



Mangalore SEZ Limited

Sy. No 168/3A, Plot No U-
Administrative Building
Mangalore Special Economic Zone
Bajpe Village, Mangalore taluk
Dakshina Kannada (Dist)
Karnataka-574142
30 Dec 2022

MSEZL/MNG/EC/COMP/2022-23

To,

The Director,
Southern Region, Regional Office,
Ministry of Environment and Forests,
Kendriya Sadan, 4th Floor, E&F Wings,
17th Main Road, 1st Block, Koramangala,
Bangalore – 560 034

Sir,

Sub: Six monthly Compliance Report.

Ref:

RECEIVED
Regional Office 3/1/2023
Karnataka State Pollution Control Board
Plot No.10-'B', Baikampady Industrial Area
Mangaluru-575011

1. Environmental Clearance No: 21-383/2007-IA-III, dated 3rd April 2008.
2. Amendment to Environmental Clearance for setting up of Phase-I of Special Economic Zone at Mangalore by M/s Mangalore SEZ Ltd – regarding No: 21-383/2007-IA-III dated 13th July 2012.
3. Amendment to Environmental Clearance for setting up of Phase-I of Special Economic Zone at Mangalore by M/s Mangalore SEZ Ltd date 27 Aug 2014.
4. Amendment to Environmental Clearance for development of Multi Product Units as Mangalore SEZ dated 18 June 2015.

With reference to above, we would like to submit the compliance report as on date.

S. No.	A. SPECIFIC CONDITIONS	COMPLIANCE
(i)	No Objection Certificate from the Karnataka State Pollution Control Board shall be obtained before initiating the project.	Consent For Establishment from KSPCB obtained on 30 April 2008 and Extension of validity of Consent for Establishment obtained on 27 May 2013 and the copy was submitted to MoEF.
(ii)	The MSEZ project shall be restricted to the Phase-I of the project, proposed over 1,800 acres. The	Complied. MSEZL will approach MoEF with requisite documents as



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S. No.	A. SPECIFIC CONDITIONS	COMPLIANCE
	phase II of the project shall be considered by Ministry of Environment and Forests only after receipt of all requisite documents/information as laid down in the Environmental Impact Assessment Notification, 2006 and Coastal Regulation Zone Notification, 1991 as applicable.	per EIA Notification, 2006 for Phase-2 expansions if taken in future.
(iii)	All development in the Coastal Regulation Zone area shall be in accordance with the Coastal Regulation Zone Notification, 1991. No destruction of mangroves shall be undertaken except while undertaking the permissible activities in the Coastal Regulation Zone-I areas.	Complied.
(iv)	The project proponent shall not take up any activity in 875 acres of Coastal Regulation Zone land, other than those permissible under the Coastal Regulation Zone Notification 1991 such as pipeline corridors, pipelines roads on stilts.	Noted and complied.
(v)	<p>With regard to the containing the suspected contamination of the groundwater near Athurkodi area of Kuthethoor village, MRPL have given an undertaking vide their letter dated 19.3.2008 which is as follows: -</p> <ul style="list-style-type: none">a) Implementation of recommendation of NGPRI will be started by MRPL immediately after submission of their report.b) Depending upon the nature of their recommendations, we will make efforts to complete necessary actions within 6 months from the date of receipt of their report.c) In addition to above, a daily vigil is already in place to take samples from different places and to monitor any suspected oil leakage. This will continue till the problem is resolved.d) We are also in continuous contact with the residents in the surround areas with	<p>This condition pertains to MRPL phase III expansion project. MRPL phase III expansion has been detached from MSEZ phase I project vide EC amendment dated 13th July 2012. MRPL shall be complying conditions relevant to them as part of their existing clearance.</p>



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S. No.	A. SPECIFIC CONDITIONS	COMPLIANCE
	regard to any contamination. KSPCB and MRPL shall ensure that (a) to (d) above is implemented in a time bound manner and a monthly report on the progress of the activities provided to the Regional Office of this Ministry at Bangalore. For this purpose a separate budget would be allocated by MRPL.	
(vi)	The project proponent shall obtain a report from the Wildlife Department with regard to existence of wildlife in the proposed site as claimed by the public before implementing the project.	Report from the chief conservator of Forest regarding existence of wildlife in the proposed site was submitted to the MoEF dated June 5, 2008.
(vii)	The R&R package shall be strictly in accordance with the laid down norms of the State Government.	The R&R Package is being implemented strictly as per approved policy by State Government. In 1 st PDF 1247 families out of 1253, In 2 nd PDF 214 families out of 214, In 3 rd PDF 145 families out of 146 families & 15 shops has been compensated with R&R Packages. Totally 1621 families have vacated their houses from the project area and are rehabilitated in R&R Colony.
(viii)	A marine Environment Impact Assessment and Risk Assessment along with the Disaster Management Plan shall be prepared for the outfall facilities proposed in the Coastal Regulation Zone and the marine areas.	NIO has carried out EIA, Risk Assessment, DMP and Bathymetry survey along with Marine Outfall pipeline alignment. The detailed design report of the Marine Outfall facility is prepared by Master planning consultants of MSEZ under the guidance of Department of Oceanography, IIT Chennai. The design report was also vetted by NIO, Goa. The detailed project report of the facility is submitted to MoEF during November 2009. MSEZ has taken up the implementation of the above facility and



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S. No.	A. SPECIFIC CONDITIONS	COMPLIANCE
		completed the work by July 2014. MSEZ obtained consent for operation of treated wastewater discharge line from KSPCB vide dated 20 July 2022.
(ix)	Project proponent shall put up a dedicated website and a display panel to inform the public regarding the Ambient Air Quality along with SO ₂ NO _x and other parameters as prescribed as Central Pollution Control Board (CPCB).	MSEZL has dedicated website 'www.msezl.com', wherein Environment Monitoring Parameters are periodically uploaded and made available to the public. Installation and commissioning of Continuous Ambient Air Quality Monitoring station (CAAQMS) has been completed during the month July 2017 and presently data is being transferred to CPCB server continuously. The location of monitoring station is finalized in consultation with KSPCB.
(x)	The gaseous emissions (SO ₂ , NO _x , HC, VOC and Benzene) from various process units shall conform to the standards prescribed by the concerned State Pollution Control Board. All the measures detailed in the EMP and response to the Public Hearing shall be taken to control the point/stack and fugitive gaseous emissions from the proposed facilities, processes and storage units etc., for ensuring that the ambient air quality around the Refinery due to the expansion is maintained at the predicted 24 hourly average maximum concentration.	Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly. MRPL phase III expansion has been detached from MSEZ phase I project vide EC amendment dated 13 th July 2012. MRPL shall be complying conditions relevant to them as part of their existing clearance.
(xi)	The emission levels of the other pollutants shall also remain within the permissible levels	Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly. MRPL phase III expansion has been detached from MSEZ phase I project vide EC amendment dated 13 th July 2012. MRPL shall be



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S. No.	A. SPECIFIC CONDITIONS	COMPLIANCE
		complying conditions relevant to them as part of their existing clearance.
(xii)	The Industrial units in the SEZ and the associated facilities shall be strictly in accordance with the norms laid down by the Karnataka State Government and CPCB.	Noted and will be adhered.
(xiii)	The project proponent shall ensure that the greenery of the area is maintained. Further, 33% of the project area shall be dedicated for green belt development of which at least 5% shall be for mangrove afforestation. The local Forest Department shall be associated for this purpose and requisite budget earmarked.	Presently MSEZL has completed Green Belt development in 272 acres out of 272 acres by planting 122400 saplings. Green Belt operation & maintenance is for 2-3 years & plants are maintained as per the good practises to ensure 100% survival. Slope stabilisation in about 18 acres with vetiver grass has been completed.
(xiv)	The project proponent shall ensure that the water requirement of the Mangalore city does not get affected due to the SEZ operation. Adequate provision shall be made in the reservoirs to provide for the water requirement of the cities.	Noted.
(xv)	The project proponent shall ensure that during construction and operation of the project the traffic in the city is not affected.	Complied.
(xvi)	All precautions of the highest standards shall be incorporated in the design of the project to ensure that there is no chance of emission/leakage of hazardous chemicals including Benzene. Detailed monitoring programme shall be designed and the information provided to the public through display and dedicated website by means of online monitoring.	Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly. MRPL phase III expansion has been detached from MSEZ phase I project vide EC amendment dated 13 th July 2012. MRPL shall be complying conditions relevant to them as part of their existing clearance.



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S. No.	A. SPECIFIC CONDITIONS	COMPLIANCE
(xvii)	Low Sulphur internal fuel oil and fuel gas shall be fired in process heaters and boilers.	<p>Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly.</p> <p>MRPL phase III expansion has been detached from MSEZ phase I project vide EC amendment dated 13th July 2012. MRPL shall be complying conditions relevant to them as part of their existing clearance.</p>
(xviii)	Quarterly monitoring of fugitive emissions shall be carried out by Fugitive Emission Detectors (GMI Leak Surveyor). Guidelines of CPCB will be followed for monitoring fugitive emissions. For control of fugitive emissions, all unsaturated hydrocarbons shall be routed to the flare system. The flare system shall be designed for smokeless burning. Flare Gas Recovery System shall be installed for reduction of Hydrocarbon loss and emission of VOCs, NOx, N ₂ O, SOx & CO ₂ to the environment.	<p>Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly.</p> <p>MRPL phase III expansion has been detached from MSEZ phase I project vide EC amendment dated 13th July 2012. MRPL shall be complying conditions relevant to them as part of their existing clearance.</p>
(xix)	Regular Ambient Air Quality Monitoring shall be carried out. The location and results of existing monitoring stations shall be reviewed in consultation with the concerned State Pollution Control Board based on the occurrence of maximum ground level concentration and downwind direction of wind. Additional Stations shall be set up, if required. It shall be ensured that at least one monitoring station is set up in up-wind & in down-wind direction along with those in other directions.	<p>Ambient Air Quality Monitoring is being carried out regularly in three locations and the locations of monitoring are selected in consultation with KSPCB. The reports of monitored data attached as Annexure-I.</p>
(xx)	On-line data for air emissions shall be transferred to the CPCB and SPCB regularly. The instruments used for ambient air quality monitoring shall be calibrated regularly. The monitoring protocol	<p>Installation and commissioning of Continuous Ambient Air Quality Monitoring station (CAAQMS) has been completed during the month</p>



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S. No.	A. SPECIFIC CONDITIONS	COMPLIANCE
	shall ensure continuous monitoring of all the parameters.	July 2017 and presently data is being transferred to CPCB server continuously. The location of monitoring station is finalized in consultation with KSPCB.
(xxi)	The practice of acoustic plant design shall be adopted to limit noise exposure for personnel to an 8 hr time weighted average of 90 dB (A).	Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly.
(xxii)	All the pumps and other equipment's, where there is a likelihood of HC leakages, shall be provided with appropriate indicators and detectors. Provision for immediate isolation of such equipment, in case of a leakage shall also be made. The company shall adopt Leak Detection And Repair (LDAR) programme for quantification and control of fugitive emissions.	Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly. MRPL phase III expansion has been detached from MSEZ phase I project vide EC amendment dated 13 th July 2012. MRPL shall be complying conditions relevant to them as part of their existing clearance.
(xxiii)	The product loading gantry shall be connected to the product sphere in closed circuit through the vapour arm connected to the tanker. Data on fugitive emissions shall be regularly monitored and records shall be maintained	Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly.
(xxiv)	The company shall ensure that no halogenated organic is sent to the flares. If any of the halogenated organic are present, then the respective streams may be incinerated, if there are no technically feasible or economically viable reduction/recovery options. Any stream containing organic carbon, other than halogenated shall be connected to proper flaring system, if not to a recovery device or an incinerator.	Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly. MRPL phase III expansion has been detached from MSEZ phase I project vide EC amendment dated 13 th July 2012. MRPL shall be complying conditions relevant to them as part of their existing clearance.



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S. No.	A. SPECIFIC CONDITIONS	COMPLIANCE
(xxv)	The new standards/norms that are being proposed by the CPCB for Petrochemical Plants and Refineries shall be applicable for the proposed expansion unit. The company shall conform to the process vent standards for organic chemicals including non-VOCs and all possible VOCs i.e., TOCs standards and process vent standards for top priority chemicals. Regular monitoring will be carried out for VOC and HC and On-line monitors for VOC measurements may be installed.	Noted. The existing units in MSEZ are complying the conditions as per their approvals and submitting reports to KSPCB directly. MRPL phase III expansion has been detached from MSEZ phase I project vide EC amendment dated 13 th July 2012. MRPL shall be complying conditions relevant to them as part of their existing clearance.
(xxvi)	Regular monitoring of relevant parameters for the underground water in the surrounding areas shall be undertaken and the results shall be submitted to the relevant States Pollution Control Board.	Regular monitoring of ground water is being carried out in 10 locations & the reports are attached as Annexure-I . The locations are finalized in consultation with KSPCB.
(xxvii)	Solid waste generated as Pretreater and Reformer Catalysts, Sulphur guard absorbent and Alumina Balls shall be disposed off as per the authorization from the State Pollution Control Board.	Noted and each Individual unit obtaining separate approval for disposal of solid waste generated from their unit.
(xxviii)	Oily sludge shall be sent to melting pit treatment for recovery of oil. The recovered oil shall be recycled into the refinery system. The residual sludge will be stored in HDPE lined pit for disposal after treatment. The sludge shall be incinerated in the premises only.	The individual units complying the conditions and submitting the reports to KSPCB directly.
(xxix)	The company shall strictly follow all the recommendations mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).	Compliance details for CREP is attached as Annexure II .
(xxx)	The Company shall harvest surface as well as rainwater from the rooftops of the buildings proposed in the expansion project and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.	Noted. OMPL has implemented rooftop buildings for rainwater harvesting. MSEZL has provided gate to mainstream drain, there by pumping the water to reservoir for further use.



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S. No	B. GENERAL CONDITIONS	Compliance
(iii)	At no time, the emissions shall be allowed to go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	Noted and will be complied.
(iv)	Adequate number of influent and effluent quality monitoring stations shall be set up in consultation with the SPCB. Regular monitoring shall be carried out for relevant parameters for both surface and ground water.	The treated effluent parameters are monitored through online measuring instruments installed at outlet line. Marine outfall pump house for parameters like pH, DO, CO ₂ , S, and Conductivity. Further ground water and surface water monitoring is carried out in the surrounding areas regularly & the reports are attached as Annexure . The locations are finalized in consultation with KSPCB.
(v)	Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May 1993 and 31 st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	The industrial wastewater from units are treated at CETP and pumped to marine outfall after meeting the prescribed discharge standards. The outlet of CETP is monitored by online analyzers and same is being connected to CPCB server on real time basis.
(vi)	The overall noise levels in and around the plant area shall be limited within the prescribed standards (85dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75dBA (day time) and 70dBA (night time).	Noted and noise levels are within the limit prescribed standards.
(vii)	The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989	Noted and will be complied. MRPL plant expansion has been



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S. No	B. GENERAL CONDITIONS	Compliance
	as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commission of the expansion project. Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.	detached From MSEZ phase I project vide EC amendment dated 13 th July 2012. MRPL shall be complying conditions relevant to them as part of their existing clearance.
(viii)	Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/ disposal of hazardous wastes.	Noted. Each Individual unit obtaining separate approval for disposal of hazardous waste generated from their unit.
(ix)	The project authorities shall provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.	Noted and will be complied.
(x)	The stipulated conditions shall be monitored by the concerned Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board. A six-monthly compliance report and the monitored data shall be submitted to them regularly. It shall also be displayed on the Website of the Company.	Compliance report is being submitted to MoEF/KSPCB on regular basis for every six months along with Ambient Air Quality monitoring report, Noise monitoring report & Ground water monitoring report. Compliance report is also displayed in the Company website.
(xi)	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http://www.envfor.nic.in . This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy	The information regarding the EC has been published in the newspapers and same was submitted to Ministry and KSPCB.



