

**Site:** The Granites Gold Mine

**Location:** Northern Territory - Australia

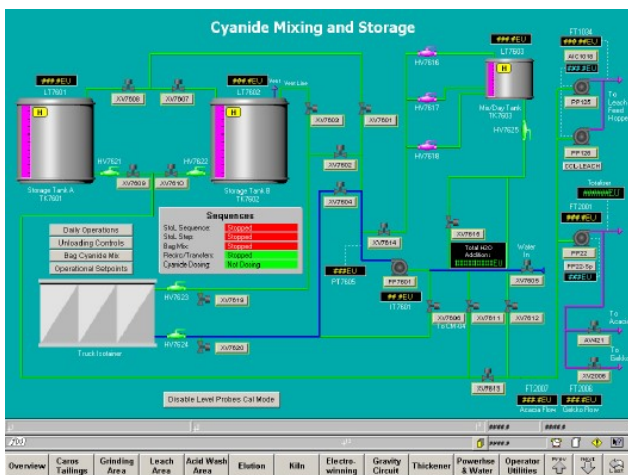
**Description:** Cyanide Mixing and Storage Plant Automation Project

**Equipment:** Schneider Quantum PLCs  
CitectSCADA

Cyanide pellets are trucked to site in Isotainers where the dry pellets are then mixed with water in the Isotainers before being transferred to holding tanks.

The following works were carried out:

- HAZOP / CHAZOP of the entire process
- Installation and wiring of additional PLC hardware and Instrumentation.
- Off site programming and testing of PLC code and CitectSCADA interface.
- Development of an Operator Interface to cater for "Chain of Command" permissions.
- Commissioning and Site Acceptance Testing of Control System.



Stol. Overview		Stol. Sequence		Skip
1. Ensure that either Storage Tank has enough room to receive a Slot.				
2. Check that Prestart Conditions are Healthy.				
3. Ensure that all Slot Preparation Steps are checked off.				
4. Select COM-FM.				
5. Select START.				
<b>Stol. Prestart Conditions</b>				
Storage Tank A Level OK	Ready	Discharge to Tank A	Ready	OK
Storage Tank B Level OK	Ready	Discharge to Tank A	Ready	OK
Isotainer Valve Line 100 OK	Ready	Discharge to Tank A	Ready	OK
PT7805 Not Healthy	Not Ready	Discharge to Tank A	Ready	OK
PT7801 Not Healthy	Not Ready	Discharge to Tank A	Ready	OK
Slot Preparation in Progress	Not Ready	Discharge to Tank A	Ready	OK
<b>Stol. Preparation</b>				
Mit Control Approved to Proceed?	Ready	Discharge Tank Ready	Ready	OK
Overflow Rate Monitored?	Ready	Discharge Tank A	Ready	OK
Water Valves to Stock Tank On?	Ready	Discharge Tank B	Ready	OK
Safety Showners Hot Water Plugged?	Ready	Discharge Tank A	Ready	OK
Gas Detection Working?	Ready	Discharge Tank B	Ready	OK
Switch all Devices to Auto	Ready	Discharge Tank A	Ready	OK
All Devices Checked & Healthy?	Ready	Discharge Tank B	Ready	OK
Slot Toner Entered	Ready	Discharge Tank A	Ready	OK
Mix Tank Fill Source Selected	Ready	Discharge Tank B	Ready	OK
Slot Toner Entered	Ready	Discharge Tank A	Ready	OK
Slot Discharge Tank Selected	Ready	Discharge Tank B	Ready	OK

Result: Automated Mixing sequence with appropriate safety interlocks, accurate mixing, zero downtime during modification and rollout of Control System.