



FCX Department of Occupational Health and Safety		SOP #		FCX - 23	
		Revision #		0: New	
		Supersedes		New	
Interaction with Heavy Mobile Equipment - Surface Road Design, Light Vehicles & Ground Personnel		Task Risk	<div>X</div>	High	
			<div></div>	Medium	
			<div></div>	Low	
			<div></div>	NA	
Approval Date: August 2015			Original Date: New		

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1.0 Policy

This document establishes the minimum requirements and procedures for the health and safety of Freeport-McMoRan employees and contract personnel where there could be interaction between heavy equipment and light vehicles or people.

Policy	All Freeport-McMoRan (FCX) locations where heavy equipment is utilized will at a minimum adopt this policy and ensure that all site standard operating procedures are aligned with it.
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Scope	This policy covers all FCX employees and contractors that may interact with heavy mobile equipment.
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Heavy mobile equipment shall include:

- Haul trucks
- Articulating trucks
- Loaders
- Track dozers/bulldozers
- Rubber tire dozer
- Motor grader/blades
- Trackhoes/backhoes
- Mobile cranes
- Shovels
- Water trucks
- Scrapers
- Drills
- Compactors
- Slag haulers
- Forklifts (20k lbs or greater)
- Other heavy mobile equipment that interact with smaller equipment and pedestrians

2.0 Responsibilities and Duties

2.1 Management

It is management's responsibility to ensure compliance with this policy, procedure and the expectations outlined below.

Maintain Equipment in Good Working Order	Ensure all equipment is in good working order and that regular preventative maintenance procedures are in place. Where a defect or equipment issue will not allow safe operation, ensure equipment is not operated until such repairs can be completed.
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Ensure Proper Employee Training	Ensure that all personnel that may interact with heavy mobile equipment are properly trained per the requirements outlined within this document and with pertinent regional, federal and state regulations. Ensure employees are competent and qualified to operate equipment.
Ensure Periodic Engineering Reviews are Conducted	Ensure periodic engineering reviews of mine roads, intersections, light vehicle access, tie-down areas (haul truck staging areas), and heavy traffic areas such as shops are conducted.
Review Contractor Requirements	Ensure that contractors working on FCX property are aware of these requirements and have been trained.
Provide Equipment and Resources	Provide all necessary equipment and resources needed to safely operate equipment.
Maintain Documents Control	Maintain all completed inspections, documentation and training records according to the FCX -Records Retention Policy.
Identify Critical Risks and Critical Controls	Ensure that critical risks associated with interaction between heavy equipment, light vehicles, and people are identified and critical controls to reduce or mitigate those risks are in place. Ensure that leadership conducts periodic audits of these controls to verify use and effectiveness.
Perform Periodic Audits of Process	In conjunction with the Health and Safety department, conduct periodic audits of the overall interaction with heavy mobile equipment to ensure compliance.
Contractor Bidding and Selection	Ensure that contractor management is aware of this policy and the appropriate language is included in contracts.

2.2 Health and Safety

It is the H&S Department's responsibility to support compliance with this policy, procedure and the expectations outlined below.

Perform Periodic Audits	<p>The H&S Department will periodically audit for compliance and risk of the interactions between mobile equipment, light vehicles and people to identify issues and work with management to develop solutions.</p> <p>Inspections shall be conducted on contractor mobile equipment brought on site to ensure it meets minimum standards.</p>
Maintain Rescue Team Capabilities	The H&S Department in conjunction with site management will maintain adequate rescue capabilities (on-site team or 3rd party team), and ensure these teams are trained in accordance with the requirements outlined within



this document. Significant incidents involving heavy equipment interactions with light vehicles and people risks should be evaluated for rescue capabilities. Where applicable, plans shall be tested through tabletops and drills. These drills shall consider all safety, environmental and business continuity aspects.

Note: If a site must rely on third-party rescue, H&S and/or environmental personnel must audit training and rescue capability of the third party.

Contracts Selection and Bidding

Work with contracts management to review the requirements of this policy with contractors during the bidding process.

Review contractor safety plans to ensure elements of this policy are included where applicable.

2.3 Supervisors

It is the supervisor's responsibility to verify compliance with this policy, procedure and the expectations outlined below.

