



December 2017

## INTERNATIONAL CYANIDE MANAGEMENT CODE

# Australian Gold Reagents Ltd, Summary Audit Report – South America Supply Chain Recertification – Amendment

**Submitted to:**

International Cyanide Management Institute  
1400 I Street, NW – Suite 550  
Washington, DC 20005  
UNITED STATES OF AMERICA

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REPORT



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**Distribution:**

- 1 Copy – ICMI (+1 Electronic)
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- 1 Copy – Golder Associates Pty Ltd (Electronic)





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### APPENDIX A

Important Information



## 1.0 INTRODUCTION

### 1.1 Operational information

**Name of Transportation Facility:** Australian Gold Reagents – South America Supply Chain  
**Name of Facility Owner:** Not Applicable  
**Name of Facility Operator:** Australian Gold Reagents Ltd  
**Name of Responsible Manager:** Ed Beard, Export Technical Manager  
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## 2.0 CYANIDE TRANSPORTATION

### 2.1 AGR Australia Limited

AGR is the management company of the unincorporated joint venture between CSBP Ltd (CSBP) and Coogee Chemicals Pty Ltd (Coogee Chemicals). CSBP, a subsidiary of Wesfarmers Ltd is the major participant in the venture and acts as both plant operator and sales agent. Coogee Chemicals is a local manufacturer and distributor of industrial chemicals.

AGR, in its capacity as the sales agent, is the consigner and is responsible for the overall management of the cyanide transportation activities.

### 2.2 West Australia supply chain

AGR's West Australian supply chain is from the Kwinana production facility, using rail and road transport to end user mine sites in Western Australia; as well as road transport to Fremantle Port for export supply. For export product this supply chain is up to and includes the stevedore operation at Fremantle Port.


AGR's West Australian supply chain was re-certified as being in full compliance with the Code on 26 September 2016. The West Australian supply chain is not part of the scope of this audit.

### 2.3 Kwinana production facility

The AGR cyanide production facility is located within CSBP's fertiliser and chemicals complex at Kwinana, some 40 km south of Perth within the state of Western Australia. AGR produces and transports two different forms of cyanide from the Kwinana production facility, namely solution and solids. Cyanide solution is produced as a 30% strength liquid and solid cyanide as a >97% strength white briquette.

The production facility was re-certified as being in full compliance with the Code on 3 August 2017.

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## **2.4 Ocean Freight supply chain**

The scope of AGR’s Ocean Freight supply chain includes the marine transportation of solid cyanide (in intermediate bulk containers (IBCs) within shipping containers) from the Fremantle Port, Western Australia, to various interstate and international ports. The carriers used are the Mediterranean Shipping Company (Aust) Pty Ltd (MSC), Maersk Australia Pty Ltd (Maersk) and Kawasaki Kisen Kaisha Ltd (K Line).

The carriers’ roles within AGR’s cyanide distribution network, or the Ocean Freight supply chain itself, are not part of the scope of this audit.

### **2.4.1 Audit scope**

This supply chain is a consolidation of AGR’s Argentina, Brazil and Peru Supply Chains. The South America supply chain covers the land-based transportation of AGR’s solid cyanide from the ports of Buenos Aires, Argentina, Punta Arenas, Chile, Callao, Peru and Santos, Brazil to end point users. Within the South America supply chain, Victor, DCR Minería y Construcción S.A.C (DCR), CITSSA Logistics SAC (CITISSA), Transportes Zetramsa (Zetramsa) and Transportes Niquini (Niquini) are contracted to transport solid cyanide by road.

DCR and CITISSA were previously used as a carriers within the scope of AGR’s Peru Supply Chain. However, AGR ceased using their services in June 2017 based on a change made by their distributor. DCR and CITISSA were replaced by Zetramsa.

### **2.4.2 Ports**

The international sales and exports of cyanide, by AGR, take into consideration the ports and their extended infrastructure available to service the intended target area. AGR only operates in export markets that are serviced by major international shipping companies with the ability to offer scheduled container services from point of origin to destination. Each port is selected on the basis that it is the closest port to the customer and that it meets all reasonable industry standards for safety, security and emergency response.

#### **2.4.2.1 Port of Buenos Aires, Argentina**

The Port of Buenos Aires is the main container port servicing Argentina; AGR has ability to ship to this port by utilising the Mediterranean Shipping Company and/or any other shipping company approved by AGR through their ICMI Accredited Ocean Freight Supply Chain certification for the shipment of product from Fremantle Western Australia and the shipping line’s service through to Buenos Aires. The Port allows unloading of the shipments of containers and the subsequent road transport section to the Casposo mine site located near Calingasta in Argentina. The port of Buenos Aires is operated by The Administracion General De Puertos (General Ports Administration), which is a State Government Enterprise.

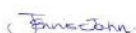
AGR’s carriers to Argentina use the services of Terminales Rio de la Plata (TRP), Terminals 1 and 2 in Puerto Nuevo, Buenos Aires, for their unloading and stevedoring requirements. The terminals have been provide modern facilities and the latest in container-handling equipment and services. The two facilities make up the largest container terminal in the port, with capacity for handling one million Twenty-foot Equivalent Units (TEUs) of containerised cargo per year.

#### **2.4.2.2 Port of Punta Arenas, Chile**

The port of Punta Arenas is located in Southern Chile, in the XII Region in the border of Magellan Straits. The port of Punta Arenas is operated by Empresa Portuaria Austral, which is a Chilean Government Enterprise.

AGR’s carriers use the Mardones Terminal, vessels are required to be self-geared for unloading as the terminal does not have any suitable equipment to perform this function. AGR’s shipping requirements to Punta Arenas use only self-geared vessels to address this.

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The Mardones Terminal receives container vessels, fishing ships and also serves as a support and service platform and docking for bigger ships of cruiser lines. The surrounding area of 240 000 m<sup>2</sup> serves as a container park and support area. The terminal currently handles over 20 000 TEUs per annum.

### **2.4.2.3 Port of Callao, Peru**

The port of Callao is Peru's main commercial seaport. It is located 12 km from Lima, the country's capital, the port of Callao is part of the Lima-Callao metropolitan area. The Port of Callao exports mainly refined metals, minerals, fish meal, and fish oil. Its principal imports are wheat, lumber, and machinery. Peru's National Port Authority (Spanish) (APN) governs all ports in Peru, including the port of Callao. The Empresa Nacional De Puertos S.A. (ENAPU) was created by law in 1970 as a decentralised public organization under the Transports and Communications Sector. ENAPU was made responsible for operating, maintaining, and administering all terminals and jetties in the Republic of Peru.

AGR carriers utilise either the DP World Terminal or the APM Terminal to offload their containers. DP World Callao operates the Muelle Sur (South Pier) Terminal in the Port of Callao to handle containers. The private terminal began operating in 2010 with state-of-the-art technology and advanced security systems. In 2013 DP World handled approximately 1 350 000 TEUs. APM Terminal Callao is a multi-purpose terminal capable of handling both containerised cargo and general cargo such as metals, grains, fertilisers and chemicals, coal, vegetable and machinery. In 2013 APM Terminals Callao handled approximately 500 000 TEUs.

### **2.4.2.4 Port of Santos, Brazil**

The port of Santos is the main container port servicing Brazil. The port allows for the unloading of cyanide shipments and the subsequent road transportation to AngloGold Ashanti mine sites located in the Belo Horizonte and Crixas area of Brazil. Santos Port is owned by Companhia Docas do Estado de Sao Paulo (CODESP), (The Dock Company of the State of Sao Paulo) which is a Brazilian Government Enterprise.

AGR carriers use the services of the ECOPORTO Santos Terminal for their unloading and stevedoring requirements. The ECOPORTO Santos Terminal is located within the confines of Santos Port. Ecoporto Santos handles around 35 000 TEUs per month and has capacity to operate 450 000 TEUs per year. In 2013 over 400 000 TEUs were handled.