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S. No	B. GENERAL CONDITIONS	Compliance
	of the same should be forwarded to the concerned Regional office of this Ministry.	
(xii)	The date of Financial Closure and final approval of the project by the concerned authorities and the date of commencing the land development work as well as the commissioning of the project shall be informed to the Ministry and its Regional Office.	MSEZL has taken up the land development & infrastructure works from April 2011. MSEZL Board has approved the Business Plan for Infrastructure Development during Aug. 2012. The Zone is operational since 13 January 2014.
(xiii)	Proper Housekeeping and adequate occupational health programmes shall be taken up. Regular Occupational Health Surveillance Programme for the relevant diseases shall be carried out and the records shall be maintained properly for at least 30-40 years. Sufficient preventive measures shall be adopted to avoid direct exposure to emission and other Hydrocarbons etc.	Noted.
(xiv)	A separate environment management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of a Senior Executive.	Sr. General Manager (Environment & Civil) & Sr. Environmental Engineer are in place to take care of Environmental issues. Horticulture Dy. General Manager is appointed for development and maintenance of Green belt.

S. No	EC Amendment conditions dtd. 13 th July 2012	Compliance
(i)	Only the sector Specific shall be permitted in the SEZ & those units shall obtain separate Environmental Clearance as applicable.	MSEZL obtained amendment to EC for development of Multi Product units as Mangalore SEZ dated 18 th June 2015.
(ii)	Proponent shall enhance the allocation for the CSR activities from 2.5 to 5 % of the total cost & item-wise details along with time bound action plan shall be prepared & submitted to the Ministry's Regional	MSEZL has already taken up CSR activities as per CSR guidelines.



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S. No	EC Amendment conditions dtd. 13 th July 2012	Compliance
	office at Bangalore. Implementation of such program shall be ensured accordingly in a time bound manner.	
(iii)	The green belt shall be 33% all along the periphery & width of the green belt shall be minimum 50 mts.	Noted and complied.

S. No	EC Amendment conditions dtd. 27 th Sep 2014	Compliance
(i)	The project proponent while carrying out the road widening works towards river side should not cause any impact to the river water flow and should be clear of river water way.	Complied.
(ii)	The project proponent to take up the bank protection works like stone pitching etc to avoid soil erosion of the banks.	Riverbank protection works as directed by WRDO are carried out.
(iii)	The project proponent to take up all adequate measures to mitigate the dust pollution during the road widening works.	Complied.
(iv)	The proponent shall not dump any construction wastes etc in the river portion.	Complied.



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S. No	EC Amendment conditions dtd. 18 th June 2015	Compliance
(i)	The individual industries shall obtain prior Environmental Clearance as required under EIA Notification, 2006. The Project Proponent shall only allow the projects that have obtained the requisite Environmental Clearance.	Noted. All the existing industries inside MSEZ obtained necessary approvals from the concerned department.

With Regards


Eta Sreenivasulu

Sr. General Manager

Mangalore SEZ Ltd.

Encl.:

1. MSEZL Monitoring reports for Air, Water & Noise Environment.
2. Environmental compliance report & Environmental Monitoring Reports from OMPL.

Copy to: Environmental Officer, Karnataka State Pollution Control Board,
Mangalore.



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30 Dec 2022

MSEZL/MNG/R&R/COMP/2022-23

To,

The Director,
Southern Region, Regional Office,
Ministry of Environment and Forests,
Kendriya Sadan, 4th Floor, E&F Wings,
17th Main Road, 1st Block, Koramangala,
Bangalore - 560 034

Sir,

Sub: Development of Residential Colony for Rehabilitation and Resettlement for
SEZ Complex at Kulai & Thokur village, Mangalore Taluk & District by M/s
Mangalore SEZ Limited, Mangalore.

Ref: 1) Environmental Clearance No: SEIAA: 140: CON: 2008, dated 25th June
2008.

With reference to above, we would like to submit the compliance report as on
date:

A. SPECIFIC CONDITIONS		
I. CONSTRUCTION PHASE		
(i)	Setup an Environment Management cell and ensure that the cell manages/maintains all the environmental aspects such as sewage treatment, solid waste disposal, maintenance of green belt areas etc, and in case the commercial space is sold/leased, then enter into agreement as per the draft agreement copy submitted, with the prospective buyers to ensure that they maintain the cell and take care of all environment concerns during the operation phase of the project. In addition sufficient fees should be levied so as to raise a corpus fund to maintain the Environment Cell.	MSEZL Environment Management cell is established to look after the environmental aspects like sewage treatment, Solid waste disposal & Development and maintenance of Green belt etc. The conditions specified regarding selling or leasing of Commercial space in R&R colony will be complied in case of selling /leasing of land is taken up.
(ii)	Appoint an Environment and Safety Engineer during the construction phase to take care of environment and safety aspects as committed.	Yes. Sr. Environmental Engineer and Sr. General Manager (Environment & Civil) are in place to take care of



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		Environmental Issues and Safety aspects. Horticulture Dy. General Manager has appointed for development and maintenance of Green belt.
(iii)	All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase. Sufficient number of toilets/bathrooms should be provided with required septic tanks and soak pits for construction work force.	Works are Completed.
(iv)	A First Aid Room should be provided in the project both during construction and operation of the project.	MSEZL has established clinic and medical shop at 48 acres R&R colony to look after the Project Rehabilitated People. Currently, Clinic is hand overed to Primary Health centre Kuali.
(v)	Adequate drinking water and sanitary facilities should be provided for construction workers at the site. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.	Works are completed.
(vi)	Provision should be made for the supply of fuel (kerosene or cooking gas) utensils such as pressure cookers etc, to the labourers during the construction phase.	Works are completed.
(vii)	All the labourers to be engaged for construction should be screened for health and adequately treated before engaging them to work at the site and detailed report submitted to SEIAA. Safety standards as per National Building Code (NBC) should be ensured.	Works are completed.
(viii)	For disinfection of waste water meant for uses other than toilet flushing, use ultra violet radiation and not chlorination. For recirculation of treated waste water for toilet flushing, use chlorination.	Works are completed.
(ix)	All the top soil excavated during construction activities should be stored for use in horticulture/Landscape development within	Works are completed.



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	the Project site.	
(x)	Disposal of construction waste during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.	Works are completed.
(xi)	Soil and ground water samples should be tested at the project site during the construction phase to ascertain that there is no threat to ground water quality by leaching of heavy metals and or other toxic contaminants and report submitted to SEIAA.	The project is for development of R&R Colony and the scope of works is to develop the graded sites to Project displaced families with water and sanitation facilities. There are no chances of heavy metals or toxic contaminants produced from the activity. However, MSEZL has carried out the portability test for water & report has been forwarded.
(xii)	Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate water courses and the dumpsites for such material must be secured, so that they should not leach into the ground water.	Noted. The project is development of R&R Colony and the scope of works is to develop the graded sites to Project displaced families with water and sanitation facilities. There are no chances of construction spoils or Hazardous materials produced from the activity.
(xiii)	The diesel generator sets to be used during construction phase should be of low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.	Noted. No Diesel generators were used during the construction works.
(xiv)	Vehicles hired for bringing construction material to the site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.	Complied.
(xv)	Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely	Complied.



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	monitored during construction phase. Adequate measures to reduce air and noise pollution during construction keeping in mind CPCB norms on noise limits.	
(xvi)	Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September 1999 and amended as on August 2003	The Project is for development of R&R Colonies with Infrastructure like roads, water & Drainage facilities. There is no requirement of building construction and hence usage of Fly ash does not arise. However, in future if MSEZL takes up any building the same will be complied.
(xvii)	Ready mixed concrete must be used in building construction.	The Project is for development of R&R Colonies with Infrastructure like roads, water & Drainage facilities. There is no requirement of building construction and hence usage of Ready mixed concrete does not arise. However, in future if MSEZL takes up any building the same will be complied.
(xviii)	Storm water control and its re-use as per CGWB and BIS standards for various applications.	Complied by developing proper roadside drains and storm water drains.
(xix)	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices.	Complied.
(xx)	The Project Authorities shall not undertake either draws of Ground water or drilling of bore wells.	Complied.
(xxi)	Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.	Project is development of R&R colonies and there is no scope for MSEZ in plumbing work.
(xxii)	Treatment of 100% grey water by decentralized treatment should be done.	100 cum/day Skid mounted STP is erected already in 48 Acres & 35 Acres colony to treat the grey water.
(xxiii)	Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based	The Project is for development of R&R Colonies with Infrastructure like roads, water & Drainage facilities. There is



Mangalore SEZ Limited

Sy. No 168/3A, Plot No U-1
Administrative Building
Mangalore Special Economic Zone
Bajpe Village, Mangalore taluk
Dakshina Kannada (Dist)
Karnataka-574142

	control.	no requirement for usage of Showers, toilet flushing etc and the condition is not relevant to project implementation.
(xxiv)	Use of glass may be reduced by up to 40% of exposed area to reduce the electricity consumption and load on air conditioning. If necessary, use high quality double glass with special reflective coating in windows.	The Project is for development of R&R Colonies with Infrastructure like roads, water & Drainage facilities. There is no requirement for usage of glass etc and the condition is not relevant to project implementation.
(xxv)	Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material.	The Project is for development of R&R Colonies with Infrastructure like roads, water & Drainage facilities. There is no requirement for construction of Building roof etc and the condition is not relevant to project implementation.
(xxvi)	Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is optional for non-air conditioned spaces by use of appropriate thermal insulation material to fulfil the requirement.	The Project is for development of R&R Colonies with Infrastructure like roads, water & Drainage facilities. There is no requirement for construction of Building wall or air-conditioned spaces etc and the condition is not relevant to project implementation.

II. OPERATION PHASE

(i)	The installation of the Sewage Treatment Plant (STP) of 16.5 MLD capacity should be carried out before the construction of the second floor of the main structures is commenced and the plant shall be got certified by an independent expert and a report in this regard should be submitted to the SEIAA immediately. Discharge of treated sewage shall conform to the norms & standards of the Karnataka State Pollution Control Board. Treated sewage should be used for flushing, gardening, etc. as proposed.	It was informed to the Assessment Authority by vide our letter dated 22nd July 2008, that MSEZL has not proposed installation of 16.5 MLD STP, but however the sewage generated in the proposed Colonies will be taken to the existing 16.5 MLD STP developed by Mangalore City Corporation.
(ii)	Rainwater harvesting for roof run-off with sufficient capacity artificial pond at ground	The project is development of R&R colonies. The scope of MSEZL is

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Sy. No 168/3A, Plot No U-1

Administrative Building

Mangalore Special Economic Zone

Bajpe Village, Mangalore taluk

Dakshina Kannada (Dist)

Karnataka-574142

	level for rainwater collection and also surface run-off harvesting should be implemented. Before recharging the surface runoff, pre-treatment must be done to remove suspended matter, oil and grease. Detailed rainwater harvesting plan should be submitted immediately.	development of plots and hand over to PDF's. The building construction is in the scope of PDF's.
(iii)	Ensure that the excess runoff rainwater from the green belt area, which is irrigated by treated water, does not get into infiltration pits and contaminate the ground water. Such excess flow should be safely let in to the storm water drains.	Complied.
(iv)	The solid waste generated should be properly collected and segregated before disposal to the City Municipality Facility.	Noted. Being complied.
(v)	Any hazardous waste including biomedical waste should be disposed of as per applicable Rules and norms with necessary approvals of the Karnataka State Pollution Control Board.	Noted and will be complied.
(vi)	As agreed to by the project proponent, develop minimum 13% of the project area i.e., minimum 50 acres area for green belt and plant with tree species at an espacement of 3mts x 3mts i.e. 1,111 plants/hectare. The balance 20% shall be made up by taking up tree planting on the roadsides in the project and if required outside the project so as to ensure that 33% of the project area covered under green belt. The green belt design along the Periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous variety.	The final developed area of MSEZL R&R colony is 111.24 Acres. The total green belt development area as per clearance is 36.71 Acres. Presently MSEZL has developed 12.41 acres of green belt inside project area and 24.30 acres of green belt outside the project area. The total green belt developed area by MSEZ is 36.71 Acres.
(vii)	Incremental pollution loads on the ambient air quality; noise and water quality should be periodically monitored after commissioning of the project.	Noted.



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(viii)	Application of Solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid system or fully solar system for the complex should be provided. Details in this regard should be submitted to the SEIAA.	The Project is for development of R&R Colonies with Infrastructure like roads, water & Drainage facilities. There is no requirement for solar water heating or lighting for gardens and the condition is not relevant to project implementation. The colony will be handed over to Mangalore City Corporation after development & O&M tenure issued. Hence the street lighting with MESCOM connections are provided.
(ix)	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking must be fully internalized and no public space should be utilized.	Complied.
(x)	A Report on the energy conservation measures confirming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, R&U Factors etc and submit to the SEIAA in three months' time.	The Project is for development of R&R Colonies with Infrastructure like roads, water & Drainage facilities. There is no requirement for energy consumption equipment's or Building appliances and the condition is not relevant to project implementation.
B. GENERAL CONDITIONS		
(i)	The Environmental safeguards contained in the EIA Report should be implemented in letter and spirit.	Complied.
(ii)	All commitments made by the proponents in their application, and subsequent letters addressed to the SEAC/SEIAA should be accomplished before the construction work of the project is completed.	Complied.
(iii)	Six monthly monitoring reports should be submitted to the SEIAA and the Regional Office, MoEF, Bangalore, failing which action may be taken to cancel the Environmental Clearance certificate issued.	Noted. Being complied.
(iv)	Officials from the Department of Ecology and Environment, Bangalore/Regional Office of MoEF, Bangalore/Regional Director	The complete sets of documents submitted to MoEF/SEIAA were forwarded as directed in the



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	(Environment) Dept. of Ecology and Environment, Mangalore/ Regional Officer, KSPCB Mangalore and KSPCB Bangalore who would be monitoring the implementation of Environmental safe guards should be given full cooperation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF/SEIAA should be forwarded to the CCF, Regional Office of MoEF, Bangalore/Department of Ecology and Environment, Bangalore /Regional Director, (Environment) Department of Ecology and Environment, Mangalore/Regional Officer, KSPCB Mangalore and KSPCB Bangalore.	Conditions. MSEZL will comply in providing the full cooperation to the Monitoring officers.
(v)	In the case of any change(s) in the scope of project, the project would require a fresh appraisal by this Authority.	Noted.
(vi)	The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.	Noted.
(vii)	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act 1980 and Wildlife (Protection) Act, 1972 etc shall be obtained, as applicable by project proponents from the competent authorities.	Noted.
(viii)	The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters are available with the Karnataka State pollution	Noted. The advertisement was made in three local Newspapers and the copy of the same was forwarded to all concerned as directed.



