

ELECTRIFYING THE FUTURE

Welcome!

Contractor Safety Meeting

March 2023



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ELECTRIFYING THE FUTURE

Agenda

- Environmental Share
- Safety Stats
- Stop the Job Recognitions
- Incidents
 - Potentially Fatal Events (PFEs)
 - February Actionable Events
 - Fatal Risk Deviation (FRD) Learnings
- Job Planning and Audits



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Environmental Share Fugitive Dust

Fugitive Dust is any dust emission which could not reasonably pass through a stack, chimney, vent, or opening



Some of the best management practices to reduce dust from becoming airborne is to use an approved dust suppressant, adhesive soil stabilizer, paving, covering, landscaping, or wetting

Opacity limit of fugitive dust emission is 40%

If you have any Questions, please contact Environmental Services at 928-865-6000 or a Member of the Air Team.

12 Month Contractor Performance



Morenci Contractor TRIR

March 14, 2023

13

Near Miss

47

Property Damage

56

First Aid

10

Lost Time

16

Medical Treatment

12

Restricted Duty

(Blank)

Fatality

3/1/2022

2/28/2023



2.28

Total Recordable Incident Rate

38

Total Recordable

0.60

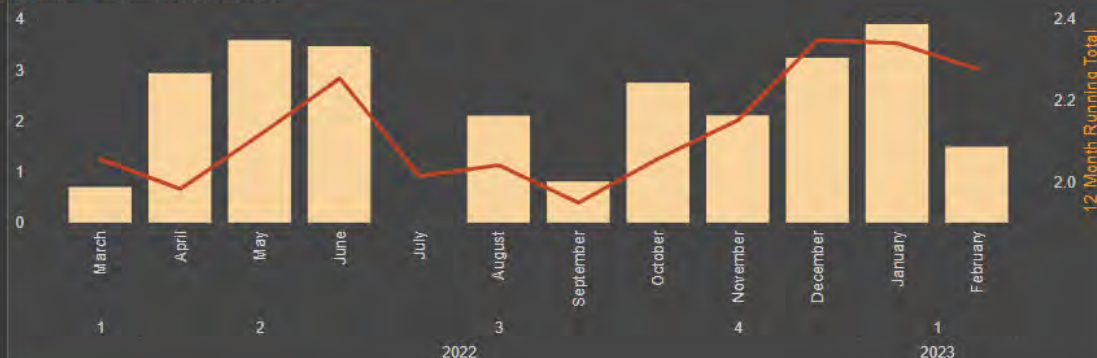
Actionable Incident Rate

10

Total High Risk Events

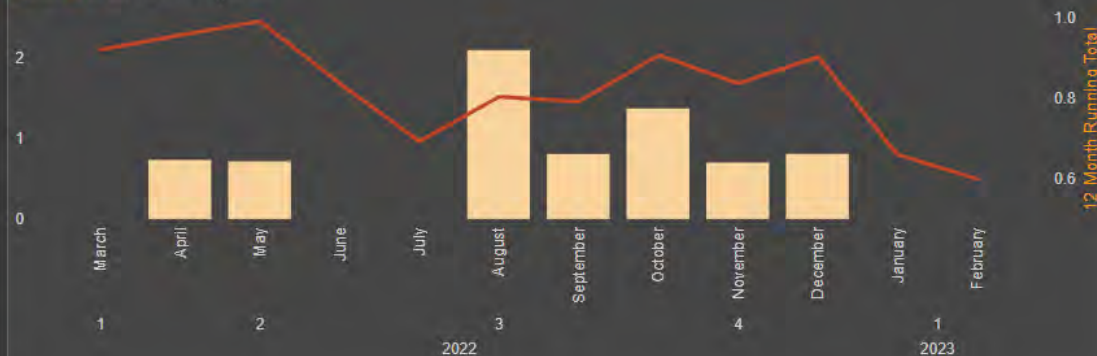
Total Recordable Incident Rate

● TRIR ● 12 Month Running Total



Actionable Incident Rate

● AIR ● 12 Month Running Total



Contractor

- Select all
- Ace Industries Inc
- Advanced Lining Solutions Inc.
- AECOM
- American Power LLC
- Ames
- Arizona Electrical Apparatus
- B.J. Cecil Trucking Inc.
- Barney Trucking
- Bison Engineering
- Boart Longyear
- Boulder Creek
- Bowman Consulting
- Brightview Landscaping
- Burks Valley Sanitation LLC
- Burton Hydro-Vac Services Inc
- Call & Nicholas Inc
- Caltrol
- Canary Systems
- Carrier
- CKC Construction & Materials

- YTD TRIR - 2.78
- FEB TRIR – 1.49
- MEDICAL TREATMENT: EMPLOYEE USING RAZOR KNIFE TO REMOVE SEAL. KNIFE SLIPPED CAUSING 1” LACERATION TO THUMB.
- MEDICAL TREATMENT: EMPLOYEE WAS CUTTING TACK WELDS. ON THE LAST WELD, THE GRINDER CAUGHT AND JUMPED BACK CAUSING EMPLOYEE TO LOSE GRIP AND CAUSE LACERATION TO FINGER.

