

Through – Parivesh Portal

दूर की सोच

Ref: -PJL/MIN/BG/2025/1086

31st May, 2025

To,
Regional Director
Ministry of Environment & Forests and Climate Change
Regional Office, Western Region
Kendriya Paryavaran Bhavan
Link Road No. 3, E - 5, Ravi Shankar Nagar
Bhopal – 462016

Subject: Submission of Six Monthly Compliance report for Environment Clearance – Baghai Limestone Mine (512.317 ha), M/s Prism Johnson Ltd. In Village -Baghai, Tehsil Rampur Baghelan, Dist. Satna (M.P.)

Reference: Environmental Clearance Identification No. EC23A001 MP123527, dated 15th May 2023.

Dear Sir,

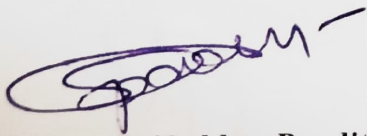
With reference to the above subject and the **Environmental Clearance** granted vide your Identification No. EC23A001 MP123527, dated 15th May 2023, we are pleased to submit the six monthly compliance report for the period October 2024 to March 2025 for the limestone deposit at Village -Baghai, Tehsil Rampur Baghelan, District Satna, Madhya Pradesh.

The compliance report has been prepared as per the stipulated conditions of the environmental clearance. All relevant supporting documents are enclosed herewith for your kind review and consideration.

We trust the report meets the necessary requirements and is in order.

Thank you.

Yours sincerely,
For Prism Johnson Limited



Chandra Shekhar Pandit

Sr. General Manager - Mines & Project Proponent

Enclosures: As above

PRISM JOHNSON LIMITED

(Cement Division - Unit II)

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CIN: L26942TG1992PLC014033

BAGHAI LIMESTONE MINES 512.317 Ha ML (PRISM JOHNSON LIMITED)

S.No.	Specific Conditions	Compliance Status
1	This Environmental Clearance will be valid upto the validity of the mine lease period i.e., 27.02.2041.	Agreed.
2	No Nallahs and other water bodies in and around the vicinity of the mine lease area shall not be disturbed at any stage. Regular monitoring on water quality of nallah shall be carried out.	No mining is proposed/conducted within 50 meters from the nallahs and other water bodies. The water quality Monitoring report by NABL/MOEFCC accredited lab is attached as Annexure 1
3	The Project Proponent shall strictly adhere to the mines act and rules w.r.t. habitations, schools, water bodies, roads, railway lines etc., prevailing in the vicinity of the mine lease area and necessary permission shall be obtained from the concerned authorities.	Applicable Acts & Rules are strictly being followed in the entire mining lease area with special emphasis on working near habitations, schools, water bodies, roads, railway lines, etc. DGMS permission to work near habitations, schools, water bodies, roads, railway lines, etc is obtained. Permission is attached as Annexure 2
4	No mining activity shall be undertaken within 500m radius from the railway boundary. Necessary permission from DGMS and NOC shall be obtained from the Railways Dept. before the mining activity approaching to the railway area. The same shall be submitted to the Ministry's Integrated Regional Office.	Necessary permission from DGMS and NOC from the Railways Department has already been obtained. However, no working is going on within 500 m of the railway line at present. The NOC is attached as Annexure 2 & 3
5	The Project Proponent shall construct the boundary wall of adequate height with green fencing and shall undertake dense plantation all along the boundary near the school (restricted part of the mine lease area).	The boundary wall of Baghai School has already been constructed along with suitable plantation has been done. Photo of the School's Boundary wall is attached as Annexure 4 .
6	The Project Proponent shall maintain the distance of 500m radius between the school (restricted part of the mine lease area) and mine lease area throughout the life of the mine. No blasting activity shall be undertaken in this zone.	No work is running within a 500 m radius between the school & Mine boundary. No blasting activity will be undertaken in this zone.
7	The Project Proponent shall carryout the blasting in such a way that the direction of the blasting should be perpendicular to the school.	Agreed. Controlled blasting by non-electric detonators and site mix explosive is being used according to the recommendation of Central Institute of Mining And Fuel Research. All the norms as stipulated by the DGMS is being followed in the blasting operations. PP is doing controlled blasting with proper safety and recommendations given by CIMFR Dhanbad after the study. The direction of the blasting will be kept perpendicular to the school.

S.No.	Specific Conditions	Compliance Status
8	The ground induced blasting vibrations shall be monitored regularly for every blast performed and the values of “peak particle velocity” and “Air Over Pressure” shall be maintained below the permissible values prescribed by the DGMS, from time to time. The data needs to be maintained and submitted along with the six monthly compliance report. The implementation status of the scientific study carried out CSIR-CIMFR shall be submitted to the Ministry’s Integrated Regional Office.	Ground vibrations are being monitored regularly. The “Air Over Pressure” (AOP) has been recorded within prescribed limits All the recorded data (blast vibrations, air overpressures and fly rocks) were well within the safe limit at the houses/structures concerned. No violations regarding the blasting are received from the DGMS regarding blasting operation. The Ground Vibration report as per the scientific study is attached as Annexure 5 .
9	Prior permission from the Irrigation Dept. shall be obtained for ensuring the stability of the canal from the blasting activity.	NOC is obtained copy is attached as Annexure 6 .
10	The Project Proponent should follow the back filling plan strictly as per the approved mining plan. Top soil dumping, preservation and utilization should be carried out as per the approved mining plan	Agreed. Backfilling, topsoil dumping, and its preservation and utilization will be as per the approved mining plan.
11	Protective bund along the mine boundary towards the Canal shall be stabilized by fruit bearing plantation within two years from the issue of this EC. In between bund and plantation retaining wall should be constructed to arrest fine particles.	Agreed. Present working is more than 2 km from the canal. A protective bund will be stabilized by the fruit-bearing plantation and a retaining wall will be constructed between the bund and the plantation to arrest fine particles.
12	The Project Proponent needs to obtain prior permission from the Forest Dept. for cutting down the trees. PP shall approach the Forest Department to visit the site for demarcation of trees with their type. PP shall explore the possibility of tree transplantation before cutting of trees. Trees cannot be transplanted needs to replant the same in consultation with the Forest Dept. Trees cannot be transplanted shall vetted by the Forest Dept. before cutting of trees.	Agreed. Permission will be taken from the appropriate authority as and when required. Wherever possible the trees will be transplanted
13	The Project Proponent shall monitor the air quality, noise level, water quality, water level and ground vibration during drilling and blasting at the edge of the mine, near the village and at other sensitive receptors and such collected data shall be submitted quarterly to the Ministry’s Integrated Regional Office.	Agreed. Air quality, noise level, water quality, water level, and ground vibration report are attached as Annexure 7 .
14	The Project Proponent shall undertake the fruit bearing plantation all along the safety zone of the habitations, schools, railway lines, water bodies and roads within three years from the start of mining operations.	Agreed. Fruit bearing plantation activity is being done in phased manner with tree guards. Saplings of fruit bearing plantation are being distributed too, to the nearby villages

S.No.	Specific Conditions	Compliance Status
15	The Project Proponent needs to install the permanent water sprinklers along the haul road and the approach road. Further, 10 nos. of fog canon/mist sprayer of atleast 40 m throw shall be installed at various locations in the mine area. Effective dust suppression system shall also be adopted at other parts of the mining lease to arrest the fugitive dust emission.	Agreed. Fog Cannon has been installed at site and installation (Annexure 8) of permanent water sprinklers along the haul road and the approach road is completed.
16	The air pollution control equipment's like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, and other areas prone to air pollution. PP shall take necessary measures to avoid generation of fugitive dust emissions. The dense plantation shall be carried out in the vicinity of the crusher. The Stack emission monitoring of the Crusher shall be carried out at periodic intervals.	Agreed. The crusher is not installed yet. All APCEs will be installed with the necessary arrangements to control pollution in the proposed crusher. A dense plantation is also maintained within the vicinity of the crusher. Necessary measures will be adopted to avoid generation of fugitive dust emissions.
17	The Project Proponent needs to complete the entire 7.5 m peripheral plantation, safety barrier plantation and gap plantation within three years from the start of mining operations. The Project Proponent should plant quality sapling of appropriate height of native and fruit bearing species. In case of tall transplants (seedlings) the seedlings should have proper trained root stock with root biomass commensurate with seedling height to ensure good growth after out planting. Plantation shall be undertaken in consultation with the State Forest Department. The Project Proponent shall implement the practice of drip irrigation for plantation.	Agreed. Plantation in 7.5 m zone is under progress.
18	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.	Agreed. To achieve 95% survival rate makeup plantation will be adopted.
19	The Project Proponent should adopt the proper mitigation measures as proposed under EMP with budgetary provision of Rs 83.32 Lakhs. The adoption of mitigation measures and monitoring of the same as proposed in the EMP shall be done under the supervision of the qualified environmental personnel. The implementation status of the same shall be submitted to the Ministry's Integrated Regional Office.	Agreed. Will be done as per EMP.

S.No.	Specific Conditions	Compliance Status
20	The Project Proponent should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground). A dedicated team to oversee environment management shall be setup at site which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis instead of engaging environment monitoring laboratories/consultants within two years of grant of EC. Any non-compliance or infringement should be reported to the concerned authority.	Capex provision for the establishment of a well-equipped environmental laboratory has been taken, and the lab will be established in the upcoming financial year.
21	The Project Proponent shall conduct third party audit of compliance of EC condition at an interval one year and its report shall be submitted to IRO, MoEF&CC.	Agreed. The audit is in progress and will be submitted once completed.
22	The budget of Rs 2.02 Cr to address the concerns raised by the public in the public hearing to be completed within 3 years from the date of start of mining operations. PP shall comply with all action plans made for public hearing concerns and make regular maintenance and record the progressive activity out comes. The Project proponent shall ensure that the activities proposed under the public hearing is different from the CSR activities.	Agreed. Action plan Attached (Annexure - 9)
23	The Project Proponent needs to provide the RO drinking water supply and also by laying network of pipelines to the villages Baghai, Bairiha, Sijhata, Tapa, Satri, Medhi at free of cost.	Water Cooler and RO has been provided to the Villages Baghai, Bairiha, Sijhata Tapa Satri and Medhi. Installation of these drinking water supply is under process.
24	The Project Proponent needs to construct the boundary wall (250 Feet Length and 5 feet Height) in Primary School located at Medhi Village with allocated budget of Rs 5.0 Lakhs.	The work is in progress and it will be completed in upcoming FY 2025-26 by the lessee, Prism Johnson Limited .
25	The Project Proponent needs to facilitate the online education system in the schools by providing Wi-Fi connectivity, smart classrooms and desktops/ tablets. PP shall construct a library which shall be made available to the school children as well as local people.	Agreed. Compliance is in progress. So far, 20 Nos of smart classes has been developed by the company in the nearby villages. Photos Annexed (Annexure-10)
26	The Project Proponent shall create awareness among the local people working within the project area as well as its surrounding area on the ban of Single Use Plastic (SUP) in order to ensure the compliance of Notification published by MoEF&CC on 12/08/2021. A report, along with	Agreed. Report with photographs is attached as Annexure 11

S.No.	Specific Conditions	Compliance Status
	photographs, on the measures taken shall also be included in the six monthly compliance report.	
27	The Project Proponent shall explore the possibility of using atleast 20% of Electric vehicles/CNG/Solar instead of diesel operation within three years.	Electric Vehicles(EVs) trial is under process.
28	The Project Proponent should implement the Rehabilitation of project affected families (PAFs) and payment of compensation to PAFs in line with the policy and guidelines of the Central/State Government, as provided under the law in such away that the compensation should benefit the current and future generation.	Agreed.
29	The Project Proponent shall also organize employment-based apprenticeship/internship training program every year with appropriate stipend for the youth and other programs to enhance the skill of the local people. The data should be maintained for the training imparted to the persons and the outcome of the training, for the assessment of the training program should be analyzed periodically and improved accordingly. The preference shall be given to the local people for the purpose of employment.	Agreed. Driving training, Bag making training, cotton wicks making training, stitching training etc. has been given and will be given in future also.
30	The Project Proponent should periodically monitor and maintain the health records of the mine workers digitally prior to mining operations, at the time of operation of mine and post mining operations. Regular surveillance on Silicosis shall be carried through regular occupational health check-up every year for mine workers. PP shall also organize medical camp for the benefit of the local people and also the monitor the health impacts due to mining activity.	Agreed. Initial Medical examination (IME) and Periodical Medical Examination (PME)for mine workers is being followed according to the provisions of DGMS. Health Monitoring Report is attached. (Annexure 12)
31	The mining lease holders shall, after ceasing mining operations, undertake regressing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. The implementation report of the above said condition shall be submitted to the Ministry's Integrated Regional Office.	Agreed. This would be implemented at the time of the mine closure.

S.No.	Specific Conditions	Compliance Status
Standard Conditions		
1	This Environmental Clearance (EC) is subject to orders/judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.	Agreed
2	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.	Agreed
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 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.	Agreed
4	The Project Proponent shall follow the mitigation measures provided in MoEFCC, 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 where Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".	Agreed
5	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.	A copy of the EC letter has been sent to the Concerned Panchayat on 19.05.2023. The copy is attached as Annexure 13 . local NGO not participated during the processing of the proposal.
6	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.	Not applicable to PP
7	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 website of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). The advertisement may be	The grant of EC is advertised in three local newspapers on 18.05.2023. Copy of the same are Attached as Annexure 14 .

S.No.	Specific Conditions	Compliance Status
	forwarded to the concerned MoEFCC Regional Office for compliance and record.	
8	The Project Proponent shall inform the MoEF&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.	Agreed.
S.No.	Air quality monitoring and preservation	Compliance Status
9	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 to mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No.8-29016/20/90/PCI dated 18.11.2009 covering the aspects of Mining plan 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 mine site.	Agreed. 1 CAAQMS had been installed at the Mine Site. Photos of the same is attached in Annexure 15
10	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 where high levels of PM-10 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.	Agreed. Dust suppression measures like water sprinkling on the haul road and approach road is being done via water tanker. Photos of the same is attached in Annexure 16

S.No.	Specific Conditions	Compliance Status
S.No.	Water quality monitoring and preservation	Action Plan
11	Incase, 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 groundwater 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.	NOC from CGWA has been obtained for dewatering capacity of 487 m3/day vide NOC No.CGWA/NCGWA/NOC/MIN/ORIG/2022/14892 valid from 25/03/22 to 24/03/24. (Annexure 17) Renewal NOC is obtained with 994 M3/day vide NOC no CGWA/NOC/MIN/REN/1/2025/11633 Valid from 25/03/2024 to 24/03/2026 against the application that was submitted on 22.03.2024 having application No. 21-4/1167/MP/MIN/2021
12	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 Ground water Department/State Pollution Control Board.	Regular monitoring of ground water quality and levels is being done 4 times in a year and proper record is maintained. Its reports is being submitted on six monthly basis to the Regional Office of Ministry, CGWA and State Pollution Control Board. Monitoring report is attached as Annexure 18.
13	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-a-vis suitability for usage as per CPCB criteria and flowrate. 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.	Regular monitoring of surface water quality is being undertaken four times in a year and concerned parameters is being monitored and records of monitoring is maintained. Records of the monitored data area is being sent to the concerned authorities on six monthly basis. Monitoring report is attached as Annexure 1

S.No.	Specific Conditions	Compliance Status
14	Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination 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 location near the main gate of the Company. The circular No.J20012/1/2006/IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change, may also be referred in this regard.	Agreed. Concerned parameters is being monitored regularly and monitored records is uploaded on company website. Reports is annexed as Annexure 19 .
15	Project Proponent shall plan, develop and implement rain water harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/State Ground water Department. A report on amount of water recharged needs to be submitted to Regional Office MoEFCC annually.	Agreed. Rain water harvesting structures is being built to augment groundwater resources in the area, and the report of the same will be submitted to the Regional Office MoEFCC annually.
16	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.	Agreed. The effluent generated in the workshop is being collected and treated so as to conform with the standards. (Annexure 20)
17	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 MoEF&CC and State Pollution Control Board/Committee.	A detailed Comprehensive Hydrological Study has been conducted and a NOC from CGWA has been obtained for dewatering capacity of 487 m3/day vide NOC No. CGWA/NCGWA/NOC/MIN/ORIG/2022/14892 valid from 25/03/22 to 24/03/24. Renewal NOC is obtained with 994 M3/day vide NOC no CGWA/NOC/MIN/REN/1/2025/11633 Valid from 25/03/2024 to 24/03/2026 against the application that was submitted on 22.03.2024 having application No. 21-4/1167/MP/MIN/2021.
S.No.	Noise and vibration monitoring and prevention	Action Plan
18	The peak particle velocity at 500m distance or within the nearest habitation whichever is closer shall be monitored periodically as per applicable DGMS guidelines.	Agreed. Ground vibration is being measured on regular basis as per DGMS guidelines. Annexure 5 .

S.No.	Specific Conditions	Compliance Status
19	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.	The Illumination is done in such a way that it does not disturb the villagers by orienting it away from the villages. Noise level monitoring (Annexure 7) is being done regularly and all the ambient noise levels (both, at day and night) is well within the prescribed limits of CPCB guidelines
20	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 laborers 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/ personnel/ laborers are working without personal protective equipment.	Agreed. Measures like, HEMM fitted with silencer, controlled blasting, proper maintenance of HEMM will be taken. All the personnel working within dusty areas and with heavy machinery at the mines site is being provided with protective equipment, along with adequate training and health awareness.
21	The Project Proponent shall adhere to approved mining plan, including, total excavation (quantum of mineral, waste, overburden, interburden and top soil etc.); mining technology; lease area; scope of working (method of mining, overburden & dump management, OB& dump mining, mineral Mining plan mode, ultimate depth of mining, concurrent reclamation and reclamation at mine closure; land use of the mine lease area at various stages of mining scheme as well as at the end of life ;etc.).	Agreed. Development and production of the mine is being done as per approved mining plan.
22	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 yearly to the MoEFCC and its concerned Regional Office.	Agreed. Land use is being done as per approved mining plan and the compliance status will be submitted on half yearly basis to concerned office.

S.No.	Specific Conditions	Compliance Status
23	The Overburden (O.B.), waste and top soil generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for along with the 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 top soil shall be used for land reclamation and plantation.	Agreed. Development of the mine is being done as per the approved mining plan. The top soil is stacked separately and will be used for land reclamation and plantation only.
24	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 micro climate. The gullies formed on slopes should be adequately taken care of as it impacts the over all 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 /clayliners/Bentonite etc. shall be undertaken for stabilization of the dump.	Agreed. A slope stability Report is attached as Annexure 21
25	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 runoff 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 silted regularly, particularly after monsoon season, and maintained properly.	Agreed. Catch drains and siltation ponds of appropriate size is constructed and collected water is being utilized for watering the mine area, roads, Greenbelt development, plantation etc. Photos is attached as Annexure 22 .
26	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 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 constructed at the corners of the garland drains.	Agreed. Construction of check dams, retaining walls, and garland drains is done as per requirements in the appropriate size around the mine pits and OB dumps. Photos is attached as Annexure 22 .

S.No.	Specific Conditions	Compliance Status
S.No.	Transportation	Action Plan
27	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. Mining plan 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 Mining plan 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 incase of road transport].	Complied. Transportation of the minerals is conducted through a 'bypass' road developed by the company at a safe distance from the villages/ habitations. Dust suppression by the water tankers is done on regular basis. All the vehicles have obtained Pollution Under Control (PUC) certificate from authorized pollution testing centers.
28	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 equipment like bagfilters, 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 Mining plan. PP shall take necessary measures to avoid generation of fugitive dust emissions.	Agreed. A permanent water sprinkler system is installed for dust suppression in the main haul road and dust suppression by the water tankers is done on regular basis. Photos are annexed as Annexure 23 & Annexure 16 . The crusher is not installed yet. All APCEs will be installed with the necessary arrangements to control pollution in the proposed crusher. A dense plantation is also maintained within the vicinity of the crusher. Necessary measures will be adopted to avoid generation of fugitive dust emissions.
S.No.	Greenbelt	Action Plan
29	The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Greenbelt 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	Agreed. Work is under progress, will be developed within 5 years of grant of EC.

S.No.	Specific Conditions	Compliance Status
	granted by the Ministry irrespective of the stipulation made in approved mine plan.	
30	The Project Proponent shall carry out plantation/afforestation in backfilled and reclaimed area of mining lease, around water body, along the road sides, 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 provision shall be made for protection and care of trees.	Agreed. As per CPCB Guidelines plantation or afforestation activities are done in backfilled areas.
31	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.	Agreed.
S.No.	Public hearing and human health issues	Action Plan
32	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, 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 waste water should be treated with STP in order to avoid contamination of under groundwater.	Agreed.

S.No.	Specific Conditions	Compliance Status
S.No.	Corporate Environment Responsibility (CER)	Action Plan
33	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.	Agreed. Action Plan is attached as Annexure 9 , the action plan will be implemented within 3 years.
S.No.	Miscellaneous	Action Plan
34	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.	Report is Attached as Annexure 25 .
35	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.	Agreed.
36	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC and its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.	Agreed. Last compliance report was submitted on 30.11.2024 and letter no. PJL/MIN/BG-2024/1060
37	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,MoEFCC.	Agreed. 'Environmental Management Cell' with suitable qualified manpower has been set-up under the control of a Senior Executive. The same is enclosed as Annexure 24
38	The concerned Regional Office of the MoEFCC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEFCC officer(s) by furnishing the requisite data/information/monitoring reports.	Agreed.
39	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 regressing the mining area and any other area which may have been disturbed due to other	Agreed.

S.No.	Specific Conditions	Compliance Status
	mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.	
40	The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	Agreed
41	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 attractaction under the provisions of Environment (Protection) Act, 1986	Agreed.

**VIBRANT**

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TEST REPORT

TC-11227

Sample Number : VTL/SW/05

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
 Village- Mankahari, Tehsil- Rampur Baghelan, Dist. - Satna (M.P.)

Sample Description : SURFACE WATER
 Sampling Location : Nar Nala (Beside Bagahai Mines)
 Sample Collected By : VTL Team
 Preservation : Suitable Preservation
 Method of sampling : IS :3025

ULR No. : TC112272500000278F
 Report No. : VTLW/2501250021/A
 Format No : 7.8 F-01
 Party Reference No : NIL
 Report Date : 30/01/2025
 Period of Analysis : 25/01/2025-30/01/2025
 Receipt Date : 25/01/2025
 Sampling Date : 22/01/2025
 Sampling Type : Grab
 Sample Quantity : 2 Ltr.
 Coordinates : --

S.No.	Test Parameters	Test Method	Results	Unit
1	pH value	IS : 3025 (P-11) : 2022	7.42	--
2	Total Dissolved Solids (TDS)	IS : 3025 (P-16) : 2023	481	mg/L
3	Chloride (as Cl)	IS: 3025 (P-32) : 1988, RA 2019	43.2	mg/L
4	Sulphate as (SO ₄)	IS: 3025 (P- 24) : 1986,Sec.RA 2022	32.8	mg/L
5	Total Suspended Solids (TSS)	IS: 3025 (P-17) : 2022	19.0	mg/L
6	Total Hardness (CaCO ₃)	IS: 3025 (P- 21) : 2009, RA 2019	201	mg/L
7	Calcium (as Ca)	IS : 3025 (P-40) : 2024	41.3	mg/L
8	Magnesium (as Mg)	IS : 3025 (P- 46) : 2023	23.80	mg/L
9	Fluoride (as F)	APHA 24th Edition, 4500F-D: 2023	0.37	mg/L
10	Nitrate (as NO ₃)	IS 3025 (P-34) : Sec 1 : 2023 (Clause 6.4)	13.8	mg/L
11	Phenolic compounds	APHA 24th Edition, 5530C: 2023	*BLQ(**LOQ- 0.05)	mg/L
12	Dissolved oxygen (DO)	IS : 3025 (P -38) : 1989, RA 2019	6.1	mg/L
13	Biochemical Oxygen Demand (BOD) (3 days at 27°C)	IS: 3025 (P-44) : 2023	7.3	mg/L
14	Chemical Oxygen Demand (COD)	IS : 3025 (P- 58) : 2023	29.0	mg/L
15	Total Coliform	IS 15185: 2016 RA 2021	18	cfu/100ml
16	Iron (as Fe)	APHA 24th Edition 3111 B, 2023	0.32	mg/L
17	Zinc (as Zn)	APHA 24th Edition 3111 B, 2023	0.39	mg/L
18	Copper (as Cu)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ- 0.02)	mg/L
19	Lead (as Pb)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ- 0.005)	mg/L
20	Arsenic (as As)	APHA 24th Edition 3114 C, 2023	*BLQ(**LOQ- 0.005)	mg/L
21	Boron (as B)	APHA 24th Edition 4500B-C : 2023	*BLQ(**LOQ- 0.2)	mg/L
22	Chromium (as Cr)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ- 0.02)	mg/L
23	Cadmium (as Cd)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ- 0.002)	mg/L



Checked by



RK Yadav
 Lab Incharge
 Authorized Signatory



Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

Page No. 1/2

Vibrant Techno Lab Pvt. Ltd.

SC-40, 3rd Floor, Narayan Vihar S, Ajmer Road, Jaipur Raj. 302020

9929108691, 9810205356, 8005707098, 9549956601

0141-2954638

bd@vibranttechnolab.com

www.vibranttechnolab.com



TEST REPORT



VIBRANT

"Experience the unimaginable"

Sample Number : VTL/SW/05

ULR No. : TC1122725000000278F

Report No. : VTL/W/2501250021/A

*BLQ Blow limit of Quantification **LOQ Limit of Quantification

End of Report



Checked by



RK Yadav
Lab Incharge
Authorized Signatory



Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

Page No. 2/2

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**VIBRANT***"Experience the unimaginable"***TEST REPORT**

Sample Number : VTL/SW/05

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Sample Description : SURFACE WATER

Sampling Location : Nar Nala (Beside Bagahal Mines)

Sample Collected By : VTL Team

Preservation : Suitable Preservation

Method of sampling : IS :3025

Report No. : VTL/W/2501250021/B

Format No : 7.8 F-01

Party Reference No : NIL

Report Date : 30/01/2025

Period of Analysis : 25/01/2025-30/01/2025

Receipt Date : 25/01/2025

Sampling Date : 22/01/2025

Sampling Type : Grab

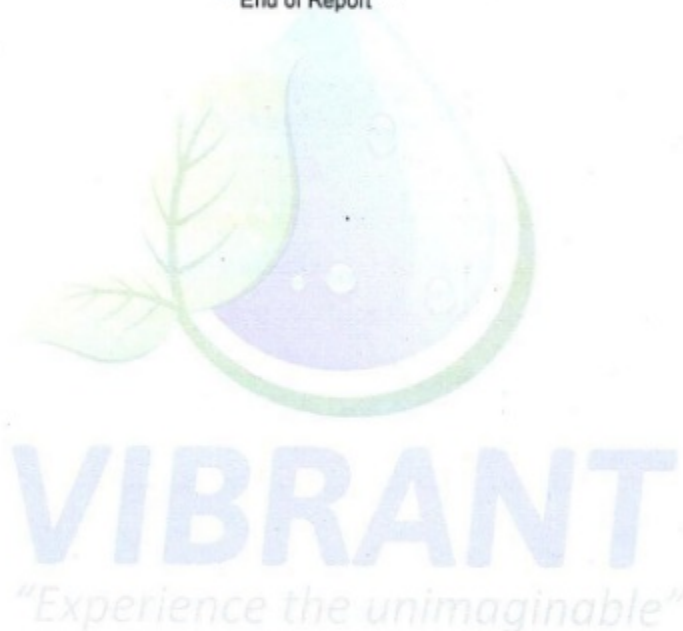
Sample Quantity : 2 Ltr.

Coordinates : --

S.No.	Test Parameters	Test Method	Results	Unit
1	Colour	IS : 3025 (P-4) : 2021	*BLQ(**LOQ-1.0)	Hazen
2	Oil & Grease	IS : 3025 (P-39) 2021	*BLQ(**LOQ- 4.0)	mg/L

*BLQ Blow limit of Quantification **LOQ Limit of Quantification

End of Report



Checked by



RK Yadav

Lab Incharge

Authorized Signatory

Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

Page No. 1/1

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भारत सरकार
Govt. of India
श्रम एवं रोजगार मंत्रालय
Ministry of Labour & Employment
खान सुरक्षा महानिदेशालय
Directorate-General of Mines Safety



NO: 361177|WZ|Jabalpur Region|Perm|2023|252895

Date: 13/02/2023

From
Director of Mines Safety,

Jabalpur Region, Jabalpur.

To
The Manager,

Baghai Limestone Mine,
Prism Johnson Limited,

vill-Mankahri, Dist-Satna, M.P.

Subject: Relaxation under Regulation 164(1-B) of the Metalliferous Mines Regulation 1961 to conduct controlled deep hole blasting within 300 m but beyond 100m of temple/hutment/HT line/dwelling/Railway track etc. not belonging to owner and within 300 m but beyond 50 m of PWD roads (Mendhi-Baghai Road) and (Mendhi - Janardanpur road) at Baghai Limestone Mine of M/s Prism Johnson Limited

Please refer to your Online Application ID No. 252895 dated 19.12.2022 ; offline letter No. PJI/MINE/BG/2022/949 dated 19.12.2022 and the report on "Study and advice for optimization of blast design parameters at Baghai Limestone Mine of M/s Prism Cement Limited to control ground vibration within the safe limits for the safety of habitation, road, railway line and water bodies public and private structures in the periphery of the mine" prepared by Central Institute of Mining & Fuel Research, Dhanbad (Project No. CNP/5042/2020-21 dated April 2021) enclosed therewith on the above subject.

The matter has since been examined in the light of particulars and information furnished in the application and shown on the Surface Plan No. PJI/BG/2022/105 dated 19.12.2022 enclosed with the application under reference. In exercise of the powers conferred on the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under the provisions of Regulation 164(1B)(a) of the Metalliferous Mines Regulations, 1961 and by virtue of the authorization granted to the undersigned by the Chief Inspector of Mines (also designated as Director General of Mines Safety) under Section 6(1) of the Mines Act, 1952, I hereby grant relaxation under Regulation 164(1B)(a) of the Metalliferous Mines Regulations, 1961 to conduct controlled deep hole blasting within 300 m but beyond 100 m of temple/hutment/HT line/dwelling/Railway track etc. not belonging to owner and within 300 m but beyond 50 m of PWD roads (Mendhi-Baghai Road) and (Mendhi - Janardanpur road) at Baghai Limestone Mine of M/s Prism Johnson Limited subject to the following conditions being strictly complied with

1.0 No deep hole blasting shall be conducted within 100 m of temple/hutment/HT line/dwelling/Railway track etc. and other surface structures not belonging to the owner and within 50m of PWD road.

1.1 No blasting for any purpose shall be done within 300 m from the boundary of sub station or from the electric supply line of voltage exceeding 650V or tower structure without written permission of the Electrical Inspector of Mines under regulation 65(2) of CEAR amendment, 2015.

2.0 No working shall be made or extended to any point within 45m of any structure not belonging to the owner,

3.0 The management shall indemnify any person who may be affected and the owners of surface structures for any damages or loss to their life and property arising out of mining operation

4.0 A competent person shall inspect all the structures for any damage after each blast and record shall be maintained. The damage, if any, shall be intimated to the Director of Mines Safety, Jabalpur Region forthwith.

5.0 The manager of the mine shall personally work out a pattern of holes to be drilled in such a manner so as to minimize ground vibrations and to control flying fragments within 10m in any direction.

6.0 The maximum charge of explosive per delay and Maximum charge per round shall not exceed the quantities mentioned below, when surface structures were within the danger zone but beyond 50m from any such place of blasting-

Distance of structures from the site of blasting (m)	Maximum Charge/delay (Kg)	Maximum Charge/blasting(Kg)
>100-125	39	470
>125-150	60	730
>150-175	80	1050
>175-200	120	1400
>200-225	150	1850
>225-250	190	2300
>250-275	190	2300
>275-300	190	2300

7.0 (1) No hole shall be blasted without proper muffling. Muffling of shot holes shall be done with old conveyor belt of suitable size overlain by minimum 4 (four) sand bags each of 50kg weight to be placed on each hole.

ii) Two free faces shall always be maintained and blasting material shall be cleared off before commencement of blasting operation.

iii) All loose debris should be removed from the place where drilling and blasting is to be done.

(iv) The Manager should fix the blasting time and it shall be circulated to all concern and

displayed on the Notice Board and as far as possible, blasting shall be done only at the specified time, during day light hours.

(v) The code of blasting signals shall be framed by the manager and shall be followed strictly.

(vi) The type of initiating device for conducting blasting operation shall be shock tubes of Non- electric type (NONEL/RAYDET etc.) or electronic detonator type.

(vii) No blasting shall be done in crushed, broken or sliced ground.

(viii) Charging of explosives shall be such as to ensure continuity of the explosive column Where deck charging is done, continuity shall be ensured for each deck of explosive charge

ix) The cartridge of explosives shall be lowered carefully into the shot-holes so as to avoid sticking of cartridges in the shot holes thereby causing air spaces in column of explosive charge. After charging each hole with explosive, the length of the remaining hole shall be measured to ensure that the cartridges are in close contact with each other and there is no air gap between any two cartridges of explosives. In case of the length of uncharged portion of the hole is not found as per the calculation thereby indicating the presence of air space, attempt may be made to push down the charge (in case of slurry explosives only), The remaining hole shall then be stemmed with moist sand before blasting the shot-hole.

x) The area of the loaded holes shall be conspicuously marked by visible bright red flags during day light hours. The entire area shall be cordoned off to prevent unauthorized or inadvertent entry.

(xi) Before deep-holes are charged, stemmed and fired, sufficient warning by siren or other suitable means shall be given to warn persons within a radius of 500 m, including to the habitants of structures and dwellings, not belonging to owner of the mine

(xii) Two-way communication by wireless or walkie-talkie sets shall be provided to the Assistant Manager in-charge of blasting, blasting foreman, and to the assistants of the blaster. The sets, including mobile phones in possession of blasting personnel, if any, shall remain switched off during handling and charging of explosives.

(xiii) It shall be ensured that no person remains in the dwellings/structures falling within a radial distance of 500 m of the place of firing at the time of blasting, unless the dwelling/structure provides adequate/proper shelter from flying fragments resulting out of blasting. Guards shall be posted to ensure that no person inadvertently enters the danger zone, and to ensure that all persons within the danger zone have taken proper shelter. All precautions provided under Regulation 164 of the Metalliferous Mines Regulations, 1961, regarding taking shelter, shall be complied with.

8.0 Barricades/drop gates on either end of roads within 300m radius of the site of blasting shall be maintained and guards shall be posted to stop any inadvertent entry of persons/vehicles on the road during the blasting period.

9.0 To ascertain the efficacy of the blasting performance, measurement of ground vibrations of every blast by suitable Instrument shall be done and record thereof maintained in the bound paged book kept for the purpose. The record maintained shall show the size, depth, pattern of shot-holes, amount of charge per round, charge/delay, sequences of blasting and observations made, in a prescribed format in bound paged book. All entries in the bound-paged book shall be duly signed by the Assistant Manager In-charge of blasting operations and shall also be countersigned by the Manager.

9.1 The result of record of frequency and PPV (peak particle velocity) measured shall be recorded for every blast and kept maintained. For the purpose, required instrument/seismo-graph/vibro-graph, triggered by geo-phone and capable of giving digital output duly calibrated shall be made, kept available, and used at the mine. The record shall be signed by the blasting incharge and counter signed by the manager of the mine.

9.2 If the PPV (peak particle velocity) measured at any time exceeds the permitted value, it shall be immediately informed to the Director of Mines Safety, Jabalpur Region and the scientific agency for further guidance.

10.0 The provisions of Regulation 164(1A) & 164(1B) of the Metalliferous Mines Regulations 1961 shall be strictly complied with subject to the conditions as stipulated in the permission letter. DGMS Cir. Tech. 7/1997 shall be strictly followed.

11.0 (i) The entire operations of transport of the explosives to the site of its use, drilling, stemming and blasting operations shall be placed under the direct personal supervision of an Assistant Manager appointed by the owner of the mine holding First Class Manager's Certificate of Competency in accordance with the guidance and directives issued by the Manager.

(ii) Only those shot firers who are fully trained in controlled blasting technique shall be deputed for shot firing operations.

(iii) A Code of 'Safe Practices for Controlled Deep-hole Blasting and Unsafe Practices Prohibited' shall be framed and implemented under the direct personal supervision of the "Blasting Officer (Assistant Manager In-charge of Blasting).

12.0 The place, where drilling has been done shall be thoroughly cleaned so that all loose debris and loose rocks lying in the area and in the vicinity of the shot-holes are removed.

13.0 (i) Explosives shall be used in the order of the dates of manufacture

(ii) Explosives shall not be used after expiry of the shelf-life.

14.0 (i) Explosive when transported in vehicles shall be carried in an explosive van approved by the Chief Controller of Explosives.

(ii) Explosive vans used for transport of explosives shall be in safe operating condition and

should be driven by the competent licensed drivers

(iii) The explosive van shall be kept in isolated locations while loaded which shall be properly guarded and attended.

(iv) The explosive vans shall be well locked except during times of placements and removal of stocks therefrom

v) No smoking or open flame shall be permitted in or near the explosive van containing explosives

15.0 All detonators and primed cartridges shall be kept in secure receptacles at a safe distance from the detonating fuse and the explosive until actually required for use.

