## JOB SAFETY ANALYSIS



## DEVELOPING, MANAGING AND OPERATING BROTTA

DEVELOPING BROTTA			
TASK	HAZARDS	CONTROLS	
1. Lifting heavy objects	Back injury	Lower hands to level of objects using combination of arm extension and leg bending at the knee. Ensure back is straight throughout the lifting operation.	
	Hand injury	Use working gloves to protect hands from sharp edges. Lift using designated lifting handles and use full palm to lift.	
	Foot injury	Stand with feet about one meter apart and wear steel-toe safety shoes.	
2. Using sharp tools	Eye injury	Wear safety goggles.	
	Cutting hazard	Wear working gloves and use tool with direction of operation away from the body.	
3. Operating high speed tools	Ear injury	Wear noise blocking earmuffs	
	Eye injury	Wear safety goggles.	
	Cutting hazard	Keep hands away from tool head at all times.	
	Entanglement hazard	Tie back long hair and keep rotating parts clear of strings, ropes and flexible fabrics/materials.	
4. Soldering electrical connections	Respiratory hazard	Use a soldering fumes extractor.	
	Skin burn	Make sure soldering iron or hot air hand tool is in its holder when not in use.	
5. Launching and retrieving Brotta	Hand injury	Hold from integrated handles.	
	Falling hazard	Have a fellow company member help out.	
	Back injury	Lift using legs and ensure back is straight.	

	MANAGING AND OPERATING BROTTA			
	TASK	HAZARDS	CONTROL	
	6. Loading ROV on and off transportation cart	Back injury	Lift using legs and ensure back is straight.	
		Hand injury	Hold from detachable lifting handles.	
	7. Connecting tether	Tether pulling	Ensure tether is attached to station side strain relief.	
	8. Dry running	Hand injury	Keep hands clear of propellers, rotating shafts and manipulators.	
		Manipulator damage	Ensure manipulator is clear of objects between and around its jaws.	
	9. Operating Brotta	Back strain	Sit with straight back and on an ergonomic chair.	
		Eye strain	Adjust screen brightness to match ambient lighting, take 15 minute breaks every hour.	
		Hand RSI	Chosen joystick has an ergonomic design.	
	Required Training:	Required Personal Protective Equipment (PPE):		
	-Machinery and power tools training	-Noise blocking earmuffs		
	-Soldering training	-Eye goggles		
	-ROV handling training	-Steel-toe safety shoes		
	-ROV operation training	-Work gloves		
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