

Ref.: HZL/RDM/ENV/2026-27/ 4335

Date: 27/06/2026

By Registered Post

The Director,  
Ministry of Environment and Forests,  
Regional Office (Central Region),  
Kendriya Bhawan, 5<sup>th</sup> Floor,  
Sector "H", Aliganj,  
**Lucknow – 226024**

Sub: – Compliance report of Environment Clearance for **Rajpura Dariba Mines, Dist: Rajsamand-313211**, Rajasthan of M/S Hindustan Zinc Limited

Ref: - Environment Clearance Letter No. – **J-11015/84/2018-IA.II (NCM)**, dated **29.11.2025**

Sir,

With reference to the above subject, we are hereby submitting the **Six-Monthly Compliance Report** of the conditions stipulated in the **Environment Clearance** for the period of **October 2025 to March 2026**.

Thanking You  
Yours faithfully

(**Debanshu Chatterjee**)  
**Unit Head - RDM**

Debanshu Chatterjee  
Agent & Unit Head  
Rajpura Dariba Lead Zinc Mine  
Hindustan Zinc Limited  
PO: Dariba, Distt. Rajsamand Rajasthan, PIN 313211

- CC: 1. In – charge (Zonal Office)  
Central Pollution Control Board,  
Vithal Market, Paryavaran Parisar, E-5, Area Colony, Bhopal, PIN - 462016
2. Member Secretary,  
Rajasthan State Pollution Control Board,  
4, Institutional Area, Jhalana Doongri, Jaipur-302004 (Raj)
3. Regional Officer,  
Rajasthan State Pollution Control Board  
Old Excise office building, Kalalwati Rajnagar, Rajsamand (Rajasthan), PIN – 313324
4. The Deputy Director(s)/Scientist – C  
Ministry of Env., Forest and Climate Change,  
Integrated Regional Office, Jaipur,  
A-209 & 218, Aranya Bhawan, Mahatma Gandhi Road,  
Jhalana Institutional Area,  
Jaipur (Raj.) - 304002
5. O/C Env Dept

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## Compliance Report of Environmental Clearance granted by the Ministry of Environment, Forests and Climate Change, Govt. of India

- **Name of the Project:** Expansion in production of Lead-Zinc Ore from 1.08 million TPA to 2.0 million TPA (Total Excavation 2.48 million TPA) & Lead-Zinc Ore Beneficiation from 1.2 million TPA to 2.5 million TPA from Rajpura Dariba Underground Mine (Mining lease area 1142.2106 & ML No. 166/2008), Located at Tehsil Relmagra, Dist- Rajsamand, Rajasthan, by M/S Hindustan Zinc Ltd
- **Clearance letter No.:** J-11015/84/2018-IA.II (M), dated 29.11.2025
- **Period of Compliance Report:** Oct 2025 to Mar 2026

### Specific Conditions:

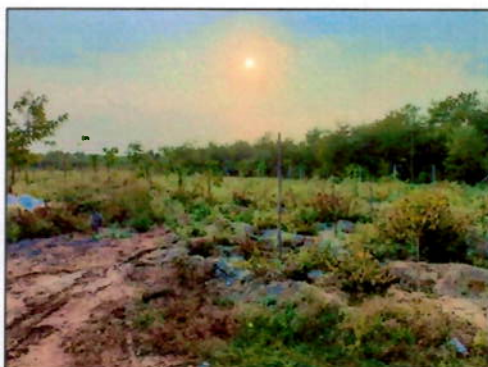
| S.No. | A. Specific Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Compliance Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| 1     | NOC for CGWA obtained vide LR No: 21-4(315)/WR/CGWA/2008-1905 dated 16.11.2017 wherein the permission for dewater the accumulated ground water in mining pits @446.5 m <sup>3</sup> /day due to seepage and intersection of water table was provided. This NOC is valid for 3 years i.e., up to 15.11.2020. Beyond 15.11.2020. PP shall use the ground only after obtaining approval from CGWA and State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) for expansion proposal after 15.11.2020, till the project proponent obtains such permission. Zero liquid Discharge is to be maintained from tailing dam; PP shall not use surface water without obtaining permission from the concerned authorities. Plant should be operated with 100% recycle water and fresh water shall be used only for drinking purpose which is supplied for industrial, colony and nearby villages. | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• CGWA NOC for groundwater abstraction of 3,145.01 KLD had been obtained and was valid up to 06.01.2026.</li> <li>• An application for renewal of the NOC has been submitted to the Central Ground Water Authority (CGWA), and the same is currently under process.</li> <li>• Zero Liquid discharge is maintained from tailing dam.</li> <li>• Surface water is being used from Matrikundiya dam as per the water supply agreements.</li> <li>• 100% recycled water is being used for mine operations and Ore beneficiation plants.</li> <li>• Freshwater is being used only for drinking (domestic) purposes which is supplied for Industrial, Colony and nearby villages.</li> </ul> |
| 2     | Out of 0.48 MTPA of waste, 0.46 MTPA shall be used to fill underground voids, 0.02 to waste dumps and not more than 0.02 MTPA shall be used for increasing the height of tailing dam. Waste should not be transported outside the mining lease area and shall be utilised within the mining lease area. the dump shall be developed in 3 benches of 7 metre high. Total height of the dump shall not be more than 21 meters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Waste generated due to mining is used for filling of voids in stopes and waste dumps.</li> <li>• No waste is transported outside mining lease.</li> <li>• For the compliance reporting period, 101193 MTPA waste was dumped on waste dumps.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|   | <p>(from bases level of 495 mRL i.e. up to 516 mRL). The overall slope of the dump shall not be more than 35°. Total quantity of the waste materials in waste dump shall not be more than 3.64 lakh tonne. Protective measures as proposed vis. a) overall slope angle of waste dump is maintained at less than angle of repose of broken material, b) retaining wall is maintained around the waste dump to prevent roll down boulders, c) garland drain of 1 m x 1m around waste dump is excavated for collecting the rain water into the storm water pit, and d)plantation shall be done in the inactive area of the waste dump to provide additional stability etc. shall be implemented for the stability of the waste dump. The area of dump yard should not be more than 5 Ha.</p> | <ul style="list-style-type: none"> <li>• Overall slope angle of waste dump is being maintained at less than angle of repose of broken material.</li> <li>• Retaining wall is maintained around the waste dump to prevent roll down boulders.</li> <li>• Garland drains of 1 m x 1m around waste dump is maintained for collecting the rainwater into the settling pits.</li> <li>• Area of waste dump is less than 5 Ha.</li> </ul> |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  <p><b>PLANTATION NEAR MAIN SHAFT AREA</b></p>  <p><b>PLANTATION IN MINE AREA</b></p>                                                                                                                                                                        |
| 3 | <p>Budget earmarked for plantation/green belt development with drip irrigation system after expansion is Rs. 1200 Lakh (Capital) and Rs. 20.0 lakh(recurring). Plantation proposed within and outside the mine lease area lease during 2018-19 to 2022-23 total 56030 saplings will be planted on 43.1 Ha area (cumulative plantation 246030 on 2331. Ha), during 2023-24 to 2027-2028 total 10660 saplings will be planted on 8.2 Ha area (cumulative plantation 256690 on 241.3 Ha). PP shall implement the protection proposed for the survival of the plantation. PP shall engage the expert agency to increase the</p>                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Noted</li> <li>• Plantation is being carried out as per the plantation/greenbelt development plan submitted.</li> <li>• For the compliance reporting period, 812 plants were planted.</li> <li>• Growth of each plant is monitored, and records are maintained.</li> <li>• Survival rate for the plantation has been close to 95 %.</li> </ul>                                             |

plantation density to at least 2500 saplings/ha. PP shall develop an alternative grazing in lieu of grazing land if already used by the PP for mining activity and take NOC from the concerned authorities for use of grazing for mining purpose. Growth of each plant needs to be monitored and record should be maintained, the record should also be maintained for no of species planted, type of species planted, survival rate etc. The budget earmarked for plantation shall be kept in separate bank account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz photographs (before and after with geo location date and time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF & CC before 1st July of every year for the activities carried out during previous year.

- Species planted – 64 species including Gulmohar, Madhurica Indica, Charooli, Aloe Vera, Bougainvillia etc.

#### **Miyawaki Plantation Project**



- Separate GL account is being maintained for plantation.

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| 4 | <p>Approval of Revised Conservation Plan for Schedule-1 species viz Indian Peafowl, Indian Gray Horn Bill, Black Shouldwer Kite, White eyed Buzzard, Indian Monitor Lizard, Indian Flapshell Turtle/Indian Mud Turtle, Indian Python, Indian Leopard, Indian Gazelle, four horned antelope, wolf, Margh crocodile and Panthera Pardus needs to be obtained. PP shall sign the MOU with State Government for implementation of conservation. PP shall deposit the amount proposed for conservation plan to state Government as per demand raised by them from time to time. PP shall report the status of payment and implementation of conservation plan to Regional Office, MoEF &amp;CC annually.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Approval for Revised Wildlife (Schedule -1) Conservation Plan has been obtained from Chief Wildlife Warden vide letter dated 16.09.2020.</li> <li>• Rs. 1.32 crores have been submitted to State Government as per the Wildlife (Schedule – 1) Conservation plan through demand draft vide letter dated 12.02.2020. Notification of the same is attached as <b>Annexure – 10</b>.</li> <li>• MOU has been signed with State Government for implementation of Wildlife (Schedule -1) Conservation plan attached as <b>Annexure – 10</b>.</li> <li>• Rs. 30 lakhs have been further submitted via letter HZL/RDM/ENV/2022-23/13117 dated 23.03.2023 for the implementation of Wildlife Conservation Plan.</li> </ul> |
| 5 | <p>Budget earmarked for CER activities is Rs. 14.0 crores which include activity 1: Health, Hygiene and water.</p> <p>a) Renovation and upgradation of Govt. Hospital (CHC Mahenduriya) (construction of additional wards, toilets, garden, mortuary, lighting etc) Budget Rs. 100 lakhs; timeline 1 year, b) installation of High-capacity community RO in surrounding 4 villages; (1500 litres per hour capacity, auto TDS, real time data, 5000 storage, SS tank mounted vehicle to mobile ATM and water transfer 24*7 chilled water supply- Railmagra 2 Nos, Sindesarkalan, Gawadhih) Budget Rs 200 lakh @Rs. 100 lakh/year; time-line 2-year, c) construction of overhead tank and pipeline in village for uninterrupted water supply 20,000lts overhead tank at Kothdi); budget 300 Lakh; time line 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year),</p> <p>activity -2 education –</p> <p>a) Holistic development of 3 government schools (additional classrooms, separate toilets, lab, computer classes, boundary wall and field development at kotdi, anjana and shivpura) budget Rs. 150 Lakh @R50 lakh/year timeline 3 years,</p> | <ul style="list-style-type: none"> <li>• Activity wise status for the compliance reporting period is attached as <b>Annexure – 09</b>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|  | <p>b) renovation of 20 old anganwadis (repair and maintenance work, painting, roof treatment, boundary, electricity et) budget 200 lakh @Rs.100 lakh/year t; timeline 2<sup>nd</sup> and 3<sup>rd</sup> year).</p> <p>Activity 3 Infrastructure development</p> <p>a) Construction of check dam (construction of check dam at Pipaswas) Budget Rs. 100 lakh timeline 1<sup>st</sup> year</p> <p>b) B) community centres (at naya Dariba, Anjana, mahenduriya) Budget 120 lakh, timeline 1<sup>st</sup> year</p> <p>c) Construction of stadium and playgrounds (Kabra and Gawardi) Budget 80 Lakh, timeline 2<sup>nd</sup> year</p> <p>d) Solar lights (300 lights in surrounding 10 villages Budget 100 lakhs; timeline 1st year)</p> <p>e) Solar pumps water system (10 HP motor with solar panels in 5 surrounding villages: Budget 150 Lakh 100 lakh, timeline 2<sup>nd</sup> and 3<sup>rd</sup> year).</p> <p>In addition to above Rs.2.5 crore shall be spent on</p> <p>i) to provide sanitary vending machine in govt. girls' schools, village govt. Health Centres and SHG Groups,</p> <p>ii) facilities to under privileged group for treatment of critical diseases like cancer/heart surgery, kidney/liver failure etc. in nearby village</p> <p>iii) to provide online library in Govt schools for referring course syllabus, employment coaching exams etc and</p> <p>iv) scholarship to meritorious/under privileged youth for higher education.</p> <p>In case the amount proposed under CER is left unspent than the same should not be diverted and kept for CER activity beyond 3<sup>rd</sup> year. At the end of life of mine if any amount remains unspent than the same should be spent in consultation with local administrations for the development of nearby villages.</p> <p>The amount proposed under this head should be kept in a separate bank account and should be audited annually. The PP should annually submit the audited statement and details of implementation of CER activities along with proof of activities viz photographs (before and after with go-location date and time) purchase</p> |  |
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|   | documents, photographs and geo location of the infrastructure /facilities developed, etc to the Regional Office of MoEF & CC before 1 <sup>st</sup> July of every year for the activities carried out during previous year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 6 | <p>Budget earmarked for Occupational Health Surveillance Plan shall be Rs. 204 Lakh which includes:</p> <ol style="list-style-type: none"> <li>1) IME Budget @2500 per person (Rs 25 lakh for 2019-20, Rs 6.25 for 2020-21, Rs. 2.5 lakh/annual from 2021-22 to 2030-31)</li> <li>2) PME Budget @2500per person (Rs. 5 lakhs for 2019-20, Rs. 7 lakh/annual from 2020-21 to 2030-31)</li> <li>3) PPEs @Rs.5000 per person (Rs.100 lakh for 2019-20, Rs. 62.5 lakh/annual from 2020-21to 2030-31)</li> <li>4) Occupational Hygiene (Rs. 18.5 lakh/annum from 2019-20 to 2030-31)</li> <li>5) Quantitative and Qualitative Hygiene Survey (Rs. 53 lakhs for 2019-20, Rs. 5 lakhs from 2020-21 to 2030-31) and</li> <li>6) AMC of OH software (Rs 2 lakh/annum from 2020-21 to 2030-31)</li> </ol> <p>The amount proposed under this head should be kept in a separate bank account and should be audited annually. The PP should annually submit the audited statement and details of implementation of occupational health plan along with proof of activities viz, photographs (before and after with geo-location and date and time) purchase document, samplings reports, photograph and geolocation of the infrastructures/facilities developed, details of persons engaged for implementation of occupational health plan to the Regional Office of MoEF &amp;CC before 1<sup>st</sup> July of every year for the activities carried out during previous year.</p> | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• As part of Occupational health surveillance plan, IME (Initial Medical Examination) and PME (Periodical Medical Examination) is done as per Mines rule, 1955.</li> <li>• Qualitative exposure assessment conducted by ISS (India) Consultancy Services Pvt. Ltd.</li> <li>• The overall objective of this study was to comprehensively assess the employee's exposure to chemical and physical agents (mainly noise, vibration and heat stress) and the need for further assessments for the improvement of the Occupational Health and Industrial Hygiene</li> <li>• HMS software is used for management of Occupation Health data.</li> </ul> |
| 7 | Disaster Management Plan proposed shall be implemented scrupulously. Budget allocation for the emergency preparedness is prepared and submitted. Capital and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Activities mentioned as part of Disaster Management Plan are being carried out and the status of activities is given herewith.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

recurring expenditure is around Rs. 2.29 crores which includes

- 1) Rs. 0.84 Cr. For Rescue apparatus
- 2) Rs. 0.35 Cr. For underground ambulance
- 3) Rs.0.35 Cr. for underground Rescue Van
- 4) Rs. 0.15 Cr. for vehicle for surface movement
- 5) Rs.0.50 Cr. for fire tendering equipment and
- 6) Rs0.10 Cr. for structure for Work @ Height.

The recurring budget proposed is 1.53 Cr. which includes

- 1) Rs.0.05 Cr. for RRRT Centre
- 2) Rs.0.22 Cr. for apparatus, calibration and Maint.
- 3) Rs.0.78 Cr. for RTPs and training
- 4) Rs. 0.05 Cr. For RRRT competition
- 5) Rs.0.14 Cr. for firefighting organisation
- 6) Rs. 0.24 Cr. for Refuge chamber and self-rescuer
- 7) 0.05 Cr. for ambulance and rescue van

The amount proposed under this head should be kept in a separate bank account and should be audited annually. The PP should annually submit the audited statement and details of implementation of Disaster Manager Plan along with proof of activities viz photograph and geolocation of the infrastructures/ facilities developed, details of persons engage for implementation of Disaster Management Plan along with proof activities viz, photographs (before and after with geo location date and time) purchase documents, photographs and geo-location of the infrastructures/facilities developed, details of persons engaged for implementation of Disaster Management Plan to the Regional Office of MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during previous year.

- Rescue apparatus like Rescue Ram , spreader , hydraulic cutter, self rescuers have been procured.
- Underground Rescue Van has been provided.
- Structure for Work at height has been provided.



**RESCUE VAN**



**RESCUE APPARATUS**



**RESCUE RAM**

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| 8 | <p>Budget earmarked for Environmental Management Plan (EMP) shall be Rs 110.50 Cr. (capital) and Rs. 6.95 Cr.(recurring) which include Dust suppression system/dust extraction system installation with dust monitoring sensor (opacity meter) at chimney sampling point (COSP) Rs. 1.2 cr (capital and 1.5 cr (recurring), timeline 1 year</p> <p>Tailing Dam Management / Dry tailing disposal rs. 26.20 cr (capital) and 1.96 cr(recurring), timeline 2 years</p> <p>Tailing Thickener Rs. 0.5 cr (capital) and Rs. 0.2 cr(recurring)timeline.</p> <p>Surface water sprinkler Rs. 0.80 cr (capital)and 0.1 cr(recurring, timeline 1 year;</p> <p>Ventilation system Rs. 16.6 cr (capital and Rs. 1.0cr (recurring)timeline 2 years;</p> <p>Mechanical road sweeper Rs. 0.80cr (capital) &amp; 0.1cr (recurring) timeline 1 year</p> <p>Rainwater harvesting measures/deepening of existing village tanks 30.0 cr (capital) and 0.11 cr (recurring), timeline 3 years</p> <p>Plantation/Green belt development with drip irrigation system 12.0 cr(capital) and 0.2cr (recurring) timeline 10 years</p> <p>Automation in Environment Monitoring (CAAQMS) 21 cr (capital) 0.2 cr (recurring)timeline 1 year</p> <p>Construction of garland drain, and silt settling tank and recycle system for waste dump management 0.3 cr(capital) and 0.1 cr(recurring)timeline 2 years.</p> <p>Schedule-I fauna conservation plan cost 6.60 cr (capital) and 0.01cr (recurring) timeline 2 years.</p> <p>Installation of Oil grease trap system and sewage treatment plant, installation with display of COD, BOD, TDS, pH display at main gate entrance 18.0 cr (capital) and 0.2 cr (recurring) timeline 18 months</p> | <ul style="list-style-type: none"> <li>• Activity wise status for the compliance reporting period is given herewith.</li> <li>• Pastefill plant has been commissioned along with Dry Tailing Plant.</li> </ul>  <ul style="list-style-type: none"> <li>• Plantation / greenbelt development - Plantation is being carried out as per the plantation/greenbelt development plan submitted. For the compliance reporting period, 812 plants were planted.</li> <li>• Automation in Environment Monitoring – Continuous Ambient Air Quality Monitoring Station has been installed and commissioned.</li> <li>• Automation in Environment Monitoring – Digital Water Level recorders have been installed.</li> <li>• Schedule – I fauna conservation plan - Approval for Revised Wildlife (Schedule -1) Conservation Plan has been obtained from Chief Wildlife Warden vide letter dated 16.09.2020. Rs. 30 lakhs have been further submitted via letter HZL/RDM/ENV/2022-23/13117 dated 23.03.2023 for the implementation of Wildlife Conservation Plan after the signing of MoU with Forest Department, Rajsamand.</li> </ul> |
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Water hydrant system 0.7cr (capital) and 0.10 cr (recurring) timeline 18 month

High density/Paste fill 10.40 cr (capital) and 1.1.cr (recurring)

Hazardous waste storage facility 0.5cr (capital) and Recurring timeline 2 years

Mobile water tanker 0.3 cr (capital) and 0.05 cr (recurring) timeline 1 year

The amount (except occupational health) proposed under this head should be kept in a separate bank account and should be audited annually. The PP should annually submit the audited statement and detailed environment report along with proof of activities viz photograph (before and after with geo location date and time) purchase documents, sampling report, photographs and geo location of the infrastructure/facilities developed, details of persons engaged in Environment Management Cell to the Regional Officer of MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during previous year.



#### **DIGITAL WATER LEVEL RECORDER**

- Construction of garland drain and silt settling tank - Garland drains have been provided, and sedimentation pits/sumps have been constructed at the corners of the garland drains thereby allowing proper settling of sediment/silt material.



#### **GARLAND DRAINS AROUND WASTE DUMP**

- High density Paste fill – Paste fill plant is being installed which will be used to fill mining voids.

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|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Mechanical road sweeper – Truck mounted road sweepers have been provided and are used to control fugitive dust emissions.</li> </ul>  <p><b>TRUCK MOUNTED ROAD SWEEPER</b></p>                                                                                                                                  |
| 9         | PP shall engage an expert agency to identify the area which has maximum possibility to be get impacted due to mining and cement plant activity. After ascertaining the area of influence the PP shall annually monitor the crop productivity of the identified area. PP shall provide the crop insurance for agricultural field falling in this area and in case of crop damage take immediate measure to mitigate the same and also ensure to pay crop loss compensation.                     | <ul style="list-style-type: none"> <li>Noted.</li> <li>An expert agency has been engaged to identify the area which has maximum possibility to be get impacted due to mining and beneficiation plant activity.</li> <li>After it was ascertained "As there was no significant reduction of crop production in the affected villages, there is no issue involved for any crop insurance to be paid to the cultivators by HZL."</li> </ul> |
| 10        | In pursuant to Ministry's OM NO: 22-34/2018-IA.II dated 16.1.2020 to comply with the direction made by Hon'ble Supreme Court on 8.1.2020 in WP (Civil) No 114/2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. | <ul style="list-style-type: none"> <li>Noted.</li> <li>After ceasing of operations, Re-grassing of the mining area and any other area which may have been disturbed due to other mining activities will be carried out.</li> <li>Land will be restored to a condition which is fit for growth of fodder, flora, fauna etc.</li> </ul>                                                                                                    |
| <b>B.</b> | <b>Standard Conditions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>I</b>  | <b>Statutory compliance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1         | This Environmental Clearance (EC) is subject to orders/judgment of Hon'ble Supreme Court of India, Hon'ble High                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Noted.</li> <li>The directions of Honourable courts shall be adhered to.</li> </ul>                                                                                                                                                                                                                                                                                                               |

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|   | Court, Hon'ble NGT and any other Court of Law, Common Cause Condition as may be applicable.                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                            |
| 2 | The Project Proponent complies with all the statutory requirement and judgment of Hon'ble Supreme Court dated 2 <sup>nd</sup> August 2017 in Writ Petition (Civil) No: 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Statutory compliances and judgements of Supreme Court in matter of Common Cause versus Union of India &amp; Ors will be complied with.</li> </ul>                                                                                                               |
| 3 | The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective department of Mining & Geology in strict compliance of Judgement of Hon'ble Supreme Court dated 2 <sup>nd</sup> August 2017 in Writ Petition (Civil) No: 114 of 2014 in matter of Common Cause versus Union of India & Ors | <ul style="list-style-type: none"> <li>• Noted.</li> </ul>                                                                                                                                                                                                                                                                 |
| 4 | This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board of Wildlife, if applicable to the Project.                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• NBWL approval is not applicable to this project as there are no National Parks, Wildlife Sanctuaries, Biosphere reserves, Wildlife Corridors, Ramsar sites, Tiger/Elephant reserves in Core &amp; Buffer Zone (10 km radius) of Rajpura Dariba Mine.</li> </ul> |
| 5 | This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Forest clearance is not applicable as there is no forest area in Core and Buffer Zone (10 km radius) of Rajpura Dariba Mine</li> <li>• Copy of the letter received from DFO, Rajsamand is attached as <b>Annexure -1</b>.</li> </ul>                                              |
| 6 | Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent of Establish/Consent to Operate from the concerned State Pollution Control Board/committee.                                                                                                                                    | <ul style="list-style-type: none"> <li>• CTE/CTO have been obtained from Rajasthan State Pollution Control Board vide letter dated 28.02.2023 and conditions stipulated therein are being effectively implemented.</li> </ul>                                                                                              |
| 7 | The PP shall adhere to the provision of the Mines Act, 1952 Mines and Mineral                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Noted.</li> </ul>                                                                                                                                                                                                                                                                 |

|    |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                          |
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|    | (Development & Regulation), Act 2015 and rules and regulations made there under. PP shall adhere to various circular issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.                                                                                                                                         | <ul style="list-style-type: none"> <li>Adherence to the provision of the Mines Act, 1952 Mines and Mineral (Development &amp; Regulation), Act 2015 and rules and regulations made there under is being ensured.</li> </ul>                                                                                                                                              |
| 8  | The Project Proponent shall obtain consents from all the concerned landowners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.                                                                                                                          | <ul style="list-style-type: none"> <li>Noted.</li> <li>Mining is being carried out in valid mine lease with consent from applicable stakeholders.</li> </ul>                                                                                                                                                                                                             |
| 9  | The Project Proponent shall follow the Mitigation measures provided in MoEF & CC OM No: Z-11013/57/2014-IA. II(M) dated 29 <sup>th</sup> October 2014 titled "Impact of mining activities on Habitation Issues related to the mining Project and villages are the part of mine lease areas or Habitation and villages are surrounded by the Mine lease area" | <ul style="list-style-type: none"> <li>Noted.</li> <li>Mitigation measures mentioned in the OM are being implemented.</li> <li>Study report concluded "The habitants of five villages have not reported any inconvenience due to illumination, blasting vibration, noise etc, as these are more than 500 m away from underground mine and beneficiation area"</li> </ul> |
| 10 | The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.                                                                                                                                                    | <ul style="list-style-type: none"> <li>Noted.</li> <li>Approval for drawl of surface water have been obtained in the form of Water Supply Agreements for Matrikundiya dam.</li> <li>NOC from CGWA is obtained for withdrawal of groundwater by dewatering due to seepage and intersection of Water table.</li> </ul>                                                     |
| 11 | A copy of EC letter will be marked to concerned Panchayat/ local NGO etc, if any, from whom suggestion/representation has been received while processing the proposal.                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>Complied.</li> <li>A copy of the EC letter has been marked to Tehsildar, District Industries Centre, Collector's office, and Panchayat Samiti vide letter dated 04.05.2020.</li> </ul>                                                                                                                                            |
| 12 | State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional Office, District Industries Centre and Collector's Office/Tehsildar's Office for 30 days.                                                                                                                                                         | <ul style="list-style-type: none"> <li>Complied.</li> <li>A copy of the EC letter has been marked to Tehsildar, District Industries Centre, Collector's office and Panchayat Samiti vide letter dated 04.05.2020</li> </ul>                                                                                                                                              |
| 13 | The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Complied</li> <li>Advertisement of grant of EC letter was done in two local newspapers</li> </ul>                                                                                                                                                                                                                                 |

|                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                      |
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|                                                   | <p>newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and website of the Ministry of Environment, Forest and Climate Change (<a href="http://www.parivesh.nic.in">www.parivesh.nic.in</a>). A copy of the advertisement may be forwarded to the concerned MoEF&amp;CC Regional Office for compliance and record.</p>                                                                                                                                                                                                                                                                                                                                         | <p>(Dainik Bhaskar &amp; Rajasthan Patrika) on 19.04.2020 within 7 days of the issuance of the clearance letter.</p> <ul style="list-style-type: none"> <li>• Copy of the Advertisement is attached as <b>Annexure -2</b>.</li> </ul>                                                                                                                                                |
| 14                                                | <p>The Project Proponent shall inform the MoEF&amp;CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• MoEF&amp;CC will be informed in case of change in ownership of the mining lease.</li> <li>• In case there is any change in ownership or mining lease is transferred than mining will be carried out only after transfer of EC.</li> </ul>                                                                                 |
| <b>II Air quality monitoring and preservation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                      |
| 15                                                | <p>The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Station with 1 (one in upwind and 2(two) in downwind direction based on long term climatological data about wind direction such that an angle of 120 degree is made between the monitoring locations to monitor critical parameters,, relevant for mining operations, of air pollution viz PM10, PM2.5, NOs, CO and SO2 etc as per the methodology mentioned in NAAQS Notification No:B-29016/20/90/PCI/I dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building canteen etc as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 3 months in front of the Main Gate of the Mine site.</p> | <ul style="list-style-type: none"> <li>• Continuous Ambient Air Quality stations have been installed for monitoring of all required air quality parameters.</li> <li>• Data is being displayed at the front Main Gate of Rajpura Dariba Mines.</li> </ul> <div> </div> <p style="text-align: center;"><b><u>CAAQMS - 1</u></b></p> |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| 16         | <p>Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The fugitive dust emission from all sources shall be regularly controlled by installation of required equipment/machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppression agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&amp;CC/ Central pollution control Board.</p> | <ul style="list-style-type: none"> <li>• Effective safeguards measures for prevention of dust generation like regular water sprinkling is being carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points.</li> <li>• The fugitive dust emission from all sources is being regularly controlled by installation of required equipment/machineries and preventive maintenance along with</li> </ul> <div> </div> <p>truck mounted road sweepers.<br/><b>TRUCK MOUNTED ROAD SWEEPER</b></p> <ul style="list-style-type: none"> <li>• Ambient air quality is being carried out monthly and data is attached as <b>Annexure – 3</b>.</li> </ul> |
| <b>III</b> | <b>Water quality monitoring and preservation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1          | <p>In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&amp;CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydrogeological study of the area.</p>                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Due to seepage and intersection of water table during mining activities, dewatering of accumulated water in mining pits is being carried out.</li> <li>• CGWA NOC for groundwater abstraction of 3,145.01 KLD had been obtained and was valid up to 06.01.2026.</li> <li>• An application for renewal of the NOC has been submitted to the Central Ground Water Authority (CGWA), and the same is currently under process.</li> </ul>                                                                                                                                                                                                                                                                                                                      |
| 2          | <p>Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine leases shall be carried</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Monitoring of keys wells for water quality and water levels in and around the mine lease is being done regularly.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|   | <p>out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug well located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in ground water level and quality shall be submitted on six monthly basis to the Regional Office of the Ministry, CGWA and State Ground water Department/State Pollution Control Board</p> | <ul style="list-style-type: none"> <li>• The natural water bodies and or streams which are flowing in an around the mine lease are not being disturbed.</li> <li>• Fresh water is being provided to villagers for their use.</li> <li>• Water table is being nurtured so as to not go down below the pre-mining period. Rainwater harvesting in the form of desilting and deepening of village ponds is being carried out.</li> <li>• Reports on change in ground water level and quality is being submitted and reports are attached as <b>Annexure – 4 and 5.</b></li> </ul>                             |
| 3 | <p>Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo meter installation during the mining operation in consultation with Central Ground Water Authority/State Ground Water Department. The Report on changes in ground water level and quality shall be submitted on six monthly basis to the Regional Office of the Ministry, CGWA and State ground water department/State Pollution Control Board.</p>                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Monitoring of ground water level and quality is done through a network of piezometers and wells in and around the lease.</li> <li>• Reports on change in ground water level and quality is being submitted and reports are attached as <b>Annexure – 4 and 5.</b></li> </ul>                                                                                                                                                                                                                                                                                      |
| 4 | <p>The Project Proponent shall undertake regular monitoring of natural water course/water resources/springs and perennial nallahs existing flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include</p>                                                                           | <ul style="list-style-type: none"> <li>• Regular monitoring of natural water course/water resources/springs and perennial nallahs existing flowing in and around the mine lease is being carried out.</li> <li>• Regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/adjacent to the mine lease and maintain its records are being maintained.</li> <li>• Monitoring of water courses/bodies existing in lease area is being carried out quarterly covering all four seasons pre monsoon (Apr-May), monsoon (August), post monsoon (November)</li> </ul> |

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|   | <p>their water quality vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/or alteration be made to water bodies during mining operation without justification and prior approval of MoEF&amp;CC. The monitoring of water courses/bodies existing in lease area shall be carried out four time in a year viz pre monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six monthly basis.</p> | <p>and Winter (January) and the data is attached as <b>Annexure -6</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                      |
| 5 | <p>Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run off, acid mine drainage and metal contamination in run off shall be monitored along with total suspended solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment Forest and Climate Change may also be referred in this regard.</p>                                                                                                                                | <ul style="list-style-type: none"> <li>• Water generated as part of dewatering due to mining operations is utilized in wet drilling in mining ore beneficiation in beneficiation plant.</li> <li>• Process water that is recovered from Tailing dam is also used in beneficiation plant.</li> <li>• Only process water is used for dust suppression activities including sprinkling.</li> <li>• Monitoring report is attached as <b>Annexure – 7</b>.</li> </ul> |

| 6                                             | <p>Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEF&amp;CC annually.</p>       | <ul style="list-style-type: none"> <li>Rainwater Harvesting structures have been prepared which involve desilting and deepening of villages in and around the mine lease area.</li> </ul> <div>  </div> <p style="text-align: center;"><b>DEEPENING OF MEHANDURIYA POND</b></p> <table border="1"> <thead> <tr> <th colspan="3">Rainwater Harvesting Details</th></tr> <tr> <th>S.No</th><th>Location</th><th>Qty</th></tr> </thead> <tbody> <tr> <td>1</td><td>Meheduriya</td><td>415000 m<sup>2</sup></td></tr> <tr> <td>2</td><td>Anjana</td><td>23000 m<sup>2</sup></td></tr> <tr> <td>3</td><td>Rajpura</td><td>35000 m<sup>2</sup></td></tr> <tr> <td>4</td><td>Gawardi</td><td>30000 m<sup>2</sup></td></tr> <tr> <td>5</td><td>Kotdi</td><td>11000 m<sup>2</sup></td></tr> <tr> <td colspan="2"><b>Total Area</b></td><td><b>514000 m<sup>2</sup></b></td></tr> <tr> <td colspan="2">Total Rainfall from Oct'25 to Mar'26</td><td>111.9 mm</td></tr> <tr> <td colspan="2"><b>Total Potential of Rainwater Harvested</b></td><td><b>57516.6 m<sup>3</sup></b></td></tr> </tbody> </table> | Rainwater Harvesting Details |  |  | S.No | Location | Qty | 1 | Meheduriya | 415000 m <sup>2</sup> | 2 | Anjana | 23000 m <sup>2</sup> | 3 | Rajpura | 35000 m <sup>2</sup> | 4 | Gawardi | 30000 m <sup>2</sup> | 5 | Kotdi | 11000 m <sup>2</sup> | <b>Total Area</b> |  | <b>514000 m<sup>2</sup></b> | Total Rainfall from Oct'25 to Mar'26 |  | 111.9 mm | <b>Total Potential of Rainwater Harvested</b> |  | <b>57516.6 m<sup>3</sup></b> |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--|--|------|----------|-----|---|------------|-----------------------|---|--------|----------------------|---|---------|----------------------|---|---------|----------------------|---|-------|----------------------|-------------------|--|-----------------------------|--------------------------------------|--|----------|-----------------------------------------------|--|------------------------------|
| Rainwater Harvesting Details                  |                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| S.No                                          | Location                                                                                                                                                                                                                                                                                                                                           | Qty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 1                                             | Meheduriya                                                                                                                                                                                                                                                                                                                                         | 415000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 2                                             | Anjana                                                                                                                                                                                                                                                                                                                                             | 23000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 3                                             | Rajpura                                                                                                                                                                                                                                                                                                                                            | 35000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 4                                             | Gawardi                                                                                                                                                                                                                                                                                                                                            | 30000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 5                                             | Kotdi                                                                                                                                                                                                                                                                                                                                              | 11000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| <b>Total Area</b>                             |                                                                                                                                                                                                                                                                                                                                                    | <b>514000 m<sup>2</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| Total Rainfall from Oct'25 to Mar'26          |                                                                                                                                                                                                                                                                                                                                                    | 111.9 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| <b>Total Potential of Rainwater Harvested</b> |                                                                                                                                                                                                                                                                                                                                                    | <b>57516.6 m<sup>3</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 7                                             | <p>Industrial wastewater (workshop and wastewater from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be</p> | <ul style="list-style-type: none"> <li>Industrial wastewater (Workshop and wastewater from the mine) is properly collected, treated and re-used in the beneficiation plants and HEMM washing bay.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |

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|           | treated after its initial passage through oil and grease trap.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 8         | The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office the MoEF&CC and State Pollution Control Board/Committee.                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Water audit study has been carried out by FICCI.</li> <li>• Measures for reducing the consumption of water have been taken as per the findings of Water Audit.</li> </ul>                                                                                                                                                                                                   |
| <b>IV</b> | <b>Noise and vibration monitoring and prevention</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 9         | The peak particle velocity at 500m distance or within the nearest habitation whichever is closer shall be monitored periodically as per applicable DGMS guidelines                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• PPV is monitored periodically as per the applicable DGMS guidelines.</li> <li>• PPV ranges between 0.75 – 3.79 mm/sec at 0 to 300 m from mining activity.</li> </ul>                                                                                                                                                                                                        |
| 10        | The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the CERs located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/masks away from the villagers and keeping the noise levels well within the prescribed limits for day/night hours.              | <ul style="list-style-type: none"> <li>• Floodlights / masks are oriented in such a way that they do not disturb the biological clock for villagers.</li> <li>• Noise levels are kept within the prescribed limits for day/night hours.</li> <li>• Noise monitoring is carried out to measure the noise levels during day/night.</li> <li>• Monitoring reports are attached as <b>Annexure – 8</b>.</li> </ul>       |
| 11        | <p>The proponent shall take measures for control of noise level below 85 dBA in the work environment. The workers engaged in operations of HEMM etc should be provided with ear plugs/muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects.</p> <p>The PP shall be held responsible in case it has been found that workers/personals/labourer are working without personal protective equipment.</p> | <ul style="list-style-type: none"> <li>• Measures are taken to control noise level below 85 dBA in the work environment.</li> <li>• PPEs with ear plugs and muffs are provided to individuals working in high noise areas.</li> <li>• Protective respiratory devices along with training, awareness and information on safety and health aspects is also provided for workers working in the dusty areas.</li> </ul> |

| V  | Mining Plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| 12 | <p>The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year wise plan was mentioned for total excavation i.e., quantum of mineral, waste over burden, inter burden and topsoil etc. No change in basic mining proposal like mining technology, total excavation, mineral and waste production, lease area and scope of working (viz method of mining, overburden and dump management, OB and dump, mining, mineral transportation mode, ultimate depth of mining etc) shall not be carried out without prior approval of the Ministry of environment, forest and climate change, which entail adverse environmental impact, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt in the form to Short Term Permit (STP), query license or any other name.</p> <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Working parameters are being adhered to.</li> <li>• No change in basic mining proposal like mining technology, total excavation, mineral and waste production, lease area and scope of working (viz method of mining, overburden and dump management, OB and dump, mining, mineral transportation mode, ultimate depth of mining etc) will not be carried out without prior approval.</li> </ul> |
| 13 | <p>The Project Proponent shall get the Final Mine Closure Plan along with financial assurance approved from Indian Bureau of Mines/Department of Mining, &amp; Geology as required under Provision of the MMDR Act, 1957 and Rules/Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.</p> <ul style="list-style-type: none"> <li>• During final closure of the mine, Final Mine Closure Plan along with financial assurance will be approved from Indian Bureau of Mines/Department of Mining, &amp; Geology as required under Provision of the MMDR Act, 1957 and Rules/Guidelines made thereunder.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 14 | <p>The land use of the mine lease area at various stages of mining scheme as well as at the end of life shall be governed as per the approved Mining Plan. The excavation vis a vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-</p> <ul style="list-style-type: none"> <li>• Land use of the mine lease area is being governed as per the approved Mining Plan.</li> <li>• Afforestation is being done as per approved mining plan cum Progressive Mine closure Plan.</li> <li>• Monitoring and management of rehabilitated areas is done until the vegetation becomes self-sustaining.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|           | yearly to the MoEF & CC and its concerned Regional Office.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                         |
| <b>VI</b> | <b>Land reclamation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                         |
| 15        | <p>The overburden (OB) generated during the mining operations shall be stacked at earmarked OB dump site(s) and it should not be kept active for a long period of time. The physical par and angle of slope shall be governed as per the parameters of the OB dumps like height, width and angle of slope shall be formed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t safety in mining operations shall be strictly adhered to maintain the stability of topsoil/OB dumps. The topsoil shall be used for land reclamation and plantation.</p> | <ul style="list-style-type: none"> <li>• Since it's an underground mine, no overburden is generated.</li> <li>• Waste generated due to mining is used for filling of voids in stopes.</li> <li>• For the compliance reporting period, 101193 MT waste was dumped on waste dumps.</li> </ul>                                                                             |
| 16        | <p>The reject/Waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circular issued by DGMS w.r.t safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.</p>                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Waste generated due to mining is used for filling of voids in stopes and waste dump.</li> <li>• For the compliance reporting period, 101193 MT waste was dumped on waste dumps.</li> <li>• Overall slope angle of waste dump is being maintained at less than angle of repose of broken material.</li> </ul> |
| 17        | <p>The reclamation of waste dump sites shall be done in scientific manner as per the approved Mining Plan cum Progressive Mine Closure Plan.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Reclamation of waste dump sites is being done in a scientific manner as per the approved Mining Plan cum Progressive Mine Closure Plan.</li> </ul>                                                                                                                                                                             |
| 18        | <p>The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the cell slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaption of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/compactors thereby ensuring proper filling /levelling of dump mass. In</p>                               | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Local species have been planted which regulates local climatic parameters.</li> <li>• The dump mass is consolidated with the help of dozer/compactors thereby ensuring proper filling /levelling of dump mass.</li> </ul>                                                                                    |

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|    | critical area, used of geo textiles/geo membranes /clay liners/ Bentonite etc. shall be undertaken for stabilization of the dump.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                               |
| 19 | The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slop stability report shall be submitted to concerned regional office of MoEF&CC                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Dump height is not more than 30 meters.</li> </ul>                                                                                                                                                                                                                                                                                                                   |
| 20 | Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and topsoil/OB/Waste dump to prevent run off of water and flow of sediments directly into the water bodies (Nallah/River/Pond et) The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.                                                                   | <ul style="list-style-type: none"> <li>• Garland drains have been provided, and sedimentation pits/sumps have been constructed at the corners of the garland drains thereby allowing proper settling of sediment/silt material.</li> </ul>  <p style="text-align: center;"><b>GARLAND DRAINS AROUND<br/>WASTE DUMP</b></p> |
| 21 | Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention period thereby allowing proper settling of sediment/silt material. The sedimentations pits/sumps shall be constructed at the corners of the garland drains. | <ul style="list-style-type: none"> <li>• Garland drains have been provided, and sedimentation pits/sumps have been constructed at the corners of the garland drains thereby allowing proper settling of sediment/silt</li> </ul>                                                                                                                                                                              |

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|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>material.</p>  <p><b>RETAINING WALL AROUND WASTE DUMP</b></p>                                                                                                                                                                                                                                                                                                                                                        |
| 22         | <p>The topsoil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the topsoil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t safety in mining operation shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.</p>                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Since it's an underground mine there is no disturbance to topsoil.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>VII</b> | <b>Transportation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 23         | <p>No transportation of the minerals shall be allowed in case of roads, passing through villages/ habitations. In such cases, PP shall construct a bypass road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meter) so that the adverse impact of sound and dust along with chance of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/rural roads shall be allowed in consultation with nodal state govt. department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will</p> | <ul style="list-style-type: none"> <li>• No Transportation of minerals carried out outside the lease, passing through villages/habitations.</li> <li>• Vehicular emissions kept under control and regularly monitored. Pollution Under Control (PUC) certificate is mandatory for all the vehicle from authorized pollution testing centres.</li> <li>• PUC camps are organized on World Environment Day.</li> </ul>  |

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|             | be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicle from authorized pollution testing centers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 24          | <p>The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yard etc. should invariably be provided with dust suppression arrangements. The air pollution control equipment's like bag filters, vacuum suction hoods, dry fogging system shall be installed crushers, belt conveyors and other area prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.</p> | <ul style="list-style-type: none"> <li>• Water sprinkling is done on ramp/haulage road of the underground mine.</li> <li>• Sprinkling systems have been installed at dust generation areas.</li> <li>• The fugitive dust emission from all sources is being regularly controlled by installation of required equipment/machineries and preventive maintenance along with truck mounted road sweepers.</li> <li>• Bag filters have been installed in crusher area.</li> <li>• Covered conveyors are used to avoid dust while transportation.</li> <li>• Tyre washing system has been provided to prevent formation of fugitive emissions.</li> </ul>  <p><b><u>TYRE WASHING SYSTEM</u></b></p> |
| <b>VIII</b> | <b>Green Belt</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 25          | <p>The Project Proponent shall develop green belt in 7.5 m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operation within the lease. The whole Green Belt shall be developed within first 5 years starting form</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Greenbelt has been developed in 190 ha. out of the total acquired land of 554.19 ha.</li> <li>• Greenbelt has been provided along the mine boundary to arrest pollution emanating from mining operations.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|    | windward side of the active mining area. The development of green belt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 26 | The Project Proponent shall carryout plantation/afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community area etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/Tribal Welfare Department/Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Ha. Adequate budgetary provision shall be made for protection and care of trees.       | <ul style="list-style-type: none"> <li>• Noted</li> <li>• Plantation is being carried out as per the                      plantation/greenbelt development plan submitted.</li> <li>• For the compliance reporting period, 812 plants were planted.</li> <li>• This high-density plantation has been carried out to increase the overall plantation density to 2500 saplings/ha.</li> <li>• Growth of each plant is monitored, and records are maintained.</li> <li>• Survival rate for the plantation has been close to 90 %.</li> <li>• Species planted – 64 species including Gulmohar, Madhurica Indica, Charooli, Aloe Vera, Bougainvillia etc.</li> </ul> |
| 27 | The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State government in this regard. Project Proponent should essentially implement the direction of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground which provide mid-day shelter from the scorching sun, should be scrupulously guarded protected against felling and plantation of such trees should be promoted. | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Alternative arrangements will be made for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 28 | The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• Precautionary measures are being undertaken for conservation and protection of endangered flora and fauna and Schedule – 1 species during mining operations.</li> <li>• Approval for Revised Wildlife (Schedule -1) Conservation Plan has</li> </ul>                                                                                                                                                                                                                                                                                                                                                                   |

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|           | shall be approved by Chief Wildlife Warden of the State Govt.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | been obtained from Chief Wildlife Warden vide letter dated 16.09.2020.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 29        | And implemented in consultation with the state forest and wildlife department. A copy of wildlife conservation plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• MOU has been signed with State Government for implementation of Wildlife (Schedule -1) Conservation plan.</li> <li>• Rs. 30 lakhs have been further submitted via letter HZL/RDM/ENV/2022-23/13117 dated 23.03.2023 for the implementation of Wildlife Conservation Plan.</li> </ul>                                                                                                                                                                                                                                                                   |
| <b>IX</b> | <b>Public hearing and human health issues</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 30        | The Project Proponent shall appoint an Occupation Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the Mining activities, as per the DGMS guidelines. The record shall be maintained properly PP shall also carryout Occupational health checkups in respect of workers which are having ailments like BP, Diabetes, habitual smoking etc. The check-ups shall be undertaken once in six months and necessary remedial preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half yearly basis.                                                                                 | <ul style="list-style-type: none"> <li>• Occupational Health Monitoring is being done which includes Weight, Height, BMI, CBC, Blood Sugar Fasting and PP, Lipid Profile, Liver Function test, Kidney Function Test, Urine Examination, Audiometry, ECG, Spirometry, Chest X ray (ILO Quality 14 x 17 inches) and Blood Lead during PME and IME, Eye examination for Drivers and Welders.</li> <li>• Records of Health Surveillance is being maintained Digitally and Hard Copies, including the results of and the records of Physical examination and tests.</li> </ul>                       |
| 31        | The Project Proponent must demonstrate commitment to work towards Zero Harm from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazard and assess their potential risk to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighbourhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to biomass cooking. The proponent shall also create awareness and educate the nearby | <ul style="list-style-type: none"> <li>• Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health is being done as per Nature of Job, Age, Exposure and Workplace. Health Risk Assessment through</li> <li>• Qualitative exposure assessment conducted by ISS (India) Consultancy Services Pvt. Ltd.</li> <li>• The overall objective of this study was to comprehensively assess the employee's exposure to chemical and physical agents (mainly noise, vibration and heat stress) and the need for further assessments for the</li> </ul> |

