

DPCL/ENV/MOEFC/2017-52

23.11.2017

To

The Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forest and Climate Change,
Eastern Regional Office (EZ),
A/3, Chandrasekharapur,
Bhubaneswar- 751023
E-mail: roe2.bsr-mef@nic.in

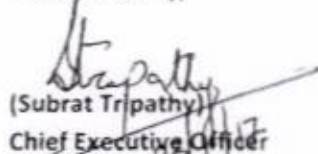
Sub : Half yearly Compliance report of Environment and CRZ Clearance for expansion of Dhamra Port at Dhamra, Bhadrak District of Odisha by M/s Dhamra Port Company Limited for the period of April 2017 - September 2017

Ref: 1) Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4th January 2000 bearing No. PD/26017/8/98-PDZ (CRZ).
2) CRZ recommendation letter for phase-II expansion vide letter dated 20th December, 2012 bearing no. OCZMA-1/2012-13/No.17
3) Environmental and CRZ Clearance for expansion at Dhamra Port dated 1st January 2014 bearing F.No.11-104/2009-IA.III
4) Amendment in Environmental and CRZ clearance vide letter dated 25th March 2015 bearing F.No.11-104/2009-IA.III

Dear Sir,

With reference to the above mentioned letters for the said subject matter, please find enclosed herewith the compliance to the conditions stipulated in the letters for the period of April 2017-September 2017 in both hard & soft copy for your kind reference. The said period compliance is also being E-mailed on roe2.bsr-mef@nic.in

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 Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003
- 2) Zonal Office, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700 107 (W. B.)
- 3) The Member Secretary, State Pollution Control Board, Odisha, Parivesh Bhawan, A/118, Unit 8, Nilakantha Nagar, Nayapalli, Bhubneswar-751012
- 4) The Regional Officer, State Pollution Control Board, Odisha, 160, Sahadev Khunta, Balasore - 756001
- 5) Member Secretary OCZMA & Director, Env-cum-Spl. Secretary to Govt., Forest & Env Dept., Govt. of Odisha, Plot No 108, Surya Nagar, Unit VII, Bhubaneswar-751003.

The Dhamra Port Company Limited

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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
i	<p>All Construction design/drawings relating to construction activities must have the approval of the concerned Government Departments/ Agencies of the State Government of Odisha.</p> <p>Ground water should not be tapped for construction activities as the drawl of ground water for industrial use from the CRZ area is a prohibited activity.</p>	<p>Complied.</p> <p>The Project is under Operation phase.</p> <p>Groundwater was not drawn during construction activities.</p>
ii	<p>Adequate provision for all infrastructural facilities such as water supply, fuel, sanitation etc. must be extended for laborers during the construction period in order to avoid damage to the environment.</p>	<p>Complied.</p> <p>The Project is under Operation phase</p>
iii	<p>Dredging operations if any should be undertaken in consultation with the Central Water and Power Research Station, Pune or National Institute of Oceanography, Goa or any other authorized agency to ensure that dredging operations do not cause adverse impact on water quality and marine productivity in the vicinity. Dredging operation as far as possible should be kept to the minimum for avoiding any adverse impact on marine life.</p>	<p>Complied.</p> <p>The capital dredging has been completed in 2010-11. Marine water quality and productivity is being monitored by MoEF & CC accredited laboratory, there are no adverse impact on water quality and marine productivity in the vicinity. The details of Marine Water quality monitoring report for the period Apr 2017 – Sep 2017 is enclosed as Annexure I. No impact on water quality and marine productivity has been envisaged during this period.</p>
iv	<p>Disposal sites for excavated material should be so designed that the revised land use after dumping and changes in the land use pattern do no interfere with the natural drainage.</p>	<p>Complied.</p>
v	<p>To meet with any emergency situation, adequate foam containers should be kept ready with supporting firefighting system and water pipeline.</p>	<p>Complied.</p> <p>DPCL has a fire fighting team consisting of 37 crews including 1 officer, 2 supervisor, equipped with two fire tenders having water storage capacity of 4500 L and foam</p>

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		storage capacity of 500 L for each, and CO2 (195 nos.) DCP (105 nos.) & Foam (6 nos.) type of extinguishers. List of types and quantity of fire extinguishers is attached as Annexure-II
vi	Staff posted in sensitive areas should be trained in implementation of the Crisis Management Plan 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.	Complied. The employees of DPCL have been trained on 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 2017 - Sep 2017 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. DPCL has obtained Environment & CRZ clearance for Phase –II. Site is undergoing expansion inline to Immediate Development Plan (phase-II clearance). Greenbelt development shall also be developed inline to this. Annexure IV Plantation has been done along the both edges of the 62.5 km rail corridor. Please refer Annexure V 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 nos. of Sewage Treatment Plant (STP) to handle 140 KLD & 15 KLD of sewage generated at port site & township. The treated water is being used for horticulture. The monitoring reports for the period Apr 2017-Sep 2017 are enclosed as Annexure I . All results are well within the prescribed standards MARPOL and Ballast Water Convention guidelines are enforced by DPCL for

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		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) (Ear muffs & ear plugs) are kept mandatory for workers in noise prone areas. Noise monitoring at site is being done by a MoEF & CC accredited agency and levels have been found below the standards. The reports for the period Apr 2017 - Sep 2017 are enclosed as Annexure I.
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. Monitoring is being carried out by MoEF&CC recognized laboratory. Monitoring reports for the period Apr 2017 - Sep 2017 are enclosed as Annexure I. All results are well within the prescribed standards. We have colour coded bins for segregating different category of solid waste. Waste generated are being handled in line to 5 R concept of waste management, as per the Corporate vision of APSEZ to become "A Zero Waste Company" by the year 2020. Ambient Air Quality Monitoring is also being carried out by MoEF & CC accredited agency, Reports for the period Apr 2017 – Sep 2017 is enclosed as Annexure I. All emissions are well with the prescribed standards.
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	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

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Sr. No.	Conditions	Compliance Status
	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.	out by MoEF & CC accredited agency, the monitoring results for the period Apr 2017 – Sep 2017 (enclosed in Annexures I) 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 compliance report was submitted on 18 th May 2017
xii	Necessary leakage detection devices with early warning system must be provided at strategic locations.	Not applicable at present. 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. 5 stand by DG Sets, capacity ranging from 160 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 for inspection by the Team which would be constituted by the Ministry, If found necessary	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 18 th May 2017. 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	Complied. Full support is being extended to the Eastern Regional Office of Ministry of Environment & Forests & Climate Change,

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Sr. No.	Conditions	Compliance Status
	project for monitoring purposes by the project proponents by furnishing full details and action plans including action taken report on mitigative measures.	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 1.94 crore has been spent for FY 2017-18. Cost break up is enclosed as Annexure-VI .
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 was conducted in time & submitted. DPCL has already formulated detailed Disaster Preparedness & Management Plan to handle any natural calamities such as cyclones, storms, quakes etc., along the Coast.
1	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.	Complied and noted.
2	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
3	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 and the Public Liability (Insurance) Act, 1991 along with their amendments and rules from time to time.	Point noted

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 ensure that the ships visiting 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 marine water and sediment (biogeochemical parameters including phytoplankton community structure) is being carried out by MoEF & CC accredited agency. Results of the same for the period Apr 2017 – Sep 2017 are enclosed as Annexure – I
3	One of the objectives of the CRZ guidelines is to ensure the livelihood of the fishermen community vis-à-vis developmental activities. 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 has been installed at fishing harbor, Dhamra. The same is in working condition. (Please refer Annexure VII 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.	Complied. 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

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
		unpaid 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.	Complied. DPCL ensures that the dust/fine grained particles present on jetty are cleaned on regular basis both by mechanically and manually so to avoid spillage into the marine/coastal waters.
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.	Complied. NIOT Chennai, has carried out shoreline change study alongside Dhamra and Kanika sand shore. NIOT, Chennai has also carried out study on impact of dredging and dumping of sediment on Dhamra Shoreline Change and on ecologically sensitive areas. Both this studies concludes, that there are no significant impacts observed on the nearby ecologically sensitive areas because of this ongoing activity. Report was submitted vide earlier compliance submission dated 16.05.2017
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 as a part of Hazardous waste annual return (Form 4) on regular basis.

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
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 (including turbidity parameter) and the results for the period Oct Apr 2017 – Sep 2017 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-sensitive areas along the coast.	Complied. Through the ground improvement technique, the dredge material is generally used for level raising/ reclamation of back up area as per approved plan. Excess material, if any is disposed to approved location in the sea. Regular monitoring is being carried out to assess the impact of the activity on coastal ecosystem. No adverse impact has been observed on the coastal ecosystems.
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. Proposal has been submitted to Principal Secretary, Forest and Environment Department for approval. Forest Department is being contacted regularly for its approval.
12	Mangrove plantation around the port will be protected by the DPCL under the supervision of the Forest Department.	Complied.
13	Shoreline Changes in and around Kanika Island shall be monitored on monthly basis	Complied. NIOT Chennai, has carried out shoreline change study at Dhamra and Kanika sand shore. Report was submitted vide earlier compliance submission dated 16.05.2017.

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

Sr. No.	Conditions	Compliance Status
6. Specific Condition		
i	Consent to Establishment shall be obtained from Odisha Pollution Control	Complied. Consent to Establish has been obtained.

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

Sr. No.	Conditions	Compliance Status
	Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at site	Copy submitted vide our compliance letter dated 20th November 2015. Copy enclosed as Annexure VIII .
ii	Prior clearance from National Board of Wildlife shall be obtained	The project boundary falls outside the notified Eco sensitive zone of Bhitakranika and Gahirmatha Sanctuary, declared as per Gazette Notification 16 th June 2015.
iii	The proponent shall submit undertaking that there shall be no acquisition of grazing/grave land for the project.	Complied. Undertaking has already been submitted vide our compliance letter dtd. 20 th November 2015.
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 passing through cargo stack yards shall be released into settling ponds as committed.	Complied. Drainage pattern is being maintained. The creeks are trained to ensure proper drainage both from outside and inside. Runoff from the cargo stack yard is diverted to settling pond. Supernatant water after primary treatment is being used for dust suppression.
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. Through the ground improvement technique, the dredge material is used for level raising/ reclamation of back up area as per approved plan. Excess material, if any is disposed to approved location in the sea. Marine water quality monitoring is being carried out regularly & submitted to OSPCB.
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	Complied. Proposal has been submitted to Principal Secretary, Forest and Environment Department for approval. Forest Department is being contacted regularly

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

Sr. No.	Conditions	Compliance Status
	with the OCZMA and forest department.	for its approval.
ix	The village forest adjacent to the project site should be developed with tree plantation, in consultation with the revenue department/forest department	The Revenue Department (Collector) has been requested to accord permission and allow permissive possession of the adjacent village forest land 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 2017- Sep 2017 are enclosed as Annexure –I
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 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.	Complied. Compliance towards mitigation plans are enclosed as Annexure IX .
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. Site is undergoing expansion inline to Immediate Development Plan (phase-II clearance). Greenbelt development shall also be developed inline to this. Layout enclosed as Annexure IV .

