

### ICMI Cyanide Code Consigner Supply Chain Summary Audit Report

Cyanco Consignor Certification Audit – Global Ocean Supply Chain

#### **Submitted to:**

The International Cyanide Management Institute 1400 I Street, NW – Suite 550 Washington, DC 20005 USA

2014 Audit Cycle





#### **Cyanco Ocean Supply Chain Summary**

#### Consignor Name & Contact Information

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# Cyanco Global Ocean Supply Chain Description of Consignor Operations & Scope of Certification

Cyanco maintains a corporate office in Reno, Nevada - USA, a solid sodium cyanide plant outside of Houston, Texas - USA, a liquid sodium cyanide production facility near Winnemucca, Nevada, terminal operations in Cadillac, Quebec - Canada, and a business office outside of Montreal, Quebec.

Cyanco started producing solid sodium cyanide in the industrial park of the Chocolate Bayou Plant of Ascend Performance Materials at Alvin/Texas in September 2012. The plant was audited in early 2013 and was acknowledged by the ICMI as being International Cyanide Management Code (ICMC) certified in November 2013. The plant ships product in rail sparger cars, ISO containers, and one metric ton bag/boxes packed into rail box cars and 20-foot intermodal containers.

Product manufactured at this location is shipped domestically by truck, rail, and barge, and internationally via rail and ocean carrier. Ocean shipments shipped through the Port of Houston are within the scope of this Global Supply Chain. The product packed into 20-foot intermodal sea containers or ISOs is transported to the Port of Houston by ICMC-compliant truck transporters. At the time of the audit, Quality Carriers, Inc, an ICMC certified transporter, and

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Action Resources were transporting solid sodium cyanide to interim storage in Houston and then to the Port of Houston. According to the ICMI web-site, Quality Carriers was most recently recertified in February 2014. Action Resources (AR) underwent a full ICMC verification audit as part of this Global Ocean Supply Chain and was found to be fully compliant with the Code. The AR audit was conducted by an ICMI-approved Lead Transportation Auditor. The results of the audit are included at the end of this report in Appendix A.

Cyanco HQ operations and the interim storage facility in Houston (IsoChem) were also audited as part of this Global Ocean Supply Chain audit. Both were found to be fully compliant with ICMC requirements.

Cyanco has developed formal manuals, procedures, and practices that ensure that all ICMI International Cyanide Management Code requirements are fulfilled. Due Diligence reviews are performed at all Ports and for all ocean carriers that are used to transport sodium cyanide to gold mines.

Due Diligence assessments were conducted for the ocean carriers and ports included in the scope of the Global Ocean Supply Chain. This Global Ocean Supply Chain includes the following ocean carriers:

- 1. Hamburg Sued
- 2. Maersk
- 3. Mediterranean Shipping Co. (MSC)
- 4. CMA-CGM
- 5. Compañía Sud Americana de Vapores (CSAV)
- 6. Hapag-Lloyd
- 7. Zim Lines

Ports used in this supply chain are listed in the following table:

Ports	Basis of Due Diligence Assessment
Houston, Texas – USA (departure port)	ICMC Certification Audit – Posted on ICMI web-
	site in 2013
Angamos, Chile	On-Site ICMC Audits (MSS ICMC Due Diligence
San Antonio, Chile	Audit Reports filed internally with Cyanco)
Tema, Ghana	On-Site ICMC Audits (Third-Party ICMC Due
	Diligence Assessment information filed internally
	with Cyanco)
Callao, Peru	On-Site ICMC Audits (Third-Party ICMC Due
	Diligence Assessment information filed internally
	with Cyanco)

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#### Audit Information - Cyanco Global Ocean Supply Chain

The ICMC audit of Cyanco as a Consignor/Transporter for its Ocean Supply Chain was performed by an independent 3rd-party auditor who is pre-approved by the ICMI as a Lead Auditor for all types of Code audits and as a Technical Expert for Code audits of cyanide transportation and production operations.

The ICMC certification audit of Cyanco as a Transporter / Consignor was conducted on December 3-4, 2013, Action Resources was audited by an ICMI-approved Lead Transportation Auditor who is external to MSS on December 18, 2013, the audit of the IsoChem interim storage facility was conducted on February 20, 2014, and the audit of the warehouse and loading activities at the Cyanco Houston production facility was conducted on April 16, 2014.

The due diligence assessments of the ocean carriers and the ports were performed through May 20, 2014, at which time all operations, ocean carriers, and ports within the scope of the Cyanco Global Supply Chain were found to be in Full Compliance with ICMI Code requirements.

Cyanco's procedures, policies and planned transportation management practices for its Ocean Supply Chain were evaluated against the ICMI International Cyanide Management Code requirements, as documented in the ICMI Cyanide Transportation ICMC Verification Protocol (2011). The audit was conducted through discussions and interviews with multiple individuals in cross-functional roles at Cyanco and its supply chain partners.

The results of this ICMC certification audit and the related due diligence reviews indicate that Cyanco and its ocean transport management practices are in FULL COMPLIANCE with ICMI ICMC transportation requirements.

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#### Cyanco Ocean Supply Chain - Auditor's Finding

#### The Cyanco Ocean Supply Chain is:

#### **☑** in full compliance

in substantial compliance not in compliance

with the ICMC requirements of the International Cyanide Management Code.

The operations included in this audit have not experienced any cyanide incidents, releases, or exposures since the supply chain was put into use in 2013. The operations were found to have been in compliance with the ICMI Cyanide Code since the previous ICMI Cyanide Code preoperational audit in 2012.

Audit Company:	MSS Code Certification Service
	www.mss-team.com
Lead / Technical Auditor:	Nicole Jurczyk
	E-mail: CodeAudits@mss-team.com
Date(s) of Audit	On-Site Audits: December 3,4 and 18, 2013 and February 20,
	April 16, 2014; Due Diligence Assessments: January through
	May 20, 2014

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Certification 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 Certification Auditors.

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

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#### Description of Consignor's role in ensuring compliance of its carriers

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.

**☑** in full compliance with

The operation is in substantial compliance with **Transport Practice 1.1** 

not in compliance with

Summarize the basis for this Finding:

Cyanco has implemented a process for selecting transport routes that minimize the potential for accidents and releases. The Cyanco International Cyanide Management Code Compliance Manual (ICMC Manual) defines that all ICMC criteria must be considered during the planning of shipping routes. Examples were available for ocean routes showing that Cyanco Leadership evaluated transportation partners, route selection processes, and emergency response capabilities to confirm suitability of the transportation partners and the routes chosen. The ICMC Manual states that appropriate risk considerations are to be made for each type of mode used.

Interviews were conducted to confirm that before Cyanco initially qualifies a new customer for sodium cyanide, they follow a standard practice to determine that the cyanide can be safely delivered to the customer mine site. Cyanco does not control the routing of shipments via ocean; however they do choose the shipping ports, receiving ports, and ocean carriers. The risk evaluations associated with this supply chain focus primarily on the selection of the international ports to ensure that safety and security standards are acceptable. Infrastructure around the ports is also evaluated for alignment with ICMI Code criteria. Ocean carriers are selected based on their abilities to deliver cyanide safely into the necessary ports and on their qualifications for transporting dangerous goods according to International Maritime Dangerous Goods (IMDG) requirements.

The Cyanco ICMC Manual states appropriate risk considerations are made for each type of mode used. Risk mitigation measures taken by Cyanco prior to using this Global Ocean Supply Chain included: the development and implementation of an improved international shipment tracking process, the revision of the Cyanco Global Emergency Response Procedures, and the coordination of additional global emergency response resources in destination countries.

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Cyanco seeks input from communities, other stakeholders and applicable governmental agencies in the selection of routes and the development of risk management measures. Records were available to demonstrate that Cyanco personnel have met with transportation partners and local stakeholders to seek input from communities, non-governmental organizations, and governmental authorities in the U.S., Canada, South America, and Ghana to seek input into the planning for their global supply chains.

Cyanco uses formal policies, procedures, and contractual terms and conditions with transportation partners to ensure that cyanide is appropriately handled and transported globally.