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|    | <p>community and workers for sanitation, persona hygiene, hand washing, not to defecate in open. Women health and hygiene (providing sanitary napkin) hazard of tobacco and alcohol use. The proponent shall carryout base line HRA for all the category of workers and thereafter every five years.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>improvement of the Occupational Health and Industrial Hygiene.</p> <ul style="list-style-type: none"> <li>• Community Health risk assessment is being done with the help of Physicians from CHC/ PHC in Community with focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections. Free Medical Service is provided in Community from Dariba Mines Hospital including Investigations.</li> <li>• We are working with Community in Creating awareness about Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Menstrual Hygiene, hazard of tobacco and alcohol use. Regular screening and Training are being done with Specialist and NGO.</li> </ul>                                                                                     |
| 32 | <p>The proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust X-Ray chest; for Noise Audiometric; for lead Exposure Blood lead; for Welders full Ophthalmologic Assessment; for Manganese miners a complete neurological Assessment by certified neurologist, and manganese (Mn) Estimation in Blood. For Inorganic Chromium fortnightly skin inspection of hands and foremen by a responsible person. Except routine tests all test would be carried out in a lab accredited by NABH. Records of Health surveillance must be kept for 30 years, including the results of and the records of physical examination and tests. The record of exposure due to materials like Asbestos, Hard rock Mining, Silica, Gold, Kaolin, aluminium, Iron Manganese, Chromium,</p> | <ul style="list-style-type: none"> <li>• Our mine is Lead Zinc underground mine, the clause regarding OHS for manganese mine or inorganic chromium is not applicable to our mine. Same way exposure due to materials like Asbestos, Hard rock Mining, Silica, Gold, Kaolin, Aluminium, Iron Manganese, Chromium and Uranium are not there.</li> <li>• Lead monitoring in urine and blood has been carried out for all workers.</li> <li>• Occupational Health Monitoring is being done which includes Weight, Height, BMI, CBC, Blood Sugar Fasting and PP, Lipid Profile, Liver Function test, Kidney Function Test, Urine Examination, Audiometry, ECG, Spirometry, Chest X ray (ILO Quality 14 x 17 inches) and Eye examination for Drivers and Welders.</li> <li>• Records of Health Surveillance is being maintained Digitally and Hard</li> </ul> |

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|    | Lead Uranium need to be handed over to the Mining department of the state in case the life of the mine is less than 30 years. It would be obligatory for the state mines departments to make arrangements for the safe and secure storage of the records including X Ray. Only conventional X-ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17x14 inches and of good quality)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Copies, including the results of and the records of Physical examination and tests.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 33 | The Proponent shall maintained a record of performance indicator for workers which includes a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5-24.9 (b) the Final Chest X-Ray compared with the base line X-rays should not show any capacities (c) At the end of their leaving job there should be no diminution in their lung functions forced expiratory volume in one second (FEV1), Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age (d) their hearing should not be affected. As a proof an audiogram (first and last need to be presented) (e) they should not have developed any persistent back pain, neck pain and the movement of their Hip, Knee and other joints should have normal range of movement (f) they should not have suffered loss of any body part. The record of the same should be submitted to the regional office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications. | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Occupational Health Monitoring is being done which includes Weight, Height, BMI, CBC, Blood Sugar Fasting and PP, Lipid Profile, Liver Function test, Kidney Function Test, Urine Examination, Audiometry, ECG, Spirometry, Chest X ray (ILO Quality 14 x 17 inches) and Eye examination for Drivers and Welders.</li> <li>• Records of Health Surveillance is being maintained Digitally and Hard Copies, including the results of and the records of Physical examination and tests.</li> <li>• All the details pertaining to health of workers is kept in Form – O.</li> </ul> |
| 34 | The Project Proponent shall ensure that personnel working in dusty area should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• PPE's including protective respiratory devices such as dust masks are provided to all the personnel working in dusty area.</li> <li>• Regular training is provided on safety and health aspects.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                         |
| 35 | Project Proponent shall make provision for the housing for workers/labour or shall construct labour camps within/outside (company owned land) with necessary basic infrastructure/facilities like fuel for                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Housing is provided for workers/labour with necessary basic infrastructure / facilities.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|          | <p>cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic wastewater should be treated with STP in order to avoid contamination of underground water.</p>                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Domestic wastewater is treated with STP and utilized for gardening/horticultural purposes.</li> <li>Domestic wastewater is treated with STP in order to avoid contamination of underground water.</li> </ul>                                                                                                                                                                                                                                |
| 36       | <p>The activities proposed in Action Plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The status report on implementation of action plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration</p>                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>Noted.</li> <li>All the commitments made during public hearing have been incorporated in budget of EMP and CER.</li> <li>Status for activities as part of EMP and CER has been submitted against their respective points.</li> </ul>                                                                                                                                                                                                        |
| <b>X</b> | <b>Corporate Environment Responsibility (CER)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 37       | <p>The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry OM No: 22-65/2017-IA. II(M) dated 1.5.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual repost of implementation of the same along with documentary proof viz photographs, purchase documents, latitude and longitude of infrastructure developed and road constructed needs to be submitted to Regional Office MoEF&amp;CC annual along with audited statement.</p> | <ul style="list-style-type: none"> <li>Separate GL account is being maintained.</li> <li>Proposed activities implementation status has been submitted against Specific Condition No. 5</li> <li>Documentary evidence in form of photographs is given herewith.</li> </ul> <div> </div> <p><b>COMMUNITY WATER RO</b></p> <div> </div> <p><b>COMMUNITY SCHOOL - DARIBA</b></p> |

|           |                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                           |
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| 38        | Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain diverting the same for other purposes. The year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.                                                           | <ul style="list-style-type: none"> <li>• Separate GL account is maintained for environment protection measures.</li> <li>• Expenditure for the period of Oct-25 to Mar-26 is Rs. 128.66 lakhs.</li> </ul> |
| <b>XI</b> | <b>Miscellaneous</b>                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                           |
| 39        | The Project Proponent shall prepare digital map (land use and land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.                                                                                                          | <ul style="list-style-type: none"> <li>• Digital map (Land use and Land cover) for the entire lease area was done in 2025 by M/s Hydro-Geo Consultant. Attached as <b>Annexure 12</b></li> </ul>          |
| 40        | The Project authorities should inform to the Regional Office regarding date of financial closures and final approval of the Project by the concerned authorities and the date of start of land development work.                                                                                                                       | <ul style="list-style-type: none"> <li>• This Environmental clearance has been granted for expansion of mines &amp; beneficiation plan.</li> <li>• This is a brownfield project.</li> </ul>               |
| 41        | The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MoEF&CC and its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board                                                                   | <ul style="list-style-type: none"> <li>• Six monthly compliances are being submitted to MoEF&amp;CC, Regional Office, CPCB &amp; RSPCB.</li> </ul>                                                        |
| 42        | A separate Environmental Management Cell with suitable qualified manpower should be set up under the control of a Senior Executive. The Executive shall directly report to Head of the Organization. Adequate number of qualified environmental scientists and mining engineers shall be appointed and submit a report to RO, MoEF&CC. | <ul style="list-style-type: none"> <li>• A separate Environment Management Cell has been set up which is under the control of Unit head of Rajpura Dariba Mines.</li> </ul>                               |
| 43        | The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data/ information/ monitoring reports                                                                        | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Full cooperation will be extended to MoEF&amp;CC by furnishing the requisite data/ monitoring reports.</li> </ul>                              |

| <b>3.2.6. Details of Environment Conditions</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>3.2.6.1. Specific Conditions</b>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1.                                              | PP is allowed to switchover from wet tailing disposal to dry tailing disposal facility within the lease area to a height of 70 meters of stacking.                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• The transition to dry tailings disposal within the lease area has been implemented, and stacking is being carried out in accordance with the stipulated limit, ensuring that the height does not exceed the permitted 70 meters.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2.                                              | The Project Proponent needs to install the permanent water sprinklers in addition to mobile water tankers along the TSF facility, haul road and the approach road. Further, 10 nos. of fog/mist cannon sprayer of at least 40 m throw shall be installed at various locations in the mine area. An effective dust suppression system shall also be adopted at other parts of the mining lease to arrest the fugitive dust emission. Mobile fog cannons should also be used to control dust generation and propagation in the tailings area and other areas. | <ul style="list-style-type: none"> <li>• Partially Complied.</li> <li>• Mobile water tankers and water sprinklers are being regularly deployed along haul roads and approach roads for dust suppression.</li> </ul>  <ul style="list-style-type: none"> <li>• Additional dust suppression measures are in place across the mining lease to effectively control fugitive dust emissions, including in the tailing disposal areas.</li> <li>• Installation of 10 nos. of fog/mist cannon sprayers (minimum 40 m throw) at identified locations is currently in progress, and the same are expected to be commissioned by November 2026.</li> </ul> |
| 3.                                              | The Project Proponent shall explore the possibility of using at least 20% of Electric vehicles/CNG/Solar instead of diesel operation within three years. PP needs to install solar power plant at the earliest to reduce dependency on conventional power supply from state.                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Noted for compliance.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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| 4. | <p>The Project Proponent shall provide the rainwater harvesting structure at mine offices and quarters/colonies to recharge the ground water.</p>                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Rainwater harvesting has been promoted within the lease area through the implementation of pond deepening projects, which have enhanced groundwater recharge potential and contributed towards reducing dependence on groundwater sources.</li> </ul>  <p><b>Recharge Well at Colony</b></p>                                          |
| 5. | <p>PP may explore to construct rainwater harvesting structures within the ML area to reduce the dependence on groundwater.</p>                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Pond deepening projects have been undertaken within the lease area to enhance groundwater recharge potential, thereby contributing to reduced dependence on groundwater resources.</li> </ul>  <p><b>Mehenduria Pond Deepening</b></p>                                                                                              |
| 6. | <p>PP should install and utilise the Oil &amp; Grease Trap for washing of trucks, HEMM operational in their mine project. Disposal of the used oil &amp; drums should be through authorised recyclers and as per rules. Copy of logbook of Oil withdrawn from Oil &amp; Grease Trap should be submitted to the Regional Office of the Ministry.</p> | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Oil &amp; Grease Traps have been installed and are being effectively utilized for washing of trucks and HEMM.</li> <li>• Used oil and empty drums are being disposed of through authorized recyclers in compliance with applicable regulations. Logbooks for oil recovered from the Oil &amp; Grease Traps are being maintained, and disposal is being systematically tracked through the online SAP system.</li> </ul> |

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|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Logbook being maintained. Attached as <b>Annexure - 17</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 7. | PP needs to follow up with State Forest Department to expedite the approval and implementation of the wildlife conservation plan as per Wildlife Amendment Act 2022. PP needs to submit the implementation report to Ministry's Regional Office in Half-Yearly compliance reports.                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>In Progress.</li> <li>The updated Wildlife Conservation Plan in line with the provisions of the Wildlife (Amendment) Act, 2022 has been submitted to the State Forest Department, vide letter number: HZL/RDM/ENV/2025-26/3594 dated 16/07/2025 and the same is currently under consideration for approval.</li> </ul>                                                                                                                                                                                                                                                                                          |
| 8. | The Project Proponent needs to use modern equipment's such as Camera Traps for ensuring presence and movement of wild animals in the study area in consultation with Wildlife Wing of Forest Department. Appropriate interventions shall be taken to minimize stress conditions for wild animals and to avoid Man-Animal conflict.                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Not Applicable.</li> <li>As per communication received from the Deputy Conservator of Forests &amp; Wildlife, no wildlife corridor has been identified within the project area; accordingly, the requirement for deployment of camera traps is not applicable.</li> <li>Communication attached as <b>Annexure - 1.</b></li> </ul>                                                                                                                                                                                                                                                                               |
| 9. | The Project Proponent shall ensure the survival rate of 95% for planting the gap plantation and new plantation. The Project Proponent shall make the actual count on the saplings planted and its survival rate and in case of failure of achievement of 95% survival rate, action plan for achieving the target survival rate shall be submitted to the Ministry's Integrated Regional Office. Density of plantation should be 2500 plants/ha). PP shall make provision for drip irrigation to conserve the water. PP should plant fruit bearing trees along with other native and allied species within the ML area. | <ul style="list-style-type: none"> <li>During the reporting period, a total of 812 saplings were planted within the lease area.</li> <li>The plantation comprises 64 species, including Gulmohar, Madhurica Indica, Charoli, Aloe Vera, Bougainvillea, and other native and allied species.</li> <li>Growth of each sapling is being regularly monitored, and records are systematically maintained.</li> <li>The survival rate of the plantation has been observed to be close to 95%.</li> <li>Drip irrigation systems have been provided in certain areas within mine and are being maintained to support plantation and conserve water.</li> </ul> |

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| 10. | <p>Mechanized road sweeping machines can also be deployed if there is ore/mineral spillage on roads even after prevention.</p> | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Truck-mounted mechanical road sweeping machines have been deployed and are being regularly utilized to manage ore/mineral spillage on roads and to control fugitive dust emissions across the project area.</li> </ul>  |

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| 11. | PP shall explore the deployment of electric vehicles for ore transportation within ML area.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Noted for compliance</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 12. | Effective dust suppression system shall also be adopted at other parts of the mining lease to arrest the fugitive dust emission.                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Effective safeguards measures for prevention of dust generation like regular water sprinkling is being carried out in areas prone to air pollution wherein high levels of PM<sub>10</sub> and PM<sub>2.5</sub> are evident such as haul road, loading and unloading point and transfer points.</li> <li>• The fugitive dust emission from all sources is being regularly controlled by installation of required equipment/machineries and preventive maintenance along with truck mounted road sweepers.</li> <li>• Ambient air quality is being carried out monthly and data is attached as <b>Annexure – 3</b>.</li> </ul> |
| 13. | PP needs to submit the subsidence monitoring data to DGMS, State DMG and Ministry's Regional Office on a yearly basis. PP shall Consult DGMS and follow their recommendations and suggestion if any.                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Subsidence monitoring data is being submitted to DGMS, State DMG, and the Ministry's Regional Office on an annual basis. Consultations with DGMS are being undertaken regularly, and recommendations, wherever provided, are being duly considered and implemented.</li> </ul>                                                                                                                                                                                                                                                                                                                          |
| 14. | PP shall engage any National Institute of repute within 6 months to conduct environmental and safety studies related to stability, TSF design and seepage analysis of the Tailing Storage Facility for the entire tailing disposal facility. Recommendations of the above study should be followed by PP and implementation report submitted to Regional office along with six monthly compliance report. The report prepared by the above National Institute shall be shared with the DGMS also and recommendations of the DGMS, with regard to safety, if any, should be followed. | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• The requisite study has been carried out through IIT Dharwad, a National Institute of repute. The study report is enclosed as an <b>Annexure 13</b>.</li> <li>• The recommendations arising from the study are under implementation and review. The report is being shared with DGMS for further evaluation, and any recommendations provided by DGMS are being duly considered for implementation</li> </ul>                                                                                                                                                                                           |
| 15. | PP shall take all precautions to ensure that there is no seepage, leakage of water, silt from the tailing dams. Appropriate drains, siltation ponds, gabion structures, check dams, etc. should be in place to prevent any silt or water flow outside. Some effluent                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Engineered control measures, including concreted garland drains and decantation arrangements, have been established to prevent seepage, leakage, or discharge</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|     | <p>monitoring system should also be installed around the tailing dams to check whether is any seepage, leakages outside, in consultation with SPCB or CPCB.</p>                                                                                                                                              | <p>outside the Tailings Storage Facility.</p>   <ul style="list-style-type: none"> <li>Additional structures for effective containment and flow management are in place to ensure that no silt or water escapes beyond the designated area.</li> </ul>  <p><b>Decant Water Pond</b></p> <ul style="list-style-type: none"> <li>Regular monitoring of water quality in garland drains and the tailings dam is being carried out to detect any potential seepage or leakage.</li> <li>Monitoring reports are enclosed as <b>Annexure 7</b> for reference.</li> </ul> |
| 16. | <p>PP should engage any National institute of repute for water quality sampling and analysis for groundwater and surface water, waterbodies in and near the vicinity of the project. The water quality report should be submitted to Regional office of MoEFCC along with six monthly compliance report.</p> | <ul style="list-style-type: none"> <li>Complied.</li> <li>Water quality monitoring for groundwater, surface water, and nearby water bodies is being carried out through NABL-accredited laboratories.</li> <li>The monitoring is conducted as per applicable standards to ensure reliability and accuracy of analysis.</li> <li>The reports are enclosed as <b>Annexures 4 &amp; 5</b> and are being</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                            |

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|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | submitted to the Regional Office along with the six-monthly compliance report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 17. | PP shall annually undertake the study to know the impact of mining and beneficiation activity on the crop production within the study area. The report of the same shall be submitted to Ministry 's Regional Office on an annual basis. PP should also consult District authorities/ District agricultural officer periodically regarding affect on crops in the areas near the project.                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Under Progress.</li> <li>• The study to assess the impact of mining and beneficiation activities on crop production within the study area is currently under progress.</li> <li>• The final report will be submitted to the Ministry's Regional Office by November 2026.</li> <li>• Periodic consultations with the concerned District Authorities and District Agricultural Officer are being undertaken to assess and address any potential impacts on crop productivity in nearby areas.</li> </ul>                                                                                    |
| 18. | The Regional Office of the MoEFCC shall do a site inspection of the project within one year from the issuance of this amendment EC. PP shall submit the certified compliance report (CCR) to Compliance and Monitoring Division of the Ministry.                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Noted for compliance</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 19. | PP needs to comply with the OM dated 24.07.2024 of MoEFCC, wherein it is stated that the plantation of saplings shall be carried out in the earmarked 33% greenbelt area as part of the tree plantation campaign " EK Ped Ma Ke Naam" ( ) and the details of the same shall be uploaded in the MeriLife portal( <a href="https://merilife.nic.in">https://merilife.nic.in</a> ).                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 20. | PP shall ensure that all type of plastic waste generated from the mines shall be stored separately in isolated area and disposed of strictly adhering to the Plastic Waste Management Rules 2016. In pursuant to Ministry's OM dated 18/07/2022 PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic (SUP) in order to ensure compliance of Ministry's Notification published by the Ministry on 12/08/2021. A report along with photograph on the measures taken shall be submitted to Ministry's Regional Office. | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Plastic waste generated from the mining operations is being properly segregated, stored in designated isolated areas, and disposed of in accordance with the provisions of the Plastic Waste Management Rules, 2016.</li> <li>• Awareness initiatives on the ban of Single Use Plastic (SUP) have been conducted among employees and in the surrounding areas to ensure adherence to the Ministry's directives.</li> <li>• Reports detailing the measures undertaken, along with photographic evidence, are enclosed as <b>Annexure 11</b> for reference.</li> </ul> |

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| 21. | All other terms and conditions mentioned in the EC letter dated 13.04.2020 remains unchanged. | <ul style="list-style-type: none"> <li>• Noted.</li> </ul> |
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### 3.2.6.2. Standard

#### 2(b) Mineral beneficiation

##### Statutory compliance

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| 1. | The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions, etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project. | <ul style="list-style-type: none"> <li>• Noted</li> </ul> |
| 2. | This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Noted</li> </ul> |

##### Statutory compliance

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| 1. | The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.                                                                                                                                        | <ul style="list-style-type: none"> <li>• Forest clearance is not applicable as there is no forest area in Core and Buffer Zone (10 km radius) of Rajpura Dariba Mine</li> <li>• Copy of the letter received from DFO, Rajsamand is attached as <b>Annexure -1.</b></li> </ul>                                            |
| 2. | The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• NBWL approval is not applicable to this project as there are National Parks, Wildlife Sanctuaries, Biosphere reserves, Wildlife Corridors, Ramsar sites, Tiger/Elephant reserves in Core &amp; Buffer Zone (10 km radius) of Rajpura Dariba Mine.</li> </ul>                    |
| 3. | The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Wildlife (Schedule-I) Conservation Plan has been approved by the Chief Wildlife Warden vide letter dated 16.09.2020.</li> <li>• An MoU has been signed with the State Government for implementation of the approved Wildlife Conservation Plan.</li> </ul> |

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|                                                | shall be furnished along with the six-monthly compliance report. (in case of the presence of Schedule-I species in the study area).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Financial support of ₹30 lakhs has been provided towards implementation of the Wildlife Conservation Plan vide letter no. HZL/RDM/ENV/2022-23/13117 dated 23.03.2023.</li> <li>Necessary precautionary measures are being undertaken during mining operations for conservation and protection of endangered flora and fauna, including Schedule-I species, in consultation with the State Forest Department.</li> </ul> |
| 4.                                             | The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Complied.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5.                                             | The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Renewal application for groundwater withdrawal (3145.01 m<sup>3</sup>/day) has been submitted and is currently under process.</li> </ul>                                                                                                                                                                                                                                                                                |
| 6.                                             | The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Air Quality Monitoring and Preservation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1.                                             | The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04/06 Nos. Continuous Ambient Air Quality Station (CAAQMS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. (case to case basis small plants: Manual; Large plants: Continuous and their no's.) | <ul style="list-style-type: none"> <li>Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed and are operational for monitoring all prescribed parameters.</li> <li>Systems are connected to regulatory servers as applicable, and periodic calibration is being carried out through accredited laboratories.</li> </ul>                                                                                                             |

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| 2. | The project proponent shall carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area (at least at four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions. | <ul style="list-style-type: none"> <li>Continuous Ambient Air Quality stations have been installed for monitoring of all required air quality parameters.</li> <li>Calibration being done monthly</li> </ul>                                                                                                                                                                                                                                                    |
| 3. | The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Being Complied</li> <li>Reports attached as <b>Annexure – 3.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                              |
| 4. | Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>Sampling Facility provided. And monitoring is being done by NABL accredited labs.</li> <li>Reports attached as <b>Annexure – 3.</b></li> </ul>                                                                                                                                                                                                                                                                           |
| 5. | Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>DE System provided at secondary crusher.</li> </ul> <p>Water sprinklers provided at crushed ore transfer locations.</p>  <ul style="list-style-type: none"> <li>Road sweeper engaged for Managing fugitive emission from haul roads.</li> </ul>  |

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| 6.  | The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Bag Filters have been replaced with Wet Scrubbers, hence, maintenance of bags no longer required.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                       |
| 7.  | Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 8.  | Ensure covered transportation and conveying of raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Covered transportation and conveying being ensured.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 9.  | Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum-cleaning devices in the process after briquetting/ agglomeration.                                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Not applicable</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 10. | The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Concentrates being transported in covered trucks.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 11. | The project proponent shall provide primary and secondary fume extraction system at all heat treatment furnaces.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Not applicable</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 12. | Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Wind shelter fence/closed shed is provided for storing crushed ore.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 13. | Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Being complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 14. | Pollution control system in the plant shall be provided as per the CREP Guidelines of CPCB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Adequate Pollution Control System provided.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 15. | The project proponent shall adopt the Clean Air practices like mechanical collectors, wet scrubbers, fabric filters (bag houses), electrostatic precipitators, combustion systems (thermal oxidizers), condensers, absorbers, adsorbers, and biological degradation. Controlling emissions related to transportation shall include emission controls on vehicles as well as use of cleaner fuels. Sufficient numbers of additional truck mounted Fog/Mist water cannons shall be procured and operated regularly inside the project premises and also in the surrounding villages to arrest suspended dust in the atmosphere. | <ul style="list-style-type: none"> <li>• Being Complied.</li> <li>• Wet scrubbers have been installed and are in operation to control process-related emissions.</li> <li>• Water sprinkling systems are being utilized in underground operations to suppress dust generation.</li> <li>• Permanent water sprinklers have been installed at ore transfer points to control fugitive emissions.</li> <li>• Regular water sprinkling is being carried out in the TSF area and along operational zones to minimize dust dispersion.</li> </ul> |

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| 16. | Bag filters shall be cleaned regularly, and efficiency of bag filter system shall be monitored at regular intervals.                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Bag Filters replaced with Wet scrubbers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 17. | Water Sprinklers/Water mist system shall be installed near raw material yards, operational units and other strategic locations to control fugitive emissions from the plant.                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Water sprinklers/water mist systems have been installed at raw material handling and storage areas, operational units, and other strategic locations for effective control of fugitive emissions.</li> <li>• Wet scrubbers have also been installed and are being operated to control particulate emissions and maintain air quality within the plant premises.</li> <li>• The installed systems are being regularly operated and maintained to ensure effective dust suppression and emission control.</li> </ul> |
| 18. | The particulate matter emissions from the process stacks shall be less than 30 mg/Nm <sup>3</sup> and measures shall be undertaken as per the submitted action plan. Efficient Air monitoring equipment shall be installed.                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Process Emission being monitored.</li> <li>• Reports attached as <b>Annexure - 3</b>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 19. | Following additional arrangements to control fugitive dust shall be provided: a. Fog / Mist Sprinklers at all on bulk raw material storage area (at the transfer points) like Iron Ore, Coal and for Fly Ash and similar solid waste storage areas. b. Proper covered vehicle shall be used while transport of materials. c. Wheel washing mechanism shall be provided in entry and exit gates with complete recirculation system. | <ul style="list-style-type: none"> <li>• Water Sprinklers installed at crushed ore storage areas</li> <li>• Wheel washing area provided at entry/exit point of Concentrate storage area.</li> </ul>                                                                                                                                                                                                                                                                                                                                                         |

#### **Air quality monitoring and preservation**

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| 1. | The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. Monitor fugitive emissions in the plant premises. | <ul style="list-style-type: none"> <li>• Continuous Ambient Air Quality Monitoring Systems (CAAQMS) have been installed for continuous monitoring of ambient air quality parameters.</li> <li>• The monitoring systems are connected and operated in accordance with applicable regulatory requirements.</li> <li>• Calibration of the monitoring systems is being carried out on a monthly basis through competent agencies to ensure accuracy and reliability of data.</li> <li>• Fugitive emissions within the plant premises are being regularly monitored and controlled through appropriate</li> </ul> |
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|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | pollution control and dust suppression measures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2. | The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986. 9) The project proponent shall install system to carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each). covering upwind and downwind directions. | <ul style="list-style-type: none"> <li>• Continuous Ambient Air Quality Monitoring Systems (CAAQMS) have been installed for continuous monitoring of ambient air quality parameters.</li> <li>• The monitoring systems are connected and operated in accordance with applicable regulatory requirements.</li> <li>• Calibration of the monitoring systems is being carried out on a monthly basis through competent agencies to ensure accuracy and reliability of data.</li> <li>• Fugitive emissions within the plant premises are being regularly monitored and controlled through appropriate pollution control and dust suppression measures.</li> </ul> |
| 3. | The project proponent shall install system to carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each). covering upwind and downwind directions.                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Continuous Ambient Air Quality Monitoring Systems (CAAQMS) have been installed for continuous monitoring of ambient air quality parameters.</li> <li>• The monitoring systems are connected and operated in accordance with applicable regulatory requirements.</li> <li>• Calibration of the monitoring systems is being carried out on a monthly basis through competent agencies to ensure accuracy and reliability of data.</li> </ul> <p>Fugitive emissions within the plant premises are being regularly monitored and controlled through appropriate pollution control and dust suppression measures.</p>     |
| 4. | The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Partially Complied.</li> <li>• Manual Stack monitoring being done monthly by NABL accredited 3<sup>rd</sup> party labs.</li> <li>• Reports of manual stack monitoring has been attached as <b>Annexure - 3</b>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                           |
| 5. | Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Complied.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|                                                  | from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 6.                                               | The project proponent use leak proof trucks/dumpers carrying ore and other raw materials and cover them with tarpaulin.                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• Complied.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 7.                                               | Wind shelter fence and chemical spraying shall be provided on the raw material stockpiles.                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Wind shelter fence/closed shed is provided for crushed ore stockpiles.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 8.                                               | Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Water quality monitoring and preservation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1.                                               | The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. | <ul style="list-style-type: none"> <li>• Continuous Ambient Air Quality Monitoring Systems (CAAQMS) have been installed for continuous monitoring of ambient air quality parameters.</li> <li>• The monitoring systems are connected and operated in accordance with applicable regulatory requirements.</li> <li>• Calibration of the monitoring systems is being carried out on a monthly basis through competent agencies to ensure accuracy and reliability of data.</li> <li>• Fugitive emissions within the plant premises are being regularly monitored and controlled through appropriate pollution control and dust suppression measures.</li> </ul> |
| 2.                                               | The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.                                                                                                                             | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Monitoring being done half yearly by NABL accredited 3<sup>rd</sup> party labs.</li> <li>• Reports attached as <b>Annexure - 5</b>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3.                                               | The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.                                                                                                                         | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Monitoring being done by NABL accredited 3<sup>rd</sup> party labs.</li> <li>• Reports of manual monitoring of stack are attached herewith as <b>Annexure - 3</b>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4.                                               | The project proponent shall provide the slime disposal facility with impervious lining and collection wells for seepage.                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• No slime generation from process.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|                                                  | The water collected from the slime pond shall be treated and recycled.                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Additionally, Tailing generated from process are being dewatered at Dry tailing plant and stacked at TSF dariba. Water from dewatered tailing being stored in process water recycling pond and reused in process.</li> </ul>  <p><b>Process water recycling pond</b></p> |
| 5.                                               | Adhere to 'Zero Liquid Discharge'                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>Complied.</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| 6.                                               | Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Sewage Treatment Plant provided. Reports attached as <b>Annexure – 7</b>.</li> </ul>                                                                                                                                                                                                                                                                       |
| 7.                                               | Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Being Complied.</li> </ul>                                                                                                                                                                                                                                                                                                                                 |
| 8.                                               | The project proponent shall practice rainwater harvesting to maximum possible extent.                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Rooftop rainwater harvesting being done.</li> </ul>                                                                                                                                                                                                                                                                                                        |
| 9.                                               | The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Not Applicable</li> </ul>                                                                                                                                                                                                                                                                                                                                  |
| <b>Water Quality Monitoring and Preservation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                   |
| 1.                                               | The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. | <ul style="list-style-type: none"> <li>Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                        |
| 2.                                               | The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Complied.</li> <li>Monitoring being done half yearly by NABL accredited 3<sup>rd</sup> party labs.</li> <li>Reports attached as <b>Annexure - 5</b>.</li> </ul>                                                                                                                                                                                            |

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|    | piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.                                                                                                                                                                              |                                                                                                                                                                                                                                                                                      |
| 3. | Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Sewage Treatment Plant provided for treatment of domestic wastewater. Reports attached as <b>Annexure – 7</b>.</li> </ul>                                                                                                                     |
| 4. | Garland drains and collection pits shall be provided for each stockpile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.                                                                                                                                                         | <ul style="list-style-type: none"> <li>Complied</li> </ul>                                                                                                                                                                                                                           |
| 5. | Tyre washing facilities shall be provided at the entrance of the plant gates.                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Tyre Washing facilities provided at entry/exit point of concentrate shed.</li> </ul>  <p style="text-align: center;"><b><u>TYRE WASHING SYSTEM</u></b></p> |
| 6. | Water meters shall be provided at the inlet to all unit processes in the steel plants.                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Not Applicable</li> <li>No steel plants</li> </ul>                                                                                                                                                                                            |
| 7. | The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.                                                                                                                                                     | <ul style="list-style-type: none"> <li>Not Applicable; no steel plants.</li> </ul>                                                                                                                                                                                                   |
| 8. | The proposed project shall be designed as Zero Liquid Discharge Plant. ETP shall be installed and there shall be no discharge of effluent from the plant. Domestic effluent shall be treated in Sewage Treatment Plant. Suitable measures shall be adopted for sewage water handling to ensure no contamination of any kind of water body. | <ul style="list-style-type: none"> <li>Zero Liquid Discharge (ZLD) is being ensured across the project.</li> <li>Domestic wastewater is treated through the Sewage Treatment Plant (STP) before reuse/disposal as per applicable norms.</li> </ul>                                   |
| 9. | All stockyards shall have impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains and catch pits to trap the run off material and                                                                                                                               | <ul style="list-style-type: none"> <li>Impervious Floors &amp; Water sprinkling facility provided.</li> </ul>                                                                                                                                                                        |

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|                                        | shall be implemented as per the action plan submitted in EIA/EMP report.                                                                                                                                      |                                                                                                                                                                                                                               |
| 10.                                    | Rainwater harvesting shall be implemented to recharge/harvest water as per the action plan submitted in the EIA/EMP report.                                                                                   | <ul style="list-style-type: none"> <li>Rainwater recharge structures installed in colony.</li> </ul>  <p><b>Recharge Well at Colony</b></p> |
| <b>Noise monitoring and prevention</b> |                                                                                                                                                                                                               |                                                                                                                                                                                                                               |
| 1.                                     | Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.             | <ul style="list-style-type: none"> <li>Noise level monitoring being done monthly by NABL accredited 3<sup>rd</sup> party lab. Attached as <b>Annexure – 8</b>.</li> </ul>                                                     |
| 2.                                     | The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.                                                     | <ul style="list-style-type: none"> <li>Noise level monitoring being done monthly by NABL accredited 3<sup>rd</sup> party lab. Attached as <b>Annexure – 8</b>.</li> </ul>                                                     |
| <b>Energy Conservation measures</b>    |                                                                                                                                                                                                               |                                                                                                                                                                                                                               |
| 1.                                     | Provide solar power generation on roof tops of buildings, for solar light system for all common areas, streetlights, parking around project area and maintain the same regularly;                             | <ul style="list-style-type: none"> <li>Solar Light systems provided and maintained on roof top within beneficiation plant premises.</li> </ul>                                                                                |
| 2.                                     | Provide LED lights in their offices and residential areas.                                                                                                                                                    | <ul style="list-style-type: none"> <li>Complied.</li> <li>LED lights are installed in offices and residential areas.</li> </ul>                                                                                               |
| <b>Waste management</b>                |                                                                                                                                                                                                               |                                                                                                                                                                                                                               |
| 1.                                     | The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.                                                    | <ul style="list-style-type: none"> <li>Noted for compliance</li> </ul>                                                                                                                                                        |
| 2.                                     | Kitchen waste shall be composted or converted to biogas for further use. (to be decided on case to case basis depending on type and size of plant)                                                            | <ul style="list-style-type: none"> <li>Kitchen waste being composted by waste handlers.</li> </ul>                                                                                                                            |
| <b>Green Belt and EMP</b>              |                                                                                                                                                                                                               |                                                                                                                                                                                                                               |
| 1.                                     | Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant | <ul style="list-style-type: none"> <li>Complied.</li> <li>34% area is covered under greenbelt as per the LULC map attached as <b>Annexure – 12</b>.</li> </ul>                                                                |
| 2.                                     | The project proponent shall prepare GHG emissions inventory for the plant and shall                                                                                                                           | <ul style="list-style-type: none"> <li>Partially Complied Reports attached as <b>Annexure – 15</b>.</li> </ul>                                                                                                                |

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|                                                                                 | submit the programme for reduction of the same including carbon sequestration including plantation.                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>A separate report including carbon sequestration measures by trees will be submitted by Nov'26.</li> </ul>                                                                                                                                                                                                                                                                                  |
| <b>Water Quality Monitoring and Preservation in case of Beneficiation Plant</b> |                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1.                                                                              | Tailing management plan shall be implemented as included in EIA report.                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         |
| 2.                                                                              | Tailings from Iron Ore beneficiation plant shall be dewatered in filter press and no slime /tailing pond shall be permitted.                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Not applicable</li> <li>No Iron Ore</li> </ul>                                                                                                                                                                                                                                                                                                                                              |
| <b>Public hearing and Human health issues</b>                                   |                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1.                                                                              | Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>ERCP and DMP is being implemented.</li> </ul>                                                                                                                                                                                                                                                                                                                                               |
| 2.                                                                              | The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.                                                                                                                                                    | <ul style="list-style-type: none"> <li>Qualitative exposure assessment conducted by ISS (India) Consultancy Services Pvt. Ltd.</li> <li>The overall objective of this study was to comprehensively assess the employee's exposure to chemical and physical agents (mainly noise, vibration, and heat stress) and the need for further assessments for the improvement of the Occupational Health and Industrial Hygiene</li> </ul> |
| 3.                                                                              | Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project. | <ul style="list-style-type: none"> <li>Housing is provided for workers/labour with necessary basic infrastructure / facilities.</li> <li>Domestic wastewater is treated in STP and utilized for gardening/horticultural purposes.</li> <li>Domestic wastewater is treated in STP to avoid contamination of underground water.</li> </ul>                                                                                           |
| 4.                                                                              | Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Noise Monitoring and Prevention</b>                                          |                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1.                                                                              | Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and amendments thereof, and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.                                                                                    | <ul style="list-style-type: none"> <li>Noise level monitoring being done monthly by NABL accredited 3<sup>rd</sup> party lab. Attached as <b>Annexure - 8</b></li> </ul>                                                                                                                                                                                                                                                           |
| 2.                                                                              | The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         |

| <b>Energy Conservation Measures</b>         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| 1.                                          | Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Not Applicable</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2.                                          | Restrict Gas flaring to < 1%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Not Applicable</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3.                                          | Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Solar Light systems provided and maintained on roof top within beneficiation plant premises.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| 4.                                          | Provide LED lights in their offices and residential areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>LED lights provided in all offices and residential areas.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Corporate Environment Responsibility</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1.                                          | The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project. | <ul style="list-style-type: none"> <li>Separate GL account is being maintained.</li> </ul>  <ul style="list-style-type: none"> <li>Proposed activities implementation status has been submitted against Specific Condition No. 5</li> <li>Documentary evidence in form of photographs is given herewith.</li> </ul>  <p><b>COMMUNITY WATER RO<br/>COMMUNITY SCHOOL – DARIBA</b></p> |
| 2.                                          | The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>Environment Policy duly signed by HZL CEO attached as <b>Annexure – 16.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|                         | conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest I wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.                                                                                                                                                                 |                                                                                                                                                                                                       |
| 3.                      | A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>A separate Environment Management Cell has been set up which is under the control of Unit head of Rajpura Dariba Mines.</li> </ul>                             |
| 4.                      | Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report. | <ul style="list-style-type: none"> <li>Separate GL account is maintained for environment protection measures.</li> <li>Expenditure for the period of Oct-25 to Mar-26 is Rs. 128.66 lakhs.</li> </ul> |
| 5.                      | Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Environmental audit being conducted annually as SPSA and also by 3rd party as a part of VSAP Audit.</li> </ul>                                                 |
| 6.                      | All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Mineral Beneficiation plants shall be implemented.                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>Complied</li> </ul>                                                                                                                                            |
| <b>Waste Management</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                       |
| 1.                      | Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Not Applicable</li> </ul>                                                                                                                                      |
| 2.                      | Kitchen waste shall be composted or converted to biogas for further use.                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Kitchen waste being composted by waste handlers.</li> </ul>                                                                                                    |
| 3.                      | Used refractories shall be recycled as far as possible.                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Not Applicable</li> </ul>                                                                                                                                      |
| 4.                      | 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Not Applicable; No generation of Fly Ash</li> </ul>                                                                                                            |

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|                      | submitted to the Ministry's Regional Office.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                |
| 5.                   | The Plastic Waste Management Rules 2016, inter-alia, mandated banning of identified Single Use Plastic (SUP) items with effect from 01/07/2022. In this regard, CPCB has issued a direction to all the State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) on 30/06/2022 to ensure the compliance of Notification published by Ministry on 12/08/2021. The technical guidelines issued by the CPCB in this regard is available at <a href="https://cpcb.nic.in/technical-guidelines-3/">https://cpcb.nic.in/technical-guidelines-3/</a> . All the project proponents are hereby requested to sensitize and create awareness among people working within the Project area as well as its surrounding area on the ban of SUP in order to ensure the compliance of Notification published by this Ministry on 12/08/2021. A report, along with photographs, on the measures taken shall also be included in the six monthly compliance report being submitted by the project proponents. | <ul style="list-style-type: none"> <li>• Ensured.<br/>Report attached as <b>Annexure 11</b>.</li> </ul>                                                                                                        |
| 6.                   | A proper action plan must be implemented to dispose of the electronic waste generated in the industry.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• E waste being disposed to authorized recyclers</li> </ul>                                                                                                             |
| 7.                   | Solid waste utilization: a. PP shall install a slag crusher to convert steel slag into aggregate for use in construction industry, fine sand for use as flux in steel plant, sand in brick making and as lime in cement making. b. PP shall recycle/reuse solid waste generated in the plant as far as possible. c. Used refractories shall be recycled as far as possible.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Not Applicable</li> </ul>                                                                                                                                             |
| <b>Miscellaneous</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                |
| 1.                   | The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Complied. Advertisement of EC grant was published in 2 local newspapers namely Dainik Navjyot and Dainik Bhaskar.<br/>Snaps attached as <b>Annexure 2</b>.</li> </ul> |
| 2.                   | The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Complied</li> </ul>                                                                                                                                                   |

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|    | bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.                                                                                                                                            |                                                                                                                                                                                                                    |
| 3. | The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.                                                                                                     | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• EC Compliance being uploaded in HZL Website on a Half yearly basis.</li> </ul>                                                                       |
| 4. | The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company. | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Monitoring being done and results being displayed in LED boards outside main gate.</li> <li>• Uploaded to HZL website on a monthly basis.</li> </ul> |
| 5. | The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.                                                                        | <ul style="list-style-type: none"> <li>• Complied</li> </ul>                                                                                                                                                       |
| 6. | The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.                                       | <ul style="list-style-type: none"> <li>• Complied</li> </ul>                                                                                                                                                       |
| 7. | The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.                                               | <ul style="list-style-type: none"> <li>• Noted for compliance</li> </ul>                                                                                                                                           |
| 8. | The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Noted for compliance</li> </ul>                                                                                                                                           |
| 9. | The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.                                                                                          | <ul style="list-style-type: none"> <li>• Noted for compliance</li> </ul>                                                                                                                                           |

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| 10.               | No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).                                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Noted for compliance</li> </ul>                                                                                                                                                                                                                                                                                                         |
| 11.               | The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.                                                                                              | <ul style="list-style-type: none"> <li>• Noted for compliance</li> </ul>                                                                                                                                                                                                                                                                                                         |
| 12.               | Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Noted for compliance</li> </ul>                                                                                                                                                                                                                                                                                                         |
| <b>Green Belt</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                  |
| 1.                | The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Partially Complied<br/>Reports attached as <b>Annexure – 15</b>.</li> <li>• A separate report including carbon sequestration measures by trees will be submitted by Nov'26.</li> </ul>                                                                                                                                                  |
| 2.                | Project proponent shall submit a study report on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting / balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames. | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• A comprehensive Study has been undertaken as part of the HZL Climate Action Study covering carbon emissions, carbon budgeting/balancing, and energy transition strategies.</li> <li>• The detailed study report, along with the time-bound action plan and recommendations, is enclosed as Annexure-14.</li> </ul> |
| 3.                | Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Local species have been planted which regulates local climatic parameters.</li> <li>• The dump mass is consolidated with the help of dozer/compactors thereby ensuring proper filling /levelling of dump mass.</li> </ul>                                                                                             |

| <b>Public Hearing and Human Health Issues</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| 1.                                            | Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• ERCP and DMP is implemented</li> </ul>                                                                                                                                                                                                                                                                                                                                                        |
| 2.                                            | The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Qualitative exposure assessment conducted by ISS (India) Consultancy Services Pvt. Ltd.</li> <li>• The overall objective of this study was to comprehensively assess the employee's exposure to chemical and physical agents (mainly noise, vibration, and heat stress) and the need for further assessments for the improvement of the Occupational Health and Industrial Hygiene</li> </ul> |
| 3.                                            | Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP. Safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.                                                                                                                                               | <ul style="list-style-type: none"> <li>• No project in the reporting period</li> </ul>                                                                                                                                                                                                                                                                                                                                                 |
| 4.                                            | Occupational health surveillance of the workers shall be done on a regular basis and records maintained.                                                                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                           |
| 5.                                            | All the commitments made towards socio-economic development of the nearby villages shall be satisfactorily implemented. The action plan based on the social impact assessment study of the project as per the EMP in accordance to the Ministry's OM dated 30.09.2020 shall be strictly implemented and progress shall be submitted to the Regional Office of MoEF&CC. PP shall adopt nearby villages and prepare and implement a robust plan to develop them into model villages in next 10 years. | <ul style="list-style-type: none"> <li>• Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Environment Management</b>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1.                                            | The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017- IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Separate GL account is being maintained.</li> <li>• Proposed activities implementation status has been submitted against Specific Condition No. 5</li> </ul>                                                                                                                                                                                                                                  |

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|    | with the village Panchayat and the District Administration as committed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>Documentary evidence in form of photographs is given herewith.</li> </ul>  <p><b>COMMUNITY WATER RO</b></p>  <p><b>COMMUNITY SCHOOL – DARIBA</b></p> |
| 2. | The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report. | Environment Policy duly signed by HZL CEO attached as <b>Annexure – 16</b> .                                                                                                                                                                                                                                                                                     |
| 3. | A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>A separate Environment Management Cell has been set up which is under the control of Unit head of Rajpura Dariba Mines.</li> </ul>                                                                                                                                                                                        |
| 4. | Performance test shall be conducted on all pollution control systems every year and report shall be submitted to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Water sprinkling is done on ramp/haulage road of the underground mine.</li> </ul>                                                                                                                                                                                                                                         |

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|                      | <p>Integrated Regional Office of the MoEF&amp;CC.</p>                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Sprinkling systems have been installed at dust generation areas.</li> <li>• The fugitive dust emission from all sources is being regularly controlled by installation of required equipment/machineries and preventive maintenance along with truck mounted road sweepers.</li> <li>• Bag filters have been installed in crusher area.</li> <li>• Covered conveyors are used to avoid dust while transportation.</li> <li>• Tyre washing system has been provided to prevent formation of fugitive emissions.</li> </ul>  <p><b><u>TYRE WASHING SYSTEM</u></b></p> |
| <b>Miscellaneous</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1.                   | <p>The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.</p> | <ul style="list-style-type: none"> <li>• Complied. Advertisement of EC grant was published in 2 local newspapers namely Dainik Navjyot and Dainik Bhaskar.</li> <li>• Snaps attached as <b>Annexure 2</b>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2.                   | <p>The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.</p>                                                                                                                                        | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• A copy of the EC letter has been marked to Tehsildar, District Industries Centre, Collector's office and Panchayat Samiti vide letter dated 04.05.2020.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3.                   | <p>The project proponent shall upload the status of compliance of the stipulated</p>                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Complied.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|    | environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Half yearly reports are uploaded in parivesh portal</li> </ul>                                                                                                                                                                                                                                                                                                 |
| 4. | The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company. | <ul style="list-style-type: none"> <li>Continuous Ambient Air Quality stations have been installed for monitoring of all required air quality parameters.</li> <li>Data is being displayed at the front Main Gate of Rajpura Dariba Mines.</li> </ul>  <p style="text-align: center;"><b><u>CAAQMS - 1</u></b></p> |
| 5. | Action plan for developing connecting and internal road in terms of MSA as per IRC guidelines shall be implemented                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>All Internal roads constructed as per IRC guidelines.</li> </ul>                                                                                                                                                                                                                                                                                               |
| 6. | The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.                                                                        | <ul style="list-style-type: none"> <li>Complied.</li> <li>Half yearly reports are uploaded in parivesh portal</li> </ul>                                                                                                                                                                                                                                                                              |
| 7. | The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.                                       | <ul style="list-style-type: none"> <li>Form V is being submitted annually.</li> </ul>                                                                                                                                                                                                                                                                                                                 |
| 8. | The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.                                               | <ul style="list-style-type: none"> <li>Noted for compliance</li> </ul>                                                                                                                                                                                                                                                                                                                                |

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| 9.  | The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Noted</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 10. | The recommendations of the approved Site-Specific Wildlife Management Plan (in case of involvement of Schedule-I species) shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.                                                                                                                                                 | <ul style="list-style-type: none"> <li>Approval for Revised Wildlife (Schedule -1) Conservation Plan has been obtained from Chief Wildlife Warden vide letter dated 16.09.2020.</li> <li>Rs. 1.32 crores have been submitted to State Government as per the Wildlife (Schedule – 1) Conservation plan through demand draft vide letter dated 12.02.2020. Notification of the same is attached as <b>Annexure – 10</b>.</li> <li>MOU has been signed with State Government for implementation of Wildlife (Schedule -1) Conservation plan attached as <b>Annexure – 10</b>.</li> <li>Rs. 30 lakhs have been further submitted via letter HZL/RDM/ENV/2022-23/13117 dated 23.03.2023 for the implementation of Wildlife Conservation Plan.</li> </ul> |
| 11. | The PP shall put all the environment related expenditure, expenditure related to Action Plan on the PH issues, and other commitments made in the EIA/EMP Report etc. in the company web site for the information to public/public domain. The PP shall also put the information on the left over funds allocated to EMP and PH as committed in the earlier ECs and shall be carried out and spent in next three years, in the company web site for the information to public/public domain. | <ul style="list-style-type: none"> <li>Complied.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 12. | No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Noted</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 13. | Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>Noted</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| 14.  | The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 15.  | The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 16.  | The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Full cooperation will be extended to MoEF&amp;CC by furnishing the requisite data/ monitoring reports.</li> </ul>                                                                                                                                                                                                                                                                                                                           |
| 17.  | Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 1(a) | <b>Mining of minerals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1.   | The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted. | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Alternative arrangements will be made for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease.</li> </ul>                                                                                                                                                                                                                                                                |
| 2.   | The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary                                                            | <ul style="list-style-type: none"> <li>• Noted</li> <li>• Plantation is being carried out as per the                      plantation/greenbelt development plan submitted.</li> <li>• For the compliance reporting period, 812 plants were planted.</li> <li>• Growth of each plant is monitored.</li> <li>• Survival rate for the plantation has been close to 95 %.</li> <li>• Species planted – 64 species including Gulmohar, Madhurica Indica, Charooli, Aloe Vera, Bougainvillia etc.</li> </ul> |

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|                             | <p>provision shall be made for protection and care of trees.</p>                                                                                                                                                                                                                                                  |  <p><b><u>Miyawaki Plantation Project</u></b></p>   <ul style="list-style-type: none"> <li>• Separate GL account is being maintained for plantation.</li> </ul> |
| <b>Statutory compliance</b> |                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1.                          | <p>The Project Proponent shall inform the MoEF&amp;CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred. PP needs to apply for transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.</p> | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                                                                                                                                                                |

