



## **SITE SAFETY INDUCTION**



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## Introduction

### Heritage/Historic Workings

The Renison Bell Field was originally known as the North Dundas Field. Prospecting was carried out in the late 1880s for silver and lead. Cassiterite (tin oxide) was discovered in 1890, and since this time the area has been mined to varying degrees almost continuously.

The Battery Mill and Argent Dam were built in 1907, and the Renison Bell Township reached its peak around the early 1960s.

However, over the next 30 years the town went into decline as the mine moved its' workers to Zeehan, where there was room for expansion.

The last private residents moved out of the township in 1993.



The only buildings remaining today are three sheds used for core cutting and storage, the amenities block of the former caravan park, and the old workshop and partly demolished house owned by Groves Contracting.

Today Bluestone Mines Tasmania Joint Venture Pty Ltd Mine Operate the site.

The core product for Bluestone Mines Tasmania Joint Venture is a tin oxide (cassiterite – SnO<sub>2</sub>) concentrate which is sold to Asian smelters for production of tin metal.

Tin metal is used mainly in tinfoil, solders, and chemical products.

The Bluestone Mines Tasmania Joint Venture Pty Ltd Tasmanian Tin Operations General Manager welcomes you to site.

His message to you is:

- Work safely - Report all incidents / accidents
- Work together - Go home at the end of the day in the same condition as you arrived

## Induction Process

You should have already completed the TIMI Generic Induction within the last 2 years.

It is also a requirement that you complete the Bluestone Site Specific Induction. If you have not undertaken these inductions then please speak to the inducting officer.

The TIMI Generic and the Bluestone Site Inductions are conducted On-Line on the TIMI Web Site and supported by a handbook which is for you to refer to during the Induction Assessments/Quizzes.

You will also be given a copy of the handbook to keep and refer to during your time at Bluestone Mines Tasmania Joint Venture PTY LTD.

This Site Safety Induction builds on the information already provided through the TIMI Generic Mining Industry Induction. (It is not necessarily intended that this induction be fully completed at one sitting).

You will be required to successfully complete all the required competency assessments before proceeding to work at the site.

Once all site requirements are met you will need to contact the site to make an appointment for a site familiarisation walk through.

Appointments will need to be made in order to undertake the Underground Induction.

### **Important Note – Contractors:**

A completed TIMI Induction does not guarantee access to the Renison Mine. The **FM015** and **FM542** forms must be completed and returned before access to the site is granted.

#### **FM015 (Contractor Checklist)**

- Copy of Drivers Licence
- Relevant machinery licences / tickets
- Trade Qualifications
- Resume
- Drug & Alcohol Screen (within 7 days of coming to site)

#### **FM542**

- Personal Details and Site Access Authorisation

#### **Site Security**

All Personnel are to report to the Security Gate (ESO) upon arrival to site.

In order to account for **all** persons on site and eliminate confusion in emergencies, it is a requirement that all personnel Sign In when entering site and Sign Out when leaving site.

Personal vehicles are not to come on site. Visitor's car parking is available at the site entrance.

As part of conditions of entry to site, Vehicle and Bag checks may be conducted at any time.



## Personal Protective Equipment & Clothing (PPE)

Minimum Requirements for the Site is:

- Safety Helmet to AS1801
- Eye Protection to AS1337
- Safety Boots
- Long trousers
- **Long** sleeved shirt
- Reflective strips or hi-visibility



Every person who enters the site must wear the required PPE.



### Entering the work area

Before entering any work area, stop and look around to make yourself familiar with the area layout, including the location of all exits, safety showers, eye wash units, telephones, fire extinguishers, first aid kits and the nearest Muster point.

### Site Board Tags

Before entering the Process Plant or Underground Mine you will be required to hang your Personal tag on the entry board. A **Blue** tag is for the **Process Plant** and a **Yellow** tag for **Underground**.



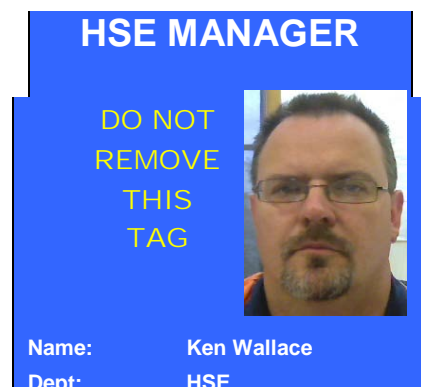
Tags are issued by the Sites Security Officer at the Front Gate.

Should your tag become lost or destroyed, you must obtain a new one from the main gate.

If any tag is left unclaimed on any board then a search must be undertaken to locate the person.

**In the case of an emergency you must remove your tag from the board.**

**Remember when leaving an area take your tag with you!**



## Health and Hygiene

### Health & Safety Policy Statement

The Occupational Health and Safety objective of Bluestone Mines Tasmania Joint Venture is to provide a safe and healthy place of work for all personnel associated with the Company's activities.

Bluestone are committed to the systematic identification and management of hazards and risks to acceptable levels.

To achieve this Bluestone will:

- Ensure the development, application and review of risk management systems to identify potential hazards in equipment, workplaces and operating procedures, and take actions to control or remove those hazards.
- Seek continuous improvement in the health and safety standards of the workplace environment.
- Create and maintain a culture in the workplace whereby employees, contractors and visitors have accountability for maintaining a safe work environment.
- Ensure compliance with applicable laws, regulations and other health and safety obligations.
- Ensure individuals, within their area of control, have the knowledge and resources to identify and effectively control hazards.
- Report, record and investigate all incidents and accidents and ensure appropriate measures are taken to eliminate or manage identified and potential hazards.
- Provide adequate training, information, instruction and supervision to maintain an injury free workplace.

### Fitness for Work

Management is committed to Providing a Safe and Healthy Work Environment and a culture in which everyone can work safely.

Individuals must present themselves at work in a state where they are able to carry out their duties without risk to themselves or others.

This includes making sure that they are not in an unfit state for any reason including the effects of fatigue, stress, alcohol or drugs.

### Smoking

- Smoking is disallowed within 3 metres of any entrance to any building on site.
- Smoking is disallowed within 3 metres of any air-conditioning intake on site.

