



SHWE TAUNG
Building Materials

SHWE TAUNG MINING COMPANY LIMITED

Bi-Annual Environmental Monitoring Report



SHWE TAUNG
MINING CO., LTD.

SHWE TAUNG MINING COMPANY LIMITED

Red Clay Quarry

Biannual Environmental Monitoring Report

(August 2024 to January 2025)

This page is a record of all revisions of this document. All previous issues are hereby superseded and are to be destroyed.

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	March 2025	Bi-annual reporting to ECD		Hein Latt Environmental Manager	Head of HSE	Kyaw Naing Soe Deputy MD of STM
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၁ စီမံကိန်း မိတ်ဆက်

၁.၁ အကျဉ်းချုပ်အစီရင်ခံစာ

မြေနှီ(စက်မှုတွင်းထွက်ကုန်ကြမ်း)အလတ်စား လုပ်ကွက်သည် မန္တလေးတိုင်းဒေသကြီး၊ သာစည်မြို့နယ်၊ ယင်းမာပင်ကျေးရွာ အုပ်စု၊ မဒါန်းဒေသတွင် တည်ရှိပါသည် (ပုံ - ၁)။ ရွှေတောင်သတ္တုတူးဖော်ရေးကုမ္ပဏီလီမိတက်မှ ဆောင်ရွက်သည့် မြေနှီလုပ်ကွက်မှထွက်ရှိလာသော ကုန်ကြမ်းများအား ရွှေတောင်ဘိလပ်မြေစက်ရုံသို့ ထောက်ပံ့ပေးပါသည်။ ထို့ကြောင့် မြေနှီလုပ်ကွက်သည် ရွှေတောင်ဘိလပ်မြေစက်ရုံနှင့် ဆက်စပ်နေသည့် လုပ်ငန်းတစ်ခုဖြစ်ပါသည်။

၂၀၂၂ ခုနှစ်၊ ဩဂုတ်လ (၁၀) ရက်နေ့တွင် ရွှေတောင်သတ္တုတူးဖော်ရေးကုမ္ပဏီလီမိတက်သည် သယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနမှ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကို အတည်ပြုချက် ရရှိခဲ့ပါသည်။ မြေနှီ(စက်မှု တွင်းထွက်ကုန်ကြမ်း) အသေးစားလုပ်ကွက်သည် ၂၀၁၉ ခုနှစ်၊ မေလ (၃၁) ရက်နေ့တွင် ခွင့်ပြုမိန့်သက်တမ်းကုန်ဆုံးသွားသည့်အတွက် ၂၀၂၂ ခုနှစ်၊ အောက်တိုဘာလ (၆) ရက်နေ့တွင် သယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနမှ မြေနှီ (စက်မှုတွင်းထွက်ကုန်ကြမ်း) အလတ်စား ထုတ်လုပ်မှုလုပ်ငန်းအတွက် ခွင့်ပြုမိန့် ရရှိခဲ့ပါသည်။ မြေနှီ (စက်မှုတွင်းထွက် ကုန်ကြမ်း) အလတ်စားလုပ်ကွက်အား ၂၀၂၃ ခုနှစ်၊ ဧပြီလတွင် စတင်ဆောင်ရွက်ခဲ့ပါသည်။ ထို့ကြောင့် ရွှေတောင်သတ္တုတူး ဖော်ရေးကုမ္ပဏီလီမိတက်သည် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၏ လုပ်ငန်းစဉ်များ၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ နှင့် နည်းဥပဒေများ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်များကို လိုက်နာဆောင်ရွက်လျက်ရှိပြီး ယခုအခါတွင် ၂၀၂၄ ခုနှစ်၊ ဩဂုတ်လမှ ၂၀၂၅ ခုနှစ်၊ ဇန်နဝါရီလအတွက် ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာကို တင်ပြခြင်းဖြစ်ပါသည်။

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1. Introduction

1.1 Executive Summary

The Red Clay quarry is located at Madan area, Yin Mar Pin Tract, Thazi Township, Mandalay Region as shown in (Figure 1). The Red Clay quarry is operated by Shwe Taung Mining (STM), subsidiary of Shwe Taung Cement (STC) which supply raw materials exclusively to the STC cement plant. The Red Clay quarry of STM are thus considered as associated facilities of the STC cement plant.

Shwe Taung Mining (STM) Co., Ltd. received the approval letter of Environmental Management Plan (EMP) from Environmental Conservation Department (ECD), Ministry of Natural Resources and Environmental Conservation (MONREC) for the project of the Red clay Quarry EMP report on 30th August 2022. However, the Red Clay Extraction (Small Scale) License was expired on 31st May 2019 and received the license renewal with Medium Scale Extraction from MONREC on 6th October 2022. The extraction of red clay started in April 2023. STM conducted environmental monitoring program in line with Environmental Management Plan and comply Environmental Conservation Law and Rules, the Procedure of ECD and submit this biannual environmental monitoring report for **August 2024 to January 2025**.

1.2 Purpose of Environmental Monitoring

Monitoring is a means of verifying the effectiveness of the management and mitigation measures contained within the management plans listed in STM Red Clay EMP report.

- 1) The Environmental /Executives from HSE department of STM shall do the following:
 - Monitor and implement this ESMP at site;
 - Conduct Environmental monthly inspection checklist audit;
 - Monitor laboratory personnel while conducting their water sampling and testing method;
 - Assist and monitor the implementation of Waste Management; and
 - Monitor and review the air emission test result for compliance recommendation.
- 2) All inspection checklist audit finding that needs rectification shall be recorded in Environmental and Social tracker and will be assigned by Environmental Manager to concerned department head for rectification.
- 3) All water, effluent and air emission test results will be compiled for review and analyses by the Environmental Manager and approved by Head of HSE Department.
- 4) All generated waste according to their classification and final disposal will be entered to waste management matrix for monthly report.
- 5) The Environmental Executive will be implementing and monitoring within the project area, new infestation and according to BAP.

1.3 Health, Social and Environment (HSE) Department

Shwe Taung Cement Co., Ltd. established HSE Department and responsibility of HSE Department are as follows.

- 1) Implementation of Environmental Management Plans of approved EIA report of STM Red Clay Quarry, Comply Rules and Regulations of Environmental Conservation, report Environmental Monitoring
- 2) Supervise third party stakeholders, contractors and other organizations for environmental monitoring program
- 3) Monitoring environmental impact and report the relevant documents
- 4) Promote the ability of employees by conducting knowledge sharing training and awareness on environmental conservation.

2. Environmental Performance Indicators and Monitoring Schedule

Physical, biological and social environmental management components of particular significance have been identified as performance indicators. A comprehensive monitoring plan for each performance indicator has been prepared for all phases of the Project, presented in Table 1.

This includes the parameters to be measured, methods to be utilized, sampling locations, frequency of measurements, detection limits and responsibilities for implementation and supervision.

Impact monitoring will be undertaken during the life of the Project to verify the predicted levels of residual impacts from the Project and the effectiveness of the various management plans and mitigation measures.

Shwe Taung Mining Co., Ltd. will prepare an environmental monitoring report and submit it to the Ministry of Natural Resources and Environmental Conservation, MONREC every six months as per the EIA Procedure requirements.

Table – 1: Environmental Monitoring Program

Project Stage/ Component	Potential Impact	Parameters to be Monitored	Location	Measurements	Frequency	Responsibility
Operation / Red Clay Quarry	Inspection of mitigation compliance	General compliance with mitigation measures presented in the ESMP.	Project activity areas	Visual inspection of all active work areas and inspection of records	Monthly	STC HSE Department
Operation / Red Clay Quarry	Air Impacts	Carbon Monoxide, Nitrogen Dioxide, Hydrogen Sulphide(H ₂ S), PM ₁₀ , PM _{2.5} , Sulfur dioxide (SO ₂), Oxygen (O ₂),	Yay Aye Village (for community health), 3 locations within Quarry Site when operation begin (for occupational health)	Standard analytical methods	Twice per year	STC HSE Department
Operation / Red Clay Quarry	Stream Water	pH, Total Dissolved Solids (TDS), Suspended Solids, Total Hardness, Total Alkalinity, Dissolved Solid, Chloride (as CL), Sulphate (SO ₄), Iron (Fe), Cyanide (CN), Arsenic (As), Ni, Cr, Cu, Pb, Zn	Sampling at: 1. Madan Stream, 2. Yay Aye Stream	Standard analytical methods	Twice per year	STC HSE Department
Operation / Red Clay Quarry	Effluent Water	pH, Total Dissolved Solids (TDS), Suspended Solids, Total Hardness, Total Alkalinity, Dissolved Solid, Chloride (as CL), Sulphate (SO ₄), Iron (Fe), Cyanide (CN), Arsenic (As), Ni, Cr, Cu, Pb, Zn	Sedimentation Pond at quarry site	Standard analytical methods	Twice per year	STC HSE Department

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Project Stage/ Component	Potential Impact	Parameters to be Monitored	Location	Measurements	Frequency	Responsibility
Operation / Red Clay Quarry	Noise and Vibration	Check compliance with noise levels specified in Myanmar National Environmental Quality (Emission) Guidelines (2015) for noise.		Standard analytical methods	Twice per year	STC HSE Department
Operation / Red Clay Quarry	Soil Quality	SiO ₂ , Fe ₂ O ₃ , Al ₂ O ₃ , Cu, Pb, Zn (mg/kg)	3 locations within Quarry Site when operation begin (Topsoil, Open Pit & Tailing Soil) (for occupational health)	Standard analytical methods	Twice per year	STC HSE Department
Operation / Red Clay Quarry	Waste Management	Fuel Storage, Waste Bins, Any Spill, Fire Prevention	Fuel Storage area and waste bins when operation begin	Visual inspection of all active work areas and inspection of records	Weekly	STC HSE Department
Operation / Red Clay Quarry	Biodiversity	Ecosystem Restoration Plantation, Floral Survey, Invasive Species Survey	Within Quarry area	Visual inspection of all active work areas and inspection of records	Twice per year	STC HSE Department

3. Project Information

3.1 Project Location

The 140 acres red clay quarry is located south east of the Yin Mar Pin village. An operating agreement for small-scale production of mineral was signed on 19th February 2019 with No. (1) Mining Enterprise of the Ministry of Natural Resources and Environmental Conservation (MONREC) and ended on 31st May 2019. New medium-scale production of mineral was signed on 6th October 2022 with No. (1) Mining Enterprise of the Ministry of Natural Resources and Environmental Conservation (MONREC) with 10 years extraction period.

