

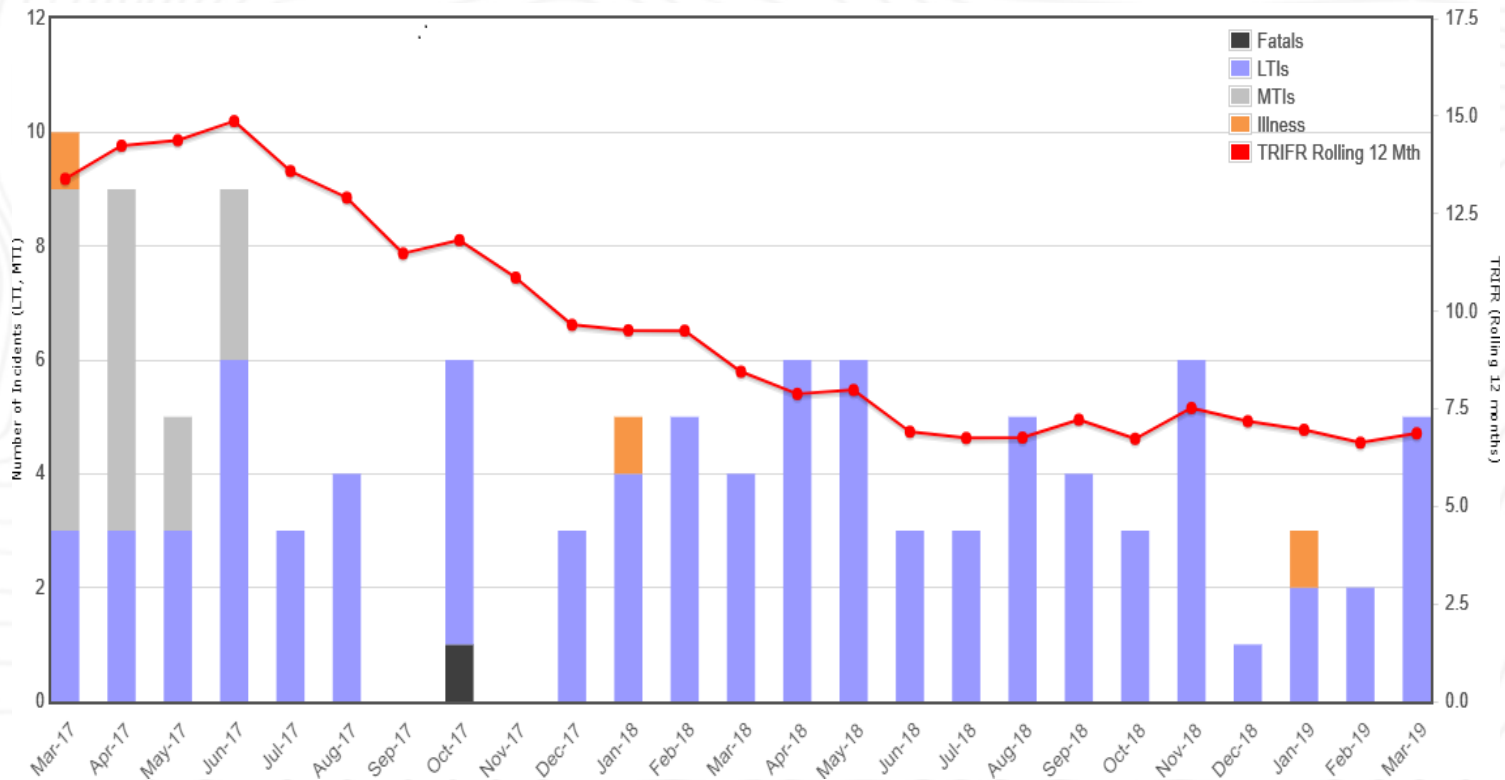
# Health & Safety Update 2019



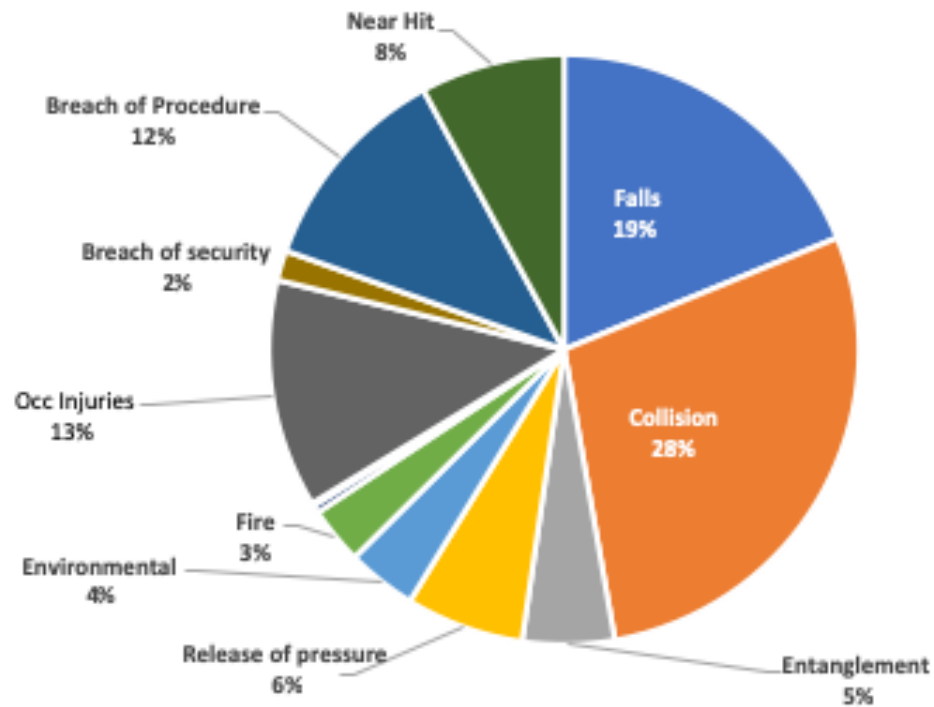
# Before we get underway

- **Please switch OFF mobile phones**
- **What to do in event of emergency**
- **Facilities and messages**
- **Who we are**

# TRIFR data: All operations - July 201 to Mar 2019



## All categories Incidents July 2017 to March 2019



# Collisions

- **Loss of control of vehicle - 46%**
- **Vehicle collision - 51%**
- **Person hit by vehicle - 3%**



# Controls for Collisions

- **Speed is reduced** to match the conditions, particularly following wet weather
- Operators are **trained and assessed as competent** to operate mobile equipment. This needs to include model/equipment specific training and assessment
- Particular care is taken when operating fully **articulated vehicles** on cross slopes
- All vehicles are **fundamentally stable** when parked, i.e. chocked or backed into a trench or over a bund to secure them in case the park brake fails
- Procedures are in place to ensure operators of mobile equipment **wear seatbelts** at all times while operating the equipment.
- All activities are **adequately supervised**, including workplace inspections and task observations

# Falls

- **Fall of ground - 18%**
- **Fall of equipment - 37%**
- **Fall of person - 45%**



# Controls for Fall Hazards

- Fall hazards such as slope stability, unsecured tools, screens etc., trip hazards and areas where workers can fall from height are **identified in risk assessments**.
- Adequate and **effective controls** are in place to ensure no-one is exposed to the fall hazards identified.