<u>Transport Practice 1.2</u> 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

The operation is in substantial compliance with Transport Practice 1.2

not in compliance with

Summarize the basis for this Finding:

Cyanco uses only trained, qualified and licensed operators and companies to transport its products. Cyanco ensures that its transportation partners in its Global Ocean Supply Chain are compliant with ICMC requirements and are assessed by auditors during either certification audits (trucking transporters and interim storage) or due diligence audits (ports and ocean carriers).

<u>Transport Practice 1.3:</u> Ensure that transport equipment is suitable for the cyanide

shipment.

 $\blacksquare$  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:

Cyanco uses only supply chain partners with equipment designed and maintained to operate within the loads it is handling. The ICMC Manual states that Cyanco reviews all transportation partners to ensure that ICMC transportation requirements are fulfilled.

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At the time of the audit, Cyanco was using Quality Carriers, Inc. and Action Resources to transport solid sodium cyanide in trailers, intermodal containers, and ISO tanks from the production plant outside of Houston Texas. The loading activities and shipment records were reviewed during the audit to confirm that standard weights within the capacity of the intermodal containers, tractors, trailers, ISO tanks, and chassis were being shipped. Quality Carriers is a certified ICMC Signatory company and was most recently audited and found to be in full compliance with this requirement in February 2014. Action Resources underwent a full on-site ICMC audit in December 2013 as part of this Ocean Supply Chain certification process. Both transportation companies were found to be in full compliance with ICMC requirements.

Inter-modal containers used for ocean shipments are owned and controlled by the ocean carriers that bring the containers to international destinations. ISO tanks are leased and maintained by Cyanco. ISO weight capacities and the fulfillment of ISO tank inspection requirements were reviewed during the audit and were found to be compliant. Cyanco uses only authorized packaging for its sodium cyanide shipments.

According to interviews with Cyanco and warehouse personnel who load the van trailers, intermodal containers, and ISO tanks, standard weights are loaded and standard blocking and bracing configurations are used for van trailers and intermodal containers. Shipping paperwork was reviewed during the audit and showed the number of packages shipped and the weight of the cargo. This information is used by transportation partners to ensure that overloading does not occur.

Loads on container ships are inspected and controlled according to the International Convention on Load Lines (ICLL), an International Maritime Organization (IMO) Convention that is applicable for all container vessels engaged in international trade. The ICLL defines the maximum allowed draught of the vessel, and how this is to be marked on the side of the vessel. Container ships regularly go through an International Load Line Certification process that verifies that the vessel strength and stability have been approved for the specific loading capacities. The sides of the ships are marked to show the height of the freeboard (the height from the water line to the main deck) that must be maintained. The use of this load line ensures that the vessel has a reserve buoyancy and bow height in compliance with the requirements of the ICLL. The use and monitoring of this ship characteristic ensures that the container ship is not overloaded.

During this audit the lifting capacities at the IsoChem interim storage facility were also reviewed and were found to be acceptable. The on-site Due Diligence evaluations of ports also confirmed the acceptability of lifting equipment used to move intermodal containers and ISO tanks.

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<u>Transport Practice 1.4:</u> Develop and implement a safety program for transport of cyanide.

☑ 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:

Cyanco ensures that cyanide is transported in a manner that maintains the integrity of its packaging. Transportation of cyanide by sea is done in compliance with the International Maritime Organization Dangerous Goods Code. Cyanide shipments are packaged in accordance with Part 4 of the International Maritime Organization Dangerous Goods (IMO DG) Code and according to the packaging instructions and packaging provisions indicated on the DG List. Cyanide packages is marked as required by Section 5.2.1 of the IMO DG Code and according to the labeling requirements indicated on the DG List.

Cyanco uses UN 1689 placards to identify the shipments as sodium cyanide, as required by local regulations and international standards. Section 3.1 of the ICMC Manual addresses this requirement. Proper placarding and labeling of semi-bulk packages, intermodal containers, van trailers, and ISO tanks were observed throughout the supply chain audits.

Cyanco has implemented a safety program for cyanide transport that includes all ICMC required considerations. The Cyanco ICMC Manual states that Cyanco confirms that its transportation partners are in compliance with all ICMC requirements.

<u>Transport Practice 1.5:</u> Follow international standards for transportation of cyanide by sea

and air.

☑ in full compliance with

The operation is in substantial compliance with Transport Practice 1.5

not in compliance with

Summarize the basis for this Finding:

Cyanco transports shipments of cyanide by sea in compliance with the Dangerous Goods Code of the International Maritime Organization. Cyanco ships its sodium cyanide on main line ocean carriers that have demonstrated safety programs and safe performance. The ocean carriers have

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sign standard contractual agreements that require that the carrier adhere to applicable regulations and have recognized environmental, health, and safety programs. Cyanco does not ship cyanide by air. In addition to instituting contractual requirements, Cyanco has ensured that each ocean carrier used in this Ocean Supply Chain has undergone a Due Diligence evaluation to confirm that ICMC requirements are fulfilled.

The auditor concluded that Cyanco has effective processes for ensuring that U.S. and international ports have demonstrated appropriate safety, security, and road infrastructure prior to being approved for sodium cyanide shipments.

As recommended by the ICMI *Auditor Guidance for the Use of the Cyanide Transportation Verification Protocol*, specific information regarding this practice is addressed below:

- a) The Cyanco packaging specifications were reviewed as part of the ICMC audit and were found to be conformant to the packaging requirements of the IMDG Code.
- b) Packaging was reviewed during the audit of the Cyanco operation responsible for loading intermodal and ISO tank shipping containers. Packages and shipping containers were appropriately marked and were found to be compliant with Chapter 5.2 of the IMDG Code requirements.
- c) Packaging was reviewed during the audit of the Cyanco operation responsible for loading intermodal and ISO tank shipping containers. Packages and shipping containers were appropriately marked and were found to be compliant with Chapter 5.2 of the IMDG Code requirements.
- d) Loaded intermodal and ISO tank shipping containers were evaluated and were found to be marked and placarded in accordance with the IMDG Code.
- e) Shipping documents were reviewed for a sample of cyanide shipments from 2013 for each ocean carrier used in this supply chain. All information required by the IMDG Code is required as standard practice on Cyanco shipping paperwork.
- f) The container packing certificates from 2013 shipments were reviewed during the audit as part of the overall evaluation of shipping papers. All information was found to be conformant to IMDG Code requirements.
- g) Cyanco confirmed through its Due Diligence assessment that each of the Ocean Carriers involved in this supply chain use detailed stowage plans for the placement and safe transportation of all hazardous materials, including sodium cyanide shipments.
- h) Cyanco confirmed through its Due Diligence assessment that each of the Ocean Carriers involved in this supply chain have cyanide emergency response information available on board each vessel, as required by Section 5.4.3.2 of the IMDG Code.
- i) Cyanco confirmed through its Due Diligence assessment that each of the Ocean Carriers involved in this supply chain complies with stowage and separation requirements of Part 7 of the IMDG Code. This includes the requirement that sodium cyanide be stored separately from acids, strong oxidizers, and explosives.

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Transport Practice 1.6: Track cyanide shipments to prevent losses during transport.

☑ in full compliance with

The operation is in substantial compliance with **Transport Practice 1.6** 

not in compliance with

Summarize the basis for this Finding:

Cyanco has implemented systems and procedures to track the progress of cyanide shipments. Interviews with the Director of Logistics & Transportation and the Logistics Coordinator were held during the audit. The Logistics Coordinator has designated responsibilities for tracking shipments on a daily basis. Cyanco GPS tracking capabilities and online tracking capabilities through ocean carrier information portals were confirmed through computer demonstration and interview. Cyanco uses bills of lading and shipping papers indicating the number of packages and amount of material to confirm that the chain of custody for the cyanide is recorded and that ICMC requirements are fulfilled. This practice was also confirmed through interviews with personnel throughout the Supply Chain.

2. INTERIM STORAGE: Design, construct and operate cyanide trans-shipping depots and

interim storage sites to prevent releases and exposures.

*Transport Practice 2.1:* Store cyanide in a manner that minimizes the potential for

accidental releases.