12 MONTH ROLLING FRM



Fatal Risk Management

(**Information is only displaying FRM missing control data**)

2/27/2022

2/27/2023



Business Function

- Admin
- Construction
- Exploration
- Maintenance
- Manufacturing
- Mining
- Processing
- Smelting
- Support

Sub-Function

- Acid Plant
- Blasting
- Concentrate
- Concentrate Leach Plant
- Construction
- Crush/Convey

225

Forms with Missing Controls

408

Total Missing Controls

2802

Total Verifications

92.0%

Passing Verifications

Fatal Risk

	No
Lifting Operations	109
Vehicle Impact on Person	63
Vehicle Collision or Rollover	43
Fall from Heights	41
Falling Objects	29
Fire	24
Uncontrolled Release of Energy	20
Hazardous Substance - Chronic	18
Entanglement and Crushing	16
Confined Space	15
Exposure to Electrical Hazards	14
Drowning	9

Questions

	No
Is the lifting operation controlled by barricading?	23
Do barricaded areas have adequate notification, signage/tags?	17
Have I erected barricades as required?	16
Have I verified that the barricading has 360 degree coverage to prevent unintended access to the potential drop/loading/unloading zone?	15
Are personnel following the segregation rules?	14
Are segregation controls implemented in a way that doesn't introduce new hazards?	11
Are the segregation controls suitable for the hazards?	11
Has the team reviewed the rescue plan for this task?	11

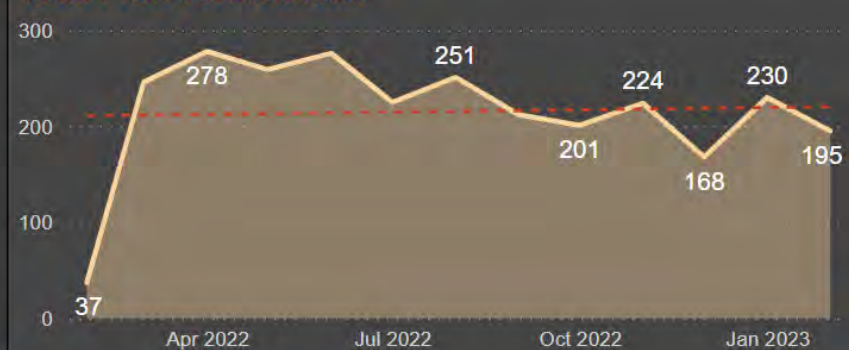
Submitter w/ Comments

	#
Daniel Pena	12
Kenneth Herrera	10
Daniel Olave	7
Robert Franco	7
John Eby	6
Steve Chartier	5
Alexandria Castillo	3
Chase Weaver	3
Dana Wise	3
Daniel Leyvas	3

Total Missing Controls



Total FRM Verifications



% Passing Verifications



ELECTRIFYING THE FUTURE

RECOGNITION

STOPPING THE JOB



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LAYNE - DRILL SITE CRACKING

- AT DRILL SITE LOCATED ON OUTER PERIMETER OF TAILINGS, SEVERAL AREAS OF THE GROUND SHOWED MINOR CRACKING IN THE SURFACE AT VARIOUS INTERVALS AROUND THE DRILL PAD. LAYNE NOTED DISCHARGE OF WATER FROM THE SUMP.
- WHEN THE DAY SHIFT RESUMED DRILLING, LARGE CRACKS FORMED UNDER THE DRILL RIG AND SPANNED TO THE SUMP IN A 5-10 MINUTE TIME PERIOD
- CREW IMMEDIATELY STOPPED THE WORK AND CONTACTED FMI TO ASSESS SAFETY OF THE DRILL PAD.



LAYNE - DRILL SITE CRACKING



Reverse Circulation drilling system allows injected air, cuttings, and water to be returned to the land surface inside the dual-walled drill pipe. This "blow-by" air is usually released above the surface casing (via a valve system). In this case, it appears some of the blow-by air may be escaping into a shallow fracture near the surface. This escaped air is then traveling through the shallow material on the pad. This appears to be the cause of the small fissures observed near the rig.

LAYNE - DRILL SITE CRACKING



Safety Plan

- Monitor cracking.
- Every new and existing crack will be closely monitored.
- Layne devised a method to measure cracking
- If stakes separate by $\frac{1}{4}$ " or more, all work will immediately stop and the safety of the drill pad will /be re-evaluated.
- Verified on an hourly basis.
- Maintain active communication to ensure that safety is the ultimate priority.



SOLLERS - TOWNSITE UTILITIES

- SOLLERS HAD A SAFETY SUCCESS WHILE WORKING ON THE MARKEEN UNDERGROUND PROJECT FOR MWE.
- WHILE DIGGING, SOLLERS CAME ACROSS DIFFERENT MATERIAL AND IMMEDIATELY STOPPED DIGGING.
- THEY BEGAN TO HAND DIG AND DISCOVERED THERE WERE UTILITIES UNDERGROUND THAT HAD NOT BEEN IDENTIFIED. THESE CONSISTED OF WATER, GAS, AND FIBER OPTIC.
- THESE HAD NOT BEEN MARKED ON ANY OF THE PREVIOUS PLANS SO THEY STOPPED WORK UNTIL ALL OF THE UTILITIES COULD BE IDENTIFIED. THESE UTILITIES ARE NOW INCLUDED ON THE PLAN.