16.0 The case or container of explosives shall not be opened unless the holes are ready for charging in every respect.

17.0 The holes shall be charged and fired as soon as possible after the explosive is transported to the site of blasting. All normal precautions for charging and firing as laid down under the provisions of Regulations shall be strictly observed.

18.0 The explosive charge shall not be allowed to sleep over in the shot holes unless express permission to that effect has been obtained in writing from this Directorate.

19.0 (i) Explosive cartridge shall not be slit or deformed.

(ii) Adequate amount of cap sensitive explosive shall be used with non-cap sensitive explosive charge to ensure complete detonation of the explosive charge.

20.0 In case of any actual or apprehended danger of any sort arising out of the blast is observed or noticed, the blasting shall be stopped forthwith and this Office shall be informed immediately.

21.0 Please note that this permission is subject to the following additional conditions:

21.1 In the event of any change in the circumstances likely to affect the safety of persons and stability of the structure, this permission shall be deemed to have been withdrawn with immediate effect

21.2 If at any time, any one of the conditions subject to which this permission has been granted is violated or not complied with, this permission shall be deemed to have been revoked with immediate effect

21.3 This permission is being issued specifically under the provisions of the Regulations mentioned above without prejudice to any other provisions of law, which may be or may become applicable at any time.

21.4 The above permission may be amended or withdrawn at any time if considered necessary in the interest of safety.

22.0 This permission shall remain valid for a period of **three years** from the date of issue of this letter.

Your Faithfully



ASHOK KUMAR (DIRECTOR - JABALPUR REGION)



पश्चिम मध्य रेल
West Central Railway

मंडल रेल प्रबंधक कार्यालय
इंजीनियरिंग शाखा, जबलपुर
DRM office
Engineering Branch, Jabalpur
Phone: 0761-2625935

No. JBPW/PLG/GENI/02

Date: 18.05.2023

GM (Mines)
Prism Johnson Limited

Sub: No Objection Certificate to carry out controlled deep hole blasting beyond 100m but not within 100m from STA-REWA Railway Line.

Ref: Your application dated 25.04.2023.

In reference to your application in the subject matter dated 25.04.2023, it is informed that various stipulations of subject matter along with impact mitigation measures to carry out blasting as listed by DGMS, has been studied and competent authority has accorded his approval for grant of NOC for carrying out mining operations with controlled deep hole blasting beyond 100m but not within 100m from STA-REWA Railway Line passing nearby Baghai Limestone Mining lease boundary of your firm at village-Baghai, Tehsil-Rampur Baghela, Dist.- Satna, MP, with the condition that:

"Agreed in principle but damage (if any) during blasting should be recovered from the firm."

This is for your kind information please.

Muhammad
18.05.2023
DEN (North) JBP

C/- DRM/JBP: for kind information please.

C/- Sr. DEN (Co) JBP: for kind information please.

C/- ADEN/North/STA: for information and necessary action please.

C/- SSE (PW) Rewa: for information and necessary action please.

C/- SSE (Works) North/STA: for information and necessary action please.



Baghai School Boundary

Date/Time Vert at 13 29 27 September 11, 2024
Trigger Source Geo 0.500 mm/s, Mic: 2.000 pa (L)
Range Geo 254.0 mm/s
Record Time 2.0 sec (Auto=7Sec) at 1024 sps
Operator/Setup: Operator/BGM mmb

Serial Number UM8131 V 10-76 Micromate ISEE
Battery Level 3.8 Volts
Unit Calibration January 29, 2024 by UES New Delhi
File Name _TEMP EVT

Notes
 Location: BAGHAI LIME STONE MINE
 Client:
 User Name: PRISM JOHNSON LIMITED SATNA
 General:

Post Event Notes
 INSTUMENT DISTANCE FROM BLASTING FACE =200 MTR, NO
 OF HOLE=35 NOS, CHARGING/HOLE=28.50 KG, CHARGING/
 DELAY=28.50 KG,

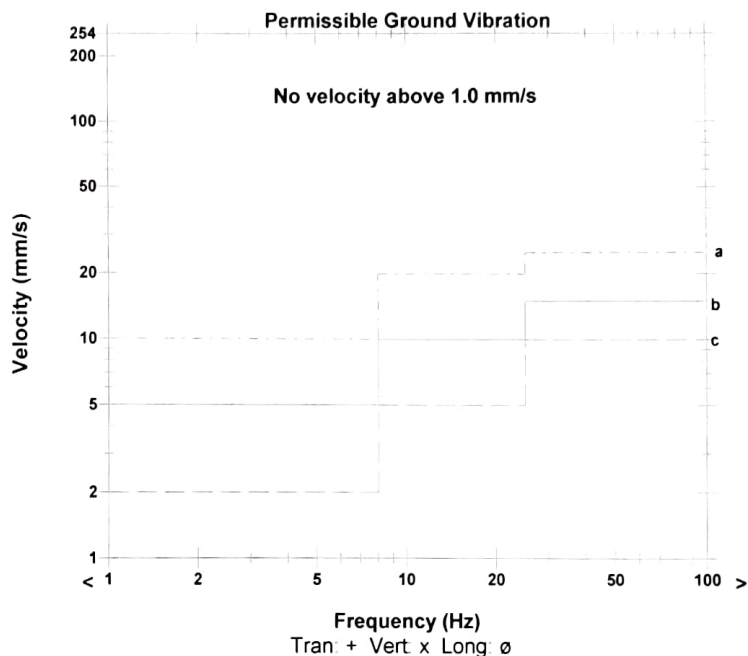
Extended Notes
 BAGHAI LIME STONE MINE

Microphone Linear Weighting
PSPL <0.500 pa (L)
ZC Freq 22 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

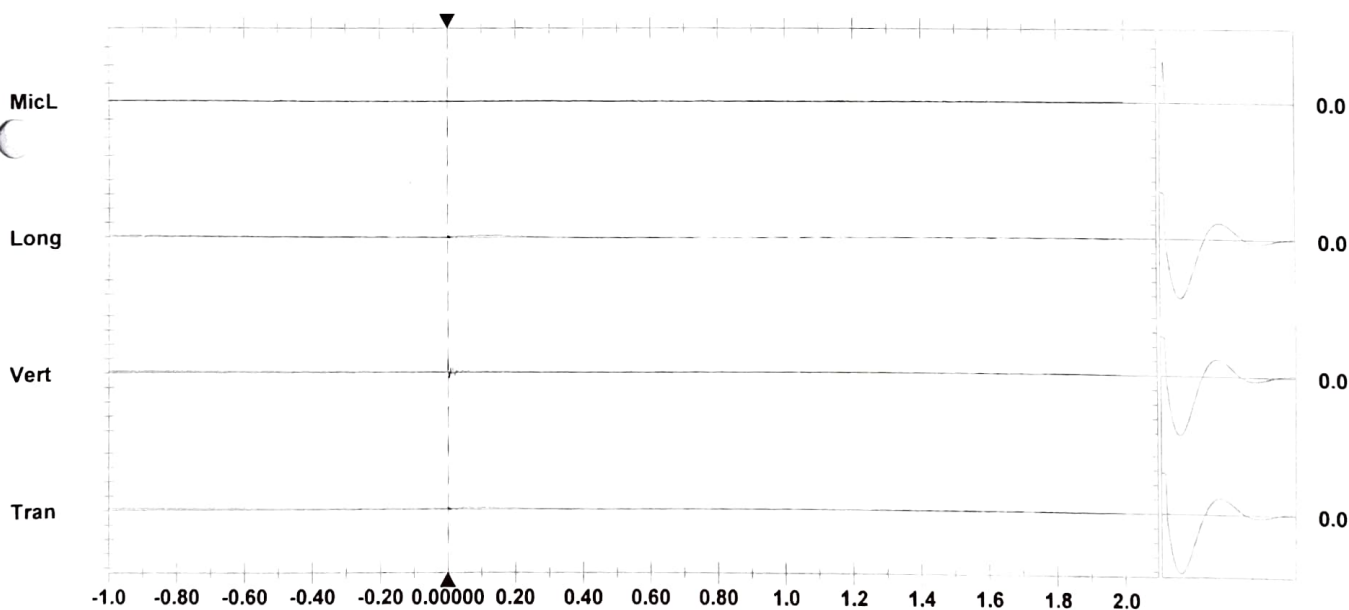
	Tran	Vert	Long	
PPV	0.418	1.947	0.331	mm/s
ZC Freq	N/A	N/A	1.6	Hz
Time (Rel. to Trig)	0.000	0.000	0.078	sec
Peak Acceleration	0.027	0.232	0.044	g
Peak Displacement	0.100	0.091	0.052	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.1	Hz
Overswing Ratio	3.6	3.4	3.6	

Peak Vector Sum 1.991 mm/s at 0.000 sec
N/A: Not Applicable

DGMS India (A)



- a) Industrial Buildings
- b) Domestic houses/structures
- c) Historic objects, sensitive structures



Sensor Check

Date/Time Vert at 13:28:28 July 22, 2024
Trigger Source Geo: 0.500 mm/s, Mic: 2.000 pa (L)
Range Geo: 254.0 mm/s
Record Time 5.5 sec (Auto=7Sec) at 1024 sps
Operator/Setup: Operator/BGM.mmb

Serial Number UM8131 V 10-76 Micromate ISEE
Battery Level 3.8 Volts
Unit Calibration January 29, 2024 by UES New Delhi
File Name _TEMP.EVT

Notes
Location: BAGHAI LIME STONE MINE
Client:
User Name: PRISM JOHNSON LIMITED SATNA
General:

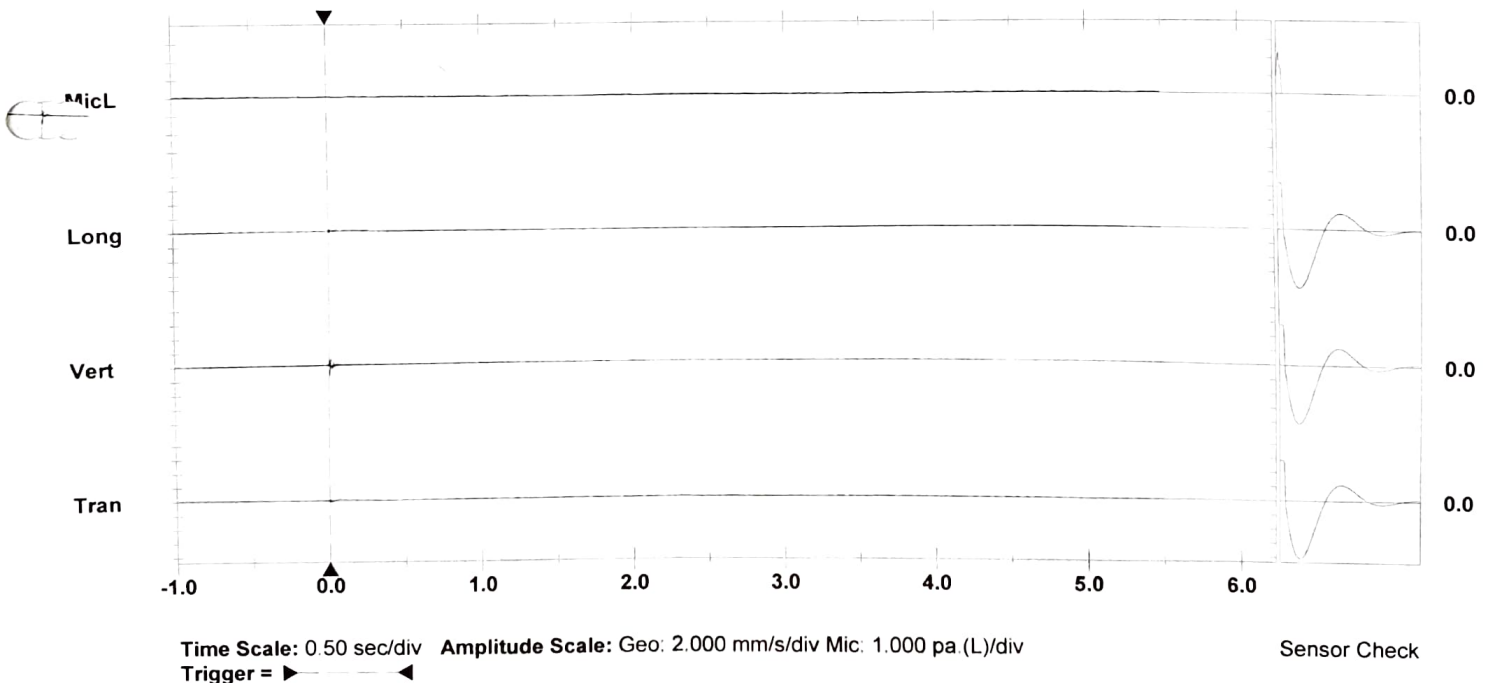
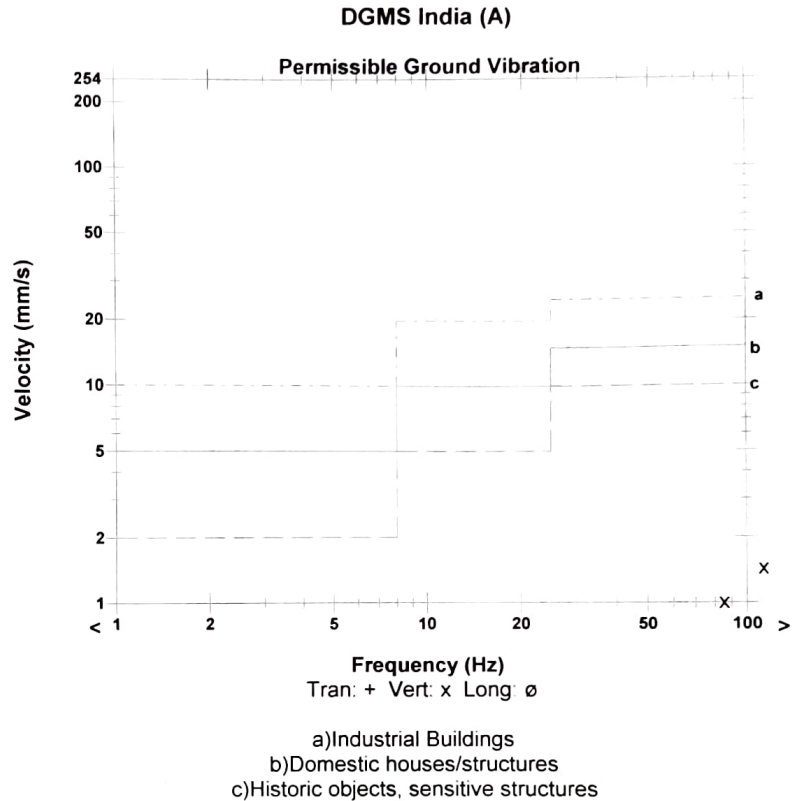
Post Event Notes
 INSTUMENT DISTANCE FROM BLASTING FACE =250 MTR, NO
 OF HOLE=34 NOS, CHARGING/HOLE=22.00KG, CHARGING /
 DELAY=22.00 KG,

Extended Notes
 BAGHAI LIME STONE MINE

Microphone Linear Weighting
PSPL <0.500 pa.(L)
ZC Freq 6.6 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.426	1.498	0.292	mm/s
ZC Freq	N/A	N/A	32	Hz
Time (Rel. to Trig)	0.003	0.000	0.017	sec
Peak Acceleration	0.035	0.158	0.041	g
Peak Displacement	0.061	0.057	0.012	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.1	Hz
Overswing Ratio	3.6	3.4	3.6	

Peak Vector Sum 1.532 mm/s at 0.000 sec
N/A: Not Applicable



Date/Time Vert at 13:26:39 August 14, 2024
Trigger Source Geo: 0.500 mm/s, Mic: 2.000 pa (L)
Range Geo: 254.0 mm/s
Record Time 2.046 sec (Auto=7Sec) at 1024 sps
Operator/Setup: Operator/BGM mmb

Serial Number UM8131 V 10-76 Micromate ISEE
Battery Level 3.8 Volts
Unit Calibration January 29, 2024 by UES New Delhi
File Name _TEMP EVT

Notes
Location: BAGHAI LIME STONE MINE
Client:
User Name: PRISM JOHNSON LIMITED SATNA
General:

Post Event Notes
 INSTUMENT DISTANCE FROM BLASTING FACE =250 MTR.NO
 OF HOLE=23 NOS,CHARGING/HOLE=32.6 KG,CHARGING/
 DELAY=32.6 KG.

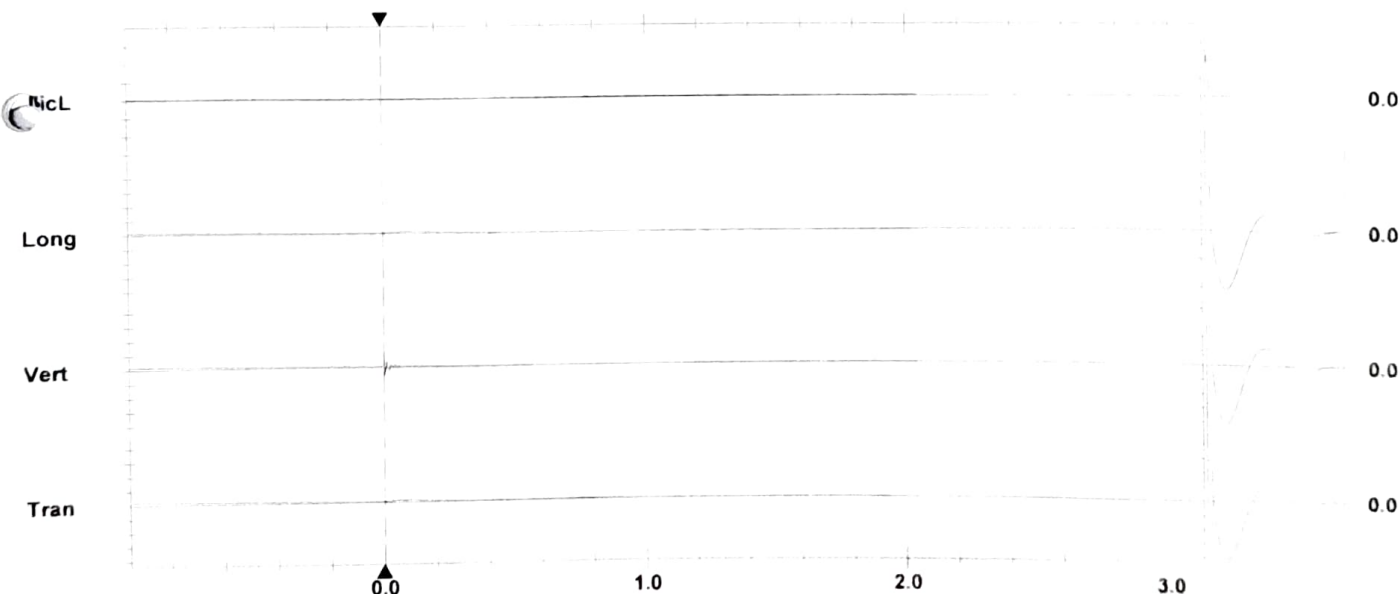
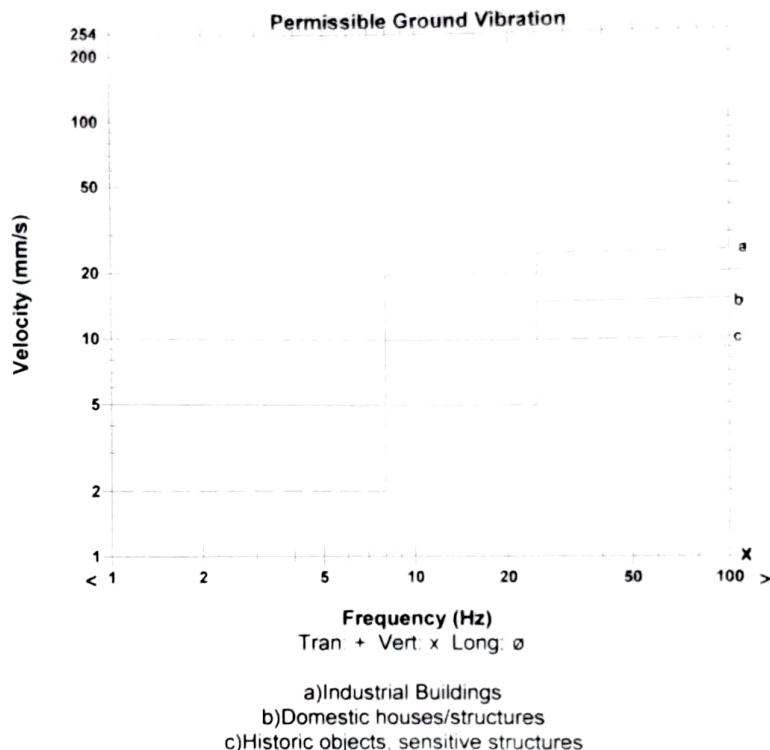
Extended Notes
 BAGHAI LIME STONE MINE

Microphone Linear Weighting
PSPL <0.500 pa (L)
ZC Freq 19 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.441	2.286	0.347	mm/s
ZC Freq	N/A	N/A	>100	Hz
Time (Rel. to Trig)	-0.939	0.000	0.004	sec
Peak Acceleration	0.026	0.262	0.043	g
Peak Displacement	0.135	0.124	0.087	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.1	Hz
Overswing Ratio	3.6	3.4	3.6	

Peak Vector Sum 2.325 mm/s at 0.000 sec
N/A: Not Applicable

DGMS India (A)



Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 1.000 pa (L)/div
Trigger = ►

Sensor Check

कार्यालय मुख्य अभियन्ता गंगा कछार जल संसाधन विभाग रीवा (म0प्र0)

पत्र प्रति, क्रमांक गंगा/कार्य/ 782-133 का 2023/2994 रीवा, दिनांक 01/05/2023.

मेसर्स प्रिज्म जॉनसन लिमिटेड
305 लक्ष्मी निवास अपार्टमेन्ट
हैदराबाद (म0प्र0)।

विषय- जिला सतना के ग्राम बगहाई, तहसील रामपुर बघेलान अंतर्गत मेसर्स प्रिज्म जॉनसन लिमिटेड के पक्ष में रकबा 512.317 हे. स्वीकृत खनिपट्टा क्षेत्र से गुजरने वाली मुख्य पुरवा नहर के दोनो ओर 100 मीटर का प्रतिबंधित क्षेत्र छोड़कर खनिज चूनापत्थर के खनन का कार्य करने के संबंध में।

सन्दर्भ- आपका पत्रक्रमांक PJM/MRM/2023-24/22 दिनांक 24.03.2020.

-00-

विषयान्तर्गत म0प्र0 शासन खनिज साधन विभाग मंत्रालय भोपाल के आदेशक्रमांक एफ 3-7/06/12/1 भोपाल दिनांक 16.09.2008 द्वारा जिला सतना के ग्राम बगहाई, तहसील रामपुर बघेलान अंतर्गत मेसर्स प्रिज्म जॉनसन लिमिटेड के पक्ष में रकबा 512.317 हे. क्षेत्र में खनिपट्टा स्वीकृत किया गया है।

अतः आपके आवेदन के परिप्रेक्ष्य में खनिज रियायत नियम 1960 में विहित प्रावधान तथा म0प्र0 राजपत्र (असाधारण) दिनांक 23 मार्च 2013 में प्रकाशित मध्यप्रदेश गौण खनिज नियम 1966 में किए गये संशोधन अनुसार पुरवा नहर संरचना के दोनों ओर 100-100 मीटर का प्रतिबंधित क्षेत्र छोड़कर खनन कार्य किए जाने हेतु सहमति प्रदान की जाती है। इस अनुमति से यदि विभागीय संरचना प्रभावित होती है तब कम्पनी को विभाग के निर्देशों का पालन करना होगा।

सहपत्र-शून्य

(जे0एस0 कुसरे)

मुख्य अभियन्ता

गंगा कछार जल संसाधन विभाग

रीवा (म0प्र0)

पृ. क्रमांक गंगा/कार्य/ 782-133 का 2023 2995 रीवा, दिनांक 01/05/2023.

प्रतिलिपि-

1- अधीक्षण यंत्री बाणसागर नहर मण्डल रीवा।

2- कार्यपालन यंत्री पुरवा नहर संभाग क्र2 सतना।

की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

सहपत्र-शून्य।

हस्ता/

(जे0एस0 कुसरे)

मुख्य अभियन्ता

गंगा कछार जल संसाधन विभाग

रीवा (म0प्र0)

Sample Number : VTL/AA/09

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
Village- Mankahari, Tehsil- Rampur Baghelan, Dist. - Satna (M.P.)

Report No. : VTL/A/2501250009/A
Format No : 7.8 F-02
Party Reference No : NIL
Report Date : 30/01/2025
Period of Analysis : 25/01/2025-30/01/2025
Receipt Date : 25/01/2025

Sample Description : AMBIENT AIR QUALITY MONITORING

General Information:-

Sampling Location : Nr.Boundary Piller No.64,Bagahai (Bagahai Mine)
Sample Collected By : VTL Team
Instrument Code : VTL/RDS/FPS/02
Coordinates : 81.043743 & 24.577705
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 19/01/2025 To 20/01/2025
Time of Monitoring : 09:40 to 09:40 Hrs.
Ambient Temperature (°C) : Min.8°C Max 24°C
Surrounding Activity : Human, Vehicular & Plant Activities
Method of Sampling : IS :5182
Sampling Duration : 24 Hrs.
Parameter Required : As per work order

S.No.	Parameters	Test Method	Results	Units	NAAQS 2009 (Limits)
1	Particulate Matter (as PM10)	IS:5182 (Part- 23)-2006 RA 2022	65.28	µg/m³	100
2	Particulate Matter (as PM2.5)	IS 5182(Part- 24): 2019	31.89	µg/m³	60
3	Nitrogen Dioxide (as NO2)	IS:5182 (P- 6)-2006, RA.2022	22.10	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS 5182 (Part 2): Sec 1 : 2023	12.47	µg/m³	80
5	Carbon Monoxide (as CO)	IS:5182 (P- 10)-1999, RA. 2019 (NDIR)	0.68	mg/m³	4

*BLQ-Below Limit Of Quantification, **LOQ-Limit Of Quantification

End of Report

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Checked by



RK Yadav
Lab Incharge
Authorized Signatory



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**VIBRANT***"Experience the unimaginable"***TEST REPORT**

Sample Number : VTL/AA/10

Name & Address of the Party : M/s PRISM JOHNSON LIMITED

Village- Mankahari, Tehsil- Rampur Baghelan, Dist. - Satna (M.P.)

Report No. : VTL/A/2501250010/A

Format No : 7.8 F-02

Party Reference No : NIL

Report Date : 30/01/2025

Period of Analysis : 25/01/2025-30/01/2025

Receipt Date : 25/01/2025

Sample Description : AMBIENT AIR QUALITY MONITORING

General Information:-

Sampling Location : South Side of Working pit (Bagahai Mine)
 Sample Collected By : VTL Team
 Instrument Code : VTL/RDS/FPS/03
 Coordinates : 81.044145 & 24.561192
 Meteorological condition during monitoring : Clear Sky
 Date of Monitoring : 19/01/2025 To 20/01/2025
 Time of Monitoring : 10:10 to 10:10 Hrs.
 Ambient Temperature (°C) : Min. 8°C Max 24°C
 Surrounding Activity : Human, Vehicular & Plant Activities
 Method of Sampling : IS : 5182
 Sampling Duration : 24 Hrs.
 Parameter Required : As per work order

S.No.	Parameters	Test Method	Results	Units	NAAQS 2009 (Limits)
1	Particulate Matter (as PM10)	IS:5182 (Part- 23)-2006 RA 2022	89.71	µg/m³	100
2	Particulate Matter (as PM2.5)	IS 5182(Part- 24): 2019	48.90	µg/m³	60
3	Nitrogen Dioxide (as NO2)	IS:5182 (P- 6)-2006, RA.2022	26.62	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS 5182 (Part 2): Sec 1 : 2023	14.39	µg/m³	80
5	Carbon Monoxide (as CO)	IS:5182 (P- 10)-1999, RA. 2019 (NDIR)	0.80	mg/m³	4

*BLQ-Below Limit Of Quantification, **LOQ-Limit Of Quantification

End of Report



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Sample Number : VTL/AA/11

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
Village- Mankahari, Tehsil- Rampur Baghelan, Dist. - Satna (M.P.)

Report No. : VTL/A/2501250011/A
Format No : 7.8 F-02
Party Reference No : NIL
Report Date : 30/01/2025
Period of Analysis : 25/01/2025-30/01/2025
Receipt Date : 25/01/2025

Sample Description : AMBIENT AIR QUALITY MONITORING

General Information:-

Sampling Location : At Baisan Tola(Nr.Bagahai ML Area)(Bagahai Mine)
Sample Collected By : VTL Team
Instrument Code : VTL/RDS/FPS/04
Coordinates : 81.051734 & 24.559126
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 19/01/2025 To 20/01/2025
Time of Monitoring : 10:35 to 10:35 Hrs.
Ambient Temperature (°C) : Min.8°C Max 24°C
Surrounding Activity : Human, Vehicular & Plant Activities
Method of Sampling : IS :5182
Sampling Duration : 24 Hrs.
Parameter Required : As per work order

S.No.	Parameters	Test Method	Results	Units	NAAQS 2009 (Limits)
1	Particulate Matter (as PM10)	IS:5182 (Part- 23)-2006 RA 2022	65.40	µg/m³	100
2	Particulate Matter (as PM2.5)	IS 5182(Part- 24): 2019	42.52	µg/m³	60
3	Nitrogen Dioxide (as NO2)	IS:5182 (P- 6)-2006, RA.2022	22.08	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS 5182 (Part 2): Sec 1 : 2023	11.96	µg/m³	80
5	Carbon Monoxide (as CO)	IS:5182 (P- 10)-1999, RA. 2019 (NDIR)	0.66	mg/m³	4

*BLQ-Below Limit Of Quantification, **LOQ-Limit Of Quantification

End of Report



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**VIBRANT***"Experience the unimaginable"***TEST REPORT**

Sample Number : VTL/AA/12

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
 Village- Mankahari, Tehsil- Rampur Baghelan, Dist. - Satna (M.P.)

Report No. : VTL/A/2501250012/A
 Format No : 7.8 F-02
 Party Reference No : NIL
 Report Date : 30/01/2025
 Period of Analysis : 25/01/2025-30/01/2025
 Receipt Date : 25/01/2025

Sample Description : AMBIENT AIR QUALITY MONITORING

General Information:-

Sampling Location : Adiwasi Tola(Nr.Bagahai ML Area)(Bagahai Mine)
 Sample Collected By : VTL Team
 Instrument Code : VTL/RDS/FPS/05
 Coordinates : 81.053377 & 24.564937
 Meteorological condition during monitoring : Clear Sky
 Date of Monitoring : 19/01/2025 To 20/01/2025
 Time of Monitoring : 11:00 to 11:00 Hrs.
 Ambient Temperature (°C) : Min.8°C Max 24°C
 Surrounding Activity : Human, Vehicular & Plant Activities
 Method of Sampling : IS :5182
 Sampling Duration : 24 Hrs.
 Parameter Required : As per work order

S.No.	Parameters	Test Method	Results	Units	NAAQS 2009 (Limits)
1	Particulate Matter (as PM10)	IS:5182 (Part- 23)-2006 RA 2022	79.73	µg/m³	100
2	Particulate Matter (as PM2.5)	IS 5182(Part- 24): 2019	43.60	µg/m³	60
3	Nitrogen Dioxide (as NO2)	IS:5182 (P- 6)-2006, RA.2022	18.42	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS 5182 (Part 2): Sec 1 : 2023	8.99	µg/m³	80
5	Carbon Monoxide (as CO)	IS:5182 (P- 10)-1999, RA. 2019 (NDIR)	0.58	mg/m³	4

*BLQ-Below Limit Of Quantification, **LOQ-Limit Of Quantification

End of Report

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**VIBRANT**

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Sample Number : VTL/W/14

Name & Address of the Party : M/s PRISM JOHNSON LIMITED

Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Sample Description : Water Sample

Sampling Location : Bagahai Lime Stone Drinking Water (Mine Site Office)

Sample Collected By : VTL Team

Preservation : Suitable Preservation

Method of sampling : IS :3025

TEST REPORT

TC-11227

ULR No. : TC1122725000000272F

Report No. : VTL/W/2501250014/A

Format No : 7.8 F-01

Party Reference No : NIL

Report Date : 30/01/2025

Period of Analysis : 25/01/2025-30/01/2025

Receipt Date : 25/01/2025

Sampling Date : 21/01/2025

Sampling Type : Grab

Sample Quantity : 2 Ltr.

Coordinates : --

S.No.	Test Parameters	Test Method	Results	Units	IS:10500-2012,RA 2023	
					Acceptable Limit	Permissible Limit
1	pH (at 25°C)	IS : 3025 (P-11) : 2022	7.66	--	6.5 to 8.5	No Relaxation
2	Colour	IS : 3025 (P-4) : 2021	*BLQ(**LOQ-1.0)	Hazen	5	15
3	Turbidity	IS : 3025 (P-10) : 2023	*BLQ(**LOQ-1.0)	NTU	1	5
4	Odour	IS : 3025 (P-5) : 2018	Agreeable	--	Agreeable	Agreeable
5	Taste	IS : 3025 (P-8) : 2023	Agreeable	--	Agreeable	Agreeable
6	Total Hardness (as CaCO ₃)	IS: 3025 (P-21): 2009, RA 2019	227.0	mg/L	200	600
7	Calcium (as Ca)	IS: 3025 (P- 40): 2024	47.0	mg/L	75	200
8	Total Alkalinity (as CaCO ₃)	IS: 3025 (P-23): 2023	256.0	mg/L	200	600
9	Chloride (as Cl)	IS: 3025 (P-32): 1988, RA 2019	127.0	mg/L	250	1000
10	Magnesium (as Mg)	IS: 3025 (P-46): 2023	27.27	mg/L	30	100
11	Total Dissolved Solids	IS :3025 (P-16): 2023	641	mg/L	500	2000
12	Sulphate (as SO ₄)	IS: 3025 (P-24): Sec : 1 : 2022	42.90	mg/L	200	400
13	Fluoride (as F)	APHA 24th Edition, 4500F-D: 2023	0.42	mg/L	1.0	1.5
14	Nitrate (as NO ₃)	IS 3025 (P-34) : Sec 1 : 2023 (Clause 6.4)	17.80	mg/L	45.0	No Relaxation
15	Iron (as Fe)	APHA 24th Edition 3111 B, 2023	0.33	mg/L	1.0	No Relaxation
16	Aluminium (as Al)	IS 3025 (P-55): 2003, RA 2019	*BLQ(**LOQ-0.03)	mg/L	0.03	0.2
17	Boron (as B)	APHA 24th Edition 4500B-C : 2023	*BLQ(**LOQ-0.2)	mg/L	0.5	2.4
18	Total Chromium (as Cr)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.02)	mg/L	0.05	No Relaxation



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**VIBRANT**

"Experience the unimaginable"

Sample Number : VTLW/14

TEST REPORT

TC-11227

ULR No. : TC112272500000272F

Report No. : VTLW/2501250014/A

S.No.	Test Parameters	Test Method	Results	Units	IS:10500-2012,RA 2023	
					Acceptable Limit	Permissible Limit
19	Zinc (as Zn)	APHA 24th Edition 3111 B, 2023	0.42	mg/L	5.0	15.0
20	Copper (as Cu)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.02)	mg/L	0.05	1.5
21	Manganese (as Mn)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.05)	mg/L	0.1	0.3
22	Cadmium (as Cd)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.002)	mg/L	0.003	No Relaxation
23	Lead (as Pb)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.005)	mg/L	0.01	No Relaxation
24	Arsenic (as As)	APHA 24th Edition 3114 C, 2023	*BLQ(**LOQ-0.005)	mg/L	0.01	0.05
25	Mercury (as Hg)	APHA 24th Edition 3112B, 2023	*BLQ(**LOQ-0.001)	mg/L	0.001	No Relaxation
26	Total Coliform	IS : 15185 : 2016 RA: 2021	Absent	per 100 ml	Shall not be detectable in any 100 ml sample	--
27	E.Coli	IS : 15185 : 2016 RA: 2021	Absent	per 100 ml	Shall not be detectable in any 100 ml sample	--
28	Sulphide (as H ₂ S)	IS 3025 (P-29) : 2022 (Clause 7.0)	*BLQ(**LOQ-0.04)	mg/L	0.05	No Relaxation
29	Nickel as Ni	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.01)	mg/L	0.02	No relaxation
30	Free Residual Chlorine	IS 3025 (P- 26): 2021 (Clause 7.0)	*BLQ(**LOQ-0.2)	mg/L	0.2	1.0

*BLQ-Below Limit Of Quantification, **LOQ- Limit of Quantification

End of Report



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TEST REPORT

VIBRANT

"Experience the unimaginable"

Sample Number:

Name & Address of the Party:

Sample Collected By

Sample Description:

VTL/WL/01-14

M/s PRISM JOHNSON LIMITED

Village- Mankahari, Tehsil- Rampur
Baghelan, Dist.- Satna (M.P.)