## **2.4.3 Road transportation**

AGR contracts the road transportation of cyanide within the Supply Chain to Victor, DCR, CITISSA, Zetramsa and Niquini, where deliveries are effected on behalf of AGR.

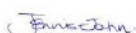
Road transportation from the ports of Buenos Aires, Punta Arenas, Callao and Santos are effected by end user arranged transportation.

### **2.4.3.1 Victor Mason Transporters Cruz del Sur S.A. (Cruz del Sur)**

Víctor Masson Transportes Cruz del Sur S.A. (Cruz del Sur) is a cyanide transporter in Argentina. Cruz del Sur transports solid cyanide in containers to mines in Argentina. Cruz del Sur receives sealed containers with cyanide at ports in Argentina and Chile. Cruz del Sur responsibility starts when the Port Authority releases the container by placing it on a Cruz del Sur's platform. The cyanide is transported directly to the mine, without the use of secondary storage facilities.

Cruz del Sur was recertified as being fully compliant with the Code on 28 February 2017.

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### **2.4.3.2 DCR Minería y Construcción S.A.C (DCR)**

DCR was first certified under the Code in 2010. DCR has a large fleet of tractor trailers for transporting loose cargo and TEU containers. Vehicles are monitored with radio frequency systems and GPS tracking in real time. DCR receives the cyanide directly from the port facilities or other storage sites, product is transported within original sealed containers. The containers are received locked and tagged. DCR does not have storage facilities and does not remove product from the containers.

DCR was recertified as being fully compliant with the Code on 5 June 2017. AGR ceased using DCR in June 2017.

### **2.4.3.3 CITSSA Logistics SAC (CITSSA)**

CITSSA is a company dedicated to the transport of hazardous materials with operations in Peru. Currently, CITSSA transports cyanide in solid state on behalf of several production companies. CITSSA has implemented an integrated management system for the ground transportation of hazardous materials based on ISO:9001 and OSHAS:18001 standards, CITSSA was first certified under the Code in February 2011, and has incorporated the Code into its integrated management system.

CITSSA was last recertified as being fully compliant with the Code on 15 October 2014. AGR ceased using CITSSA in June 2017.

### **2.4.3.4 Transportes Zetramsa (Zetramsa)**

Transportes Zetramsa is located in the Santa Anita district of Lima, in the Republic of Peru. Zetramsa was established to provide general freight service and over the years, has moved towards the transportation of specialised cargo. Currently, they transport a range of dangerous goods, including explosives, delicate loads, heavy machinery and cargo that exceeds normal weights and measures. Zetramsa uses units specially designed for the transport of explosives and cyanide, to access the country's major mining regions. They provide a freight service, with GPS tracking, escorts and or nationwide convoys, for approved routes.

Zetramsa was recertified as being fully compliant with the Code on 10 March 2017.

### **2.4.3.5 Transportes Niquini Ltd (Niquini)**

Transportes Niquini operations are focussed on the road transportation of cyanide, for gold mining operations, without interim storage. Niquini is based in Betim Town, Mina Gerais district south east Brazil. Niquini currently transports cyanide from the port of Santos to Anglo Gold Ashanti mines located in Santa Barbara and Nova Lima. The operation has a certified Safety, Health, Environmental and Safety Quality (SHEQ) management system (certified to Brazilian technical standards).


Niquini was recertified as being fully compliant with the Code on 13 June 2017.

## **2.5 Transit storage**

Within the scope of this audit, transit storage is associated with port operations where containers of cyanide are removed from the vessels, temporarily stored and then placed on road vehicles for the next part of the journey. These transit storage depots are managed by the relevant port authorities and due consideration of relevant protocol requirements has been made through the due diligence process.

There is no interim storage undertaken during road transport to the end user.

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**2.6 Auditors findings and attestation**

in full compliance with  
**AGR is:**  in substantial compliance with **Cyanide Management Code**  
 not in compliance with

No significant cyanide exposures or releases were noted to have occurred during AGR's South America Supply Chain 2014-2017 audit cycle.

**Audit Company:** Golder Associates Pty Ltd  
**Audit Team Leader:** Jaclyn Ennis-John, Exemplar Global (110895)  
**Email:** jennisjohn@golder.com.au

**Name and Signatures of Other Auditors:**

Name	Position	Signature	Date
Jaclyn Ennis-John	Lead Auditor and Transport Technical Specialist		21 December 2017

**Dates of audit**

The Recertification Transport Audit of AGR's South America Supply Chain was undertaken between August and September of 2017, with the Report being finalised in October.

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the *Cyanide Transportation Verification Protocol for the International Cyanide Management Code* and using standard and accepted practices for health, safety and environmental audits.

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### 3.0 CONSIGNOR SUMMARY

#### 3.1 Principle 1 – Transport

Transport Cyanide in a manner that minimises the potential for accidents and releases.

##### 3.1.1 Transport Practice 1.1

Select cyanide transport routes to minimise the potential for accidents and releases.

AGR is  in full compliance with **Transport Practice 1.1**  
 in substantial compliance with  
 not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 1.1 requiring the transport of cyanide in a manner that minimises the potential for accidents and releases.

AGR, through the use of ICMC-certified road carriers, has a process for the selection of transport routes that minimise the potential for accidents and releases or the potential impacts of accidents and releases.

AGR has undertaken an audit of each of the carriers in the Supply Chain to satisfy themselves that the carriers are meeting AGR’s requirements for the handling and transportation of cyanide.

AGR has a procedure that provides the process for the selection of new carriers, and once selected, their ongoing performance management.

AGR conducts routine audits to assess a carrier’s performance. An audit assesses a carrier’s compliance to (amongst others) relevant transport regulations, National Standards and medical, security, communications, driver training and tracking capabilities during transport of AGR’s product.

The international sales and exports of cyanide by AGR take into consideration the ports and their extended infrastructure available to service the intended target area. The destination port is selected on the basis that it is the closest port to the customer and that it meets reasonable industry standards for safety, security and emergency response.

Due diligence assessments of the ports used in the Supply Chain concluded that the ports meet the requirements of the ICMC.

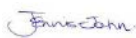
AGR implements a procedure to evaluate the risks of selected cyanide transport routes and takes the measures necessary to manage these risks.

A route review, from the port to the mine site(s), is undertaken as part of the carrier risk assessment. Recommendations are made as to route changes, additional safety controls or security considerations where necessary.

AGR requires subsequent route surveys on a routine basis according to a carrier’s overall risk rating.

The measures taken to address risks identified for carriers are addressed within the due diligence process. AGR conducts triennial due diligence assessments on ports used in the Supply Chain to identify potential risks. The due diligence assessments did not identify the requirement for additional safety or security measures.

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AGR require carriers and port facilities to have appropriate emergency response plans and capabilities for handling any cyanide incident that falls within its contractual responsibility. The level of capability is assessed through the due diligence and carrier assessment process.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

**3.1.2 Transport Practice 1.2**

**Ensure that personnel operating cyanide handling and transport equipment can perform their jobs with minimum risk to communities and the environment.**

in full compliance with

AGR is

in substantial compliance with

**Transport Practice 1.2**

not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 1.2 requiring personnel operating cyanide handling and transport equipment can perform their jobs with minimum risk to communities and the environment.

AGR, through the use of ICMC-certified road carriers, has a process in place for the use of only trained, qualified and licensed operators in operating transport vehicles during the transportation of its cyanide.

AGR has undertaken audits of its Supply Chain carriers, and has monitoring systems in place to assess transporter’s ongoing compliance with ICMI and AGR cyanide handling and transportation requirements.

AGR does not operate transport vehicles or equipment at port facilities used in its Supply Chain, operation is undertaken by the managing Port Authority or stevedoring service provider at the port.