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	Control board and may also be seen on the website of the Ecology and Environment Department at http://seiaa.kar.nic.in . The advertisement should be made within 7 days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of MoEF at Bangalore/Department of Environment and Ecology, Bangalore.	
(ix)	These stipulations would be enforced among others under the provisions of water (Prevention and Control of Pollution) Act, 1974, The Air (Prevention and Control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.	Noted.
(x)	Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.	Noted.

The R&R Package is being implemented strictly as per Approved policy by State Government. In 1st PDF 1247 families out of 1253, In 2nd PDF 214 families out of 214, In 3rd PDF 145 families out of 146 families & 15 shops has been compensated with R&R Packages. Totally 1621 families have vacated their houses and the process is in progress for the balance.

10 nos. R&R colonies developed - 1421 sites allotted to eligible Project Displaced Families so far and balance 27 is in the process. 358 nominees of the displaced people given training at Karnataka Polytechnic (KPT) for diploma equivalent programs in Chemical, Mechanical & Electrical disciplines and 352 nominees have already been employed. 1628 nominees would have been eligible for employment out of which 893 nominees have opted for "one time" compensation in lieu of job and balance 735 nominees opted for the jobs. 639



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nos. PDF nominees have already got employment out of 735 nos. empaneled.
The process of handing over civic communities, parks & roads to local bodies
and service to utility provider is under way in different stages.

With Regards

Sr. General Manager

Civil & Environment

Mangalore SEZ Ltd.

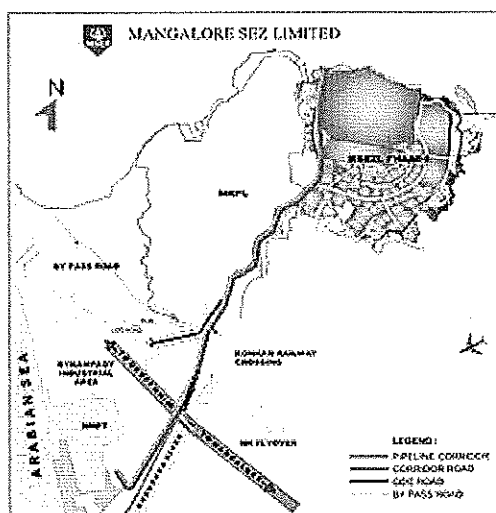
Copy to: 1) Environmental Officer, Karnataka State Pollution Control Board,
Mangalore.



Mangalore SEZ Limited

ENVIRONMENTAL MONITORING REPORT

AMBIENT AIR QUALITY AND MONITORING REPORT FOR THE MONTH OF Aug 2022



Submitted By

M/s *OneEarth* Enviro Labs

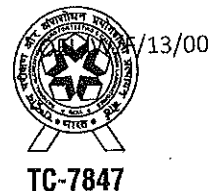
(NABL Accredited, MOEF&CC Recognized Laboratory)

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GSTIN: 29AACFO6684L1ZJ



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ULR NO TC78472200000 0728F

Report No: W/2022/AG2204A

Chemical

Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Oddidakala Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample For Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA : 2017
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74
Calcium as Ca	mg/L	75	200	1	10.08	(Part 40 a):1991 RA : 2019
Chloride as Cl	mg/L	250	1000	1	9.8	(Part 32,2):1998 (RA: 2019)
Chlorine Residual	mg/L	0.2 min	1	0.2	BDL	(Part 26,3):1986 RA: 2019
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017
Conductivity	µS/cm	NS	NS	1	176.23	(Part 14):2013 RA : 2019
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	BDL	(Part 52):2003 RA: 2019
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72
Magnesium as Mg	mg/L	30	100	1	8.16	(Part 46):1994 RA: 2019
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019
Nitrate as NO ₃	mg/L	45	45	0.1	BDL	(Part 34,3B):1988 RA: 2019
pH	Value	6.5	8.5	1	6.75	(Part 11,2):1983 RA: 2017
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019
Sulphate as SO ₄	mg/L	200	400	1	5	APHA - 4500- SO4C
Total Alkalinity as CaCO ₃	mg/L	200	600	1	80.71	(Part 23):1986 RA: 2019
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS
Total Dissolved Solids	mg/L	500	2000	1	116	(Part 16):1984 RA: 2017
Total Hardness as CaCO ₃	mg/L	200	600	1	58.8	(Part21,A):2009 RA : 2019
Total Iron as Fe	mg/L	1	1	0.02	0.48	(Part 53 a):2003 RA:2019
Turbidity	NTU	1	5	0.05	0.1	(Part 10):1984 RA : 2017
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part49 c):1994 RA: 2019

NS-Not Specified

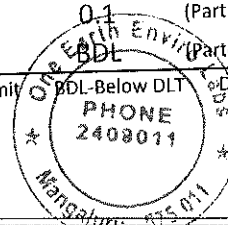
Ag-Areable

ND-Not Detectable

DLT-Detection Limit

BDL-Below DLT

DL-Desired Limit



OneEarth Enviro Labs

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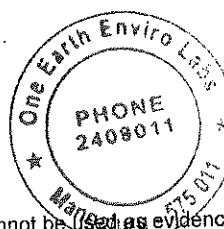
ULR NO TC78472200000 0728F
Chemical

Report No: W/2022/AG2204A
Report Date : 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
---------	--

*** End of the Report ***

For *OneEarth* Enviro Labs



Authorised Signatory
(Murlidhar S M, Quality Manager)

Note: 1. The report shall not be reproduced wholly or in part, cannot be used as evidence in court of law. 2. The above result pertains only to the samples collected / received. 3. Samples will be destroyed after fifteen days from the date of issue of test reports unless otherwise specified. Perishable samples are not retained. 4. Any dispute arising out of this test report is subjected to Mangalore Jurisdiction only. 5. Total liability of our lab is limited to the invoice amount only. 6. Conformity statement might be affected due to measurement uncertainty.

OneEarth Enviro Labs

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MOEF & CC RECOGNISED

Report No: W/2022/AG2204-2
Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Oddidakala Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8
NS-Not Specified ND-Not Detectable DLT-Detection Limit BDL-Below DLT DL-Desired Limit UO-UnObjectionable						

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]

Authorised Signatory
(Murlidhar S M, Quality Manager)

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Certificate No. TC-7847

NABL ISO/IEC 17025:2017

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ULR NO TC78472200000 0729F

Biological

Report No: W/2022/AG2204B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/046
Sampling Location Oddidakala Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological & Chemical Analysis

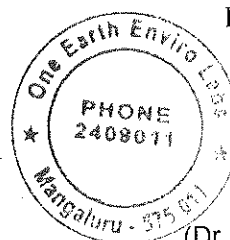
Parameter	Unit	IS 10500-2012 STD PL (MAX)	Results Code:AG2204	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present	A-Absent	< 1.8: Shall be treated as - ve

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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/F/13/00

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Report No: W/2022/AG2205A

ULR NO TC78472200000 0730F

Chemical

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry : M/s Mangalore SEZ Limited
Address : Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By : OneEarth Enviro Labs Method : OEL/SOP/W/0046
Sampling Location : Shanthigudde Ground Water
Sample Appearance : Clear
Date of Sampling : 22-08-2022 Analysis Start Date : 22-08-2022
Date of Sample Receipt : 22-08-2022 Analysis End Date : 26-08-2022
Sampling Details : Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results		Protocol
		DL (MAX)	PL (MAX)		Code:AG2205	IS 3025	
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019	
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA : 2017	
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74	
Calcium as Ca	mg/L	75	200	1	16.8	(Part 40 a):1991 RA : 2019	
Chloride as Cl	mg/L	250	1000	1	9.8	(Part 32,2):1998 (RA: 2019)	
Chlorine Residual	mg/L	0.2 min	1	0.2	BDL	(Part 26,3):1986 RA: 2019	
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017	
Conductivity	µS/cm	NS	NS	1	143.32	(Part 14):2013 RA : 2019	
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E	
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019	
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	BDL	(Part 52):2003 RA: 2019	
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72	
Magnesium as Mg	mg/L	30	100	1	9.19	(Part 46):1994 RA: 2019	
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B	
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019	
Nitrate as NO ₃	mg/L	45	45	0.1	BDL	(Part 34,3B):1988 RA: 2019	
pH	Value	6.5	8.5	1	7	(Part 11,2):1983 RA: 2017	
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019	
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019	
Sulphate as SO ₄	mg/L	200	400	1	5	APHA - 4500- SO4C	
Total Alkalinity as CaCO ₃	mg/L	200	600	1	31.39	(Part 23):1986 RA: 2019	
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS	
Total Dissolved Solids	mg/L	500	2000	1	108	(Part 16):1984 RA: 2017	
Total Hardness as CaCO ₃	mg/L	200	600	1	79.8	(Part21,A):2009 RA : 2019	
Total Iron as Fe	mg/L	1	1	0.02	0.24	(Part 53 a):2003 RA:2019	
Turbidity	NTU	1	5	0.05	0.05	(Part 10):1984 RA : 2017	
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part49 c):1994 RA: 2019	

NS-Not Specified

Ag-Areable

ND-Not Detectable

DLT-Detection Limit

BDL-Below DLT

DL-Desired Limit

Page 1 of 2

OneEarth Enviro Labs

1st Floor, KIA Building, Industrial Area Road, Baikampady,
Mangaluru - 575 011. Ph: 0824-240 9011 Mob: +91 87625 39077
Email: oneearthenviro@gmail.com Website: oneearthenvirolabs.com
GSTIN: 29AACFO6684L1ZJ



ISO 9001:2015 | ISO 45001:2018 Certified | MOEF & CC RECOGNISED | ISO/IEC 17025 ACCREDITED BY NABL CERTI. NO. TC-7847

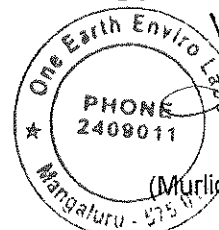
ULR NO TC78472200000 0730F
Chemical

Report No: W/2022/AG2205A
Report Date 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
---------	--

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]
*Authorised Signatory
(Murlidhar S M, Quality Manager)

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Report No: W/2022/AG2205-2
Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Shanthigudde Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results Code:AG2205	Protocol IS 3025
		DL (MAX)	PL (MAX)			
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8

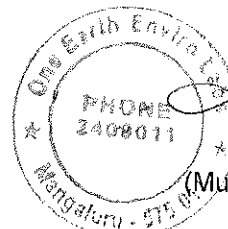
NS-Not Specified DL-Desired Limit ND-Not Detectable DLT-Detection Limit BDL-Below DLT UO-UnObjectionable

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



Authorised Signatory
(Murlidhar S M, Quality Manager)

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W/F/13/00

Certificate No. TC-7847

NABL ISO/IEC 17025:2017

ISO 9001:2015

ISO 45001:2018 Certified

MOEF & CC RECOGNISED

ULR NO TC78472200000 0731F

Biological

Report No: W/2022/AG2205B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Shanthigudde Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological Analysis

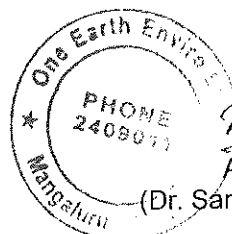
Parameter	Unit	IS 10500-2012 STD PL (MAX)	Results Code:AG2205	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present A-Absent	< 1.8: Shall be treated as - ve	

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs

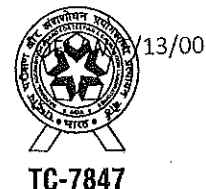


Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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Report No: W/2022/AG2206A

ULR NO TC78472200000 0732F

Chemical

Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry : M/s Mangalore SEZ Limited
Address : Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore
Sample Collected By : OneEarth Enviro Labs Method : OEL/SOP/W/0046
Sampling Location : Kalavar Ground Water
Sample Appearance : Clear
Date of Sampling : 22-08-2022 Analysis Start Date : 22-08-2022
Date of Sample Receipt : 22-08-2022 Analysis End Date : 26-08-2022
Sampling Details : Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
					Code:AG2206	IS 3025
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA: 2017
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74
Calcium as Ca	mg/L	75	200	1	5.04	(Part 40 a):1991 RA: 2019
Chloride as Cl	mg/L	250	1000	1	11.76	(Part 32,2):1998 (RA: 2019)
Chlorine Residual	mg/L	0.2 min	1	0.2	BDL	(Part 26,3):1986 RA: 2019
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017
Conductivity	µS/cm	NS	NS	1	66.32	(Part 14):2013 RA: 2019
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	BDL	(Part 52):2003 RA: 2019
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72
Magnesium as Mg	mg/L	30	100	1	2.04	(Part 46):1994 RA: 2019
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019
Nitrate as NO ₃	mg/L	45	45	0.1	0.24	(Part 34,3B):1988 RA: 2019
pH	Value	6.5	8.5	1	7.01	(Part 11,2):1983 RA: 2017
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019
Sulphate as SO ₄	mg/L	200	400	1	5	APHA - 4500- SO4C
Total Alkalinity as CaCO ₃	mg/L	200	600	1	17.94	(Part 23):1986 RA: 2019
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS
Total Dissolved Solids	mg/L	500	2000	1	52	(Part 16):1984 RA: 2017
Total Hardness as CaCO ₃	mg/L	200	600	1	21	(Part21,A):2009 RA: 2019
Total Iron as Fe	mg/L	1	1	0.02	0.44	(Part 53 a):2003 RA:2019
Turbidity	NTU	1	5	0.05	0.05	(Part 10):1984 RA: 2017
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part49 c):1994 RA: 2019

NS-Not Specified

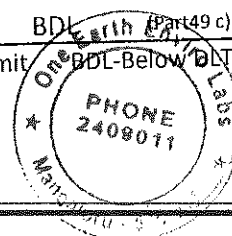
Ag-Areable

ND-Not Detectable

DLT-Detection Limit

BDL-Below DLT

DL-Desired Limit



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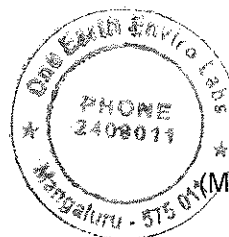
ULR NO TC78472200000 0732F
Chemical