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| 2. | <p>The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (<a href="http://www.parivesh.nic.in">www.parivesh.nic.in</a>). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.</p> | <ul style="list-style-type: none"> <li>• Complied</li> <li>• Advertisement of grant of EC letter was done in two local newspapers (Dainik Bhaskar &amp; Dainik Navjot)</li> <li>• Copy of the Advertisement is attached as <b>Annexure -2</b>.</li> </ul>                                                                                                                      |
| 3. | <p>State Pollution Control Board/Committee shall be responsible for display of this EC letter at its regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                                                                                                                      |
| 4. | <p>A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• A copy of the EC letter has been marked to Tehsildar, District Industries Centre, Collector's office, and Panchayat Samiti vide letter dated 04.05.2020.</li> </ul>                                                                                                                                              |
| 5. | <p>The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area."</p>                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Mitigation measures mentioned in the OM are being implemented.</li> <li>• Study report concluded "The habitants of five villages have not reported any inconvenience due to illumination, blasting vibration, noise etc, as these are more than 500 m away from underground mine and beneficiation area"</li> </ul> |
| 6. | <p>The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining &amp; Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &amp; Ors.</p>                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                                                                                                                      |

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| 7.                          | The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations. | <ul style="list-style-type: none"> <li>Noted.</li> <li>Statutory compliances and judgements of Supreme Court in matter of Common Cause versus Union of India &amp; Ors will be complied with.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Statutory compliance</b> |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 1.                          | The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.                                                                    | <ul style="list-style-type: none"> <li>Forest clearance is not applicable as there is no forest area in Core and Buffer Zone (10 km radius) of Rajpura Dariba Mine</li> <li>Copy of the letter received from DFO, Rajsamand is attached as <b>Annexure - 1</b>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2.                          | The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.                                                                                                                               | <ul style="list-style-type: none"> <li>Complied.</li> <li>Hazardous waste authorization has been obtained from SPCB.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3.                          | The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.                              | <ul style="list-style-type: none"> <li>CGWA NOC for groundwater abstraction of 3,145.01 KLD had been obtained and was valid up to 06.01.2026.</li> <li>An application for renewal of the NOC has been submitted to the Central Ground Water Authority (CGWA), and the same is currently under process.</li> <li>Zero Liquid discharge is maintained from tailing dam.</li> <li>Surface water is being used from Matrikundia dam as per the water supply agreements.</li> <li>100% recycled water is being used for mine operations and Ore beneficiation plants.</li> <li>Freshwater is being used only for drinking (domestic) purposes which is supplied for Industrial, Colony and nearby villages.</li> </ul> |
| 4.                          | This Environmental Clearance (EC) is subject to orders/ judgment of Honble Supreme Court of India, Honble High Court, Honble NGT and any other Court of Law, Common Cause Conditions as may be applicable.                                                              | <ul style="list-style-type: none"> <li>Noted.</li> <li>The directions of Honourable courts shall be adhered to.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| 5.                                             | The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Not applicable as per Annexure – 1.</li> </ul>                                                                                                                                                                                                                                                                                            |
| 6.                                             | The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of Schedule-I species in the study area).                                                                                                                                                                   | <ul style="list-style-type: none"> <li>MOU has been signed with State Government for implementation of Wildlife (Schedule -1) Conservation plan.</li> <li>Rs. 30 lakhs have been further submitted via letter HZL/RDM/ENV/2022-23/13117 dated 23.03.2023 for the implementation of Wildlife Conservation Plan.</li> </ul>                                                        |
| 7.                                             | The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>CTE/CTO has been obtained from RSPCB for mining and beneficiation process.</li> </ul>                                                                                                                                                                                                                                                     |
| <b>Air quality monitoring and preservation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                  |
| 1.                                             | The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986. 9) The project proponent shall install system to carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 each). covering upwind and downwind directions. | <ul style="list-style-type: none"> <li>Continuous Ambient Air Quality stations have been installed for monitoring of all required air quality parameters.</li> <li>Data is being displayed at the front Main Gate of Rajpura Dariba Mines.</li> </ul> <div> </div> <p style="text-align: center;"><b><u>CAAQMS - 1</u></b></p> |
| 2.                                             | The project proponent shall install system to carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM10 and PM2.5 in reference to PM emission, and SO2 and                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Continuous Ambient Air Quality stations have been installed for monitoring of all required air quality parameters.</li> </ul>                                                                                                                                                                                                             |

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|    | <p>NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 each).covering upwind and downwind directions.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Data is being displayed at the front Main Gate of Rajpura Dariba Mines.</li> </ul>  <p><b>CAAQMS - 1</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3. | <p>Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.</p> | <ul style="list-style-type: none"> <li>Effective safeguards measures for prevention of dust generation like regular water sprinkling is being carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points.</li> <li>The fugitive dust emission from all sources is being regularly controlled by installation of required equipment/machineries and preventive maintenance along with truck mounted road sweepers.</li> </ul>  <p><b>TRUCK MOUNTED ROAD SWEEPER</b></p> <ul style="list-style-type: none"> <li>Ambient air quality is being carried out monthly and data is attached as <b>Annexure – 3.</b></li> </ul> |

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| 4.                                             | <p>The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.</p> | <ul style="list-style-type: none"> <li>Continuous Ambient Air Quality stations have been installed for monitoring of all required air quality parameters.</li> <li>Data is being displayed at the front Main Gate of Rajpura Dariba Mines.</li> </ul> |
|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  <p style="text-align: center;"><b>CAAQMS - 1</b></p>                                                                                                               |
| 5.                                             | <p>The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. Monitor fugitive emissions in the plant premises.</p>                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Have been installed for monitoring of all required air quality parameters.</li> <li>Data is being displayed at the front Main Gate of Rajpura Dariba Mines.</li> </ul>                                         |
| <b>Air quality monitoring and preservation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                       |
| 1.                                             | <p>The project proponent use leak proof trucks/dumpers carrying ore and other raw materials and cover them with tarpaulin.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Complied</li> <li>The trucks carrying the concentrate are covered with tarpaulin.</li> </ul>                                                                                                                   |
| 2.                                             | <p>Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>Being Complied</li> </ul>                                                                                                                                                                                      |
| 3.                                             | <p>The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Ambient air quality and stack monitoring is being carried out monthly and data is attached as <b>Annexure – 3.</b></li> </ul>                                                                                  |

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|                                                  | /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Air quality monitoring and preservation</b>   |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1.                                               | Wind shelter fence and chemical spraying shall be provided on the raw material stockpiles.                                                                                                                                          | <ul style="list-style-type: none"> <li>• Wind shelter fence/closed shed is provided for storing crushed ore.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2.                                               | Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards. | <ul style="list-style-type: none"> <li>• Effective safeguards measures for prevention of dust generation like regular water sprinkling is being carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points.</li> <li>• The fugitive dust emission from all sources is being regularly controlled by installation of required equipment/machineries and preventive maintenance along with truck mounted road sweepers.</li> </ul>  <p style="text-align: center;"><b>TRUCK MOUNTED ROAD SWEEPER</b></p> <ul style="list-style-type: none"> <li>• Ambient air quality is being carried out monthly and data is attached as Annexure – 3.</li> </ul> |
| <b>Water quality monitoring and preservation</b> |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1.                                               | The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.           | <ul style="list-style-type: none"> <li>• Water audit study has been carried out by FICCI.</li> <li>• Measures for reducing the consumption of water have been taken as per the findings of Water Audit.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| 2.                                               | Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board. | <ul style="list-style-type: none"> <li>Monitoring of ground water level and quality is done through a network of piezometers and wells in and around the lease.</li> <li>Reports on change in ground water level and quality is being submitted and reports are attached as <b>Annexure – 4 and 5.</b></li> </ul> |
| 3.                                               | Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.                                                                                                                                          | <ul style="list-style-type: none"> <li>Industrial wastewater (Workshop and wastewater from the mine) is properly collected, treated and re-used in the beneficiation plants and HEMM washing bay.</li> </ul>                                                                                                      |
| 4.                                               | The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.                                                                                                                    | <ul style="list-style-type: none"> <li>Not Applicable.</li> <li>No effluent being generated.</li> <li>ZLD is being ensured</li> </ul>                                                                                                                                                                             |
| 5.                                               | The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Complied. Monitoring being done half yearly by NABL accredited 3<sup>rd</sup> party labs.</li> <li>Reports attached as <b>Annexure - 5.</b></li> </ul>                                                                                                                     |
| <b>Water quality monitoring and preservation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                   |
| 1.                                               | The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>Complied. Monitoring being done half yearly by NABL accredited 3<sup>rd</sup> party labs.</li> <li>Reports attached as <b>Annexure - 5.</b></li> </ul>                                                                                                                     |

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|    | recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2. | The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.          | <ul style="list-style-type: none"> <li>Not applicable as this condition is for a Steel Plant.</li> <li>Additionally, process water recycling being done in beneficiation process.</li> </ul>                                                                                                                                                                                                                                     |
| 3. | Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.             | <ul style="list-style-type: none"> <li>Complied</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |
| 4. | Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.                                                                                 | <ul style="list-style-type: none"> <li>Complied.</li> <li>STP has been installed and commissioned.</li> <li>Domestic sewage is being treated through a Sewage Treatment Plant and treated water used in plantation and horticulture.</li> </ul> <p>All the parameters are within the prescribed limits and the results are attached as <b>Annexure – 7</b>.</p>                                                                  |
| 5. | Adhere to Zero Liquid Discharge                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Zero Liquid discharge is maintained from tailing dam.</li> </ul>                                                                                                                                                                                                                                                                                                                          |
| 6. | The project proponent shall provide the slime disposal facility with impervious lining and collection wells for seepage. The water collected from the slime pond shall be treated and recycled. | <ul style="list-style-type: none"> <li>No slime generation from process.</li> <li>Tailing generated from process are being dewatered at Dry tailing plant and stacked at TSF dariba. Water from dewatered tailing being stored in process water recycling pond and reused in process.</li> </ul>  <p><b>Process water recycling pond</b></p> |

| 7.                                            | <p>Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEFCC annually.</p>                                                                                                                                    | <ul style="list-style-type: none"> <li>Rainwater Harvesting structures have been prepared which involve desilting and deepening of villages in and around the mine lease area.</li> </ul> <div> </div> <p><b>DEEPENING OF MEHANDURIYA POND</b></p> <table border="1"> <thead> <tr> <th colspan="3">Rainwater Harvesting Details</th></tr> <tr> <th>S.No</th><th>Location</th><th>Qty</th></tr> </thead> <tbody> <tr> <td>1</td><td>Meheduriya</td><td>415000 m<sup>2</sup></td></tr> <tr> <td>2</td><td>Anjana</td><td>23000 m<sup>2</sup></td></tr> <tr> <td>3</td><td>Rajpura</td><td>35000 m<sup>2</sup></td></tr> <tr> <td>4</td><td>Gawardi</td><td>30000 m<sup>2</sup></td></tr> <tr> <td>5</td><td>Kotdi</td><td>11000 m<sup>2</sup></td></tr> <tr> <td colspan="2"><b>Total Area</b></td><td><b>514000 m<sup>2</sup></b></td></tr> <tr> <td colspan="2">Total Rainfall from Oct'25 to Mar'26</td><td>111.9 mm</td></tr> <tr> <td colspan="2"><b>Total Potential of Rainwater Harvested</b></td><td><b>57516.6 m<sup>3</sup></b></td></tr> </tbody> </table> | Rainwater Harvesting Details |  |  | S.No | Location | Qty | 1 | Meheduriya | 415000 m <sup>2</sup> | 2 | Anjana | 23000 m <sup>2</sup> | 3 | Rajpura | 35000 m <sup>2</sup> | 4 | Gawardi | 30000 m <sup>2</sup> | 5 | Kotdi | 11000 m <sup>2</sup> | <b>Total Area</b> |  | <b>514000 m<sup>2</sup></b> | Total Rainfall from Oct'25 to Mar'26 |  | 111.9 mm | <b>Total Potential of Rainwater Harvested</b> |  | <b>57516.6 m<sup>3</sup></b> |
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| Rainwater Harvesting Details                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| S.No                                          | Location                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Qty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 1                                             | Meheduriya                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 415000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 2                                             | Anjana                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 23000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 3                                             | Rajpura                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 35000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 4                                             | Gawardi                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 5                                             | Kotdi                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 11000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| <b>Total Area</b>                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>514000 m<sup>2</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| Total Rainfall from Oct'25 to Mar'26          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 111.9 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| <b>Total Potential of Rainwater Harvested</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>57516.6 m<sup>3</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 8.                                            | <p>Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable</p> | <ul style="list-style-type: none"> <li>Water generated as part of dewatering due to mining operations is utilized in wet drilling in mining ore beneficiation in beneficiation plant.</li> <li>Process water that is recovered from Tailing dam is also used in beneficiation plant.</li> <li>Only process water is used for dust suppression activities including sprinkling.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|     | <p>location near the main gate of the Company. The circular No. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Monitoring report is attached as <b>Annexure – 7.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 9.  | <p>In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Due to seepage and intersection of water table during mining activities, dewatering of accumulated water in mining pits is being carried out.</li> <li>CGWA NOC for groundwater abstraction of 3,145.01 KLD had been obtained and was valid up to 06.01.2026.</li> <li>An application for renewal of the NOC has been submitted to the Central Ground Water Authority (CGWA), and the same is currently under process.</li> </ul>                                                                                                                                                                                                                          |
| 10. | <p>The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease including upstream and downstream. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEFCC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April May), monsoon (August), post- monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.</p> | <ul style="list-style-type: none"> <li>Monitoring of keys wells for water quality and water levels in and around the mine lease is being done regularly.</li> <li>The natural water bodies and or streams which are flowing in an around the mine lease are not being disturbed.</li> <li>Fresh water is being provided to villagers for their use.</li> <li>Water table is being nurtured so as to not go down below the pre-mining period. Rainwater harvesting in the form of desilting and deepening of village ponds is being carried out.</li> <li>Reports on change in ground water level and quality is being submitted and reports are attached as <b>Annexure – 4 and 5.</b></li> </ul> |

| 11.                                           | The project proponent shall practice rainwater harvesting to maximum possible extent.                                                                                                             | <ul style="list-style-type: none"> <li>Rainwater Harvesting structures have been prepared which involve desilting and deepening of villages in and around the mine lease area.</li> </ul> <div>  </div> <p style="text-align: center;"><b>DEEPENING OF MEHANDURIYA POND</b></p> <table border="1"> <thead> <tr> <th colspan="3">Rainwater Harvesting Details</th></tr> <tr> <th>S.No</th><th>Location</th><th>Qty</th></tr> </thead> <tbody> <tr> <td>1</td><td>Meheduriya</td><td>415000 m<sup>2</sup></td></tr> <tr> <td>2</td><td>Anjana</td><td>23000 m<sup>2</sup></td></tr> <tr> <td>3</td><td>Rajpura</td><td>35000 m<sup>2</sup></td></tr> <tr> <td>4</td><td>Gawardi</td><td>30000 m<sup>2</sup></td></tr> <tr> <td>5</td><td>Kotdi</td><td>11000 m<sup>2</sup></td></tr> <tr> <td colspan="2"><b>Total Area</b></td><td><b>514000 m<sup>2</sup></b></td></tr> <tr> <td colspan="2">Total Rainfall from Oct'25 to Mar'26</td><td>111.9 mm</td></tr> <tr> <td colspan="2"><b>Total Potential of Rainwater Harvested</b></td><td><b>57516.6 m<sup>3</sup></b></td></tr> </tbody> </table> | Rainwater Harvesting Details |  |  | S.No | Location | Qty | 1 | Meheduriya | 415000 m <sup>2</sup> | 2 | Anjana | 23000 m <sup>2</sup> | 3 | Rajpura | 35000 m <sup>2</sup> | 4 | Gawardi | 30000 m <sup>2</sup> | 5 | Kotdi | 11000 m <sup>2</sup> | <b>Total Area</b> |  | <b>514000 m<sup>2</sup></b> | Total Rainfall from Oct'25 to Mar'26 |  | 111.9 mm | <b>Total Potential of Rainwater Harvested</b> |  | <b>57516.6 m<sup>3</sup></b> |
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| Rainwater Harvesting Details                  |                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| S.No                                          | Location                                                                                                                                                                                          | Qty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 1                                             | Meheduriya                                                                                                                                                                                        | 415000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 2                                             | Anjana                                                                                                                                                                                            | 23000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 3                                             | Rajpura                                                                                                                                                                                           | 35000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 4                                             | Gawardi                                                                                                                                                                                           | 30000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 5                                             | Kotdi                                                                                                                                                                                             | 11000 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| <b>Total Area</b>                             |                                                                                                                                                                                                   | <b>514000 m<sup>2</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| Total Rainfall from Oct'25 to Mar'26          |                                                                                                                                                                                                   | 111.9 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| <b>Total Potential of Rainwater Harvested</b> |                                                                                                                                                                                                   | <b>57516.6 m<sup>3</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| <b>Noise monitoring and prevention</b>        |                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 1.                                            | Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report. | <ul style="list-style-type: none"> <li>Noise monitoring is carried out to measure the noise levels during day/night.</li> <li>Monitoring reports are attached as <b>Annexure – 8.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |
| 2.                                            | The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during daytime and 70 dB(A) during nighttime.                                           | <ul style="list-style-type: none"> <li>Noise monitoring is carried out to measure the noise levels during day/night.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |  |  |      |          |     |   |            |                       |   |        |                      |   |         |                      |   |         |                      |   |       |                      |                   |  |                             |                                      |  |          |                                               |  |                              |

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|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Monitoring reports are attached as <b>Annexure – 8.</b></li> </ul>                                                                                                                                                                                                                                                                                                      |
| <b>Noise and vibration monitoring and prevention</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1.                                                   | The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including labourers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ labourers are working without personal protective equipment. | <ul style="list-style-type: none"> <li>Measures are taken to control noise level below 85 dBA in the work environment.</li> <li>PPEs with ear plugs and muffs are provided to individuals working in high noise areas.</li> <li>Protective respiratory devices along with training, awareness and information on safety and health aspects is also provided for workers working in the dusty areas.</li> </ul> |
| 2.                                                   | The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.          | <ul style="list-style-type: none"> <li>No flood lights.</li> <li>Noise levels are kept within the prescribed limits for day/night hours.</li> <li>Noise monitoring is carried out to measure the noise levels during day/night.</li> <li>Monitoring reports are attached as <b>Annexure – 8.</b></li> </ul>                                                                                                    |
| <b>Noise and vibration monitoring and prevention</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1.                                                   | The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>PPV is monitored periodically as per the applicable DGMS guidelines.</li> <li>PPV ranges between 0.75 – 3.79 mm/sec at 0 to 300 m from mining activity.</li> </ul>                                                                                                                                                                                                      |
| <b>Mining plan</b>                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1.                                                   | The Project Proponent shall adhere to approved mining plan, inter alia, including, total excavation (quantum of mineral, waste, over burden, inter burden and top soil etc.); mining technology; lease area; scope of working ( method of mining, overburden & dump management, O.B& dump mining, mineral transportation mode, ultimate depth of mining, concurrent reclamation and reclamation at mine closure; land-use                                                                                                                                   | <ul style="list-style-type: none"> <li>Noted.</li> <li>Working parameters are being adhered to.</li> <li>No change in basic mining proposal like mining technology, total excavation, mineral and waste production, lease area and scope of working (viz method of mining, overburden and dump management, OB and dump, mining, mineral</li> </ul>                                                             |

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                          |
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|                                     | of the mine lease area at various stages of mining scheme as well as at the end-of-life; etc.).                                                                                                                                                                                                                                                                                                                                                                                                                                                                | transportation mode, ultimate depth of mining etc) will not be carried out without prior approval.                                                                                                                                                                                                                                                       |
| <b>Energy Conservation measures</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                          |
| 1.                                  | Provide LED lights in their offices and residential areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>LED lights provided in all offices and residential areas.</li> </ul>                                                                                                                                                                                                                                              |
| 2.                                  | Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Solar Light systems provided and maintained on roof top within beneficiation plant premises.</li> </ul>                                                                                                                                                                                                           |
| <b>Mining plan</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                          |
| 1.                                  | The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEFCC and its concerned Regional Office. | <ul style="list-style-type: none"> <li>Land use of the mine lease area is being governed as per the approved Mining Plan.</li> <li>Afforestation is being done as per approved mining plan cum Progressive Mine closure Plan.</li> <li>Monitoring and management of rehabilitated areas is done until the vegetation becomes self-sustaining.</li> </ul> |
| <b>Waste management</b>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                          |
| 1.                                  | Kitchen waste shall be composted or converted to biogas for further use.(to be decided on case-to-case basis depending on type and size of plant)                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Kitchen waste being composted by waste handlers.</li> </ul>                                                                                                                                                                                                                                                       |
| 2.                                  | The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Waste oil, grease and other hazardous waste being disposed of to authorized recyclers and disposal facilities.</li> <li>Form 10 being maintained.</li> </ul>                                                                                                                                                      |
| <b>• Land reclamation</b>           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                          |
| 1.                                  | Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be                      | <ul style="list-style-type: none"> <li>Garland drains have been provided and sedimentation pits/sumps have been constructed at the corners of the garland drains thereby allowing proper settling of sediment/silt material.</li> </ul>                                                                                                                  |

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|    | constructed at the corners of the garland drains.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  <p><b>RETAINING WALL AROUND WASTE DUMP</b></p>                                                                                                                                                                                                                                          |
| 2. | <p>Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top/Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be desilted regularly, particularly after monsoon season, and maintained properly.</p>                                                                                                                                                            | <ul style="list-style-type: none"> <li>Garland drains have been provided and sedimentation pits/sumps have been constructed at the corners of the garland drains thereby allowing proper settling of sediment/silt material.</li> </ul>  <p><b>GARLAND DRAINS AROUND WASTE DUMP</b></p> |
| 3. | <p>The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo- membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.</p> | <ul style="list-style-type: none"> <li>Noted.</li> <li>Local species have been planted which regulates local climatic parameters.</li> <li>The dump mass is consolidated with the help of dozer/ compactors thereby ensuring proper filling /levelling of dump mass.</li> </ul>                                                                                            |

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| 4.                        | <p>The Overburden (O.B.), waste and topsoil generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB / waste dumps / topsoil dump like height, width and angle of slope shall be governed as per the approved Mining Plan and the guidelines/circulars issued by D.G.M.S. The topsoil shall be used for land reclamation and plantation.</p>                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Since it's an underground mine, no overburden is generated.</li> <li>• Waste generated due to mining is used for filling of voids in stopes.</li> <li>• For the compliance reporting period, 101193 MT waste was dumped on waste dumps.</li> </ul>                                                                                                                                                                                                                                                                                                                                                         |
| <b>Green Belt and EMP</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1.                        | <p>Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• Plantation on 33% of the total land used for mining and allied activities is maintained.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Transportation</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1.                        | <p>The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.</p> | <ul style="list-style-type: none"> <li>• Water sprinkling is done on ramp/haulage road of the underground mine.</li> <li>• Sprinkling systems have been installed at dust generation areas.</li> <li>• The fugitive dust emission from all sources is being regularly controlled by installation of required equipment/machineries and preventive maintenance along with truck mounted road sweepers.</li> <li>• Bag filters have been installed in crusher area.</li> <li>• Covered conveyors are used to avoid dust while transportation.</li> <li>• Tyre washing system has been provided to prevent formation of fugitive emissions.</li> </ul> |

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|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  <p><b><u>TYRE WASHING SYSTEM</u></b></p>                                                                                                                                                                                                                                                                                          |
| 2.                        | <p>No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers. [If applicable in case of road transport].</p> | <ul style="list-style-type: none"> <li>• No Transportation of minerals carried out outside the lease, passing through villages/habitations.</li> <li>• Vehicular emissions kept under control and regularly monitored. Pollution Under Control (PUC) certificate is mandatory for all the vehicle from authorized pollution testing centres.</li> <li>• PUC camps are organized on World Environment Day.</li> </ul> |
| <b>Green Belt and EMP</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1.                        | <p>The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Noted</li> <li>• Plantation is being carried out as per the                      plantation/greenbelt development plan submitted.</li> <li>• For the compliance reporting period, 812 plants were planted.</li> </ul>                                                                                                                                                       |

- Growth of each plant is monitored, and records are maintained.
- Survival rate for the plantation has been close to 90 %.
- Species planted – 64 species including Gulmohar, Madhurica Indica, Charooli, Aloe Vera, Bougainvillia etc.

#### **Miyawaki Plantation Project**



- Separate GL account is being maintained for plantation.

| <b>Public hearing and Human health issues</b> |                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| 1.                                            | Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project. | <ul style="list-style-type: none"> <li>Housing is provided for workers/labour with necessary basic infrastructure / facilities.</li> <li>Domestic wastewater is treated with STP and utilized for gardening/horticultural purposes.</li> <li>Domestic wastewater is treated with STP in order to avoid contamination of underground water.</li> </ul>                                                                                                                                                                       |
| 2.                                            | The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.                                                                                                                                                    | <ul style="list-style-type: none"> <li>Qualitative exposure assessment conducted by ISS (India) Consultancy Services Pvt. Ltd.</li> <li>The overall objective of this study was to comprehensively assess the employee's exposure to chemical and physical agents (mainly noise, vibration, and heat stress) and the need for further assessments for the improvement of the Occupational Health and Industrial Hygiene</li> </ul>                                                                                          |
| 3.                                            | Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Activities mentioned as part of Disaster Management Plan are being carried out and the status of activities is given herewith.</li> <li>Rescue apparatus like Rescue Ram , spreader , hydraulic cutter, self rescuers have been procured.</li> <li>Underground Rescue Van has been provided.</li> <li>Structure for Work at height has been provided.</li> </ul> <div> </div> <p style="text-align: center;"><b>RESCUE VAN</b></p> |

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|    |                                                                                                                                   |  <p><b>RESCUE APPARATUS</b></p>  <p><b>RESCUE RAM</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 4. | Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act. | <ul style="list-style-type: none"> <li>• Our mine is Lead Zinc underground mine, the clause regarding OHS for manganese mine or inorganic chromium is not applicable to our mine. Same way exposure due to materials like Asbestos, Hard rock Mining, Silica, Gold, Kaolin, Aluminium, Iron Manganese, Chromium and Uranium are not there.</li> <li>• Lead monitoring carried out for workers.</li> <li>• Occupational Health Monitoring is being done which includes Weight, Height, BMI, CBC, Blood Sugar Fasting and PP, Lipid Profile, Liver Function test, Kidney Function Test, Urine Examination, Audiometry, ECG, Spirometry, Chest X ray (ILO Quality 14 x 17 inches) and Eye examination for Drivers and Welders.</li> <li>• Records of Health Surveillance is being maintained Digitally and Hard Copies, including the results of and the records of Physical examination and tests.</li> </ul> |

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| <b>Green Belt</b>                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                             |
| 1.                                            | The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.                                                                               | <ul style="list-style-type: none"> <li>• Greenbelt has been developed in 190 ha. out of the total acquired land of 554.19 ha.</li> <li>• Greenbelt has been provided along the mine boundary to arrest pollution emanating from mining operations.</li> </ul>                                                                                               |
| <b>Corporate Environment Responsibility</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                             |
| 1.                                            | Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.                                                                                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Environmental audit being conducted annually by 3rd party as apart of VSAP Audit.</li> </ul>                                                                                                                                                                                                                       |
| <b>Public hearing and human health issues</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                             |
| 1.                                            | Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water. | <ul style="list-style-type: none"> <li>• Housing is provided for workers/labour with necessary basic infrastructure / facilities.</li> <li>• Domestic wastewater is treated with STP and utilized for gardening/horticultural purposes.</li> <li>• Domestic wastewater is treated with STP in order to avoid contamination of underground water.</li> </ul> |
| <b>Corporate Environment Responsibility</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                             |
| 1.                                            | All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Mineral Beneficiation plants shall be implemented.                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• All applicable CREP recommendations for Mineral Beneficiation Plants have been implemented and are being continuously maintained</li> </ul>                                                                                                                                                                        |
| 2.                                            | The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation /violation of the environmental / forest /wildlife norms/ conditions. The                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Environment Policy duly signed by HZL CEO attached as <b>Annexure - 16.</b></li> </ul>                                                                                                                                                                                                                             |

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|                                             | company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Corporate Environment Responsibility</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 1.                                          | <p>The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&amp;CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project.</p> | <ul style="list-style-type: none"> <li>Separate GL account is being maintained.</li> </ul>  <ul style="list-style-type: none"> <li>Proposed activities implementation status has been submitted against Specific Condition No. 5</li> <li>Documentary evidence in form of</li> </ul>  <p>photographs is given herewith.</p> <p><b>COMMUNITY WATER RO<br/>COMMUNITY SCHOOL – DARIBA</b></p> |
| 2.                                          | A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>A separate Environment Management Cell has been set up which is under the control of Unit head of Rajpura Dariba Mines.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                        |
| 3.                                          | Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Separate GL account is maintained for environment protection measures.</li> <li>Expenditure for the period of Oct-25 to Mar-26 is Rs. 128.66 lakhs.</li> </ul>                                                                                                                                                                                                                                                                                                                                                            |

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|                      | funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report. |                                                                                                                                                                                                                                                        |
| <b>Miscellaneous</b> |                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                        |
| 1.                   | The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.              | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• The Environmental Statement in Form – V is being submitted annually to the concerned State Pollution Control Board. The same is also being uploaded on the Company's website.</li> </ul> |
| 2.                   | The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                              |
| 3.                   | The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.                                                                                                                         | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                              |
| 4.                   | The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.                                                                          | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                              |
| 5.                   | Concealing factual data failure to comply with any or submission of false/fabricated data and of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.                                 | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                              |
| 6.                   | The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.                        | <ul style="list-style-type: none"> <li>• Six monthly compliances are being submitted to MoEF&amp;CC, Regional Office, CPCB &amp; RSPCB.</li> </ul>                                                                                                     |
| 7.                   | The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public                                           | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                              |

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|                      | Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.           |                                                                                                                                                                                                                                                                                   |
| <b>Miscellaneous</b> |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                   |
| 1.                   | The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.                              | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                         |
| 2.                   | Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.                               | <ul style="list-style-type: none"> <li>• Noted.</li> </ul>                                                                                                                                                                                                                        |
| 3.                   | The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.                   | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• All the commitments made during public hearing have been incorporated in budget of EMP and CER.</li> <li>• Status for activities as part of EMP and CER has been submitted against their respective points.</li> </ul> |
| 4.                   | No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).                                                                        | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                         |
| 5.                   | The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal. | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                         |
| 6.                   | The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.                 | <ul style="list-style-type: none"> <li>• Digital map (Land use and Land cover) for the entire lease area was done in 2025 by M/s Hydro-Geo Consultant and is attached as <b>Annexure 12</b>.</li> </ul>                                                                           |
| 7.                   | Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.                               | <ul style="list-style-type: none"> <li>• Noted for compliance.</li> </ul>                                                                                                                                                                                                         |

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| 8.                   | In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble Supreme Court on 8.01.2020 in W.P. (Civil) No 114/2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake regrassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. | <ul style="list-style-type: none"> <li>• Noted.</li> <li>• After ceasing of operations, Re-grassing of the mining area and any other area which may have been disturbed due to other mining activities will be carried out.</li> <li>• Land will be restored to a condition which is fit for growth of fodder, flora, fauna etc.</li> </ul> |
| 9.                   | A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.                                                                                                                                                    | <ul style="list-style-type: none"> <li>• A separate Environment Management Cell has been set up which is under the control of Unit head of Rajpura Dariba Mines.</li> </ul>                                                                                                                                                                 |
| 10.                  | The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                                                                                   |
| <b>Miscellaneous</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                             |
| 1.                   | The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Complied. Advertisement of EC grant was published in 2 local newspapers namely Dainik Navjyot and Dainik Bhaskar.</li> <li>• Snaps attached as <b>Annexure 2</b>.</li> </ul>                                                                                                                       |
| 2.                   | The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.                  | <ul style="list-style-type: none"> <li>• Noted</li> </ul>                                                                                                                                                                                                                                                                                   |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                         |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. | The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently. | <ul style="list-style-type: none"> <li>• Complied.</li> <li>• Advertisement of EC grant was published in 2 local newspapers namely Dainik Navjyot and Dainik Bhaskar.</li> <li>• Snaps attached as <b>Annexure 2</b>.</li> </ul>                                                                                                                                                        |
| 4. | The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.                                                                                                          | <ul style="list-style-type: none"> <li>• Continuous Ambient Air Quality stations have been installed for monitoring of all required air quality parameters.</li> <li>• Data is being displayed at the front Main Gate of Rajpura Dariba Mines.</li> </ul> <div> </div> <p><b><u>CAAQMS - 1</u></b></p> |
| 5. | The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Noted for compliance.</li> </ul>                                                                                                                                                                                                                                                                                                               |

**Corporate Environment Responsibility (CER)**

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <p>The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&amp;CC Office Memorandum No.22-65/2017-1A.III dated 30 September 2020. The action plan shall be implemented within three years of commencement of the project.</p> | <ul style="list-style-type: none"><li>• Separate GL account is being maintained.</li><li>• Proposed activities implementation status has been submitted against Specific Condition No. 5.</li><li>• Documentary evidence in form of photographs is given herewith.</li></ul>  <p><b>COMMUNITY WATER RO</b></p>  <p><b>COMMUNITY SCHOOL – DARIBA</b></p> |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### **List of Annexures**

|                      |                                                                  |
|----------------------|------------------------------------------------------------------|
| <b>Annexure – 1</b>  | Letter received from DFO, Rajsamand                              |
| <b>Annexure – 2</b>  | Advertisement of grant of EC letter in local newspapers          |
| <b>Annexure – 3</b>  | Monthly Ambient Air Quality Monitoring Reports                   |
| <b>Annexure – 4</b>  | Well Water Quality & Level Results                               |
| <b>Annexure – 5</b>  | Piezometer Water Quality & Level Results                         |
| <b>Annexure – 6</b>  | Surface Water Quality Results                                    |
| <b>Annexure – 7</b>  | Process Water Quality Monitoring Reports                         |
| <b>Annexure – 8</b>  | Noise Monitoring Reports                                         |
| <b>Annexure – 9</b>  | Budget Earmarked for CER Activities                              |
| <b>Annexure – 10</b> | MOU has been Signed for Implementation of WLCP                   |
| <b>Annexure – 11</b> | Awareness Initiatives on the Ban of Single Use Plastic (SUP)     |
| <b>Annexure – 12</b> | Digital Land Use and Land Cover Map                              |
| <b>Annexure – 13</b> | Environmental and Safety Studies of the Tailing Storage Facility |
| <b>Annexure – 14</b> | Climate action report                                            |
| <b>Annexure – 15</b> | GHG Emissions Inventory and Reduction Measures                   |
| <b>Annexure – 16</b> | Environment Policy                                               |
| <b>Annexure – 17</b> | Logbook of Oil & Grease Removal Plant                            |

## कार्यालय उप वन संरक्षक, वन्यजीव, राजसमन्द

Sadhna Sikhar Road, Rajsamand

Phone & Fax No. 02952-220096 Email- dcf.rjsmnd.forest@rajasthan.gov.in

क्रमांक: पत्रा ( ) सर्वे/उपसं/2018-19/ 7527

दिनांक: 24/9/18

निमित्त :-

Unit Head  
Hindusthan zinc  
Rajpura Dariba Mine  
Tehsil Railmagra  
Distt. Rajsamand

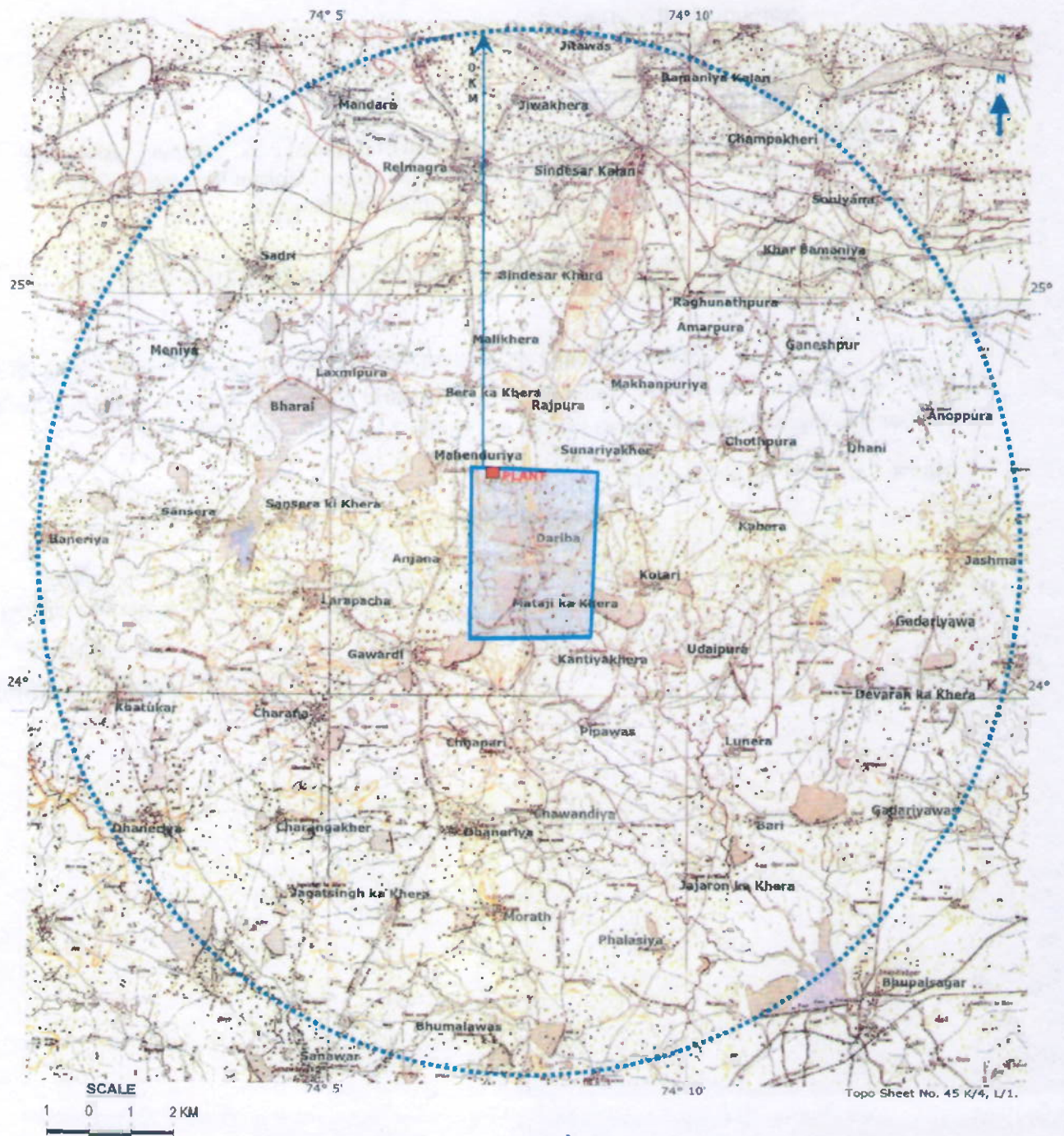
विषय :- Certificate regarding Non-involvement of National Park, Sanctuary, Biosphere Reserve, Wildlife Corridors, Ramsar site, Tiger/Elephant Reserves in Core and Buffer Zone. (10 km radius) of Rajpura Dariba Mine.

संदर्भ :- आपका पत्रांक UH(RDM)ENV/2018/133 Date : 28.08.2018 के क्रम में।

उपरोक्त विषयान्तर्गत संदर्भित पत्र में वर्णित Rajpura Dariba Mine के चारों तरफ 10 किमी० की परिधि में National Park, Sanctuary, Biosphere Reserve, Wildlife Corridors, Ramsar site, Tiger/Elephant Reserves in Core and Buffer Zone. क्षेत्र नहीं पड़ता है।

संलग्न : प्रमाणित TOPO SHEET.

(फतेह सिंह राठौड़)  
उप वन संरक्षक  
वन्यजीव, राजसमन्द



इस टोपी छिट पर मार्क 10 km की परिधि में इस वन भंडाल काफी नज़दीकी में नैजानल मार्क, सेनचूरी, कापोलफियर रिजर्व बाईलुआई कास्टिडोर शमभर छिट, टाईगर/एलिफेन्ट रिजर्व क्षेत्र नही पड़ता है।

उप वन संरक्षक  
(वन्य जीव) राजराजन्द

## कार्यालय उप वन संरक्षक, वन्यजीव, राजसमन्द

Sadhna Sikhar Road, Raisamand Phone & Fax No. 02952-223813 Email- dcf.wl.rajsamand@gmail.com

क्रमांक: पत्रा ( ) सर्वे/उवसं/2018-19/ 7528

दिनांक: 24/9/18

निमित्त :-

Unit Head  
Hindusthan zinc  
Rajpura Dariba Mine  
Tehsil Railmagra  
Distt.Rajsamand

विषय :- Certificate regarding Non-involvement of forest area in Core and Buffer Zone. (10 km radius) of Rajpura Dariba Mine.

संदर्भ :- आपका पत्रांक UH(RDM)ENV/2018/132 Date : 28.08.2018 के कम में।

उपरोक्त विषयान्तर्गत संदर्भित पत्र में वर्णित Rajpura Dariba Mine क्षेत्र के चारो तरफ 10 किमी० की परिधि में इस वन मण्डल अधीन घोषित वन क्षेत्र नहीं पड़ता है।

  
(फतेह सिंह राठौड़)  
उप वन संरक्षक  
वन्यजीव, राजसमन्द

THE UNIVERSITY OF CHICAGO  
DIVISION OF THE PHYSICAL SCIENCES  
DEPARTMENT OF PHYSICS

PHYSICS 311  
LECTURE 10  
THERMODYNAMICS  
AND  
STATISTICS

LECTURE 10: THERMODYNAMICS AND STATISTICS  
1. THE FIRST LAW OF THERMODYNAMICS

2. THE SECOND LAW OF THERMODYNAMICS

3. THE THIRD LAW OF THERMODYNAMICS

4. THE  
5. THE  
6. THE



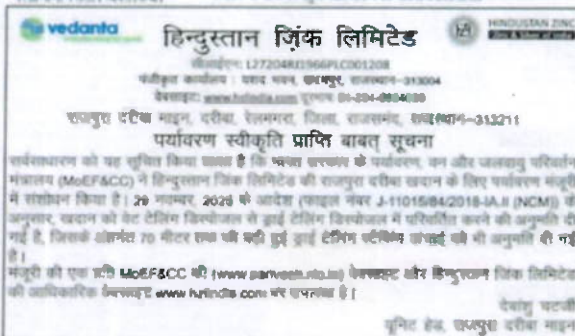
समस्या का समाधान करना वह था।  
अधिकतर पॉलिमर स्थान लक्षणों से  
पुनः ही निर्माण के अभाव में मालूम की  
जाने लगी कि वे कितने बड़े का रहे हैं।  
यही बीच के काल में प्रमाणित हुआ कि  
जिन से पहले भी जाना गया था कि वे  
कार्बोहाइड्रेट से अलग ही थे। वे प्लास्टिक हैं।  
मैंने अलग ही प्रयोग किया कि वे निर्माण  
में से अलग ही मालूम हो रहे हैं।  
उत्प्रेक्षित ही है कि यदि वे निर्माण  
और निर्माण के बीच के अलग ही एक प्रकार  
पॉलिमर की पॉलिमर की तरह ही पुनः ही  
हैं, 120 फीट की एक प्रमाण समस्या है।

[illegible][illegible]

पिकअप पुलिया के गड़ढे में उतरी,  
कोई जनहानि नहीं

और पूर्व में हुए घटनाओं की जानकारी भी पुलिस को दी। कुर्मीया का नाम प्रभात मोदी। रामचन्द्र कुर्मीया ने **हत्या** की समया की तारीख में मुझे हुए पत्र और रिपोर्ट को पढ़ा देने के लिए विशेष **प्रयत्न** करने पर अचानक ही पुलिस के सचकात्तों के सामने और **अपराध** पर लागू होने वाले पकड़ के लिए।

नवयुगीन, क्रांतिरिया। **भारतवासी** नवयुगीन योद्धाएँ पर मुहाम्बर लोग के समान एक निश्चित ड्यूलि के समान सटके से लड़ते हुए सटके से फाँटे जायें। **इसमें** जानक का जेरे के साथ शक्तिहीन हो गया। भौतकाया से लयमय हो बिटन से **मिल** जानक पर काफ़ीदा होलकाल से मुक़्त हो गये पर खबर कि के समान **भारतवासी** भालम पर सत्त्व लीं मर गइ, जिससे मरने से नीचे उतरते हुए सटके से फाँटे जायें। **मुकुंद** ने भी हिकाल जेरे का निश्चय शक्तिहीन हो गया फाँटे जायें। **म** को जलमाल नही हल। हाथों को जलमाल पर फाँटे जायें हाथों टोम सटके से मीकि पर सटके से जानक को फाँटे निश्चयमाल।



१०. टीलपुरा में  
 राजा द्वारा सभा  
 की गई। राजा  
 को का सहायक  
 १. टीलपुरा में,  
 २. टीलपुरा में,  
 ३. टीलपुरा में,  
 ४. टीलपुरा में,  
 ५. टीलपुरा में,  
 ६. टीलपुरा में,  
 ७. टीलपुरा में,  
 ८. टीलपुरा में,  
 ९. टीलपुरा में,  
 १०. टीलपुरा में

प्रकारण को यह पूरी निष्ठा प्राप्त है। कि भारत सरकार के पर्यावरण को और जलवायु परिवर्तन-  
मोक्ष (MoEF&CC) ने हिन्दुस्तान थिंक थिम्बेट की राशुवरी दक्षिण भारत के लिए पर्यावरण मोक्ष  
ने शोधन किया है। 29 अक्टूबर 2023 के आदेश (राशुवरी नं. J-11015462018-IA-J (NMC) के  
अनुसार, भारत को केट रिपोर्ट विश्लेषण के लिए (राशुवरी विश्लेषण) में पर्यावरण मोक्ष को अनुमति दी  
गई है, जिसके अंतर्गत 70 मीटर तक की गहरी छेदों द्वारा टैरियन पेटिफिक जलवायु को भी अनुमति दी गई है।

मंडरी की एक टीम MoEF&CC की ([www.parivahan.in](http://www.parivahan.in)) केसबल और हिन्दुस्तान थिंक थिम्बेट  
की आधिकारिक वेबसाइट [www.hindustan-think-thimbat.com](http://www.hindustan-think-thimbat.com) पर उपलब्ध है।

देवांस्तु घटजी  
युनिट हेड, एमएलए दलीदा माइन







## Average Ambient Air Quality Monitoring Results

Oct - 25

| Name of Monitoring Station | PM 10 ( $\mu\text{g}/\text{m}^3$ ) | PM 2.5 ( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | CO ( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|------------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------|
| Near Laboratory            | 63.10                              | 37.60                               | 08.50                                        | 13.00                                        | 916                             |
| Near DG Set                | 57.00                              | 34.50                               | 06.80                                        | 10.50                                        | 802                             |
| Near AB - Type Quarter     | 60.50                              | 36.30                               | 08.50                                        | 13.90                                        | 916                             |
| Near Concentrate Yard      | 68.40                              | 41.50                               | 08.20                                        | 12.00                                        | 1145                            |

Nov - 25

| Name of Monitoring Station | PM 10 ( $\mu\text{g}/\text{m}^3$ ) | PM 2.5 ( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | CO ( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|------------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------|
| Near Laboratory            | 63.20                              | 37.50                               | 07.60                                        | 12.00                                        | 916                             |
| Near DG Set                | 54.60                              | 33.20                               | 06.50                                        | 10.50                                        | 687                             |
| Near AB - Type Quarter     | 56.50                              | 33.30                               | 07.90                                        | 11.40                                        | 687                             |
| Near Concentrate Yard      | 68.50                              | 41.00                               | 08.20                                        | 12.60                                        | 1031                            |

Dec - 25

| Name of Monitoring Station | PM 10 ( $\mu\text{g}/\text{m}^3$ ) | PM 2.5 ( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | CO ( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|------------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------|
| Near Laboratory            | 65.70                              | 39.60                               | 08.80                                        | 14.50                                        | 916                             |
| Near DG Set                | 62.30                              | 37.50                               | 07.20                                        | 10.80                                        | 802                             |
| Near AB - Type Quarter     | 69.50                              | 39.80                               | 08.90                                        | 13.70                                        | 1145                            |
| Near Concentrate Yard      | 72.20                              | 44.00                               | 08.00                                        | 12.50                                        | 1031                            |

Jan - 26

| Name of Monitoring Station | PM 10 ( $\mu\text{g}/\text{m}^3$ ) | PM 2.5 ( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | CO ( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|------------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------|
| Near Laboratory            | 66.10                              | 39.80                               | 09.50                                        | 14.40                                        | 1031.00                         |
| Near DG Set                | 59.00                              | 35.10                               | 06.90                                        | 11.00                                        | 802.00                          |
| Near AB - Type Quarter     | 61.70                              | 36.80                               | 08.50                                        | 15.20                                        | 916.00                          |
| Near Concentrate Yard      | 71.80                              | 41.90                               | 08.70                                        | 13.00                                        | 1145.00                         |

