## International Cyanide Management Code.

# Transport Terrassement Minier, Guinea Cyanide Transportation Re-Certification Audit.

## **Summary Audit Report.**

#### Report submitted to:-

1400 I Street, NW, Suite 550 Washington. DC 20005 Unites States of America

#### Report of:-

Transport Terrassement Minier BP 463 Conakry Republic of Guinea West Africa



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1.1 Operational Information.

Name of Transportation Facility: Transport Terrassement Minier

Name of Facility Owner: Not Applicable

Name of Facility Operator: Transport Terrassement Minier

Name of Responsible Manager: David Gozlan, Director

Address: Transport Terrassement Minier

BP: 463 Conakry

Republic of Guinea

West Africa

State/Province: Conakry

Country: Republic of Guinea

**Telephone:** +224 628 18 71 12

Fax: N/A

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#### 1.2 Description of Operation

#### 1.2.1 Transport Terrassement Minier

Transport Terrassement Minier (called T.T.M.) is a fully Guinean-owned private company employing over 340 personnel across the nation. T.T.M provider the full spectrum of earthwork, civil and concrete construction services to major clients around West Africa.

Since it was established in 1995, the company has delivered every facet of earthwork and civil engineering, from road construction to mining infrastructure and haulage. With an inhouse team of specialists,

T.T.M. is a transportation and logistics company engaged in the transportation of goods within the Guinea. T.T.M. is an ICMI signatory since 2008.



T.T.M has the capacity and manpower required to rapidly mobilise an expert team to your project. T.T.M has a stable, strong and continuing reputation as a professional organisation capable of undertaking multiple large projects in locations all around West Africa.

The steady growth of our workforce during the years since T.T.M was created has allowed us to deliver increasingly complex and large-scale projects, ensuring a consistent standard of work every time.

The Company has a range of service areas in its history of operating, including logistics, transportation, customs clearance, warehousing, road construction, detailed and bulk earthworks, civil engineering, surveying, haulage and equipment rental. The business has been founded on satisfied clients who regularly approach Management to assist with their next project.

- T.T.M has been involved in major projects with industry-changing outcomes, including the construction of tailings dam and transportation of chemicals at Anglo Gold Ashanti Siguri site.
- T.T.M safety programme, evolved naturally out of this positive work culture. Their people continue to pride themselves on exceeding client expectations, both on and off site, by combining superior workmanship with a high quality of service.

These values form the foundation of the T.T.M culture

- Safety
- Teamwork
- Loyalty
- Professionnalisme
- Hardwork
- Passion
- T.T.M.'s Quality and HSE program has been approved by mining companies.

It has a workshop in Conakry with all necessary equipment for the maintenance of its fleet. Their team of mechanics, welders, electricians, tires specialist, sheet metal construction workers etc..., are the best in the country. They are trained to respect environmental and safety rules in order to meet the requirements of mining companies.

- T.T.M.'s head office is located in the Matoto region of Conakry. Further support offices and workshops are spread through Guinea to service the company's three core areas of business:
  - Transport T.T.M. operates specialised transport services, including dangerous goods transportation for the mining and resource industries.
  - ❖ Terrassement (Earthworks) T.T.M. operates a fleet of earth moving equipment, which service contracts with the Government for road building and repairs, the mining industry for building haul roads and access roads as well as earthworks at mining operations for tailings dams and heap leach installations.



Transport Terrassement Minier Name of facility 29<sup>th</sup> October 2019 Date

Minier (Mining) – T.T.M. services mining contracts for movement of ore from mining operations to the processing plant. This includes the supply of labour, equipment and plant servicing.

T.T.M. was founded in 1997. The company has approximately 348 employees and operates a range of transport, earth moving and mining equipment.

#### 1.2.2 Road Transport

Upon arrival at the Port of Autonom De Conakry, the offloading of all containers is performed by stevedores using the ships cranes. Since 2012 Class 6.1 Dangerous goods are loaded directly from the ship onto the truck and no storage occurs at the Port. In the event that a truck was not present, the container would not be unloaded. Once the cyanide containers are collected from the Port, they are taken to the T.T.M. Transport Yard where they are stalled in the truck overnight area in preparation for the convoy departure the following morning at 06:00.

