# Cyanide Transportation Summary Audit Report

### For The International Cyanide Management Institute and CITSSA Logistics SAC/ Peru

# Prepared by: NCABrasil Expert Auditors Ltd. www.globalsheq.com

#### www.cyanidecode.org

#### December 2016

The International Cyanide Management Code (hereinafter "the Code"), this document, and other documents or information sources referenced at www.cyanidecode.org are believed to be reliable and were prepared in good faith from information reasonably available to the drafters. However, no guarantee is made as to the accuracy or completeness of any of these other documents or information sources. No guarantee is made in connection with the application of the Code, the additional documents available or the referenced materials to prevent hazards, accidents, incidents, or injury to employees and/or members of the public at any specific site where gold is extracted from ore by the cyanidation process. Compliance with this Code is not intended to and does not replace, contravene or otherwise alter the requirements of any specific national, state or local governmental statutes, laws, regulations, ordinances, or other requirements regarding the matters included herein. Compliance with this Code is entirely voluntary and is neither intended nor does it create, establish, or recognize any legally enforceable obligations or rights on the part of its signatories, supporters or any other parties.

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#### SUMMARY AUDIT REPORT FOR CYANIDE TRANSPORTATION OPERATIONS

#### Instructions

- 1. The basis for the finding and/or statement of deficiencies for each Transport Practice should be summarized in this Summary Audit Report. This should be done in a few sentences or a paragraph.
- 2. The name of the cyanide transportation operation, lead auditor signature and date of the audit must be inserted on the bottom of each page of this Summary Audit Report.
- 3. An operation undergoing a Code Verification Audit that is in substantial compliance must submit a Corrective Action Plan with the Summary Audit Report.
- 4. The Summary Audit Report and Corrective Action Plan, if appropriate, for a cyanide transportation operation undergoing a Code Verification Audit with all required signatures must be submitted in hard copy to:

International Cyanide Management Institute (ICMI) 1400 I Street, NW, Suite 550. Washington, DC 20005, USA Tel: +1-202-495-4020

- 5. The submittal must be accompanied by 1) a letter from the owner or authorized representative which grants the ICMI permission to post the Summary Audit Report and Corrective Action Plan, if necessary, on the Code Website, and 2) a completed Auditor Credentials Form. The lead auditor's signature on the Auditor Credentials Form must be certified by notarization or equivalent.
- 6. Action will not be taken on certification based on the Summary Audit Report until the application form for a Code signatory and the required fees are received by ICMI from the applicable cyanide transportation company.
- 7. The description of the cyanide transport company should include sufficient information to describe the scope and complexity of its operation.



Name of Cyanide Transportation Facility: CITSSA Logistics SRL.

Name of Facility Owner: Consorcio CITSSA SRL. Name of Facility Operator: CITSSA Logistics SRL. Name of Responsible Manager: Mary Sara Lazarte

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Location detail and description of operation:

The CITSSA Logistics operation is focused on the road transportation of cyanide for gold mining operations, without interim storage. The operation is located at Lima/ Peru and transports solid cyanide from distributors located at Callao/ Peru to a gold mine operations located in Peru. The operation has a documented SHEQ management system, and is certified by ICMI since 2009. In the last three years the operation did not suffer any incident involving solid NaCN transportation. The operation trucks and trailers are, specifically designed to transport cyanide sea containers. They are remotely monitored (100% during the travel between the distributor and the final client) and equipped with an on board computer, where text messages can be sent or received.. The operation drivers are qualified, based on the Peruvian legislation, to transport hazardous chemical products by road.

#### Auditor's Finding

This operation is:

X in full compliance ☐ in substantial compliance \*(see below) □ not in compliance

with the International Cyanide Management Code.

During the previous three years certification cycle, CITSSA Logistics SAC did not experience any significant cyanide related incidents nor any compliance problems related to cyanide transportation management.

