# International Cyanide Management Code.

# Bolloré Transport & Logistics, Ghana. Cyanide Transportation Re-Certification Audit.

**Summary Audit Report.** 

Report submitted to:-1400 I Street, NW, Suite 550 Washington. DC 20005 Unites Sates of America Report of:-Bolloré Transport & Logistics P.O.Box 51, Commercial Warehouse Area. Tema. Ghana

# **BOLLORÉ TRANSPORT & LOGISTICS SUMMARY AUDIT REPORT**

#### 1.0 INTRODUCTION.

# 1.1 Operational Information.

Name of Transportation Facility: Bolloré Transport & Logistics, Tema, Ghana.

Name of Facility Owner: Bolloré Transport & Logistics, Tema, Ghana.

Name of Facility Operator: Bolloré Transport & Logistics, Tema, Ghana. .

Name of Responsible Manager: Mr. Patrick Banoeyelle

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# 1.2 Description of Operation – Bolloré Transport & Logistics, Ghana.

#### 1.2.1 Company Profile.

The Bolloré group was founded in 1822. From the beginning in thin paper, the group has diversified its product rages and services. It is now involved in plastics films for capacitors and packaging, electric batteries, thin papers, transportation in Africa (freight forwarding and stevedoring, railways) and international logistics, fuel distribution and dedicated terminals and systems.

The Africa transportation arm of the Group is managed by Bolloré Africa Logistics which has been established for more than 50 years. The Company is involved in port activity, terrestrial transport and logistics solutions. Bolloré Transport and Logistics is one of the largest transport and logistics operators in Africa.



Bolloré Transport and Logistics, Ghana conduct freight forwarding and transportation activities within West Africa.

During an official ceremony organized by Bolloré Transport & Logistics and its main project partners, the President of the Republic of Ghana inaugurated the construction works of what will be one of the largest deep-water ports in West Africa. An important milestone has been reached.

This major project worth US\$ 1.5 billion is being carried out by Meridian Port Services (MPS), the joint venture bringing together Bolloré Transport & Logistics, APM Terminals, and the Government of Ghana through the Ghana Ports and Harbours Authority (GPHA), and financed with the support of the IFC-World Bank Group acting as the lead arranger.

Bolloré Transport & Logistics is a major international transport and logistics operator with approx 36,700 employees spread across 107 countries express their expertise through four businesses. Bolloré Logistics, Bolloré Ports, Bolloré Railways and Bolloré Energy are working in synergy to deliver their international customers a turnkey service offer. In Africa, Bolloré Transport & Logistics has the largest integrated logistics network and is the leading port infrastructures operator.'

The provision of road transport and logistics solutions between Ghana and other neighbouring West African countries to and from Ghana is greatly facilitated by services provided by the private sector. This is especially the case with specialised transport services associated with mining operations in many of these countries.

#### 1.2.2 Sodium Cyanide Transportation.

Cyanide in briquette form, is packaged in intermediate bulk containers (wooden IBC's) which are in turn packed into a 6 meter freight container and transported by sea from the Consignor to the Port of Tema in Ghana. A maximum of 20 wooden fabricated IBC's are packed into a freight container with a maximum gross mass of the product of 20 tonnes.

Shipping between the Consignor and the Port of Tema is conducted by independent shipping companies co-ordinated by the Consignor.

Prior to the arrival at the Port of Tema, Bolloré ensures that the shipping documentation is in order and the goods are pre-cleared to allow prompt handling of the product through the Port of Tema. Upon arrival at the Port of Tema, the off-loading of all the containers is performed by the port authorities. Bolloré collets the containers within 24 hours of arrival and transports the loaded containers to an area at the Bollore's Transport Depot based in Tema. There the containers remain loaded onto the trailers, in preparation for departure to either Karma gold mine or Hounde Gold mine both situated within the borders of Burkina Faso.

All the dedicated truck tractors and trailers are owned by Bolloré. The truck tractor drivers are full time Bolloré employees with average of 5 years experience in driving of heavy vehicles.

Bolloré Transport & Logistics is comprehensively equipped with a wide range of well-maintained transportation equipment and vehicles. To ensure a high quality, efficient and prompt service, the vehicles are serviced in accordance of the manufacturer's specifications. Average size of the fleet is 44 truck tractors and trailers. Every three (3) years vehicles replaced. Total fleet for the transportation of the cyanide approx 26 (Truck tractor & trailer combination)

Truck tractors and trailers, when not in use, are stalled within a properly fenced off depot yard in Tema from where they are dispatched to the port of Tema where freight containers are loaded onto the trailers. Two containers per trailer is allowed to be loaded. The loading of the freight container are done by the Port Authority.