At no stage is freight containers loaded with cyanide removed from the trucks or trailers prior to arrival at AngloGold Ashanti's Siguiri mine site where off-loading is handled by the Consignee. Siguiri mine is approximately 815 km away from Conakry.

#### 1.2.3 Transit Storage

Within the scope of this audit, there are no trans-shipping depots or interim storage sites, as defined in the audit protocol.

Storage in transit may occur in the event that receipt at the port is delayed. Unmder these circumstances freight containers will not be removed from the trailers and the vehicles will only be parked for a maximum period of 24 hours.

#### 1.3 Auditors Findings and Attestation

Transport Terra	ssement Minier is:		
$\boxtimes$	in full compliance with	า	
	in substantial compliance with		
	not in compliance wit	h	The International Cyanide Management Code
Audit Company	:	Tommie Müller,	South Africa
Audit Team Leader:		Tommie Müller	
Email:		tommieb.muller	<u>@gmail.com</u>

Transport Terrassement Minier
Name of facility

29<sup>th</sup> October 2019 Date

Signature of Lead Auditor

#### 1.4 Name and Signatures of Auditor.

Name	Position	Signature	Date
Tommie Müller	Lead Auditor		29 <sup>th</sup> October 2019

No cyanide exposures and releases noted during the audit period.

#### 1.5 Dates of Audit.

The ICMC Transport Recertification Certification Audit was conducted over three days from 9<sup>th</sup> to 11<sup>th</sup> September 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 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.



#### 2.0 TRANSPORTER SUMMARY

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	<ul> <li>□ in substantial compliance with</li> <li>□ not in compliance with</li> </ul>	Transport Practice 1.1

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

The transporter has developed a procedure to guide the selection of transport routes to minimise the potential for accidents and releases or the potential impacts of accidents and releases. T.T.M., in consultation with its cyanide supplier/consignor (Samsung) and mining company customer, has implemented the procedure and conducted route surveys for the selected route.

Route risk assessments were conducted during which hazards on route, from the Port of Conakry to the Consignees facility, were identified and noted. T.T.M. has documented measures taken to address risks identified along the selected routes. Mitigating actions were recommended and the results of these route risk assessments and mitigating recommendations are used as measures to control or minimising the risks.

There is only a single route available for the delivery of cyanide from the Port of Autonom De Conakry to AngloGold Ashanti's Siguiri mine which is located 815 km to the east-north-east of Conakry. The route selected corresponds to the Trans ECOWAS (Economic Community of West Africa States) route or the main commercial route linking Guinea, Mali, Burkina Faso, Ghana and the Ivory Coast.

T.T.M. revise and if necessary updates its route selection procedure and associated documents every two years. In addition, verbal debriefing sessions are held with the Convoy Leader and drivers at the end of each delivery upon return to the transport depot.

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

Permit from Ministere De La Justice been issued to T.T.M. specifying that cyanide may be transported along the ECOWAS route. Permit issued by the Direction of Nationale Transporters indicating that transporter has been registered as a transporter.

T.T.M. have consulted as necessary with stakeholders and applicable governmental agencies in the selection of routes and development of cyanide management measures.

Convoys are used as a means of managing the risks of the road conditions and responding to emergencies.



Security is managed through the use of government escorts.

T.T.M., in conjunction with Samsung and AngloGold Ashanti Siguiri Gold Mine has advised external responders and medical facilities as necessary of their roles and responsibilities during an emergency situation and their response.

In the event of an incident, primary emergency response is coordinated by the T.T.M. Convoy Leader using transporter's personnel present within the convoy. Secondary response activities are conducted by T.T.M. personnel and supported by the supplier/consignor and AngloGold Ashanti Siguiri Gold Mine.

T.T.M. do not subcontract any cyanide handling or transport activities.

**Transport Practice 1.2**: Ensure that personnel operating cyanide handling and transport equipment can perform their jobs with minimum risk to communities and the environment.

	X in full compliance with	
The operation is	☐ in substantial compliance with	Transport Practice 1.2
	□ not in compliance with	

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

The transporter utilises dedicated drivers that have appropriately been trained and in possession of a valid vehicle driver's licenses to operate road transportation transporting cyanide. Mali, Burkina Faso and Guinea are all members of ECOWAS and driver's licenses issued in Guinea are valid in other ECOWAS member countries.