**☑** in full compliance with

in substantial compliance with The operation is Transport Practice 2.1

not in compliance with

*Summarize the basis for this Finding:* 

Interim storage activities in this supply chain, as defined by ICMI, are limited to those that take place at IsoChem Logistics, LLC in Houston Texas and at ocean ports. Intermodal containers and Iso tanks are transported to IsoChem from the Cyanco Houston-area production plant. IsoChem underwent an ICMC audit as part of the Supply Chain ICMC certification process.

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Intermodal shipping containers and ISO tank shipping containers are stored in a segregated part of the IsoChem storage facility. The IsoChem President who controls the storage locations and security access of the facility showed excellent awareness of the need to segregate cyanide from incompatible chemicals such as acids, strong oxidizers, and explosives. Placards and warning signs were posted at the facility notifying workers that cyanide is present, and that open flames, smoking, eating and drinking are not allowed in the area. There is no handling of the intermodal and ISO tank containers other than industrial-sized forklift movements. Personal protective equipment requirements for the material storage and handling activities are posted outside the cyanide storage area.

The facility is secured by a fence and locked gate. An additional secure area for the cyanide containers has been established within the larger storage yard. Access to the high security area requires heavy equipment and job-specific authorization. Security at the facility was deemed to be acceptable. The cyanide is stored in the intermodal and ISO shipping containers. Containers are not opened at the IsoChem facility.

The containers are stored at the highest elevation in an outdoor container yard. Containers are maintained on a series of railroad ties to provide further protection from the risk of being exposed to standing water. Sodium Cyanide packages within the intermodal shipping containers are comprised of a bag-in-box construction that offers additional protection against water intrusion. ISO tanks are sealed and are constructed to be water-tight.

Cyanco evaluated the suitability of interim storage at ports through its Due Diligence evaluation process. The Due Diligence assessment results are included later in this report under the Port Due Diligence section.

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

Prepare detailed emergency response plans for potential cyanide *Transport Practice 3.1:* 

releases.

☑ in full compliance with

in substantial compliance with The operation is **Transport Practice 3.1** 

not in compliance with

Summarize the basis for this Finding:

Cyanco has developed and implemented a Global Transportation Emergency Response Plan (GTERP) that is appropriate for its Global Ocean Supply Chain. The GTERP includes details regarding the response procedures to be used in each region of the world, each mode of transportation, and type of incident. The GTERP was last updated in 2014. The notification numbers are updated every 6 months and the rest of the plan is reviewed annually and updated as necessary.

Emergency response plans were reviewed during this audit. The GTERP considers the physical and chemical form of the cyanide. The only form of cyanide to be shipped using this supply chain is solid sodium cyanide. Emergency response procedures address actions to be taken in response to a solid sodium cyanide spill.

The GTERP includes descriptions of response actions, as appropriate for the anticipated emergency situations. Cyanco also contracts with professional emergency response and remediation firms in the countries into which it ships to ensure that local emergency response is appropriate for the country involved. The Cyanco GTERP is universally applicable to all types of emergencies. All of the plans and emergency response information clearly outline the roles and responsibilities of internal and external responders.

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<u>Transport Practice 3.2:</u> Designate appropriate response personnel and commit

necessary resources for emergency response.

☑ 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:

Cyanco has provides emergency response training to Cyanco personnel ensures that its transportation partners also provide emergency response training to their personnel. This confirmation is done through on-site auditing and Due Diligence review.

The roles and responsibilities of relevant internal and external personnel are clearly described in the Cyanco emergency response plans. Although it is highly unlikely that Cyanco would be called in to respond to an emergency by an ocean carrier at sea, it is conceivable that Cyanco may need to respond to an emergency at a port. Current emergency response procedures state that Technical Advisory Team (TAT) Rapid Response Kits are maintained by emergency response contractors. Information is available regarding the contents of these emergency kits. The types of equipment maintained were found to be appropriate by the auditor.

Cyanco ensures through contractual terms and periodic review that the emergency response equipment maintained by its emergency response provider is available at all times. Cyanco uses using formal policies, procedures, and contracts with safety, health, environmental, and security terms and conditions to ensure that cyanide is appropriately handled and transported by its transportation partners.

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

notification and reporting.

☑ 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:

Cyanco has developed procedures and maintains current contact information for notifying regulatory agencies, outside response providers, medical facilities and potentially affected communities of an emergency. The GTERP was reviewed during the audit and was found to contain all necessary contact information.

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The Cyanco ICMC Manual requires that internal and external emergency notification and reporting procedures are kept current. Contact numbers and reporting information is reviewed at least annually, or as needed.

<u>Transport Practice 3.4:</u> Develop procedures for remediation of releases that recognize the

additional hazards of cyanide treatment chemicals.

☑ 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:

Specific details regarding the remediation, neutralization, decontamination, and disposal of clean-up debris are contained within the Cyanco emergency response procedures. Extensive descriptions of necessary action steps depending on the incident scenario are clearly outlined in the documents.

Cyanco personnel showed a high level of awareness that the use of treatment chemicals is prohibited if cyanide spills into surface waters. Cyanco emergency response procedures specifically prohibit the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide for treating a cyanide spill into surface water. Section 3.4 of the ICMC Manual specifically bans the use of treatment chemicals for spills into surface water.

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**Transport Practice 3.5:** Periodically evaluate response procedures and

capabilities and revise them as needed.

☑ in full compliance with

in substantial compliance with The operation is Transport Practice 3.5

not in compliance with

Summarize the basis for this Finding:

Cyanco periodically reviews its emergency response plans and evaluates the plan's adequacy. The ICMC Manual requires that table top simulations be run annually and that emergency response drills are run every 3-5 years. Records were available to demonstrate that Cyanco has held emergency response drills with its transportation partners and client mines in 2013 and 2014.

Cyanco reviews and revises its emergency response plans as necessary after responding to an actual emergency and after emergency response drills. Formal action-tracking systems are used to ensure timely and complete close-out of actions following emergency response drills and actual emergencies.

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#### **Ocean Carrier Due Diligence Investigation Results**

Cyanco ships its solid sodium cyanide on main line ocean carriers that meet recognized Environmental, Health, and Safety (EHS) standards and that are experienced in the handling of dangerous goods. The ocean routes are chosen by the ocean carriers. According to Cyanco's ICMC Manual, ocean carriers used for cyanide shipments undergo a Due Diligence review of their ability to fulfill ICMI Code requirements.

Due Diligence assessments were conducted for the ocean carriers and ports included in the scope of the Global Ocean Supply Chain. This Global Ocean Supply Chain includes the following ocean carriers:

- 1. Hamburg Sued
- 2. Maersk
- 3. Mediterranean Shipping Co. (MSC)
- 4. CMA-CGM
- 5. Compañía Sud Americana de Vapores (CSAV)
- 6. Hapag-Lloyd
- 7. Zim Lines

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

<u>Transport Practice 1.1:</u> Select cyanide transport routes to minimize the potential for

accidents and releases.

The management of consistent with Transport Practice 1.1

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

Ocean routes are chosen by the ocean carriers and are regulated by a number of international organizations. When Cyanco plans a specific shipping route to an ICMI Signatory Mine, it evaluates the route that will be taken from production to mine site. This route evaluation includes the selection of the most appropriate destination port and then the selection of an ocean carrier with hazardous material handling capabilities.

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According to interviews, Cyanco gives strong preference to ocean carriers that have already found to be compliant with ICMC requirements through an ICMC Due Diligence assessment. Preference is also given to direct shipping lanes that do not involve a transfer of the cargo to a different ship. Ports that have been found to be acceptable are chosen based on proximity to end customer, experience handling hazardous materials safely, security of the port, emergency response capabilities, and road infrastructure to the port. Only in cases where a closer port has unacceptable infrastructure or security is the shipment routed using a longer over-the-road segment.

*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.

The management of ☑ consistent with Transport Practice 1.2

Global Ocean Transport is: substantially consistent

not consistent

Summary of the basis for this finding:

#### **All Ocean Carriers**

According to the responses to a questionnaire modeled after the ICMC Transportation Protocol, all ocean carriers reported in 2014 that they comply with International Maritime Organization (IMO) requirements and are in compliance with International Maritime Dangerous Goods (IMDG) and U.S. 49 Code of Federal Regulations (CFR) requirements concerning the transportation of the hazardous materials, including the training of employees.

