



EPA
LIBERIA

Environmental Protection Agency

Ensuring environmental protection & conserving biodiversity

**A Full Scale Compliance
Monitoring at ArcelorMittal,
Liberia's Operation in
Yekepa, Nimba County**



Presented by
EPA's Assessment Team
To: The ESIA Technical Review Committee/Executive
Date: April 20, 2022

PRESENTATION OUTLINE

- Background
- Methodology
- AML's response to Previous noncompliance
- Sites visited
- Key Findings
- Provisions of the law Violated
- Recommendations



Background

- On June 20, 2021, the Agency through its Deputy Executive Director and some technicians from the Department of Compliance and Enforcement conducted a full-scale compliance monitoring and chemical inventory of Arcelor Mittal Liberia (AML) operations in Nimba County.
- The compliance monitoring was part of the Agency's 2021 work plan and was to ensure full compliance with the standards and regulations of the Agency as well as previous permits conditions issued to AML before the renewal of its expired permits.
- Besides, a series of noncompliance issues were observed and recommendations were communicated to the management of AML for implementation in **July, 2021**. This monitoring was also a follow-up on the implementation status of the recommendations communicated last year as well as the Agency's 2022 nationwide compliance monitoring of all permitted and unpermitted undertakings across the country.

EPA’s Team

Name		Position
Randall	M.	Deputy Executive Director
Dobayou II		
Daoda		Assist. Manager for Environmental & Social Impact Assessment
Socrates		
Carlton		
Lenn Gomah		Environmental Chemist/Lab. Technician
Stanford		GIS Coordinator
Daniels		
Clifort A. Forte		Remediation Officer
Ramesa		Personnel Analyst
William		
Kingston David		Head, Nimba County Inspectorate
Armah Konah		Driver
Abraham		Driver
Mamey		

AML’s Team

No	Name	Position
	Avin Poure	Environmental Manager
	Ambrose Paye	Environmental Compliance Superintendent
	Cyrus Weah	Environmental Superintendent for Mines
	Mr. Jallah Selmah	Mine Manager
	Ms. Angelique Myers-Jekulo	Health and Safety Superintendent Mine

Methodology

- The team worked with the Nimba County's head inspector and used previous reports of the Nimba inspectorate;
- The team gathered information from AML's file;
- Referenced the July 27, 2021 communication to AML to ensure to the provisions of the communication;
- Presented Mission TOR in an Opening Meeting with the Environmental Department of AML;
- Safety induction was conducted by the management before the team assessed the mine;
- Presented preliminary findings to the Environmental Department of AML in a closing meeting.

AML's response during the opening meeting

Concerns	AML's response (EPA to verify)
Submission of monitoring reports as required by the permits	Since the last visit, all monitoring reports have been submitted, except the first quarter reports for 2022
Submission of Emergency Response Plans for all AML activities	The plan was submitted in the meeting held at the EPA office after the June 2021 monitoring exercise.
Submission of a safety Plan for AML rail operations	The plan was submitted in the meeting held at the EPA office after the June 2021 monitoring exercise.
Obtaining a discharge permit for wastewater emanating from Mine Pits 3 and 2 into the sedimentation ponds (one permit);	The application was send to the EPA, awaiting a response
Notification of EPA at least 72 hours before the transportation of ammonium nitrate by Maxam JV and/or CGGC;	Since the last visit, no transportation has been done according to Mr. Poure,
Submission of AML Bio-remediation Pit's design exhibiting the treatment efficacy of current remediating agents being used	The design was submitted.
Using TOTAL Liberia to collect waste oil from the AML's facility.	All waste oil from the facility is kept in a tank until further notice. AML is still going through the bidding process to hired an EPA-accredited waste service provider.
Application for a construction and operation permit for the AML water treatment facility	The application was made. We are in the stage of hiring a third-party consultant as communicated by the EPA to the develop thee EMP

Sites Visited

During the monitoring exercise, the following sites were assessed:

- A proposed wastewater treatment plant and the nearby wetland;
 - **Mount Gangra:** Pit 3 and the sedimentation ponds;
 - **Mount Tokadeh:** explosive magazine and mechanic workshop;
- Existing Landfill

KEY FINDINGS

- Road leading from Yekepa to the mines is prone to accident as a result of dust storm, which hinders visibility for vehicle operators;
- No safety sign indicating one vehicle at a time was placed a single-crossing bridge for heavy vehicles transporting ore from the mines;
- Waste oil is being kept in a 5,000 L tank until further notice;
- Raw sewage was observed to be **directly discharged into the wetland** through the proposed wastewater treatment facility;
- The potential contaminated wetland serves as a tributary to a stream that empties into the **Deyea River**;

KEY FINDINGS Cont.