Figure – 1: Location of Red clay Quarry



3.2 Project Description

Red Clay extraction is currently undertaken by open excavation approximately 700 m above sea level to provide raw material for the existing STC cement plant. The extracted red clay is transported by truck to the cement plant, which requires 25,000 tons of red clay per annum to meet the current production capacity.

During the reporting period of August 2024 to January 2025, there was no operation of red clay quarry.

4. Environmental Monitoring Program

4.1 Air Quality Monitoring

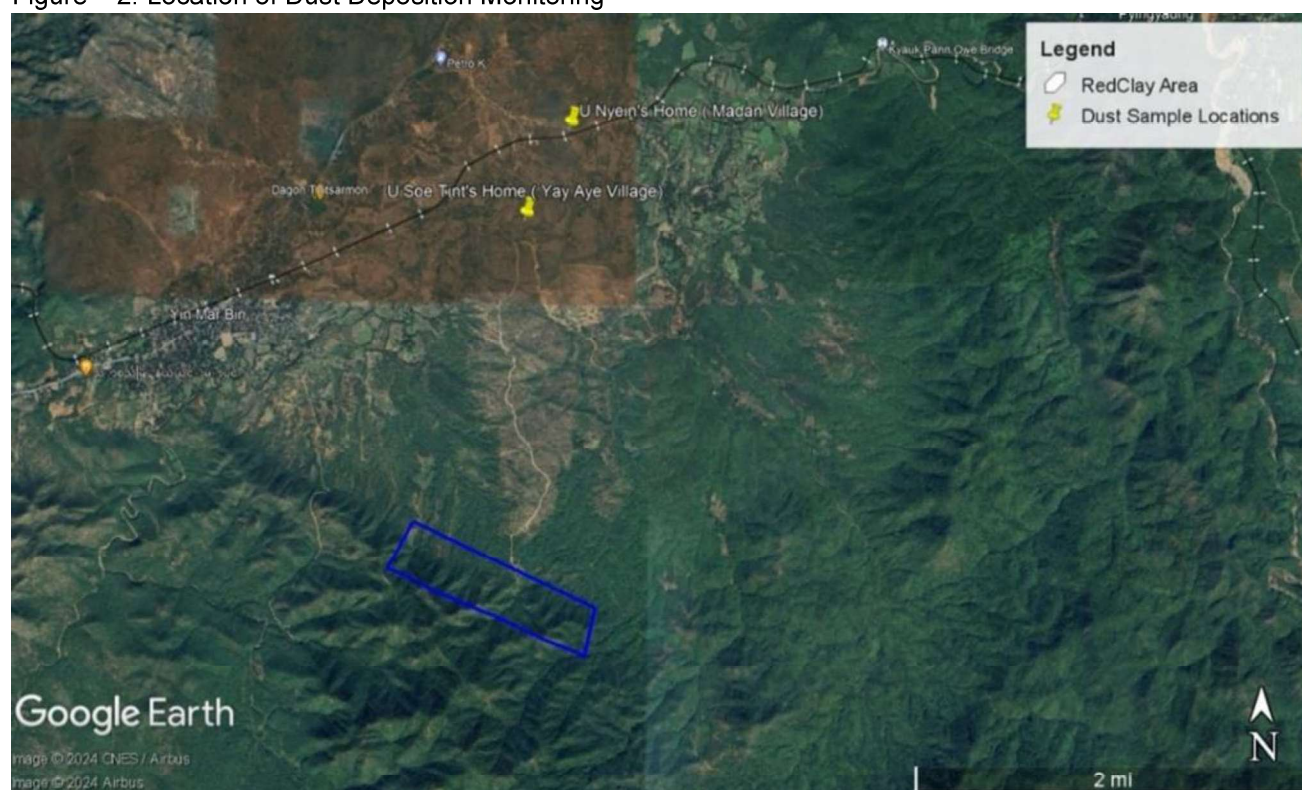
4.1.1 Dust Deposition Monitoring

Although dust deposition monitoring was not initially included in the Environmental Management Plan (EMP) for the Red Clay Quarry, STM conducted monitoring at two key locations—**Yay Aye Village and Madan Village**. This initiative aimed to assess and mitigate dust emissions from the Red Clay Quarry, surrounding areas and access roads. The monitoring was undertaken to ensure compliance with environmental standards and to minimize potential impacts on nearby communities. The results of the dust deposition monitoring conducted from August 2024 to January 2025 are presented in Table 2.

4.1.1.1 Location of Dust Deposition Monitoring

STM conducted the monthly monitoring for dust deposition near the red clay area. Figure 2 show the location of monthly Dust Monitoring near the red clay area.

Figure – 2: Location of Dust Deposition Monitoring



No	Monitoring Location	Latitude	Longitude
1	Madan Village (U Nyein's Home)	20°46'21.02"N	96°20'39.51"E
2	Yay Aye Village (U Soe Tint's Home)	20°45'56.50"N	96°20'26.86"E

4.1.1.2 Monitoring Result for Dust Deposition

Table – 2: Summary of Dust Deposition for Red Clay

Samplers: Nay Hlaing Oo		Test Result					
Place	Australia & New Zealand Guideline (g/m2/Day)	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Dec 2024	Jan 2025
Madan Village (U Nyein' Home)	1.191	0.20	flooding issues	0.20	0.22	0.96	0.42
Yay Aye Village (U Soe Tint's Home)		0.11		0.04	0.47	0.47	0.25

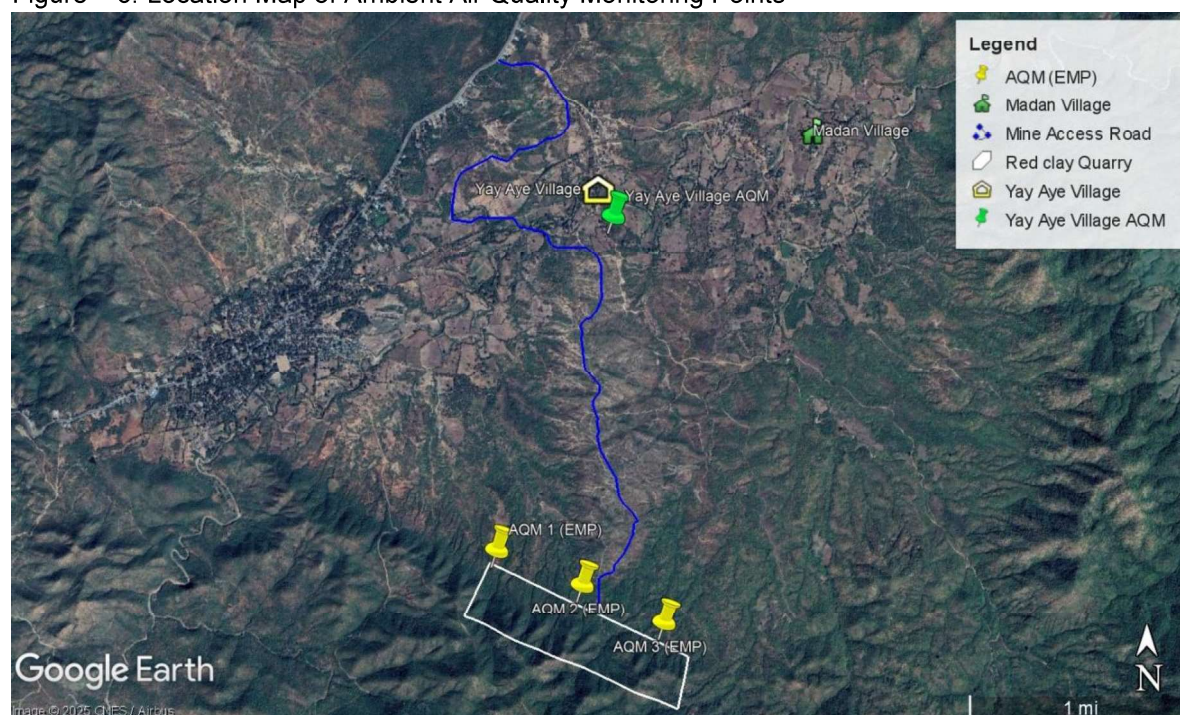
4.1.2 Ambient Air Monitoring

The Ambient Air Quality Monitoring (AQM) is crucial to evaluate the potential impact of quarry operations on the surrounding air quality and to ensure compliance with national and international air quality standards. Key pollutants such as particulate matter (PM10 and PM2.5), nitrogen dioxide (NO2), sulfur dioxide (SO2), carbon monoxide (CO), and other relevant parameters were systematically measured using advanced monitoring equipment. The data collected not only provides insights into the current air quality status but also informs the development of effective mitigation strategies to protect the environment and public health.

4.1.2.1 Location of Ambient Air Monitoring

The Environmental Management Plan (EMP) for the Red Clay Quarry includes air quality monitoring at three sampling points within the quarry to assess occupational health risks and at a surrounding village to evaluate potential community health impacts. As extraction activities have not yet commenced, HSE Department has been conducting air quality monitoring only at Yay Aye Village, the nearest location to potential receptors that could be affected. STM plans to expand monitoring to one of the designated locations within the quarry site, as specified in the EMP, once extraction activities commence. Figure 3 illustrates the monitoring locations for ambient air quality.

Figure – 3: Location Map of Ambient Air Quality Monitoring Points



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No.	Monitoring Location		Latitude	Longitude	Remark
1	Monitoring Locations within Quarry Site (for occupational health)	AQM 1 in EMP	20°44'35.69"N	96°19'56.84"E	Will monitor when operation begin
2		AQM 2 in EMP	20°44'27.44"N	96°20'18.85"E	
3		AQM 3 in EMP	20°44'18.19"N	96°20'39.86"E	
4	Surrounding village (for community health)	Yay Aye Village	20°45'56.50"N	96°20'26.86"E	Monthly monitor

4.1.2.2 Ambient Air Monitoring Method

The portable HAZ-SCANNER™ EPAS wireless environmental perimeter air station is easily deployed as an ambient air quality monitor to measure and document critical U.S. EPA criteria pollutants including nitrogen dioxide, sulfur dioxide, ozone, carbon dioxide, particulates, and more. The EPAS provides direct readings in real time with data logging capabilities. (Detailed results are shown in Appendix-B.)