The due diligence assessments found that the ports used by AGR are performing dangerous goods handling duties in accordance with international and local regulations. Ports selected in the Supply Chain are located in IMO member countries, member nations must ensure that ports comply with the requirements of the IMO DG Code 2014, and in particular the training requirements for shore-side personnel as described in section 1.3.1 of the IMO DG Code.

AGR conducts triennial due diligence assessments of port facilities used in the Supply Chain.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

**3.1.3 Transport Practice 1.3**

**Ensure that transport equipment is suitable for the cyanide shipment.**

in full compliance with

AGR is

in substantial compliance with

**Transport Practice 1.3**

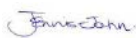
not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 1.3 requiring that transport equipment is suitable for the cyanide shipment.

AGR does not directly operate transport vehicles, though through the use of ICMC-certified road carriers has a process in place requiring that only equipment designed and maintained to operate within the loads it will be handling is used.

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AGR has monitoring systems in place to evaluate a transporter’s compliance with the Code and AGR’s requirements. This is achieved through the completion of audits and monitoring assessments.

Ports used by AGR have equipment operation and maintenance capabilities and procedures that are not dependent on AGR. The ability of the port facilities to operate safely, and their capability to handle dangerous goods is assessed during the due diligence process.

AGR conducts triennial due diligence assessments for ports used in its Supply Chain.

The due diligence assessments found that the ports used by AGR are performing dangerous goods handling duties in accordance with AGR’s requirements and relevant regulations.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

**3.1.4 Transport Practice 1.4**

**Develop and implement a safety program for transport of cyanide.**

AGR is  in full compliance with **Transport Practice 1.4**  
 in substantial compliance with  
 not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 1.4 requiring the operation develop and implement a safety programme for transport of cyanide.

AGR’s cyanide is packaged at its ICMC-certified cyanide production facility in Kwinana, Western Australia, in accordance with the packaging and labelling requirements required by the political jurisdictions through which the load will pass. Individual IBCs are loaded into sea containers which are sealed prior to departure from the facility.

AGR, through the use of ICMC-certified road carriers, has a process to ensure that cyanide is transported in a manner that maintains the integrity of the packaging. AGR has undertaken audits of the carriers to verify that they continue to meet both the ICMI and AGRs requirements.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

**3.1.5 Transport Practice 1.5**

**Follow international standards for transportation of cyanide by sea and air.**


AGR is  in full compliance with **Transport Practice 1.5**  
 in substantial compliance with  
 not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 1.5 requiring the operation follow international standards for transportation of cyanide by sea and air.

AGR does not directly transport consignments of cyanide by sea within the scope of this Supply Chain.

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AGR’s Ocean Freight Supply Chain covers the marine transportation of cyanide from the port of Fremantle, Western Australia, to various interstate and international ports. The carriers used are MSC, Maersk and K Line.

Due diligence reviews of the ports of Buenos Aires, Punta Arenas, Santos and Callao were conducted by AGR. The due diligence reviews indicated that the ports were in compliance with the Dangerous Goods Code of the International Maritime Organization. The due diligence reviews specifically referenced provisions of the Dangerous Goods Code that are required to be addressed under this question.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

No cyanide is transported by air within the scope of this Supply Chain.

**3.1.6 Transport Practice 1.6**

**Track cyanide shipments to prevent losses during transport.**

in full compliance with

AGR is

in substantial compliance with

**Transport Practice 1.6**

not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 1.6 requiring the operation track cyanide shipments to prevent losses during transport.

AGR, through the use of ICMC-certified road carriers, has a process in place to track cyanide shipments and prevent losses during transport. AGR has undertaken audits of the carriers to verify that tracking capabilities and suitable arrangements for response are in place.

Inventory controls, marine transportation and chain of custody documentation processes are implemented to prevent the loss of cyanide during transportation.

AGR requires its carriers to implement inventory controls and/or chain of custody documentation to prevent loss of cyanide during shipment.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

**3.2 Principle 2 – Interim Storage**

**Design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent release and exposures.**

**3.2.1 Transport Practice 2.1**

**Store cyanide in a manner that minimises the potential for accidental releases.**

in full compliance with

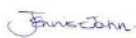
AGR is

in substantial compliance with

**Transport Practice 2.1**

not in compliance with

AGR South America Supply Chain  
Name of Facility

  
Signature of Lead Auditor

21 December 2017  
Date



**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 2.1 that requires transporters design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent release and exposures.

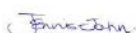
AGR does not operate trans-shipping or interim storage facilities within this Supply Chain, but circumstances may arise where trans-shipping of cyanide product is required. This involves unloading the cargo at a terminal facility, temporary set down and loading onto another vehicle for the continuation of the delivery.

AGR has no control over when and where this happens, but via the due diligence process has satisfied itself that the transshipment of product occurs in accordance with relevant legislation and complies with standards for the carriage of dangerous goods.

Within the scope of this audit, a trans-shipping depot and interim storage site is associated with the port of Buenos Aires and the port of Santos, where containers of cyanide are removed from the vessels, temporarily stored and then placed on road vehicles for the next part of the journey. The transit storage depot is managed by the relevant port authority and due consideration of relevant protocol requirements has been made through the due diligence process.

For the ports of Punta Arenas and Callao; the containers of cyanide are unloaded from the vessels and loaded directly onto road transport trailers supplied by an ICMC-certified transporter.

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### 3.3 Principle 3 – Emergency Response

**Protect communities and the environment through the development of emergency response strategies and capabilities.**

#### 3.3.1 Transport Practice 3.1

**Prepare detailed Emergency Response Plans for potential cyanide releases.**

in full compliance with

**AGR is**

in substantial compliance with

**Transport Practice 3.1**

not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 3.1 requiring the operation prepare detailed Emergency Response Plans for potential cyanide releases.

AGR, through the use of ICMC-certified road carriers, addresses the requirements to prepare detailed emergency response plans for potential cyanide releases.

AGR does not physically transport cyanide within the scope of this Supply Chain. AGR has a procedure that details the characteristics that carriers must demonstrate in order for them to carry AGR's product. AGR's approach is to use ICMC-certified carriers.

AGR conducts triennial due diligence assessments on port facilities used in the Supply Chain, emergency response capabilities are assessed during this process.

The due diligence assessments found that the ports used by AGR are performing dangerous goods handling duties in accordance with international and local regulations. Ports selected in the Supply Chain are located in IMO member countries, member nations must ensure that ports comply with the requirements of the IMO DG Code.

The port due diligence reviews assess emergency response capabilities, identify emergency response plans and outline additional information specific to the emergency response infrastructure and resources located at each port.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

#### 3.3.2 Transport Practice 3.2

**Designate appropriate response personnel and commit necessary resources for emergency response.**

in full compliance with

**AGR is**

in substantial compliance with

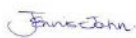
**Transport Practice 3.2**

not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 3.2 requiring they designate appropriate response personnel and commit necessary resources for emergency response.

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AGR, through the use of ICMC-certified road carriers addresses the requirements to prepare detailed emergency response plans for potential cyanide releases.

AGR does not physically transport cyanide within the scope of this Supply Chain. AGR has a procedure that details the characteristics that carriers must demonstrate in order for them to carry AGR's product. AGR's approach is to use ICMC-certified carriers.

Whilst AGR's product is being transported, emergency response is governed by the certified carrier's drivers. AGR conducts due diligence assessments and Cyanide Delivery Audits to verify that the shipments occur in accordance with relevant legislation and standards for the carriage of dangerous goods. The due diligences and audits have found that there were no issues of concern in regards to the management and handling of cyanide product by any of the carriers.

AGR retains a technical and advisory role in an emergency and may provide resources and personnel (depending on where an incident takes place) to assist emergency services in the response to an incident involving cyanide.

AGR conducts triennial due diligence assessments on port facilities used in the Supply Chain, emergency response capabilities are assessed during this process.

The due diligence assessments found that the ports used by AGR have appropriate emergency response capabilities to deal with potential dangerous goods releases.

