

How Broad-Brush Risk Assessments Reveal True Critical Risks

Christian Young – CEO



Tell us about you

Where are you watching from? Rename to full name

What's your experience with Broad Brush Risk Assessment?

• 0: None > 10: I live and breathe them

Turn on video



How Broad Brush Risk Assessments Reveal True Critical Risks

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3 Gets

Get your tools

Get rid of distractions

Get in state

Broad Brush Risk Assessment (BBRA)

- The BBRA looks across an entire site/business to identify risks, controls and prioritise them.
- Identifies Critical Risks
- It's the gateway to the Critical Risk
 Management Process
- WRAC template most common
- BBRA Vs BLRA?

	Consequence Types (given current controls)					Consi			Maximum			wl I				
Max Risk Rank	(S&C)	(L&R)	(A)	(4)	(3)	2.8H)	Likelihood of the Event (given current controls)	Current Controls	Functional Ownership	Material Unwante d Event (Yes, No)	consequen ce (with no controls)	Description of Unwanted Event	Release Mechanism Example of how this energy can be released (unwanted events)	Hazard / Risk Source Description	Hazard / Risk Source Classification	Geographic Area
34 (E)						C6: Ext	L4: Likely	Corporate - Major Hazard Management Standard Regional - Principal Mining Hazard Management Standard TM & SD - Areas where mobile equipment operates PHMP M & SD - Traffic Management Plans TM & SD - Underground Traffic Management Plan	Open Pit Manager Mining	Yes	C6: Ext	Loss of control of mobile equipment (underground)	Single Vehicle Incident (Rollover, runaway, uncontrolled movement, break through windrow, runaway vehicle) Multiple Vehicle Incident (Vehicle Collision), Pedestrian Strike	Underground Mobile Equipment	Mechanical (Mobile)	Underground
34 (E)						C6: Ext	L4: Likely	Coporate - Major Nazard Management Standard Balandari Bagonal - Principal Mining Historia Management Standard Bagonal - Principal Mining Historia Management Standard Georgia Philip Ma. 50 - Association Standard Management Plana SD - Autonomous Equipment Management Plan	Open Pit Manager Mining	Yes	C6: Ext	Loss of control of mobile equipment (surface)	Tiggle Verkiels Incident (Rollover, unawaye, uncontrolled movement, unawaye, uncontrolled movement, contact with infrastructure, contact with infrastructure, contact with (Verkiels Collsion), Perelation Strike, (Verkiels Collsion), Perelation Strike, 2b-14suige or electroned strike, and the contact of the	Surface Mobile Equipment	Mechanical (Mobile)	Surface