For cyanide transportation operations seeking Code certification, the Corrective Action Plan to bring an operation in substantial compliance into full compliance must be enclosed with this Summary Audit Report. The plan must be fully implemented within one year of the date of this audit.

Auditing Company: NCABrasil Expert Auditors Ltd.

Audit Team Leader: Celso Sandt Pessoa (ICMI qualified lead auditor and transportation qualified TEA (technical expert auditor)).

E-mail: celsopessoa@ncabrasil.com.br and celso@globalsheg.com

Names and Signatures of Other Auditors: not applicable

Date(s) of Audit: 02/ Oct/ 2017 ~ 04/Oct/ 2017 (on-site) and 14/12/2017 (off-site).

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 International Cyanide Management Code Verification Protocol for Cyanide Transportation Operations and using standard and accepted practices for health, safety and environmental audits.

1. TRANSPORT: Transport cyanide in a manner that minimizes the potential for accidents and releases.

Transport Practice 1.1: Select cyanide transport routes to minimize the potential for accidents and releases.

> X in full compliance with ☐ in substantial compliance with Transport Practice 1.1 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation is:

It was evidenced that the organization performed a risk evaluation for road transportation of solid cyanide, in accordance with the procedures " Plan de Contingencia para transporte terrestre de materiales peligrosos (contingency plan for road transportation of hazardous materials (chapter 8/ dated April 2016 (revision # 3) and procedure PT-10 (5), related to route evaluation system, which includes periodic reevaluation of the routes, according to drivers feedback and PO-02 (5), related to hazard identification and risk evaluation system. All proposed routes must be approved by the Ministry of Transportation and Communications (MTC), in accordance with the Peruvian legislation (Resolucion Ministerial 350/2013/ MTC-02). Reviewed the transportation permit "Resolucion Directoral # 855/ 2016/ MTC/ 16 (05/10/2016 (MTC approval of 36 routes defined by CITSSA Logistics)."

It was evidenced that CITSSA Logistics identified and evaluated all the risks related to the selected routes previously mentioned. Sampled examples were: Population density along the route, the infrastructure (asphalt, double or single speedway, gas stations, policy stations, emergency stations, communication, shadow areas for communication), the condition of the route (under maintenance, holes, without asphalt), weather conditions (such as snow, fog, fire, rain) and surface waters (rivers, creeks, lakes), fog formation trend, number and length of bridges, saw snippets, amount and scope of dangerous curves, ease or difficulty to meet in an emergency which were clearly identified in the route record (traveling plan), shadow communication spots. Several controls such as speed limit, driver qualification and training, truck/ trailer maintenance, pre-traveling safety brief with the driver, planned transport observations, full time monitoring of the truck from a remote station, limited traveling time, were implemented by CITSSA Logistics in order to mitigate the risks related to the selected routes.

There are three main roads in Peru (Panamericana Norte, Panamericana Sur and Carretera Central), and all the selected and approved routes uses one of these main roads and specific secondary routes to arrive at final clients, the gold mines. All shipments start at Callao, where the approved distributors and importers are established.

Reviewed the last general risk evaluation report dated April 2016 (rev. 3).

It was evidenced that CITSSA Logistics (documented procedure PT-10(5) defines the system) constantly evaluate the condition of the selected routes. In the end of each travel, the driver records on the traveling plan his perceptions about the route condition. This travel report is reviewed by the operations officer and, when necessary, the route plan is updated and the risks re-evaluated. Track traffic conditions, points allowed to stop and overnight, authorized supply points, places with sharp curves, places with winding track uphill and steep slopes, bridges and rivers risk of accidents, checkpoints. locations requiring special permits for transit, allowed speed for trucks, pedestrian crossing sites, local animal risk on track, emergency telephones of the places, population data, weather conditions, communication shadows are considered to select pertinent routes.