## Drug and Alcohol Testing

- The Site Policy is a blood alcohol concentration of 0.00.
- Mandatory Alcohol testing is conducted on entry to site.
- Daily Drug testing is conducted at random by the sites Data base.
- Legislation requires that you notify your Supervisor if taking (or failure to take) medication is likely to affect your safety or that of someone else.
- Alcohol and Drug testing is conducted for Accidents and Incidents on site.
- If a person is suspected of being under the influence of alcohol or drugs a Supervisor can request they undergo a screening test at any time.
- Positive drug or alcohol test results will be confirmed by a second test with your Supervisor present.
- Persons who have returned a confirmed positive test will be sent off Site until Laboratory test results are confirmed.
- You will also be required to sign a declaration for the sample to be sent away.

## Fatigue

Fatigue at work is becoming one of the major contributors to accidents and incidents.

To reduce the effects of fatigue at work you should:

- Get a good night's sleep.
- Endeavor to reduce your caffeine and alcohol intake before going to sleep.
- Maintain a regular exercise routine.



## Manual Handling

- Injuries resulting from Manual handling account for 40% of all Workers Comp cases (2nd only to traumatic injury)
- 42% of all Manual handling injuries involve the vertebrae and / or discs (i.e. back injuries)
- Should you need to perform a two person lift, first perform an assessment of the load to be lifted and maintain good communication throughout the lift
- High risk work includes: truck drivers, construction workers, metal fabrication



### Site Alarms

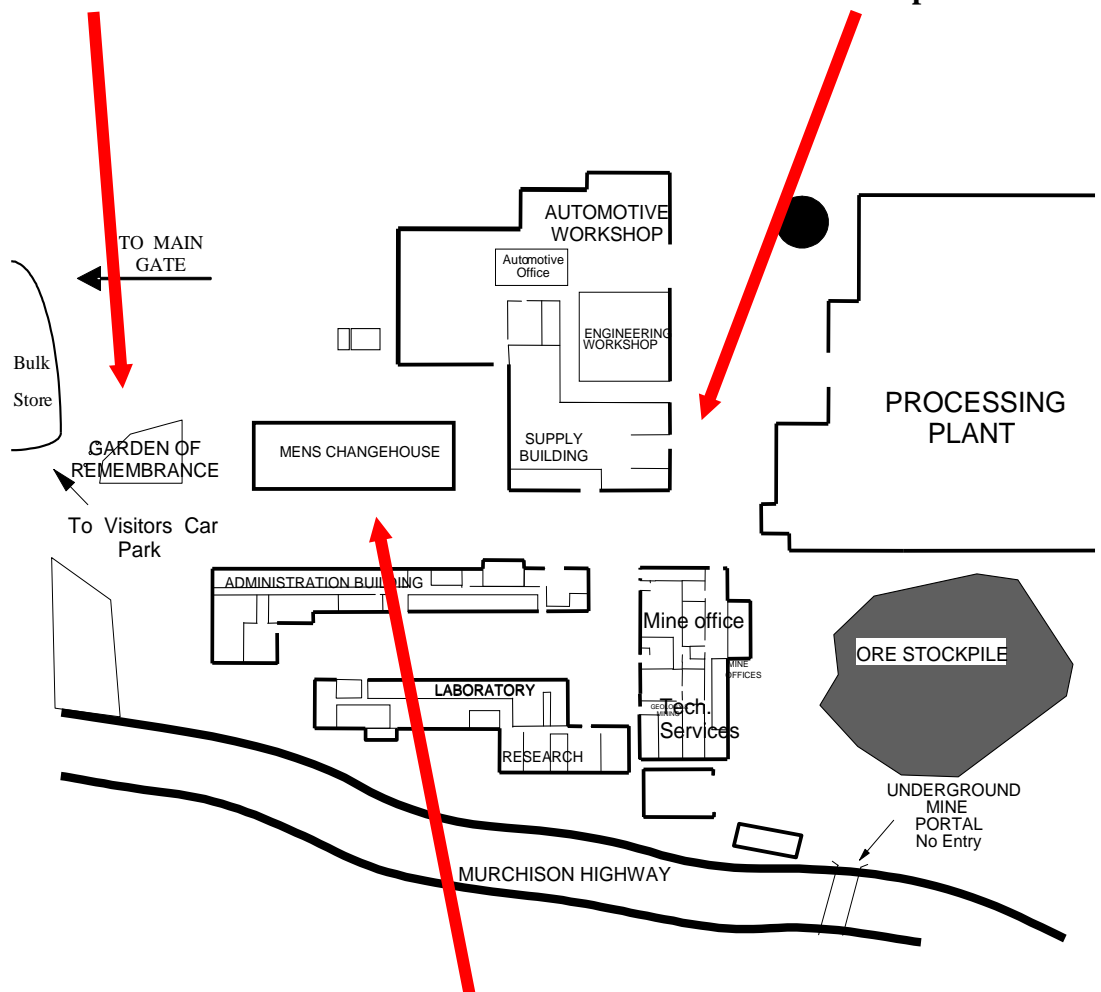


Become familiar with the protective systems in your working area.  
Fire Alarms, Hydrogen Sulphide Alarms.

<u>Evacuation Alarm</u>	A fire alarm will automatically sound continuously should it detect smoke.	Leave the building in an orderly fashion and go straight to the Muster Point area
<u>Hydrogen Sulphide Alarm</u>	A Hydrogen Sulphide alarm will automatically sound continuously should it detect H2S at 10ppm	Leave the building in an orderly fashion and go straight to the Muster Point area
<u>Muster Points</u>	Main Emergency Muster area  Mill Muster point area  Site Evacuation area	<b>Note:</b> Both alarms are tested every Monday at 10:00am. Make yourself available to here the alarms.

#### Site Evacuation Muster area

#### Mill Muster point area



#### Main Emergency Muster point area

## Site Emergency Procedure

Know the location of telephones in the areas where you will be working

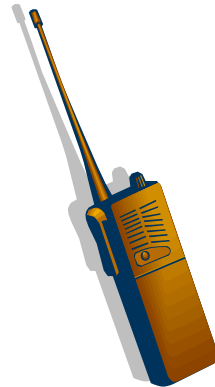
The internal Telephone Number for emergency on site is: **555**



The two-way emergency Radial Channel on site is: **2**

For off-site Emergencies, you can call 64732555 for assistances.

If an emergency situation occurs, contact the duty Emergency Services Officer.