WESTERN INDUSTRIAL

- TUESDAY FEBRUARY 28TH- WORK STOPPAGE R-7- MIKE MARQUEZ AND CREW WERE PREPARING TO WELD REENFORCING SUPPORTS TO DAMAGED CABLE TRAY AT R-7 MIKE NOTICED THE **R-9 BELT STARTED. MIKE STOPPED THE CREW FROM WORKING BELOW THE BELT AND NOTIFIED FMI SUPERVISION AND SAFETY.**
- FMI SUPERVISION WERE ABLE TO SHUT DOWN THE R-9 BELT/**AND EMPLOYEES PROCEEDED TO LOCK OUT ON R-9 BELT. EMPLOYEES REGROUPED AND PROCEEDED WITH WORK ON R-7 COMPLETING TASK SAFELY.**
- WEDNESDAY MARCH 1ST - WORK STOPPAGE AT MORENCI CANYON ON THE 2140 DRY SCREEN- EMPLOYEE LORENZO STEVENS PRIOR TO ENTERING DRY SCREEN WAS SETTING UP FALL PROTECTION AND NOTICED THE **DRY SCREEN WASN'T DESCALED FULLY AND STOPPED THE JOB.**
- ALL EMPLOYEES REGROUPED CONTACTED SUPERVISOR FROM FMI LANCE DAWSON AND DESCALED REMAINING BUILDUP WITH AIR LANCE. ONCE COMPLETED EMPLOYEES **VERIFIED DRY SCREEN WAS IN SAFE WORKING CONDITION AND PROCEEDED WITH THE TASK.**



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INCIDENTS / LEARNINGS

FEBRUARY 2023



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FATAL EVENT ALERT



Employee Struck by Telehandler

FE #	2023-1
IMS #	20003835
OPERATION:	PT Freeport Indonesia
INCIDENT DATE:	1/19/2023
TIME:	10:14 a.m.
TYPE:	Fatality
FE Follow-Up:	2023-1

Issued By: Henky Rumbino, Supervisor-Underground Operations, hrumbino@fmi.com

Contact For Additional Details: Andri Abdullah, Underground Safety, aabdullah@fmi.com

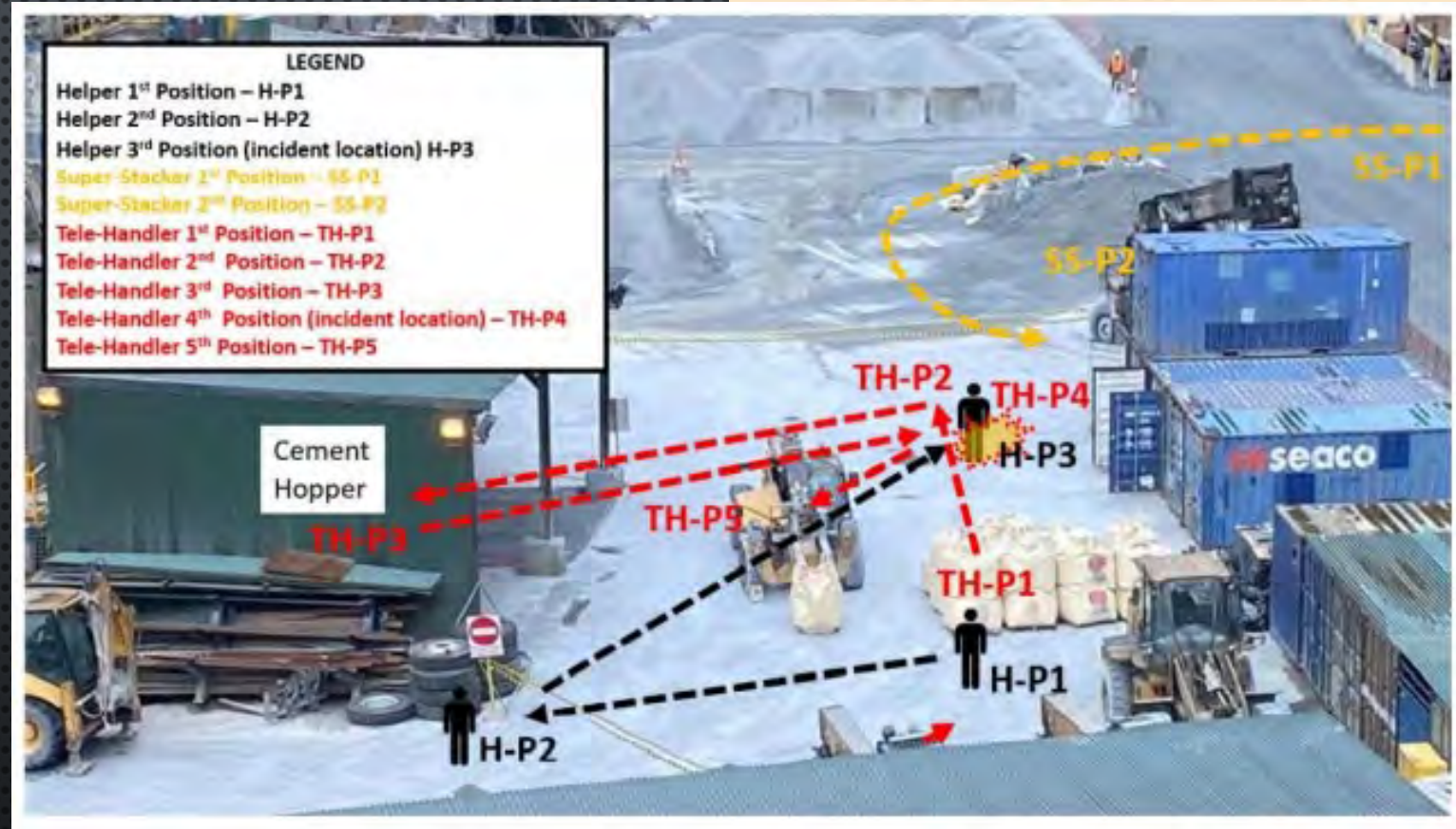
Description: On January 19, a telehandler operator and employee helper were refilling the cement hopper with bulk cement bags. The employee was attaching bag handles to the telehandler forks for lifting. After attaching the first bulk cement bag, the telehandler operator reversed away from the employee and toward the hopper to empty the bag. At the same time, a super stacker arrived in the area to deliver a container. The employee turned attention away from the telehandler and moved toward the super stacker, with back to the telehandler. As the telehandler operator reversed to return to the original position near the cement bags, the telehandler struck the employee down to the ground and ran over the employee's legs.