- Water samples were collected from a total of two (2) locations: southern dam B and Cofferdam A. The locations were selected to provide representative samples pursuant to the objectives of the investigation

Sample ID	Location	GPS Coordinates
SW-SP 1	After Compliance Point (Southern Dam A)	29 N 0542679 UTM 0832486
SW-SP 2	Before compliance Point (Coffer Dam B)	29 N 0542675 UTM 0832518
SW-SP 3	Before compliance Point (Coffer Dam A)	29 N 0542675 UTM 0832518

KEY FINDINGS Cont.

- The analytical method employed for each parameter and the results obtained are presented in Table 3. The choice of parameters was based entirely on the nature of residues derived from the company activities.

Parameter	Analytical (instrumentation)	Method	SP 1	SP 2	SP 3	WHO Std	LWQS Class III
PH	PH Meter		8.15	6.02	6.66	NS	≥ 5.5-9.0
TDS	Multi-meter		27.0	62.1	68.1	500	≥ 1200
Iron (Fe)	Colorimetry		1.22	3.56	12.0	0.1	≤2.0

NB: Figures in **bold** are above the permissible limit.

The results showed all but one parameter fell outside of both the WHO and the Class III of the Liberian Water Quality Standards. The only notable exception is Iron which recorded values above the required limit of the standards.

5.0 AIR QUALITY MONITORING

- Air quality at AML's *workshop and landfill* took into consideration the following parameters: carbon dioxide (CO₂), sulfur dioxide (SO₂), carbon monoxide (CO), nitrous oxide (NO₂), Ozone (O₃), and Total Volatile Organic Compounds (TVOC). The monitoring points and results are presented in the next table.

Point	Description	O ₃	PM ₁₀	CO	TVOC	CO ₂
AQ1	Workshop	0.01	20	90	0.0	2050
AQ2	Landfill	0.08	15	23	0.64	1450
	WHO standards	NS	50	50	0.75	5000

