CRINUM MINE SAFETY INITIATIVE

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CRINUM BOOT END CONVEYOR BARRIER

HISTORICAL FACTS

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- AFTER MANY YEARS OF LONGWALL MINING ACTIVITY, THE AREA OF EXPOSURE FROM THE LONGWALL BOOT END TO THE FIRST BAY OF CONVEYOR STRUCTURE HAS BEEN AN AREA THAT HAS A HIGH POTENTIAL FOR INJURY
- IT IS AN AREA THAT PEOPLE CONSTANTLY WALK PAST
- THEY ARE NEXT TO A FAST MOVING EXPOSED CONVEYOR THAT IS BEING LOADED WITH COAL FROM A BEAM STAGE LOADER

HISTORICAL FACTS

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- THE POTENTIAL FOR STONE AND COAL BOUNCING FROM THE BELT IS A CONSTANT THREAT
- THE POTENTIAL TO TRIP/FALL ONTO THE BOTTOM BELT AND BE CAUGHT IN THE RETURN ROLLERS IS THE MAJOR RISK

HISTORICAL FACTS

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- THROUGHOUT THE INDUSTRY AND AT CRINUM, WE HAVE PROGRESSED FROM HAVING NO BARRIER BETWEEN THE WALKWAY AND THE CONVEYOR TO PROTECT PEOPLE TRAVELLING PAST THIS AREA,
- TO HAVING A FLEXIBLE HEAVY PLASTIC MESH,
- THIS GAVE PROTECTION FROM FALLING ONTO THE CONVEYOR BUT VERY LITTLE AGAINST LARGE STONE OR COAL PIECES BOUNCING OFF THE CONVEYOR POTENTAILLY HARMING PERSONNEL

HISTORICAL FACTS

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- OTHER MINE SITES HAVE A SIMILAR METHOD IN PLACE TO STOP INTERACTION WITH THE BELT
- THERE HAS BEEN A NEED IN THE INDUSTRY FOR SOMETIME TO HAVE SOMETHING MORE SUBSTANTIAL IN PLACE
- WE BELIEVE THE SYSTEM WE ARE INTRODUCING AT CRINUM CAN FULLFIL THIS NEED AND REDUCE THE RISK TO PERSONNEL

ORIGINAL CRINUM BELT BARRIER

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- PLASTIC MESH BARRIER.
- THIS IS FIXED TO THE OUTBYE END OF THE BELT STRUCTURE.

ORIGINAL CRINUM BELT BARRIER

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THE INBYE END OF THE MESH IS AT THE BOOT END AND IS WOUND ONTO A SPINDLE EACH TIME THE BOOT MOVES

CONCEPT

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- MICK PARSONS (Longwall Operator), IDENTIFIED THE NEED AND DREW A BASIC DRAWING OF A MESH GUARD SUPENDED FROM OUR EXISTING MONORAIL AND APPROACHED THE LONGWALL MANAGEMENT TEAM FOR THEIR THOUGHTS
- THE IDEA WAS TAKEN UP BY THE LONGWALL MAINTENANCE COORDINATOR AS THE DRIVER TO DEVELOP IT FURTHER
- MICK ALONG WITH LONGWALL OPERATORS EDDIE, PETE AND BRAD BUILD A PROTOTYE TO TRIAL

ORIGINAL CRINUM BELT BARRIER AND PROTOTYPE

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THE ORIGINAL BARRIER WITH THE PROTOTYPE BARRIER IN FRONT OF IT.

DESIGN AND MANUFACTURE

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- MACQUARRIE MANUFACTURING WERE CONTACTED AND THEY ASSISTED WITH THE DESIGN AND MANUFACTURE OF THE SYSTEM FOR CRINUM
- A SERIES OF DESIGNS WERE TABLED AND WHEN IT WAS AGREED ON THE MOST EFFECTIVE THE BARRIER WAS BUILT