VEHICLE IMPACT ON PERSON

- INADEQUATE MANAGEMENT OF TASKS AROUND HEAVY EQUIPMENT
- TRAFFIC MANAGEMENT
- SEGREGATION
- BARRICADING
- PEDESTRIAN ACCESS

FATAL EVENT ALERT



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Potential Fatal Event: Service Truck Rollover

Preliminary Incident Details

Operation	Chino
Date / Time	January 30, 2023 / 9:15 a.m.
Type	Injury / Illness
Summary	A service truck trainee operator and trainer passenger were driving on a haul road when the truck hit an icy patch, causing it to slide and roll over. The operator and passenger climbed out of the truck through the broken windshield and moved away from the vehicle, then called a mayday on a handheld radio. They were transported to the hospital for further medical evaluation and later released.
Fatal Risk	Vehicle Collision or Rollover
Risk Category	Actionable
Pre / Post Rating	Significant (3) Likely (3) / Pending
Findings / Missing Controls	<ul style="list-style-type: none"> • Failure to wear seatbelts properly • Watering areas in freezing conditions • Operator had incomplete training for task (7-point brake test training)
Applicable Policies / Procedures	<ul style="list-style-type: none"> • FCX-HS01 Policy Administration • FCX-HS29 Standard Safety Requirements Policy
Employee Condition	Both employees sustained minor injuries (soreness / bruising)
Contact	Arliss Jones, H&S Sr. Supervisor

Photos / Links



Service truck's final position



Overtuned truck



Potential Fatal Event: Dozer Operator Slid Into Feeder

Preliminary Incident Details

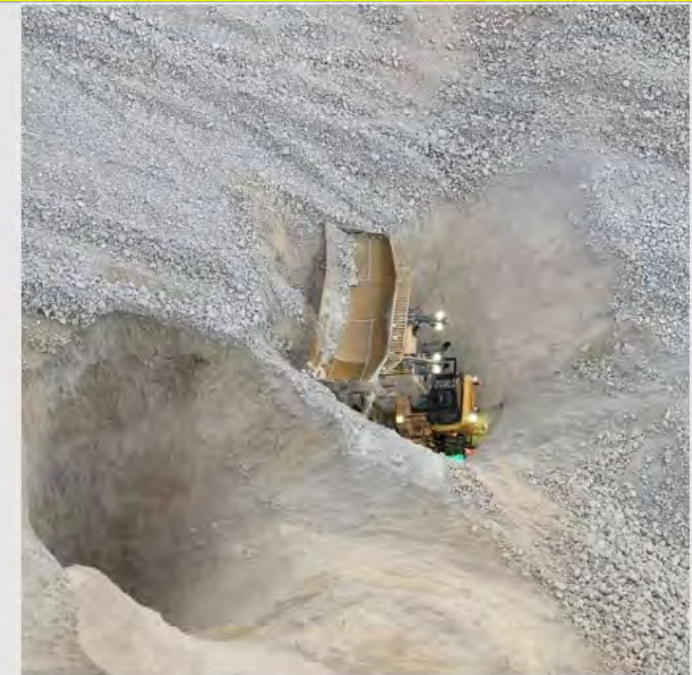
Operation	Morenci
Date / Time	January 16, 2023 / 6:43 AM
Type	Near Miss
Summary	A dozer operator was pushing material into the feeder on the mill stockpile when the dozer slid into it. The operator radioed dispatch to stop the feeder but was not able to make positive communication. The operator proceeded to self-extricate from the dozer and moved to a safe area. A full investigation is underway.
Fatal Risk	Entanglement and Crushing
Risk Category	Actionable
Pre / Post Rating	Significant (3) Likely (3) / Pending
Preliminary Findings / Missing Controls	<ul style="list-style-type: none"> • Failure to make positive communication • Failure to follow dozer operating procedure for pushing in stockpile area • Failure to stay outside geofencing boundary
Applicable Policies / Procedures	Morenci Safe Operating - Pushing in the Mill Intermediate Ore Stockpile (IOS)
Employee Condition	No injury
Contact	Rassie Ras, Manager-Health and Safety



