DPCL/ENV-06/01/2016

To
The Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forest and Climate Change,
Eastern Regional Office (EZ),
A/3, Chandrasekharpur,
Bhubaneswar- 751023
E-mail: roez.bsr-mef@nic.in

Dear Sir,

Sub : Half yearly Compliance report of Environment and CRZ Clearance for expansi Port at Dhamra, Bhadrak District of Odisha by M/s Dhamra Port Company Li period of **April 2016 – September 2016**

Ref: 1) Environmental Clearance for Expansion of Dhamra Port Project vide let January 2000 bearing No. PD/26017/8/98-PDZ (CRZ).

2) CRZ recommendation letter for phase-II expansion vide letter dated 20th De bearing no. OCZMA-1/2012-13/No.17

3) Environmental and CRZ Clearance for expansion at Dhamra Port dated 1st bearing F.No.11-104/2009-IA.III

4) Amendment in Environmental and CRZ clearance vide letter dated 25th bearing F.No.11-104/2009.IA.III

With reference to the above mentioned letters for the said subject matter, please herewith the compliance to the conditions stipulated in the letters for the period of September 2016 in both hard & soft copy for your kind reference.

Thanking you,
Yours Sincerely,

(Subrat Tripathy)
Chief Executive Officer

Encl: As above
Copy to:

1) The Director (Monitoring –IA-III Division), Ministry of Environment, Forest & Climate C Paryavaran Bhawan, Jor Bagh Road, New Delhi – 110003
2) Zonal Office, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th Rajdanga Main Road, Kolkata - 700 107 (W. B.)
3) The Member Secretary, State Pollution Control Board, Odisha, Parivesh Bhawan, A/ Nilakantha Nagar, Nayapalli, Bhubneswar-751012
4) The Regional Officer, State Pollution Control Board, Odisha, 160, Sahadev Khunta, Balasore –
5) Member Secretary OCZMA & Director, Env-cum-Spl. Secretary to Govt., Forest & Env De Odisha, Plot No 108, Surya Nagar, Unit VII, Bhubaneswar-751003.

The Dhamra Port Company Limited

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Odisha, India
CIN: U452050R1998PLC005448

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Phase – I: Half yearly Compliance report of the conditions stipulated in Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4th January 2000 bearing No. PD/26017/8/98-PDZ (CRZ)		
Sr. No.	**Conditions**	**Compliance Status**
	already drawn by the authorities. Mock Drill(s) for this purpose should be on a regular basis. Provisions of Dock Safety Act and the Guidelines issued by the DG, FASLI/CLI, Mumbai for the safety and health of the workers should be followed.	safety guidelines. Regular Mock Drills are conducted as per the Crisis Management Plan. The details of drills conducted towards dock safety for the period Apr 2016 – Sep 2016 is enclosed as **Annexure III**
vii	For development of Green Buffer including mangroves wherever feasible, the authorities should start growing large nursery of multipurpose species such as Eucalyptus, Casuarina, Dalbergia, Terminalia etc. The norm of about 2000-2500 trees per Hectare may be adopted for raising of green belt. Necessary permission may be obtained for cutting of trees, if any, for the project	Complied. A large nursery of multi species has been established for greenbelt development. Plantation has been carried out within the port area and on both the edges of the 62.5 km rail corridor. Please refer **Annexure IV** for photographs of the same.
viii	To prevent discharge of sewage and other liquid wastes including ballast into marine environment, adequate system for collection, treatment and disposal of liquid wastes must be provided to the satisfaction of the Odisha Pollution Control Board, Bhubaneswar.	Complied. DPCL has two Sewage Treatment Plant (STP) to handle 140 KLD & 15 KLD of sewage generated at port site & near guest house. The treated water is being used for green belt. The monitoring reports for the period Apr 2016 – Sep 2016 are attached as **Annexure V** MARPOL and Ballast Water Convention are enforced by DPCL for visiting ships.
ix	Adequate noise control measures must be provided to noise levels at various work places within the standard prescribed by the competent authorities. If need be, ear plugs and ear muffs should be provided to the workers in the project area	Complied. Suitable personal protective equipment's (PPEs) are mandatory for workers in noise prone areas. Ear muffs & ear plugs are being provided. Noise monitoring at site is being done by a MoEF & CC accredited agency and the reports are attached as **Annexure VI.**
x	The quality of treated effluents, solid wastes and emissions must confirm to the standards laid down by the competent authority including State Pollution Control Board, Govt. of Odisha, Bhubaneswar	Complied. All the treated waste water from STP is being used for horticulture purpose. All emissions are well within the prescribed limits. We have colour coded bins for segregating different category of solid waste. Biodegradable

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		wastes are used for compost preparation. Recyclable wastes are handed over to authorized recyclers. Inert wastes are used for filling low laying areas. Ambient Air Quality Monitoring is being carried out by MoEF & CC accredited agency, Reports for the period Apr 2016 – Sep 2016 is attached as **Annexure VII.**
xi	An Environmental Cell should be set up immediately and made operational with adequate laboratory facilities, equipments and a mobile van for collecting air samples. The record and data should be submitted with proper analysis and corrective measures required, if any, for maintaining the levels within the prescribed limits to the Eastern Regional Office, Ministry of Environment & Forests, Govt of India, Bhubaneswar. The Environment Cell should coordinate and monitor environmental mitigative measures executed in the project area. The Project Proponent is advised to institutionalize their Environmental Monitoring through some recognized Scientific Institution for the project.	Complied. DPCL has a well-structured Environmental Management Cell, staffed with qualified man power at site supported by team at Head Office in Ahmedabad. Environment monitoring is being carried out by MoEF & CC accredited agency, the monitoring results for the period Apr 2016 – Sep 2016 (enclosed in **Annexures I, V, VI and VII**) are well within the permissible limits. Monitoring data is being submitted along with half yearly compliance reports to the Eastern Regional Office, MoEF & CC, MoEF & CC, New Delhi, CPCB-Kolkata and Odisha Pollution Control Board. Our Last Half Yearly Report was submitted on 24th May 2016.
xii	Necessary leakage detection devices with early warning system must be provided at strategic locations.	Not applicable as presently no gaseous cargo is being handled by the port.
xiii	Standby DG sets must be provided to ensure uninterrupted power supply (to) the pump house and the firefighting system	Complied. 6 standby DG Sets, capacity ranging from 62.5 KVA to 200 KVA have been provided for emergency backups & uninterrupted power supply to the water supply system and firefighting system.
xiv	Third party inspection should be ensured during the construction and operational phases with adequate insurance cover. The Project authorities should confirm on regular intervals of six months to the Ministry about the implementation of the suggested safeguard measures and the data/report should be opened	Complied. Six monthly compliance reports are regularly submitted to the Eastern Regional Office of MoEF & CC, Bhubaneswar, MoEF & CC-New Delhi, CPCB-Kolkata, Odisha Pollution Control Board and Odisha Coastal Zone Management Authority. The last report was submitted on 24th May 2016.

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	for inspection by the Team which would be constituted by the Ministry, If found necessary	Officials from MoEF & CC Regional Office and OPCB are regularly inspecting the project site. Safeguard measures as advised by inspection team are taken into consideration for implementation.
xv	Full support should be extended to the Eastern Regional Office, Ministry of Environment & Forests, Govt. of India, Bhubaneswar during inspection of the project for monitoring purposes by the project proponents by furnishing full details and action plans including action taken report on mitigative measures.	Complied. Full support is being extended to the Eastern Regional Office of Ministry of Environment & Forests & Climate Change, Bhubaneswar during their visit. Details required are being submitted to the Authorities.
xvi	Adequate funding provisions, year-wise and item-wise, must be made for implementation of the above mentioned safeguard measures.	Complied. A sum of INR 3.34 Crores has been spent for FY 2015-16. Cost break up is annexed as **Annexure-VIII**
xvii	The Rapid Environmental Impact Assessment Studies for the construction of the above project by M/s Kirloskar Consultants Ltd. should be expedited. The project proponent was advised to keep in mind the proneness of the coast of Odisha to severe cyclonic storms while going ahead with their project.	Complied. The Rapid Environmental Impact Assessment Study has been conducted in time & the said report has been submitted. DPCL has already formulated detailed Disaster Preparedness & Management Plan to handle any natural calamities such as cyclones, storms, quakes etc., along the Coast.
2	In case of any deviation or alteration in the project including the implementation agency, a fresh reference should be made to the Ministry for modification in the clearance condition or Imposition of new ones for ensuring environmental protection. The project authorities would be responsible for implementing the above suggested safeguard measures.	Point noted.
3	The Ministry reserves the right to revoke clearance, if the conditions stipulated as above are not implemented to the satisfaction of the Ministry	Point noted
4	These stipulations would be enforced among others under the provisions of Water (Prevention and control of pollution) Act, 1974, the Air	Point noted

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	(Prevention and control of pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability (Insurance) Act, 1991 along with their amendments and rules from time to time.	

Phase – II: Compliance report of the condition stipulated in CRZ recommendation for Phase II expansion vide letter dated 20th December, 2012 bearing no. OCZMA-1/2012-13/No. 17		
Sr. No.	**Conditions**	**Compliance Status**
1	The Ballast Water Management has to be scrupulously followed to ensure that no harmful exotic organisms or pathogens are transferred to the coastal/marine water. In this regard, the DPCL should approach the Ministry of Shipping, Govt. of India to evolve a suitable ballast water management plan to maintain the health of the coastal/marine ecosystems	Complied. DPCL has adopted guidelines for itself to ensure that the ships calling at port are in compliance to guidelines issued by Ministry of Shipping Notification No 13/2001.
2	The marine water and sediment (biogeochemical parameters including phytoplankton community structure) should be monitored regularly by a reputed scientific institute/university	Complied. Monitoring of Water Quality, Marine productivity, STP inlet and outlet, Noise and Air quality is being carried out by MoEF & CC accredited agency. Results of the same for the period Apr 2016–Sep 2016 are attached as **Annexure – I, V, VI & VII**
3	One of the objectives of the CRZ guidelines is to ensure the livelihood of the fishermen community vis-à-vis developmental acclivities. Hence the DPCL should approach the Director, Indian National Centre for Ocean Information Services (INCOIS), Govt. of India, Hyderabad, to get PFZ advisories / installation of Electronic Display Board (EDB) to disseminate the prospective fishing ground information to the fishing community for their livelihoods. The DPCL is also to indicate any change that has occurred in the fishing zone due to operation of the Port.	Complied. INCOIS display board is installed at fishing harbor, Dhamra. The same is in working condition. (Please refer **Annexure IX** for Photograph of INCOIS displayed) DPCL provides support for repair services as and when required.
4	The use of unclaimed/salvaged coal for local people may be explored.	DPCL has examined this issue. So far there has not been any unclaimed coal and the quantity of salvaged coal is negligible. The procedure required under relevant rules is to auction such unclaimed coal with custom's permission to meet unpaid

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		duties and port charges; and to account salvaged coal back to the stock of original importer. Any other method would contravene custom's and other laws.
5	DPCL shall ensure that the dust/fine grained particles of the jetty must be cleaned regularly and methodically so that there is no spillage to the coastal waters to avoid turbidity of the water column.	Jetty is cleaned both mechanically and manually on regular basis.
6	The mangrove vegetation around the port should be conserved both during construction and operation phase.	Complied. The mangroves around the port are conserved and awareness has been created among the port employees and workers regarding importance of mangrove and its conservation needs.
7	Coastal erosion and accretion shall be monitored on a regular basis. The impact of dredging and dumping of the sediment on Dhamra Shoreline change and on the ecologically sensitive areas including the Kanika Sand Islands has to be assessed at regular interval by a recognized institute.	NIOT has been entrusted for carrying out shoreline change study at Dhamra and Kanika sand shore.
8	Provision shall be made for treatment/recycle of toxic contents, such as used oil, fertilizers (if any) and similar other toxic materials	Complied. DPCL has made an agreement with OSPCB approved vendor for collection of used oil and vendor shall take care of treatment and disposal at their premises as per OSPCB norms. Details of the same are submitted to OSPCB on regular basis.
9	Environmental Impact Assessment (EIA) study of dredging material should be done on a regular basis with special emphasis to turbidity.	Complied. Offshore water quality monitoring is being done on regular basis and the results for the period Apr 2016 – Sep 2016 can be referred at **Annexure-I**.
10	The DPCL should ensure that the suspended sediments generated during excavation and during disposal of the dredged materials do not adversely affect the health of the coastal ecosystems within the port area including eco-	Complied. Mathematical model studies were carried out (by NIO, Goa) to determine the dispersion of dredge plume during dredging and disposal of dredge

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	sensitive areas along the coast.	material. The result of the study was that the suspended sediment concentration is limited to nearby areas only and not reaching the shore or the nearby eco-sensitive areas. Dredging disposal is done at MoEF&CC specified location as per environment clearance.
11	A conservation plan for Kanika Island will be prepared and implemented by the Forest Department, the cost of which will be met by the DPCL	Complied. Draft conservation plan, prepared by DPCL, has been submitted to the Principal Secretary, Forest and Environment Department and Chairman, OCZMA for approval. Reminder Letter has been submitted vide letter dated 9th Aug 2016.
12	Mangrove plantation around the port will be protected by the DPCL under the supervision of the Forest Department.	Complied. Mangrove plantations are done by the forest department wherever feasible.
13	Shoreline Changes in and around Kanika Island shall be monitored on monthly basis	NIOT has been entrusted for carrying out shoreline change study at Dhamra and Kanika sand shore.

Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 1st January, 2014 bearing F. No. 11-104/2009-IA.III and subsequent amendment dated 25th March, 2015		
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6. Specific Condition		
i	Consent to Establishment shall be obtained from Odisha Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at site	Complied. Consent to Establish has been obtained. Copy submitted vide our compliance letter dated 20th November 2015
ii	Prior clearance from National Board of Wildlife shall be obtained	Not Applicable
iii	The proponent shall submit undertaking that there shall be no acquisition of grazing/grave land for the project.	Complied.
iv	The Regional Office of MoEF may conduct a site visit every year to verify compliance.	Point noted.
v	The Natural creek and drainage pattern of the area should not be disturbed and the cross	Drainage patter is being maintained. The creeks are trained to ensure proper drainage both from

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	drainage passing through cargo stack yards shall be released into settling ponds as committed.	outside and inside.
vi	No housing component is permitted in CRZ area i.e. within 500m from HTL.	Complied. No housing constructed in CRZ area.
vii	The dredging materials shall be at depths 25m or more up to fill up of 30cm or less. Initial and final sounding records for depth of the disposal sites and GPS records shall be maintained for vessels carrying out disposal. The disposal shall be carried out in the ebb tides and shall be ensured that water quality (SS less than 500mg/l) is maintained during disposal near the vessel.	Complied. Dredging disposal is done at MoEF&CC specified location as per Environment Clearance of phase II.
viii	Commitment for all the recommendations provided by OCZMA and NIO for protection of Kanika island and earmark specific amount for the conservation plan. The plan can be prepared in consultation with the OCZMA and forest department.	Complied. Draft conservation plan prepared by DPCL has been submitted to the Principal Secretary, Forest and Environment Department and Chairman, OCZMA for approval. Reminder Letter has been submitted vide letter dated 9th Aug 2016
ix	The village forest adjacent to the project site should be developed with tree plantation, in consultation with the revenue department/forest department	Point Noted. Collector has been requested to identify village forest land for plantation vide letter ref dated 9th Aug 2016. Annually saplings are being distributed to the villagers by the DPCL for plantation.
x	As discussed during the meeting the dumping area should be at the latitude 20° 55' 5" and longitude 87° 10' 5" in the offshore region	Point noted
xi	All the commitments made during the Public Hearing shall be complied with.	Commitments made during Public hearing are being complied.
xii	Regular air quality monitoring should be conducted at the site and all the parameters should be within limits.	Complied. Air quality monitoring is done by a MoEF&CC accredited agency and all parameters are well within standards Results of the monitoring carried out during the period Apr 2016 – Sep 2016 are attached as **Annexure –VII**
xiii	All the recommendation of the EIA/EMP & Risk Assessment and Disaster Management Report shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report	Complied. Compliance towards mitigation plan is submitted as **Annexure X**

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	shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.	
xiv	All the recommendations and conditions stipulated by Odisha Coastal Zone Management Authority (OCZMA) No. OCZMA-1/2012-13 dated 20.12.2012 shall be complied with	Complied. Compliance report of the OCZMA recommendation is also enclosed.
xv	The green belt shall be provided all around the periphery and storage yards.	Complied. A large nursery of multi species has been established with a stock of 1 lakh saplings for greenbelt development. Plantation has been carried out within the port back up area as well as on both the edges of the 62.5 km rail corridor. Please refer **Annexure IV** for photographs of the same.
xvi	There shall be no ground water drawal within CRZ area	Complied. No ground water withdrawal in the CRZ area is done
xvii	Sewage shall be treated and the Treatment Facility shall be provided in accordance with the Coastal Regulation Zone Notification, 2011. The disposal of treated water shall confirm the regulation of State Pollution Control Board.	Complied. Treated water of STP is regularly monitored and is utilized for greenbelt development. The monitoring report for the period Apr 2016 – Sep 2016 is attached as **Annexure-V**.
xviii	Solid Waste Management shall be as per Municipal Solid (Management and Handling) Rules, 2000	Complied. We have colour coded bins for segregating different category of solid waste. Biodegradable wastes are used for compost preparation. Recyclable wastes are handed over to authorized recyclers.
xix	The project shall be executed in such a manner that there shall not be any disturbance to the fishing activity.	Complied.
xx	It shall be ensured that there is no displacement of people, houses or fishing activity as a result of the project.	Complied. No displacement of people or fishing activities is envisaged.
xxi	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Complied. Only permitted activities as per CRZ notification are carried out.
xxii	The project proponent shall set up separate	Complied.