- Regular **workplace inspections are conducted** to identify work areas where there are fall hazards and what, if any, exposure workers have to these hazards.
- Lifting procedures are checked to ensure that **no-one is in the fall zone** of a lift when the lift is made.
- High risk tasks such as lifting, working at heights, working near unstable faces etc. are **adequately supervised**.



# Failure of semi-automatic quick hitch

A semi-automatic quick hitch failed dropping the bucket. It appears that the pins were not located/secured properly.

Buckets or attachment detach because the safety pin securing the attachment is not correctly fitted, or the automatic safety system securing the attachment is not engaged.

In either situation, the consequences can be fatal.



# Learnings

- **Quick hitches are kept in good working order and checks are conducted to ensure the attachment size is suitable for the excavator or backhoe arm's size. Ensure that they meet the OEM requirements**  
*to manufacturer's specifications*
- **The safety pin is securely in place or the automatic system has engaged correctly before starting work, and when fitting a different attachment**
- **An exclusion zone is established below and around the vicinity of the bucket when using the excavator or backhoe if there are other workers on the site**
- **Ensure excavator and backhoe operators are trained in how to use the plant safely and are competent to use the specific quick hitch on the plant they are using**

# Rock ejects when tyre blows

A dump truck was backed under an excavator while being loaded by the excavator. Once loaded the dump truck proceeded to pull away from the excavator at which time Pos 4 tyre blew out ejecting a rock which smashed through the side window of the excavator.