Guinea does not have any dangerous goods legislation but despite this, dangerous goods training been provided to all cyanide drivers by T.T.M..

All personnel operating cyanide handling and transport equipment have been trained to perform their jobs in a manner that minimises the potential for cyanide releases and exposures. This includes defensive driver, cyanide awareness, first aid, fire fighting and emergency response training.

Duplicate paragraphs removed.



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

X in full compliance with

□ in substantial compliance with
□ not in compliance with

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

The transporter only uses transport equipment that is designed and maintained to operate within the cyanide loads it will be handling. The Company has identified ten MAN, ASTRA & VECO truck tractors (dedicated) and 8 x 4 axle trailers (multiuse) for the transport of cyanide. The truck tractors were purchased to a design specification. The design specification is appropriate for the cyanide transport task and the loads are well within the ECOWAS limit for public roads. (11.5 tonnes per axle).

Tracking capacity of truck tractors varies from minimum 380 to 450 HP. The mass of a four axle loaded trailer plus truck tractor is 64.6 ton. Allowable combination mass is 67.0 ton.

No other load bearing equipment is used by T.T.M..

T.T.M. has a preventative maintenance programme in place that conforms to MAN, ASTRA & VECO truck tractor's recommendation. Outside of the preventative maintenance programme, records indicate drivers actively report defects noted and that those defects are rectified before vehicle is allowed onto the routes.

T.T.M. maintains records of vehicle and trailer specifications and service maintenance history.

The container weights are detailed on the Bill of Lading prior to container collection from the Port of Autonom De Conakry. These are checked to ensure that the transport equipment allocated is suitable and not overloaded. The design of the truck tractors and trailers is such that they cannot be overloaded.

The government of Guinea has a weigh bridge (operated by Afrique Pesage Guinee SA) which is about 50Km from the Port of Conakry. At random heavy vehicles are selected and must pass over this weigh bridge. Transporter's vehicles that were loaded with cyanide were pulled over and weighed. Weigh bridge printouts issued. Documents reveal gross mass of vehicle as 63.140 ton. Max allowable mass per vehicle is 98 ton.

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

X in full compliance with

The operation is □ in substantial compliance with □ not in compliance with

Transport Practice 1.4
□ not in compliance with

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

The transporter has procedures to ensure that the cyanide is transported in a manner that maintains the integrity of the producer's packaging. The Bill of Loading is stamped by the Port Authority indicating the containers have been delivered undamaged with the door seals intact. The document is also stamped by the Mine Site Transit Officer upon arrival at the mine site. The stamp indicates that the containers have been delivered undamaged with the door seals intact.

T.T.M. transport cyanide for Code certified cyanide producers and consignors, who have systems in place to ensure their containers are labelled in accordance with the International Maritime Organisation Dangerous Goods (IMDG) Code and as required by local regulations or international standards.

Transporter ensures that the relevant placarding as required by the IMDG code been displayed on all four sides of the freight containers.

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.

- T.T.M. has implemented a safety programme for cyanide transport that includes:
  - Pre-departure vehicle inspections, including chassis checks for signs of stress or overloading e.g. cracking.
  - Preventative maintenance programmes in line with manufacturer recommendations.
  - Limitations on operator or drivers' hours.
  - Procedures to prevent loads from shifting, including the use of twist locks on the containers.
  - Procedures to modify or suspend transport if conditions such as severe weather or civil unrestare encountered.
  - Suspending of transportation due to bad weather conditions or civil unrest on route.
  - Drug abuse prevention programme. A drug, smoking and alcohol abuse policy.
  - Vehicle tracking system (GPS).
  - Retention of records.

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

	X in full compliance with	
The operation is	<ul><li>☐ in substantial compliance with</li><li>☐ not in compliance with</li></ul>	Transport Practice 1.5

#### 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:

T.T.M. vehicle drivers use cell phones to communicate directly with the T.T.M. Transport Offices, the mining operation and emergency responders. and indirectly with the cyanide producer. Waybill documentation, including information on the convoys, is emailed to the consignor and mining operation prior to departure from Conakry.

Personnel have their owned cellular phone in use. Hand held Company issued cellular phones tested just before departure by the Convoy Leader.

All truck tractors are fitted with a tracking system (Frotcom).