You will be asked:

- Your name
- Location of the incident
- The type of incident (Fire, Vehicle accident, Injury, Spill etc)
- Number of personnel involved and incident details

**Stay on the line until told to hang up!**

**Note:** It is crucial that during an emergency situation all personnel remain calm, call or radio the emergency number and proceed directly to the muster point area.



## Risk Management

Bluestone Mines Tasmania Joint Venture is committed to the systematic identification and management of hazards and risks to acceptable levels.

In cases where an unacceptable level of risk is identified, it is highly likely that an incident will occur. In these situations, work should not continue until the hazard has been reduced or eliminated.

Risk Control is achieved by identifying workplace hazards and taking an active approach to minimise or eliminate them.

“The evaluation of the **Likelihood** and **Consequences** of injury or illness arising from exposure to an identified hazard”

**Likelihood** refers to the actual chance of injury occurring

**Consequences** refers to the severity of injury

Likelihood	Consequences				
	1. Insignificant	2. Minor	3. Moderate	4. Major	5. Catastrophic
5. Almost	H (15)	H (10)	E (6)	E (3)	E (1)
4. Likely	M (19)	H (14)	H (9)	E (5)	E (2)
3. Possible	L (22)	M (18)	H (13)	E (8)	E (4)
2. Unlikely	L (24)	L (21)	M (17)	H (12)	E (7)
1. Rare	L (25)	L (23)	M (20)	H (16)	H (11)

### Mini Hazard Reports

A hazard is anything (including work practices or procedures) that has the potential to harm the health or safety of a person.

Site personnel have a critical role in identifying hazards because you are the ones “out there” doing the work.

If you identify a hazard and can take action to address it without putting you or others at risk then you should do so. If you cannot safely address the hazard then it needs to be reported.

The hazard report book should be used to notify your supervisor of defects and hazards in the workplace that you may find.



## Take 5

The Take 5 is a simple process for the identification, assessment and management of hazards

A Risk Management Tool to keep you safe

Used prior to the commencement of tasks where there is a risk to people, the environment or equipment

Use whenever the conditions associated with the job change

Use for simple and low to moderate risk tasks



## Job Safety Analysis

Job Safety Analysis (JSA) is a process whereby hazards associated with each step of a job are identified. The hazards are assessed and control measures are put in place to minimize the risk to personnel, the environment, and property. The types of jobs that require a JSA are:

- Jobs that have a history of, or a potential for injury or incidents
- Safety critical tasks
- New jobs
- Jobs that have changed
- Jobs involving new personnel performing the tasks
- High risk jobs
- Jobs which require a permit

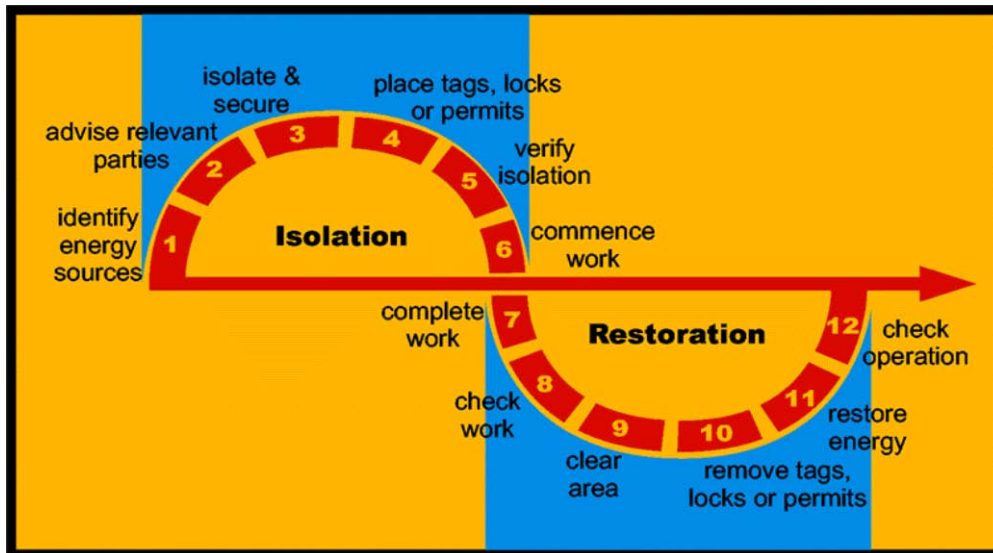
A JSA should be completed by the person(s) doing the job in conjunction with person(s) familiar with the job area and hazards.

## Isolations

- Personal locks must be used where the isolation point is capable of being locked out
- Danger Tags must be used in conjunction with each lock
- Clasps may be used when up to 6 locks are attached to the same isolation point

Remember: at each isolation point .....  
Each person: one lock, one tag, one key





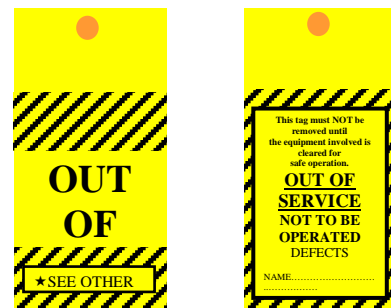
### Danger Tags

- Personal Danger Tags are coloured black, red, and white.
- A Personal Danger Tag is designed to give you personal protection where there is risk of injury from operation of plant.
- Personal Danger Tags can only be removed by the person who placed the tag, or the Site General Manager's nominee.
- Danger Tags must be legibly filled out and attached to appropriate isolation devices.
- Each person working on the same job must attach their own Danger Tag.
- Under no circumstances remove another person's Danger Tag, even if they ask you to.



### Out of Service Tags

- Out Of Service Tags are coloured black and yellow.
- An Out Of Service Tag is designed to prevent operation of faulty or dangerous plant; it does not provide personal protection.
- Out Of Service Tags must be legibly filled out and attached to appropriate isolation devices.
- If repairs to plant cannot be completed in a shift, place an Out Of Service Tag on the isolator before removing your Danger Tag.
- Only competent authorized personnel are permitted to remove an Out Of Service Tag once repairs are complete and Danger Tags removed.



## Group Isolation

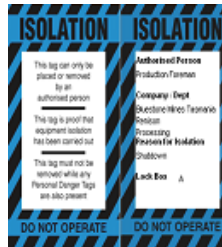
A Group Isolation Lock Box is a designated box located at the work area where (yellow) Group Isolation locks are kept.



The Lock Box is contained in the Isolation Board Box.

The Isolation Officer isolates equipment with the Group Isolation locks and (blue) Isolation Tags.