As previously mentioned, it was evidenced that the organization performed a risk evaluation for road transportation of solid cyanide, in accordance with the procedures " Plan de Contingencia para transporte terrestre de materiales peligrosos (contingency plan for road transportation of hazardous materials (chapter 8/ dated April 2016 (revision #3) and procedure PT-10 (5), related to route evaluation system, which includes periodic re-evaluation of the routes, according to drivers feedback and PO-02 (5), related to hazard identification and risk evaluation system. All proposed routes must be approved by the Ministrry of Transportation and Communications (MTC), in accordance with the Peruvian legislation (Resolucion Ministerial 350/2013/ MTC-02). Reviewed the transportation permit "Resolucion Directoral # 855/ 2016/ MTC/ 16 (05/10/2016 (MTC approval of 36 routes defined by CITSSA Logistics)." All transportation documentation (hoja de rutas) addresses the hazards and related risks. and defines the operational control measures to be taken by the qualified drivers and escort drivers/ supervisors also.

CITSSA Logistics, as a mandatory requirement defined by the Peruvian law, contacts public authorities (MTC), in other to obtain an official permit from MTC to transport solid cyanide in the proposed route.

CITSSA Logistics uses escorts when the risk analysis indicates that this should be a control during the transport (safety and security). In the selected routes, it was identified that an escort is 100% necessary (auxiliary car).

CITSSA Logistics communicated the Road Policy, the roads administration authorities, the insurance company, hospitals and health center and the emergency responders (Peruvian firefighters), their roles in an emergency involving the solid cyanide road transportation. It was evidenced that there were no incidents (real and potential ones) involving solid cyanide transportation in the last three years.

CITSSA Logistics does not subcontract any solid cyanide transportation services.

#### 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.

X in full compliance with

The operation is: ☐ in substantial compliance with Transport Practice 1.2

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that CITSSA Logistics only uses trained and licensed drivers as required by the applicable legislation for the transport of dangerous products including solid sodium cyanide.

The driver must have a specific driving license type "A4". Reviewed the driver license for all operation drivers.

Reviewed training records related to hazardous products handling and emergency response, fire extinguisher handling training and first aid procedures for HCN intoxication.

CITSSA Logistics does not subcontract any solid cyanide transportation services.

#### Transport Practice 1.3:Ensure that transport equipment is suitable for the cyanide shipment.

X in full compliance with

The operation is: ☐ in substantial compliance with Transport Practice 1.3

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that CITSSA logistics uses a specific truck, designed for road transportation (Scania model G380 A6x4 (year 2009)/ load capacity 30 tonne/ license D2M-714/ MTC inspection report # TG-19-00027985, dated 22/07/2016, inspection # 27786), in connection with trailer Inmepo/ license # A80-974/ load capacity 32 tonne/ MTC inspection report # TG-19-00028478, dated 08/08/2016 and # TG-19-00034606, dated 13/02/2017. It is important to report that CITSSA Logistics only transports 20 tonne of solid NaCN per travel.

It was evidenced that CITSSA Logistics established an internal preventive maintenance program, defined and performed by Scania Peru Huachipa. Reviewed records for truck and trailers, for 2017, 2016 and 2015. Beyond that, the truck and trailers are yearly inspected by MTC authorized suppliers, as previously mentioned.

Before loading the cargo container, the driver reviews the transportation documentation in order to verify the cargo weight and confirm that the truck is capable to transport. CITSSA Logistics only transport 20 tonne of solid NaCN, although the truck and the trailers are designed to load 32 tonne. According to Peruvian transport legislation, there is a maximum load capacity allowed per truck to transit in the roads. There are control points along the route to verify the cargo weight (weight stations) and to review the cargo documentation. Control points along the roads issue a weight record that is brought to the company with the transport documentation.

CITSSA Logistics does not subcontract any solid cyanide transportation services.