PFE # 2023 – 1

Event ID # 20003779

Photos / Links



Dozer inside feeder

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Safety Alert: EMPLOYEE INJURED ON SHOVEL DIPPER

Incident Details

Operation	Morenci
Date / Time	February 20, 2023 / 7:55 a.m.
Type	Injury / Illness
Summary	<p>Two employees were removing caked-on crater grease from the top of a shovel. One employee operated a forklift to scrape off the grease, while the second employee was tied off on top of the dipper to guide the forks. The employee on the dipper slipped and fell onto the attachment ring. The operator stopped the job and called a mayday. The employee sustained fractures to the jaw and cheekbones as well as eye trauma.</p>
Potential Fatal Risk	Fall from Heights
Probable Direct Causes	<ul style="list-style-type: none"> • Slipping hazards due to the crater grease on top of the dipper • Tripping hazard due to the rigging (nylon slings) on top of the dipper at the start of the cleaning process
Immediate Corrective Action(s)	<ul style="list-style-type: none"> • Flip the dipper on its side using a crane to allow employees to work from the ground level instead of climbing on top of it. • Stop the use of forklift forks to strip crater grease from dippers.
Required Action(s)	<ul style="list-style-type: none"> • Use pneumatic scraper tools to strip grease from ground level.
Contact	Rassie Ras, Manager-Health and Safety

Photos / Links



SHOVEL DIPPER ON WHICH EMPLOYEE WAS STANDING

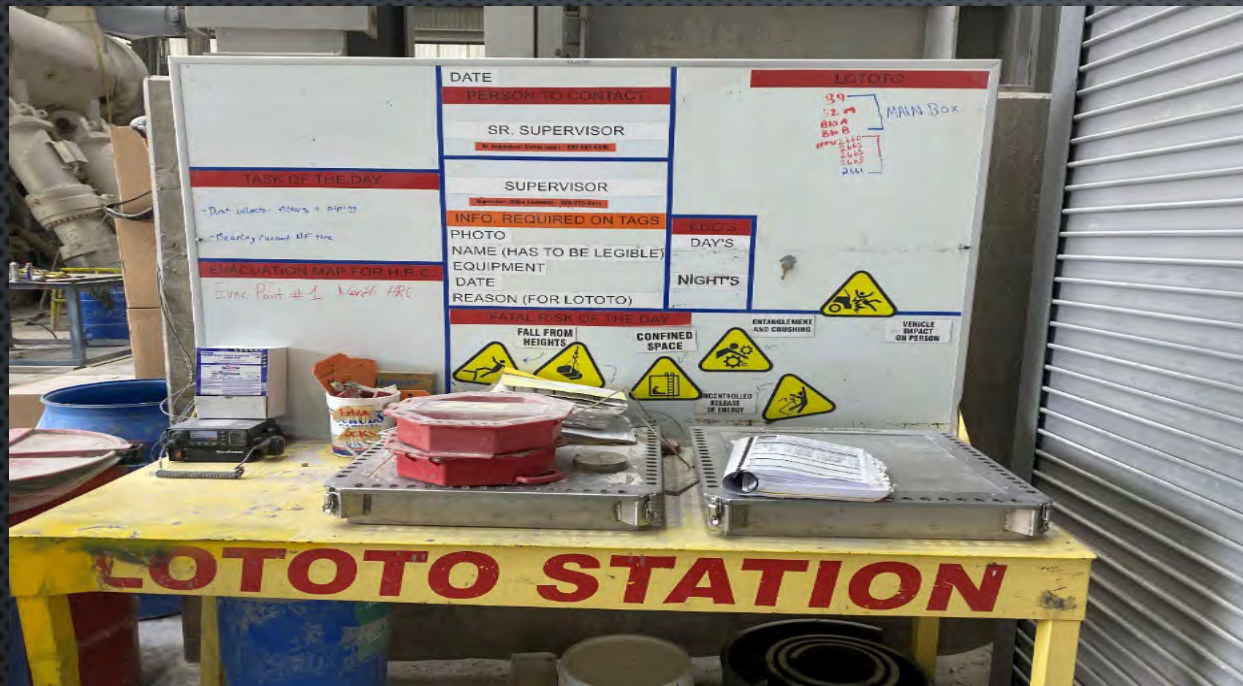


DIFFERENT VIEW OF SHOVEL DIPPER



TOP OF SHOVEL DIPPER WHERE EMPLOYEE WAS STANDING AND FELL

CONTRACTOR LOTOTO EVENT - FRD



Two contract employees failed to sign LOTOTO book and lock out on HRC Scraper replacement activity