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	environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a senior executive	DPCL has a well-structured Environmental Management Cell, staffed with qualified man power at site supported by team at Head Office in Ahmedabad.
xxiii	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	Complied. A sum of INR 3.34Crores has been spent for FY 2015-16. Details of the same are annexed in **Annexure-VIII**
7. **General Conditions**		
i	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	Complied
ii	Full support shall be extended to the officers of this Ministry/Regional Office at Bhubaneswar by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Complied. Full support is being extended to the Eastern Regional Office of Ministry of Environment, Forests & Climate Change, Bhubaneswar during their visit. Details required are being submitted to the Authorities.
iii	A six-monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bhubaneswar regarding the implementation of the stipulated conditions.	Complied. Six monthly compliance report is regularly submitted to Regional Office of MoEF & CC, Bhubaneswar. Last compliance report for October 2015 – March 2016 period was submitted vide our letter dated 20.05.2016
iv	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Point noted
v	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Point noted
vi	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	Complied. An application for revised master plan of Dhamra port is already submitted to MoEF & CC with a fresh reference and Terms of Reference for the same have been issued. Baseline Monitoring in line to the TOR is under progress.

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vii	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Date of last financial closure was on 30th September, 2014.
viii	A copy of the clearance letter shall be marked to concern Panchayat/local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal.	Complied. The copy is attached as **Annexure-XI**
ix	Odisha State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.	-
8	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 1994, including the amendments and rules made thereafter.	Point noted
9	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 respective competent authorities.	Complied. License on storage of explosives from PESO and NOC from Fire Dept. is attached as **Annexure-XII**
10	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental and CRZ Clearance and copies of clearance letters are available with the Odisha State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the	Complied. Advertisement copies are attached as **Annexure-XIII**

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	same should be forwarded to the Regional Office of this Ministry at Bhubaneswar.	
11	This clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004 as may be applicable to this project.	Point noted
12	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Point noted
13	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website	Complied. Compliance report for each period is uploaded on the company's website and the same is being updated twice in a year.
14	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied. The copy is attached as **Annexure-XI**
15	The proponent shall upload the status of compliance of the stipulated clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the representative Zonal Office of CPCB and the SPCB.	Complied. Compliance report for each period is uploaded on the company's website and the same is being updated twice in a year. Results of environmental monitoring are attached as Annexures to the compliance report. Hard copy as well as soft copy of the same are submitted to all concerned authorities.
16	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Complied. Compliance report for each period is uploaded on the company's website and the same is being updated twice in a year. Results of environmental monitoring are attached as Annexures to the compliance report. Hard copy as well as soft copy of the same are submitted to all concerned authorities.
17	The environmental statement for each financial	Complied.

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	year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of clearance conditions and shall also be sent to the respective Regional Office of MoEF by email.	Environmental statement for FY 2015-16 was submitted to OSPCB with a copy to the Regional Office of MoEF & CC vide our letter no DPCL/ENV-12/01/16 dated 15th Sep 2016. Copy of the same is attached as **Annexure – XIV** All Submitted Environment Statements as well as Half Yearly Compliance Reports are available on our company website and can be viewed publicly
Conditions stipulated in the amendment dated 25th March, 2015		
i	The port shall ensure that the ships under operation follow the MARPOL Convention with regard to discharge or spillage of any toxic, hazardous or polluting material like ballast water, oily water or sludge, sewage, garbage etc.	Complied. MARPOL Convention is being followed
ii	Dust screens shall be provided with height of two meter above the stack height. Water sprinkling shall be carried out for settling dust. Three layers of green belt of tall growing tress shall be provided on all sides of the stack area.	Complied. Water sprinkling is being done on regular basis to ensure dust suppression in Phase-I ore storage area and vehicular paths/roads. Greenbelt is being developed all along the periphery of the port back up area.
iii	Transportation of iron ore shall be by covered conduit/closed trucks/rails only. Closed conveyor belt shall be used for unloading the product.	Complied. Transportation of Coal/Iron ore is done in covered conveyor belt system
iv	Water sprinklers will be provided in the area of ore storage and vehicular path/roads.	Complied. Water sprinkling is being done on regular basis to ensure dust suppression in Phase-I ore storage area and vehicular paths/roads.
v	All the recommendations of EMP and Disaster Management Plan (DMP) shall be complied with	Complied. Compliance of EMP can be referred as **Annexure X**

LIST OF ANNEXURES

S. No	Annexure Number	Details
1	Annexure-I	Marine Water Quality
2	Annexure – II	Types and quantity of Fire Extinguishers
3	Annexure-III	Details of Mock Drills
4	Annexure-IV	Green Belt Details
5	Annexure-V	STP Monitoring Report
6	Annexure-VI	Noise Monitoring Report
7	Annexure-VII	Ambient Air Monitoring Report
8	Annexure-VIII	Cost Break up of Environment Budget V/s Expenditure
9	Annexure- IX	INCOIS Board
10	Annexure-X	EMP & Action Plan Compliance
11	Annexure-XI	Environmental Clearance copy to Zillaparisad
12	Annexure-XII	License and NOC from Fire Dept.
13	Annexure – XIII	Advertisement in Local Newspapers intimating grant of Environmental & CRZ Clearance
14	Annexure – XIV	Environment Statement for FY 2015-16

ANNEXURE I – MARINE WATER QUALITY

A. SURFACE & BOTTOM WATER ANALYSIS

SURFACE & BOTTOM WATER ANYALYSIS REPORT- SEPTEMBER 2016

WATER ANALYSIS DATA									
Locations		Temp. (°C)	Turbidity (NTU)	Conductivity (µS/cm)	pH	Salinity (ppt)	DO (mg/l)	BOD (mg/l)	COD (mg/l)
Station-1	SW	24	42	41.1	8.1	28.64	7.1	< 3	10
	BW	23	28	42.4	8.6	27.56	6.5	< 3	< 10
Station-2	SW	24	41	48.8	8.1	28.95	6.8	3.0	20
	BW	23	29	43.4	8.2	27.44	6.4	< 3	< 10
Station-3	SW	25	44	47.6	8.4	29.51	7.6	< 3	30
	BW	25	27	42.4	7.8	27.16	6.5	< 3	< 10
Station-4	SW	25	38	44.5	8.1	27.44	7.6	< 3	10
	BW	25	31	41.1	7.5	26.98	6.4	< 3	< 10
Station-5	SW	24	39	46.4	8.1	27.12	7.0	< 3	< 10
	BW	23	34	43.5	7.9	25.25	6.4	< 3	< 10
Station-6	SW	24	39	47.4	8.4	28.14	7.3	< 3	20
	BW	23	34	44.2	7.5	27.69	6.6	< 3	< 10
Station-7	SW	24	41	42.4	8.4	23.47	7.1	3.0	10
	BW	24	36	40.9	8.0	22.98	6.3	< 3	< 10
Station-8	SW	24	40	41.0	8.1	27.44	7.2	< 3	30
	BW	23	37	38.9	7.9	24.25	6.7	< 3	< 10

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA									
Locations		Copper (mg/l)	Cadmium (mg/l)	Mercury (mg/l)	Phosphate (mg/l)	Sulphate (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TSS (mg/l)
Station-1	SW	< 0.05	< 0.01	< 0.001	< 0.05	1810	0.54	8.9	322.6
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1797	0.62	7.1	184.5
Station-2	SW	< 0.05	< 0.01	< 0.001	< 0.05	1841	0.48	8.5	278.1
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1899	0.52	7.8	194.1
Station-3	SW	< 0.05	< 0.01	< 0.001	< 0.05	1709	0.30	7.4	321.4
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1801	0.59	8.5	157.6
Station-4	SW	< 0.05	< 0.01	< 0.001	< 0.05	1812	0.31	7.1	330.1
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1745	0.59	7.5	211.1
Station-5	SW	< 0.05	< 0.01	< 0.001	< 0.05	1702	0.49	7.9	293.4
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1685	0.87	9.2	159.4
Station-6	SW	< 0.05	< 0.01	< 0.001	< 0.05	1674	0.43	7.9	324.9
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1625	0.86	8.3	112.5
Station-7	SW	< 0.05	< 0.01	< 0.001	< 0.05	1608	0.78	6.9	274.6
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1494	0.66	9.4	132.4
Station-8	SW	< 0.05	< 0.01	< 0.001	< 0.05	1573	1.1	7.7	298.4
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1614	0.84	8.4	110.2

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Calcium Hardness (mg/l)	Magnesium Hardness (mg/l)	Total Hardness (mg/l)	Total Dissolved Solids (mg/l)	Ammonical Nitrogen (mg/l)	Total Nitrogen (mg/l)
Station-1	SW	2580	910	3490	32486	ND	11.6
	BW	2880	770	3650	31244	ND	10.1
Station-2	SW	2670	870	3540	34745	ND	12.8
	BW	2890	830	3720	31498	ND	10.1
Station-3	SW	2860	840	3700	32114	ND	10.9
	BW	2940	790	3730	29974	ND	9.1
Station-4	SW	2910	860	3770	30947	ND	10.9
	BW	2470	780	3250	29971	ND	9.6
Station-5	SW	3050	950	4000	30896	ND	10.7
	BW	2840	850	3690	30142	ND	9.2
Station-6	SW	3020	910	3930	31659	ND	11.8
	BW	2890	840	3730	29844	ND	10.4
Station-7	SW	2470	950	3420	30745	ND	12.8
	BW	2650	870	3520	30854	ND	10.4
Station-8	SW	2410	890	3300	31866	ND	12.5
	BW	2860	810	3670	30042	ND	10.7

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Total Chromium (mg/l)	Phenolic Compounds (mg/l)	Hexavalent Chromium (mg/l)	Petroleum Hydrocarbon (mg/l)	Chlorinity (‰)	Oil and Grease (mg/l)
Station-1	SW	< 0.05	< 0.001	< 0.05	1.5	13.15	5.1
	BW	< 0.05	< 0.001	< 0.05	ND	11.58	ND
Station-2	SW	< 0.05	< 0.001	< 0.05	1.1	14.12	5.0
	BW	< 0.05	< 0.001	< 0.05	ND	12.24	ND
Station-3	SW	< 0.05	< 0.001	< 0.05	1.6	13.78	4.2
	BW	< 0.05	< 0.001	< 0.05	ND	12.14	ND
Station-4	SW	< 0.05	< 0.001	< 0.05	1.9	12.01	3.8
	BW	< 0.05	< 0.001	< 0.05	ND	11.16	ND
Station-5	SW	< 0.05	< 0.001	< 0.05	1.4	12.99	5.6
	BW	< 0.05	< 0.001	< 0.05	ND	14.47	ND
Station-6	SW	< 0.05	< 0.001	< 0.05	1.4	11.08	4.1
	BW	< 0.05	< 0.001	< 0.05	ND	15.28	ND
Station-7	SW	< 0.05	< 0.001	< 0.05	1.0	12.49	3.4
	BW	< 0.05	< 0.001	< 0.05	ND	12.66	ND
Station-8	SW	< 0.05	< 0.001	< 0.05	1.2	15.21	3.9
	BW	< 0.05	< 0.001	< 0.05	ND	12.04	ND

*SW= Surface Water, BW= Bottom Water

SURFACE & BOTTOM WATER ANYALYSIS REPORT- AUGUST 2016

WATER ANALYSIS DATA									
Locations		Temp. (°C)	Turbidity (NTU)	Conductivity (µS/cm)	pH	Salinity (ppt)	DO (mg/l)	BOD (mg/l)	COD (mg/l)
Station-1	SW	25	36	43.2	8.3	27.87	7.0	< 3	20
	BW	24	26	44.6	8.1	28.97	6.7	< 3	20
Station-2	SW	25	32	43.9	8.5	29.43	6.8	< 3	10
	BW	25	27	48.7	8.1	26.54	6.5	< 3	10
Station-3	SW	26	39	44.9	8.8	25.34	7.1	< 3	20
	BW	24	26	45.7	7.8	28.76	6.3	< 3	10
Station-4	SW	24	34	47.4	8.3	26.55	7.6	< 3	20
	BW	24	33	42.9	7.3	27.87	6.4	< 3	< 10
Station-5	SW	23	35	42.3	8.2	26.87	7.1	< 3	20
	BW	24	36	46.2	7.7	26.56	6.9	< 3	< 10
Station-6	SW	23	37	43.7	8.6	27.12	7.2	< 3	10
	BW	25	35	43.1	7.2	29.23	6.5	< 3	< 10
Station-7	SW	24	34	38.9	8.1	22.24	7.4	< 3	20
	BW	24	34	44.8	8.1	23.45	6.8	< 3	< 10
Station-8	SW	25	33	39.1	8.4	25.34	7.0	< 3	10
	BW	25	39	40.7	8.3	23.67	6.8	< 3	< 10

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA									
Locations		Copper (mg/l)	Cadmium (mg/l)	Mercury (mg/l)	Phosphate (mg/l)	Sulphate (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TSS (mg/l)
Station-1	SW	< 0.05	< 0.01	< 0.001	< 0.05	1876	0.56	6.8	315.6
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1876	0.67	9.1	238.9
Station-2	SW	< 0.05	< 0.01	< 0.001	< 0.05	1856	0.45	6.9	298.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1956	0.54	8.8	265.1
Station-3	SW	< 0.05	< 0.01	< 0.001	< 0.05	1655	0.32	6.5	301.1
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1843	0.65	9.0	263.9
Station-4	SW	< 0.05	< 0.01	< 0.001	< 0.05	1587	0.27	6.7	230.8
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1578	0.87	8.9	209.1
Station-5	SW	< 0.05	< 0.01	< 0.001	< 0.05	1723	0.32	7.4	233.8
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1601	0.91	10.1	289.8
Station-6	SW	< 0.05	< 0.01	< 0.001	< 0.05	1698	0.31	6.9	254.1
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1678	1.1	9.7	301.4
Station-7	SW	< 0.05	< 0.01	< 0.001	< 0.05	1534	1.2	6.6	256.7
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1457	0.56	10.1	277.9
Station-8	SW	< 0.05	< 0.01	< 0.001	< 0.05	1432	1.4	7.1	262.8
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1789	0.76	9.78	289.1

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Calcium Hardness (mg/l)	Magnesium Hardness (mg/l)	Total Dissolved Solids (mg/l)	Total Hardness (mg/l)	Ammonical Nitrogen (mg/l)	Total Nitrogen (mg/l)
Station-1	SW	2660	890	32765	3550	ND	10.9
	BW	3020	780	30112	3800	ND	14.2
Station-2	SW	2450	910	33267	3360	ND	9.8
	BW	3010	810	30967	3820	ND	12.8
Station-3	SW	2180	820	30978	3000	ND	10.2
	BW	3220	890	29986	4110	ND	13.2
Station-4	SW	2890	820	30112	3710	ND	9.9
	BW	2740	890	29879	3630	ND	14.7
Station-5	SW	3020	940	30981	3960	ND	10.1
	BW	2710	840	30211	3550	ND	13.2
Station-6	SW	3080	930	31762	4010	ND	9.8
	BW	2840	910	29081	3750	ND	13.2
Station-7	SW	2540	910	30834	3450	ND	10.9
	BW	2910	910	30987	3820	ND	13.8
Station-8	SW	2470	870	31789	3340	ND	13.1
	BW	2930	880	30109	3810	ND	16.7

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Total Chromium (mg/l)	Phenolic Compounds (mg/l)	Hexavalent Chromium (mg/l)	Petroleum Hydrocarbon (mg/l)	Chiorinity (°/₀)	Oil and Grease (mg/l)
Station-1	SW	< 0.05	< 0.001	< 0.05	1.8	12.78	5.7
	BW	< 0.05	< 0.001	< 0.05	ND	14.11	ND
Station-2	SW	< 0.05	< 0.001	< 0.05	1.6	13.25	5.4
	BW	< 0.05	< 0.001	< 0.05	ND	13.27	ND
Station-3	SW	< 0.05	< 0.001	< 0.05	1.1	13.22	5.9
	BW	< 0.05	< 0.001	< 0.05	ND	13.22	ND
Station-4	SW	< 0.05	< 0.001	< 0.05	1.9	12.78	5.1
	BW	< 0.05	< 0.001	< 0.05	ND	15.12	ND
Station-5	SW	< 0.05	< 0.001	< 0.05	1.6	13.11	5.0
	BW	< 0.05	< 0.001	< 0.05	ND	17.27	ND
Station-6	SW	< 0.05	< 0.001	< 0.05	1.7	12.78	5.7
	BW	< 0.05	< 0.001	< 0.05	ND	16.24	ND
Station-7	SW	< 0.05	< 0.001	< 0.05	1.1	15.69	1.9
	BW	< 0.05	< 0.001	< 0.05	ND	14.99	ND
Station-8	SW	< 0.05	< 0.001	< 0.05	1.3	16.45	3.2
	BW	< 0.05	< 0.001	< 0.05	ND	13.04	ND

