

Cracow Gold Mine Quick Hitch Fan Cradle



22nd August 2011
Townsville

The Problem



The Problem



- **Hanging secondary fans the traditional way is high risk.**
 - ❖ Strain injuries - heavy manual lifting
 - ❖ Crush injuries - shifting loads and roll-over
 - ❖ Falls - working at heights
 - ❖ Mechanical failure - snapped suspension chains
 - ❖ Highly inefficient - cumbersome task.

The Problem



- ❖ The residual risk for hanging fans using the traditional method was high.
- ❖ The residual risk would fall substantially if people could be removed from the process.
- ❖ Could we change the way we hung fans to remove people from the hazards?

The Solution

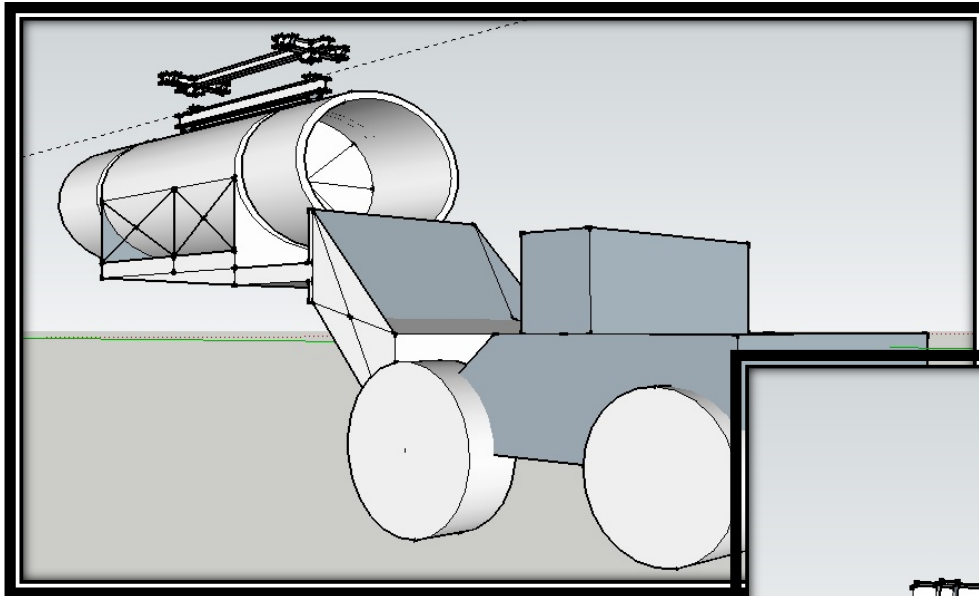


- The quick hitch fan cradle concept was developed.
- We approached AECOM to assist in the design process

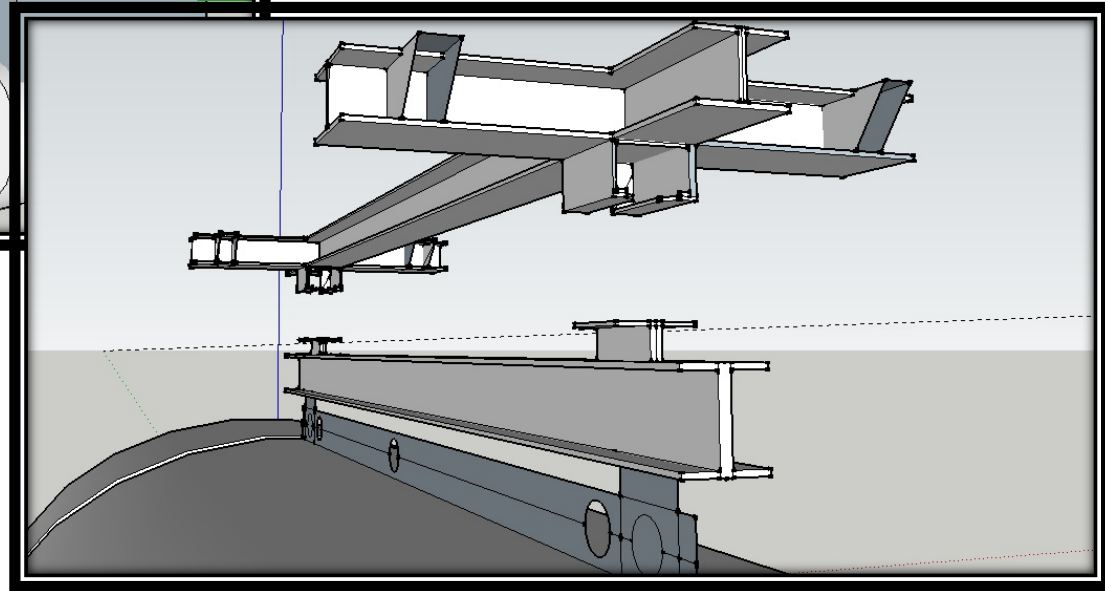
Key criteria for the design were:

