	OPERATING AQUALINE LINERS	
	Hazard Identification, Risk Assessment and Control	
Authorised by: Nick Bodley	Purpose	This procedure defines the processes to be followed in order to identify health and safety hazards, assess the risks associated with hazards relating to use of liners.
	Scope	This risk Assessment details the safe handling procedures for Aqualine hole liners and the installation in a blast hole.
	Responsibility	Any personnel using hole lining products are responsible for compliance with and implementing this procedure in their area of responsibility.

1. Introduction

This procedure defines the processes to be followed in order to identify health and safety hazards, assess the risks associated with each hazard and apply controls (where required) to reduce associated risks.

2. Risk Assessment

When assessing risk, the likelihood of the hazard occurring and the potential consequences if the hazard occurred are to be considered, as described in the following tables.

Qualitative measures of Likelihood

Level	Descriptor	Description
A	Almost certain	Daily Occurrence: Common or frequent.
B	Likely	Weekly Occurrence: Has happened or a near miss has occurred within PDL Toll.
C	Possible	Monthly Occurrence: Could occur or has been known to have occurred else where.
D	Unlikely	Annual Occurrence: Feasible to occur, not known to have occurred else where.
E	Rare	Once in 5 years: Whilst feasible, considered to be highly unlikely but not impossible.
F	Extremely Rare	< Once in 5 years: Practically impossible.

Qualitative Measures of Consequence

Level	Descriptor	Example Detail Description
1	Insignificant	No injuries would be expected, possible minor discomfort. Insignificant financial loss
2	Minor	Minor / in-house first aid treatment, able to return to work immediately with no lost time. Minor financial loss
3	Moderate	External medical treatment required possible lost time injury. Moderate Financial Loss
4	Major	Extensive injuries, lost time injury, hospitalisation. High financial loss
5	Catastrophic	Potential death or permanent disability. Detrimental financial loss



OPERATING AQUALINE LINER

Hazard Identification, Risk Assessment and Control

Qualitative Risk Analysis Matrix – Level of Risk

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (Almost certain)	H	H	E	E	E
B (Likely)	M	H	H	E	E
C (Moderate)	L	M	H	E	E
D (Unlikely)	L	L	M	H	E
E (Rare)	L	L	M	H	H
F (Extremely Rare)	L	L	L	M	M

Legend - E: Extreme Risk; **H:** High Risk; **M:** Moderate Risk; **L:** Low Risk

RISK ASSESSMENT: OPERATING ZERO BLAST BAG

STEP	ACTIVITY	HAZARD(S) IDENTIFIED	RISK(1)	RISK CONTROL(S) REQUIRED	RISK (2)
1.	Selection: Choose the correct size liner to suit the blasthole and support roll for manual handling	Muscular /joint pain Slip/Trip	D1 Low Risk	Stretch prior to activity Clear work area	F1 Low Risk
	Remove protective packaging and pull out approx 1.5m	Muscular /joint pain Slip/Trip	D1 Low Risk	Stretch prior to activity Clear work area	F1 Low Risk
2.	Take approximately 1m tail of material and place a bind using electrical tape or a cable tie	Pinch Point Muscular /joint pain Slip/trip	D1 Low Risk	PPE-Gloves Stretch prior to activity Clear work area	F1 Low Risk
3.	Overlap tied end to form a skirt	Muscular /joint pain Slip/Trip	D1 Low Risk	Stretching prior to activity Clear work area	F1 Low Risk
4.	Push charging hose into skirt and feed liner up the blast hole	Manual handling/store d energy	C3 Moderate	Stretching prior to activity. Check to make sure charge hose is isolated	F1 Low Risk
5.	Once liner has been fed to end of hole, cut liner with scissors. Remove charging hose	Manual handling/store d energy, cutting	C3 Moderate	Check to make sure charge hose is isolated, Use PPE – Gloves	F1 Low Risk
6.	Feed charge hose up the centre of the hole liner with Primer and detonator. Charge as per normal.	Compressed air, explosives and debris	C3 Moderate	Site loading requirements and PPE	E2 Low Risk
7	Remove Charging hose when complete. Plug off hole to prevent explosives slumping or falling out.	Hole slumping and misfires	D3 Moderate	Ensure explosive is packed and use a Gas Bag or mechanical plug	F3 Low Risk

3. SAFETY AND HAZARDS

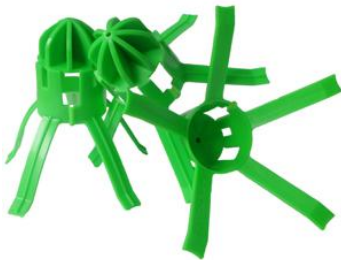
- Product is inert and only hazard comes from manual handling rolls. Adopt site policy for handling and use.
- Product conforms to AS2187.2-2006 for use with explosives

4. SAFE HANDLING PROCEDURES

- **Storage** – Do not store in direct sunlight or exposed outdoors, materials are petroleum based and will degrade if exposed to the elements.
- **Transport** – Transport as normal goods.
- **Disposal** – Product can be recycled – dispose of responsibly

5.0 MATERIALS / EQUIPMENT

- Liner
- Support
- PPE
- Scissors
- Electrical tape or cable ties
- Optional accessories: Spiders, Bottlebrush, Gas bag, Airbag and Mechanical Plug



6.0 SAFE WORKING PROCEDURE

1. Select correct size liner for hole diameter.
2. Place roll on a support to elevate from ground and protect from damage
3. Bind liner approximately 300mm - 1m from end with electrical tape or cable tie
4. Fold liner over itself to protect leading edge from abrasion
5. Push loading hose into pocket created by overlap (skirt)
 - a. For better protection you can use a stopeprime spider on the leading edge
 - b. Using electrical tape to bind the hose can help in bad ground
6. Feed liner up (or down) the hole using the loading hose making sure that the liner does not twist
7. When at the end of the hole, cut liner and retract the hose
8. Feed Charge hose inside liner carrying with it the primer and detonator – charge hole as per site procedures
9. Remove charge hose from charged liner
10. Placing a gasbag or mechanical plug can improve housekeeping and reduce explosive spillage.