Intermodal moves once the shipment reaches the port are controlled by the ocean carrier. Ocean carriers self-reported to Cyanco that they train their personnel on hazardous materials handling. Information from the carriers also indicated that they have systems in place to ensure that intermodal moves are performed by appropriately licensed and qualified personnel.

**Transport Practice 1.3:** Ensure that transport equipment is suitable for the cyanide

shipment.

The management of ☑ consistent with Transport Practice 1.3

Global Ocean Transport is: substantially consistent

not consistent

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#### Summary of the basis for this finding:

#### **All Ocean Carriers**

Cyanco has contractual agreements with all of its ocean carriers that require that they comply with the regulations regarding the safe and appropriate shipping of dangerous goods. Part of the U.S. Department of Transportation Hazardous Materials Registration and Safety of Life at Sea regulatory processes addresses the use of safe and appropriate equipment.

Cyanco ensures authorized packages are used for solid sodium cyanide. Package specifications were reviewed during this audit and were found to be compliant. Intermodal and ISO tank shipping container loading procedures and inspection checklists were reviewed during the audit. Cyanco personnel ensure that all equipment is safe for transport prior to shipment of the cargo. Employees showed very good awareness of requirements for ocean shipments.

<u>Transport Practice 1.4:</u> Develop and implement a safety program for transport of cyanide.

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

#### **All Ocean Carriers**

Ocean carriers self-reported to Cyanco that they train their personnel on hazardous materials handling. In their response to the ICMC Due Diligence protocol, ocean carriers reported that they have robust safety programs which are mandated by international laws. Formal safety, environmental, emergency response, and auditing programs apply to all employees aboard ocean vessels.

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<u>Transport Practice 1.5:</u> Follow international standards for transportation of cyanide by sea

and air.

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

Cyanco ships its sodium cyanide on main line ocean carriers that have demonstrated safety programs and safe performance. Each carrier was asked for information regarding fulfillment of ICMC requirements using a customized ICMC transportation protocol. Responses and information provided by all carriers was deemed to be appropriate by the ICMC Lead Auditor.

The ocean routes are chosen by the ocean carriers. The destination ports are evaluated via an on-site evaluation when the port is under consideration to receive cyanide by an ICMI Signatory Mine. Records were available during the audit to demonstrate that all ports within the supply chain had undergone such an on-site evaluation and had been found to be compliant with ICMC Due Diligence requirements.

As recommended by the ICMI *Auditor Guidance for the Use of the Cyanide Transportation Verification Protocol*, specific information regarding this practice is addressed below:

- a) The Cyanco packaging specifications were reviewed as part of the ICMC audit and were found to be conformant to the packaging requirements of the IMDG Code.
- b) Packaging was reviewed during the audit of the Cyanco operation responsible for loading intermodal and ISO tank shipping containers. Packages and shipping containers were appropriately marked and were found to be compliant with Chapter 5.2 of the IMDG Code requirements.
- c) Packaging was reviewed during the audit of the Cyanco operation responsible for loading intermodal and ISO tank shipping containers. Packages and shipping containers were appropriately marked and were found to be compliant with Chapter 5.2 of the IMDG Code requirements.
- d) Loaded intermodal and ISO tank shipping containers were evaluated and were found to be marked and placarded in accordance with the IMDG Code.
- e) Shipping documents were reviewed for a sample of cyanide shipments from 2013 for each ocean carrier used in this supply chain. All information required by the IMDG Code is required as standard practice on Cyanco shipping paperwork.
- f) The container packing certificates from 2013 shipments were reviewed during the audit as part of the overall evaluation of shipping papers. All information was found to be conformant to IMDG Code requirements.

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- g) Cyanco confirmed through its Due Diligence assessment that each of the Ocean Carriers involved in this supply chain use detailed stowage plans for the placement and safe transportation of all hazardous materials, including sodium cyanide shipments.
- h) Cyanco confirmed through its Due Diligence assessment that each of the Ocean Carriers involved in this supply chain have cyanide emergency response information available on board each vessel, as required by Section 5.4.3.2 of the IMDG Code.
- i) Cyanco confirmed through its Due Diligence assessment that each of the Ocean Carriers involved in this supply chain complies with stowage and separation requirements of Part 7 of the IMDG Code. This includes the requirement that sodium cyanide be stored separately from acids, strong oxidizers, and explosives.

<u>Transport Practice 1.6:</u> Track cyanide shipments to prevent losses during transport.

The management of **Z** consistent with Transport Practice 1.6

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

#### **All Ocean Carriers**

Ocean carriers reported that they have computer systems that are used for the tracking and management of all freight containers within their system. The management systems provide among other items the date, time, location, and carrier involved in the last interchange, transport action, or gate move. Cyanco's freight forwarder has access to this information via the internet web sites. Cyanco can request this information at any time. This was confirmed through a sampling approach during the audit.

The sodium cyanide shipments for this segment are containerized loads of bag-in-box packages and ISO tank shipping containers. All shipping containers are sealed. Shipping papers were reviewed. Auditors confirmed that seal numbers are recorded on the bills of lading. This enables personnel along any portion of the segment to confirm that the containers have not been opened.

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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.

The management of **Z** consistent with Transport Practice 2.1

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

#### **All Ocean Carriers**

Ocean carriers reported that during transport, the storage of cyanide both on land and on vessels is in accordance with the applicable stowage and segregation requirements in the IMDG and the Coast Guard 33 CFR regulations when in the United States. The terminal must segregate containers similar to the segregation onboard vessels.

Safety checklists and seals are used by Cyanco personnel when the shipping containers are loaded. The seal enables verification that the container was not opened during transit.

Each U.S. and international port within the scope of this certification audit has been evaluated for its ability to handle hazardous materials safely. The ports are confirmed to be secure with appropriate roadway or rail infrastructure into the port. Completed port audit checklists and reports were reviewed during the audit. Records were complete and acceptable.

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3. EMERGENCY RESPONSE: Protect communities and the environment through the

development of emergency response strategies and

capabilities

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide

releases.

The management of **☑** consistent with Transport Practice 3.1

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

#### **All Ocean Carriers**

Ocean carriers reported that they and their affiliates have emergency response plans in place which include the prompt notification of all involved parties. Cyanco provides shipping papers showing the emergency contact information which is then transferred to the hazardous cargo declaration.

The due diligence questionnaire responses from the ocean carriers confirmed their understanding of emergency response requirements. Emergency response planning and the performance of frequent emergency drills are required by international laws. All of the ocean carriers provided information demonstrating that they are certified by third-party auditing organizations for environmental, health, and/or safety programs. Ocean carrier responses confirmed that emergency response planning is an integral part of these programs.

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

The management of **☑** consistent with Transport Practice 3.2

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

#### **All Ocean Carriers**

Ocean carriers responded that they contract with professional emergency response contractors for landside emergencies. Onboard vessels, the emergency response would be conducted by trained crew members with shore side support and guidance.

Cyanco offers immediate technical assistance for any cyanide spill, and offers emergency resources for spills that might occur near a Cyanco site. Cyanco contracts with a global emergency response service provider to ensure that appropriate notifications and emergency response is initiated if there is an incident.

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

notification and reporting.

The management of consistent with Transport Practice 3.3

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

#### **All Ocean Carriers**

Ocean carriers reported that they and their affiliates have emergency response plans in place which include the prompt notification of all involved parties. Cyanco provides shipping papers showing the emergency contact information which is then transferred to the hazardous cargo declaration.

The due diligence questionnaire responses from the ocean carriers confirmed their understanding of emergency response requirements. Emergency response planning and the performance of frequent emergency drills are required by international laws. All of the ocean carriers responded that they are certified by third-party auditing organizations for environmental, health, and/or

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safety programs. Ocean carrier responses confirmed that emergency response planning is an integral part of these programs.

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

The management of **consistent with Transport Practice 3.4** 

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

#### **All Ocean Carriers**

Ocean carrier responses confirmed that they would communicate with Cyanco cyanide experts in the event of a spill. Cyanco bans the use of cyanide destruction chemicals for cyanide spills into water.

<u>Transport Practice 3.5:</u> Periodically evaluate response procedures and

capabilities and revise them as needed.