Feb - 26

| Name of Monitoring Station | PM 10 ( $\mu\text{g}/\text{m}^3$ ) | PM 2.5 ( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | CO ( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|------------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------|
| Near Laboratory            | 60.50                              | 36.00                               | 07.80                                        | 13.00                                        | 916.00                          |
| Near DG Set                | 54.80                              | 33.00                               | 06.40                                        | 10.30                                        | 802.00                          |
| Near AB - Type Quarter     | 56.50                              | 33.30                               | 07.90                                        | 11.40                                        | 802.00                          |
| Near Concentrate Yard      | 69.70                              | 41.60                               | 08.30                                        | 12.40                                        | 1031.00                         |

Mar - 26

| Name of Monitoring Station | PM 10 ( $\mu\text{g}/\text{m}^3$ ) | PM 2.5 ( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ ) | CO ( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|------------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------|
| Near Laboratory            | 64.90                              | 38.50                               | 08.30                                        | 15.30                                        | 916.00                          |
| Near DG Set                | 69.40                              | 36.50                               | 07.60                                        | 10.40                                        | 802.00                          |
| Near AB - Type Quarter     | 69.20                              | 35.80                               | 09.50                                        | 12.90                                        | 1145.00                         |
| Near Concentrate Yard      | 71.70                              | 42.00                               | 08.60                                        | 12.20                                        | 1031.00                         |

**Annexure – 4**
**Well water Quality & Level results**
**Oct – 25**

(All figures in ppm except pH)

| Parameter                              | Sumer Singh Well Water | Nahar Singh Well Water |
|----------------------------------------|------------------------|------------------------|
| pH                                     | 07.22                  | 07.30                  |
| Suspended Solids                       | 08.00                  | 10.00                  |
| Lead                                   | BDL (<0.01)            | BDL (<0.01)            |
| Zinc                                   | 00.04                  | 00.20                  |
| Copper                                 | BDL (<0.01)            | BDL (<0.01)            |
| Iron                                   | 00.05                  | 00.07                  |
| Cadmium                                | BDL (<0.003)           | BDL (<0.003)           |
| Nickel                                 | BDL (<0.01)            | BDL (<0.01)            |
| Cobalt                                 | BDL (<0.01)            | BDL (<0.01)            |
| Depth of well from Surface (ft.)       | 90.00                  | 85.00                  |
| Water level in well from Surface (ft.) | 75.00                  | 03.00                  |

BDL: Below Detection Limit

**Nov – 25**

(All figures in ppm except pH)

| Parameter                              | Sumer Singh Well Water | Nahar Singh Well Water |
|----------------------------------------|------------------------|------------------------|
| pH                                     | 07.58                  | 07.20                  |
| Suspended Solids                       | 07.00                  | 10.00                  |
| Lead                                   | BDL (<0.01)            | BDL (<0.01)            |
| Zinc                                   | 00.03                  | 00.20                  |
| Copper                                 | BDL (<0.01)            | BDL (<0.01)            |
| Iron                                   | 00.04                  | 00.04                  |
| Cadmium                                | BDL (<0.003)           | BDL (<0.003)           |
| Nickel                                 | BDL (<0.01)            | BDL (<0.01)            |
| Cobalt                                 | BDL (<0.01)            | BDL (<0.01)            |
| Depth of well from Surface (ft.)       | 90.00                  | 85.00                  |
| Water level in well from Surface (ft.) | 76.00                  | 03.50                  |

BDL: Below Detection Limit

**Dec – 25**

(All figures in ppm except pH)

| Parameter                              | Sumer Singh Well Water | Nahar Singh Well Water |
|----------------------------------------|------------------------|------------------------|
| pH                                     | 07.60                  | 07.18                  |
| Suspended Solids                       | 10.00                  | 08.00                  |
| Lead                                   | BDL (<0.01)            | BDL (<0.01)            |
| Zinc                                   | 00.05                  | 00.20                  |
| Copper                                 | BDL (<0.01)            | BDL (<0.01)            |
| Iron                                   | 00.05                  | 00.03                  |
| Cadmium                                | BDL (<0.003)           | BDL (<0.003)           |
| Nickel                                 | BDL (<0.01)            | BDL (<0.01)            |
| Cobalt                                 | BDL (<0.01)            | BDL (<0.01)            |
| Depth of well from Surface (ft.)       | 90.00                  | 85.00                  |
| Water level in well from Surface (ft.) | 74.50                  | 02.00                  |

BDL: Below Detection Limit

Jan – 26

(All figures in ppm except pH)

| Parameter                              | Sumer Singh Well Water | Nahar Singh Well Water |
|----------------------------------------|------------------------|------------------------|
| pH                                     | 07.26                  | 07.20                  |
| Suspended Solids                       | 12.00                  | 13.00                  |
| Lead                                   | BDL (<0.01)            | BDL (<0.01)            |
| Zinc                                   | 00.05                  | 00.12                  |
| Copper                                 | BDL (<0.01)            | BDL (<0.01)            |
| Iron                                   | 00.06                  | 00.06                  |
| Cadmium                                | BDL (<0.003)           | BDL (<0.003)           |
| Nickel                                 | BDL (<0.01)            | BDL (<0.01)            |
| Cobalt                                 | BDL (<0.01)            | BDL (<0.01)            |
| Depth of well from Surface (ft.)       | 90.00                  | 85.00                  |
| Water level in well from Surface (ft.) | 76.00                  | 03.50                  |

BDL: Below Detection Limit

Feb – 26

(All figures in ppm except pH)

| Parameter                              | Sumer Singh Well Water | Nahar Singh Well Water |
|----------------------------------------|------------------------|------------------------|
| pH                                     | 07.34                  | 07.39                  |
| Suspended Solids                       | 08.00                  | 12.00                  |
| Lead                                   | BDL (<0.01)            | BDL (<0.01)            |
| Zinc                                   | 00.03                  | 00.20                  |
| Copper                                 | BDL (<0.01)            | BDL (<0.01)            |
| Iron                                   | 00.04                  | 00.04                  |
| Cadmium                                | BDL (<0.003)           | BDL (<0.003)           |
| Nickel                                 | BDL (<0.01)            | BDL (<0.01)            |
| Cobalt                                 | BDL (<0.01)            | BDL (<0.01)            |
| Depth of well from Surface (ft.)       | 90.00                  | 85.00                  |
| Water level in well from Surface (ft.) | 78.00                  | 04.00                  |

BDL: Below Detection Limit

Mar – 26

(All figures in ppm except pH)

| Parameter                              | Sumer Singh Well Water | Nahar Singh Well Water |
|----------------------------------------|------------------------|------------------------|
| pH                                     | 07.44                  | 07.46                  |
| Suspended Solids                       | 10.00                  | 06.00                  |
| Lead                                   | BDL (<0.01)            | BDL (<0.01)            |
| Zinc                                   | 00.05                  | 00.10                  |
| Copper                                 | BDL (<0.01)            | BDL (<0.01)            |
| Iron                                   | 00.04                  | 00.05                  |
| Cadmium                                | BDL (<0.003)           | BDL (<0.003)           |
| Nickel                                 | BDL (<0.01)            | BDL (<0.01)            |
| Cobalt                                 | BDL (<0.01)            | BDL (<0.01)            |
| Depth of well from Surface (ft.)       | 90.00                  | 85.00                  |
| Water level in well from Surface (ft.) | 80.00                  | 04.50                  |

BDL: Below Detection Limit

## Annexure - 4

| Post - Monsoon (March - 2026) |                            |        |        |        |        |        |
|-------------------------------|----------------------------|--------|--------|--------|--------|--------|
| Parameter                     | Unit                       | PZ - 1 | PZ - 2 | PZ - 3 | PZ - 4 | PZ - 5 |
| pH                            | -                          | 7.22   | 7.34   | 7.48   | 7.55   | 7.18   |
| EC at 25°C                    | µS/cm                      | 2120   | 2420   | 2810   | 1480   | 1580   |
| TDS                           | mg/L                       | 1526.4 | 1742.4 | 2023.2 | 1065.6 | 1137.6 |
| Color                         | Hazen                      | BDL    | BDL    | BDL    | BDL    | BDL    |
| Turbidity                     | NTU                        | BDL    | 1.50   | 1.00   | BDL    | 0.80   |
| Total Alkalinity              | mg as CaCO <sub>3</sub> /l | 195    | 235    | 385    | 245    | 215    |
| Calcium, Ca                   | mg as CaCO <sub>3</sub> /l | 72.10  | 103.45 | 126.80 | 68.20  | 91.30  |
| Magnesium, Mg                 | mg/L                       | 46.20  | 64.30  | 76.40  | 38.10  | 49.20  |
| Total Hardness                | mg/L                       | 395    | 425    | 485    | 375    | 400    |
| Chlorides, Cl                 | mg/L                       | 285.60 | 368.40 | 425.20 | 272.40 | 242.80 |
| Sulphate, SO <sub>4</sub>     | mg/L                       | 150.40 | 182.50 | 205.80 | 114.20 | 168.50 |
| Nitrate, NO <sub>3</sub>      | mg/L                       | 26.80  | 18.20  | 13.90  | 15.10  | 14.40  |
| Fluoride, F                   | mg/L                       | 1.25   | 1.35   | 1.15   | 1.75   | 1.90   |
| Iron, Fe                      | mg/L                       | BDL    | 0.07   | BDL    | BDL    | 0.04   |
| Lead, Pb                      | mg/L                       | BDL    | BDL    | BDL    | BDL    | BDL    |
| Cadmium, Cd                   | mg/L                       | BDL    | BDL    | BDL    | BDL    | BDL    |
| Zinc, Zn                      | mg/L                       | BDL    | BDL    | BDL    | BDL    | BDL    |
| Copper, Cu                    | mg/L                       | BDL    | BDL    | BDL    | BDL    | BDL    |
| Chromium, Cr <sup>+6</sup>    | mg/L                       | BDL    | BDL    | BDL    | BDL    | BDL    |
| Nickel, Ni <sup>+</sup>       | mg/L                       | BDL    | BDL    | BDL    | BDL    | BDL    |
| Manganese, Mn                 | mg/L                       | BDL    | BDL    | BDL    | BDL    | BDL    |
| Dissolved Oxygen              | mg/L                       | 04.70  | 04.60  | 04.40  | 04.00  | 04.90  |

| Well No. | Oct 25 | Nov 25 | Dec 25 | Jan 26 | Feb 26 | Mar 26 |
|----------|--------|--------|--------|--------|--------|--------|
| K-1      | 4.22   | 4.33   | 5.06   | 1.20   | 2.01   | 2.14   |
| K-2      | 4.79   | 4.87   | 5.69   | 5.99   | 6.77   | 6.91   |
| K-3      | 4.80   | 4.99   | 3.63   | 3.77   | 2.40   | 2.73   |
| K-4      | 4.83   | 4.60   | 2.90   | 3.29   | 1.35   | 1.81   |
| K-5      | 4.21   | 4.54   | 4.81   | 4.75   | 3.90   | 4.46   |
| K-6      | 1.10   | 3.09   | 3.32   | 3.94   | 4.70   | 5.38   |
| K-7      | 0.88   | 1.61   | 1.92   | 0.84   | 1.01   | 1.15   |
| K-8      | 2.96   | 3.38   | 2.30   | 2.41   | 2.49   | 2.87   |

## Piezometer water Quality &amp; Level results

## Nov – 25 (Tailing dam)

(All figures in ppm except pH)

| Parameter                               | PW 1     | PW 2     | PW 3     | PW 4     | PW 5     | PW 6     |
|-----------------------------------------|----------|----------|----------|----------|----------|----------|
| pH                                      | 07.50    | 07.12    | 07.36    | 07.54    | 07.19    | 07.26    |
| Suspended Solids                        | 13.00    | 10.00    | 12.00    | 10.00    | 08.00    | 14.00    |
| Lead                                    | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  |
| Zinc                                    | 00.24    | 00.16    | 00.15    | 00.25    | 00.20    | 00.16    |
| Copper                                  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  |
| Iron                                    | 00.12    | 00.07    | 00.08    | 00.05    | 00.10    | 00.05    |
| Cadmium                                 | (<0.003) | (<0.003) | (<0.003) | (<0.003) | (<0.003) | (<0.003) |
| Nickel                                  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  |
| Cobalt                                  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  |
| Depth of well from surface (ft.)        | 145      | 145      | 150      | 140      | 145      | 150      |
| Water level in. well from surface (ft.) | 6.5      | 6        | 9.5      | 11       | 5.5      | 20       |

## Feb – 26 (Tailing dam)

(All figures in ppm except pH)

| Parameter                               | PW 1     | PW 2     | PW 3     | PW 4     | PW 5     | PW 6     |
|-----------------------------------------|----------|----------|----------|----------|----------|----------|
| pH                                      | 07.09    | 07.16    | 07.52    | 07.66    | 07.08    | 07.12    |
| Suspended Solids                        | 10.00    | 15.00    | 11.00    | 13.00    | 10.00    | 12.00    |
| Lead                                    | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  |
| Zinc                                    | 00.20    | 00.25    | 00.08    | 00.09    | 00.32    | 00.24    |
| Copper                                  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  |
| Iron                                    | 00.06    | 00.06    | 00.02    | 00.02    | 00.08    | 00.07    |
| Cadmium                                 | (<0.003) | (<0.003) | (<0.003) | (<0.003) | (<0.003) | (<0.003) |
| Nickel                                  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  |
| Cobalt                                  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  | (<0.01)  |
| Depth of well from surface (ft.)        | 145      | 145      | 150      | 140      | 145      | 150      |
| Water level in. well from surface (ft.) | 3.5      | 3.6      | 5        | 6        | 2        | 15       |

## Annexure – 6

## Surface water Quality results

Dec -25

| Parameter               | Mata ji Ka Khera Pond | Mehanduriya Pond | Kotdi Pond   | Sunariya Kheda Pond |
|-------------------------|-----------------------|------------------|--------------|---------------------|
| <b>pH</b>               | 08.06                 | 08.11            | 09.23        | 07.80               |
| <b>Suspended Solids</b> | 18                    | 13               | 11           | 16                  |
| <b>Lead</b>             | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |
| <b>Zinc</b>             | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |
| <b>Copper</b>           | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |
| <b>Iron</b>             | 0.04                  | 0.02             | 0.02         | 0.03                |
| <b>Cadmium</b>          | BDL (<0.003)          | BDL (<0.003)     | BDL (<0.003) | BDL (<0.003)        |
| <b>Nickel</b>           | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |
| <b>Cobalt</b>           | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |

(All figures in ppm except pH)

Mar - 26

| Parameter               | Mata ji Ka Khera Pond | Mehanduriya Pond | Kotdi Pond   | Sunariya Kheda Pond |
|-------------------------|-----------------------|------------------|--------------|---------------------|
| <b>pH</b>               | 7.64                  | 7.73             | 7.80         | 7.71                |
| <b>Suspended Solids</b> | 19                    | 15               | 11           | 18                  |
| <b>Lead</b>             | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |
| <b>Zinc</b>             | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |
| <b>Copper</b>           | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |
| <b>Iron</b>             | 0.04                  | 0.02             | 0.02         | 0.04                |
| <b>Cadmium</b>          | BDL (<0.003)          | BDL (<0.003)     | BDL (<0.003) | BDL (<0.003)        |
| <b>Nickel</b>           | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |
| <b>Cobalt</b>           | BDL (<0.01)           | BDL (<0.01)      | BDL (<0.01)  | BDL (<0.01)         |

(All figures in ppm except pH)

## Process water Quality results

Oct – 25

| Parameter        | Mine Water   | Tailing Dam Water | Garland Drain Water |
|------------------|--------------|-------------------|---------------------|
| pH               | 06.79        | 06.75             | 07.20               |
| Suspended Solids | 12.00        | 10.00             | 15.00               |
| Lead             | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Zinc             | 00.18        | 00.24             | 00.18               |
| Copper           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Iron             | 00.06        | 00.10             | 00.04               |
| Cadmium          | BDL (<0.003) | BDL (<0.003)      | BDL (<0.003)        |
| Nickel           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Cobalt           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |

(All figures in ppm except pH)

Nov – 25

| Parameter        | Mine Water   | Tailing Dam Water | Garland Drain Water |
|------------------|--------------|-------------------|---------------------|
| pH               | 07.09        | 07.65             | 07.45               |
| Suspended Solids | 13.00        | 10.00             | 15.00               |
| Lead             | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Zinc             | 00.12        | 00.24             | 00.25               |
| Copper           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Iron             | 00.05        | 00.10             | 00.06               |
| Cadmium          | BDL (<0.003) | BDL (<0.003)      | BDL (<0.003)        |
| Nickel           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Cobalt           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |

(All figures in ppm except pH)

Dec – 25

| Parameter        | Mine Water   | Tailing Dam Water | Garland Drain Water |
|------------------|--------------|-------------------|---------------------|
| pH               | 07.48        | 07.40             | 07.60               |
| Suspended Solids | 11.00        | 15.00             | 12.00               |
| Lead             | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Zinc             | 00.13        | 00.66             | 00.50               |
| Copper           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Iron             | 00.07        | 00.07             | 0.06                |
| Cadmium          | BDL (<0.003) | BDL (<0.003)      | BDL (<0.003)        |
| Nickel           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Cobalt           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |

(All figures in ppm except pH)

## Annexure - 7

Jan - 26

| Parameter        | Mine Water   | Tailing Dam Water | Garland Drain Water |
|------------------|--------------|-------------------|---------------------|
| pH               | 07.12        | 07.23             | 08.00               |
| Suspended Solids | 10.00        | 08.00             | 23.00               |
| Lead             | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Zinc             | 00.20        | 00.20             | 00.40               |
| Copper           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Iron             | 00.08        | 00.09             | 00.02               |
| Cadmium          | BDL (<0.003) | BDL (<0.003)      | BDL (<0.003)        |
| Nickel           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Cobalt           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |

(All figures in ppm except pH)

Feb - 26

| Parameter        | Mine Water   | Tailing Dam Water | Garland Drain Water |
|------------------|--------------|-------------------|---------------------|
| pH               | 07.76        | 06.75             | 07.56               |
| Suspended Solids | 12.00        | 17.00             | 16.00               |
| Lead             | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Zinc             | 00.11        | 00.30             | 00.27               |
| Copper           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Iron             | 00.04        | 00.06             | 00.07               |
| Cadmium          | BDL (<0.003) | BDL (<0.003)      | BDL (<0.003)        |
| Nickel           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Cobalt           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |

(All figures in ppm except pH)

Mar - 26

| Parameter        | Mine Water   | Tailing Dam Water | Garland Drain Water |
|------------------|--------------|-------------------|---------------------|
| pH               | 07.76        | 07.96             | 07.56               |
| Suspended Solids | 10.00        | 08.00             | 15.00               |
| Lead             | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Zinc             | 00.02        | 00.40             | 00.08               |
| Copper           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Iron             | 00.02        | 00.05             | 00.02               |
| Cadmium          | BDL (<0.003) | BDL (<0.003)      | BDL (<0.003)        |
| Nickel           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |
| Cobalt           | BDL (<0.01)  | BDL (<0.01)       | BDL (<0.01)         |

(All figures in ppm except pH)

**STP Water Quality Monitoring Results****Oct – 25**

| <b>Parameter</b>                            | <b>STP Inlet</b> | <b>STP Outlet</b> |
|---------------------------------------------|------------------|-------------------|
| Total Suspended Solids                      | 420.00           | 08.00             |
| Oil & Grease                                | 13.00            | (< 5)             |
| Total Residual Chlorine                     | (< 0.1)          | (< 0.1)           |
| Ammoniacal Nitrogen (as N)                  | 67.00            | (< 5)             |
| Biochemical Oxygen Demand (3 Days at 27° C) | 30.00            | 08.00             |
| pH Value                                    | 07.50            | 07.33             |
| Chemical Oxygen Demand                      | 210.00           | 40.00             |

**Nov – 25**

| <b>Parameter</b>                            | <b>STP Inlet</b> | <b>STP Outlet</b> |
|---------------------------------------------|------------------|-------------------|
| Total Suspended Solids                      | 162.00           | 07.23             |
| Oil & Grease                                | 13.00            | (< 5)             |
| Total Residual Chlorine                     | (< 0.1)          | (< 0.1)           |
| Ammoniacal Nitrogen (as N)                  | 45.00            | (< 5)             |
| Biochemical Oxygen Demand (3 Days at 27° C) | 22.00            | 05.00             |
| pH Value                                    | 07.40            | 07.23             |
| Chemical Oxygen Demand                      | 110.00           | 30.00             |

**Dec – 25**

| <b>Parameter</b>                            | <b>STP Inlet</b> | <b>STP Outlet</b> |
|---------------------------------------------|------------------|-------------------|
| Total Suspended Solids                      | 128.00           | 08.00             |
| Oil & Grease                                | 23.00            | (< 5)             |
| Total Residual Chlorine                     | (< 0.1)          | (< 0.1)           |
| Ammoniacal Nitrogen (as N)                  | 55.00            | 06.70             |
| Biochemical Oxygen Demand (3 Days at 27° C) | 55.00            | 09.00             |
| pH Value                                    | 06.95            | 07.52             |
| Chemical Oxygen Demand                      | 360.00           | 48.00             |

**Jan – 26**

| <b>Parameter</b>                                   | <b>STP Inlet</b> | <b>STP Outlet</b> |
|----------------------------------------------------|------------------|-------------------|
| Total Suspended Solids (mg/L)                      | 69.00            | 07.00             |
| Oil & Grease (mg/L)                                | 10.00            | (< 5.0)           |
| Total Residual Chlorine (mg/L)                     | (< 0.1)          | (< 0.1)           |
| Ammoniacal Nitrogen (as N) (mg/L)                  | 78.00            | (< 5.0)           |
| Biochemical Oxygen Demand (3 Days at 27° C) (mg/L) | 78.00            | 13.00             |
| pH Value (mg/L)                                    | 07.34            | 07.83             |
| Chemical Oxygen Demand (mg/L)                      | 325.00           | 67.00             |
| Fecal Coliform (CFU)                               | (>1500)          | absent            |

**Annexure – 7****Feb – 26**

| <b>Parameter</b>                            | <b>STP Inlet</b> | <b>STP Outlet</b> |
|---------------------------------------------|------------------|-------------------|
| Total Suspended Solids                      | 34.00            | 10.00             |
| Oil & Grease                                | 15.00            | (< 5.0)           |
| Total Residual Chlorine                     | (< 0.1)          | (< 0.1)           |
| Ammoniacal Nitrogen (as N)                  | 46.00            | (< 5.0)           |
| Biochemical Oxygen Demand (3 Days at 27° C) | 28.00            | 05.00             |
| pH Value                                    | 06.91            | 06.93             |
| Chemical Oxygen Demand                      | 200.00           | 140.00            |
| Fecal Coliform (CFU)                        | (>1500)          | absent            |

**Mar – 26**

| <b>Parameter</b>                            | <b>STP Inlet</b> | <b>STP Outlet</b> |
|---------------------------------------------|------------------|-------------------|
| Total Suspended Solids                      | 43.00            | 14.00             |
| Oil & Grease                                | 25.00            | (< 5.0)           |
| Total Residual Chlorine                     | (< 0.1)          | (< 0.1)           |
| Ammoniacal Nitrogen (as N)                  | 55.00            | 06.70             |
| Biochemical Oxygen Demand (3 Days at 27° C) | 58.00            | 07.00             |
| pH Value                                    | 07.41            | 07.24             |
| Chemical Oxygen Demand                      | 260.00           | 32.00             |
| Fecal Coliform (CFU)                        | (>1500)          | absent            |

**Average Ambient Noise Monitoring Results****Oct – 25**

| <b>Name of Monitoring Stations</b> | <b>Day Level (in dB)</b> | <b>Night Level (in dB)</b> |
|------------------------------------|--------------------------|----------------------------|
| Near Laboratory                    | 61.90                    | 57.40                      |
| Near DG Set                        | 59.40                    | 55.10                      |
| Near AB – Type Quarter             | 56.90                    | 50.00                      |

**Nov – 25**

| <b>Name of Monitoring Stations</b> | <b>Day Level (in dB)</b> | <b>Night Level (in dB)</b> |
|------------------------------------|--------------------------|----------------------------|
| Near Laboratory                    | 61.90                    | 55.30                      |
| Near DG Set                        | 60.30                    | 54.50                      |
| Near AB – Type Quarter             | 54.80                    | 44.50                      |

**Dec – 25**

| <b>Name of Monitoring Stations</b> | <b>Day Level (in dB)</b> | <b>Night Level (in dB)</b> |
|------------------------------------|--------------------------|----------------------------|
| Near Laboratory                    | 62.00                    | 54.80                      |
| Near DG Set                        | 60.20                    | 52.50                      |
| Near AB – Type Quarter             | 53.70                    | 43.50                      |

**Jan – 26**

| <b>Name of Monitoring Stations</b> | <b>Day Level (in dB)</b> | <b>Night Level (in dB)</b> |
|------------------------------------|--------------------------|----------------------------|
| Near Laboratory                    | 64.00                    | 53.60                      |
| Near DG Set                        | 62.70                    | 53.40                      |
| Near AB – Type Quarter             | 51.80                    | 44.20                      |

**Feb – 26**

| <b>Name of Monitoring Stations</b> | <b>Day Level (in dB)</b> | <b>Night Level (in dB)</b> |
|------------------------------------|--------------------------|----------------------------|
| Near Laboratory                    | 60.70                    | 54.50                      |
| Near DG Set                        | 59.40                    | 54.00                      |
| Near AB – Type Quarter             | 54.80                    | 44.60                      |

**Mar – 26**

| <b>Name of Monitoring Stations</b> | <b>Day Level (in dB)</b> | <b>Night Level (in dB)</b> |
|------------------------------------|--------------------------|----------------------------|
| Near Laboratory                    | 60.30                    | 56.40                      |
| Near DG Set                        | 61.70                    | 55.60                      |
| Near AB – Type Quarter             | 59.40                    | 50.10                      |

## Annexure – 9

| Focus Area                 | Initiative                                                                            | Program details                                                                                                                                                                                        | Y1-FY 21   | Y1 Ach.                                   | Y2-FY 22   | Y2 Ach.                                 | Y3-FY23    | Y3 Ach.                                                              |
|----------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------|------------|-----------------------------------------|------------|----------------------------------------------------------------------|
| Health, Hygiene & Water    | Renovation and upgradation of Govt. Hospital (CHC Mahenduriya)                        | Construction of additional wards, toilets, garden, mortuary, lighting, etc.                                                                                                                            | 100        |                                           |            | 70.00 CHC                               |            |                                                                      |
|                            |                                                                                       |                                                                                                                                                                                                        |            |                                           |            | 600.00 COVID support                    |            |                                                                      |
|                            | Installation of High Capacity Community RO in 4 surrounding villages                  | 1500 Lts. Per hr capacity, auto TDS, real time data, 5000 storage, SS tank mounted vehicle to mobile ATM and water transfer. 24 * 7 chilled water supply – Railmagra 2 nos., Sindesar kalan, Gawardih, | 100        | 100                                       | 100        | 100                                     |            |                                                                      |
|                            | Construction of overhead tank and pipe line in village for uninterrupted water supply | 20,000 Lts. Overhead tank at Kothdi (SK and Anoppura)                                                                                                                                                  | 100        | Proposal changed to pipeline supp by govt |            | 15                                      |            |                                                                      |
| Education                  |                                                                                       |                                                                                                                                                                                                        |            | 80                                        |            | 88.5                                    |            | 83.5                                                                 |
|                            | Holistic development of 3 government schools.                                         | Additional classrooms, separate toilets, lab, computer classes, boundary wall & field development at Kotdi, Adjoining village mahenduriya, dariba, sindesar kalan, DAV & Shivpura                      | 50         | Mahenduriya & Dariba                      | 50         | Shivpura, Sindesar kalan ,DA Vand kotdi | 50         | Rajpura Kheda, Railamagra, Mata ji ka khera, Kotdi, Banjaro ka Kheda |
|                            | Renovation of 20 old Anganwadis                                                       | Repair & maintenance work, painting, roof treatment, boundary, electricity, etc.                                                                                                                       |            |                                           | 100        | 210 (59 Angnwadi)                       | 100        |                                                                      |
| Infrastructure Development | Construction of Check Dam                                                             | Construction of check dam at Pipawas                                                                                                                                                                   | 100        | 28                                        | 20         | 20 (SK makanpuri ya)                    |            |                                                                      |
|                            | Community centers                                                                     | At Naya Dariba, Anjana, Mahenduriya . Shivpura, Makanpuriya, Rajpura, An oppura                                                                                                                        | 120        |                                           |            | 116.74                                  |            |                                                                      |
|                            | Construction of stadium & playgrounds                                                 | Kabra & Gawardih, Mahenduriya, Rajpura                                                                                                                                                                 |            |                                           | 80         | 78.35                                   |            |                                                                      |
|                            | Solar Light                                                                           | 300 lights in surrounding 10 villages (200 lights in 20 villages)                                                                                                                                      | 100        | 21.83                                     | 150        | 32.13                                   | 100        | 20.25                                                                |
|                            | Solar pump water systems                                                              | 10 HP motor with Solar panels in 5 surrounding villages                                                                                                                                                |            |                                           |            |                                         |            |                                                                      |
| <b>Total</b>               |                                                                                       |                                                                                                                                                                                                        | <b>670</b> | <b>229.83</b>                             | <b>480</b> | <b>1330.7</b>                           | <b>250</b> | <b>103.75</b>                                                        |

कार्यालय अतिरिक्त प्रधान मुख्य वन संरक्षक एवं मुख्य वन्य जीव प्रतिपालक,  
अरण्य भवन, झालाना संस्थानिक क्षेत्र, राजस्थान जयपुर 4436 41-2  
फोन नम्बर 0141-2700151 ई-मेल: cwiw.raj@gmail.com

क्रमांक : एफ 11(676)विकास-II/मुयजीप्र/2018-20/ 15-1  
निमित्त,

दिनांक : 16.05.20

मेसर्स यूनिट हेड  
हिन्दुस्तान जिंक लि०,  
राजपुरा दरीबा माईन्स,  
जिला राजसमन्द। पिन 213211

विषय :- Conservation Plan for Buffer Zone (10 KM radius) of Rajpura Dariba Mines of M/s Unit Head, Hindustan Zinc Ltd. located at tehsil Railmagra District Rajsamand Rajasthan (ML No. 166/2008 area 1141.2106 Ha) final approval regarding.

सन्दर्भ:- पर्यावरण वन मंत्रालय के पत्र क्रमांक J-11015/84/2018-1A.11(M) dated 13.04.2020 एवं मुख्य वन संरक्षक(वन्यजीव) उदयपुर के पत्रांक 4575 दिनांक 18.11.2019 व उप वन संरक्षक(वन्यजीव) राजसमन्द के पत्रांक 1294 दिनांक 25.02.2020.

महोदय,

उपरोक्त विषयान्तर्गत सन्दर्भित पत्र के क्रम में लेख है कि इस कार्यालय के पत्र क्रमांक 9491 दिनांक 09.12.2019 द्वारा बाईलडलाईड कंजर्वेशन प्लान के सम्बन्ध में मेसर्स यूनिट हेड हिन्दुस्तान जिंक लि०, राजपुरा दरीबा माईन्स, जिला राजसमन्द द्वारा पालना प्रस्तुत की गई है।

चूंकि इस कार्यालय द्वारा जारी पत्रांक 6451-6463 दिनांक 24.05.2019 में उल्लेखित सभी दिशा निर्देशों व शर्तों की पालना की जा चुकी है तथा प्रस्तावित कंजर्वेशन प्लान, नक्शा एवं परियोजना क्षेत्र में पाये जाने वाले वनस्पति एवं वन्यजीवों की सूची उप वन संरक्षक द्वारा प्रमाणित व मुख्य वन संरक्षक द्वारा अप्रैप्ट कर प्रस्तुत की जा चुकी है।

अतः पर्यावरण एवं जलवायु परिवर्तन मंत्रालय केन्द्र सरकार के पत्रांक J-11015/84/2018-1A.11(M) दिनांक 13.04.2020 के बिन्दु संख्या 10 और 11 के पालना में इस कार्यालय द्वारा वन्यजीव संरक्षण योजना (WCP) की स्वीकृती जारी की जाती है :-

- यदि परियोजना लागत में कोई वृद्धि होती है तो तदनुसार वन्यजीव संरक्षक योजना में भी वृद्धि की जाकर, अपेक्षित रशि वन्यजीव प्रभाग में जमा कराई जावे।
- केंद्र सरकार द्वारा जारी संदर्भित आदेशों के अनुरूप इस योजना के क्रियान्वयन का प्रबोधन किया जावे।

साथ ही संलग्न मैप को भी उप वन संरक्षक के अभिशंषा अनुसार प्रमाणित किया जाता है।

संलग्न : 1. नक्शा, 2. एनेक्सर-1, 3. Wildlife Conservation Plan की प्रति.

भवदीय,

(अरिन्दम तोमर)

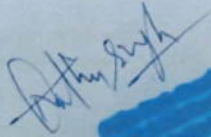
अति० प्रधान मुख्य वन संरक्षक एवं  
मुख्य वन्यजीव प्रतिपालक,  
राजस्थान, जयपुर

दिनांक :

क्रमांक: एफ 11(676)विकास/मुयजीप्र/2018-19/  
प्रतिलिपि निम्न को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है :-

- मुख्य वन संरक्षक (वन्यजीव) उदयपुर।
- उप वन संरक्षक (वन्यजीव) राजसमन्द।

अति० प्रधान मुख्य वन संरक्षक एवं  
मुख्य वन्यजीव प्रतिपालक,  
राजस्थान, जयपुर

|                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                    |
| <p>उपकार्य कार्यालय<br/>राजस्थान RAJASTHAN<br/>13 FEB 2023<br/>जिला-राजसमन्द (राज.)</p>                                                                                                                                                                                                                                                                                                                       | <p>Memorandum of Understanding<br/>Between<br/>Hindustan Zinc Ltd. (HZL)<br/>&amp; Forest Department Rajsamand<br/>For</p>                                                         |
| <p>Implementation of Wildlife Conservation Plan consequent to expansion of lead-Zinc ore underground mine from 1.08 million TPA to 2.0 Million TPA (Total excavation 2.48 million TPA) &amp; Lead Zinc ore Beneficiation from 1.2 to 2.5 million TPA at Rajpura Dariba Mines of M/s Hindustan Zinc Ltd. Located at Tehsil Railmagra, District Rajsamand, Rajasthan (ML. No. 166/2008 Area 1142.2106 ha.).</p> |                                                                                                                                                                                    |
| <p>Date - 24.02.2023<br/>Place - Rajsamand</p>                                                                                                                                                                                                                                                                                                                                                                | <p><br/></p> |
|                                                                                                                                                                                                                                                                                                                                                                                                               | <p><br/>उप वन संरक्षक<br/>वन्य जीव राजसमन्द</p>                                               |

Wildlife Conservation Plan  
For  
Hindustan Zinc Ltd., Rajpura Dariba Mine  
June 2019

*Approved*

*[Signature]*

(ARJUN KUMAR)  
APPROVED  
CWLW RAJ P...





### **Training on Compliance with Plastic Waste Management Rules and Elimination of Single Use Plastic (SUP)**

In compliance with the provisions of the Plastic Waste Management Rules, 2016 and subsequent directions issued by CPCB for elimination of Single Use Plastic (SUP), necessary awareness and sensitization training has been conducted for employees as well as business partners within the project area. The training covered the details of the ban on identified SUP items, regulatory requirements, and the roles and responsibilities of all stakeholders in ensuring compliance with the notification dated 12/08/2021.

During the session, emphasis was placed on practical measures to minimize SUP usage, promote environmentally sustainable alternatives, and ensure adherence within the project premises and surrounding areas. Active participation was observed, and awareness has been strengthened among all concerned. The necessary records, including photographs, have been maintained and will be incorporated in the six-monthly compliance report as required.





## Annexure- 11



Training Session on Single use plastic waste management

Shubhangi Pandey

Required: Piyush Sharma, Anoop Kumar Das, Shubham Garg, Shikhar Gupta, Madhavi Ram, Ravi Prakash Singh, Shikhi Narwal, Tapan Mohan, Virey, Maheshwari, Raj 21/03/2024 10:10  
 Aron Gaudin, Suresh K. Mishra, Rajesh Chandra Garg, Ravi Bhatnagar, Rajeshwari Prasad Singh, Padmalata Sahas, Maheshwari Ram, +143 others

Optional: Devesh Chatterjee, Khushi Vaidyan, Manish Khan

Tuesday, March 21, 2024 16:00 17:00 Microsoft Teams Meeting

Shubhangi Pandey

16:00 Training Session on Single use plastic waste management  
 Microsoft Teams Meeting  
 Shubhangi Pandey

17:00 Canceled: Technical Evaluation  
 Mine Conference Room, Shikhi Soni

Dear All

Training Session on **Single use plastic waste management** is being conducted by **Mr. Tushar Das**. You all are invited to attend the session as per extended calendar.

Thanks & Regards  
 Team HR - RDM

Microsoft Teams meeting

An online awareness training session was conducted for executives to strengthen compliance with the Plastic Waste Management Rules, 2016 and the ban on identified Single Use Plastic (SUP) items. The training highlighted the environmental impacts of SUP, including pollution, waste management challenges, and adverse effects on ecosystems.

The session also covered sustainable alternatives to SUP products and best practices for reducing plastic consumption in day-to-day operations. Executives were sensitized on the importance of maintaining a SUP-free workplace and ensuring compliance within plant premises through responsible procurement, usage, and disposal practices. The program helped enhance awareness and encouraged adoption of environmentally sustainable practices across the organization.

# **Comprehensive Stability and Feasibility Analysis for the Stacking of Dry Zinc Mine Tailings at Rajpura Dariba Mines**

## **Technical report**

**No: IITdh/RDM/2025-26/01**

### ***CLIENT***

**M/s Hindustan Zinc Limited (M/s Vedanta)  
Udaipur, Rajasthan- 313004**

### **CONSULTANT**

**Prof. Amarnath Hegde**



**DEPARTMENT OF CIVIL AND INFRASTRUCTURE  
ENGINEERING**

**INDIAN INSTITUTE OF TECHNOLOGY DHARWAD,  
KARNATAKA – 580011**

**24<sup>th</sup> January 2026**

---

**NB:** (A) This report consists of 57 pages (excluding the cover page)  
(B) This report should not be published either in part or in full  
without the permission in writing from the director of the Institute.

Comparative Stability and Feasibility Analysis  
for the Grading of Highway 100  
Bakersfield, California

Technical Report

U.S. Highway 100

Client

City of Bakersfield, California  
Department of Public Works  
1000 E. 9th Street  
Bakersfield, California 93301

Contract Title

Grading and Drainage Study



DEPARTMENT OF CIVIL AND ENVIRONMENTAL  
ENGINEERING

INSTITUTE OF TECHNOLOGY  
BAKERSFIELD

1. The report was prepared by the City of Bakersfield, California, and the Institute of Technology, Bakersfield, California. The report was prepared for the City of Bakersfield, California, and the Institute of Technology, Bakersfield, California. The report was prepared for the City of Bakersfield, California, and the Institute of Technology, Bakersfield, California.

# **Comprehensive Stability and Feasibility Analysis for the Stacking of Dry Zinc Mine Tailings at Rajpura Dariba Mines**

## **TECHNICAL REPORT**

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| <b>2. Background:</b>                                                                             | <b>8</b>               |
| <b>3.0 Characterization and Selection of Geotechnical Properties for Slope Stability Analysis</b> | <b>10</b>              |
| <b>4.0 Software and Parameters used for the Analysis</b>                                          | <b>10</b>              |
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Comparative Study and Feasibility Analysis  
for the Sinking of the Line 1/2 of the  
Rajapur District

SECTION 1.1

INTRODUCTION

1.1.1

1.1.1.1

1.1.2

1.1.2.1

1.1.3.1 The purpose of this study is to provide a comparative analysis of the various factors involved in the sinking of the Line 1/2 of the Rajapur District.

1.1.4

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1.1.5

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1.1.6

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1.1.7

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1.1.8

1.1.8.1 The purpose of this study is to provide a comparative analysis of the various factors involved in the sinking of the Line 1/2 of the Rajapur District.

# **Comprehensive Stability and Feasibility Analysis for the Stacking of Dry Zinc Mine Tailings at Rajpura Dariba Mines**

## **1. Introduction:**

M/s Hindustan Zinc Limited (M/s Vedanta) has a tailing dam to dispose of zinc-lead tailings (slime) called Rajapura-Dariba Mines (RDM) Tailing dam in an area approximately 1500m x 700m (rectangular in shape). The tailing dam is around 4.5 km from Sindeshwar Khurd mine Deposit (SK mines) and 2.5 km from Rajpura Dariba Mines (RD mines) in Relmagra Tehsil of Rajasmand district of Rajasthan. It lies between latitudes 24°57'58.75" N and Longitudes 74°8'51.00" E. Figure 1 shows the detailed plan view of the existing tailing dam. The tailing dam plan also shows the areas where the U/S method of raising and the D/S method of raising dams have been adopted.

In the recent past, HZL has started producing significant quantity of dry tailings from the mining operations. In this regard, HZL wanted to stack dry Zinc Mine tailings over the existing wet tailings on the southern half of the tailing dam. To understand the feasibility of stacking the dry tailing on the existing wet tailing, HZL approached IIT Dharwad during 3<sup>rd</sup> week of April 2025. Subsequently, M/s IIT Dharwad expressed its interest in taking up the work of comprehensive stability and feasibility analysis for the stacking of dry zinc mine tailings at Rajpura Dariba mines.

Prof. Amarnath Hegde from IIT Dharwad visited the RDM tailing dam on 26<sup>th</sup> April, 2025 and inspected the entire dam. The tailing dam top was at 514 m RL with a freeboard of 2m. Figure 2 shows the photographs of the site visit. The presence of soft tailing materials at the top was observed at various sections during the site visit. Wet tailing dumping was observed on the northern side of the tailing dam. Figure 3 shows typical cross-sections of the tailing dam dykes supplied by the HZL team at different chainages along the southern half direction of the tailing dam. The following scope was finalized by M/s HZL for the Indian Institute of Technology Dharwad to design the stacking of dry zinc mine tailings over the existing wet mine tailings at 514 m RL:

1. Carrying out the feasibility analyses for the stacking of dry zinc mine tailings on the southern half of the tailing dam
2. Slope stability analyses of the possible stacking of the dry mine tailing over



the existing wet tailing at 514 m RL. Slope stability analyses to be carried out using SLIDE software, considering critical conditions.

3. To determine the maximum possible height of dry tailings stacking.
4. To determine the suitable engineering strategies to maintain the stability of the dam after stacking
5. Preparation of technical report based on the above-listed stability analysis and issue of construction drawings duly marked with "RELEASE FOR CONSTRUCTION" in hard and soft copy.
6. Submission of technical specification of the materials recommended

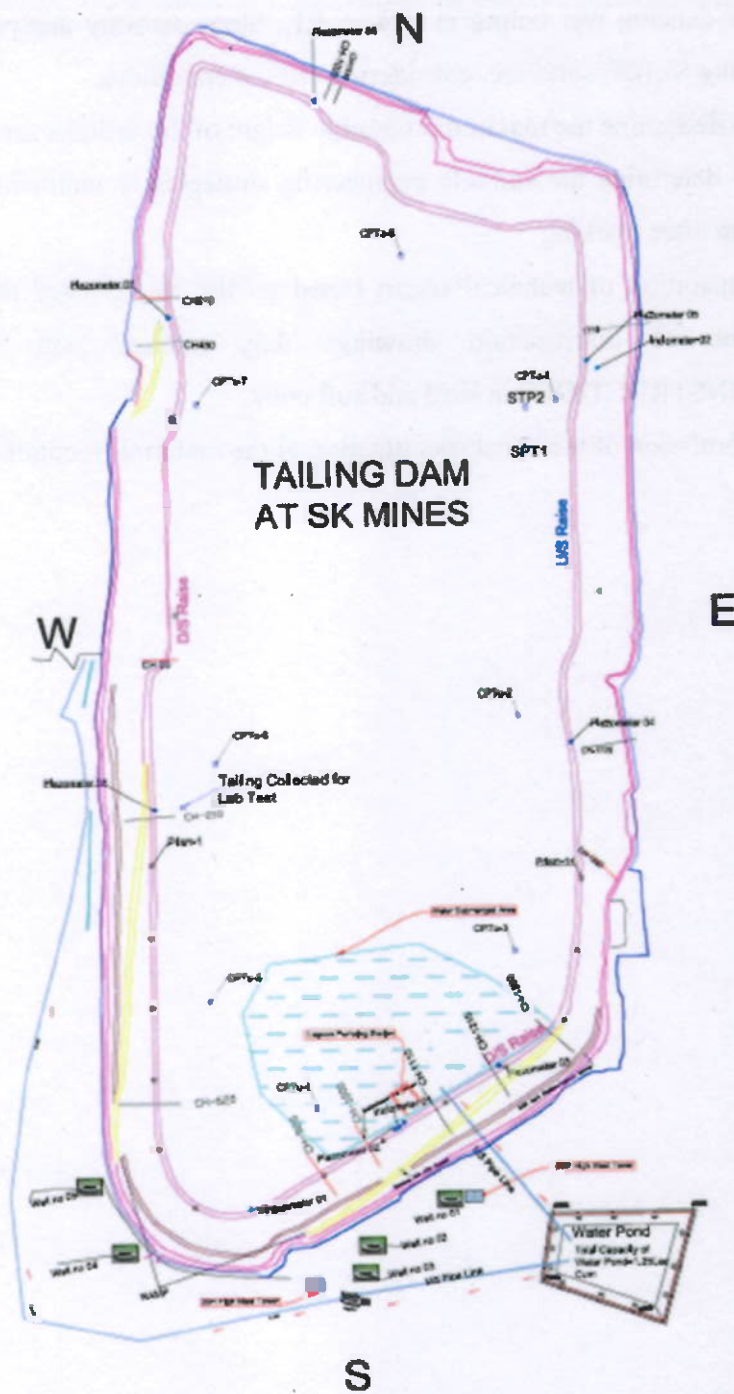
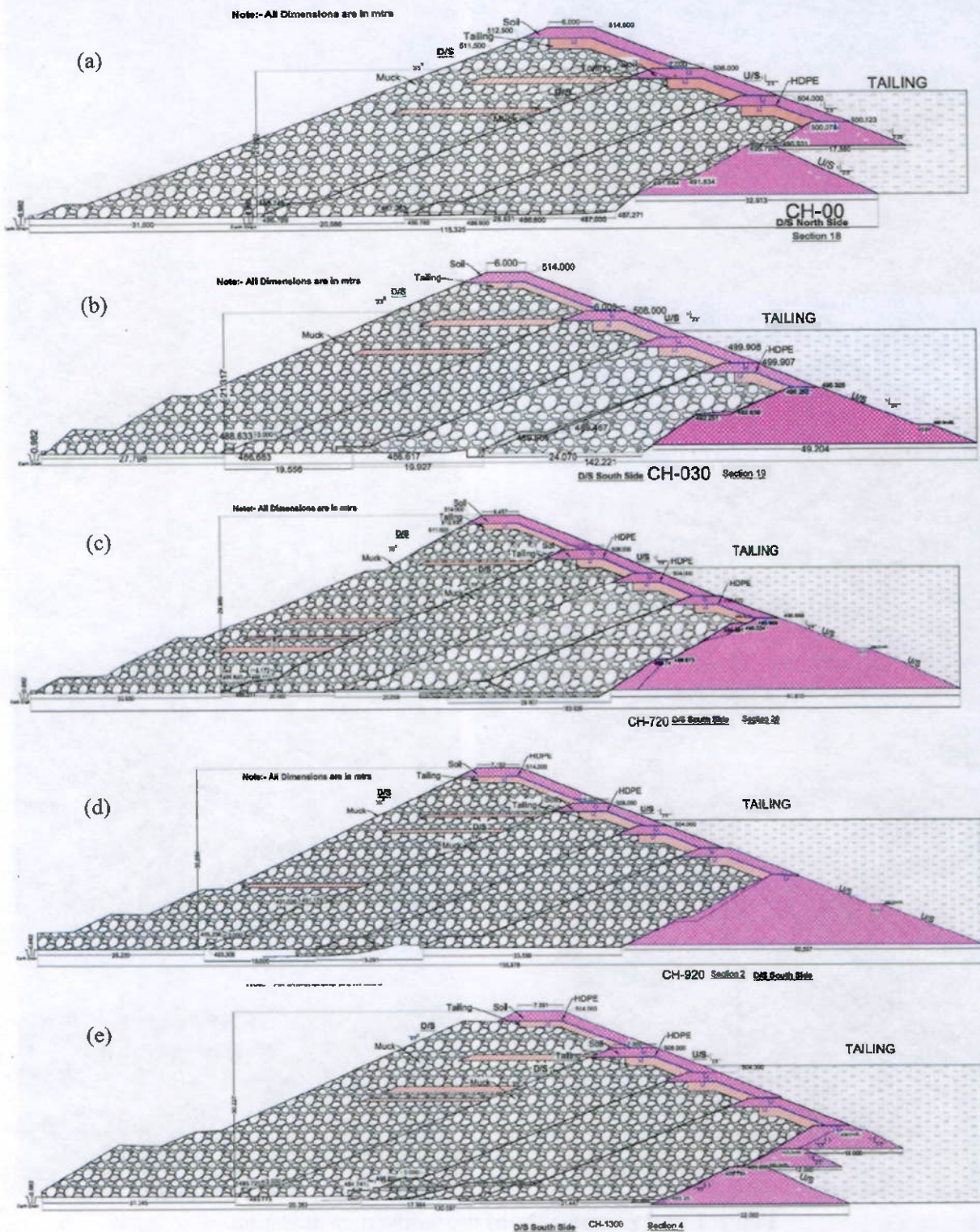
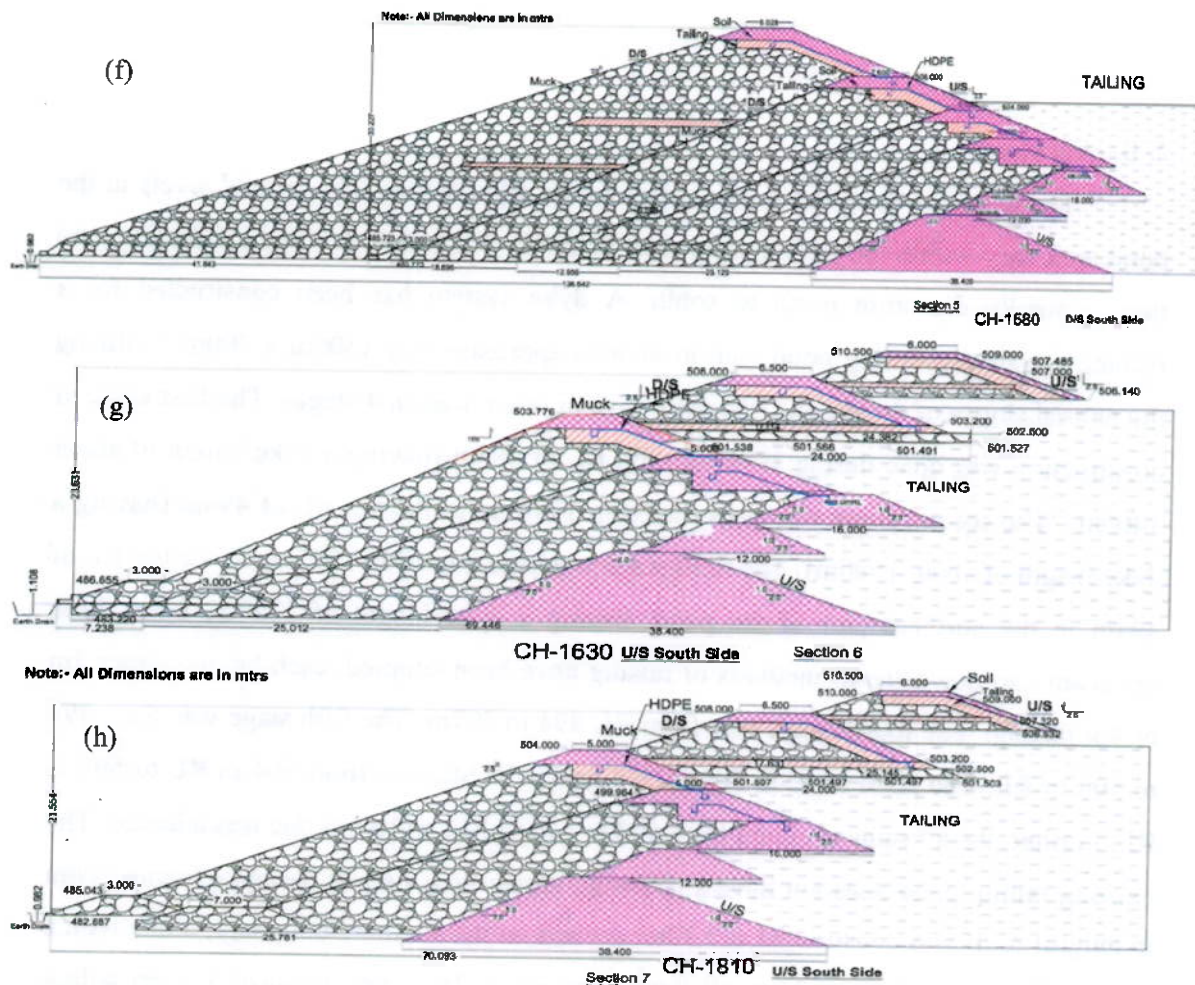


Fig. 1. Tailing dam plan at 514 m RL



**Fig. 2.** Latest photographs of the tailing dam at Dariba





**Fig. 3.** Typical cross-sections of the tailing dam dykes on the south side (a) CH-000, (b) CH-030, (c) CH-720, (d) CH-920, (e) CH-1300, (f) CH-1580, (g) CH-1630, (h) CH-1810

## 2. Background:

The dykes of the pond were constructed in eight stages. The ground levels in the pond area vary within the tailing pond area from RL 491m to 482m (about 8 to 9m), and they generally dip from north to south. A dyke system has been constructed for a rectangular-shaped tailing pond dam in an area approximately 1500m x 700m. Utilizing the natural slopes of the ground, the dyke system was raised in 4 stages. The first stage of construction was done during 1981 to a top RL of 488m (having a dyke length of about 1400m). The second stage was constructed in 1990 up to the top RL of 490m (having a dyke length of about 1600m). The third stage was constructed in 1995 up to the top RL of 494m in the northern part of the pond, having a dyke length of 2200m. Later, both upstream and downstream methods of raising have been adopted, each having either 3m or 4m raising. The fourth stage was from RL 494 to 497m. The fifth stage was from 497 to 500 m RL. The sixth stage is 500 to 504 m RL. 7<sup>th</sup> Stage is from 504 m RL to 508 m RL. Further, the 8<sup>th</sup> stage is raised from 508 to 514 m RL, and a 6m rise was adopted. The existing tailing pond does not have a spillway. However, a part of the dyke (about 100m in length) itself was constructed as a filter section on the southern boundary, along with a water collection system to drain off the excess water. However, in stage 8, even tailing has been used as a sandwich layer to construct the tailing dykes. The entire southern section has been constructed using waste mine muck with a downstream slope of 1V:2.5H, and all the dykes have been strengthened.