Web link: <https://www.skcinco.com/catalog/pdf/instructions/EPAS%20manual%20v.3.1.pdf>

4.1.2.3 Monitoring Result for Ambient Air Quality Monitoring

Table – 3: Summary of Ambient Air Quality Monitoring at Yay Aye village

Ambient Air Monitoring by Haz-scanner								
Machine Name: Haz-scanner (EPAS)			Operator: Nay Hlaing Oo					
			Location: Yay Aye Village (U Soe Tint's Home)					
	ECD/ WHO / IFC Guideline		Test Result					
Parameter	Averaging Period	Guideline Value in µg/m ³	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Dec 2024	Jan 2025
Nitrogen dioxide	24 hours	200	50.53	Cannot monitor for Air Quality because of the flooding issues	64.35	64.84	63.38	59.88
Ozone		100	28.89		35.86	38.51	27.14	30.29
PM10		50	17.08		17.15	33.57	35.45	42.24
PM2.5		25	6.91		6.14	6.03	7.01	4.46
Sulphur dioxide		20	12.65		10.50	3.51	1.61	0.06
Carbon dioxide		ppm	0.35		2.99	5.47	1.79	0.00
Carbon monoxide		10 ppm	0.10		0.11	0.09	0.07	0.08

Remark: The Environmental Management Plan (EMP) requires ambient air quality to be analyzed twice per year. **However, STM has been conducting monthly ambient air quality monitoring at the location nearest to potential receptors that could be affected once production operations commence.** To ensure a comprehensive assessment and compliance with the EMP, **STM plans to conduct monitoring at one of the designated locations within the quarry site as specified in the EMP once extraction activities begin.**

4.2 Water Quality Monitoring

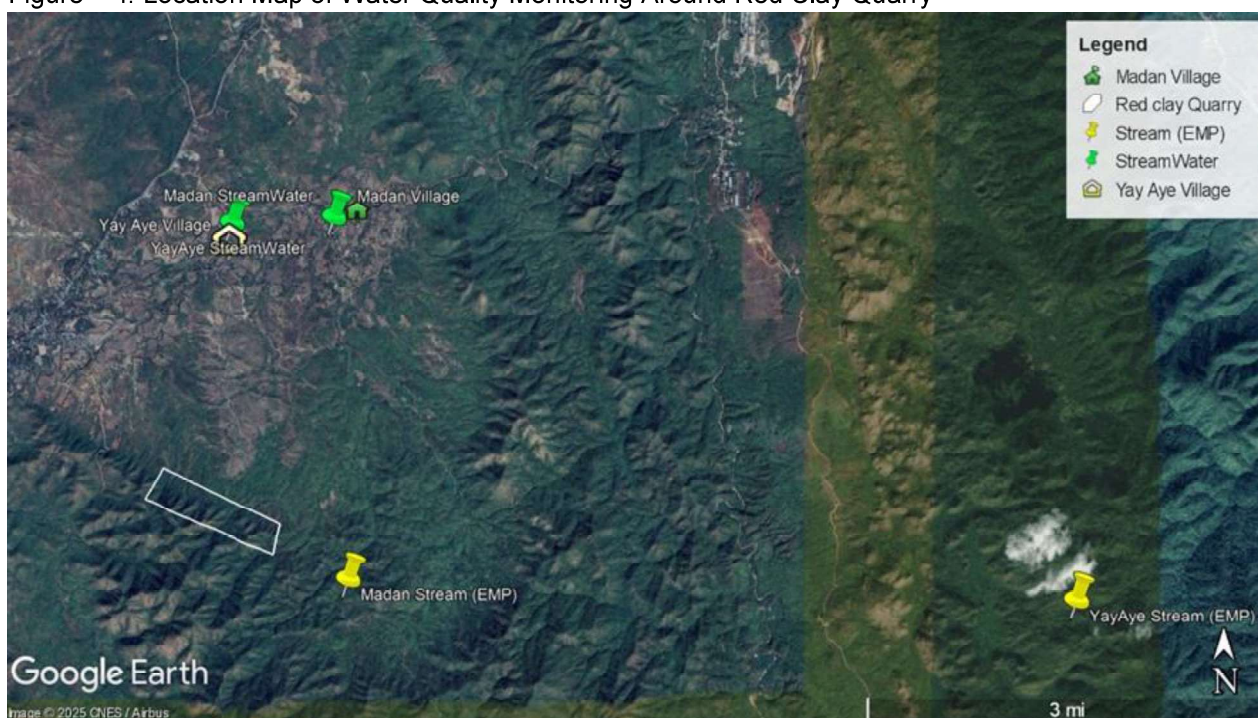
Water quality monitoring is essential to ensure that quarry operations do not adversely impact local water resources. Regular monitoring is conducted in compliance with environmental regulations and standards to detect any potential contaminants and to assess the effectiveness of mitigation measures implemented on-site. The findings will support STM's commitment to sustainable operations and the protection of surrounding ecosystems and communities. (Detailed results are shown in Appendix-C.)

4.2.1 Location of Water Quality Monitoring

The Environmental Management Plan (EMP) for the Red Clay Quarry includes *biannual water quality monitoring* at two designated sampling points. However, assessments indicated that there were no receptors in the area that could potentially be affected. As extraction activities have not yet commenced, the HSE Department decided to relocate the monitoring locations—starting from the submission of the first environmental monitoring report—to areas nearest to potential receptors that may be impacted once production operations begin. *Monthly monitoring is conducted at these locations for basic water quality parameters* to enhance the effectiveness and efficiency of water quality assessment.

Measurements at the new locations will continue as a baseline and will be monitored and verified for any potential water quality impacts once extraction activities commence. Figure 4 provides a comparison between the two original EMP monitoring locations and the newly designated baseline monitoring locations. The monitored water quality parameters include pH, color, turbidity, calcium hardness, chloride (Cl), sulfate, total suspended solids (TSS), and nitrate, in accordance with the World Health Organization (WHO) Drinking Water Guidelines and the International Finance Corporation (IFC) Effluent Water Guidelines.

Figure – 4: Location Map of Water Quality Monitoring Around Red Clay Quarry



No	Location		Latitude	Longitude
1	Monitoring Locations in EMP	Yay Aye Stream Water in EMP	20°43'38.31"N	96°19'26.45"E
2		Madan Stream Water in EMP	20°43'44.46"N	96°21'14.97"E
3	Actual Monitoring Locations	Yay Aye Village (Tagondaing Stream)	20°46'9.44"N	96°20'23.10"E
4		Madan Village (Tagondaing Stream)	20°46'11.85"N	96°21'7.63"E

4.2.2 Monitoring Results for Water Quality

Table – 4: Monitoring Result of Stream Water Quality at Yay Aye village

Stream Water Analysis Yay Aye Village (Tagondaing Stream)								
Parameter	WHO Drinking Water Guideline	Baseline Results	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Dec 2024	Jan 2025
pH	6.5 – 8.5	7.9	8.3	Cannot collect the water sample because of the flooding issues	8.6	8.2	8.1	7.9
Color	15 PCU	-	160		15	10	10	0
Turbidity	5 NTU	-	36		6.63	1.39	0.53	0.64
Calcium hardness (CaCO ₃)	500 mg/l	213	105		120	No Stock of chemicals	No Stock of chemicals	No Stock of chemicals
Chloride (Cl)	250 mg/l	3.5	5		2	No Stock of chemicals	No Stock of chemicals	No Stock of chemicals
Sulphate (SO ₄)	200 mg/l	21	10		10	10	10	20
TSS	50 mg/l	25	67		13	3	0	16
Nitrate	50 mg/l	-	8.8		14.1	11.3	7.7	27.2

Table – 5: Monitoring Result of Stream Water Quality at Madan village

Stream Water Analysis Madan Village (Tagondaing Stream)								
Parameter	WHO Drinking Water Guideline	Baseline Results	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Dec 2024	Jan 2025
pH	6.5 – 8.5	7.8	8.5	Cannot collect the water sample because of the flooding issues	8.5	8.3	8	8
Color	15 PCU	-	130		10	0	0	10
Turbidity	5 NTU	-	17.4		1.92	0.74	0.44	0.23
Calcium hardness (CaCO ₃)	500 mg/l	210	102		109	No Stock of chemicals	No Stock of chemicals	No Stock of chemicals
Chloride (Cl)	250 mg/l	4	5		2	No Stock of chemicals	No Stock of chemicals	No Stock of chemicals
Sulphate (SO ₄)	200 mg/l	18	10		10	10	10	10
TSS	50 mg/l	22	30		2	1	0	3
Nitrate	50 mg/l	-	10.7		11.3	11.3	7.6	8.5

Remark: Due to the limitations of STM's laboratory, it was not possible to analyze the full set of water quality parameters specified in the Environmental Management Plan (EMP). However, STM has been conducting monthly analyses of basic water quality parameters. To ensure comprehensive assessment and compliance with the EMP, **STM plans to send water samples to an external laboratory for full parameter analysis and the results will be included in the next biannual environmental monitoring report.**

4.3 Noise Monitoring

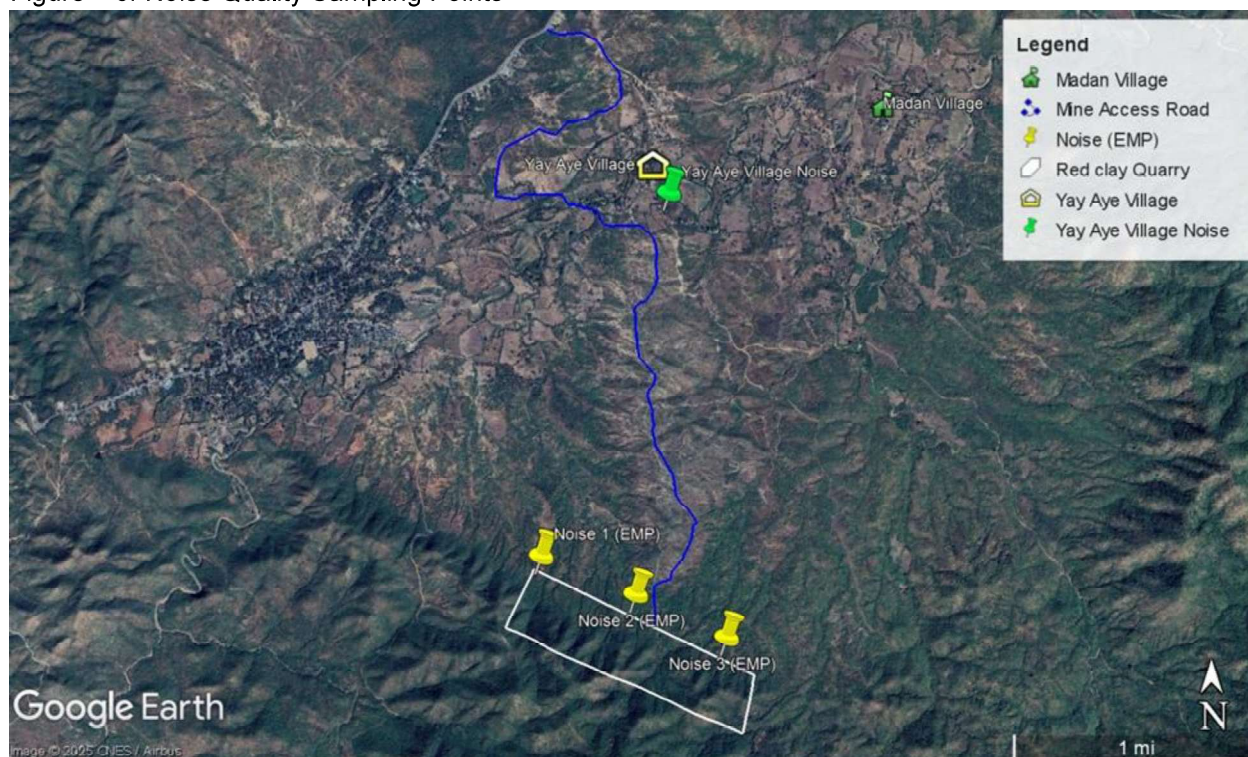
The nearest representative noise sensitive receptors (NSRs) that may potentially affect by the noise impact due to the Project is identified as Yay Aye village. STC operate noise monitoring twice a year and result is shown in Table – 6 below:

