANJIN D8

This advanced rig is designed for RMF, HQ3, and PQ3 coring, making it the ideal choice for a wide range of drilling applications. Equipped with a bean pump and a high-flow slaker pump, the Hanjin D8 ensures seamless drilling operations, optimizing both efficiency and accuracy. The rig's certified overhead protection, winch limiters, rotation interlock, and tow stage operation controls prioritize safety, safeguarding operators and crew members throughout the drilling process.

## DR003 DESCO 4500SD

This track-based drill rig sets new standards with its exceptional capabilities, capable of handling NQ3, HQ3, and PQ3 wireline coring, rotary mud flush, and auger drilling techniques, making it the go-to choice for a wide range of drilling projects.

With a triplex pump and stalker mud pump, the Desco 4500SD showcases its prowess in both coring and mud drilling, ensuring smooth and efficient operations on-site. The rig's 15-tonne pull back and direct push head provide powerful drilling force, enabling the extraction of up to 65mm diameter direct push samples and conducting SPTs at any desired depth with unparalleled precision.

## DR006, DR007, AND DR008 HANJIN D8 MINE SPEC

This advanced rig is designed for RMF, NQ3, HQ3, and PQ3 coring, making it the ideal choice for a wide range of drilling applications. Equipped with a bean pump and a high-flow slaker pump, the Hanjin D8 ensures seamless drilling operations, optimizing both efficiency and accuracy. The rig's certified overhead protection, winch limiters, rotation interlock, and tow stage operation controls prioritize safety, safeguarding operators and crew members throughout the drilling process.

Safety is further enhanced with comprehensive dropped object, noise, and working at heights surveys, ensuring adherence to the highest industry standards. This commitment to safety reinforces the reliability and dependability of the Hanjin D8 in any working environment.

## WORKSHOP AND MAINTENANCE

At Soil Mechanics, our in-house workshop and maintenance manager ensures efficient support to our fleet. With expertise and proactive maintenance, we provide reliable and efficient drilling services, delivering exceptional results for our clients. Our focus on maintenance and technical support ensures that your drilling projects are in capable hands, ensuring reliable and responsive operations.



# HEALTH QUALITY SAFETY AND ENVIRONMENTS

## COMMITMENT TO QUALITY AND SAFETY

At Soil Mechanics, safety is our top priority. We continuously improve our safety through regular toolbox meetings and attentive listening to our employee's well-being. Our comprehensive safety management plans, safe operating procedures, risk registers and safe work method statements ensure a secure and safe working environment for everyone involved.

## ENVIRONMENTAL RESPONSIBILITY

Working in some of the most remote and environmentally sensitive regions of Australia, we take great care to minimise our impact on the surroundings. We understand the importance of environmental responsibility, ensuring we leave a positive footprint in our operations.

## COMPREHENSIVE SYSTEMS

Utilizing our extensive Quality Management System (QMS), Environmental Management System (EMS), and Occupational Health and Safety Management System (OHSMS), all aligned with ISO standards, our approach guarantees the attainment of the highest standards across every facet of our operations.

## TRAINING AND AWARENESS

We prioritise training at all levels to ensure our dedication to health, safety, and environmental protection. Regular project debriefs, safety meetings and performance reviews are essential components of our ongoing improvement initiatives. Driller's assistants hold a minimum of Cert II in Drillers, Cert III for senior drillers, and supervisors hold a Cert IV in Drilling Operations. Soil Mechanics guarantees that all staff members are certified in drilling operations and hold current VOC for all our equipment.

## RISK MANAGEMENT

Our full risk assessments and method statements meticulously outline site activities. Staff involved in specific tasks receive detailed briefings to enhance awareness and adherence to safety protocols.





## REDUCING OPERATIONAL DOWNTIME

By leveraging ISO 45001 and ISO 9001 as a benchmark, we strive to enhance worker engagement and overall business performance. Eliminating hazards and minimising OHS risks are vital in safeguarding the physical and mental health of our employees reducing downtime and mitigating the cost of operational disruptions.

## NURTURING A SAFETY CULTURE

At Soil Mechanics, we have diligently nurtured a strong safety culture within our workplace. This culture yields numerous benefits, including empowering our team members to make safety-conscious decisions and fostering an environment where everyone actively participates in safety initiatives.

## SATISFYING PRE-QUALIFICATION REQUIREMENTS

As a responsible drilling contractor in the mining and resource sector, we are proactive in working towards satisfying pre-qualification requirements. Demonstrating our commitment to improvement, we strive to meet and exceed industry standards, providing our clients with a sense of confidence and reliability.

In addition, all our contractors undergo pre-qualification checks to ensure safety management systems and certifications, training and insurances meet soil mechanics requirements.

### COMPLIANCE REQUIREMENTS

Soil Mechanics uses a systematic approach to evaluating compliance requirements to assure stakeholders of our commitment to workplace safety.

### COMMITMENT REQUIREMENTS

We demonstrate to customers, suppliers, staff, and the community our commitment to improving OHS performance and use ISO 45001 as a benchmark to proactively minimise safety risks.

### REDUCE OPERATIONAL DOWNTIME

We use ISO 45001 as a benchmark to improve worker's engagement and business performance as well as eliminate hazards and minimise OHS risks to protect the physical and mental health of our employees, reducing downtime and cost of operational disruptions.



“delivering excellence in every aspect of our operations”

## CONTACT US

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