34 (E)						C6: Ext	L4: Likely	Corporate - Major Hazardi Management Standard Regional - Principal Mining Hazardi Management Standard SD - Offsite Journey Management and Remote Area Access Procedure TM - Drive in and Drive Out Procedure	Open Pit Manager Mining	Yes	C6: Ext	Loss of control of vehicle offsite	Journey incident, Single Vehicle Incident, vehicle Collision,	Offsite vehicle incident	Mechanical (Mobile)	Offlease
32 (E)						C6: Ext	L3: Unlikely	TM - TGM Scaffolding Management Plan SD - Classified Plant Procedure Third Party Annual Structural Integrity Audit	Chief Engineer	Yes	C6: Ext	Collapse of Structure	Processing plant structural failure, Tank Failure, Conveyor structure failure, Bin Structural Failure, Failure of concrete foundations	Collapse of Structure	Mechanical (Fixed)	Whole of Site
30 (M)						C6: Ext	L2: Very Unlikely	Corp. AGAA Aviation Procedure Corp. AGAA Aviation Procedure Corp. AGAA Remote Piblical Alexaft Corp. Activations Selvity Management System, D. Dones May Nysige Gallery D. Dones May Nysige Gallery TW. Acetodorea Selvity Management System, TW. Acetodorea Selvity Management System, TW. Acetodorea Selvity TW. Ac	Regional Aviation Appointed person - Aerodrome Survey - Drone	Yes	C6: Ext	Aviation Incident	On site Incident, offsite incident, Drones, Helicopter operations, Charter Flights, underground drones	Aviation Incident	noîtsivA	Whole of Site
30 (M)						C6: Ext	L2: Very Unlikely	TM - Confined Spaces Procedure TM - Fermit to Work and tolablons Procedure 50 - PTW - Confined Entry Procedure 50 - PTW - Fermit to Work 50 - PTW Permit to Work	Processing Manager	Yes	C6: Ext	Exposure to toxic or irrespirable atmosphere in confined space	Toxic Atmosphere, Engulfment, Irrespirable atmosphere flammable atmosphere Tanks, chutes, pits, mobile plant spaces,	Confined Spaces	Confined Spaces	Whole of Site
30 (M)						C6: Ext	L2: Very Unlikely	Corporate - Major Hazard Management Standard Regional - Principal Mining Hazard Management Standard SD - Fire Explosions PHMP TM - Pire Explosions PHMP	H&S Manager	Yes	C6: Ext	Explosion (not from Explosives)	Flammable gas, Bottled Gas, O2 Plant, Hot Works,	Explosion (not from Explosives)	Pressure / Explosions	Whole of Site
27 (M)						CS: Maj	L2: Very Unlikely	Coponate - Major Hazard Management Standard Begional - Principal Mining Hazard Management Standard 50 - Fire Epischicus FMMP 50 - Fire Protection Epischicus FMMP 50 - Fire Protection Epischicus FMMP 50 - Fire Protection Epischicus Impairment Procedure 50 - Fire Protection Systems Impairment Procedure		Yes	CS: Maj	Surface fire	Building fire, conveyor fire, tyre fire, bush fire, weenerbouse, hazardous substance, Mobile Equipment Fire, Mill Fire, Lithium batteries in battery propelled transport (e.g. buggy's).	Surface Fire	Fire	Surface