A convoy of 1 to 3 vehicles only require one (1) convoy Leader where as a convoy of four to seven vehicles, requires two Convoy Leaders. One lead and one trailing with each Convoy Leader travels one armed response police official.

Travelling distance from the Port of Tema to Karma mine is 1206 kilometres and from Port to Hounde mine is approx 1033 kilometres and therefore cannot complete convoy during daylight. It is for this reason that convoys need to sleepover at predetermined safe overnight areas on route.

The movement of vehicles are controlled by utilising a tracking system which is monitored from the Bolloré Transport Operation Centre based in Tema.



De-stuffed Sodium Cyanide freight containers are returned to the Port of Tema where it is off-loaded and forwarded to the Cyanide manufacturer. No nominally empty freight containers are or will be stacked at the transporter's depot. Containers are taken directly to to shipping liners.

#### 1.2.3 Transit storage.

Bolloré Transport does not operate cyanide-shipping depots or interim storage facilities. Freight containers containing cyanide are collected from the Port of Tema and transported directly to various mine sites based in Burkina Faso.

Within the scope of this audit, there are no trans-shipping depots or interim storage sites at the transporter's premises.

Storage in transit does occur at the Port of Tema for four to five days, under the control of the Port Authorities, while formalities such as customs clearance and carrier releases are performed. Once formalities are complete, the cyanide containers are collected from the Port of Tema by Bolloré and taken to Bolloré's Transport Depot at Tema where they are stored on the truck overnight in preparation for convoy departure at 0500 hours the following morning.

At no stage does freight containers, each loaded with 20 ton Sodium Cyanide in briquette form in wooden boxes, removed from the trucks or containers prior to unloading at customer mine sites. The unloading of the freight containers is undertaken by the Consignee.

In the event of inclement weather such as sandstorms, rainy weather, etc the collecting of containers will be postponed until such time as the weather has improved. Should such weather be experienced whilst on route, the entire convoy is parked at a safe parking area on route until wind or storm has subsided. Convoy leader reports the situation to the Depot Manager.

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# **BOLLORE TRANSPORT & LOGISTICS SUMMARY AUDIT REPORT**

#### 1.4 Auditor's Findings.

This operation is

#### X in full compliance

☐ in substantial compliance

□ not in compliance

with the International Cyanide Management Code.

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.

Audit Company: T.B. Müller South Africa

Audit Team Leader: T.B. Müller

E-mail: tommieb.muller@gmail.com

Names and Signatures of Other Auditors: None

Date(s) of Audit: Audit was conducted from 1st to 3rd July 2019.

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 Pre-Operational 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.

Name	Position	Signature	Date
T.B. Müller	Lead auditor.		3 <sup>rd</sup> July 2019



# **BOLLORE TRANSPORT & LOGISTICS SUMMARY AUDIT REPORT**

# 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	
The operation is	☐ in substantial compliance with	Transport Practice 1.1
	□ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

Transport practice 1.1 requiring cyanide routes are selected to minimise the potential for accidents and the release of product. Bolloré Transport and Logistics has implemented a procedure for the selection of primary and secondary transport routes to identify potential accidents or the potential impacts of accidents and releases. This procedure requires that all possible routes from the Port of Tema in Ghana to the end user must be evaluated. RRAs on primary and secondary routes were conducted and observations have been documented.

Procedure "Transport Management Plan" has been developed or routes to Karma and Hounde Gold mine, both situated in Burkina Faso. This plan outlines the process for the development and subsequent annual review of the detail captured in the route risk assessments. Procedure was approved by Company Management and AGR.

During the RRAs on both the selected routes, various potential hazard types such as the condition of the road surface, the pitch of the road, potholes, trees, stray animals, traffic on the roads and through towns, pedestrians, fog, smoke, sand, rail tracks, population density, rivers, bridges, sand storms, etc. have been evaluated and noted in the assessment documents. Recommended preventative actions to mitigate or eradicate the risks on selected routes are included in RRA assessment document. RRA procedure found to be in place, appropriate and approved.