4.3.1 Location of Noise Monitoring Point

The Environmental Management Plan (EMP) for the Red Clay Quarry includes noise monitoring at three sampling points within the quarry to assess occupational health risks and at a surrounding village to evaluate potential community health impacts. As extraction activities have not yet commenced, HSE

Department has been conducting noise monitoring only at Yay Aye Village, the nearest location to potential receptors that could be affected. STM plans to expand monitoring to one of the designated locations within the quarry site, as specified in the EMP, once extraction activities commence. Figure 5 illustrates the monitoring locations for noise.

Figure – 5: Noise Quality Sampling Points



No.	Monitoring Location		Latitude	Longitude	Remark
1	Monitoring Locations within Quarry Site (for occupational health)	Noise 1 in EMP	20°44'35.69"N	96°19'56.84"E	Will monitor when operation begin
2		Noise 2 in EMP	20°44'27.44"N	96°20'18.85"E	
3		Noise 3 in EMP	20°44'18.19"N	96°20'39.86"E	
4	Surrounding village (for community health)	Yay Aye Village	20°45'56.50"N	96°20'26.86"E	Monthly monitor

4.3.2 Monitoring Result for Noise

Table – 6: Noise Monitoring Results in Yay Aye Village

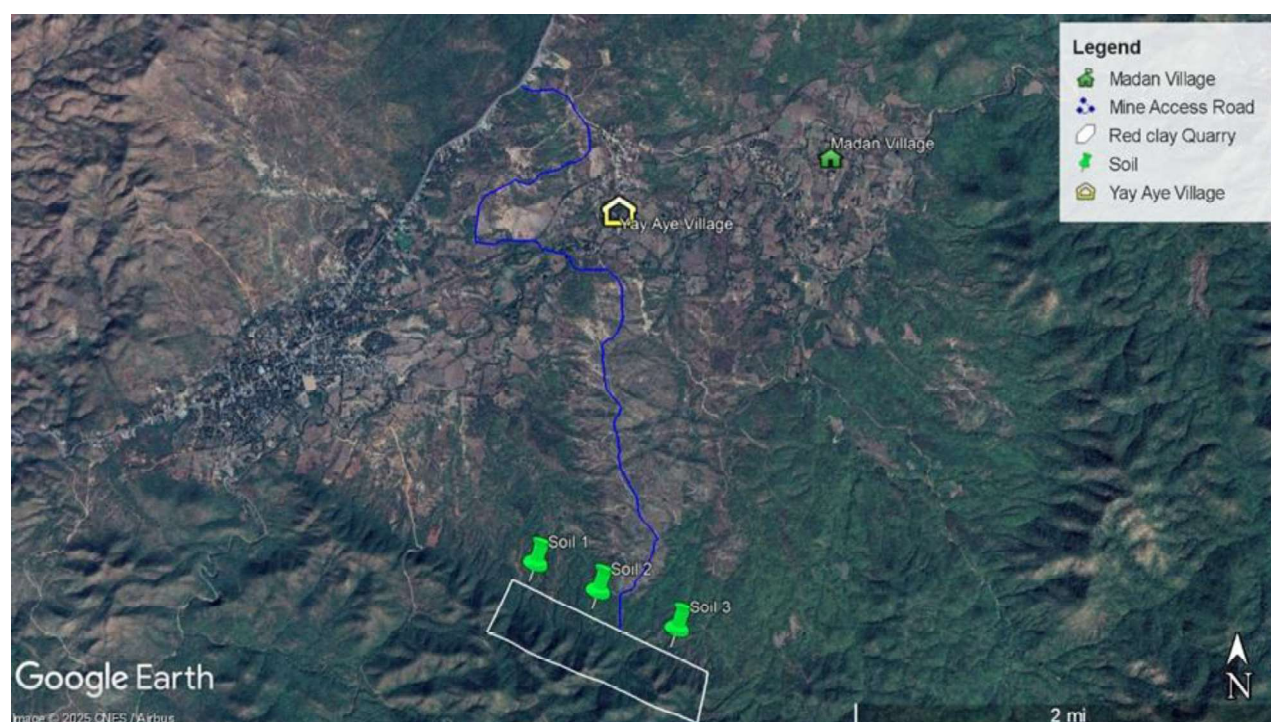
Noise Monitoring Results							
Machine Name: KIMO LDB 23					Operator: Nay Hlaing Oo		
Location	ECD/ WHO / IFC Guideline				Monitoring Result		Remark
	NEQEG and IFC Noise Level Guideline, dB(A)		Baseline Noise Levels, dB(A) At Quarry site				
	Day	Night	Day	Night	Day	Night	Residential Area
Yay Aye Village	55	45	38	-	60	53	

Remark: The Environmental Management Plan (EMP) requires noise to be analyzed twice per year. To ensure a comprehensive assessment and compliance with the EMP, **STM plans to conduct monitoring at one of the designated locations within the quarry site as specified in the EMP once extraction activities begin.**

4.4 Soil Quality Monitoring

The Environmental Management Plan (EMP) for the Red Clay Quarry includes biannual soil quality monitoring at three designated sampling points within the quarry. However, **as extraction activities have not yet commenced, STM has not yet conducted soil quality monitoring.** To ensure a comprehensive assessment and compliance with the EMP, STM plans to initiate soil quality monitoring and send samples to an external laboratory for full parameter analysis as specified in the EMP when operation begin. Figure 6 illustrates the monitoring locations for soil quality.

Figure – 6: Location of Soil Quality Monitoring

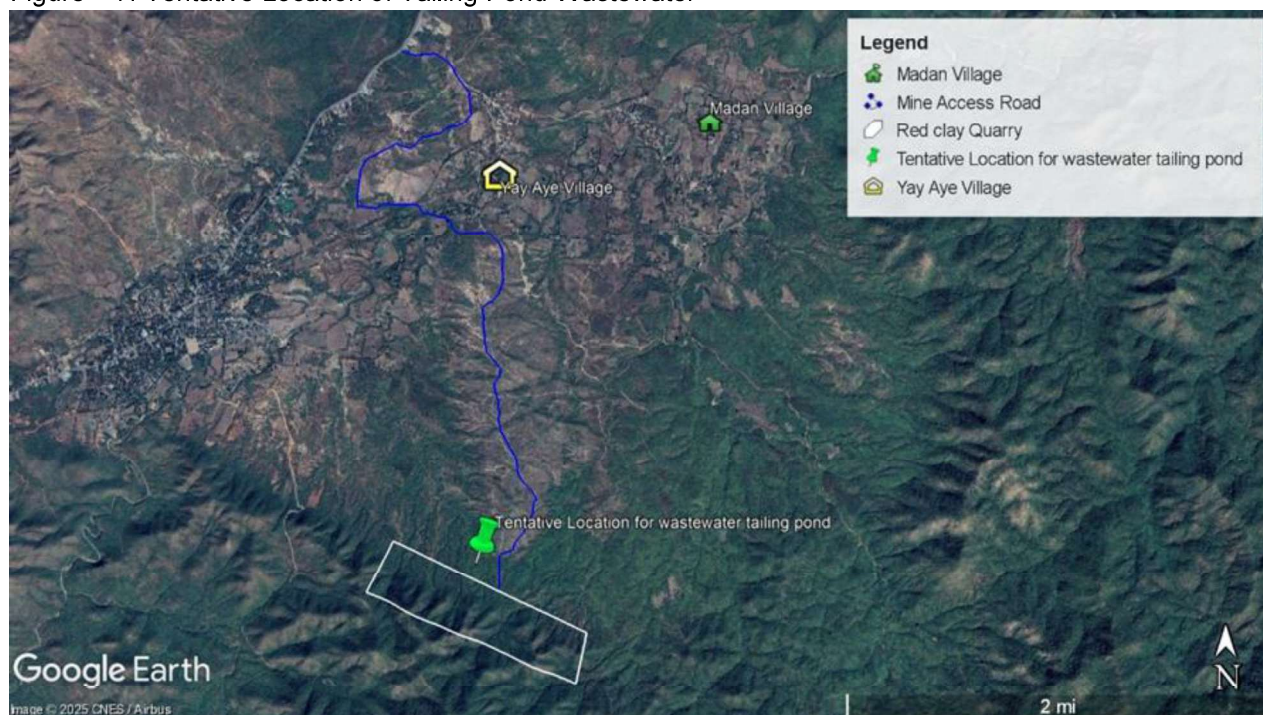


No.	Monitoring Location		Latitude	Longitude
1	Monitoring Locations in EMP	Soil Quality Monitoring 1 in EMP (Top Soil)	20°44'36.23"N	96°20'00.87"E
2		Soil Quality Monitoring 2 in EMP (Open Pit)	20°44'29.60"N	96°20'17.30"E
3		Soil Quality Monitoring 3 in EMP (Tailing Soil)	20°44'20.22"N	96°20'37.90"E

4.5 Wastewater Quality Monitoring

The Environmental Management Plan (EMP) for the Red Clay Quarry includes biannual wastewater quality monitoring at one designated sampling point within the quarry. However, as extraction activities have not yet commenced, STM has not yet conducted wastewater quality monitoring. To ensure a comprehensive assessment and compliance with the EMP, **STM plans to initiate wastewater quality monitoring once the extraction activities begin.** Figure 7 illustrates the tentative monitoring location for wastewater quality.