*SW= Surface Water, BW= Bottom Water

SURFACE & BOTTOM WATER ANYALYSIS REPORT- JULY 2016

WATER ANALYSIS DATA									
Locations		Temp. (°C)	Turbidity (NTU)	Conductivity (µS/cm)	pH	Salinity (ppt)	DO (mg/l)	BOD (mg/l)	COD (mg/l)
Station-1	SW	23	33	40.76	8.3	29.21	7.1	< 3	10
	BW	20	25	48.92	7.6	29.67	6.5	< 3	10
Station-2	SW	24	38	45.76	8.4	28.55	7.0	< 3	10
	BW	21	29	49.67	8.1	28.56	6.8	< 3	10
Station-3	SW	23	35	42.12	8.2	24.66	6.8	< 3	10
	BW	21	26	50.32	7.9	29.55	6.8	< 3	20
Station-4	SW	23	35	45.32	8.0	25.76	7.3	< 3	10
	BW	21	36	50.32	7.6	27.45	6.2	< 3	< 10
Station-5	SW	23	33	41.98	8.2	25.89	6.9	< 3	10
	BW	21	48	51.24	7.9	26.98	6.2	< 3	< 10
Station-6	SW	24	39	44.34	8.0	22.12	7.0	< 3	10
	BW	24	32	49.51	7.9	28.62	6.1	< 3	< 10
Station-7	SW	23	31	40.56	8.2	21.78	7.2	< 3	20
	BW	23	49	45.99	7.9	25.12	6.3	< 3	< 10
Station-8	SW	23	35	42.33	8.1	24.63	7.1	< 3	10
	BW	23	41	43.23	7.9	224.87	6.5	< 3	< 10

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA									
Locations		Copper (mg/l)	Cadmium (mg/l)	Mercury (mg/l)	Phosphate (mg/l)	Sulphate (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TSS (mg/l)
Station-1	SW	< 0.05	< 0.01	< 0.001	< 0.05	1754	0.34	7.8	276.9
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1876	0.55	10.98	244.7
Station-2	SW	< 0.05	< 0.01	< 0.001	< 0.05	1655	0.27	6.1	287.6
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1902	0.42	11.43	218.9
Station-3	SW	< 0.05	< 0.01	< 0.001	< 0.05	1588	0.20	7.1	288.4
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1896	0.40	12.99	227.3
Station-4	SW	< 0.05	< 0.01	< 0.001	< 0.05	1677	0.23	7.9	227.9
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1657	0.9	9.8	301.0
Station-5	SW	< 0.05	< 0.01	< 0.001	< 0.05	1612	0.27	8.2	243.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1451	0.99	11.6	332.0
Station-6	SW	< 0.05	< 0.01	< 0.001	< 0.05	1721	0.44	7.0	215.8
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1764	0.82	10.8	389.0
Station-7	SW	< 0.05	< 0.01	< 0.001	< 0.05	1465	1.5	6.9	241.9
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1576	0.51	11.2	254.7
Station-8	SW	< 0.05	< 0.01	< 0.001	< 0.05	1511	1.7	7.3	254.1
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1669	0.73	10.59	223.9

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Calcium Hardness (mg/l)	Magnesium Hardness (mg/l)	Total Dissolved Solids (mg/l)	Total Hardness (mg/l)	Ammonical Nitrogen (mg/l)	Total Nitrogen (mg/l)
Station-1	SW	2450	880	33987	3330	ND	11.8
	BW	2880	890	30876	4100	ND	13.23
Station-2	SW	2170	750	32124	2920	ND	10.1
	BW	3200	760	31008	4210	ND	13.0
Station-3	SW	2090	700	29890	2790	ND	9.9
	BW	3980	790	29871	4360	ND	14.2
Station-4	SW	3220	690	31221	3910	ND	10.8
	BW	2880	880	30981	3760	ND	13.5
Station-5	SW	3190	670	29087	3860	ND	11.2
	BW	2670	810	29872	3480	ND	12.5
Station-6	SW	3140	590	30765	3730	ND	11.8
	BW	2810	850	29087	3660	ND	11.2
Station-7	SW	2760	890	31987	3650	ND	13.2
	BW	2860	990	31987	3850	ND	14.2
Station-8	SW	2650	750	29087	3400	ND	12.8
	BW	2980	960	30098	3940	ND	13.8

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Total Chromium (mg/l)	Phenolic Compounds (mg/l)	Hexavalent Chromium (mg/l)	Petroleum Hydrocarbon (mg/l)	Chlorinity (‰)	Oil and Grease (mg/l)
Station-1	SW	< 0.05	< 0.001	< 0.05	1.6	11.98	8.7
	BW	< 0.05	< 0.001	< 0.05	ND	13.12	ND
Station-2	SW	< 0.05	< 0.001	< 0.05	1.5	12.76	6.6
	BW	< 0.05	< 0.001	< 0.05	ND	12.99	ND
Station-3	SW	< 0.05	< 0.001	< 0.05	1.0	12.32	5.4
	BW	< 0.05	< 0.001	< 0.05	ND	12.54	ND
Station-4	SW	< 0.05	< 0.001	< 0.05	1.8	11.98	4.6
	BW	< 0.05	< 0.001	< 0.05	ND	14.15	ND
Station-5	SW	< 0.05	< 0.001	< 0.05	1.5	10.78	5.2
	BW	< 0.05	< 0.001	< 0.05	ND	16.32	ND
Station-6	SW	< 0.05	< 0.001	< 0.05	1.9	13.22	6.8
	BW	< 0.05	< 0.001	< 0.05	ND	14.44	ND
Station-7	SW	< 0.05	< 0.001	< 0.05	1.5	14.72	2.6
	BW	< 0.05	< 0.001	< 0.05	ND	14.89	ND
Station-8	SW	< 0.05	< 0.001	< 0.05	1.2	15.88	2.4
	BW	< 0.05	< 0.001	< 0.05	ND	12.87	ND

*SW= Surface Water, BW= Bottom Water

SURFACE & BOTTOM WATER ANYALYSIS REPORT- JUNE 2016

WATER ANALYSIS DATA									
Locations		Temp. (°C)	Turbidity (NTU)	Conductivity (µS/cm)	pH	Salinity (ppt)	DO (mg/l)	BOD (mg/l)	COD (mg/l)
Station-1	SW	28	28	47.62	8.1	27.35	7.7	< 3	20
	BW	22	25	50.12	7.7	29.12	6.5	< 3	20
Station-2	SW	29	22	47.57	8.3	28.41	6.6	< 3	20
	BW	21	31	50.32	7.5	29.66	6.8	< 3	30
Station-3	SW	29	23	47.48	8.0	24.40	7.3	< 3	10
	BW	21	41	50.54	7.8	29.82	6.3	< 3	20
Station-4	SW	29	23	47.56	8.2	27.65	7.6	< 3	20
	BW	22	32	49.86	7.2	29.32	6.2	< 3	30
Station-5	SW	28	21	47.65	8.3	27.51	6.8	< 3	20
	BW	22	44	50.15	7.5	29.51	6.7	< 3	10
Station-6	SW	28	25	47.81	8.1	27.42	7.4	< 3	30
	BW	21	29	50.24	7.4	29.22	6.5	< 3	20
Station-7	SW	29	27	47.59	8.3	27.53	7.6	< 3	30
	BW	22	47	49.86	7.2	29.32	6.5	< 3	20
Station-8	SW	28	21	47.71	8.0	27.56	6.7	< 3	20
	BW	22	56	50.27	7.5	29.35	6.8	< 3	20

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA									
Locations		Copper (mg/l)	Cadmium (mg/l)	Mercury (mg/l)	Phosphate (mg/l)	Sulphate (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TSS (mg/l)
Station-1	SW	< 0.05	< 0.01	< 0.001	< 0.05	1701	0.24	7.5	358.1
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1900	0.42	13.8	184.5
Station-2	SW	< 0.05	< 0.01	< 0.001	< 0.05	1690	0.09	6.5	319.8
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1933	0.35	15.7	202.9
Station-3	SW	< 0.05	< 0.01	< 0.001	< 0.05	1730	0.12	8.3	442
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1897	0.38	14.2	251.3
Station-4	SW	< 0.05	< 0.01	< 0.001	< 0.05	1720	0.06	8.1	510.8
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1932	0.4	13.4	198.5
Station-5	SW	< 0.05	< 0.01	< 0.001	< 0.05	1670	0.14	7.5	452.2
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1874	0.34	12.9	244.5
Station-6	SW	< 0.05	< 0.01	< 0.001	< 0.05	1700	0.24	6.4	477
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1911	0.32	14.3	215.8
Station-7	SW	< 0.05	< 0.01	< 0.001	< 0.05	1680	0.25	5.6	380.2
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1878	0.45	15.1	210.5
Station-8	SW	< 0.05	< 0.01	< 0.001	< 0.05	1730	0.17	7.8	420.3
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1938	0.36	12.3	256.2

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Calcium Hardness (mg/l)	Magnesium Hardness (mg/l)	Total Dissolved Solids (mg/l)	Total Hardness (mg/l)	Ammonical Nitrogen (mg/l)	Total Nitrogen (mg/l)
Station-1	SW	3660	760	30953	4420	ND	12.4
	BW	3510	810	32120	4320	ND	16.9
Station-2	SW	3980	700	30920	4680	ND	13.8
	BW	3680	790	31890	4470	ND	18.4
Station-3	SW	3090	720	30580	3810	ND	14.4
	BW	3560	750	32024	4310	ND	17.8
Station-4	SW	3510	730	30586	4240	ND	13.7
	BW	3530	780	31891	4310	ND	16.8
Station-5	SW	3330	690	29956	4020	ND	12.5
	BW	3370	710	31758	4080	ND	17.4
Station-6	SW	3510	710	29124	4220	ND	12.9
	BW	3540	810	32174	4350	ND	15.9
Station-7	SW	3760	750	29751	4510	ND	11.1
	BW	3890	800	31875	4690	ND	13.5
Station-8	SW	3240	740	30154	3980	ND	12.7
	BW	3220	790	31701	4010	ND	12.7

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Total Chromium (mg/l)	Phenolic Compounds (mg/l)	Hexavalent Chromium (mg/l)	Petroleum Hydrocarbon (mg/l)	Chlorinity ($^{o}/_{oo}$)	Oil and Grease (mg/l)
Station-1	SW	< 0.05	< 0.001	< 0.05	1.3	12.32	5.2
	BW	< 0.05	< 0.001	< 0.05	ND	14.56	ND
Station-2	SW	< 0.05	< 0.001	< 0.05	1.0	12.58	6.2
	BW	< 0.05	< 0.001	< 0.05	ND	14.86	ND
Station-3	SW	< 0.05	< 0.001	< 0.05	0.6	12.18	6.8
	BW	< 0.05	< 0.001	< 0.05	ND	14.75	ND
Station-4	SW	< 0.05	< 0.001	< 0.05	0.8	12.54	5.6
	BW	< 0.05	< 0.001	< 0.05	ND	15.13	ND
Station-5	SW	< 0.05	< 0.001	< 0.05	1.2	12.31	5.0
	BW	< 0.05	< 0.001	< 0.05	ND	14.82	ND
Station-6	SW	< 0.05	< 0.001	< 0.05	0.8	12.57	6.4
	BW	< 0.05	< 0.001	< 0.05	ND	14.65	ND
Station-7	SW	< 0.05	< 0.001	< 0.05	1.1	13.10	7.1
	BW	< 0.05	< 0.001	< 0.05	ND	14.21	ND
Station-8	SW	< 0.05	< 0.001	< 0.05	0.8	12.82	6.3
	BW	< 0.05	< 0.001	< 0.05	ND	14.52	ND

*SW= Surface Water, BW= Bottom Water

SURFACE & BOTTOM WATER ANYALYSIS REPORT- MAY 2016

WATER ANALYSIS DATA									
Locations		Temp. (°C)	Turbidity (NTU)	Conductivity (µS/cm)	pH	Salinity (ppt)	DO (mg/l)	BOD (mg/l)	COD (mg/l)
Station-1	SW	28	28	47.62	8.1	27.35	7.7	< 3	20
	BW	22	25	50.12	7.7	29.12	6.5	< 3	20
Station-2	SW	29	22	47.57	8.3	28.41	6.6	< 3	20
	BW	21	31	50.32	7.5	29.66	6.8	< 3	30
Station-3	SW	29	23	47.48	8.0	24.40	7.3	< 3	10
	BW	21	41	50.54	7.8	29.82	6.3	< 3	20
Station-4	SW	29	23	47.56	8.2	27.56	7.6	< 3	20
	BW	22	32	49.86	7.2	29.32	6.2	< 3	30
Station-5	SW	28	21	47.65	8.3	27.51	6.8	< 3	20
	BW	22	44	50.15	7.5	29.51	6.7	< 3	10
Station-6	SW	28	25	47.81	8.1	27.42	7.4	< 3	30
	BW	21	29	50.24	7.4	29.22	6.5	< 3	20
Station-7	SW	29	27	47.59	8.3	27.53	7.6	< 3	30
	BW	22	47	49.86	7.2	29.32	6.5	< 3	20
Station-8	SW	28	21	47.71	8.0	27.56	6.7	< 3	20
	BW	22	56	50.27	7.5	29.35	6.8	< 3	20

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA									
Locations		Copper (mg/l)	Cadmium (mg/l)	Mercury (mg/l)	Phosphate (mg/l)	Sulphate (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TSS (mg/l)
Station-1	SW	< 0.05	< 0.01	< 0.001	< 0.05	1701	0.24	7.5	184.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1900	0.42	13.8	358.1
Station-2	SW	< 0.05	< 0.01	< 0.001	< 0.05	1690	0.09	6.5	202.9
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1933	0.35	15.7	319.8
Station-3	SW	< 0.05	< 0.01	< 0.001	< 0.05	1730	0.12	8.3	251.3
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1897	0.38	14.2	442.0
Station-4	SW	< 0.05	< 0.01	< 0.001	< 0.05	1720	0.06	8.1	198.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1932	0.4	13.4	510.8
Station-5	SW	< 0.05	< 0.01	< 0.001	< 0.05	1670	0.14	7.5	244.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1874	0.34	12.9	452.2
Station-6	SW	< 0.05	< 0.01	< 0.001	< 0.05	1700	0.24	6.4	215.8
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1911	0.32	14.3	477.0
Station-7	SW	< 0.05	< 0.01	< 0.001	< 0.05	1680	0.25	5.6	210.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1878	0.45	15.1	380.2
Station-8	SW	< 0.05	< 0.01	< 0.001	< 0.05	1730	0.17	7.8	256.2
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1938	0.36	12.3	420.3

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Calcium Hardness (mg/l)	Magnesium Hardness (mg/l)	Total Dissolved Solids (mg/l)	Total Hardness (mg/l)	Ammonical Nitrogen (mg/l)	Total Nitrogen (mg/l)
Station-1	SW	3660	760	30953	4420	ND	12.4
	BW	3510	810	32120	4320	ND	16.9
Station-2	SW	3980	700	30920	4680	ND	13.8
	BW	3680	790	31890	4470	ND	18.4
Station-3	SW	3090	720	30580	3810	ND	14.4
	BW	3560	750	32024	4310	ND	17.8
Station-4	SW	3510	730	30586	4240	ND	13.7
	BW	3530	780	31891	4310	ND	16.8
Station-5	SW	3330	690	29956	4020	ND	12.5
	BW	3370	710	31758	4080	ND	17.4
Station-6	SW	3510	710	29124	4220	ND	12.9
	BW	3540	810	32174	4350	ND	15.9
Station-7	SW	3760	750	29751	4510	ND	11.1
	BW	3890	800	31875	4690	ND	13.5
Station-8	SW	3240	740	30154	3980	ND	12.7
	BW	3220	790	31701	4010	ND	12.7