#### Transport Practice 1.4: Develop and implement a safety program for transport of cyanide.

X in full compliance with

The operation is: ☐ in substantial compliance with Transport Practice 1.4

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that CITSSA Logistics have handling and inspection procedures as necessary to ensure that the cyanide is handled and transported in a manner that maintains the integrity of the producer's packaging. The transporters transport the solid NaCN cargo inside sea containers (20' or 40'), inspected before the cargo load.

According to the Peruvian legislation (law # 28256 and DS-021/2008/MTC), the truck shall have, in four sides, standard placards (risk diamond + UNO signage) indicating the nature of the chemical product being transported. The presence of such placards are verified before each travel and the results are recorded in a specific checklist. Was evidenced during the field audit that the trucks have the required placards (signage).

CITSSA logistics defined and documented a vehicle inspection program of the truck before each journey, including the inspection of the truck, the inspection of the emergency resources, the inspection of the communication and tracking system, the inspection of the tacograph, the inspections of the PPE- personnel protective equipment, the verification of the driver and cargo documentation.

It was evidenced that CITSSA Logistics established an internal preventive maintenance program, defined and performed by Scania Peru Huachipa. Reviewed records for truck and trailers, for 2017, 2016 and 2015. Beyond that, the truck and trailers are yearly inspected by MTC authorized suppliers, as previously mentioned.

The operation defined a maximum driving time of 12 hours, including one hour for lunch and a 30' rest every 4,0 hours of driving. The driver is not allowed to drive at night (after 6PM). The working hours is controlled through the remote tracking station.

The truck/ trailer is specifically designed to transport containers and the trailer has pin lockers, that are inspected by the driver before each journey, and prevent the containers from shifting. The container are also supported by chains, in both extremities of the container. Evidenced during the field audit.

In accordance to the operation safety policies and the driver's operation manual, in the event of stormy or hard rain, fog, wind conditions, snow, ice rain, the transport activity shall be stopped or even not allowed to begin. In some cases, the truck driver is oriented to stay in a safe place or come back to Lima.

The operation designed and implement a drug & alcohol policy, accepted by all drivers, in which all the drivers before the beginning of a journey pass through an alcohol detection test and annually, during the occupational health-monitoring program, the drivers pass through a drug detection test.

It was evidenced that CITSSA Logistics defined and implemented a process to manage all records related to its activities. All requested records were promptly retrievable and are adequately maintained by the operation, as previously mentioned.

Transport Practice 1.5: Follow international standards for transportation of

CITSSA Logistics does not subcontract any solid cyanide transportation services.

	cyanide by sea and air.	
The operation is:	<ul> <li>□ in full compliance with</li> <li>□ in substantial compliance with Transport Practice 1.5</li> <li>□ not in compliance with</li> </ul>	
Summarize the basis fo	or this Finding/Deficiencies Identified:	
This transport practic scope is solid cyanide	e is not applicable to the operation's scope. The operation transportation.	ation
Transport Practice 1.6	<u>6</u> :Track cyanide shipments to prevent losses transport.	during

Summarize the basis for this Finding/Deficiencies Identified: (Due to the sensitivity of security issues regarding storage of cyanide, no descriptions of substantial or non-compliance with this aspect of the Transport Practice should be provided). The transport vehicle is provided with tracking systems (on board computer, text messages and photos transmission system ), using GPS signal (supplied and managed by GPS Scan Ltd) The driver is also equipped with a fast dialing mobile phone. The communication system (GPS, mobile phone, radio) is tested before each travel, and periodically checked during the trip. The defined check points are addressed at journey plan (hoja de ruta).

☐ in substantial compliance with Transport Practice 1.6

X in full compliance with

□ not in compliance with

The operation is:

All blackout areas are previously identified during route identification and definition. Before entering such areas, the drivers contact the organization headquarters and the GPS Scan central.

As previously mentioned, the truck is monitored 100% of the time, by a remote control station, by the operation headquarters and the tracker provider. The transport vehicle is provided with tracking systems (on board computer), using GPS signal (supplied by GPS Scan).