The Isolation Officer signs each isolation point as they isolate. Once all equipment is isolated, both Isolators sign off as complete. The keys to the Group Isolation locks are to be placed the Lock Box.



All left over locks and tags go back into the Lock Box. The Lock Box and Isolation Sheets then go into the Isolation Board Box

The Isolation Board Box will provide a single point for all personnel involved to attach a lockout device (Personal Danger Tag and Padlock).



The Isolation Board Box is locked with the red lock and the key is placed in the Key Cabinet in the Control Room



## Permits

Certain types of work on site require the use of work permits, some are listed here:

- Confined Space
- Excavation
- High Voltage
- Radiation
- Hot Work
- Acid
- Working at Heights



**All work requiring a permit on site must have a JSA risk assessment completed before a permit can be issued**

## Safe Systems of Work

Additional PPE maybe required for special tasks on site, it is all available for your use.



**Note: Double protection (safety glasses and face shield) is required for all grinding work (hand-held grinder or fixed bench grinder)**

## Safety Signs

Safety signs provide information on hazards and controls

**Danger Signs**  
**Red, Black and**  
**White indicating**  
**potential for**  
**serious injury or**  
**death**



**Caution Signs**  
**Yellow and**  
**Black**  
**indicating a**  
**hazard**



**Green Signs**  
**Green**  
**indicating,**  
**first aid,**  
**eyewash or**  
**muster area**



**Mandatory**  
**Signs Blue**  
**and White**  
**indicating**  
**compulsory**  
**PPE or**  
**instructions**



## Fire Extinguishers

Extinguish a fire only if trained and safe to do so and know how to use a fire extinguisher. When attempting to extinguish a fire you should always:

- Raise the alarm (call or radio the emergency number and notify others)
- Confirm you have a suitable extinguisher, check pressure, pull pin, press lever for 1 second to test;
- Identify a line of retreat;
- Stand upwind of the fire to avoid smoke and flames;
- Adopt a crouching position to reduce exposure to smoke and heat
- Aim extinguisher hose nozzle at the base of fire, press lever, and use a slow sweeping motion at the base of the fire



## Material Safety Data Sheets (MSDS)

Material Safety Data Sheets provide you with all the information that you will need to know when using chemicals on site.

Below is just some of the information available:

- First Aid Treatment
- Personal Protective Equipment
- How to use safely
- How to dispose of safely
- How to handle safely

WORK-PRACTICE DATA SHEET - THIS IS A SUMMARY ONLY - FULL REPORT AVAILABLE

ChemWatch 4700 - REGULATORY & SAFETY DATA SHEETS, According to the Criteria of MSDS, and the SDS Code - Complete Content No. 447 00 000 000

### SULFURIC ACID

INGREDIENTS	CAS No.	H	TWA
Sulfuric acid	7664-93-9	+51	1 mg/m <sup>3</sup>

UN No. 1818  
Hazard Class: 2+  
Subsidiary Risk: None  
Packaging group: II  
Physical State: LI, SOLID

**PROPERTIES**

Liquid  
Mixes with water  
Corrosive  
Acid  
Toxic or Irritant vapour/gases  
Contact with combustible material may cause fire  
Oxid. red. Perm.

**HEALTH HAZARD INFORMATION**

**Acute Health Effects:**  
Toxic by inhalation  
Causes severe burns  
Risk of serious damage to eyes  
**Chronic Health Effects:**  
May cause CANCERS by inhalation  
Cumulative effects may result following exposure\*  
\* limited evidence

**SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS**

1. Not to be stored together with:  
- Oxidising agents  
- Flammable liquids  
- Flammable solids

**PRECAUTIONS FOR USE**

**Engineering Controls:**  
Local Exhaust ventilation recommended.  
**Controls:**  
Full face shield  
**Respirator:**  
Type E (P) filter of sufficient capacity  
**Storage & Transport:**  
Keep locked up  
Keep container tightly closed  
Keep container in a well ventilated place  
Keep away from food, drink and animal feeding stuffs  
Store in cool, dry protected area  
Refrigerate on Storage until further notice. Refer to Full Report  
**Fire/Explosion Hazard:**  
Hazardous gas evolves from acid  
Toxic smoke/fumes in a fire  
Attracts moisture to generate hydrogen  
**Environment:**  
This material and its container must be disposed of as hazardous waste

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Make yourself familiar with the Material Safety Data Sheets stored at the reagent areas.

## Accident / Incident Reporting

All accidents and incidents no matter how insignificant they may seem MUST be reported, including:

- Near Miss
- Injury
- Property / Equipment Damage
- Hazard
- Environmental Incident

**Note:** The reporting of near misses is vital in reducing incidents/accidents in the workplace.



**Run Of Mine Pads (ROM)**

All vehicles and pedestrians entering the ROM pad areas must be AUTHORISED and must carry a two way radio tuned to VHF Mine Radio Channel 1 (both ROMs) or a UHF radio tuned to 'Blue1' (Mt Bischoff ROM only).

**Authorised vehicles include the following:**

- Crusher Front End Loader
- Excavator
- Ore haulage Trucks
- Processing Shift Coordinator and Process/Crusher operators
- Lab/Geologist's vehicles for conducting Stockpile Sampling
- Surveyor's vehicles for conducting Stockpile Measurements and accessing survey shed
- Safety/Environmental Management Vehicle
- Emergency Vehicles
- Maintenance Vehicles (only as required)

**Authorised Pedestrian Personnel include the following:**

- Mill and Mine Managers
- Process Operators
- Truck Drivers
- Mining Engineers
- Surveyors
- Geologists
- Lab personnel
- Safety Personnel
- Metallurgists
- Emergency Services
- Maintenance Personnel who are required to perform work related duties are permitted to enter the ROM area on foot
- Visitors must be accompanied by an authorised person

**Entry Procedure for both ROM Pads:**

A pedestrian or the operator of a vehicle that is authorised to enter the stockpile area must abide by the following instructions:

**NOTE:** The ROM loader has right of way at all times in this area.

If in a vehicle, ensure that vehicle headlights and amber flashing beacon are operating at all times.