VTL Team

Ground Water Level Monitoring

Report No.:

Format No.:

Party Reference No.:

Report Date:

Receipt Date:

Date of Monitoring

VTL/WL/2501250001-14/B

7.8 F-01

NIL

30/01/2025

25/01/2025

18-22/01/2025

S.No.	Location	Depth (In meter)
1.	Near Colony Gate	8.54
2.	Behind B Block colony	7.43
3.	Behind C Block colony	5.6
4.	Near Auto Work Shop	11.2
5.	In Front of Den	7.61
6.	Western Block Mines	09.10
7.	Near New Magazine Mines	15.0
8.	Rose Garden Near Road	08.14
9.	Mines near Ramprasan	15.8
10.	Medhi Mines	13.3
11.	Mankahari Mines	12.0
12.	Chulhi Majhiyar Mines	10.2
13.	Bagahai Mines	8.71
14.	Badarkha Mines	10.8

Checked By



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Vibrant Techno Lab Pvt. Ltd.

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TEST REPORT



VIBRANT

"Experience the unimaginable"

Sample Number : VTL/AN/09

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Sample Description : Ambient Noise Level Monitoring
Scope of Monitoring : Regulatory Requirement
Protocol Used : IS 9989
Instrument Used : SLM

Report No. : VTL/N/2501250009/A
Format No : 7.8 F-04
Party Reference No : NIL
Report Date : 30/01/2025
Receipt Date : 25/01/2025
Sampling Duration : 24 Hrs.
Sample Collected : VTL Team
Instrument : Calibrated
Calibration Status

General Information:-

Sampling Location : Near Boundary pillar no.64 Bagahai (Bagahai Mine)
Instrument Code : VTL/SLM/02
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 19/01/2025 To 20/01/2025
Time of Monitoring : 06:00 to 06:00 Hrs.
Ambient Temperature (°C) : Min.8°C Max 24°C
Surrounding Activity : Human, Vehicular & Other Activities
Parameter Required : As per Work Order
Coordinates : --

S.No.	Test Parameters	Protocol	Test Result dB(A)	
			Day Time	Night Time
1	Noise Level (Leq)	IS 9989 - 1981 RA:2020	55.7	44.8

Ambient Noise Quality Standards as per Noise Pollution (Regulation and Control) Rules, 2000

Area Code	Category of Area/Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence Zone	50	40

- Day Time is from 6.00 AM to 10.00 PM.
 - Night Time is reckoned between 10.00 PM to 6.00 AM.
 - Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.
- Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

End of Report



Checked by



RK Yadav
Lab Incharge
Authorized Signatory



Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

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Vibrant Techno Lab Pvt. Ltd.

SC-40, 3rd Floor, Narayan Vihar S, Ajmer Road, Jaipur Raj. 302020
9929108691, 9810205356, 8005707098, 9549956601

0141-2954638

bd@vibranttechnolab.com

www.vibranttechnolab.com



TEST REPORT



VIBRANT

"Experience the unimaginable"

Sample Number : VTL/AN/10

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Sample Description : Ambient Noise Level Monitoring
Scope of Monitoring : Regulatory Requirement
Protocol Used : IS 9989
Instrument Used : SLM

Report No. : VTL/N/2501250010/A
Format No : 7.8 F-04
Party Reference No : NIL
Report Date : 30/01/2025
Receipt Date : 25/01/2025
Sampling Duration : 24 Hrs.
Sample Collected : VTL Team
Instrument : Calibrated
Calibration Status

General Information:-

Sampling Location : South Side Of Working pit (Bagahai Mine)
Instrument Code : VTL/SLM/03
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 19/01/2025 To 20/01/2025
Time of Monitoring : 06:00 to 06:00 Hrs.
Ambient Temperature (°C) : Min. 8°C Max 24°C
Surrounding Activity : Human, Vehicular & Other Activities
Parameter Required : As per Work Order
Coordinates : --

S.No.	Test Parameters	Protocol	Test Result dB(A)	
			Day Time	Night Time
1	Noise Level (Leq)	IS 9989 - 1981 RA:2020	55.1	42.9

Ambient Noise Quality Standards as per Noise Pollution (Regulation and Control) Rules, 2000

Area Code	Category of Area/Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.

2. Night Time is reckoned between 10.00 PM to 6.00 AM.

3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.

Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

End of Report



Checked by



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Authorized Signatory



Approved & Certified

EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

Page No. 1/1

Term & conditions PTO

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TEST REPORT



VIBRANT

"Experience the unimaginable"

Sample Number : VTL/AN/11

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Sample Description : Ambient Noise Level Monitoring
Scope of Monitoring : Regulatory Requirement
Protocol Used : IS 9989
Instrument Used : SLM

Report No. : VTL/N/2501250011/A
Format No : 7.8 F-04
Party Reference No : NIL
Report Date : 30/01/2025
Receipt Date : 25/01/2025
Sampling Duration : 24 Hrs.
Sample Collected : VTL Team
Instrument : Calibrated
Calibration Status

General Information:-

Sampling Location : At Baisan tola(Nr. Bagahai ML Area)(Bagahai Mine)
Instrument Code : VTL/SLM/04
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 19/01/2025 To 20/01/2025
Time of Monitoring : 06:00 to 06:00 Hrs.
Ambient Temperature (°C) : Min.8°C Max 24°C
Surrounding Activity : Human, Vehicular & Other Activities
Parameter Required : As per Work Order
Coordinates : --

S.No.	Test Parameters	Protocol	Test Result dB(A)	
			Day Time	Night Time
1	Noise Level (Leq)	IS 9989 - 1981 RA:2020	47.5	37.7

Ambient Noise Quality Standards as per Noise Pollution (Regulation and Control) Rules, 2000

Area Code	Category of Area/Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.
2. Night Time is reckoned between 10.00 PM to 6.00 AM.
3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.
Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

End of Report



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TEST REPORT



VIBRANT

"Experience the unimaginable"

Sample Number : VTL/AN/12

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Sample Description : Ambient Noise Level Monitoring
Scope of Monitoring : Regulatory Requirement
Protocol Used : IS 9989
Instrument Used : SLM

Report No. : VTL/N/2501250012/A
Format No : 7.8 F-04
Party Reference No : NIL
Report Date : 30/01/2025
Receipt Date : 25/01/2025
Sampling Duration : 24 Hrs.
Sample Collected : VTL Team
Instrument : Calibrated
Calibration Status

General Information:-

Sampling Location : Adiwasi Tola(Nr. Bagahai ML Area)(Bagahai Mine)
Instrument Code : VTL/SLM/05
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 19/01/2025 To 20/01/2025
Time of Monitoring : 06:00 to 08:00 Hrs.
Ambient Temperature (°C) : Min.8°C Max 24°C
Surrounding Activity : Human, Vehicular & Other Activities
Parameter Required : As per Work Order
Coordinates : --

S.No.	Test Parameters	Protocol	Test Result dB(A)	
			Day Time	Night Time
1	Noise Level (Leq)	IS 9989 - 1981 RA:2020	49.6	37.8

Ambient Noise Quality Standards as per Noise Pollution (Regulation and Control) Rules, 2000

Area Code	Category of Area/Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.
2. Night Time is reckoned between 10.00 PM to 6.00 AM.
3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.
Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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Fog Cannon at Baghai Mines Site

Public Hearing dated 4th Feb., 2022 at Baghai Limestone Mine of M/s. Prism Johnson Limited, Satna
Proposed Physical targets for addressing issues of during public hearing as per MoEF&CC, OM dated 30.09.2020 & 20.10.2020

Proposed Physical targets for addressing issues of drinking public hearing as per MOC/F&CC, OM dated 30.09.2020 & 20.10.2020

S. No.	Activities	Budget (Rs. In Lakh)	Year wise Budget (Rs. In Lakh)			Recurring Cost (Rs. In Lakh)
			Year-1 (FY 22-23)	Year-2 (FY 23-24)	Year-3 (FY 24-25)	
Infrastructure Development						
1	Boundary wall construction of Primary School in Medhi Village (250 Feet Length and 5 feet Height)	5.0	5.0	-	-	-
2	Community Sochalaya Development in Bagahai Village	2.0	2.0	-	-	0.50
3	Solar Street light in Villages Bagahai (10), Bairiha (10), Sijhata (7), Tapa (5), Satri (5), Medhi (3) (Total 40 Solar Street Lights)	10.0	Bagahai & Bairiha 5.0	Sijhata & Tapa 3.0	Satri & Mendhi 2.0	0.50
4	Development of playground in Sijhata Village Sports Complex development at Bagahai Village	15.0 30.0	Playground Development 15.0	Sports Complex Development 30.0	-	-
Education						
5	Computers and Internet Facilities, Smart boards -4 in Govt. Schools of Bagahai - 5, Bairiha-5, Sijhata-2, Tapa-3 (Total No. 15)	10.0	Computers with Internet Facilities, Smart boards in Govt. Schools of Bagahai, Bairiha, Sijhata, Tapa 10.0	Arrangement of teachers for the subjects of English, Computer, Sports & Science in Bagahai School 10.0	-	-
	Arrangement of teachers for the subjects of English, Computer, Sports & Science in Bagahai School	10.0				0.60
Drinking Water						
6	Provision of Drinking water facilities in Villages Bagahai, Bairiha, Sijhata, Tapa, Satri, Medhi (One Borewell in each Village)	12.0	Bagahai & Bairiha 4.0	Sijhata & Tapa 4.0	Satri & Mendhi 4.0	-
Skill Development						
7	Employment based training like Driving training, Motor Mechanic, Mobile Repairing, Electric Motor Binding etc. for Youth in Bagahai, Bairiha, Sijhata, Tapa, Satri, Medhi	12	Bagahai & Bairiha 4.0	Sijhata & Tapa 4.0	Satri & Mendhi 4.0	1.00
8	Awareness and training to farmer for increase cash crops & agriculture production, modern practices, good quality seeds etc.	6.0	Bagahai & Bairiha 2.0	Sijhata & Tapa 2.0	Satri & Mendhi 2.0	2.00
Plantation in Nearby Areas						
9	Plantation along the road side in Villages i.e. - Bagahai, Bairiha, Sijhata, Tapa, Satri, Medhi (1000 Species in each Village Total nos. of saplings 6000)	12.0	Bagahai & Bairiha 4.0	Sijhata & Tapa 4.0	Satri & Mendhi 4.0	2.0
Healthcare Facilities						
10	Sub - Health Center Development in Bagahai Village Health care facilities for COVID at Rampur Baghelan for needful medical equipment and mass- awareness program in villages	50.0 25.0	10.0	50.0 10.0	5.0	-
11	Sanitary Napkin Awareness training and 10 Sanitary Napkin Machine to be provide in Bagahai,Sijhata and Bairiha villages	3.0	3.0	-	-	1.5
	Total	202.0	64.0	117.0	21.0	8.10



Smart Board with Solar Backup

प्रिज्म जॉनसन लिमिटेड में 50 वां विश्व पर्यावरण दिवस समारोह

प्रिज्म जॉनसन लिमिटेड सतना प्लांट हमेशा से ही पर्यावरण के संरक्षण एवं सुधर के लिए प्रयासरत रहा है। इसी कड़ी को आगे बढ़ाते हुए प्लांट में पर्यावरण सप्ताह का आयोजन बहुत ज़ोर शोर से किया गया था। विश्व पर्यावरण दिवस 2023 के लिए मेजबान देश कोत दिव्वार था और इस वर्ष की थीम थी **“Solution to Plastic Pollution”**.

विश्व पर्यावरण दिवस के उपलक्ष्य में विभिन्न कार्यक्रम, प्रतियोगिताएँ व जागरूकता अभियान किये गए।

LIFE
Lifestyle for Environment

PRISM JOHNSON LIMITED

World Environment Week

PRISM CEMENT
दूर की सोच

NITI Aayog

Theme – Solution to Plastic Pollution
#BeatPlasticPollution

 No Vehicle Day MAY 31st 2023	 No Single Use Plastic Day JUNE 1st 2023	 Online Environmental Summit JUNE 2nd 2023
 Quiz Competition & Interactive Games JUNE 3rd 2023		 Run for Environment & Plantation JUNE 4th 2023

Decorative icons at the bottom: recycling, water, tree, sun, wind, leaf, etc.

1) नो वेहिकल डे :- पर्यावरण सप्ताह कि शुरुआत दिनांक 31 मई को **नो वेहिकल डे** से हुई। जिसमे अधिकंश अधिकारी और अन्य कर्मचारी पैदल एवं साइकिल से प्लांट आये। इस मुहिम का उद्देश्य लोगों को मोटर वाहनों से हो रहे वायु प्रदुषण के बारे में जागरूक कराना था। सभी अधिकारी एवं अन्य कर्मचारियों को फूल प्रदान कर प्रेरित किया गया व यह संदेश दिया गया की साइकिल का उपयोग वातावरण और स्वस्थ दोनों के लिए अच्छा है।



2) नो सिंगल यूज प्लास्टिक :- पर्यावरण सप्ताह का दूसरा दिन 1 जून को जोश और उत्साह के साथ प्रारंभ हुआ। इस दिन को **नो सिंगल यूज प्लास्टिक** के नाम से मनाया गया। प्रिज़्म सीमेंट प्लांट को प्लास्टिक फ्री जोन बनाने के लिए प्लांट के अंदर सभी दुकानों में पॉलिथीन का उपयोग रोकने और सिंगल यूज प्लास्टिक के घातक परिणामों के बारे में जागरूकता फैलाई गई। प्लास्टिक के प्रयोग से बचने के लिए कॉलोनी के निवासियों एवं कर्मचारियों को हर साल की तरह इस साल भी मै जूट बैग के थैले बांटे गए।



3) विश्व पर्यावरण दिवस बैठक :- पर्यावरण सप्ताह के तीसरे दिन 2 जून को जागरूकता बैठक रखी गयी जिसमे विश्व पर्यावरण दिवस के बारे में सारी जानकारी दी गयी। साथ ही हमारी फैक्ट्री द्वारा पर्यावरण संरक्षण के लिए उठाये गए कदमों को बताया गया। इस बैठक की मेज़बानी सुमिताभ द्विवेदी जी द्वारा की गयी जिसमें कई अधिकारियों व कर्मचारियों ने भाग लिया और अपने विचार रखे। बैठक का मुख्य उद्देश्य काम कर रहे कर्मचारियों को बताना था की कैसे वे अपने व्यक्तिगत जीवन की आदतों में बदलाव लाकर पर्यावरण संरक्षण में योगदान दे सकते है।

4) क्रिज कॉम्पीटीशन और खेल मनोरंजन :- पर्यावरण सप्ताह के तीसरे दिन 3 जून कई प्रकार की प्रतियोगिताये आयोजित की गई जैसे क्रिज कॉम्पीटीशन, पोस्टर कॉम्पीटीशन, स्लोगन कॉम्पीटीशन तथा बूझो तो जाने जैसे खेल कराये गए जिसमे अधिकारीयों और कर्मचारियों ने बढ़-चड़कर हिस्सा लिया और इन प्रतियोगिताओं को सफल बनाने मे अपना योगदान दिया | इन प्रतियोगिताओं का मक़सद लोगों मै पर्यावरण के प्रति जागरूकता फैलना था |



5) वॉक फॉर एनवायरनमेंट और वृक्षारोपण :- 4 जून विश्व पर्यावरण दिवस में “वॉक फॉर एनवायरनमेंट” और वृक्षारोपण करके मनाया गया। प्रिज्म एनवायरनमेंट टीम ने वॉक फॉर एनवायरनमेंट का आयोजन प्रिज्म कॉलोनी की महिलाओं के लिए कराया जिसमें कॉलोनी की महिलाओं ने उत्साह के साथ हिस्सा लिया, वॉक के दौरान महिलाओं ने पोस्टर के द्वारा पर्यावरण के प्रति जागरूकता फैलाई। अंत में कॉलोनी की महिलाओं, समस्त अधिकारियों एवं कर्मचारियों ने वृक्षारोपण किया और इसी के साथ पर्यावरण सप्ताह और दिवस का समापन हुआ।



6) मिशन लाइफ :- विश्व पर्यावरण दिवस के उपलक्ष्य में प्रधानमंत्री नरेंद्र मोदी ने गुजरात के केवडिया में मिशन लाइफ की शुरुआत की। मिशन लाइफ का अर्थ ऐसे अभियान से है जिससे पर्यावरण संरक्षण हो। इसमें हर एक इंसान को अपनी जिम्मेदारी समझने की अपील की गई है। वर्ष 2022-28 की अवधि में पर्यावरण संरक्षण के लिए व्यक्तिगत और सामूहिक करवाई हेतु काम-से-काम एक बिलियन भारतीयों को जुटाना व सभी गांव और शहरी निकाओं को एनवायरनमेंट फ्रेंडली बनने के लिए जागरूक करना शामिल है। मिशन लाइफ में अपना योगदान देने हेतु प्रिज्म जॉनसन द्वारा गांवों में जागरूकता अभियान चलाये गए और एनवायरनमेंट फ्रेंडली रहने के तरीके व फायदे बताये गए।



ग्राम – महुरक्ष दिनांक – २०.०४.२०२३



ग्राम – चोरमारी दिनांक – २१.०४.२०२३



ग्राम – बघाई दिनांक – २४.०४.२०२३

Mission LiFE – Life Style for Environment Awareness Program



एडमिन ऑफिस प्रिज्म जॉनसन लिमिटेड दिनांक - २७.०४.२०२३

Deotale Diagnostic Centre (we care)

Consultation Diagnostics Health Check- Ups Immunization.

Clinic: Vinayak Apt. 3rd floor Dhantoli Lokmat Chouk Nagpur

For any assistance call at . 9860204241, 0712-2424868

Email ID : deotaledeepak19577@gmail.com

MEDICAL CHECK-UP REPORT

SR NO.	157
Certificate No	166
EMP CODE	102702
Work Station /Grade	BAGHAI MINES
Designation	ASST. MANAGER
MOB NO	9584460761
CHECK-UP DATE	13-12-24

EMPLOYEES NAME: ATUL KUMAR TIWARI				
Gender: MALE	Age : 57 Yrs	Ht : 160 cms	BMI: 25.39	Wt: 65 Kg
Company Address: PRISM JOHNSON LIMITED, MANKAHARI,PO: BATHIA, TEHSIL: RAMPUR BAGHELAN, DIST: SATNA,PIN:485111 (M.P.)				
Personal H/O:	ALCOHOL: NO	TABACCO: NO	SMOKING: NO	GUTKHA: NO
General Exam:-	Healthy	BP.:	150/100 mmHg	PLUSE : 100 mm/hr
C.V.S.: N	R/S : N	CNS :N		SP/LIVER :N/P
Abdomen : soft				

BLOOD TEST		Result	Normal Range
Test			
Blood Sugar		123 mg/dl	70-160 mg/dl
Hemoglobin		12.9 gm/dl	12.5 to 16.5 gm/dl
Total Leukocyte Count		7900 Cumm	4000-11000 /Cumm
Neutrophils		68 %	40-80 %
Lymphocyte		30 %	20-40 %
Eosinophils		1 %	1-6 %
Monocytes		1 %	2-10 %
ESR		5 mm/hr	< 20 mm/hr
Cholesterol		187 mg/dl	< 220 mg/dl
Triglycerides		166 mg/dl	> 200 mg/dl
HDL		42 mg/dl	35 TO 50 mg/dl
LDL		111.8 mg/dl	
VLDL		33.2 mg/dl	
CHO/HDL Ratio:		4.5	
Urea		30 mg/dl	10-50
Creatinine		1 mg/dl	0.8-1.3
SGPT		24 U/L	0-40
SGOT		28 U/L	0-40
S/UTUM AFB		NEGATIVE	
STOOL		NEGATIVE	
Colour Blindness		NO	
ECG		WNL	
X-Ray		WNL	
AUDIOMETRY		RT : WNL	LF. WNL
Vision:	Unaided - Dist. Rt - /18		Dist. Lf - 6/18
	Unaided - Near Rt - N/36		Near Lf - N/36
	With Spect Dist. Rt - 6/6		With Spect Dist. Lf - 6/6
	With Spect Near. Rt - N/6		With Spect Near. Lf - N/6

MEDICAL CHECK - UP:- NORMAL

Opinion: He/She is physically & mentally fit. He/She is not suffering from any infectious or contagious diseases

Dr. DEEPAK P. DEOTALE
M.B.B.S. A.F.I.H. (Reg. No. 48366)

Dr. Deepak Deotale
MBBS, AFIH
Reg. No. 48366

(FORM - O)
(See rule 29F (2) and 29L)

Report of medical examination under rule 29B (To be issued in triplicate)

** Certificate No. 166..... Certified that Shri/Shrimati* Atul Tiwari.....
employed as Manager In Bagh..... mine,
Form B No..... has been examined for an initial/periodical medical
examination. He/she* appears to be 57... years of age.

The findings of the examining authority are given in the attached sheet. It is considered
that Shri/Shrimati* Atul Tiwari.....

(a)* is medically fit for any employment in mines.

(b)* is suffering from..... and is medically unfit for
(i) any employment in mine; or
(ii) any employment below ground; or
(iii) any employment or work.....

(c)* is suffering from..... is should get this disability* cured/controlled
and should be again examined within a period ofmonths. He/She will appear
for re-examination with the result of test of and the opinion of
Specialist from He/She may be permitted/not* permitted to carry on his
duties during this period.



DR. DEEPAK P. DEOTALE ✓

Signature of the examining authority
Name and designation in Block letters

Place : PCL
Date : 13/12/24

* Delete whatever is not applicable.

** One copy of the certificate shall be handed over to the person concerned and
another copy shall be sent to the manager of the mine concerned by registered post;
and the third copy shall be retained by the examining authority,

Report of the examining authority

(to be filled in for every medical examination whether initial or periodical or re -
examination or after cure/control of disability).

Annexure to Certificate No. 166..... as result of medical examination on

Identification Mark Male on face Right side

Left thumb impression of the candidate

1. General development- Good/Fair/Poor

2. Height 160 Cms.

3 Weight 65 kg.

4 Eyes : (i) Visual acuity-Distant vision (with or without glasses).

Right eye..... 6/18.....

Left eye..... 6/18.....

(ii) any organic disease of eyes No

(iii) night blindness No

(iv) Colour blindness No

(v) Squint (* to be tested in special cases)

Inserted vide notification No.GSR 656 dated 5.6.1980 No

5 Ears : Hearing : Right ear..... N Left ear ... N

Any organic diseases. No

6. Respiratory system. Chest measurement : (i) After full inspiration cms.

(ii) After full expiration..... cms.

7. Circulatory system: (i) Blood Pressure .. 150/100 (ii) Pulse 100

8. Abdomen :
Tenderness No
Liver. NP
Spleen. NP
Tumour. No

9. Nervous system:

History of fits or epilepsy No
Paralysis No
Mental health. Good

10. Locomotory system : Normal

11. Skin. : Normal

12. Hydrocele. : No

13. Hemia. : No

14. Any other abnormality : Normal

15. Urine : Reaction. N
Albumin. N
Sugar. N

16. Skiagram of chest. : WNL

17. Any other test considered necessary by the examining authority. : No

18. Any opinion of specialist considered necessary. No

Signature of the examining authority

Place:

Report of Medical Examination under Mines Rule 29B
(To be used in continuation with Form O)

Certificate No. 166

Name: Atul Tiwari

Identification Marks: male on face Right side

Result of Lung Function Test (Spirometry)

Parameters	Predicted Value	Performed Value	% of Predicted
Forced Vital Capacity (FEV)	02.71	03.20	118
Forced Vital Capacity FEV1	02.07	03.14	152
FEV 1/ FVC	76.38	98.12	128
Peak Expiratory Flow	07.54	04.59	061

Spirometry Report enclosed.

Signature of the Examination Authority

Report of Medical Examination as per the recommendations of National Safety
Conferences in Mines
(To be used in continuation with Form O)

Certificate No. 166

Name: Atul Tiwari

Identification Marks: male on face Right side

1. Cardiological Assessment

Auscultation	S1	S2	Additional Sound	Performed Value	% of Predicted
	N	N	No		
FEV1/ FVC				98.12	128
Electrocardiograph(12leads) findings	Normal/Abnormal				

Enclosed ECG

2. Neurological Assessment

Findings	Normal/Abnormal
Superficial Reflexes	Normal
Deep Reflexes	N
Peripheral Circulation	N
Vibrational Syndromes	N

3. ILO Classification of Chest Radiograph

Profusion of Pneumoconiotic Opacities	Grades	Types
Present / Absent		

Enclosed Chest Radiograph

4. Audiometry Findings:

Conduction Type	Left Ear	Right Ear
Ear Conduction	Normal/Abnormal	Normal/Abnormal
Bone Conduction	Normal/Abnormal	Normal/Abnormal

Enclosed Audiometry Report

5. Pathological/Microbiological Investigations:

S.No.	Tests	Findings
1.	Blood-Tc,Dc,Hb,ESR,Platelets	WNL/Abnormal
2.	Blood Sugar-Fasting & P.P.	WNL/Abnormal
3.	Lipid Profile	WNL/Abnormal
4.	Blood Urea, Creatinine	WNL/Abnormal
5.	Urine Routine	WNL/Abnormal
6.	Stool Routine	WNL/Abnormal

Enclosed Investigation Reports

6. Special Tests for Mn Exposure:

Behavioral Disturbances		Present/Not Present
Neurological Disturbances	Speech Defect	Present/Not Present
	Tremor	Present/Not Present
	Adiadocokinesia	Present/Not Present
	Emotional Changes	Present/Not Present

Enclosed ECG

7. Any other Special Tests Required:

No

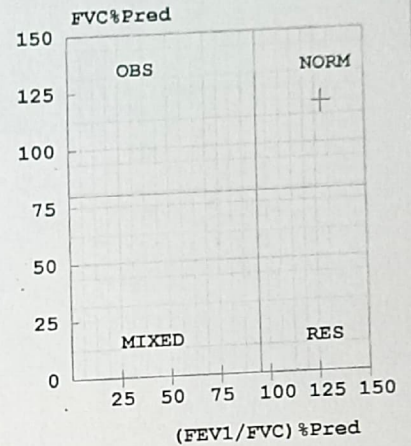
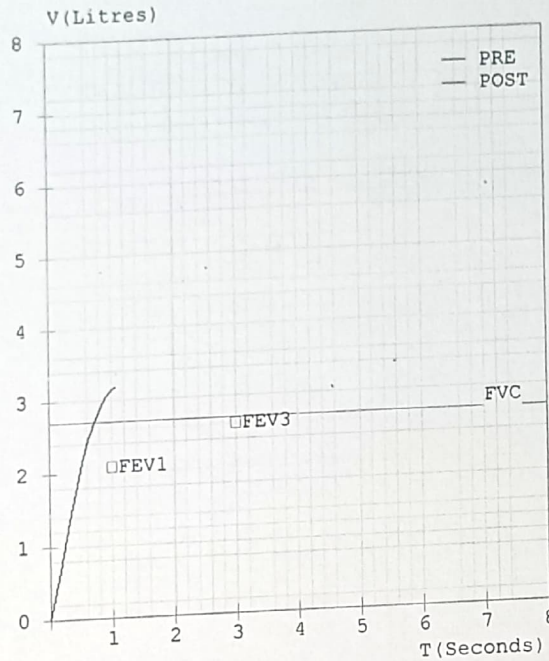
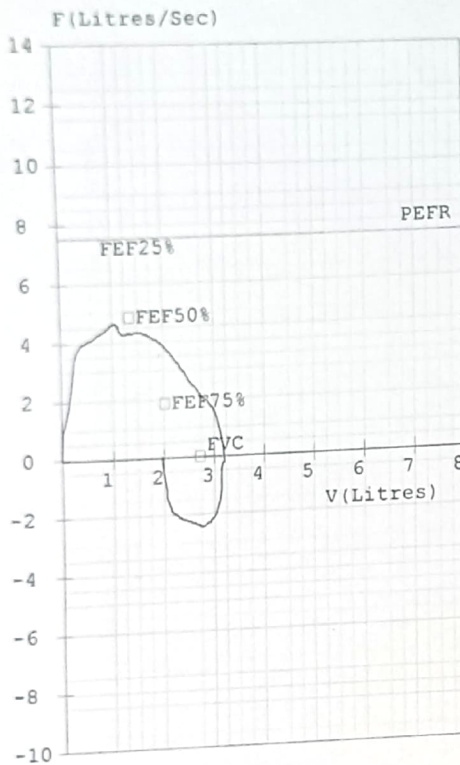
Signature of the Examination Authority
Seal

Dr. Deepak Deotale
MBBS, AFH
Reg. No. 48366

At: ATUL KUMAR TIWARI
By:
d.Eqns: RECORDERS
te : 13-12-2024 10:54:24

Age : 57 Years
Height : 160 Cms
Weight : 65 Kgs
ID: PR 166

Gender : Male
Smoker : No
Eth. Corr: 100
Temp : degrees



FVC Results						
Parameter		Pred	M.Pre%Pred	M.Post %Pred	%Imp	
FVC	(L)	02.71	03.20	118	----	---
FEV1	(L)	02.07	03.14	152	----	---
FEV1/FVC	(%)	76.38	98.12	128	----	---
FEF25-75	(L/s)	02.98	03.94	132	----	---
PEFR	(L/s)	07.54	04.59	061	----	---
FIVC	(L)	-----	01.23	---	----	---
FEV.5	(L)	-----	02.07	---	----	---
FEV3	(L)	02.63	03.20	122	----	---
PIFR	(L/s)	-----	02.42	---	----	---
FEF75-85	(L/s)	-----	02.45	---	----	---
FEF.2-1.2	(L/s)	05.22	03.98	076	----	---
FEF 25%	(L/s)	07.19	04.28	060	----	---
FEF 50%	(L/s)	04.85	04.22	087	----	---
FEF 75%	(L/s)	01.88	02.92	155	----	---
FEV.5/FVC	(%)	-----	64.69	---	----	---
FEV3/FVC	(%)	97.05	100.00	103	----	---
FET (Sec)		-----	01.14	---	----	---
ExptTime (Sec)		-----	00.14	---	----	---

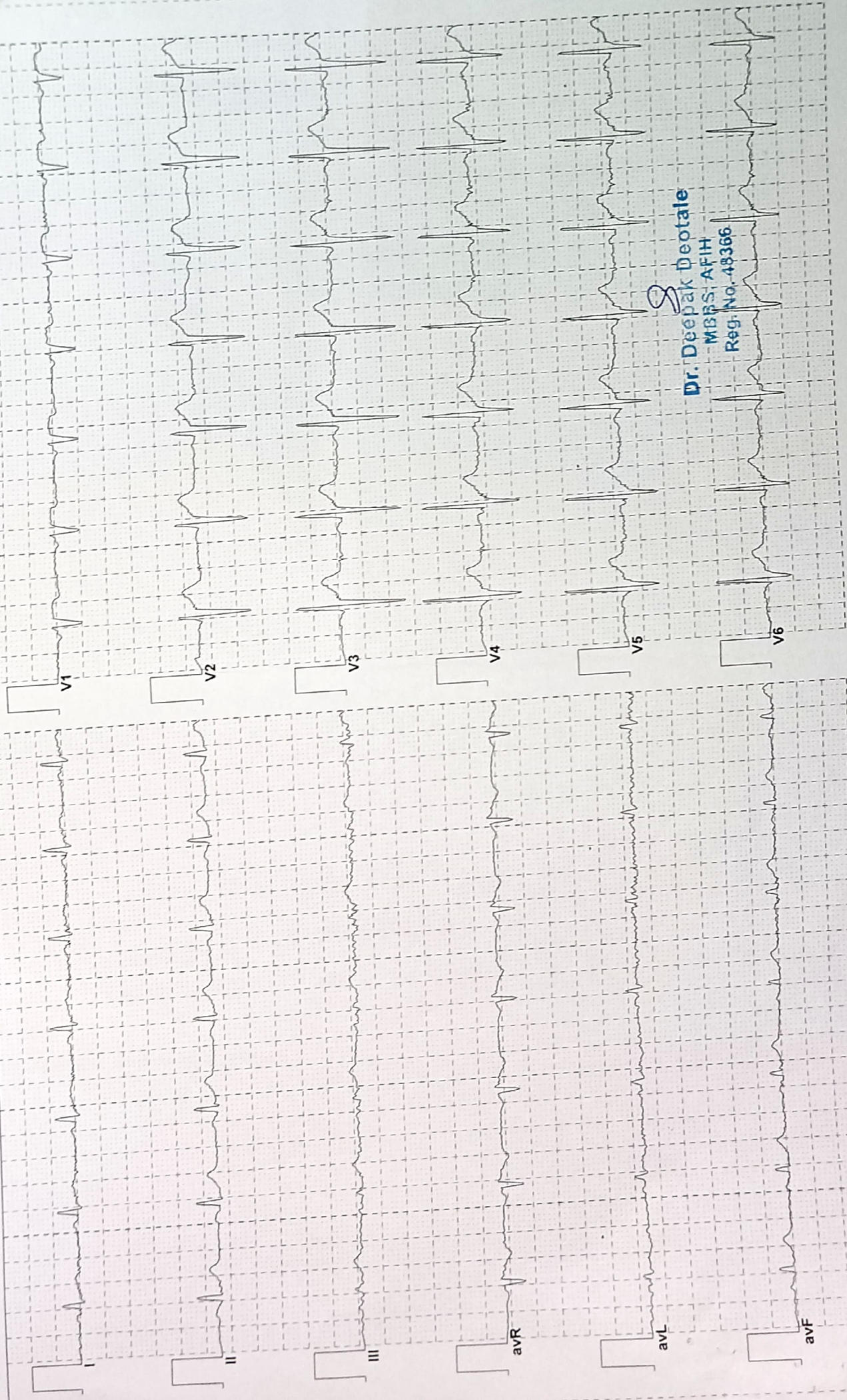
Pre Medication Report Indicates
Early Small Airway Obstruction as FEF 25-75 %Pred or PEFr %Pred < 70
Spirometry within normal limits as (FEV1/FVC)%Pred >95 and FVC%Pred >80.