The management of consistent with Transport Practice 3.5

Global Ocean Transport is: substantially consistent

not consistent

#### Summary of the basis for this finding:

#### All Ocean Carriers

The due diligence questionnaire responses from the ocean carriers confirmed their understanding of emergency response requirements. Emergency response planning and the performance of frequent emergency drills are required by international laws. All of the ocean carriers provided information demonstrating that they are certified by third-party auditing organizations for environmental, health, and/or safety programs. Ocean carrier responses confirmed that emergency response planning is an integral part of these programs.

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#### **Ocean Port Due Diligence Investigation Results**

This Global Ocean Supply Chain includes cyanide handling and interim storage activities at the ports listed below:

Ports	Basis of Due Diligence Assessment
Houston, Texas – USA (departure port)	ICMC Certification Audit – Posted on ICMI web-
	site in 2013
Angamos, Chile	On-Site ICMC Audits (MSS ICMC Due Diligence
San Antonio, Chile	Audit Reports filed internally with Cyanco)
Tema, Ghana	On-Site ICMC Audit (Third-Party ICMC Due
	Diligence Assessment information filed internally
	with Cyanco)
Callao, Peru	On-Site ICMC Audit (Third-Party ICMC Due
	Diligence Assessment information filed internally
	with Cyanco)

Solid sodium cyanide packed into intermodal or ISO tank shipping containers is shipped from the Port of Houston in Texas USA using the Ocean Carriers detailed in this supply chain audit report. The cyanide is received at the international ports and stored for a short time (normally no more than three days), and is picked up by transportation companies that have either contracted to Cyanco or to the mine site to which they are delivering. The road transportation in the destination country is outside the scope of this certification audit activity.

Cyanco contracted with an ICMC-approved auditor to perform an ICMC audit of the Port of Houston and formal on-site ICMI Code Due Diligence evaluations were performed by Cyanco, Cyanco's customer, or professional ICMC auditors. On-site evaluations were performed for each port within the scope of this audit.

The port evaluation process involves an on-site review of environmental, health, safety, and security practices. Road infrastructure to and from the ports, as well as port experience with handling dangerous goods is also evaluated.

The auditor concluded that Cyanco's demonstrated and planned Due Diligence activities are appropriate for confirming that Ports have appropriate safety, security, and road infrastructure prior to being approved by Cyanco for dangerous goods shipments.

In addition to Cyanco's efforts to ensure that ICMC requirements are fulfilled, there are many agencies charted with the task of confirming that shipping is conducted in a safe and secure

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manner. One such organization is the International Maritime Organization (IMO). The IMO was established in Geneva in 1948 and it currently headquartered in London, United Kingdom. The IMO is a specialized agency of the United Nations. The IMO's primary purpose is to develop and maintain a comprehensive regulatory framework for shipping. The IMO regulates practices associated with safety, environmental concerns, legal matters, technical co-operation, maritime security and the efficiency of shipping. One initiative of the IMO is the International Convention for the Safety of Life at Sea (SOLAS), which was enacted in 1974. Ocean carriers are required to have periodic audits of their safety programs. The provisions of SOLAS include: fire protection, life saving equipment, radio communications, safety of navigation, transportation of dangerous goods, management of safe operations of ships, and maritime security.

With regard to port safety and security, new amendments to the SOLAS Convention were enacted in 2002. These amendments gave rise to the International Ship and Port Facility Security (ISPS) Code, which went into effect on 1 July 2004. The concept of the code is to provide layered and redundant defenses against smuggling, terrorism, piracy, stowaways, etc. The ISPS Code required most ships and port facilities engaged in international trade to establish and maintain strict security procedures as specified in ship and port specific Ship Security Plans and Port Facility Security Plans. Container ships and ports that service them are required to have multiple third-party audits of safety and security. Each ship and each port involved in international trade undergoes external security, safety, and management system audits at least annually. In the United States the Port Facility Security Plans are filed with, and monitored by the United States Coast Guard, the U.S. authority with jurisdiction over U.S. Ports.

#### **Angamos Port - Chile**

The Angamos Port is situated 1,440 km north of Santiago, Chile's capital city, on the Pacific Ocean coastline. The Port is in Mejillones, Chile, north of Antofagasta. The port is operated by Ultraport, which is part of the Ultramar Group. This company operates the container ship terminal that is used by Cyanco for sodium cyanide shipments. The Ultramar Group was founded in Valparaiso, Chile in 1981. Ultraport has been operating the Angamos Port since 2003. The Port is serviced by MSC, CSAV, Hamburg Sued, and CCNI ocean carriers. The facility is completely fenced. Access to the port is only possible via a security gate. Security cameras are used throughout the facility and the port is manned 24 hours per day. The Angamos Port maintains current ISO 14001, OHSAS 18001, ISO 9001, and International Ship and Port Security (ISPS) certifications. Interviews were held with port personnel, procedures were assessed, storage and handling practices were observed, and records were reviewed.

#### San Antonio Port - Chile

The port of San Antonio is located in the city and province of San Antonio, in the Valparaiso Region of Chile. It is located on the Pacific Ocean coastline. It is approximately 100 km west

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of Chile's capital: Santiago. The port is a multi-operater port. San Antonio International (STI) operates the South Molo Terminal which specializes in the handling of containerized cargo. Puerto Panul SA operates the North Terminal dedicated to solid bulk cargoes. The Policarpo Terminal Toro is administered by the Portuaria Compania de San Antonio. TEM, Terminal Multioperado, is administered by Portuaria Compania de San Antonio. STI has been operating the South Terminal since January of 2000. The port is serviced by Alianca, APL, CSAV, Hamburg Sud, Libra, Maersk Line, Mediterranean Shipping Company (MSC), MOL and West Coast Industrial Express ocean carriers.

The facility is completely fenced. Access to the port is only possible via a security gate. Security cameras are used throughout the facility and the port is manned 24 hours per day. The San Antonio Port maintains current ISO 14001, ISO 9001, and International Ship and Port Security (ISPS) certifications. Interviews were held with port personnel, procedures were assessed, storage and handling practices were observed, and records were reviewed.

#### Tema Port - Ghana

The Tema Port is the main Container Port servicing Ghana and some of the land locked countries (Burkina, Mali, Niger & Chad). The port has been in use since 1962. The port operator that was evaluated through Due Diligence is Meridian Port Service (MPS). Interviews were held with MPS personnel, procedures were assessed, storage and handling practices were observed, and records were reviewed.

The Tema Port is located in Tema, which is in the southeastern part of Ghana, along the Gulf of Guinea and is about 30 kilometers east of Accra. The Tema Port has a security fence around the entire Port. Security measures include electronic access gates for staff, 24-hour manned security staff and the use of surveillance cameras.

#### Port of Callao - Peru

The Port of Callao is located just 12 kilometers from downtown Lima and is Peru's primary commercial port. The Port of Callao is fully fenced and has strict access controls. Cyanco contracted a third-party ICMC auditor who is external to MSS to evaluate the Port of Callao in 2014. The auditor audited the port and concluded that port operations including storage and handling operations were in conformance with ICMC requirements.

\*Special Note: Container unpacking and re-packing operations were observed by the auditor, but were not included in the ICMC evaluation. The finding of ICMC compliance was only made for the general receipt of cyanide and general handling practices, *excluding the unpacking of sea containers filled with 1-ton sodium cyanide boxes*. This operation was *not* evaluated as part of the scope of this audit or Due Diligence process.

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#### **Detailed Due Diligence Findings**

The results of the on-site Due Diligence Assessments conducted by MSS (Angamos and San Antonio) and two other audit service providers (Tema and Callao) are listed in the following table and are arranged by topic: Port Security, Safety & Training, Material Handling & Storage (including environmental considerations), and Emergency Response.