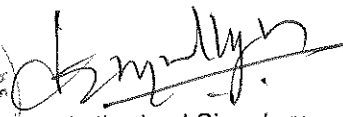
Report No: W/2022/AG2206A
Report Date : 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
---------	--

*** End of the Report ***

For OneEarth Enviro Labs




Authorised Signatory

(Murlidhar S M, Quality Manager)

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Report No: W/2022/AG2206-2
Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Kalavar Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

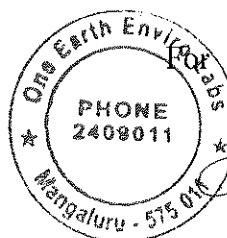
Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8

NS-Not Specified DL-Desired Limit ND-Not Detectable DLT-Detection Limit BDL-Below DLT UO-UnObjectionable

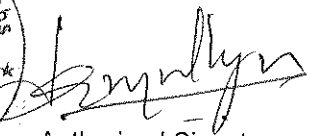
Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***



OneEarth Enviro Labs


Authorised Signatory
(Murlidhar S M, Quality Manager)

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Certificate No. TC-7847

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ULR NO TC78472200000 0733F

Biological

Report No: W/2022/AG2206B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

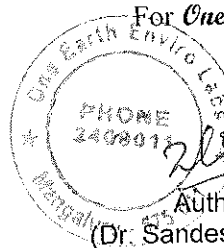
Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/046
Sampling Location Kalavar Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological Analysis

Parameter	Unit	IS 10500-2012 STD	Results	Protocol
		DL (MAX)	Code:AG2206	APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present A-Absent	< 1.8: Shall be treated as - ve	

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.
---------	--

*** End of the Report ***

For OneEarth Enviro Labs



Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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Report No: W/2022/AG2207A

ULR NO TC78472200000 0734F

Chemical

Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Permude Church Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results Code:AG2207	Protocol IS 3025
		DL (MAX)	PL (MAX)			
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA : 2017
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74
Calcium as Ca	mg/L	75	200	1	16.8	(Part 40 a):1991 RA : 2019
Chloride as Cl	mg/L	250	1000	1	9.8	(Part 32,2):1998 (RA: 2019)
Chlorine Residual	mg/L	0.2 min	1	0.2	BDL	(Part 26,3):1986 RA: 2019
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017
Conductivity	µS/cm	NS	NS	1	93.63	(Part 14):2013 RA : 2019
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	BDL	(Part 52):2003 RA: 2019
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72
Magnesium as Mg	mg/L	30	100	1	1.02	(Part 46):1994 RA: 2019
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019
Nitrate as NO ₃	mg/L	45	45	0.1	1.72	(Part 34,3B):1988 RA: 2019
pH	Value	6.5	8.5	1	6.51	(Part 11,2):1983 RA: 2017
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019
Sulphate as SO ₄	mg/L	200	400	1	5	APHA - 4500- SO4C
Total Alkalinity as CaCO ₃	mg/L	200	600	1	35.87	(Part 23):1986 RA: 2019
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS
Total Dissolved Solids	mg/L	500	2000	1	72	(Part 16):1984 RA: 2017
Total Hardness as CaCO ₃	mg/L	200	600	1	46.2	(Part21,A):2009 RA : 2019
Total Iron as Fe	mg/L	1	1	0.02	0.4	(Part 53 a):2003 RA:2019
Turbidity	NTU	1	5	0.05	0.05	(Part 10):1984 RA : 2017
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part 19 c):1994 RA: 2019

NS-Not Specified

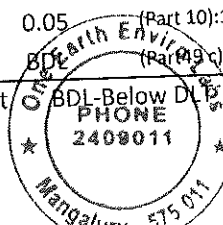
Ag-Areeable

ND-Not Detectable

DLT-Detection Limit

BDL-Below DL

DL-Desired Limit



Page 1 of 2

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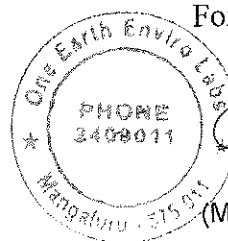
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ULR NO TC78472200000 0734F
Chemical

Report No: W/2022/AG2207A
Report Date : 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
---------	--

*** End of the Report ***



For OneEarth Enviro Labs

Authorised Signatory
(Murlidhar S M, Quality Manager)

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Report No: W/2022/AG2207-2

Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Permude Church Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)		Code:AG2207	
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8

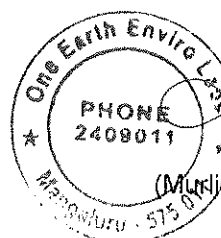
NS-Not Specified DL-Desired Limit ND-Not Detectable DLT-Detection Limit BDL-Below DLT UO-UnObjectionable

**** End of Report ****

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.
---------	--

***** End of the Report *****

For OneEarth Enviro Labs



[Signature]
* Authorised Signatory

(Murlidhar S M, Quality Manager)

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Certificate No. TC-7847

NABL ISO/IEC 17025:2017

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ISO 45001:2018 Certified

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ULR NO TC78472200000 0735F

Biological

Report No: W/2022/AG2207B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method . OEL/SOP/W/046
Sampling Location Permude Church Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological Analysis

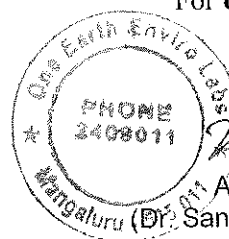
Parameter	Unit	IS 10500-2012 STD DL (MAX)	Results Code:AG2207	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present A-Absent	< 1.8: Shall be treated as - ve	

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs

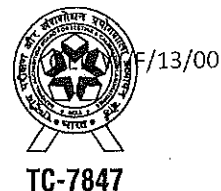


Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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OneEarth Enviro Labs

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Mangaluru - 575 011. Ph: 0824-240 9011 Mob: +91 87625 39077
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GSTIN: 29AACFO6684L1ZJ



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ULR NO TC78472200000 0736F

Chemical

Report No: W/2022/AG2208A

Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location CETP Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample For Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA : 2017
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74
Calcium as Ca	mg/L	75	200	1	16.8	(Part 40 a):1991 RA : 2019
Chloride as Cl	mg/L	250	1000	1	21.56	(Part 32,2):1998 (RA: 2019)
Chlorine Residual	mg/L	0.2 min	1	0.2	BDL	(Part 26,3):1986 RA: 2019
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017
Conductivity	µS/cm	NS	NS	1	104.92	(Part 14):2013 RA : 2019
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	BDL	(Part 52):2003 RA: 2019
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72
Magnesium as Mg	mg/L	30	100	1	9.19	(Part 46):1994 RA: 2019
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019
Nitrate as NO ₃	mg/L	45	45	0.1	2.92	(Part 34,3B):1988 RA: 2019
pH	Value	6.5	8.5	1	7.03	(Part 11,2):1983 RA: 2017
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019
Sulphate as SO ₄	mg/L	200	400	1	10	APHA - 4500- SO4C
Total Alkalinity as CaCO ₃	mg/L	200	600	1	40.36	(Part 23):1986 RA: 2019
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS
Total Dissolved Solids	mg/L	500	2000	1	88	(Part 16):1984 RA: 2017
Total Hardness as CaCO ₃	mg/L	200	600	1	46.2	(Part21,A):2009 RA : 2019
Total Iron as Fe	mg/L	1	1	0.02	0.56	(Part 53 a):2003 RA:2019
Turbidity	NTU	1	5	0.05	0.05	(Part 10):1984 RA : 2017
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part49 c):1994 RA: 2019

NS-Not Specified

Ag-Areable

ND-Not Detectable

DLT-Detection Limit

BDL-Below Detection Limit

OneEarth Enviro Labs

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ULR NO TC78472200000 0736F
Chemical

Report No: W/2022/AG2208A
Report Date : 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
---------	--

*** End of the Report ***

For *OneEarth* Enviro Labs



[Signature]
* Authorised Signatory
(Murlidhar S M, Quality Manager)

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Report No: W/2022/AG2208-2
Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location CETP Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results Code:AG2208	Protocol IS 3025
		DL (MAX)	PL (MAX)			
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8

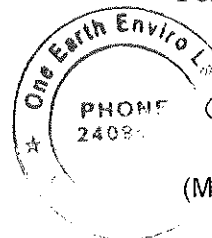
NS-Not Specified ND-Not Detectable DLT-Detection Limit BDL-Below DLT DL-Desired Limit UO-UnObjectionable

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]

Authorised Signatory
(Murlidhar S M, Quality Manager)

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MOEF & CC RECOGNISED

ULR NO TC78472200000 0737F

Biological

Report No: W/2022/AG2208B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/046
Sampling Location CETP Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological Analysis

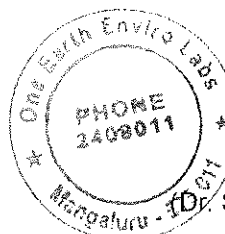
Parameter	Unit	IS 10500-2012 STD PL (MAX)	Results Code:AG2208	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present A-Absent	< 1.8: Shall be treated as - ve	

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]
Authorized Signatory
Sandesh K, Technical Manager

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ULR NO TC78472200000 0738F

Chemical

Report No: W/2022/AG2209A

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Non Processing Area Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
					Code:AG2209	IS 3025
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA : 2017
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74
Calcium as Ca	mg/L	75	200	1	6.72	(Part 40 a):1991 RA : 2019
Chloride as Cl	mg/L	250	1000	1	7.84	(Part 32,2):1998 (RA: 2019)
Chlorine Residual	mg/L	0.2 min	1	0.2	BDL	(Part 26,3):1986 RA: 2019
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017
Conductivity	µS/cm	NS	NS	1	58.27	(Part 14):2013 RA : 2019
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	BDL	(Part 52):2003 RA: 2019
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72
Magnesium as Mg	mg/L	30	100	1	2.04	(Part 46):1994 RA: 2019
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019
Nitrate as NO ₃	mg/L	45	45	0.1	0.12	(Part 34,3B):1988 RA: 2019
pH	Value	6.5	8.5	1	7.1	(Part 11,2):1983 RA: 2017
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019
Sulphate as SO ₄	mg/L	200	400	1	BDL	APHA - 4500- SO4C
Total Alkalinity as CaCO ₃	mg/L	200	600	1	17.94	(Part 23):1986 RA: 2019
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS
Total Dissolved Solids	mg/L	500	2000	1	54	(Part 16):1984 RA: 2017
Total Hardness as CaCO ₃	mg/L	200	600	1	25.2	(Part21,A):2009 RA : 2019
Total Iron as Fe	mg/L	1	1	0.02	0.4	(Part 53 a):2003 RA:2019
Turbidity	NTU	1	5	0.05	BDL	(Part 10):1984 RA : 2017
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part49 c):1994 RA: 2019

NS-Not Specified

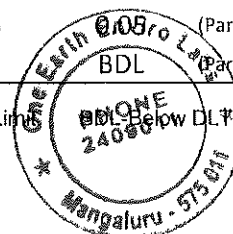
Ag-Areeable

ND-Not Detectable

DLT-Detection Limit

DL-Desired Limit

Page 1 of 2



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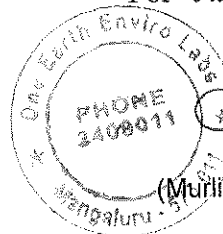
ULR NO TC7847200000 0738F
Chemical

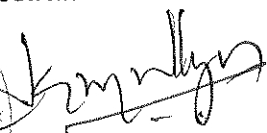
Report No: W/2022/AG2209A
Report Date 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
---------	--

*** End of the Report ***

For OneEarth Enviro Labs




Authorised Signatory
(Murlidhar S M, Quality Manager)

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Report No: W/2022/AG2209-2
Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Non Processing Area Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)		Code:AG2209	IS 3025
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8

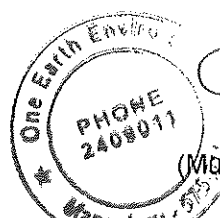
NS-Not Specified DL-Desired Limit ND-Not Detectable DLT-Detection Limit BDL-Below DLT UO-UnObjectionable

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]

Authorised Signatory
(Muralidhar S M, Quality Manager)

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W/F/13/00

Certificate No. TC-7847

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ULR NO TC78472200000 0739F

Biological

Report No: W/2022/AG2209B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Non Processing Area Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological Analysis

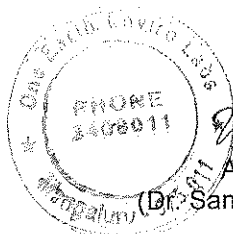
Parameter	Unit	IS 10500-2012 STD PL (MAX)	Results Code:AG2209	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present A-Absent	< 1.8: Shall be treated as – ve	

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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ULR NO TC78472200000 0739F

Biological

Report No: W/2022/AG2209B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Non Processing Area Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological Analysis

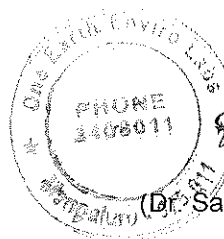
Parameter	Unit	IS 10500-2012 STD PL (MAX)	Results Code:AG2209	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present A-Absent	< 1.8: Shall be treated as - ve	

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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ULR NO TC78472200000 0740F

Chemical

Report No: w/2022/AG2210A

Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry: M/s Mangalore SEZ Limited
Address: Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore
Sample Collected By: OneEarth Enviro Labs Method: OEL/SOP/W/0046
Sampling Location: Permude Bajpe Village Boundary Ground Water
Sample Appearance: Clear
Date of Sampling: 22-08-2022 Analysis Start Date: 22-08-2022
Date of Sample Receipt: 22-08-2022 Analysis End Date: 26-08-2022
Sampling Details: Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
					Code:AG2210	IS 3025
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA : 2017
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74
Calcium as Ca	mg/L	75	200	1	15.12	(Part 40 a):1991 RA : 2019
Chloride as Cl	mg/L	250	1000	1	23.52	(Part 32,2):1998 (RA: 2019)
Chlorine Residual	mg/L	0.2 min	1	0.2	BDL	(Part 26,3):1986 RA: 2019
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017
Conductivity	µS/cm	NS	NS	1	129.69	(Part 14):2013 RA : 2019
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	BDL	(Part 52):2003 RA: 2019
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72
Magnesium as Mg	mg/L	30	100	1	3.06	(Part 46):1994 RA: 2019
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019
Nitrate as NO ₃	mg/L	45	45	0.1	BDL	(Part 34,3B):1988 RA: 2019
pH	Value	6.5	8.5	1	6.51	(Part 11,2):1983 RA: 2017
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019
Sulphate as SO ₄	mg/L	200	400	1	5	APHA - 4500- SO ₄ C
Total Alkalinity as CaCO ₃	mg/L	200	600	1	17.94	(Part 23):1986 RA: 2019
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS
Total Dissolved Solids	mg/L	500	2000	1	104	(Part 16):1984 RA: 2017
Total Hardness as CaCO ₃	mg/L	200	600	1	50.4	(Part21,A):2009 RA : 2019
Total Iron as Fe	mg/L	1	1	0.02	0.56	(Part 53 a):2003 RA:2019
Turbidity	NTU	1	5	0.05	0.05	(Part 10):1984 RA : 2017
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part 49 c):1994 RA: 2019