Individual port due diligences identify the emergency response plans and outline additional information specific to the emergency response infrastructure and resources located at each port.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

**3.3.3 Transport Practice 3.3**

**Develop procedures for internal and external emergency notification and reporting.**

in full compliance with

**AGR is**

in substantial compliance with

**Transport Practice 3.3**

not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**


AGR is in FULL COMPLIANCE with Transport Practice 3.3 requiring that they develop procedures for internal and external emergency notification and reporting.

AGR, through the use of ICMC-certified road carriers addresses the requirements to develop procedures for internal and external emergency notification and reporting.

AGR does not physically transport cyanide within the scope of this Supply Chain. AGR has a procedure that details the characteristics that carriers must demonstrate in order for them to carry AGR's product. AGR's approach is to use ICMC-certified carriers.

Whilst AGR's product is being transported, emergency response is governed by the certified transporter's drivers. AGR conducts due diligence assessments and Cyanide Delivery Audits to verify that the shipments occur in accordance with relevant legislation and standards for the carriage of dangerous goods. The due diligences and audits have found that there were no issues of concern in regards to the management and handling of cyanide product by any of the carriers.

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AGR retains a technical and advisory role in an emergency and may provide resources and personnel (depending on where an incident takes place) to assist emergency services in the response to an incident involving cyanide.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

**3.3.4 Transport Practice 3.4**

**Develop procedures for remediation of releases that recognise the additional hazards of cyanide treatment.**

AGR is  in full compliance with **Transport Practice 3.4**  
 in substantial compliance with **Transport Practice 3.4**  
 not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 3.4 requiring that they develop procedures for remediation of releases that recognise the additional hazards of cyanide treatment.

AGR, through the use of ICMC-certified road carriers, addresses the requirements to develop procedures for remediation, such as recovery or neutralisation of solutions or solids, decontamination of soils or other contaminated media and management and/or disposal of spill clean-up debris.

AGR does not physically transport cyanide within the scope of this audit. AGR has a procedure that details the characteristics that carriers must demonstrate in order for them to carry AGR’s product. AGR’s approach is to use ICMC-certified carriers.

Whilst AGR’s product is being transported, emergency response is governed by the certified transporter’s drivers. AGR conducts due diligence assessments and Cyanide Delivery Audits to verify that the shipments occur in accordance with relevant legislation and standards for the carriage of dangerous goods. The due diligences and audits have found that there were no issues of concern in regards to the management and handling of cyanide product by any of the carriers.

AGR retains a technical and advisory role in an emergency and may provide resources and personnel (depending on where an incident takes place) to assist emergency services in the response to an incident involving cyanide.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

**3.3.5 Transport Practice 3.5**

**Periodically evaluate response procedures and capabilities and revise them as needed.**

AGR is  in full compliance with **Transport Practice 3.5**  
 in substantial compliance with **Transport Practice 3.5**  
 not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

AGR is in FULL COMPLIANCE with Transport Practice 3.5 requiring the operation periodically evaluate response procedures and capabilities and revise them as needed.

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## AUSTRALIAN GOLD REAGENTS, SUMMARY AUDIT REPORT – SOUTH AMERICA SUPPLY CHAIN RECERTIFICATION – AMENDMENT

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AGR, through the use of ICMC-certified road carriers, addresses the requirements for provisions for periodically reviewing and evaluating the adequacy of emergency response documentation.

AGR does not physically transport cyanide within the scope of this audit. AGR has a procedure that details the characteristics that carriers must demonstrate in order for them to carry AGR's product. AGR's approach is to use ICMC-certified carriers.


AGR conducts triennial due diligence assessments on port facilities used in the Supply Chain, emergency response capabilities are assessed during this process.

The due diligence assessments found that the ports used by AGR have appropriate emergency response capabilities to deal with potential dangerous goods releases.

Individual port due diligences identify the emergency response plans and outline additional information specific to the emergency response infrastructure and resources located at each port.

Cyanide is transported by ICMC-certified consignors Cruz del Sur, DCR, CITISSA, Zetramsa and Niquini.

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## **4.0 DUE DILIGENCE**

### **4.1 Port of Buenos Aires**

The port of Buenos Aires is utilised as part of AGR's South America Supply Chain. The due diligence of the port, dated 24 October 2016 and prepared by AGR, was reviewed by Jaclyn Ennis-John of Golder during August 2017.

The due diligence was conducted by AGR's Export Technical Manager, who meets the ICMI requirements for a Transport Expert.

The following items were addressed within the due diligence:

- Summary of Port operations
- Stevedoring
- Dangerous Goods
- Emergency Response
- Security
- Compliance with the International Cyanide Management Institute (ICMI)
  - Transport Practice 1.1
  - Transport Practice 1.5 (1.5.1)
  - Transport Practice 1.6
  - Transport Practice 2.1 (2.1.1, 2.1.2, 2.1.4 and 2.1.6).

Although emergency response was not specifically addressed within a separate section, it was discussed satisfactorily within the Due Diligence under Transport Practices 1.5 and 2.1.

The Due Diligence was compiled through physical visits, interviews and discussions with appropriate personnel and review of applicable documentation.

#### **4.1.1 Overview of port**

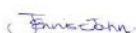
The port of Buenos Aires is the main container port servicing Argentina; AGR has ability to ship to this port by utilising the Mediterranean Shipping Company (MSC) and/or any other shipping company approved by AGR through its ICMI Accredited Ocean Freight Supply Chain. Container shipments are unloaded at the port and readied for the subsequent road transportation onto the Casposo mine site, located near Calingasta in Argentina.

The port of Buenos Aires is operated by The Administracion General De Puertos (General Ports Administration) which is a State Government Enterprise. The port has the capacity to handle up to 1 000 000 TEUs per year. The vessels operated by MSC use the services of Terminales Rio de la Plata (TRP) for their unloading and stevedoring requirements. TRP has two berths for container ships and offers easy access to truck services.

A Harbour Master oversees the overall operation of the port. This includes:

- Management of the port protocols for docking of vessels, e.g. use of Pilots; use of tug boats; different weather conditions, tides, currents; safety; and general port operations. This sees to the safe docking and turnaround of the vessels in and out of the port.

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- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.
- Once the vessel is secure alongside the wharf the shipping activities changeover to port stevedoring activities. The vessels manifest of what containers are required to be unloaded from the vessel are handed over. This manifest identifies hazardous cargoes, their UN number and classification and any segregation requirements.

#### **4.1.2 Stevedoring**

The stevedoring company TRP manages the on-shore (wharf) operations at the dedicated container terminal. This is the terminal currently used by MSC.

The stevedoring operations include:

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

#### **4.1.3 Dangerous goods**

Containers of dangerous goods discharged by vessels at the container terminal are currently being moved by TRP to various storage areas within the port until customs clearance has been completed and transport is arranged. Containers of Cyanide are segregated from other classes of dangerous goods. TRP is currently investigating the possibility of having a dedicated area for storage of all dangerous goods. This area will have minimal traffic flow and be large enough to allow space for appropriate segregation of different classes of dangerous goods.

As a general rule, containers of cyanide are usually collected from the port within 48 hours of discharge from the vessel.

#### **4.1.4 Emergency response**

There is a fire engine located within the TRP terminal and also a windsock and safety showers.

Emergency response exercises are regularly conducted within TRP.

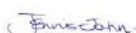
#### **4.1.5 Security**

There are full security checks and access controls at the entry and exit points, as well as CCTV coverage of the whole port- including the current Dangerous Goods container storage area.

#### **4.1.6 Compliance with Transport Practice 1.1**

The international sales and exports of cyanide, by AGR, take into consideration the shipping services available to service the intended target market. AGR only operates in export markets that are serviced by major international shipping companies with the ability to offer scheduled container services from the port of Fremantle to the destination port for the intended country or continent. These shipping companies provide the correct manifest documentation to the destination port, which gives them a list of the cargo types and in the case of cyanide and any other hazardous cargo the number and location reference of the containers.