The average rainfall in this area varies from 610 mm in 1997 to 550 mm in 2017 and 788.1 mm in 2024. During the monsoons, management had to resort to siphoning of the rain/excess water as an emergency measure. Now the water has been pumped out using the lagoon pumping station located on the southern side of the tailing dam, and excess supernatant water is collected at the water pond downstream of the tailing dam on the southern side. Figure 4 shows the Google Earth image of the tailing pond and supernatant water pond on the southeastern side.



**Fig. 4.** Google Earth image of tailing dam site as of Oct 2025

### 3.0 Characterization and selection of geotechnical properties for slope stability analysis:

The physical properties of the different materials were taken from the existing report vide CP 8226/0505/2019, dated 12-March-2019, submitted by M/S. IISc to M/S HZL. In addition, the unit weight of dry tailing has been considered as  $19.2 \text{ kN/m}^3$ , based on the test report provided by M/S HZL. Table 1 below indicates the properties of different materials used for the analysis.

**Table 1.** Various Soil properties selected for the analyses

| Sr | Type of Soil                                                        | Unit weight<br>( $\text{kN/m}^3$ ) | Cohesion<br>KPa | Angle of<br>internal friction<br>(degrees) |
|----|---------------------------------------------------------------------|------------------------------------|-----------------|--------------------------------------------|
| 1  | Foundation soil for a depth of 6m from the base of tailing          | 20.2                               | 25              | 33                                         |
| 2  | Foundation soil for a depth of 6 – 12m from the base of the tailing | 19.9                               | 25              | 40                                         |
| 3a | Waste muck                                                          | 19.4                               | 0               | 34                                         |
| 3b | Borrow soil                                                         | 19                                 | 20              | 28                                         |
| 3c | Borrow soil (new material)                                          | 21                                 | 25              | 17                                         |
| 4  | Tailing material-wet                                                | 15.2                               | 35              | 0                                          |
| 5  | Sand layer                                                          | 18                                 | 0               | 20                                         |
| 6  | Jerofix                                                             | 17                                 | 11              | 25                                         |

### 4.0 Software and parameters used for the analysis

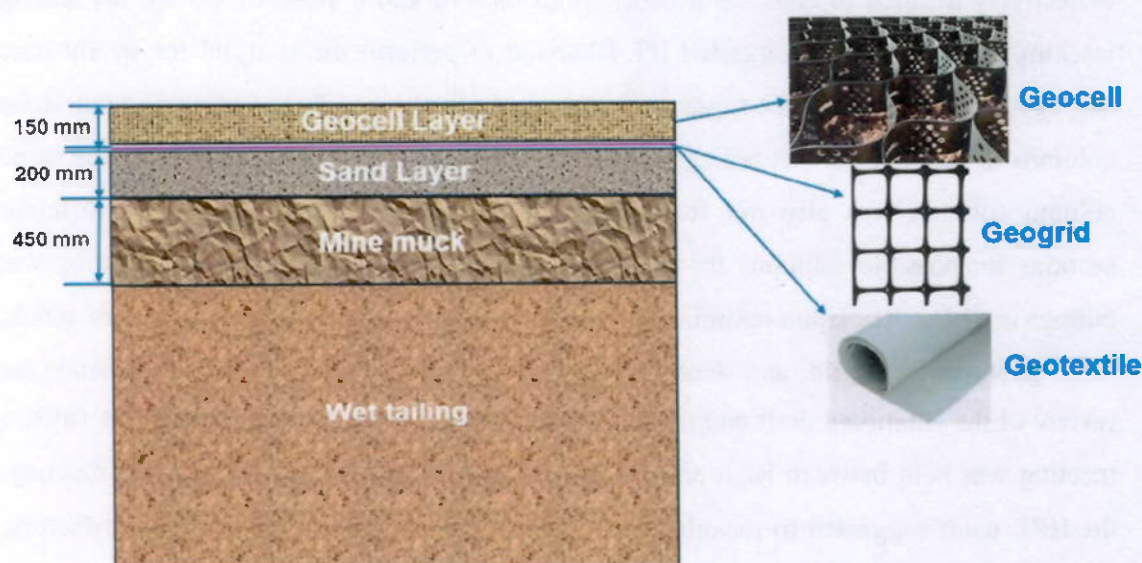
RocScience geotechnical analysis software “Slide” has been used for the stability analysis of the proposed extension of the tailing dam. This is a 2-D program with a CAD-based graphical interface with a wide range of modeling and data interpretation options. Among the various analysis methods available in Slide, the Spencer method was adopted for our analysis. The position of tangent to the slip circle was assumed at various heights from the base of the tailing material, and the factor of safety was determined. According to IS 1893 Part 1: 2025, a Zone factor of 0.125 for a return period of 475 years, an importance factor of 1, and an elastic force reduction factor of 1.5 were considered. Using this data, the horizontal seismic coefficient was calculated as 0.208g. Thus, a slightly higher seismic coefficient of 0.21g has been used for the analysis. A pore pressure coefficient ( $R_u=0.4$ ) was used for the analysis.

## 5.0 Results of slope stability analysis

Upon receiving the data, the first online meeting was conducted between HZL and IIT Dharwad on 28<sup>th</sup> June 2025. Initially, the trial models were developed with a slope of 1:2.5 and a berm width of 6m, identical to the existing tailing dam. IIT Dharwad explored the possibility of using (i) one layer of geogrid; (ii) one layer of geocell; (iii) a combination of geocell and geogrid on the existing wet tailings to stack the dry tailings. However, the options of using geocell or geogrid alone was not found suitable. In the meeting, it was collectively decided to consider a berm width of 9 m and a slope of 1:3 for dry tailing stacking. Further, HZL suggested IIT Dharwad to perform the analysis for steady-state seepage conditions. Another suggestion was to check the possibility of employing stone columns to stabilize the wet tailings. However, subsequent analysis revealed that the stone column solution was also not found feasible. M/S IIT Dharwad reanalyzed different sections for possible solutions for the stacking of dry zinc tailings over the existing wet tailings at 514 m RL. Upon optimization, the foundation solution comprised of mine muck, sand, geotextile, geogrid, and double-layered geocell, was found feasible. Following the review of the submitted draft and the subsequent release of the new revision of IS 1893, a meeting was held between HZL and IIT Dharwad on December 3, 2025. In the meeting, the HZL team suggested to reanalyze the sections by considering the new zonal factors, in which it is changed from Zone-II to Zone-III. Considering this, a re-analysis was conducted, where the thickness of the mine muck increased from 300mm to 450mm, the geocell layer was reduced to a single layer, and the rest remained the same. The schematic diagram of these layers with thickness and placement of material in sequence can be seen in Fig.5. These layers are provided to enhance the bearing capacity and stability. Furthermore, the stability analysis was conducted by placing the dry tailing over the proposed layers to a height of 4 m (i.e., 514 m RL to 518 m RL). From the analysis, it was found that the rise of 4m was feasible over the existing downstream raised dykes, i.e., CH-000 to 1580. Whereas, in the sections of existing upstream raising (i.e., CH 1630 and CH 1810), 4m dry stacking was not found to be safe. Further, a reanalysis was conducted by considering a 2m rise for the CH 1630 and CH1810, which was also deemed unsafe. Hence, it is not recommended to stack any material in the sections CH 1630 and CH 1810.

The foundation construction details involve placing a 450 mm thick layer of mine muck over the existing wet tailings. Subsequently, a 200 mm thick sand layer is to be laid

over the mine muck and compacted to achieve a relative density of 90%. A 1.5 mm thick woven geotextile shall then be evenly spread across the entire sand surface to serve as both a separation and filtration layer. On top of the geotextile, a biaxial geogrid with an aperture size of 20 mm  $\times$  20 mm will be installed to provide reinforcement. Above the geogrid, a single-layered geocell system, 15 cm in height, should be placed. The geocell pockets are to be filled with good-quality granular material, such as sand. Later finishing this construction in a sequential manner, the dry tailing can be placed over it.



**Fig.5** Schematic diagram of different layers of materials adopted between the wet and dry tailing

Results of the slope stability analysis (critical factor of safety) for different chainages with varying conditions for geocell reinforced cases are shown in Table 2-9. The critical slip circles and the factor of safety obtained are shown in Figures 6 to 45 of Annexure-I. From the analyses, it is clear that the Factor of safety obtained for the suggested slopes with geocell-reinforced systems is found to be well within the safe values of Factor of safety (1.50 for steady seepage condition, 1.3 for end of construction, and 1 under seismic conditions).

**Table 2.** Slope stability analysis result of CH-000 of the south flank tailing dam

| S.No. | Condition                        | Seismic coefficient (Zone-III) | Water Parameter (Ru) | Stacking Height (m) | Factor of Safety (FoS) |
|-------|----------------------------------|--------------------------------|----------------------|---------------------|------------------------|
| 1     | End of construction              |                                | 0.4                  | 4                   | 2.209 (Fig.6)          |
| 2     | End of construction with seismic | 0.21                           | 0.4                  |                     | 1.242 (Fig.7)          |
| 3     | Steady seepage                   | -                              | -                    |                     | 1.696 (Fig.8)          |
| 4     | Steady seepage with seismic      | 0.21                           |                      |                     | 1.106 (Fig.9)          |

**Table 3.** Slope stability analysis result of CH-030 of the south flank tailing dam

| S.No. | Condition                        | Seismic coefficient (Zone-III) | Water Parameter (Ru) | Stacking Height (m) | Factor of Safety (FoS) |
|-------|----------------------------------|--------------------------------|----------------------|---------------------|------------------------|
| 1     | End of construction              |                                | 0.4                  | 4                   | 2.273 (Fig.10)         |
| 2     | End of construction with seismic | 0.21                           | 0.4                  |                     | 1.204 (Fig.11)         |
| 3     | Steady seepage                   | -                              | -                    |                     | 1.655 (Fig.12)         |
| 4     | Steady seepage with seismic      | 0.21                           |                      |                     | 1.110 (Fig.13)         |

**Table 4.** Slope stability analysis result of CH-720 of the south flank tailing dam

| S.No. | Condition                        | Seismic coefficient (Zone-III) | Water Parameter (Ru) | Stacking Height (m) | Factor of Safety (FoS) |
|-------|----------------------------------|--------------------------------|----------------------|---------------------|------------------------|
| 1     | End of construction              |                                | 0.4                  | 4                   | 2.323 (Fig.14)         |
| 2     | End of construction with seismic | 0.21                           | 0.4                  |                     | 1.282 (Fig.15)         |
| 3     | Steady seepage                   | -                              | -                    |                     | 1.519 (Fig.16)         |
| 4     | Steady seepage with seismic      | 0.21                           |                      |                     | 1.118 (Fig.17)         |

**Table 5.** Slope stability analysis result of CH-920 of the south flank tailing dam

| S.No. | Condition                        | Seismic coefficient<br>(Zone-III) | Water Parameter (Ru) | Stacking Height (m) | Factor of Safety (FoS) |
|-------|----------------------------------|-----------------------------------|----------------------|---------------------|------------------------|
| 1     | End of construction              |                                   | 0.4                  | 4                   | 1.957 (Fig.18)         |
| 2     | End of construction with seismic | 0.21                              | 0.4                  |                     | 1.164 (Fig.19)         |
| 3     | Steady seepage                   | -                                 | -                    |                     | 1.758 (Fig.20)         |
| 4     | Steady seepage with seismic      | 0.21                              |                      |                     | 1.104 (Fig.21)         |

**Table 6.** Slope stability analysis result of CH-1300 of the south flank tailing dam

| S.No. | Condition                        | Seismic coefficient<br>(Zone-III) | Water Parameter (Ru) | Stacking Height (m) | Factor of Safety (FoS) |
|-------|----------------------------------|-----------------------------------|----------------------|---------------------|------------------------|
| 1     | End of construction              |                                   | 0.4                  | 4                   | 2.203 (Fig.22)         |
| 2     | End of construction with seismic | 0.21                              | 0.4                  |                     | 1.254 (Fig.23)         |
| 3     | Steady seepage                   | -                                 | -                    |                     | 1.742 (Fig.24)         |
| 4     | Steady seepage with seismic      | 0.21                              |                      |                     | 1.112 (Fig.25)         |

**Table 7.** Slope stability analysis result of CH-1580 of the south flank tailing dam

| S.No. | Condition                        | Seismic coefficient<br>(Zone-III) | Water Parameter (Ru) | Stacking Height (m) | Factor of Safety (FoS) |
|-------|----------------------------------|-----------------------------------|----------------------|---------------------|------------------------|
| 1     | End of construction              |                                   | 0.4                  | 4                   | 2.403 (Fig.26)         |
| 2     | End of construction with seismic | 0.21                              | 0.4                  |                     | 1.315 (Fig.27)         |
| 3     | Steady seepage                   | -                                 | -                    |                     | 1.753 (Fig.28)         |
| 4     | Steady seepage with seismic      | 0.21                              |                      |                     | 1.10 (Fig.29)          |

**Table 8.** Slope stability analysis result of CH-1630 of the south flank tailing dam

| S.No. | Condition                        | Seismic coefficient (Zone-III) | Water Parameter (Ru) | Stacking Height (m) | Factor of Safety (FoS) |
|-------|----------------------------------|--------------------------------|----------------------|---------------------|------------------------|
| 1     | End of construction              |                                | 0.4                  | 2                   | 1.830 (Fig.30)         |
| 2     | End of construction with seismic | 0.21                           | 0.4                  |                     | 0.653 (Fig.31)         |
| 3     | Steady seepage                   | -                              | -                    |                     | 1.151 (Fig.32)         |
| 4     | Steady seepage with seismic      | 0.21                           |                      |                     | 0.529 (Fig.33)         |

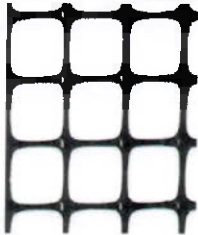
**Table 9.** Slope stability analysis result of CH-1810 of the south flank tailing dam

| S.No. | Condition                        | Seismic coefficient (Zone-III) | Water Parameter (Ru) | Stacking Height (m) | Factor of Safety (FoS) |
|-------|----------------------------------|--------------------------------|----------------------|---------------------|------------------------|
| 1     | End of construction              |                                | 0.4                  | 2                   | 1.709 (Fig.34)         |
| 2     | End of construction with seismic | 0.21                           | 0.4                  |                     | 0.626 (Fig.35)         |
| 3     | Steady seepage                   | -                              | -                    |                     | 1.110 (Fig.36)         |
| 4     | Steady seepage with seismic      | 0.21                           |                      |                     | 0.543 (Fig.37)         |

## **6.0 Conclusions and Recommendations:**

- The detailed slope stability analysis clearly indicates that the stacking of dry mine tailing over the wet tailing is feasible up to 4m height in certain cross-sections only with horizontal layers of geotextiles, geogrid, and geocells (as indicated in Fig.5).
- The dry stacking of 4m height is allowed (from 514m RL to 518m RL) for the CH-000 to CH-1580 by using the suggested approach in layers and stages. Stacking should be done with a berm of 9m, and a slope of 1V:3H.
- The proposed section and the procedure for carrying out the construction from RL 514 to 518 m RL can be seen in the schematic diagram (Fig.5). Any deviation from the suggested design shall be brought to the notice of the consultants.
- The dry stacking along the sections in CH-1630 and CH-1810 is not recommended.
- The stacking is to be done gradually in lifts of 0.5 m thickness, each thoroughly compacted to achieve at least 90% maximum dry density.
- The pore water pressure (PWP) in the wet tailing is to be monitored regularly using piezometers. If there is any sudden increase in the PWP, it should be brought to the notice of the consultant.
- The health of the dykes is to be monitored regularly for any distress, cracks, and settlement. Settlement plates and inclinometers are to be placed to monitor any horizontal movement that may occur.
- A good quality control during construction is a must (specification provided in Table 11), and it should be carried out by proper selection of materials, by following proper compaction procedure, etc.
- At any time of the year, ponding of the water on top of the tailing should be avoided. Continuous dewatering and drainage should be ensured to avoid any instability caused to the dam.
- The current analysis was performed based on the geotechnical parameters determined in the year 2018 or before. Hence, a fresh laboratory testing of the tailing needs to be taken up to determine the current state, which might offer better insight into the stability of the tailing dam for future analysis.
- The stability analysis was done as per the cross-sectional drawing submitted by M/S. HZL. Hence, the FOS provided should be considered as output for the same.

**Table.11** Specifications of material to be employed in different layers

| S.No | Material    |                                                                                    | Specifications (Tentative)                                                                                                              |
|------|-------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Geocell     |   | Cell size: 22.4 x 25.9 cm<br>Cell depth: 15 cm<br>Tensile strength - 20 kN/m<br>Infill materials: Good quality granular soils like sand |
| 2    | Geogrid     |   | Tensile strength-20 kN/m<br>Type: Biaxial<br>Aperture shape: 20 mm x 20 mm                                                              |
| 3    | Geotextiles |  | Type- woven<br>Thickness-1.5 mm<br>Tensile strength-20 kN/m                                                                             |



**Dr. Amarnath Hegde**  
**Consultant In-Charge**

**Date: 24 January 2026**

## Annexure-I

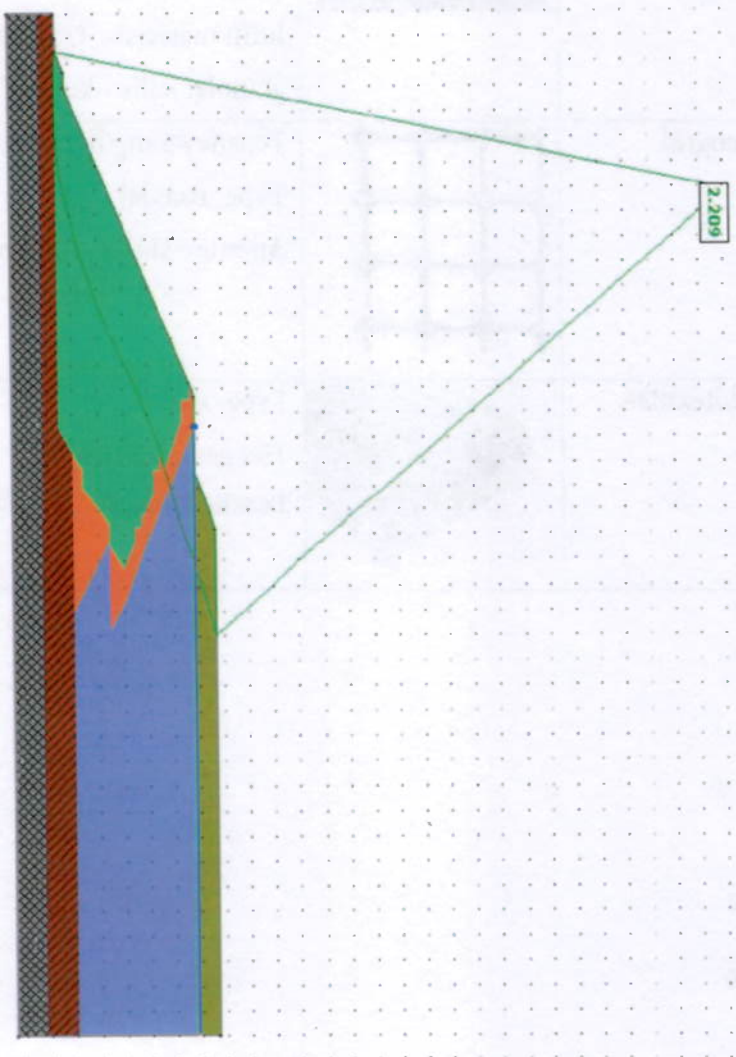


Fig.6 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-000) at the End of Construction with  $R_u=0.4$

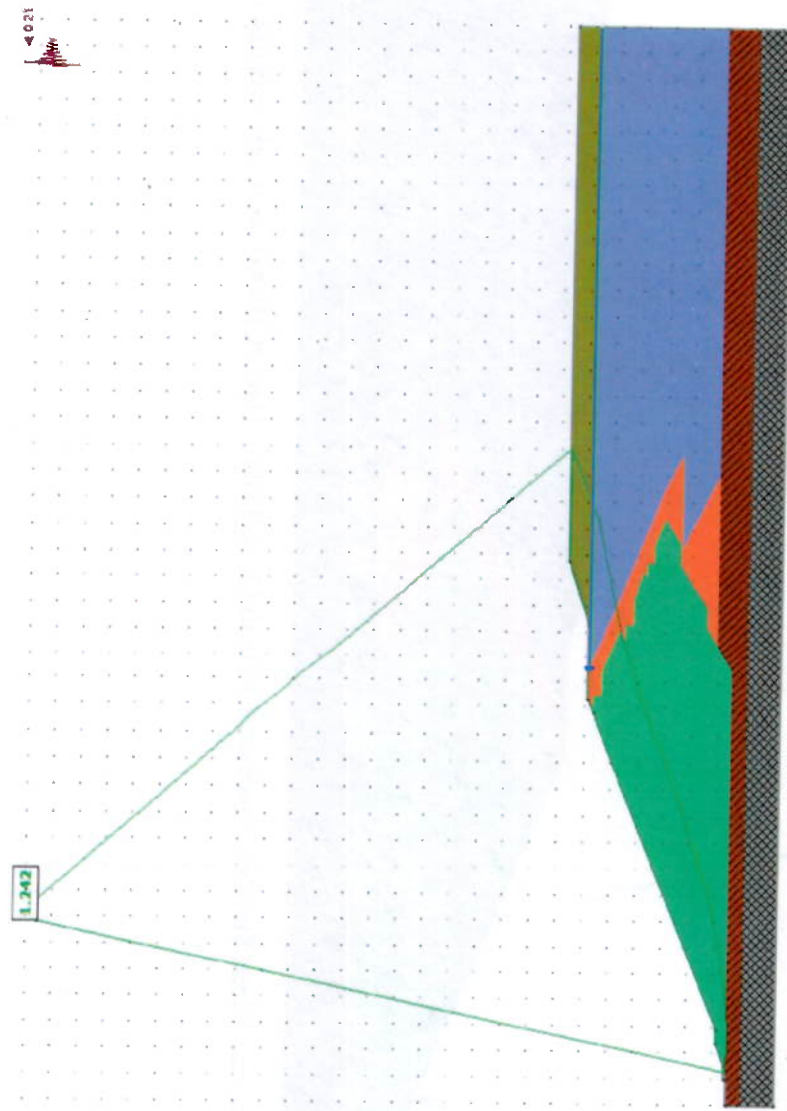


Fig.7 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-000) at the End of Construction with  $R_u=0.4$  and Seismic coefficient  $0.21g$

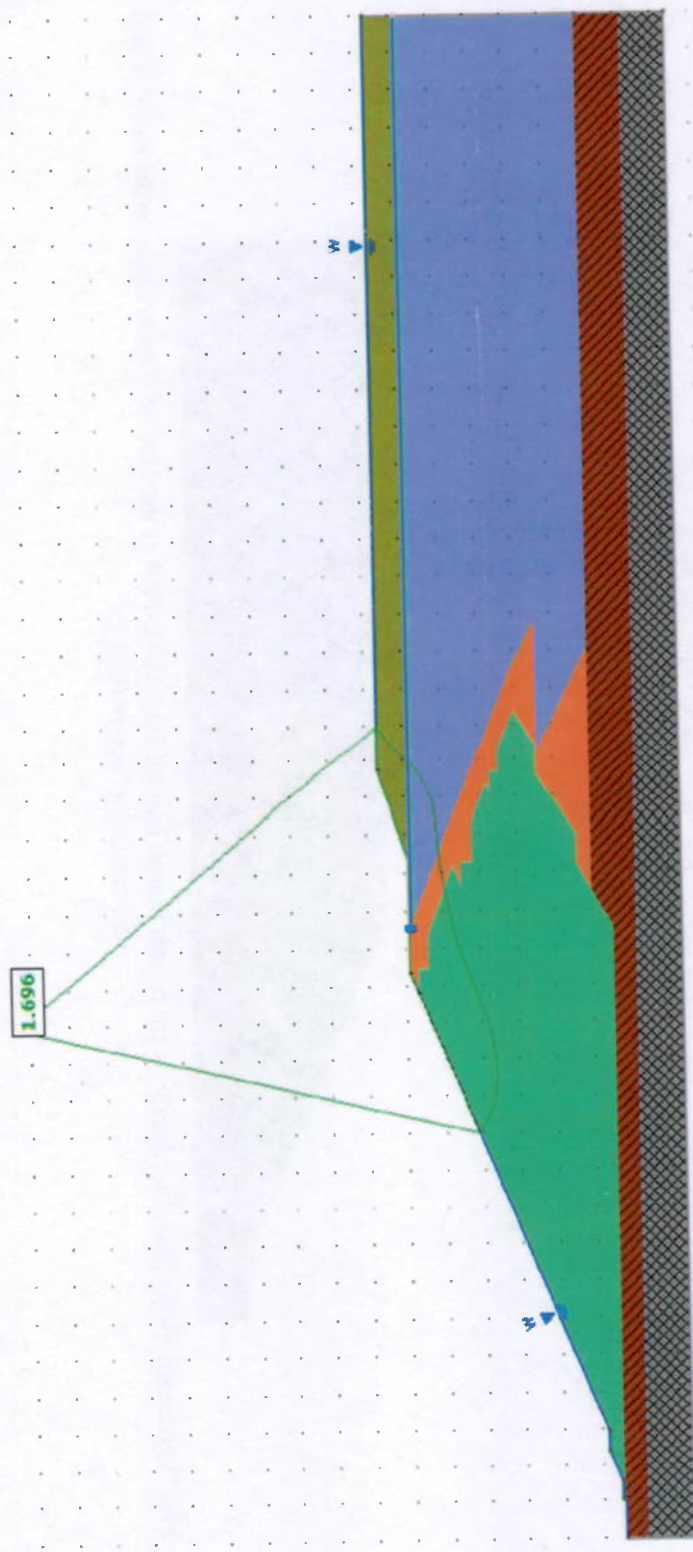


Fig.8 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-000) at steady seepage condition

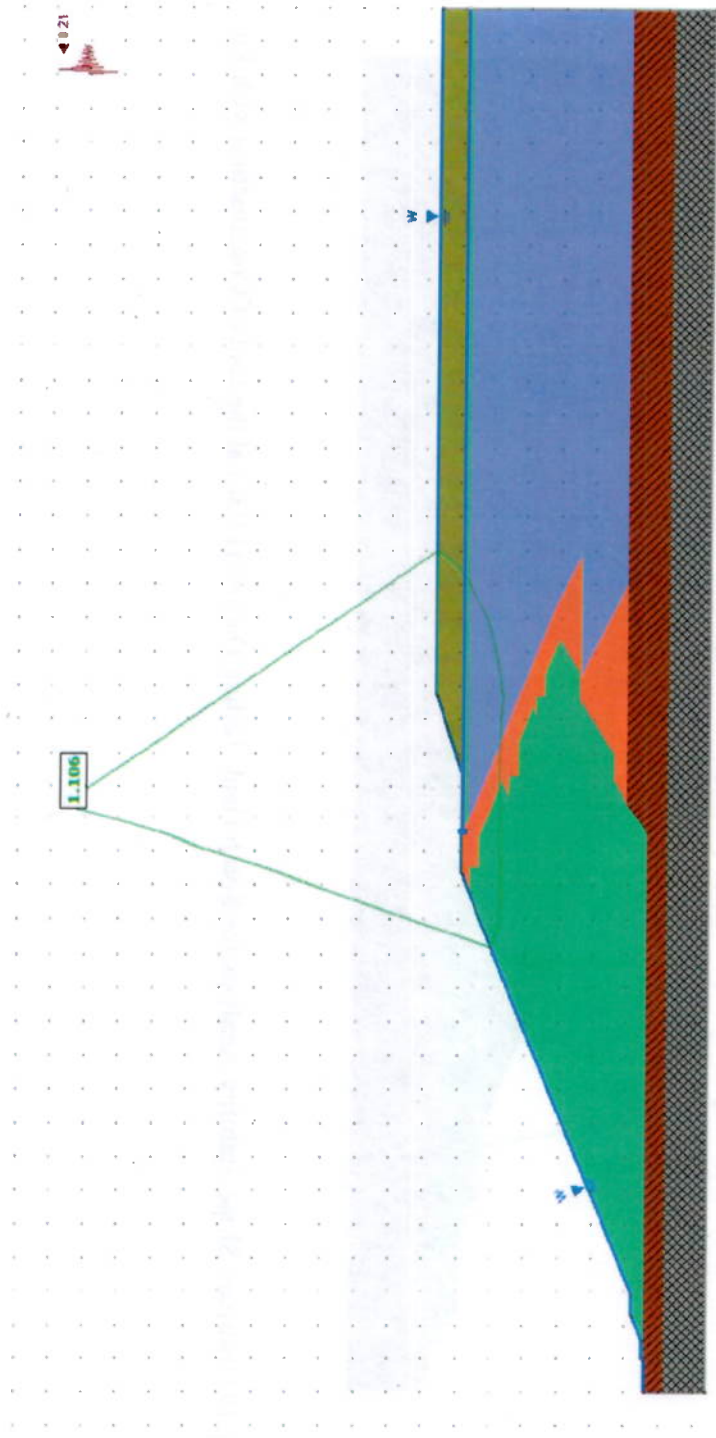


Fig.9 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-000) at Steady Seepage and Seismic coefficient 0.21g

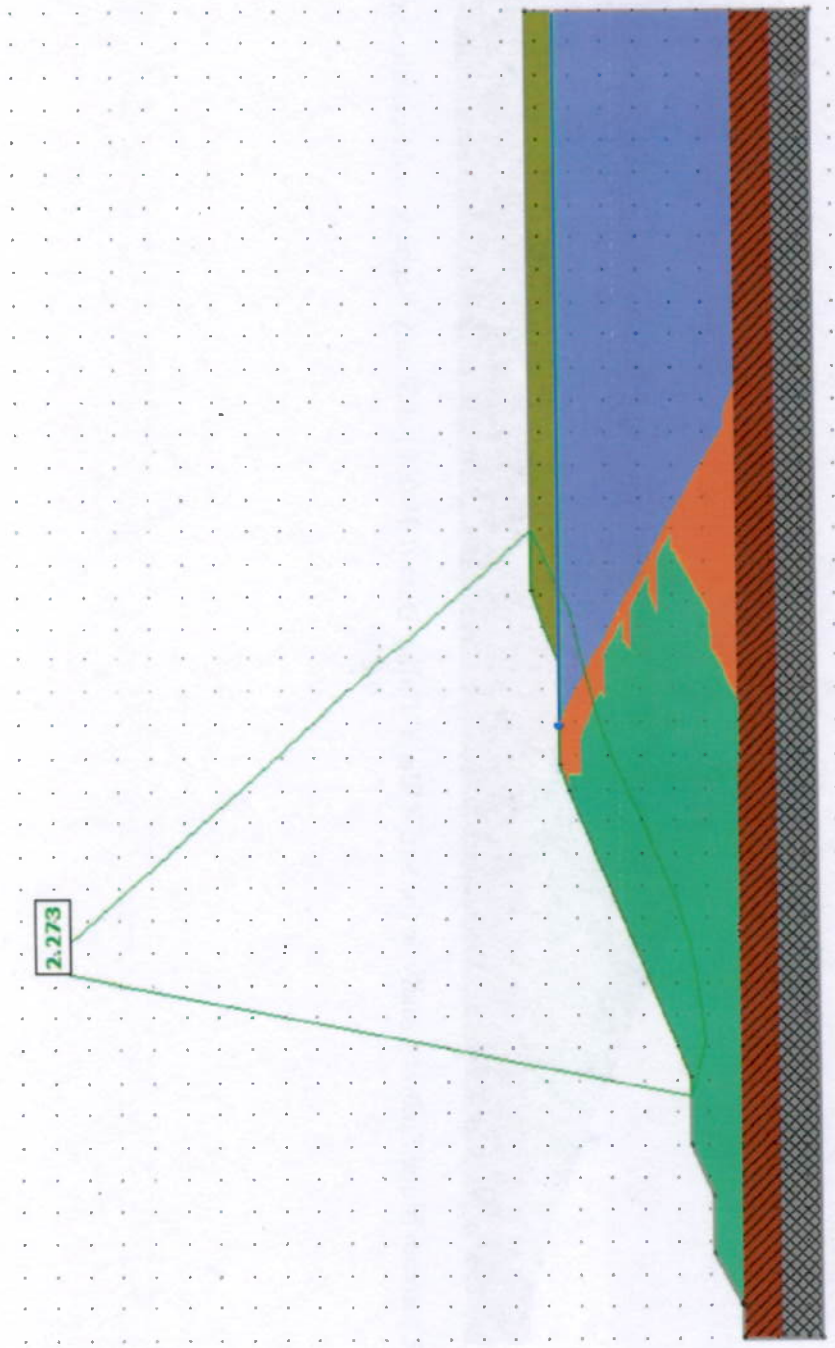


Fig.10 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-030) at the End of Construction with  $R_u=0.4$

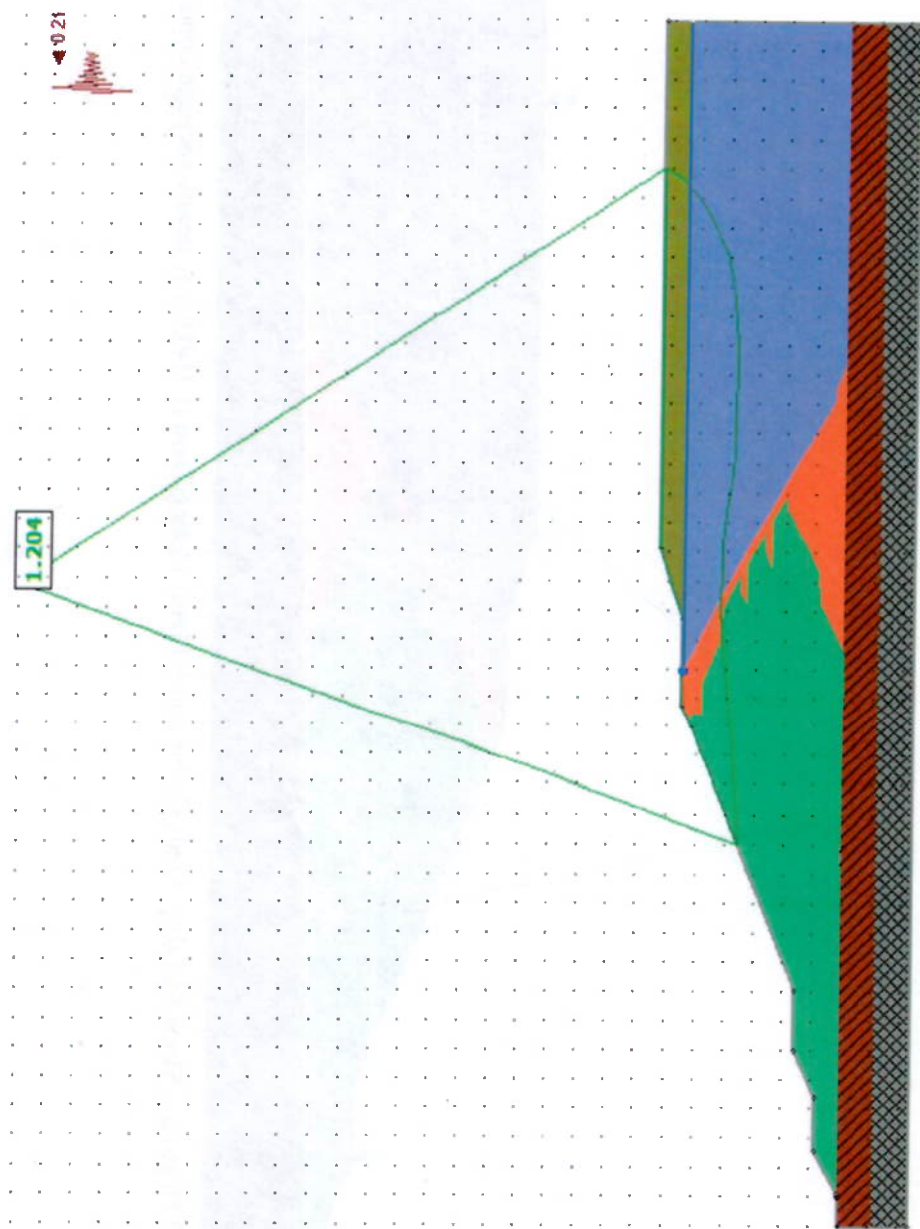


Fig.11 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-030) at the End of Construction with  $R_u=0.4$  and Seismic coefficient  $0.21g$

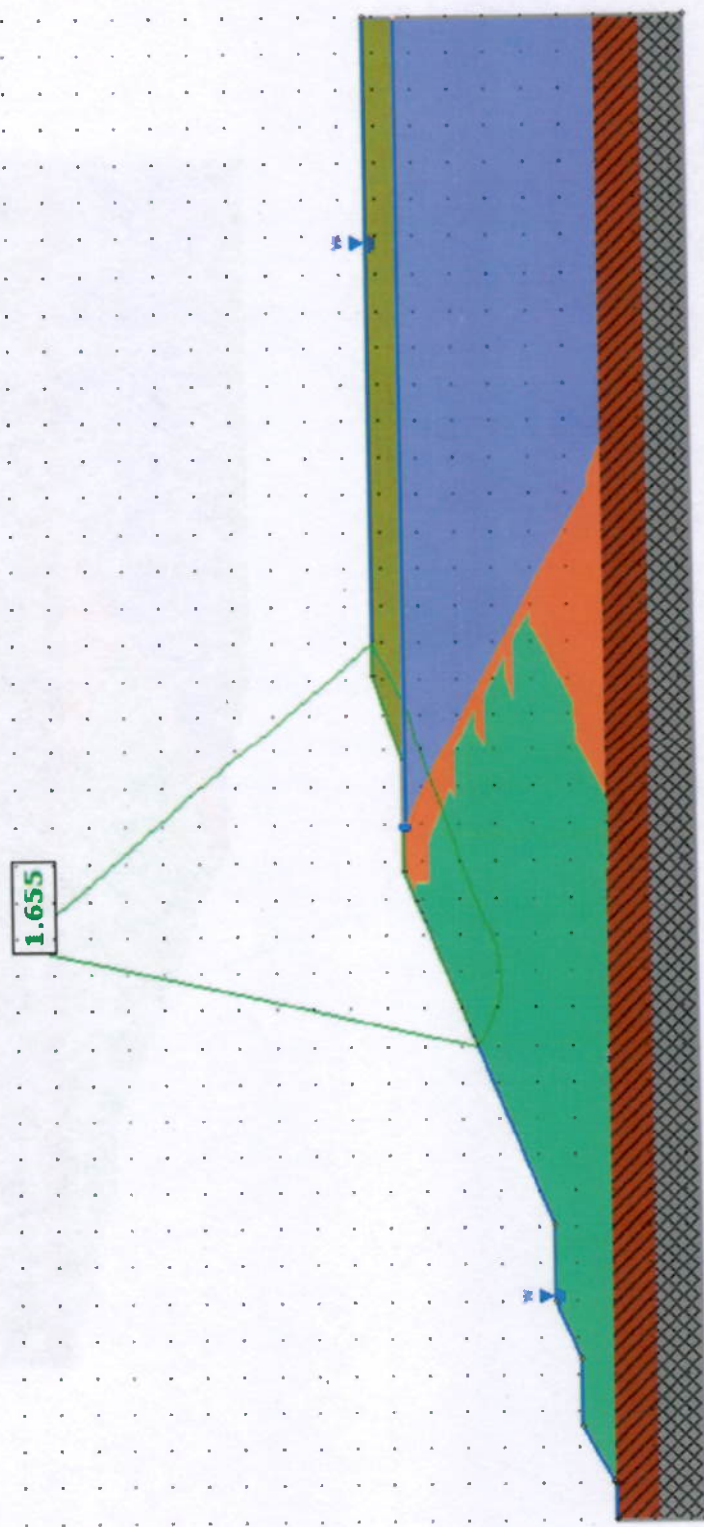


Fig.12 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-030) at steady seepage condition

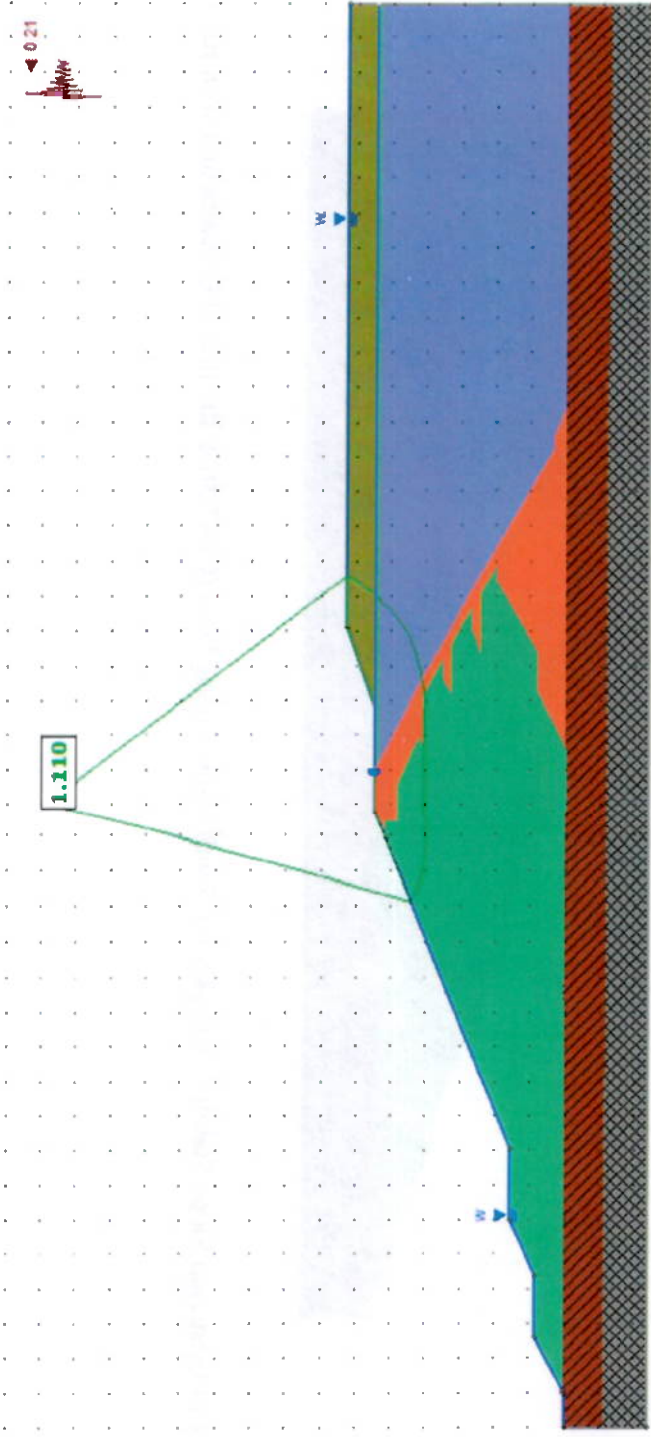


Fig.13 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-030) at Steady Seepage and Seismic coefficient 0.21g