NS-Not Specified

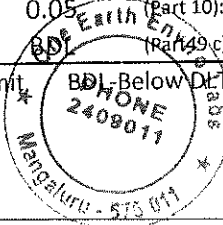
Ag-Areeable

ND-Not Detectable

DLT-Detection Limit

BDL-Below Detection Limit

DL-Desired Limit



OneEarth Enviro Labs

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Email: oneearthenviro@gmail.com Website: oneearthenvirolabs.com
GSTIN: 29AACFO6684L1ZJ



TC-7847

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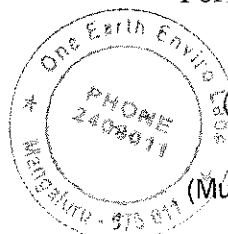
ULR NO TC78472200000 0740F
Chemical

Report No: w/2022/AG2210A
Report Date : 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
---------	--

*** End of the Report ***

For *OneEarth* Enviro Labs



[Signature]
Authorised Signatory

(Murlidhar S M, Quality Manager)

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OneEarth Enviro Labs

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MOEF & CC RECOGNISED

Report No: W/2022/AG2210-2
Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Permude Bajpe Village Boundary Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results Code:AG2210	Protocol IS 3025
		DL (MAX)	PL (MAX)			
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8
NS-Not Specified DL-Desired Limit ND-Not Detectable DLT-Detection Limit BDL-Below DLT UO-UnObjectionable						

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]

Authorised Signatory

Muridhar S M, Quality Manager)

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Certificate No. TC-7847

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ULR NO TC78472200000 0741F

Biological

Report No: W/2022/AG2210B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

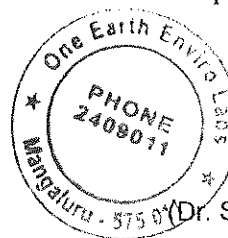
Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/046
Sampling Location Permude Bajpe Village Boundary Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological Analysis

Parameter	Unit	IS 10500-2012 STD DL (MAX)	Results Code:AG2210	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present A-Absent	< 1.8: Shall be treated as - ve	

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.
---------	--

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]

Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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GSTIN: 29AACFO6684L1ZJ



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ULR NO TC78472200000 0742F

Chemical

Report No: W/2022/AG2211A

Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Chandrahas Nagar Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample For Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA : 2017
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74
Calcium as Ca	mg/L	75	200	1	6.72	(Part 40 a):1991 RA : 2019
Chloride as Cl	mg/L	250	1000	1	9.8	(Part 32,2):1998 (RA: 2019)
Chlorine Residual	mg/L	0.2 min	1	0.2	1	(Part 26,3):1986 RA: 2019
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017
Conductivity	µS/cm	NS	NS	1	98.59	(Part 14):2013 RA : 2019
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	BDL	(Part 52):2003 RA: 2019
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72
Magnesium as Mg	mg/L	30	100	1	1.02	(Part 46):1994 RA: 2019
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019
Nitrate as NO ₃	mg/L	45	45	0.1	0.2	(Part 34,3B):1988 RA: 2019
pH	Value	6.5	8.5	1	6.76	(Part 11,2):1983 RA: 2017
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019
Sulphate as SO ₄	mg/L	200	400	1	5	APHA - 4500- SO4C
Total Alkalinity as CaCO ₃	mg/L	200	600	1	35.87	(Part 23):1986 RA: 2019
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS
Total Dissolved Solids	mg/L	500	2000	1	72	(Part 16):1984 RA: 2017
Total Hardness as CaCO ₃	mg/L	200	600	1	21	(Part21,A):2009 RA : 2019
Total Iron as Fe	mg/L	1	1	0.02	0.2	(Part 53 a):2003 RA:2019
Turbidity	NTU	1	5	0.05	0.05	(Part 10):1984 RA : 2017
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part49 c):1994 RA: 2019

NS-Not Specified

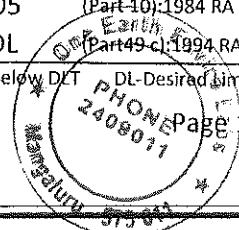
Ag-Areable

ND-Not Detectable

DLT-Detection Limit

BDL-Below DLT

DL-Desired Limit



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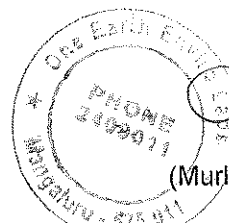
ULR NO TC78472200000 0742F
Chemical

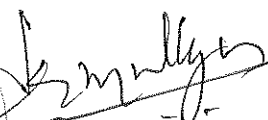
Report No: W/2022/AG2211A
Report Date : 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
---------	--

*** End of the Report ***

For OneEarth Enviro Labs




Authorised Signatory

(Murlidhar S M, Quality Manager)

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Report No: W/2022/AG2211-2
Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Chandrahas Nagar Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)		Code:AG2211	IS 3025
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8

NS-Not Specified ND-Not Detectable DLT-Detection Limit BDL-Below DLT DL-Desired Limit UO-UnObjectionable

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.
---------	--

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]
Authorised Signatory

(Murlidhar S M, Quality Manager)

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Certificate No. TC-7847

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ULR NO TC78472200000 0743F

Biological

Report No: W/2022/AG2211B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/046
Sampling Location Chandrahas Nagar Ground Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological Analysis

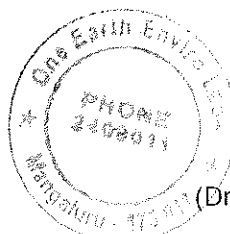
Parameter	Unit	IS 10500-2012 STD PL (MAX)	Results Code:AG2211	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A (<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A (<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present A-Absent	< 1.8: Shall be treated as - ve	

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]

Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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GSTIN: 29AACFO6684L1ZJ



/F/13/00

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ULR NO TC78472200000 0744F

Report No: W/2022/AG2212A

Chemical

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location 10 ML Reservoir Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA : 2017
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74
Calcium as Ca	mg/L	75	200	1	38.64	(Part 40 a):1991 RA : 2019
Chloride as Cl	mg/L	250	1000	1	11.76	(Part 32,2):1998 (RA: 2019)
Chlorine Residual	mg/L	0.2 min	1	0.2	BDL	(Part 26,3):1986 RA: 2019
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017
Conductivity	µS/cm	NS	NS	1	188.54	(Part 14):2013 RA : 2019
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	BDL	(Part 52):2003 RA: 2019
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72
Magnesium as Mg	mg/L	30	100	1	3.06	(Part 46):1994 RA: 2019
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019
Nitrate as NO ₃	mg/L	45	45	0.1	BDL	(Part 34,3B):1988 RA: 2019
pH	Value	6.5	8.5	1	6.77	(Part 11,2):1983 RA: 2017
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019
Sulphate as SO ₄	mg/L	200	400	1	5	APHA - 4500- SO4C
Total Alkalinity as CaCO ₃	mg/L	200	600	1	85.2	(Part 23):1986 RA: 2019
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS
Total Dissolved Solids	mg/L	500	2000	1	148	(Part 16):1984 RA: 2017
Total Hardness as CaCO ₃	mg/L	200	600	1	109.2	(Part21,A):2009 RA : 2019
Total Iron as Fe	mg/L	1	1	0.02	0.32	(Part 53 a):2003 RA:2019
Turbidity	NTU	1	5	0.05	0.1	(Part 10):1984 RA : 2017
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part49 c):1994 RA: 2019

NS-Not Specified

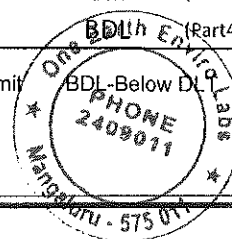
Ag-Areeable

ND-Not Detectable

DLT-Detection Limit

BDL-Below DL

DL-Desired Limit



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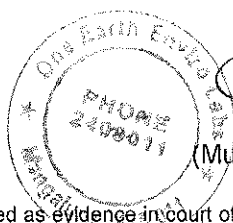
ULR NO TC78472200000 0744F
Chemical

Report No: W/2022/AG2212A
Report Date 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
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*** End of the Report ***

For OneEarth Enviro Labs




Authorised Signatory
(Murlidhar S M, Quality Manager)

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OneEarth Enviro Labs

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OEL/W/F/13/00

ISO 9001:2015

ISO 45001:2018 Certified

MOEF & CC RECOGNISED

Report No: W/2022/AG2212-2
Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location 10 ML Reservior Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Ground Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)		Code:AG2212	IS 3025
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8

NS-Not Specified DL-Desired Limit ND-Not Detectable DLT-Detection Limit BDL-Below DLT UO-UnObjectionable

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]
Authorised Signatory
(Murlidhar S M, Quality Manager)

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W/F/13/00

Certificate No. TC-7847

NABL ISO/IEC 17025:2017

ISO 9001:2015

ISO 45001:2018 Certified

MOEF & CC RECOGNISED

ULR NO TC78472200000 0745F

Biological

Report No: W/2022/AG2212B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village, Mangalore

Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location 10 ML Reservoir Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Ground Water Sample for Micro Biological Analysis

Parameter	Unit	IS 10500-2012 STD PL (MAX)	Results Code:AG2212	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present	A-Absent	< 1.8: Shall be treated as - ve

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]

Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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GSTIN: 29AACFO6684L1ZJ



F/13/00

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ULR NO TC78472200000 0746F

Report No: W/2022/AG2213A

Chemical

Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Permude Surface Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Surface Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
					Code:AG2213	IS 3025
Aluminium as Al	mg/L	0.03	0.2	0.04	BDL	(Part 55 a):2003 RA: 2019
Boron as B	mg/L	0.5	1	0.02	BDL	(Part57 b):2005 RA : 2017
Cadmium as Cd	mg/L	0.003	0.003	0.02	BDL	OEL/SOP/W/74
Calcium as Ca	mg/L	75	200	1	8.4	(Part 40 a):1991 RA : 2019
Chloride as Cl	mg/L	250	1000	1	13.72	(Part 32,2):1998 (RA: 2019)
Chlorine Residual	mg/L	0.2 min	1	0.2	BDL	(Part 26,3):1986 RA: 2019
Color	Color	5	15	1	1	(Part 4 a):1983 RA:2017
Conductivity	µS/cm	NS	NS	1	101.6	(Part 14):2013 RA : 2019
Cyanide as CN	mg/L	0.05	0.05	0.01	BDL	APHA (2017) 4500 E
Fluoride as F	mg/L	1	1.5	0.5	BDL	(Part 60, A):2008 RA: 2019
Hexavalent Chromium as Cr+6	mg/L	0.01	0.01	0.1	ND	(Part 52):2003 RA: 2019
Lead as Pb	mg/L	0.01	0.01	0.05	BDL	OEL/SOP/W/72
Magnesium as Mg	mg/L	30	100	1	2.04	(Part 46):1994 RA: 2019
Manganese as Mn	mg/L	0.02	0.02	0.79	BDL	APHA - 3500-Mn B
Mercury as Hg	mg/L	0.001	0.001	0.005	BDL	(Part 48 a): 1994 RA: 2019
Nitrate as NO ₃	mg/L	45	45	0.1	0.28	(Part 34,3B):1988 RA: 2019
pH	Value	6.5	8.5	1	6.51	(Part 11,2):1983 RA: 2017
Phenolic Compounds as C ₆ H ₅ OH	mg/L	0.001	0.002	0.01	BDL	(Part 43a):1992 RA: 2019
Selenium as Se	mg/L	0.01	0.01	0.02	BDL	(Part56 b): 2003 RA: 2019
Sulphate as SO ₄	mg/L	200	400	1	BDL	APHA - 4500- SO4C
Total Alkalinity as CaCO ₃	mg/L	200	600	1	22.42	(Part 23):1986 RA: 2019
Total Arsenic as As	mg/L	0.01	0.05	0.005	BDL	(Part 37):1988 RA:2019 By AAS
Total Dissolved Solids	mg/L	500	2000	1	78	(Part 16):1984 RA: 2017
Total Hardness as CaCO ₃	mg/L	200	600	1	29.4	(Part21,A):2009 RA : 2019
Total Iron as Fe	mg/L	1	1	0.02	0.28	(Part 53 a):2003 RA:2019
Turbidity	NTU	1	5	0.05	0.05	(Part 10):1984 RA : 2017
Zinc as Zn	mg/L	5	15	0.1	BDL	(Part 49 c):1994 RA: 2019

NS-Not Specified

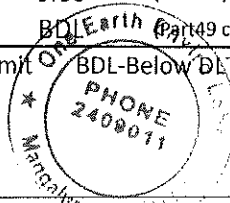
Ag-Areable

ND-Not Detectable

DLT-Detection Limit

BDL-Below DLT

DL-Desired Limit



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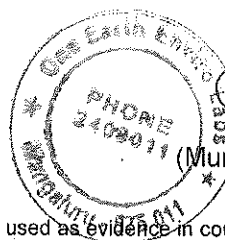
ULR NO TC78472200000 0746F
Chemical

Report No: W/2022/AG2213A
Report Date : 26-08-2022

Opinion	As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters. Water is potable.
---------	--

*** End of the Report ***

For *OneEarth* Enviro Labs



Authorised Signatory

(Muridhar S M, Quality Manager)

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Page 2 of 2

OneEarth Enviro Labs

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Report No: W/2022/AG2213-2
Report Date : 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building ,MSEZ, Bajpe Village,
Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/0046
Sampling Location Permude Surface Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 26-08-2022
Sampling Details Surface Water Sample for Chemical Analysis

Parameter	Unit	IS 10500-2012 STD		DLT	Results	Protocol
		DL (MAX)	PL (MAX)			
Odour		Ag	Ag		Ag	Part 5 (2nd Revision) :2018
Taste		Ag	Ag		Ag	Part 7 and 8

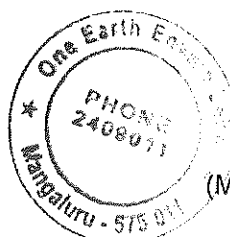
NS-Not Specified DL-Desired Limit ND-Not Detectable DLT-Detection Limit BDL-Below DLT UO-UnObjectionable

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



(Signature)

Authorised Signatory
(Murlidhar S M, Quality Manager)

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ULR NO TC78472200000 0747F

Biological

Report No: W/2022/AG2213B

Report Date 26-08-2022

WATER QUALITY ANALYSIS REPORT

Name of the Industry M/s Mangalore SEZ Limited
Address Survey No 168/3A Plot No U-1, Administrative Building, MSEZ, Bajpe Village, Mangalore
Sample Collected By OneEarth Enviro Labs Method OEL/SOP/W/046
Sampling Location Permude Surface Water
Sample Appearance Clear
Date of Sampling 22-08-2022 Analysis Start Date 22-08-2022
Date of Sample Receipt 22-08-2022 Analysis End Date 24-08-2022
Sampling Details Surface Water Sample for Micro Biological Analysis