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AGR uses MSC Shipping to take its consignments to the port of Buenos Aires in Argentina. The port's activities are to remove the shipping containers from the vessel and place the shipping containers on the wharf or onto in-port transport for transfer to a designated storage area. Following final customs clearance, the containers will then be placed on road transport vehicles for the inland transport to the gold mine (final destination). These road transport vehicles are from an ICMI-certified transport company. As a general rule, containers of cyanide are usually collected from the port within 48 hours of discharge from the vessel.

#### **4.1.7 Compliance with Transport Practice 1.5 (1.5.1)**

The due diligence notes that all goods are packaged, labelled and placarded as per International Maritime Dangerous Goods (IMDG) Code requirements for cyanide. This adherence to the IMDG Code commences at AGR's certified production facility and is carried right through the supply chain.

Documentation that accompanies the cyanide throughout transportation by sea and delivery at ports includes a Dangerous Goods manifest, packing certificates and a Multimodal Dangerous Goods Form, which meets requirement nine of the SOLAS 74, Chapter VII, regulation 5 and MARPOL 73/78, Annex III, regulation 4.

When the vessel arrives at the port the MSC operations staff give copies of the emergency information together with the Dangerous Goods manifest to the ship's Captain. The Port of Buenos Aires has an Emergency Response Procedure for the hazardous cargos that pass through the port.

MSC Operations comply with ICMC requirements and TRP handle, segregate and store the cyanide containers within the port confines. The containers are managed to ensure they are promptly collected from the port by the road transport company.

#### **4.1.8 Compliance with Transport Practice 1.6**

TRP receive the vessel manifests, which includes the list of containers for unloading and handling by them. This information is captured in the container terminal software system. This system assists with identifying the locations where each container is to be placed for temporary storage.

#### **4.1.9 Compliance with Transport Practice 2.1 (2.1.1, 2.1.2, 2.1.4 and 2.1.6)**

The cyanide containers are labelled, placarded and signed appropriately to alert workers to the contents. The container storage area at the port has CCTV coverage, is fully lit at night and the whole port area has controlled access.

Cyanide product is sealed within shipping containers that are not opened until they arrive at their final destination. The containers are placed on a concrete surface during temporary storage. Within an IBC, the cyanide has a sealed plastic liner that prevents contact with moisture. The shipping containers that contain the product are stored in an open air area to prevent build-up of hydrogen cyanide gas.

TRP has an Emergency Procedure Guide that has been developed especially for cyanide. TRP undertakes non-cyanide specific emergency exercises once a year.

## **4.2 Port of Punta Arenas**

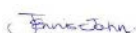
The port of Punta Arenas is utilised as part of AGR's South America Supply Chain. The due diligence of the port, dated 1 August 2017 and prepared by AGR, was reviewed by Jaclyn Ennis-John of Golder during August 2017.

The due diligence was conducted by AGR's Export Technical Manager, who meets the ICMI requirements for a Transport Expert.

The following items were addressed within the due diligence:

- Summary of Port operations

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- Stevedoring
- Dangerous Goods
- Emergency Response
- Security
- Compliance with the International Cyanide Management Institute (ICMI)
  - Transport Practice 1.1
  - Transport Practice 1.5 (1.5.1)
  - Transport Practice 1.6
  - Transport Practice 2.1 (2.1.1, 2.1.2, 2.1.4 and 2.1.6).

The Due Diligence was compiled through physical visits, interviews and discussions with appropriate personnel and review of applicable documentation.

#### **4.2.1 Overview of port**

The Port of Punta Arenas is located in Southern Chile, in the XII Region on the border of the Strait of Magellan and is operated by Empresa Portuaria Austral, which is a Chilean Government Enterprise.

AGR has ability to ship to this port by utilising either Maersk or MSC shipping lines. Container shipments are unloaded at the port and readied for the subsequent road transportation, which involves crossing the Chile/Argentine border en-route to mine sites in Southern Argentina.

The vessels operated by MSC and Maersk, which handle AGR's shipping requirements to Punta Arenas, use self-geared vessels to unload containers at the Mardones Terminal, which does not have any suitable equipment to perform this function.

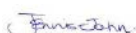
The port of Punta Arenas's Mardones Terminal has three berthing areas with a total of 336 m quay length and a maximum draft of 14 m. Mardones receives container vessels and fishing ships and also serves as a support, service and docking platform for larger cruise ships. The surrounding 240 000 m<sup>2</sup> area serves as a container storage and support area and at the time of this audit the terminal currently handles over 20 000 TEUs per annum.

A Harbour Master oversees the operation of the overall port. This role includes management of the protocols for docking for vessels (e.g. use of Pilots; use of tug boats; different weather conditions, tides, currents; safety; and general Port operations).

Entry into all ports is controlled by the relevant port's Pilot, who understands port protocols and the unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot, as he understands his vessel and can implement and assist with the Pilot's instructions.

Once the vessel is secure alongside the wharf, the shipping activities change over to port activities. The vessel's manifest is provided to the port, which contains details on what containers are to be unloaded. This manifest will identify the hazardous cargos, their UN number and any segregation requirements.

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#### **4.2.2 Stevedoring operations**

The Port has no container handling equipment such as gantry cranes, reach stackers (container fork-lifts) or transport trailers. Therefore, there are no stevedoring personnel involved in handling the cyanide containers through the port.

Port Operations oversee the handling operation, which is conducted as follows:

- The cyanide containers arrive on self-geared vessels at the port of Punta Arenas. Self-geared vessels are equipped with ships derricks (cranes) for unloading and loading containers on the vessel. These derricks are operated by the vessel's crew.
- The importer of the cyanide has to ensure the road transport provider has the road transport equipment present at the port when the vessel docks or is ready to unload the containers.
- The vessel's crew utilising the derricks will only unload when the cyanide containers can be lifted off the vessel and placed directly onto road transport trailers. The road transport equipment is owned and operated by Cruz del Sur.
- Customs clearance is processed before the arrival of the vessel to allow for the direct unloading of the vessel onto vehicles.
- Once loaded on the road transport vehicles, the containers are checked against the shipping manifest and customs clearance documents. On completion of the checks, the containers are allowed to depart the port for the road transport to the relevant mine site.
- Overseeing the port operations are the vessel Captain and crew, port management, mining company safety personnel, transport company personnel and a transport supervisor.

#### **4.2.3 Emergency response**

The due diligence review assessed the emergency response capabilities at the port and concluded that there are fire engines and ambulance facilities located a short distance from the port that would respond in the event of any emergency.

#### **4.2.4 Security**

The port of Punta Arenas has security systems in place. Entry/exit points involve full security checks and have automated access control and CCTV coverage. The perimeter fences were recently improved and further restricted access areas were established.

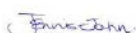
#### **4.2.5 Compliance with Transport Practice 1.1**

The international sales and exports of cyanide, by AGR, take into consideration the shipping services available to service the intended target market. AGR only operates in export markets that are serviced by major international shipping companies with the ability to offer scheduled container services from the port of Fremantle to the destination port for the intended country or continent. These shipping companies provide the correct manifest documentation to the destination port, which lists the cargo types and in the case of cyanide and any other hazardous cargo the number and location reference of the containers.

Containers of cyanide are unloaded from the self-geared vessels using the ships derricks and loaded directly onto road transport trailers supplied by ICMI-accredited transporter Cruz del Sur. The importer of the cyanide has to ensure the road transport provider has the road transport equipment present at the port when the vessel docks or is ready to unload the containers.

The vessel's crew utilising the derricks will only unload when the cyanide containers can be lifted off the vessel and placed directly onto road transport trailers.

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Following loading and customs/security clearance, the containers are driven directly out of the port and taken to the relevant mine site.