Maintain Equipment in Good Working Order	Verify all equipment is in good working order and that regular preventative maintenance procedures are in place. Where a defect or equipment issue will not allow safe operation, ensure equipment is not operated until such repairs can be completed.
Verify Proper Employee Training	Verify that all personnel that may interact with heavy mobile equipment are properly trained per the requirements outlined within this document and with pertinent regional, federal and state regulations. Ensure employees are competent and qualified to operate equipment.
Provide Equipment and Resources	Provide all necessary equipment and resources needed to safely operate equipment.
Maintain Documents Control	Maintain all completed inspections, documentation and training records according to the FCX -Records Retention Policy.
Identify Critical Risks and Critical Controls	<p>Verify that critical risks associated with interaction between heavy equipment, light vehicles, and people are identified and critical controls to reduce or mitigate those risks are in place. Verify that employees are conducting a pre-task risk review.</p> <p>Evaluate area of responsibility for new risks or changes that could pose risk and ensure critical controls are in place to mitigate risk. Ensure that a risk review is completed for any new roads, changes in traffic patterns, or other mine changes to ensure that controls are in place.</p> <p>Ensure that any new risks identified are communicated to incoming crews.</p> <p>Enlist help from engineering, health and safety or other resources as necessary to improve critical controls.</p>
Perform Periodic Audits of Process	In conjunction with the Health and Safety department, conduct periodic audits of the overall Interaction with Heavy Mobile Equipment to ensure compliance.
Contractor Compliance	Ensure contractors working in area of responsibility have received appropriate information and training on the area-specific hazards. Monitor contractors for compliance.

2.4 Contractors

It is a contractor's responsibility to provide properly trained employees and to comply with this policy.

Meet FCX Policy Requirements	Any contractors working for FCX will meet or exceed the requirements of this policy and shall comply with the FCX Contractor Safety Manual while on FCX property and within company-owned facilities.
Identify Critical Risks and Critical Controls	Ensure that critical risks associated with interaction between heavy equipment, light vehicles, and people are identified and critical controls to reduce or mitigate those risks are in place. Ensure that contract leadership conducts periodic audits of these controls to verify use and effectiveness.
Perform Periodic Process Audits	Conduct periodic audits of the interactions of heavy mobile equipment, light vehicles and people to ensure compliance.

2.5 Contractor Management

It is the responsibility of contractor management to ensure elements of this policy are included in the contract language for contractor qualification, bidding and selection for work on FCX property.

Contractor Selection and Bidding	Ensure that contractors understand the requirements of this policy and the training necessary to operate and interact with heavy mobile equipment.
Contractor Equipment Requirements	Ensure contractors receive minimum equipment requirements as well as requirements for inspections and maintenance for mobile equipment. Perform periodic audits of contractor maintenance records and procedures for mobile equipment inspection and maintenance.

2.6 Employees

It is the responsibility of FCX employees to complete proper training and comply with this policy.

Communicate Hazardous Conditions	Supervisors and/or Health and Safety Representatives must be immediately contacted if hazardous conditions or actions arise which may cause injury to any employee before proceeding with further workplace activities.
Maintain Training	<p>Training must be completed according to the training section and maintained through refreshers as specified in site training plan. Employees must not utilize a piece of mobile equipment or interact with heavy mobile equipment without the proper documented training.</p> <p>Employees will abide by all training and instruction given in In-pit Driver Training and other safety training received.</p>
Perform Pre-task Risk Assessments	<p>Each individual is responsible to ensure that the critical controls are in place for the task they will perform prior to starting work. A pre-task risk assessment should include critical controls identified for this specific risk (Ex., job hazard analysis, job safety analysis).</p> <p>Situational risks must also be evaluated to determine if something in the area creates any additional risks (ex., weather, other work in the area that poses new risk).</p>

3.0 Procedures

Each site will ensure that site-specific procedures comply with this policy at a minimum. All employees will comply with site-specific procedures.

Use of Cell Phones and Other Electronic Devices	No one shall use cell phones or other personal electronic devices while operating equipment or vehicles. All sites shall comply with the FCX – Communication Policy.
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3.1 Segregation of Heavy Equipment and Light Vehicles

Evaluation of areas where heavy equipment and light vehicles interact shall be conducted to look for opportunities to eliminate the interactions utilizing the checklist in the Appendix.