**NOTE:** Do not proceed until authorised to do so by the Crusher and or Loader Operator.

- Stop at the entrance and make an announcement by two way radio for both ROMs or on UHF channel Blue1 for Mt Bischoff ROM (**e.g. Light Vehicle Geo 1 entering Crusher Pad**) and wait for a response from the Crusher and or Stockpile Loader operator before proceeding into the stockpile area.
- Include destination and scope of work or reason for access, to heighten the ROM loader operator's awareness.
- Once permission to enter area is given proceed directly to your destination point with extreme caution.
- General Speed Limit for the ROM pads is 25k/h
- On exit advise Crusher and or Stockpile Loader Operator of departure.
- If the loader is not operating all authorised pedestrians and vehicles after stopping at the ROM entrance are required to make contact with the Crusher and/or Loader Operator for permission to enter the ROM pad.

If operators are not contactable, you may proceed with **extreme** caution, however if the Crusher and Loader commence operations **you must** make immediate radio contact and inform them of your presence in the area.

## Electricity

Only licensed electrical personnel authorised by the Site Electrical Supervisor may install and maintain medium or high voltage electrical services.

- Always use an Earth Leakage Outlet distributor
- All defective Electrical equipment must be tagged Out of Service and must be reported to your supervisor
- Electrical Equipment and Cords need to have an up-to-date test tag fitted before being used on this site
- Any electric shock/s must be reported immediately



## Processing Plant

Before entering the Processing building there is a Tag Control Board, located on the outside wall.



To enter the Mill you will place your tag on to this board, and, when you exit the Mill you will remove your Tag from the board.

In the event of an emergency **All** persons in the Mill building will evacuate to the nearest Muster Area.

All personnel are required to remove their tag from the Tag board.

If any tag is left unclaimed then a search must be undertaken to locate the person who is identified on the Tag.

If any person has left site and not removed their tag, disciplinary action may be taken.

## Plant Safety

- Follow all blue mandatory signs displayed around the Process Plant.



- For your personal safety - information on signs is to be followed at all times.



## Barricades

Barricades are used to indicate restricted access into areas which contain holes, excavations, openings, or areas in which a danger from falling objects is present. Anyone who creates a hole, opening, or is working at height is responsible for erecting a barricade. DO NOT enter a barricaded area without authorisation and knowledge of the area.

Barricades can be erected either to warn or protect, with information tags and signage erected at each exposed face.

## Work Permits

Work permits are issued in the Process Plant to authorise persons to carry out specific tasks

Confined Space Working at heights

Acid Plant Hot Work Isolations

These permits ensure the following:

That all associated risks are identified

That the responsible persons are aware of those risks

<b>CONFINED SPACE/ VESSEL ENTRY PERMIT</b> BLUESTONE MINE ..... PERMIT NUMBER.....			
DESCRIPTION		EQUIPMENT NO. ....	
<small>Whole copy of Permit to be retained at task - on board. Duplicate Copy to be retained in book - in Maintenance office.</small>			
RRK: .....			
Permit Time / Date .....		Permit Completion Time / Date .....	
<small>As scope may be performed under this permit</small>			
TO BE ENCOURAGED (IF REQUIRED - A JSA / RISK ASSESSMENT to be undertaken refer to APPROD. JSA procedure / RISK ASSESSMENT)			
RISK ASSESSMENT / JSA MUST be conducted			
Attach JSA / RISK ASSESSMENT (to the white copy)			
<small>It may only be entered after the initial gas tests have been completed and the prescribed precautions are observed. Note: Test equipment has been calibrated.</small>			
Analysis:	Time:	Date:	Initial Test Sufficient
		/ /	YES/NO
		/ /	Periodic Tests Required
		/ /	YES/NO
		/ /	Ra-Test every..... hours
0.5-23.5%		/ /	None
		/ /	Log subsequent tests on the reverse of this permit.
		/ /	
		/ /	
msc:		Date: / /	Signature:
Analysis:	Time:	Date:	Initial Test Sufficient
		/ /	YES/NO
		/ /	Periodic Tests Required
		/ /	YES/NO
		/ /	Ra-Test every..... hours
0.5-23.5%		/ /	None
		/ /	Log subsequent tests on the reverse of this permit.
		/ /	
		/ /	
msc:		Date: / /	Signature:
Analysis:	Time:	Date:	Initial Test Sufficient
		/ /	YES/NO
		/ /	Periodic Tests Required
		/ /	YES/NO
		/ /	Ra-Test every..... hours
0.5-23.5%		/ /	None
		/ /	Log subsequent tests on the reverse of this permit.
		/ /	
		/ /	
msc:		Date: / /	Signature:
Analysis:	Time:	Date:	Initial Test Sufficient
		/ /	YES/NO
		/ /	Periodic Tests Required
		/ /	YES/NO
		/ /	Ra-Test every..... hours
0.5-23.5%		/ /	None
		/ /	Log subsequent tests on the reverse of this permit.
		/ /	
		/ /	
msc:		Date: / /	Signature:

It will require a safety posted at entrance, all personnel must place a Personal Danger and Confined Space Entry Tag on the entry board upon entering, it removes their Confined Space Entry Tag when leaving the confined space. The Personal Danger Tag is to be removed when the individual has completed a confined space and will not be re-entering the nominated confined space.  
**WRITE COPY OF PERMIT TO BE RETAINED AT TASK - ON BOARD. DUPLICATE COPY TO BE RETAINED IN BOOK.**

## Chemicals

Various chemicals are used throughout the Processing Plant; they are used to remove Sulphide Minerals from the ore.

Below are some of the chemicals used in the process Plant. Material Safety Data Sheets are displayed at all chemical stations, if you are unfamiliar with any chemical, STOP and read the MSDS.

Sulphuric Acid Xanthate Copper Sulphate Frother Sodium Silico Fluoride (SSF)	Lime Caustic Soda Magnafloc Styrene Phosphonic Acid (SPA) CA540
---	--

## HYDROGEN SULFIDE (H<sub>2</sub>S)

Produced by a reaction of sulphuric acid with sulphide minerals;  
Highly toxic; Colourless, flammable gas; extremely pungent odour at very low concentrations;

At levels above 200ppm it deadens your sense of smell Long term low level exposure can cause eye irritations, headaches and fatigue

Can cause nausea, heartbeat irregularities, confusion and death at levels above 300ppm

Can cause sudden death at levels above 1000ppm

The Process Plant has 8 sensors strategically located throughout the mill, an evacuation alarm will sound when gas levels are detected at 10ppm.