What's the impact if you have no BBRA or a deficient BBRA?



Where are we with BBRA?







How do we know this to be true?



My Promise



I help you save lives at work



































My style

UMM!!!!

Shorten it to "CCM"

We'll move fast

I need you







Content

3 secrets

Q&A

My all won't be enough



Stick around

Slides

This Recoding

Free bonus?

What's the hardest part about getting BBRA's right in your business or from your experience?

1. Separate the wheat from the chaff

Clarify the level of BBRA risks



Imagine if

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Does this sound familiar?

- Too many line items
- Uncertainty on what risks live in the BBRA
- Overwhelmed by BBRA size
- BBRA does not link to rest of Risk
 Management System



You get clarity on BBRA content

Wouldn't it be nice if



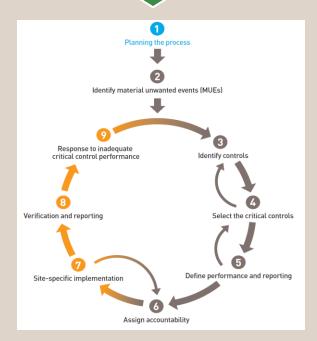
Your BBRA contained only the most important risks for your business



The BBRA integrated with the Risk Management system

All Risks

BBRA Risks



Materiality Criteria

The consequence criteria that meets a certain threshold

		Health & Safety	Environment	Financial Impact	Image & Reputation / Community	Legal & Compliance
Material Consequences will be included within	5 Catastrophic	Multiple fatalities (5 or more fatalities in a single incident) Multiple cases (5 or more) of Permanent Damage Injuries or Diseases that result in permanent disabilities in a single incident	Unconfined and widespread Environmental damage or effect (permanent; >10 years) Requires major remediation	 >\$600M investment return >\$100M operating profit >\$20M property damage 	Loss of multiple major customers or large proportion of sales contracts Security incident resulting in multiple fatalities or major equipment damage Formal expression of significant dissatisfaction by government Grievance from internal or external stakeholder alleging human rights violation resulting in multiple fatalities	Major litigation / prosecution at corporate level Nationalisation / loss of licence to operate
the BBRA Materiality Thresh	4 Major	Single incident resulting in: Less than 5 Fatalities Permanent Damage Injury or Disease that results in a permanent disability- less than 5 cases in a single incident	Long-term (2 to 10 years) impact Requires significant remediation	\$60-600M investment return \$20-100M operating profit \$2-20M property damage	Security/ stakeholder incident resulting in single loss of life or equipment damage Topic of broad societal concern and criticism Negative media coverage at international level Complaints from multiple "final" customers Loss of major customer Negative impact on share price	Major litigation / prosecution at Department level
Immaterial	3 Moderate	Lost Time Injury (LTI) Lost Time Disease (LTD) Permanent Disabling Injury (PDI) Permanent Disabling Disease (PDD) Single incident that results in multiple medical treatments	Medium-term (<2 years) impact (typically within a year) Requires moderate remediation	\$6-60M investment return \$2-20M operating profit \$200K-2M property damage	Negative media coverage at national level over more than one day Complaint from a "final" customer Off-spec product Local Stakeholder action resulting in national societal scrutiny	Major litigation / prosecution at Operation level
will not be included within the BBRA Managed via other Risk	2 Minor	Medical Treatment Injury (MTI) Medical Treatment Disease (MTD) Restricted Work Injury (RWI) Restricted Work Disease (RWD)	Near source Short-term impact (typically <week) minor="" remediation<="" requires="" th=""><th>\$600K-6M investment return \$200K-2M operating profit \$10-200K property damage</th><th>Negative local/ regional media coverage Complaint received from an internal or external stakeholder</th><th>Regulation breaches resulting in fine or litigation</th></week)>	\$600K-6M investment return \$200K-2M operating profit \$10-200K property damage	Negative local/ regional media coverage Complaint received from an internal or external stakeholder	Regulation breaches resulting in fine or litigation
Management (WRAC, JSA, SLAM)	1 Negligible	First Aid Injury (FAI) or illness (not considered disease or disorder)	Near source and confined No lasting environmental damage or effect (typically <day) minor="" no="" or="" remediation<="" requires="" th=""><th><\$600K investment return <\$200K operating profit <\$10K property damage</th><th>Negligible media interest</th><th>Regulation breaches without fine or litigation</th></day)>	<\$600K investment return <\$200K operating profit <\$10K property damage	Negligible media interest	Regulation breaches without fine or litigation

All Risks

BBRA Risks



Critical Risks





Self Assessment

 Provide a rating of 1 to 10 on whether you have clearly defined and utilised Materiality Criteria.



Using Materiality Criteria to identify hazards is one of the secrets to your BBRA revealing your True Critical Risks

2. Assess your business processes

Identify and review your business processes



Imagine if

Does this sound familiar?

- Focus on hazard checklists and historical risks to identify BBRA risks
- Uncertainty if the BBRA covers all operational processes



How can you perform an effective Risk Assessment if you don't know the process you are analysing?