Light Vehicle Access Roads	Sites will provide light vehicle access (LVA) to main shop and office areas that are physically separated from haul truck and heavy equipment traffic. Additional LVAs will be established whenever possible in other areas where heavy equipment is operated.
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	<p>Where LVAs are required to cross haul roads, the use of tunnels shall be evaluated.</p> <p>Haul trucks shall sound their horn when approaching vendor routes or designated LVA intersections on main haulage roads. Sites shall evaluate where this is appropriate based on the amount of traffic on the haul road (ie., if haul trucks enter periodically this can serve as a reminder to LVAs that haul trucks are in the area).</p>
Turnouts at Intersections	Evaluate opportunities for installation of LVA turnouts (orejas) at intersections to separate light vehicles from haul trucks and provide better visibility.
Heavy Equipment Crossings on Highways or other Non-mine Roads	<p>Evaluate re-routing or using other methods where feasible.</p> <p>For long term projects sites shall evaluate the use of a tunnel for these crossings. At a minimum, signal lights and/or signs and crossing gates shall be used to control interaction between light vehicles and heavy equipment.</p> <p>A flagger or crossing guard shall be present to manage the intersection for all public roadways.</p> <p>Where applicable, ensure that Department of Transportation or other regulatory agencies are involved in the evaluation and planning.</p>
Parking	<p>Small equipment shall not park in the blind spot of a haul truck or other large equipment without additional controls being in place. If light vehicles such as mechanical trucks need to park closer to the equipment, then proper lockout procedures must be followed prior to light vehicle parking within blind area.</p> <p>Heavy equipment shall utilize windrows, chocks or other means to prevent equipment from movement based on the grade.</p>
Approaching Heavy Equipment	<p>Approach shall never be made from the blind area of the equipment. Positive radio contact shall be made before approaching heavy mobile equipment. When radio contact cannot be established, visual contact with the operator must be made prior to approaching. Visual contact must be maintained as approaching.</p> <p>The operator is required to be out of the cab before others approach the equipment and are out of operator's line of site.</p> <p>Sites will establish procedures for non-routine situations (i.e., emergency or non-responsive operator).</p>

3.2 Separation of Heavy Equipment and Pedestrians

Evaluation of areas where heavy equipment and pedestrians (people) interact shall be conducted to look for opportunities to eliminate the interactions.

Pedestrian Walkways or Paths	<p>Sites will provide designated pedestrian walkways or paths wherever there is regular interaction with heavy equipment and pedestrians.</p> <p>Pedestrian crossings will be provided where pedestrians need to regularly cross roads. Crossings must be well signed for both pedestrians and equipment. Adequate lighting will be provided where pedestrian walkways or paths exist.</p> <p>Where possible a pedestrian crossing light (traffic signal) shall be provided.</p>
Ground Crews (leaching, surveyors, cable crew)	<p>All ground personnel shall wear PPE required for the area as well as a high visibility reflective vest.</p> <p>When there are ground personnel that will be working on or near mine roads, a pre-task risk evaluation must be conducted to identify critical controls that will be implemented to separate these individuals from interaction with heavy mobile equipment. Berms and safe distance requirements are potential controls.</p> <p>Warning devices shall be utilized to communicate the presence of ground crews such as: signs, lights and radio announcement by Dispatch.</p>
Flaggers or Spotters	<p>Flaggers or spotters shall be provided with a vehicle or shack. A radio must be provided for communications. A high visibility reflective vest will also be required.</p>
Shops	<p>When moving large equipment in and out of the shop, spotters shall be utilized.</p>
Emergency Protocol	<p>Each site shall evaluate and establish emergency procedures for heavy equipment incidents. These procedures shall include safe retrieval of personnel and traffic management protocol.</p>
Personal Protective Equipment	<p>All employees and contractors on the ground around heavy equipment or light vehicles shall wear a reflective safety vest except in designated areas such as shops, parking lots for personal vehicles, secured perimeters and other designated areas.</p>

3.3 Tie-down (Q-points)

Each tie-down area will be evaluated to ensure proper controls are in place, with a focus on eliminating interactions between heavy equipment, light vehicles and pedestrians.

Separation between Haul Trucks and Light Vehicles	<p>Tie-down areas shall be designed to provide a physical barrier (such as a berm) between haul trucks and light vehicles.</p>
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Minimum Requirements

These minimum requirements will be applied to all tie down areas.

- Support equipment shall be segregated from haul trucks in designated areas.
- Wheel ditch for equipment parking.
- Forward travel only for exiting.
- Restricted from small equipment not involved in shift change. Supervisor vehicles are allowed in this area during shift change when necessary.
- There shall be a minimum of 20 feet between haul trucks when parked side-by-side; additional clearance will be needed for “in-line” parking based on size of equipment.
- Slots shall be provided in berms for drivers to enter and exit
- Equipment shall go to the forward most parking position, or from right to left as facing the equipment, whichever applies.
- Spare trucks left on the tie-down will be moved to the right (facing the equipment) after shift change is over, properly secured and shutdown.
- Risk assessments shall be completed by all sites to determine the need for additional requirements.