External responders (police and emergency services (Fire Services), Clinics and Hospitals (medical facilities)) along the route who will play a role during an emergency, were met. During these meetings Bollore sought their inputs from these institutions regarding routes that may be followed. Proof of such visits was noted. Product SDS handed to each of the emergency services.

The Company has implemented a procedure requiring the route surveys be revised at least on an annual basis and has a process of obtaining feedback during debriefing session on route conditions after each convoy. This forms part of the Convoy Leader's responsibilities.

Procedure "Route Risk Assessments" compiled and implemented to regularly evaluate and re-evaluate the risks on both the primary and secondary routes that the cyanide consignment will travel on. Clause 4.5 of procedure states that the process for selecting transport routes and conducting of RRAs be re-evaluated on at least an annual bases.

Procedure requires the obtaining of feedback during debriefing session on route conditions after each convoy from the Convoy Leader. This forms part of the Convoy Leader's responsibilities.

Further procedure requires that the identified risks be captured and managed. Procedure was approved by Company Management of which copies were forwarded to Consignor.

Hazards identified during the route survey are risks assessed using either the Bolloré Africa Logistics Risk evaluation Matrix or assessment tools depending on customer requirements. Once risk assessed, the *HA Management* procedure guides the development of prevention and/or protective measures which mitigate risks.

The Performing Road Survey procedure requires routes to be risk assessed and identified management measures to be documented within a Transport Management Plan. Bolloré has developed Transport Management Plans for routes they follow to the mines.



In accordance with the requirements as stipulated in the aforementioned procedures Route Risk Assessments have been conducted and findings / observations recorded on RRA summary. Extra precautionary measures that are to be taken by the drivers whilst on route are included on RRA summary under the heading "additional precautions to be taken". RRA's were approved by Company Management.

In accordance to the de-briefing procedure it is a requirement that during the de-briefing session, the escort leader to report on areas of concern on the route or areas that, according to him, being unsafe to travel or what Management to take cognisance of.

Convoys are used as a mean of managing the risks of the road conditions and responding to emergencies. Bolloré Transport & Logistics, Ghana conducts its own escort duties using its own staff and procedures since the beginning of 2015.

Cyanide is delivered in convoys that could vary from three vehicles plus one convoy leader to maximum seven vehicles with two convoy leaders, one leading the convoy and one trailing the convoy. Leading convoy leader sets the pace to be travelled and control the convoy.

Transporter makes use of a light delivery vehicle equipped with all the required emergency equipment that will be needed during an unwanted event. (Spill kit and first aid kit are available).

In the event of an incident, primary emergency response is co-ordinate by Bolloré personnel present with the convoy. The roles of Ghana emergency responder (police, ambulance services and fire brigades) are defined in their Transport Management Plan and contents have been communicated both verbally (during visits) and in writing. Acceptance of the letters was acknowledged.

Prior to departure from transporter's depot to Consignee (mine site) via the Port of Tema, a briefing session is held with Convoy Leaders and drivers. During this session the route that need to be followed, the identified risks and the recommended precautionary measures that are to be taken, been discussed.

On route the escort leader communicates via two way radios and or cellular telephone with the driver about the condition or risks noted. Visa versa communication applies.

Truck tractors and escort vehicle is fitted with cell phone chargers to ensure constant fully charged batteries.

On route between Port of Tema and the Consignee's mine site, the emergency services and other external responders entered into a mutual agreement for latter to render a service in case of an emergency situation. Their roles were explained to them.

Bolloré has implemented a procedure requiring annual route surveys and has a process of obtaining feedback on route conditions after each convoy.

Bolloré has consulted as necessary with stakeholders and applicable governmental agencies in the selection of routes and development of cyanide management measures.

Police escorts are used with convoys as a mean of managing the security risks on the road and responding to emergencies where they control traffic and bystanders. Leading Convoy Leader is accompanied by a driver and an armed police officer. The trailing convoy leader is accompanied by an armed police officer.

Cyanide is delivered in convoy over a nine month campaign each year during the dry season.

Bolloré Transport & Logistics do not subcontract any of the cyanide transport activities. Various clauses in the Transport Management Plan prohibit the utilisation of subcontractors for the transportation of cyanide. Clauses noted by auditor.