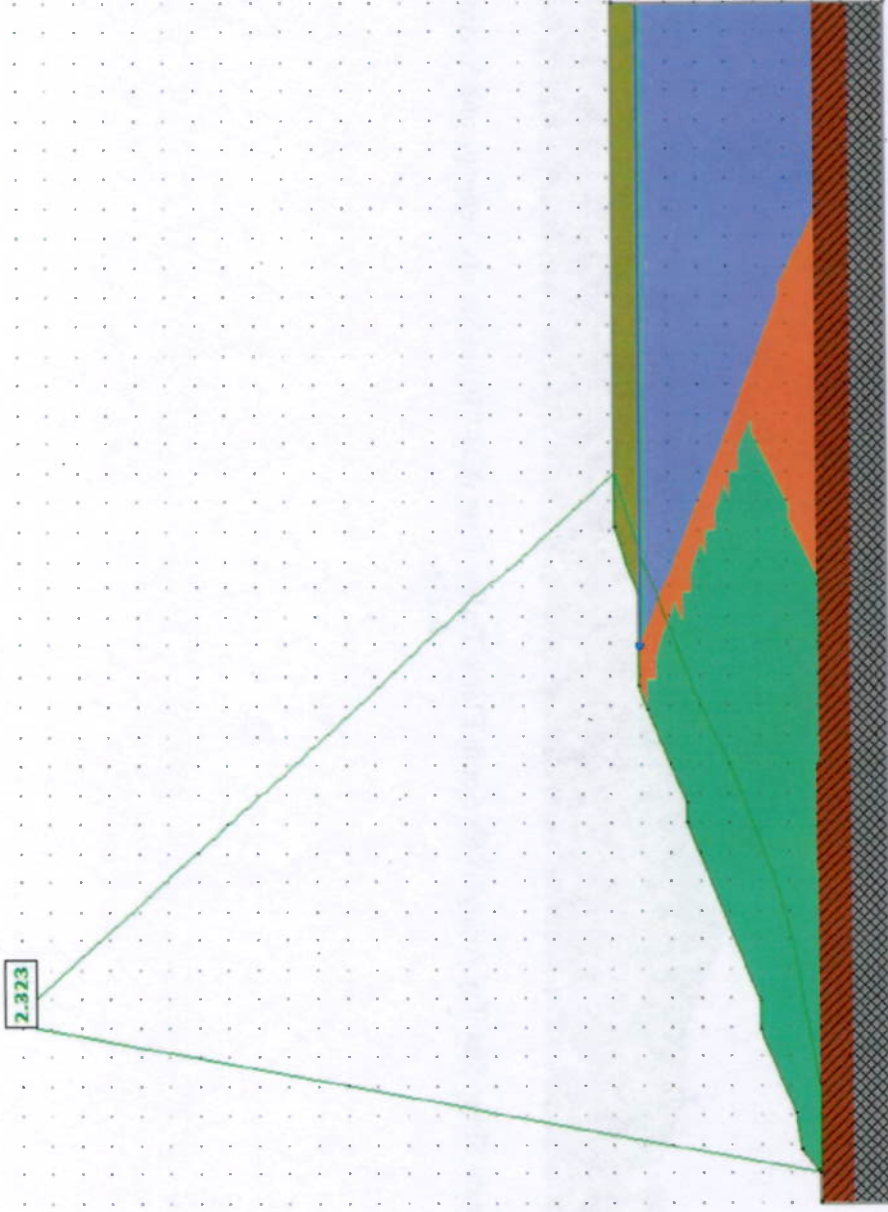


Fig 14 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-720) at the End of Construction with  $R_u=0.4$

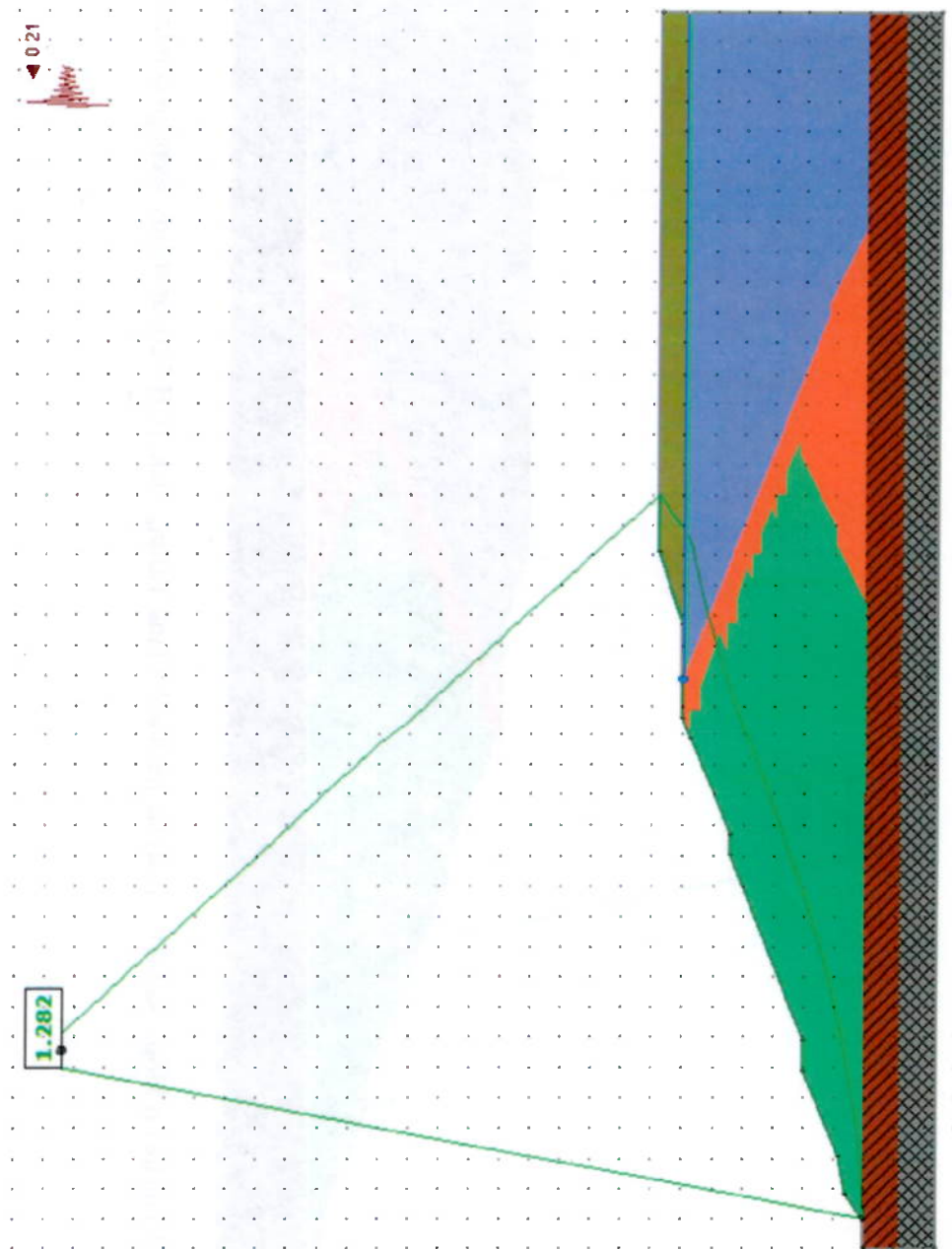


Fig.15 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-720) at the End of Construction with  $R_u=0.4$  and Seismic coefficient  $0.21g$

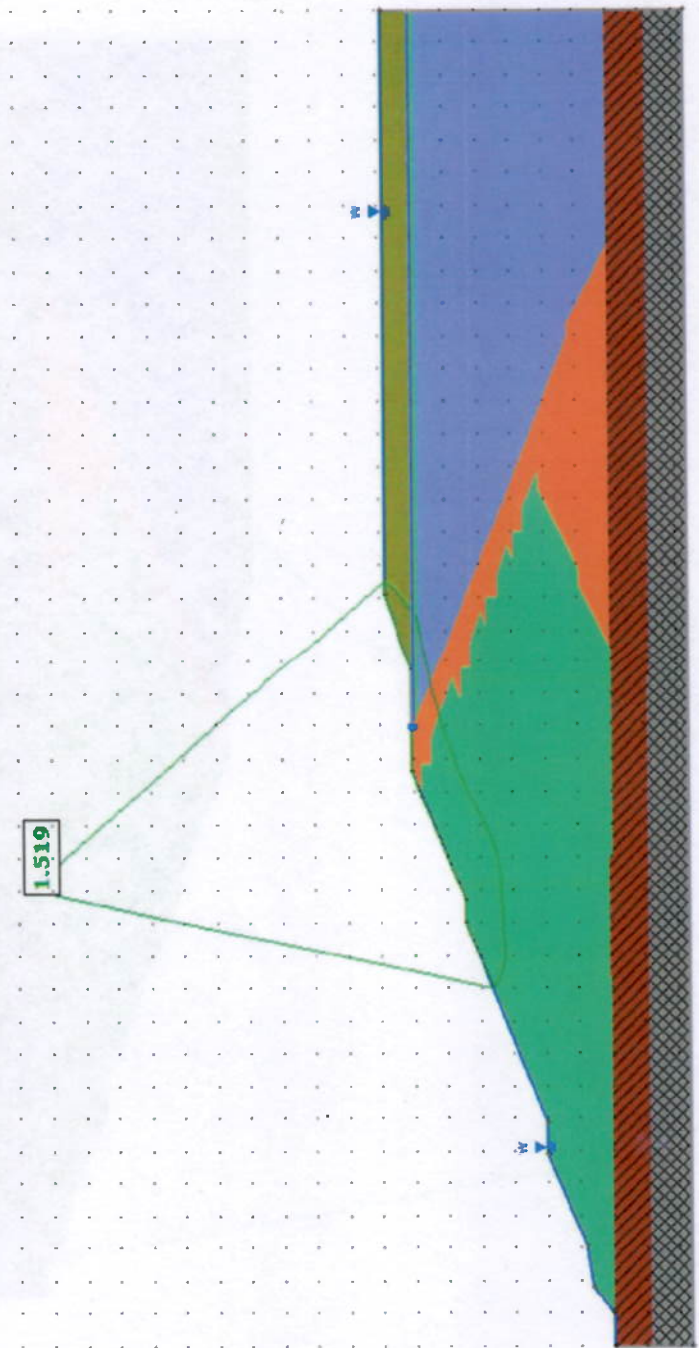


Fig.16 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-720) at steady seepage condition

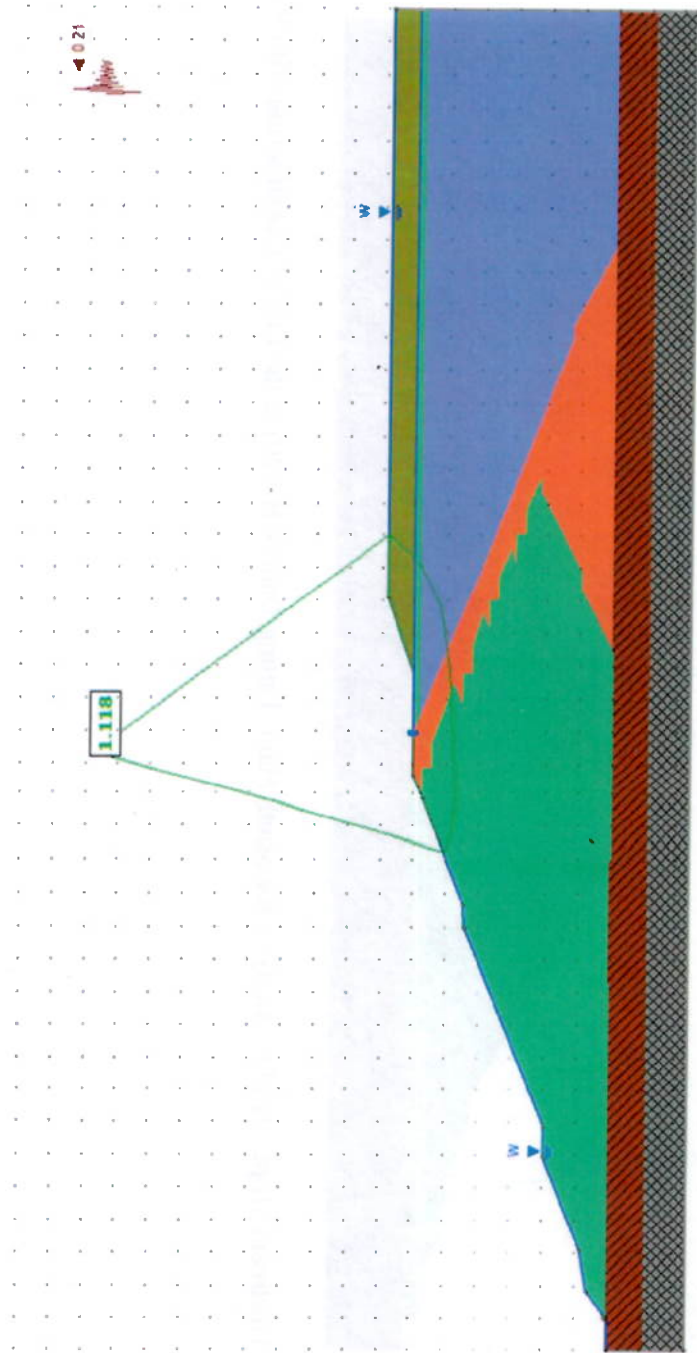


Fig.17 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-720) at Steady Seepage and Seismic coefficient 0.21g

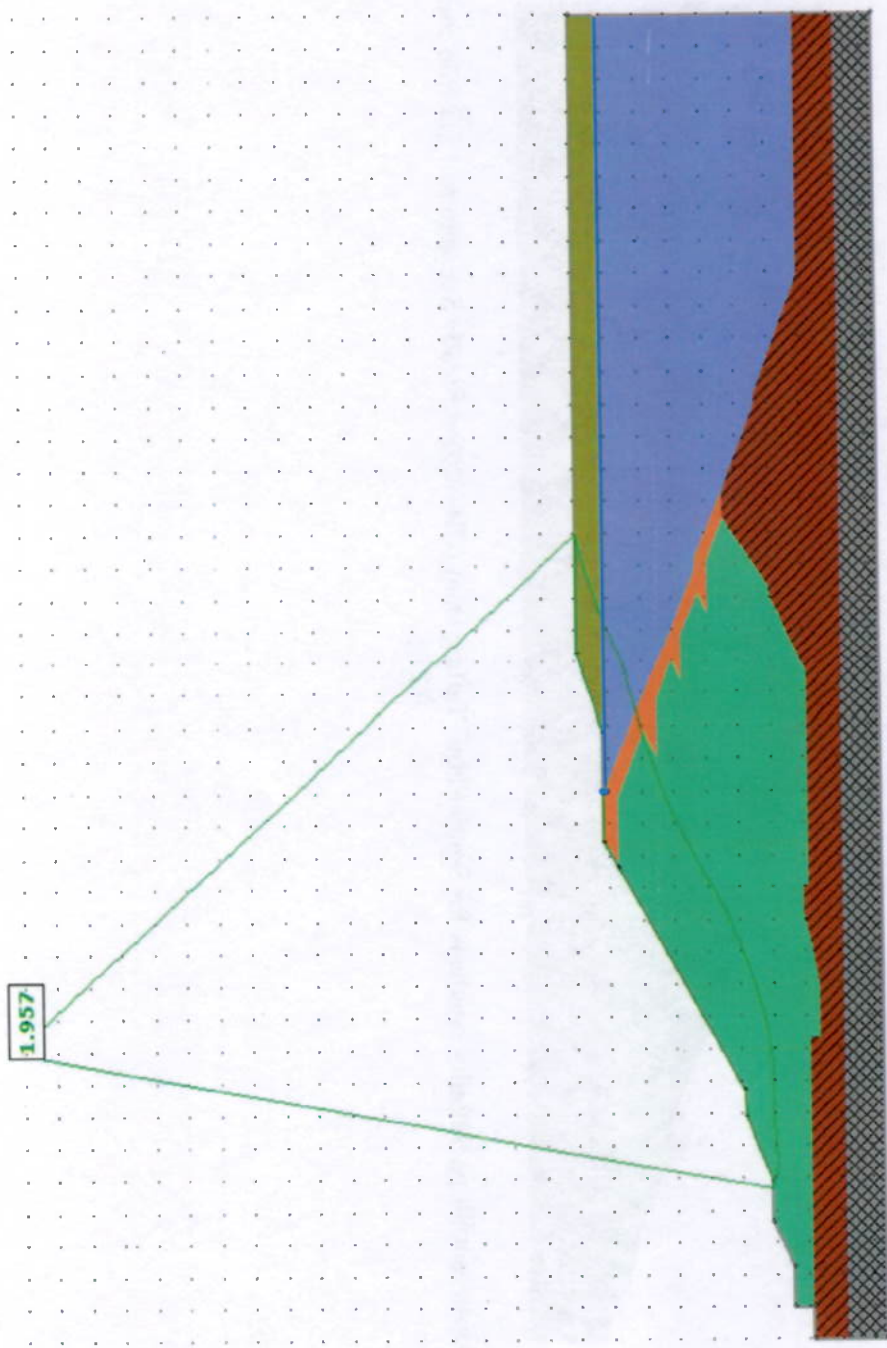


Fig.18 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-920) at the End of Construction with  $R_u=0.4$

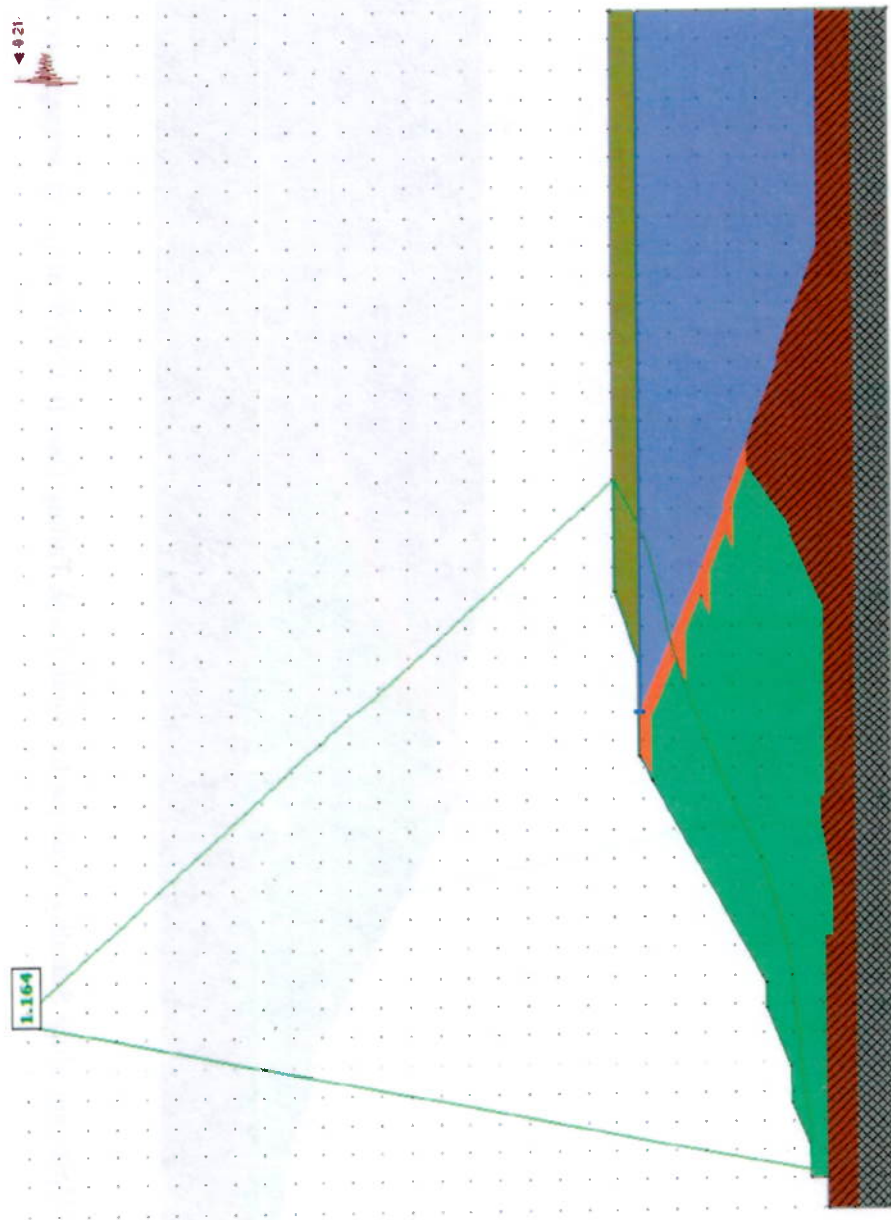


Fig.19 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-920) at the End of Construction with  $R_u=0.4$  and Seismic coefficient  $0.21g$

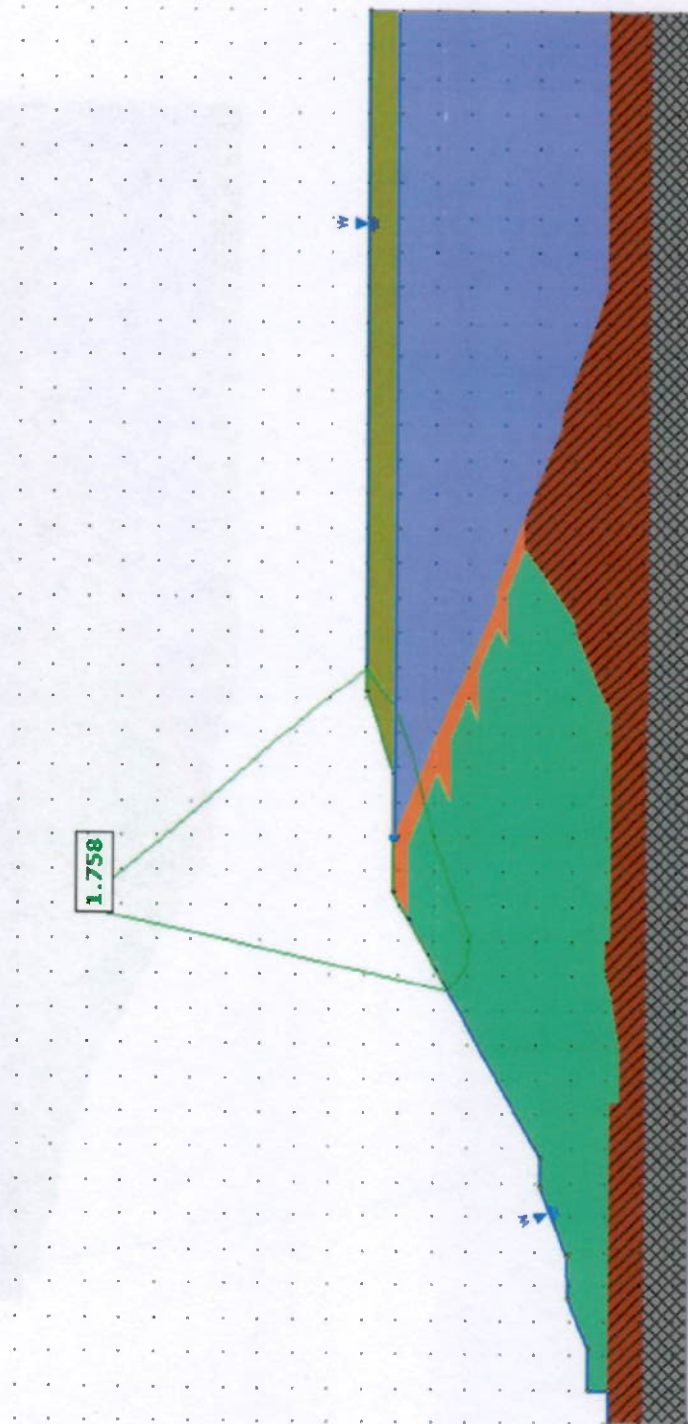


Fig.20 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-920) at steady seepage condition

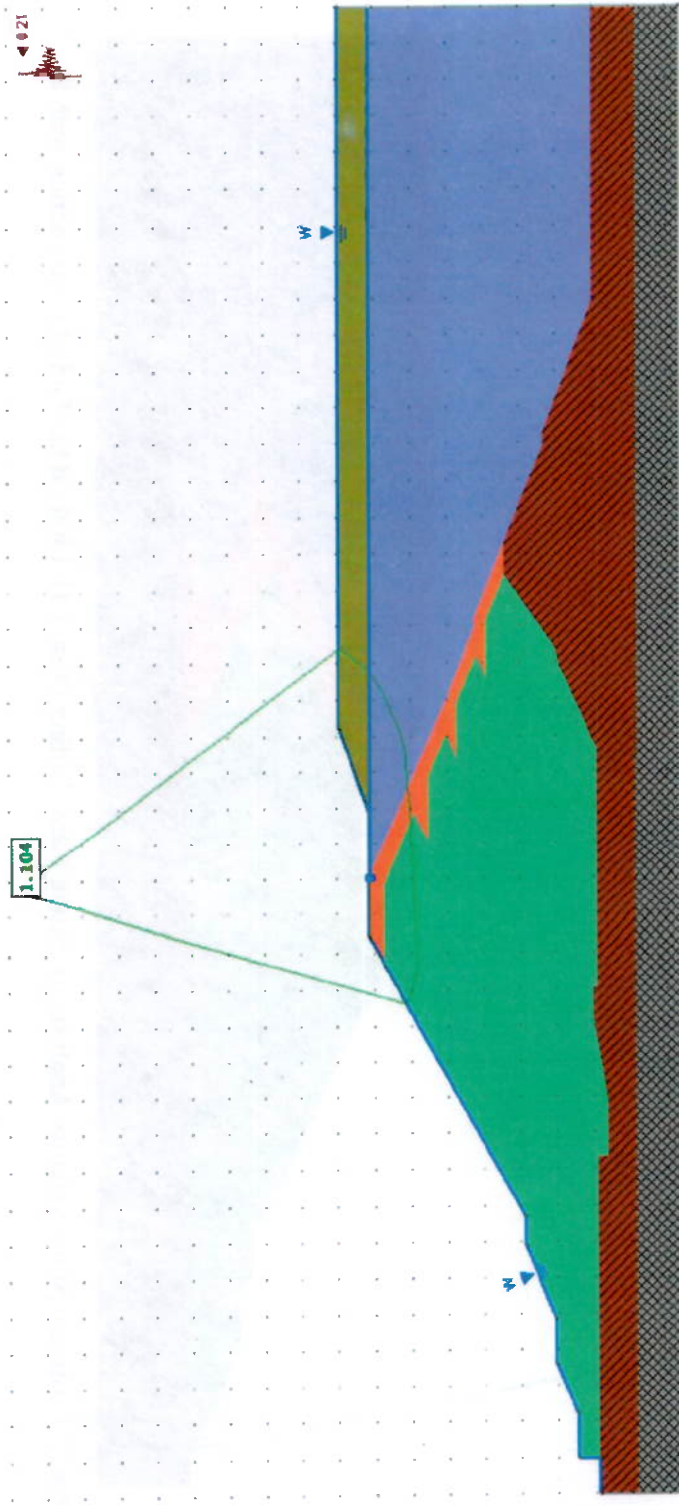


Fig.21 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-920) at Steady Seepage and Seismic coefficient 0.21g

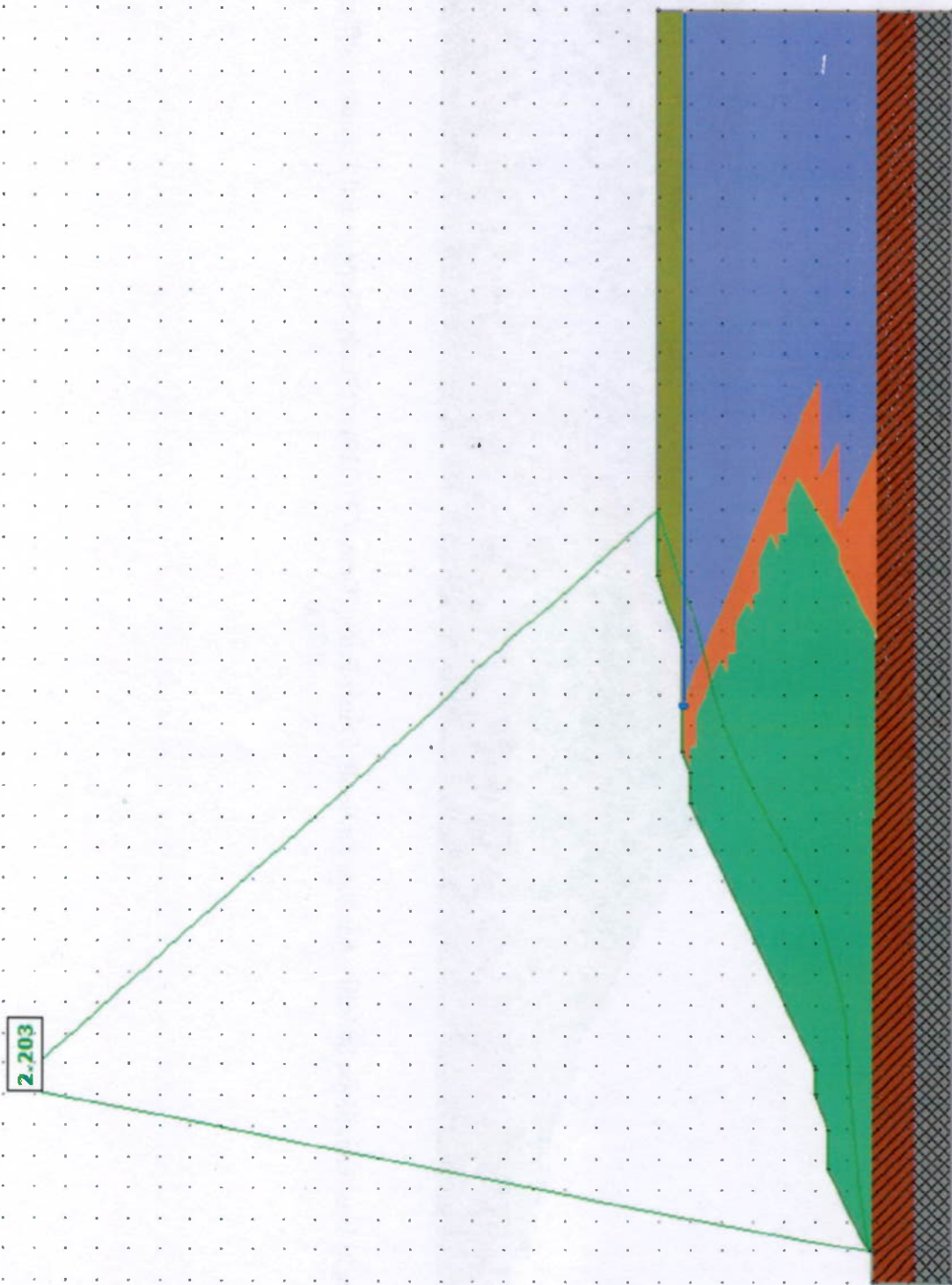


Fig.22 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1300) at the End of Construction with  $R_u=0.4$

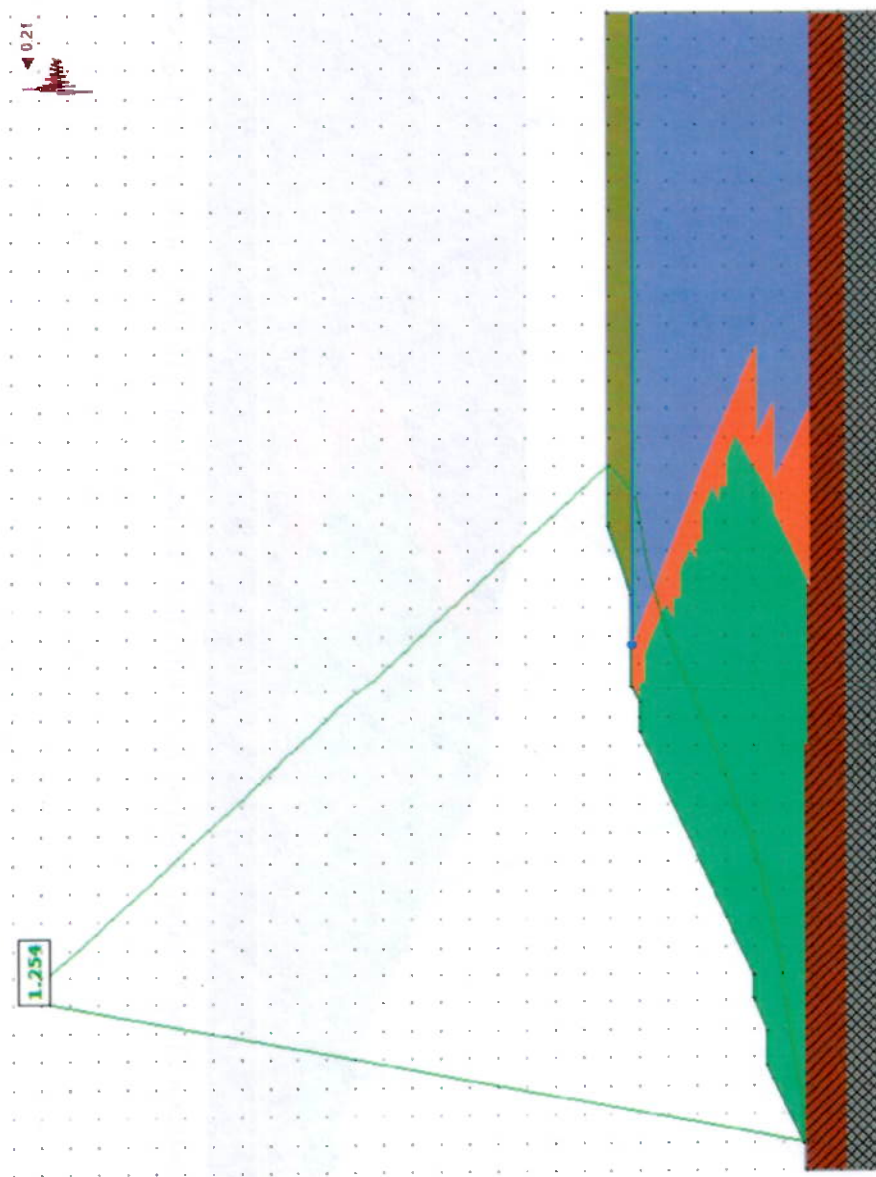


Fig.23 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1300) at the End of Construction with  $R_u=0.4$  and Seismic coefficient  $0.21g$

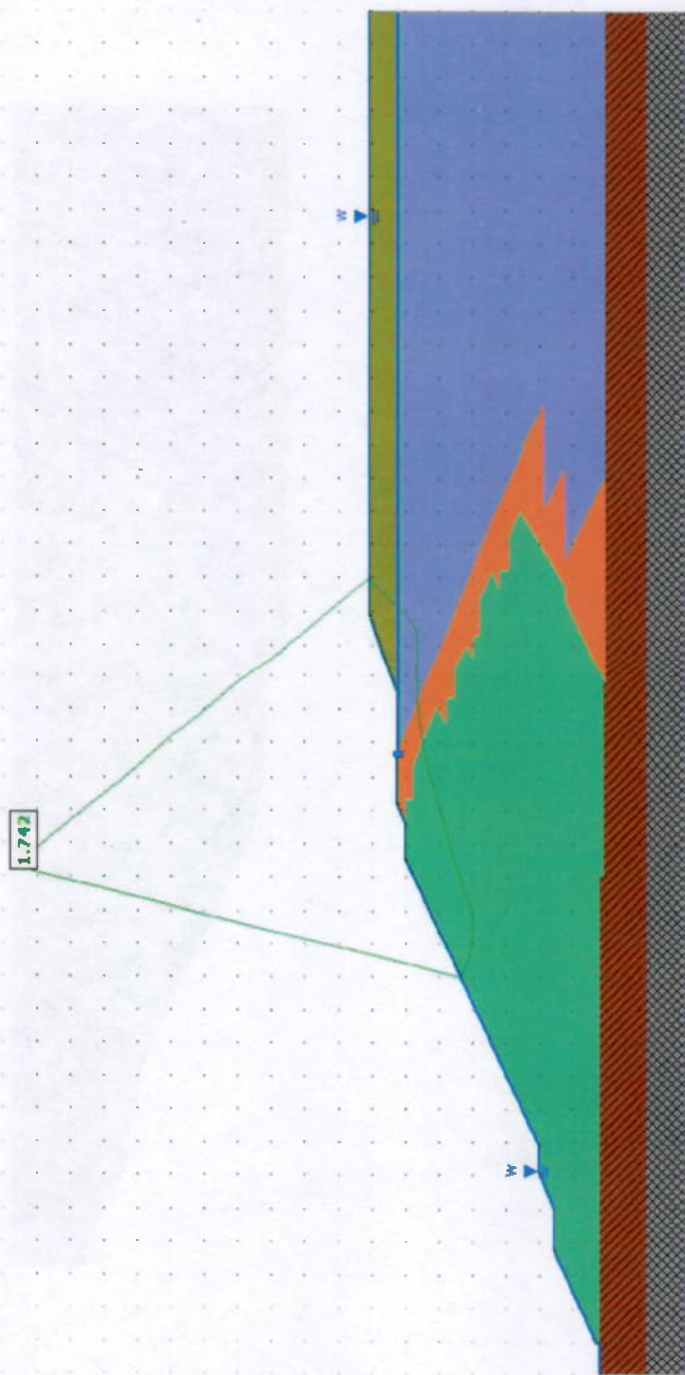


Fig.24 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1300) at steady seepage condition

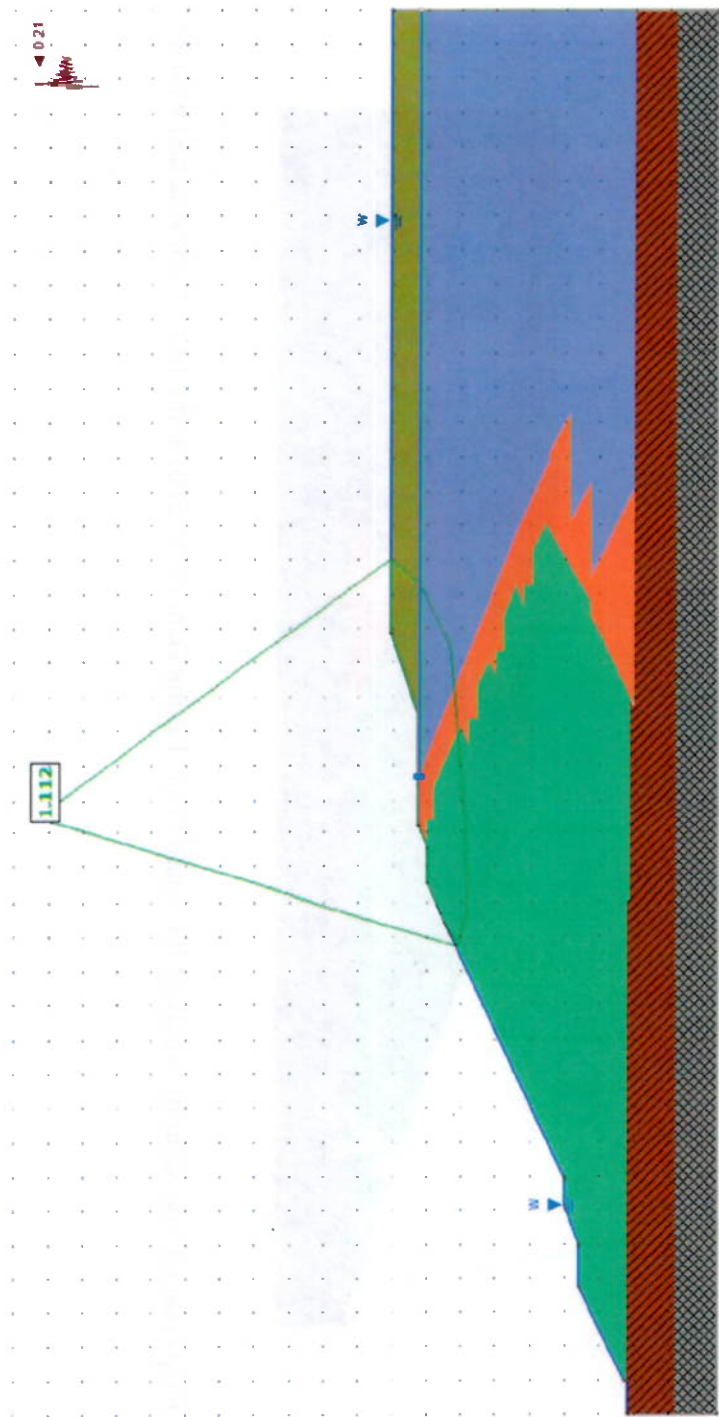


Fig.25 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1300) at Steady Seepage and Seismic coefficient 0.21g

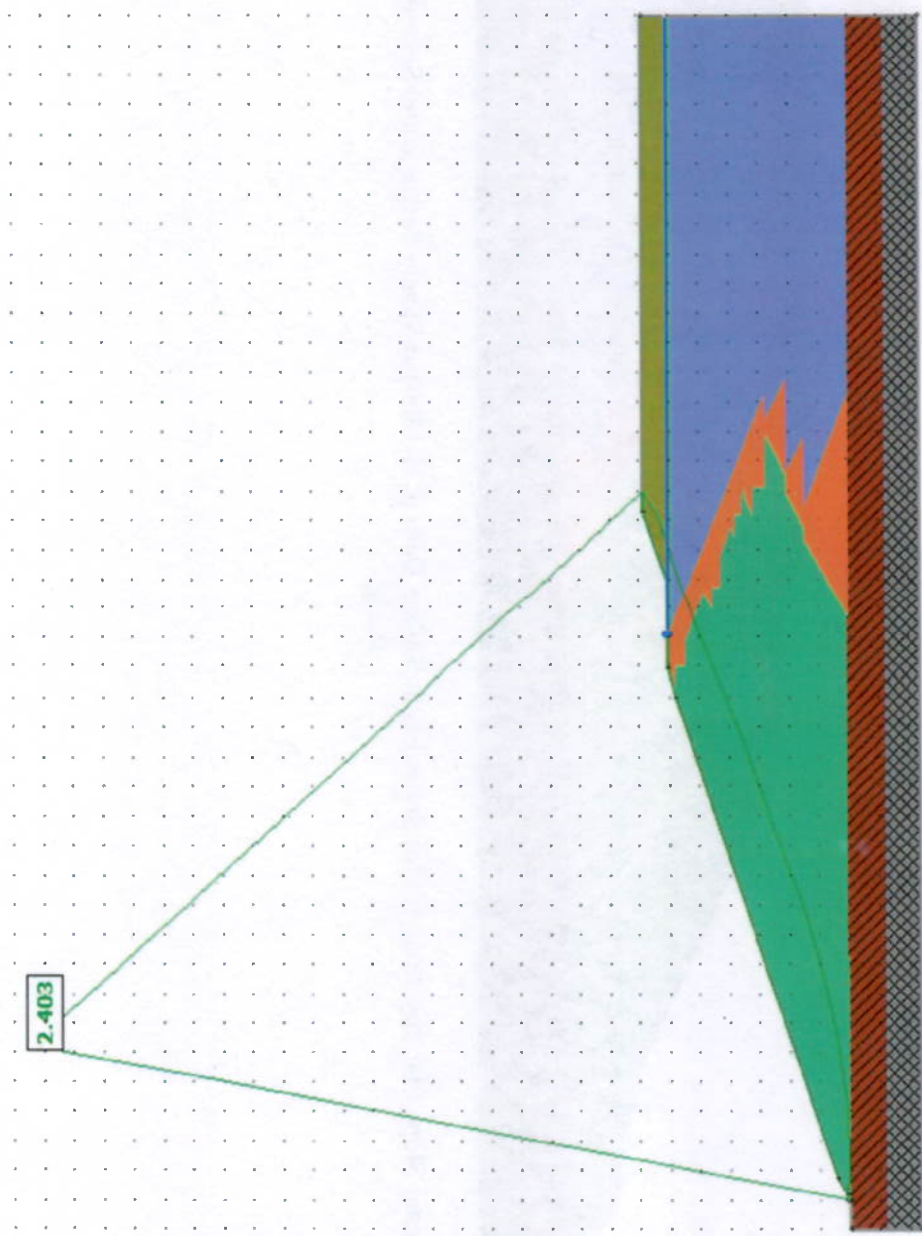


Fig.2.6 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1580) at the End of Construction with  $R_u=0.4$

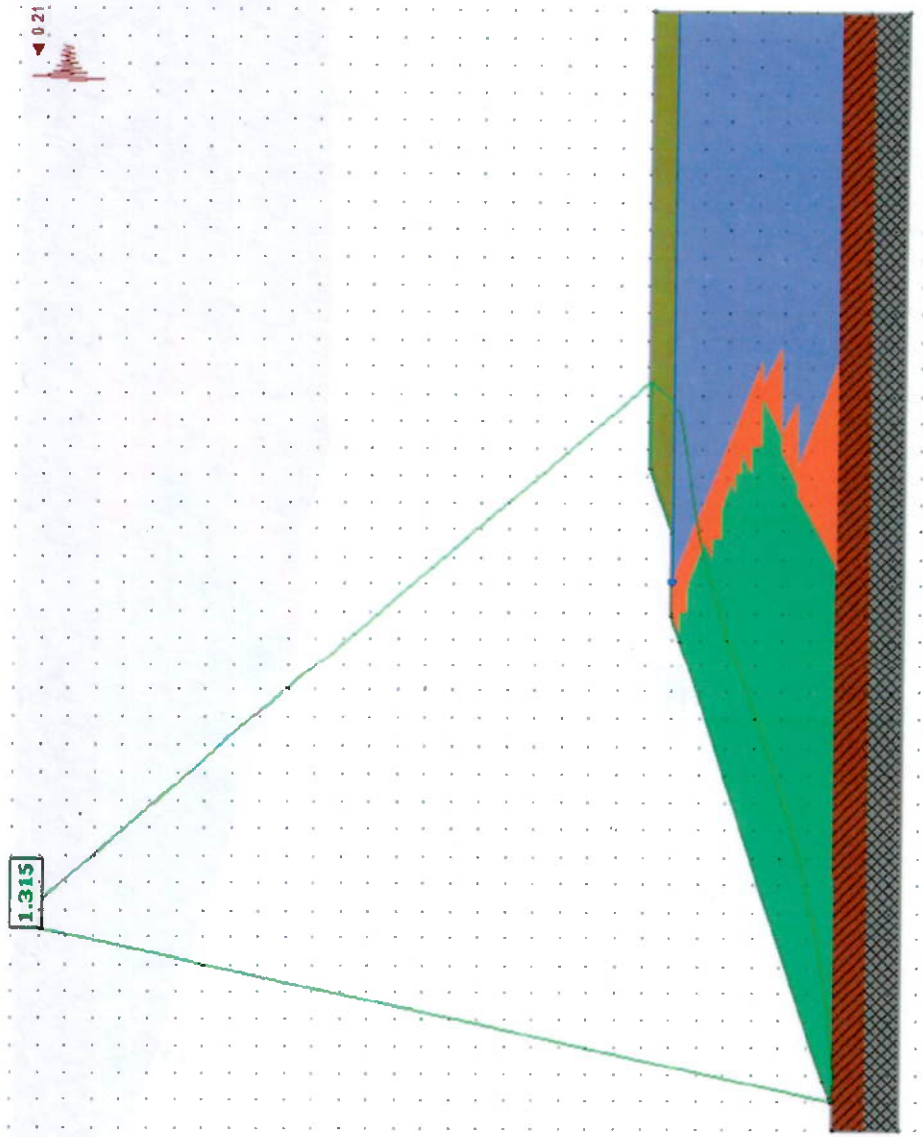


Fig.27 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1580) at the End of Construction with  $R_u=0.4$  and Seismic coefficient  $0.21g$

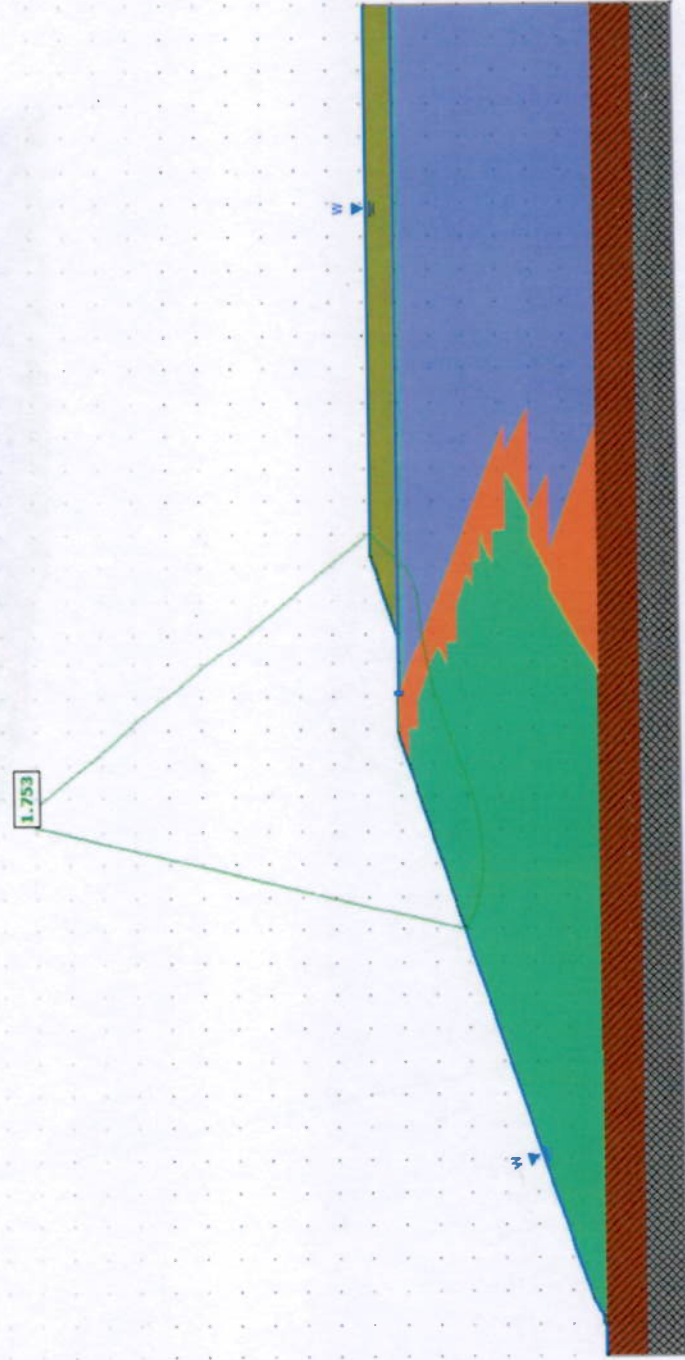


Fig 28 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1580) at steady seepage condition