DESIGN AND MANUFACTURE

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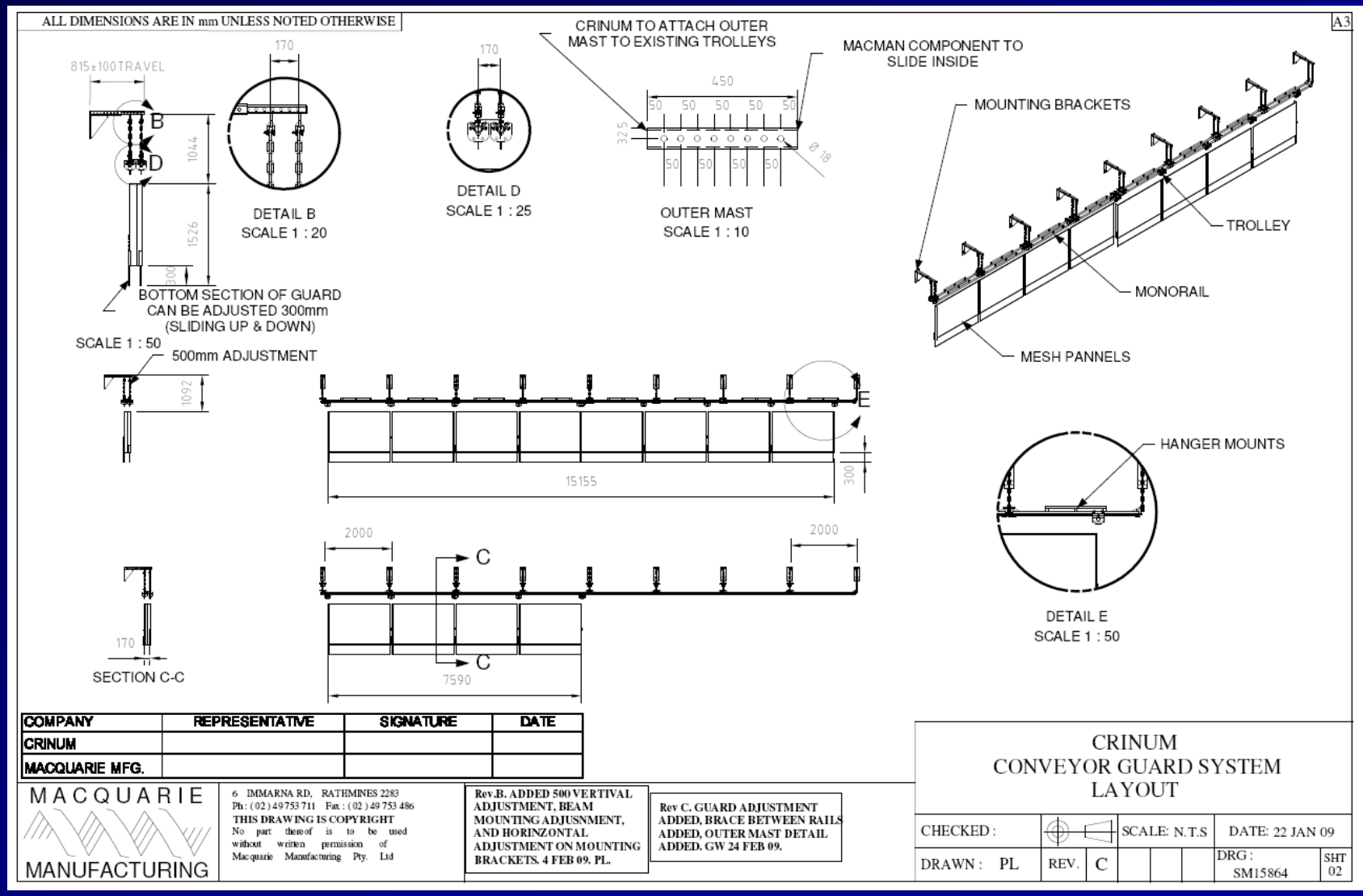

METHOD

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- THE SYSTEM IS SET UP ON 2 PARALLEL MONORAIL BEAMS MOUNTED FROM THE EXISTING SERVICES MONORAIL SUPPLYING THE LONGWALL FACE
- THE MONORAIL SYSTEM HAS A LENGTH OF 15 METRES, CONTINUING FROM THE BOOT END TO THE LAST STRUCTURE BAY
- EACH OF THE TWO MONORAILS HAS A MESH BARRIER 7.5M LONG
- THESE ARE SUSPENDED BY CHAINS FROM THE MONORAIL RUNNERS

METHOD

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- WHEN BOTH BARRIERS ARE IN THE NORMAL POSITION (FULLY STRETCHED OUT) THEY WILL COVER UP TO 15M OF POTENTIALLY EXPOSED CONVEYOR
- THESE ARE LOCKED TOGETHER UNTIL STRUCTURE IS REQUIRED TO BE REMOVED
- WHEN THE BOOT END IS RETREATED UP TO THE CONVEYOR STRUCTURE, STRUCTURE BAYS ARE REQUIRED TO BE REMOVED
- THE BARRIERS ARE SIMPLY UNCLIPED AND SEPERATED

METHOD

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- THE INBYE SECTION OF BARRIER IS MOVED TO BE ADJACENT TO THE OUTBYE SECTION THIS NOW ALLOWS THE INBYE CONVEYOR STRUCTURE TO BE REMOVED
- ONCE STRUCTURE HAS BEEN REMOVED, BOTH SECTIONS OF BARRIER BOTH SECTION ARE MOVED INBYE EXPOSING THE OUTBYE SECTION WHICH IS THEN REMOVED

