

## Rio Tinto Safety Notice 2003-L-57

<b>Headline</b>	Hot Geothermal Water Causes Burns to Drill Contractor
<b>Date</b>	16-Apr-2003
<b>Classification</b>	L - Lost Time Injury
<b>Department/Location on Site</b>	Mine Technical Department - Drill Site
<b>Type of activity</b>	Exploration operations
<b>What happened</b>	<p>Diamond drilling was taking place within an area of elevated geothermal conditions. A contract driller sustained serious burns to his right arm and hand. The injury occurred when the contractor was unscrewing the back-end of the core barrel in order to retrieve the core and pressurised hot water issued from the barrel spraying the offsider's right hand and forearm. The incident was not reported to management until the start of shift the following day.</p>
<b>Incident Classification</b>	F - Machinery, Conveyor
<b>Underlying Causes</b>	A1 - General Safety Systems
<b>Causes</b>	<p>· Diamond drilling was taking place under elevated geothermal conditions (end of hole temperature was 210°C). When brought to surface, pressure had built up in the core barrel due to the simultaneous blockage of both the core lifter at one end, and the back-end relief valve at the other. This allowed for the sudden outpouring of pressurised hot water contained within the core barrel, when the back-end was unscrewed. No mechanical failing was identified.· The existing SOP had not identified the possibility of simultaneous blockage of the core lifter at one end and the back end relief valve at the other. The activity has taken place some 40,000 times in the last two years without such an incident occurring.· Although it wasn't written in the SOP, the operator had been verbally instructed to ensure water was draining from the back end relief valve before unscrewing. He didn't.</p>
<b>Remedial Action</b>	<p>· The SOP has been modified and a shielding device to be placed over the back-end joint has been designed. · The existing SOP was reviewed and modified by a team of contract drillers and LMC representatives. The modified SOP was immediately adopted by all diamond drill contracting firms operating on the project. All contractor employees have been retrained to the new procedure.· Incident and site incident reporting procedures were discussed at Toolbox meetings.</p>
<b>Product Group</b>	Technology
<b>Business</b>	Lihir
<b>Contact person</b>	Garry Lee

<b>E-mail address</b>	<a href="mailto:Garry.Lee@lihir.com.pg">Garry.Lee@lihir.com.pg</a>
<b>Status</b>	FINAL (no more information to come)
<b>Notes</b>	