#### **4.2.6 Compliance with Transport Practice 1.5 (1.5.1)**

The due diligence notes that all goods are packaged, labelled and placarded as per International Maritime Dangerous Goods (IMDG) Code requirements for cyanide. This adherence to the IMDG Code commences at AGR's certified production facility and is carried right through the supply chain.

Documentation that accompanies the cyanide throughout transportation by sea and delivery at ports includes a Dangerous Goods manifest, packing certificates and a Multimodal Dangerous Goods Form, which meets requirement nine of the SOLAS 74, Chapter VII, regulation 5 and MARPOL 73/78, Annex III, regulation 4.

When the vessel arrives at the port the Maersk or MSC operations staff give copies of the emergency information together with the Dangerous Goods manifest to the ship's Captain. This documentation is then provided to the Punta Arenas port authorities upon arrival.

Maersk and MSC also comply with storage requirements, the container booking and tracking system manages the stowage and separation positions of all dangerous goods containers on their vessels to ensure compliance with international regulations.

The consignments are discharged from the vessel straight onto trucks for delivery to the mine site(s).

#### **4.2.7 Compliance with Transport Practice 1.6**

MSC and Maersk utilises their in house tracking system to monitor the progress of all shipments from the initial port of loading, through the various transshipment ports, until the final destination port is reached. The Punta Arenas port authorities receive the vessels manifest which includes the containers for unloading and handling by them. Storage of containers does not occur at the port, as all containers are loaded directly from the ship onto the road transport vehicles.

#### **4.2.8 Compliance with Transport Practice 2.1 (2.1.1, 2.1.2, 2.1.4 and 2.1.6)**

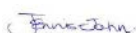
The port has no interim storage or laydown areas and containers of cyanide are unloaded from the self-geared vessels using the ships derricks and loaded directly onto road transport trailers supplied by ICMI accredited transporter Cruz del Sur. The product remains in the containers that were packed at the cyanide production facility (the cyanide packaging has a sealed plastic liner that stops the contact of product from moisture or humidity); these containers are not opened and kept sealed until they arrive at the various mine sites.

General dangerous goods warning and safety signs observed during the due diligence review were deemed as satisfactory, it was noted that these were not cyanide specific.

The due diligence review assessed security measures at the port and ascertained that the port has full CCTV coverage, is fully lit at night and that security measures were evident throughout the tour; as well as experienced in gaining entrance to and exiting the port.

The ICMI accredited transport company Cruz del Sur, who is always on site during unloading, are trained in emergency response in the event of a spill. Cruz del Sur has the knowledge and capability to oversee any incident utilising the resources of local emergency response providers.

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### 4.3 Port of Callao

The port of Callao is utilised as part of AGR's South America Supply Chain. The due diligence of the port, dated 1 August 2017 and prepared by AGR, was reviewed by Jaclyn Ennis-John of Golder during August 2017.

The due diligence was conducted by AGR's Export Technical Manager, who meets the ICMI requirements for a Transport Expert.

The following items were addressed within the due diligence:

- Summary of Port operations
- Stevedoring
- Dangerous Goods
- Emergency Response
- Security
- Compliance with the International Cyanide Management Institute (ICMI)
  - Transport Practice 1.1
  - Transport Practice 1.5 (1.5.1)
  - Transport Practice 1.6
  - Transport Practice 2.1 (2.1.1, 2.1.2, 2.1.4)

The Due Diligence was compiled through physical visits, interviews and discussions with appropriate personnel and review of applicable documentation.

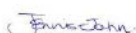
#### 4.3.1 Overview of port

The port of Callao is Peru's main commercial seaport. It is located 12 km from Lima the country's capital, the port of Callao is part of the Lima-Callao metropolitan area. The port of Callao lies south of the Rimac River at the tip of a peninsula; currently, Callao exports refined metals, minerals, fish meal and fish oil. Its principal imports are wheat, lumber and machinery. The Port of Callao is home to a wide range of industries that include breweries, fish meal factories and shipbuilding yards. The Port of Callao is also home to a large naval base and the Jorge Chavez International Airport.

La Empresa Nacional de Puertos ENAPU S.A. administers and develops the port of Callao under state ownership. The port of Callao serves a vast hinterland that contains Lima, Huanuco, Cerro de Pasco, Ayacucho, Huancavelica, and Junin.

AGR uses Maersk or MSC to take its shipments to the port of Callao in Peru. MSC and Maersk utilise either the DP World Terminal or the APM Terminal to offload their containers. DP World Callao operates the Muelle Sur (South Pier) Container Terminal, the private terminal began operating in 2010. The South Pier has a berthing distance of 650 m with a maximum depth of 16 m. The terminal includes a 20 000 m<sup>2</sup> container yard with capacity for 850 thousand TEUs per year. South Pier's container yard is equipped with six post-Panamax gantry cranes, 18 rubber tyred gantry cranes, 30 chassis and trailers, two reach stackers, and two empty container handlers. The terminal gate has six incoming lanes and four outgoing lanes for containers.

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APM Terminals Callao is a multi-purpose terminal capable of handling both containerised and general cargo, such as metals, grains, fertilisers, chemicals, coal, vegetable and fish oils and machinery. The terminal is equipped with 12 electric Rubber-Tired Gantry (RTG) cranes and four Super Post-Panamax ship-to-shore (STS) cranes that were delivered to Callao's North Terminal in late August 2014. The quay cranes can reach 23 containers wide and lift up to 100 tonnes.

A Harbour Master oversees the overall operation of the port. This includes:

- Management of the port protocols for docking of vessels, e.g. use of Pilots; use of tug boats; different weather conditions, tides, currents; safety; and general port operations. This sees to the safe docking and turnaround of the vessels in and out of the port.
- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.
- Once the vessel is secure alongside the wharf the shipping activities changeover to port stevedoring activities. The vessels manifest of what containers are required to be unloaded from the vessel are handed over. This manifest identifies hazardous cargoes, their UN number and classification and any segregation requirements.

#### **4.3.2 Stevedoring**

The stevedoring operations at the port of Callao were privatised in April 2011 and are currently being carried out by the respective terminals. The stevedoring operations include the handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, container terminal security and the implementation of control systems for companies and their vehicles collecting and or delivering containers.

The stevedoring companies are fully aware when cyanide containers are to arrive at the Port. The shipping company Maersk or MSC hand them a full manifest of containers on the vessel and the manifest of the containers that are to be handled off and on the vessel. These manifests will specify dangerous goods and the product, class and quantities. This information allows the stevedores to understand and identify the containers to be handled.

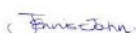
#### **4.3.3 Dangerous goods**

It is the policy of the port that containers of cyanide are to be removed from the port within 48 hours following discharge from the vessel. Should the containers of cyanide not be cleared through customs within the 48-hour period, the terminal operators may transfer the containers to an inland clearance depot operated by Licsa who are located a short distance outside of the port confines. The containers are still under customs control at this time, when customs clearance has been arranged then collection from the Licsa inland clearance depot can be made by the importers.

#### **4.3.4 Emergency response**

The due diligence review assessed the emergency response capabilities at the port and concluded that both terminals have an on-site emergency response team that is trained to respond to any emergency. APM Terminals holds two emergency response exercises per year and DP World Terminal holds three. Medical facilities on site include a Doctor, Paramedics and an ambulance depot. Firefighting trucks are also situated just outside of the port area.

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#### **4.3.5 Security**

Both the DP World and the APM Terminals have 24/7 CCTV coverage and operate in a pedestrian free environment. All locations in the terminals are brightly lit at night. Containers of cyanide are taken from the vessels and transported by terminal trucks to a designated dangerous goods area within the respective terminals. Containers of dangerous goods within these areas are segregated according to international Dangerous Goods segregation requirements. The containers are tracked using the latest GPS technology so that the control centres within the respective terminals are updated on a live basis as to the positioning of the containers within the storage areas. Safety signage was evident throughout the port.