On Hearing the alarm, you should leave the Process building via the closest exit and make your way to muster point 2

**Alarms Are Tested every Monday Morning at 10:00am**

### Noise

Generated by:

- Operating equipment
- Mobile equipment
- Air leaks
- General operating
- Wear hearing protection in designated areas



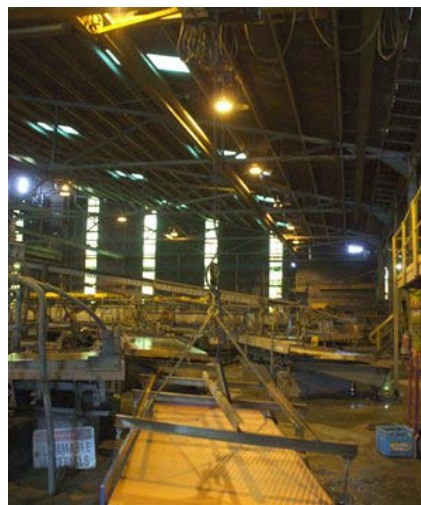
## Vehicles

- Be aware of vehicles working in the area
- Often they will not see you, do not approach from the rear, as you may not be seen
- Always make **POSITIVE CONTACT** with the driver **BEFORE** entering their area of operation.



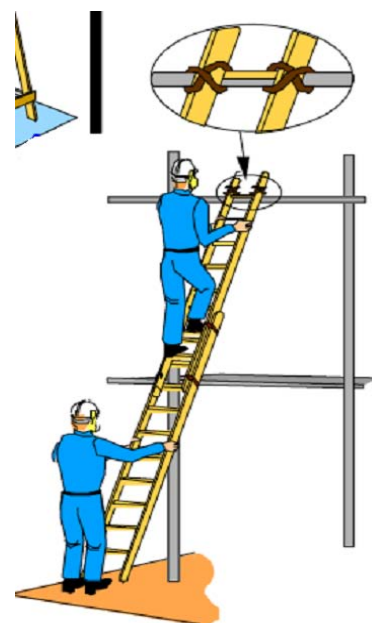
## Overhead Cranes

- Loads are regularly lifted in the plant
- All cranes have a travel bell attached to them that operates whenever the crane is moving
- If you hear the crane bell, look up to ensure you are not in the crane's path, and move out of the way if you are
- A suspended load has the potential for major harm should it fall. Ensure you are well clear of any suspended load
- Only trained and authorised persons are to operate overhead cranes



## Stairways, Ladders and Heights

- When moving up and down stairs use the handrails to assist in preventing falls.
- When on a ladder, maintain three points of contact with the ladder at all times.
- If both hands are required to be used when on a ladder, a fall arrest system is to be employed.
- Ensure you wear a fall arrest harness and shock absorbing lanyard when working from an EWP, scissor lift or man cage.
- When working at heights and there is a chance of falling, wear a fall arrest harness and shock absorbing lanyard.
- The lanyard needs to be affixed to a solid part of the structure. (Do NOT connect to a handrail)



## Radiation



- Before working near (1m) or removing a radiation gauge you **MUST** have a permit to do so
- Permits for working on radiation gauges are only issued to trained personnel
- Permits are obtained from the Radiation Safety Officer in the Mill

## Dust

- Generally associated with the crushing plants
- Also occurs when mixing ore on the ROM pad and
- When trucks re unloading on the ROM pads
- Try not to work directly in the dust
- Wear a dust mask as needed to protect from dust inhalation
- If required, notify a Supervisor to arrange water suppression



## Environment



# Environmental Policy Statement

Bluestone Mines Tasmania Joint Venture Pty Ltd (“Bluestone” or “the Company”) is committed to sound environmental management practices and the minimisation of environmental impact from its operations.

Bluestone believes that sound environmental practice is not only a management obligation but the responsibility of every employee and contractor.

The prime objective of Bluestone is to develop the culture, protocols and procedures to maintain the integrity of the environment associated with our operations.

### To achieve this Bluestone will:

- ◆ Apply a systematic approach to identifying environmental risks and employ practices that minimise environmental impact and prevent environmental harm.
- ◆ Comply with regulatory and ethical standards on a sustainable basis.
- ◆ Develop workforce awareness of sound environmental practice and promote a positive personal attitude to the environment by providing information and training.
- ◆ Communicate and consult with all stakeholders.
- ◆ Have continuous improvement through ongoing assessment of our environmental performance.

Ross Cook  
General Manager

Issue Date  
Review Date

## Legislation and Permits

Bluestone Mines Tasmania JV P/L operates the Renison Mine under;

- **Mining Lease 12M/95**
- **Environmental Protection Notice (EPN) 7092/1**
- **Environmental Management Plan (EMP)**

The EMP is reviewed three yearly as part of the conditions on the EPN. Once the Environment Protection Authority (Tasmania) approves the new EMP, BMTJV is then required to operate in accordance with the EMP. Copies of the EMP can be found on Bluedoc.

The current EMP was approved in 2009.

Other environmental management plans and codes that the mine operates under include:

- Suspended Solids Management Plan (2010)
- EPR008 Waste Management SOP (Dec 2007)
- Environmental Management and Pollution Control Act 1994 (EMPCA)
- Land Use Planning and Approvals Act 1993 (LUPAA)
- Quarry Code of Practice (June 1999)
- State Policy on Water Quality Management (1997)
- National PCB Management Plan
- Landfill Sustainability Guide 2004
- Best Practice Environmental Management in Mining Series
- Guidelines on Tailings Dam Design, Construction and Operation (ANCOLD, 1999)

...to name but a few!

## Water Management and Monitoring

The West Coast climate makes it unrealistic to operate a closed water system. Renison typically receives 2.2m of rainfall per year. There are 6 point source water discharges from the lease;

- discharge from the Isaacson Creek dam system (AP)
- discharge from the Crusher dam system (CR)
- decant water from TSF – C (TC)
- decant water from TSF – B and TSF – A (TB)
- seepage from TSF – C (S1)
- seepage from TSF – B and TSF – A (S2)

We monitor all these sites on a weekly basis, measuring field parameters such as flow and pH, performing in-house lab analysis (acidity, TSS), and sending samples to Hobart for metals and various other testing.

We also carry out quarterly ambient monitoring on Lake Pieman, as well as extra elective testing on various sites on the lease when needed.



**Monitoring site AP, below the Isaacson Creek Dams**

## **Environmental Management Systems (EMS)**

An EMS is a formal management system that structures an organisation's environmental programs.

