

Drilling Rig Mobilisation Maintenance and Cuttings Management

Business Name:		ABN:
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	

SAMPLE

RISK MATRIX									
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	

Risk Rating & Required Action:	
4A	Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.
3H	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
1L	Proceed, following standard operating procedures. Monitor and keep records.

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
Catastrophic	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
Major	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
Moderate	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
Minor	First-aid only, no lost time	negligible delay	Isolated non-conformance
Insignificant	No injury	no schedule impact	Deviation caught and corrected on site

Notes on Hierarchy of Controls:
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. **Substitute**
3. **Isolate**
4. **Engineering**
5. **Administrative**
6. **PPE**

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. WHS Governance, Roles and Legislative Compliance	<ul style="list-style-type: none"> Unclear WHS responsibilities between Principal Contractor, drilling contractor and specialist subcontractors WHS management system not aligned with WHS Act 2011, WHS Regulation and relevant Codes of Practice (e.g. Managing Risks of Plant in the Workplace, Hazardous Chemicals, Confined Spaces) Inadequate consultation, cooperation and coordination between PCBUs involved in drilling, mobilisation and decommissioning activities Inadequate WHS planning for remote or isolated work and emergency response obligations Failure to integrate WHS requirements into contracts, tenders and project start-up documentation Insufficient management review of WHS performance and critical control effectiveness for drilling operations 	4A	<ul style="list-style-type: none"> Establish and maintain a documented WHS Management System for drilling and mobilisation activities that is demonstrably aligned with the WHS Act 2011, WHS Regulation and applicable Australian Standards and Codes of Practice Define and document WHS roles, responsibilities and delegations for officers, managers, supervisors, safety representatives and workers involved in rig mobilisation, maintenance, drilling mud systems and cuttings management Include explicit WHS obligations, performance standards and reporting requirements in all contracts with drilling contractors, transport providers and waste management contractors Implement a formal consultation and coordination framework between all PCBUs at each site, including pre-mobilisation WHS planning meetings and regular interface meetings Require senior leadership to conduct periodic WHS governance reviews, including verification of risk assessments, critical controls, training, and incident trends specific to drilling operations Ensure a documented legal register and compliance plan is maintained and periodically reviewed for relevance to drilling rigs, hazardous chemicals, waste and transport activities Integrate WHS KPIs for drilling and mobilisation into management performance reviews and contractor performance evaluations 	3H
2. Contractor Selection, Pre-Qualification and Onboarding	<ul style="list-style-type: none"> Engagement of drilling, transport or waste contractors with inadequate WHS systems or competency for drilling rig mobilisation and cuttings management Inadequate verification of licences, High Risk Work permits, plant registrations and VOCs for drilling rig crews and maintenance personnel Poor alignment of contractor procedures with principal contractor WHS requirements leading to gaps or conflicts in controls Insufficient mobilisation planning and onboarding for short-duration or one-off contractors Failure to manage changes in contractor scope, personnel or key plant during the project 	4A	<ul style="list-style-type: none"> Implement a formal contractor pre-qualification process that assesses WHS management systems, incident history, competency, and experience in drilling rig mobilisation, decommissioning and cuttings disposal Require contractors to provide evidence of licences, High Risk Work qualifications, VOCs, plant registrations and maintenance records before mobilisation and periodically during the contract Develop WHS bridging documents that align contractor and principal contractor procedures, identifying and resolving any gaps or conflicts for drilling, rig up/rig down and drilling mud systems Conduct structured WHS onboarding and site induction specific to drilling operations, including hazards associated with drill rods, drill pipes, collars and drilling fluids Require submission and approval of contractor WHS plans, risk assessments and critical control verification plans prior to mobilisation Establish a change management protocol for contractor scope, key personnel, or introduction/removal of major plant, with documented risk review and authorisation Monitor contractor performance with scheduled WHS audits, inspections and review meetings, and enforce corrective actions where performance is below agreed standards 	3H
3. Planning and Coordination of Rig	<ul style="list-style-type: none"> Inadequate logistical planning for mobilising and demobilising drilling rigs, 	4A		2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
Mobilisation, Demobilisation and Transport	<ul style="list-style-type: none"> resulting in time pressure and unsafe decisions Poor coordination of multiple heavy vehicles, oversize loads and support plant on limited-access or remote roads Insufficient assessment of transport routes, bridge limits, overhead services and ground conditions at access tracks and pads Lack of integrated schedule between drilling, maintenance, mud system operations and cuttings management activities, causing congestion and SIMOPS conflicts Failure to plan for weather impacts, restricted visibility, or seasonal ground instability affecting rig move and decommissioning Inadequate communication of rig move plans to local communities, landholders and affected parties 		<ul style="list-style-type: none"> Develop a formal Rig Mobilisation and Demobilisation Plan covering transport routes, oversize load permits, escort requirements, staging areas, and sequencing of rig components Conduct documented route surveys and risk assessments for access roads and site approaches, including bridge load limits, gradients, turning points, overhead lines and low-strength surfaces Implement a SIMOPS (simultaneous operations) management process to coordinate drilling, maintenance, mud systems, cuttings handling and third party operations on and near the drill pad Integrate weather and seasonal constraints into planning, including defined triggers for postponement or escalation (e.g. heavy rain, high winds, fire danger) Establish planning meetings involving drilling supervisor, transport coordinator, maintenance, HSE and client representatives to review and approve rig move schedules and risk controls Use formal journey management and fatigue management procedures for all drivers and mobile plant operators involved in mobilisation and decommissioning Develop communication protocols and notification procedures to inform landholders, neighbours and relevant authorities of major mobilisation and demobilisation activities 	
4. Site Selection, Pad Design and Ground Stability Management	<ul style="list-style-type: none"> Selection of drill pad locations with inadequate geotechnical stability for rig loads, ancillary plant and storage of drill rods and collars Insufficient pad design to control surface water, mud spillage and erosion around drill sumps and cuttings stockpiles Inadequate separation distances between rig, support equipment, fuel storage, mud tanks, cuttings pits and public interfaces Poor control of underground and overhead services at or near drilling locations Inadequate management of decommissioned drill sites leading to subsidence, erosion, or legacy hazards 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