Dr. Deepak Deotale
MBBS, AFH
Reg. No. 48366

ECG

DEOTALE DIAGNOSTIC CENTRE

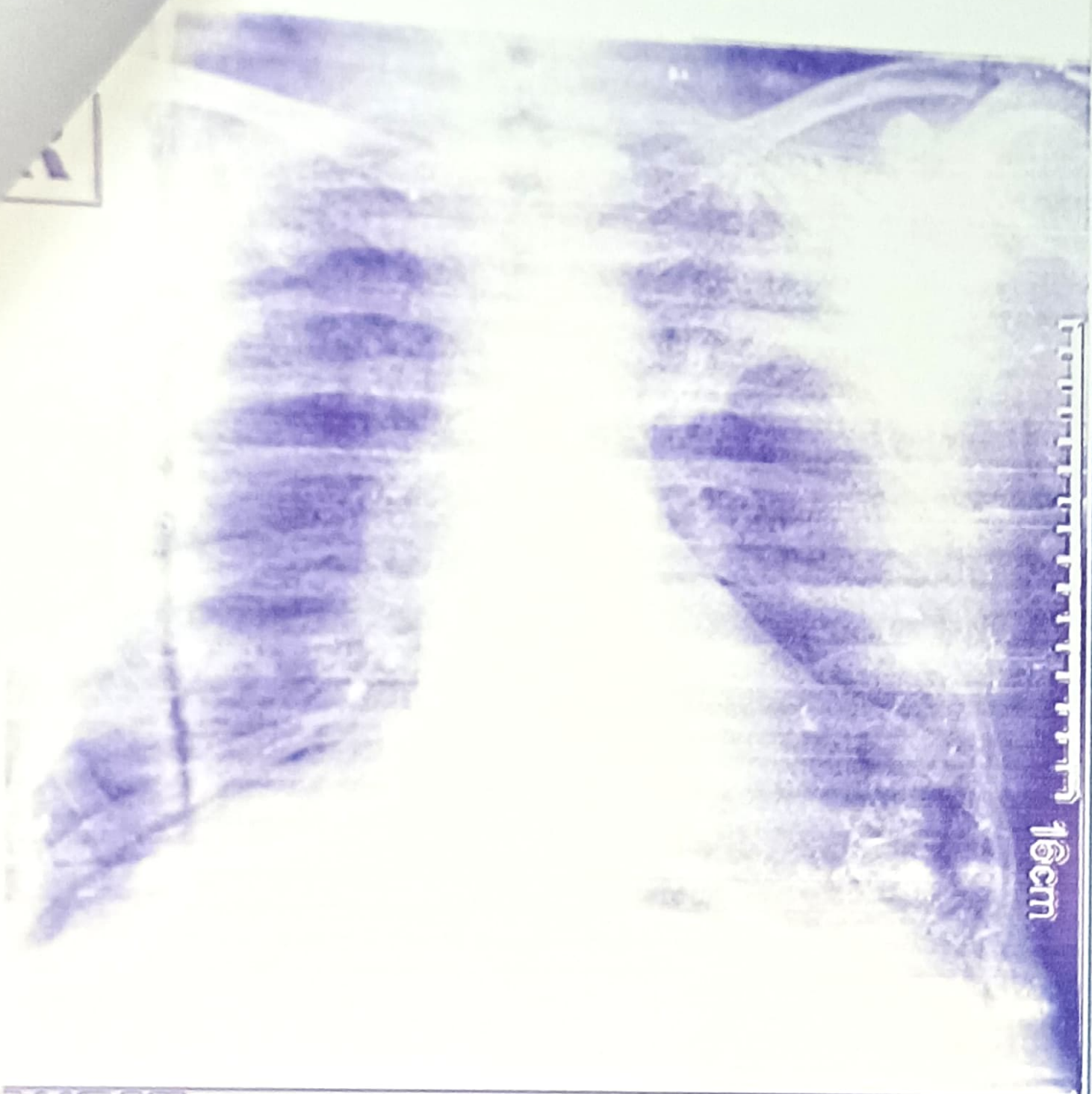
1940042347 / ATUL KUMAR TIWARI / 57 Yrs / M / 160Cms. / 65Kgs. / Non Smoker
Heart Rate : 90 bpm / Dr.: DEEPAK DEOTALE Tested On : 13-Dec-24 11:09:36 / HF 0.05 Hz / LF 100 Hz / Notch 50 Hz / Sn 1.00 Cm/mV / Sw 25 mm/s



Dr. Deepak Deotale
MBBS, AFIH
Reg. No. 48366

Maya

Acq. Date: 13-Dec-24
Acq. Time: 11:01:42 AM
Exp. Index: 735



16cm

CHEST

PA

N: 4096, C: 2048

Scale: 0.13

MAYA DIAGNOSTICS

Deotale Diagnostic

(we care)

Consultation Diagnostics Health Check-Up Immunization.
Clinic: Vinayak Apt. 3rd floor Dhantoli Lokmat Chowk Nagpur

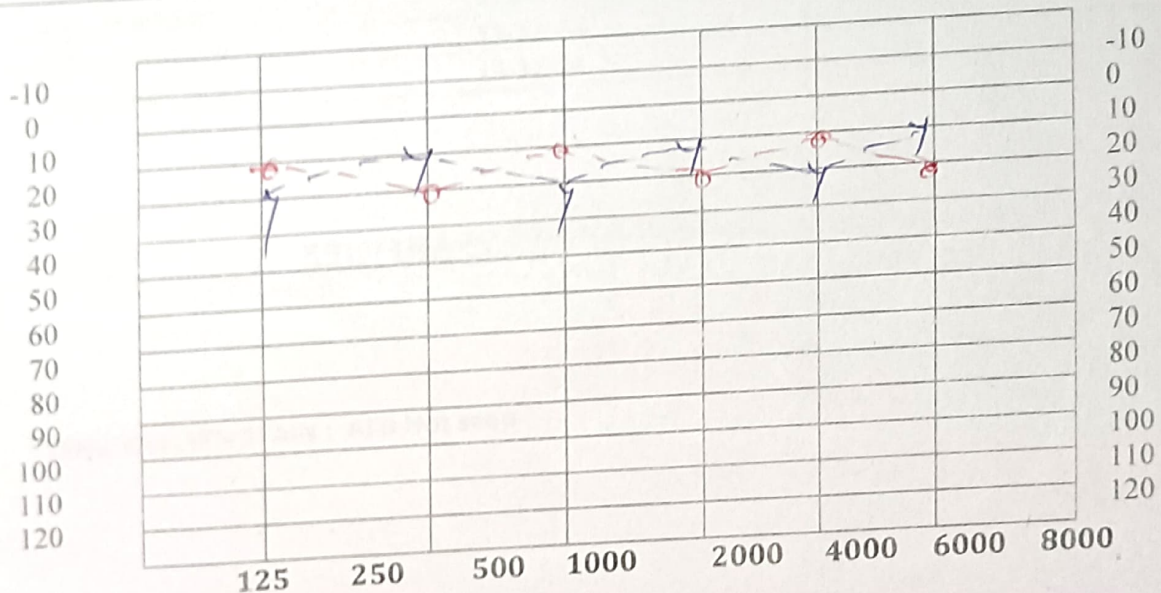
(Clinic Reg. No. 699)

For any assistance call at . 9860204241, 0712-6610595

Date: 13-12-24

AUDIOLOGICAL EVALUATION

1. SR. NO. 157	2. CERTIFICATE NO : 166
3. EMPLOYEES NAME : ATUL KUMAR TIWARI	
4. Employee Mob No : 9584460761	
6. SEX : MALE	7. AGE : 57 yrs
8. ADDRESS : PRISM JOHNSON LIMITED, MANKAHARI, PO: BATHIA, TEHSIL: RAMPUR BAGHELAN, DIST: SATNA, PIN: 485111 (M.P.)	
9. DIAGNOSIS LT.: WNL	RT.: WNL



TEST FREQUENCY

Air O	= LEFT EAR : ●	WNL
Y	= RIGHT EAR : ●	WNL
Masking		
No Response: Audiologists Remarks		

Dr. DEEPAK P. DEOTALE
M.B.B.S. A.F.I.H.
Reg. No. 48366

Dr. Deepak Deotale
MBBS, AFIH
Reg. No. 48366

Deotale Diagnostic Centre (we care)

Consultation Diagnostics Health Check- Ups Immunization.

Clinic: Vinayak Apt. 3rd floor Dhantoli Lokmat Chouk Nagpur

For any assistance call at , 9860204241, 0712-2424868

Email ID : deotaledeepak19577@gmail.com

Patient Name:	ATUL KUMAR TIWARI
Age :	57 yrs.
Gender:	MALE
Req. Doctor:	
Reg . Number:	9584460761
Collection Date:	13-12-24
Reporting Date :	13-12-24

SPUTUM EXAMINATION

ZEIHL NEELSEN STAIN : AFB Not seen


DR. DEEPAK DEVATALE
M.B.B.S A.F.I.H (REG NO. 48366)
Dr. Deepak Deotale
MBBS, AFIH
Reg. No. 48366

SR. No.

157

Certificate No.

166

Emp Code

102702



MAYA HOSPITAL

& RESEARCH INSTITUTE

Add.: Plot .P 78, Opposite State Bank of India , M.I.D.C.

Butibori (Nagpur)

Ph 07103-684885

Deotale Diagnostic Center We Care

Consultation = Diagnostics Health = Check-Ups = Immunization

Dr. Deepak P. Deotale

M.B.B.S., A.F.I.H.

(Associated fellow Of industrial health)

Certifying Surgeon Reg. No. 48366

Clinic : Vinayak Apt. 3rd floor Dhantoli,

Lokmat Chowk ,Nagpur (Clinic Reg. No. 699)

Mob. No . 9860204241 /8007771341

Phone No : 0712-2424868

Email Id:deotaledeepak19577@gmail.com

Name	ATUL KUMAR TIWARI
Age	57 YRS.
Gender	MALE
Check Up Date	13-12-24
MOB NO	9584460761
Company Name: PRISM JOHNSON LIMITED, MANKAHARI,PO: BATHIA, TEHSIL: RAMPUR BAGHELAN, DIST: SATNA,PIN:485111 (M.P.)	

Ref. No.: PJI/MIN/BG/2023/977

दूर की सोच

प्रति

Date 19.05.2023

सरपंच महोदय

ग्राम पंचायत - बगहाई, विकास खंड - रामपुर बाघेलान
जिला - सतना (म०प्र०)

विषय: ग्राम पंचायत बगहाई तहसील रामपुर बाघेलान में मे० प्रिज्म जॉनसन लिमिटेड मनकहरी के 512.317 हेक्टेयर लीज के खनन क्षमता विस्तार पर पर्यावरणीय स्वीकृति पत्र के सम्बन्ध में।

मान्यवर,

उपरोक्त विषय के सम्बन्ध में आपको यह सूचित किया जाता है कि भारत सरकार के पर्यावरण, वन एवं जलवायु मंत्रालय के पत्र क्र० J-11015/25/2019-IA.II(M) dated 15/05/2023 द्वारा ग्राम पंचायत बगहाई, तहसील रामपुर बाघेलान में मेसर्स प्रिज्म जॉनसन लिमिटेड, मनकहरी, सतना की स्वीकृत माइनिंग लीज रकवा 512.317 हेक्टेयर के चूना पत्थर उत्तखनन क्षमता विस्तार हेतु पर्यावरणीय स्वीकृति प्रदान की गई है।

जानकारी महोदय को सूचनार्थ प्रेषित है।

संलग्नक: भारत सरकार के पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा जारी पत्र क्र० J-11015/25/2019-IA.II(M) dated 15/05/2023 की छायाप्रति।


Authorised Signatory

वास्ते प्रिज्म जॉनसन लिमिटेड,


सरपंच
ग्राम पंचायत बगहाई
ज.प. रामपुर बाघे, जिला सतना (म.प्र.)

PRISM JOHNSON LIMITED

(FORMERLY PRISM CEMENT LIMITED)
(Cement Division - Unit II)

Works: Village Mankahari, P.O.-Bathia, Dist. Satna - 485 111 (M.P.) India T: +91-07672-275301 / 302600
Corres. Add.: 'Rajdeep', Rewa Road, Satna - 485 001 (M.P.) India. T: +91-07672-402726

Registered Office: Prism Johnson Limited, 305, Laxmi Niwas Apartments, Ameerpet, Hyderabad - 500 016, India.
w: www.prismjohnson.in, www.cement.prismjohnson.in, E: info@prismjohnson.in

CIN: L26942TG1992PLC014033



Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

To,

The Asst VP Mines
PRISM JOHNSON LTD.

Village mankhari, PO bathia, Tehsil Rampur- baghelan, District- Satna
MP., Satna, Madhya Pradesh-485111

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity
under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC)
in respect of project submitted to the Ministry vide proposal number
IA/MP/MIN/403008/2022 dated 29 Mar 2023. The particulars of the environmental
clearance granted to the project are as below.

- | | |
|---|---|
| 1. EC Identification No. | EC23A001MP123527 |
| 2. File No. | J-11015/25/2019-IA.II(M) |
| 3. Project Type | Expansion |
| 4. Category | A |
| 5. Project/Activity including
Schedule No. | 1(a) Mining of minerals |
| 6. Name of Project | Expansion In Limestone Production
Capacity From 1.3 Million TPA To 5.0
Million TPA, Top Soil: 2.322 Million TPA &
OB/SB/IB: 5.590 Million TPA (Total
Excavation: 12.912 Million TPA) and
Installation Of New Crusher Of 1200 TPH
Capacity (ML Area: 512.317 Ha) at
Village: Baghai, Tehsil: Rampur
Baghelan, District: Satna, Madhya
Pradesh |
| 7. Name of Company/Organization | PRISM JOHNSON LTD. |
| 8. Location of Project | Madhya Pradesh |
| 9. TOR Date | N/A |

The project details along with terms and conditions are appended herewith from page
no 2 onwards.

Date: 15/05/2023

(e-signed)
Pankaj Verma
Scientist E
IA - (Non-Coal Mining sector)



Note: A valid environmental clearance shall be one that has EC identification
number & E-Sign generated from PARIVESH. Please quote identification
number in all future correspondence.

This is a computer generated cover page.

Handwritten signature
सरपंच

ग्राम पंचायत बगहाई
ज.पं. रामपुर बाघे, जिला सतना (म.प्र.)

आम - सूचना

सर्वसाधारण को सूचित किया जाता है कि प्रिज्म जॉनसन लिमिटेड, ग्राम मनकहरी, जिला- सतना को पर्यावरण एवं जलवायु परिवर्तन मंत्रालय (MOEF&CC), भारत सरकार द्वारा पत्र क्रमांक J-11015/25/2019-IA.II(M) दिनांक 15.05.2023 के माध्यम से जिला- सतना के तहसील रामपुर बघेलान अंतर्गत ग्राम बगहाई में खनिज चूना पत्थर उत्खनन क्षमता विस्तार हेतु 512.317 हेक्टेयर क्षेत्र परपर्यावरणीय स्वीकृत प्रदान की गयी है। पर्यावरणीय स्वीकृत की प्रति/विस्तृत जानकारी म.प्र. प्रदूषण नियंत्रण बोर्ड एवं पर्यावरण और जलवायु परिवर्तन मंत्रालय (MOEF&CC), भारत सरकार की वेबसाइट (www.parivesh.nic.in), पर उपलब्ध है। सूचना सर्वसाधारण की जानकारी हेतु प्रकाशित की जा रही है।

वास्ते- प्रिज्म जॉनसन लिमिटेड
मनकहरी, जिला सतना (म.प्र.)

आम सूचना

सर्व साधारण को सूचित किया जाता है कि प्रिज्म जॉनसन लिमिटेड, ग्राम मनकहरी, जिला-सतना को पर्यावरण एवं जलवायु परिवर्तन मंत्रालय (MOEF&CC), भारत सरकार द्वारा पत्र क्रमांक J-11015/25/2019-IA.II(M) दिनांक 15.05.2023 के माध्यम से जिला-सतना के तहसील रामपुर बघेलान अंतर्गत ग्राम बगहाई में खनिज चूना पत्थर उत्तखनन क्षमता विस्तार हेतु 512.317 हेक्टेयर क्षेत्र पर पर्यावरणीय स्वीकृत प्रदान की गयी है।

पर्यावरणीय स्वीकृत की प्रति/विस्तृत जानकारी म.प्र. प्रदूषण नियंत्रण बोर्ड एवं पर्यावरण और जलवायु परिवर्तन मंत्रालय (MOEF&CC), भारत सरकार की वेबसाइट (www.parivesh.nic.in) पर उपलब्ध है। सूचना सर्व साधारण की जानकारी हेतु प्रकाशित की जा रही है।

वास्ते - प्रिज्म जॉनसन लिमिटेड
मनकहरी जिला-सतना (म.प्र.)

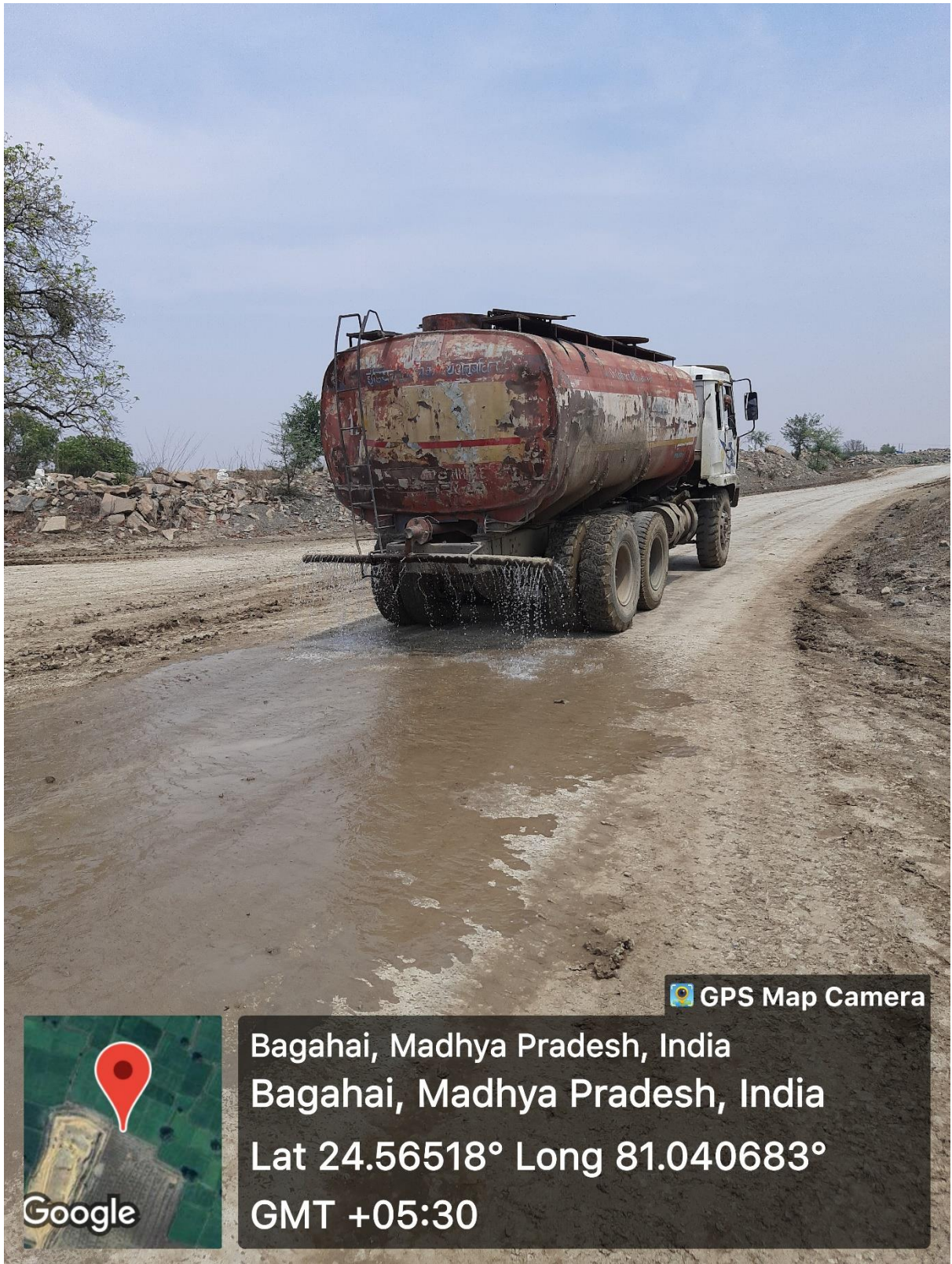
आम सूचना

सर्व साधारण को सूचित किया जाता है कि प्रिज्म जॉनसन लिमिटेड, ग्राम मनकहरी, जिला- सतना को पर्यावरण एवं जलवायु परिवर्तन मंत्रालय (MOEF&CC), भारत सरकार द्वारा पत्र क्रमांक J-11015/25/2019-IA.II(M) दिनांक 15/05/2023 के माध्यम से जिला सतना के तहसील रामपुर बघेलान अंतर्गत ग्राम बगहाई में खनिज चूना पत्थर उत्तखनन क्षमता विस्तार हेतु 512.317 हेक्टेयर क्षेत्र पर पर्यावरणीय स्वीकृत प्रदान की गयी है। पर्यावरणीय स्वीकृत की प्रति / विस्तृत जानकारी म.प्र. प्रदूषण नियंत्रण बोर्ड एवं पर्यावरण और जलवायु परिवर्तन मंत्रालय (MOEF&CC), भारत सरकार की वेबसाइट (www.parivesh.nic.in) पर उपलब्ध है। सूचना सर्व साधारण की जानकारी हेतु प्रकाशित की जा रही है।

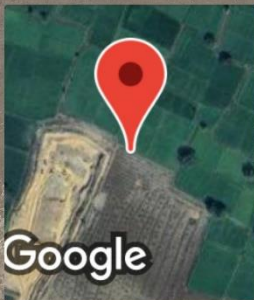
वास्ते - प्रिज्म जॉनसन लिमिटेड
मनकहरी जिला- सतना (म.प्र.)



CAAQMS



 GPS Map Camera



Bagahai, Madhya Pradesh, India
Bagahai, Madhya Pradesh, India
Lat 24.56518° Long 81.040683°
GMT +05:30



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:		Bagahai Limestone Mine (ml Area- 512.317 Ha)											
Project Address:		Villages Baghai, Tehsil Rampur Baghelan, District Satna											
Village:		Bagahai		Block:		Rampur Baghelan							
District:		Satna		State:		Madhya Pradesh							
Pin Code:													
Communication Address:		Rajdeep, Rewa Road, Satna, Rampur Baghelan, Satna, Madhya Pradesh - 485001											
Address of CGWB Regional Office :		Central Ground Water Board North Central Region, Block-1, 4th Floor, Paryawas Bhawan, Area Hills, Jail Road, Bhopal, Madhya Pradesh - 462011											
1.	NOC No.:	CGWA/NOC/MIN/REN/1/2025/11633				2.	Date of Issuance	16/05/2025					
3.	Application No.:	21-4/1167/MP/MIN/2021				4.	Category: (GWRE 2024)	Semi Critical					
5.	Project Status:	Existing With Additional Ground Water Requirment				6.	NOC Type:	Renewal					
7.	Valid from:	25/03/2024				8.	Valid up to:	24/03/2026					
9.		Ground Water Abstraction Permitted:											
		Fresh Water		Saline Water		Dewatering		Total					
		m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day m ³ /year					
		0.00	0.00			994.00	362810.00	994.00 362810.00					
10.		Details of ground water abstraction /Dewatering structures											
		Total Existing No						Total Proposed No					
		DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Dewatering Structure*		0	0	0	0	0	2	0	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps													
11.	Ground Water Abstraction/Restoration Charges paid (Rs.):							2017385.00					
12.	Environment Compensation (if applicable) paid (Rs.):							0.00					
13.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.	No. of Piezometers						Monitoring Mechanism					
								Manual	DWLR**	DWLR With Telemetry			
**DWLR - Digital Water Level Recorder		2						0	1	1			

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Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

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SAVE WATER - SAVE LIFE

CENTRAL GROUND WATER AUTHORITY

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(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

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Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).
- 31) In the self-compliance report, the PP shall submit details of Drilling Agency/ Agencies, which has/ have constructed BW(s)/ TW(s) along with undertaking to the effect that all necessary measures have been taken as per directions of Hon'ble Supreme Court provided in Annexure-VII of guidelines dated 24.09.2020 in respect of abandoned/ failed BW(s)/ TW(s)/Piezometer(s), if any. The PP is advised to engage registered drilling agency/ agencies. In the event of any mishap/ unfortunate incident due to negligence in taking measures for prevention of accident due to falling in Bore Well, both PP and concerned drilling agency shall jointly be held responsible and penal action as per extant Government rules shall be taken.

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

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CENTRAL GROUND WATER AUTHORITY

Department of Water Resources, River Development and Ganga Rejuvenation
Ministry of Jal Shakti, Govt. of India

Receipt

(As per the guideline Gazette Notification S.O. 3281(E) regarding the New Guidelines dated 24.09.2020 of CGWA, MoJS, Govt. of India)
<https://cgwa-noc.gov.in>

Application No.:	21-4/1167/MP/MIN/2021	Date of Issuance:	16/05/2025
Name of Firm:	BAGAHAI LIMESTONE MINE (ML AREA- 512.317 HA)		
AppType Category:	Limestone		
Application Type:	Mining		
PAN/GSTIN No. of Firm/Individual:	/		

S N	Description	Amount (Rs.)
1.	Application Processing Fee	5000.00
2.	Ground Water Abstraction charges	2017385.00
3.	Ground Water Restoration charges	0
4.	Environmental Compensation Charges (ECRGW) (Date From to) Days-	
5.	Penalty for non-Compliance of NOC conditions Condition to be mentioned	
6.	Adjustment Charges	
7.	Rebate	
8.	Charges for correction/modification in the existing issued No Objection Certificate	
S.No.	Description	Rate
(i)	Change in User ID	Rs. 1000
(ii)	Change in firm Name	Rs. 5000
(iii)	Extension of No Objection Certificate	Rs. 5000
(iv)	Issuance of duplicate No Objection Certificate	Rs. 5000
(v)	Issuance of corrigendum to No Objection Certificate	Rs. 5000
(vi)	Any other items/correction etc.	Rs. 500
Rs. Rupees Twenty Lakh Twenty Two Thousand Three Hundred Eighty Five Only		2022385.00

This is an system generated invoice, hence, does not require ink signed.

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Term and conditions:

- i. All disputes are subject to Delhi Jurisdiction.
- ii. Any complaint in regard to the rates will not be entertained.

Member-Secretary
CGWA, New Delhi

CENTRAL GROUND WATER AUTHORITY

**VIBRANT**

"Experience the unimaginable"

Sample Number : VTL/W/14

Name & Address of the Party : M/s PRISM JOHNSON LIMITED

Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Sample Description : Water Sample

Sampling Location : Bagahai Lime Stone Drinking Water (Mine Site Office)

Sample Collected By : VTL Team

Preservation : Suitable Preservation

Method of sampling : IS :3025

TEST REPORT

TC-11227

ULR No. : TC1122725000000272F

Report No. : VTL/W/2501250014/A

Format No : 7.8 F-01

Party Reference No : NIL

Report Date : 30/01/2025

Period of Analysis : 25/01/2025-30/01/2025

Receipt Date : 25/01/2025

Sampling Date : 21/01/2025

Sampling Type : Grab

Sample Quantity : 2 Ltr.

Coordinates : --

S.No.	Test Parameters	Test Method	Results	Units	IS:10500-2012,RA 2023	
					Acceptable Limit	Permissible Limit
1	pH (at 25°C)	IS : 3025 (P-11) : 2022	7.66	--	6.5 to 8.5	No Relaxation
2	Colour	IS : 3025 (P-4) : 2021	*BLQ(**LOQ-1.0)	Hazen	5	15
3	Turbidity	IS : 3025 (P-10) : 2023	*BLQ(**LOQ-1.0)	NTU	1	5
4	Odour	IS : 3025 (P-5) : 2018	Agreeable	--	Agreeable	Agreeable
5	Taste	IS : 3025 (P-8) : 2023	Agreeable	--	Agreeable	Agreeable
6	Total Hardness (as CaCO ₃)	IS: 3025 (P-21): 2009, RA 2019	227.0	mg/L	200	600
7	Calcium (as Ca)	IS: 3025 (P- 40): 2024	47.0	mg/L	75	200
8	Total Alkalinity (as CaCO ₃)	IS: 3025 (P-23): 2023	256.0	mg/L	200	600
9	Chloride (as Cl)	IS: 3025 (P-32): 1988, RA 2019	127.0	mg/L	250	1000
10	Magnesium (as Mg)	IS: 3025 (P-46): 2023	27.27	mg/L	30	100
11	Total Dissolved Solids	IS :3025 (P-16): 2023	641	mg/L	500	2000
12	Sulphate (as SO ₄)	IS: 3025 (P-24): Sec : 1 : 2022	42.90	mg/L	200	400
13	Fluoride (as F)	APHA 24th Edition, 4500F-D: 2023	0.42	mg/L	1.0	1.5
14	Nitrate (as NO ₃)	IS 3025 (P-34) : Sec 1 : 2023 (Clause 6.4)	17.80	mg/L	45.0	No Relaxation
15	Iron (as Fe)	APHA 24th Edition 3111 B, 2023	0.33	mg/L	1.0	No Relaxation
16	Aluminium (as Al)	IS 3025 (P-55): 2003, RA 2019	*BLQ(**LOQ-0.03)	mg/L	0.03	0.2
17	Boron (as B)	APHA 24th Edition 4500B-C : 2023	*BLQ(**LOQ-0.2)	mg/L	0.5	2.4
18	Total Chromium (as Cr)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.02)	mg/L	0.05	No Relaxation



Checked by

RK Yadav
Lab Incharge
Authorized Signatory 

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**VIBRANT**

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Sample Number : VTLW/14

TEST REPORT

TC-11227

ULR No. : TC112272500000272F

Report No. : VTLW/2501250014/A

S.No.	Test Parameters	Test Method	Results	Units	IS:10500-2012,RA 2023	
					Acceptable Limit	Permissible Limit
19	Zinc (as Zn)	APHA 24th Edition 3111 B, 2023	0.42	mg/L	5.0	15.0
20	Copper (as Cu)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.02)	mg/L	0.05	1.5
21	Manganese (as Mn)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.05)	mg/L	0.1	0.3
22	Cadmium (as Cd)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.002)	mg/L	0.003	No Relaxation
23	Lead (as Pb)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.005)	mg/L	0.01	No Relaxation
24	Arsenic (as As)	APHA 24th Edition 3114 C, 2023	*BLQ(**LOQ-0.005)	mg/L	0.01	0.05
25	Mercury (as Hg)	APHA 24th Edition 3112B, 2023	*BLQ(**LOQ-0.001)	mg/L	0.001	No Relaxation
26	Total Coliform	IS : 15185 : 2016 RA: 2021	Absent	per 100 ml	Shall not be detectable in any 100 ml sample	--
27	E.Coli	IS : 15185 : 2016 RA: 2021	Absent	per 100 ml	Shall not be detectable in any 100 ml sample	--
28	Sulphide (as H ₂ S)	IS 3025 (P-29) : 2022 (Clause 7.0)	*BLQ(**LOQ-0.04)	mg/L	0.05	No Relaxation
29	Nickel as Ni	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ-0.01)	mg/L	0.02	No relaxation
30	Free Residual Chlorine	IS 3025 (P- 26): 2021 (Clause 7.0)	*BLQ(**LOQ-0.2)	mg/L	0.2	1.0

*BLQ-Below Limit Of Quantification, **LOQ- Limit of Quantification

End of Report



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TEST REPORT

VIBRANT

"Experience the unimaginable"

Sample Number:

Name & Address of the Party:

Sample Collected By

Sample Description:

VTL/WL/01-14

M/s PRISM JOHNSON LIMITED

Village- Mankahari, Tehsil- Rampur
Baghelan, Dist.- Satna (M.P.)

VTL Team

Ground Water Level Monitoring

Report No.:

Format No.:

Party Reference No.:

Report Date:

Receipt Date:

Date of Monitoring

VTL/WL/2501250001-14/B

7.8 F-01

NIL

30/01/2025

25/01/2025

18-22/01/2025

S.No.	Location	Depth (In meter)
1.	Near Colony Gate	8.54
2.	Behind B Block colony	7.43
3.	Behind C Block colony	5.6
4.	Near Auto Work Shop	11.2
5.	In Front of Den	7.61
6.	Western Block Mines	09.10
7.	Near New Magazine Mines	15.0
8.	Rose Garden Near Road	08.14
9.	Mines near Ramprasan	15.8
10.	Medhi Mines	13.3
11.	Mankahari Mines	12.0
12.	Chulhi Majhiyar Mines	10.2
13.	Bagahai Mines	8.71
14.	Badarkha Mines	10.8

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Sample Number : VTL/SW/03

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Sample Description : SURFACE WATER

Sampling Location : Bagahai Mines Pit

Sample Collected By : VTL Team

Preservation : Suitable Preservation

Method of sampling : IS :3025

ULR No. : TC112272500000276F

Report No. : VTL/W/2501250019/A

Format No : 7.8 F-01

Party Reference No : NIL

Report Date : 30/01/2025

Period of Analysis : 25/01/2025-30/01/2025

Receipt Date : 25/01/2025

Sampling Date : 22/01/2025

Sampling Type : Grab

Sample Quantity : 2 Ltr.

Coordinates : --

S.No.	Test Parameters	Test Method	Results	Unit
1	pH value	IS : 3025 (P-11) : 2022	7.26	--
2	Total Dissolved Solids (TDS)	IS : 3025 (P-16) : 2023	430	mg/L
3	Chloride (as Cl)	IS: 3025 (P-32) : 1988, RA 2019	37.6	mg/L
4	Sulphate as (SO ₄)	IS: 3025 (P- 24) : 1986, Sec. RA 2022	25.2	mg/L
5	Total Suspended Solids (TSS)	IS: 3025 (P-17) : 2022	13.0	mg/L
6	Total Hardness (CaCO ₃)	IS: 3025 (P- 21) : 2009, RA 2019	162	mg/L
7	Calcium (as Ca)	IS : 3025 (P-40) : 2024	31.6	mg/L
8	Magnesium (as Mg)	IS : 3025 (P- 46) : 2023	20.21	mg/L
9	Fluoride (as F)	APHA 24th Edition, 4500F-D: 2023	0.31	mg/L
10	Nitrate (as NO ₃)	IS 3025 (P-34) : Sec 1 : 2023 (Clause 6.4)	9.58	mg/L
11	Phenolic compounds	APHA 24th Edition, 5530C: 2023	*BLQ(**LOQ- 0.05)	mg/L
12	Dissolved oxygen (DO)	IS : 3025 (P -38) : 1989, RA 2019	5.3	mg/L
13	Biochemical Oxygen Demand (BOD) (3 days at 27°C)	IS: 3025 (P-44) : 2023	6.1	mg/L
14	Chemical Oxygen Demand (COD)	IS : 3025 (P- 58) : 2023	25.0	mg/L
15	Total Coliform	IS 15185: 2016 RA 2021	10	cfu/100 ml
16	Iron (as Fe)	APHA 24th Edition 3111 B, 2023	0.23	mg/L
17	Zinc (as Zn)	APHA 24th Edition 3111 B, 2023	0.27	mg/L
18	Copper (as Cu)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ- 0.02)	mg/L
19	Lead (as Pb)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ- 0.005)	mg/L
20	Arsenic (as As)	APHA 24th Edition 3114 C, 2023	*BLQ(**LOQ- 0.005)	mg/L
21	Boron (as B)	APHA 24th Edition 4500B-C : 2023	*BLQ(**LOQ- 0.2)	mg/L
22	Chromium (as Cr)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ- 0.02)	mg/L
23	Cadmium (as Cd)	APHA 24th Edition 3111 B, 2023	*BLQ(**LOQ- 0.002)	mg/L



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Authorized Signatory



Term & conditions PTO

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Sample Number : VTL/SW/03

ULR No. : TC1122725000000276F
Report No. : VTLW/2501250019/A

*BLQ Blow limit of Quantification **LOQ Limit of Quantification

End of Report



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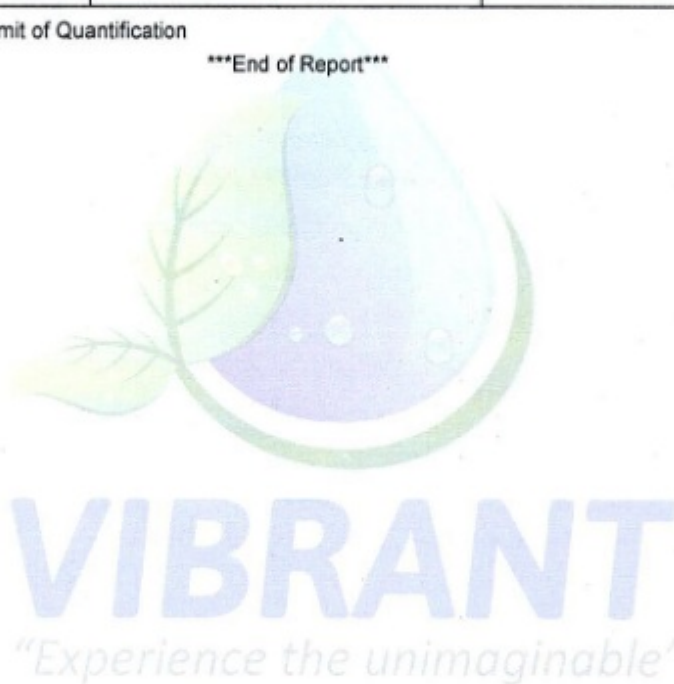
Sample Number : VTL/SW/03
Name & Address of the Party : M/s PRISM JOHNSON LIMITED
Village- Mankahari, Tehsil- Rampur Baghelan, Dist. - Satna (M.P.)
Sample Description : SURFACE WATER
Sampling Location : Bagahai Mines Pit
Sample Collected By : VTL Team
Preservation : Suitable Preservation
Method of sampling : IS :3025

Report No. : VTL/W/2501250019/B
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 30/01/2025
Period of Analysis : 25/01/2025-30/01/2025
Receipt Date : 25/01/2025
Sampling Date : 22/01/2025
Sampling Type : Grab
Sample Quantity : 2 Ltr.
Coordinates : --

S.No.	Test Parameters	Test Method	Results	Unit
1	Colour	IS : 3025 (P-4) : 2021	*BLQ(**LOQ-1.0)	Hazen
2	Oil & Grease	IS : 3025 (P-39) 2021	*BLQ(**LOQ- 4.0)	mg/L

*BLQ Blow limit of Quantification **LOQ Limit of Quantification

End of Report



Checked by 



RK Yadav
Lab Incharge
Authorized Signatory 

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Sample Number : VTL/WW/01

Name & Address of the Party : M/s PRISM JOHNSON LIMITED
 Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
 Satna (M.P.)

Sample Description : Waste Water
 Sampling Location : STP Inlet
 Sample Collected By : VTL Team
 Preservation : Suitable Preservation
 Method of sampling : IS :3025

TEST REPORT

TC-11227

ULR No. : TC1122725000000255F
 Report No. : VTL/WW/2501250002/A
 Format No : 7.8 F-01
 Party Reference No : NIL
 Report Date : 30/01/2025
 Period of Analysis : 25/01/2025-30/01/2025
 Receipt Date : 25/01/2025
 Sampling Date : 22/01/2025
 Sampling Type : Grab
 Sample Quantity : 2 Ltr.
 Coordinates : --

S.No.	Test Parameters	Test Method	Result	Unit
1	pH	IS: 3025 (P-11): 2022	7.02	-
2	Total Suspended Solids (TSS)	IS: 3025 (P-17): 2022	167.0	mg/L
3	Total Dissolved Solids (TDS)	IS:3025 (P-16): 2023	1490.0	mg/L
4	Oil & Grease	IS:3025 (P-39): 2021	7.03	mg/L
5	Biochemical Oxygen Demand (BOD) (3 days @ 27°C)	IS: 3025 (P-44): 2023	65.0	mg/L
6	Chemical oxygen Demand (COD)	IS : 3025 (P-58) : 2023	287.0	mg/L
7	Faecal coliform	APHA 24th Edition 9221 C: 2023	185	MPN/100 ml

*BLQ-Below Limit OF Quantification, **LOQ- Limit Of Quantification

End of Report

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TEST REPORT



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Sample Number : VTL/WW/02

M/s PRISM JOHNSON LIMITED

Village- Mankahari, Tehsil- Rampur Baghelan, Dist. - Satna (M.P.)