*SW= Surface Water, BW= Bottom Water

WATER ANALYSIS DATA							
Locations		Total Chromium (mg/l)	Phenolic Compounds (mg/l)	Hexavalent Chromium (mg/l)	Petroleum Hydrocarbon (mg/l)	Chlorinity ($^{o}/_{oo}$)	Oil and Grease (mg/l)
Station-1	SW	< 0.05	< 0.001	< 0.05	1.3	12.32	5.2
	BW	< 0.05	< 0.001	< 0.05	ND	14.56	ND
Station-2	SW	< 0.05	< 0.001	< 0.05	1.0	12.58	6.2
	BW	< 0.05	< 0.001	< 0.05	ND	14.86	ND
Station-3	SW	< 0.05	< 0.001	< 0.05	0.6	12.18	6.8
	BW	< 0.05	< 0.001	< 0.05	ND	14.75	ND
Station-4	SW	< 0.05	< 0.001	< 0.05	0.8	12.54	5.6
	BW	< 0.05	< 0.001	< 0.05	ND	15.13	ND
Station-5	SW	< 0.05	< 0.001	< 0.05	1.2	12.31	5.0
	BW	< 0.05	< 0.001	< 0.05	ND	14.82	ND
Station-6	SW	< 0.05	< 0.001	< 0.05	0.8	12.57	6.4
	BW	< 0.05	< 0.001	< 0.05	ND	14.65	ND
Station-7	SW	< 0.05	< 0.001	< 0.05	1.1	13.10	7.1
	BW	< 0.05	< 0.001	< 0.05	ND	14.21	ND
Station-8	SW	< 0.05	< 0.001	< 0.05	0.8	12.82	6.3
	BW	< 0.05	< 0.001	< 0.05	ND	14.52	ND

*SW= Surface Water, BW= Bottom Water

B. SEDIMENT ANYALYSIS

SEDIMENT ANYALYSIS REPORT- SEPTEMBER 2016

SEDIMENT ANALYSIS DATA									
Locations	pH	Organic Matter	Moisture Content (%)	Conductivity (µS/cm)	Iron (%)	Sodium (%)	Copper (mg/kg)	Nickel (mg/Kg)	Zinc (mg/kg)
Station-1	7.2	2.9	4.8	3.51	3.8	25.12	< 5	< 1	< 3
Station-2	7.6	4.9	5.2	4.01	3.6	20.66	< 5	< 1	< 3
Station-3	7.3	4.2	7.1	5.21	4.1	21.98	< 5	< 1	< 3
Station-4	7.1	5.6	6.2	5.74	3.7	22.87	< 5	< 1	< 3
Station-5	7.7	5.4	6.2	5.11	3.1	20.45	< 5	< 1	< 3
Station-6	7.2	5.8	4.9	4.98	3.8	21.47	< 5	< 1	< 3
Station-7	7.2	6.3	5.8	5.12	2.2	24.89	< 5	< 1	< 3
Station-8	7.1	5.0	4.6	4.99	3.6	21.44	< 5	< 1	< 3

SEDIMENT ANALYSIS DATA									
Locations	Manganese (mg/kg)	Lead (mg/kg)	Boron (mg/kg)	Phosphate (mg/kg)	Chloride (mg/kg)	Sulphate (mg/kg)	Sulphide (mg/kg)	Pesticide (mg/kg)	Potassium (mg/kg)
Station-1	< 1	< 5	< 0.5	< 0.5	788	5221	ND	ND	0.78
Station-2	< 1	< 5	< 0.5	< 0.5	754	4856	ND	ND	0.65
Station-3	< 1	< 5	< 0.5	< 0.5	742	5147	ND	ND	0.74
Station-4	< 1	< 5	< 0.5	< 0.5	795	6894	ND	ND	0.99
Station-5	< 1	< 5	< 0.5	< 0.5	742	6859	ND	ND	0.83
Station-6	< 1	< 5	< 0.5	< 0.5	817	7156	ND	ND	0.75
Station-7	< 1	< 5	< 0.5	< 0.5	988	8022	ND	ND	0.85
Station-8	< 1	< 5	< 0.5	< 0.5	991	8147	ND	ND	0.96

SEDIMENT ANALYSIS DATA									
Locations	Total Chromium (mg/kg)	Petroleum Hydrocarbon (mg/kg)	Aluminium (mg/kg)	Total Nitrogen (mg/kg)	Organic Nitrogen (mg/kg)	Phosphorous (mg/kg)	Texture (%)		
							Sand	Silt	Clay
Station-1	< 1	ND	< 0.1	2.5	1.7	3.3	0.31	13.28	86.41
Station-2	< 1	ND	< 0.1	2.6	1.1	4.6	0.88	31.44	67.68
Station-3	< 1	ND	< 0.1	2.9	1.8	3.9	0.99	48.12	50.89
Station-4	< 1	ND	< 0.1	2.4	1.6	3.0	0.96	14.87	84.17
Station-5	< 1	ND	< 0.1	3.0	2.1	2.1	0.87	24.85	74.28
Station-6	< 1	ND	< 0.1	4.1	1.7	2.4	3.5	46.22	50.28
Station-7	< 1	ND	< 0.1	3.4	1.8	3.9	1.57	12.34	86.09
Station-8	< 1	ND	< 0.1	3.6	2.2	2.5	1.36	30.27	68.37

SEDIMENT ANYALYSIS REPORT- AUGUST 2016

SEDIMENT ANALYSIS DATA									
Locations	pH	Organic Matter	Moisture Content (%)	Conductivity (µS/cm)	Iron (%)	Sodium (%)	Copper (mg/kg)	Nickel (mg/Kg)	Zinc (mg/kg)
Station-1	7.1	3.6	4.9	3.89	4.0	22.98	< 5	< 1	< 3
Station-2	7.2	4.0	5.1	4.19	3.9	21.89	< 5	< 1	< 3
Station-3	6.8	3.9	6.9	4.87	3.9	23.08	< 5	< 1	< 3
Station-4	7.2	5.1	6.9	5.89	2.9	21.87	< 5	< 1	< 3
Station-5	7.8	5.2	6.7	4.78	3.2	22.37	< 5	< 1	< 3
Station-6	7.1	5.2	5.2	5.10	3.6	22.36	< 5	< 1	< 3
Station-7	7.1	4.7	6.2	5.47	2.7	23.89	< 5	< 1	< 3
Station-8	7.3	4.1	5.8	4.78	2.9	22.78	< 5	< 1	< 3

SEDIMENT ANALYSIS DATA									
Locations	Manganese (mg/kg)	Lead (mg/kg)	Boron (mg/kg)	Phosphate (mg/kg)	Chloride (mg/kg)	Sulphate (mg/kg)	Sulphide (mg/kg)	Pesticide (mg/kg)	Potassium (mg/kg)
Station-1	< 1	< 5	< 0.5	< 0.5	765	5098	ND	ND	0.84
Station-2	< 1	< 5	< 0.5	< 0.5	788	4901	ND	ND	0.89
Station-3	< 1	< 5	< 0.5	< 0.5	762	5219	ND	ND	0.85
Station-4	< 1	< 5	< 0.5	< 0.5	838	7892	ND	ND	0.98
Station-5	< 1	< 5	< 0.5	< 0.5	767	7165	ND	ND	0.99
Station-6	< 1	< 5	< 0.5	< 0.5	817	7986	ND	ND	0.67
Station-7	< 1	< 5	< 0.5	< 0.5	988	8548	ND	ND	0.96
Station-8	< 1	< 5	< 0.5	< 0.5	983	8017	ND	ND	1.01

SEDIMENT ANALYSIS DATA									
Locations	Total Chromium (mg/kg)	Petroleum Hydrocarbon (mg/kg)	Aluminium (mg/kg)	Total Nitrogen (mg/kg)	Organic Nitrogen (mg/kg)	Phosphorous (mg/kg)	Texture (%)		
							Sand	Silt	Clay
Station-1	< 1	ND	< 0.1	2.7	1.8	3.4	0.29	15.97	83.70
Station-2	< 1	ND	< 0.1	2.8	1.3	4.2	0.62	34.75	64.83
Station-3	< 1	ND	< 0.1	2.3	1.1	4.2	0.69	44.22	55.09
Station-4	< 1	ND	< 0.1	2.9	1.1	3.2	0.81	13.39	85.88
Station-5	< 1	ND	< 0.1	3.2	1.7	2.8	0.59	26.78	73.81
Station-6	< 1	ND	< 0.1	3.9	1.6	2.9	3.8	45.58	50.62
Station-7	< 1	ND	< 0.1	3.7	1.7	3.4	1.49	11.11	87.40
Station-8	< 1	ND	< 0.1	4.0	2.1	2.8	1.24	31.09	67.67

SEDIMENT ANYALYSIS REPORT- JULY 2016

SEDIMENT ANALYSIS DATA									
Locations	pH	Organic Matter	Moisture Content (%)	Conductivity (µS/cm)	Iron (%)	Sodium (%)	Copper (mg/kg)	Nickel (mg/Kg)	Zinc (mg/kg)
Station-1	7.1	3.9	4.8	4.8	4.4	23.29	< 5	< 1	< 3
Station-2	7.0	4.1	5.7	4.9	3.7	22.47	< 5	< 1	< 3
Station-3	6.9	3.8	7.3	5.1	4.1	24.12	< 5	< 1	< 3
Station-4	7.3	5.2	6.8	5.8	3.9	20.32	< 5	< 1	< 3
Station-5	7.3	5.4	6.1	4.9	4.1	21.23	< 5	< 1	< 3
Station-6	6.9	4.6	4.9	5.8	4.6	20.11	< 5	< 1	< 3
Station-7	7.2	4.5	5.9	5.6	2.8	21.22	< 5	< 1	< 3
Station-8	7.1	4.1	6.2	4.6	2.3	19.45	< 5	< 1	< 3

SEDIMENT ANALYSIS DATA									
Locations	Manganese (mg/kg)	Lead (mg/kg)	Boron (mg/kg)	Phosphate (mg/kg)	Chloride (mg/kg)	Sulphate (mg/kg)	Sulphide (mg/kg)	Pesticide (mg/kg)	Potassium (mg/kg)
Station-1	< 1	< 5	< 0.5	< 0.5	740	6798	ND	ND	0.83
Station-2	< 1	< 5	< 0.5	< 0.5	765	7289	ND	ND	0.99
Station-3	< 1	< 5	< 0.5	< 0.5	743	6976	ND	ND	0.90
Station-4	< 1	< 5	< 0.5	< 0.5	820	7987	ND	ND	0.98
Station-5	< 1	< 5	< 0.5	< 0.5	789	7867	ND	ND	0.69
Station-6	< 1	< 5	< 0.5	< 0.5	802	8002	ND	ND	0.87
Station-7	< 1	< 5	< 0.5	< 0.5	865	8654	ND	ND	0.98
Station-8	< 1	< 5	< 0.5	< 0.5	969	7994	ND	ND	1.12

SEDIMENT ANALYSIS DATA									
Locations	Total Chromium (mg/kg)	Petroleum Hydrocarbon (mg/kg)	Aluminium (mg/kg)	Total Nitrogen (mg/kg)	Organic Nitrogen (mg/kg)	Phosphorous (mg/kg)	Texture (%)		
							Sand	Silt	Clay
Station-1	< 1	ND	< 0.1	2.9	1.2	4.5	0.27	17.89	81.80
Station-2	< 1	ND	< 0.1	3.2	1.1	4.3	0.82	24.98	74.80
Station-3	< 1	ND	< 0.1	3.3	1.4	4.8	0.61	46.30	53.01
Station-4	< 1	ND	< 0.1	3.7	1.0	3.1	0.72	14.30	85.01
Station-5	< 1	ND	< 0.1	4.1	1.2	2.7	1.21	22.78	75.81
Station-6	< 1	ND	< 0.1	3.8	1.3	2.8	2.76	44.50	52.70
Station-7	< 1	ND	< 0.1	3.9	1.9	3.1	0.71	15.11	83.40
Station-8	< 1	ND	< 0.1	4.2	2.3	2.9	1.42	29.05	68.90

SEDIMENT ANYALYSIS REPORT- JUNE 2016

SEDIMENT ANALYSIS DATA									
Locations	pH	Organic Matter	Moisture Content (%)	Conductivity (µS/cm)	Iron (%)	Sodium (%)	Copper (mg/kg)	Nickel (mg/Kg)	Zinc (mg/kg)
Station-1	6.8	3.8	5.1	5.21	4.3	22.44	< 5	< 1	< 3
Station-2	6.9	3.4	6.9	5.6	3.5	21.69	< 5	< 1	< 3
Station-3	6.4	4.2	7.5	5.8	4.0	25.74	< 5	< 1	< 3
Station-4	7.2	5.2	6.7	6.9	3.9	14.69	< 5	< 1	< 3
Station-5	6.4	6.8	5.9	4.8	3.1	16.55	< 5	< 1	< 3
Station-6	6.9	5.9	3.4	6.2	3.8	18.42	< 5	< 1	< 3
Station-7	7.1	4.8	5.4	2.5	2.5	20.21	< 5	< 1	< 3
Station-8	7.4	4.5	6.1	2.14	3.8	18.65	< 5	< 1	< 3

SEDIMENT ANALYSIS DATA									
Locations	Manganese (mg/kg)	Lead (mg/kg)	Boron (mg/kg)	Phosphate (mg/kg)	Chloride (mg/kg)	Sulphate (mg/kg)	Sulphide (mg/kg)	Pesticide (mg/kg)	Potassium (mg/kg)
Station-1	< 1	< 5	< 0.5	< 0.5	724.4	1845.6	ND	ND	0.84
Station-2	< 1	< 5	< 0.5	< 0.5	784.8	2014.6	ND	ND	0.91
Station-3	< 1	< 5	< 0.5	< 0.5	741.1	1989.3	ND	ND	0.89
Station-4	< 1	< 5	< 0.5	< 0.5	846.1	1865.1	ND	ND	0.96
Station-5	< 1	< 5	< 0.5	< 0.5	796.5	1844.9	ND	ND	0.48
Station-6	< 1	< 5	< 0.5	< 0.5	795.4	1795.3	ND	ND	0.66
Station-7	< 1	< 5	< 0.5	< 0.5	274.0	1984.2	ND	ND	0.86
Station-8	< 1	< 5	< 0.5	< 0.5	321.5	1875.7	ND	ND	0.75

SEDIMENT ANALYSIS DATA									
Locations	Total Chromium (mg/kg)	Petroleum Hydrocarbon (mg/kg)	Aluminium (mg/kg)	Total Nitrogen (mg/kg)	Organic Nitrogen (mg/kg)	Phosphorous (mg/kg)	Texture (%)		
							Sand	Silt	Clay
Station-1	< 1	0.9	< 0.1	3.5	1.1	4.6	0.18	17.93	81.89
Station-2	< 1	0.5	< 0.1	3.7	2.2	4.2	0.64	25.01	74.95
Station-3	< 1	0.4	< 0.1	3.1	1.9	5.1	0.41	46.40	53.11
Station-4	< 1	ND	< 0.1	4.1	1.0	2.8	0.14	14.43	85.46
Station-5	< 1	ND	< 0.1	3.2	1.1	3.1	0.94	22.89	75.97
Station-6	< 1	ND	< 0.1	3.9	1.9	2.3	2.54	44.61	75.97
Station-7	< 1	ND	< 0.1	4.1	2.3	5.6	0.57	15.19	83.56
Station-8	< 1	ND	< 0.1	4.2	2.4	4.9	1.41	29.01	68.95

SEDIMENT ANYALYSIS REPORT- MAY 2016

SEDIMENT ANALYSIS DATA									
Locations	pH	Organic Matter	Moisture Content (%)	Conductivity (µS/cm)	Iron (%)	Sodium (%)	Copper (mg/kg)	Nickel (mg/Kg)	Zinc (mg/kg)
Station-1	6.5	4.0	5.2	5.09	4.1	23.51	< 5	< 1	< 3
Station-2	6.8	4.0	6.8	5.10	3.9	23.48	< 5	< 1	< 3
Station-3	6.7	4.1	7.4	5.07	4.0	23.51	< 5	< 1	< 3
Station-4	6.8	6.8	6.9	5.50	3.8	17.35	< 5	< 1	< 3
Station-5	6.6	6.5	4.5	5.43	3.6	17.48	< 5	< 1	< 3
Station-6	6.7	6.9	2.8	5.48	3.7	17.46	< 5	< 1	< 3
Station-7	7.2	4.8	6.3	2.31	3.9	19.76	< 5	< 1	< 3
Station-8	7.2	4.4	5.9	2.29	4.1	19.32	< 5	< 1	< 3

SEDIMENT ANALYSIS DATA									
Locations	Manganese (mg/kg)	Lead (mg/kg)	Boron (mg/kg)	Phosphate (mg/kg)	Chloride (mg/kg)	Sulphate (mg/kg)	Sulphide (mg/kg)	Pesticide (mg/kg)	Potassium (mg/kg)
Station-1	< 1	< 5	< 0.5	< 0.5	750	1979.7	ND	ND	0.92
Station-2	< 1	< 5	< 0.5	< 0.5	755	1983.0	ND	ND	0.90
Station-3	< 1	< 5	< 0.5	< 0.5	758	1977.3	ND	ND	0.91
Station-4	< 1	< 5	< 0.5	< 0.5	815	1802.7	ND	ND	0.89
Station-5	< 1	< 5	< 0.5	< 0.5	816	1801.9	ND	ND	0.86
Station-6	< 1	< 5	< 0.5	< 0.5	829	1802.1	ND	ND	0.87
Station-7	< 1	< 5	< 0.5	< 0.5	950	1885.1	ND	ND	0.83
Station-8	< 1	< 5	< 0.5	< 0.5	945	1883.4	ND	ND	0.81