Wouldn't it be nice if



You were certain your BBRA covered all operational processes

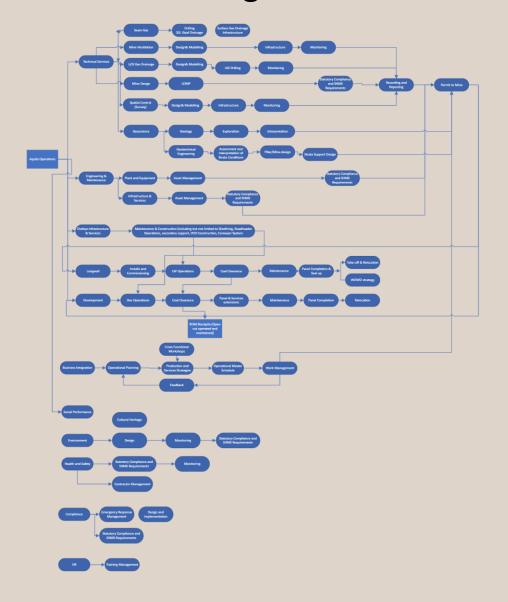


Define your processes

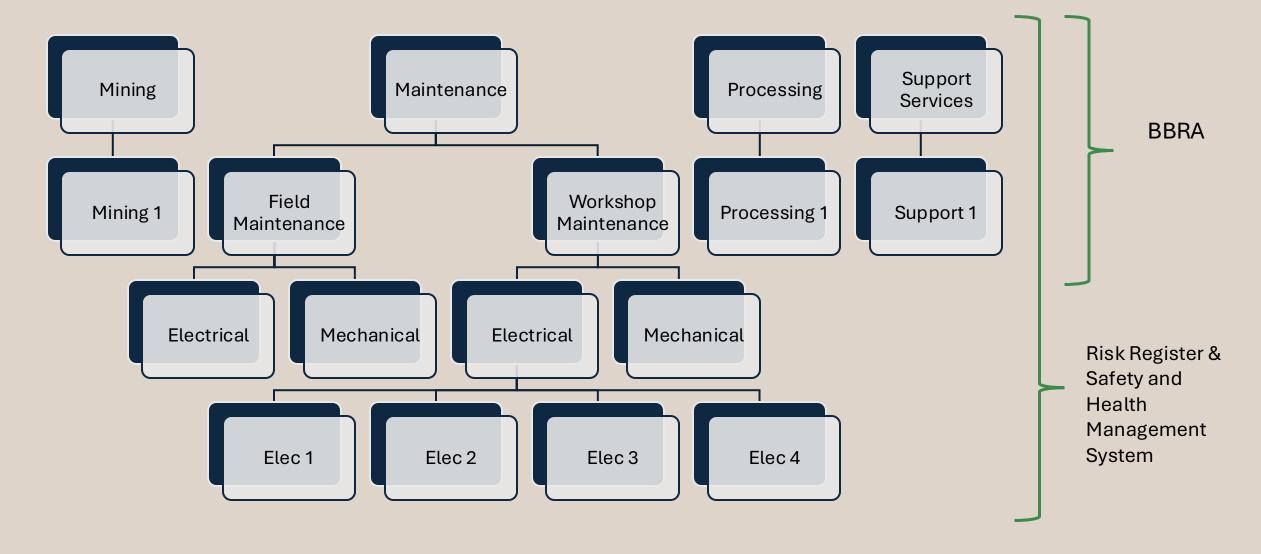
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			Dust suppression
			Stoneworks Fault Management

Flow Diagram View



Find the right level



How to use

- As a cross reference during BBRA Front End loading
- During the session by asking for each process step – "are there any hazards that meet our materiality criteria when performing this activity?"
- Suggest using as a cross reference as opposed to primary BBRA driver.

Pro Tip

Perform the same level of assessment for the Geographic area also



Self Assessment

• Provide a rating of 1 to 10 on how effective your BBRA process is at identifying all operational activities and geographic areas and using this within the BBRA process.





Developing and using a process map is a secret to your BBRA revealing your True Critical Risks

Stay above the waterline

Focus on the right level of hazards and controls





It's gone offtrack

Does this sound familiar?

- BBRA controls include system controls down to 'on the job on the day' controls.
- BBRA identifies hazard causation
- BBRA Performs control effectiveness assessments
- BBRA performs duplicate risk analysis of subordinate RA's