Communication equipment (global positioning system (GPS), mobile phone, radio, pager, etc.) is periodically tested to ensure it functions properly. The Sodium Cyanide Convoy Vehicle Checklist requires the Convoy Leader to have two phones containing a total of four sim cards providing route coverage. Cellular phone service providers are Orange, Cellcom and MTN. No black-out areas noted during Route Risk Assessments. List of emergency telephone numbers is kept by Convoy Leader and drivers.

Communication equipment (global positioning system (GPS), mobile phone, radio, pager, etc.) is periodically tested properly to ensure availability and functionality when required. Findings recorded on appropriate register. The GPS tracking system is checked though continuous use.

During the audit it was noted in the compiled Route Risk Assessment indicating that the entire route has cell phone coverage from one of three cell phone providers. No individual cell phone provider has 100% coverage of the route. Escort leader and driver of trailing vehicle carries two phones with three sim cards to ensure communication coverage across the entire route. The T.T.M. drivers also carry individual phones serviced by Orange, which has the most coverage across the route. Inter convoy vehicle communication is conducted by cell phone between the front and rear escort vehicles and intermittently with the trucks when compatible signals allow.

Transporter implemented a chain of custody procedures to prevent loss of cyanide during shipment. The cyanide supplier/consignor advises T.T.M. and the customer mine site via email, shipping departure dates, the packing list and Ship of Lading documentation. Both documents contain the container numbers and door seal numbers.

The Bill of Loading gets stamped by the Port Authority before departure from latter, thereby indicating that the freight containers have been handed to transporter undamaged with the door seals intact. Upon arrival at the mine site, the document is also stamped by the Mine Site Transit Officer. The stamp indicates that the containers have been delivered undamaged with the door seals still intact and detail thereof corresponds with the seal detail on the documents.

Shipping records indicating the amount of freight containers loaded with cyanide, the mass of cyanide in transit and availability of the cyanide Material Safety Data Sheets during transport.

The Transport Company do not have a contract with a sub-contractor for the transportation of cyanide.

Transport Terrassement Minier Name of facility 29<sup>th</sup> October 2019 Date

**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 □ not in complianc

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

Within the scope of this audit, there are no trans-shipping depots or interim storage sites, as defined in the audit protocol is therefore this practice protocol is not applicable to this transporter.

Once formalities are complete, the cyanide loaded freight containers are collected from the Port of Conakry and taken to the T.T.M. transport depot where the loaded truck tractor and trailers overnight in preparation for convoy departure early the following morning. No interim storage for more than 12 hours is allowed at the depot. All loaded vehicles leave the site the following morning at around 05:00. This storage of cyanide is not regarded as stored in legal terms.

No freight container is removed from the trailers prior to off-loading 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:

T.T.M. has developed detailed documents to cover emergency response for potential cyanide releases for cyanide transportation within Guinea, Burkina Faso and Mali. The information is contained within an Emergency Plan (ERP) and route specific Transport Management Plan (TMP).

The TMP and ERP are based on road transportation of cyanide between the Port of Autonom De Conakry and customer mine sites. The plans are appropriate for the selected transportation routes and they consider relevant aspects of the transport infrastructure.

The route evaluation process, route hazard/risk assessment process, and operational experience were used by the transporter and Samsung to identify various scenarios of emergencies i.e.

- Transport vehicles incidents rollover of vehicle caused by own vehicle no damage no spillage,
- Collision with another vehicle no spillage, no injuries,
- Collision with another vehicle resulted in a spillage and no injuries,
- Roll over with spillage close to river or water source.

Transport Terrassement Minier Name of facility 29<sup>th</sup> October 2019 Date

Signature of Lead Auditor

The plans consider the physical and chemical form of cyanide and the design of the transport vehicle.

The emergency response guides developed are relevant to solid cyanide and its packaging in IBCs within 6 meter sea freight containers.

Storage facility emergency response plan wasn't developed, as cyanide is not stored at an interim storage facility between the Port and the mine site destination or at the transporter's depot.

The TMP and ERP include the roles and responsibilities of the emergency responders as appropriate for the anticipated emergency situation.

External Emergency Responders identified in the ERP are aware of their role and responsibility during an emergency situation.