Topic	Assessment Results
Port Security	<ul> <li>All ports in this supply chain are completely surrounded with a fence and access to the port is strictly controlled. Security at the ports was found to be consistent with ICMC requirements.</li> <li>Confirmation was made that the following practices are in place: 24/7 manned security; complete fence line; no public access; sealed (locked storage containers); security cameras.</li> </ul>
Safety & Training	<ul> <li>The ports all currently handle sodium cyanide.</li> <li>Port personnel receive Dangerous Goods training.</li> <li>Confirmation was made during the audits that no eating, smoking, or open flames are allowed in areas where cargo is handled and stored.</li> </ul>
Material Handling & Storage	Dangerous Goods cargo is stored using standard chemical compatibility management practices at each port.
Emergency Response	<ul> <li>A written Emergency Response Plan (ERP) was available at each port.</li> <li>The roles and responsibilities of the Emergency Response Team are defined in the Emergency Response Plan (ERP). The information in the ERP was found to be acceptable.</li> <li>Appropriate emergency response equipment was available at each of the Ports.</li> </ul>

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## Appendix A

Action Resources ICMC Verification Audit Results
Auditor: Jack McVaugh, Environmental Technology & Management

\*Note: The Action Resources verification audit was performed by a company external to MSS. The information on the following pages is included in this report because the transportation of cyanide from the Houston production plant to the Port of Houston is performed in part by the Action Resources trucking operation. The audit was a separate audit activity performed by a different auditor and auditing company.

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# INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

**Cyanide Transportation Summary Audit Report** 

Action Resources, Inc.

**Prepared For** 

Cyanco International, LLC

As an addendum to its certified

Global Ocean Supply Chain

By

**Environmental Technology & Management** 

#### SUMMARY AUDIT REPORT

Name of Cyanide Transportation Facility: Cyanco Global Ocean Supply Chain

Name of Facility Owner: **Cyanco International, LLC**Name of Facility Operator: **Cyanco International, LLC** 

Name of Responsible Manager: George Easterling, Director – Logistics and Transportation

Address: 11233 Shadow Creek Parkway, Suite 125

City: **Houston** State/Province: **TX** Country: **USA** 

Telephone: **(832) 590-3643** Fax: **(713) 436-5202** E-Mail: **george.easterling@cyanco.com** 

#### Location detail and description of operations:

On December 18, 2013 Environmental Technology & Management conducted an audit of Action Resources, Inc.'s cyanide transportation activities against the Transport Practices of the International Cyanide Management Code. Verification activities were performed at the request of Cyanco International, LLC (Cyanco), the Consignor Signatory to the Code. Cyanco has begun to use Action Resources, Inc. as an alternate truck transporter of sodium cyanide briquettes from its Alvin, TX manufacturing plant to the Port of Houston for export to customers overseas. This is the first transportation segment in Cyanco's Global Ocean Supply Chain, which was preoperationally certified on March 6, 2013. The purpose of this addendum to the Global Ocean Supply Chain is to add Action Resources, Inc. as an alternative truck transportation company.

In the Summary Audit Report for its Global Ocean Supply Chain, Cyanco has committed to perform, by contracting with auditors meeting the ICMI requirements for transport experts, due diligence on port facilities as well as ocean-going transporters and all other organizations along the supply routes to its customers. Cyanco used contractor selection procedures referenced in its supply chain verification audit report to select Action Resources, Inc. as an alternate truck transportation company. Because Action Resources, Inc. is not a Code Signatory, it must undergo a Code Verification Audit. That audit is being reported herein.

Action Resources, Inc., founded in 1995, provides transportation services of Specialty Chemicals and Hazardous Waste throughout the U.S. and Canada. All of its tractors are satellite equipped to provide up to the minute communication and tracking of shipments from pick up to delivery. Action Resources, Inc.'s cyanide transportation activities is based at its **Pasadena Terminal**, and includes transporting sodium cyanide (NaCN) briquettes in Sea Containers and ISO Tanks from the Cyanco manufacturing facility, in Alvin, TX to Port of Houston container terminals. Cyanco loads the briquettes into specially designed FIBC boxes, securely packed into 20' Sea Containers, and in bulk into ISO Tanks. Cyanco personnel, as well as Action Resources, Inc. drivers, perform inspections on the container exteriors before leaving the production site.

Action Resources, Inc.
Name of Facility

Signature of Lead Auditor

Jack Milaugh

Action Resources, Inc. has selected and evaluated a primary route to each container terminal, subject to approval by Cyanco. Details of the selection process are provided in this report. All routes follow major two lane roads and divided freeways and toll-ways, well travelled by chemical transporters, over relatively flat terrain. Routes are less than 75 miles in length.

Cyanco has provided initial cyanide handling and emergency preparedness and response training to Action Resources, Inc. drivers selected for cyanide service. Thereafter, Cyanco has provided materials, oversight and support for refresher and new driver training delivered by Action Resources, Inc. personnel. Upon the recommendation of Cyanco, Action Resources, Inc. has contracted with Garner Environmental Services to provide emergency response and cleanup in the event of a cyanide release. Because of Cyanco's strong product stewardship ethic and its expertise in the area, Cyanco has taken the lead on advising and training external responders, medical facilities and communities along this leg of the supply chain.

The remainder of this report provides the detailed findings regarding Action Resources, Inc.'s conformance to the requirements of the Cyanide Transportation Verification Protocol. Findings are based on approximately 470 movements by Action Resources, Inc. on behalf of Cyanco completed at the time of this audit.

Action Resources, Inc.
Name of Facility

Signature of Lead Auditor

Spel Milaugh

#### **SUMMARY AUDIT REPORT**

#### Auditor's Finding

This operation is		
<ul><li>in full compliance</li><li>in substantial compliance</li><li>not in compliance</li></ul>	with the International Cyanide Ma	nagement Code.
Audit Company: Environmental 'Audit Team Leader: John B. (Jack E-mail: jbkm.etm@att.net Names and Signatures of Other Au	k) McVaugh, PE, RCMS/EMS-I ditors: NA	Ĺ <b>A</b>
Date(s) of Audit: <b>December 18, 2</b>	013	
I attest that I meet the criteria for keep Verification Audit Team Leader, estand that all members of the audit tee International Cyanide Management	stablished by the International Cya eam meet the applicable criteria es	anide Management Institute tablished by the
I attest that this Summary Audit Reaudit. I further attest that the verificaccordance with the International Caransportation Operations and using environmental audits.	cation audit was conducted in a pro Cyanide Management Code Verific	ofessional manner in cation Protocol for Cyanide
_Action Resources, Inc. Name of Facility	Carl Milaugh Signature of Lead Auditor	<u>August 16, 2014</u> _ Date
A. C. T. D. C. T.	Jack Milaugh	D 10. 2016

Action Resources, Inc.
Name of Facility

Signature of Lead Auditor

1. TRANSPORT:

#### SUMMARY AUDIT REPORT

Transport cyanide in a manner that minimizes the potential for

	ac			
<u>Transport Practice 1.1</u> :		Select cyanide transport routes to minimize the potential jaccidents and releases.		
The operation is		in full compliance with in substantial compliance with not in compliance with	Transport Practice 1.1	

Summarize the basis for this Finding/Deficiencies Identified:

Action Resources, Inc. is in full compliance with Transport Practice 1.1, therefore ensuring the Cyanco Global Ocean Supply Chain remains in full compliance. Action Resources, Inc. has policies, practices and procedures in place, and has used them to fully evaluate and select transportation routes for the subject destinations. Action Resources, Inc. has utilized PC Miler® software from ALK Technologies, route inspection by Action Resources, Inc. management, GPS data and driver feedback to select transport routes that minimize the potential for accidents and releases as well as the potential impacts of accidents and releases, should they occur. The process also considered infrastructure, pitch and grade, and prevalence of water bodies and fog. Action Resources, Inc.'s Cyanide Transportation Procedures call for Action Resources, Inc. to take and document measures to manage the risks, and to re-evaluate cyanide routes through driver feedback as well as re-inspections and re-evaluations performed by management. Action Resources, Inc. has contingency plans in place for truck breakdown en route, and for instances of shipments delayed beyond the Port's closing time. At the time of this audit, no truck breakdowns had occurred. Action Resources, Inc. has contracted with Garner Environmental Services to supply all emergency response and remedial services. Action Resources, Inc. has proactively sought and received input from communities and governmental agencies along the route. Although Action Resources, Inc. has plans to address safety and security concerns, if either Action Resources, Inc. or Cyanco determines, or is advised by law enforcement, that special safety or security concerns have developed, Action Resources, Inc.'s Cyanide Transportation Procedures call for consideration of additional safety and/or security measures, such as escort services, convoys or route re-assignment. Because of Cyanco's strong product stewardship ethic and its expertise in the area, Cyanco will take the lead on advising and training external responders, medical facilities and communities. Lastly, Action Resources, Inc.'s only subcontracting for cyanide transport is with drivers who are Owner/Operators, and all of these drivers are subject to the same high standards in hiring, training and qualification as company drivers.