Wouldn't it be nice if



The BBRA identified the right level of controls

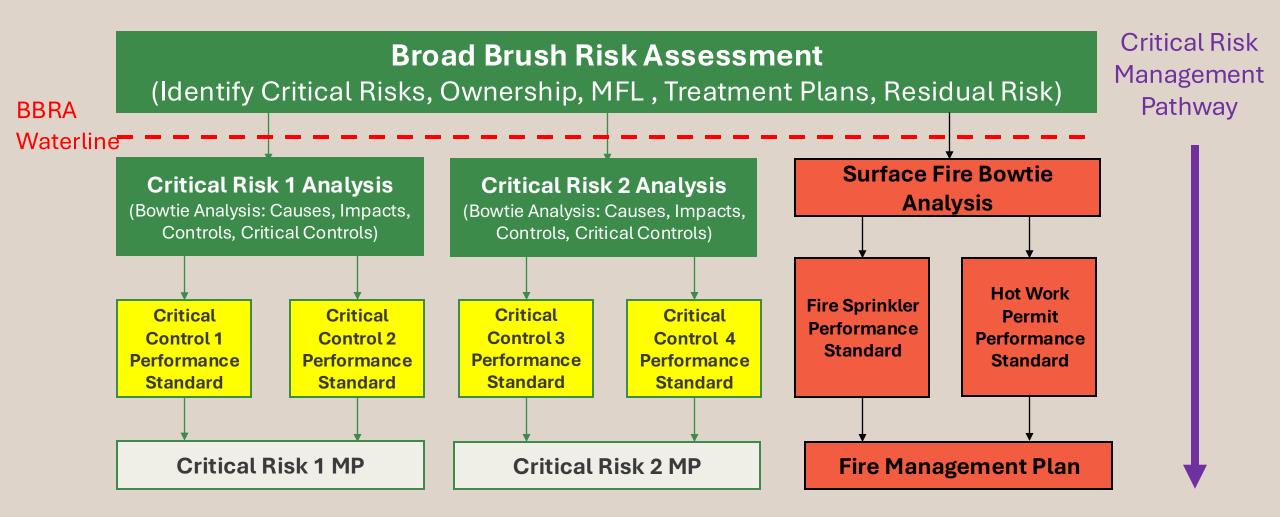


The BBRA integrated with the overall Risk Management Framework



The purpose of the BBRA is to identify key hazards and prioritise them.

BBRA and the CRM Framework





Get the BBRA columns right

Columns that go below the waterline

Process	Unwanted Event	Causes	Existing Controls	Critical Control?	Control Effectiveness Assessment	Consequence	Likelihood	Risk Rating	Additional Control	Who / When
Undergrou nd	Fire in the U/G workshop	Hot works Mobile	Fire Suppression systems	Y		Level 5	Unlikely	25H		
Workshop		equipment failure	Hot Work Permit	N						
		Hazardous Substances Electrical fire	Haz Substance Storage Requirements	N						
		Liecti icai iii e	Mobile Equipment Maintenance	N						
			Daily Area Inspection	N						
			Fire Extinguishers	Υ						



Columns that go above the waterline

Process	Unwant ed Event	Maximum Foreseea ble Loss (without controls)	Critical Risk?	Treatment Strategies	Consequence	Likelihood	Risk Rating	Additional Control	Who / When
Undergro und Worksho p	Fire in the U/G worksh op	4	Yes	Management Plan – Underground Fire	Level 5	Unlikely	25H		
				Bowtie – Underground Fire					

Pro Tip

- Controls at system level (e.g. SHMS documents, Maintenance Program, etc).
- Should be no risk analysis or control analysis



Self Assessment

• Provide a rating of 1 to 10 on how effective your BBRA is at staying above the waterline?

Another decision

Getting your columns and level of controls right is a secret to your BBRA revealing your True Critical Risks



Using Materiality Criteria to identify hazards is one of the secrets to your BBRA revealing your True Critical Risks



Developing and using a process map is a secret to your BBRA revealing your True Critical Risks



Getting your columns and level of controls right is a secret to your BBRA revealing your True Critical Risks

What has been your biggest "ahhah" moment?





The obvious question

How do I do it?