Figure – 7: Tentative Location of Tailing Pond Wastewater



No.	Monitoring Location		Latitude	Longitude
1	Monitoring Locations in EMP	Wastewater Quality Monitoring 1 in EMP	20°44'31.43"N	96°20'18.39"E

4.6 Waste Management Monitoring

Currently, no waste is being generated as mining operations have not yet commenced. During the excavation process, hazardous waste such as oil spills, oil rags, and used lubricants from machinery maintenance, as well as non-hazardous waste including food waste and domestic waste from mine workers, will be systematically managed to minimize environmental impact.

To ensure proper waste management, hazardous waste will be stored separately and disposed of at the Meikhtila Incinerator in Meikhtila District, Mandalay Region, which is authorized by the Meikhtila City Development Committee. Waste bins will be provided, and a designated area will be allocated for the disposal of non-hazardous waste.

Additionally, the stability of abandoned soil will be closely observed throughout the monitoring period, encompassing the project phase, mine closure, and post-closure periods. This monitoring includes assessing erosion and sedimentation, evaluating the volume of waste released, and tracking the environmental impact. Furthermore, tree planting initiatives will be regularly reviewed to ensure successful re-vegetation and soil stabilization. The primary areas of focus for monitoring include the topsoil and waste disposal sites.

5. Biodiversity Action Plan Implementation

Biodiversity Action Plan Implementation operated by STM outlines the strategic measures undertaken to preserve and enhance local biodiversity throughout the project's lifecycle. Comprehensive land clearance records are maintained to ensure that land disturbance is minimized and managed effectively. Additionally, ecosystem restoration activities, such as targeted plantation efforts, are implemented to rehabilitate and restore habitats affected by quarry activities. These initiatives are integral to STM's commitment to mitigating environmental impacts and supporting biodiversity conservation in the project area.

It is essential to re-cultivate plant and animal species to prevent their loss due to operations within and around the quarry area. Efforts have been made to restore natural vegetation that was displaced during mine operations. Replanting activities have been undertaken to replace the lost vegetation and support the restoration of the local ecosystem.

The monitoring period will encompass the project phase, mine closure phase, and post-closure phase. Monitoring will focus on areas within the quarry site, including regions where land is actively used, zones with existing natural vegetation, and locations where replacement trees have been planted. These areas will be assessed to ensure effective land management and successful ecological restoration throughout all stages of the quarry's lifecycle.

The Environmental Conservation Department (ECD) conducted an inspection of the ground conditions at the Red Clay Quarry and the associated environmental activities undertaken by Shwe Taung Mining Co., Ltd on 15th February 2024. The ECD provided guidance to ensure that processes align with the commitments outlined in the Environmental Management Plan (EMP) reported by STM. Additionally, the ECD had submitted a detailed report of their inspection findings to the regional office.

5.1 Implementation of Ecosystem Restoration Plantation for Red Clay Quarry

In accordance with directives from the Forest Department, Shwe Taung Mining (STM) undertook a significant plantation effort on the Red Clay Quarry, planting 28 acres with various tree species, including *Albizia lebbek*, *Delonix regia*, *Senna siamea*, *Acacia mangium*, *Chukrasia tabularis*, *Casuarina equisetifolia*, and *Tectona grandis*. Tree planting is a critical strategy for land rehabilitation and re-establishing forest cover in areas impacted for mining activities.

STM maintained the total 198 Arces Ecosystem Restoration Plantation including 28-acre ERP for red clay mine production. During the reporting period of August 2024 to January 2025, STM conducted the ERP maintenances as follow. (Table-7 & Table-8)

Table – 7: Ecosystem Restoration Plantations maintenances at Near Apache & South Pyi Nyaung

Location	Particular	Patched Area in 2023	Patched Area in 2024	July	August	September	October	November	December
				1st Weeding	Patching	2nd Weeding	2nd Weeding	-	3 rd Weeding
Near Apache	ERP 33 Ac	7 Ac	—	7 Ac (100%)	2100 Nos	7 Ac (100%)	-	-	7 Ac (100%)
Near Apache	ERP 65 Ac	33 Ac	—	33 Ac (100%)	700 Nos	33 Ac (50%)	33 Ac (100%)	-	33 Ac (100%)
South Pyi Nyaung	ERP 100 Ac	16 Ac	—	16 Ac (100%)	1000 Nos	0%	16 Ac (100%)	-	16 Ac (100%)
		—	9 Ac (4860 Nos.)	9 Ac (100 %)	—	9 Ac (100%)	-	-	9 Ac (100%)
Grand Total				65 Ac (100%)	3800 Nos.	65 Ac (100%)		-	65 Ac (100%)

Table – 8: Ecosystem Restoration Plantations maintenances at Near Apache & South Pyi Nyaung

Location	Particular	To be implemented weeding area for Fire Protection	To be implemented Fire Protection Road Length	January		February	
				Weeding Area for Fire Protection	Fire Protection Road	Weeding Area for Fire Protection	Fire Protection Road
Near Apache	ERP 98 Ac	14 Ac	11,231 ft	-		-	-
South Pyi Nyaung	ERP 100 Ac	15 Ac	6,611 ft	-	2,519 ft	-	-
Grand Total		- 29 Ac	17,842 ft	-	14 %	-	-

Additionally, ongoing nursery maintenance for the 28-acre Ecosystem Restoration Plantation in the Pyi Nyaung Reserved Forest has been conducted to support the continued health and growth of the planted areas. The nursery plantation list at January 2025 is as follow. (Table-9)

Table – 9: Nursery Plant List

Nursery Plant List at HSE Department, STC, January 2025				
Common Name	Scientific Name	South Pyinyaung	STC Plant Nursery	Grand Total Plants
Mazali	Senna siamea	-	6,424	6,424
Padauk	Pterocarpus macrocarpus	1500	6,274	7,774
Tamalan	Dalbergia oliveri	-	532	532
Myanma Kokko	Albizia lebbek	400	7,390	7,790
Sit	Albizia procera	-	4,438	4,438
Kyun	Tectona grandis	-	-	-
Yin Daike	Dalbergia cultrata	-	259	259
Sein Pan	Delonix regia	100		100
Total		2000	25,317	27,317

Figure – 8: Record of Weeding & Patching Process in Ecosystem Restoration Plantation





Moreover, STM conducted the land clearance before red clay production to conserve the biodiversity at this red clay mine area.

Table – 10: Land clearance record at Red Clay Quarry

Name of Species			Location	Date	Time	Name of Target Species	Record (Information of Species)			Remark
Local Name	English Name	Scientific Name					Abundance	Dead/ Alive	Weather Condition	
တောဝက်	Eurasian Wild Pig	Sus scrofa	20°44'21.10"N 96°20'27.30"E	25-01-2024	10:38	-	1		Sunny	Feces
တောကြောင်	Leopard cat	Prionailurus bengalensis	20°44'20.48"N 96°20'24.58"E	25-01-2024	13:44	-	1		Sunny	Footprint & Feces
ရှင်	Phayre's Squarrel	Callosciurus erythraeus	20°44'21.37"N 96°20'25.93"E	25-01-2024	15:12	-	2	Alive	Sunny	Sighting
ငုံ	Barred Buttonquail	Turnix suscitator	20°44'21.95"N 96°20'22.24"E	25-01-2024	9:37	-	4	Alive	Sunny	Sighting
တောကြက်	Red Junglefowl	Gallus gallus	20°44'22.05"N 96°20'26.34"E	25-01-2024	10:02	-	1		Sunny	Feather
ယုန်	Siamese Hare	Lepus peguensis	20°44'23.98"N 96°20'21.05"E	25-01-2024	9:34		1		Sunny	Feces
ပွေး	Eastern Mole	Scalopus aquaticus	20°44'22.96"N 96°20'22.66"E	25-01-2024	9:25		1		Sunny	Nest

Figure – 9: Map of Land clearance at Red Clay Quarry

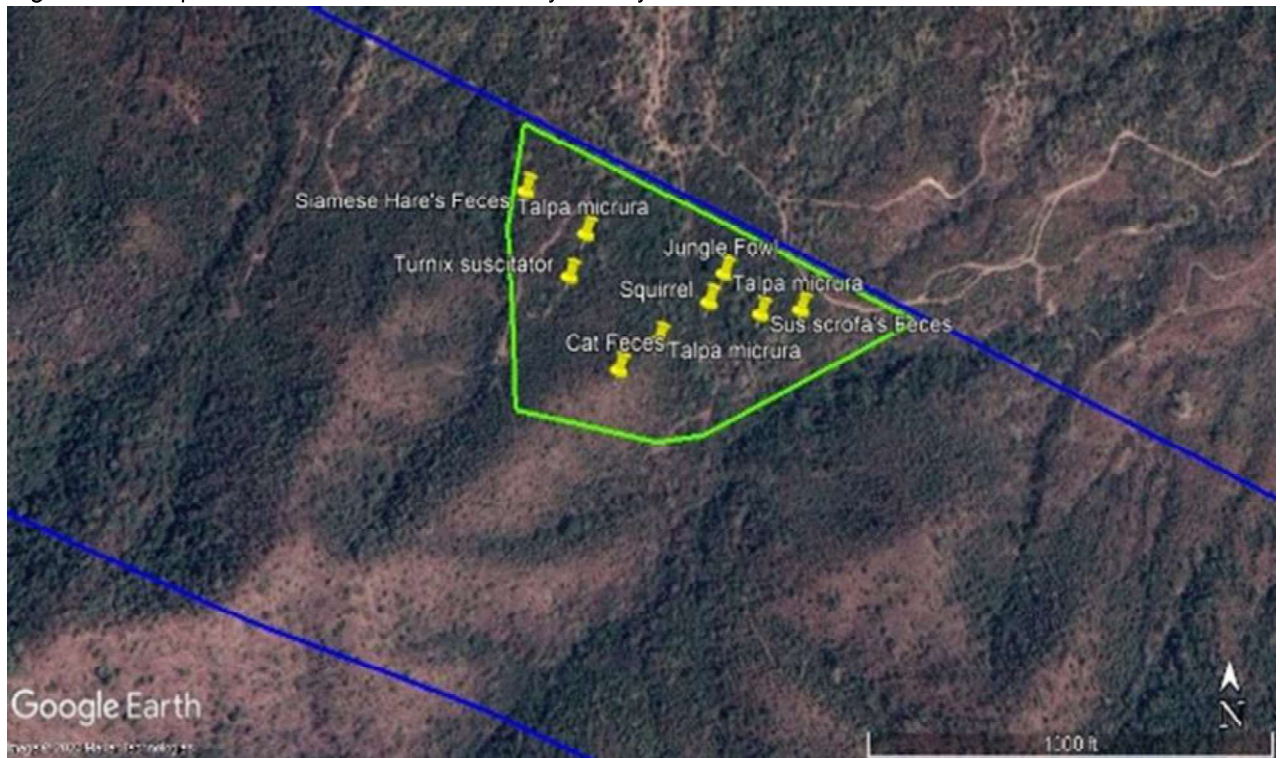


Figure – 10: Record of Land Clearance at Red Clay Quarry



Moreover, STM set no hunting and poaching policy and no illegal logging to maintain biodiversity. STM is committed to sustainability and protecting the environment in which we operate. Illegal poaching practices and illegal logging practices are strongly prohibited on STM premises. Offenders will be reported to the Forest Department and local police. Any employee caught engaging in illegal poaching or hunting and illegal logging will be suspended and their employment terminated if necessary.