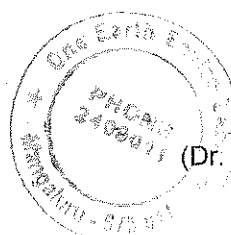
Parameter	Unit	IS 10500-2012 STD DL (MAX)	Results Code:AG2213	Protocol APHA 2017 23rd Edition
E-Coli MPN	MPN/100ml	A	A(<1.8)	9221-G
Total Coliforms MPN	MPN/100ml	A	A(<1.8)	9221-B
PL-Permissible Limit	Std-Standard	P-Present A-Absent	< 1.8: Shall be treated as - ve	

Opinion

As per Standards mentioned in the report. Report Status:- The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs

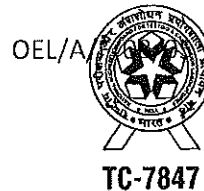


[Signature]
Authorized Signatory
(Dr. Sandesh K, Technical Manager)

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Report No: A/2022/AG12
Report Date: 17-08-2022

AMBIENT AIR QUALITY ANALYSIS REPORT

Name: M/s Mangalore SEZ Limited
Address: Sy.No 168/3A | Plot No U-1, Administrative Building, MSEZ, Bajpe Mangalore 574142
Sample Collected By: OneEarth Enviro Labs
Sampling Location: 12-WTP
Date of Sampling: 08-08-2022 Analysis Start Date: 10-08-2022
Date of Sample Receipt: 09-08-2022 Analysis End Date: 17-08-2022
Sampling Details: Ambient Air Quality Monitoring for 24 Hrs

Humidity % : 60.70 Temp °C : 29.00 Pressure mmHg : 757.19

Srl	Date and Time	08-08-2022 1200-1200	DLT	NAAQ	Protocol
	Parameters	Results ($\mu\text{g}/\text{m}^3$)		STD	
1	Particular Matter PM _{2.5}	10.29	2	60	IS 5182 : Part 24 RA:2019
2	Particular Matter PM ₁₀	62.08	5	100	IS 5182 : Part 23 RA:2017
3	Oxides of Sulphur SO ₂	BDL	4	80	IS 5182 : Part 2 RA:2017
4	Oxides of Nitrogen NO ₂	BDL	9.4	80	IS 5182 : Part 6 RA:2017
5	Ozone O ₃ (1 Hr)	41.59	2	180	IS 5182 : Part 9 RA:2019
6	Ammonia NH ₃ (1 Hr)	BDL	4	400	IS 5182 : Part 25 RA:2018
7	Lead Pb	BDL	0.01	1	IS 5182 : Part 22 RA:2019
8	Arsenic As (ng/m^3)	BDL	1	6	CPCB Guidelines - Using AAS
9	Nickel Ni (ng/m^3)	BDL	3	20	IS 5182 : Part 26 RA:2020
10	Benzene C ₆ H ₆	BDL	1	5	IS 5182 : Part 11 RA:2017
11	Benzo Pyrene C ₂₀ H ₁₂ (ng/m^3)	BDL	2	1	IS 5182 : Part 12 RA:2017
12	Carbon Monoxide CO (mg/m^3)	BDL	1.24	4	GAS Analyzer OEL/SOP/AAQ/A/10
13	Suspended Particulate Matter SPM	BDL	5	500	IS 5182 : Part 4 RA:2019

BDL-Below Detection Limit ND-Not Detectable DLT-Detectable Limit

NAAQ- National Ambient Air Quality

SPM if given contains only particulate matter size above 10 μm

STD=Standard $\mu\text{g}/\text{m}^3$ =Microgram per Meter Cube

Opinion	As per Standards mentioned in the report. Report Status: - The sample meets the requirement as per relevant standard w.r.t above tested parameters.
---------	--

*** End of the Report ***



For OneEarth Enviro Labs

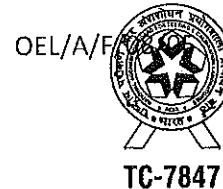
Authorised Signatory

(Murlidhar S M, Quality Manager)

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GSTIN: 29AACFO6684L1ZJ



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Report No: A/2022/AG13

Report Date: 17-08-2022

AMBIENT AIR QUALITY ANALYSIS REPORT

Name: M/s Mangalore SEZ Limited
Address: Sy.No 168/3A | Plot No U-1, Administrative Building, MSEZ, Bajpe Mangalore 574142
Sample Collected By: OneEarth Enviro Labs
Sampling Location: 13-CETP
Date of Sampling: 08-08-2022 Analysis Start Date: 10-08-2022
Date of Sample Receipt: 09-08-2022 Analysis End Date: 17-08-2022
Sampling Details: Ambient Air Quality Monitoring for 24 Hrs

Humidity % : 60.70 - Temp°C : 29.00 Pressure mmHg : 757.19

Srl	Date and Time	08-08-2022 1215-1215	DLT	NAAQ	Protocol
	Parameters	Results ($\mu\text{g}/\text{m}^3$)		STD	
1	Particular Matter PM _{2.5}	16.04	2	60	IS 5182 : Part 24 RA:2019
2	Particular Matter PM ₁₀	48.28	5	100	IS 5182 : Part 23 RA:2017
3	Oxides of Sulphur SO ₂	BDL	4	80	IS 5182 : Part 2 RA:2017
4	Oxides of Nitrogen NO ₂	BDL	9.4	80	IS 5182 : Part 6 RA:2017
5	Ozone O ₃ (1 Hr)	42.91	2	180	IS 5182 : Part 9 RA:2019
6	Ammonia NH ₃ (1 Hr)	BDL	4	400	IS 5182 : Part 25 RA:2018
7	Lead Pb	BDL	0.01	1	IS 5182 : Part 22 RA:2019
8	Arsenic As (ng/m^3)	BDL	1	6	CPCB Guidelines - Using AAS
9	Nickel Ni (ng/m^3)	BDL	3	20	IS 5182 : Part 26 RA:2020
10	Benzene C ₆ H ₆	BDL	1	5	IS 5182 : Part 11 RA:2017
11	Benzo Pyrene C ₂₀ H ₁₂ (ng/m^3)	BDL	2	1	IS 5182 : Part 12 RA:2017
12	Carbon Monoxide CO (mg/m^3)	BDL	1.24	4	GAS Analyzer OEL/SOP/AAQ/A/10
13	Suspended Particulate Matter SPM	BDL	5	500	IS 5182 : Part 4 RA:2019

BDL-Below Detection Limit ND-Not Detectable DLT-Detectable Limit

NAAQ- National Ambient Air Quality

SPM if given contains only particulate matter size above 10 μm

STD=Standard $\mu\text{g}/\text{m}^3$ =Microgram per Meter Cube

Opinion	As per Standards mentioned in the report. Report Status: - The sample meets the requirement as per relevant standard w.r.t above tested parameters.
---------	--

*** End of the Report ***



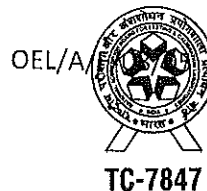
For OneEarth Enviro Labs

Authorised Signatory
(Murlidhar S M, Quality Manager)

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Report No: A/2022/AG16

Report Date: 17-08-2022

AMBIENT AIR QUALITY ANALYSIS REPORT

Name: M/s Mangalore SEZ Limited
Address: Sy.No 168/3A | Plot No U-1, Administrative Building, MSEZ, Bajpe Mangalore 574142
Sample Collected By: OneEarth Enviro Labs
Sampling Location: 16-WTP
Date of Sampling: 09-08-2022 Analysis Start Date: 11-08-2022
Date of Sample Receipt: 10-08-2022 Analysis End Date: 17-08-2022
Sampling Details: Ambient Air Quality Monitoring for 24 Hrs

Humidity % : 65.70 Temp °C : 29.00 Pressure mmHg : 751.94

Srl	Date and Time	09-08-2022-0945-0945	DLT	NAAQ	Protocol
	Parameters	Results ($\mu\text{g}/\text{m}^3$)		STD	
1	Particular Matter PM _{2.5}	24.08	2	60	IS 5182 : Part 24 RA:2019
2	Particular Matter PM ₁₀	38.34	5	100	IS 5182 : Part 23 RA:2017
3	Oxides of Sulphur SO ₂	BDL	4	80	IS 5182 : Part 2 RA:2017
4	Oxides of Nitrogen NO ₂	BDL	9.4	80	IS 5182 : Part 6 RA:2017
5	Ozone O ₃ (1 Hr)	41.85	2	180	IS 5182 : Part 9 RA:2019
6	Ammonia NH ₃ (1 Hr)	BDL	4	400	IS 5182 : Part 25 RA:2018
7	Lead Pb	BDL	0.01	1	IS 5182 : Part 22 RA:2019
8	Arsenic As (ng/m^3)	BDL	1	6	CPCB Guidelines - Using AAS
9	Nickel Ni (ng/m^3)	BDL	3	20	IS 5182 : Part 26 RA:2020
10	Benzene C ₆ H ₆	BDL	1	5	IS 5182 : Part 11 RA:2017
11	Benzo Pyrene C ₂₀ H ₁₂ (ng/m^3)	BDL	2	1	IS 5182 : Part 12 RA:2017
12	Carbon Monoxide CO (mg/m^3)	1.24	1.24	4	GAS Analyzer OEL/SOP/AAQ/A/10
13	Suspended Particulate Matter SPM	BDL	5	500	IS 5182 : Part 4 RA:2019

BDL-Below Detection Limit ND-Not Detectable DLT-Detectable Limit

NAAQ- National Ambient Air Quality

SPM if given contains only particulate matter size above 10 μm

STD=Standard $\mu\text{g}/\text{m}^3$ =Microgram per Meter Cube

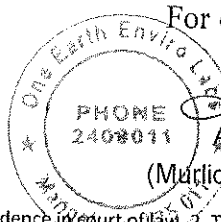
Opinion

As per Standards mentioned in the report.

Report Status: - The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***

For OneEarth Enviro Labs



Authorised Signatory

(Murlihar S M, Quality Manager)

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OneEarth Enviro Labs

1st Floor, KIA Building, Industrial Area Road, Baikampady,
Mangaluru - 575 011. Ph: 0824-240 9011 Mob: +91 87625 39077
Email: oneearthenviro@gmail.com Website: oneearthenvirolabs.com
GSTIN: 29AACFO6684L1ZJ

OEL/A/F



TC-7847

ISO 9001:2015 | ISO 45001:2018 Certified | MOEF & CC RECOGNISED | ISO/IEC 17025 ACCREDITED BY NABL CERTI. NO. TC-7847
Report No: A/2022/AG17

Report Date: 17-08-2022

AMBIENT AIR QUALITY ANALYSIS REPORT

Name: M/s Mangalore SEZ Limited
Address: Sy.No 168/3A | Plot No U-1, Administrative Building, MSEZ, Bajpe Mangalore 574142
Sample Collected By: OneEarth Enviro Labs
Sampling Location: 17-CETP
Date of Sampling: 09-08-2022 Analysis Start Date: 11-08-2022
Date of Sample Receipt: 10-08-2022 Analysis End Date: 17-08-2022
Sampling Details: Ambient Air Quality Monitoring for 24 Hrs

Humidity % : 65.70 Temp °C : 29.00 Pressure mmHg : 751.94

Srl	Date and Time	09-08-2022 1100-1100	DLT	NAAQ	Protocol
	Parameters	Results ($\mu\text{g}/\text{m}^3$)		STD	
1	Particular Matter PM _{2.5}	10.16	2	60	IS 5182 : Part 24 RA:2019
2	Particular Matter PM ₁₀	51.84	5	100	IS 5182 : Part 23 RA:2017
3	Oxides of Sulphur SO ₂	BDL	4	80	IS 5182 : Part 2 RA:2017
4	Oxides of Nitrogen NO ₂	BDL	9.4	80	IS 5182 : Part 6 RA:2017
5	Ozone O ₃ (1 Hr)	40.01	2	180	IS 5182 : Part 9 RA:2019
6	Ammonia NH ₃ (1 Hr)	8.53	4	400	IS 5182 : Part 25 RA:2018
7	Lead Pb	BDL	0.01	1	IS 5182 : Part 22 RA:2019
8	Arsenic As (ng/m^3)	BDL	1	6	CPCB Guidelines - Using AAS
9	Nickel Ni (ng/m^3)	BDL	3	20	IS 5182 : Part 26 RA:2020
10	Benzene C ₆ H ₆	BDL	1	5	IS 5182 : Part 11 RA:2017
11	Benzo Pyrene C ₂₀ H ₁₂ (ng/m^3)	BDL	2	1	IS 5182 : Part 12 RA:2017
12	Carbon Monoxide CO (mg/m^3)	1.24	1.24	4	GAS Analyzer OEL/SOP/AAQ/A/10
13	Suspended Particulate Matter SPM	BDL	5	500	IS 5182 : Part 4 RA:2019

BDL-Below Detection Limit ND-Not Detectable DLT-Detectable Limit

NAAQ- National Ambient Air Quality

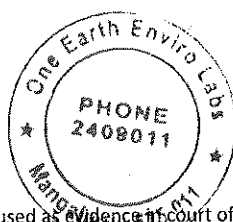
SPM if given contains only particulate matter size above 10 μm

STD=Standard $\mu\text{g}/\text{m}^3$ =Microgram per Meter Cube

Opinion	As per Standards mentioned in the report. Report Status: - The sample meets the requirement as per relevant standard w.r.t above tested parameters.
---------	--

*** End of the Report ***

For OneEarth Enviro Labs



[Signature]
Authorised Signatory

(Murlidhar S M, Quality Manager)

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TC-7847

ISO 9001:2015 | ISO 45001:2018 Certified | MOEF & CC RECOGNISED | ISO/IEC 17025 ACCREDITED BY NABL CERTI. NO. TC-7847

Report No: A/2022/AG18

Report Date: 17-08-2022

AMBIENT AIR QUALITY ANALYSIS REPORT

Name: M/s Mangalore SEZ Limited
Address: Sy.No 168/3A | Plot No U-1, Administrative Building, MSEZ, Bajpe Mangalore 574142
Sample Collected By: OneEarth Enviro Labs
Sampling Location: 18-Permude Church
Date of Sampling: 09-08-2022 Analysis Start Date: 11-08-2022
Date of Sample Receipt: 10-08-2022 Analysis End Date: 17-08-2022
Sampling Details: Ambient Air Quality Monitoring for 24 Hrs

Humidity % : 65.70 Temp °C : 29.00 Pressure mmHg 751.94

Srl	Date and Time	09-08-2022 1440-1440	DLT	NAAQ	Protocol
	Parameters	Results ($\mu\text{g}/\text{m}^3$)		STD	
1	Particular Matter PM _{2.5}	17.83	2	60	IS 5182 : Part 24 RA:2019
2	Particular Matter PM ₁₀	39.63	5	100	IS 5182 : Part 23 RA:2017
3	Oxides of Sulphur SO ₂	BDL	4	80	IS 5182 : Part 2 RA:2017
4	Oxides of Nitrogen NO ₂	BDL	9.4	80	IS 5182 : Part 6 RA:2017
5	Ozone O ₃ (1 Hr)	40.27	2	180	IS 5182 : Part 9 RA:2019
6	Ammonia NH ₃ (1 Hr)	BDL	4	400	IS 5182 : Part 25 RA:2018
7	Lead Pb	BDL	0.01	1	IS 5182 : Part 22 RA:2019
8	Arsenic As (ng/m^3)	BDL	1	6	CPCB Guidelines - Using AAS
9	Nickel Ni (ng/m^3)	BDL	3	20	IS 5182 : Part 26 RA:2020
10	Benzene C ₆ H ₆	BDL	1	5	IS 5182 : Part 11 RA:2017
11	Benzo Pyrene C ₂₀ H ₁₂ (ng/m^3)	BDL	2	1	IS 5182 : Part 12 RA:2017
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BDL-Below Detection Limit ND-Not Detectable DLT-Detectable Limit

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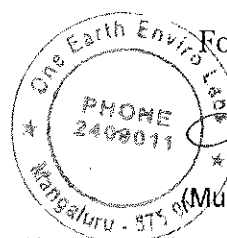
SPM if given contains only particulate matter size above 10 μm

STD=Standard $\mu\text{g}/\text{m}^3$ =Microgram per Meter Cube

Opinion

As per Standards mentioned in the report.
Report Status: - The sample meets the requirement as per relevant standard w.r.t above tested parameters.