**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  $\ \square$  in substantial compliance with Transport Practice 1.2

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

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

Bolloré only uses trained and competent operators to drive its trucks. Bolloré has dedicated Bolloré drivers that have appropriate training and valid vehicle licences to transport cyanide. Personnel operating cyanide handling and transport equipment have also been trained to perform their jobs in a manner that minimises the potential for cyanide releases and exposures.

Bolloré's Training Matrix identifies the names of each Bolloré drivers, the Convoy Leaders and the Transport Manager and tracks their training against the following mandatory modules:

- Cyanide Awareness / handling;
- Company's Transport Management Plan;
- Route survey Risk assessment;
- Defensive Driving Techniques;
- Company's Emergency Response Plan and Drill;
- Handling of dangerous goods;
- The wearing of PPE;
- Cyanide first aid;
- Basic first aid;
- Theoretical and practical fire fighting; and
- General Driving Rules.

TE Plan slides the driver's mates will assist to move bystanders away from the incident site. As they are part of the convoys, they are also captured in the Company's training programme and received training on: -

- Cyanide Awareness;
- Company's Emergency Response Plan;
- Responsibilities during an emergency situation;
- Emergency drills;
- Handling of dangerous goods;
- The wearing of PPE:
- Cyanide first aid;
- . Basic first aid; and
- Theoretical and practical fire fighting.

These employees also attend the toolbox meetings presented.

Drivers are not directly involved in the physical loading and or off-loading of containers. Once container has been loaded onto the skeletal trailer, the driver ensures that the container is properly secured to the trailer by engaging all four twist locks.

Bolloré do not outsource any of the cyanide transport activities to sub-contractors. Various clauses in the Transport Management Plan refer to this.



**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:

Bolloré Management requires that transport equipment is suitable for cyanide shipment.

Bolloré only uses equipment designed and maintained to operate within the cyanide loads it will be handling. Equipment consists of a truck tractor (prime mover)(truck tractors used is MAN, Volvo 480 HP and Renault 440 HP) and semi-trailers that were purchased to a design specification appropriate for the cyanide transport task. Technical specifications including truck tractor power, axle loadings and other parameters are set by the manufacturer specifications and the loads, are within the legal capacities of the public roads.

Truck tractors are maintained according to manufacturers specifications as well as Company own standards. Truck tractor been serviced every 30 000 kilometres. Skeletal trailers been serviced once per month as per "Company's preventative maintenance procedures".

Trailers dedicated to the cyanide delivery task are capable of carrying two cyanide containers. No other load bearing equipment is used by Bolloré for cyanide transport.

Bolloré has implemented a preventative maintenance program that is based on truck engine hours. Upon returning to the transport yard, the information is entered into a maintenance database (GESPAR) and used to schedule maintenance activities. Complementing this is a maintenance request program where faults can be logged using a job card system.

All equipment is checked during the preventative maintenance programmes and vehicle inspections to verify the adequacy of the equipment for the load it must bear.

Preventative and maintenance procedure requires that drivers to daily conduct a pre-trip check before transport departs from depot or whilst on route. It is a requirement that both driver and Escort Leader to endorse the pre-trip checklist.

Bolloré has implemented a preventative maintenance program that is based on truck engine hours as well as a maintenance request program for breakdowns. In addition to the workshop maintenance, the Convoy Leader and drivers conduct an inspection of all prime movers and trailers prior to departure.

Bolloré has procedures in place to prevent overloading of the transport vehicle being used for handling cyanide. Bolloré mostly transports two containers on a single 4-axel trailer with a gross weight 60 to. Each trailer carries 2 x 6 meter (20 ft) containers load of sodium cyanide with weight totalling of 46ton.

On the way from TEMA to the consignee's facility each convoy vehicle has to pass over two other weigh bridges.

Bolloré Transport does not subcontract any of the cyanide handling or transport activities.



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

	X in full compliance with	
The operation is	<ul><li>□ in substantial compliance with</li><li>□ not in compliance with</li></ul>	Transport Practice 1.4

Summarize the basis for this Finding/Deficiencies Identified:

Bolloré has a procedure to ensure that packaged Sodium Cyanide stacked in freight containers, is transported in a manner that maintains the integrity of the producer's packaging. Placards are used to identify the shipment as cyanide. A clause in the "Loading procedure" refers to the checking of the integrity and condition of the container prior to loading at the Port of TEMA, to ensure that the seals are still intact, container seal numbers as at the port and container number corresponds with that on shipping documentation, split placards are visibly displayed on all four sides of the freight container and the physical condition of the container ensuring that it is fit to be transported.