Shift Change Procedures

Employee transport vehicles shall contact mine dispatch on the radio prior entering the pit and after exiting the tie-down area.

Haul trucks will not leave the tie-down area until the employee transport vehicle leaves the area.

Each site will develop procedures for non-routine situations where there is a stray driver or truck that was not at the tie-down area at the appropriate time, unless directed to do so by dispatch or supervisor. The shift supervisor shall direct this effort and conduct a follow-up to determine actions to prevent a reoccurrence.

3.4 Roads and Intersections

All roads and intersections will be evaluated for proper controls to ensure that all authorized equipment can travel safely.

Haul Road Construction

Haul roads shall be constructed and maintained to ensure safe operation. Where conditions do not allow safe passage, additional controls shall be applied or roads shall be closed until maintenance occurs.

- Haul roads should be constructed with a substantial base of rock or other material to prevent rutting, pot-holing, and the development of soft spots in the road.
- Haul roads will have a surface layer of crushed rock or other suitable road building material to ensure a smooth surface.

- All roads should be regularly bladed to ensure a smooth surface.

Surface haul roads should be 3.5 times as wide as the largest vehicle on the road. For a 793 this is 85 feet between the berms (96 feet for 930Es).

Haul roads should be constructed at 10% grades or lower. Grades steeper than 10% should be minimized and shall not exceed 15%. Grades may need to be less than 10% due to safety considerations. Utilize the manufacturer's recommendations for the maximum grades of articulating trucks used on site.

Haul roads should be built using a consistent linear grade to reduce haul truck transmission shifts and to reduce spillage onto roads. Where grade changes are necessary, they should be as smooth as possible to avoid racking the haul truck frame.

Haul roads shall be designed to minimize the use of sharp turns. If sharp turns are required, the road shall be widened to more than 4 - 4.5 truck widths and employ super elevations to help the trucks turn. Sharp turns at intersections shall not be allowed.

All roads shall be built with adequate drainage to keep water off of the roadway. The wear surface should be crowned or banked so that water is automatically shed to the side of the road and drainage ditches should be provided on the sides of the road. Culverts and other drainage controls should be utilized at low points and intersections.

Berms shall be constructed to a minimum of mid-axle height of the largest vehicle to travel on that road. At the base of steep ramps or where significant drop-offs exist, a review will be conducted to determine if larger berms shall be constructed to prevent equipment from going through the berm. Wider, rather than taller, berms are preferred in order to maximize visibility. Consideration for visibility for light vehicles shall be included in the evaluation.

Where road requirements listed above cannot be met, other controls must be put in place to address the risk.

Intersections

An intersection refers to anywhere multiple haul roads intersect or light vehicle roads meet a haul road. Light vehicle support equipment access to haulage roads must have consideration for adequate line of sight for haulage traffic.

Intersections shall be clearly signed for heavy and light vehicles.

Intersections need to be carefully located and constructed to ensure adequate visibility.

- For intersections on grades, 300 feet of sight distance is needed to allow a fully loaded haul truck to come to a stop.

- For intersections on flat ground, 175 feet of sight distance is needed to allow a fully loaded haul truck to come to a stop.
- Intersections should be avoided on the inside of curves and on the crests of hills due to the limited visibility in those areas.
- All intersections should be constructed as right angle intersections. “T” intersections should be encouraged while “Y” intersections should be avoided.

If adequate sight distance is not available, then additional controls must be applied.

Intersections shall be regularly audited to ensure there are no objects that restrict visibility. These objects include but are not limited to; vegetation, signs, utilities, power poles, buildings, berms.

Center berms or other segregating traffic control devices should be utilized at intersections and on sharp curves to segregate two-way traffic and prevent traffic from taking a shortcut through an intersection.

Light vehicles should be physically segregated from haul trucks at intersections whenever possible to minimize haul truck / light vehicle interaction. Light vehicle entry points onto haul roads should be minimized and separated from major intersections.

If possible, intersections should be illuminated at night and the lights should be directed so they do not obscure the vision of either light vehicle or haul truck operators. Special consideration should be made for weather conditions such as snow, fog, and lightning; these conditions may make headlights difficult to see.

The right-of-ways (ROWS) should be adequately signed and included in training. The following vehicles have ROW:

- Larger equipment
- Loaded haul trucks
- Trucks to the blind side of larger equipment
- Emergency vehicles
- Vehicles carrying explosives

When in doubt, stop and communicate.