5. Plant and Equipment Design, Procurement and Maintenance Systems	<ul style="list-style-type: none"> • Use of drilling rigs, ancillary plant, drill rod handling equipment and mud systems that are not fit-for-purpose or not compliant with plant safety requirements • Inadequate preventative maintenance programs for critical plant (hoisting equipment, rotary tables, top drives, mud pumps, pipe handling systems, cranes, forklifts) • Failure of safety-critical components (brakes, guards, interlocks, emergency stops, lifting gear) due to poor inspection regimes • Uncontrolled modification of plant, including home-made attachments for handling drill pipes and collars • Incomplete plant registration, inspection and certification for high-risk plant under WHS Regulation 	4A	[REDACTED]	2M
6. Drilling Rig Setup, Rig Up/Rig Down Management and Structural Integrity	<ul style="list-style-type: none"> • Rig structural failure or collapse due to incorrect rig up/rig down or inadequate verification of foundation and guying systems • Inadequate systems to manage exclusion zones during rig raising, lowering and mast operations • Insufficient procedural controls for simultaneous lifting of heavy rig components using cranes, winches and forklifts • Lack of verification that rig safety systems (limit switches, emergency stops, overload protection) are functional prior to operation • Time pressure and production incentives leading to deviation from rig up/rig down procedures 	4A	[REDACTED]	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[REDACTED]	
7. Drill Rod, Pipe and Collar Handling and Storage Systems	<ul style="list-style-type: none"> Systemic reliance on manual handling of drill rods, pipes and collars due to inadequate mechanical aids or poor layout Uncontrolled movement or collapse of stacked drill rods and collars during storage or transport Inadequate inspection and rejection criteria for damaged or worn rods, pipes and collars, leading to in-hole failures or dropped objects Poor segregation between rod racks, vehicle movements and pedestrian walkways Inadequate procedures for rod loading/unloading from trucks and rod transport frames 	4A	[REDACTED]	2M
8. Drilling Mud System Design, Operation and Chemical Management	<ul style="list-style-type: none"> Poorly designed mud systems leading to uncontrolled release of drilling fluids, overflow of tanks and mixers, or inadequate solids control Inadequate assessment and management of hazardous chemicals used in drilling muds (e.g. caustics, polymers, lubricants, biocides) Insufficient containment and bunding around mud tanks, mixing areas and transfer lines Exposure of workers to chemical splashes, inhalation or skin contact due to inadequate system controls Inaccurate monitoring of mud properties affecting well stability, borehole integrity and cuttings transport 	4A	[REDACTED]	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	<ul style="list-style-type: none"> Inadequate integration between mud system operations and cuttings management processes 		[REDACTED]	
9. Drill Cuttings Handling, Storage, Treatment and Disposal	<ul style="list-style-type: none"> Inadequate system for containment and storage of drill cuttings leading to contamination of soil and water Improper characterisation of cuttings (e.g. contaminated with hydrocarbons, heavy metals or drilling chemicals) prior to disposal Unclear responsibilities and procedures for transport, treatment and final disposal of drill cuttings off site Over-reliance on open pits or sumps without engineering controls or monitoring Failure to verify that third-party waste contractors manage cuttings in accordance with environmental and waste legislation Residual contamination at decommissioned drill sites from poorly managed cuttings disposal 	4A	[REDACTED]	2M
10. Traffic, Mobile Plant and Journey Management for Rig Mobilisation	<ul style="list-style-type: none"> Poor traffic management on and around drill sites during mobilisation, rig up/rig down and decommissioning Interactions between heavy vehicles, cranes, forklifts, light vehicles and pedestrians in constrained rig pads and access roads Inadequate journey management for long-distance transport of rig components, drill rods and mud products Fatigue-related incidents involving drivers and mobile plant operators due to extended work hours and remote operations 	4A	[REDACTED]	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	<ul style="list-style-type: none"> Insufficient controls for reversing, blind spots and operating near edges or unstable ground 		[REDACTED]	
11. Workforce Competency, Training and Supervision	<ul style="list-style-type: none"> Inadequate competency of drilling crews, maintenance teams and rig movers for complex mobilisation, maintenance and cuttings management tasks Lack of formal verification of competency for high-risk roles (crane operators, doggers, riggers, drillers, mud engineers, plant mechanics) Insufficient supervision, particularly during night work, remote operations and rig up/rig down activities Failure to provide site- and task-specific training on new equipment procedures or changes to drilling program Poor handover processes between shifts or between drilling and maintenance teams leading to miscommunication 	4A	[REDACTED]	2M
12. Procedures, Permits and Change Management	<ul style="list-style-type: none"> Lack of up-to-date procedures covering drilling rig mobilisation, maintenance, mud system operation, cuttings management and decommissioning activities Informal work practices that deviate from documented procedures without proper assessment Inadequate permit-to-work systems for high-risk activities such as working at height on rigs, lifting operations, hot work, isolation and confined spaces Poor management of change when altering drilling parameters, equipment 	4A	[REDACTED]	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	<ul style="list-style-type: none"> configurations, chemicals or disposal routes • Insufficient document control leading to use of obsolete procedures and drawings on site 		[REDACTED]	
13. Emergency Preparedness, Incident Management and Well Control Events	<ul style="list-style-type: none"> • Inadequate emergency response planning for rig fires, blowouts, loss of well control, major spills, structural collapse or serious injury • Poor alignment between site emergency procedures, contractor plans and local emergency services capabilities • Lack of drills or exercises involving realistic drilling-related scenarios and cuttings/mud system failures • Insufficient communication equipment and protocols for remote or isolated drill sites • Inadequate incident reporting, investigation and corrective action processes leading to repeat of similar failures 	4A	[REDACTED]	2M
14. Health, Hygiene, Fatigue and Remote Work Management	<ul style="list-style-type: none"> • Fatigue and reduced alertness due to shift patterns, camp conditions, travel time and remote working arrangements • Exposure to noise, vibration, dust, fumes and chemicals from drilling operations, mud systems and maintenance activities • Inadequate health monitoring for workers exposed to hazardous substances in drilling fluids or cuttings • Insufficient facilities and systems to manage hygiene, sanitation and accommodation at remote drill sites 	3H	[REDACTED]	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	<ul style="list-style-type: none"> Psychological risks associated with remote work, isolation, long rosters and high-pressure projects 		[REDACTED]	
15. Environmental Protection, Decommissioning and Site Rehabilitation	<ul style="list-style-type: none"> Inadequate planning for decommissioning drill sites leading to residual contamination, unstable ground or unmarked legacy infrastructure Poor control of spills, leaks and discharges from fuel, oils, drilling muds and cuttings during operations and demobilisation Failure to meet landholder, regulator or client requirements for site rehabilitation and reinstatement Insufficient monitoring and documentation of environmental performance during and after drilling Uncontrolled removal or alteration of sumps, temporary ponds and containment structures 	3H	[REDACTED]	2M