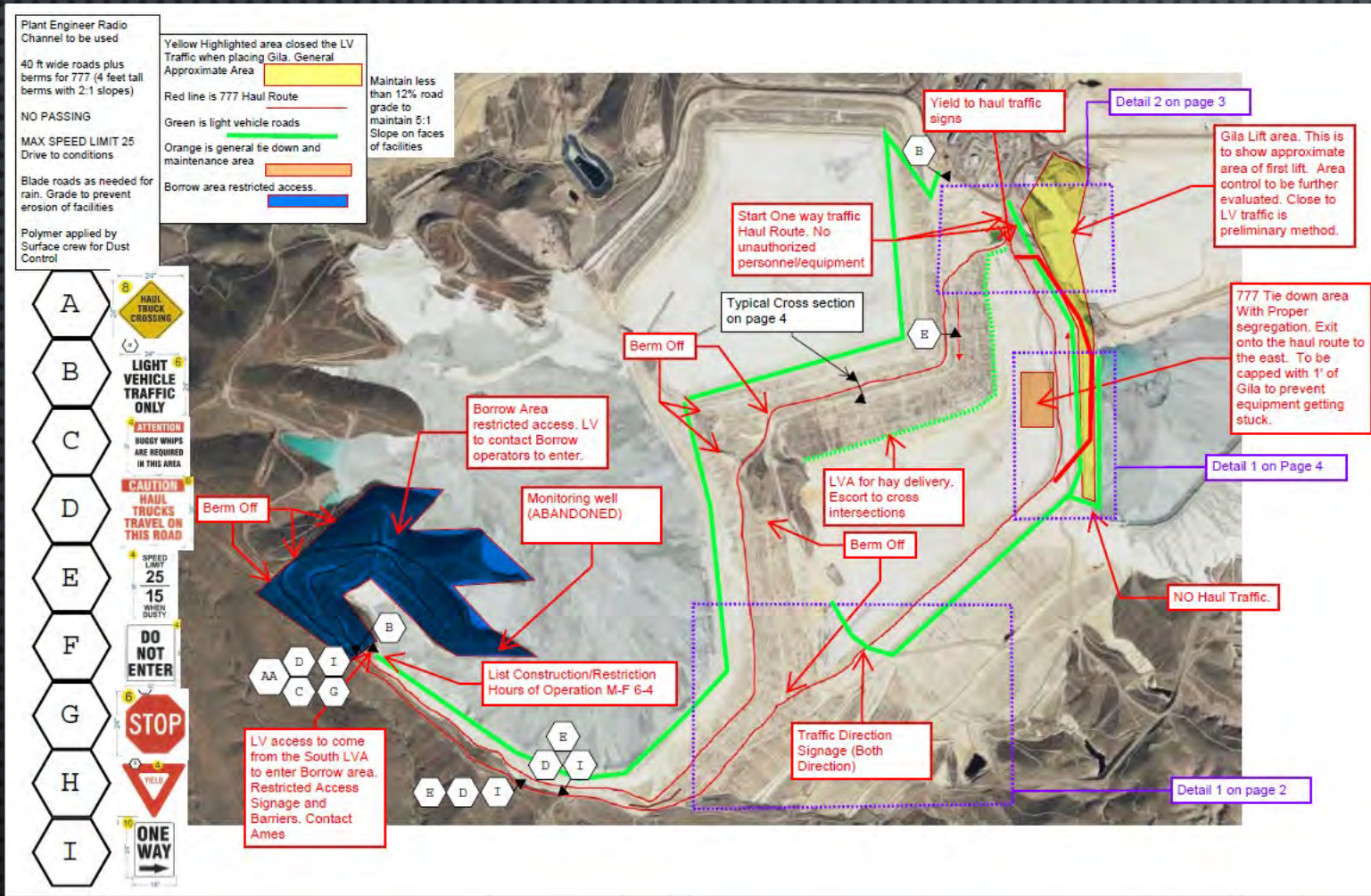
- Employees were doing other work outside the HRC Building.
- The two mechanics were directed by FMI Supervisor to assist with the scraper change in progress.
- A parallel FRD investigation was in progress for a fire in the HRC.
- Contract mechanics stated they reviewed JRA, initialed log, and focused on contributing, left out LOTOTO
- Contractor Supervision is normally notified when personnel is being redirected.
- Contract Employees assisted FMI in HRC

CONTRACTOR LOTOTO EVENT - FRD



- LOTOTO & JRA refresher training for employees involved, including Field Mentoring.
- The employee will demonstrate LOTOTO competence to FMI Safety before being released to perform LOTOTO by themselves.
- Contractor will schedule safety audits to include affected employees/ invite FMI
- Present incident to the contractor crews on site in Morenci.
- Report monthly FRM audits to FMI – Focused on LOTOTO and providing feedback to employees.
- Participate in Contractor Safety meetings.
- Implement weekly spot checks of employee COHE knowledge of terminology and conditions by Contractor Management team.