Speed Limits

Speed limits shall be set based on equipment manufacturer recommendations with haul roads being no more than 35 mph and shops areas in the 10-15 mph range depending on pedestrian and light vehicle traffic in the area.

Speeds should be reduced based on the physical conditions of the road such as width, surface conditions, intersections, visibility as well as for weather conditions.

Haul Road Operations

Left hand traffic for surface mines shall be utilized within the mine areas or wherever there may be interaction with haul trucks and large water trucks. Adequate signage and crossovers shall be provided.

Roads should be adequately watered to control dust and ensure visibility for haul truck operators and light vehicle operators. Water truck operators need to spot-water and not over-water to ensure adequate traction for all vehicles.

Permanently closed roadways need to be bermed off. Haul truck tires can be used to temporarily restrict access to haul trucks and large water trucks.

Where haul trucks are hauling loaded downhill additional controls shall be implemented to minimize the risk such as straddle berms, run-a-way ramp, signage for lower gear/speeds, RAMP Tech monitoring.

Signs should be utilized on all roads to indicate speed limits. Use of signage shall be evaluated on all roadways to warn for hazardous conditions and placed at appropriate locations. Examples of signs that may be needed: intersection, narrow roadway, obstructed view, road damage, indication of right-of-way, etc. Signs shall be regularly maintained and readable.

During adverse weather conditions, speed limits will be reduced and traffic should be limited to only necessary travel. If weather conditions prevent safe operation, traffic shall be stopped until weather conditions are safe. In areas where fog or snow are frequent, guideposts shall be used to delineate edge of road.

One-way traffic signs will be utilized to define direction of traffic flow.

In left hand traffic areas, haul trucks and large water trucks will not make U-turns without confirmation that the right side of the vehicle is clear of other equipment or pedestrians.

3.5 Passing Procedures

All sites will establish safe passing procedures for equipment and light vehicles.

Haul trucks

Prior to passing haul trucks, radio contact must be made with the operators. The light vehicle operator must tell the haul truck operator his equipment call number. Once direct contact is made, the haul truck operator must respond with the same equipment call number and acknowledge it is clear to pass. Note that the light vehicle operator is responsible for making sure the road is clear of oncoming traffic. If contact cannot be made, passing will not occur.

Passing haul trucks or other equipment on the left side in left-hand traffic areas shall not be permitted.

Only one vehicle at a time may pass a haul truck or other piece of large equipment. While passing, the light vehicle should remain far enough to the right to avoid hazards associated with spillage and tire blowouts.

Where radio communication is not available, passing shall be prohibited without an approved variance (see FCX – Global Significant Risk Variance Process).

Other large equipment

When passing other large equipment, radio contact shall be made. If radio contact cannot be made, passing will be prohibited.

When radio contact cannot be made with a stopped or downed piece of equipment, then visual contact with the operator in conjunction with hand signals may be used.

3.6 Light Vehicle Requirements

Light vehicles traveling into the mine shall meet minimum requirements and be kept in good working order.

Periodic maintenance and inspection requirements

All light vehicles used to transport personnel shall be inspected before being operated. Light vehicles shall be regularly maintained at intervals not to exceed every 3 months or 3000 miles. (Time and duration should be based on conditions.) Inspections shall consist of:

- Steering Components
- Brake Components
- Drive Lines and U Joints
- Lights
- Gauges
- Equipment Numbers
- Tires/Rims/Lugs
- Suspensions
- Frame for Cracks
- Seatbelts
- Glass/Wipers
- Fluid Levels
- Buggy whip/light

Worn components will be replaced before the vehicle is released for operation. Any items marked on pre-use inspections checklists as “bad order” or not functional will be repaired before the equipment is released.

Minimum requirements for pit entry

All vehicles entering the mine must have a two-way radio and buggy whip with a working light at all times. Areas where buggy whips are required will be identified with signage. Buggy whips must be a minimum of 12 feet, measured from ground level to the top of the light.

Lights shall be used to indicate types of equipment and to make them more visible:

- Blue is reserved for support equipment as needed to restrict passing
- Amber for visibility as needed
- Red for emergency and blasting
- Flashing strobe lights on transport vehicles (buses and man vans) in a color that can be seen in various conditions

Haul trucks shall have numbering with LED lights or reflective tape at a minimum, and be large enough to be seen by other vehicles.

Light vehicles will have numbering with a minimum size of 4 inch lettering on each front quarter panel, and one on the rear when available. Lettering color shall be distinguishable compared to the vehicle color. Number series/sequence should be simplistic and well organized for easy identification.