At the time, work was being done on haul roads at the site and it is believed that impact damage to the tyre may have caused the blow out.



# Learnings

- **Procedures are in place to ensure regular checks and maintenance of tyres, including during pre-start checks**
- **Site roads are regularly maintained and are kept free of rocks and sharp objects that may impact on tyre wear**
- **Workers are trained in, and regularly reminded of, the potential results of tyre damage**
- **Regular workplace inspections are conducted to ensure compliance with the procedures listed above**

# Isolation incident

A quarry worker was seriously injured when an impact crusher was “accidentally” started while the worker was welding inside the crusher. Another worker had been asked to rotate the drum but pushed the wrong button and started the crusher. The worker fell into the crusher suffering serious injuries that required surgery and significant time off work.



# Learnings

- **All plant is isolated prior to commencing any maintenance on that plant**
- **Isolation procedures are reviewed to ensure they include the use of clearly identified locks and that once isolated a “test for dead” is conducted to ensure there is no energy to the plant**
- **Locking pins or locking bars are used, if provided, to lock horizontal shaft rotors so that they will not spin when being worked on**
- **Crusher are maintained in accordance with original equipment manufacturers (OEM) requirements**
- **All workers are trained, and regularly re-trained, in site isolation procedures**
- **Regular workplace inspections are conducted to ensure that risk controls are in place and are effective.**

# Isolation incident

After weekend maintenance locks were removed but isolation switches not reset. Plant operator did not do pre-start checks and started plant. He received error messages but overrode them.

When he noticed no material on the main conveyor he investigated to find considerable build up of material on the feed belt as the main belt had not started.



# Learnings

- **No plant is started after maintenance until pre-start checks have been conducted to ensure that all guards have been replaced, locks are removed, isolation switches reset and that the plant is safe to operate**
- **Risk assessments are completed on all non-routine tasks to ensure that hazards are identified, risks assessed, and effective controls are put in place**
- **Regular workplace inspections are conducted to ensure that risk controls are in place and are effective**
- **All workers are trained, and regularly re-trained, in isolation and lock-out procedures.**



# Worker fall from height

A contractor was working on a roof when he stepped onto a brittle clearlite panel and fell 2.5 metres onto the conveyor below. The worker was wearing the correct fall restraint harness, which was correctly anchored. He had, however, failed to tension the rope grab, thus impacting on the restraint system's ability to restrain him.



# Learnings

- **There is safe and adequate access to all areas of the plant where maintenance is carried out**
- **Clearlite panels and other unstable surfaces are covered to provide a stable working surface where access is required for maintenance or other activities**
- **Risk assessments are completed on all non-routine tasks to ensure that hazards are identified, risks assessed and effective controls are put in place**
- **Regular workplace inspections are conducted to ensure that risk controls are in place and are effective**
- **All workers are trained, and regularly re-trained, in Working at Heights procedures and the correct use of fall restraint equipment.**

# Loss of control of loader

While driving a front-end loader down a ramp, the operator experienced problems with the gears. He bumped the controls causing the bucket to drop bringing the loader to a sudden stop. The driver was not wearing his seatbelt and was thrown into the windscreen, hitting his head.



A number of recent similar incidents have identified loss of concentration, operator distractions, poor maintenance on vehicles, and lack of operator awareness as major contributing factors to incidents involving loss of control of a vehicle.

# Learnings

- Procedures are in place to ensure operators of mobile equipment wear seatbelts at all times while operating the equipment.
- Training, awareness, supervision and possibly disciplinary action will need to be used to ensure compliance. **Despite compelling evidence to support the fact that wearing a seatbelt will give the operator protection in the event of loss of control of his vehicle, in many of the reported incidents operators were not wearing**
- All activities are adequately supervised, including workplace inspections and task observations

# Working with high pressure hydraulic hoses

A worker was using a portable high pressure hydraulic pump to power a hydraulic ram to push links apart on a track chain. The hose-tail failed at the hose tail crimp, whipping back striking the employee on the left eye. Despite wearing safety glasses, the employee lost sight in the left eye