SERVICE TRUCK – TAILINGS PROJECT



Service Truck got lost
 Identified destination
 Drove over berm onto haul road
 Reported by 777 driver

Planning – Diligence- Collaboration – Haz Op -
 Minimized Dependence of Situational Awareness.....But

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PLANNING SUCCESSES

FEBRUARY 2023



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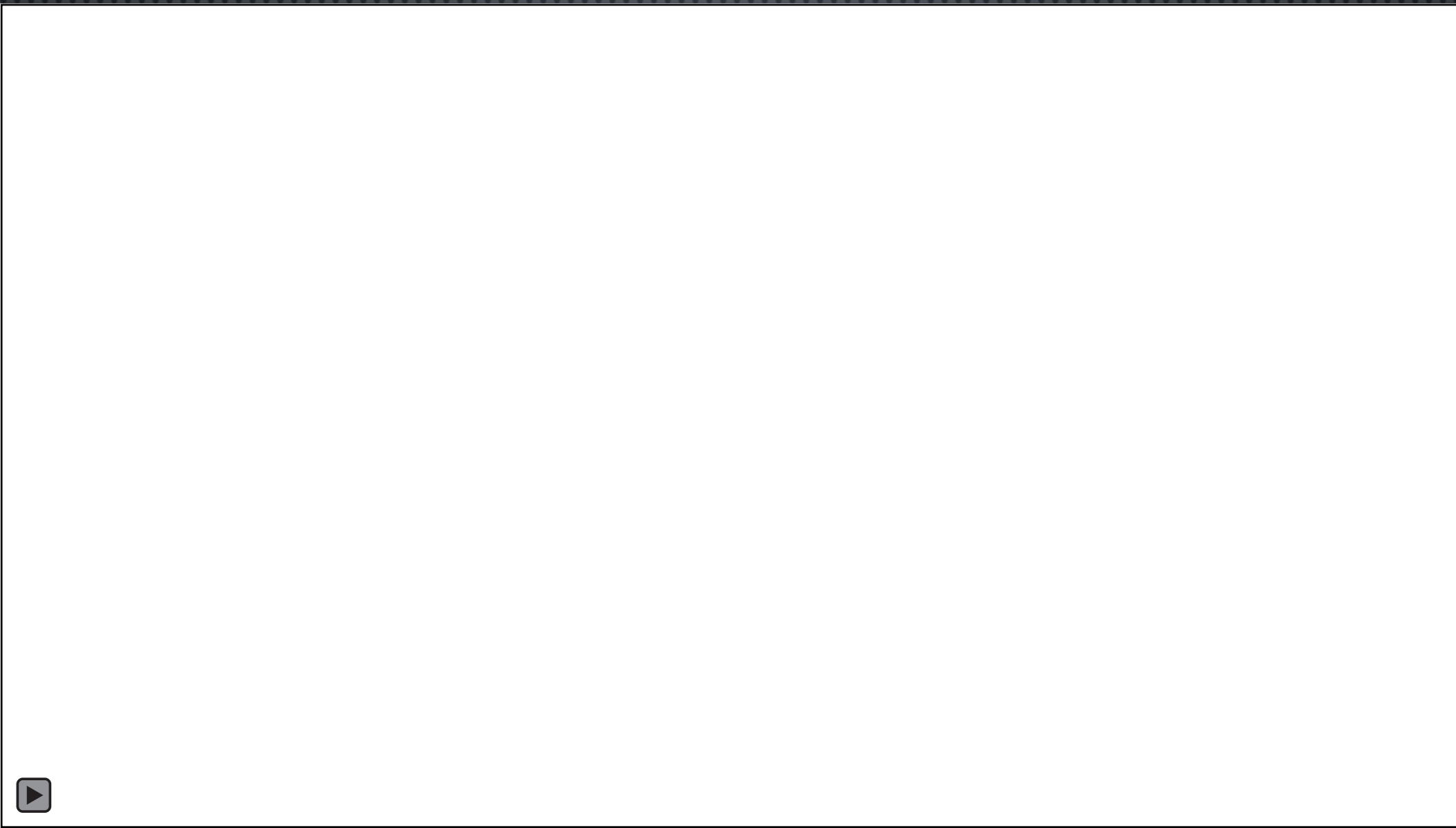


PRODUCER DRILL PROJECT

FRM REVIEW

					
Aircraft Operation	Blasting	Confined Space	Contact with Electricity	Contact with Molten Material	Drowning
					
Entanglement and Crushing	Exposure to Hazardous Substances - Acute	Exposure to Hazardous Substances - Chronic	Fall from Heights	Falling Objects	Fire
					
Ground Failure	Lifting Operations	Personnel Hoisting	Rail Collision	Rail Impact on Person	Uncontrolled Release of Energy
					
Underground Hazardous Atmosphere	Underground Inrush	Underground Rock Fall	Vehicle Collision or Rollover	Vehicle Impact on Person	





