



Insitu Geotech Services Pty Ltd

ABN 46 091 597 661

20 Jensen Rd Banyo 4014

**IGS**

# PLANT HAZARD ASSESSMENT

“BERYL” – Truck-mounted Testing Rig

Generic Project

RIG:

SITE/PROJECT:

Personnel Involved	Assessed By	Project Operator	Off-Sider (may be two)	Notes re Operator/Off-Sider Training
	Allan McConnell			In situ testing is a “niche” business with very few rigs in Australia. There are no specific training courses or certificates available. IGS undertakes our own in-house training, much of this on-the-job. Off-siders may be trainee rig operators, or even well-experienced trained operators working as assistant to a newly trained operator for mentoring purposes.
<b>Qualifications/Training:</b>	Registered Professional Engineer			
<b>General Notes:</b>	This Risk Assessment was made on the date shown below. It is a part of IGS’s normal operation that the rig is also inspected daily in a pre-start as a precaution against changes that may have occurred (eg equipment failures or modifications) that may impact on risk. This is recorded on the Operator’s Daily Record Sheet.			

## GENERAL INFORMATION ON THE RIG



### Purpose-built rig on 6x4 Hino 700 Truck Base

Year Built: 2007

Registration: 907-KLX

On-board broadband

Differential GPS

Mass 15t

Push capability (up to 150kN)

### Test Types:

- Geomil CPT & CPTu
- Tee-Bar
- DMT & SDMT
- Vane Shear

### Also:

- Piezometers
- Standpipes
- Vertek piston sampling
- Eziprobe Sampling



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## RISK ASSESSMENT

No	Potential Hazard	Checked			Control Methods in Place	Adequate		Notes on Existing Controls or Additional Control Required	Action Date	Done Date
		Yes	No	N/A		Yes	No			

### 1 CRUSHING AND CUTTING - Can any person be crushed or cut due to:

1.1	unexpected movement of the rig	√			truck can only start in neutral	√				
					reversing/travel alarm	√				
					amber flashing beacon	√				
					rear view mirror	√				
					pedals/controls non-slip	√				
					controls have appropriate knobs	√				
					reversing lights fitted	√				
					reversing camera fitted	√				
1.2	lack of capacity for plant to be slowed, stopped or immobilised	√			park brake operational	√				
					battery isolator fitted	√				
					total rig system isolator fitted	√				
					drive system is deadman style	√				
					emergency stop switch fitted					
1.3	the plant tipping or rolling	√			rig has very low centre of gravity	√		~80% of mass is below 1.5m height		
					rig is stationary when working	√				
1.4	being thrown from the plant	√			No-one in cabin when traversing	√		signed at cabin doorway (lockable)		
					seat belts fitted in driver cabin	√				
1.5	coming into contact with sharp objects	√			engine is isolated and guarded	√				
					no visible signs of sharp objects	√				

### 2 STRIKING - Can any person be struck by moving parts due to:

2.1	working pieces being ejected	√			push head is purpose-designed	√		only work pieces are CPT push rods		
					push-pull clamps restrain rods	√		these cannot be ejected from the		
					pusher moves slowly - 2cm/sec	√		slow-moving purpose-designed		
					“nip point” decals fitted	√		pusher system		



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2.2	mobility of plant travelling	√			reversing/travel alarm	√				
					amber flashing beacon	√				
					rear view mirror	√		not required – rig drives both ends		
					reversing lights fitted	√		traversing lights both ends		
					reversing camera fitted	√		not required – rig drives both ends		
2.3	controls unidentified	√			controls are all identified	√				
					and are labelled in clear English	√				

### 3 ENTANGLEMENT – Can anything become entangled in moving parts

3.1	in engine area	√			rig engine is isolated and lockable	√				
					rig engine is fully guarded	√				
3.2	in cabin during testing	√			pusher moves slowly - 2cm/sec	√				
					“nip point” decals fitted	√				

### 4 FALLING – SLIPPING – Can any person fall/slip due to:

4.1	lack of proper work platform	√			work cabin is purpose-designed	√				
					floor has non-slip surfaces	√				
4.2	lack of proper stairs/steps	√			cabin floor is only 1.5m high	√		potential fall-height is very low		
					steps to cabin are purpose-built	√		3-points of contact provided		
4.3	lack of guardrails / handrails	√			hand-holds provided in doorway	√		doorway is only relevant location		
4.3	poor housekeeping	√			no visible lubricant leakage	√				
					no consumables used in operation	√		ie no litter build-up		
					work area is purpose-designed	√				



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**5 ERGONOMIC – Can any person be injured due to:**

5.1	poor seating	√			drivers seat in good condition	√				
					operators seat in good condition	√				
5.2	constrained body effort	√			all controls are in operator’s reach	√				

**6 HIGH TEMPERATURE – Can any person be burnt due to contact with hot parts:**

6.1	around engine area	√			engine is quite separate to cabin	√				
					engine is guarded	√				
					exhaust is high – out of reach	√				
6.2	in cabin during operation	√			no engine or exhaust access	√		observations indicate hydraulics may become hot but not scalding		
					hydraulic system is external	√				
					hydraulics guarded and locked					
					hydraulic hoses are wrapped	√				
					hot warning decals fitted	√				

**7 ELECTRICAL – Can any person be shocked due to:**

7.1	coming into contact with live electrical conductors	√			240v wiring is tagged and tested	√				
					no access decals fitted	√				
7.2	lack of tag out procedure	√			tag out procedure is in place	√				
7.3	damaged leads & switches	√			no visible signs of damage	√				
					all devices are tested and tagged	√				
					all is protected by safety switches	√				
7.4	batteries are not protected	√			batteries are in locked box	√				



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**8 OTHER HAZARDS – Can any person be injured due to:**

8.1	fumes or dust	√			engine fumes are outside cabin	√				
					doors & windows seal adequately	√				
8.2	noise	√			noise in cabin ~83db full power	√		noise is intermittent – PPE used		

**9 OPERATOR – Have the following areas been addressed:**

9.1	Is the operator trained and qualified to operate this plant	√			in-house trained by IGS construction industry card holder drivers hold HR min licences	√ √ √		no external rig training available		
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**10 DOCUMENTATION – Can documentation be provided:**

10.1	Operation Manual issued	√			rig purpose-built	√		no unitised manual exists		
					testing systems	√		manual available for CPT & DMT		
					truck	√		kept on board		
10.2	Servicing and Maintenance records	√			records maintained by company	√		available on request		

**11 STRUCTURE – Can any person be injured due to structural defects**

11.1	Design Certificate	√			records maintained by company	√		available on request		
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