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

Sr. No.	Conditions	Compliance Status
		Plantation has been done along the both edges of the 62.5 km rail corridor. Please refer Annexure V 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. Domestic waste water generated at site is being treated in STP and further used for Horticulture and other activities. Treated water of STP is regularly monitored and all the results are found to be well within the prescribed standard. The monitoring report for the period Apr 2017 – Sep 2017 is enclosed as Annexure-I .
xviii	Solid Waste Management shall be as per Municipal Solid (Management and Handling) Rules, 2000	Complied. DPCL has developed a vision for making itself – “A Zero Waste Port” by the year 2020. DPCL vision based on adoption of 5Rs principle of waste management i.e Reduce, Reuse, Reprocess, Recycle & Recover. 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. Approach channel of the port is from South to North east, whereas Fishing boats travels from South to East. Apart Fishing is carried out in deep Sea. Hence, no impact on fishing is envisaged because of this project.
xx	It shall be ensured that there is no displacement of people, houses or fishing activity as a result of the project.	Complied. Proposed development is in intertidal area and hence forth there will not be any displacement of people and the houses. Suitable approaches are available for

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

Sr. No.	Conditions	Compliance Status
		fishermen to conduct their activities and hence, there won't be any impact on fishing activities. DPCL is closely working with fishermen communities to provide them required support through its CSR activities.
xxi	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Complied. Construction work is being carried out inline to CRZ notification 2011, amended till date and Environment / CRZ clearances obtained for the project.
xxii	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a senior executive	Complied. DPCL has a well-structured Environmental Management Cell, staffed with qualified personnel 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 1.94 Crores has been spent for FY 2017-18. Details of the same are annexed in Annexure-VI .
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	Complied. Six monthly compliance report is regularly submitted to Regional Office of MoEF & CC, Bhubaneswar. Last compliance report

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Sr. No.	Conditions	Compliance Status
	implementation of the stipulated conditions.	for October 2016 – March 2017 period was submitted vide our letter dated 16.05.2017.
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.	No change in the project profile or implementing agency of the development at Dhamra Port. However DPCL has now proposed Revised Master Plan for Dhamra Port for which, necessary procedure inline to the EIA notification 2006, has already been initiated.
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. The same has been submitted vide our earlier compliance submitted to RO-MOEF&CC, Bhubaneshwar
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 enclosed as Annexure-X .
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	Point noted

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	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.	
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 enclosed as Annexure-XI .
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 same should be forwarded to the Regional Office of this Ministry at Bhubaneswar.	Complied. Advertisement copies are attached as Annexure-XII .
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	Point noted

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Sr. No.	Conditions	Compliance Status
	prescribed under Section 16 of the National Green Tribunal Act, 2010.	
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 (http://www.adaniports.com/ports-downloads) 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 enclosed as Annexure-X .
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 enclosed as Annexures I 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 enclosed as Annexures I to the compliance report. Hard copy as well as soft copy (Email) of the same are submitted to all concerned authorities.
17	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State	Complied. Environmental statement for FY 2016-17 was submitted to OSPCB with a copy to the Regional Office of MoEF & CC vide

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

Sr. No.	Conditions	Compliance Status
	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.	our letter no DPCL/ENV/OSPCB/2017-45 dated 18 th Sep 2017. Copy of the same is enclosed as Annexure – XIII . 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 guidelines are 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. Site is undergoing expansion inline to Revised Master Plan. Stack yards expansions are planned accordingly. Detailed engineering design for dust screen will be prepared inline to Site condition and further be implemented. Water sprinkling is being done on regular basis to ensure dust suppression in cargo storage area and vehicular paths/roads. Greenbelt development shall also be developed inline Revised Master Plan.
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 coal 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 is enclosed as Annexure IX .

LIST OF ANNEXURES

<u>S. No.</u>	<u>Annexure Number</u>	<u>Details</u>
1	Annexure-I	Environment Monitoring Report
2	Annexure – II	Types and quantity of Fire Extinguishers
3	Annexure-III	Details of Mock Drills
4	Annexure-IV	Port Layout
5	Annexure-V	Green Belt Details
6	Annexure-VI	Cost Break up of Environment Expenditure
7	Annexure-VII	INCOIS Board
8	Annexure-VIII	MoEFCC intimation letter
9	Annexure-IX	EMP & Action Plan Compliance
10	Annexure-X	Environmental Clearance copy to Zillaparisad
11	Annexure- XI	License and NOC from Fire Dept.
12	Annexure-XII	Advertisement in Local Newspapers intimating grant of Environmental & CRZ Clearance
13	Annexure-XIII	Environment Statement for FY 2016-17

ANNEXURE-I

ENVIRONMENT MONITORING REPORT



CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY PVT. LTD.

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Reference no. - CEMC/DPCL/010517/A

Issued Date-01.05.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01052017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near MCC-1
Sampling By	Mr. Biswaranjan Behera
Sampling Duration	01.04.2017 to 30.04.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
04.04.2017	61.2	28.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.04.2017	55.4	26.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.04.2017	64.0	24.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.04.2017	58.7	25.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.04.2017	54.3	27.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.04.2017	59.2	28.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.04.2017	62.4	24.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.04.2017	58.8	29.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.04.2017	53.5	27.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 µg/m³, SO₂<4.0 µg/m³, NH₃<20 µg/m³, As<0.44 ng/m³, Ni<0.6 ng/m³, Pb<0.06 µg/m³, CO<0.1 mg/m³, Benzo(a)pyrene<1 ng/m³), Benzene <5 µg/m³)

Dr. T. S.
Authorized Signatory
(GATEWAY NO. 1557, D-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference no. - CEMC/DPCL/010517/A

Issued Date-01.05.2017

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Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01052017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Settling Pond
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.04.2017 to 30.04.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
04.04.2017	85.7	47.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.04.2017	79.8	44.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.04.2017	83.3	40.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.04.2017	87.5	39.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.04.2017	81.1	36.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.04.2017	78.2	42.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.04.2017	85.3	37.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.04.2017	82.0	44.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.04.2017	86.9	39.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

Dr. T. Sahu, Ph.D. (Env. Sc.)
Authorized Signatory
(GAZETTE No-1357, Dt-03-06-2016)



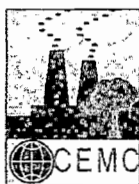
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Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01052017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near WTP
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.04.2017 to 30.04.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
04.04.2017	47.5	26.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.04.2017	43.2	25.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.04.2017	49.8	24.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.04.2017	52.5	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.04.2017	46.2	23.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.04.2017	42.5	26.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.04.2017	45.3	22.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.04.2017	48.7	25.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.04.2017	49.2	27.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimet- ric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophe- not Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

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Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01052017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Community Hall
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.04.2017 to 30.04.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
04.04.2017	56.2	30.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.04.2017	58.9	29.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.04.2017	65.2	27.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.04.2017	55.4	25.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.04.2017	52.3	29.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.04.2017	59.8	30.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.04.2017	57.5	27.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.04.2017	62.0	32.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.04.2017	56.5	29.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
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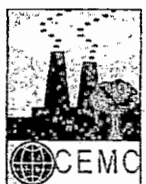
Dr. T. Sahu, Ph.D., Env. Sc.
Authorized Signatory
(GAZETTE No-1357, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference No.	CEMC-01052017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Dhamra Old guest house
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.04.2017 to 30.04.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
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11.04.2017	41.2	25.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.04.2017	47.5	23.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.04.2017	44.7	21.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.04.2017	48.4	29.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.04.2017	43.3	25.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
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27.04.2017	48.9	25.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetri c Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 µg/m³, SO₂<4.0 µg/m³, NH₃<20 µg/m³, As<0.44 ng/m³, Ni<0.6 ng/m³, Pb<0.06 µg/m³, CO<0.1 mg/m³, Benzo(a)pyrene<1 ng/m³, Benzene <5 µg/m³)

[Signature]
Dr. P. S. Sahoo, M.Sc.
Govt. ANALYST
(GAZETTE No-1357, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference no. - CEMC/DPCL/010517/N

Issued Date-01.05.2017

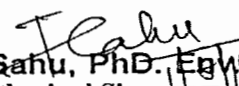
NOISE LEVEL MONITORING REPORT

Issued to	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Analysis No.	CEMC/DPCL-D00N1
Nature of Sampling	Noise Sample
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.04.2017 to 30.04.2017

Date	Location	NL Day Time dB (A)			NL Night Time dB (A)		
		Max	Min.	Avg.	Max.	Min.	Avg.
03.04.2017	Near Dhamra Old Guest House	64.2	60.1	62.1	42.6	39.5	41.0
04.04.2017	Near Community Hall	65.3	62.9	64.1	41.5	40.2	40.8
05.04.2017	Near WTP	67.3	62.0	64.6	44.1	40.8	42.4
06.04.2017	Near MCC-1	64.8	61.7	63.2	48.6	45.7	47.1
07.04.2017	Near Settling Pond	68.1	64.2	66.1	47.3	44.5	45.9

National Standard of Noise Level

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


Dr. T. Sahu, PhD, Engg. Sc.
Authorized Signatory
(GAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010517/WW

Issued Date-01.05.2017

STP REPORT

Name & Address of the Customer : M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No. : 5700205794, dtd-28.03.2017
Date of Sampling : 07.04.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP section (15 KLD)
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

SAMPLE 1

SL No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.68	6-8.5
5	Total Suspended Solids	mg/l	78.6	1000
6	B.O.D for 3 days @ 27°C	mg/l	90	300-350
7	Oil & grease	mg/l	6.2	100

SAMPLE 2

SL No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.22	5.5-9
5	Total Suspended Solids	mg/l	18.6	<100
6	B.O.D for 3 days @ 27°C	mg/l	14	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

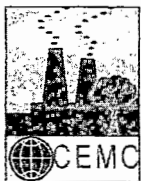
Dr. T. Sahu, PhD
Authorized Signatory
(GAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010517/WW

Issued Date-01.05.2017

STP REPORT

Name & Address of the Customer

: M/s. Dhamra Port Company Ltd., Doshinga,
Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 07.04.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP section (150KLD)

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

SL No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.84	6-8.5
5	Total Suspended Solids	mg/l	90.2	1000
6	B.O.D for 3 days @ 27°C	mg/l	102	300-350
7	Oil & grease	mg/l	5.0	100

SAMPLE 2

SL No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.46	5.5-9
5	Total Suspended Solids	mg/l	24.4	<100
6	B.O.D for 3 days @ 27°C	mg/l	12	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

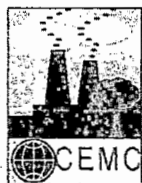
Dr. T. Sahu, PhD, Env. Sc.
Authorised Signatory ST
(GAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010517/WW

Issued Date-01.05.2017

STP REPORT

Name & Address of the Customer : M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No. : 5700205794, dtd-28.03.2017
Date of Sampling : 27.04.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP section (15 KLD)
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

SAMPLE 1

SL No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.96	6-8.5
5	Total Suspended Solids	mg/l	122.4	1000
6	B.O.D for 3 days @ 27°C	mg/l	130	300-350
7	Oil & grease	mg/l	4.8	100

SAMPLE 2

SL No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.88	5.5-9
5	Total Suspended Solids	mg/l	26.2	<100
6	B.O.D for 3 days @ 27°C	mg/l	18	<30
7	Oil & grease	mg/l	ND	<10

*N.B: ND-Not Detectable

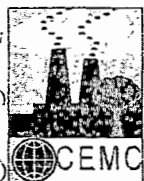
Dr. T. Sahu, PhD, Env. Sc.
Authorized Signatory
Govt. ANALYST
(GAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010517/WW

Issued Date-01.05.2017

STP REPORT

Name & Address of the Customer : M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No. : 5700205794, dtd-28.03.2017
Date of Sampling : 27.04.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP section (150 KLD)
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	7.12	6-8.5
5	Total Suspended Solids	mg/l	90.6	1000
6	B.O.D for 3 days @ 27°C	mg/l	78	300-350
7	Oil & grease	mg/l	6.4	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.86	5.5-9
5	Total Suspended Solids	mg/l	28.2	<100
6	B.O.D for 3 days @ 27°C	mg/l	12	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