There are multiple elements that make up an EMS, and these are prescribed in an international standard (ISO 14001).

Renison has various procedures and forms that make up our EMS. The most important of these are:

- Incident/Hazard Reporting
- Environmental Management Applications
- Management Plans
- Environmental Policy Statement
- Reporting

## **Incident and Hazard Reporting**

Incident and hazard reporting is carried out using the same system as OHS reporting. An environmental incident is any event that has the potential to cause environmental nuisance or harm. Some examples of environmental incidents are:

- chemical/reagent spills
- pipeline breakages
- discharge from the plant to the Isaacson Creek system
- uncontrolled discharge to river systems (i.e. not through one of the 6 approved discharge points)
- rubbish/waste dumped inappropriately

**Every employee has a responsibility to report environmental incidents as soon as possible.**



## Weed and Pathogen Management

Weeds are those plants that aren't native to our local area, which once established can invade our natural environment. It is our responsibility under the Weed Management Act 1999 to take all reasonable measures to control the impact and spread of Tasmania's declared environmental weeds (see next page for a list).

There are two main ways that weed seeds are spread; by human or natural means. We have little or no control over the natural influences, but full control over the human causes.



Natural – wind, water, animals

Human – dumping weed material, movement of weed contaminated soil, gravel, or machinery

Spread of pathogens also threatens the natural environment. There are two pathogen species present on the lease, Cinnamon Fungus (*Phytophthora cinnamomii*) and Myrtle Wilt (*Charala australis*).

Pathogens can be contained but not eradicated once established, so it is important to prevent the outbreaks from spreading.

Pathogens can be controlled by washing down equipment with a 2% bleach solution or a specialised phytophthora solution such as PhytoClean.

**Always practice appropriate weed hygiene**

**Wash boots and machinery before moving  
in and out of infected areas**

**Where water/wash down facilities are not available,  
remove all vegetation caught on vehicles,  
and knock off mud from wheel arches**

**Brush out mud from vehicle cabins, and check under mats**

**REPORT ANY WEED OUTBREAKS TO  
THE ENVIRONMENT TEAM**

**PAMPAS GRASS**



- Pampas grass – three species:**
- A Common pampas grass – *Cortaderia selbana*,
  - B New Zealand pampas grass – *Cortaderia richardii*,
  - C Pink pampas grass – *Cortaderia jubata*
  - Large tussock forming grass to 6m
  - Tall white or pink seed heads
  - Commonly confused with the native cutting grass or gahnia, which has a brown or black seed head
  - Found across the West Coast and in all towns
  - Can distribute its windborne seed great distances
  - Presents a fire hazard
  - **CONTROL** – Spray with Glyphosate (Roundup®)

**GOSE (Gos)**



- Gorse (Gos) – Ulex europaeus**
- Prickly evergreen shrub to 4m with yellow pea flowers and seed pods
  - Found across the West Coast and in all towns
  - Mainly found around Zeehan where the aim is to reduce the current infestation and spread
  - All infestations in Tullah, Rosebery and Strahan should be reported
  - Presents a fire hazard
  - Seed is explosively ejected many metres from seedpods on warm days or when plant is under stress and the seed can survive many decades in the ground before germinating
  - **CONTROL** – Cut down plants at ground level and paint stump with straight Glyphosate (Roundup®), or spray plants with herbicide containing Picloram or Triclopyr (Grazon® or Garlon®) or Glyphosate

**BROOM**



- Broom – two species:**
- A English broom – *Cytisus scoparius*,
  - B Montpellier broom – *Genista monspessulana*
  - Shrub to 3m with yellow flowers
  - English broom will often have bare stems lacking leaves while Montpellier broom will have small, 1-1.5cm long leaves
  - Present in all towns and widespread across West Coast
  - Seed is explosively ejected many metres from seedpods on warm days or when plant is under stress
  - **CONTROL** – Cut down plants at ground level and paint stump with straight Glyphosate, or spray plants with herbicide containing Picloram or Triclopyr (Grazon® or Garlon®) or Glyphosate

**ELISHA'S TEARS**



- Elisha's tears – *Lycyesteria formosa***
- Deciduous shrub to 2m with lush green leaves growing from hollow canes with drooping purple/pink clustered flowers
  - Native to the Himalayas
  - Seeds are eaten and spread by birds
  - Invades most West Coast areas including rainforest and disturbed areas
  - **CONTROL** – Spray with Glyphosate (Roundup®)

**SPANISH HEATH**



- Spanish heath – *Erica lusitanica***
- Evergreen shrub to 2m but is usually under 1m, with many small white and pink bell shaped flowers
  - Main infestations around Tullah, Queenstown and Gormanston
  - Is often found in mown or slashed areas as seed is commonly spread by vegetation management equipment
  - **CONTROL** – Spraying with Glyphosate (Roundup®), cutting down plants at ground level and painting stump with straight Glyphosate (Roundup®) and hand-pulling are all suitable control methods

**BLACKBERRY**



- Blackberry – *Rubus fruticosus***
- Prickly stemmed plants which grow in dense thickets of canes to 2m with white flowers and black fruit
  - Widespread across West Coast
  - Seed is commonly spread by birds
  - **CONTROL** – Spraying with Glyphosate (Roundup®) or cut down plants at ground level and paint stump with straight Glyphosate
  - Blackberry plants must not be sprayed with herbicide when in flower or fruit as the herbicide can pass a health risk to honey bees and people eating the berries

## Waste Management

Hierarchy of waste management;

**Eliminate**  
**Minimise**  
**Recycle/Reuse**  
**Treatment**  
**Disposal**



Many of the items used around the site can be recycled or reused; this includes empty drums (both metal and plastic), fluorescent lighting tubes, and scrap metal.