Name & Address of the Party :

Sample Description : Waste Water

Sampling Location : STP Outlet

Sample Collected By : VTL Team

Coordinates : --

ULR No. : TC1122725000000256F

Report No. : VTL/WW/2501250003/A

Format No : 7.8 F-01

Party Reference No : NIL

Report Date : 30/01/2025

Period of Analysis : 25/01/2025-30/01/2025

Receipt Date : 25/01/2025

Sampling Date : 22/01/2025

Parameter Required : As per work Order

S.No.	Test Parameters	Test Method	Result	Unit	Limits
1	pH	IS: 3025 (P-11): 2022	7.49	-	5.5 to 9.0
2	Total Suspended Solids (TSS)	IS: 3025 (P-17): 2022	35.9	mg/L	100
3	Total Dissolved Solids (TDS)	IS:3025 (P-16): 2023	915.0	mg/L	2100
4	Oil & Grease	IS:3025 (P-39): 2021	*BLQ(**LOQ-4.0)	mg/L	10
5	Biochemical Oxygen Demand (BOD) (3 days @ 27°C)	IS: 3025 (P-44): 2023	15.0	mg/L	30
6	Chemical oxygen Demand (COD)	IS : 3025 (P-58) : 2023	69.0	mg/L	250
7	Faecal coliform	APHA 24th Edition 9221 C: 2023	78	MPN/100 ml	---

*BLQ-Below Limit OF Quantification, **LOQ- Limit Of Quantification

End of Report

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TC-11227

Sample Number : VTL/WW/03

M/s PRISM JOHNSON LIMITED

Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Name & Address of the Party :

Sample Description : Waste Water

Sampling Location : Mines Workshop

Sample Collected By : VTL Team

Coordinates : --

ULR No. : TC1122725000000257F

Report No. : VTL/WW/2501250004/A

Format No : 7.8 F-01

Party Reference No : NIL

Report Date : 30/01/2025

Period of Analysis : 25/01/2025-30/01/2025

Receipt Date : 25/01/2025

Sampling Date : 22/01/2025

Parameter Required : As per work Order

S.No.	Test Parameters	Test Method	Result	Unit	Limits
1	pH	IS: 3025 (P-11): 2022	7.53	-	5.5 to 9.0
2	Total Suspended Solids (TSS)	IS: 3025 (P-17): 2022	26.5	mg/L	100
3	Total Dissolved Solids (TDS)	IS:3025 (P-16): 2023	988.0	mg/L	2100
4	Oil & Grease	IS:3025 (P-39): 2021	*BLQ(**LOQ-4.0)	mg/L	10
5	Biochemical Oxygen Demand (BOD) (3 days @ 27°C)	IS: 3025 (P-44): 2023	13.0	mg/L	30
6	Chemical oxygen Demand (COD)	IS : 3025 (P-58) : 2023	58.0	mg/L	250
7	Faecal coliform	APHA 24th Edition 9221 C: 2023	38	MPN/100 ml	---

*BLQ-Below Limit OF Quantification, **LOQ- Limit Of Quantification

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TEST REPORT

TC-11227

Sample Number : VTL/WW/04

M/s PRISM JOHNSON LIMITED

Village- Mankahari, Tehsil- Rampur Baghelan, Dist. - Satna (M.P.)

Name & Address of the Party :

Sample Description : Waste Water

Sampling Location : WHRS Treated Water Quality

Sample Collected By : VTL Team

Coordinates : --

ULR No. : TC112272500000258F

Report No. : VTL/WW/2501250005/A

Format No : 7.8 F-01

Party Reference No : NIL

Report Date : 30/01/2025

Period of Analysis : 25/01/2025-30/01/2025

Receipt Date : 25/01/2025

Sampling Date : 22/01/2025

Parameter Required : As per work Order

S.No.	Test Parameters	Test Method	Result	Unit	Limits
1	Colour	IS 3025: (P-4) 2021	*BLQ(**LOQ-5.0)	CU	Colourless
2	pH	IS: 3025 (P-11): 2022	7.59	-	5.5 to 9.0
3	Total Suspended Solids (TSS)	IS: 3025 (P-17): 2022	17.8	mg/L	100
4	Total Dissolved Solids (TDS)	IS:3025 (P-16): 2023	1265.0	mg/L	2100
5	Oil & Grease	IS:3025 (P-39): 2021	*BLQ(**LOQ-4.0)	mg/L	10
6	Ammonical Nitrogen (as NH ₃ -N)	IS 3025 (P-34) : Sec 1 : 2023 (Clause 5.3)	*BLQ(**LOQ-0.5)	mg/L	50
7	Biochemical Oxygen Demand (BOD) (3 days @ 27°C)	IS: 3025 (P-44): 2023	22.0	mg/L	30
8	Chemical oxygen Demand (COD)	IS : 3025 (P-58) : 2023	87.0	mg/L	250
9	Lead (as Pb)	APHA 24th Edition ,3111 B, 2023	*BLQ(**LOQ-0.05)	mg/L	0.1
10	Chromium (as Cr)	APHA 24th Edition ,3111 B, 2023	*BLQ(**LOQ- 0.10)	mg/L	2
11	Copper (as Cu)	APHA 24th Edition ,3111 B, 2023	*BLQ(**LOQ-0.10)	mg/L	3
12	Zinc (as Zn)	APHA 24th Edition ,3111 B, 2023	*BLQ(**LOQ-0.2)	mg/L	5
13	Nickel (as Ni)	APHA 24th Edition ,3111 B, 2023	*BLQ(**LOQ-0.1)	mg/L	3
14	Faecal coliform	APHA 24th Edition 9221 C: 2023	84	MPN/100 ml	---

*BLQ-Below Limit OF Quantification, **LOQ- Limit Of Quantification

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Sample Number : VTL/WW/04

M/s PRISM JOHNSON LIMITED

Village- Mankahari, Tehsil- Rampur Baghelan, Dist. -
Satna (M.P.)

Name & Address of the Party :

Sample Description : **Waste Water**

Sampling Location : WHRS Treated Water Quality

Sample Collected By : VTL Team

Coordinates : --

Report No. : VTL/WW/2501250005/B

Format No : 7.8 F-01

Party Reference No : NIL

Report Date : 30/01/2025

Period of Analysis : 25/01/2025-30/01/2025

Receipt Date : 25/01/2025

Sampling Date : 22/01/2025

Parameter Required : As per work Order

S.No.	Test Parameters	Test Method	Result	Unit	Limits
1	Odour	IS: 3025 (P-5) : 2018	Agreeable	-	Agreeable

*BLQ-Below Limit OF Quantification, **LOQ- Limit Of Quantification

End of Report



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Annexure XII B Slope Stability Report

Confidential

REPORT ON
SLOPE STABILITY STUDY
OF
BAGHAI LIMESTONE MINE, PRISM JOHNSON LTD
DISTRICT – SATNA, M.P.



DEPARTMENT OF MINING ENGINEERING
AKS, UNIVERSITY, SATNA (M.P.)
March-April 2022

ACKNOWLEDGEMENT

Department of Mining Engineering of Faculty of Engineering & Technology (FE&T), AKS University is thankful to the management of M/s **PRISM JOHNSON LIMITED**, for entrusting the study of executing the project on Slope Stability.

We also express sincere thanks to **Asst. Vice President Mines, Shri Manoj Kumar, and GM-Mines Sri C.S.Pandit** for inviting us to conduct this Study at the mines and also for the support provided during the study.

We are also thankful to Shri Kousik Das(Mines Manager) and other officials/engineers for the wholehearted support, hospitality and the courtesies extended to the study team during the study.

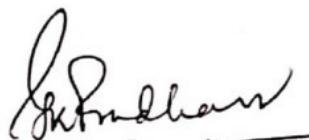
The study team constituted of the following officer from the Faculty of Engineering & Technology

Dr. B. K. Mishra, Head of the Department, Mining Engineering

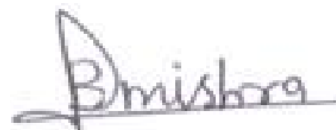
Dr. G. K. Pradhan, Dean, Faculty of Engineering and Technology

DISCLAIMER

This is to state that neither the day-to-day operations would be under the control of the investigators/authors of this report, nor it is possible to have any such control on mining operations. The author(s) of this Report would in no way be held responsible for any untoward incidents, which might occur due to the implementation of the recommendations of this report. This report is Confidential and no part of the same may be reproduced and circulated to any outside agency without obtaining prior permission from authors except Prism Johnson Ltd and concerned mine management. The authors reserve the right to publish the results of the study on academic/research interest for the benefit of the industry.



Dr. G.K.PRADHAN
Recipient of National Geoscience Award
Co-Principal Investigator (Co PI)
Professor of Mining Engineering & Dean,
Faculty of Engineering &Technology (FE&T)



Dr. B. K. MISHRA
Principal Investigator (PI)
Head of the Department
Mining Engineering

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1.0 ABSTRACT

The issues concerned with slope stability in the open cast mines have come to forefront in the mining operations due to increasing pit depth. The slope stability has the most prominent influence in the productivity and longevity of a mine, collapse of which can lead enormous damages to man and machinery. A comprehensive study is necessitated to ensure stable slopes which are aided by numerical, analytical, physical, kinematic and empirical analyses. In the present study Baghai Limestone Mine of M/s PRISM JOHNSON LIMITED, Baghai Vill. District – Satna, M.P., have been analysed. The study has involved the classification and prediction the probable failure mode of the slope mass using slope mass rating and kinematic analysis. The analysis results have matched well with the field observations and can help to protect the slope and ensure the safety for better productivity.

DGMS has also issued several Technical Circulars outlining the safety to be ensured while mining for waste and ore.

1.1 OBJECTIVES & SCOPE OF WORK

Open cast mines call for the excavation of the earth surface to reach the underlying minerals of economic utility. The excavation process requires cut slopes to be formed on an earlier plain earth surface. Stability of the cut slopes is crucial for the safe and economical mining operations. The slope stability is governed by the local geological and geo-technical characteristics of the slope forming mass and the prevailing ground water conditions.

The design of the open pit mine slopes is a deciding factor for efficient exploitation of minerals as well as for the safety of the mine and the mineworkers which control the economics of the operations. The ever increasing pit depths and production requirements from opencast mines subject the design engineers and planners to work under the constraints of two conflicting requirements of stability and production. Economics could be improved by steepening the slope thereby reducing the amount of waste excavation on the other side, excessive steepening of slope could result in failure leading to loss of life and damage to property.

This scenario poses a big question as to how to achieve an optimum design – a compromise between a slope that is flat enough to be safe and steep enough to be economically acceptable. The consequences of a slope failure could be quite serious in terms of safety and economics and are governed by the location and extent of failure. Hence, the design of the steepest slope with desired stability asks for a detailed and reliable geotechnical investigation.

The factors, which mainly influence the stability of a typical opencast slope, are

- **The shear strength parameters of slope forming material**
- **The presence and characteristics of structural discontinuities in the slope mass**
- **The ground water conditions (Singh and Monjezi, 2000; Singh et al. 2008).**

2.0 INTRODUCTION

M/s. Prism Johnson Cement Limited is a Public Limited company with its registered office at 306, Laxmi Niwas Apartment Ameerpeth Hyderabad (A.P.). The company was initially incorporated under the name of Karan Cement Ltd. in March 1992 under the Indian Companies Act, 1956 as a joint venture between Raheja Group of Mumbai, F.L. Smidth and Co. Denmark and Industrialization Fund for Developing Countries, Denmark. The name of the company is subsequently changed to Prism Cement Limited (PCL) in September 1994. M/s. Prism Cement Limited has successfully set up and commissioned a 2 million tonnes per annum capacity cement plant at village Mankahari, Tehsil Rampur Baghelan in Satna District of Madhya Pradesh in the year 1997. Subsequently, the capacity has been increased **to 2.5 million** tonnes Clinker per annum.

In addition to this, Prism Cement had set up second Cement Plant of 3.00 MTPA clinker capacity. Total requirement of limestone for second Cement Plants is 4.50 million tonnes per annum. As per the New EIA Notification dated 14.09.2006 and circular dated 06.02.07, this integrated project falls in category 'A' Section (3) with 1 (a) (3).

Bagahai Limestone Mine is spread over a lease area of 512.317 ha.

Top soil - 0 to 5m

Limestone bench - Height: 6-7 m Width: >12 m

Ultimate working depth – will reach 271 m RL(at present) and will reach 255 mRL

OB dump - Max. height of waste rock and soil dump : 12 m. And likely to reach within 20m and will be in benching fashion/terraced each of less than 10 m.

Spread of the soil dump : 2.17 ha

Spread of the waste rock dumps. : 3.06 ha (waste rock generated in 1st year is being stored in an existing external dump and will be used for backfilling of the mined out area at the end of IV and V year.).

Land Use Pattern

512.317 ha (New Mine) Baghai Total 512.317(Govt. 1.017 Ha), ha Rampur Baghelan Satna(M.P.)

Geology

The Baghai Limestone mine is situated at Satna in the state of Madhya Pradesh (India). The mining lease area lies between longitude 81°01'47" to 81°04'20" East and Latitude 24°33'14" to 24°34'44" North and longitude 80°57'31" to 80°58'28" East and Latitude 24°36'47" to 24°37'16" North respectively (Geological Survey of India topo sheet No. 63 H/2). Geologically, this area forms part of the Rewa Plateau belonging to the upper Vindhyan Supergroup and the limestone deposit of the mine falls in the Bhander series of Upper Vindhyan System and is Upper Vindhyan in age. The general topography of the area is without any remarkable relief and forms a more or less flat terrain with a general dip of approximately 2°- 6° towards South between S10oW to S5oE. The area is completely devoid of any forest and the topographic elevation varies from 324 to 291.4 m above MSL. The overview of the Baghai Limestone Mines of Prism Cement is presented in Photograph 1.

3.0 ASSESSMENT OF JOINTS

Limestone forms the dominant rock type in the area. The beds are mostly horizontal with dips seldom exceeding 2° to 6° towards south. The rock is competent and no prominent joints could be observed. In engineering application joints are important not only because they limit the strength of the rock mass, but also because they control bulk deformation and the flow of ground water.

4.0 REGIONAL GEOLOGY

Geologically, this area forms part of the Rewa Plateau belonging to the Upper Vindhyan Super group of rock formations in Indian stratigraphy. The Vindhyan formations are broadly classified into lower calcareous and an upper arenaceous facies. The upper arenaceous rocks however, have a calcareous horizon - the Bhander Limestone varying in thickness from about 5 to 15 mtrs. The Limestone deposit of the area belongs to the Bhander series. The general trend of Bhander Limestone is East – North-East to West – South-West having low Southerly dipping of less than 50 Degrees.

Table: 1 Geological Succession of the Vindhyan Super Group

UPPER VINDHYANS	BHANDER SERIES	UPPER BHANDER SANDSTONE
		SIRBU SHALE
		LOWER BHANDER SANDSTONE
		BHANDER LIMESTONE
		GANUGRAH SHALE
	DIAMOND BEARING CONGLOMERATES.....	
	REWA SERIES	UPPER REWA SANDSTONE JHIRI SHALES LOWER REWA SANDSTONE PANNA SHALES
	DIAMOND BEARING CONGLOMERATES.....	
	KAIMUR SERIES	MAINLY SANDSTONE & QUARTZITE WITH MINOR SHALE
.....UNCONFORMITY.....		

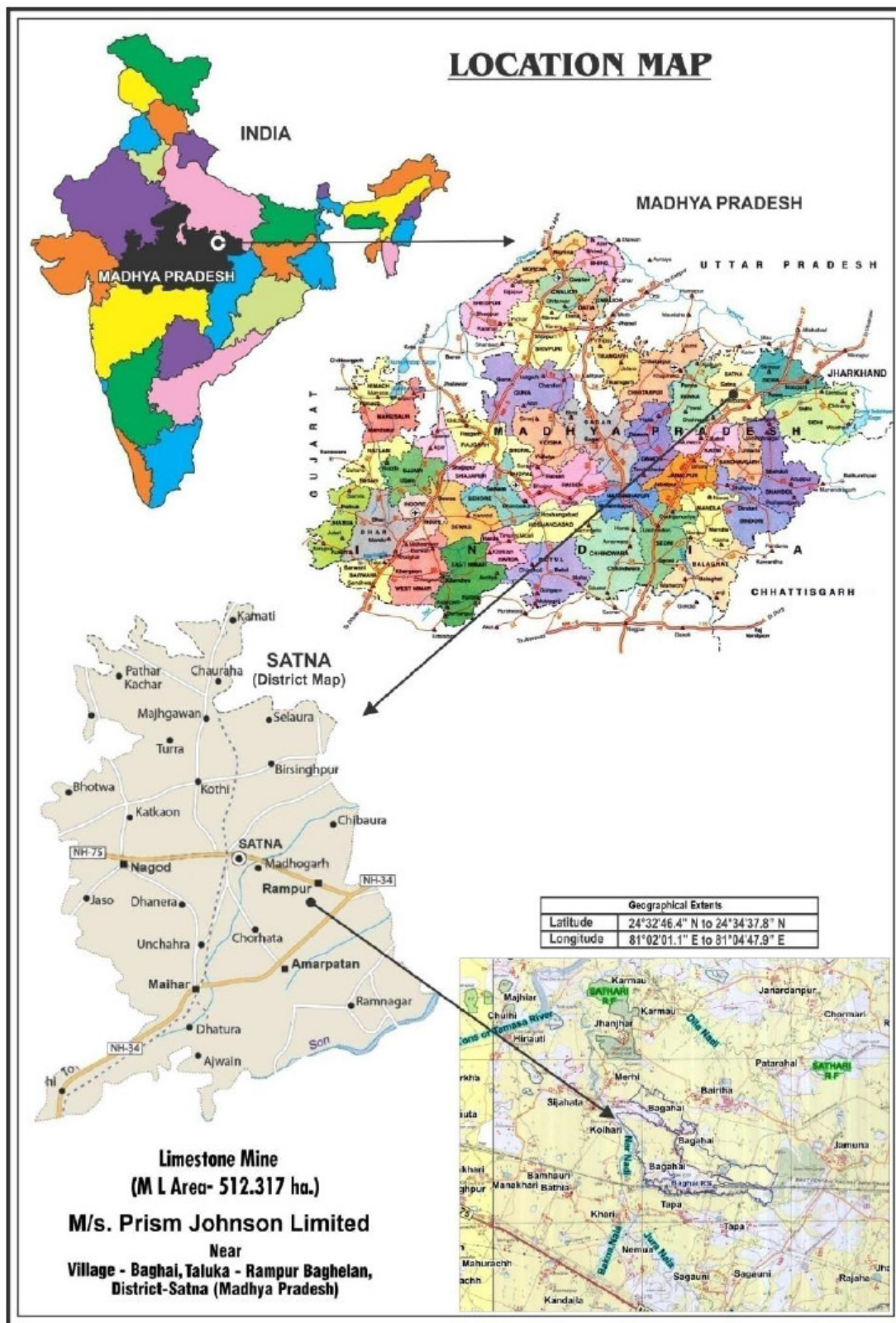


Figure 1 : Location Map of the Mines of Prism Johnson

5.0 MINING LEASE STATUS

Letter of Intent has been issued by State Government in favour of M/s Prism Cement Limited over an area of 512.317 ha vide letter no 3-07/2006/12/2 dated 08.08.2006. Mining Lease was granted in favor of M/s. Prism Cement Limited for 30 years vide letter no. F3-07/06/12/1 Bhopal dated 16.9.2008. Mining Lease deed was executed on 14.2.2011 effective from 28.02.2011, for the period of 30 years till 27.2.2041. Meanwhile name of Company was changed from M/s. Prism Cement Limited to M/s. Prism Johnson Limited vide letter No 4397/1825/2018/12/1 dated 20.9.2018. Subsequently amendment was done in the lease deed. As per section 8A of Amendment MMDR Act, 2015 mining lease has been extended for 50 years as provided by section 8A.

1. Villages Baghai
2. Tehsil Rampur Baghelan
3. District Satna
4. State Madhya Pradesh
5. Coordinates Latitude: 24°32'46.4" N to 24°34'37.8" N Longitude: 81°02'01.1" E to 81°04'47.9" E
6. Toposheet No. G44U14 & G44V2

7.0 LOCAL GEOLOGY

Except few isolated outcrops of limestone, the major part of the area on the surface is covered with soil. In all limestone outcrops trending along NE-SW direction have been demarcated during geological mapping of the area. Keeping in view the regional stratigraphic sequence and data obtained from drilling, the following sequence of formations has been established for the area:-

- Soil
- Overburden shale (Upper Green Shale)
- Limestone
- Bottom Shale

8.0 DESCRIPTION OF ROCK TYPES

Top & Overburden Soil:

The major part of the area on surface is covered with soil. At places, soil occurs on top of shale. Soil is found to occur on top of limestone bed. The thickness of soil ranges from 0.00 to 7.5 meters.

Overburden Shale:

This type of formation is mainly encountered in the southern part of the area. It is generally overlain by soil. It is red to light greenish grey in colour and hard in nature. On weathering, it becomes friable and breaks into thin laminae on application of force. Shale has a thickness ranging from 8.00 to 15.00 meters.

Limestone:

Limestone is both overlain and underlain by shale. It is fine-grained, light grey to dark grey in colour. It is generally intercalated with shale bands. Depending on CaO content, limestone has been classified into two grades, namely, Cement grade and sub grade. High magnesia limestone and limestone analyzing below 34% is treated as reject. Limestone has thickness ranging from 11.00 to 22.00 meters.

Structures:

The local geology of the area is free from significant structural disturbances. The general strike of limestone and all the associated formations in the adjoining area is horizontal with a variable dip from 4° to 9° . Two distinct sets of vertical joints planes are also observed in the area. The area does not appear to be disturbed by any major tectonic activity. Regionally some minor wraps have been occurred in the area due to uneven gravitative settlement of huge thick sediments and give the appearance of synformal trough and antiforms. The bedding planes are common and can be easily recognized and some minor foliations can also be found in the area. The joint planes are haphazardly arranged and do not follow any particular pattern. There are not much structured features like folding & faulting and beds are horizontal. The availability of deposition of the various rock types is dependent mostly on the topography, or, in other words, lower the ground – the rocks of older formations are available and, conversely – the more high the ground the occurrence of the rock of younger formations in the area. As in a common calcareous formation, sedimentary structure like lenticular and irregular bedding, cross laminations and mud cracks etc. have been observed in the deposit, which has given way to flowing water to cause solution cavities.

9.0 METHOD OF MINING

Mining is done by mechanized opencast method adopting a system of benches. Hydraulic excavators is being deployed for progressing benches and for handling ore/waste material. Drilling and controlled blasting is also adopted. Dumpers are being used for loading and dumping of waste material/ore. Transportation of limestone from working face to crusher hopper is being carried out by dumpers.

Drilling & Blasting

S. No.	Particulars	Details
1.	Method of mining	Opencast mechanized Mining
2.	Total Geological Reserves	42.416 Million Tonnes
3.	Total Mineable reserves	30.856 Million Tonnes
4.	Life of the Mine	~11 years based on mineable reserve
5.	Bench Height	6-8 m
6.	Bench width	18 m
7.	No. of Benches & Pits	5 Pits with 5 benches in each pit
8.	Pit limit	250 m AMSL
9.	Ultimate pit Slope	45°
10.	Water table	Pre-monsoon: 273 to 286 m AMSL (25-28 m bgl) & Post-monsoon: 276 to 281 m AMSL (20-25 m bgl).
11.	Elevation Range	298 m AMSL to 324 m AMSL
12.	General Ground Level	301 m AMSL
13.	Mineral: Waste Ratio (cum :cum.)	1:0.74
14.	Number of Working Days	300 days/year
15.	Number of shifts per day	3 (16 working hours)

The mining method is the conventional drilling and blasting followed by loading. Drilling is done by larger diameter 102 & 115 mm drills. The type of explosives used is SME and/or Cartridge explosives. Loading is done by hydraulic excavators. Based on the nature of the limestone deposit, the blast hole parameters adopted are as follows:

Hole dia - 115 mm, Burden..3.0m, Spacing 3.5 m, Depth – 4.5 to 6.0 M PF – 6 to 7 T/kg.

Excavator Capacity ; 1.2 M³

Tipper / dumper 20/40 T

Rock Breaker 1500 MPa is used for breaking oversize boulders.

10.0 STATUS OF DUMPS AT PRESENT

The Ultimate Capacity of the Dump

The Mine had made provision for separate stacking of topsoil and the stability of which was also studied with respect to the volume and height. At regular intervals the sub-benches in the dump is stabilised..

Bench formation in different pits

Photographs showing the bench formation showing the configuration and slope angle, is presented below



Field photograph showing the dump and bench

11.0 OBSERVATIONS IN FIELD AND PRESENTATION OF DATA

The Rock Mass Rating (RMR) System - RMR is a geo-mechanical classification system for rocks, developed by Z. T. Bieniawski between 1972 and 1973. It combines the most significant geologic parameters of influence and represents them with one overall comprehensive index of rock mass quality, which is used for the design and construction of excavations in rock, such as tunnels, mines, slopes and foundations.

The following six parameters are used to classify a rock mass using the RMR system

- Uniaxial compressive strength of rock material
- Rock quality designation (RQD)
- Spacing of discontinuities
- Condition of discontinuities.
- Groundwater conditions
- Orientation of discontinuities

Each of the six parameters is assigned a value corresponding to the characteristics of the rock. These values are derived from field surveys and laboratory tests. The sum of the six parameters is the "RMR value", which lies between 0 and 100.

$$\mathbf{RMR = J_{A1}+J_{A2}+J_{A3}+J_{A4}+J_{A5}+J_B}$$

Where the

J_{A1}	=	Strength of Intact Rock Material
J_{A2}	=	Drill Core Quality – RQD
J_{A3}	=	Spacing of Discontinuities
J_{A4}	=	Condition of Discontinuities
J_{A5}	=	Groundwater
J_B	=	Rating Adjustment for Discontinuity Orientations

12.0 CLASSIFICATION OF PARAMETERS AND THEIR RATINGS

Strength of Intact Rock Material (J_{A1})- In this Mine, strength of intact rock material (J_{A1}) rating is **12**. The rocks are classified as Very strong as per the following study parameters. The details of parameters are given below:

12.1 Schmidt Hammer Data analysis

The Schmidt hammer has been widely used for testing the quality of concrete and rocks. It has been increasingly used worldwide because of its simplicity, rapidity, non-destructiveness and portability. The Schmidt hammer is a light hand-held device which consists of a spring-loaded mass inside a piston that is released when the hammer is pressed orthogonally onto a surface.

Table:2 Schmidt Hammer Reading in the area			
S.N.	Latitude	Longitude	Value N
1	24.575303°	81.044724°	55
2	24.575288°	81.04465°	56
3	24.575304°	81.044718°	52
4	24.575288°	81.04465°	60
5	24.575272°	81.044658°	58
6	24.575446°	81.04469°	52
7	24.575446°	81.044697°	60
8	24.57544°	81.044699°	58
9	24.57544°	81.044698°	60
10	24.575614°	81.044915°	55
11	24.57561°	81.044915°	58
12	24.575465°	81.045292°	60
13	24.575465°	81.0445292°	62
14	24.575465°	81.045292°	55
15	24.575405°	81.045316°	60
16	24.575405°	81.045316°	62
17	24.575401°	81.045314°	58
18	24.575299°	81.045381°	55
19	24.575311°	81.045383°	60
20	24.5751°	81.04532°	62
21	24.575103°	81.044955°	60
Average N Value: 58 Average Compressive strength value = 148 MPa			



Fig. 2 Field photograph showing analyse the Schmidt Hammer reading

13.0 SLOPE STABILITY ANALYSIS WITH DIGITAL ELEVATION MODEL (DEM)

Slope is a measure of change in elevation. Calculate the percent slope, divide the difference between the elevations of two points by the distance between them, and then multiply the quotient by 100. The difference in elevation between points is called the rise. The distance between the points is called the run. The study area elevation varies between 80 to 95 percent curvatures. The maximum slopes of side area is 9.03 % and average slope are 1.08%. Slope std. deviation of the area are 73.24 %, average elevation of the area is 314.08m+/- 10.

N24E081.HGT Elevations

Pts in DEM: 1442401

Non zero points in DEM: 1442401

Range: 84 to 720

Range (0.1 to 99.9%): 99 to 625

Range (0.2 to 99.8%): 101 to 594

Range (0.5 to 99.5%): 103 to 542

Range (1.0 to 99.0%): 105 to 502

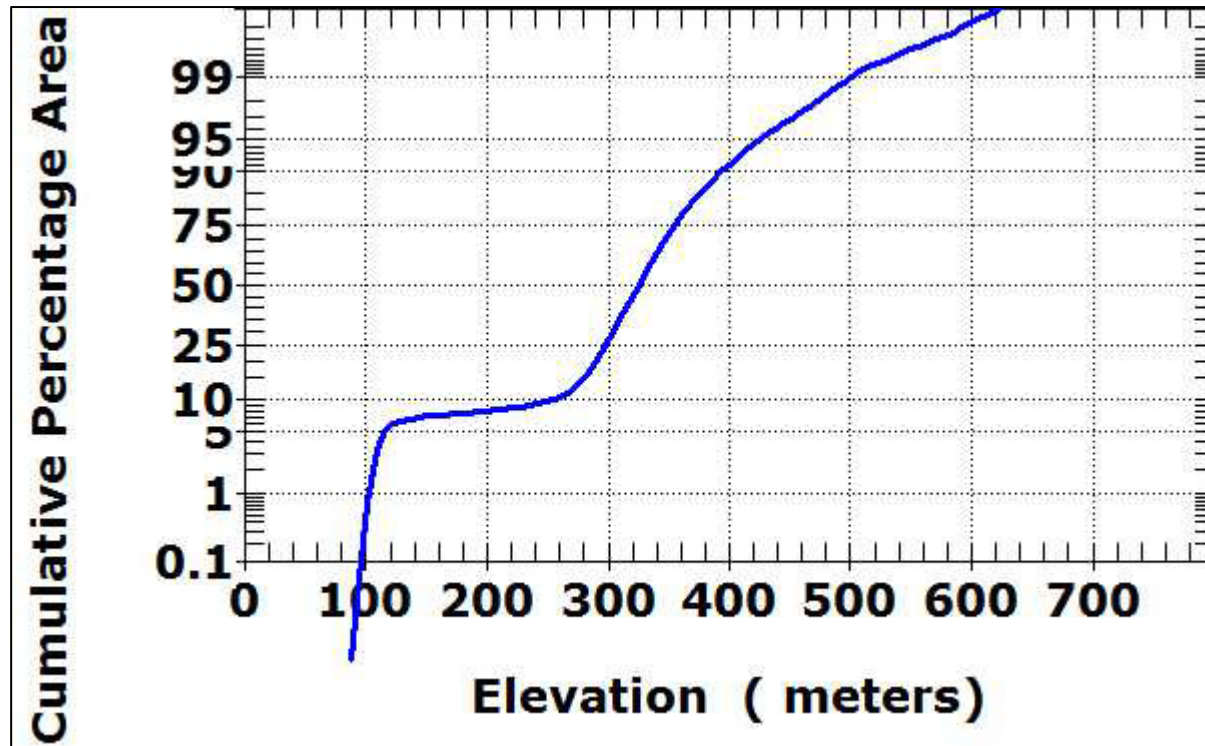


Fig. 3 Elevation Vs Cumulative Percentage of the area

Fig. 4 Proportion Basin Height Vs Proportion of the area

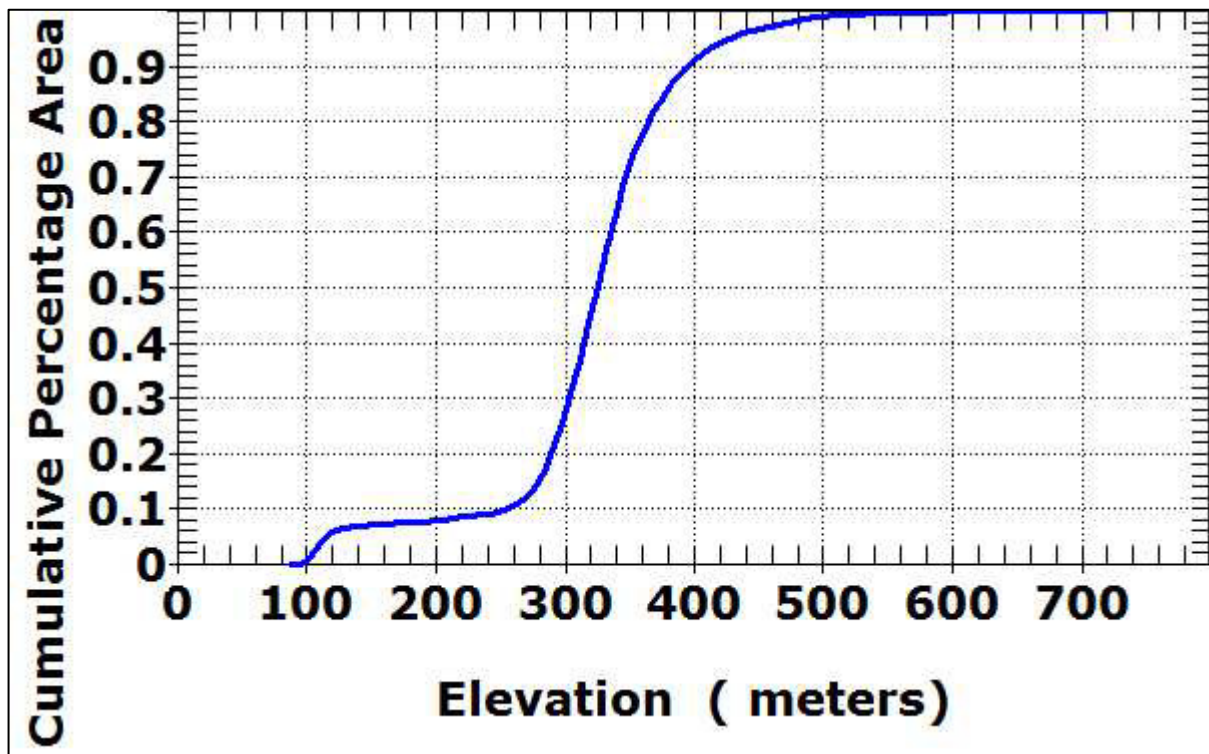
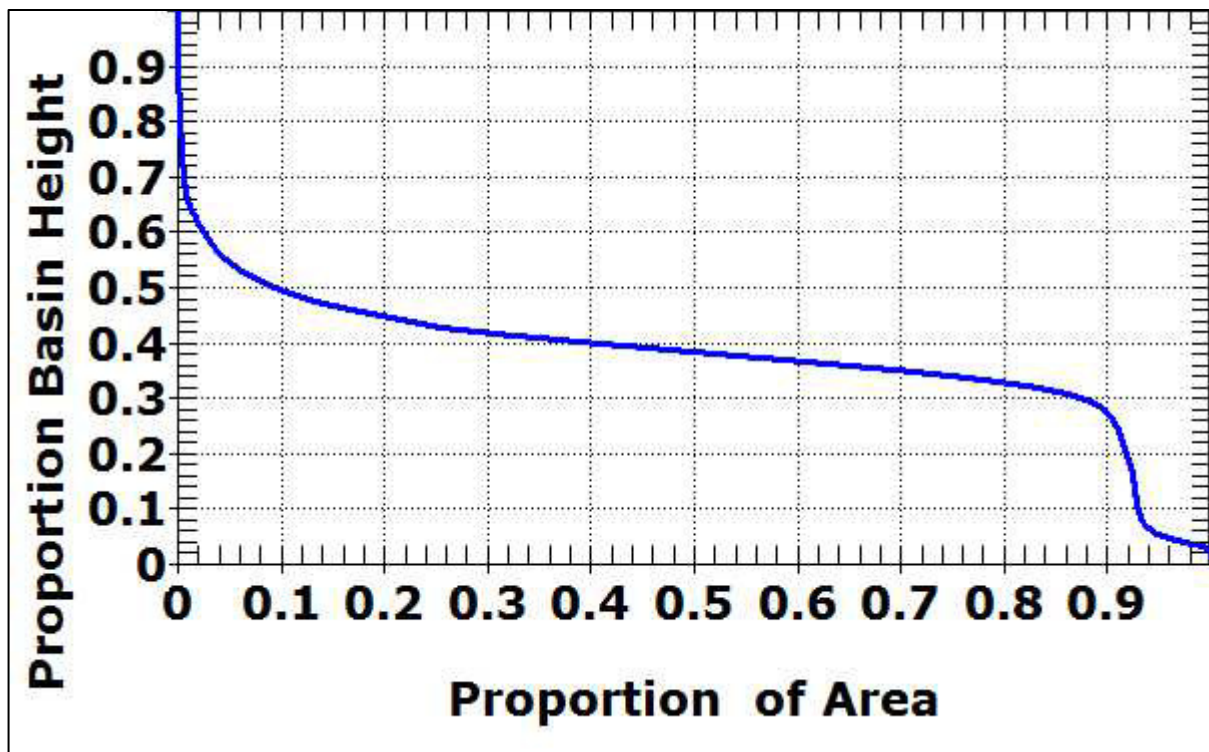


Fig. 5 Elevation Vs Cumulative Percentage of the area



Avg (mean): 322.27

Std Dev: 76.93

Table 3 Triangular prism fractal dimension, N24E081.HGT

Boxes	Holes	Size (m)	Hole	Edge	Raw area	Corrected Area
1435204	0	88.4	1.00	1.00	6836281.66	6859126.36
358801	0	176.7	1.00	1.00	5805098.70	5824497.51
89401	0	353.4	1.00	1.01	4737844.78	4769589.05
22201	0	706.9	1.00	1.01	3794600.36	3845705.52
5476	0	1413.7	1.00	1.03	3017076.71	3099170.29
1369	0	2827.5	1.00	1.03	2373342.79	2437920.60
324	0	5654.9	1.00	1.09	1852880.88	2010504.43
81	0	11309.9	1.00	1.09	1563650.22	1696669.07
16	0	22619.7	1.00	1.37	1081453.90	1485150.92
4	0	45239.4	1.00	1.37	1068385.40	1467204.08
1	0	90478.9	1.00	1.37	1074602.78	1475742.35