Bolloré has procedures to ensure that the cyanide is transported in a manner that maintains the integrity of the producer's packaging. Container lowered onto the trailer, the applying of the twist locks into locking position thereby ensuring proper securing of the container with the twist locks into locking position. Container lowered onto the trailer, the applying of the twist locks into locking position thereby ensuring proper securing of the container with the twist locks into locking position. These comprise checks on the container, twist locks and container seals at the port, on route and at the mine site prior to unloading.

Should any discrepancy of the aforementioned noted, container is not allowed to be loaded onto trailer.

Bolloré transports cyanide for Code certified cyanide producers, who have systems in place to ensure their containers are labelled in accordance with the International Maritime Dangerous Goods (IMDG) Code and as required by local regulations or international standards. Ghana does not have any dangerous goods legislation. As a control measure, the cyanide is trucked in convoy under the escort of persons who have received training in cyanide emergency response and dangerous goods training.

Bolloré has implemented a vehicle safety program for cyanide transportation that includes the following:

- Vehicle inspections. Pre-start inspections are recorded and included as part of the Cyanide Trip Report.
- ❖ Vehicle preventative maintenance and services maintenance program.
- Limitations on drivers' driving hours. Bolloré limits the maximum time for continuous driving at three hours. Driver must take a break of thirty minutes before continue the journey. Drivers Hours Policy in place.
- The routes have been appropriately planned with breaks and approved stop locations. Driving is conducted during daylight hours.
- Transporter has a drug and alcohol policy that establishes a zero tolerance stance on the intake of alcohol and the use of drugs by employees when on duty.
- ❖ Daily alcohol tests been conducted on operational staff members & visitors. Proof of such activity available at the Depot. Alcohol tests also conducted on drivers before cyanide transportation commences to ensure that they have no traces of alcohol in the system.
- Pre-trip vehicle inspections are performed prior to the commencement of each journey. Findings and observations documented on checklists.
- Securement of containers onto trailers is done by twist locks which are designed and constructed to international transport standards.
- Responsibility been delegated to Escort Leader for ensuring that diversion from the approved route, is safe for the convoy to pass. Management to be informed in this case.
- Drivers been subjected to annual medical screening conducted by an Occupational Health Practitioner to ensure driver fitness.
- ❖ During pre-employment medical test applicants are subjected to a drug & alcohol test. Test results to be negative before employment contract is signed.
- Fatigue Management procedure.
- Procedures to prevent loads from shifting. At the Port of Tema, containers are secured using twist locks.
- Procedures to modify or suspend transport if conditions such as severe weather or civil unrest are encountered. The Transport Management Plans note that if the weather is considered unsuitable, a trip is cancelled after due assessment by the Convoy Leader.



Documentary evidence on the maintaining of the above, kept on file.

Transport signage format and styling dictated by the requirements to be in line with recommendations of the United Nations, read in conjunctions with the requirements of the IMDG code of practice.

Transporter ensures that freight containers are placarded with split placards on all four sides of the container. Split placards will consist of the UN number of the product, the primary hazard class diamond and secondary hazard class diamond (if applicable).

Orange diamond remains displayed and removed once container is off-loaded. Placards remain on the container until containers are unpacked and decontaminated.

Truck tractors are serviced by manufacturer or latter's agent at 30 000 km intervals with a 2 000km variance both sides. Trailers are serviced every month at in-house mechanical workshop. The transporter's vehicle preventative and maintenance program was found to be sound and sufficient to ensure the safe transportation of the cyanide. Any maintenance or servicing done on a vehicle is documented and filed on the respective vehicle's file.

Document "Control of Records" in place. Delivery document (POD), Trip sheets, Planning sheets, Vehicle Inspection Sheets, Weighbridge tickets are archived for a minimum period of 5 years. Medical records retained for 40 years from exit.

Bolloré Transport does not outsource any of the cyanide transport activities to sub-contractors.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea and air.

X 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/Deficiencies Identified:

Not applicable to this operation as no shipment of cyanide is done by sea and air.