*** End of the Report ***



For OneEarth Enviro Labs

Authorised Signatory

(Murlidhar S M, Quality Manager)

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मंगलूर रिफाइनरी एण्ड पेट्रोकेमिकल्स लिमिटेड
MANGALORE REFINERY AND PETROCHEMICALS LIMITED

अनुसूची 'अ' के अंतर्गत भारत सरकार का उद्यम, SCHEDULE 'A' GOVT. OF INDIA ENTERPRISE.

(ऑयल एण्ड नेचुरल गैस कॉर्पोरेशन लिमिटेड की सहायक कंपनी, A SUBSIDIARY OF OIL AND NATURAL GAS CORPORATION LIMITED)

आई.एस.ओ. 9001, 14001 एवं 50001 प्रमाणित कंपनी, AN ISO 9001, 14001 AND 50001 CERTIFIED COMPANY.

सीआईएन/CIN : L23209KA1988GOI008959 / वेबसाइट Website : www.mrpl.co.in

L/MS/ARC/MSEZ/7054

15th December, 2022

To,

The Head - Technical
MSEZL, Mangalore

Dear Sir,

Mangalore SEZ Ltd. - 4331
Documents & Contents subject to verification
Received date: 22.12.2022
Received by: V. Shetty

विषय Sub: Submission of Half Yearly Compliance Reports of Aromatic Complex of MRPL under Environmental Clearance for Phase-I, MSEZ project, (Including Aromatic Complex) for the period from April, 2022 to September, 2022

With reference to the above, please find enclosed herewith, Half Yearly Compliance Reports of OMPL, for compilation at your end and submission to the concerned Authority under intimation to our office.

धन्यवाद Thanking You,

M. S. Sudarsan
Chief General Manager (HSE)

Encl : as above

Compliance to Environmental Clearance

Issued by MoEF vide letter No. 21-383/2007-IA-III dated 3rd April, 2008

Sl. No.	Consent Condition	Compliance
I	The Mangalore Special Economic Zone (MSEZ) Phase-I involves a) MRPL Phase -III Refinery b) Aromatic Complex and c) Olefin Complex are proposed to be developed by the anchor promoter of MSEZ i.e M/s ONGC-MRPL in the already acquired land of about 1800 acres. The proposed MSEZ is planned adjacent to the existing MRPL refinery complex on north & eastern sides and proposed to connect NMPT with a dedicated 70/100 meter wide road-cum-pipeline (total approx. 15 km long) corridor for movement of cargo, crude and products between New Mangalore Port and MSEZ. The proposed layout has one main entry from the proposed Mangalore MSEZ corridor connected to the existing New Mangalore Port & National Highway (NH-17). The primary, Secondary and Tertiary roads are planned to give access to the industries falling in the MSEZ Phase -I. Industrial Zones for locating the olefin complex, aromatic complex, D/S Petrochemicals, ISPRCL underground crude oil storage and land for MRPL Phase-III Refinery are effectively placed in the central and southwest part of the proposed MSEZ premises. Further, the SEZ will have necessary road alignment between NMPT, SEZ and network of roads within, including service roads for inspection of pipelines on elevated corridors. The pipelines shall be built at elevated corridor locations. Pipelines will be laid on sleepers and pipe racks with sufficient ground clearance. The preferred corridor alignment avoids Coastal Regulation Zone -I & II portion along the Gurupur River and it will have elevated roadway over structures (railways / minor bridges) and reinforced earth walls. However the corridor passes over CRZ-III zone along the banks of the Kudumbur rivulet (South of ELF gas) in the form of a bridge. The proposed industrial units in MSEZ phase -I includes: MRPL Phase-III refinery, aromatic Complex & Olefin Complex \	info.
II	To meet the objective of producing paraxylene, aromatic complex has been considered. To maximize paraxylene, broad cut heavy naptha streams are selected as feedstock to NHT/ CCR. Aromatics precursors to new reformer include constituents that produce toluene, C8-aromatics mix & C9+ aromatics. Whereas a xylene isomerization unit has been considered to convert other C8 - aromatics into paraxylene, a transalkylation & disproportionation (TADP) unit has also been included to convert toluene & C9+ aromatics into C8-aromatics mix. simulated moving bed adsorption for paraxylene recovery (PAREX) has been incorporated.	info.
1	NHT/ CCR : 0.95 MMTPA	Complied. The main Product slate, Paraxylene is within Regulatory Body approved capacity of 0.9 MMTPA
2	Isomerization Unit (ISOMER) : 3.16 MMTPA	
3	Transalkylation & Disproportionation Unit (TADP) :1.71 MMTPA	
4	Paraxylene Recovery (PXREC) :4.07 MMTPA	
5	Xylene Fractionation Unit : 4.64 MMTPA	
6	Aromatics Extraction Unit : 0.79 MMTPA	
7	Benzene Toluene Fractionation Unit : 2.2 MMTPA	
8	Captive Power Plant (CPP) : 60 MW	Please note that normal requirement will be in the range of 40- 50 MW, but Gas Turbine is more prone to Maintenance requirements & hence to ensure continuous supply of power to Process Plant, installed capacity is 72 MW .
3. A Specific Conditions:-		
1	No objection Certificate from the Karnataka State Pollution Control Board shall be obtained before initiating the project	MSEZ obtained Consent for Establishment (CFE) from the Karnataka State Pollution Control Board (KSPCB) letter No. CFE-CELL/MSEZ/EIA-574/08/20 dated 30th April, 2008. Aromatics Complex of MRPL on its part obtained CFE from the KSPCB, vide letter No. PCB/559/CFE/08/252 dated 12th August, 2008 & Extension of validity of CFE obtained vide letter No. PCB/HPI/245/2013-14/1002 dated 5th October, 2013 upto 10.8.2014 from KSPCB, Bangalore
2	The MSEZ project shall be restricted to the Phase -I of the project, proposed over 1,800 acres. The phase-II of the project shall be considered by Ministry of Environment & Forests only after receipt of all requisite documents\ information as laid down in the Environment Impact Assessment Notification, 2006 and Coastal Regulation Zone Notification, 1991 as applicable	NA
3	All development in the Coastal Regulation Zone area shall be in accordance with coastal regulation zone notification, 1991. No destruction of mangroves shall be undertaken except while undertaking the permissible activities in the coastal regulation zone-I areas	NA
4	The project proponent shall not take up any activity in 875 acres of coastal regulation zone land, other than those permissible under the coastal regulation zone notification 1991 such as pipeline corridors, pipelines roads on stilts	NA
5	With regard to the containing the suspected contamination of the groundwater near Athurkodi area of Kuthethoor village, MRPL has given an undertaking vide letter dated 19.3.2008 which is as follows:-	NA

6	The project proponent shall obtain a report from the wildlife department with regard to existence of wildlife in the proposed site as claimed by the public before implementing the project	Please note report from Wildlife Department was submitted to the MoEF by MSEZ
7	The R & R package shall be strictly in accordance with the laid down norms of the state Government	NA. However, Aromatic Complex of MRPL has recruited around 302 displaced people and provided employment, till date (30.09.2022)
8	A marine Environment Impact Assessment and Risk Assessment along with the Disaster Management Plan shall be prepared for the outfall facilities proposed in the Coastal Regulation Zone and the marine areas	NA
9	Project proponent shall put up a dedicated website and a display panel to inform the public regarding the Ambient Air Quality along with SO ₂ , Nox and other parameters as prescribed by central Pollution Control Board (CPCB)	Aromatic Complex has installed a display panel at the entrance of Main Gate for public information
10	The gaseous emissions (SO ₂ , Nox, HC, VOC and Benzene) from various process units shall conform to the standards prescribed by the concerned State Pollution Control Board. All the measures detailed in the EMP and response to the Public Hearing shall be taken to control the point stack and fugitive gaseous emissions from the proposed facilities, processes and storage units etc, for ensuring that the ambient air quality around the Refinery due to the expansion is maintained at the predicted 24 hourly average maximum concentration	Please note online Monitoring Instruments of relevant parameters are installed for stacks and the readings are made available at DCS, for continuous monitoring, further uplinked to CPCB server. Corrective action will be taken for any deviation. Plant is run as per Standard Operating Process (SOP), considering Standards prescribed by the Regulatory Body. Online detectors are installed for HC, benzene, and to take up 'Containment work' and 'Repair work' on detection of leak, on priority basis.
11	The emission levels of the other pollutants shall also remain within the permissible levels	Please note apart from the relevant parameters as from Sl. No. '10', online instruments such as for CO & PM are also installed to stacks, so as to ensure pollutants are within the permissible limits
12	The industrial units in the SEZ and the associated facilities shall be strictly in accordance with the norms laid down by the Karnataka State Government and CPCB	Agreed
13	The project proponent shall ensure that the greenery of the area is maintained. Further, 33 % of the project area shall be dedicated for green belt development of which atleast 5 % shall be for mangrove afforestation. The local Forest Department shall be associated for this purpose and requisite budget earmarked	Complied. Karnataka Forest Dept., GOK executed Green Belt Development (GBD) program at Aromatic Complex, with WO value of RS 1.2 Crore. Development & Maintenance phase of GBD for 4 years upto 2020, completed. Around 13,050 plants were planted by Karnataka Forest Department to make upto 33%. Watering mechanism was through Drip Irrigation. The species selected for Green Belt are having good amount of 'Crown Width' as recommended in EIA report by NEERI, that was subsequently approved by MoEF while giving Environment Clearance
14	The project proponent shall ensure that the water requirement of the Mangalore city does not get affected due to the SEZ operation. Adequate provision shall be made in the reservoirs to provide for the water requirement of the cities	Please note, Aromatic Complex, on its part has taken up following measures to conserve water. 1. Ultra Filter- Reverse Osmosis plant is specifically incorporated to recycle treated water. 2. Cooling Tower system is designed to use STP water, as make up from MSEZ, apart from the river water. 3. Chemical Treatment Program with Modern Technology has been institutionalised to save water in Cooling Tower Plant. 4. Condensate Recovery unit is being installed to conserve water and resources such as chemicals. 5. Aromatic Complex has under taken rain water harvesting measures for its buildings. The current ~ Average water consumption is 184 m ³ /hr as against design of 571 m ³ /hr. To further improve efficiency on water management, Tender has been floated tender to hire agency for conducting Water Audit at Aromatic Complex
15	The project proponent shall ensure that during construction and operation of the project the traffic in the city is not affected	Please note Aromatic Complex site is at a distance of ~ 15 KM from the Highway. Hence inconvenience to traffic movement in the city doesn't arise

16	All precautions of the highest standards shall be incorporated in the design of the project to ensure that there is no chance of emission/ leakage of hazardous chemicals including Benzene. Detailed monitoring programme shall be designed and the information provided to the public through display and dedicated website by means of online monitoring	Please note following measures are taken to have a check on Emission/ leakage as, * All heaters are installed with LOW NOx Burners *Heaters stacks are fitted with following Online analyzers Carbon monoxide. Sulphur Dioxide Nitrogen Oxides Suspended Particulate matters (SPM) *Benzene Tanks – Internal Floating Roof Tank with Nitrogen Blanket *Paraffinic Raffinate (Volatile material) designed with Vapor recovery unit to recover vapor *Dispersion Model Analysis was done by Bell Energy India and following Online detectors are installed Benzene Detectors 27 H2S Detector 21 Hydrocarbon Detectors 193 Hydrogen Detectors 68 Fire Detectors (In case of Fire) 26 *Sample Points are closed system to stop local venting and draining *Hydrocarbons drains are connected to closed Blow down system to recover hydrocarbon. * Aromatic Complex has installed a display panel at the entrance of Main Gate for public information
17	Low sulphur internal fuel oil and fuel gas shall be fired in process heaters and boilers	Aromatic Complex is utilizing Low Sulphur content fuels such as LSHS, HSD & FG fuels. Please note 'SO2' emission from EIA report for the project is estimated as 13.68 TPD. However, Avg SOx emission is 1.18 MT/Day
18	Quarterly monitoring of fugitive emissions shall be carried out by Fugitive Emission Detectors (GMI) leak Surveyor. Guidelines of CPCB will be followed for monitoring fugitive emissions. For control of fugitive emissions, all unsaturated hydrocarbons shall be routed to the flare system. The flare system shall be designed for smokeless burning. Flare gas recovery system shall be installed for reduction of Hydrocarbon loss and emission of VOCs, NOx, N2O, SOx & CO2 to the environment	Please note Quarterly monitoring of fugitive emissions is carried out through NABL MoEFCC accredited M/s Hubert Enviro Care Limited, Bykampady. Based on, Dispersion Model Analysis by Bell Energy India, following Online detectors are installed Benzene Detectors 27 Hydrocarbon Detectors 193 *Flare system is designed for smokeless burning by M/s AirOil
19	Regular Ambient Air Quality Monitoring shall be carried out. The Location and results of existing monitoring stations shall be reviewed in consultation with the concerned State Pollution Control Board based on the occurrence of maximum ground level concentration and downwind direction of wind. Additional stations shall be set up, if required. It shall be ensured that at least one monitoring station is set up in up-wind & in Down - wind direction along with those in other directions	AAQM monitoring is carried out as per NAAQM rules, 2009 at 5 locations (since Jan, 2015), at a frequency of weekly twice per location, all the year round and Monitoring is done for all parameters as per the rules, as suggested by KSPCB & Monthly Reports are submitted to KSPCB. The values are found to be within the NAAQM Norms.
20	on-line data for air emissions shall be transferred to the CPCB and SPCB regularly. The instruments used for ambient air quality monitoring shall be calibrated regularly. The monitoring protocol shall ensure continuous monitoring of all the parameters	Online monitoring Devices have been installed to measure Heater Stack emissions to all 10 number of stacks & are uplinked to CPCB server since April, 2016
21	The practise of acoustic plant design shall be adopted to limit noise exposure for personnel to an 8 hour time weighted average of 90 db(A)	Please note at the design stage itself, identified the sources of possible noise & Attenuation measures had been taken up. <u>Attenuation measures:</u> It is ensured at design stage that Noise level at a distance of 1 mt from the equipment such as turbines, compressors are < 90 db (A) & at plant boundry, it is less than 75 dB in daytime & 70 dB in night time as per the Legal requirement.
22	All the pumps and other equipments, where there is a likihood of HC leakages, shall be provided with appropriate indicators and detectors. Provision for immediate isolation of such equipment, in case of a leakage shall also be made. The company shall adopt leak detection and repair (LDAR) programme for quantification and control of fugitive emissions	Please note Aromatic Complex, as a first step in leak prevention, hired Bell Energy India, who carried out Dispersion Model Analysis and recommended following Online detectors which are installed at site such as, Benzene Detectors - 27 nos Hydrocarbon Detectors - 193 nos . Incase of leak, the first step is to contain and then arrest the leak. Please note Quarterly monitoring of fugitive emissions are being carried out by M/s Hubert Enviro Care Ltd, Bykampady
23	The product loading gantry shall be connected to the product sphere in closed circuit through the vapor arm connected to the tanker. Data on fugitive emissions shall be regularly monitored and records shall be maintained	NA