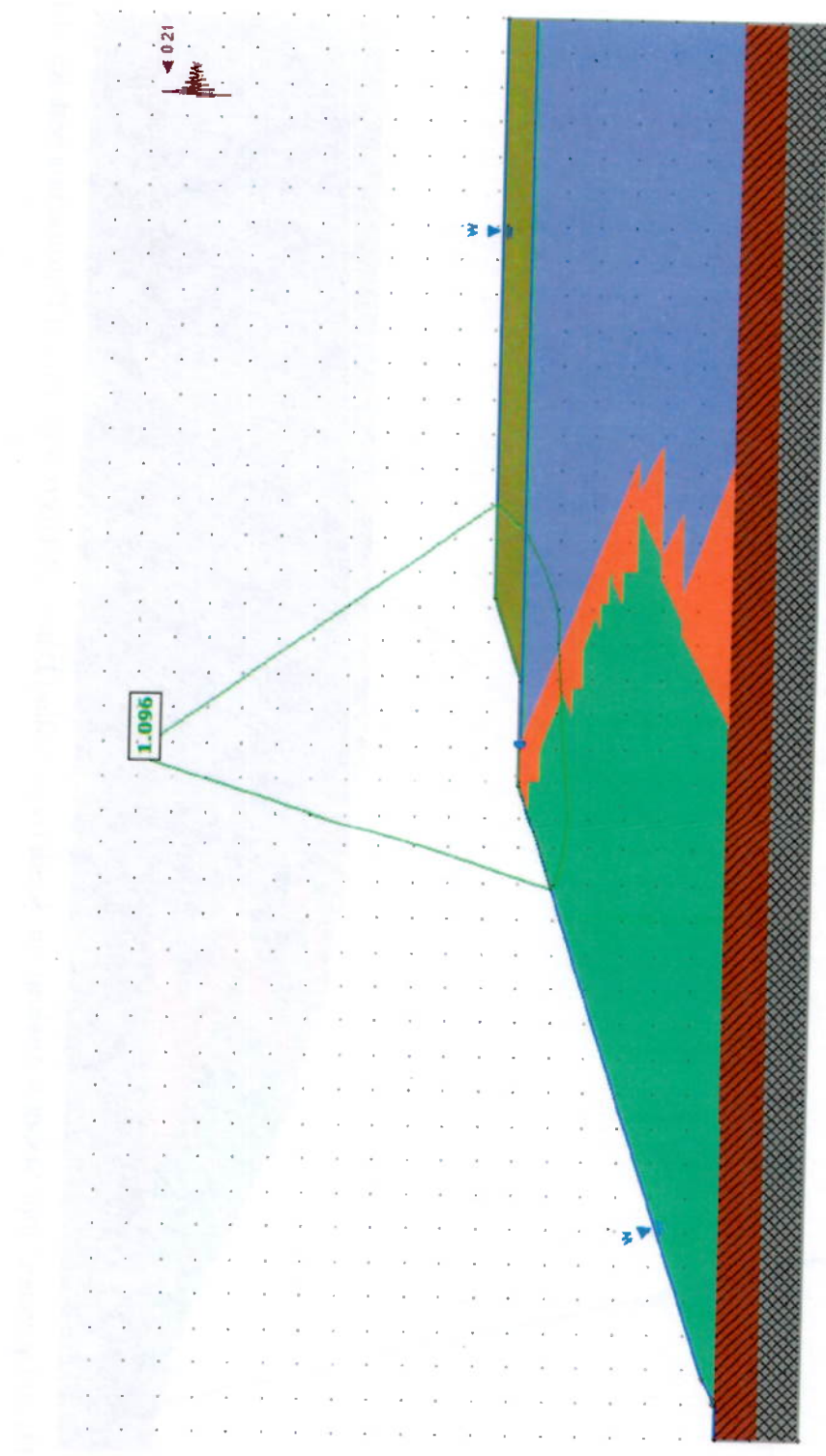


Fig.29 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1580) at Steady Seepage and Seismic coefficient 0.21g

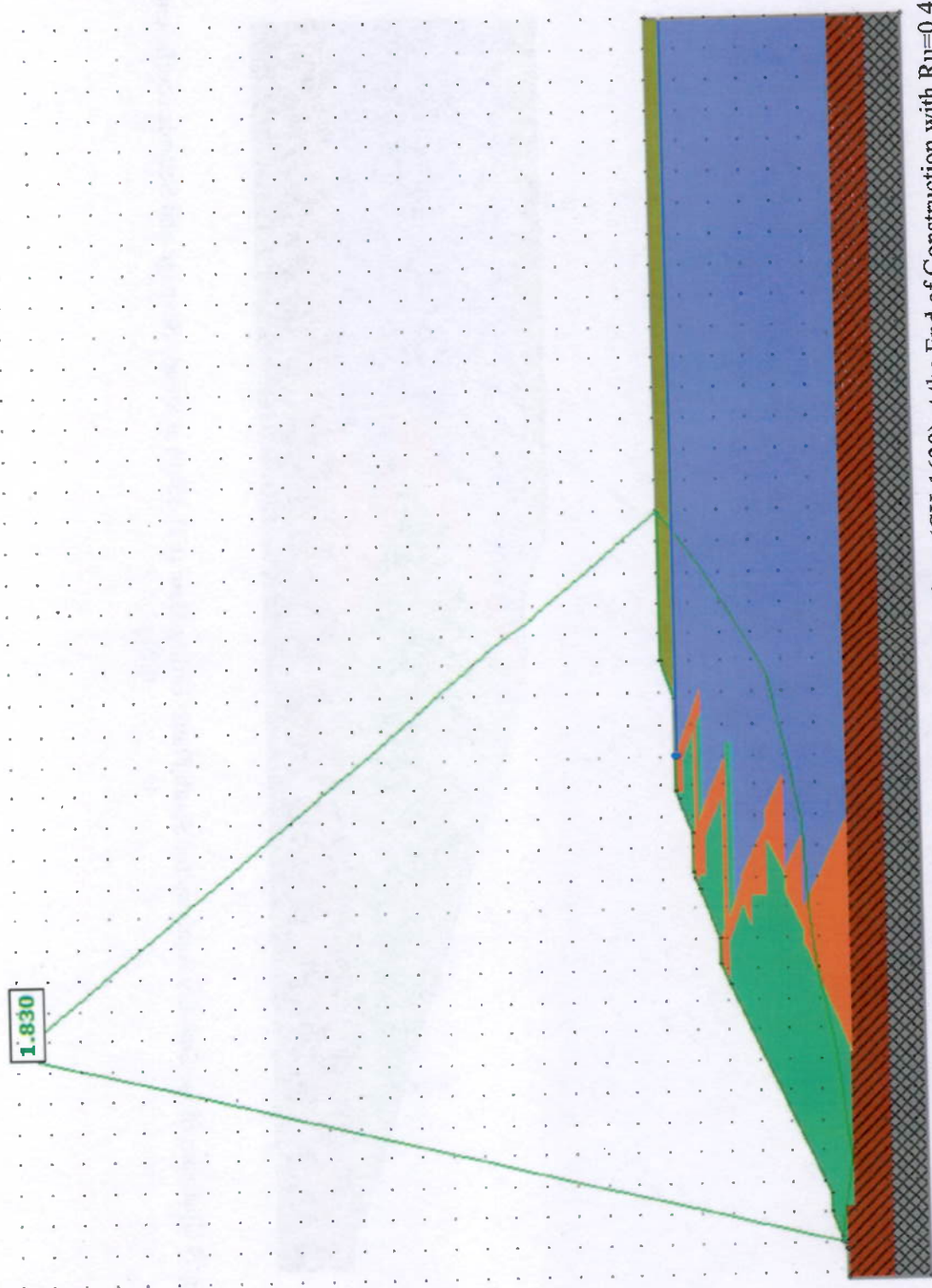


Fig.30 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1630) at the End of Construction with  $R_u=0.4$

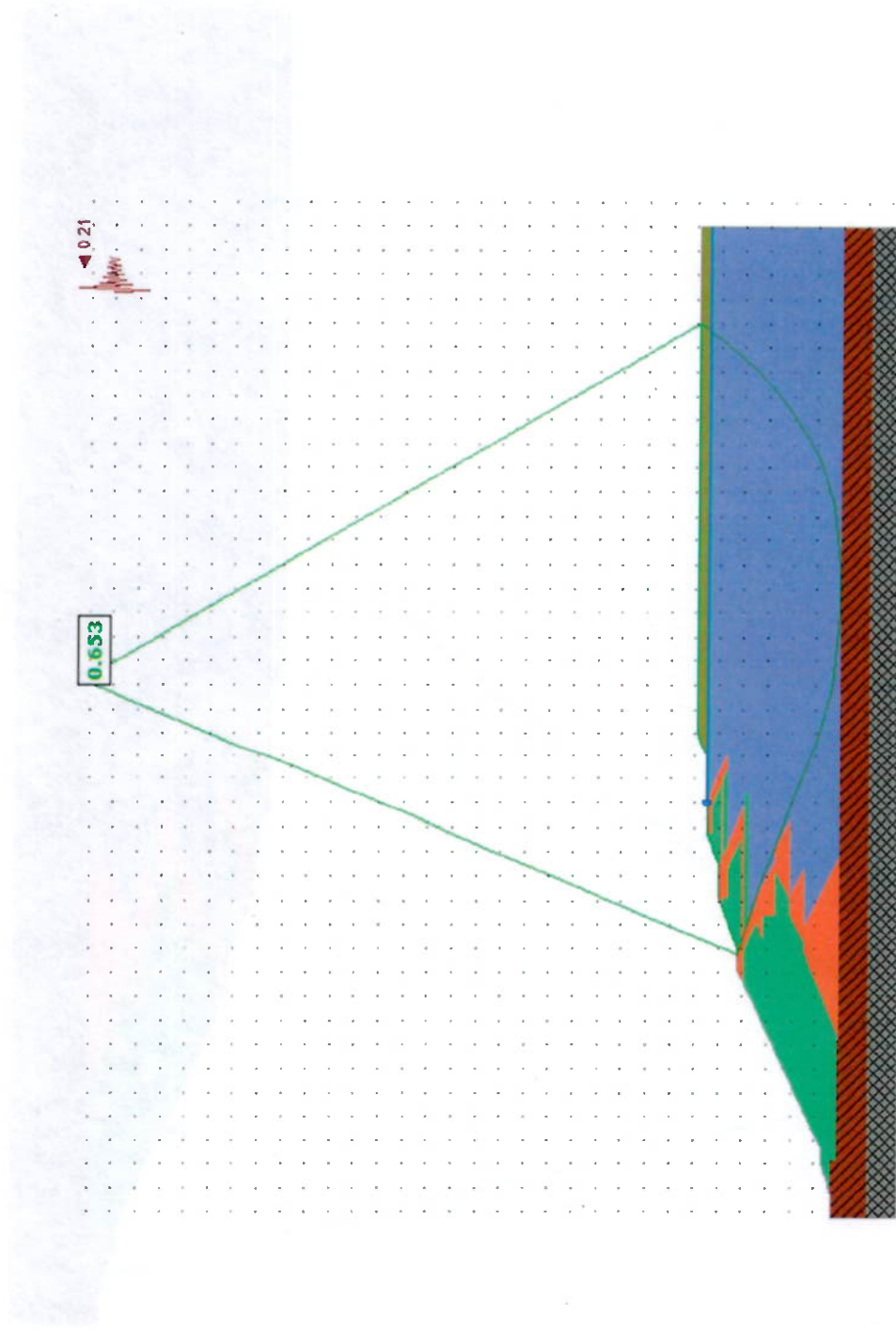


Fig.31 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1630) at the End of Construction with  $R_u=0.4$  and Seismic coefficient  $0.21g$

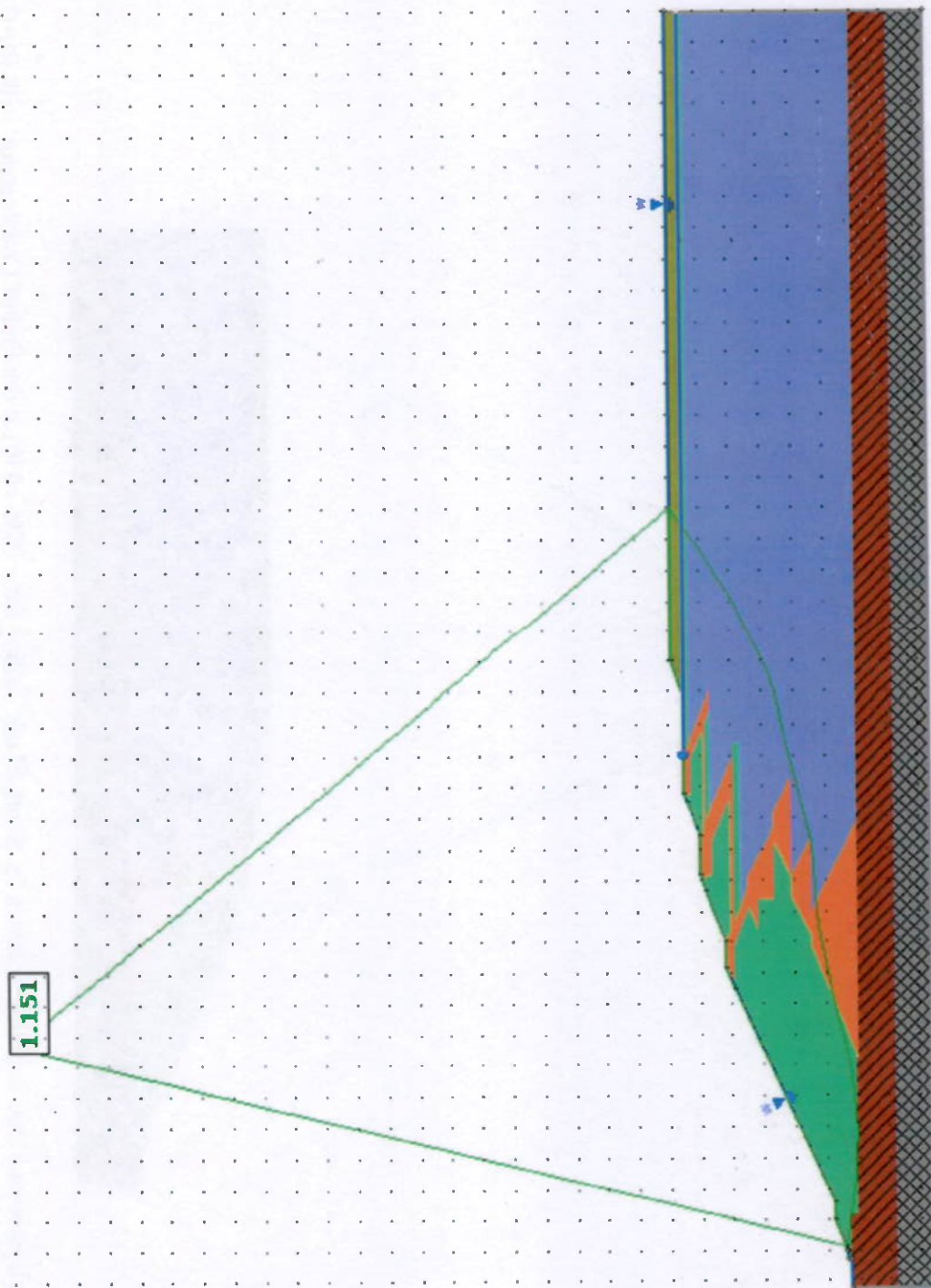


Fig.32 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1630) at steady seepage condition

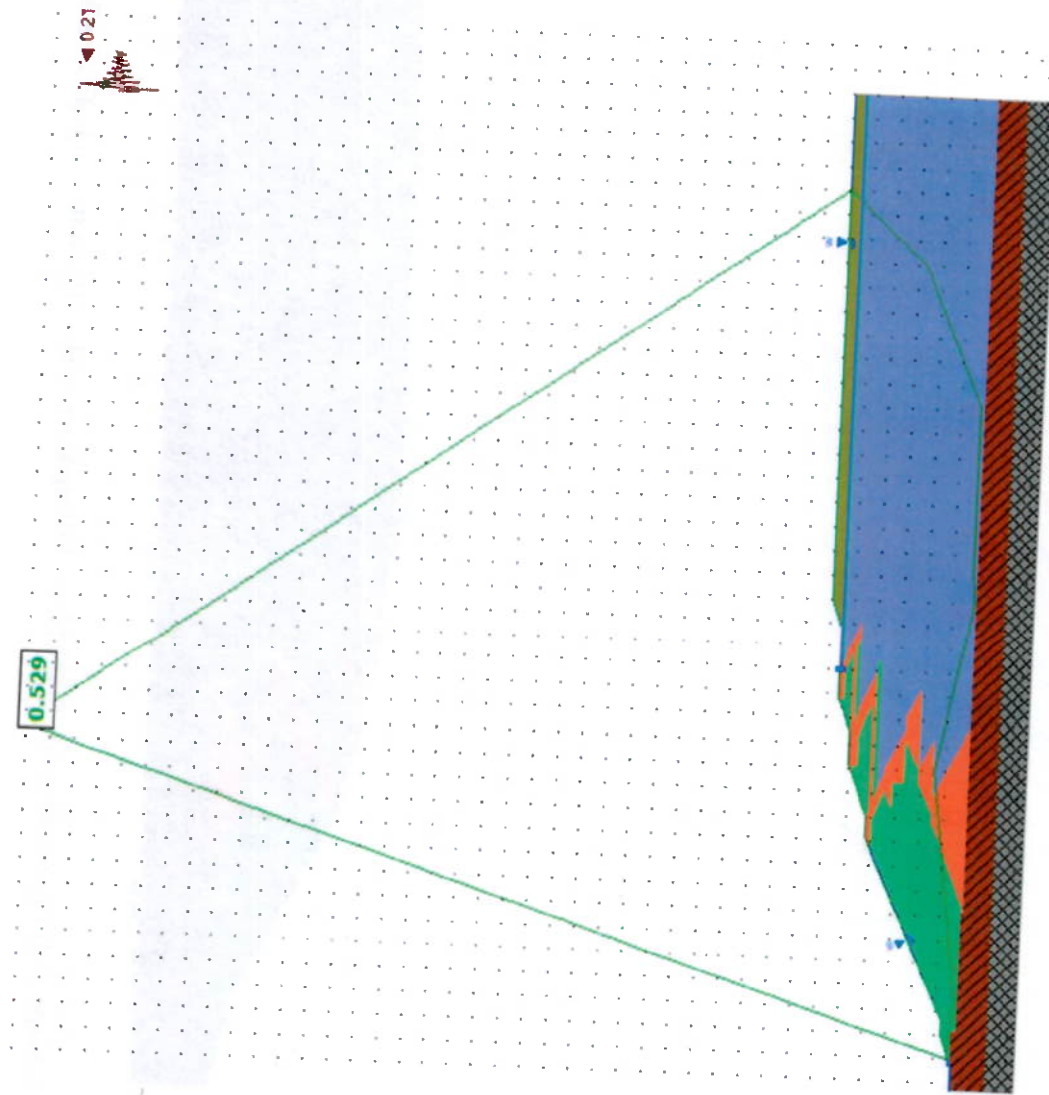


Fig.33 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1630) at Steady Seepage and Seismic coefficient 0.21g

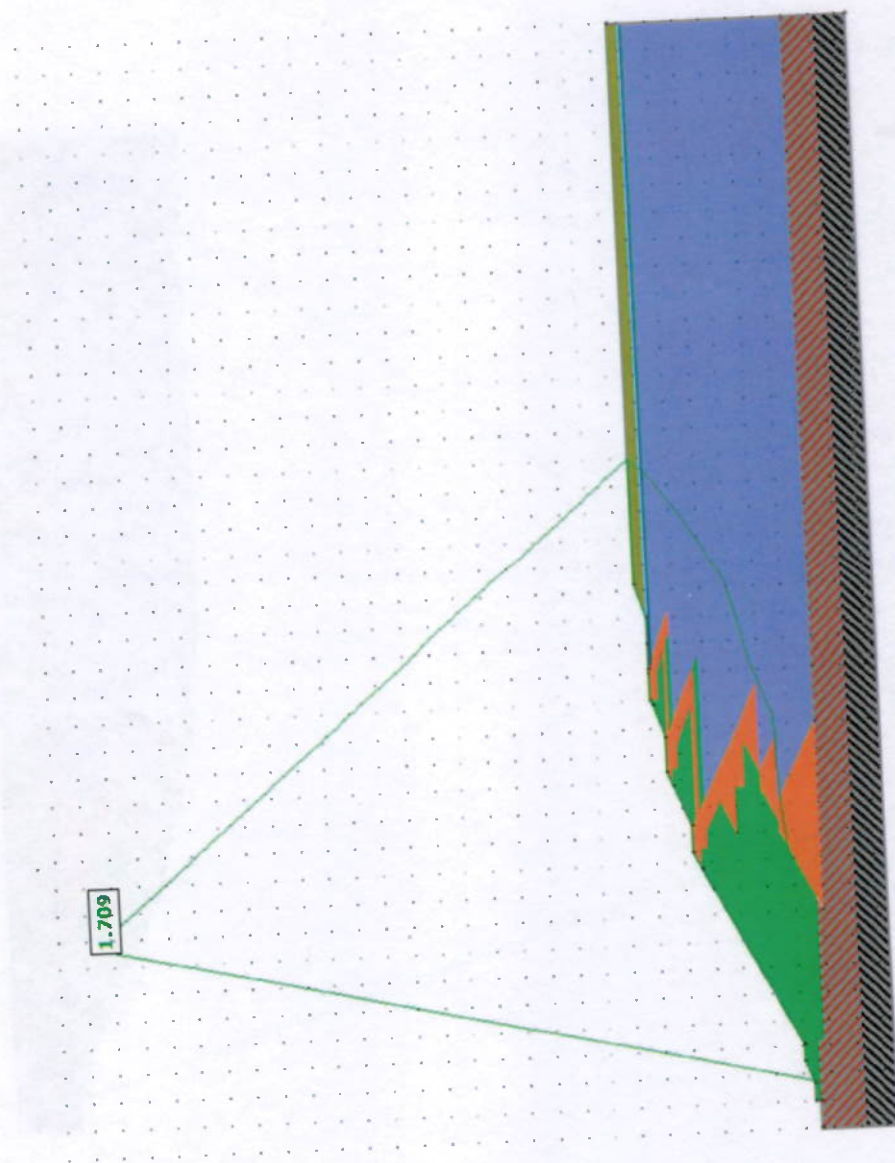


Fig.34 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1810) at the End of Construction with  $R_u=0.4$

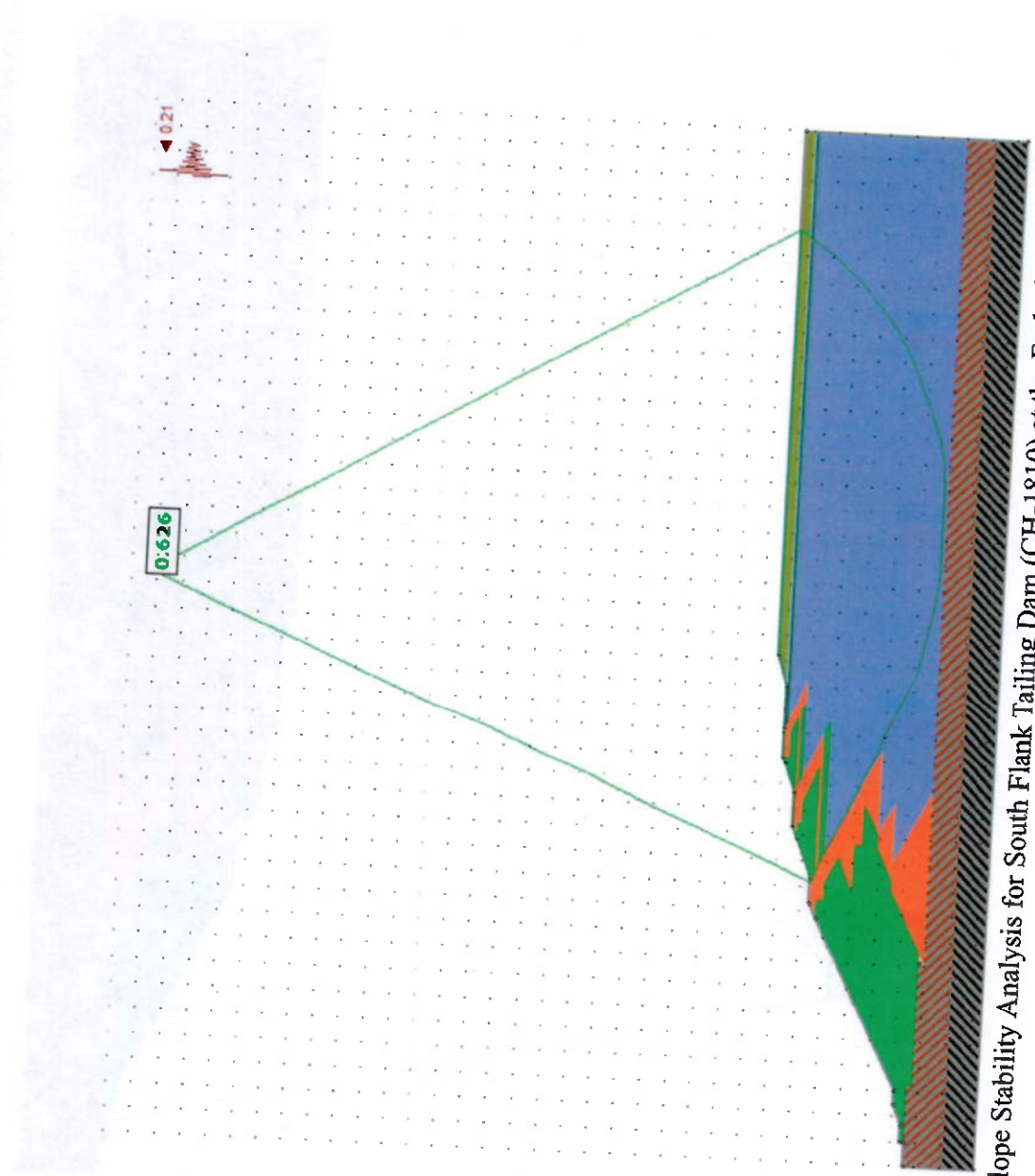


Fig.35 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1810) at the End of Construction with  $R_u=0.4$  and Seismic coefficient  $0.21g$

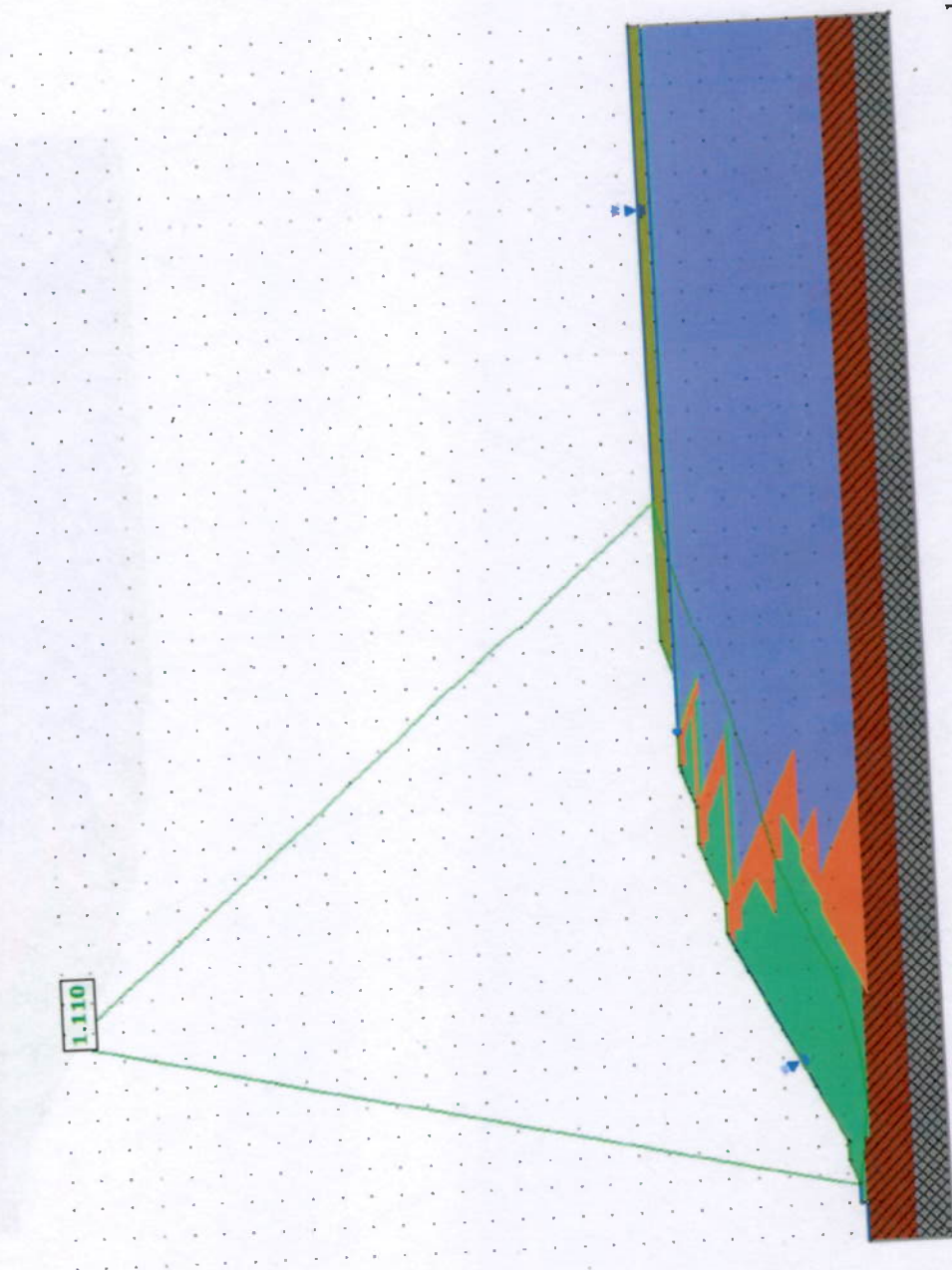


Fig.36 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1810) at steady seepage condition

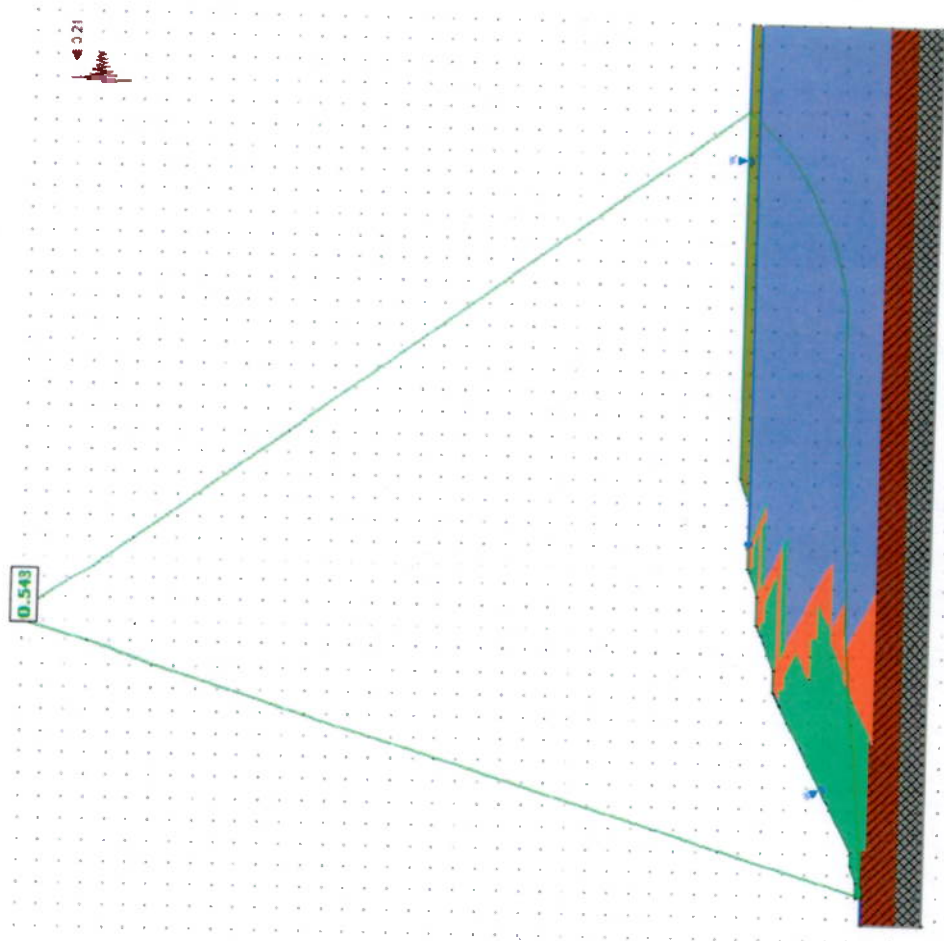


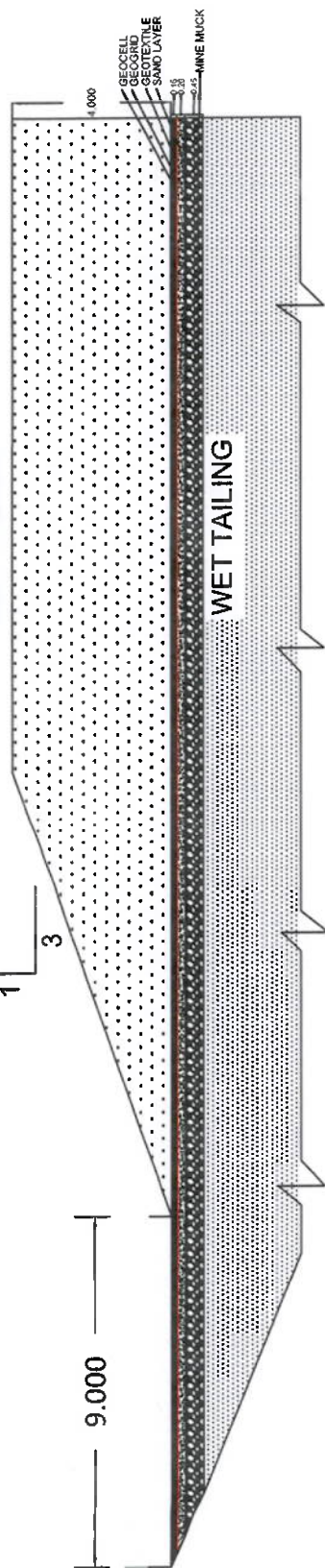
Fig.37 Upstream Slope Stability Analysis for South Flank Tailing Dam (CH-1810) at Steady Seepage and Seismic coefficient 0.21g



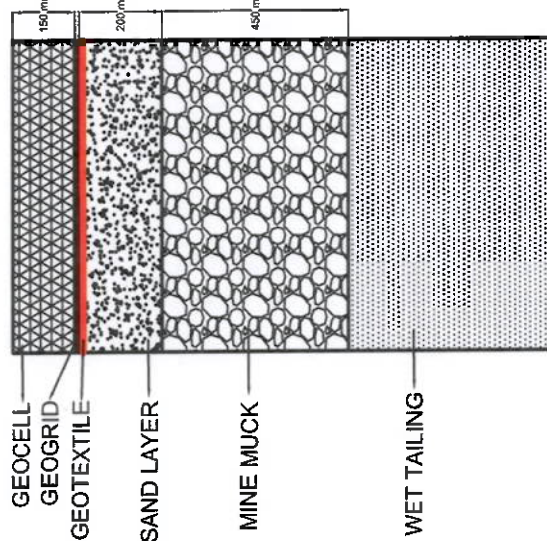
# DRY TAILING

1 3

9.000



## WET TAILING



### Geocell specifications

Cell size : 22.4 x 25.9 cm

Cell depth: 15 cm

Minimum tensile strength: 20 kN/m

Infill materials: Good quality granular soils like sand

### Geogrid specifications

Tensile strength: 20 kN/m

Type: Biaxial

Aperture shape: 20 mm x 20 mm

### Geotextile specifications

Tensile strength: 20 kN/m

Thickness: 1.5 mm

### Note:

1. Geocell and geogrid has to be extended beyond the toe section until the dam portion.
2. Sand should be well compacted to achieve a relative density of 90%.
3. The stacking is to be done gradually in lifts of 0.5 m thickness.
4. The instruments has to be arranged as per the recommendations supplied in the report.
5. Any deviations should be brought to the notice of consultant in-charge.

Title: Construction drawing for stacking scheme of dry zinc tailing

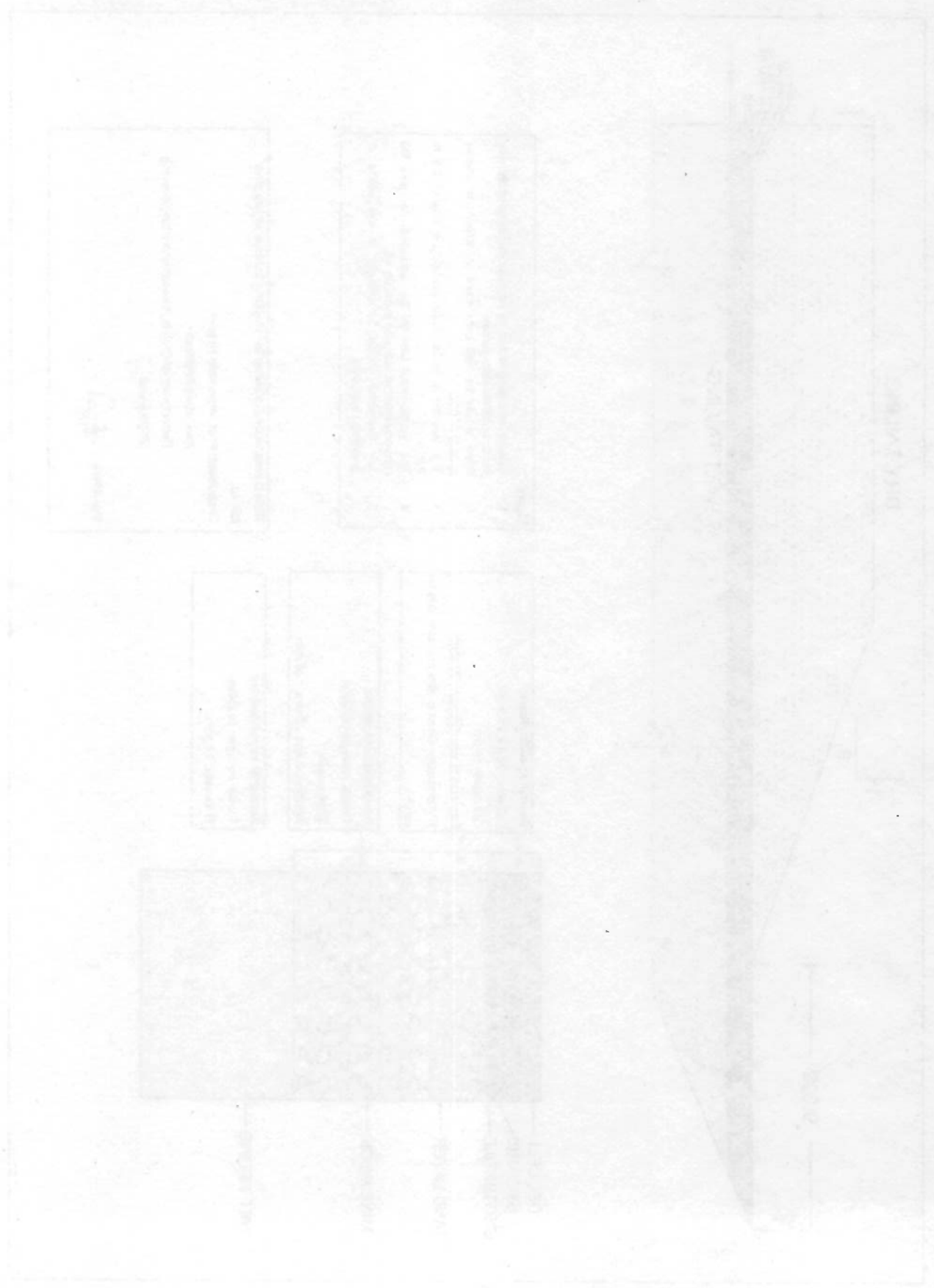
Consultant: Prof. Amarnath Hegde

Associate Professor

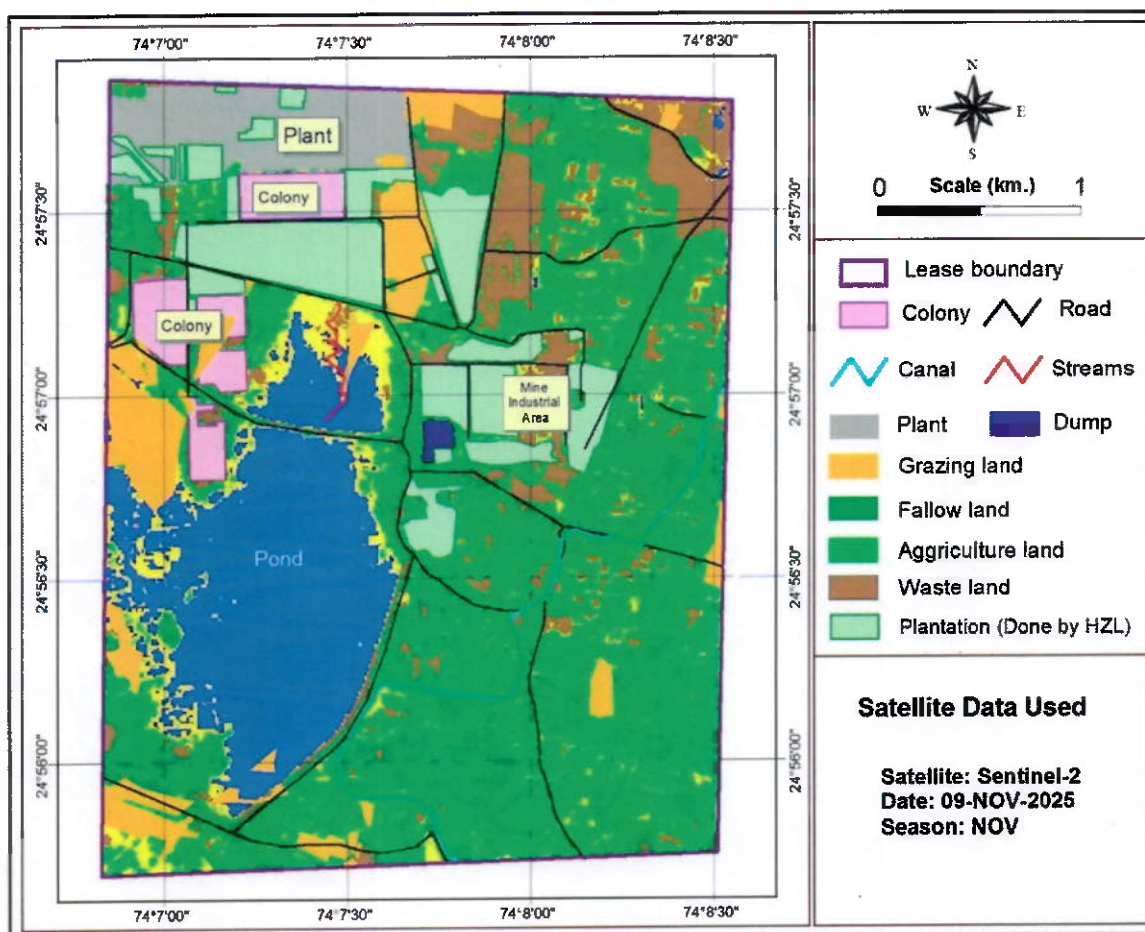
Department of Civil & Infrastructure Engineering

IIT Dharwad

Signature:



### LULC Mao of RD (Rajpura Dariba) mining lease area



### Area under different land use classes in Rajpura -Dariba mining lease area: Year-2025)

| S. No. | Category Level I         | Level II                        | Area in ha.    | % of the total area |
|--------|--------------------------|---------------------------------|----------------|---------------------|
| 1.     | Built up land            | Plant, Colony, Road and Village | 132.64         | 11.61               |
| 2.     | Agriculture land         | Cultivable & Fallow             | 301.89         | 26.44               |
| 3.     | Grazing land             | Charagah                        | 84.1           | 7.36                |
| 4.     | Waste land               | Dump                            | 1.71           | 0.15                |
|        |                          | Barren hills                    | 94.30          | 8.26                |
| 5.     | Water bodies             | Pond, streams and canal         | 138.22         | 12.10               |
| 6.     | Natural Vegetation       | Babul, Khajoor etc.             | 172.54         | 15.11               |
| 7.     | Plantation (Done by HZL) |                                 | 216.88         | 18.99               |
|        |                          |                                 | <b>1142.20</b> | <b>100 %</b>        |

For Hydro-Geosurvey Consultants P. Ltd.

*V. Akhila*





**HINDUSTAN ZINC**  
Zinc & Silver of India



# Hindustan Zinc Limited Climate Action Report

FY 2025



## About this Report

This Climate Action Report (this "Report") pertains to Hindustan Zinc Limited (Hindustan Zinc) and covers the qualitative and quantitative data for the year ended March 31, 2025.

Hindustan Zinc's progress towards its climate change goals is described in detail in the Climate Action Report (CAR), including the performance against targets and the implementation of the relevant projects. The report provides insights into the HZL's climate change strategy and actions taken to mitigate its impacts.

### Perspective included in this Report

This is our fifth edition of the Climate Action Report (formerly known as TCFD report) which is being aligned with the principles contained in the IFRS S2 'Climate-related disclosures', issued by the International Sustainability Standards Board's (ISSB).

This report focusses on climate-related disclosure and provides comprehensive and comparable information about the impact of climate change and our mitigation strategies.

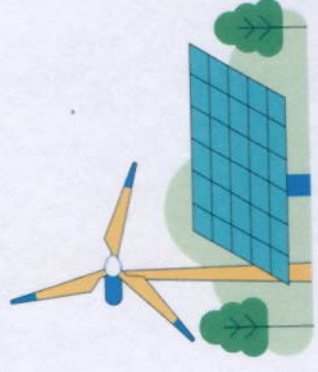
In addition to the Sustainability Report, which Hindustan Zinc issued for disclosures pertaining to other Environmental, Social, and Governance (ESG) parameters following the GRI, SASB, UNGC and FIMI frameworks, this report focusses on risks and opportunities related to climate change.

### External Assurance

We safeguard the quality of information contained in this report through a robust assurance process. The content and data disclosed in this report have been externally assured by S.R. Batliboi & Co LLP in accordance with the requirement of the Assurance Standard ISAE 3000 (Revised) 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'.

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## Key Highlights FY 2024-25



### EcoZen

Launched Low carbon Zinc with <1 tonne of GHG emissions per tonne of Zinc



### Started receiving Green Power

from 530 MW RE-RTC power delivery agreement (PDA), enhancing the share of RE in the power mix, increasing 7% to 13%.



### 100% Renewable Power

sourcing for Panthnagar Metal Plant



### 180 LNG vehicles

deployed for the transport of finished goods & IUT movement saving 1066 TCOe in FY2025



H2L has been certified to be 3.32 X Water Positive company



Commissioned Dry Tailing Plant (DTP) at the Rajpura Dariba Complex, building on the success of India's first DTP at Zawar Mines, recovering over 80% of water from the tailings



### Commissioned a 1.8 Mtpa

paste-fill plant at Rajpura Dariba Complex, boosting daily Water Recovery



Furner plant deployed in Chanderiya lead Zinc smelter helped eliminate ~39,682 tonnes of Jarosite (smelting waste) generation



### 4,000 KLD water treatment plant

established Rampura Agucha mines



Collaborated with JNCASR for new-age Zinc-based Battery technologies



Partnership with IIT Madras for Advanced Zinc-Air Battery technology



Signed MoU with Aesir Technologies, Inc., which specialises in development and commercialisation of next-generation Nickel-Zinc battery technologies

## Key Facts

### GLOBAL



**Largest** integrated zinc producer globally<sup>2</sup>



**Among Top 5** largest silver producers globally<sup>1</sup>



**World's largest** underground zinc mining operations at Rampura Agucha<sup>2</sup>



**Among Top 5** global silver producing mines at Sindesar Khurd<sup>1</sup>



**Ranked 1<sup>st</sup>** for the 2<sup>nd</sup> consecutive year in the S&P Global Corporate Sustainability Assessment in the metals and mining sector



**2<sup>nd</sup> Largest** Zinc reserves and resources globally<sup>2</sup>

### DOMESTIC



**Largest and the only** integrated producer of zinc, lead and silver in India



**c. 77%** market share in India's primary zinc industry



**25+ years** mine life<sup>3</sup>



**Amongst India's largest** wind power producers, with a generation capacity of 273.5 MW across 5 states

(As on March 31, 2025)  
Source:

- 1 World Silver Institute for silver producer/mine rankings
- 2 Wood Mackenzie for global mine/smelter rankings for zinc-lead mine and cost
- 3 Mineral Resources and Ore Reserves (R&R) at current rate of metal production

## Message from the Chairperson



“Hindustan Zinc’s induction into the International Council on Mining and Metals (ICMM) marks a proud milestone – not just for our company, but for India. HZL is the first company from India to join this council. It reaffirms our commitment to sustainability, innovation, and responsible resource development, while creating new opportunities to collaborate with some of the world’s most respected leaders in mining. This is our moment to lead from the front, power the global energy transition and set new benchmarks for the industry.”