Figure – 11: No Hunting & Poaching Policy and No Illegal Logging Policy of STM



6. Corporate Social Responsibility

STM implements Corporate Social Responsibility (CSR) to communities and CSR activities of the during reporting period are described in Appendix-D.

7. Conclusion and Recommendation

STM Red clay Quarry demonstrates the implementation of Environment Monitoring Plan in which they are operating and has properly assessed the key potential environmental and social impacts associated with the Mudstone Quarry operation. It is ensuring that the Myanmar environmental legislative compliance and IFC standards of good practice during the red clay Quarry expansion project and operations in Thazi Township, Mandalay Region.

Mitigation measures are properly implemented as per stated in EMP, it is expected that the environmental and social impacts are managed by STM with robust environmental management system that is implemented by a well-resourced, integrated and competent HSE staffs as per compliance of STM Red clay Quarry EMP report.

The Environment Management Plan concludes that no major direct impacts are anticipated from this Project and all environmental impacts have been properly and progressively mitigated. These monitoring results will be properly communicated to stakeholders, especially local community, as per Stakeholders Engagement Plan. STM has regularly submitted biannual environmental monitoring reports to ECD and please see the status of red clay biannual environmental monitoring reports submission to ECD in Appendix-A. Moreover, biannual environmental monitoring reports are disclosed to community at Information Centers in Pyi Nyaung and Ku Pyin and has uploaded in Apache Cement Website <https://www.apachecement.com/>.

8. Appendix

APPENDIX-A

Table: Status of Red Clay Biannual Environmental Monitoring Reports Submission to ECD

ဝန်ကြီးရုံး အတည်ပြုချက် ရရှိသည့် ရက်စွဲ	(၆) လပတ် စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာ တင်ပြသည့် ရက်စွဲ	(၆) လပတ် စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာ တင်ပြသည့် အကြိမ်အရေအတွက်	စောင့်ကြပ်ကြည့်ရှုမှုအစီရင်ခံစာ တင်ပြသည့် အချိန်ကာလ အပိုင်းအခြား	မှတ်ချက်
၁၀.၈.၂၀၂၂	၂၉.၂.၂၀၂၄	ပထမအကြိမ်	၂၀၂၂ ခုနှစ် စက်တင်ဘာလမှ ၂၀၂၃ ခုနှစ် ဖေဖော်ဝါရီလအထိ	
		ဒုတိယအကြိမ်	၂၀၂၃ ခုနှစ် မတ်လမှ ၂၀၂၃ ခုနှစ် ဩဂုတ်လအထိ	
		တတိယအကြိမ်	၂၀၂၃ ခုနှစ် စက်တင်ဘာလမှ ၂၀၂၄ ခုနှစ် ဖေဖော်ဝါရီလအထိ	
	၆.၉.၂၀၂၄	စတုတ္ထအကြိမ်	၂၀၂၄ ခုနှစ် ဖေဖော်ဝါရီလမှ ၂၀၂၄ ခုနှစ် ဇူလိုင်လအထိ	မန္တလေးတိုင်းရုံး၏ ညွှန်ကြားချက်အရ အစီရင်ခံစာ တင်ပြသည့် ကာလအပိုင်းအခြားအား ဝန်ကြီးရုံးအတည်ပြုသည့် ရက်စွဲအရ ပြန်လည်ညှိနှိုင်းပြင်ဆင်တင်ပြခဲ့ပါသည်။
	၂၀၂၅ ခုနှစ် ဖေဖော်ဝါရီလ	ပဉ္စမအကြိမ်	၂၀၂၄ ခုနှစ် ဩဂုတ်လမှ ၂၀၂၅ ခုနှစ် ဇန်နဝါရီလအထိ	၂၅-၂၀၂၅ ရက်နေ့တွင် တင်ပြခဲ့သော အစီရင်ခံစာကို ပြန်လည်ပြင်ဆင်တင်ပြ ရန် မိတ္ထီလာခရိုင်ရုံး၏ ညွှန်ကြားချက် အရ ၂၀၂၅ ခုနှစ် မတ်လအတွင်း ပြန်လည်တင်ပြခြင်း ဖြစ်ပါသည်။
	၂၀၂၅ ခုနှစ် မတ်လ			
	ဆက်လက်တင်ပြရန်	ဆဌမအကြိမ်	၂၀၂၅ ခုနှစ် ဖေဖော်ဝါရီလမှ ၂၀၂၅ ခုနှစ် ဇူလိုင်လအထိ	၂၀၂၅ ခုနှစ် ဩဂုတ်လအတွင်း တင်ပြရန်

APPENDIX- B

Ambient Air Quality Results of Yay Aye Village



Environmental Report

Record Cnt 1440

Start Date 26-08-2024 11:39:00 AM

End Date 27-08-2024 11:38:00 AM

	PMA ug/m3		CO2 ppm	CO ppm	NO2 ppb	O3 ppb	SO2 ppb	PrpM mm	RH %	TmpC Deg. C	WDir Deg.	WSpd mph	Pwr V				
Ave	17.0868	6.91388	.35625	.103340	26.8888	14.7479	4.83819	0	87.0354	25.5680	290.508	.4	10.0920	0	0	0	0
Max	177	60	23	1.7	68	35	50	0	100	31	359	4.8	10.5	0	0	0	0
Min	2	1	0	0	2	1	0	0	55	22	0	0	9.1	0	0	0	0
EPAS 919217	17.0868	6.91388	.35625	.103340	26.8888	14.7479	4.83819	0	87.0354	25.5680	290.508	.4	10.0920	0	0	0	0
	177	60	23	1.7	68	35	50	0	100	31	359	4.8	10.5	0	0	0	0
	2	1	0	0	2	1	0	0	55	22	0	0	9.1	0	0	0	0
Daily Mon, Aug 26, 2024	19.9581	9.82456	0	.099433	21.3103	11.9595	9.39946	0	82.5695	26.5101	313.326	.440890	10.1883	0	0	0	0
	177	60	0	1.7	68	35	50	0	100	31	359	4.3	10.5	0	0	0	0
	2	1	0	0	2	1	0	0	55	23	0	0	9.7	0	0	0	0
Ave Period 24 26-08-2024 11:59 P.M.A.	19.9581	9.82456	0	.099433	21.3103	11.9595	9.39946	0	82.5695	26.5101	313.326	.440890	10.1883	0	0	0	0
	177	60	0	1.7	68	35	50	0	100	31	359	4.3	10.5	0	0	0	0
	2	1	0	0	2	1	0	0	55	23	0	0	9.7	0	0	0	0
Daily Tue, Aug 27, 2024	14.0429	3.82832	.733905	.107482	32.8025	17.7038	.002861	0	91.7696	24.5693	266.319	.356652	9.98998	0	0	0	0
	91	41	23	.93	65	32	2	0	100	30	356	4.8	10.2	0	0	0	0
	2	1	0	0	2	1	0	0	62	22	3	0	9.1	0	0	0	0
Ave Period 24 27-08-2024 11:38 P.M.A.	14.0429	3.82832	.733905	.107482	32.8025	17.7038	.002861	0	91.7696	24.5693	266.319	.356652	9.98998	0	0	0	0
	91	41	23	.93	65	32	2	0	100	30	356	4.8	10.2	0	0	0	0
	2	1	0	0	2	1	0	0	62	22	3	0	9.1	0	0	0	0



Environmental Report

Record Cnt 1440

Start Date 25-10-2024
3:13:00 PM

End Date 26-10-2024
3:12:00 PM

	PMA ug/m3		CO2 ppm	CO ppm	NO2 ppb	O3 ppb	SO2 ppb	PrpM mm	RH %	TmpC Deg. C	WDir Deg.	WSpd mph	Pwr V				
Ave	17.15	6.14791	2.99652	.119923	34.2326	18.3062	4.01111	0	87.5479	24.4354	273.177	.457291	10.5886	0	0	0	0
Max	507	46	36	1.83	86	44	139	0	100	30	350	4.4	11	0	0	0	0
Min	2	1	0	0	2	1	0	0	55	21	2	0	9.9	0	0	0	0
EPAS 919217	17.15	6.14791	2.99652	.119923	34.2326	18.3062	4.01111	0	87.5479	24.4354	273.177	.457291	10.5886	0	0	0	0
	507	46	36	1.83	86	44	139	0	100	30	350	4.4	11	0	0	0	0
	2	1	0	0	2	1	0	0	55	21	2	0	9.9	0	0	0	0
Daily Fri, Oct 25, 2024	24.6508	11.0322	2.85199	.158956	42.8159	23.5445	9.83301	0	90.4611	24.1233	278.018	.052371	10.7944	0	0	0	0
	169	41	28	1.46	86	44	51	0	100	30	312	2.9	11	0	0	0	0
	2	1	0	0	2	1	0	0	55	22	271	0	10.3	0	0	0	0
Ave Period 24 25-10-2024 11:59 P.M.	24.6508	11.0322	2.85199	.158956	42.8159	23.5445	9.83301	0	90.4611	24.1233	278.018	.052371	10.7944	0	0	0	0
	169	41	28	1.46	86	44	51	0	100	30	312	2.9	11	0	0	0	0
	2	1	0	0	2	1	0	0	55	22	271	0	10.3	0	0	0	0
Daily Sat, Oct 26, 2024	12.8203	3.32858	3.07995	.097393	29.2782	15.2825	.650602	0	85.8663	24.6155	270.383	.691018	10.4697	0	0	0	0
	507	46	36	1.83	69	35	139	0	100	29	350	4.4	10.7	0	0	0	0
	2	1	0	0	2	1	0	0	60	21	2	0	9.9	0	0	0	0
Ave Period 24 26-10-2024 03:12 P.M.	12.8203	3.32858	3.07995	.097393	29.2782	15.2825	.650602	0	85.8663	24.6155	270.383	.691018	10.4697	0	0	0	0
	507	46	36	1.83	69	35	139	0	100	29	350	4.4	10.7	0	0	0	0
	2	1	0	0	2	1	0	0	60	21	2	0	9.9	0	0	0	0