Transport Practice 1.6: Track cyanide shipments to prevent losses during transport. X 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/Deficiencies Identified: All vehicles have communications systems that include cell phones and a GPS tracking system for trucks and cell phones for the escort vehicles. System is manned 24/7. Communication media are tested daily to ensure functionality as they are using it on a daily basis. Test procedure compiled and implemented. Prior to departing from the Depot, communication equipment checked during pre-trip inspections and during briefing sessions. Drivers also do have their personal cell phones as back-up. The GPS tracking system signal is used continuously and is transmitted from each truck throughout the trip. During the conducting of the RRA, Bolloré has not identified any cell phone communication blackout areas along transport routes. The GPS tracking system continuously transmits position and other data from each truck throughout the trip. Bolloré implements chain of custody procedures to prevent loss of cyanide during shipment. The Escort Leader conducts inspections of the containers at the Port and at the conclusion of each break. Once delivered, a mine site representative signs a form acknowledging that the consignment was received in good condition and unopened. Shipping papers and Material Safety Data Sheets accompany each cyanide convoy. 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. X in full compliance with The operation is ☐ in substantial compliance with **Transport Practice 2.1** □ not in compliance with Summarize the basis for this Finding/Deficiencies Identified:

Questions 2.101 to 2.106 are not applicable to this transporter, as no cyanide trans-shipment or interim storage of Sodium Cyanide will not be done on the Transporter's depot facility.

No trans-shipping facilities or interim storage sites noted at the facility.

Storage in transit does occur at the Port of Tema for four to five days while formalities such as customs clearance and carrier releases are performed. Once formalities are complete, the cyanide containers are collected from the Port of Tema and taken to the Bolloré Transport Yard where they are stored on the truck overnight in preparation for convoy departure at 05:00 the following morning. Cyanide is not removed from the trucks or containers prior to unloading at customer mine sites.



**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.

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:

Transport Practice 3.1 requires the Bolloré operation to prepare detailed Emergency Response Plans for potential cyanide releases.

Sodium Cyanide (in briquette form) is transported by road stacked in 6 meter freight containers. No product is transported by rail or air. Sodium Cyanide enters Ghana through the port of TEMA.

Bolloré has developed detailed documents to cover emergency response for potential cyanide releases for cyanide transportation within Ghana. The scope of this plan is to provide information to all role players (in and external responders) with regards to each responder's role and responsibility who will be involved in the primary stage of an emergency situation. A list of Emergency Contact numbers is included into the plan. The information is contained within route specific Emergency Response Plan and a Transport Management Plan.

The Transport Management Plan and Emergency Response Plan are based on road transportation of solid sodium over the routes to the two end users. The ERP was found to be appropriate for the transportation of cyanide by road transportation on the selected roads. EMR Plans for Hounde and for Karma in use..

The plans do make provision for the actions of the Escort Leader and those drivers not directly involved in the accident / incident.

The plans are appropriate for the selected transportation route and they consider relevant aspects of the transport infrastructure. The route evaluation process, route hazard/risk assessment process, and operational experience were used by Bolloré to identify likely emergency scenarios:

- Scenario A Vehicle Transport Incident (Container intact and no spill or product release from container & no injury)
- Scenario B Vehicle Transport Incident (Vehicle falling into river– driver, truck and container submerged in the river.)
- Scenario C Vehicle Transport Incident (Container damaged resulting in spill of product released from container but no injury.)
- Scenario D Extreme Weather (poor visibility, heavy rains, road closure)
- ❖ Scenario E Civil unrest and armed robbery.
- Scenario F Vehicle Transport Incident (Vehicle rolled over no spill but one injury)

The TM Plan considers the physical and chemical form of cyanide and design of the transport vehicle. Storage facility emergency response plans were not developed as cyanide is not stored at an interim storage facility between the Port of Tema and the mine site destination.

The Transport Emergency Response Plan reveals the descriptions of response actions, as appropriate for the anticipated emergency situation. External responders identified in the documents, are aware of their role in an emergency.

With regards to the disposal of contaminated material / soil, an arranged have been reached that such be disposed of at the Consignee's facility where facility and capacity to perform this task is available.



**Transport Practice 3.2:** Designate appropriate response personnel and commit necessary resources for emergency response.

X in full compliance with	
☐ in substantial compliance with ☐ not in compliance with	Transport Practice 3.2
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Summarize the basis for this Finding/Deficiencies Identified:

Bolloré provided emergency response training to appropriate employees as specified in the ER Plan. The cyanide awareness training is provided over two days (one day of theory and one day for a practical emergency response exercise) once per year at the beginning of every convoy season. All Bolloré drivers, the Convoy Leaders and the Transport Manager completed this training.