All-terrain Vehicles (ATVs), Utility Terrain Vehicles (UTVs) and slow-moving small equipment must be escorted when operating on mine haul roads.

3.7 Perimeter Security and Lockout Tagout Tryout of Equipment

Lockout, tagout, tryout of equipment will be in accordance with the FCX – Lockout Tagout Tryout Policy. Perimeter security shall be utilized when LOTOTO is not required but there is a need to communicate the equipment is in control of an operator.

Pre-use inspections and Ground Breaks

When an employee exits the cab of a haul truck and it must remain running (during pre-shift inspections and ground breaks for example) the operator must signify that the equipment is in use and ensure that control of the energy source is maintained. Perimeter security must be utilized to communicate to others that the truck is under control of an operator that is currently on the ground. Examples include but are not limited to: locks and tags on ladder gates, cable with a clamp with a lock and tag, signs and flags, etc. Use of park brake light indication for haul trucks should be evaluated for additional communication that the truck park brake is set.

Other heavy mobile equipment will use established procedures to signify that the equipment is under the possession of an operator that is on the ground.

Maintenance and Fueling

When maintenance is being performed and when the truck is being fueled, lockout tagout tryout procedures according to the FCX – Lockout Tagout Tryout

(Lockout Tagout Tryout)

Policy must be followed for anyone that will get on, under or work on the heavy mobile equipment.

The following minimum standards must be in place when fueling:

- Equipment secured
- Pedestrian walkways defined
- LOTOTO and/or perimeter procedures must be followed by all in the area

4.0 Technology

As various forms of technology become available that introduce improved controls to reduce risk, each site will install these technologies as feasible. Sites should work with the FCX Technology Center to evaluate new and existing equipment technologies.

In-cab Fatigue Monitoring System (Drivers State Sensing – DSS)

All sites will install and maintain the in-cab fatigue monitoring systems for surface haul trucks and other equipment where feasible. Maintenance programs will be established to keep units operational.

Each site is required to maintain a fatigue management program that includes: communication, training, fit-for-duty and supervisor interaction.

Cameras

As other technology becomes available sites should evaluate the implementation of backup cameras on all heavy equipment that has a large blind spot to the rear of the vehicle.

Other Technology

As other technology becomes available (such as proximity detection, light vehicle monitoring, etc.) and is found through testing to be a viable option, sites will implement on a case-by-case basis with the assistance of the FCX Technology Center

5.0 Training Requirements

All training will be documented and records maintained.

In-pit Driver

All employees that will drive in the pit will receive in-pit driving safety training prior to being allowed to drive on mine haul roads. A certificate, driver's license, sticker or other means of identification will be used to limit access into these areas.

This driver training will only be provided to those that request and receive management permission for the training.

	If an individual does not have in-pit driver certifications, they will need to be escorted in and out of mining areas.
Light Vehicle Access Only	Employees that will utilize Light Vehicle Access routes will receive training in safe operation of these routes. Having this training will not qualify a driver to drive on mine haul roads.
New Employee and Refresher	Employees will receive information about the safety controls used to reduce risk when working around heavy mobile equipment in new hire and refresher training.
Personnel Transport Driver Training	When buses are used, bus drivers will be trained and qualified according to the FCX – Bus Policy. For personnel carriers (vans) drivers must have a minimum of two years of experience operating equipment before driving personnel transports. They must also have received training and information on the Q-point procedures.

6.0 Variance from Policy

If any part of this policy cannot be followed, an approved variance is required.

Variances	It is expected that all sites will follow this FCX policy. However, periodically there may be special circumstances due to site-specific issues that do not allow all aspects of this policy to be completely followed. If any part of this policy cannot be followed a variance form per the FCX – Global Significant Risk Variance Process must be completed and approved.
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7.0 Definitions

Definitions	
Blind Side or Blind Spot	An area to the side and slightly behind the driver's field of vision when in the cab of the vehicle.
Critical Controls	A device, system, or process implemented to eliminate or reduce the risk for a task/job, but if missing or overlooked has the potential to lead to catastrophic outcomes such as serious injury or death.
Critical Risks	A risk that if not controlled has the potential to lead to catastrophic outcomes such as serious injury or death.

