ATTACHMENT "C"
New Zealand Coroner's Finding

FINDING OF CORONER UNDER
CORONERS ACT 1988

I, PETER WILLIAM MAHOOD, Coroner at WHANGAREI hereby certify that at an inquest completed on the 12th day of November 2002 at the District Court, Whangarei, having enquired into the time, place, causes and circumstances of how WAIROA ROBERT HOUSTON late of 24 Valley Road, Hikurangi, contractor, died, I found:

that he died at Wilson Quarry, Hikurangi on the 2nd day of April 2002. Death was as a result of a quarrying accident when his overalls became caught in a rotating shaft and was due to multiple fractures.

And pursuant to section 15(1)(b) of the Coroners Act 1988 I make the following recommendations or comments (if any):

Comments:

Mr Houston was an experienced operator working by himself at the time of the accident his machine, an Ingersoll-Rand XL635 crawler drilling rig, was idling while he was installing a new rod into the automatic rod changer rack. The rods each weigh 43.5km and are 3.66 metres long. To install a rod it must first be attached to the shank adaptor. Mr Houston was performing this task with the drill shank rotating at a slow speed. It seems probably that due to the length and weight of the rod Mr Houston would be holding the rod against his body while performing this task and that when the rod rotated it caught his clothing leading to the accident.

The deceased was a very experienced operator suitably dressed for the work he was doing. The work could and should have been done without the drill shank rotating. The method employed by Mr Houston would be considerably quicker than stopping the machine and rotating the rod by hand. New machines apparently have a cut out device stopping the machine when the operator leaves the controls.

It was suggested that such devices could not be retro-fitted to older machines like this one because damage might be caused by shutting down the machine when it was operating at its usual 2,400r.p.m. thereby depriving the turbo of oil with serious consequences. This perceived difficulty is more apparent than real because:

1. The modern machines can be stopped apparently without undue damage: why not the older ones?
2. The machine could be restarted quickly without damage once the emergency had been dealt with.
3. In any event the possibility of damage is unimportant compared with maiming or loss of life.

However the suggestion that damage might be caused by stopping the diesel engine is not relevant to the circumstances revealed in this case where the diesel engine was idling and there would appear to be no likelihood of damage due to overheating by stopping the engine.

Recommendations:

1. That operators be given the assistance of a tool hand when performing this operation (so that operators remain in the cab ready to react to emergencies) and/or
2. That the engine be stopped or at least the drill shank be prevented from rotating while new drilling rods are fitted and
3. That machines which do not have safety devices designed to operate when the driver leaves the controls be retro-fitted with such devices and
4. That OSH issue an Accident Alert Brochure dealing with these issues as this is the type of accident which could easily recur.

And pursuant to the Coroners Act 1988 I have prohibited publication of certain evidence given at the inquest: Nil

Dated at Whargarei this 22nd day of November 2002.

ATTACHMENT "D"
Second, more detailed 'Alert' from NZ

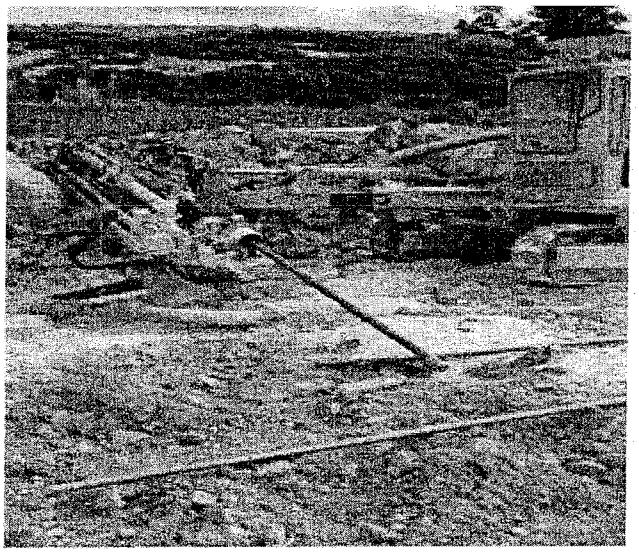
OCCUPATIONAL SAFETY AND HEALTH SERVICE

Accident Alert Bulletin
Driller fatally injured in a Northland quarry

On 2 April 2002 a driller was killed while manually loading a new rod into the automatic rod changer on an Ingersoll Rand XL 635 crawler rig.

The drill mast was set nearly horizontal as can be seen in the photo below and the accident happened as the driller attached a new rod to the shank adapter on the drifter while it was rotating.

No one saw what happen but it is evident that as the connection was made and the rod began to rotate, it caught on his clothing. He was spun around on the rod for a considerable period of time sustaining multiple bone fractures and was found tightly bound to the rotating drill steel by his overalls.



The drill-rig at the accident site

Circumstances

While drilling a series of 89 mm diameter holes for blasting a quarry bench, two rods and a shank adapter were damaged. The driller left the quarry and returned in the afternoon with new replacement parts.

He was working on the drifter when the truck drivers left the quarry at 5 pm and one of them had a brief conversation with him. The driver knew the driller well and said that everything appeared perfectly normal. When I asked about clothing he said that he might have had his overalls open down the front but was not sure about this.

The weather was fine and warm with good visibility and sunset was not due until after 6 pm.

The only other person on site was a rock breaker operator who was dealing with oversized rock on the level below. He could not see the drill-rig at the time of the accident but when he stopped at about 6pm he said he thought he saw someone up at the drill waving a pair of overalls to attract his attention. On taking a closer look he realised that it was not overalls but the driller was attached to a drill rod and was being flung about as it rotated. He quickly climbed up the rock face to the operators cabin, hit the emergency stop button and then checked the victim for breathing but found none.