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES FOR ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory

Work Health and Safety Act 2011
 Work Health and Safety Regulations 2011
 Legislation QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws>
 Codes of Practice QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice>
 Legislation ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations>
 Codes of Practice ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice>

Victoria

Occupational Health and Safety Act 2004
 Occupational Health and Safety Regulations 2017
 Legislation VIC: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>
 Codes of Practice VIC: <https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice>

New South Wales

Work Health and Safety Act 2011
 Work Health and Safety Regulations 2025
 Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>
 Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/list-codes-of-practice>

Western Australia

Work Health and Safety Act 2020
 Work Health and Safety Regulations 2022
 Legislation Western Australia: <https://www.commerce.wa.gov.au/worksafe/legislation>
 Codes of Practice WA: <https://www.commerce.wa.gov.au/worksafe/codes-practice>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011
 Work Health and Safety (National Uniform Legislation) Regulation 2011
 Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>
 Codes of Practice NT: <https://worksafe.nt.gov.au/factsheets-and-resources/codes-of-practice>

Safe Work Australia Links

Law and Regulation (All States): <https://www.safeworkaustralia.gov.au/law-and-regulation>
 Model Codes of Practice: <https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice>

South Australia

Work Health and Safety Act 2012 (SA)
 Work Health and Safety Regulations 2012 (SA)
 Legislation for SA: <https://www.safework.sa.gov.au/resources/legislation>
 Codes of Practice for SA: <https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs>

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work

Tasmania

Work Health and Safety Act 2012
 Work Health and Safety (Transitional and Consequential Provisions) Act 2012
 Work Health and Safety Regulations 2012
 Work Health and Safety (Transitional) Regulations 2012
 Legislation for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations>
 Codes of Practice for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice>

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.