Grade (Gradient)	The degree of inclination or rate of descent or ascent in a roadway.
Heavy Mobile Equipment	Large equipment used in mining and construction as defined in Section 1.0 of this document.
Intersection	A place where two or more roadways meet, especially when one is a major road.
Light Vehicle	Smaller single or multi-passenger vehicles and equipment typically less than one-ton. This can include cars, pick-up trucks, vans, buses, UTVs and ATVs, and small equipment such as forklifts or bobcats.
RAMP Tech	Remote Access Monitoring Process Technician
Right-of-Way	The right to proceed with precedence over others in a particular situation. For this document at an intersection or along a road.
Tie-downs (Q-point)	The place where equipment is parked or staged such as a ready line.
Turnouts (Orejas)	An area provided along a mining road that allows the driver to turn in and square up with road to allow better sight of other vehicles before turning. See Appendix for example.

8.0 References

Throughout this Policy other policies and procedures are referenced.

Reference Documents	FCX – Lockout Tagout Tryout Policy FCX – Records and Retention Policy FCX – Bus Policy FCX – Global Significant Risk Variance Process
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9.0 Records

The following records must be retained according to the FCX Records Retention Policy	<ul style="list-style-type: none"> • Employee training records • Annual program review • Equipment inspection records • Exemption documents
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10.0 Revision History

2015 New	Initial Release
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Appendix A Examples and Forms



Haul Road Safety Audit Form

Date		Haul Road, Pit or Area			
Auditor(s)					
General Design Considerations		YES	NO	NA	COMMENTS / ACTIONS
Is the road free of potholes, rutting, or soft spots?					
Is the road's top surface graded and smooth?					
Is the road wider than 3.5 haul trucks (793-85', 930E-96')?					
Is the maximum sustained grade below 10%?					
Is the road grade as smooth as possible to minimize gear shifting?					
Are there smooth transitions between grade changes?					
Are sharp curves widened & provided with adequate supers?					
Are there objects in the line of sight (berms, vehicles, shrubs, buildings) which restrict visibility?					
Are speeds reduced in areas where vertical or horizontal curves reduce visibility?					
Drainage and Dust Control		YES	NO	NA	COMMENTS / ACTIONS
Is the road configured with adequate drainage and is it maintained?					
Does the road have adequate cross-fall for drainage?					
Are culverts located at low points & intersections which are capable of retaining water?					
Is there adequate dust-control to ensure visibility?					
Is water applied appropriately by water trucks by spotting and not over-watering?					
Berms and barriers		YES	NO	NA	COMMENTS / ACTIONS
Are berms at least mid-axle height?					
Are berms near the base of steep ramps or significant drop offs higher and wider than normal?					
Are berms de-rocked?					
Are center berms installed at sharp curves, critical intersections and areas of increased speeds/risk?					
Are closed sections of roads properly restricted from entry?					



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Safety Enhancements	YES	NO	NA	COMMENTS / ACTIONS
Are there signs indicating the proper speed and/or grade for the road?				
Are there signs indicating intersections, narrow spots, rough sections, or other pertinent information?				
Are the signs in good shape and readable to the operators of large haul trucks?				
Are there guideposts on the side of the road?				
Are there rock slots available for storing spillage?				
Is pedestrian access prohibited? If not, are pedestrian walkways physically separated from haul truck traffic?				
Is light vehicle traffic physically separated from haul truck traffic?				
Are there run-away truck ramps for downhill loaded sections?				
Intersections	YES	NO	NA	COMMENTS / ACTIONS
Are the speed limits approaching the intersection appropriate?				
Is at least 300ft of sight distance available at intersections located on grades in excess of 6%?				
Is at least 175ft of sight distance provided at intersections located on flat terrain?				
Are intersections located on straight and flat terrain as much as possible?				
Are intersections configured as right angle intersections?				
Is lighting appropriate for the intersection? Is lighting needed at night? Is it directed away from the operator's line of sight?				
Are there objects in the line of sight (berms, vehicles, shrubs, buildings) which restrict visibility?				
Are there any powerlines, pipelines or other utilities near the intersection?				
Is there a queue point near the interchange?				
Is light vehicle traffic physically separated from haul truck traffic as much as possible?				
Are special accommodations made for light vehicles? (e.g. turnouts or ojos "ears", special turn lanes, elevated roadways)				
Is pedestrian access prohibited? If not, are pedestrian walkways physically separated from haul truck traffic?				
What controls are in place to control vehicles? (e.g. traffic lights, stop signs, yield signs, physical controls)				
Are center berms in place or needed to direct light vehicles and haul trucks into the appropriate lanes?				
Are there drainage controls in place to keep the intersection dewatered?				



Has the intersection been planned? Is it built according to the design?