#### **4.3.6 Compliance with Transport Practice 1.1**

The international sales and exports of cyanide, by AGR, take into consideration the shipping services available to service the intended target market. AGR only operates in export markets that are serviced by major international shipping companies with the ability to offer scheduled container services from the port of Fremantle to the destination port for the intended country or continent. These shipping companies provide the correct manifest documentation to the destination port which provides them with a list of the cargo types and in the case of cyanide and any other hazardous cargo the number and location reference of the containers.

AGR uses Maersk or MSC Shipping to take its consignments to the port of Callao in Peru. The stevedoring activity is to remove the shipping containers from the vessel and place the shipping containers on the trucks for immediate removal from the port area. The vehicles are from the selected ICMI certified transport company providing the road transport from the port or the Licsa Inland Clearance Depot to the Quimtia Warehouse.

Following final customs clearance, the containers are placed on road transport vehicles for the inland transport to the gold mine (final destination). These road transport vehicles are from an ICMI certified transport company. As a general rule, containers of cyanide are to be collected from the port within 48 hours of discharge from the vessel.

#### **4.3.7 Compliance with Transport Practice 1.5 (1.5.1)**

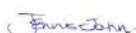
The due diligence notes that all goods are packaged, labelled and placarded as per International Maritime Dangerous Goods (IMDG) Code requirements for cyanide. This adherence to the IMDG Code commences at AGR's certified production facility and is carried right through the supply chain.

Documentation that accompanies the cyanide throughout transportation by sea and delivery at ports includes a Dangerous Goods manifest, packing certificates and a Multimodal Dangerous Goods Form, which meets requirement nine of the SOLAS 74, Chapter VII, regulation 5 and MARPOL 73/78, Annex III, regulation 4.

When the vessel arrives at the port the Maersk or MSC operations staff give copies of the emergency information together with the Dangerous Goods manifest to the ship's Captain. This documentation is then provided to the terminal operators and or port authorities upon arrival.

Maersk and MSC also comply with storage requirements, the container booking and tracking system manages the stowage and separation positions of all dangerous goods containers on their vessels to ensure compliance with international regulations.

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#### **4.3.8 Compliance with Transport Practice 1.6**

The stevedoring company receive the vessels manifest, which includes the containers for unloading and handling by them. This information is then captured in the container terminal software program. This program then assists with the location where each container from the vessel is to be placed for storage or in the case of all dangerous goods, the containers are to be placed onto trucks for immediate departure from the port area. As a general rule, containers of cyanide are to be collected from the port within 48 hours of discharge from the vessel.

#### **4.3.9 Compliance with Transport Practice 2.1 (2.1.1, 2.1.2, 2.1.4 and 2.1.6)**

The cyanide containers are labelled, placarded and signed appropriately to alert workers to the contents. The container storage area at the port has CCTV coverage, is fully lit at night and the whole port area has controlled access.

Containers of cyanide are taken from the vessels and transported by terminal trucks to a designated dangerous goods area within the respective terminal. Containers of dangerous goods within these areas are segregated according to international dangerous goods segregation requirements.

It is the policy of the port that all containers of cyanide are removed from the port within forty eight hours following discharge from a vessel. Should the containers of cyanide not be cleared through customs within this time period, then the terminal operators may transfer the containers to an inland clearance depot, still under customs control, until clearance has been arranged.

Cyanide product is sealed within shipping containers that are not opened until they arrive at their final destination. Within an IBC, the cyanide has a sealed plastic liner that prevents contact with moisture. The shipping containers that contain the product are stored in an open air area to prevent build-up of hydrogen cyanide gas.

The terminals have an on-site emergency response team that is trained to respond to any emergency. APM Terminals holds two emergency response exercises per year and DP World Terminal holds three. Medical facilities on site include a Doctor, Paramedics and an ambulance depot. Firefighting trucks are also situated just outside of the port area. There are at least two emergency response exercises per year though these are not always cyanide specific.

### **4.4 Port of Santos**

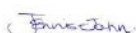
The port of Santos is utilised as part of AGR's South America Supply Chain. The due diligence of the port, dated 29 October 2014 and prepared by AGR, was reviewed by Jaclyn Ennis-John of Golder during August 2017.

The due diligence was conducted by AGR's Export Technical Manager, who meets the ICMI requirements for a Transport Expert.

The following items were addressed within the due diligence:

- Summary of Port operations
- Stevedoring
- Dangerous Goods
- Emergency Response
- Security

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- Compliance with the International Cyanide Management Institute (ICMI)
  - Transport Practice 1.1
  - Transport Practice 1.5 (1.5.1)
  - Transport Practice 1.6
  - Transport Practice 2.1 (2.1.1, 2.1.2, 2.1.4)

The Due Diligence was compiled through physical visits, interviews and discussions with appropriate personnel and review of applicable documentation.

#### **4.4.1 Overview of port**

Santos is the main container port servicing Brazil. AGR has the ability to ship to this port by utilising either Maersk or MSC shipping lines. Container shipments are unloaded at the port and readied for the subsequent road transportation section to the AngloGold Ashanti mine sites located in the Belo Horizonte area of Brazil.

Santos Port is owned by Companhia Docas do Estado de Sao Paulo (CODESP) (The Dock Company of the State of Sao Paulo), which is a Brazilian Government Enterprise.

The vessels operated by Maersk or MSC, which handle AGR's shipping requirements to Brazil, use the services of the Ecoporto Santos Terminal (Ecoporto) for their unloading and stevedoring requirements. The Ecoporto Terminal is located within the confines of the greater Santos port.

Ecoporto Terminal covers an area of approximately 400 000 m<sup>2</sup> and handles around 35 000 TEUs per month; the terminal has the capacity to handle up to 450 000 TEUs per year.

A Harbour Master oversees the overall operation of the port. This includes:

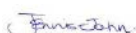
- Management of the port protocols for docking of vessels, e.g. use of Pilots; use of tug boats; different weather conditions, tides, currents; safety; and general port operations. This sees to the safe docking and turnaround of the vessels in and out of the port.
- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.
- Once the vessel is secure alongside the wharf the shipping activities changeover to port stevedoring activities. The vessels manifest of what containers are required to be unloaded from the vessel are handed over. This manifest identifies hazardous cargoes, their UN number and classification and any segregation requirements.

#### **4.4.2 Stevedoring**

The stevedoring operations are managed by Ecoporto Santos using their own labour supply.

The TEUs carrying cyanide are discharged from the vessel using the Liebherr-Werk cranes. These cranes are rated to handle lifts up to 104 tonnes. The weight of AGR's cyanide TEUs is well within the specified weight limit for these cranes. The weight of AGR's sodium cyanide containers is also suitable for the Reach Stackers, which handle the containers in the dedicated dangerous goods storage area and place them onto the transport vehicles.

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The manifest that is handed over from the vessel to the Terminal Operator will include the weight and any of the hazards associated with the containers. The containers are loaded onto trailers owned and maintained by Ecoporto Santos. The containers are then taken to the dedicated dangerous goods area whilst any further clearing or customs requirements are completed. Cyanide movements in Brazil are monitored and permitted by the Brazilian Military, once all customs clearance requirements are met and transport permits obtained the onward transport of the product is allowed. All movements of containers are GPS controlled.

#### **4.4.3 Emergency response**

The due diligence review found that there is firefighting equipment located within the Ecoporto Terminal and a fully equipped fire engine is located a short distance outside the terminal. Ecoporto has its own emergency response team, which holds monthly training exercises. In the event of a major incident, Ecoporto has an agreement with Alpina Briggs Defesa Ambiental Brazil, which is a company specialising in emergency response for major disasters.

Additionally a small medical team is based at the Terminal for treatment of minor injuries. Any major injuries are attended to by a specialist medical company “BEM”, which attends to any situation in the port within a short timeframe.