MESH BARRIER

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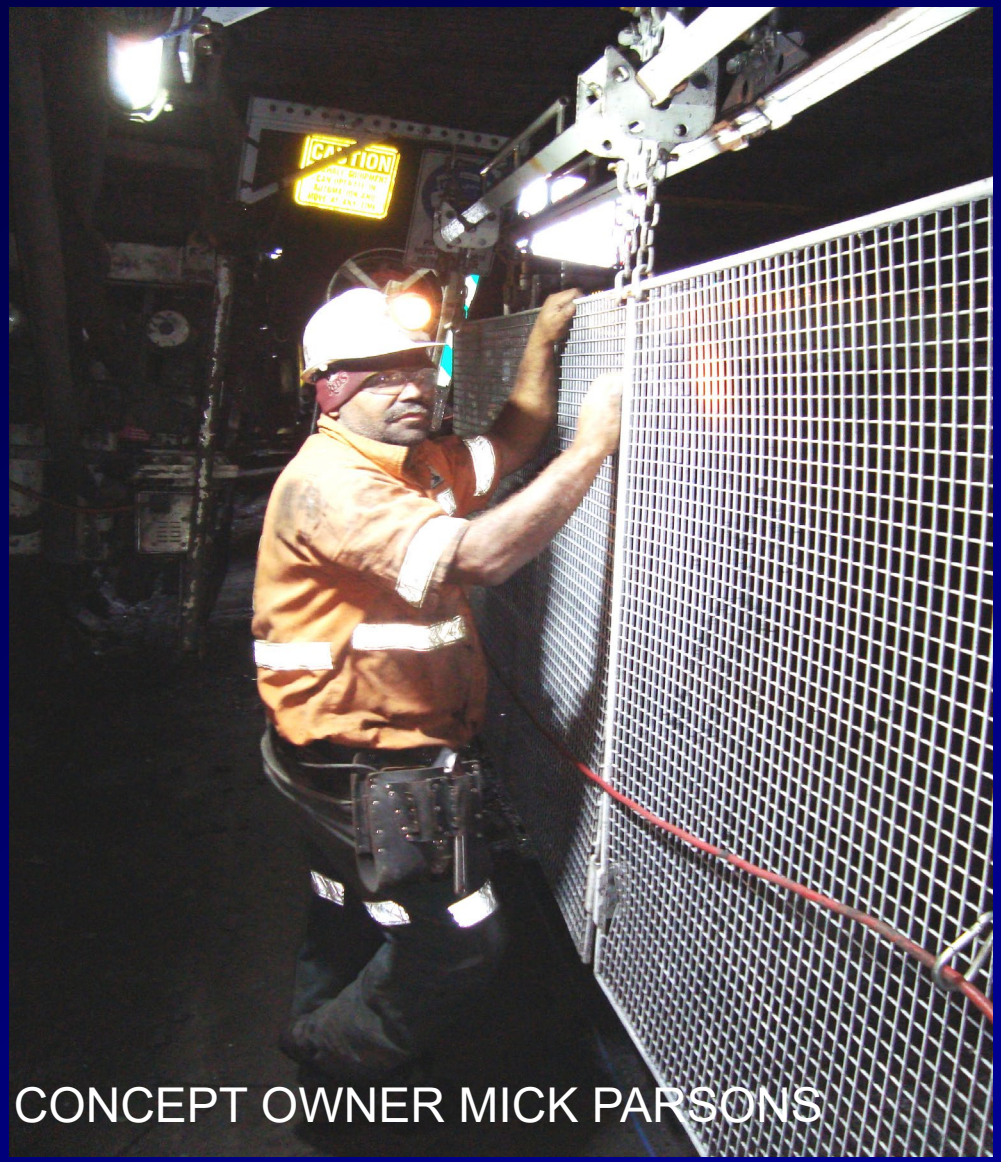

CONCEPT OWNER MICK PARSONS

- ONCE THESE BAYS HAVE BEEN REMOVED THE BARRIER IS FULLY OPENED UP AND LOCKED IN PLACE, PROVIDING GUARDING TO THE EXPOSED CONVEYOR

MESH BARRIER FULLY EXTENDED

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VIDEO CLIP PRIOR TO DELIVERY

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MESH BARRIER UNDERGROUND

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CONCLUSION

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- THE NEW MESH BARRIER HAS BEEN IN USE FOR SOME TIME NOW AND IS WORKING VERY WELL HAVING BEEN ADOPTED QUICKLY BY ALL CREWS
- IT IS SEEN BY BOTH U/G PERSONNEL AND MANAGEMENT AS A SIGNIFICANT IMPROVEMENT TOWARD THE SAFETY OF PERSONNEL IN THE U/G ENVIRONMENT
- THE LONGWALL TEAM ARE VERY PROUD OF THEIR ACHEIVEMENT AND BELIEVE THAT THEY HAVE DEVELOPED AN INGENIUS SOLUTION TO AN INDUSTRY WIDE HAZARD

THE TEAM Mick, Eddie, Brad, Pete, Mike.

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THANK YOU!