# Learnings

- **Full face shields and safety glasses or goggles (double eye protection) are to be worn for high impact potential activities. Goggles provide better protection than safety glasses for high impact activities. Face shields are not designed for high impact activities alone and require safety glasses/goggles to be worn.**
- **Whip cords (hose chockers) certified for high pressure hydraulics, are used for all coupling joins. Ensure all hoses are visually inspected before use. Dispose of damaged hoses and couplings. The whip cords were sourced through Enerpac.**
- **Ensure all high pressure hydraulic hoses are sheathed to protect from abrasions, and provide protection in-case of failure, and hydraulic injection.**
- **The employee's place of work arranged training workshop for staff and local businesses on the safe use of high pressure hydraulics tools.**

# Air hose connection blows off

A worker was operating a jackhammer while cleaning out under a crusher, when an air hose connection came loose and flew off. The projectile narrowly missed the workers face.



# Learnings

- **Where practical, all air hose connections are replaced with quick acting claw couplings and safety pins (refer photo to right).**
- **Before commencing any task using air operated tools, all connections are checked for wear and tear, damage etc.**
- **Risk assessments are completed on all tasks to ensure that hazards are identified, risks assessed, and effective controls are put in place.**
- **Operators are trained and assessed in the safe use of air operated tools, and that training takes account of specific site conditions and activities.**
- **Appropriate Personal Protective Equipment (PPE) is always worn when operating air operated tools.**





# ADT rollovers

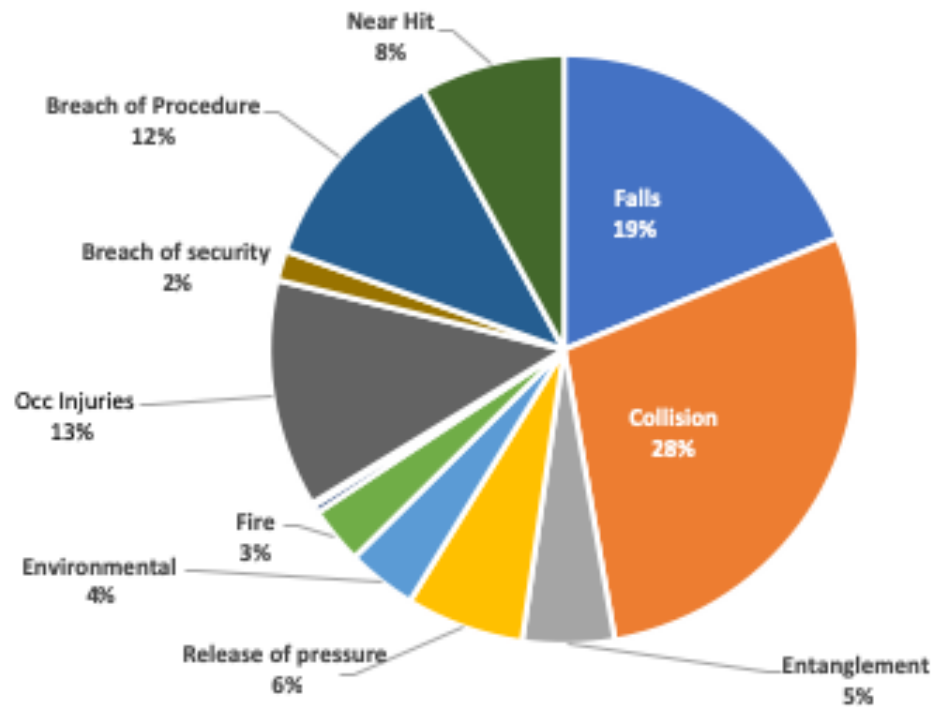
**As a supervisor left site to tidy up the pit floor, he instructed operators to dump short and paddock stack the tip head. The operator of the ADT backed the truck to tip his load. As he did so the left side of the back dual wheels ran up onto the previously dumped pile and the body rolled onto its side.**



# Learnings

- **Ensure operators are trained and competent to operate the equipment**
- **Particular care is taken when operating fully articulated vehicles on cross slopes**
- **Speed is reduced to match the conditions, particularly following wet weather**
- **Vehicles are not overloaded**
- **Seatbelts are worn at all times.**

## All categories Incidents July 2017 to March 2019





# *Questions?*

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