SEDIMENT ANALYSIS DATA									
Locations	Total Chromium (mg/kg)	Petroleum Hydrocarbon (mg/kg)	Aluminium (mg/kg)	Total Nitrogen (mg/kg)	Organic Nitrogen (mg/kg)	Phosphorous (mg/kg)	Texture (%)		
							Sand	Silt	Clay
Station-1	< 1	0.3	< 0.1	3.9	1.2	4.9	0.05	17.93	82.02
Station-2	< 1	0.2	< 0.1	3.4	2.3	4.2	0.44	25.01	74.55
Station-3	< 1	0.3	< 0.1	3.8	1.5	4.9	0.59	46.60	52.81
Station-4	< 1	ND	< 0.1	3.5	1.1	3.7	0.09	16.83	83.06
Station-5	< 1	ND	< 0.1	3.9	0.8	3.5	0.54	24.89	74.45
Station-6	< 1	ND	< 0.1	3.2	1.6	3.9	1.69	45.60	51.81
Station-7	< 1	ND	< 0.1	3.6	2.1	4.4	0.07	16.95	82.56
Station-8	< 1	ND	< 0.1	4.6	3.1	4.6	1.44	24.01	73.55

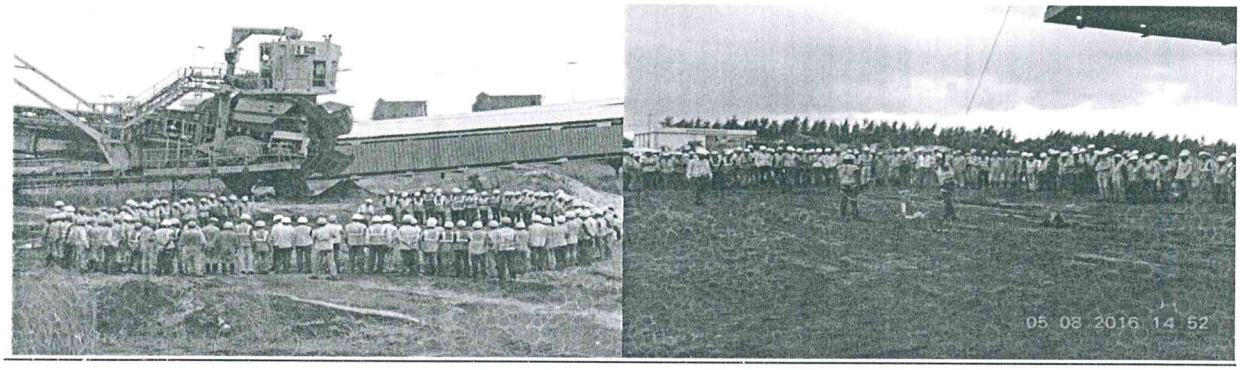
ANNEXURE II – TYPES AND QUANTITY OF FIRE EXTINGUISHERS

The Dhamra Port Company Limited		
Fire Extinguisher Details		
Sl No	Location	Type of Extinguishers & Quantity
1	SWITCH YARD	DCP-5KG-2nos
2	MCC -1	(CO2-4.5KG)-4nos (CO2 -3KG)-2nos
3	MCC -2	(CO2-4.5KG)-2nos
4	MCC -2(A)	(CO2-4.5KG)-2nos
5	MCC -3	(CO2-4.5KG)-2nos (CO2 -3KG)-1no
6	MCC -4	(CO2-4.5KG)-02
7	TP - 1(A)	CO2-4.5KG-1no
8	TP - 1(B)	CO2-4.5KG-1nos
9	TP - 2	CO2-4.5KG-1no
10	TP - 2(A)	CO2-4.5KG-1no
11	TP - 3	CO2 -4.5KG-1no
12	TP - 3(A)	CO2 -4.5KG-1no
13	NEW TP-3	CO2 -4.5KG-1no
14	TP - 4	CO2 -4.5KG-1no
15	TP - 4 (A)	CO2 -4.5KG-1no
16	TP - 5	CO2 -4.5KG-1no
17	TP - 6	CO2 -4.5KG-1no
18	TP-7	CO2 -4.5KG-1nos
19	TP-8	CO2 -4.5KG-1no
20	TP-9	CO2 -4.5KG-1no
21	TP-10	CO2 -4.5KG-1no
22	TP-11	CO2 -4.5KG-1nos
23	TP - 12	CO2 -4.5KG-1no
24	TP - 13	CO2 -4.5KG-1no
25	JETTY	CO2 -4.5KG-2nos DCP-5KG-5nos
26	SL	CO2 -4.5KG-3nos DCP-5KG-1no
27	SUL-1	CO2 -4.5KG-6nos
28	SUL-2	CO2 -4.5KG-7nos
29	DRIVE HOUSE	CO2 -4.5KG-1no DCP-5KG-1no
30	SILO - 1	CO2 -4.5KG-3nos
31	SILO - 2	CO2 -4.5KG-1nos
32	FIRE PUMP HOUSE	CO2 -4.5KG-2nos
33	WTC -1	CO2 -4.5KG-1no DCP-5KG-1Nos,CO2 -3KG-2no
34	WTC -2	CO2 -4.5KG-1no DCP-5KG-1nos CO2 -3KG-1no
35	SR -1	CO2 -4.5KG-1nos DCP-5KG-1nos
36	R - 1	CO2 -4.5KG-1no
37	SR -2	CO2 -4.5KG-1nos & CO2 -3KG-1no, DCP-5KG-1no
38	SR -3	CO2 -4.5KG-2no
39	SR -4	CO2 -4.5KG-2no

40	F.L Smdith Office	CO2-4.5KG-2No
41	PSS	CO2 -4.5KG-3nos
42	BMH WORK SHOP	DCP-5KG-1nos
43	All Equipment	DCP-5KG-11nos
44	LOCO SHED	DCP-5KG-1nos
45	TRANSFORMER HOUSE	CO2 -4.5KG-2nos
46	IMWB Office	CO2 -4.5KG-1no
47	DIESEL FILLING STATION	DCP-5KG-1no
48	WTP	CO2 -4.5KG-3nos
49	DPCL OFFICE	CO2 -4.5KG-2nos & CO2-9KG-1no DCP-5KG-3nos,
50	CUSTOMS OFFICE	CO2-4.5KG-1No DCP-5KG(BC)-1No
51	BAITARANI OFFICE	CO2-4.5KG-1No, DCP -5KG-3Nos
52	DPCL STORE	CO2 -4.5KG-1no
53	NEW CANTEEN	CO2 -3KG-01no DCP-5KG-1no
54	DHAMRA HOUSE	DCP-5KG-4nos CO2 -4.5KG-01no
55	KANIKA GUEST HOUSE	CO2 -4.5KG-01no DCP-5KG-2nos
56	DAV SCHOOL	CO2 -4.5KG-02nos DCP-5KG-1no
57	TOWNSHIP	CO2 -4.5KG-11nos
58	COMMUNITY HALL	CO2 -4.5KG-2nos DCP-5KG-1no
59	DHAMRA GUEST HOUSE	DCP-5KG-4nos
60	RAILWAY OFFICE	CO2 -4.5KG-02no DCP-5KG-3nos
61	BHATATIRA STATION	CO2(4.5kg)-2Nos DCP-5KG(BC)-1no
62	BHATATIRA LC-5	DCP-5KG-1no
63	GURUDASPUR STATION	CO2-4.5KG-1No DCP-5KG-1No
64	GURUDAS PUR TSS	CO2 -4.5KG-2nos DCP-10KG-1nos
65	INTAKE	CO2 -4.5KG-2nos DCP-5KG-2nos
66	Ranital	CO2 -4.5KG-1nos
67	GURUDAS PUR LC-19	DCP-5KG-1no
68	PMC OFFICE	CO2 -4.5KG-1nos
69	PMC OFFICE-2 H.R	CO2 -4.5KG-1nos
70	KOCHILA PMC OFFICE	CO2 -4.5KG-1nos DCP-5KG-2nos
71	PREFEB	CO2 -4.5KG-4nos DCP-5KG-3nos
72	Tower Wagon	DCP-5KG-3nos
73	Tihidi Station	DCP-5KG-2nos
74	Pass Section	C02-4.5KG-1Nos
75	BTTR-SST	CO2-4.5KG-1Nos
76	Security Container Near Main Gate	CO2 -4.5KG-1nos
77	Stock Balance with Fire Store	Foam 50ltr-1no,DCP-30,CO2-25

Annexure III – DETAILS OF MOCK DRILLS

SL.NO	Description of mock drills and training	Numbers of training & mock drill conducted	Numbers of participants
1	Emergency Rescue mock drill	1	12
2	Safety Induction Training	182	1466
3	Portable fire Extinguishers training	20	661
4	Contractor safety training	12	343
5	Defensive driving training	24	401
6	Tool box training	15450	120030
7	On the Job Safety Awareness	71	1399



Height Work Demonstration

Safety Awareness Program at Gate

Rigging & Slinging Training by Third party

ANNEXURE IV – GREEN BELT DETAILS

Fig 1 : Nursery with 1 Lakh Sapling Stock

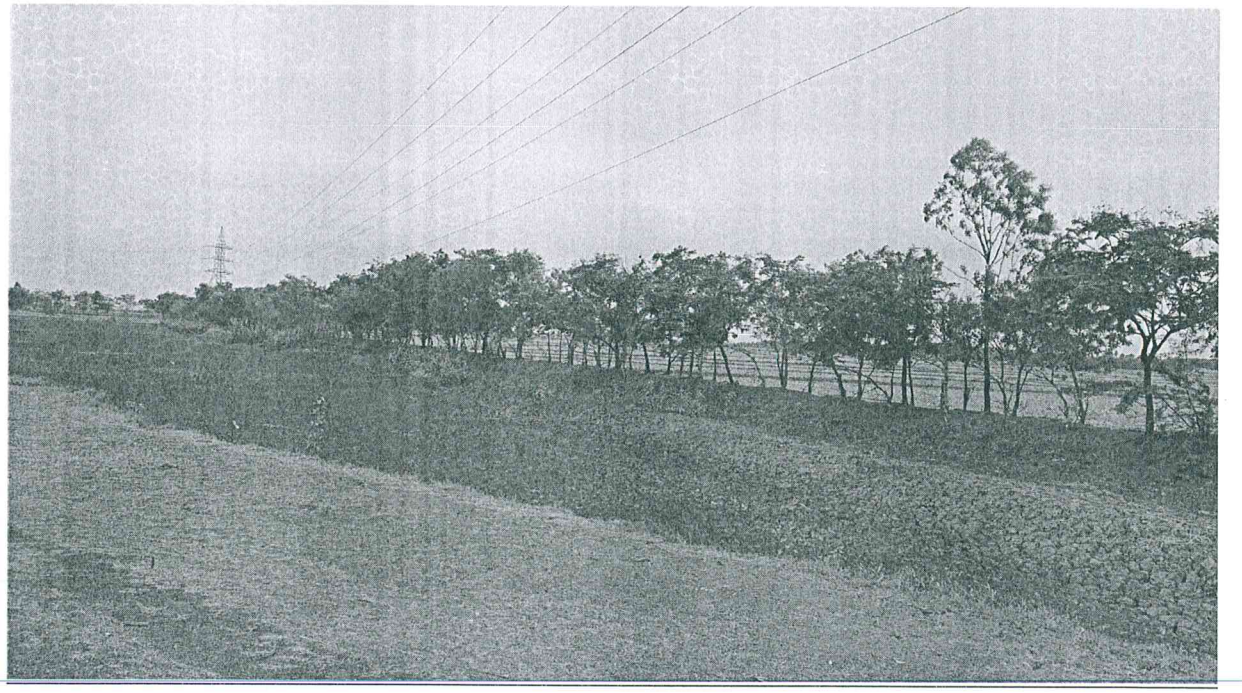


Fig 2: Railway Corridor Edge Plantation

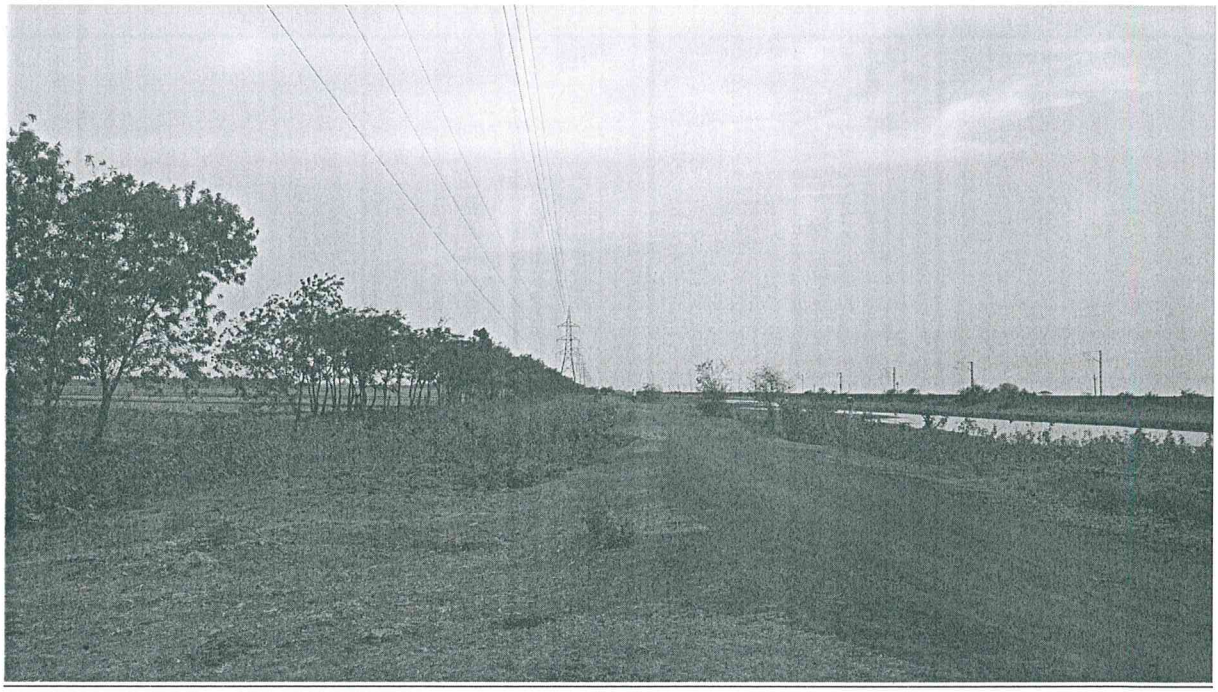


Fig 3: Railway Corridor Edge Plantation

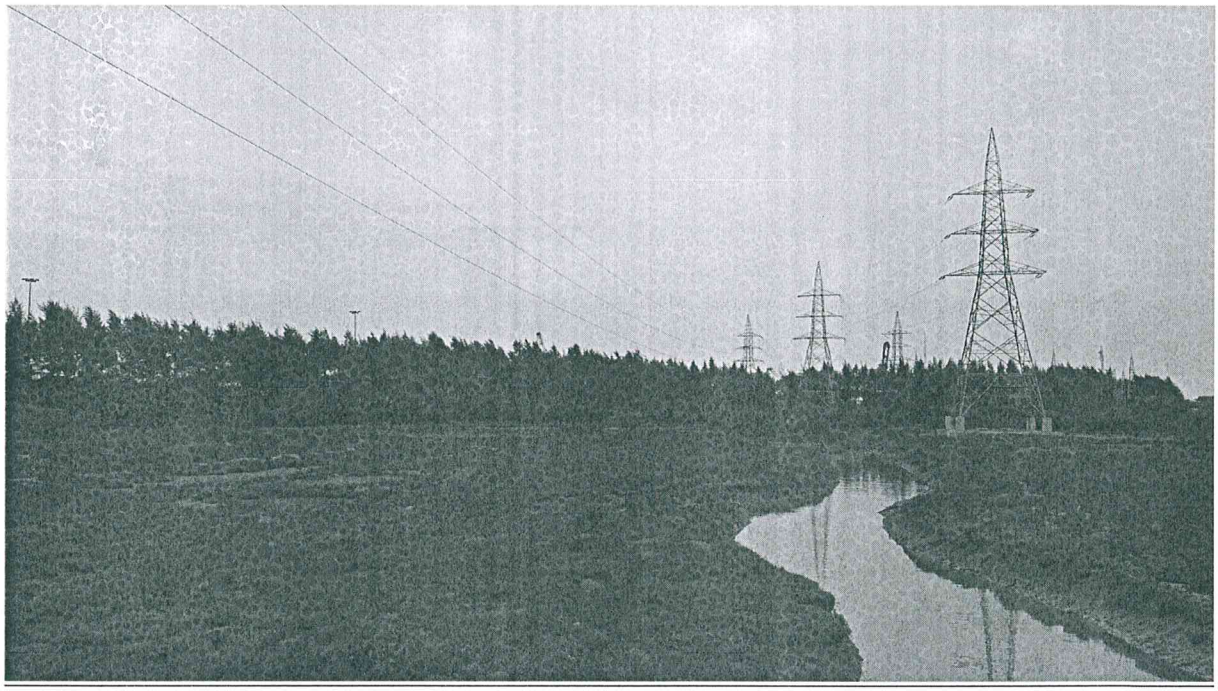


Fig 4: Greenbelt around the Port

Fig 6: Greenbelt around the Port

ANNEXURE V – STP MONITORING REPORT

SEPTEMBER 2016

Sl. No	Parameters	Unit	Testing Method	Results			
				Inlet	Design parameter for raw sewage	Outlet	Prescribed limit
1	Appearance	--	--	Turbid	-	Clear	-
2	Colour	--	APHA 2120 B,C	Blackish	-	Colourless	-
3	Odour	--	APHA 2150 B	Foul	-	Odourless	-
4	pH	--	APHA 4500H B	7	6-8.5	7.75	5.5-9
5	Total Suspended Solids	mg/l	APHA 2540 D	178.35	1000	48.2	100
6	BOD for 3 days at 27°C	mg/l	IS 3025 (Part 44)	185	300-350	20.5	30