Action Resources, Inc.

Name of Facility

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Transport Practice 1.2: Ensure that personnel operating of equipment can perform their jobs communities and the environment.	with minimum risk to
The operation is in full compliance with in substantial compliance with not in compliance with	asport Practice 1.2
Summarize the basis for this Finding/Deficiencies Identified:	
Action Resources, Inc. is in full compliance with T ensuring the Cyanco Global Ocean Supply Chain remain Resources, Inc. drivers, including Owner/Operators, are operate its vehicles. All drivers must meet all applicab Regulations, be at least 23 years of age, possess a val License with Tank Truck and Hazardous Materials edriving record. All drivers are subject to Action Resource and background investigations, including that require Identification Credential (TWIC) identification. All drivers Occupational Safety & Health Administration (2 Transportation (49CFR) and U.S. Environmental regulations, during their initial orientation after hiring. Reprovided by means of Quarterly Safety Meetings at eacomputer-based training (CBT) and individual remedeessary. Furthermore, drivers transporting cyanide Awareness for Transporters training including reviews video and passing a test, thus demonstrating competed Dispatcher's records which listed 33 current driver Additionally, the auditor reviewed sign-in sheets and the drivers who have transported cyanide at the time of the analysis and passed the test.	ns in full compliance. All Action trained, qualified and licensed to ble Federal Motor Carrier Safety id Class A Commercial Drivers endorsements, and have a good es, Inc.'s Drug and Alcohol Plan red for Transportation Worker vers receive training required by 29CFR), U.S. Department of Protection Agency (40CFR) refresher and on-going training is ch terminal, interactive monthly nedial training sessions, when a must attend Cyanide Safety ing the Cyanco Cyanide Safety ency. The auditor reviewed the sas having received training.
Transport Practice 1.3: Ensure that transport equipment is shipment.	s suitable for the cyanide
in full compliance with  The operation is ☐ in substantial compliance with  In not in compliance with	asport Practice 1.3

Action Resources, Inc.

Summarize the basis for this Finding/Deficiencies Identified:

Name of Facility

Signature of Lead Auditor

God Milaugh

Action Resources, Inc. is in full compliance with Transport Practice 1.3, therefore ensuring the Cyanco Global Ocean Supply Chain remains in full compliance. Action Resources, Inc. has a tractor specification process and maintenance program that ensures that its transport equipment retains a load-bearing capacity adequate for the anticipated load. This includes periodic inspections and testing as well as appropriate specifications for equipment and parts that may be replaced during maintenance. Tractors owned by Owner/Operators are required to meet the same standards of design and maintenance as company power units. Cyanco provides the intermodal chassis, ISO Tanks, Sea Containers and IBC's, and ensures that equipment for which it is responsible meets appropriate construction and performance standards. Action Resources, Inc. employs a systematic preventive maintenance program for each piece of company owned or leased equipment, using a schedule based on factory recommendations or accepted industry standards. Tractors owned by Owner/Operators are required to meet the same maintenance schedule as company units, but are not required to have the work performed in an Action Resources, Inc. shop. Cyanco performs all cyanide loading according to its own procedures. Product weights are specified on shipping papers, and Cyanco uses its own scales to weigh empty and loaded ISO Tanks and Sea Containers, including chassis. Cyanco reports these weights to Action Resources, Inc. to aid the transporter in selecting the appropriate tractor. Because some loads are slightly over the maximum weight limit for vehicles on the routes selected, Action Resources, Inc. has purchased 16 state-issued Overweight Permits and placed them on 5 company owned and 11 Owner/Operator tractors to use whenever necessary to accommodate such loads.

Transport Practice I	<u>1.4</u> :	Develop and implement a so	afety program for transport of cyanide.
The operation is		in full compliance with in substantial compliance with not in compliance with	Transport Practice 1.4

Summarize the basis for this Finding/Deficiencies Identified:

Action Resources, Inc. is in full compliance with Transport Practice 1.4, therefore ensuring the Cyanco Global Ocean Supply Chain remains in full compliance. Action Resources, Inc. and Cyanco have procedures in place to ensure packaging integrity during transport. Cyanco loads ISO Tanks and IBC's with briquetted product and in turn, loads IBC's into Sea Containers, blocking and bracing each load. Action Resources, Inc. addresses placarding in its procedures. Placards are installed by Cyanco personnel and are checked by Action Resources, Inc. drivers. Action Resources, Inc. drivers inspect loads before shipment by completing Driver Vehicle Inspection Reports (DVIR's) and Cyanco personnel and Action Resources, Inc. drivers will inspect each load as part of the

Action Resources, Inc.

Name of Facility

Signature of Lead Auditor

Jack Milaugh

Load Pick-Up Process. Preventive maintenance on company owned tractors is conducted at the Pasadena Terminal shop, as well as for Owner/Operator tractors at the Owner/Operators' discretion. Action Resources, Inc. complies with Part 395 of the Motor Carrier Safety Regulations which places strict limitations on driving and on-duty hours. These are monitored automatically through a Qualcomm Electronic Logging System. Drivers are empowered to make decisions about suspending cyanide transportation for road or weather conditions or civil unrest. When travel on the approved route becomes difficult, Action Resources, Inc. drivers contact their dispatcher by an on-board communication system. The Action Resources, Inc. Alcohol & Controlled Substance Testing Program includes Pre-employment, Random, Post-Accident, Post-Incident and Reasonable Suspicion drug screening. The auditor found all records reviewed to be complete and well managed.

Transport Practice	<del></del>	ow international standa and air.	rds for transport	tation of cyanide by
The operation is	in substar	mpliance with ntial compliance with npliance with	Transport Prac	etice 1.5
Summarize the basis	s for this Findin	ng/Deficiencies Identifi	ed:	
(See Cyanco certified on I transport cya	Global Ocean March 6, 2013,	Supply Chain is in full Supply Chain Summar on the ICMI website). d air, this addendum wi ort practice.	y Audit Report, j Since Action Re	pre-operationally sources, Inc. does not
Transport Practice	<u>1.6</u> : Trac	k cyanide shipments to	prevent losses di	uring transport.
The operation is	in substar	mpliance with ntial compliance with mpliance with	Transport Prac	etice 1.6
Summarize the basis	s for this Findin	ng/Deficiencies Identifi	ed:	
		in full compliance vo		Practice 1.6, therefore full compliance. Each
Action Resource	es Inc	Gack Millang	K	December 18, 2013
Name of Fac		Signature of Lead A	uditor	Audit Date

tractor has been equipped with satellite communications (Qualcomm<sup>®</sup>) and Electronic On-Board Recorders (EOBR's) that allow for two-way communication between drivers and dispatcher while accurately tracking truck location, driver hours of service (H-O-S) and other data. In addition, each driver carries a cell phone. (Note that cell phone use is subject to the Action Resources, Inc. Distracted Driving Policy, which strictly prohibits the use of hand-held cellular devices while the vehicle is under way). Drivers are furnished with a list of phone numbers for Cyanco, the Terminal Manager, Director of Safety and emergency phone numbers such as Chemtrec. Action Resources, Inc.'s Qualcomm<sup>®</sup> sets and EOBR's are in daily use, and if a failure occurs, electronic error messages are sent to Dispatchers and Operations personnel. Dispatchers have the cell phone numbers of each driver to ensure two-way communication if there is a system failure. Since Qualcomm<sup>®</sup> devices are essential for dispatch and H-O-S record keeping, Action Resources, Inc. must repair them as soon as they are returned to the Terminal. Because of the proximity of Producer and Port, and based on identified and approved routes, no blackout areas for either cellular or satellite communications have been encountered. The auditor verified that Qualcomm® tracks routes in real time, as well as location, direction, speed and position history of transport vehicles. Action Resources, Inc. will pick up Sea Containers and ISO Tanks fully loaded and sealed at the Producer's location and deliver them to the Port of Houston directly, for loading on container ships. Seal Numbers are recorded on shipping papers and drivers verify that the seals are intact at the point they relinquish control at the Port. The Shipping Document or Manifest serves as a chain of custody document. Action Resources, Inc. indicates the amount of cyanide in transit on the Straight Bill of Lading, and ensures that the shipping papers include a Transportation Emergency Notification Sheet and MSDS. Action Resources, Inc. will transport cyanide, but will not otherwise handle it. Action Resources, Inc. will not broker or subcontract loads to any other transport company.