Dr. T. Sahu, Ph.D., M.Sc.
Authorized Signatory
Govt. ANALYST

(GAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010517/SW

Issued Date-01.05.2017

SEA WATER ANALYSIS REPORT

Name & Address of the Customer

: M/s. Dhamra Port Company Ltd., Doshinga,
Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 13.04.2017

Sampling by

: Biswaranjan Behera

Sample Description

: Sea Water

STATION DESCRIPTION

SL. NO.	STATION	GPS COORDINATES
01	STATION-1	20°46'55.5" N 86°57'40.5" E
02	STATION-2	20°49'05.0" N 86°58'14.3" E
03	STATION-3	20°51'33.5" N 87°00'17.0" E
04	STATION-4	20°52'55.8" N 87°02'44.9" E
05	STATION-5	20°54'20.4" N 87°05'14.0" E
06	STATION-6	20°54'54.3" N 87°06'13.8" E
07	STATION-7	20°54'45.0" N 87°07'13.6" E
08	STATION-8	20°54'42.8" N 87°07'50.4" E

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SEA WATER ANALYSIS REPORT

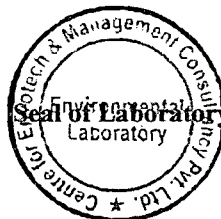
WATER ANALYSIS DATA									
Locations		Temp. (°C)	Turbidity (NTU)	Conductivity (µS/cm)	pH	Salinity (ppt)	DO (mg/l)	BOD (mg/l)	COD (mg/l)
Station-1	SW	38.5	45	43.8	8.3	27.42	5.9	4.0	40
	BW	38.1	31	42.9	8.4	26.86	6.2	< 3	< 10
Station-2	SW	38.9	48	46.5	8.2	28.45	6.0	3.4	20
	BW	38.5	29	44.6	8.1	29.63	6.6	< 3	< 10
Station-3	SW	39.6	40	43.9	8.3	28.44	7.1	< 3	10
	BW	38.7	30	43.4	7.9	28.45	6.6	< 3	< 10
Station-4	SW	38.4	36	45.6	8.2	26.56	6.1	3.8	30
	BW	38.2	31	42.3	7.5	27.87	6.9	< 3	< 10
Station-5	SW	39.1	40	47.1	8.3	26.43	7.1	< 3	10
	BW	38.6	35	45.7	8.0	25.96	6.2	< 3	< 10
Station-6	SW	39.5	36	49.3	8.2	29.55	6.4	3.2	20
	BW	38.9	32	46.9	7.9	28.42	6.5	< 3	< 10
Station-7	SW	38.5	39	41.9	8.2	24.46	7.1	< 3	20
	BW	38.1	38	40.8	8.2	24.55	6.9	< 3	< 10
Station-8	SW	37.9	40	42.1	8.3	26.14	6.0	3.4	30
	BW	37.5	38	39.2	8.0	25.16	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	1895	0.52	9.4	280.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1806	0.66	7.6	101.6
Station-2	SW	< 0.05	< 0.01	< 0.001	< 0.05	1795	0.58	8.2	257.4
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1682	0.45	8.5	112.2
Station-3	SW	< 0.05	< 0.01	< 0.001	< 0.05	1745	0.59	7.6	289.6
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1706	0.44	8.6	100.4
Station-4	SW	< 0.05	< 0.01	< 0.001	< 0.05	1782	0.46	8.2	274.8
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1716	0.48	7.6	105.6
Station-5	SW	< 0.05	< 0.01	< 0.001	< 0.05	1815	0.56	8.2	254.2
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1719	0.48	8.3	109.6
Station-6	SW	< 0.05	< 0.01	< 0.001	< 0.05	1801	0.48	7.4	260.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1746	0.66	8.2	98.8
Station-7	SW	< 0.05	< 0.01	< 0.001	< 0.05	1622	0.74	6.8	241.3
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1508	0.58	8.6	111.1
Station-8	SW	< 0.05	< 0.01	< 0.001	< 0.05	1614	0.86	7.4	204.2
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1508	0.72	7.3	99.6

*SW= Surface Water, BW= Bottom Water

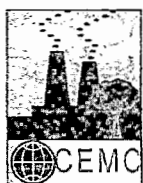
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SEA WATER ANALYSIS REPORT

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	2470	830	3260	34576	ND	11.8
	BW	2680	780	3480	31545	ND	10.4
Station-2	SW	2780	820	3560	31112	ND	10.6
	BW	2830	780	3540	29846	ND	8.4
Station-3	SW	2870	860	3660	30013	ND	10.6
	BW	2320	760	3090	29842	ND	9.8
Station-4	SW	3070	880	3960	30008	ND	9.4
	BW	2930	730	3640	30109	ND	8.2
Station-5	SW	3030	920	3930	30450	ND	10.8
	BW	2740	830	3550	29946	ND	9.6
Station-6	SW	2330	920	3240	30513	ND	10.4
	BW	2420	830	3260	30741	ND	9.8
Station-7	SW	2380	860	3250	30985	ND	11.6
	BW	2820	790	3580	30046	ND	9.4
Station-8	SW	2150	880	3030	31548	ND	10.6
	BW	2230	760	2950	30255	ND	9.2

*SW= Surface Water, BW= Bottom Water

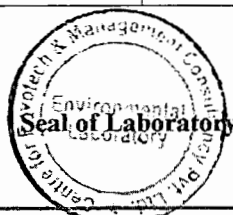
WATER ANALYSIS DATA							
Locations		Total Chromium (mg/l)	Phenolic Compounds (mg/l)	Hexavalent Chromium (mg/l)	Petroleum Hydrocarbon (mg/l)	Chlorinity (‰)	Oil and Grease (mg/l)
Station-1	SW	< 0.05	< 0.001	< 0.05	1.3	12.08	3.6
	BW	< 0.05	< 0.001	< 0.05	ND	14.26	ND
Station-2	SW	< 0.05	< 0.001	< 0.05	1.2	11.42	3.5
	BW	< 0.05	< 0.001	< 0.05	ND	11.58	ND
Station-3	SW	< 0.05	< 0.001	< 0.05	1.3	14.14	3.6
	BW	< 0.05	< 0.001	< 0.05	ND	11.04	ND
Station-4	SW	< 0.05	< 0.001	< 0.05	1.1	12.92	5.8
	BW	< 0.05	< 0.001	< 0.05	ND	10.54	ND
Station-5	SW	< 0.05	< 0.001	< 0.05	1.3	12.42	4.6
	BW	< 0.05	< 0.001	< 0.05	ND	10.6	ND
Station-6	SW	< 0.05	< 0.001	< 0.05	1.5	12.49	4.3
	BW	< 0.05	< 0.001	< 0.05	ND	11.22	ND
Station-7	SW	< 0.05	< 0.001	< 0.05	2.1	13.76	3.8
	BW	< 0.05	< 0.001	< 0.05	ND	10.28	ND
Station-8	SW	< 0.05	< 0.001	< 0.05	1.5	13.9	5.8
	BW	< 0.05	< 0.001	< 0.05	ND	15.44	ND

*SW= Surface Water, BW= Bottom Water

Dr. T. Sahu, Ph.D., B.Tech., Sc.

Authorized Signatory

(GAZETTE No-1357, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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SEA WATER ANALYSIS REPORT

PHYTOPLANKTON MONITORING DATA					
Locations		Total Count/L	No. of Species	Chlorophyll-a (µg/L)	Major Species
Station-1	SW	542	28	1.2156	<i>C.pentagonum, N.striata, C.furca, Ceratium, N.longisigma</i>
	BW	1746	16	0.6547	<i>C.pentagonum, N.striata, Chaetoceros, Bacillaria</i>
Station-2	SW	2892	14	1.1246	<i>Podosira, Bacillaria, N.striata</i>
	BW	1135	19	1.0042	<i>C.pentagonum, Bacillaria, Podosira</i>
Station-3	SW	4813	22	2.1452	<i>Pleurosigma, C.pentagonum, N.striata</i>
	BW	1235	16	1.0458	<i>Pleurosigma, N.longisigma, C.pentagonum, N.striata</i>
Station-4	SW	803	22	1.1246	<i>C.pentagonum, Pleurosigma, N.longisigma, Bacillaria</i>
	BW	1641	16	1.7452	<i>Podosira, C.pentagonum, N.striata</i>
Station-5	SW	1368	16	1.4542	<i>C.pentagonum, Skeletonema, N.longisigma, Bacillaria</i>
	BW	1026	14	1.0323	<i>Bacillaria, Chaetoceros, Ceratium,</i>
Station-6	SW	982	13	2.1544	<i>C.pentagonum, C.furca, Bacillaria, Podosira, Skeletonema,</i>
	BW	1023	18	1.8456	<i>C.pentagonum, N.striata, C.furca, N.striata</i>
Station-7	SW	1268	12	1.2142	<i>Bacillaria, Chaetoceros, Podosira</i>
	BW	1192	22	1.2115	<i>N.longisigma, Podosira, Ceratium, C.furca</i>
Station-8	SW	1653	26	1.3416	<i>C.pentagonum, Bacillaria, Podosira, N.longisigma</i>
	BW	1141	13	1.2142	<i>C.pentagonum, Chaetoceros, Bacillaria, N.striata</i>

*SW= Surface Water, BW= Bottom Water

ZOOPLANKTON MONITORING DATA				
Locations		Total Count/L	No. of Species	Major Species
Station-1	SW	1324	18	<i>Protozoa, Rotifera, Nematoda, Cladocera</i>
	BW	1242	12	<i>Anostraca, Cladocera, Nematoda</i>
Station-2	SW	1543	11	<i>Crustacean Larvae, Protozoa, Nematoda</i>
	BW	1325	17	<i>Rotifera, Nematoda, Cladocera</i>
Station-3	SW	1752	08	<i>Anostraca, Cladocera, Rotifera, Copepod</i>
	BW	1342	12	<i>Rotifera, Protozoa, Nematoda, Crustacean Larvae</i>
Station-4	SW	1218	13	<i>Crustacean Larvae, Protozoa, Nematoda, Rotifera</i>
	BW	993	18	<i>Protozoa, Nematoda, Copepod, Nematoda</i>
Station-5	SW	1846	18	<i>Cladocera, Nematoda, Cladocera</i>
	BW	1472	12	<i>Copepod, Rotifera, Ostracoda</i>
Station-6	SW	1206	21	<i>Rotifera, Protozoa, Nematoda, Cladocera</i>
	BW	992	17	<i>Cladocera, Nematoda, Rotifera</i>
Station-7	SW	1246	11	<i>Ostracoda, Protozoa, Copepod, Rotifera</i>
	BW	1038	08	<i>Protozoa, Rotifera, Copepod</i>
Station-8	SW	1262	11	<i>Copepod, Rotifera, Cladocera</i>
	BW	1453	15	<i>Ostracoda, Protozoa, Copepod, Rotifera</i>

*SW= Surface Water, BW= Bottom Water

Dr. T. Sahu, Ph.D. (Env.) & C.
Authorized Signatory
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SEA WATER ANALYSIS REPORT