PRODUCER DRILL PROJECT

CRITICAL CONTROL WORKSHEET

Project Name	Producer drilling			Date Submitted	3/2/2023	
Contract Company	Cascade- WAP			Project Kick Off Date	3/4/2023	
Company Proj Manager	Joe Lopez			Company Safety Officer	Joe Lopez/ Issac Torres	
FMI Project Manager	Steven Conners			Division/Location	Plant Engineering -	
Activity	Fatal Risk	Critical Controls	Description of Controls	Stop Work Triggers	examples	Critical Control Verification, Notes
Driving to work sites/ Mobilize equipment	Vehicle Collision or rollover	Pre-op inspection / Positive communication/ Fit for duty/ Work place exam	Phone number and contact with SWAP/ Plant Engineering/ Equipment operation- slow speeds and radios - C&C Contract channel - Testing Orange button - Mine Gate 928-865-7931/ Cascade -WSP have radios/ Equipment Inspections- / Max daily 14 hour shift including commute	Severe weather, rain, team member not fit for duty/ road conditons, work site impacted by ravelling , etc. / defective equipment/ equipment or personnel within 10'/ inefficient berms/ Emergency communication not available	Rain- snow- fog affecting travel and visibility/ slipping- sliding of vehicles while driving/ unauthorized looky loos, vehicle to vehicle proximity, infirm crew members /	Observe inspection processes and review inspections /daily pre-start radio check-check orange button once per site/ supervisor monitoring of fit for duty/ weekly coordination meetings/ drive routes/
Set up Drill pad	Falling Objects (slopes) vehicle impact on person	Segregation and barricading to high wall/ Geo -technical inspection. Scale slopes. Signage and demarcation/ Fundamentally stable parking/ High wall permit	Sandwich boards at access of work area and yellow chain barrier demarcating work zone / Air Horns- spotter. Categorize pads where spotter will be needed. Daily inspection of highwalls/ slopes/ categorized where high wall permits are required and corresponding controls	weather/ ravelling/ lighthning/ defective equipment/ blasting/ no daily risk assessment on slope (JRA), or high wall(High Wall Permit)\	Losing sight of spotter/ spotter not visible / Signals standardized and understood/	Ensure spotters understand responsibilities- properly staged where it is determined high wall permits are applied/ Ensure spotters are in place for moving equipment- congested areas
Drilling Operation	Entanglement and crushing/ Lifting operation/ Falling objects	Guards and barricades/ radio communication - CC contract channel/ Visual communication/barriers and segregation / Lightning Alarm systems	Sandwich board with contacts and listed hazards / Flagging at upper sandwich board for demarcation/ Categorize pads where High Wall Permit are needed/ Air Horns- spotter/ Lightning alerts- Cascade uses weather bug app capable of programable alerts based on location/ Suspend operation required for access to drill rig/ rotation guard / anamometers	Lightning within 10 miles=red- / Unauthorized personnel in area/ sustained wind above 30 MPH in areas where visible hazards need to be mitigated/ unauthorized personnel in area/ Post rain inspections for shifting or displacement	spotters abandoning post/ being withing 10 feet of / Unauthorized personnel in work zone/ sustained 30 MPH winds / any ravelling/ identified highwall hazards needing mitigation/	Visual inspections/ Ensure radio recieves alerts/ Check for understanding of policy / roles /responsibilities. Interval monitoring. Supervisor Risk assessment review for quality and feedback to frontline employees
Adding rods/ Tripping out	Falling objects/ entanglement and crushing/	woring area management, securing devices, integrity of overhead structures, Positive communication	Specific task coordination between driller and helper before lifting -rod action/ Verbal and eye contact/ Execution zones/ rigging inspection/Pre operational inspection of main line/	Poorly designed or communicated work plan/ Misunderstanding or roles or process/ Unauthorized personnel in work zone/ defective equipment / Defective rigging	Poorly designed or communicated work plan/ Misunderstanding roles or process/ Unauthorized personnel in work zone/ defective equipment (example; Broken wire strands on main line, Hoist plug thread BO, Overshot malfunction,	Fall protection inspection/ Stop job to review plans / spot audits of activity
Demobe	Vehicle impact on person/ Vehicle collision or rollover/	Pre-op inspection / Positive communication/ Fit for duty/ Work place exam	Phone number and contact with SWAP/ Plant Engineering/ Equipment operation- slow speeds and radios - C&C Contract channel - daily pre-shift radio checks/ Cascade -WSP have radios/ Equipment Inspections- / Max daily 14 hour shift including commute	Severe weather, rain, team member not fit for duty/ road conditons, work site impacted by ravelling , etc. / defective equipment/ equipment or personnel within 10'	Rain- snow- fog affecting travel and visibility/ slipping- sliding of vehicles while driving/ unauthorized looky loos, vehicle to vehicle proximity, infirm crew members /	Review riask assessments / by pre-start radio check/ supervisor monitoring of fit for duty
	Emergencies	Emergencies	Establishing muster points/Daily discussion of muster point/ Communicaton confirmed	Site testing of communicaton equipment- radios and phones. Training on use of emergency buttons on radios. Orienting Rescue team of project location and escort points.	Muster point - 1 off highway by multi- plat tunnel/ Mustr point 2- at Gold Gulch - no phone or radio service	Check for understanding / confirm communication equipment is compliant. Team orientation of emeergency plansand logistics.

VEHICLE COLLISION OR ROLLOVER AUDIT – TAILINGS (777 HT ROUTE AND VAC TRUCK DUMP ROUTE)



VEHICLE COLLISION OR ROLLOVER AUDIT – TAILINGS (777 HT ROUTE AND VAC TRUCK DUMP ROUTE)



NEXT MEETING (4/11/23)

- MSHA EDUCATION FIELD SERVICES PRESENT
- PART 48
- TRAINING REQUIREMENTS
- COURTESY AUDITS