AUGUST 2016

Sl. No	Parameters	Unit	Testing Method	Results			
				Inlet	Design parameter for raw sewage	Outlet	Prescribed limit
1	Appearance	--	--	Turbid	-	Clear	-
2	Colour	--	APHA 2120 B,C	Blackish	-	Colourless	-
3	Odour	--	APHA 2150 B	Foul	-	Odourless	-
4	pH	--	APHA 4500H B	7.25	6-8.5	8.1	5.5-9
5	Total Suspended Solids	mg/l	APHA 2540 D	188.55	1000	47.4	100
6	BOD for 3 days at 27°C	mg/l	IS 3025 (Part 44)	175	300-350	24	30

JULY 2016

Sl. No	Parameters	Unit	Testing Method	Results			
				Inlet	Design parameter for raw sewage	Outlet	Prescribed limit
1	Appearance	--	--	Turbid	-	Clear	-
2	Colour	--	APHA 2120 B,C	Blackish	-	Colourless	-
3	Odour	--	APHA 2150 B	Foul	-	Odourless	-
4	pH	--	APHA 4500H B	7.6	6-8.5	8.2	5.5-9
5	Total Suspended Solids	mg/l	APHA 2540 D	185.5	1000	17.2	100
6	BOD for 3 days at 27°C	mg/l	IS 3025 (Part 44)	160	300-350	16	30
7	Residual free chlorine	mg/l	IS 3025 (Part 26)	<0.10	-	<0.10	-

JUNE 2016

Sl. No	Parameters	Unit	Testing Method	Results			
				Inlet	Design parameter for raw sewage	Outlet	Prescribed limit
1	Appearance	--	--	Turbid	-	Clear	-
2	Colour	--	APHA 2120 B,C	Blackish	-	Colourless	-
3	Odour	--	APHA 2150 B	Foul	-	Odourless	-
4	pH	--	APHA 4500H B	7.1	6-8.5	8.2	5.5-9
5	Total Suspended Solids	mg/l	APHA 2540 D	184.2	1000	17.2	100
6	BOD for 3 days at 27°C	mg/l	IS 3025 (Part 44)	120	300-350	16	30
7	Residual free chlorine	mg/l	IS 3025 (Part 26)	<0.10	-	<0.10	-

MAY 2016

Sl. No	Parameters	Unit	Testing Method	Results			
				Inlet	Design parameter for raw sewage	Outlet	Prescribed limit
1	Appearance	--	--	Turbid	-	Clear	-
2	Colour	--	APHA 2120 B,C	Blackish	-	Colourless	-
3	Odour	--	APHA 2150 B	Foul	-	Odourless	-
4	pH	--	APHA 4500H B	7.6	6-8.5	8	5.5-9
5	Total Suspended Solids	mg/l	APHA 2540 D	181.6	1000	19.2	100
6	BOD for 3 days at 27°C	mg/l	IS 3025 (Part 44)	120	300-350	22	30
7	Residual free chlorine	mg/l	IS 3025 (Part 26)	<0.10	-	<0.10	-

APRIL 2016

Sl. No	Parameters	Unit	Testing Method	Results			
				Inlet	Design parameter for raw sewage	Outlet	Prescribed limit
1	Appearance	--	--	Turbid	-	Clear	-
2	Colour	--	APHA 2120 B,C	Blackish	-	Colourless	-
3	Odour	--	APHA 2150 B	Foul	-	Odourless	-
4	pH	--	APHA 4500H B	7.4	6-8.5	7.9	5.5-9
5	Total Suspended Solids	mg/l	APHA 2540 D	177.9	1000	14.4	100
6	BOD for 3 days at 27°C	mg/l	IS 3025 (Part 44)	130	300-350	12	30
7	Residual free chlorine	mg/l	IS 3025 (Part 26)	<0.10	-	<0.10	-

ANNEXURE VI – NOISE MONITORING REPORT

NOISE REPORT OF SEP 16

Sl No	Location	Sampling date	Day Time (Leq) in dB(A)	Night Time (Leq) in dB(A)	Standard	
					Day Time	Night Time
1	MCC – 1	27.09.2016	65.5	47.2	75	70
2	Settling Pond	26.09.2016	69	45.4	75	70
3	WTP	24.09.2016	60	41.8	75	70
4	Community Hall	23.09.2016	66.2	48.3	75	70
5	Old Guest house Dhamra	28.09.2016	59.7	39.7	65	55

NOISE REPORT OF AUG 16

Sl No	Location	Sampling date	Day Time (Leq) in dB(A)	Night Time (Leq) in dB(A)	Standard	
					Day Time	Night Time
1	MCC – 1	17.08.2016	66.3	47.5	75	70
2	MCC – 3	18.08.2016	67.5	43.8	75	70
3	WTP	19.08.2016	58.2	41.6	75	70
4	Community Hall	20.08.2016	67.4	48.5	75	70
5	Old Guest House	22.08.2016	60.5	38.6	65	55

NOISE REPORT OF JUL 16

Sl No	Location	Sampling date	Day Time (Leq) in dB(A)	Night Time (Leq) in dB(A)	Standard	
					Day Time	Night Time
1	MCC – 1	15.07.2016	65.5	43.7	75	70
2	MCC – 3	16.07.2016	64.7	48.3	75	70
3	WTP	18.07.2016	57.8	43.9	75	70
4	Community Hall	19.07.2016	68.7	49.9	75	70
5	Old Guest House	20.07.2016	61.5	38.9	65	55

NOISE REPORT OF JUN 16

Sl No	Location	Sampling date	Day Time (Leq) in dB(A)	Night Time (Leq) in dB(A)	Standard	
					Day Time	Night Time
1	MCC – 1	04.06.2016	63.2	42.5	75	70
2	MCC – 3	13.06.2016	65.5	51.6	75	70
3	WTP	16.06.2016	59.6	44.1	75	70
4	Community Hall	23.06.2016	62.3	47.2	75	70
5	Old Guest House	25.06.2016	60.3	38.4	65	55

NOISE REPORT OF MAY 16

Sl No	Location	Sampling date	Day Time (Leq) in dB(A)	Night Time (Leq) in dB(A)	Standard	
					Day Time	Night Time
1	MCC – 1	04.05.2016	61.8	43.5	75	70
2	MCC – 3	13.05.2016	63.5	52.1	75	70
3	WTP	16.05.2016	56.4	43.2	75	70
4	Community Hall	23.05.2016	63.2	48.2	75	70
5	Old Guest House	25.05.2016	61.6	37.1	65	55

NOISE REPORT OF APR 16

Sl No	Location	Sampling date	Day Time (Leq) in dB(A)	Night Time (Leq) in dB(A)	Standard	
					Day Time	Night Time
1	MCC – 1	28.04.2016	61.2	42.2	75	70
2	MCC – 3	28.04.2016	65.8	50.3	75	70
3	WTP	28.04.2016	52.3	41.2	75	70
4	Community Hall	28.04.2016	60.0	48.2	75	70
5	Old Guest House	28.04.2016	62.2	37.1	65	55

ANNEXURE VII – AMBIENT AIR MONITORING REPORT

AMBIENT AIR QUALITY MONITORING REPORT-SEPT 16

Air Quality Parameters	MCC 1	MCC 3	WTP	Community Hall	Old Guest House	NAAQS Standards
Sulphur Dioxide (SO2) in $\mu g/m^3$	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	80
Nitrogen Dioxide (NO2) in $\mu g/m^3$	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	80
PM10 in $\mu g/m^3$	55.17	96.47	47.84	53.07	46.86	100
PM2.5 in $\mu g/m^3$	25.44	49.56	23.49	26.2	22.08	60
Ozone (O_3) in $\mu g/m^3$	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	100
Benzene (C_6H_6) in $\mu g/m^3$	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	5
Lead (Pb) in $\mu g/m^3$	BDL (DL:0.01	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	0.02	1
Carbon Monoxide (CO) in mg/m^3	<1	<1	<1	<1	<1	02
Benzo (alpha) Pyrene in ng/m^3	BDL (DL: 0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL: 0.2)	1
Ammonia (NH_3) in $\mu g/m^3$	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	400
Arsenic (As) in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	6
Nickel as Ni in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	20

AMBIENT AIR QUALITY MONITORING REPORT-AUG 16

Air Quality Parameters	MCC 1	MCC 3	WTP	Community Hall	Old Guest House	NAAQS Standards
Sulphur Dioxide (SO2) in $\mu g/m^3$	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	80
Nitrogen Dioxide (NO2) in $\mu g/m^3$	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	80
PM10 in $\mu g/m^3$	52.92	90.18	44.13	48.82	44.77	100
PM2.5 in $\mu g/m^3$	23.74	41.66	22.46	24.02	22.44	60
Ozone (O_3) in $\mu g/m^3$	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	100
Benzene (C_6H_6) in $\mu g/m^3$	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	5
Lead (Pb) in $\mu g/m^3$	0.01	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	0.02	1
Carbon Monoxide (CO) in mg/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	02
Benzo (alpha) Pyrene in ng/m^3	BDL (DL: 0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL: 0.2)	1
Ammonia (NH_3) in $\mu g/m^3$	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	400
Arsenic (As) in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	6
Nickel as Ni in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	20

AMBIENT AIR QUALITY MONITORING REPORT-JUL 16

Air Quality Parameters	MCC 1	MCC 3	WTP	Community Hall	Old Guest House	NAAQS Standards
Sulphur Dioxide (SO2) in $\mu g/m^3$	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	80
Nitrogen Dioxide (NO2) in $\mu g/m^3$	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	80
PM10 in $\mu g/m^3$	53.9	89.1	41.9	50.9	46.5	100
PM2.5 in $\mu g/m^3$	23.9	46.8	19.9	25.9	21.8	60
Ozone (O_3) in $\mu g/m^3$	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	100
Benzene (C_6H_6) in $\mu g/m^3$	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	5
Lead (Pb) in $\mu g/m^3$	0.01	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	0.02	1
Carbon Monoxide (CO) in mg/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	02
Benzo (alpha) Pyrene in ng/m^3	BDL (DL: 0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL: 0.2)	1
Ammonia (NH_3) in $\mu g/m^3$	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	400
Arsenic (As) in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	6
Nickel as Ni in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	20

AMBIENT AIR QUALITY MONITORING REPORT-JUN 16

Air Quality Parameters	MCC 1	MCC 3	WTP	Community Hall	Old Guest House	NAAQS Standards
Sulphur Dioxide (SO2) in $\mu g/m^3$	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	80
Nitrogen Dioxide (NO2) in $\mu g/m^3$	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	80
PM10 in $\mu g/m^3$	51.6	84.6	40.3	50.3	41.6	100
PM2.5 in $\mu g/m^3$	23.5	42.6	23.2	24.5	22.3	60
Ozone (O_3) in $\mu g/m^3$	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	100
Benzene (C_6H_6) in $\mu g/m^3$	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	5
Lead (Pb) in $\mu g/m^3$	0.01	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	0.02	1
Carbon Monoxide (CO) in mg/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	02
Benzo (alpha) Pyrene in ng/m^3	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL: 0.2)	1
Ammonia (NH_3) in $\mu g/m^3$	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	400
Arsenic (As) in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	3.1	BDL (DL:2)	6
Nickel as Ni in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	20

AMBIENT AIR QUALITY MONITORING REPORT-MAY16

Air Quality Parameters	MCC 1	MCC 3	WTP	Community Hall	Old Guest House	NAAQS Standards
Sulphur Dioxide (SO2) in $\mu g/m^3$	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	80
Nitrogen Dioxide (NO2) in $\mu g/m^3$	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	80
PM10 in $\mu g/m^3$	54.6	84.3	45.1	50.9	44.9	100
PM2.5 in $\mu g/m^3$	23.6	42.1	22.3	26.8	24.6	60
Ozone (O_3) in $\mu g/m^3$	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	100
Benzene (C_6H_6) in $\mu g/m^3$	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	5
Lead (Pb) in $\mu g/m^3$	0.01	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	0.02	1
Carbon Monoxide (CO) in mg/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	02
Benzo (alpha) Pyrene in ng/m^3	BDL (DL: 0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL: 0.2)	1
Ammonia (NH_3) in $\mu g/m^3$	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	400
Arsenic (As) in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	3.1	BDL (DL:2)	6
Nickel as Ni in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	20

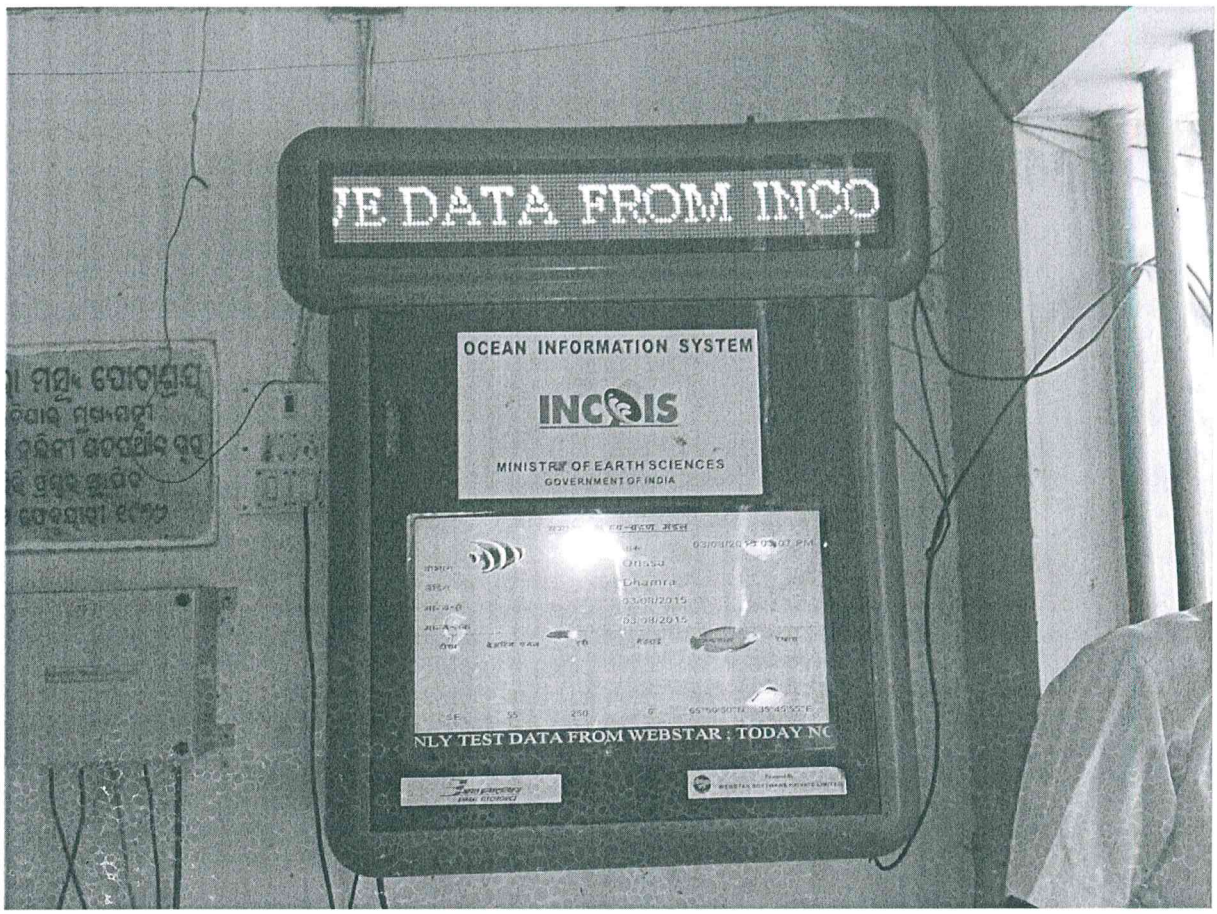
AMBIENT AIR QUALITY MONITORING REPORT-APR 16