PRIMARY PRODUCTIVITY MONITORING DATA			
Locations		Gross Primary Productivity (mgC/ L/ day)	Net Primary Productivity (mgC/ L/ day)
Station-1	SW	2.3	1.8
	BW	2.0	1.1
Station-2	SW	1.9	1.2
	BW	2.0	1.4
Station-3	SW	2.1	1.7
	BW	1.8	1.2
Station-4	SW	2.5	1.5
	BW	2.1	1.7
Station-5	SW	2.0	1.6
	BW	2.1	1.5
Station-6	SW	2.1	1.8
	BW	1.9	1.6
Station-7	SW	1.9	1.4
	BW	1.8	1.4
Station-8	SW	1.9	1.1
	BW	1.9	1.6

*SW= Surface Water, BW= Bottom Water

PHYTOBENTHOS MONITORING DATA						
Locations		Fungus (CFU/1 g dry wt.)	Total Count/ 50g wet sediment	No. of Species	Diversity Index	Major Species
Station-1	SW	3545	846	16	0.5646	<i>N.longsigma, Ditylum</i>
	BW	2952	688	16	0.7487	<i>Podosira</i>
Station-2	SW	2473	193	10	0.4873	<i>N. longsigma</i>
	BW	2545	212	14	0.6545	<i>Ditylum</i>
Station-3	SW	3542	222	14	0.5988	<i>Podosira, N. longsigma,</i>
	BW	3913	125	8	0.5425	<i>Ditylum</i>
Station-4	SW	2654	136	12	0.6143	<i>Podosira</i>
	BW	2053	143	13	0.4876	<i>Podosira, Ditylum</i>
Station-5	SW	3143	212	13	0.5125	<i>Podosira, N. longsigma</i>
	BW	3512	1546	12	0.7846	<i>Podosira, N. longsigma,</i> <i>Ditylum</i>
Station-6	SW	1943	256	9	0.8453	<i>Ditylum</i>
	BW	1144	285	12	0.8454	<i>Podosira, N. longsigma</i>
Station-7	SW	1592	546	14	0.9122	<i>Podosira, Ditylum</i>
	BW	1542	212	12	0.9563	<i>Podosira, Ditylum</i>
Station-8	SW	2843	326	16	0.5488	<i>Podosira, N. longsigma,</i> <i>Ditylum</i>
	BW	2494	242	18	0.5523	<i>Podosira, N. longsigma,</i> <i>Ditylum</i>

*SW= Surface Water, BW= Bottom Water

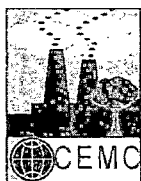
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Authorized Signatory
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SEA WATER ANALYSIS REPORT

MICROBIOLOGICAL MONITORING DATA					
Locations		Total Bacterial Count (CFU/ml)	Total Coliform (CFU/ml)	Faecal Coliform (CFU/ml)	E.coli (CFU/ml)
Station-1	SW	98	13	2.0	ND
	BW	140	7.6	<1.8	ND
Station-2	SW	110	32	3.7	ND
	BW	70	17	1.8	ND
Station-3	SW	210	56	1.8	ND
	BW	120	24	<1.8	ND
Station-4	SW	530	102	1.8	ND
	BW	410	76	1.8	ND
Station-5	SW	230	36	2.0	ND
	BW	120	24	2.0	ND
Station-6	SW	130	18	3.6	ND
	BW	120	16	1.8	ND
Station-7	SW	140	14	2.0	ND
	BW	80	12	1.8	ND
Station-8	SW	160	5.6	1.8	ND
	BW	130	28	<1.8	ND

*SW= Surface Water, BW= Bottom Water

MICROBIOLOGICAL MONITORING DATA					
Locations		Enterococcus (CFU/ml)	Salmonella (CFU/ml)	Shigella (CFU/ml)	Vibrio (CFU/ml)
Station-1	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-2	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-3	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-4	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-5	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-6	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-7	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-8	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND

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Dr. T. Sahu, PhD, Env. Sc.

Authorized Signatory

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SEA WATER ANALYSIS REPORT

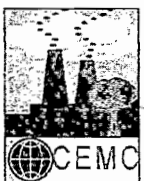
TOTAL FAUNA MONITORING DATA			
Locations	Name of Phylum, Class and Number of individuals encountered	Total number of species Encountered	Total Fauna per m ³
Station-1	SW 1. Phylum- Annelida Class- Polychaeta-22 2. Phylum- Mollusca Class- Gastropoda-17 Class- Bivalvia-19 Class- Scaphopoda-8	42	514
	BW 1. Phylum- Annelida Class- Polychaeta-19 2. Phylum- Mollusca Class- Gastropoda-11 Class- Bivalvia-24 Class- Scaphopoda-28	19	316
Station-2	SW 1. Phylum- Annelida Class- Polychaeta-24 2. Phylum- Mollusca Class- Scaphopoda-12	28	188
	BW 1. Phylum- Annelida Class- Polychaeta-26 2. Phylum- Mollusca Class- Gastropoda-11	18	396
Station-3	SW 1. Phylum- Anthropoda Class- Amphipoda-39 2. Phylum- Annelida Class- Polychaeta- 24 3. Phylum- Mollusca Class- Pelecypoda-22 Class- Bivalvia-11 Class- Gastropoda-8	28	984
	BW 1. Phylum- Anthropoda Class- Amphipoda-21 2. Phylum- Annelida Class- Polychaeta- 10 3. Phylum- Mollusca Class- Pelecypoda-21 Class- Bivalvia-11 Class- Gastropoda-17	56	1042
Station-4	SW 1. Phylum- Annelida Class- Polychaeta-37 2. Phylum- Mollusca Class- Bivalvia-15	55	416
	BW 1. Phylum- Annelida Class- Polychaeta-15 2. Phylum- Mollusca Class- Bivalvia-11	38	518

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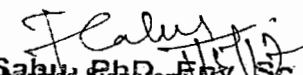


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Station-5	SW	1. Phylum- Arthropoda Class- Malagostraca-22 2. Phylum- Annelida Class- Polychaeta-24 3. Phylum- Mollusca Class- Gastropoda-19 Class- Pelecypoda-11	129	947
	BW	1. Phylum- Arthropoda Class- Malagostraca-17 2. Phylum- Annelida Class- Polychaeta-18 3. Phylum- Mollusca Class- Gastropoda-19 Class- Pelecypoda-05	125	847
Station-6	SW	1. Phylum- Annelida Class- Polychaeta-21 2. Phylum- Mollusca Class- Gastropoda-19 Class- Pelecypoda-14 Class- Bivalvia-01	26	412
	BW	1. Phylum- Annelida Class- Polychaeta-15 2. Phylum- Mollusca Class- Gastropoda-30 Class- Pelecypoda-29 Class- Bivalvia-18	45	721
Station-7	SW	1. Phylum- Arthropoda Class- Malagostraca-32 2. Phylum- Mollusca Class- Gastropoda-02 3. Phylum- Annelida Class- Polychaeta-5	16	100
	BW	1. Phylum- Arthropoda Class- Malagostraca-19 2. Phylum- Annelida Class- Polychaeta-18	22	147
Station-8	SW	1. Phylum- Annelida Class- Polychaeta-20 2. Phylum- Arthropoda Class- Copepoda-11	14	162
	BW	1. Phylum- Annelida Class- Polychaeta-14 2. Phylum- Arthropoda Class- Copepoda-10	22	120

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Reference no. - CEMC/DPCL/010517/SED

Issued Date-01.05.2017

Name & Address of the Customer
Work Order No.
Date of Sampling
Sampling by
Sample Description

: M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
: 5700205794, dtd-28.03.2017
: 13.04.2017
: Biswaranjan Behera
: Sediment

SEA SEDIMENT ANALYSIS REPORT

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	7.7	5.2	5.4	4.24	3.3	21.86	< 5	< 1	< 3
Station-2	7.4	4.5	7.5	5.92	4.6	22.13	< 5	< 1	< 3
Station-3	7.1	5.8	6.4	5.12	2.9	23.55	< 5	< 1	< 3
Station-4	7.6	6.3	6.8	5.48	3.3	21.41	< 5	< 1	< 3
Station-5	7.2	5.8	5.4	5.12	3.8	22.19	< 5	< 1	< 3
Station-6	7.6	6.8	6.3	5.06	2.6	23.65	< 5	< 1	< 3
Station-7	7.7	4.7	5.3	5.18	4.5	20.16	< 5	< 1	< 3
Station-8	7.3	2.6	4.8	3.43	3.8	24.18	< 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	748	4522	ND	ND	0.66
Station-2	< 1	< 5	< 0.5	< 0.5	754	5017	ND	ND	0.74
Station-3	< 1	< 5	< 0.5	< 0.5	772	6746	ND	ND	0.66
Station-4	< 1	< 5	< 0.5	< 0.5	771	6455	ND	ND	0.78
Station-5	< 1	< 5	< 0.5	< 0.5	810	7146	ND	ND	0.63
Station-6	< 1	< 5	< 0.5	< 0.5	927	7953	ND	ND	0.67
Station-7	< 1	< 5	< 0.5	< 0.5	961	8046	ND	ND	0.55
Station-8	< 1	< 5	< 0.5	< 0.5	780	5103	ND	ND	0.85

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	2.4	1.6	3.4	0.32	14.15	85.56
Station-2	< 1	ND	< 0.1	2.3	1.4	5.3	0.83	28.58	70.58
Station-3	< 1	ND	< 0.1	2.6	1.8	3.6	1.12	49.53	49.36
Station-4	< 1	ND	< 0.1	2.4	1.4	3.4	0.92	15.22	83.86
Station-5	< 1	ND	< 0.1	3.2	2.4	2.8	0.83	23.15	76.06
Station-6	< 1	ND	< 0.1	4.8	1.6	2.2	1.27	48.13	50.64
Station-7	< 1	ND	< 0.1	3.5	1.8	3.4	1.95	13.25	84.79
Station-8	< 1	ND	< 0.1	3.3	2.2	2.6	1.26	28.57	70.23

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Govt. ANALYST

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Environmental Studies (EIA & EIM), Monitoring, Forest Diversion Planning, DRR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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SEA SEDIMENT ANALYSIS REPORT

PHYTOBENTHOS MONITORING DATA					
Locations	Fungus (CFU/1 g dry wt.)	Total Count/ 50g wet sediment	No. of Species	Diversity Index	Major Species
Station-1	3055	246	9	1.0477	<i>Podosira, N. longsigma</i>
Station-2	1053	459	10	0.3653	<i>N. longsigma, Ditylum</i>
Station-3	6984	426	10	0.8955	<i>Podosira, Ditylum</i>
Station-4	4957	582	10	0.6256	<i>Podosira, N. longsigma, Ditylum</i>
Station-5	2656	303	14	0.9652	<i>Podosira</i>
Station-6	3255	214	14	0.3696	<i>Podosira, Ditylum</i>
Station-7	2653	516	10	0.6254	<i>Podosira, N. longsigma</i>
Station-8	1213	392	9	0.6556	<i>Podosira, N. longsigma</i>

TOTAL FAUNA MONITORING DATA			
Locations	Name of Phylum, Class and Number of individuals encountered	Total number of species Encountered	Total Fauna per m ³
Station-1	1. Phylum- Annelida Class- Polychaeta-19 2. Phylum- Mollusca Class- Gastropoda-19 Class- Bivalvia-10 Class- Scaphopoda-20	47	427
Station-2	1. Phylum- Annelida Class- Polychaeta-19 2. Phylum- Mollusca Class- Gastropoda-12 Class- Bivalvia-12 Class- Scaphopoda-19	28	222
Station-3	1. Phylum- Annelida Class- Amphipoda-20 2. Phylum- Annelida Class- Polychaeta-14 1. Phylum- Mollusca Class- Pelecypoda-11 Class- Bivalvia-10 Class- Gastropoda-29	66	912
Station-4	1. Phylum- Annelida Class- Polychaeta-19 2. Phylum- Mollusca Class- Bivalvia-8	40	648