Renison operates a landfill for solid inert waste only. This includes:

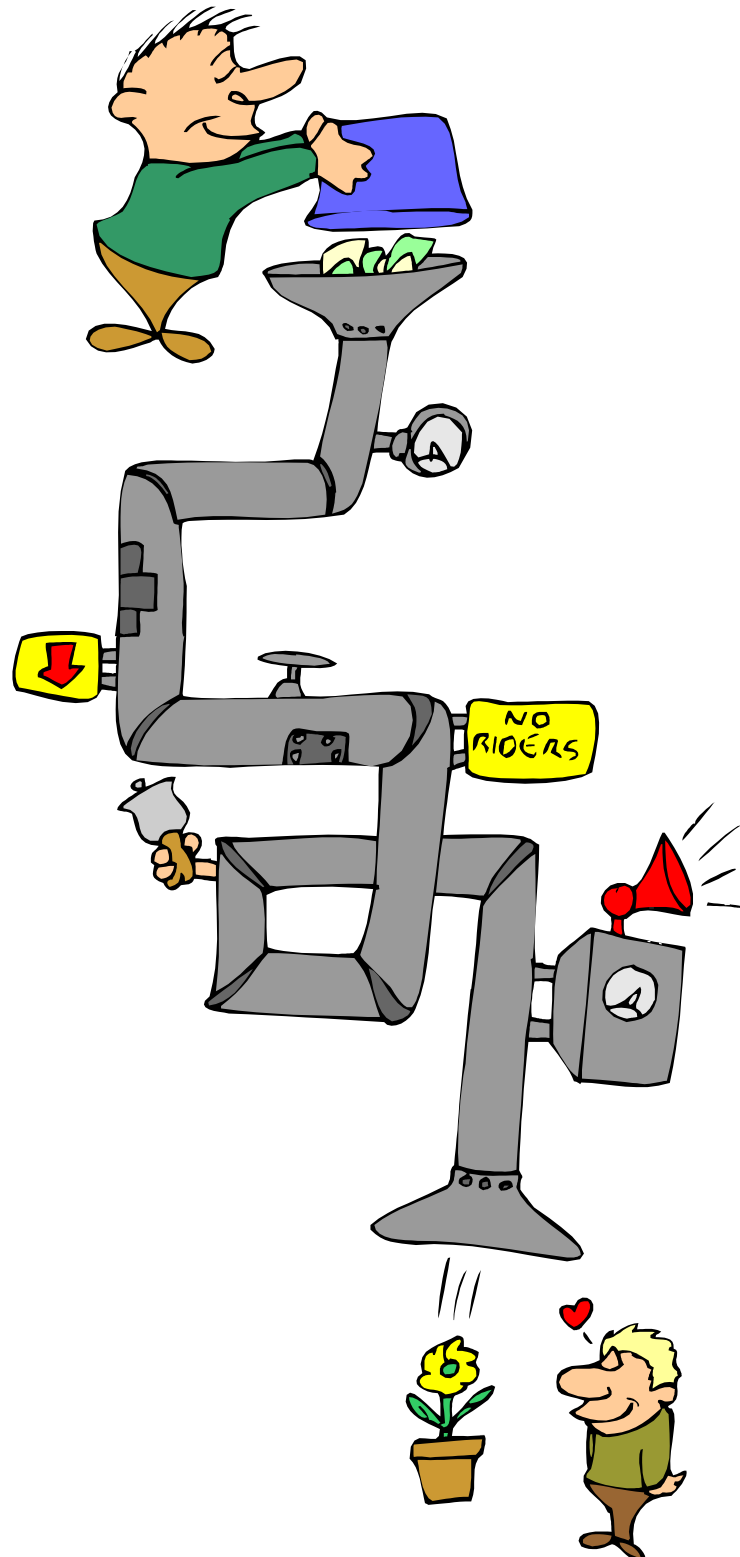
- clean fill
- wood
- bricks
- inert synthetic materials
- concrete
- non-acid forming rock
- fencing material

Putrescible waste (i.e. food waste, green waste, paper or cardboard) is NOT to be disposed of at the landfill, but should be placed in the skips for removal by the West Coast Council.

Wooden boxes and pallets are to be taken out to the pile near C dam. These materials are used by the Emergency Response team for fire fighting training.

Hazardous chemicals can only be disposed of for removal by registered contractors. Contact the Environment Team to arrange disposal.

Many of the buildings onsite have asbestos cement sheet cladding. This is being progressively removed in accordance with the site permit. Seek approval from the HSE Manager before doing any work on asbestos-containing material.



## Sulphide Materials and AMD

AMD stands for Acid Mine Drainage, which occurs when sulphur in rock is exposed to oxygen and water. Materials with the potential to produce AMD should be taken to the kibble dump on the south side of C dam for disposal underwater. By placing the material underwater, oxygen is unable to reach it and acid generation is significantly reduced.



Examples of potentially acid generating material are:

- Tailings
- HMS floats ('scats')
- Sediments removed from the silt ponds and dams
- Old ground support material from underground
- Ore and slurry spillage
- Spent grinding media

## Rehabilitation

A lot of work was done in the 1990s researching closure options for the tailings dams. As the tailings are acid generating, they must be either kept under a water cover, or clay cap, and they are not a suitable medium for plant growth.



Tailings Dams A and B were closed out in the late 1990s, using the low sulphur portion of the tailings as an initial cover, then creating a wetland habitat over top. This has been very successful, with rushes naturally colonising the wetland, and the water quality is exceptionally good.

Hydroseeding has also been used onsite with some success on the old Federal Open Cut. The open cut had steep rocky faces, presenting difficulties for other forms of revegetation.

It is Bluestone's policy to carry out progressive rehabilitation wherever appropriate. This means closing out areas as soon as they are no longer required.

## Hydrocarbons

A hydrocarbon is a substance made up of hydrogen and carbon, and is hydrophobic (water-fearing). Lighter hydrocarbons like petrol float on water.

Some common hydrocarbons found on site are:		
Diesel	Petrol	Grease
Solvents	Oil	Degreasers

All hydrocarbons are harmful to the environment.

Spills of hydrocarbons may occur due to faulty equipment, broken hoses or pipes, human error or incorrect storage. All hydrocarbons should be stored in bunded areas, and if working with or moving them, make sure you know where your nearest spill kit is.



Hydrocarbon contaminated materials, such as rags, used spill kit materials, drained filters, grease cartridges must be disposed of in the red bins provided.

Waste oil and grease is also collected separately for disposal off-site.

## Spills and Clean Up

Remember the 5 “C”s

- CHECK..... identify the chemical, and any hazards
- CONTROL..... turn off valves, pumps, plug holes...
- CONTAIN..... stop the spill from spreading
- CLEAN UP.....use spill kit materials to clean up, making sure that the used spill kit material is disposed of correctly
- CALL..... report the spill to the Environment Team and/or a supervisor

**If you need advice on how to clean up a spill, contact the Site Environment Team, we are happy to help.**

**Remember, all spills should be cleaned up immediately!**