Slow or Fast

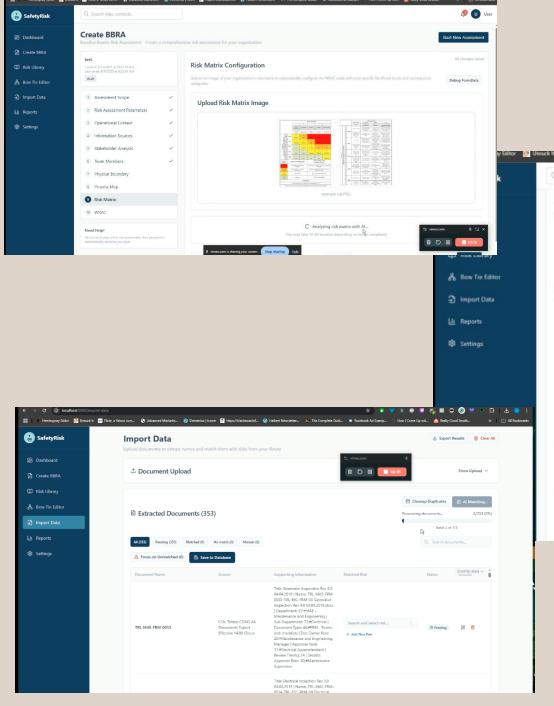
Trial and Error Vs system

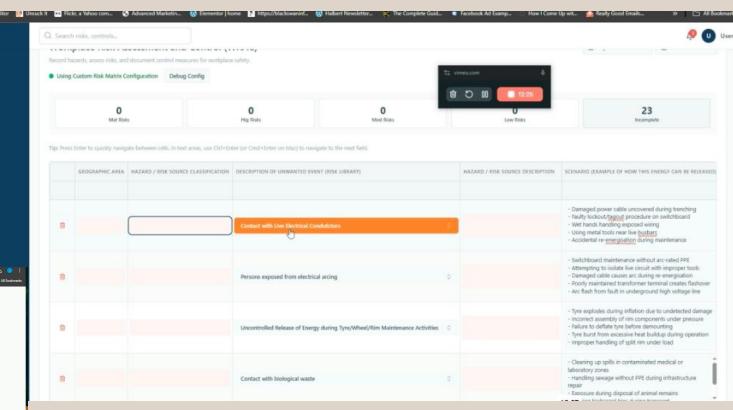
Help is here

Free trial of BBRA Al Platform

It's not for everyone







Benefits



Automated gap analysis of your SHMS



Don't pay \$20K for external consultants



Cross reference organisation data with our Impress Library



Identify low hanging fruit that can make meaningful change.



Only offered for first 5 organisations

2 Day Critical Risk Management Masterclass (Virtual)

In this two-day intensive course, we will provide you with the practical skills and knowledge to develop and implement a robust Critical Risk Management (CRM) program for your mine site.



The Future of CRM Industry trends and future developments

Elements of a CRM Key components of a successful CRM program

Identification of Critical Risks Developing and delivering a leading Baseline Risk Assessment

Analysis of Material Critical Risks Bowtie Analysis, Layers of Protection Analysis, Identification of Controls and Critical Controls

Critical Control Performance Standards Developing statistically significant verification processes

Site Implementation Ensuring successful and sustainable CRM implementation

Verification, Reporting, and Response Effective CRM reporting and response strategies

Why this course?

- Content includes; Critical Controls, Bowtie Analysis, Broad Brush Risk Assessment,
 Critical Control Performance Standards
- · CRM templates included
- Real world industry case studies
- Hands-On Learning: Participate in interactive sessions and practical activities
- Ensure a long-term success and compliance of your CRM program
- Content can be applied across any industry.
- Earn credit for the QLD Mining industry CPD program







Satisfaction Guarantee

- We're so confident in the transformative power of our Master Class that we offer an unmatched satisfaction guarantee.
- If you've fully participated in the Masterclass, completed all coursework, and still feel that it hasn't delivered exceptional value, we will not only provide you with a full refund but also allow you to keep all course resources.
- Our commitment is to your absolute satisfaction and empowerment in mining safety – without any risk to you.