Fractal dimension: 2.12

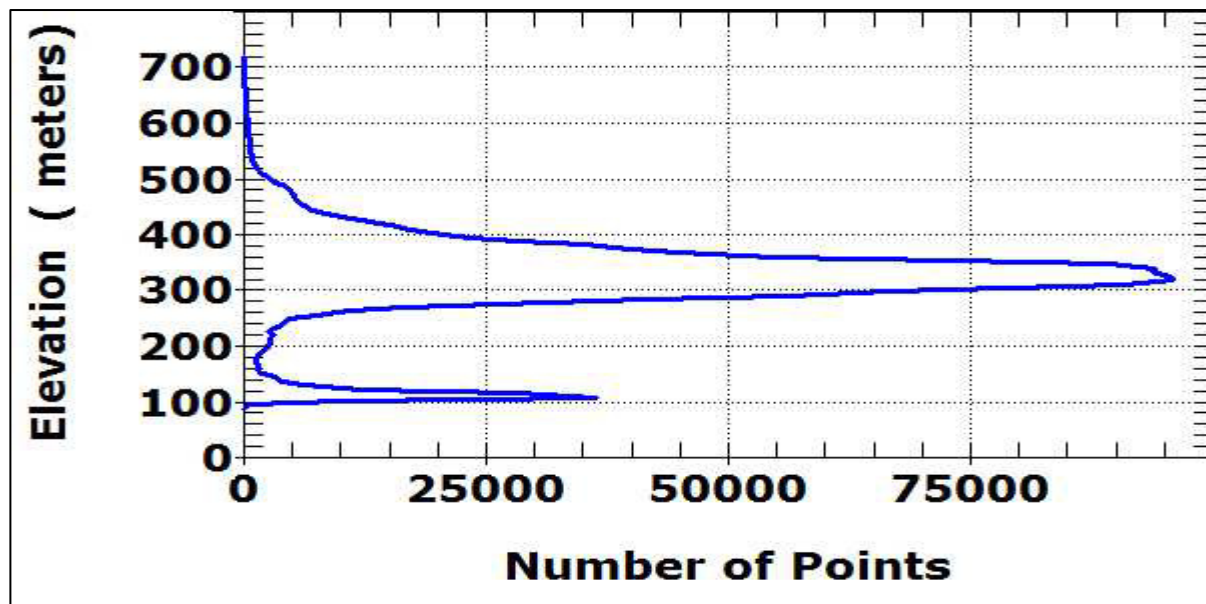


Fig. 6 Elevation Vs Number of Points

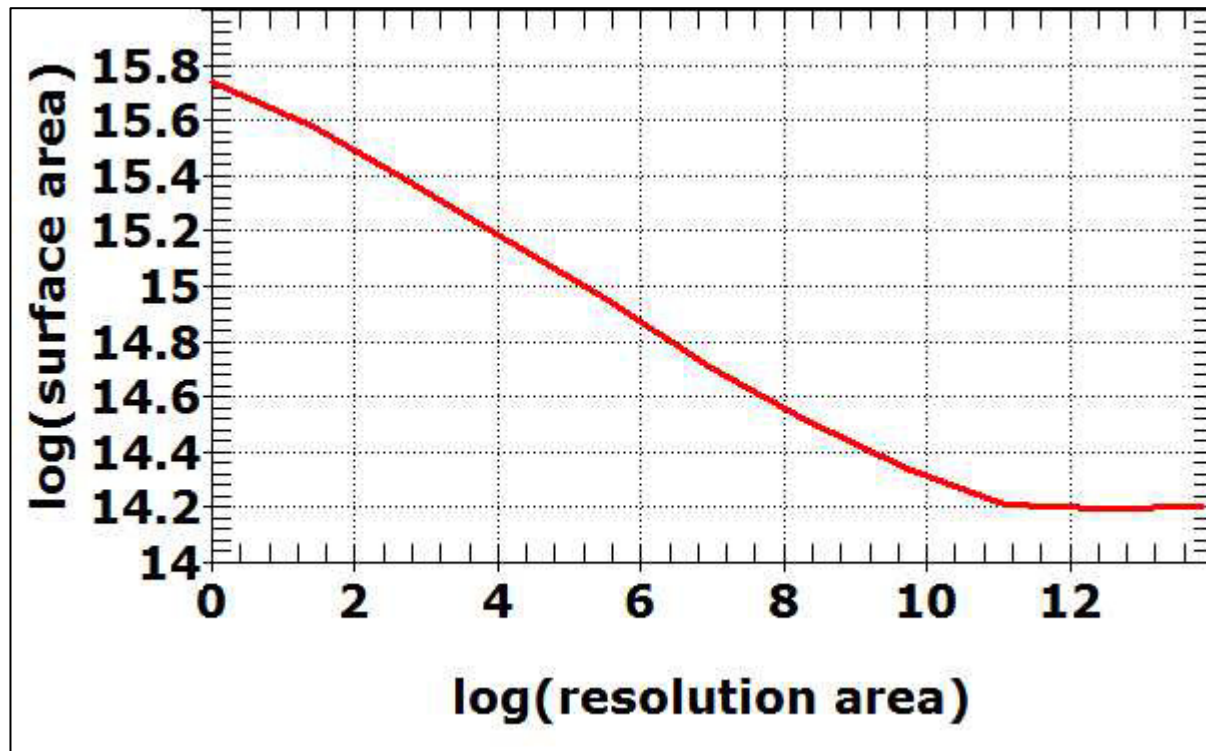


Fig. 7 Resolution of the area Vs Surface area

Variogram Slopes and fractal Dimensions

N-S: -999.0000 -496.500

NE-SW: -999.0000 -496.500

E-W: -999.0000 -496.500

SE-NW: -999.0000 -496.500

N24E081.HGT n=1343281

Avg elev: 324.08 m std dev= 73.24

Avg slope: 1.08% std dev= 1.28

Max slope: 9.03%

Eigenvalues:

1342913.7721 258.0214 109.2064

Normalized eigenvalues:

0.9997 0.0002 0.0001

Log Ratios:

$\ln(S1/S2)$: 8.56

$\ln(S2/S3)$: 0.86

Shape Indicator: 9.95

Strength Indicator: 9.42

Eigen vectors:

V1 89.8681° toward 8.3°

V2 0.1205° toward 164.2°

V3 0.0538° toward 254.2°

Queen's aspect ratio: 1.518

Fig. 8 Aspect map of the area

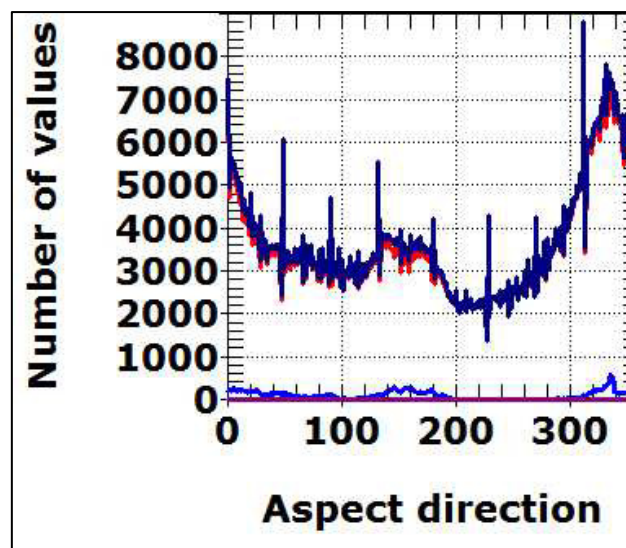
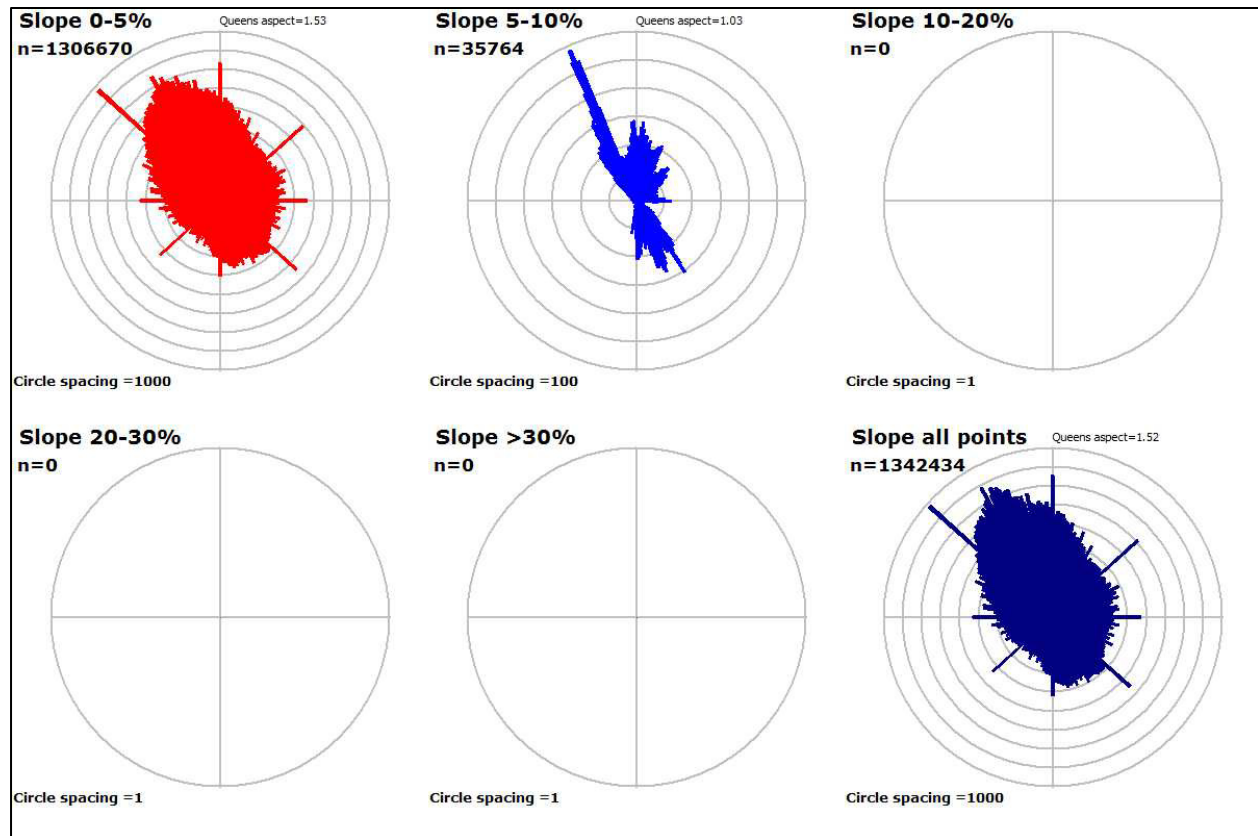


Fig. 9 Aspect direction Vs No of Values

Slope method: 8 neighbors (weight) N24E081.HGT

Max slope: 9.03% 5.2°

Average slope: 1.08% 0.6°

Standard deviation: 1.28 (%)

RMS 1.67 (%)

Fig. 10 Aspect distribution

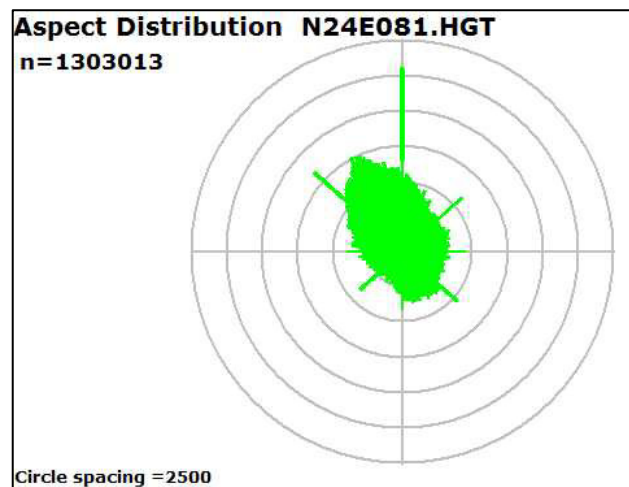


Fig. 11 Cumulative Percentage Vs Slope 8 %

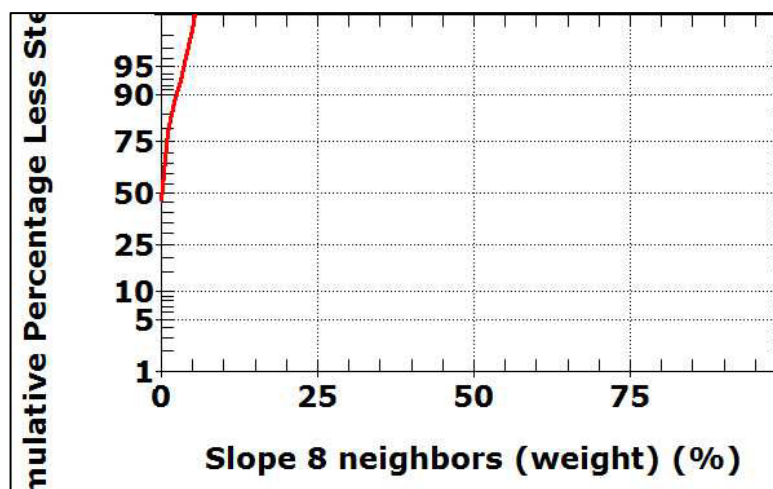


Fig. 12 Average Slope (weight%) Vs Elevation

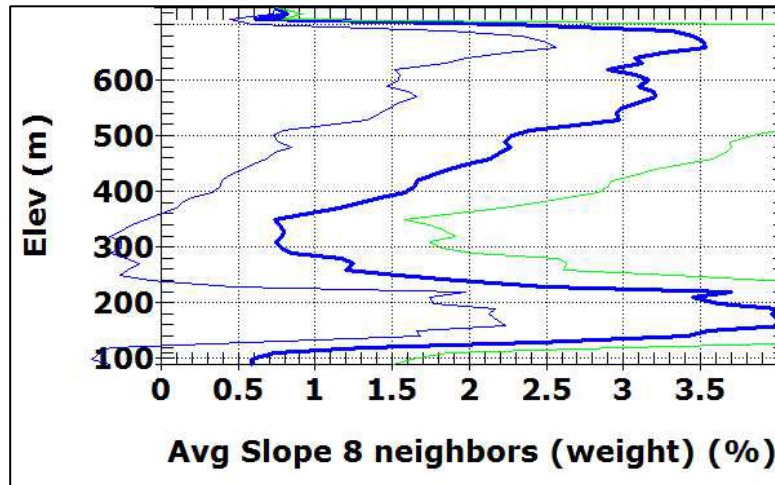


Fig. 13 Percentage of Region Vs Slope 8 neighbours (weight)

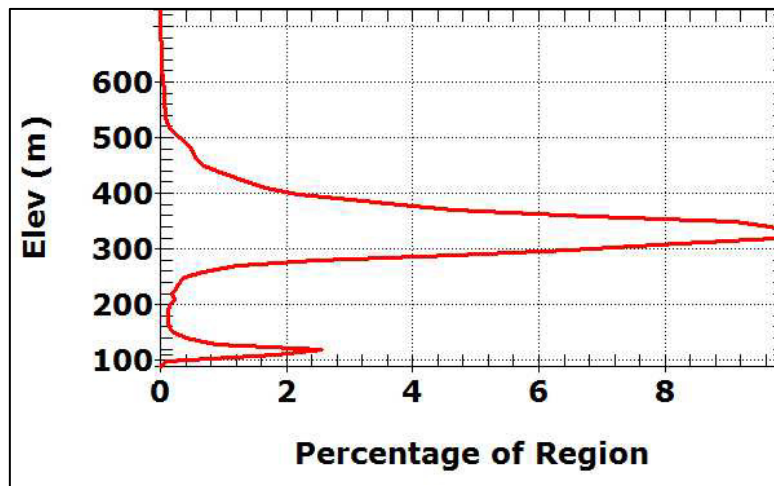
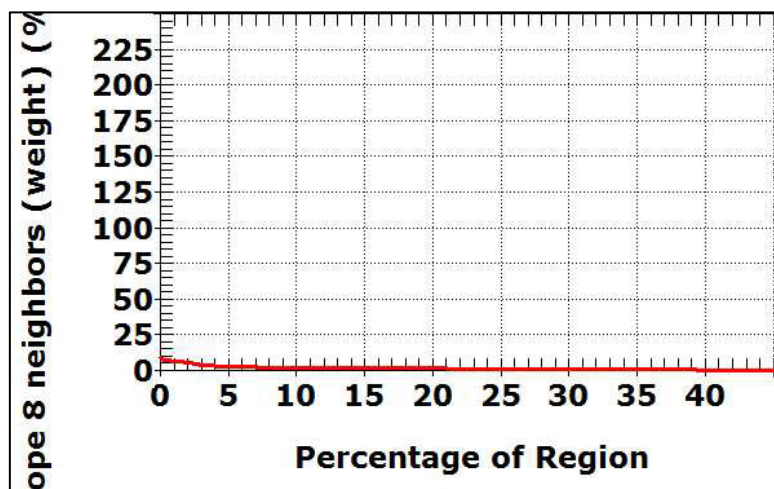


Fig. 14 Percentage of Region Vs Elevation (meter)



Slope with region size: 1

Slope

Average= 4.43
Average dev= 3.85
Standard dev= 6.79
Skewness= 4.2146
Curtosis= 24.7277

n=1432477

Slope with region size: 2

Slope

Average= 3.51
Average dev= 3.23
Standard dev= 5.59
Skewness= 3.8782
Curtosis= 19.0306

n=1427762

Slope with region size: 3

Slope

Average= 3.02
Average dev= 2.82
Standard dev= 4.80
Skewness= 3.7138
Curtosis= 16.9253

n=1422993

Slope with region size: 5

Slope

Average= 2.45
Average dev= 2.30
Standard dev= 3.81
Skewness= 3.4662
Curtosis= 14.5135

n=1413470

Slope with region size: 7

Slope

Average= 2.12
Average dev= 1.98
Standard dev= 3.18
Skewness= 3.2418
Curtosis= 12.5449

n=1403975

Slope with region size: 10

Slope

Average= 1.80
Average dev= 1.65
Standard dev= 2.57
Skewness= 2.9598
Curtosis= 10.1287

n=1389791

Slope with region size: 15

Slope

Average= 1.48
Average dev= 1.32
Standard dev= 1.97
Skewness= 2.6265
Curtosis= 7.5746

n=1366311

Slope with region size: 20

Slope

Average= 1.28
Average dev= 1.11
Standard dev= 1.61
Skewness= 2.3947
Curtosis= 6.0779

n=1343031

Fig. 14 Slope Vs Number of values

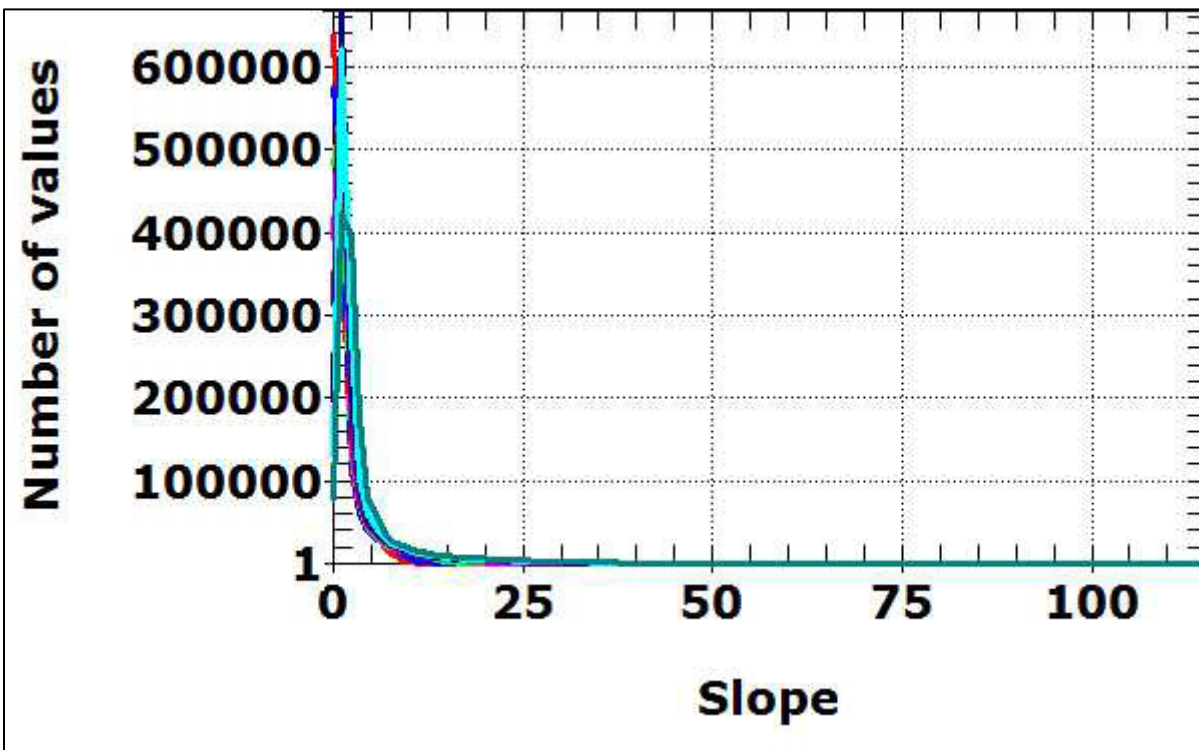


Fig. 15 Region Box Size (m) Vs Relief (m)

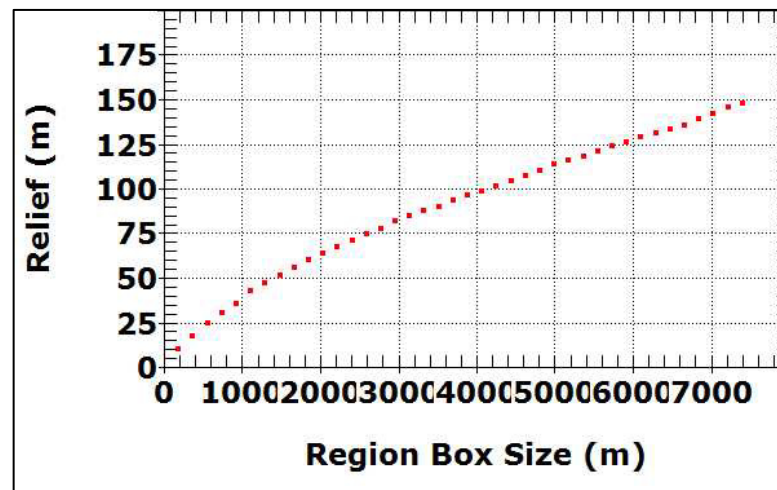
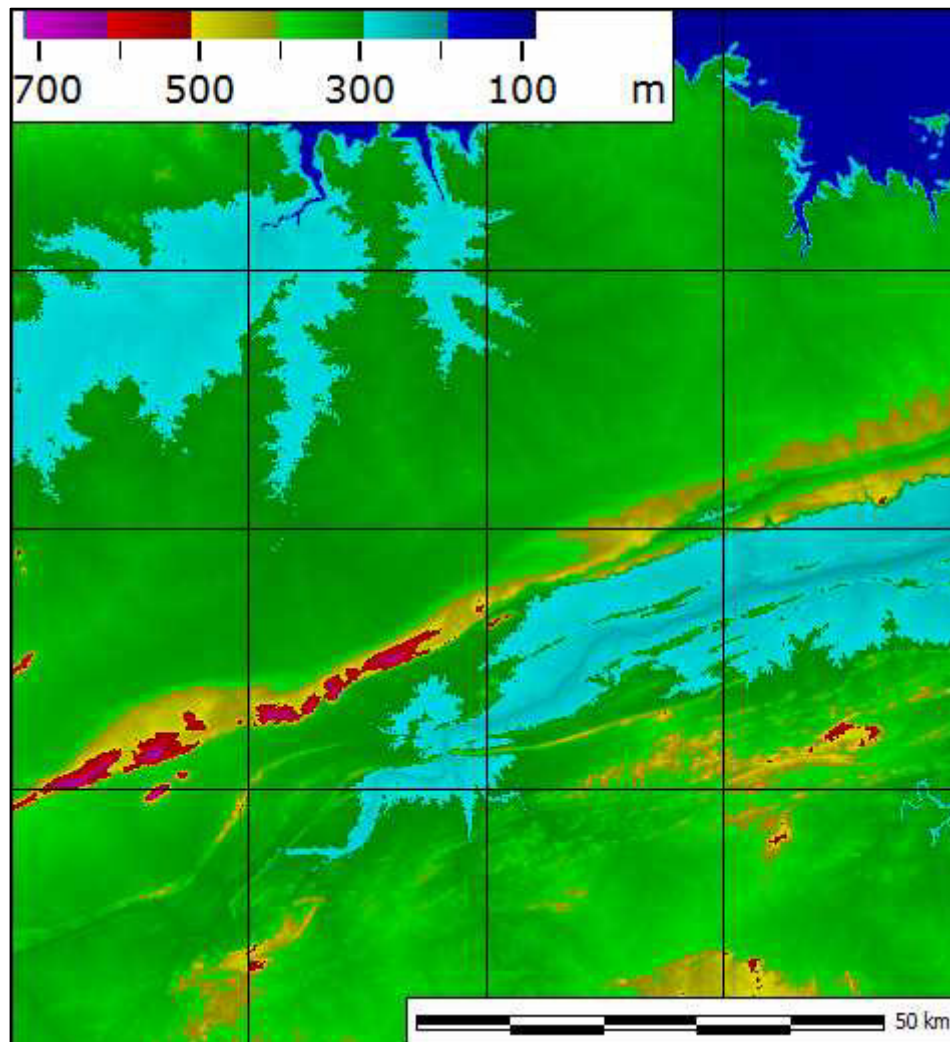


Fig. 16 Elevation map of the area



14.0 Slope Stability Analysis Using Flac

The stability of slopes is traditionally estimated using 2D limit equilibrium methods (LEM). However, these methods have several disadvantages and may neglect some important factors. Due to the rapid development of computing efficiency, several numerical methods are gaining increasing popularity in slope stability engineering. Finite Element Method (FEM) and Finite Difference Method (FDM) are very often used for that purpose.

The factor of safety (FS) for slope may be computed *by reducing shear strength of rock* or soil in stages until the slope fails. This method is called shear strength reduction technique (SSR). **FLAC code** is often applied for estimating FS for rock slopes or even foliated rock slopes. FLAC is also widely used for analyzing stability of soil slopes. Sometimes FLAC is even used for slope stability engineering in combination with other methods.

To understand the impact of shear strength of stability of the slope, height of the dump, number of benches in the dump for better stability, etc, samples collected from the Dump was tested for its shear strength, moisture content, and specific gravity.

Figure 17 : Shows Direct Shear Strength Testing Unit





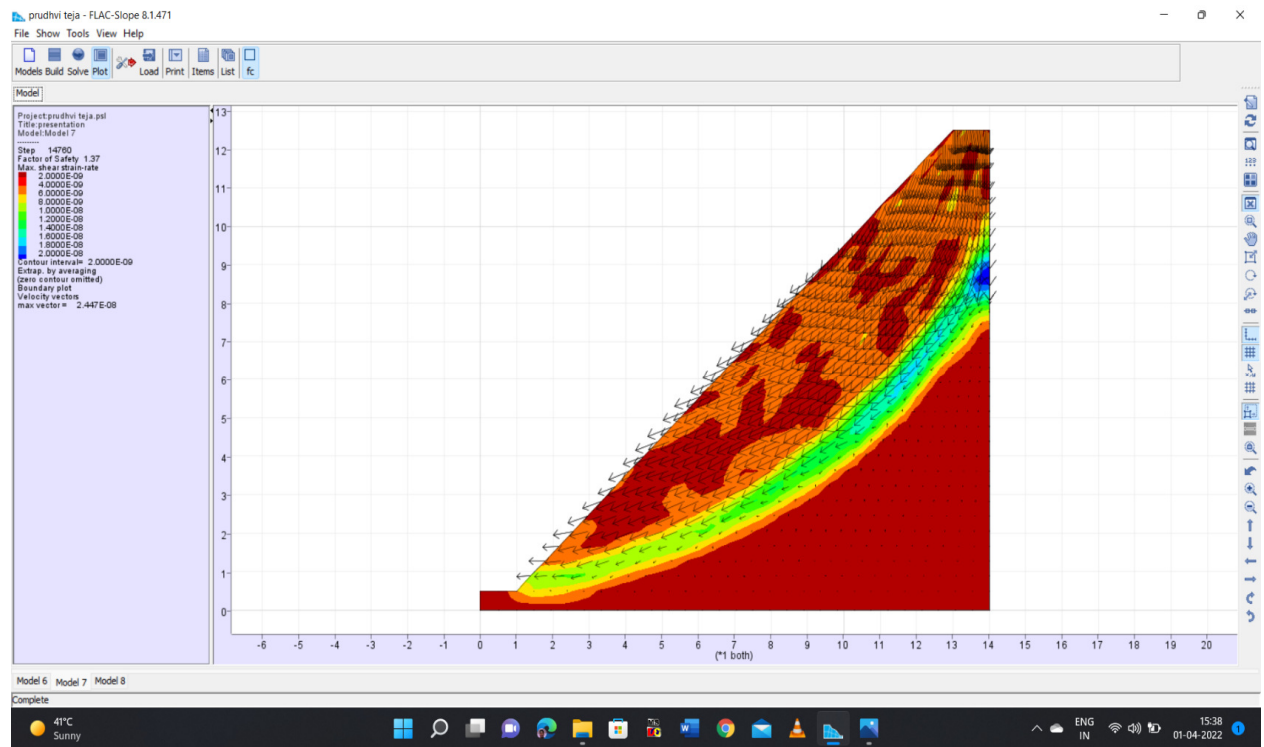
Figure 18 : Shows Direact Shearing of the Soil Sample (samples from the Dump)

15.0 DUMP STABILITY ANALYSIS BASED ON FLAC

Direct Shear Test Results	Units	Test result
Cohesion (C)	Kpa	18
Angle of internal friction ϕ	degree	30

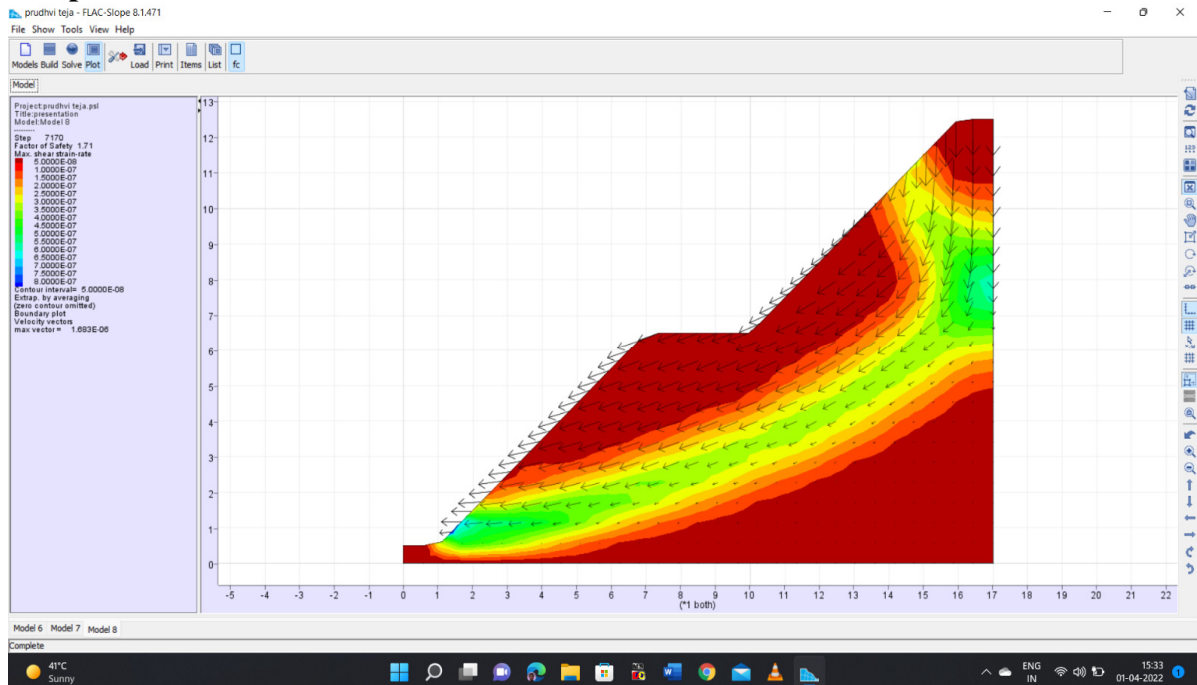
Based on the test results in respect of Cohesion, Angle of Internal Friction, the following FLAC assisted data was generated

(A) Dump with single bench



Bench height ; 12 meter
Slope angle; 45 degree
Density of material; 1880 kg/m^3
Cohesion; 18 kpa
Factor of Safety obtained ; 1.37

(B) Dump with 2 benches



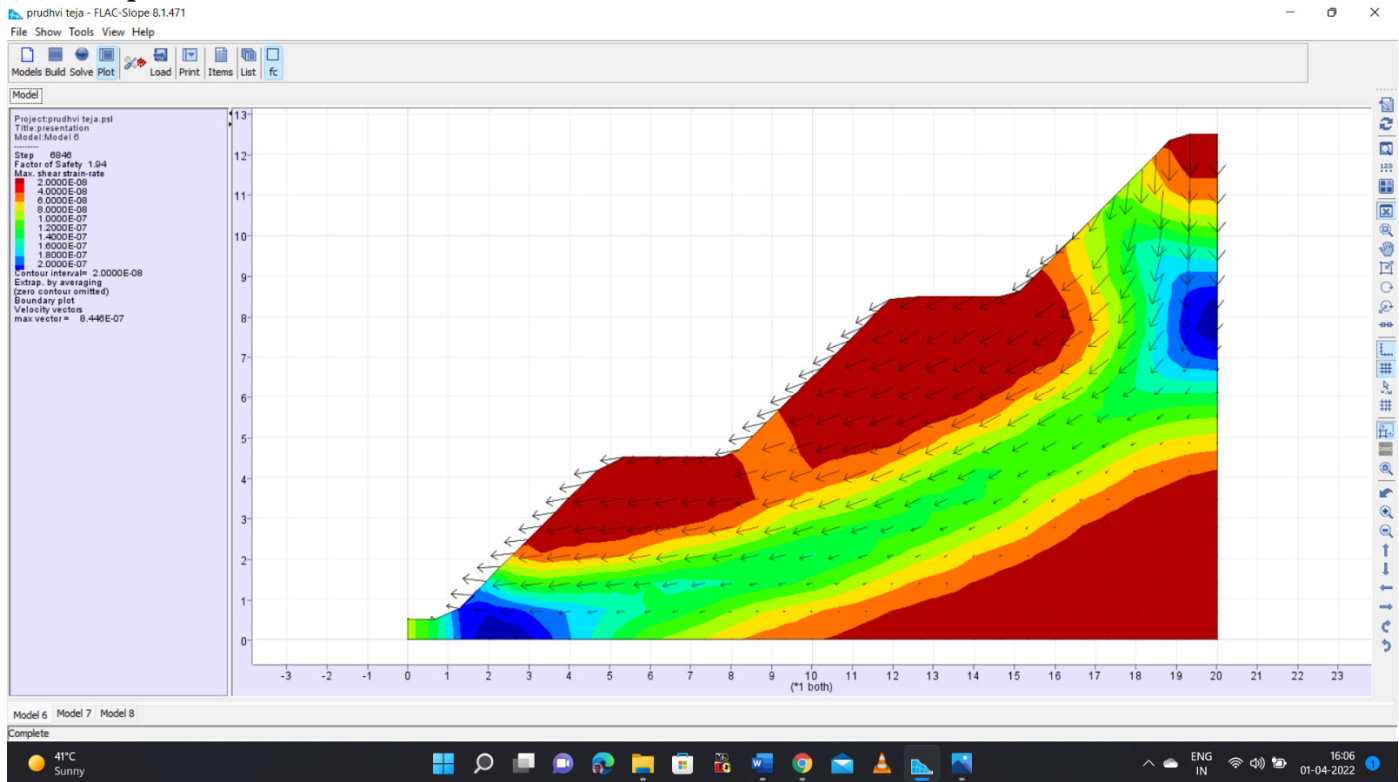
Bench height ; 6 meter

Slope angle; 45 degree

Density of material; 1880 kg/m^3
Factor of Safety obtained ;1.71

Cohesion; 18 kpa

(C) Dump with 3 benches



Bench height ;4 meter
Slope angle; 45 degree
Density of material; 1880 kg/m^3
Cohesion; 18 kpa
Factor of Safety obtained : 1.94.

15.0 CONCLUSION & RECOMMENDATIONS

The Geology and Geotechnical parameters play a vital role in Pit Slope Design. The Study emphasizes the importance of a geology and geotechnical aspects in order to address the slope design in Baghai Limestone Mine whose stability is largely controlled by geological structures.

The study area is free from major structural disturbances like fault, fold and joints and the area is tectonically stable.

The intact rocks of limestone are categorized as –

Strong rock based on the Uni-axial compressive strength.