CITSSA Logistics defined and implemented a chain of custody records management, according to the Peruvian law. The documentation (guia de remission +MSDS+ travel plan) is verified prior the transportation and before the unloading at the mine operation. All recorded and annexed at travel reports, that are retained at the organization central office.

CITSSA Logistics does not subcontract any solid cyanide transportation services.

2. INTERIM STORAGE: Design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent releases and exposures.

<u>Transport Practice 2.1</u>:Store cyanide in a manner that minimizes the potential for accidental releases.

	☐ in full compliance with	
s:	☐ in substantial compliance with	Transport Practice 2.1
	□ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:\*

The operation

This principle is not applicable to the operation scope because the cyanide cargo is transported straight from Callao to its final destination, the mining operation. During the transport, the truck is monitored 100% of the time and stops, at night, only at preevaluated and approved stations along the route. The tracking system also blocks (remote turn-off) the truck engine if something different from the planned script (travel plan) occurs.

3. EMERGENCY RESPONSE: Protect communities and the environment through the development of emergency response strategies and capabilities

<u>Transport Practice 3.1</u>:Prepare detailed emergency response plans for potential cyanide releases.

X in full compliance with

The operation is: 

in substantial compliance with Transport Practice 3.1

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that CITSSA Logistics, designed, documented and implemented an emergency response plan (plan de contingencias), found at revision # 3, dated 01/04/2016. This plan was formally reviewed and approved by the Peruvian authorities responsible for the road transportation of hazardous products (MTC permit # 2934/2016/MTC/16 dated 07/10/2016). 20 (twenty) emergency scenarios were identified, and there is a response plan for each one.

It was evidenced that CITSSA Logistics Emergency Response Plans were developed for the specific circumstances and was verified that the emergency plans are appropriate to the specific cyanide transportation routes, and transport practices. The emergency response plan was formally reviewed and approved by the Peruvian authorities responsible for the road transportation of hazardous products (MTC permit # 2934/2016/MTC/16 dated 07/10/2016). The risks associated to the selected routes were identified and evaluated and the emergency response plans are focused on the identified and evaluated risks, also considering the available infrastructure and resources available in the selected routes. It is important to report that the organization emergency plan (plan de contingencia) considered the directions addressed at the USA Department of Transportation Guide for emergency response involving hazardous materials (edition 2016). It was evidenced that the plans are specific for the road transportation of solid cyanide. It was evidenced that the plans are specific for the road transportation of cyanide, by truck. (flatbed trailers or low bed trailers), with pin lockers, chains and specifically designed to transport metallic sea containers).

It was evidenced that the plans consider the specific conditions of the selected routes and the risk analysis performed for the selected routes. As previously mentioned, the risks associated to the selected routes were identified and evaluated. The emergency response plan is focused on the identified and evaluated risks, also considering the available infrastructure and resources available in the selected routes.

It was evidenced that the emergency response plans are specific for the truck configuration being used to transport the cyanide (flat bad or low bed trailers, with pin lockers, chains and specifically designed to transport metallic sea containers).

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It was evidenced that the emergency response plans describe the specific response actions that shall be applied to each emergency situation/ scenario, such as accident with fire, fall into a river, cyanide leakage on a rainy day, cyanide intoxication, among other specific emergency scenarios.

It was evidenced that the emergency response plans describe the roles of several stakeholders that should be involved in the emergency response, such as road policy (policia de carreteras), emergency responders and rescuers, first aid stations along the route, reference hospitals, and environmental authorities.

## <u>Transport Practice 3.2</u>:Designate appropriate response personnel and commit necessary resources for emergency response.