Free Copy of BBRA Template

Consequence Types (given current controls)											Maximum	I	I			
Max Risk Rank	(S&C)	(L&R)	(Я)	(F)	(3)	2.8H)	Likelihood of the Event (given current controls)	Current Controls	Functional Ownership	Material Unwante d Event (Yes, No)	consequen ce (with no controls)	Description of Unwanted Event	Release Mechanism Example of how this energy can be released (unwanted events)	Hazard / Risk Source Description	Hazard / Risk Source Classification	Geographic Area
34 (E)						C6: Ext	L4: Likely	Corporate - Major Hazard Management Standard Regional - Principal Mining Hazard Management Standard TM & SD - Areas where mobile equipment operates PHMP TM & SD - Traffic Minagement Plans TM & SD - Underground Traffic Management Plan	Open Pit Manager Mining	Yes	C6: Ext	Loss of control of mobile equipment (underground)	Single Vehicle Incident (Rollover, runaway, uncontrolled movement, break through windrow, runaway vehicle) Multiple Vehicle Incident (Vehicle Collision), Pedestrian Strike	Underground Mobile Equipment	Mechanical (Mobile)	Underground
34 (E)						C6: Ext	L4: Likely	Corporate - Major Hazard Management Standard Bejonal - Principal Mining Hazard Management Standard TM & S.D Areas where mobile equipment operates PHMP TM & S.D Tariff Management Plans SD - Autonomous Equipment Management Plan	Open Pit Manager Mining	Yes	C6: Ext	Loss of control of mobile equipment (surface)	Single Vehicle Incident (Rollover, nursaway, uncontrolled movement, contact with infrastructure, contact with Few 1001 Multiple Vehicle Incident (Vehicle Collsion), Pederstain Stilke, Dussing of personnel bussing of personnel socces road Autonomous delli Interaction or uncontrolled movement.	Surface Mobile Equipment	Mechanical (Mobile)	Surface
34 (E)						C6: Ext	L4: Likely	Corporate - Major Hazard Management Standard Regional - Principal Mining Hazard Management Standard SD - Offsite Journey Management and Remote Area Access Procedure TM - Drive in and Drive Out Procedure	Open Pit Manager Mining	Yes	C6: Ext	Loss of control of vehicle offsite	Journey incident, Single Vehicle Incident, vehicle Collision,	Offsite vehicle incident	Mechanical (Mobile)	Officase
32 (E)						C6: Ext	L3: Unlikely	TM - TGM Scaffolding Management Plan SD - Classified Plant Procedure Third Party Annual Structural Integrity Audit	Chief Engineer	Yes	C6: Ext	Collapse of Structure	Processing plant structural failure, Tank Failure, Conveyor structure failure, Bin Structural Failure, Failure of concrete foundations	Collapse of Structure	Mechanical (Fixed)	Whole of Site
30 (M)						C6: Ext	L2: Very Unlikely	Corp. AGAA Avlustion Procedure Corp. AGAA Avlustion Procedure Su. P. Acardomas Sately Minaged Aircraft Su. P. Acardomas Sately Minagement System, Su. D. Donone RPA Flying Guideline TM - Aeradomas Sately Management System, TM - Aeradomas Sately Management System, TM - Aeradomas Management Type TM - Adulon Management Plan TM - Adulon Management Plan TM - donos SHMS documents T&A	Regional Aviation Appointed person - Aerodrome Survey - Drone	Yes	C6: Ext	Aviation Incident	On site Incident, offsite Incident, Dranes, Helicapter operations, Charter Flights, underground dranes	Aviation incident	Aviation	Whole of Site
30 (M)						C6: Ext	L2: Very Unlikely	TM - Confined Spaces Procedure TM - Permit To Work and Isolations Procedure SD - PTW - Confined Entry Procedure SD - PTW - Fermit To Work SD - PTW Permit To Work	Processing Manager	Yes	C6: Ext	Exposure to toxic or irrespirable atmosphere in confined space	Toxic Atmosphere, Engulfment, Irrespirable atmosphere flammable atmosphere Tanks, chutes, pits, mobile plant spaces,	Confined Spaces	Confined Spaces	Whole of Site
(M) 0E						C6: Ext	L2: Very Unlikely	Corporate - Major Hazard Management Standard Regional - Principal Mining Hazard Management Standard SD - Fire Explosions PHMP TM - Fire Explosions PHMP	H&S Manager	Yes	C6: Ext	Explosion (not from Explosives)	Flammable gas, Bottled Gas, O2 Plant, Hot Works,	Explosion (not from Explosives)	Pressure / Explosions	Whole of Site
27 (M)						C5: Maj	L2: Very Unlikely	Coponate - Major Hazard Management Standard Regional - Principal Mining Hazard Management Standard Dr. Fize Explosions PHMP IM - Fize Explosions PHMP SD - Fire Protection Equipment Procedure SD - Fire Protection Systems Impairment Procedure		Yes	CS: Maj	Surface fire	Building fire, conveyor fire, tyre fire, bush fire, warehouse, hazardous substance, Mobile Equipment fire, Mill Fire, Lithium batteris - hattery propelled transport (e.g. buggy's).	Surface Fire	Fire	Surface



Services we provide

- Done by you (we set you up for success)
 - CRM training for CRM Specialists, Risk Owners, Front Line Supervisors
 - Critical Risk Management Audits
- Done with you (You do it with our help)
 - Critical Risk Management Advisory Services
 - We draft the documents, you take them through to completion
- Done for you (we take care of it for you)
 - Critical Risk Management Consultancy / Contractor

General H&S Services

• Consultants, Labour Hire, Safety & Health Management Systems, Audits, Safety Training, Learning Teams, Leadership in Safety,

Questions / Comments





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