Environmental Report

Record Cnt 1440

Start Date 27-11-2024 4:28:00 PM

End Date 28-11-2024 4:27:00 PM

	PMA ug/m3		CO2 ppm	CO ppm	NO2 ppb	O3 ppb	SO2 ppb	PrpM mm	RH %	TmpC Deg. C	WDir Deg.	WSpd mph	Pwr V				
Ave	33.5666	6.03472	5.47361	.08625	34.4895	19.6444	1.34375	0	89.4013	19.8888	235.479	.297013	10.2621	0	0	0	0
Max	191	48	46	1.02	73	31	54	0	100	27	336	4.4	10.6	0	0	0	0
Min	2	1	0	0	2	1	0	0	51	16	162	0	9.7	0	0	0	0
EPAS 919217	33.5666	6.03472	5.47361	.08625	34.4895	19.6444	1.34375	0	89.4013	19.8888	235.479	.297013	10.2621	0	0	0	0
	191	48	46	1.02	73	31	54	0	100	27	336	4.4	10.6	0	0	0	0
	2	1	0	0	2	1	0	0	51	16	162	0	9.7	0	0	0	0
Daily Wed, Nov 27,	34.0464	10.6836	.004424	.098097	32.9889	21.1703	3.92920	0	91.9380	19.5840	226.433	.008407	10.4159	0	0	0	0
	97	48	2	.71	61	31	54	0	100	27	253	.4	10.6	0	0	0	0
	10	1	0	0	2	1	0	0	51	17	213	0	9.9	0	0	0	0
Ave Period 24 27-11-2024 11:59 P.M.	34.0464	10.6836	.004424	.098097	32.9889	21.1703	3.92920	0	91.9380	19.5840	226.433	.008407	10.4159	0	0	0	0
	97	48	2	.71	61	31	54	0	100	27	253	.4	10.6	0	0	0	0
	10	1	0	0	2	1	0	0	51	17	213	0	9.9	0	0	0	0
Daily Thu, Nov 28, 2024	33.3471	3.90789	7.97570	.080829	35.1761	18.9463	.160931	0	88.2408	20.0283	239.617	.429048	10.1918	0	0	0	0
	191	47	46	1.02	73	31	48	0	100	25	336	4.4	10.5	0	0	0	0
	2	1	0	0	2	6	0	0	65	16	162	0	9.7	0	0	0	0
Ave Period 24 28-11-2024 04:27 P.M.	33.3471	3.90789	7.97570	.080829	35.1761	18.9463	.160931	0	88.2408	20.0283	239.617	.429048	10.1918	0	0	0	0
	191	47	46	1.02	73	31	48	0	100	25	336	4.4	10.5	0	0	0	0
	2	1	0	0	2	6	0	0	65	16	162	0	9.7	0	0	0	0

Main		Preferences		Header		Data		Report									
																	
Record Cnt		1440															
Start Date		09-12-2024															
		2:11:00 PM															
End Date		10-12-2024															
		2:10:00 PM															



Environmental Report

Record Cnt 1440

Start Date 06-01-2025
2:26:00 PM

End Date 07-01-2025
2:25:00 PM

	PMA ug/m3		CO2 ppm	CO ppm	NO2 ppb	O3 ppb	SO2 ppb	PrpM mm	RH %	TmpC Deg. C	WDir Deg.	WSpd mph	Pwr V				
Ave	42.2395	4.46319	0	.083756	31.8493	15.4541	.022916	0	76.9347	19.3125	204.261	.002777	10.1752	0	0	0	0
Max	188	43	0	1.25	70	33	10	0	100	28	359	.6	10.5	0	0	0	0
Min	2	1	0	0	2	1	0	0	28	13	0	0	9.6	0	0	0	0
EPAS 919217	42.2395	4.46319	0	.083756	31.8493	15.4541	.022916	0	76.9347	19.3125	204.261	.002777	10.1752	0	0	0	0
	188	43	0	1.25	70	33	10	0	100	28	359	.6	10.5	0	0	0	0
	2	1	0	0	2	1	0	0	28	13	0	0	9.6	0	0	0	0
Daily Sun, Jun 1, 2025	40.4268	8.43554	0	.077909	21.9006	13.2508	.057491	0	74.6324	19.6986	215.895	0	10.2566	0	0	0	0
	68	43	0	.45	59	27	10	0	100	28	359	0	10.5	0	0	0	0
	2	1	0	0	2	1	0	0	37	14	0	0	9.7	0	0	0	0
Ave Period 24 01-06-2025 11:59 P.M.	40.4268	8.43554	0	.077909	21.9006	13.2508	.057491	0	74.6324	19.6986	215.895	0	10.2566	0	0	0	0
	68	43	0	.45	59	27	10	0	100	28	359	0	10.5	0	0	0	0
	2	1	0	0	2	1	0	0	37	14	0	0	9.7	0	0	0	0
Daily Tue, Jul 1, 2025	43.4411	1.83025	0	.087632	38.4434	16.9145	0	0	78.4607	19.0565	196.549	.004618	10.1213	0	0	0	0
	188	11	0	1.25	70	33	0	0	100	28	359	.6	10.3	0	0	0	0
	2	1	0	0	2	1	0	0	28	13	0	0	9.6	0	0	0	0
Ave Period 24 01-07-2025 02:25 P.M.	43.4411	1.83025	0	.087632	38.4434	16.9145	0	0	78.4607	19.0565	196.549	.004618	10.1213	0	0	0	0
	188	11	0	1.25	70	33	0	0	100	28	359	.6	10.3	0	0	0	0
	2	1	0	0	2	1	0	0	28	13	0	0	9.6	0	0	0	0

APPENDIX-C

 SHWE TAUNG Building Materials	SHWE TAUNG MINING COMPANY LIMITED	 SHWE TAUNG MINING CO.,LTD.
	Bi-Annual Environmental Monitoring Report	

APPENDIX - (C-1) **(Tagondaing Stream Water Results (Yay Aye Village))**



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water Stream Water
Location Yeaye Village
Date of sample collection 27.08.2024
Date of sample examination 28.08.2024
Date of completing 29.08.2024

Description of Analysis	Analysis Results	WHO Drinking water Guideline
pH	8.3	6.5 - 8.5
Colour(True)	160 PCU	15 PCU
Turbidity	36 NTU	5 NTU
Calcium Hardness	105 mg/l	500 mg/l as CaCO ₃
Chloride(as Cl)	5 mg/l	250mg/l
Sulphate(as SO ₄)	10 mg/l	200mg/l
Total Suspended Solid(TSS)	67 mg/l	50mg/l
Nitrate	8.8 mg/l	50mg/l

Tested by

Han Ko Win
Chemist

Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By

Ye Naing Soe
Team Leader

Lab & QC Department
Shwe Taung Cement Co., Ltd.



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water Stream Water
Location Yeaye Village
Date of sample collection 25.10.2024
Date of sample examination 26.10.2024
Date of completing 29.10.2024

Description of Analysis	Analysis Results	WHO Drinking water Guideline
p ^H	8.6	6.5 ~ 8.5
Colour(True)	15 PCU	15 PCU
Turbidity	6.63 NTU	5 NTU
Calcium Hardness	120 mg/l	500 mg/l as CaCO ₃
Chloride(as Cl)	2 mg/l	250mg/l
Sulphate(as SO ₄)	10 mg/l	200mg/l
Total Suspended Solid(TSS)	13 mg/l	50mg/l
Nitrate	14.1 mg/l	50mg/l

Tested by

Han Ko Win
Chemist
Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By

Ye Naing Soe
Team Leader
Lab & QC Department
Shwe Taung Cement Co., Ltd.



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water	Stream Water
Location	Yeaye Village
Date of sample collection	27.11.2024
Date of sample examination	28.11.2024
Date of completing	29.11.2024

Description of Analysis	Analysis Results	WHO Drinking water Guideline
pH	8.2	6.5 ~8.5
Colour(True)	10 PCU	15 PCU
Turbidity	1.39 NTU	5 NTU
Sulphate(as SO ₄)	10 mg/l	200mg/l
Total Suspended Solid(TSS)	3 mg/l	50mg/l
Nitrate	11.3 mg/l	50mg/l

Tested by

Han Ko Win
Chemist

Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By

Ye Naing Soe
Team Leader

Lab & QC Department
Shwe Taung Cement Co., Ltd.



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water Stream Water
Location Yeaye Village
Date of sample collection 13.12.2024
Date of sample examination 14.12.2024
Date of completing 18.12.2024

Description of Analysis	Analysis Results	WHO Drinking water Guideline	Remark
p ^H	8.1	6.5 ~ 8.5	
Colour(True)	10 PCU	15 PCU	
Turbidity	0.53 NTU	5 NTU	
Calcium Hardness	-	500 mg/l as CaCO ₃	no stock chemical
Chloride(as Cl)	-	250mg/l	no stock chemical
Sulphate(as SO ₄)	10 mg/l	200mg/l	
Total Suspended Solid(TSS)	0 mg/l	50mg/l	
Nitrate	7.7 mg/l	50mg/l	

Tested by

Han Ko Win
Chemist

Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By

Ye` Naing Soe
Team Leader

Lab & QC Department
Shwe Taung Cement Co., Ltd.



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water Stream Water
Location Yeaye Village
Date of sample collection 14.01.2025
Date of sample examination 15.01.2025
Date of completing 18.01.2025


Description of Analysis	Analysis Results	WHO Drinking water Guideline	Remark
p ^H	7.9	6.5 ~ 8.5	
Colour(True)	0 PCU	15 PCU	
Turbidity	0.64 NTU	5 NTU	
Calcium Hardness	-	500 mg/l as CaCO ₃	no stock chemical
Chloride(as Cl)	-	250mg/l	no stock chemical
Sulphate(as SO ₄)	20 mg/l	200mg/l	
Total Suspended Solid(TSS)	16 mg/l	50mg/l	
Nitrate	27.2 mg/l	50mg/l	

Tested by

Han Ko Win
Team Leader
Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By

Ye Naing Soe
Manager
Lab & QC Department
Shwe Taung Cement Co., Ltd.