General COMMENTS / ACTIONS about Haul Road:

Diagram / Drawing:

Safford Mine Tie Down Example

Photo 1

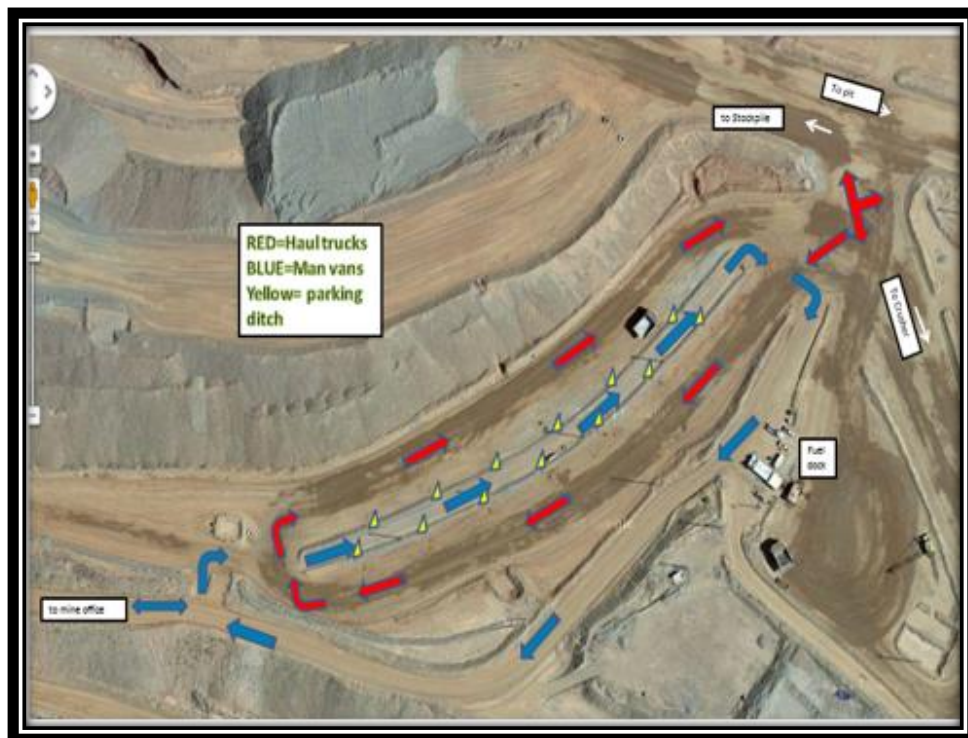
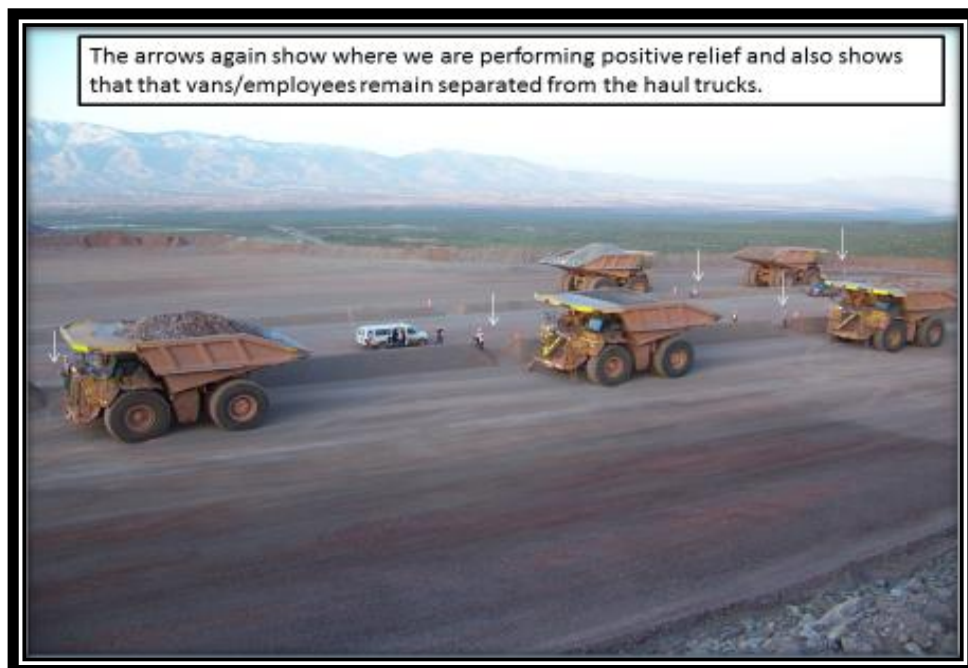


Photo 2



Cerro Verde Turnouts (Orejas)

Photo 1



Photo 2