X in full compliance with

The operation is: 

in substantial compliance with Transport Practice 3.2

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that CITSSA Logistics provided emergency training for drivers, emergency coordinators, emergency response members/ escort team, in accordance with the Peruvian law, as previously mentioned. All duties and responsibilities, for each identified scenarios, are addressed in the operational & emergency management procedures (refer to chapter # 6 of this report), that are part of the approved emergency plan (plan de contigencias/ rev. 3/ dated April 2016) by the Peruvian Ministry of Transportation and Communications (MTC).

The required emergency response master list is part of the traveling documentation (orden de carga/ cargo order) and checked before each travel. The required emergency response master list is part of the traveling documentation (orden de carga/ cargo order) and checked before each travel.

Usual emergency hardware to be available at the convoy are:

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Autonomous breather, safety glasses, helmets, leather gloves, ear protectors, masks for powder, overall type B and C, fire extinguishers and antidotes (Sodium Nitrite Injection USP + Sodium Thiosulfate Injection USP).

Beyond the ones mentioned at TP 1.2, annually CITSSA Logistics develops and implement a training plan (reviewed the ones for 2016 and 2017), which includes new and refresh training for the operational team (operational and emergency related training). Reviewed training records related to HAZMAT emergency procedures (refresh), EPP use, inspection and handling (refresh), First Aid involving cyanide emergencies (refresh), among others. Before each travel, a safety briefing is also performed among the convoy team (escort car team + truck driver). Before every trip, all

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required emergency response equipment is inspected in accordance with a specific checklist, that is part of the trip documentation.

CITSSA Logistics does not subcontract any solid cyanide transportation services.

<u>Transport Practice 3.3</u>: Develop procedures for internal and external emergency notification and reporting.

X in full compliance with

The operation is 
in substantial compliance with Transport Practice 3.3

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

All the contact information is addressed at the Emergency Plan (plan de contingencias/ revision 3/ April 2016) which was reviewed and approved by the Peruvian Authority MTC. This plan must be reviewed and approved by the MTC every three years. In the event of any major change, the plan must be promptly submitted to MTC for review and approval. Beyond that, in the trip documentation, the contact information from the involved stakeholders is available for the driver and the convoy supervisor.

All the contact information is addressed at the Emergency Plan (plan de contingencias/ revision 3/ April 2016) which was reviewed and approved by the Peruvian Authority MTC. This plan must be reviewed and approved by the MTC every three years. In the event of any major change, the plan must be promptly submitted to MTC for review and approval. Beyond that, in the trip documentation, the contact information from the involved stakeholders is available for the driver and the convoy supervisor.

<u>Transport Practice 3.4</u>: Develop procedures for remediation of releases that recognize the additional hazards of cyanide treatment chemicals.

X in full compliance with

The operation is: 

☐ in substantial compliance with Transport Practice 3.4

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that the emergency response plans describe the specific response actions that shall be applied to each emergency situation/ scenario, such as accident with fire, fall into a river, cyanide leakage on a rainy day, cyanide intoxication, among other specific emergency scenarios Refer to chapter # 6 of this report and the emergency response plan / revision 3/ dated April 2016).

It was as evidenced that the mentioned plans (# 7 and # 24) clearly define that chemical products, such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide, are

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prohibited to be used in the event of solid cyanide releases in surface waters along the route.

<u>Transport Practice 3.5</u>: Periodically evaluate response procedures and capabilities and revise them as needed.

X in full compliance with

The operation is: 

in substantial compliance with Transport Practice 3.5

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Annually CITSSA Logistics plan and implement emergency drills, usually involving the clients (NaCN load at distributor and unload at the mining operation). Beyond that, after every trip there is a recorded feedback from the driver and the convoy supervisor, indicating any necessary challenge in the route map, in the risk analysis or in the emergency response plans. Annually the operation plan and implement emergency drills. Reviewed emergency drill reports performed between 2015 and 2017. After the drill mock, the drill results are reviewed by the stakeholders that participated in the drill and, when identified, opportunities of improvement are defined and implemented. The specific emergency response plans are promptly updated (all ones were updated in September 2017).

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