### To Our Valued Stakeholders,

At Hindustan Zinc, sustainability is the foundation of everything we do. It is a responsibility we carry with purpose and passion. Our true success is measured not just by financial performance, but by the positive and lasting impact we create for our people and our planet. Every action we take is guided by a simple belief: we must leave behind a cleaner, healthier, and safer world for generations to come.

I am proud to share Hindustan Zinc’s 5<sup>th</sup> Climate Action Report, which reflects our collective dedication and the significant progress we have achieved on our path toward a sustainable future.

Aligned with the Science Based Targets initiative (SBTi), we have set ambitious goals: to reduce Scope 1 and 2 emissions by 50% and Scope 3 emissions by 25% by 2030, targeting Net Zero by 2050 (FY 2020 baseline). A major step forward has been the 530 MW Power Delivery Agreement, advancing our focus on renewable energy, low-carbon zinc production, green mobility, and sustainable logistics.

Currently, we operate 40.70 MW of captive solar and 48.46 MW of Waste Heat Recovery capacity, alongside conventional power. With renewable energy from Serentica, we plan to source 70% of our power from clean sources by FY 2028. These steps mark the start of our strong, long-term commitment to a sustainable future.

Our efforts have garnered international recognition. Hindustan Zinc was ranked #1 in the metals and mining sector in the S&P Global Corporate Sustainability Assessment in 2024 for the second consecutive year. Such achievements reinforce our resolve to lead the way in sustainable innovation.

We are also proud members of the International Council on Mining and Metals (ICMM), aligning ourselves with global best practices in sustainability, responsible mining, and ethical practices.

Innovation will play a pivotal role in our net-zero journey. We are actively exploring the potential of zinc-based energy storage, with zinc batteries emerging as a promising alternative to lithium technologies. These initiatives position zinc as a key enabler in the global energy transition.

Looking ahead, our unwavering commitment to sustainability drives us forward. Powered by the dedication of the HZL team, we are creating a greener future and a lasting legacy of positive change.

Warm regards,  
Priya Agarwal Hebbbar  
Chairperson  
Hindustan Zinc

## Message from the CEO



“

We are cognizant of the need to progress rapidly towards our stated goal of becoming Net Zero by 2050. We remain steadfast in our mission to lead by example and contribute meaningfully to the global sustainability agenda.”

”

### To our Valued Stakeholders,

At a time when urgent climate action is imperative, Hindustan Zinc is deeply committed to integrating sustainability into every aspect of our operations. We believe that responsible business and sustainability are inseparable, and the decisions we make today will shape the planet's future. Our vision is to lead the transition to a greener, more resilient world. Mining, we believe, has a pivotal role in this journey, by providing the essential minerals that power clean energy technologies and drive the shift to a low-carbon economy.

It is with great pride that I share our 5<sup>th</sup> Climate Action Report, which aligns with the International Financial Reporting Standards (IFRS) S2 recommendations. This alignment significantly improves our transparency, enabling stakeholders to better understand how climate-related risks and opportunities influence our business and financial outcomes. The report aims to drive informed conversations and sustained climate action through clear insights into our governance, strategy and performance.

This year, we have made significant strides in decarbonisation. The acceleration of our 530 MW Renewable Energy project, with the initial phase completed ahead of schedule, marks a major milestone. We also launched EcoZen, Asia's first low-carbon zinc product, crafted using renewable energy and offering a carbon footprint nearly 75% lower than the global average. These developments solidify our commitment to ESG excellence and product innovation in the transition to a low-carbon economy.

In line with our climate commitments, we continue to support the global clean energy shift by investing in research and development of zinc-based batteries as

a promising alternative to lithium solutions. Our journey in water stewardship has reached a new milestone with the establishment of paste-fill and dry tailing plants at Rajpura Dariba Complex in Rajasthan, contributing to our 3,32X water positivity achievement. Our Fumer plant at Chanderiya in Rajasthan stands as a strong example of how advanced waste management and metal recovery can drive sustainability in practice. We are making continued strides to reduce Scope 3 emissions through LNG trucks, EV deployment and sustainable logistics partnerships across operations.

As climate science evolves, so does our approach. We remain committed to regularly reassessing our climate-related risks and refining our strategies. This report reflects our comprehensive outlook, encompassing governance, risk, opportunities and clear targets to support informed stakeholder engagement.

Hindustan Zinc is now a proud member of ICMM, reinforcing our commitment to global sustainability standards and responsible mining. Through ICMM's 2025+ Strategy, focused on performance, standards, and engagement, we continue to strive for safer, transparent and environmentally sound operations, contributing to a just and sustainable future.

I hope this report serves as a call to action and the foundation for collaboration, innovation and continuous momentum toward a safe, and sustainable future.

Best Wishes,  
**Arun Misra**  
CEO & Whole Time Director  
Hindustan Zinc

## Executive Summary

Hindustan Zinc is the world's largest integrated zinc producer and among Top 5 silver producer globally. We have placed sustainability at the centre of our business model and built our ESG strategy on the foundation of economic prudence. This helps us to ensure that our initiatives deliver both positive societal impact and robust financial performance.

We consistently strive to achieve our vision of **Zero Waste, Zero Harm and Zero Discharge** by minimising our environmental footprint. We have committed to Science Based Target Initiative (SBTi) and are proactively working to reduce our direct and indirect GHG emissions.

We believe that a robust governance structure will help us manage our climate-related risks and opportunities. The Board of Directors of the Company has a clear oversight on climate-related issues, as they are updated on a quarterly basis with the recent developments and wherever required they also provide their inputs on a regular basis. We have a unique three-tiered sustainable governance structure which promotes sustainability practices from highest decision-making body in the organisation to shopfloor at sites. It is to be noted that all our operational sites are ISO 50001:2018 certified.

We have also implemented a robust Enterprise Risk Management framework across all our locations. Our risk management framework incorporates the identified climate-related risks and continuously monitors them. This is a component of our proactive risk management and mitigation approach for any impending climate-related risks.

Our climate-related metrics such as GHG emissions, Energy, Water, Waste & Air emissions are transparently disclosed and monitored. Further, the Company's Annual Sustainability Report, Integrated Annual Report and CDP Climate change response contains disclosures related to climate change.

As a responsible corporate, we intend to take more actions to boost the usage of renewable energy in our operations. Our commitment is to safeguard environmental, social, and business values for our people, communities, and nature. Although transitioning to a low-carbon and sustainable business can be difficult; however, we have already begun this process and plan to develop it further. In-line with the same, we have also launched EcoZen, a low carbon Zinc product, we have also been certified to be a 3.32 times water positive company.

## Climate Change Risk Assessment

### PHYSICAL RISK

Risks related to physical impacts of climate change, which includes:

- Acute weather events, such as water stress, drought, heat waves, extreme precipitation, and floods
- Chronic climate-related changes, such as sea level rise and sustained temperature increases



Definition

### TRANSITIONAL RISK

Risks arising from changes in policy, regulations, technology, and socioeconomic factors expected during the transition to a low-carbon economy, such as:

- Policy & Legal
- Technology
- Market
- Reputation

Impact due to physical risk can be defined as:

- Damage to direct assets
- Indirect impacts including:
  - Disruption in operations, e.g., heavy rainfall affecting production, supply chain disruption, health, and safety of employees



Potential Impacts

Depending on the nature and pace of the change, various financial and reputational risks may emerge, which includes:

- Decrease in revenue as with changes in consumer preferences
- Increased cost of production
- Impacts on asset values
- Obsolescence of tangible and intangible assets

- We anticipate an increase in the severity and frequency of acute risks

- Long-term chronic risks are more likely to emerge, particularly after the middle of the century



Timing

- Timing and speed of the occurrence of events are uncertain, with the transition more likely to happen in short to medium-term
- The likelihood of a more chaotic, disruptive, and abrupt transition increases with delay

## Climate Scenarios

We considered various climate scenarios covering a broad spectrum of outcomes to help us provide insights into some of the risks and opportunities that may arise and can impact Hindustan Zinc Limited.

## Modelling Assumptions

Our current portfolio and value chain were modelled using historical data basis the tools available in the public domain. The model incorporated Hindustan Zinc's physical & financial inputs. Following points summarises the input data and the methodology used:

### Physical data included:

- Business unit locations
- Raw material used
- Sourcing location of raw materials
- Revenue associated with production volumes

### Financial data included:

- Sales and Profit related to our finished goods
  - Tools such as ThinkHazard, WRI Aqueduct & Network for Greening the Financial System (NGFS) were used to analyse physical risk on direct operations. Analysis was done for RCP 2.6, RCP 4.5, RCP 6.0, RCP 7.0 & RCP 8.5
- Scenarios considered from IEA were Stated Policies Scenarios (STEPS), Announced Pledges Scenario (APS) & Net Zero Emission Scenario (NZE) for transitional risk assessment
- WWF's Biodiversity risk filter was used for risk assessment of upstream and downstream value chain partners
- Each risk was considered in isolation/independently and trade-offs between risks were not considered
- Time horizon used was Medium-Term 2030 and Long-term 2050

| TIMELINE                                                                                          | YEARS | DESCRIPTION                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  Short-term    | 0-2   | Climate risks and opportunities impacting the business within 2 years are classified as short-term. At HZL, business risk assessments align with this climate-related timeline.                        |
|  Medium-term | 3-5   | Potential climate-related risks and opportunities that may impact company's business in the future (3-20 years) are categorised into medium-term.                                                      |
|  Long-term   | 6-20  | Long-term business risks and opportunities and those impacting beyond 20 years and are identified using scenario analysis, IEA guidelines, and market forecasts, aligning with our Net-Zero 2050 goal. |

## Scenario Analysis Outcomes

The Strategy section of this report explains outcomes of scenario analysis for physical and transitional risks on Hindustan Zinc's current portfolio and value chain in short, medium and long-term. Value chain risk assessment section provides brief about risks associated with our upstream and downstream value chain.



# Journey Towards Net Zero



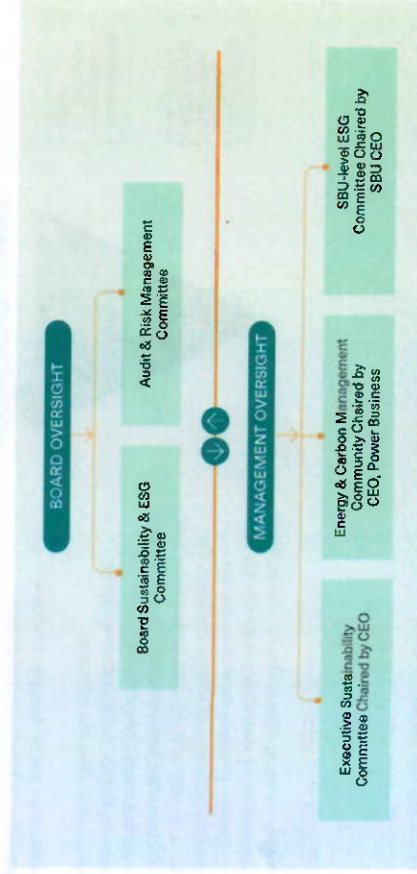
# Governance



## Climate Change Governance

Governance is a core part of our climate risk framework, defining directions, roles, and decision-making processes to support climate goals.

It clarifies the Board and Management's roles in managing climate risks and opportunities, guiding stakeholders on the company's commitment.



## Board Oversight

Board primarily oversees sustainability across the organisation, with the CEO ultimately responsible for climate change issues. Recognising climate change as vital for long-term business sustainability, the Board integrates related considerations into business strategies, investments, targets, and risk management. It also reviews performance against goals like SBTi and HZL's Sustainability Goals. To support oversight, the Board committee receives bi-annual updates on key climate metrics, challenges, opportunities, projects, and risks.

More specifically, the Audit and Risk Management Committee (ARC) oversees HZL's overall risk management, including climate-related risks and opportunities. As a key part of Enterprise Risk Management, ARC monitors these risks at a macro level and reports mitigation progress to the Board quarterly. The ARC also reviews potential impacts on the production disruptions due to the climate-related physical and transition risks that may impact HZL's core business in short-term or long-term.

### Composition of ARC

| Name of the Member | Position    |
|--------------------|-------------|
| Pallavi Bakhru     | Chairperson |
| Anoop Kumar Mittal | Member      |
| Ashish Chatterjee  | Member      |

## Sustainability and ESG Committee

Another important Committee at Board which plays decisive role into climate risk management is the Sustainability and ESG committee. This Committee assists the Board and is considered Tier 1 level of the governance framework in overseeing ESG, sustainability, and Net Zero goals. Chaired by an Independent Director, it oversees strategy, climate action, policy implementation, and sets & reviews long-term targets to achieve net-zero by 2050 while strengthening commitment. To ensure common approach and consistency with the HZL's strategy and policy on climate change, our CEO is one of the members of the Committee.

### Composition of Sustainability & ESG Committee

| Name of the Member | Position    |
|--------------------|-------------|
| Anoop Kumar Mittal | Chairperson |
| Arun Misra         | Member      |
| Dinesh Mahur       | Member      |

In terms of the broad objectives of the Committee, it is entrusted with the following responsibilities:

- Laying out Sustainability Strategy, short-term and long-term objectives
- Providing guidance to ensure continual improvement in sustainability performance and implementation of appropriate processes and policies across the Company

Our ESG & Sustainability Committee of Board meets bi-annually to discuss climate-related strategies and reviews progress against the targets and goals.

To strengthen ESG and Sustainability efforts, the Committee undergoes Learning and Development programs covering health and safety, asset integrity, climate change, and social responsibility. These areas also guide the nomination and selection of Committee members. Following were the areas wherein the Committee underwent the training on:

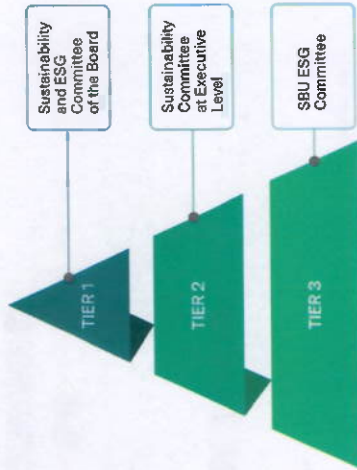
- Key Risks (Global Risks Report 2024)
- Risk Management Awareness Session
- ESG Awareness Session including Climate Change
- ICMM principles & position statements.



## Management Oversight

Besides managing other duties, our Management is responsible for evaluating climate change management throughout the Company and executing HZL's climate change strategies. The CEO, a member of the Board's Sustainability and ESG Committee, is the top executive responsible for climate change decisions, including approving CAPEX, OPEX, and resources for climate adaptation and mitigation.

Furthermore, we, at Hindustan Zinc have established a three-tiered sustainable governance framework as depicted below, which governs the risks and opportunities related to sustainability including climate change.



To help us achieve our eight Sustainability Goals, we have established 12 sustainability communities. These communities, made up of champions from all units, regularly assess progress toward their respective goals. They meet on a monthly basis to review and discuss developments.

## Executive Level Sustainability Committee

This committee is chaired by the CEO of the Company/ is responsible for formulating sustainability strategies and long-term goals and targets. The committee strategically guides business decisions to ensure workplace safety, prevent environmental harm, uphold stakeholder commitment, and protect our reputation.

The committee, comprising the CEO, CFO, functional heads, community chairperson, and SBU CEOs, reviews monthly progress on Sustainability Goals including climate targets. Performance and future plans are presented bi-annually to the Board-level Sustainability and ESG Committee.

### Key decisions taken by Executive Level Sustainability Committee

- Pledge to strengthen Zero Liquid Discharge
- Adoption of an internal carbon (shadow) price of US\$15 per tonne of CO<sub>2</sub>e
- 100% renewable energy usage at the Pan Nagar Metal Plant, Uttarakhand
- Transition to electric mobility at smelters and underground mining sites
- Plan to install Tail Gas Treatment (TGT) plants at all roasters
- Implementation of dry tailing stacks at all three tailings storage facilities
- Disclosure aligned with Taskforce on Nature-related Financial Disclosures (TNFD)
- Compliance with Business Responsibility and Sustainability Reporting (BRSR)
- Installation of EV charging stations at along with EV trucks deployment for inter-unit transport
- Launched Asia's first low-carbon Zinc, 'EcoZen'

## Energy and Carbon Management Community

This taskforce, under the Executive Sustainability Committee and chaired by the CEO of Power Business, includes energy managers from each site. It ensures strong climate governance, focusing on resilience, risk assessment, carbon pricing, energy conservation, and identifying low-energy, low-emission solutions.

## Responsibilities of the Energy and Carbon Management Community

- To drive the agenda for achieving Net Zero by 2050 or sooner aligned with SBTi
- To conduct audits and energy/ carbon risk assessments, implementing recommendations
- Guide continuous improvement in energy and carbon management through policies and processes
- To implement IFRS S2 recommendations including scenario analysis

The community tracks the Company's performance on energy conservation and CDM projects, reporting progress monthly to the Executive Sustainability Committee and seeking the chairman's guidance.

## SBU ESG Committees

Each Strategic Business Unit (SBU) has an ESG Committee to implement sustainability practices, identify and mitigate risks, and advance the ESG agenda. Over 100-line managers are aligned within a structural governance framework to monitor risks, assign responsibilities, and track progress. Energy and carbon representatives coordinate audits, risk assessments, mitigation, and report on energy conservation and emissions at the site level.



# Alignment of Remuneration Policy with Climate Goal



and related KPIs which includes reduction in absolute emissions, energy & water consumption, waste generation, it also includes number of sustainability-related trainings to employees and workers and achievement of climate-related targets and Sustainability Goals and initiatives to drive production of low-carbon products. It also focusses on the Company's performance in climate-related sustainability index.



| Bucket                    | Performance Parameter                               | Weightage | APA Rating           | Multiplier        |
|---------------------------|-----------------------------------------------------|-----------|----------------------|-------------------|
| Organisational Parameters | Volume, COP & Reserves Creation EBITDA, FCF         | 80%       |                      |                   |
|                           | Strategic/Regulatory Objectives                     |           |                      |                   |
| HSE Parameters            | Safety (5%)<br>Sustainability/VSAP (10%)            | 15%       | A - 125%<br>B - 100% | Nil-100%<br>1-90% |
| People Metrics            | MIP                                                 | 5%        | C - 75%<br>D - 0%    | 2-80%<br>>2-75%   |
|                           | Talent Retention/Development<br>Employee Engagement |           |                      |                   |
| Individuals Performance   | APA Rating                                          | 20%       |                      |                   |
| Total                     |                                                     | 100%      |                      |                   |

## Annual Performance Bonus

The annual performance bonus of our employees including CEO is determined by a balanced scorecard that considers financial, operational, sustainability and strategic metrics with appropriate weightage for people and individual performance.

Every employee, including the CEO and other business heads such as Chief Health Safety & Environment & Sustainability (HSE&S) and Power business head are eligible for incentive plans, and are also held accountable for the Company's success in terms of health, safety, and sustainability based on the Sustainability Assurance Programme (SAP) scores as per the HZL's performance-based compensation structure.

Further, the CEO's performance KPIs in terms of the ESG parameters, are also cascaded to the Executive Committee of the Company and ultimately to the

employees of the organisation. Furthermore, the individual performance criteria of the Business Heads consider KPIs related to their performance in line with our Net Zero commitments of SBTi. For example, the Chief HSE & Sustainability's annual bonus is tied to climate-related targets like GHG reduction, and lower freshwater use.

## Linking Employees' Compensation to ESG Performance

### Short-term incentive plan (STIP)

Variable annual pay of all employees including CEO, executive members and other senior management is linked to the sustainability performance (10% of the annual bonus) which includes climate-related goals

## Long-term incentive plan (LTIP)

In the form of Employee Stock Option Scheme (ESOS) of parent company rewards employees' performance on pre-determined performance criteria (includes sustainability & climate goals, ESG and carbon footprint, like energy and water efficiency, emission reduction targets, supply chain engagement and GHG transition and water positivity) and continued employment with the

Company during the vesting period of 36 months from the date of grant. Climate change considerations (ESG/Carbon footprint) constitute 15% part of our employees' stock option scheme (ESOS). The performance against carbon footprint is related to absolute emission reduction and bringing in innovative technologies to reduce dependency on non-renewable energy also increase energy efficiency to reduce emission intensity.

### Performance Parameters

| Business Category | Business Performance (40%) |     |     |                        | Individual Performance | Management Discretion | Multiplier               |
|-------------------|----------------------------|-----|-----|------------------------|------------------------|-----------------------|--------------------------|
|                   | Vol                        | COP | NSR | ESG / Carbon Footprint |                        |                       |                          |
| Hindustan Zinc    | 80%                        | 15% | 10% | 15%                    | 40%                    | 20%                   | Sustained 3 years rating |

- 1. In November 2024 grant the weightage has been revised 50%
- 2. In November 2024 grant the weightage has been revised 30%
- 3. In November 2024 grant the weightage has been revised 105%

## Additional Incentives and Recognitions Being Offered to Employees

Furthermore, as part of the yearly competitions, such as Kaizen for improvement project (FIP), HZL acknowledges and rewards employees (including business heads like Chief HSE & Sustainability and Head Power business) who actively contribute to HZL's sustainability objectives, thereby minimising the Company's operational impact on the environment while being in line with our business plan.

The champions who present the most innovative ideas resulting in notable reductions in emissions and energy consumption are duly recognised and rewarded. Individual employees or teams who undertake innovative initiatives are also acknowledged and nominated for the prestigious 'Star of the Month' and 'Star Team of the Month' awards, which comes with a monetary reward of ₹ 50,000 for the team. The CEO then recognises these exceptional individuals and teams during a monthly townhall meeting called "Sampark".

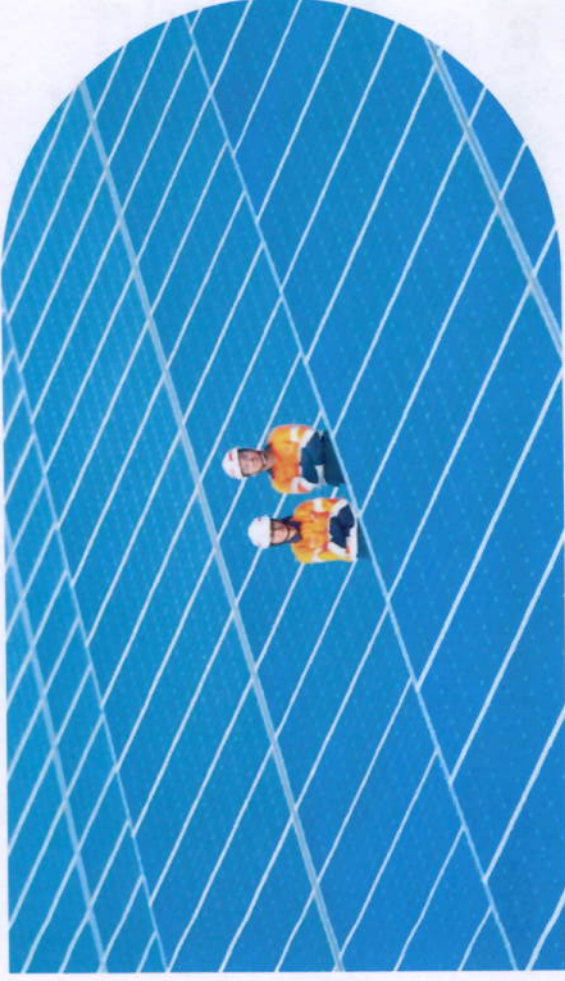
The prestigious Chairman Award (Vedanta) is presented for innovative climate initiatives that support business growth, such as the deployment of a fumer plant to enhance waste utilisation and minimise transport from pant to secured landfills, thereby reducing Scope 1 emissions in line with our SBTi commitments. Additionally, the team that introduced India's first underground battery electric vehicle at the SK mine received the award for contributing to our SBTi Net Zero goals and further lowering Scope 1 emissions.

These incentives motivate leaders and employees to actively pursue projects in energy efficiency, water conservation, waste utilisation, supply chain sustainability, and emission reduction.

Furthermore, Vedanta's electric vehicle policy provides financial incentives for employees to buy 2- and 4-wheeler EVs, encouraging them to shift from conventional vehicles and aligning with our commitment to a greener future.



## Climate Policy Engagement & Advocacy Approach



We support the Paris Agreement signed in 2015 to limit the global average temperature to well below 2°C and to take actions to limit it further to 1.5°C. In line with the same, we have SBTi validated targets to achieve Net Zero by 2050. We are also aligned with India's Nationally Determined Contributions (NDCs).

### Governance

The Executive Sustainability Committee, led by the CEO (who also serves on the Board's Sustainability & ESG Committee), provides our feedback either by responding to consultation requests, commenting on public draft releases, or by submitting suggestions through various industry associations or representative bodies.

Members of the Executive Sustainability Committee, in collaboration Corporate Affairs team, deciding on associations and memberships with external organizations. The Corporate Affairs team ensures these affiliations align with Hindustan Zinc's climate

policies and strategies. They also survey associations to confirm alignment with Hindustan Zinc's climate stance, such as support for the Paris Agreement. Additionally, the team regularly engages with stakeholders involved in climate-related policies and activities including our suppliers, customers, government bodies, industry peers, and trade groups to review and align climate-related policies, positions, and actions.



## Climate Change Policy Position

- We acknowledge the importance of adaptation and resilience for business and all our stakeholders to a changing climate
- We do not advocate for policies that undermine the Paris Agreement or discount Nationally Determined Contributions (NDCs)
- We encourage effective climate policy for private sector investment in low-carbon technologies while maintaining the competitiveness of the metals industry.
- We support the outcomes of the Paris Agreement and the long-term goal to limit global average temperature rise to well below 2°C and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels
- We support the government as they raise the ambition of their Nationally Determined Contributions (NDCs)
- We believe policy should be efficient, equitable, practical, market-driven, and promote free trade
- We welcome increased transparency in climate related disclosures, and support for consistency across standards & metrics
- We incentivise and encourage use of low emission technology and products like electric vehicles and rooftop solar

## Climate Policy and Industry Commitments

Hindustan Zinc engages with industry associations at a global, regional, national and local level to work collaboratively on best practices align on standards and regulations which may impact us.

Hindustan Zinc contributes to associations and organisations to collaborate with them and represent interest of the mining sector, non-ferrous mining in particular to the government as part of the policy making process. These associations and organisations assist policymakers by sharing information from external sources, research, and visions regarding sustainable growth for India. We provide our feedback either by responding to

consultation requests, commenting on public draft releases, or by submitting suggestions through various industry associations or representative bodies.

For example, consultations on matters which might impact our business such as green credit and upcoming clean technology.

## Alignment of Advocacy Through Industry Associations

Where our membership is significant, we will collaborate with industry associations to ensure that their policy positions and advocacy are consistent with the Paris Agreement and our own public position.

## Climate and Energy Advocacy

Our responses to government consultations are guided by our overall policy positions that include support for market mechanisms, as we believe this is the best way of stimulating innovation and achieving emissions reductions at least cost. Our submissions are typically developed by subject matter experts, reviewed by government relations and legal teams, and then approved by the relevant head of the department.

### Direct Advocacy

We have engaged with the below-mentioned trade and industry chambers/associations on various subject matters:

**Green Credit:** In July 2023 we submitted comments on draft Green Credit Programme Implementation Rules, 2023, released by the Ministry of Environment, Forest and Climate Change, wherein we suggested that, credits granted may be determined based on the different types of lands restored and different climatic and geographical area, e.g., higher credit can be awarded for utilisation of barren land; innovative approaches in water stress areas, or for innovation-driven programmes which would help reduce environmental footprints related to both GHG and Non-GHG emissions, water and waste

**Suggestions and Inputs for Ministry of Mines Task Force on Greening of Mining Operation and Mineral Processing:** HZL provided inputs regarding resource use efficiency, waste management and restoration, emission reduction and frontier technology adoption. For the Taskforce

aligns its BRSR Disclosures with the FIMI principles. Understanding the importance and relevance of green energy transition and ease of mining, SMI initiated a study in 2024 on the adoption of cleaner vehicles in mining.

### Indirect Advocacy

**UN Global Compact:** We are a signatory member of UN Global Compact. In line with the ten principles of the UNGC, we have developed a performance matrix that is integrated into all of our strategic business functions.

### International Council of Mining & Metals:

Hindustan Zinc became a member of ICMM in August'25. Our sustainability framework is aligned with ICMM's Mining Principles, which emphasize responsible mining, environmental protection, and community engagement.

**Zinc Mark:** Aligning with the Zinc Mark initiative, an ESG assurance scheme developed by the International Zinc Association (IZA) & Copper mark, reflects our commitment to responsible sourcing and transparent reporting.

Further, we survey our memberships and keeps an eye on the advocacy efforts of all our industry associations and review them on an annual basis. This assessment includes:

- Alignment with HZL's commitment to climate change
- Impact of memberships on HZL's operations/business
- The adequacy of governance structures within the industry association
- Policy positions and advocacy
- Related to HZL's commitment to the implementation of the Paris Agreement

During our annual review, if gaps continue to persist, we conduct an internal cost/benefit analysis to determine if HZL should remain a member.

The memberships in business and industry organisations that advocate on policy issues related to mining, business and ethical industry practices are listed in the table below. This list includes organisations whose mission is advocating for public policies that may have an impact on climate policy.

incorporated by Ministry of Mines, our suggestions focused on positive incentives for value added products generated from waste and alignment of emission monitoring framework with national (BRSR) and International Standards (TNFD, etc.)

### Confederation of Indian Industries (CII): CII

works to create and sustain an environment conducive to India's development, by partnering with industry, Government and civil society, through advisory and consultative processes. We also participate in their programmes such as Climate Action Programme (CAP 2.0), which allows to share industry best practices and is in line with Paris Agreement. We are also a part of Steering Committee of CII Mission on Water, the CII Mission on Water envisions to create a Water Neutral Group 2030, this initiative will drive actionable solutions to improve water efficiency in Indian industries. Additionally, We are also part of CII National Committee on Environment, and IBBI (India Business and Biodiversity Initiative)

### International Zinc Association (IZA) Climate

**Change Task Force:** As part of its active participation in defining the carbon footprint of recycled content in SHG zinc production and the societal benefits of improved resource recovery in a circular economy, HZL became a member of the IZA Climate Change Task Force. The creation of a Decarbonisation Roadmap for the global zinc industry will be spearheaded by this organisation. Furthermore, IZA is striving to offer guidelines about high-quality global average SHG zinc production data so that businesses can compute product carbon and water footprints with precision.

### Task Force on Nature-related Financial

**Disclosures (TNFD):** We have collaborated with TNFD members to establish a market-driven framework that enables organisations to disclose and address emerging nature-related risks. Our aim is to facilitate a transition in global financial investments, redirecting them from activities that harm nature to those that have positive impacts on nature.

### Federation of Indian Mineral Industries'

**Sustainable Mining Initiative (SMI):** The FIMI's Code of Conduct is a voluntary commitment by the mining companies to adhere to the 10 Sustainable Mining Principles outlined in the SMI Code of Conduct. HZL, as a Governing Council Member,

| National/<br>International | Organisation                                     | Membership Fees<br>FY 2025 | Leadership<br>Role                                                        | Policy Positions Supporting<br>Paris Agreement | Alignment with<br>H2Ls Position |
|----------------------------|--------------------------------------------------|----------------------------|---------------------------------------------------------------------------|------------------------------------------------|---------------------------------|
| Global                     | IZA                                              | ₹ 57,440,877               | Member                                                                    | Yes                                            | Yes                             |
| National                   | UN Global<br>Compact - INDIA                     | ₹ 623,550                  | Member                                                                    | Yes                                            | Yes                             |
| Rajasthan,<br>India        | Confederation of<br>Indian Industry              | ₹ 330,000                  | Member                                                                    | Yes                                            | Yes                             |
| India                      | FICCI                                            | ₹ 120,000                  | Co-Chair,<br>Non<br>Ferrous<br>Mining<br>Committee                        | Yes                                            | Yes                             |
| India                      | Indian Chamber of<br>Commerce                    | ₹ 70,000                   | Member                                                                    | Yes                                            | Yes                             |
| India                      | Federation of<br>Indian Mineral<br>Industries    | ₹ 150,000                  | Member<br>Managing<br>Committee,<br>Non<br>Ferrous<br>Mining<br>Committee | Yes                                            | Yes                             |
| Gujarat                    | GujMin Industry<br>Association                   | ₹ 10,000                   | Managing<br>Committee                                                     | Yes                                            | Yes                             |
| Udaipur                    | Udaipur Chamber<br>of Commerce and<br>Industries | ₹ 31,000                   | Managing<br>Committee                                                     | Yes                                            | Yes                             |

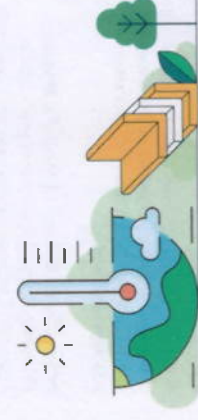


## Strategy



H2L has identified and classified climate-related risks and opportunities across short-, medium-, and long-term horizons, covering both physical risks (e.g., rising temperatures, droughts, floods, extreme weather) and transition risks (e.g., policy shifts, technological changes, market dynamics, and reputational impacts). In line with IFRS S2 recommendations we used scenario analysis to assess these risks. Our strategy incorporates a broad range of risks and opportunities, mapped across two key timeframes 2030 and 2050 to address both physical and transition risks.

- For physical risks, we used Advanced Climate Modelling and Representative Concentration Pathway (RCP) 2.6, 4.5, 6.0, 7.0 and 8.5
- For transition risks, we used IEA's Stated Policies Scenario (STEPS), Announced Pledges Scenario (APS) & Net Zero Emissions by 2050 (NZE) scenario



## Physical Risk Assessment

We conducted baseline assessment of our business units by using ThinkHazard tool to assess potential baseline physical risks.

Direct Operations  
ThinkHazard

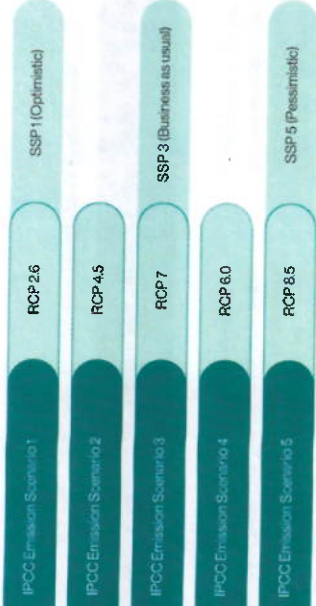
| Site                                        | Water Scarcity | Extreme Heat | Wildfire | Earthquake | River Flood | Urban Flood | Cyclone | Landslide |
|---------------------------------------------|----------------|--------------|----------|------------|-------------|-------------|---------|-----------|
| Chanderiya (Chittorgarh)                    | ■              | ■            | ■        | ■          | ■           | ■           | ■       | ■         |
| Rajpura Dariba Mines & Smelter (Rajasthan)* | ■              | ■            | ■        | ■          | ■           | ■           | ■       | ■         |
| Debari Smelter (Udaipur)                    | ■              | ■            | ■        | ■          | ■           | ■           | ■       | ■         |
| Kayad Mines (Ajmer)                         | ■              | ■            | ■        | ■          | ■           | ■           | ■       | ■         |
| Pantnagar Metal Plant (Udhm Singh Nagar)    | ■              | ■            | ■        | ■          | ■           | ■           | ■       | ■         |
| Rampura Agucha Mines (Bhilwara)             | ■              | ■            | ■        | ■          | ■           | ■           | ■       | ■         |
| Zawar Mines (Udaipur)                       | ■              | ■            | ■        | ■          | ■           | ■           | ■       | ■         |

\* Rajpura Dariba Mines & Smelter consists of Rajpura Dariba & Sindesar Khurd Mines & Dariba Smelting Complex.

■ High ■ Medium ■ Low ■ Very Low

Climate-related physical risks

Our climate-related Physical Risk assessment is studied using the following scenarios for medium-term 2030 & long-term 2050:



As part of the physical risk assessment, acute risks arising out of increasing severity of extreme weather events and chronic risks resulting from longer-term changes in climate patterns were studied for all our business units.

For future hazard trends, climate change scenarios based on IPCC Representative Concentration Pathways (RCP) were used for medium-term 2030 and long-term 2050. We used WRI Aqueduct's future predictions basis Pessimistic, Business as usual and Optimistic scenario for the years 2030 and 2050.

| Site Unit | Risk | Pessimistic  |                      |              | Business as usual |                      |              | Optimistic   |                      |              |
|-----------|------|--------------|----------------------|--------------|-------------------|----------------------|--------------|--------------|----------------------|--------------|
|           |      | Water Stress | Seasonal Variability | Water Stress | Water Stress      | Seasonal Variability | Water Stress | Water Stress | Seasonal Variability | Water Stress |
| Years     |      | 2030         | 2050                 | 2030         | 2030              | 2050                 | 2030         | 2030         | 2050                 | 2050         |
| CLZS      |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |
| ZSD       |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |
| PMP*      |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |
| DSC       |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |
| RDM       |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |
| SKM       |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |
| RAM       |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |
| ZWM       |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |
| KYD       |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |

\* It is to be noted that as per Central Ground Water Board (CGWB), India, Pantnagar metal plant is not in water stress area, however, to maintain uniformity as per WRI Aqueduct, it is being reported in water stress area.

■ Extremely High ■ High ■ Medium to High ■ Low to Medium ■ Low

Pantnagar Metal Plant's Flood Risk

| Site Unit | Risk | Pessimistic  |                      |              | Business as usual |                      |              | Optimistic   |                      |              |
|-----------|------|--------------|----------------------|--------------|-------------------|----------------------|--------------|--------------|----------------------|--------------|
|           |      | Water Stress | Seasonal Variability | Water Stress | Water Stress      | Seasonal Variability | Water Stress | Water Stress | Seasonal Variability | Water Stress |
| Years     |      | 2030         | 2050                 | 2030         | 2030              | 2050                 | 2030         | 2030         | 2050                 | 2050         |
| PMP       |      | ■            | ■                    | ■            | ■                 | ■                    | ■            | ■            | ■                    | ■            |

■ Extremely High ■ High ■ Medium to High ■ Low to Medium ■ Low

We used Network for Greening the Financial System (NGFS) for physical risk such as mean air temperature and employee productivity related to the states of Rajasthan and Uttarakhand in India where our operations are based. The baseline

scenario in case of NGFS scenario analysis was 1986-2006. A summary of how the regions where our business units are located will face the risk to climate change under four RCP scenarios are presented in the table below:

| Region                                                    | Physical Risk                                     | RCP 2.6                                 |   |      |   | RCP 2.6 |   |      |   | RCP 2.6 |   |      |   | RCP 2.6 |      |
|-----------------------------------------------------------|---------------------------------------------------|-----------------------------------------|---|------|---|---------|---|------|---|---------|---|------|---|---------|------|
|                                                           |                                                   | 2030                                    |   | 2050 |   | 2030    |   | 2050 |   | 2030    |   | 2050 |   | 2030    | 2050 |
|                                                           |                                                   | Absolute change in mean air temperature |   |      |   |         |   |      |   |         |   |      |   |         |      |
| Rajasthan                                                 | Increase/decrease from baseline                   | ↑                                       | ↑ | ↑    | ↑ | ↑       | ↑ | ↑    | ↑ | ↑       | ↑ | ↑    | ↑ | ↑       | ↑    |
| Uttarakhand                                               | Increase/decrease from baseline                   | ↑                                       | ↑ | ↑    | ↑ | ↑       | ↑ | ↑    | ↑ | ↑       | ↑ | ↑    | ↑ | ↑       | ↑    |
| Relative change in labour productivity due to heat stress |                                                   |                                         |   |      |   |         |   |      |   |         |   |      |   |         |      |
| Rajasthan                                                 | Percentage points increase/decrease from baseline | ↓                                       | ↓ | ↓    | ↓ | ↓       | ↓ | ↓    | ↓ | ↓       | ↓ | ↓    | ↓ | ↓       | ↓    |
| Uttarakhand                                               | Percentage points increase/decrease from baseline | ↓                                       | ↓ | ↓    | ↓ | ↓       | ↓ | ↓    | ↓ | ↓       | ↓ | ↓    | ↓ | ↓       | ↓    |



### Overall Result from the Physical Risk Assessment

We have compiled potential risks that our businesses could encounter due to physical risks. We have also examined the impacts of different climate change scenarios namely RCP 2.6, RCP 4.5, RCP 6.0, RCP 8.5, which are as follows:

- Basin Water stress is extremely high for all our locations
- Riverine flood risk is high for Panthnagar, whereas Low to Medium for all other locations
- Urban Floods, Landslides and Cyclones are very low to low for all our locations

- Seasonal variability measures the average within year variability of available water supply, including both renewable surface and groundwater supplies. Higher values indicate wider variations of available supply within a year

The table below presents how each of our businesses will be impacted by climate change; this considers the risk level based on hazard, sensitivity, and adaptive capacity of the unit. This table also elaborates the impacts of climate change on the organisation's businesses, strategy, and financial planning:

| Physical Risks                 | Reason                                                         | Expected Impacts                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Raw Material Supply</b> | <b>Increased Temperature</b><br>• Heat Waves<br>• Water Stress | <b>High Impact</b> <ul style="list-style-type: none"> <li>High temperatures, water shortage and extreme weather variability possibly causing lower production, revenue generation and business continuity</li> </ul>                                                                                                                                                                                                                      |
|                                | <br><b>Operation Disruption</b>                                | <b>Medium to High</b> <ul style="list-style-type: none"> <li>Operational disruptions or downsizing due to limited water availability</li> <li>Increased cost due to installations of cooling devices</li> <li>Supply chain disruptions due to extreme weather-related events</li> <li>Increased damage to infrastructure/structural stability due to flooding/wind speed</li> </ul>                                                       |
|                                | <br><b>Market Disruption</b>                                   | <b>Low to Medium</b> <ul style="list-style-type: none"> <li>Consumer demand might get impacted by physical events</li> <li>Revenue levels and demand forecasting might also get disrupted by extreme weather events</li> <li>Short-term impacts on trends in consumption pattern due to extreme weather events</li> </ul>                                                                                                                 |
|                                | <br><b>Impact on Workforce</b>                                 | <b>High Impact</b> <ul style="list-style-type: none"> <li>Employee heat exhaustion and dehydration leading to lower productivity</li> <li>Increased electricity cost due to installations of air conditioning devices</li> <li>Rising temperatures in Rajasthan may lead to higher attrition rates, resulting in a loss of skilled talent and increased production costs due to rising salary expectations from the workforce.</li> </ul> |

## Physical Climate Risk Adaptation and Mitigation

HZL has its strategic plan in place to adapt to physical climate risks across its operations for more than 10 years

| Strategy                                              | Short-Term                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Medium-Term                                                                                                                                                                                                                                                                              | Long-Term                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Raw Material Supply &amp; Operation Disruption</b> | <ul style="list-style-type: none"> <li>Implement heat stress management programmes and establishment of LOMP ventilation requirement and chiller plant</li> <li>Storm water drains are upgraded to cater to torrential rains in all units</li> <li>Monsoon preparedness plans developed across all locations</li> <li>Alternate fuel vehicles (LNG) deployed for RUT &amp; FG transportation</li> </ul>                                                                                                                                                                         | <ul style="list-style-type: none"> <li>530 MW Renewable Energy Round the Clock (RE-RTC) for all our locations</li> <li>Harnessing potential of RE in line with Indian commitment 500 GW NDC by 2030</li> <li>Dual sourcing and safety stock to ensure no operation disruption</li> </ul> | <ul style="list-style-type: none"> <li>Increased use of renewable energy in operations thus reducing freshwater demand in Captive Thermal Power plants</li> <li>Deployment of EV vehicles in mines &amp; transportation, contributing to lowering ambient temperatures in underground mines, thereby reducing the need for additional ventilation.</li> </ul>                                                                                                                                                                                                                           |
| <b>Market Disruption</b>                              | <ul style="list-style-type: none"> <li>Natural restoration of biodiversity by eradication of Lantana Camara and using it as alternate source of energy</li> <li>100% fly ash utilization</li> </ul>                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Increased use of recycled water like treated municipal wastewater (sewage)</li> <li>Tailings recycling / recovery plant</li> <li>Biodiversity Park &amp; natural forest development at CLZS</li> </ul>                                            | <ul style="list-style-type: none"> <li>Ground water recharge systems near our operating locations to cater to water security needs to local community</li> <li>Infrastructure resilience through Geotextile on slope of waste dump used for green belt development and slope stability of waste dump</li> <li>Dry Tailing plant in mining operations for water recycling &amp; infrastructure resilience</li> <li>Public Advocacy to improve durability</li> <li>Continuous interactions with value-chain partners both upstream &amp; downstream for value chain resilience</li> </ul> |
| <b>Impact on Workforce</b>                            | <ul style="list-style-type: none"> <li>Heat stress awareness campaigns and monitoring</li> <li>Water coolers provided for all the employees. ORS &amp; hydrants are provided to the employees</li> <li>Health care facilities present for employee well-being &amp; periodic health check-ups undertaken</li> <li>Monsoon preparedness plan along with emergency management plan and mock-drills</li> <li>Alerts to employees to avoid work during any extreme climate event. Employees are provided with alert notifications based on the severity of weather event</li> </ul> |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Sites                                            | Adaptation & Mitigations in place                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chanderiya Lead Zinc Smelter</b>              | <ul style="list-style-type: none"> <li>M: Fumer plant to reduce jarosite (smelting waste)</li> <li>M: EV &amp; LNG vehicles for in-house &amp; inter-unit transportation</li> <li>M: Miyawaki plantation</li> <li>M: 100% fly ash utilization from CPP</li> <li>M: Biodiversity Park &amp; natural forest development</li> <li>M: Development of a 10-hectare greenbelt as part of the restoration efforts for the Jarofix yard, with 6 hectares already completed</li> <li>M: Biomass consumption for power generation</li> <li>M: Jarofix and Jarosite utilization in cement production &amp; road construction respectively</li> <li>A: Zero Liquid Discharge plant</li> <li>A: Ancillary plant for metal recovery from waste residue</li> <li>A: Commission the tail gas treatment (TGT) plant to reduce SOx emissions in FY 2026 and FY 2027</li> </ul> |
| <b>Dariba Smelting Complex</b>                   | <ul style="list-style-type: none"> <li>M: Renewable power (Solar &amp; WHRB)</li> <li>M: Sewage Treated water for operations</li> <li>M: 100% fly ash utilization from CPP</li> <li>M: Biomass consumption for power generation</li> <li>A: Zero Liquid Discharge plant</li> <li>A: Ancillary plant for metal recovery from waste residue</li> <li>A: Utilization of Sewage treated water for operations</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Zinc Smelter Debari</b>                       | <ul style="list-style-type: none"> <li>M: Renewable power (Solar &amp; WHRB)</li> <li>M: Sewage Treated water for operations</li> <li>M: 100% utilisation of Jarosite in cement</li> <li>A: Rainwater harvesting in storm water pond</li> <li>A: Zero Liquid Discharge plant</li> <li>A: Commission the tail gas treatment (TGT) plant in FY 2027</li> <li>A: Utilization of Sewage treated water for operations</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Pantnagar Metal Plant</b>                     | <ul style="list-style-type: none"> <li>M: 100% renewable power for operations</li> <li>A: Rain-water harvesting for operational consumption</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Rampura Agucha Mines</b>                      | <ul style="list-style-type: none"> <li>M: 4,000 KLD water treatment plant deployed in FY25</li> <li>A: Commission India's first 10 Mtpa tailings reprocessing plant</li> <li>A: &gt;8.7 MCM/annum total groundwater recharge potential created in RAM for rainwater harvesting</li> <li>A: Infrastructure resilience through Geotextile on slope of waste dump used for green belt development and slope stability of waste dump</li> <li>A: Transition from wet to dry tailing disposal facility at Rampura Agucha in FY 2027</li> </ul>                                                                                                                                                                                                                                                                                                                    |
| <b>Zawar Mines</b>                               | <ul style="list-style-type: none"> <li>M: Revamping of STP supply pipeline for reducing dependency on freshwater</li> <li>A: Dry Tailing plant for infrastructural resilience &amp; recycled water</li> <li>M: Biomass consumption for power generation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rajpura Dariba &amp; Sindesar Khurd Mines</b> | <ul style="list-style-type: none"> <li>M: RE power consumption (Solar)</li> <li>A: 3 underground Electric Vehicle Deployment in SKM</li> <li>A: Dry Tailing plant for infrastructural resilience &amp; recycled water</li> <li>A: Utilization of Sewage treated water for operations</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Kayad Mine</b>                                | <ul style="list-style-type: none"> <li>M: Deployed electric road sweeper to reduce annual GHG emission by c.6,000 kgCO2e</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

A: Adaptation

M: Mitigation