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(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.)

2. INTERIM STO	RAGE	: Design, construct and operating interim storage sites to prevent	nte cyanide trans-shipping depots and ent releases and exposures.
Transport Practice	2.1:		
Transport Practice	<u>2.1</u> :	Store cyanide in a manner that accidental releases.	nat minimizes the potential for
The operation is	i	in full compliance with in substantial compliance with not in compliance with	Transport Practice 2.1

Summarize the basis for this Finding/Deficiencies Identified:

The Cyanco Global Ocean Supply Chain is in full compliance with Transport Practice 2.1 (See Cyanco Global Ocean Supply Chain Summary Audit Report on the ICMI website). Since Action Resources, Inc. does not operate any cyanide trans-shipping depots or interim storage sites, this addendum has no impact on the supply chain's compliance with this transport practice.

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3. EMERGENCY RESPONSE:				es and the environment through the ergency response strategies and	
Transport Practice 3.1: Preparetees		are detailed emergency response plans for potential cyania uses.		!e	
The operation is			npliance with tial compliance with	Transport Practice 3.1	

Summarize the basis for this Finding/Deficiencies Identified:

not in compliance with

Action Resources, Inc. is in full compliance with Transport Practice 3.1, therefore ensuring the Cyanco Global Ocean Supply Chain remains in full compliance. Action Resources has written a Cyanide Contingency Plan to notify Local Authorities, Emergency Response Providers, and Company Operations and Safety Management in the event of a release of sodium cyanide briquettes in transit. Drivers selected for transportation of sodium cyanide have been instructed in the Cyanide Contingency Plan, and a copy of the Plan is included in each packet of shipping papers. The Plan will be reviewed no less than annually and amended as needed. The Plan specifies the use of Garner Environmental Services whose capabilities extend to the entire area encompassed in the present Scope of Work. The Plan also specifies emergency contact information appropriate for the transportation routes. No interim storage facilities will be used by Action Resources, Inc.. The Cyanide Contingency Plan specifies that the product is sodium cyanide and the physical form is solid briquettes, and furthermore that the method of transportation is by truck, using chassis and ISO Tanks or Sea Containers. The Cyanide Contingency Plan considers highway transportation over the approved routes. Action Resources, Inc. will not transport by rail or water, and its involvement at the Port of Houston will be to position the trailer for off-loading by port employees or contractors. The Plan considers that the transport vehicle will consist of a power unit, chassis, and ISO-Tank or Sea Container (dry, water-tight, wind-tight steel container). ISO-Tanks load through three 24 inch man-way openings on their top. Sea Containers load through two center-opening doors that open outward from the interior. The Cyanide Contingency Plan specifies response actions to be taken by Action Resources, Inc. personnel in the event of a release of sodium cyanide in transit, and further stipulates that Law Enforcement provide traffic control and restrict access to the area, Fire and Emergency Medical Personnel provide triage and transport for injured individuals (if necessary), and Emergency Response and Clean-Up Services defer to Garner Environmental Services for instructions.

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<u>Transport Practice 3.2</u> :		Designate appropriate response personnel and commit necessary resources for emergency response.		
The operation is	=	in full compliance with in substantial compliance with not in compliance with	Transport Practice 3.2	

Summarize the basis for this Finding/Deficiencies Identified:

Action Resources, Inc. is in full compliance with Transport Practice 3.2, therefore ensuring the Cyanco Global Ocean Supply Chain remains in full compliance. Action Resources, Inc. has provided emergency response training to the drivers selected for transportation of sodium cyanide, particularly with regard to implementation of the Cyanide Contingency Plan. Garner Environmental Services provides Emergency Response Training to its own personnel. The Cyanide Contingency Plan clearly delineates the specific emergency response duties of drivers as well as emergency response personnel, including Garner Environmental Services. The auditor reviewed the Response Equipment Listing provided to Action Resources, Inc. by Garner Environmental Services and found it to be comprehensive. Action resources, Inc. and Garner Environmental Services have committed to providing all necessary emergency response and health and safety equipment including personal protective equipment in the event of a release during transport. Action Resources, Inc. has provided initial driver training conducted by its Director of Safety and Cyanco's Safety Training Staff. Furthermore, Action Resources, Inc. is committed to re-evaluate its Cyanide Contingency Plan no less than annually, and after the plan is either deemed adequate or amended, all drivers in Cyanide Service receive updated refresher training. Action Resources, Inc. and Garner Environmental Services have committed to inspection of all their respective emergency response equipment in conformance with the manufacturers recommended schedule, Occupational Safety and Health Administration requirements, National Iinstitute of Occupational Safety and Health, and/or American National Standards Institute recommendations. Action Resources, Inc. transports cyanide, but does not otherwise handle it. The transport company does not broker or subcontract loads to any other transport company.

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notification and reporting.  Develop procedures for internal and external emergency
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:
Action Resources, Inc. is in full compliance with Transport Practice 3.3, therefore ensuring the Cyanco Global Ocean Supply Chain remains in full compliance. Action Resources, Inc.'s Cyanide Contingency Plan clearly provides for notification of CHEMTREC, the shipper, 911 Emergency Services, the National Response Center Texas Commission on Environmental Quality, Garner Environmental Services and any other agencies necessary to mount an effective response. Action Resources, Inc. maintains the Cyanide Contingency Plan as part of its' Standard Operating Procedures SOP's are dated with the date of their Origination and the date of their last revision or review. Review dates are noted in a task calendar database with automatic alerts to affected management personnel.
Transport Practice 3.4: Develop procedures for remediation of releases that recognize the additional hazards of cyanide treatment chemicals.
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:

Action Resources, Inc. is in full compliance with Transport Practice 3.4, therefore ensuring the Cyanco Global Ocean Supply Chain remains in full compliance. In the event of a release during transportation, Action Resources, Inc. will be the Generator of a Hazardous Waste with EPA Waste Code P106. Depending on the methods employed by Garner Environmental to recover and re-contain the product, every effort will be made to find a responsible user who will use the material in its' intended commercial application. Failing that, Action Resources, Inc. will arrange for destruction of the product by EPA approved methods. The auditor noted that Action Resources, Inc. is a licensed Hazardous Waste Transporter. Garner Environmental Services is aware that the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide will liberate toxic

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hydrogen cyanide gas. Garner Environmental Services' Emergency Response Plan clearly states that such chemical treatment methods are forbidden.

<u>Transport Practice 3</u>	<u>3.5</u> :	Periodically evaluate respo revise them as needed.	nse procedures and capabilities and
The operation is		in full compliance with in substantial compliance with not in compliance with	Transport Practice 3.5

Summarize the basis for this Finding/Deficiencies Identified:

Action Resources, Inc. is in full compliance with Transport Practice 3.5, therefore ensuring the Cyanco Global Ocean Supply Chain remains in full compliance. Action Resources, Inc. maintains the Cyanide Contingency Plan as part of its' Standard Operating Procedures (SOP's). SOP's are dated with the date of their Origination and the date of their last revision or review. The auditor reviewed records of a mock emergency drill with Cyanco and Garner Environmental Services on April 5, 2014, and noted the transporter's commitment that drills be repeated no less than annually in conjunction with Cyanco's EH&S staff. Three findings were identified by the drill, but none of these required the Cyanide Contingency Plan to be revised. In the event the Cyanide Contingency Plan is implemented, Action Resources, Inc. is committed to using Root Cause Analysis, Incident Investigation, and After-Action Reports as evaluation tools for the efficacy of the Plan. Revisions will be made as necessary. Any modifications to the Plan will trigger re-training for all Action Resources, Inc. personnel affected.

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