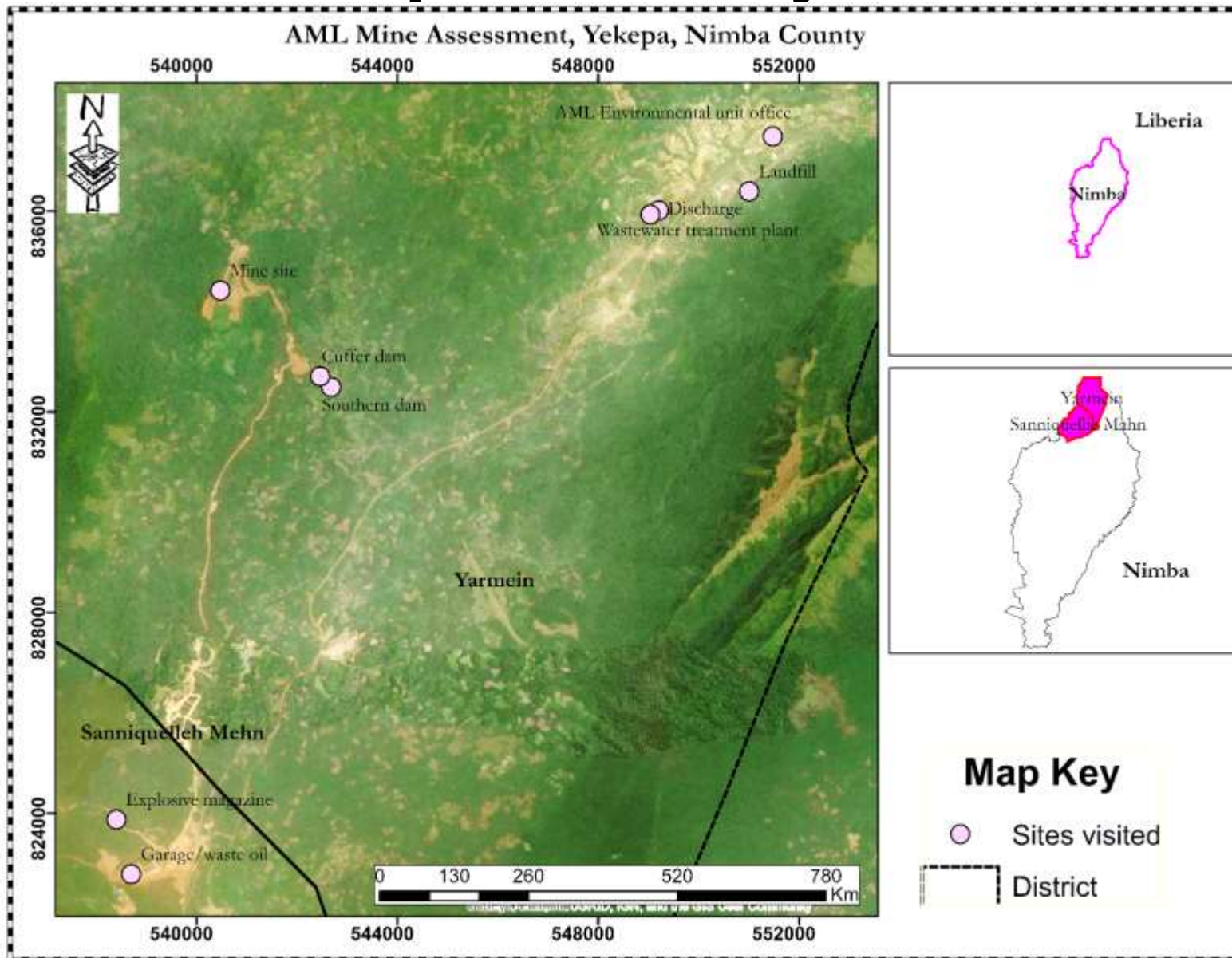
NB: Figures in **bold** are above the permissible limit.

Geospatial Analysis of Sites Visited

- GPS coordinates for the sites visited

No.	Sites	Coordinates (29N)	Coordinates (UTM)
1.	Tokadeh Pit 3 Top	0540233	0834309
2.	Southern Sedimentation Dam1	0542465	0837710
3.	Southern Sedimentation Dam2	0542562	0832642
4.	Southern Sedimentation DP	0542268	0832490
5.	Explosive Magazine	0538410	0823870
7.	Mechanic Workshop	0550430	0836290
8.	Landfill Site	0550994	0836409
9.	Proposed Waste Water Treatment Plant	0549190	0836009