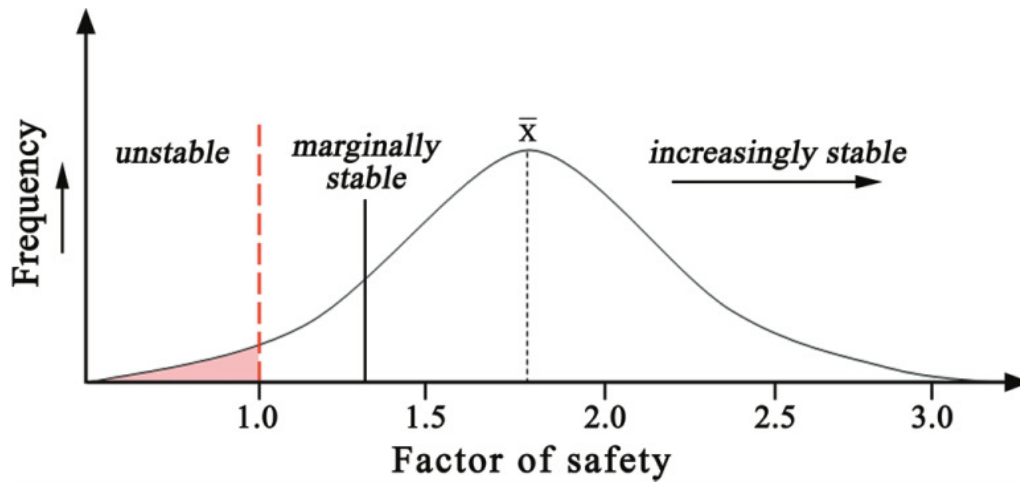
Thus it can be concluded that –

- The area is good for stable pit slope.
- There is No structural disturbance present in this area, which can affect pit slope stability.
- The Mining is above the Groundwater; hence the groundwater doesn't affect rock strength by any means.
- The depth of Limestone is about 22 meter.

Stable benches have been created maintaining the ultimate pit geometry. At the ultimate pit limit it is recommended to maintain a pit slope of 55 to 60°.

Considering the above-mentioned facts and the study of pit slope stability, the proposed Pit slope from the top bench to the ultimate pit depth is to maintain an angle of 55-60°.

Using FLAC it is also concluded that more the number of benches created on the existing Dump mostly having clay the factor of safety is increasing. As stated above, the Factor of Safety(FS) beyond 1.5 is marginally to increasingly stable.



This pit slope angle and design is safe and economical for limestone mining in this Mine. The inclination to be maintained is well within stipulations made under MMR 1961 at Rule 106 & 114 (Annexure I)

Dr. G.K. PRADHAN

Recipient of National Geoscience Award

Co-Principal Investigator (Co PI)

Professor of Mining Engineering & Dean,
Faculty of Engineering & Technology (FE&T)

Dr. B. K. MISHRA

Principal Investigator (PI)

Head of the Department

Mining Engineering

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Annexure 1

THE METALLIFEROUS MINES REGULATIONS, 1961

CHAPTER-XI

Mine Workings

106. Opencast workings – In opencast workings, the following precautions shall be observed, namely: -

(1) In alluvial soil, morum gravel, clay, debris or other similar ground -

(a)(i) the sides shall be sloped at an angle of safety not exceeding 45 degrees from the horizontal or such other angle as the Regional Inspector may permit by an order in writing and subject to such conditions as he may specify therein; or

(ii) the sides shall be kept benched and the height of any bench shall not exceed 1.5 metres and the breadth thereof shall not be less than the height:

Provided that the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein, exempt from the operation of this clause any working in the case of which special difficulties exist, which in his opinion make compliance with the provisions thereof not reasonably practicable; and

(b) where any pillar is left 'in situ' for the purpose of measurement, its height shall not exceed 2.5 metres; and where the height of such pillar exceeds 1.25 metres, the base of the pillar shall not be less than 1.6 metres in diameter.

(2) (a) Where 'float' or other similar deposit is worked by manual means on a sloping face, the face shall be benched and the sides shall be sloped at an angle of not more than 60 degrees from the horizontal. The height of any bench shall not exceed six metres and the breadth thereof shall not be less than the height:

Provided that where the ore-body consists of comparatively hard and compact rock, the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the height of the bench to be increased up to 7.5 metres while its width is not less than six metres :

Provided further that in case of a mine or part where special difficulties exist, the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, relax the provisions of this sub-regulation.

(b) Where in any mine or part it is proposed to work by a system of deep-hole blasting and/or with the help of heavy machinery for its digging, excavation and removal in such manner as would not permit of compliance with the requirement of sub-regulation (1) the owner, agent or manager shall, not less than 60 days before starting such work, give notice in writing of the method of working to the Chief Inspector and the Regional Inspector; and no such work shall be commenced or carried out except in accordance with such conditions as the Chief Inspector may specify by an order in writing. Every such notice shall be induplicate, and shall give the details of the method of working including the precautions that are proposed to be taken against the danger from falls of sides and material.

(3) In an excavation in any hard and compact ground or in prospecting trenches or pits, the sides shall be adequately benched, slopped or secured so as to prevent danger from fall of sides.

(4) No tree, loose stone or debris shall unless otherwise permitted in writing by the Chief Inspector be allowed to remain within a distance of three metres from the edge or side of the excavation.

(5) No person shall undercut any face or side or cause or permit such undercutting as to cause any overhanging.

xxxx

114. Steep workings – (1) In workings having an inclination of 30 degrees or more from the horizontal adequate precautions shall be taken to prevent danger to persons from falling or rolling of timber, tools or other appliances or material.

(2) No person shall work or be permitted to work at any place having an inclination of 45 degrees or more from the horizontal, where he is likely to slip or overbalance, unless he is secured by a safety belt or lifeline or is otherwise safeguarded.

DGMS (Tech.) (S&T) Circular No. 02 Dhanbad, Dated 06.07.2010 on ‘Design, Control and Monitoring of Pit and Dump Slopes in Opencast Mines’.

4.0 Conclusion and Recommendation:

In view of the scenario explained above, it is essential to take following steps immediately:

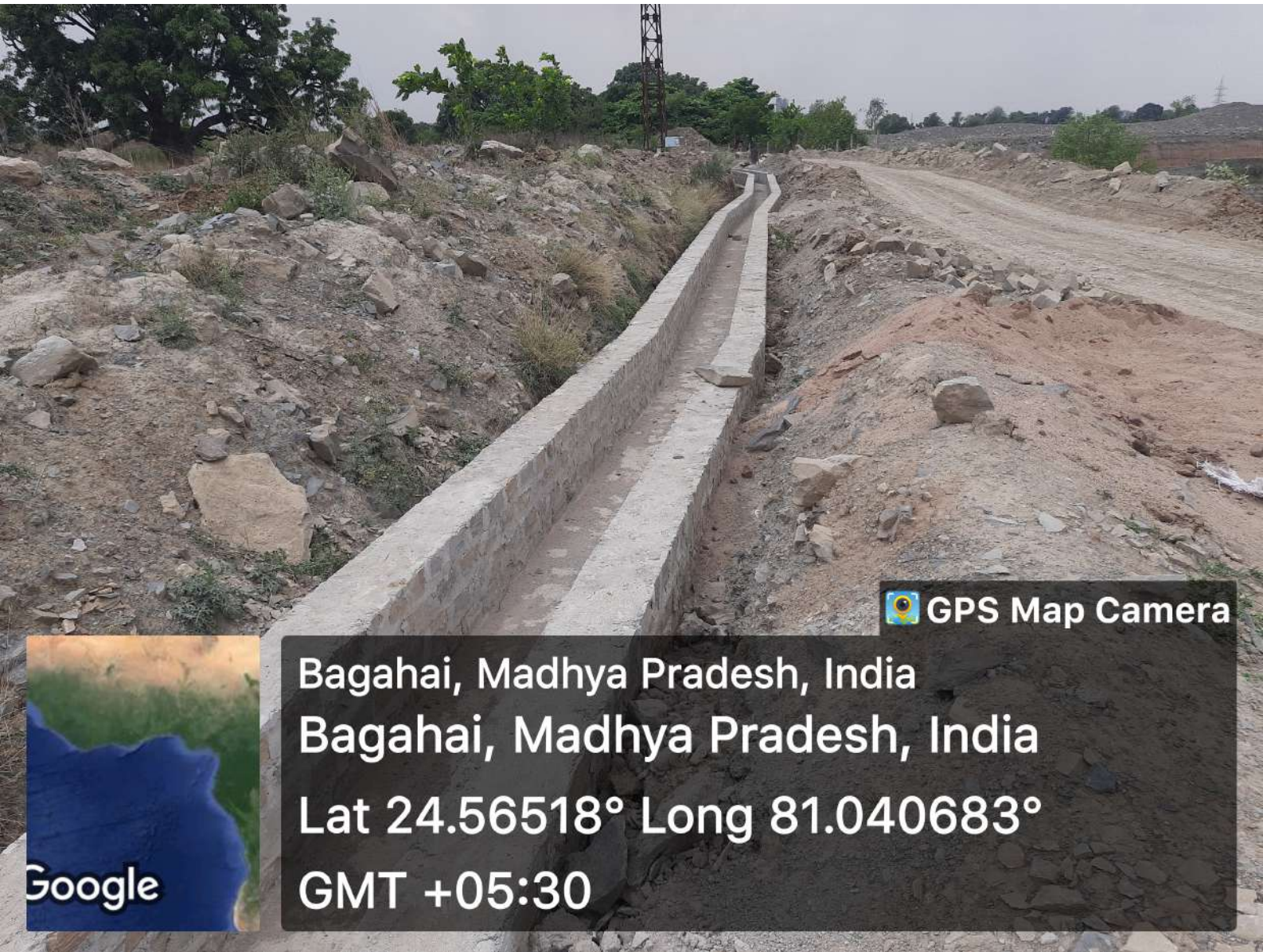
- (i) Design mine and the pit as well as dump slope scientifically taking into consideration of geotechnical parameters of rock and the dumps including hydro geologic and weather conditions to ensure stable Pit and Dump slope profile not only during mining but also thereafter; and***
- (ii) Deploy Slope Stability Radar (SSR) with integrated visual imaging system or any similar such technology giving a real time monitoring of displacements of strata or dumps well in advance of any failure and providing mine management sufficient time to safely withdraw men and machinery from such prone areas. Such systems would not only increase safety but also the productivity and efficiency of opencast operations.***



GPS Map Camera



Baghai, Madhya Pradesh, India
Unnamed Road, Baghai, Madhya Pradesh 485111,
India
Lat 24.56685° Long 81.037314°
GMT +05:30



 GPS Map Camera

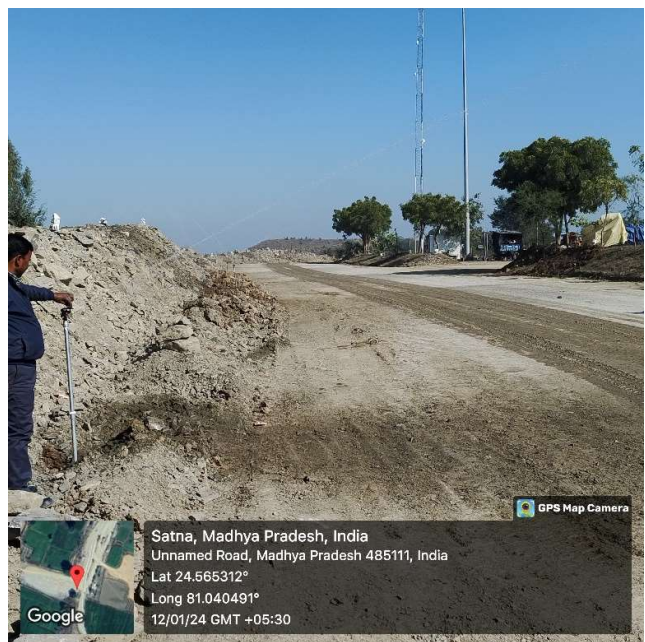
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Bagahai, Madhya Pradesh, India

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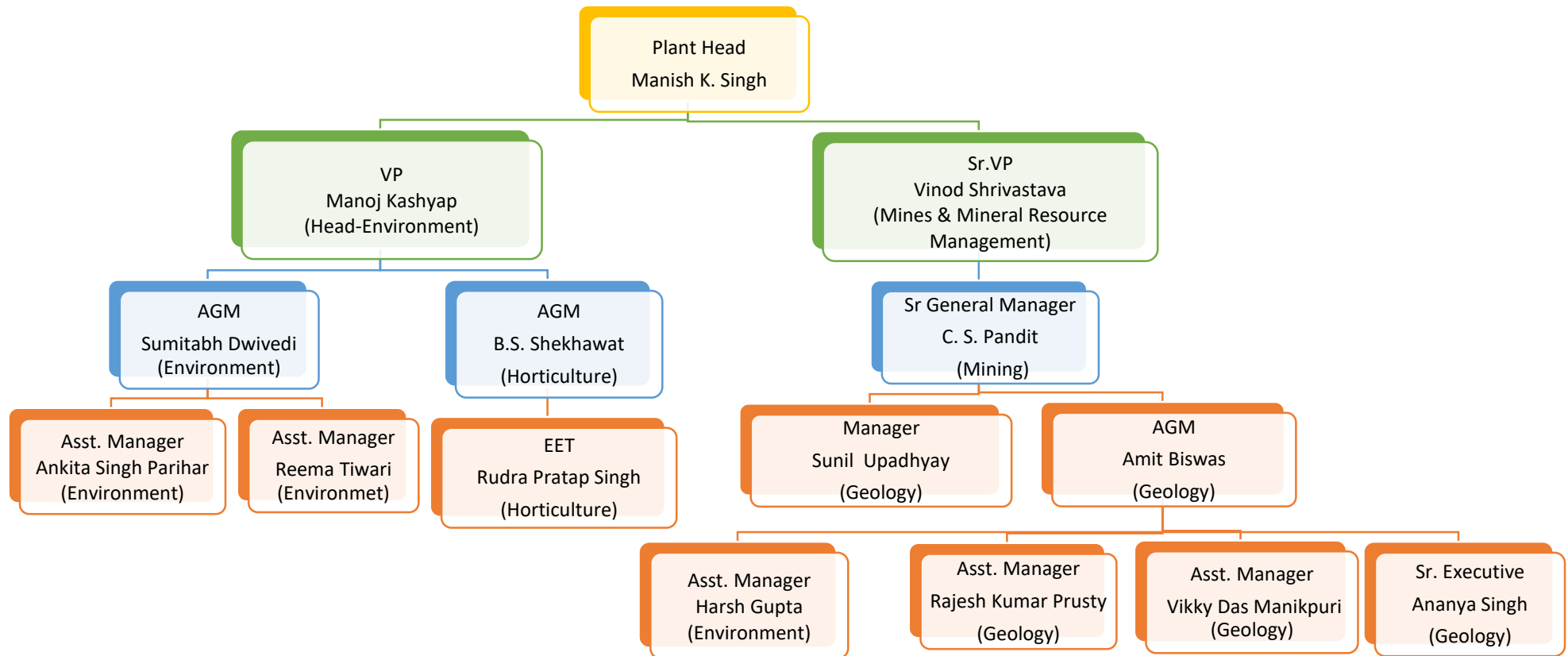




Water Sprinkling System Along Haul Road

Prism Johnson Limited

ENVIRONMENT MANAGEMENT CELL



***Digital Processing of Mining Leases- Baghai Mines ML 512.317Ha,
using Remote Sensing Technique for fulfillment of EC Compliance of
Cement Unit Plant II and Integrated Mines for Prism Johnson Ltd in
Satna, Madhya Pradesh.***

Final Report-Baghai 512.317Ha



PO No. : 3100220313-P027, dated 19.01.2024



Submitted By:

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1. Introduction

Prism Johnson Limited is professionally managed Company promoted by the Rajan Raheja Group. Prism Johnson Limited is India's largest integrated Building Materials Company with a wide range from cement, ready-mixed concrete, tiles, bath products to kitchens. The Company has three Divisions, viz. Prism Cement, H & R Johnson (India), and RMC Readymix (India). Prism Cement primarily caters to the demand in the Northern Region, mainly in the States of Uttar Pradesh, Bihar and Madhya Pradesh. The capacity expansion has established the Division's brand in new markets and to a larger consumer base. A team of experienced engineers and a dedicated workforce combined with a high level of automation and sophisticated control systems have placed the Division's products in the premium segment.

Prism Johnson Ltd commenced its production in August 1997 and manufactures Portland Pozzollana Cement (PPC) with the brand name 'Champion' and Ordinary Portland Cement (OPC). It has the highest quality standards due to efficient plant operations with automated controls. It caters mainly to markets of UP, MP and Bihar, with an average lead of 340–370 km of its plant at Satna, MP. It has a wide marketing network with about 2,000 dealers serviced from 46 stocking points.

Cement and mining is seventh of the core industries that contribute significantly to the economic development of India . As for environment point of view, Line stone mining and installation of cement plant is a major habitat transforming activity is lead to change in land Use/Land cover. The change have been described as the most significant regional anthropogenic disturbance to the environment and are consistently with mining of natural resources.

Remote sensing and geographic information system (GIS) are important tool for studying the land use pattern and their dynamic . The change detection in Land use /land cover due to natural and human activities can be monitored by using multi date image to evaluate difference in land cover . The mapping of land use of classes and monitoring their changes with time has been widely recognized. The change detection in Land use/ Land cover due to natural and human activities can be monitored by using multi date images to evaluated differences in land cover where lime stone mines **Baghai mines 512.317 Ha** and Cement Unit II are under operation by using multi temporal remote sensing data.

The concept, method and application of land use/land cover studies are introduced to mining area in order to find the land use change and give support to land management and ecological reconstruction. its prerequisite for planning, policy making and developmental program that land use /land cover information its spatial distribution and change in land use pattern is commonly used.

1.1 Scope of work

1. Collection of Primary data - Raw satellite data to be obtained from NRSC.
2. Base map to be prepared with help of survey of India Toposheet G44U14, G44V2 and other details.
3. Data processing including following steps with the help of application software
 - a. Geometric correction, rectification and Geo referencing .
 - b. Image enhancement.
 - c. Training set selection.
 - d. Signature generation and classification.
 - e. Validation of classification image.
 - f. Final thematic map preparation.
4. The map to be prepared on scale of 1:50000.
5. Comparative study with respect to land use change in the last three years.

1.2. Objectives

The main objective of present study is to understand land use /land cover change in the time and space , with special reference to the cement & mining activities being carried by M/s Prism Johnson Ltd, which is also one of the special condition of the environment clearance issued.

1.3. Software Used

1. ArcGIS 10.3
2. ERDAS Imagine
3. Microsoft Office

1.4. Study Area

The study area lies in Tehsil-Rampur baghelan and kotar, Satna district (MP) where cement Plant. The area is well connected to broad gauge line of central railway Linking ,satna with Rewa. The nearest major railhead is Satna on the jabalpur- Allahabad board guge section of central railway and is well connected to the major cities of the country. There is a good network of roads, there is an all weather motor able road up to project site. Location of Integrated Plant is 22 km from Satna City. from Satna city and 3 Km. from Satna - Rewa highway.

The details of the Mine lease areas are listed in the Table 1:

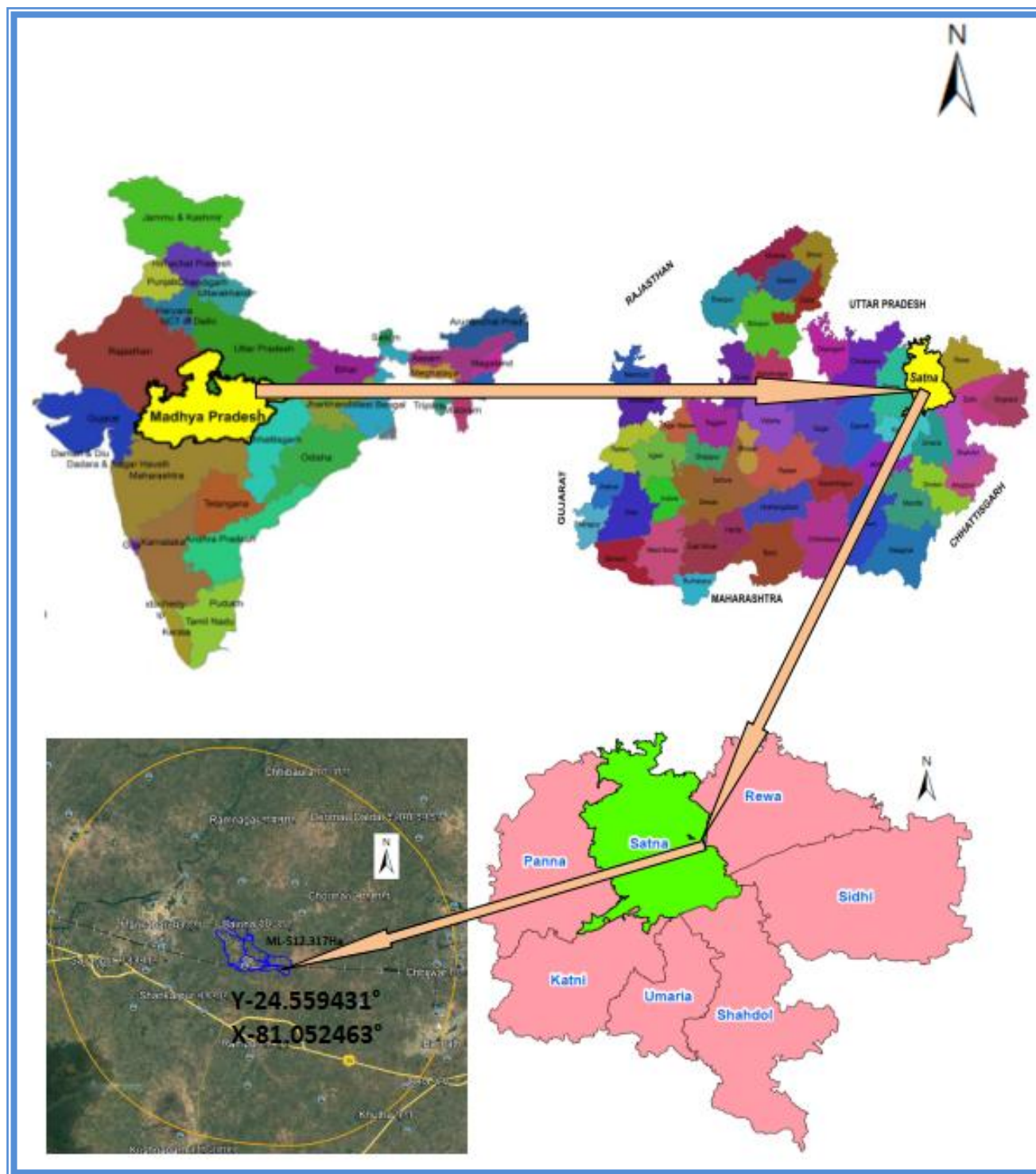
Table - 1

Details	Majhiyar Limestone Mine:	Integrated Cement Plant	Baghai Limestone Mine (512)		
Village	Chulhi-Majhiyar	Mankhari	Hinouti & Sijhatta	Mendhi	Baghai
Tehsil	Kotar	Rampur, Baghelan	Rampur, Baghelan	Rampur, Baghelan	Rampur, Baghelan
District	Satna	Satna	Satna	Satna	Satna
State	Madhya Pradesh	Madhya Pradesh	Madhya Pradesh	Madhya Pradesh	Madhya Pradesh

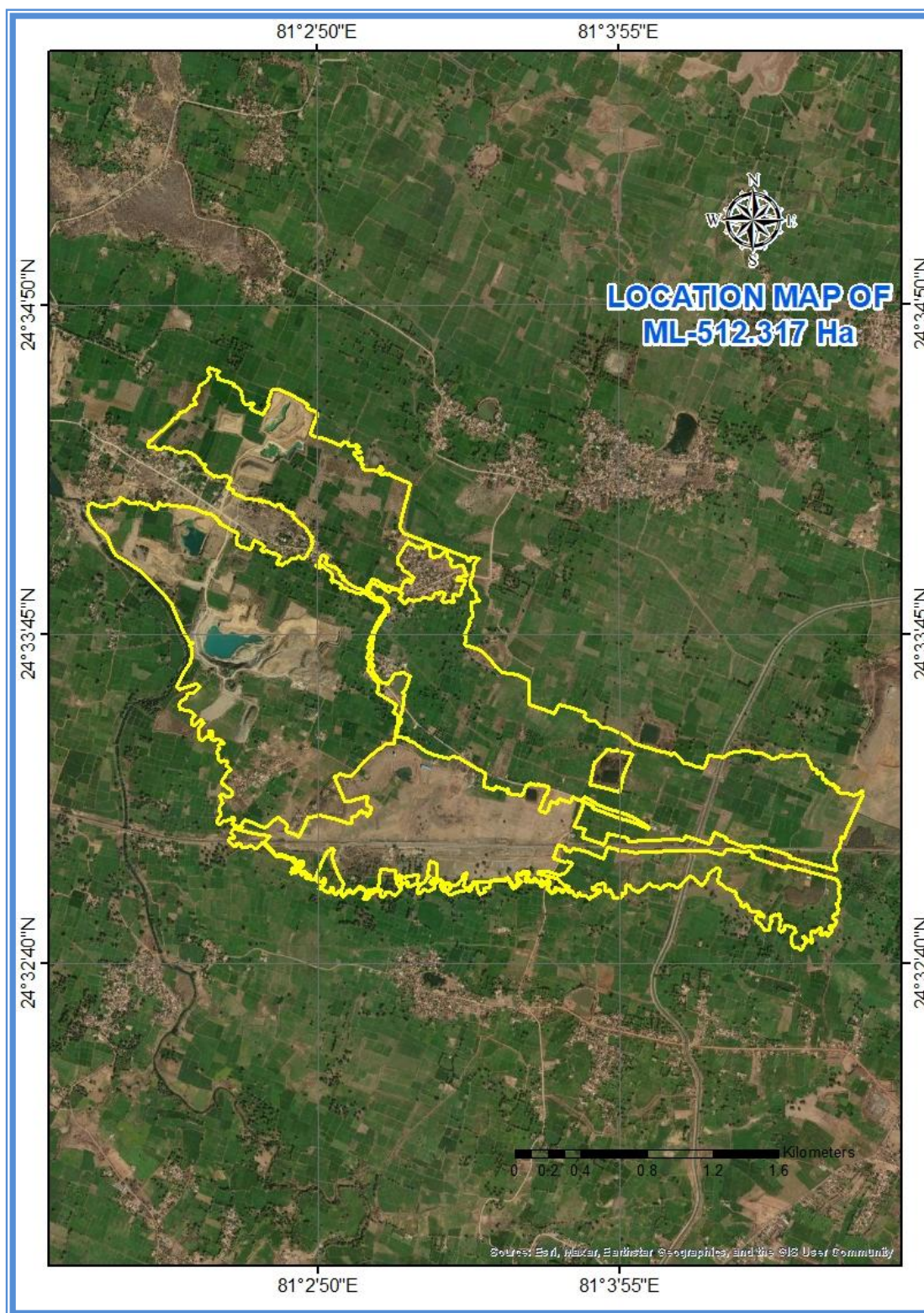
Toposheet No.	G44U14 & G44V2	G44U14 & G44V2	G44V2	G44V2
National Highway	N.H. - 39 Gwalior to Rewa			
Nearest River	Tamas River 2.15 Km.	Adjecnt to the boundary (In NW direction)	Tamas River 3.5 Km. (NW of Baghai)	Tamas River: 4 Km. (NW of Baghai)
Latitude	24°33'32.3"N	24°33'20.71"N	24°34'15.3."N	24°33'20.71"N
Longitude	80°59'34.12"E	80°59'20"E	81°02'26.1"E	81°04'47.8"E
Nearest Town	Satna (21 km)	Satna (18 Km) Towards west	Satna (24 Km) Towards west	Satna (23 Km) Towards west
Nearest Railway station	Satna railway station (20Km.)	Satna on the jabalpur-Allahabad board gauge section of west central Railway (18 KM.)	Satna on the jabalpur-Allahabad board gauge section of west central Railway (22 KM.)	Satna on the jabalpur-Allahabad board gauge section of west central Railway (20 KM.)
Nearest Airport	Khajuraho (120 Km.)	Khajuraho (120 Km.)		

1.5. Location Map

LOCATION MAPS OF BAGHAI MINES ML-512.317 Ha

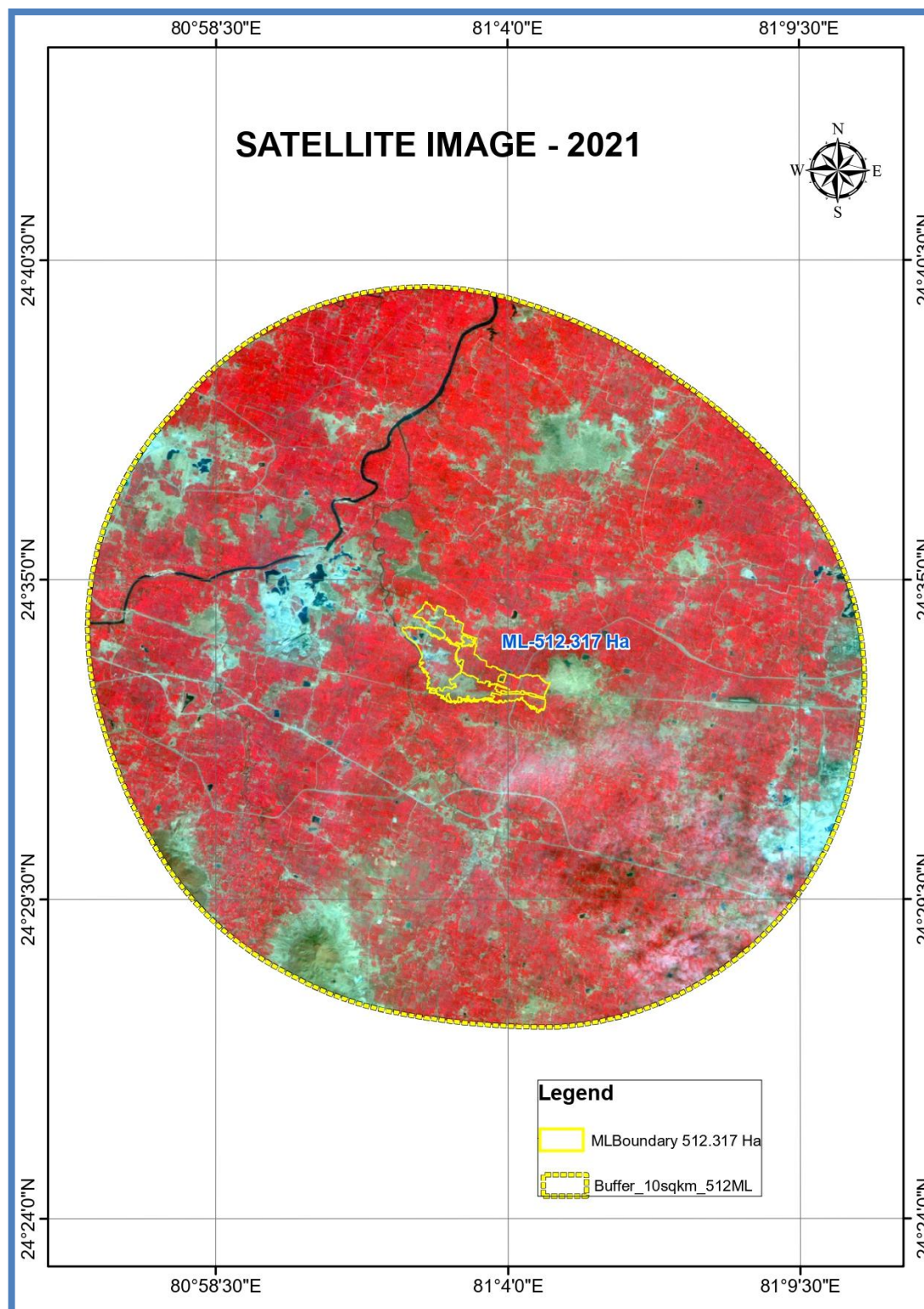


ML BOUNDARY MAP OF BAGHAI MINES-512.317 ha

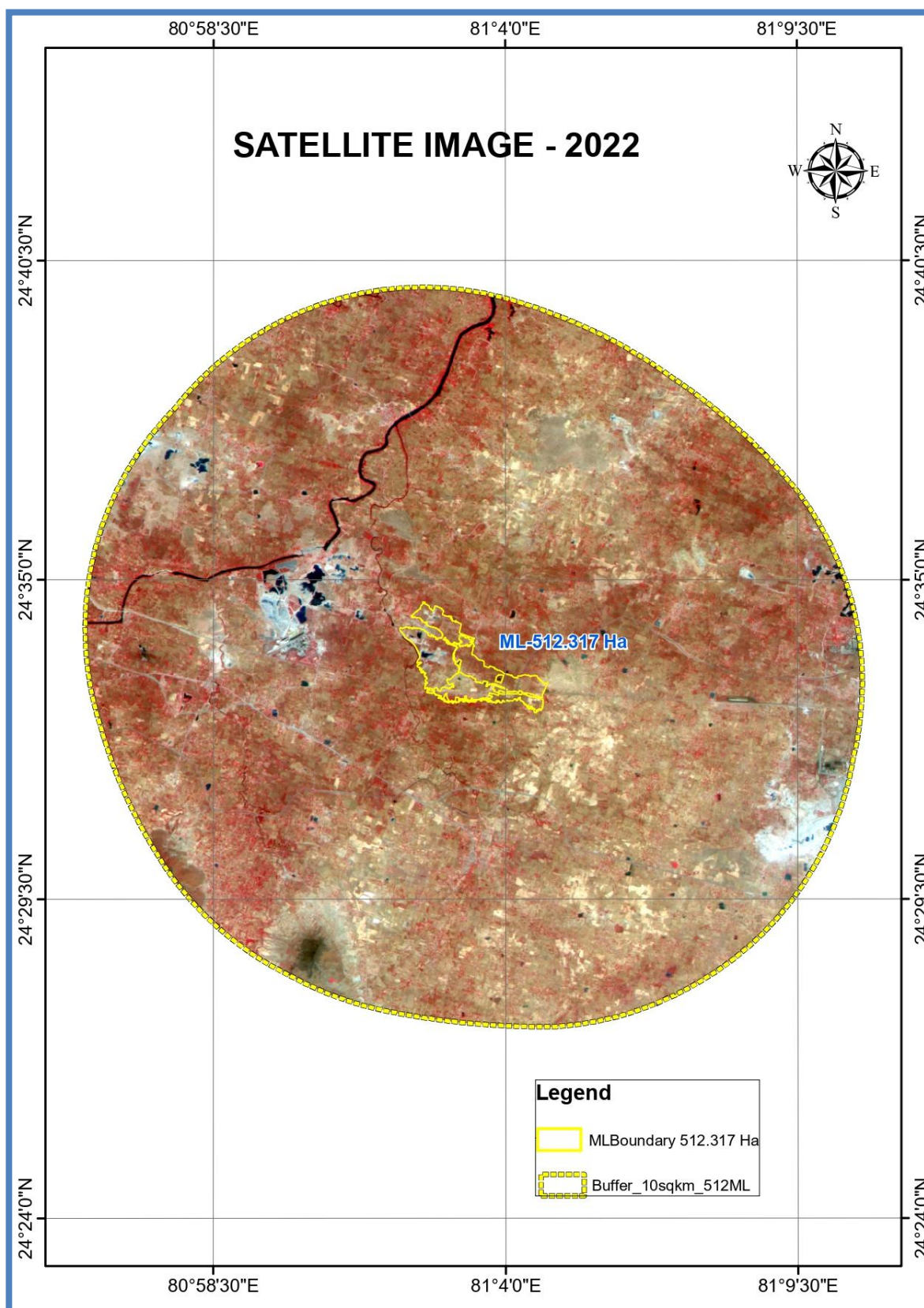


1.6. False Color Composites-FCC- Satellite Image of Study Area-2021-2022 and 2023

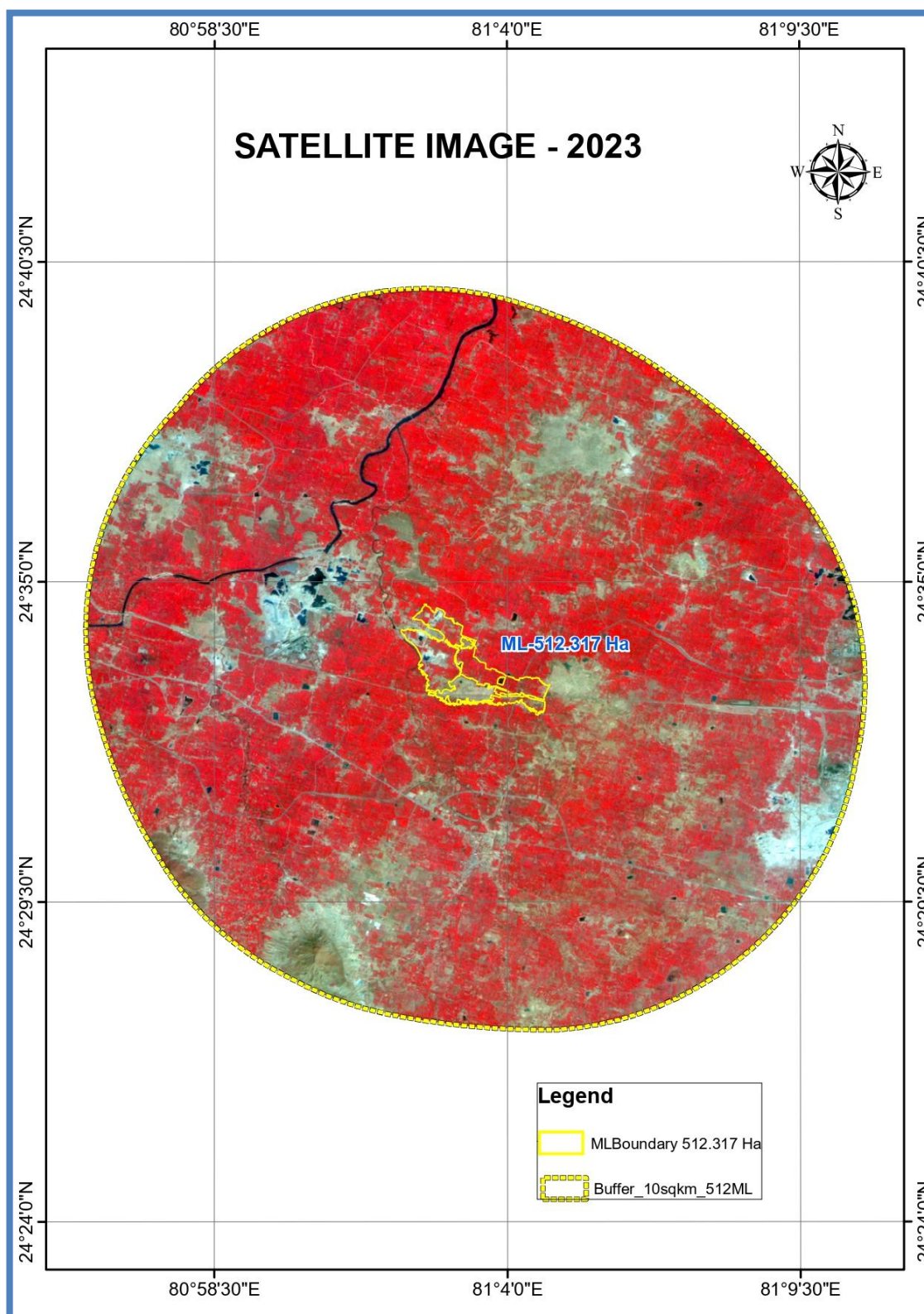
1.6.1 Satellite Image data-2021



1.6.2 Satellite Image data-2022



1.6.3 Satellite Image data-2023



2. APPROACH & METHODOLOGY

Indian remote sensing satellite LISS-III MSS & PAN geocoded data were used to analyze the land use/land cover pattern. The present study utilizes multi-spectral/multi-temporal data of the Indian remote sensing satellite LISS-III MSS & PAN for thematic mapping. Survey of India toposheet G44U14 & G44V2 on scale 1:50,000 were used for preparation of base map which was overlay on the LISS-III for land use /land cover mapping through visual interpretation. Visual interpretation of satellite imagery lead to the identification of fifteen land use/land cover categories. The ground truth verification was carried out in the key areas to rectify the errors in generated maps and then land use/land cover maps were finalized.