Dr. T. Sahu, PhD, Engg. Sc.
Govt. ANALYST
(GAZETTE No-1357, Dt-03-06-2016)

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Station-5	1. Phylum- Arthropoda Class- Malagostraca-19 2. Phylum- Annelida Class- Polychaeta-12 3. Phylum- Mollusca Class- Gastropoda-10 Class- Pelecypoda-19	124	585
Station-6	1. Phylum- Annelida Class- Polychaeta-20 2. Phylum- Mollusca Class- Gastropoda-10 Class- Pelecypoda-8 Class- Bivalvia-29	100	305
Station-7	1. Phylum- Arthropoda Class- Malagostraca-20 2. Phylum- Annelida Class- Polychaeta-38	85	295
Station-8	1. Phylum- Annelida Class- Polychaeta-18 2. Phylum- Arthropoda Class- Copepoda-10	141	127

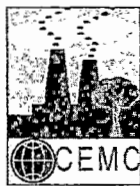
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Dr. T. Sahu, PhD, Env. Sc.
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GOVT. ANALYST
(GAZETTE No-1357, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Base line Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference no. - CEMC/DPCL/010617/A

Issued Date-01.06.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01062017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near MCC-1
Sampling By	Mr. Biswaranjan Behera
Sampling Duration	01.05.2017 to 31.05.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
02.05.2017	57.3	29.1	4.9	10.5	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.05.2017	55.7	28.3	5.2	11.2	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.05.2017	62.4	28.4	5.4	12.7	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.05.2017	64.7	30.2	5.1	10.6	0.22	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.05.2017	50.9	32.4	4.8	12.8	0.24	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.05.2017	48.5	33.5	5.3	11.7	0.23	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.05.2017	58.6	37.1	6.2	12.6	0.21	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.05.2017	59.7	34.7	6.9	13.2	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
30.05.2017	55.2	39.2	5.7	11.7	0.21	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

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Authorized Signatory
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(CAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010617/A

Issued Date-01.06.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01062017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Settling Pond
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.05.2017 to 31.05.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
02.05.2017	84.7	42.8	6.9	14.9	0.28	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.05.2017	87.3	49.7	7.2	15.5	0.23	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.05.2017	82.5	42.2	6.5	14.6	0.21	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.05.2017	79.0	40.1	5.2	13.5	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.05.2017	74.3	39.3	4.9	12.4	0.21	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.05.2017	71.9	40.9	4.2	11.9	0.19	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.05.2017	79.5	39.2	5.3	13.1	0.21	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.05.2017	86.2	42.7	6.8	13.6	0.29	<20	<10	<0.06	<0.6	<0.44	<5	<1
30.05.2017	83.4	41.9	6.9	13.3	0.24	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetri c Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

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Govt. of Odisha
(CAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010617/A

Issued Date-01.06.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01062017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near WTP
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.05.2017 to 31.05.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
02.05.2017	47.7	26.9	5.2	10.5	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.05.2017	46.8	27.3	5.6	11.2	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.05.2017	42.2	29.3	5.8	10.6	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.05.2017	44.4	27.1	5.1	10.4	0.19	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.05.2017	40.5	30.2	4.9	9.5	0.21	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.05.2017	39.7	31.1	4.5	10.3	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.05.2017	45.8	25.7	5.8	9.8	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.05.2017	52.0	28.6	5.2	9.1	0.11	<20	<10	<0.06	<0.6	<0.44	<5	<1
30.05.2017	49.7	29.3	5.6	10.5	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 µg/m³, SO₂<4.0 µg/m³, NH₃<20 µg/m³, As<0.44 ng/m³, Ni<0.6 ng/m³, Pb<0.06 µg/m³, CO<0.1 mg/m³, Benzo(a)pyrene<1 ng/m³), Benzene <5 µg/m³)

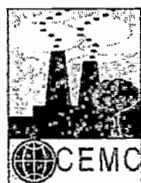
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Reference no. - CEMC/DPCL/010617/A

Issued Date-01.06.2017

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Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01062017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Community Hall
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.05.2017 to 31.05.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
02.05.2017	61.9	30.2	6.6	11.9	0.25	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.05.2017	58.5	29.5	6.1	11.3	0.29	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.05.2017	55.6	27.4	5.6	10.2	0.24	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.05.2017	57.4	25.7	5.7	12.6	0.21	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.05.2017	51.7	29.1	6.9	11.4	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.05.2017	50.5	30.5	6.2	15.9	0.29	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.05.2017	60.3	27.6	5.9	12.4	0.24	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.05.2017	57.8	32.1	5.8	11.8	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
30.05.2017	55.0	29.9	6.3	13.7	0.27	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetri c Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

Dr. T. S. Sahoo
Authorized Signatory
Govt. of Odisha
(GAZETTE No-1357, Dt-03-06-2016)



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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Reference no. - CEMC/DPCL/010617/A

Issued Date-01.06.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01062017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Dhamra Old guest house
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.05.2017 to 31.05.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
02.05.2017	45.4	26.4	4.1	8.9	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.05.2017	48.2	29.6	4.9	9.5	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.05.2017	42.2	27.9	4.1	8.3	0.11	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.05.2017	46.8	25.8	4.8	9.2	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.05.2017	37.3	24.5	5.2	8.4	0.19	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.05.2017	38.5	31.4	5.7	9.6	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.05.2017	42.3	28.7	4.3	10.2	0.11	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.05.2017	47.8	27.4	4.9	11.5	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
30.05.2017	48.0	28.2	5.1	11.2	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 µg/m³, SO₂<4.0 µg/m³, NH₃<20 µg/m³, As<0.44 ng/m³, Ni<0.6 ng/m³, Pb<0.06 µg/m³, CO<0.1 mg/m³, Benzo(a)pyrene<1 ng/m³, Benzene <5 µg/m³)

Dr. T. S. Singh
Authorized Signatory
Govt. ANALYST
(GAZETTE No-1357, Dt-03-06-2016)



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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Reference no. - CEMC/DPCL/010617/N

Issued Date-01.06.2017

NOISE LEVEL MONITORING REPORT

Issued to	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Analysis No.	CEMC/DPCL-D00N1
Nature of Sampling	Noise Sample
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.05.2017 to 31.05.2017

Date	Location	NL Day Time dB (A)			NL Night Time dB (A)		
		Max	Min.	Avg.	Max.	Min.	Avg.
15.05.2017	Near Dhamra Old Guest House	65.4	61.2	63.3	43.5	39.9	41.7
16.05.2017	Near Community Hall	64.2	60.5	60.3	42.4	41.2	41.8
17.05.2017	Near WTP	66.5	63.1	64.8	43.5	42.1	42.8
18.05.2017	Near MCC-I	64.8	62.5	63.6	49.3	46.8	46.9
19.05.2017	Near Settling Pond	67.4	64.1	65.7	46.5	43.6	45.0

National Standard of Noise Level

Area Code	Category of Area/Zone	Day Time		Night Time	
		Max	Min.	Max	Min.
A	Industrial Area	75	70	70	65
B	Commercial Area	65	60	55	50
C	Residential Area	55	50	45	40
D	Silence Zone	50	45	40	35

Dr. T. S. ...
Authorized Signatory
GAZETTE No. ...



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference no. - CEMC/DPCL/010617/WW

Issued Date-01.06.2017

STP REPORT

Name & Address of the Customer

: M/s. Dhamra Port Company Ltd., Doshinga,
Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 9.05.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP section (15 KLD)

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.71	6-8.5
5	Total Suspended Solids	mg/l	76.5	1000
6	B.O.D for 3 days @ 27°C	mg/l	88	300-350
7	Oil & grease	mg/l	6.3	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.28	5.5-9
5	Total Suspended Solids	mg/l	19.5	<100
6	B.O.D for 3 days @ 27°C	mg/l	16	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

Dr. T. K. Das
Authorized Signatory, Env. Sc.
GOVT. ANALYST

(GAZETTE NO-1357, Dt-03.06.2016)



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Reference no. - CEMC/DPCL/010617/WW

Issued Date-01.06.2017

STP REPORT

Name & Address of the Customer : M/s. Dhamra Port Company Ltd., Doshinga,
Bhadrak
Work Order No. : 5700205794, dtd-28.03.2017
Date of Sampling : 9.05.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP section (150KLD)
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.90	6-8.5
5	Total Suspended Solids	mg/l	91.3	1000
6	B.O.D for 3 days @ 27°C	mg/l	101	300-350
7	Oil & grease	mg/l	5.3	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.51	5.5-9
5	Total Suspended Solids	mg/l	23.9	<100
6	B.O.D for 3 days @ 27°C	mg/l	13	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

Dr. T. Sahu, Ph.D. Env. Sc.
Authorized Signatory
(GAZETTE No-1357) DPCL-06-2016)



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Reference no. - CEMC/DPCL/010617/WW

Issued Date-01.06.2017

STP REPORT

Name & Address of the Customer : M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No. : 5700205794, dtd-28.03.2017
Date of Sampling : 23.05.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP section (15 KLD)
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.89	6-8.5
5	Total Suspended Solids	mg/l	120.27	1000
6	B.O.D for 3 days @ 27°C	mg/l	129	300-350
7	Oil & grease	mg/l	4.6	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.93	5.5-9
5	Total Suspended Solids	mg/l	25.9	<100
6	B.O.D for 3 days @ 27°C	mg/l	19	<30
7	Oil & grease	mg/l	ND	<10

*N.B: ND-Not Detectable

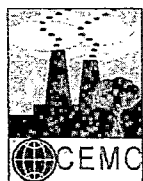
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Govt. ANALYST
(GAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010617/WW

Issued Date-01.06.2017

STP REPORT

Name & Address of the Customer : M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No. : 5700205794, dtd-28.03.2017
Date of Sampling : 23.05.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP section (150 KLD)
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

SAMPLE 1

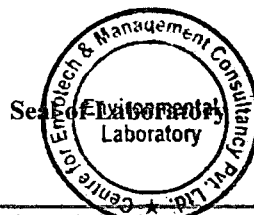
Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	7.7	6-8.5
5	Total Suspended Solids	mg/l	89.5	1000
6	B.O.D for 3 days @ 27°C	mg/l	80	300-350
7	Oil & grease	mg/l	6.3	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.94	5.5-9
5	Total Suspended Solids	mg/l	26.7	<100
6	B.O.D for 3 days @ 27°C	mg/l	14	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

Authorized Signatory, Env. Sc.
Govt. Analyst
(GAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010617/SW

Issued Date-01.06.2017

SEA WATER ANALYSIS REPORT

Name & Address of the Customer	: M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	: 5700205794, dtd-28.03.2017
Date of Sampling	: 10.05.2017
Sampling by	: Biswaranjan Behera
Sample Description	: Sea Water

STATION DESCRIPTION

SL. NO.	STATION	GPS COORDINATES
01	STATION-1	20°46'55.5" N 86°57'40.5" E
02	STATION-2	20°49'05.0" N 86°58'14.3" E
03	STATION-3	20°51'33.5" N 87°00'17.0" E
04	STATION-4	20°52'55.8" N 87°02'44.9" E
05	STATION-5	20°54'20.4" N 87°05'14.0" E
06	STATION-6	20°54'54.3" N 87°06'13.8" E
07	STATION-7	20°54'45.0" N 87°07'13.6" E
08	STATION-8	20°54'42.8" N 87°07'50.4" E