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

	X in full compliance with	
The operation is	<ul><li>☐ in substantial compliance with</li><li>☐ not in compliance with</li></ul>	Transport Practice 3.2

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

The Transporter provides emergency response training for all convoy personnel, drivers, hospitals, ambulance staff and police officers involved in the convoy. A training matrix has been developed for all transport personnel. This matrix identifies the needs of training for escort personnel and convoy drivers. All personnel operating cyanide handling and transport equipment have been trained to perform their jobs in a manner that minimises the potential for cyanide releases and exposures. The training of cyanide handling and transport equipment operators is coordinated by T.T.M. and refresher training is presented during September & October of each year..

There are well structured descriptions of the roles and responsibilities in the TMP, ERP, Emergency Response Training and Cyanide Awareness Training for the Company's and external emergency responders.

Each Convoy Leader carries its own emergency response equipment. T.T.M. has a checklist for the necessary emergency response, health and safety equipment, including personal protective equipment. This equipment is checked regularly for availability and functionality. Equipment is also checked before each convoy departure.

T.T.M. do not subcontract any of the cyanide handling, transport or emergency response activities.

External emergency responders are identified in the ERP and all are aware of their role and responsibilities in an emergency situation.



Trar	sport Practice 3.3	<ol><li>Develop procedures for inte reporting.</li></ol>	rnal and external emergency notification and
The	operation is	X in full compliance with  ☐ in substantial compliance wit  ☐ not in compliance with	h Transport Practice 3.3
Sum	nmarize the basis f	or this Finding/Deficiencies Id	lentified:
ship			nd current contact information for notifying the sponse providers, and medical facilities of an
		nse Plans contain a list of all the Convoy Leader's Vehicle.	emergency contact numbers. A similar list of
	ed to ensure that in		imbers are kept current. QHSE Manager is otification and reporting procedures are kept
Trar	nsport Practice 3.4	: Develop procedures for remediazards of cyanide treatment of X in full compliance with	liation of releases that recognize the additional chemicals.
The	operation is	☐ in substantial compliance with ☐ not in compliance with	h Transport Practice 3.4
Sum	nmarize the basis f	or this Finding/Deficiencies ic	lentified:
supp		Transport Management Plan ping:	for remediation of spills in consultation with the covides further details on the remediation of and
	Containment		
	Recovery and Trea	atment of Spills	
	Water Resource Ti	reatment	
	Neutralisation		
	Reporting and Inve	estigation.	



The transporter is directly involved with the clean-up of a cyanide spill as there is no registered spill clean-up company available in the country. The rehabilitation of the affected area is also the Escort Leader and his team's responsibility. Contaminated soil / product is to be taken to the mine site where it will be disposed.

Clause 7.1 of the TM Plan number T.T.M. – CN – Doc 003 Rev 10 dated September 2019 explicatively prohibits the use of sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide once it has entered surface waters. This statement is also included in the ER Plan and the emergency response section of the Cyanide Awareness training programme.

Remediation and neutralisation processes are also detailed in the emergency response section of the Cyanide Awareness training programme.

Transport Practice 3.5	: Periodically evaluate response proce them as needed.	edures and capabilities and revise
The operation is	X in full compliance with  ☐ in substantial compliance with ☐ not in compliance with	Transport Practice 3.5

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

The Transporter has a procedure in place stipulating that all cyanide related documents and procedures be reviewed, updated, implementation and evaluated the adequacy and effectiveness of reviewed plans at least annually.

T.T.M. has a procedure that requires the annual updating and assessing of the ER Plan and TM Plan. Transport Management Plan No T.T.M.-ADMIN-Doc 001 "Review of document" clause 12 stipulates that all cyanide related documents and procedure to be revised at least once per year or as and when required.

The ER Plan contains provisions for the conducting of a review after an incident. No cyanide related incidents been reported during the recertification period. The auditor was able to confirm that the ER Plan and relevant documentation was updated.

Annually mock drills are held as part of the practical section of the cyanide awareness training and also to establish the effectiveness of the procedure as well as the quality of training presented. T.T.M. employees participated in the drill. SAMSUNG acted as observer. After a drill all non-conformance noted captured in a summary report with recommendations where required. Summary report discussed verbally with the team.

End of report.

Tommie Müller ICMC Lead Auditor