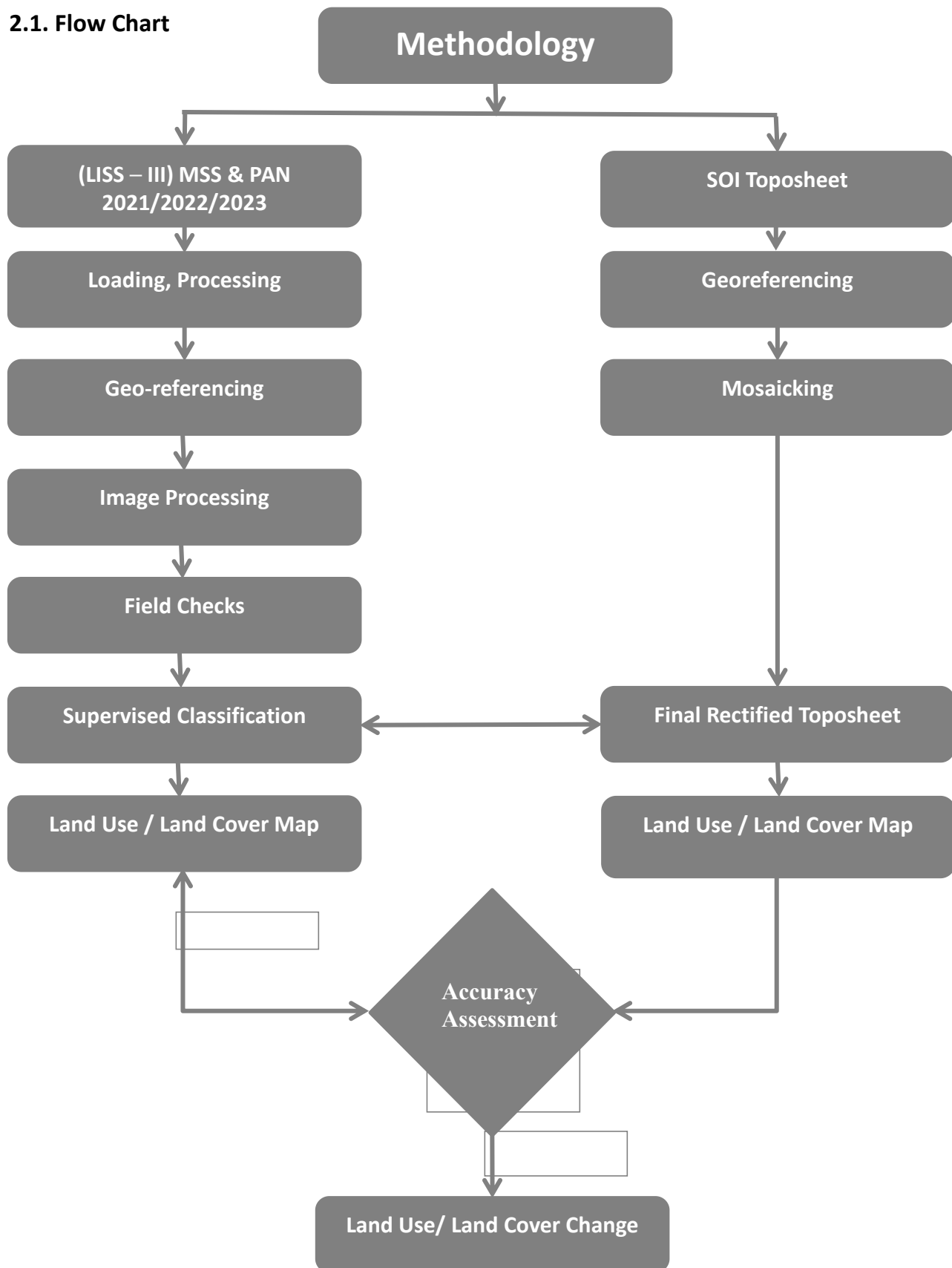
Data available gives uniform spectral and radiometric characteristics and minimize the seasonal variation. The survey of India topographic sheets No. G44U14 & G44V2 on scale 1:50,000 were used for preparation of base map. Secondary data obtained from published material. Visual interpretation is the effective method for classifying land use/land cover especially when the analyst is familiar with the area being classified from satellite data.

These categories were identify on the basis of visual interpretation of satellite data and ground truth verification were done in the key areas for editing and authentication. On screen digitization technique has been carried out to digitize the maps using Arc Map 10.3 software for land use analysis.

There are number of steps involved between RAW satellite data procurement and preparation of final maps. National Remote sensing Centre (NRSC). Hyderabad, being the nodal agency for satellite data supply in India , Provides only RAW digital satellite data , which needs further digital image processing for extracting the information and map preparation before uploading the same in the website. Methodology for land reclamation is given table no.2

With the invent of remote sensing and Geographical Information System (GIS) techniques, land use/cover mapping has given a useful and detailed way to improve the selection of areas designed to agricultural, urban and/or industrial areas of a region. Application of remotely sensed data made possible to study the changes in land cover in less time, at low cost and with better accuracy in association with GIS that provides suitable platform for data analysis, update and retrieval. The advent of high spatial resolution satellite imagery and more advanced image processing and GIS technologies, has resulted in a switch to more routine and consistent monitoring and modeling of land use/land cover patterns. Remote-sensing has been widely used in updating land use/cover maps and land use/cover mapping has become one of the most important applications of remote sensing.

2.1. Flow Chart



2.2. Data Procurement:

After browsing the data quality and date of pass on internet, supply order for data is placed to NRSC. Secondary data like leasehold boundary, Toposheet are procured for creation of vector database.

2.3. Satellite Data Processing:

Satellite data are processed using *DIGITAL IMAGE PROCESSING SOFTWARE*. Mythology involves the following major steps.

2.4. Rectification & Geo-referencing:

Inaccuracies in digital imagery may occur to *systematic errors* attributes to earth curvature and ration as well as *non systematic errors* attributes to satellite receiving station itself. RAW digital contain geometric distortions, which make them unusable as maps. Therefore, Geo-referencing is required for correction of image data using ground control points (GCP) to make it compatible to SOI toposheet.

2.5. Image enhancement:

To improve the interpret-ability of the raw data, image enhancement is necessary. Local operations modify the value of each pixel based on brightness pixels using *DIGITAL IMAGE PROCESSING SOFTWARE* and enhance the image quality for interpretation.

2.6. Classification and Accuracy assessment:

Image classification is carried out using the maximum likelihood algorithm. The classification proceeds through the following steps :

(A) calculation of statistics for the identified training area, and correlation matrix. After evaluating the statistical parameters of the training sets is conducted by measuring the statistical separation between the classes that resulted from computing divergence matrix. The overall accuracy of the classification was finally reference to ground truth data.

2.7. Area Calculation:

The area of each land use class in the leasehold is determined using *DIGITAL IMAGE PROCESSING SOFTWARE*.

2.8. Overlay of Vector data base:

Vector data base created based on secondary data. Vector layer like drainage, railway line, Lease boundary, mines area, forest boundary water body etc.

2.9. Field Survey:

Field survey was carried out by taking selective traverses in order to collect the ground information (or reference data).







2.10. Finding of Study:

2.10.1. Baghai Lime Stone Mine (512.317 ha).

Land use /land cover information derived from IRS LISS-III 2021, 2022 & 2023 (Table 2). Area statistic of each land use /land cover category were generated in GIS software and has been determined to analyze change in their spatial distribution. By comparing the land use/land cover maps, a change detection map has been generated in smart GIS software to assess the major changes in the Mines area **Baghai Lime Stone Mine (512.317 Ha)**.

Table - 2 Baghai Lime Stone Mine Land use Details (512.317Ha) (Fig.1,2 & 3)			
Description	2021 (Area In Ha)	2022 (Area In Ha)	2023 (Area In Ha)
<i>Crop Land</i>	1.6386	2.6386	3.6386
<i>Agriculture-Fallow</i>	426.4496	420.7606	415.7477
<i>Built up Land</i>	16.9245	16.9245	16.9245
<i>Dumping Land</i>	09.0619	10.7242	11.7242
<i>Limestone Quarry</i>	32.0620	34.4145	37.3650
<i>Drainage</i>	1.5300	1.5300	1.5300
<i>Waste Land</i>	0.6175	0.6175	0.6175
<i>Water Body</i>	3.0761	3.0761	3.0761
<i>Plantation Land</i>	3.3888	3.3888	3.4016
<i>Afforestation Land</i>	17.568	18.2422	18.2918
Total	512.317	512.317	512.317

2.10.4. Land Use/Land Cover Map Of Buffer Zone with 10 Sq.km. (512.317 ha)

Land use /land cover information derived from IRS LISS-III 2020, 2021 & 2023 (Table 2). Area statistic of each land use /land cover category were generated in GIS software and has been determined to analyze change in their spatial distribution. By comparing the land use/land cover maps, a change detection map has been generated in smart GIS software to assess the major changes in the Mines area.

Table - 2 Land Use Details of Buffer Zone Baghai Mines 512.317ha (Fig. 4, 5 & 6)

Description	2021 (Area in Ha)	2022 (Area in Ha)	2023 (Area in Ha)
Cement plant unit II Boundary	116.8283	116.8283	116.8283
Agriculture Fallow	36391.0195	36364.3263	36338.3913
Dense Forest	1165.1286	1165.1286	1165.1286
Lime Stone Quarry	32.06200	34.4145	37.3650
Open Scrub	1583.1056	1590.5036	1595.7928
Plantation	348.3180	348.3180	348.3308
River/Water Body	759.4996	760.4386	764.9966
Waste Land	27.5676	27.5676	27.5676
Solar Power Panel Area	34.0315	34.0315	34.0315
Crop Land	191.1430	190.5255	190.5255
Plant Area	17.5111	17.5111	17.5111
Reserved Forest	336.59177	336.5917	336.5917
Open Mix Jungle	136.7960	136.7960	136.7960
Other Quarry Land	644.5229	651.3046	658.9879
Afforestation	17.5681	18.2422	18.2918
BUILT UP LAND	3312.4324	3320.9356	3326.3270
Dumping Land	65.6146	66.2769	66.2769
TOTAL	45179.7406 Ha	45179.7406 Ha	45179.7406 Ha

3. Conclusion

The Present study reveals that mining and industrial activities around Prism Johnson Ltd. are the main forces responsible for land use land cover change during years from commencement of their operation. The mining has increased manifold that has resulted in change land use in terms of cultivated land and water bodies in the area.

Exploitation on natural resource in the area is going on due to the expansion of limestone mining activities, and other industrial activities. This report focuses on LU/LC changes in the Mine lease areas and buffer areas in and around to Prism Johnson Limited, Satna India, using remote sensing data and GIS technology. Our results clearly show that LU/LC changes were summarized during the period of **2021, 2022 & 2023 in the Table no-2**. On the other hand there is minor change in agricultural area, water spread area, and forest areas. This study clearly indicates the significant impact of environmental and its development activities on LU/LC change. This study proves that integration of GIS and remote sensing technologies is effective tool for change detection. The quantification of LU/LC changes of Prism Johnson Ltd. area is very useful for environmental management groups, policy makers and for public to better understand the surrounding.

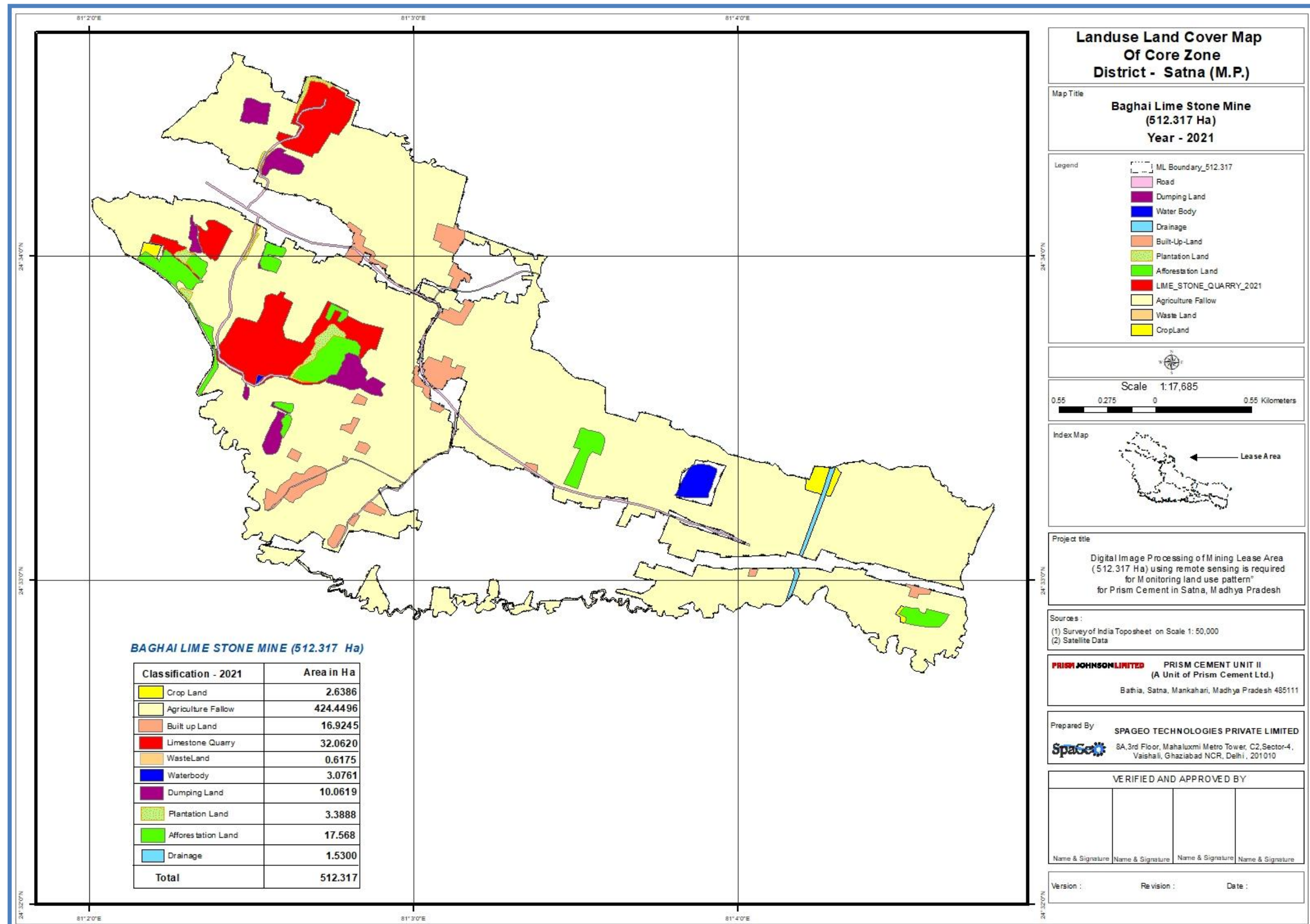


Fig:- 1 Baghai Lime stone Mine Land use Details 2021 (512.317 Ha)

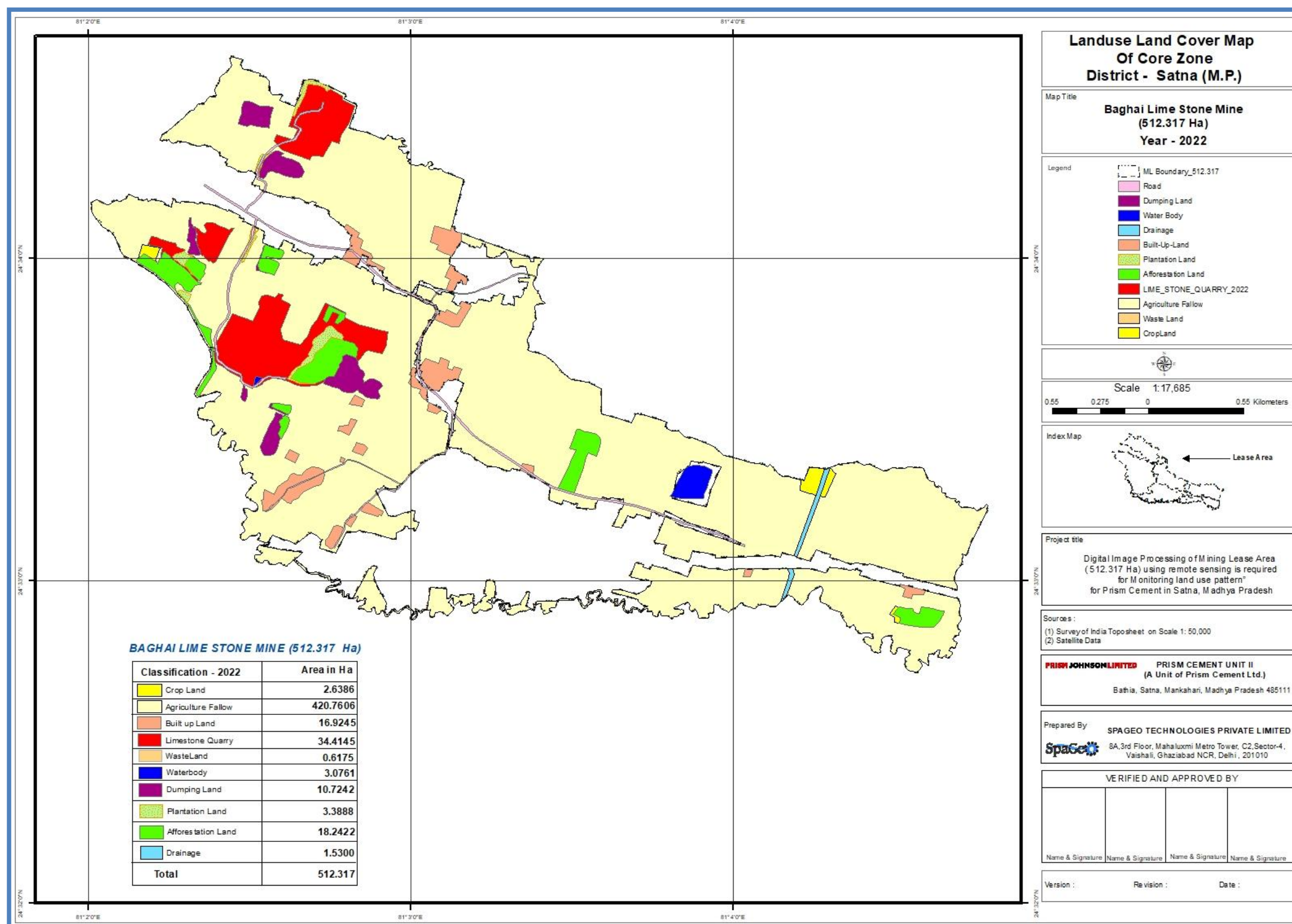


Fig:- 2 Baghai Lime stone Mine Land use Details 2022 (512.317 Ha)

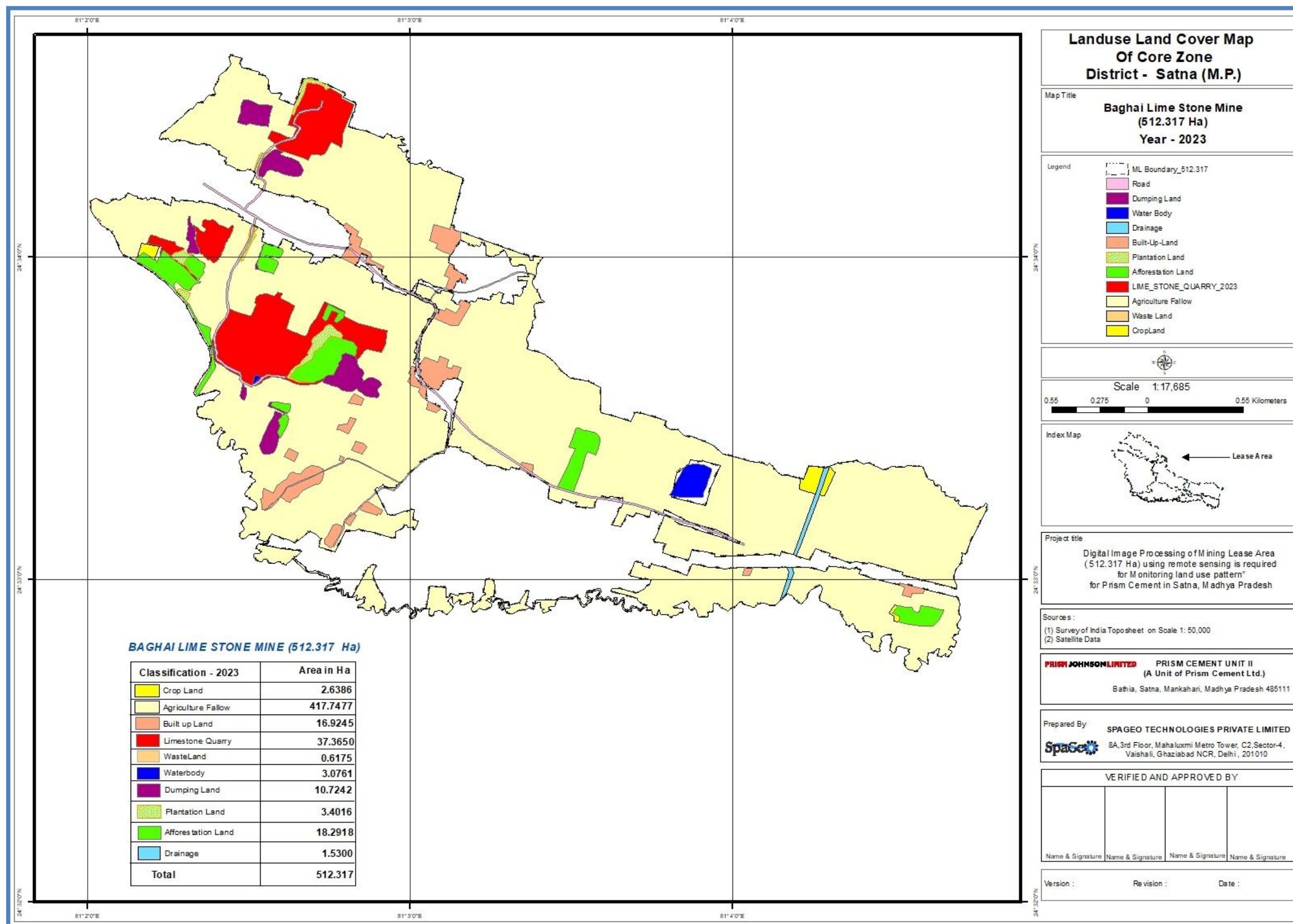


Fig:- 3 Baghai Lime stone Mine Land use Details 2023 (512.317 Ha)

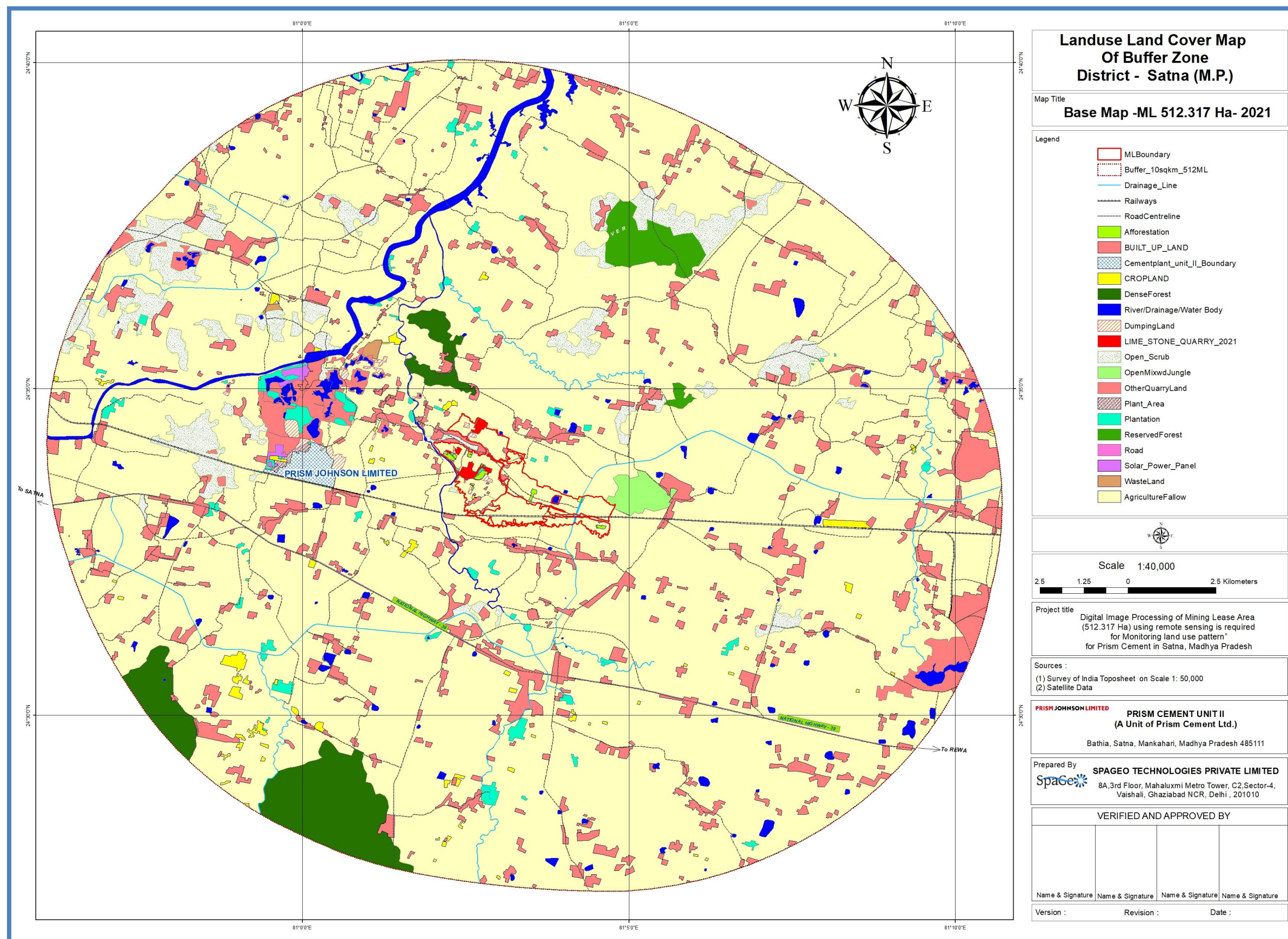


Fig: 4 Baghai Land use/Land Cover Map Of Buffer Zone-2021 (512.317 Ha)

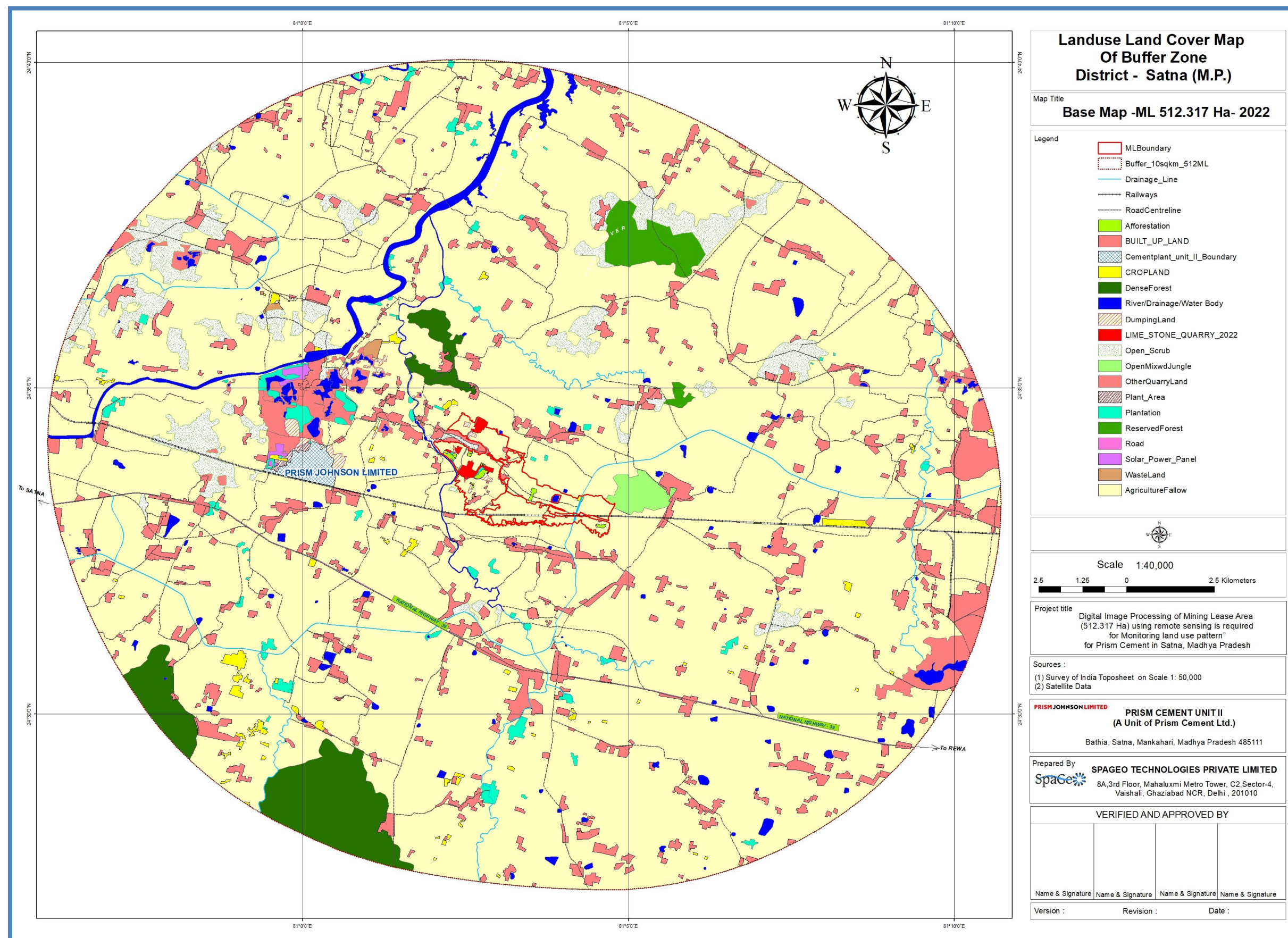


Fig: 5 Baghai Land use/Land Cover Map Of Buffer Zone-2022 (512.317 Ha)

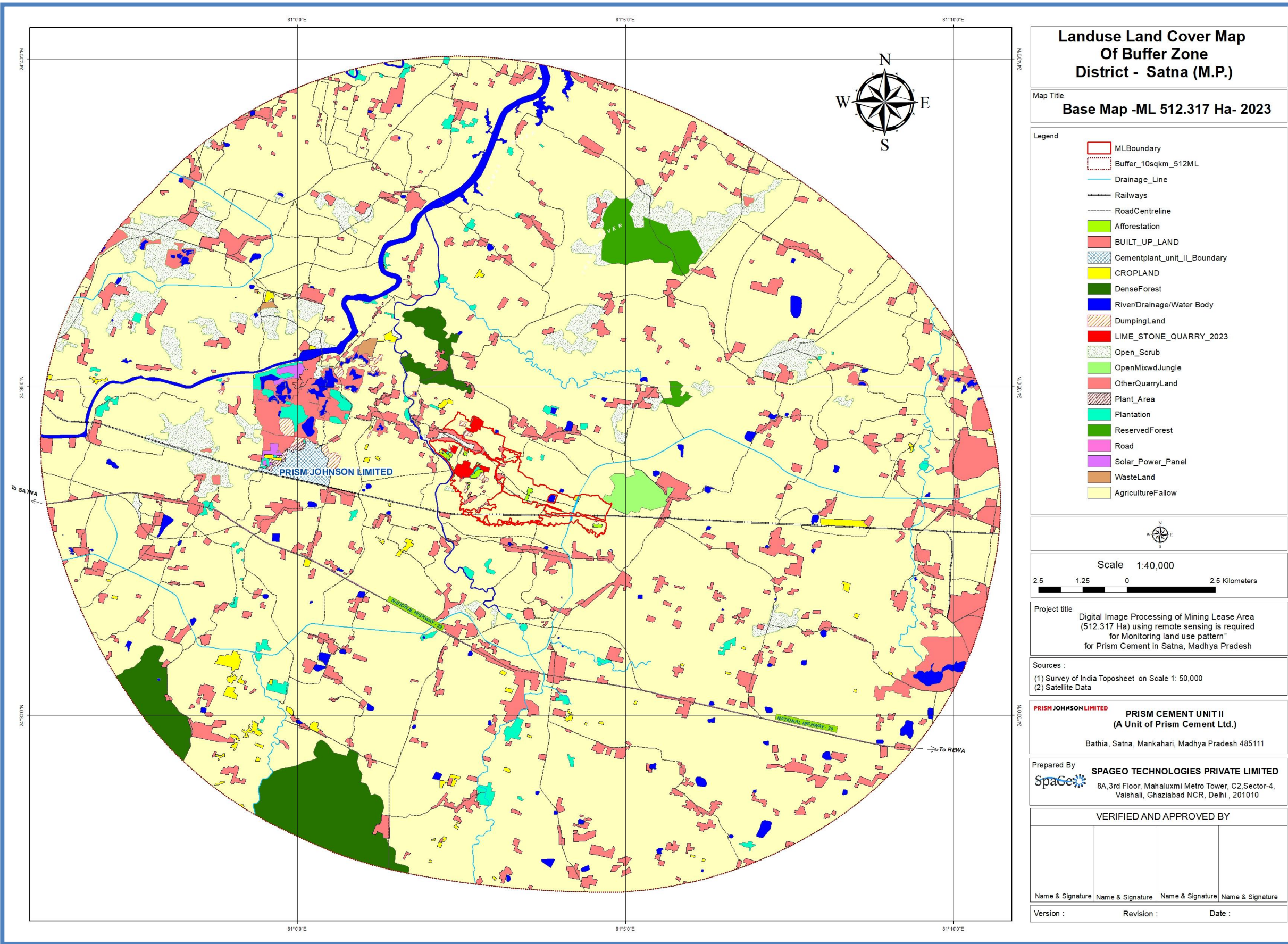


Fig: 6 Baghai Land use/Land Cover Map Of Buffer Zone-2023 (512.317 Ha)