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SEA WATER ANALYSIS REPORT

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	32.4	47	44.2	8.5	26.45	5.9	4.3	30
	BW	33.2	33	40.2	8.7	27.18	6.5	< 3	< 10
Station-2	SW	32.5	45	43.5	8.1	29.23	6.2	3.7	10
	BW	32.5	26	40.4	8.3	29.45	6.3	< 3	< 10
Station-3	SW	32.4	38	41.2	8.5	28.26	7.2	< 3	20
	BW	33.4	28	39.9	7.7	28.99	6.8	< 3	< 10
Station-4	SW	34.2	33	41.6	8.3	27.78	6.3	3.9	40
	BW	33.2	33	39.1	7.8	26.54	6.8	< 3	< 10
Station-5	SW	33.5	45	45.2	8.6	25.26	7.2	< 3	20
	BW	32.5	37	47.5	7.9	24.99	6.5	< 3	< 10
Station-6	SW	35.0	34	47.5	8.6	29.89	6.7	3.3	10
	BW	33.7	37	44.5	7.8	28.42	6.3	< 3	< 10
Station-7	SW	32.6	35	39.6	8.4	25.66	7.4	< 3	30
	BW	33.8	36	38.1	8.3	23.99	6.7	< 3	< 10
Station-8	SW	33.9	38	40.2	8.5	27.24	6.4	3.5	20
	BW	32.8	40	37.2	8.1	26.33	6.9	< 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	1799	0.55	9.6	260.6
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1845	0.63	7.3	125.6
Station-2	SW	< 0.05	< 0.01	< 0.001	< 0.05	1805	0.56	8.4	240.4
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1705	0.48	8.4	115.3
Station-3	SW	< 0.05	< 0.01	< 0.001	< 0.05	1698	0.54	7.4	201.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1689	0.41	8.8	102.2
Station-4	SW	< 0.05	< 0.01	< 0.001	< 0.05	1801	0.48	8.6	240.2
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1780	0.44	7.4	140.3
Station-5	SW	< 0.05	< 0.01	< 0.001	< 0.05	1798	0.52	8.9	223.6
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1726	0.44	8.6	109.6
Station-6	SW	< 0.05	< 0.01	< 0.001	< 0.05	1754	0.46	7.3	230.5
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1805	0.65	8.7	123.5
Station-7	SW	< 0.05	< 0.01	< 0.001	< 0.05	1665	0.71	6.4	201.2
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1545	0.55	8.3	99.3
Station-8	SW	< 0.05	< 0.01	< 0.001	< 0.05	1656	0.84	7.8	195.2
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1533	0.76	7.5	110.2

*SW= Surface Water, BW= Bottom Water

Dr. T. S. Sahoo, Env. Sc.
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(GAZETTE No-1367, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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SEA WATER ANALYSIS REPORT

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	2510	840	3280	34452	ND	12.1
	BW	2700	810	3510	31654	ND	10.2
Station-2	SW	2810	850	3580	31546	ND	9.8
	BW	2840	800	3590	28954	ND	8.9
Station-3	SW	2860	880	3680	31002	ND	10.9
	BW	2410	780	3110	29954	ND	10.1
Station-4	SW	3130	890	3980	30451	ND	9.6
	BW	2950	740	3660	31023	ND	8.9
Station-5	SW	3070	940	3950	30545	ND	11.1
	BW	2780	840	3560	28954	ND	9.7
Station-6	SW	2420	960	3270	31256	ND	10.9
	BW	2440	850	3280	30845	ND	10.2
Station-7	SW	2410	870	3260	30995	ND	11.8
	BW	2840	820	3570	30145	ND	10.1
Station-8	SW	2220	910	3040	31630	ND	10.9
	BW	2240	790	2970	30301	ND	9.6

*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 (°/oo)	Oil and Grease (mg/l)
Station-1	SW	< 0.05	< 0.001	< 0.05	1.5	13.01	3.7
	BW	< 0.05	< 0.001	< 0.05	ND	14.91	ND
Station-2	SW	< 0.05	< 0.001	< 0.05	1.3	11.55	3.6
	BW	< 0.05	< 0.001	< 0.05	ND	12.54	ND
Station-3	SW	< 0.05	< 0.001	< 0.05	1.2	13.25	3.5
	BW	< 0.05	< 0.001	< 0.05	ND	10.25	ND
Station-4	SW	< 0.05	< 0.001	< 0.05	1.2	13.01	5.9
	BW	< 0.05	< 0.001	< 0.05	ND	10.45	ND
Station-5	SW	< 0.05	< 0.001	< 0.05	1.5	11.54	4.7
	BW	< 0.05	< 0.001	< 0.05	ND	10.64	ND
Station-6	SW	< 0.05	< 0.001	< 0.05	1.3	11.25	4.2
	BW	< 0.05	< 0.001	< 0.05	ND	11.85	ND
Station-7	SW	< 0.05	< 0.001	< 0.05	2.2	14.20	3.7
	BW	< 0.05	< 0.001	< 0.05	ND	12.32	ND
Station-8	SW	< 0.05	< 0.001	< 0.05	1.6	13.4	5.9
	BW	< 0.05	< 0.001	< 0.05	ND	14.44	ND

*SW= Surface Water, BW= Bottom Water

Dr. T. S. B. B. Env. Sc.
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SEA WATER ANALYSIS REPORT

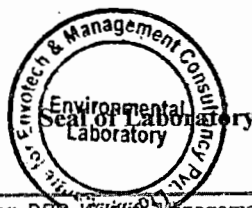
PHYTOPLANKTON MONITORING DATA					
Locations		Total Count/L	No. of Species	Chlorophyll-a (µg/L)	Major Species
Station-1	SW	555	25	1.2220	<i>C.pentagonum, N.striata, C.furca, Ceratium, N.longisigma</i>
	BW	1810	13	0.6451	<i>C.pentagonum, N.striata, Chaetoceros, Bacillaria</i>
Station-2	SW	2902	12	1.1554	<i>Podosira, Bacillaria, N.striata</i>
	BW	1141	15	1.0415	<i>C.pentagonum, Bacillaria, Podosira</i>
Station-3	SW	4900	20	2.2015	<i>Pleurosigma, C.pentagonum, N.striata</i>
	BW	1240	18	1.0546	<i>Pleurosigma, N.longisigma, C.pentagonum, N.striata</i>
Station-4	SW	810	20	1.2014	<i>C.pentagonum, Pleurosigma, N.longisigma, Bacillaria</i>
	BW	1541	17	1.7458	<i>Podosira, C.pentagonum, N.striata</i>
Station-5	SW	1345	18	1.4659	<i>C.pentagonum, Skeletonema, N.longisigma, Bacillaria</i>
	BW	1050	15	1.0154	<i>Bacillaria, Chaetoceros, Ceratium,</i>
Station-6	SW	990	16	2.1854	<i>C.pentagonum, C.furca, Bacillaria, Podosira, Skeletonema,</i>
	BW	1037	19	1.8551	<i>C.pentagonum, N.striata, C.furca, N.striata</i>
Station-7	SW	1301	11	1.2514	<i>Bacillaria, Chaetoceros, Podosira</i>
	BW	1203	24	1.2451	<i>N.longisigma, Podosira, Ceratium, C.furca</i>
Station-8	SW	1670	25	1.3745	<i>C.pentagonum, Bacillaria, Podosira, N.longisigma</i>
	BW	1122	15	1.2544	<i>C.pentagonum, Chaetoceros, Bacillaria, N.striata</i>

*SW= Surface Water, BW= Bottom Water.

ZOOPLANKTON MONITORING DATA				
Locations		Total Count/L	No. of Species	Major Species
Station-1	SW	1220	17	<i>Protozoa, Rotifera, Nematoda, Cladocera</i>
	BW	1300	11	<i>Anostraca, Cladocera, Nematoda</i>
Station-2	SW	1489	10	<i>Crustacean Larvae, Protozoa, Nematoda</i>
	BW	1401	15	<i>Rotifera, Nematoda, Cladocera</i>
Station-3	SW	1720	09	<i>Anostraca, Cladocera, Rotifera, Copepod</i>
	BW	1402	13	<i>Rotifera, Protozoa, Nematoda, Crustacean Larvae</i>
Station-4	SW	1199	11	<i>Crustacean Larvae, Protozoa, Nematoda, Rotifera</i>
	BW	989	15	<i>Protozoa, Nematoda, Copepod, Nematoda</i>
Station-5	SW	1796	14	<i>Cladocera, Nematoda, Cladocera</i>
	BW	1501	12	<i>Copepod, Rotifera, Ostracoda</i>
Station-6	SW	1252	20	<i>Rotifera, Protozoa, Nematoda, Cladocera</i>
	BW	982	16	<i>Cladocera, Nematoda, Rotifera</i>
Station-7	SW	1245	10	<i>Ostracoda, Protozoa, Copepod, Rotifera</i>
	BW	1045	09	<i>Protozoa, Rotifera, Copepod</i>
Station-8	SW	1256	14	<i>Copepod, Rotifera, Cladocera</i>
	BW	1447	14	<i>Ostracoda, Protozoa, Copepod, Rotifera</i>

*SW= Surface Water, BW= Bottom Water

Dr. T. Ravi, PhD, Env. Sc.
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(GAZETTE No-1357, Dt-03-06-2016)



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SEA WATER ANALYSIS REPORT

MICROBIOLOGICAL MONITORING DATA					
Locations		Total Bacterial Count (CFU/ml)	Total Coliform (CFU/ml)	Faecal Coliform (CFU/ml)	E.coli (CFU/ml)
Station-1	SW	99	12	2.4	ND
	BW	138	7.5	<1.8	ND
Station-2	SW	108	29	3.8	ND
	BW	72	15	1.7	ND
Station-3	SW	225	60	1.9	ND
	BW	125	27	<1.8	ND
Station-4	SW	563	112	1.7	ND
	BW	423	80	1.9	ND
Station-5	SW	239	41	2.1	ND
	BW	135	29	2.0	ND
Station-6	SW	141	15	3.8	ND
	BW	128	79	1.7	ND
Station-7	SW	148	17	2.0	ND
	BW	89	15	1.9	ND
Station-8	SW	156	5.4	1.7	ND
	BW	138	31	<1.8	ND

*SW= Surface Water, BW= Bottom Water

MICROBIOLOGICAL MONITORING DATA					
Locations		Enterococcus (CFU/ml)	Salmonella (CFU/ml)	Shigella (CFU/ml)	Vibrio (CFU/ml)
Station-1	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-2	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-3	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-4	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-5	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-6	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-7	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-8	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND

*SW= Surface Water, BW= Bottom Water

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Govt. ANALYST
(GAZETTE No-1357, Dt-03-06-2016)



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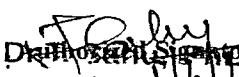
SEA WATER ANALYSIS REPORT

PRIMARY PRODUCTIVITY MONITORING DATA			
Locations		Gross Primary Productivity (mgC/ L/ day)	Net Primary Productivity (mgC/ L/ day)
Station-1	SW	2.2	1.9
	BW	2.1	1.3
Station-2	SW	2.0	1.4
	BW	2.2	1.5
Station-3	SW	2.3	1.8
	BW	1.9	1.4
Station-4	SW	2.6	1.6
	BW	2.2	1.4
Station-5	SW	2.4	1.4
	BW	2.3	1.7
Station-6	SW	2.4	1.7
	BW	1.8	1.5
Station-7	SW	2.1	1.7
	BW	1.9	1.5
Station-8	SW	2.1	1.4
	BW	2.2	1.8