Air Quality Parameters	MCC 1	MCC 3	WTP	Community Hall	Old Guest House	NAAQS Standards
Sulphur Dioxide (SO2) in $\mu g/m^3$	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	BDL (DL:5)	80
Nitrogen Dioxide (NO2) in $\mu g/m^3$	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	BDL (DL:7)	80
PM10 in $\mu g/m^3$	58.3	89.2	43.2	51.8	48.6	100
PM2.5 in $\mu g/m^3$	25.1	51.3	20.3	26.5	23.1	60
Ozone (O_3) in $\mu g/m^3$	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	BDL (DL:10)	100
Benzene (C_6H_6) in $\mu g/m^3$	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	5
Lead (Pb) in $\mu g/m^3$	0.01	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	0.02	1
Carbon Monoxide (CO) in mg/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	02
Benzo (alpha) Pyrene in ng/m^3	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL: 0.2)	1
Ammonia (NH_3) in $\mu g/m^3$	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	BDL (DL:20)	400
Arsenic (As) in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	3.1	BDL (DL:2)	6
Nickel as Ni in ng/m^3	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	BDL (DL:2)	20

ANNEXURE-VIII COST BREAK UP OF ENVIRONMENT BUDGET V/S EXPENDITURE

S. No	Item Description	Allocation In Crores	Expenditure In Crores
		2015-16	
1	Monitoring of Environment Parameters by third party	0.2078	0.16355
2	WTP	0.7019	0.7019
3	STP	0.138	0.138
4	Solid Waste Management	0.3	0.180
5	Water Drainage Management	0.1898	0.1848
6	Providing Trawler to Forest Dept. for Patrolling	0.35	0.10622
7	Plantation	0.3288	0.3188
8	Contingent expenses for Phase II	0.08	0.08
9	Water Sprinkling on Road	0.422	0.422
10	Safety, Fire Tenders & Fire Fighting System	0.89	0.62
11	Kitchen Waste Converter	0.05	0.039
12	Dark Sky Lighting	0.344	0.344
13	Online Electronics Board	0	0.0415
	Total	**4.00**	**3.34**

ANNEXURE-IX Picture of INCOIS Electronic Display Board installed at Dhamra Fishing Harbour



ANNEXURE-X : EMP and Action Plan

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
			Constructional Phase		
1.	Development / Expansion of Port	Existing land use	Impact on nearby mangrove areas	Scattered mangroves identified near southern boundary of the port in phase I development needs to be conserved. The port boundary will be at a minimum distance of 50 m from the mangrove area on the northern side. Awareness will be created amongst port workers about the importance of mangroves and their conservation	Scattered mangroves identified near southern boundary of Phase I development spread over an area of 9 ha. are being conserved by fencing. A buffer of 50m is being maintained between the project boundary and mangrove vegetation. Awareness programs for mangrove conservation for port workers are being undertaken
		Impact on turtle nesting	Glare of Port Light may cause disturbance to hatchlings	Install specialized illumination system in line with "International Dark Sky Association (IDA)" to avoid illuminating the sky or focusing light towards sea. Mercury vapour and metal halides will not be used Sodium vapour lamps will be used	DPCL has already implemented the suggested mitigation measures during Phase I and these measures shall also be implemented during Phase II Expansion of port.
2.	Capital dredging and reclamation	Marine water quality	Increase in turbidity Change in marine water	Checking of turbidity levels with baseline levels as reference during entire monitoring programme	DPCL regularly monitors the turbidity levels as a part of marine Environmental monitoring by NABL accredited organization to ensure that the turbidity levels are well within the

					baseline level..
3	Material transport and construction activities	Air Quality	Exhaust emissions from vehicles Dust suspension during site preparation and construction	Providing adequately sized construction yard for storage of construction materials, equipment tools, earthmoving equipment, etc Provide enclosures on all sides of construction site Movement of material will be mostly during non-peak hours. On-site vehicle speeds will be controlled to reduce excessive dust suspension in air and dispersion by traffic Construction equipment and transport vehicles will be periodically washed to remove accumulated dirt Water sprinkling will be carried out to suppress fugitive dust Environmental awareness training will be imparted to personnel involved in developmental works	We have a regular air monitoring protocol twice a week to ensure air quality parameters never exceed the prescribed limits. Vehicular Traffic Speed is kept limited to 20 kmph Regular water sprinkling on roads are done by water tankers .
		Noise	Noise from following activities Vehicles transporting construction	Procurement of machinery / construction equipment will be done in accordance with specifications conforming to source noise levels less than 85 dB (A) Well-maintained construction	We have a strict maintenance regimen for all plant machinery and equipment which is reviewed by the management everyday. PPE's like Earplug, muffs are being used in noise prone areas.

			material Diesel run engines of construction machinery and dredgers Pile driving activities during construction of cargo berths	equipment, which meets the regulatory standards for source noise levels, will be used Noise attenuation will be practiced for noisy equipment by employing suitable techniques such as acoustic controls, insulation and vibration dampers Personnel exposed to noise levels beyond threshold limits will be provided with protective gear like earplugs, muffs, etc. Ambient noise levels will be monitored	Noise level monitoring is being carried out by a MoEF & CC accredited agency.
		Disturbance to Natural Drainage pattern	Impact to natural flow of runoff due to blockage and change of drainage course	Adequate storm water drainage system will be provided. If natural drainage disturbed, it will be reinstated	Project activities are being carried out at DPCL in such a way that, creek and drainage pattern of the area are not being disturbed, However DPCL is in the process of preparing detailed storm water drainage pattern to address dredging pattern of the area around the project and implementation will be done accordingly
		Vegetation and Strain on existing	Loss of vegetation and strain on existing infrastructure	There will be no loss of vegetation as the area does not contain any tree growth. Temporary workers camp will be provided with sufficient infrastructure and other provisions	Worker Camps have been provided with sufficient infrastructure and electricity and tree cutting is forbidden within the port
		Existing Traffic	Traffic addition	The existing road will be	Government of Odisha has already

				strengthened to cater the increased traffic	started widening this road to a two lane road with paved shoulder which shall cater the increased traffic
4	Land Reclamation	Existing Water Resources like Groundwater and surface water	The land reclaimed is saline mud and is separated from the adjoining land mass through the salt dyke. This being an intertidal zone, there will be no impact on groundwater quality	Protective bunds (salt dyke) already exists which will prevent inundation of salt water to the adjoining land. Return seawater will be channeled back to sea.	Reclamation activity is being done within reclamation bunds and it is physically separated from the adjoining land mass.
5	Solid Waste Management	Soil quality	Impacts due to disposal of solid waste on ground	Construction waste will be used within port site for filling of low lying areas. Composted bio-degradable waste will be used as manure in greenbelt. Other recyclable wastes will be sold. General refuse generated on-site will be collected in waste skips and separated from construction waste. Burning of refuse at construction sites will be prohibited.	Construction waste generated was used in low lying areas as a standard practice Bio- degradable waste is being used as manure for horticulture activities and for development of nursery Waste Segregation is being done at Point of Generation and Color Coded bins are in use in the Port Residential Area Burning of wastes is prohibited within the premises

6	Handling of hazardous wastes	Human safety and property loss	Accidents during construction	Adequate safety measures as per OSHA standards will be adopted. Construction site will be secured by fencing with controlled/limited entry points. Hazardous materials such as lubricants, paints, compressed gases, and varnishes etc., will be stored as per the prescribed/approved (MSIHC) safety norms. Medical facilities including first-aid will be available for attending to injured workers.	We have a strict safety regimen with the motto "Safety First" Safety Observations are mandatory from every department of the port and immediate measures are undertaken to rectify the shortcoming. OHSAS Guidelines and MSIHC Guidelines are followed for Hazardous wastes
7	Fishing	Fishermen and fishing villages	Impact on fishing due to Construction works	Signboards will be placed at the construction sites in order to make fishermen aware of the ongoing activities	Our navigational channel is well marked with marker buoys and fishermen community are regularly sensitized via our well-staffed CSR Team on Port Activities
Operational Phase					
1.	Cargo handling and Inland Cargo movement and storage areas	Air Quality	Emissions from loading/unloading equipment, DG sets, vehicular dust emissions, fugitive emissions from storage areas, spillage of cargo	Use of specialized ship loaders/unloaders, wagon tippler, covered conveyors and rapid loading system through silos Dust suppression measures at loading/unloading points, wagon tippler complex, transfer points, stockyards, rapid loading system and at internal roads	Operational Phase (Phase –II)shall commence only after completion of the construction phase

				Periodic cleaning of cargo spills and speed regulations for vehicles engaged in transportation	
		Noise	Due to equipment handling and vehicular movement Ship (un)loading operations	Acoustic Barriers and Enclosures Personal Protection Equipment (PPE) Counseling and traffic regulation	Operational Phase (Phase –II) yet to commence
		Traffic Addition	Cargo movement from/to port	A dedicated rail corridor of 62.5 km has been developed and cargo are being transported through rail. A dedicated four lane road and doubling of rail link along the rail corridor has been proposed in the Phase II	Operational Phase (Phase –II) yet to commence
2.	Aqueous discharges in harbor basin	Marine water quality and ecology	Change in marine water quality/ ecology due to discharge of ship wastes, sewage, ballast water, bilge water, solid waste etc.	Ships should comply with the MARPOL convention. As a mitigation measure for accidental spillages, Oil spill contingency plan will be implemented. Carrier will be required to exchange ballast water in a deep sea location prior to arrival in the harbor Provision of waste reception facility for bilge oily water and waste oil will be provided	Operational Phase (Phase –II) yet to commence All visiting ships are MARPOL Compliant
3.	Accidental Cargo and	Marine water quality and	Change in marine water quality	In case of any cargo spillage during transfer from/to ships, it will be	Operational Phase (Phase –II) yet to commence

	Oil spills	ecology		attempted to recover the spills. Oil spill control equipment such as booms / barriers will be provided for containment and skimmers will be provided for recovery Response time for shutting down the fueling, containment and recovery will be quicker.	Oil Spill Containment equipment in readiness. Oil Spill drills are conducted on a regular basis
4.	Maintenance dredging	Marine water quality	Increase in turbidity	It will be ensured that the dumping of the maintenance dredge spoil would be uniform. Turtle deflectors on dredge head will be provided Environmental Monitoring Programme comprising of monitoring of marine water quality, marine sediment quality and marine ecology will be initiated one week prior to commencement of dredging and will be continued during the dredging period.	Operational Phase (Phase –II) yet to commence
		Marine Ecology	Due to decrease in DO levels which effect marine ecology and disturbance to benthic communities.		
5.	Water Supply	Water resources	Impact on existing water resources	Government of Odisha has accorded permission for water intake of 5 MLD from Matai River which can cater	Operational Phase (Phase –II) yet to commence

				requirement for port expansion. Water Treatment Plant (WTP) of 5 MLD and water distribution system developed for Phase I. Distribution system shall be extended to cater to the requirement of expansion project.	
6.	Wastewater Discharge	Water Quality	Impact due to discharge of runoff from stock piles and disposal of untreated sewage	Collection of runoff from stock piles in settling ponds. Sewage treatment plant will be provided. Treated wastewater from STP will be used for irrigating the greenbelt	Operational Phase (Phase –II) yet to commence
7.	Solid Waste Management	Groundwater and Soil quality	Impact due to disposal of untreated solid waste on ground	Composted bio-degradable waste will be used as manure in greenbelt. Other recyclable wastes will be sold.	Garbage Yard Space allocated for Phase II Operational Phase. Solid Waste Management would be done by Segregation at Generation Points
8.	Cargo Movement	Existing infrastructure	Increase in Traffic Addition	A dedicated rail corridor of 62.5 km has been developed and cargo are being transported through rail A dedicated four lane road and doubling of rail link along the rail corridor has been proposed in the Phase II	Rail Road Corridor infrastructure would be augmented to cater the increased traffic
9.	Handling of hazardous materials	Accidents due to products handling	Human life and loss of property	Hazardous materials will be stored as per the prescribed/approved (MSIHC)	Used Oil is the only hazardous waste being handled currently and it is being recycled through authorized

				safety norms. Operation areas will be secured by fencing with controlled/limited entry points. Hazardous wastes (used oil & used battery) will be sent to OPCB approved recyclers. Medical facilities including first aid will be available for attending to injured workers. Regular check of pipelines and tank farms Emergency alarms, provision of fire hydrant system and fire station. Effective Disaster Management Plan (DMP) which covers onsite and offsite emergency plans.	recyclers. Proper Care is taken when handling of this waste and a well-marked storage shed is used for storage of used oil. Hazardous Waste Storage and Handling Facilities will be upgraded during the Operational Phase
10.	Fishing activity	Fishermen livelihood	Impact on fishing due to vessel movement	Creation of awareness among the fisher folk about orientation of approach channel	Fishermen Community are a part of the port community and we have regular and positive interactions with them. Oriental of Navigational Channel is well marked with marker buoys and known to the fishing community

ANNEXURE-XI ENVIRONMENT CLEARANCE COPY TO ZILLAPARISAD

The Dhamra Port Company Limited
Second Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar - 751023.
Tel : 0674 - 2303829, Fax : 0674-2303828, E-mail : dpcl@dhamraport.com
Website : www.dhamraport.com, CIN-U45205OR1998PLC005448

DPCL

23.01.2014

To

The Chairman, Zilla Parishada, Bhadrak / Sarpanch, Dosinga Panchayat / NGO (Local)

Sub: Environmental Clearance for Phase- II Expansion of Dhamra Port

Dear Sir,

The Dhamra Port has been granted Environmental Clearance by the Government of India on 1st Jan 2014 for its second phase expansion. The copy of the EC is enclosed here with for your kind reference.

Yours Sincerely,

Himansu S. Sahoo
AGM – CC & CSR
Dhamra Port Company Limited
Mob - 9777453847

24.1.2014

(Jagannath Swain)
President, Zilla Parishad

ANNEXURE-XII LICENSE AND NOC FROM FIRE DEPT

LICENSE OF STORAGE OF EXPLOSIVES

भारत सरकार
Government of India
वाणिज्य और उद्योग मंत्रालय
Ministry of Commerce & Industry
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो)
Petroleum & Explosives Safety Organisation (PESO)

E-mail : dyccebhub@explosives.gov.in
Phone/Fax No : 0674-2433370,2433390 Fax 2430656

संख्या /No. : P/EC/OR/14/1587 (P237780) दिनांक /Dated : 09/04/2015

सेवा में /To,

The Dhamra Port Company Limited,
2nd, Floor, Fortune Towers,
Chandrasekharpur,
Bhubaneswar,
District: KHURDA,
State: Odisha
PIN: 751023

9/4/2015

विषय /Sub : Plot No, Plot No.696(P), Khata No.183, Mouza - Doshinga, Tahasil - Chandabali, District: BHADRAK, State: Odisha, PIN: 999999 में स्थित विद्यमान पेट्रोलियम वर्ग A,B Consumer Pump की अनुज्ञप्ति संख्या P/EC/OR/14/1587 (P237780) - नवीकरण के संदर्भ में ।
Existing Petroleum Class A,B Consumer Pump at Plot No, Plot No.696(P), Khata No.183, Mouza - Doshinga, Tahasil - Chandabali, District: BHADRAK, State: Odisha, PIN: 999999 - Licence No. P/EC/OR/14/1587 (P237780) - Reg Renewal of Licence.

महोदय /Sir (s),

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या DPCL/commercial/peso/346 दिनांक 04/12/2014 का संदर्भ ग्रहण करें ।

Please refer to your letter No. DPCL/commercial/peso/346 dated 04/12/2014 on the subject.

अनुज्ञप्ति सं P/EC/OR/14/1587 (P237780) दिनांक 04/10/2010 दिनांक 31/12/2015 तक नवीनीकृत कर लौटाई जा रही है ।
Licence No. P/EC/OR/14/1587 (P237780) dated 04/10/2010 is returned herewith duly renewed upto 31/12/2015.

कृपया पेट्रोलियम नियम,2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कड़ाई से पालन करें । अनुज्ञप्ति के नवीकरण हेतु समस्त दस्तावेजों को दिनांक 31/12/2015 को उससे पहले इस कार्यालय में प्रस्तुत करें ।
Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence so as to reach this office on or before 31/12/2015.

कृपया पावती दें । Please acknowledge the receipt.