24	The company shall ensure that no halogenated organic is sent to the flares. If any of the halogenated organic are present, then the respective streams may be incinerated, if there are no technically feasible or economically viable reduction / recovery options. Any stream containing organic carbon, other than halogenated shall be connected to proper flaring system, if not to a recovery device or an incinerator	Halogenated organic is used only for chloride dispersion on platinum catalyst and consumed. Halogenated compound is not sent to Flare Stack Chimney. Used catalyst will be disposed to KSPCB authorised recyclers
25	The new standards/ norms that are being proposed by the CPCB for Petrochemical Plants and Refineries shall be applicable for the proposed expansion unit. The company shall conform to the process vent standards for organic chemicals including non-VOCs and all possible VOCs i.e TOCs standards and process vent standards for top priority chemicals. Regular monitoring will be carried out for VOC and HC and on line monitors for VOC measurements may be installed	The new standards/ norms proposed by the CPCB for Petrochemical Plants are complied. 1. Online Monitoring system is provided to heater stacks for continuous monitoring 2. Online Detectors of HC, Benzene are installed, to check any fugitive emissions . 3.The process vents are connected to flares through safety pop-up valves. 4.HC sampling points are closed loop systems. 5.Storage of HC is in Floating roof tanks (as applicable) with double mechanical seals and Nitrogen blanketing
26	Regular monitoring of relevant parameters for the under ground water in the surrounding areas shall be undertaken and the results shall be submitted to the relevant States Pollution Control Board	Please note Regular monitoring of groundwater is carried out at four locations surrounding the plant as advised by KSPCB & the reports are submitted to KSPCB. The frequency of sampling is once in a month, all the year round, at a location & compared with IS Standards. The values are found to be within the Standards.
27	Solid Waste generated as pretreater and Reformer catalysts, Sulphur guard absorbent and alumina Balls shall be disposed off as per the authorization from the State Pollution Control Board	Please note Waste handling system with Temporary Waste Storage facility of about ~ 2000 m2 area with impervious surface, closed shed and spillage collection (for any washings) & transfer (to ETP) system has been constructed. Recyclable Wastes generated from the process units are disposed to Recyclers authorized by SPCB. Non recyclable wastes are disposed to Co-processing cement Industries authorized by KSPCB.
28	Oily sludge shall be sent to melting pit treatment for recovery of oil. The recovered oil shall be recycled into the refinery system. The residual sludge will be stored in HDPE lined pit for disposal after treatment. The sludge shall be incinerated in the premises only	No oily sludge is handled in Aromatic Complex
29	The company shall strictly follow all the recommendations mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP)	Please refer compliance details for CREP enclosed herewith (ref.: Annexure- 1)
30	The company shall harvest surface as well as rainwater from the rooftops of the buildings proposed in the expansion project and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water	Rain water harvesting system is implemented for rooftop buildings. During initial project stage, all surface rain water was collected into open wells and the same was utilised for construction purpose
31	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act	Complied and is ongoing process
32	The company shall implement all the recommendations made in the Environmental Impact Assessment / EMP report and risk assessment report	Complied
33	The company will undertake all relevant measures, as indicated during the Public Hearing for improving the socio-economic conditions of the surrounding area	Complied
34	With regard to R & R colony the project proponent shall obtain all requisite clearances as prescribed by the concerned agencies	NA
B General Conditions :		
1	The project authorities shall strictly adhere to the stipulations made by the concerned State Pollution Control Board (SPCB) and the State Government	KSPCB stipulations adhered to while executing the project
2	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests	Agreed
3	At no time, the emissions shall be allowed to go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved	Agreed
4	Adequate number of influent and effluent quality monitoring stations shall be set up in consultation with the SPCB. Regular monitoring shall be carried out for relevant parameters for both surface and ground water	Influent parameters & Effluent parameters are monitored through online instruments installed at inlet & outlet of ETP. At the outlet, Flow Rate, pH, TSS; COD & BOD measuring instruments are installed. Surface & Ground water are being monitored once in a month, as advised by KSPCB.

5	Industrial Waste water shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose	Industrial Waste Water is collected in Slop Tank and then initially treated in EPTP plant to bring down Aromatics to < 20 ppm & Benzene to < 10 ppm, through Steam Stripping & Adsorption methodology. It is then treated in ETP comprising of Physical, Chemical, Biological & Tertiary Treatment Section. Treated water is recycled to cooling tower to the max. extent & the remaining, after ensuring Conformance to MINAS standards, disposed to sea through MSEZ CETP collection & Disposal system
6	The overall noise levels in and around the plant area shall be limited within the prescribed standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA rules, 1989 viz. 75 dBA (Day time) and 70 dBA (night time)	Sources: Pumps, Compressors & Turbines. Attenuation measures: It is ensured at design stage that Noise level at a distance of 1 mt from the equipment is < 90 db (A) by providing acoustic hoods, silencers, enclosures etc. as appropriate & at plant boundry Noise Level is less than 75 dB in daytime & 70 dB in night time as per the Legal requirement
7	The project authorities shall strictly comply with the provisions made in manufacture, storage and import of Hazardous chemicals rules 1989 as amended in 2000 for handling of hazardous chemicals etc.. Necessary approvals from Chief Controller of Explosives must be obtained before commission of the expansion project. Requisite On-site and Off - site Disaster Management Plans will be prepared and implemented	Please note that necessary license/ clearance from statutory agencies have been taken such as Approval from Petroleum and Explosives Safety Organization, dated 16th June 2011, Clearance from Department of Factories of Karnataka, dated 19th June 2010. Requisite On-site and Off - site Disaster Management Plans are adhered to as per Factories Act
8	Authorization from the State Pollution Control Board must be obtained for collections/ treatment/ storage/ disposal of Hazardous wastes	Please note Aromatic Complex has applied for renewal of 'Authorization under Handling Hazardous & other wastes' for 5 years on 28th October, 2021. Inspection by KSPCB completed & Renewal awaited from KSPCB, HO
9	The project authorities shall provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes	Agreed. Further the Amount Budgeted/ spent on Environment Management requirement is approximately RS 1.31 Crores in the year 2022-2023
10	The stipulated conditions shall be monitored by the concerned Regional office of this Ministry / Central Pollution Control Board / State Pollution Control Board. A six monthly compliance report and the monitored data shall be submitted to them regularly. It shall also be displayed on the website of the company	Please note biannually compliance report is submitted on regular basis through MSEZ
11	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at website of the MoEF at http://www.envfor.nic.in . This should be advertised within seven days from the date of issue of clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the concerned Regional office of this Ministry	Please note, the same was ensured by MSEZ
12	The date of Financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work as well as the commissioning of the project shall be informed to the Ministry and its Regional Office	NA
13	Proper House keeping and adequate occupational health programmes shall be taken up. Regular Occupational Health Surveillance Programme for the relevant diseases shall be carried out and the records shall be maintained properly for atleast 30-40 years. Sufficient preventive measures shall be adopted to avoid direct exposure to emission and other hydrocarbons etc..	Agreed
14	A separate environment management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of a Senior Executive	Complied
15	The Ministry may revoke or suspend the clearance, if implementation of any of the above condition is not satisfactory	info.
16	The Ministry reserves the right to stipulate additional conditions if found necessary. The company shall implement these conditions in a time bound manner	info.
17	The above conditions will be enforced, inter - alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air Act, 1981, The Environment Act, 1986, The Public Liability Insurance Act, 1991, Hazardous Waste Rules 1989 and Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 along with their Amendments and Rules	info.

Compliance to Charter on Corporate Responsibility for Environmental Protection (CREP)

Sl. No.	Conditions	Compliance
1	<p>Adoption of state-of- art technology</p> <p>State of Art technology will be adopted for both process technology as well sound engineering practices required for control of emission, at the stage of design itself in case of new plants</p>	<p>Please note Process technology is licensed from renowned expert in the field: UOP, America for NHT platforming units, High severity Cyclemax CCR unit for catalyst regeneration, Energy efficient column design for Xylene & BTX units, ISOMER & TADP units for getting high yield of paraxylene per unit of Naptha processed & an efficient, selective PAREX process for paraxylene recovery to get high purity product are considered in the design stage. Also Low NOx burner design for heaters, Low sulphur fuel including provision for usage of Natural Gas are considered.</p>
2	<p>Management of storm water</p> <p>For the storm water generated from process area and tank farm area during initial hours of rain. An arrangement will be made for collection and oil separation including further treatment as required. Such arrangement will include provision for buffer tank (holding tank) and monitoring of effluent quality. This will be accomplished by June 2003.</p>	<p>Please note Aromatic Complex has commissioned 2 numbers of collection tanks: one at ISBL area with capacity of 12,000 m3 & the other at OSBL area with 6000 m3 capacity for collection of initial hours of rain from process area & tank farm area respectively. This is then treated in ETP with an treatment capacity of 150 m3/ hr. The treatment section includes Physical treatment, chemical, Biological & Tertiary treatment sections</p>
3	<p>Effective detoxification and waste water treatment scheme</p> <p>In order to control high COD and persistent organic pollution including toxic constituents, the industry will select appropriate unit operations for pre-treatment of effluent within inside battery limit (ISBL) before sending to the biological treatment system(BTS) for better functioning of ETPs. Action plan for the same will be submitted within 6 months and implemented within one year (March,2004)</p>	<p>Aromatic Complex has installed Effluent Pre-Treatment Plant at a cost of RS 11.39 crores. The units consists of Distillation column & carbon adsorption beds to remove CODs, so that effluent entering BTS will be having Max. upto 20 ppm of aromatics</p>
4	<p>Control of emission from combustion</p> <p>The industry will submit an action plan within six months for improving thermal efficiency and control of Nox</p>	<p>Aromatic Complex has installed Low Nox burners for its heaters & flue gas is let out just above dew point after heating the incoming fuel, air or Steam production in HRSG as the case may be, for improving thermal efficiency</p>
5	<p>Proper functioning of point source emission control systems</p> <p>The industry will make efforts for proper operation of pollution control system (mostly scrubbers) and attainment of desired efficiency within six months. The will include backup of power supply to the control equipment and arrangement for frequent sampling and analysis of all critical pollution in the tail gases</p>	<p>NA</p>
6	<p>Leak detection and repair (LDAR) programme</p> <p>As a good operating, the industry will adopt periodically leak detection and repair (LDAR) programme to check fugitive emissions within six months. The frequency of the programme will be proportionate to the risk potential of carrying fluid. Based on leak detection as per LDAR programme, action will be taken to eliminate fugitive emissions, this will be a continuous activity.</p>	<p>LDAR program is ongoing process since July, 2016. Please note Aromatic Complex as first step in leak prevention, hired Bell Energy India, who carried out Dispersion Model Analysis and recommended following Online detectors which are already installed at site such as, Benzene Detectors 27 nos, Hydrocarbon Detectors 193 nos</p>
7	<p>Handling of halogenated organics</p> <p>The industry will submit an action plan within 6 months to ensure that no halogenated organics is sent to the flares in order to avoid formation of persistent organic pollutants. All HAPs had halogenated organics will be routed to the incineration system having end-on pollution control facility.</p>	<p>Halogenated organic is used only for chloride dispersion on platinum catalyst and consumed. Used catalyst will be disposed to KSPCB authorised recyclers</p>
8	<p>Control of fugitive emissions of carcinogenic compounds</p> <p>Fugitive emission of carcinogenic compounds (e.g Benzene) will be controlled by closed vapor collection and recovery system. Measures will be taken to monitor health of the workers</p>	<p>Please note double mechanical seal is provided for the purpose & periodical health check up is being carried out as per the legal requirement through Occupational Health Centre, stagewise</p>

9	Management of solid waste Proper facilities will be provided for handling and storage of hazardous waste with manifest system in case transported to other places. For incinerable waste, properly designed incinerator will be installed within the premises or as a common facility. The non-incinerable hazardous waste should be disposed of in a secure-land fill.	Aromatic Complex has installed Waste Management storage facility at an estimated cost of RS 3.73 crore for handling and storage of hazardous waste until disposal & manifest system will be followed during disposal of Hazardous Wastes. Temporary Waste Storage facility is constructed of about ~ 2000 m2 area with impervious surface, closed shed and spillage collection (for any washings) & transfer (to ETP) system
10	Proper operation of incinerator Industry will check the design and will adopt sound engineering practices for proper operation of incinerators. Continuous monitoring will be done for operational parameters and specific parameters in tail gas to ensure the efficient functioning. This will be implemented within 3 months.	NA
11	Optimising the inventory of hazardous chemicals Efforts will be made to optimize the inventory, particularly of hazardous chemicals. Such information will be made available to the Regulatory Agencies (SBCBs) Inspector of Factory & District Collector	Agreed. Further Petroleum & Explosives Safety Organization (PESO) approvals are being taken for bulk storage of Hazardous chemicals (Petroleum) wherein requirements of the MSIHC Rules, 1989 are considered
12	Self- regulation by industry through monitoring and environmental auditing Industry will go for self-assessment and regulation by conducting environmental auditing regularly, besides having regular monitoring of pollutants in air emission, liquid effluent and receiving environment.	Environment Monitoring is ongoing process
13	Organizational restructuring and accreditation of environmental manager of industry. For self-evaluation, organizational restructuring will be done and the environmental manager of the industry will be accredited to bring professionalism in environmental management.	Agreed