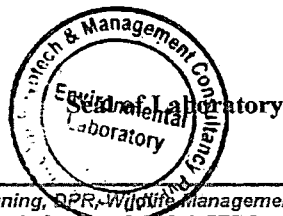
*SW= Surface Water, BW= Bottom Water

PHYTOBENTHOS MONITORING DATA						
Locations		Fungus (CFU/1 g dry wt.)	Total Count/ 50g wet sediment	No. of Species	Diversity Index	Major Species
Station-1	SW	3499	852	15	0.5541	<i>N. longsigma</i> , <i>Ditylum</i>
	BW	2982	652	16	0.7451	<i>Podosira</i>
Station-2	SW	2503	165	11	0.4954	<i>N. longsigma</i>
	BW	2495	225	11	0.6451	<i>Ditylum</i>
Station-3	SW	3578	252	16	0.5564	<i>Podosira</i> , <i>N. longsigma</i> ,
	BW	3999	112	9	0.5665	<i>Ditylum</i>
Station-4	SW	2745	162	14	0.6165	<i>Podosira</i>
	BW	2141	152	11	0.4901	<i>Podosira</i> , <i>Ditylum</i>
Station-5	SW	3145	215	13	0.5201	<i>Podosira</i> , <i>N. longsigma</i>
	BW	3451	156	13	0.7900	<i>Podosira</i> , <i>N. longsigma</i> , <i>Ditylum</i>
Station-6	SW	1954	255	10	0.8501	<i>Ditylum</i>
	BW	1201	285	13	0.8465	<i>Podosira</i> , <i>N. longsigma</i>
Station-7	SW	1602	582	15	0.9185	<i>Podosira</i> , <i>Ditylum</i>
	BW	1562	285	11	0.9601	<i>Podosira</i> , <i>Ditylum</i>
Station-8	SW	2901	365	15	0.5510	<i>Podosira</i> , <i>N. longsigma</i> , <i>Ditylum</i>
	BW	2500	225	19	0.5540	<i>Podosira</i> , <i>N. longsigma</i> , <i>Ditylum</i>

*SW= Surface Water, BW= Bottom Water


Dr. Anil Kumar Singh, Env. Sc.
Govt. ANALYST

(GAZETTE No-1357, Dt-03-06-2016)



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SEA WATER ANALYSIS REPORT

TOTAL FAUNA MONITORING DATA				
Locations		Name of Phylum, Class and Number of individuals encountered	Total number of species Encountered	Total Fauna per m ³
Station-1	SW	1. Phylum- Annelida Class- Polychaeta-23 2. Phylum- Mollusca Class- Gastropoda-19 Class- Bivalvia-20 Class- Scaphopoda-9	40	520
	BW	1. Phylum- Annelida Class- Polychaeta-21 2. Phylum- Mollusca Class- Gastropoda-13 Class- Bivalvia-26 Class- Scaphopoda-25	18	321
Station-2	SW	1. Phylum- Annelida Class- Polychaeta-27 2. Phylum- Mollusca Class- Scaphopoda-14	25	201
	BW	1. Phylum- Annelida Class- Polychaeta-28 2. Phylum- Mollusca Class- Gastropoda-09	16	402
Station-3	SW	1. Phylum- Anthropoda Class- Amphipoda-41 2. Phylum- Annelida Class- Polychaeta- 26 3. Phylum- Mollusca Class- Pelecypoda-23 Class- Bivalvia-13 Class- Gastropoda-9	29	995
	BW	1. Phylum- Anthropoda Class- Amphipoda-23 2. Phylum- Annelida Class- Polychaeta- 12 3. Phylum- Mollusca Class- Pelecypoda-25 Class- Bivalvia-13 Class- Gastropoda-15	59	1142
Station-4	SW	1. Phylum- Annelida Class- Polychaeta-39 2. Phylum- Mollusca Class- Bivalvia-17	57	398
	BW	1. Phylum- Annelida Class- Polychaeta-16 2. Phylum- Mollusca Class- Bivalvia-13	36	545

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
E-mail: cemclab@yahoo.in, Mobile: 7752014842



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Station-5	SW	1. Phylum- Arthropoda Class- Malagostraca-23 2. Phylum- Annelida Class- Polychaeta-24 3. Phylum- Mollusca Class- Gastropoda-17 Class- Pelecypoda-13	132	950
	BW	1. Phylum- Arthropoda Class- Malagostraca-19 2. Phylum- Annelida Class- Polychaeta-20 3. Phylum- Mollusca Class- Gastropoda-21 Class- Pelecypoda-07	130	852
Station-6	SW	1. Phylum- Annelida Class- Polychaeta-23 2. Phylum- Mollusca Class- Gastropoda-18 Class- Pelecypoda-16 Class- Bivalvia-02	30	420
	BW	1. Phylum- Annelida Class- Polychaeta-18 2. Phylum- Mollusca Class- Gastropoda-31 Class- Pelecypoda-27 Class- Bivalvia-20	44	732
Station-7	SW	1. Phylum- Arthropoda Class- Malagostraca-35 2. Phylum- Mollusca Class- Gastropoda-03 3. Phylum- Annelida Class- Polychaeta-6	17	123
	BW	1. Phylum- Arthropoda Class- Malagostraca-21 2. Phylum- Annelida Class- Polychaeta-15	19	150
Station-8	SW	1. Phylum- Annelida Class- Polychaeta-23 2. Phylum- Arthropoda Class- Copepoda-12	17	156
	BW	1. Phylum- Annelida Class- Polychaeta-16 2. Phylum- Arthropoda Class- Copepoda-09	20	125

*SW= Surface Water, BW= Bottom Water

Dr. T. Sahu, Ph.D. Env. Sc.

Authorized Signatory

(GAZETTE No-1357/01-03/06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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E-mail: cemclab@yahoo.in, Mobile: 7752014842



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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Reference no- CEMC/DPCL/010617/SED

Issued Date-01.06.2017

Name & Address of the Customer

: M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 10.05.2017

Sampling by

: Biswaranjan Behera

Sample Description

: Sediment

SEA SEDIMENT ANALYSIS REPORT

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	7.5	5.4	5.5	4.15	3.8	21.90	< 5	< 1	< 3
Station-2	7.3	4.7	7.6	5.85	4.6	22.20	< 5	< 1	< 3
Station-3	7.2	5.7	6.7	5.20	2.8	23.45	< 5	< 1	< 3
Station-4	7.7	6.5	6.9	5.65	3.5	21.47	< 5	< 1	< 3
Station-5	7.3	5.9	5.4	5.15	3.3	22.17	< 5	< 1	< 3
Station-6	7.4	6.9	6.5	5.40	2.7	23.70	< 5	< 1	< 3
Station-7	7.8	4.8	5.4	5.52	4.6	20.80	< 5	< 1	< 3
Station-8	7.2	2.5	4.9	3.47	3.9	24.45	< 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	754	4544	ND	ND	0.68
Station-2	< 1	< 5	< 0.5	< 0.5	747	5102	ND	ND	0.76
Station-3	< 1	< 5	< 0.5	< 0.5	747	6801	ND	ND	0.64
Station-4	< 1	< 5	< 0.5	< 0.5	785	6501	ND	ND	0.74
Station-5	< 1	< 5	< 0.5	< 0.5	825	7189	ND	ND	0.65
Station-6	< 1	< 5	< 0.5	< 0.5	941	7987	ND	ND	0.63
Station-7	< 1	< 5	< 0.5	< 0.5	975	8102	ND	ND	0.59
Station-8	< 1	< 5	< 0.5	< 0.5	789	5104	ND	ND	0.87

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	3.6	0.30	14.10	84.65
Station-2	< 1	ND	< 0.1	2.5	1.6	5.2	0.85	29.60	69.56
Station-3	< 1	ND	< 0.1	2.9	1.5	3.7	1.09	48.52	50.35
Station-4	< 1	ND	< 0.1	2.5	1.3	3.4	0.89	16.20	82.85
Station-5	< 1	ND	< 0.1	3.1	2.5	2.9	0.79	22.12	77.01
Station-6	< 1	ND	< 0.1	4.7	1.8	2.1	1.25	47.12	51.62
Station-7	< 1	ND	< 0.1	3.6	1.9	3.1	1.89	12.56	84.65
Station-8	< 1	ND	< 0.1	3.2	2.1	2.8	1.26	27.30	71.25

Authorized Signatory, Env. Sc.

Govt. ANALYST

Seal of Laboratory
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Laboratory

Environmental Studies (EIA/EMP) Monitoring Forest Diversion Planning, D.R. Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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SEA SEDIMENT ANALYSIS REPORT

PHYTOBENTHOS MONITORING DATA

Locations	Fungus (CFU/1 g dry wt.)	Total Count/ 50g wet sediment	No. of Species	Diversity Index	Major Species
Station-1	3045	250	10	1.0501	<i>Podosira, N. longsigma</i>
Station-2	1046	474	9	0.3745	<i>N. longsigma, Ditylum</i>
Station-3	6899	445	11	0.9654	<i>Podosira, Ditylum</i>
Station-4	4998	595	9	0.6456	<i>Podosira, N. longsigma, Ditylum</i>
Station-5	2701	298	15	0.9785	<i>Podosira</i>
Station-6	3301	245	14	0.3701	<i>Podosira, Ditylum</i>
Station-7	2664	545	12	0.6325	<i>Podosira, N. longsigma</i>
Station-8	1253	401	10	0.6785	<i>Podosira, N. longsigma</i>

TOTAL FAUNA MONITORING DATA

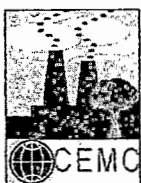
Locations	Name of Phylum, Class and Number of individuals encountered	Total number of species Encountered	Total Fauna per m ³
Station-1	1. Phylum- Annelida Class- Polychaeta-21 2. Phylum- Mollusca Class- Gastropoda-20 Class- Bivalvia-09 Class- Scaphopoda-23	45	431
Station-2	1. Phylum- Annelida Class- Polychaeta-21 2. Phylum- Mollusca Class- Gastropoda-13 Class- Bivalvia-11 Class- Scaphopoda-20	29	235
Station-3	1. Phylum- Anthropoda Class- Amphipoda-21 2. Phylum- Annelida Class- Polychaeta- 16 1. Phylum- Mollusca Class- Pelecypoda-10 Class- Bivalvia-08 Class- Gastropoda-32	64	909
Station-4	1. Phylum- Annelida Class- Polychaeta-20 2. Phylum- Mollusca Class- Bivalvia-9	47	650

Dr. T. Saha, *[Signature]* Sc.
Govt. ANALYST
(GAZETTE No-1357, Dt-03-06-2016)

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Station-5	1. Phylum- Arthropoda Class- Malacostraca-21 2. Phylum- Annelida Class- Polychaeta-13 3. Phylum- Mollusca Class- Gastropoda-11 Class- Pelecypoda-22	119	590
Station-6	1. Phylum- Annelida Class- Polychaeta-18 2. Phylum- Mollusca Class- Gastropoda-09 Class- Pelecypoda-10 Class- Bivalvia-31	102	309
Station-7	1. Phylum- Arthropoda Class- Malacostraca-22 2. Phylum- Annelida Class- Polychaeta-40	89	289
Station-8	1. Phylum- Annelida Class- Polychaeta-16 2. Phylum- Arthropoda Class- Copepoda-14	139	130