- ✓ Must eliminate people from the key hazard exposures;
- ✓ Simple to use and sound in its performance;
- ✓ Minimum moving parts;
- ✓ Easy to manufacture and durable for underground use;
- ✓ Must be generic to all fans;
- ✓ Must be retro-fitable to existing infrastructure;
- ✓ Minimise installation time.

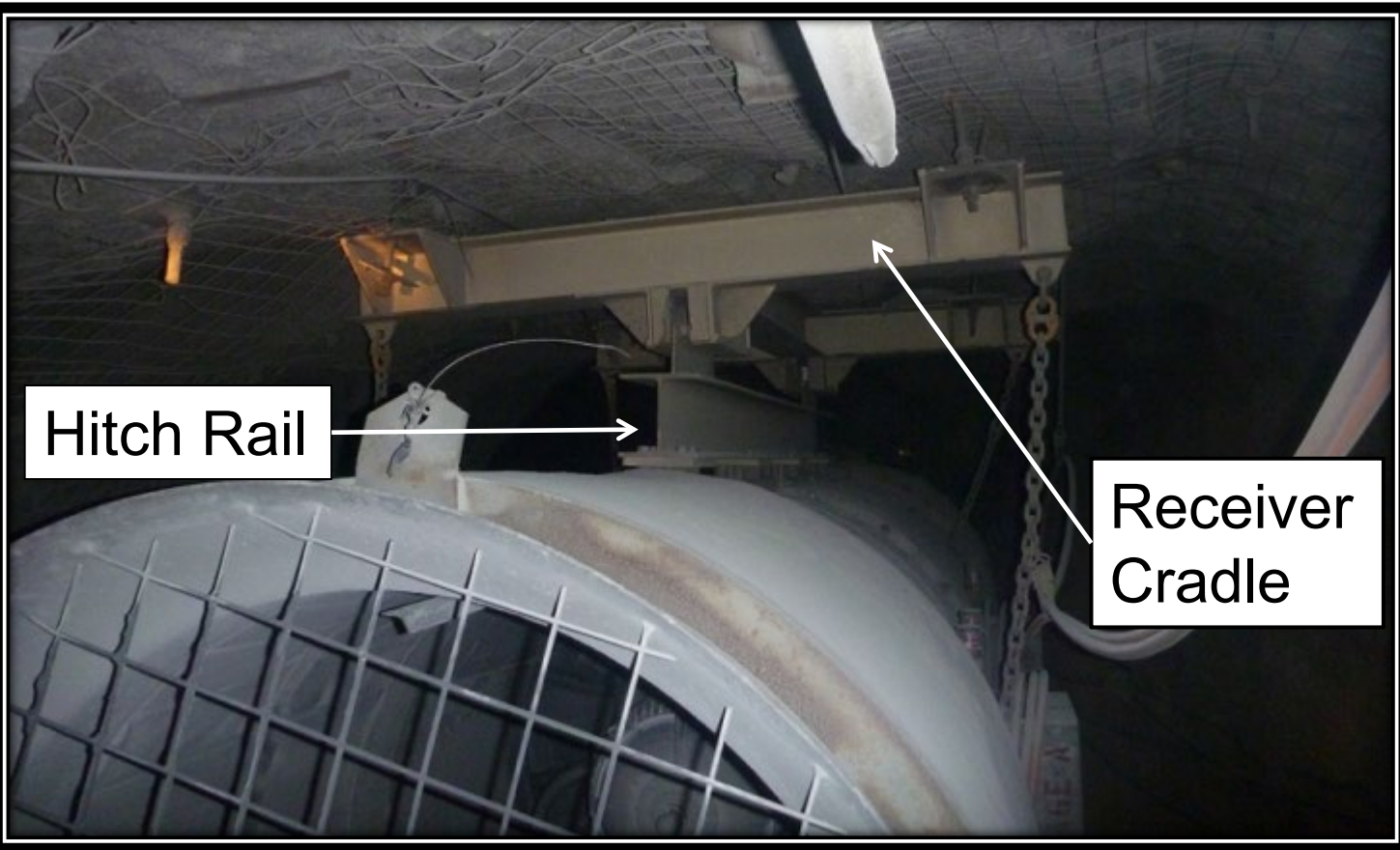
The Solution



The quick hitch fan cradle



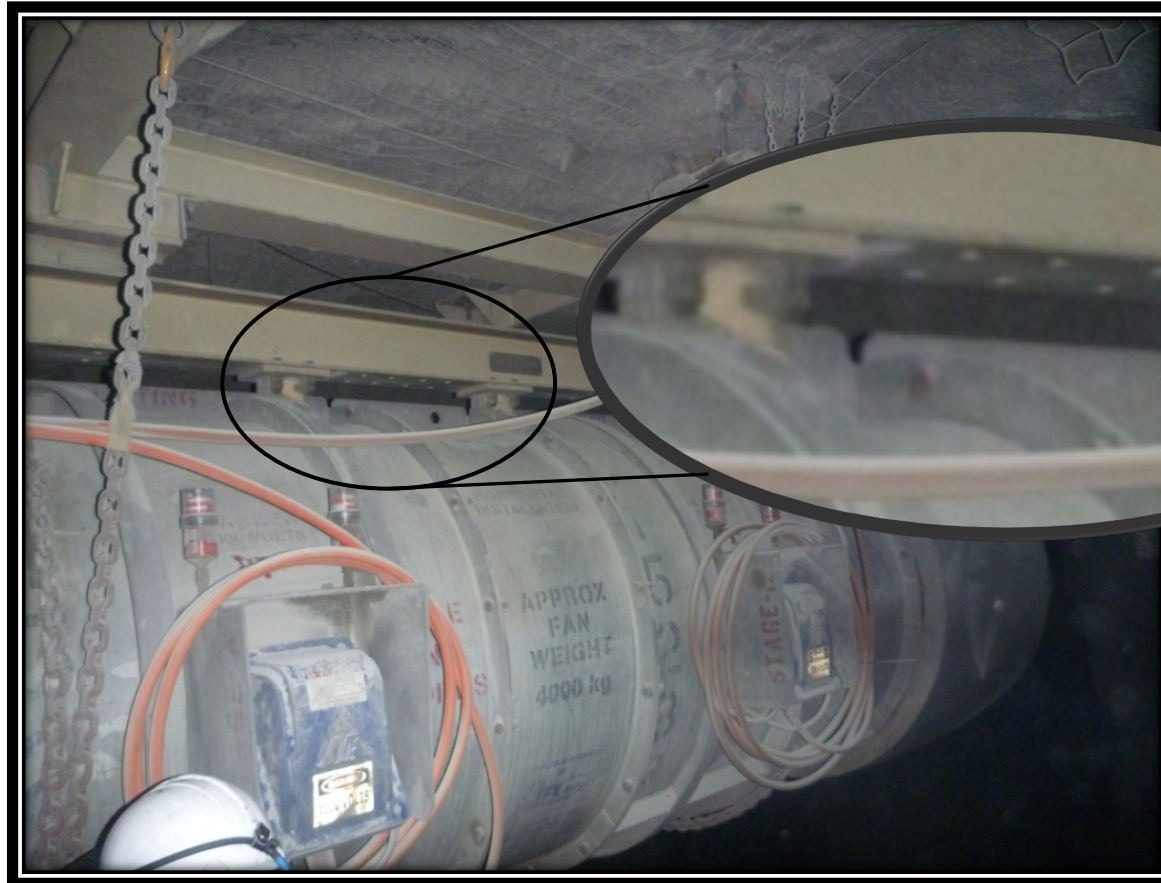
The Solution



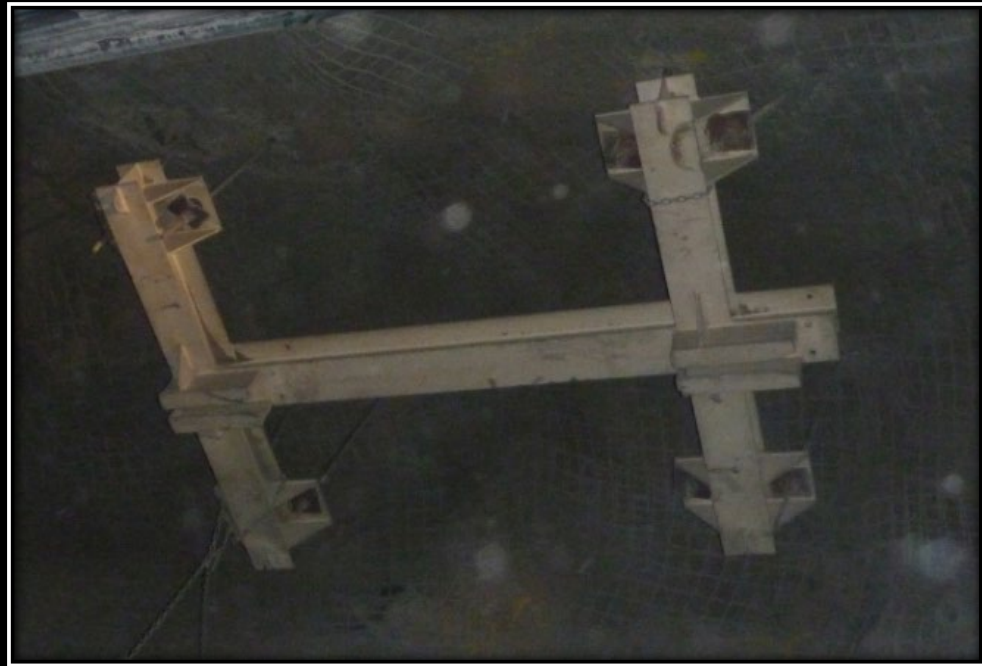
The IT extender arm.



Fan Hanging



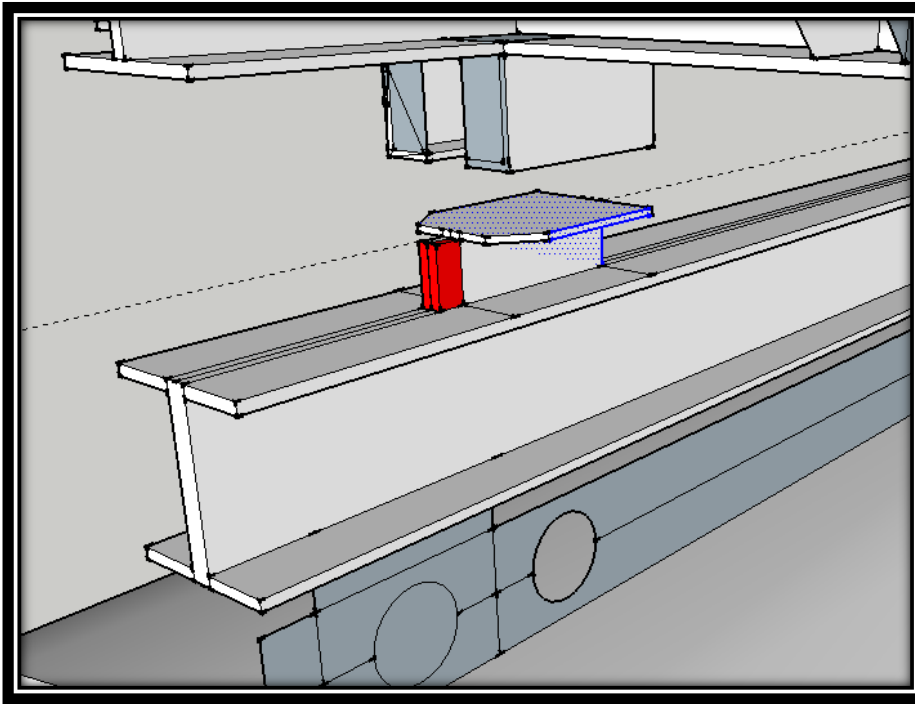
The Receiver Cradle



The Hitch Point



The Hitch Point



The Solution



- **The quick hitch fan cradle**
 - ✓ Fall risk to personnel during the installation/removal process - **Eliminated.**
 - ✓ Crush risk to personnel during the installation/removal process - **Eliminated.**
 - ✓ Risk of using damaged or under-rated primary hanging chains (drop risk)- **Eliminated.**
 - ✓ Risk of poor tie down of the chains to eye-bolts/bracket (drop risk) - **Eliminated.**
 - ✓ Heavy manual labour (strain injuries)- **Eliminated.**
 - ✓ The cradle has been designed, engineered and certified to task. Risk of mechanical Failure - **ALARA.**

Additional Information



- The quick hitch fan cradle has been in service at Cracow for over 12 months.
- All new fan installations have used the cradle and 90% of fans now hang on this solution.
- The design and drawings cost approximately \$25k.
- The cradles have been manufactured by McBryde Corporation (Yeppoon, QLD)
- Unit cost is approximately \$6,000 depending on order quantity.
- The installation time saving to us is approximately 12 man hours per move and 3 hrs of equipment time. \approx \$1,620 per fan move.
- The safety cost saving is significant.

Questions ?



- The quick hitch fan cradle