भवदीय /Yours faithfully,

(सुबासिस रे)
(Subasis Ray)
विस्फोटक नियंत्रक
Controller of Explosives
कृते उप मुख्य विस्फोटक नियंत्रक
For Dy. Chief Controller of Explosives
भुवनेश्वर
Bhubaneswar

NO OBJECTION CERTIFICATE FROM OFS, ODISHA GOVT. TO DPCL ON FIRE SAFETY

OFFICE OF THE FIRE PREVENTION OFFICER:
ODISHA, BHUBANESWAR

No 293 /FPW,BBSR Dt. 05-04.2013

To

The Manager Environment Health Safety,
The Dhamra Port Company Ltd.

Ref:- Your letter No. DPCL/EHS/SO-287 dtd.08.12.2010.

Sub:- Grant of NOC from fire safety point of view to Dhamra Port.

***

Dear Sir,

With reference to the letter on the subject cited above this is to intimate that on your request the fire protection system of Dhamra Port was inspected on 09.03.2013 by a joint team comprising of Deputy Fire Officer, Fire Prevention Wing, Bhubaneswar and Deputy Fire Officer, Bhubaneswar Circle. The observations are as under.

Observations

The team inspected the following establishments/areas of Dhamra Port which are important from fire safety point of view.

1. Motor Control Center-1,2,3,4(Single storied).
2. Fire water Pump house- Single floor.
3. Water treatment Plant-G+1 floor.
4. Administrative Office-Single floor.
5. Rail loading system for coal.
6. Rail loading system for Lime stone.
7. Switch yard.
8. Coal stack pile area.
9. Jetty area.
10. Transfer points.

The following fire protection measures have been provided in the above mentioned areas as indicated against each.

Sl No.	Name of area	No. of external hydrant	No. of internal hydrant.	No. of Monitors	Smoke detectors	Manual call point with hooters
01	Motor Control Center-1	1 no.	-----	----	32 nos	02 nos
02	Motor Control Center-2	2nos	-----	-----	18 nos	02 nos
03	Motor Control Center-3	2nos	-----	----	09 nos	01 no.
04	Motor Control Center-4	2nos	----	----	06 nos	01 no.
05	Fire water Pump house	01 no.	----	---	--	-----
06	Water treatment Plant	-----	-----	---	---	---
07	Administrative Office	04 nos	06 nos	---	----	---
08	Rail loading system for Coal	---	06 nos	01 no.	-----	---
09	Rail loading system for Lime stone	---	05 nos	01 no.	--	--
10	Switch yard.	01 no.	---	---	---	---
11	Coal stack pile area	59 nos	----	13 nos	---	----
12	Jetty area.	16 nos	----	---	----	----
13	Transfer points	-----	03nos. in each	---	----	---

The entire Port area have been provided with hydrant system. Near each external/ internal hydrant point 01 hose box containing 02 delivery hoses of 15 mtrs length each and 01 branch pipe has been provided. Besides the entire Coal stack pile area has been provided with water sprinkling system. The control room has been set up and a panel board connecting all the Smoke detectors has been installed there. One fire pump house has been setup where one electric pump and one diesel pump of 4555 ltrs/min capacity each and one Jockey pump of 450 ltrs/min capacity have been installed to supply water to the hydrant and sprinkling system. Two nos. Fire water reservoir of 6,00,000 ltrs capacity each have been provided to supply

water to the fire fighting system. Besides 04 nos Co_2 (4.5 kg), 22 nos Co_2(3.2 kg), 09 nos DCP (5 kg) and 10 nos DCP(10 kg) fire extinguishers have been installed at required places.

All the above mentioned fire protection measures were test checked and found working properly.

The stacking of coal in the pile area should be done as per IS: 3595/2002

Yours sincerely,

05/4/13

Fire Prevention Officer
Odisha, Bhubaneswar

Memo No._____/FPW,BBSR Date .03.2013

Copy submitted to the I/C Chief Fire Officer, Odisha, Cuttack/D.G & I.G of Police, Fire Service, Odisha, Cuttack for favour of information.

Sd/-

Fire Prevention Officer
Odisha, Bhubaneswar

ANNEXURE-XIII - Advertisement in Local Newspapers intimating grant of Environmental & CRZ Clearance

SAMBAD, Bhubaneswar
17 Jan 2014, P.5

SAMBAD

ସମ୍ବାଦ

ବିଜ୍ଞପ୍ତି

ଧାମରା ପୋର୍ଟରେ ଦ୍ୱିତୀୟ ପର୍ଯ୍ୟାୟ ସମ୍ପ୍ରସାରଣ ପାଇଁ ଭାରତ ସରକାରଙ୍କ ପରିବେଶ ଓ ଜଙ୍ଗଲ ବିଭାଗ ଚିଠି ସଂଖ୍ୟା F.No. 11-104/2009-IA-IIIରେ ତା୧.୧.୨୦୧୪ ତାରିଖରେ ପରିବେଶ ଓ ଉପକୂଳ ଅଞ୍ଚଳୀୟ ମଞ୍ଜୁରି ପ୍ରଦାନ କରିଛନ୍ତି। ଏହାର ସବିଶେଷ ତଥ୍ୟ http://www.envfor.nic.inରେ ଉପଲବ୍ଧ ଅଛି।

SAMAJ - 16.01.14
P.5

୧୬ ଜାନୁୟାରୀ ୨୦୧୪

ବିଜ୍ଞପ୍ତି

ଧାମରା ପୋର୍ଟର ଦ୍ୱିତୀୟ ପର୍ଯ୍ୟାୟ ସମ୍ପ୍ରସାରଣ ପାଇଁ ଭାରତ ସରକାରଙ୍କ ପରିବେଶ ଓ ଜଙ୍ଗଲ ବିଭାଗ ଚିଠି ସଂଖ୍ୟା F.No. 11-104/2009-IA-IIIରେ ତା୧.୧.୨୦୧୪ ତାରିଖରେ ପରିବେଶ ଓ ଉପକୂଳ ଅଞ୍ଚଳୀୟ ମଞ୍ଜୁରି ପ୍ରଦାନ କରିଛନ୍ତି। ଏହାର ସବିଶେଷ ତଥ୍ୟ http://www.envfor.nic.inରେ ଉପଲବ୍ଧ ଅଛି।

ANNEXURE-XV

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DPCL/ENV-12/01/16

15th September, 2016

To
The Member Secretary
State Pollution Control Board, Odisha
A/118, Nilakantha Nagar, Unit –VIII,
Bhubaneswar - 751012

Dear Sir,

Sub: Environmental Statement for the financial year ending 31st March, 2016 for M/s Dhamra Port Company Limited.

Ref: Consent Order No. 6441/INC-I-CON-6348 dated 04.04.2016

With reference to the above mentioned subject, please find enclosed Environmental Statement in Form V prescribed under Rule 14 of the Environment (Protection) Rules 1986, for M/s Dhamra Port Company Limited for the financial year ending 31st March 2016.

Thanking you,

Yours faithfully,
For **Dhamra Port Company Limited**

Subrat Tripathy
Chief Executive Officer

Encl: As above.

17.09.16

Copy to: The Regional Officer,
State Pollution Control Board, Odisha,
160, Sahadev Khunta,
Balasore, Odisha

The Dhamra Port Company Limited

At: Dosinga, Po: Dhamra
Dist: Bhadrak
PIN: 756171
Odisha, India
CIN: U45205OR1998PLC005448

Tel + 91 674 2304500 (Bhubaneswar)
+ 91 6786 270100 (Dhamra)
Fax + 91 674 2303828
reach.dhamraport@adani.com
www.adani.com
www.dhamraport.com

Registered Office: HIG-20, BDA Colony, Jayadev Vihar, Bhubaneswar – 751 013, Odisha, India

FORM V
(See Rule 14)

Environmental Statement for the Financial Year ending 31st March 2016

PART – A

(i)	Name and address of the Owner/ Occupier of the Industry Operation or Process	:	Subrat Tripathy Chief Executive Officer M/s The Dhamra Port Company Limited (DPCL) Village-Dosinga, Po.-Dhamra, Dist-Bhadrak
(ii)	Industry Category Primary (STC Code) Secondary (STC Code)	: 	Red-B NA NA
(iii)	Production Capacity	:	25 MTPA
(iv)	Year of Establishment	:	2000
(v)	Date of last Environment Statement submitted	:	12th September, 2015

PART – B

Water and Raw Material Consumption

(i) Water Consumption

Water Consumption Cu. Mtr./Day	
Process	Nil
Cooling	Nil
Domestic	265.6 m^3/day
Dust suppression	145.7 m^3/day
Fire fighting	1057.4 m^3/day

Name of Products	Process Water Consumption per unit of Product Output	
	During the current financial year (2014-15)	During the current financial year (2015-16)
Handling of Iron Ore, Coal, Limestone*	0.0229 m^3/Ton	0.0299 m^3/Ton

(ii) Raw Material Consumption

Name of Raw Material	Name of Products	Consumption of Raw Material per Unit of output	
		During the previous financial year (2014-15)	During the current financial year (2015-16)
NIL*	Not Applicable	Nil	Nil

*** Unit does not undertake any manufacturing process; hence there is no consumption of raw material**

PART – C

Pollutants discharged to Environment/Unit of Output
(Parameters as specified in consent issued)

Pollutants	Quantity of pollutants discharged (Mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	Nil*		
(b) Air	Monitoring data attached as Annexure-1		

*Unit does not manufacture anything, as it is a service industry (Port) engaged in handling and storage of cargo. No effluents are generated from the port. Treated water from the STP is used for horticulture purposes.

PART – D

Hazardous Wastes
(As specified under Hazardous Wastes Management and Handling Rules 1989)

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year (2014-15)	During the current financial year (2015-16)
(a) From Process (Used oil)	10.159 KL	10.516 KL
(b) From Pollution Control facilities	Nil	Nil

PART – E

Solid Waste

Solid Waste	Total Quantity Generated (MT/Annum)	
	During the previous financial year (2014-15)	During the current financial year (2015-16)
(a) From Process (Ash)	Nil	Nil
(b) From Pollution Control facilities	Nil	Nil
(C-1) Quantity recycled or reutilized within the unit	Nil	Nil
(C-2) Sold	Nil	Nil
(C-3) Disposed	Nil	Nil

PART - F

Please specify the characterization (in terms of Composition and quantum) of Hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes:

- Generated used oil is disposed off through OPCB / CPCB authorized recycler (M/s Sri Laxmi Narayana Industries, East Godavari District, Andhra Pradesh).
- Composted bio-degradable waste is used as a manure in Green Belt

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production

Unit has installed Sewage Treatment Plant for treatment of the Sewage water being generated at site. The treated water is being reused within port premises. Full cut off lighting has effectively negated the sky ward light pollution in the vicinity of the port.

During the financial year 2015-16, the total of Rs. 0.93 Crores was incurred on environmental protection measures.

Environment Statement for 2015-16 for M/s Dhamra Port Company Limited

PART – H

Additional measures /investment/ proposal for environmental protection including abatement of pollution, prevention of pollution.

- Green belt has been developed at the port site and along the 62 km Rail/Road corridor of DPCL. Strip plantation on both the edges of railway corridor has been taken up and 1,79,500 plants have been planted along the north & south edges of the corridor till date. Plantation of suitable species has been taken up in and around the port area and admin/Residential area with effect from 2010 & is continuing. So far 1,93,500 plants suitable for the site have been planted at Port site apart from the rail road corridor plantation mentioned above.

- Scattered mangroves near southern boundary of port in phase I development were excluded by protection & steps taken for conserving them.

PART – I

Any other particulars for improving the quality of environment:

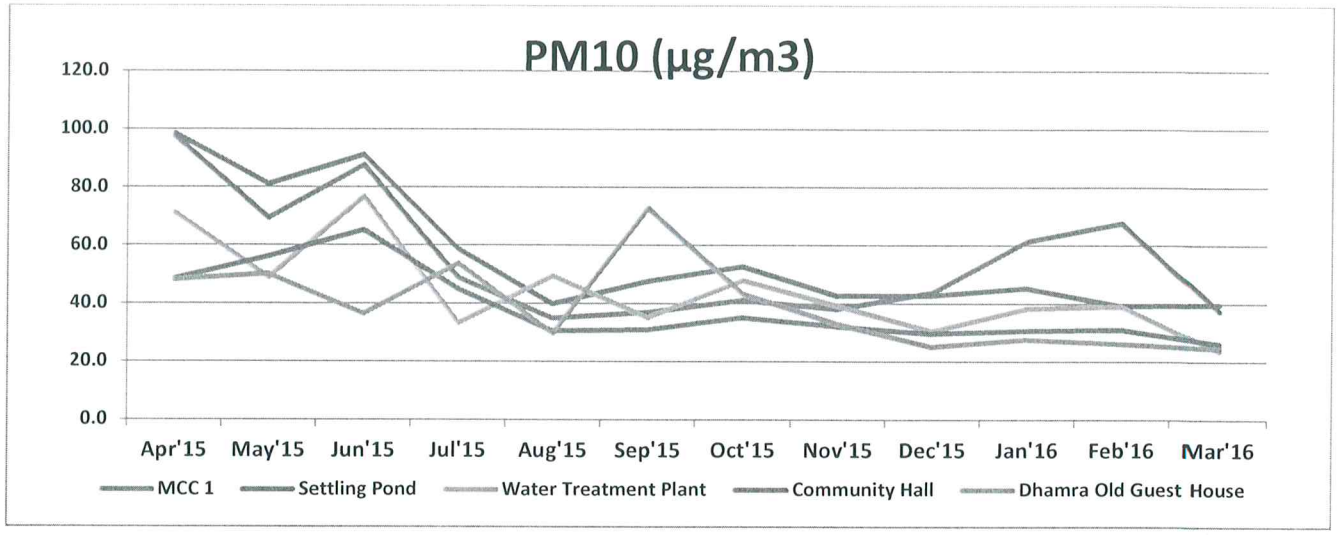
- Specialized illumination system in line with "International Dark Sky Association (IDA)" has been installed to avoid illuminating the sky or focusing light towards sea. Sodium vapour lamps are being used instead of mercury lamp. All area lighting, roadway lighting and lighting mounted on masts or other elevated structures are of full cutoff luminaries.

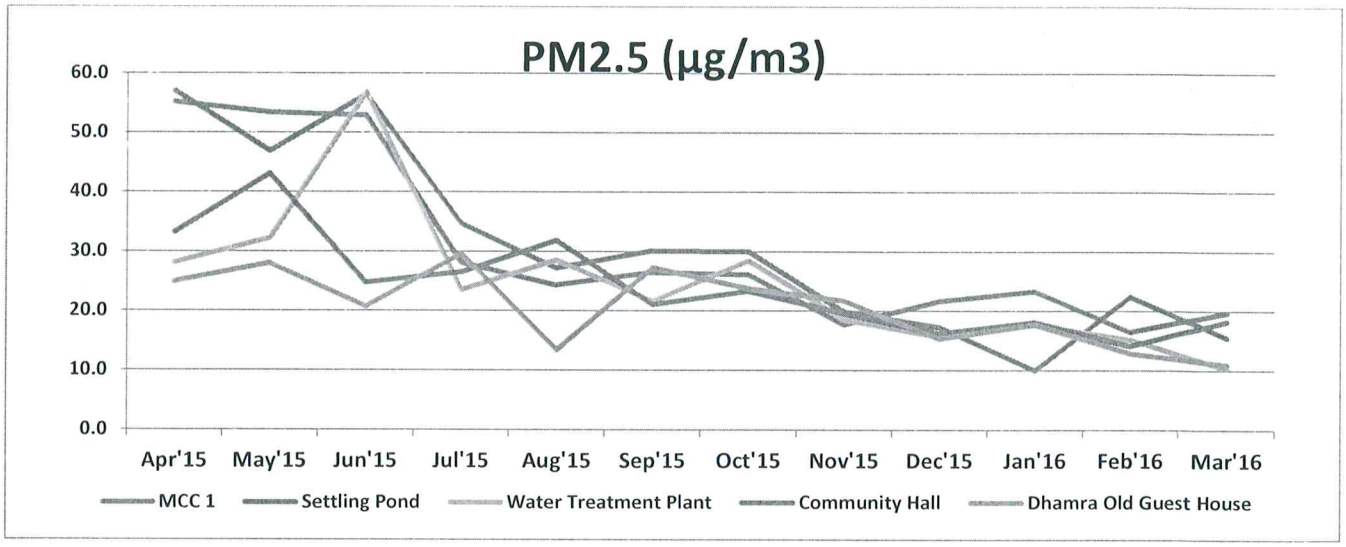
- Deflectors are installed on drag-head of dredgers to keep turtles out of path of dredger. Screens are also installed in inflow/overflow pipes of dredgers to monitor turtle entrainment. There are observers on Dredgers to ensure implementation of IUCN Dredging Protocol.

Date : 15-09-2016

(Signature of a person carrying out an industry, operation or process)
Name : Subrat Tripathy
Designation : CEO
Address : M/s The Dhamra Port Company Limited
Village-Dosinga, Po. Dhamra,
Dist- Bhadrak, Odisha

Annexure 1





Note: Other parameters monitored as per AAQ standard were found to be BDL during monitoring.