#### **4.4.4 Security**

The Terminal has CCTV surveillance systems in place. Containers with dangerous goods are stored in a designated area within the terminal and segregated according to the international segregation guidelines. Entry/exit points involve full security checks and have controlled access.

#### **4.4.5 Compliance with Transport Practice 1.1**

The international sales and exports of cyanide, by AGR, take into consideration the shipping services available to service the intended target market. AGR only operates in export markets that are serviced by major international shipping companies with the ability to offer scheduled container services from the port of Fremantle to the destination port for the intended country or continent. These shipping companies provide the correct manifest documentation to the destination port which provides them with a list of the cargo types and in the case of cyanide and any other hazardous cargo the number and location reference of the containers.

AGR uses Maersk or MSC Shipping to take its consignments to the port of Santos in Brazil. The stevedoring activity is to remove the shipping containers from the vessel and place them in the designated Dangerous Goods storage area. Following final customs clearance, the containers will then be placed on road transport vehicles for the inland transport to the gold mine (final destination). These road transport vehicles are from the ICMI accredited transport company.

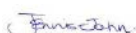
#### **4.4.6 Compliance with Transport Practice 1.5 (1.5.1)**

The due diligence notes that all goods are packaged, labelled and placarded as per International Maritime Dangerous Goods (IMDG) Code requirements for cyanide. This adherence to the IMDG Code commences at AGR’s certified production facility and is carried right through the supply chain.

Documentation that accompanies the cyanide throughout transportation by sea and delivery at ports includes a Dangerous Goods manifest, packing certificates and a Multimodal Dangerous Goods Form, which meets requirement nine of the SOLAS 74, Chapter VII, regulation 5 and MARPOL 73/78, Annex III, regulation 4.

When the vessel arrives at the port the Maersk or MSC operations staff give copies of the emergency information together with the Dangerous Goods manifest to the ship’s Captain. This documentation is then provided to the terminal operators and or port authorities upon arrival. Ecoporto Santos, as stevedores, receive a ships manifest from the vessel upon arrival at the port, information is also obtained once the pre-clearing of the consignment is started.

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Maersk and MSC also comply with storage requirements, the container booking and tracking system manages the stowage and separation positions of all dangerous goods containers on their vessels to ensure compliance with international regulations.

#### **4.4.7 Compliance with Transport Practice 1.6**

Ecoporto receives the vessels manifest, which includes the containers for unloading and handling by them. This information is then captured in the container terminal software program. This program then assists with the location where each container from the vessel is to be placed. Once the clearing and port formalities are complete the consignment is collected by the certified road transport company.

#### **4.4.8 Compliance with Transport Practice 2.1 (2.1.1, 2.1.2, 2.1.4 and 2.1.6)**

General dangerous goods warning and safety signs are present throughout the port but these are not cyanide specific.

The dedicated dangerous goods storage area within the port has full CCTV coverage in addition to monitoring cameras operated by the Customs Authorities.

Cyanide product is in shipping containers ready for loading onto road vehicles for onward transport to the mine site and remains in the containers that were packed at the production facility. TEUs are placed on a concrete surface within the port area during temporary storage.

The sodium cyanide packaging has a sealed plastic liner which stops the contact of product from moisture or humidity. The IBCs are transferred from one container to another and are not stored within the transshipping area. Following transshipment and resealing, the containers are moved to a designated dangerous goods storage area in within the terminal confines and placed in open air area and not in a confined space. The containers are stored here until customs clearance has been arranged.

Terminal operators are in possession of an Emergency Procedure Guide especially developed for Cyanide and a copy of the cyanide Safety Data Sheet. Ecoporto undertakes emergency response exercises' monthly although these are not cyanide specific. Ecoporto Terminal has a mobile bund available to contain spillage from a container. Ecoporto has an agreement in place with a specialised emergency response company that responds in the event of any major incident.

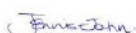
### **4.5 Auditor review of due diligence**

The due diligence assessments were found by the Auditor to sufficiently evaluate the carriers and port operations, within the constraints of access and limited influence, and additional management measures by the consigner were not considered necessary.

## **5.0 IMPORTANT INFORMATION**

Your attention is drawn to the document titled – “Important Information Relating to this Report”, which is included in Appendix A of this report. The statements presented in that document are intended to inform a reader of the report about its proper use. There are important limitations as to who can use the report and how it can be used. It is important that a reader of the report understands and has realistic expectations about those matters. The Important Information document does not alter the obligations Golder Associates has under the contract between it and its client.

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## Report Signature Page

**GOLDER ASSOCIATES PTY LTD**

A handwritten signature in blue ink that reads "Jaclyn Ennis-John".

Jaclyn Ennis-John  
Senior Environmental Scientist

CC/JEJ/hn

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# **APPENDIX A**

## **Important Information**



## IMPORTANT INFORMATION RELATING TO THIS REPORT

The document (“Report”) to which this page is attached and which this page forms a part of, has been issued by Golder Associates Pty Ltd (“Golder”) subject to the important limitations and other qualifications set out below.

This Report constitutes or is part of services (“Services”) provided by Golder to its client (“Client”) under and subject to a contract between Golder and its Client (“Contract”). The contents of this page are not intended to and do not alter Golder’s obligations (including any limits on those obligations) to its Client under the Contract.

This Report is provided for use solely by Golder’s Client and persons acting on the Client’s behalf, such as its professional advisers. Golder is responsible only to its Client for this Report. Golder has no responsibility to any other person who relies or makes decisions based upon this Report or who makes any other use of this Report. Golder accepts no responsibility for any loss or damage suffered by any person other than its Client as a result of any reliance upon any part of this Report, decisions made based upon this Report or any other use of it.

This Report has been prepared in the context of the circumstances and purposes referred to in, or derived from, the Contract and Golder accepts no responsibility for use of the Report, in whole or in part, in any other context or circumstance or for any other purpose.

The scope of Golder’s Services and the period of time they relate to are determined by the Contract and are subject to restrictions and limitations set out in the Contract. If a service or other work is not expressly referred to in this Report, do not assume that it has been provided or performed. If a matter is not addressed in this Report, do not assume that any determination has been made by Golder in regards to it.

At any location relevant to the Services conditions may exist which were not detected by Golder, in particular due to the specific scope of the investigation Golder has been engaged to undertake. Conditions can only be verified at the exact location of any tests undertaken. Variations in conditions may occur between tested locations and there may be conditions which have not been revealed by the investigation and which have not therefore been taken into account in this Report.

Golder accepts no responsibility for and makes no representation as to the accuracy or completeness of the information provided to it by or on behalf of the Client or sourced from any third party. Golder has assumed that such information is correct unless otherwise stated and no responsibility is accepted by Golder for incomplete or inaccurate data supplied by its Client or any other person for whom Golder is not responsible. Golder has not taken account of matters that may have existed when the Report was prepared but which were only later disclosed to Golder.

Having regard to the matters referred to in the previous paragraphs on this page in particular, carrying out the Services has allowed Golder to form no more than an opinion as to the actual conditions at any relevant location. That opinion is necessarily constrained by the extent of the information collected by Golder or otherwise made available to Golder. Further, the passage of time may affect the accuracy, applicability or usefulness of the opinions, assessments or other information in this Report. This Report is based upon the information and other circumstances that existed and were known to Golder when the Services were performed and this Report was prepared. Golder has not considered the effect of any possible future developments including physical changes to any relevant location or changes to any laws or regulations relevant to such location.

Where permitted by the Contract, Golder may have retained subconsultants affiliated with Golder to provide some or all of the Services. However, it is Golder which remains solely responsible for the Services and there is no legal recourse against any of Golder’s affiliated companies or the employees, officers or directors of any of them.

By date, or revision, the Report supersedes any prior report or other document issued by Golder dealing with any matter that is addressed in the Report.

**Any uncertainty as to the extent to which this Report can be used or relied upon in any respect should be referred to Golder for clarification.**

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