 SHWE TAUNG Building Materials	SHWE TAUNG MINING COMPANY LIMITED	 SHWE TAUNG MINING CO., LTD.
	Bi-Annual Environmental Monitoring Report	

APPENDIX - (C-2) **(Tagondaing Stream Water Results (Madan Village))**



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water **Stream Water**
Location **Madan Village**
Date of sample collection **27.08.2024**
Date of sample examination **28.08.2024**
Date of completing **29.08.2024**

Description of Analysis	Analysis Results	WHO Drinking water Guideline
pH	8.5	6.5 ~ 8.5
Colour(True)	130 PCU	15 PCU
Turbidity	17.4 NTU	5 NTU
Calcium Hardness	102 mg/l	500 mg/l as CaCO ₃
Chloride(as Cl)	5 mg/l	250mg/l
Sulphate(as SO ₄)	10 mg/l	200mg/l
Total Suspended Solid(TSS)	30 mg/l	50mg/l
Nitrate	10.7 mg/l	50mg/l

Tested by


Han Ko Win
Chemist

Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By


Ye Naing Soe
Team Leader

Lab & QC Department
Shwe Taung Cement Co., Ltd.



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water	Stream Water
Location	Madan Village
Date of sample collection	25.10.2024
Date of sample examination	26.10.2024
Date of completing	29.10.2024

Description of Analysis	Analysis Results	WHO Drinking water Guideline
p ^H	8.5	6.5 ~ 8.5
Colour(True)	10 PCU	15 PCU
Turbidity	1.92 NTU	5 NTU
Calcium Hardness	109 mg/l	500 mg/l as CaCO ₃
Chloride(as Cl)	2 mg/l	250mg/l
Sulphate(as SO ₄)	10 mg/l	200mg/l
Total Suspended Solid(TSS)	5 mg/l	50mg/l
Nitrate	11.3 mg/l	50mg/l

Tested by

Han Ko Win
Chemist
Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By

Ye Naing Soe
Team Leader

Lab & QC Department
Shwe Taung Cement Co., Ltd.



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water	Stream Water
Location	Madan Village
Date of sample collection	27.11.2024
Date of sample examination	28.11.2024
Date of completing	29.11.2024

Description of Analysis	Analysis Results	WHO Drinking water Guideline
p ^H	8.3	6.5 ~ 8.5
Colour(True)	0 PCU	15 PCU
Turbidity	0.74 NTU	5 NTU
Sulphate(as SO ₄)	10 mg/l	200mg/l
Total Suspended Solid(TSS)	1 mg/l	50mg/l
Nitrate	11.3 mg/l	50mg/l

Tested by

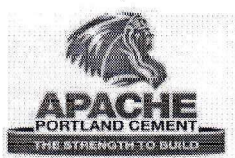
Han Ko Win
Chemist

Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By

Ye Naing Soe
Team Leader

Lab & QC Department
Shwe Taung Cement Co., Ltd.



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water Stream Water
Location Madan Village
Date of sample collection 13.12.2024
Date of sample examination 14.12.2024
Date of completing 18.12.2024

Description of Analysis	Analysis Results	WHO Drinking water Guideline	Remark
p ^H	8	6.5 ~ 8.5	
Colour(True)	0 PCU	15 PCU	
Turbidity	0.44 NTU	5 NTU	
Calcium Hardness	-	500 mg/l as CaCO ₃	no stock chemical
Chloride(as Cl)	-	250mg/l	no stock chemical
Sulphate(as SO ₄)	10 mg/l	200mg/l	
Total Suspended Solid(TSS)	0 mg/l	50mg/l	
Nitrate	7.6 mg/l	50mg/l	

Tested by

Han Ko Win
Chemist
Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By

Ye' Naing Soe
Team Leader
Lab & QC Department
Shwe Taung Cement Co., Ltd.



Shwe Taung Cement Co., Ltd.
Lab & Quality Control Department

Water Quality Test Report

Nature of water Stream Water
Location Madan Village
Date of sample collection 14.01.2025
Date of sample examination 15.01.2025
Date of completing 18.01.2025


Description of Analysis	Analysis Results	WHO Drinking water Guideline	Remark
p ^H	8	6.5 ~ 8.5	
Colour(True)	10 PCU	15 PCU	
Turbidity	0.23 NTU	5 NTU	
Calcium Hardness	-	500 mg/l as CaCO ₃	no stock chemical
Chloride(as Cl)	-	250mg/l	no stock chemical
Sulphate(as SO ₄)	10 mg/l	200mg/l	
Total Suspended Solid(TSS)	3 mg/l	50mg/l	
Nitrate	8.5 mg/l	50mg/l	

Tested by

Han Ko Win
Team Leader
Lab & QC Department
Shwe Taung Cement Co., Ltd.

Approved By

Ye Naing Soe
Manager
Lab & QC Department
Shwe Taung Cement Co., Ltd.

 SHWE TAUNG Building Materials	SHWE TAUNG MINING COMPANY LIMITED	 SHWE TAUNG MINING CO., LTD.
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APPENDIX-D

Corporate Social Responsibility

Corporate Social Responsibility (CSR)

အကြံပြုခြင်း၊ဆွေးနွေးတင်ပြခြင်းနှင့် ထိခိုက်နစ်နာမှုအတွက် တိုင်ကြားခြင်းအား ဖြေရှင်းဆောင်ရွက်သည့် လုပ်ငန်းစဉ်ဆောင်ရွက်ထားစဉ်



ရွှေတောင်သတ္တုတူးဖော်ထုတ်လုပ်ရေးကုမ္ပဏီလီမိတက်၊ မြေနီ(သတ္တုတွင်းထွက်ကုန်ကြမ်း)အလတ်စားတူးဖော်ခြင်း လုပ်ငန်းနှင့်စပ်လျဉ်း၍ ဒေသနေပြည်သူများ မှ ထိခိုက်နစ်နာမှုများနှင့်ပတ်သက်၍ အကြံပြုတင်ပြ၊ တိုင်ကြား၊ ဆွေးနွေးတင်ပြခြင်းများပြုနိုင်ရန် မဒါန်းနှင့်ရေအေးကျေးရွာများတွင် အကြံပြုစာတိုက်ပုံများ လစဉ် တစ်လလျှင် (၂) ကြိမ် ဖွင့်ဖောက်နေစဉ်

ချောင်းရေ၊ လေထုအရည်အသွေးနှင့် အမှုန်စစ်ဆေးရရှိသည့်ရလဒ်များကို အများပြည်သူသိရှိစေရန် ထုတ်ပြန်ပေးခြင်း



ချောင်းရေ၊ လေထုအရည်အသွေးနှင့် အမှုန်စစ်ဆေးရရှိသည့်ရလဒ်များကို အများပြည်သူသိရှိစေရန် ထုတ်ပြန်ပေးနေစဉ်

Corporate Social Responsibility (CSR)

ယာဉ်စည်းကမ်း၊ လမ်းစည်းကမ်းဆိုင်ရာ အသိပညာနှင့် ဗဟုသုတများမျှဝေပေးခြင်း





ယာဉ်စည်းကမ်း၊ လမ်းစည်းကမ်းဆိုင်ရာ အသိပညာ၊ ဗဟုသုတမျှဝေခြင်း ဟောပြောပွဲ တက်ရောက်ရန် ဖိတ်ကြားခြင်း

ရွှေတောင်သတ္တုတူးဖော်ထုတ်လုပ်ရေးကုမ္ပဏီလီမိတက်၏ Occupational Health & Safety Manager မှ ယင်းမာပင်ကျေးရွာအုပ်စု၊ မဒါန်းနှင့်ရေအေးကျေးရွာအတွင်းရှိ ကျောင်းသား/ ကျောင်းသူများနှင့် ကျေးရွာသူ/သားများ၊ ယာဉ်စည်းကမ်း၊ လမ်းစည်းကမ်းဆိုင်ရာ အသိပညာနှင့် ဗဟုသုတများတိုးပွားစေရန် ရည်ရွယ်၍ ယာဉ်စည်းကမ်း၊ လမ်းစည်းကမ်းဆိုင်ရာ အသိပညာ၊ ဗဟုသုတများကို မျှဝေမည်ဖြစ်ပါသဖြင့် တက်ရောက်ပေးပါရန် လေးစားစွာ ဖိတ်ကြားအပ်ပါသည်။

နေ့ရက်။ ၂၀၂၅ခုနှစ်၊ ဇန်နဝါရီလ (၂၃)ရက်(ကြာသပတေးနေ့)
အချိန်။ နေ့လယ် (၂:၀၀) နာရီ၊
နေရာ။ အခြေခံပညာအလယ်တန်းကျောင်း၊ မဒါန်းကျေးရွာ။

၂၀၂၅ ခုနှစ်၊ ဇန်နဝါရီလ (၂၃) ရက်၊ ကြာသပတေးနေ့ နေ့လယ် (၂:၀၀)နာရီ မဒါန်းကျေးရွာ အခြေခံပညာ အလယ်တန်းကျောင်းမှ ကျောင်းသား/ကျောင်းသူနှင့် ကျေးရွာသူ/ကျေးရွာသားများကို ရွှေတောင်သတ္တု တူးဖော်ထုတ်လုပ်ရေးကုမ္ပဏီလီမိတက်၏ Occupational Health & Safety Manager မှ ယာဉ်စည်းကမ်း၊ လမ်းစည်းကမ်းဆိုင်ရာ အသိပညာနှင့် ဗဟုသုတများတိုးပွား စေရန်ရည်ရွယ်၍ ယာဉ်စည်းကမ်း၊ လမ်းစည်းကမ်း ဆိုင်ရာအသိပညာ၊ ဗဟုသုတများကို မျှဝေပေးခဲ့ပါသည်။ အဆိုပါ အသိပညာ ဗဟုသုတများကို မျှဝေ ပေးရာတွင် ကျောင်းသား/ ကျောင်းသူနှင့်ဒေသနေပြည်သူ စုစုပေါင်း လူဦးရေ(၂၀၀)ခန့် တက်ရောက်ခဲ့ပြီး ကျောင်းသား/သူများမှ သိရှိလိုသည်များကို ပြန်လည်ဖြေကြားခြင်း ၊ မျှဝေပေးသည် များကို ပြန်လည် မေးမြန်းခြင်းနှင့်ဖြေကြားခြင်းများ ဆောင်ရွက်ပေးခဲ့ပါသည်။ ထို့နောက် ဆွေးနွေးမေးမြန်းခြင်း နှင့် ပြန်လည်ဖြေကြားပေးသော ကျောင်းသား/သူများကို လက်ဆောင်ပစ္စည်းများ ပေးအပ်ခဲ့ပါသည်။



ယာဉ်စည်းကမ်း၊ လမ်းစည်းကမ်းဆိုင်ရာ အသိပညာ၊ ဗဟုသုတများကို မျှဝေပေးနေစဉ်