Police and ambulance members attended a mock drill as part of the refresher training. Last mock drill was held on 9th May 2019.

The training records were reviewed and discussions with Bolloré drivers and the escort team confirmed that they have completed the training.

The Emergency Response Plan identifies the specific emergency response duties and responsibilities of personnel for the six scenarios. Descriptions of the specific emergency response duties and responsibilities clearly documented.

Bolloré drivers and the escort team received detailed training with regards to the contents of the Emergency Response Plan. HCN gas monitoring device is available and Convoy Leaders have been trained in the use of such equipment. The cyanide training provides additional detail of the responsibilities for each of the specific roles.

Bolloré maintains a list of all of the emergency response equipment that should be available during the transport route. The equipment is checked on a monthly basis and prior to departure of each convoy.

Bolloré do not use subcontractors for the transportation of cyanide.

**Transport Practice 3.3:** Develop procedures for internal and external emergency notification and reporting.

The operation is	X in full compliance with  ☐ in substantial compliance	with Transport Practice 3.3
The operation is	□ not in compliance with	with transport Fractice 3.3

Summarize the basis for this Finding/Deficiencies Identified:

Transport Practice 3.3 requiring that they develop procedures for internal and external emergency notification and reporting.

The Emergency Response Plans contain procedures and current contact information for notifying the shipper, the receiver/consignee, outside response providers, and medical facilities of an emergency.

The Emergency Response Plans contain a list of all the emergency contact numbers. A similar list of numbers is kept in the Convoy Leader's Vehicle.

Bolloré has procedures in place to ensure the contact numbers are kept current. QHSE Manager is tasked to ensure that internal and external emergency notification and reporting procedures are kept current.

A written plan dealing with off-site emergencies compiled and available.



**Transport Practice 3.4**: 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:

Transport Practice 3.4 requires that the transporter develops procedures for remediation of releases that recognise the additional hazards of cyanide treatment.

Bolloré Transport has a procedure titled "Part D: Cleanup an Containment" available. The initial clean-up and rehabilitation process of an effected area is the responsibility of the Convoy Leader.

Bolloré entered into a joint venture agreement between them and the Consignee of the consignment w.r.t the cleanup and disposal of contaminated soil/product. The contaminated soil / product will be removed to the mine site where the waste will be disposed.

The use of sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide that has been released into dams or rivers, is forbidden. .

No Sodium Hypochlorite, Ferrous Sulfate and / or Hydrogen Peroxide is kept on the Transporter's premises. Ferrous Sulfate in small quantities used to locate traces of cyanide remains after clean-up have been done.

**Transport Practice 3.5**: 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:

Bolloré Transport Management Plan clause1.3 "Documents and records management and periodic review" states that applicable documents be reviewed and updated annually.

Transport Emergency Response Plan slide 31 refers to "Annual review of Transport Management Plan and Emergency Response Plan".

Working documents and forms reviewed periodically as and when required.

The drill included external emergency responders (police ambulance staff) attended the mock drill exercise. Latest mock drill was held on 8<sup>th</sup> June 2019. In addition to the formal mock drills, the cyanide awareness training been presented. This awareness session was held on 8<sup>th</sup> June 2019.

The training records were reviewed and discussions with Bolloré drivers and the Convoy Leaders confirmed that they have attended the training sessions.

The Transport Emergency Response Plan contains a provision for the conducting of a review meeting to be held after an incident / mock drill. Drills are evaluated to determine if response time, the procedures are adequate, equipment is appropriate and if personnel are still acquainted with the emergency requirements. Post mortem reports are compiled, contents discussed, TE Plan revised if necessary and reports retained for record purposes.

Summary feedback of mock drills conducted on 12th January 2018 and 8th June 2019 were noted.



The ERP stipulates that a review of the plan be done at least on an annual basis or as a result of changes to conditions along a primary of secondary routes, changes to the transport equipment that is to be used, emergency drills and lessons learned and gathered from accidents, incidents, additional information, observations and other responses or after a significant incident or after a mock drill. Official summary of the exercise submitted by the Transporter. Report submitted and found to be adequate.

Once reviewed adequacy be tested and thereafter be implemented.

End of report.