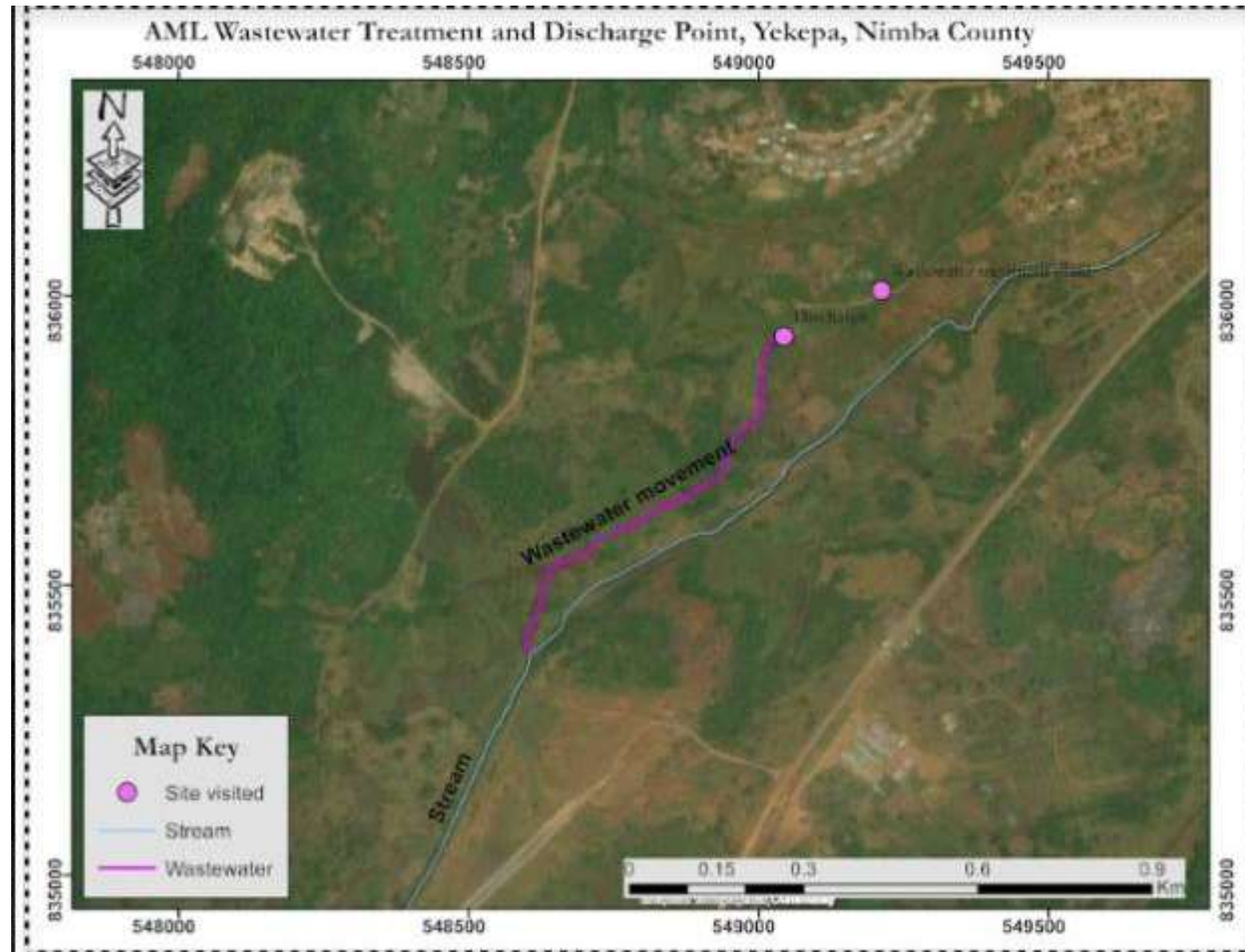
Geospatial Analysis Cont...



Geospatial Analysis Cont...



Geospatial Analysis Cont.



Provisions of the law Violated

No.	Noncompliance	Provision Violated (Maximum Penalty
1.	Failure to notify the Agency of a major change in the project which poses significant threat to the environment and human health.	EPML: Part III Section 26 (a&b): Failure to notification	Fine not exceeding 10,000 US or 5 years, or to both; and
2.	Failure to obtain operational Permit to operate a wastewater treatment plant.	Section 112 (EPML)	25,000.00/10yrs imprisonment or both
3.	Water Pollution: direct discharge of raw sewage into a wetland	Part V: Section 61:	A fine not exceeding \$50,000 US DOLLARS to imprisonment for a period not exceeding 20 years or to both;
4.	Total		\$85,000.00 plus cost of remediation and field operations

RECOMMENDATIONS

- Ensure to conduct further assessment at the potential contaminated wetland to determine degree of pollution, at AML's cost;
- Ensure that AML desist from further use of the proposed wastewater treatment facility to avoid further pollution to the environment;
- Ensure to communicate the necessary **fines** to the Management of AML for the deliberate action of polluting the environment which eventually could lead into a public health outbreak of water users downstream;
- The Management of AML shall be responsible to underwrite all costs associated with remediation to restore the environment;
- Ensure to name and shame the Management of AML for its action;
- Ensure to inform the local communities that are dependent on the water being contaminated, as early as possible, to prevent any public health issues as a result of consuming the potential contaminated water;
- Ensure to halt all operation of AML that are not permitted, including the explosive magazine, until the relevant permits are obtained.

Photos



Opening meeting with AML's environmental Unit team



Opening meeting at Mount Tokadeh



Workshop area



Inspection at Sedimentation ponds

Photos Cont...



Proposed wastewater treatment: entry of the raw



*Raw sewage from the wastewater treatment plant into
the wetlands*



*Wetland
being
contamin
ated*

Photos Cont...



Dust storm along the mine road