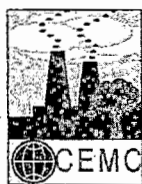
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Authorized Signature
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(GAZETTE No-1957, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010717/A

Issued Date-01.07.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01072017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near MCC-1
Sampling By	Mr. Biswaranjan Behera
Sampling Duration	01.06.2017 to 30.06.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
02.06.2017	56.5	31.5	5.3	10.8	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
06.06.2017	61.3	33.2	5.6	9.6	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.06.2017	54.5	30.3	5.9	12.4	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
13.06.2017	51.2	30.4	5.5	11.3	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.06.2017	52.3	31.6	5.6	12.4	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
20.06.2017	48.2	29.3	5.4	12.1	0.19	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.06.2017	50.4	34.1	7.2	11.7	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.06.2017	51.8	27.9	7.7	12.4	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.06.2017	47.5	25.7	5.9	11.1	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- ($\text{NO}_x < 9.0 \mu\text{g}/\text{m}^3$, $\text{SO}_2 < 4.0 \mu\text{g}/\text{m}^3$, $\text{NH}_3 < 20 \mu\text{g}/\text{m}^3$, $\text{As} < 0.44 \text{ ng}/\text{m}^3$, $\text{Ni} < 0.6 \text{ ng}/\text{m}^3$, $\text{Pb} < 0.06 \mu\text{g}/\text{m}^3$, $\text{CO} < 0.1 \text{ mg}/\text{m}^3$, Benzo(a)pyrene < 1 ng/m^3 , Benzene < 5 $\mu\text{g}/\text{m}^3$)

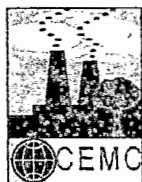
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Govt. of Odisha
(GAZETTE No. 1357, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Reference no. - CEMC/DPCL/010717/A

Issued Date-01.07.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01072017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Settling Pond
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.06.2017 to 30.06.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
02.06.2017	88.5	38.2	6.9	14.2	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
06.06.2017	85.2	49.3	6.5	14.5	0.20	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.06.2017	82.4	41.3	5.5	14.2	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
13.06.2017	75.9	39.3	5.7	15.1	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.06.2017	77.3	36.6	5.4	14.7	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
20.06.2017	78.4	37.8	5.2	12.9	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.06.2017	75.2	31.5	4.8	10.6	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.06.2017	71.3	40.1	6.2	12.2	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.06.2017	72.5	38.6	5.6	10.6	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetri c Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

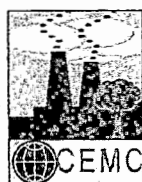
Dr. T. P. Singh, Env. Sc.
Authorized Signatory
Govt. of Odisha
(GAZETTE No-1337, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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E-mail- ccmc_consultancy@yahoo.co.in, ccmc122@gmail.com, website: www.ccmc.in, Landline: 0674-2360344.

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
E-mail: ccmclab@yahoo.in, Mobile: 7752014842



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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Reference no. - CEMC/DPCL/010717/A

Issued Date-01.07.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01072017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near WTP
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.06.2017 to 30.06.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
02.06.2017	49.2	25.2	5.8	12.1	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
06.06.2017	45.7	24.1	5.5	11.2	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.06.2017	44.6	28.4	6.1	10.2	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
13.06.2017	42.5	27.6	5.5	9.6	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.06.2017	47.3	30.6	5.8	10.1	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
20.06.2017	40.2	30.1	5.2	9.6	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.06.2017	44.3	24.6	4.6	9.1	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.06.2017	41.5	27.6	5.8	9.3	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.06.2017	40.5	28.4	6.1	10.5	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimet ric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophe nol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

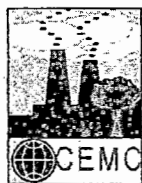
D.T. Sahu, D. Env. Sc.
Authorized Signatory
(GAZETTE NO-1357, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference no. - CEMC/DPCL/010717/A

Issued Date-01.07.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01072017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Community Hall
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.06.2017 to 30.06.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
02.06.2017	57.2	30.2	5.4	11.2	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
06.06.2017	56.5	28.6	5.2	14.3	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.06.2017	51.0	22.4	5.3	10.2	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
13.06.2017	58.5	24.3	5.2	12.1	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.06.2017	52.8	24.6	5.6	10.2	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
20.06.2017	54.7	22.1	4.3	12.6	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.06.2017	53.8	22.6	4.6	11.7	0.27	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.06.2017	51.3	29.3	4.8	11.9	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.06.2017	50.4	28.3	4.2	13.7	0.29	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetri c Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 µg/m³, SO₂<4.0 µg/m³, NH₃<20 µg/m³, As<0.44 ng/m³, Ni<0.6 ng/m³, Pb<0.06 µg/m³, CO<0.1 mg/m³, Benzo(a)pyrene<1 ng/m³), Benzene <5 µg/m³)

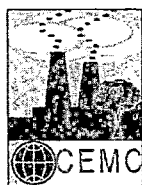
Dr. P. S. Sahoo, Ph.D. Env. Sc.
Authorized Signatory
(GAZETTE No. 137, D-03-06-2016)



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Reference no. - CEMC/DPCL/010717/A

Issued Date-01.07.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

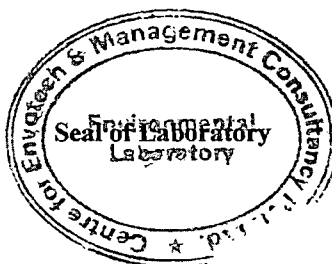
Client Name & Address	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01072017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Dhamra Old guest house
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.06.2017 to 30.06.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
02.06.2017	48.5	24.3	4.5	9.3	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
06.06.2017	47.0	28.6	4.6	11.3	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
09.06.2017	43.7	24.3	4.9	10.2	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
13.06.2017	45.6	24.3	4.3	9.1	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
16.06.2017	42.7	22.3	4.8	9.9	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
20.06.2017	46.4	28.7	4.9	9.5	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
23.06.2017	43.5	24.6	5.6	10.2	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.06.2017	42.9	24.7	4.2	10.6	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.06.2017	40.5	26.3	5.1	9.3	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen of Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3), Benzene <5 $\mu\text{g}/\text{m}^3$)

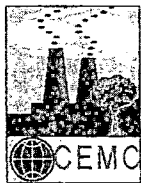
Dr. T. S. Sahoo, Env. Sc.
Authorized Signatory
GOVT. OF INDIA
(GAZETTE No-1337 dt-03-06-2016)



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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Reference no. - CEMC/DPCL/010717/N

Issued Date-01.07.2017

NOISE LEVEL MONITORING REPORT

Issued to	M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Analysis No.	CEMC/DPCL-D00N1
Nature of Sampling	Noise Sample
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.06.2017 to 30.06.2017

Date	Location	NL Day Time dB (A)			NL Night Time dB (A)		
		Max	Min.	Avg.	Max.	Min.	Avg.
05.06.2017	Near Dhamra Old Guest House	66.5	62.4	64.4	42.5	38.5	40.5
06.06.2017	Near Community Hall	63.4	59.4	61.4	41.7	40.8	41.2
07.06.2017	Near WTP	67.1	62.2	64.6	42.6	41.9	42.2
08.06.2017	Near MCC-1	65.7	64.1	64.9	48.1	47.2	47.6
09.06.2017	Near Settling Pond	66.4	63.2	64.8	47.4	45.2	46.3

National Standard of Noise Level

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

[Signature]
Authorized Signatory Env. Sc.
Govt. ANALYST
(GAZETTE No-1357, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference no. - CEMC/DPCL/010717/WW

Issued Date-01.07.2017

STP REPORT

Name & Address of the Customer

: M/s. Dhamra Port Company Ltd., Doshinga,
Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 09.06.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP section (15 KLD)

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

SL No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.9	6-8.5
5	Total Suspended Solids	mg/l	80.3	1000
6	B.O.D for 3 days @ 27°C	mg/l	84	300-350
7	Oil & grease	mg/l	6.1	100

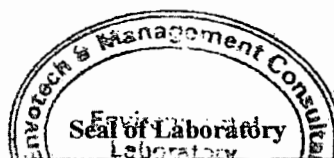
SAMPLE 2

SL No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.0	5.5-9
5	Total Suspended Solids	mg/l	20.6	<100
6	B.O.D for 3 days @ 27°C	mg/l	14	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

Dr. T. S. Sahoo, Ph.D. Env. Sc.

Authorized Signatory



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey

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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Reference no. - CEMC/DPCL/010717/WW

Issued Date-01.07.2017

STP REPORT

Name & Address of the Customer

: M/s. Dhamra Port Company Ltd., Doshinga,
Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 09.06.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP section (150KLD)

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

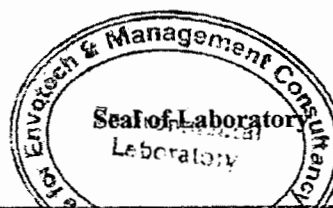
Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	7.3	6-8.5
5	Total Suspended Solids	mg/l	102.3	1000
6	B.O.D for 3 days @ 27°C	mg/l	104	300-350
7	Oil & grease	mg/l	4.9	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.4	5.5-9
5	Total Suspended Solids	mg/l	22.1	<100
6	B.O.D for 3 days @ 27°C	mg/l	11	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

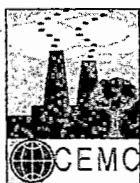
Authorized Signatory
Govt. Analyst
(GAZETTE No-1357, Dt-05-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DWS, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & BTS Survey.

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Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
E-mail: ccmclab@yahoo.in, Mobile: 7752014842



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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Reference no. - CEMC/DPCL/010717/WW

Issued Date-01.07.2017

STP REPORT

Name & Address of the Customer : M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak
Work Order No. : 5700205794, dtd-28.03.2017
Date of Sampling : 20.06.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP section (15 KLD)
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

SAMPLE 1

SL No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.9	6-8.5
5	Total Suspended Solids	mg/l	115.2	1000
6	B.O.D for 3 days @ 27°C	mg/l	140	300-350
7	Oil & grease	mg/l	5.8	100

SAMPLE 2

SL No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.4	5.5-9
5	Total Suspended Solids	mg/l	20.6	<100
6	B.O.D for 3 days @ 27°C	mg/l	16	<30
7	Oil & grease	mg/l	ND	<10

*N.B: ND-Not Detectable

Authorized Signatory
Dr. K. Sahu, Analyst
Govt. Analyst
(GAZETTE No-4367, Dt-06-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DAPS & EIS Survey.

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E-mail- cemc_consultancy@yahoo.co.in, cemc122@gmail.com, website: www.cemc.in, Landline: 0674-2360344.

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
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STP REPORT

Name & Address of the Customer

: M/s. Dhamra Port Company Ltd., Doshinga,
Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 20.06.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP section (150 KLD)

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

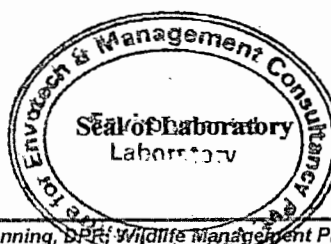
SL No.	Parameter	Units of Measurements	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	7.9	6-8.5
5	Total Suspended Solids	mg/l	90.6	1000
6	B.O.D for 3 days @ 27°C	mg/l	88	300-350
7	Oil & grease	mg/l	7.2	100

SAMPLE 2

SL No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.5	5.5-9.0
5	Total Suspended Solids	mg/l	21.6	<100
6	B.O.D for 3 days @ 27°C	mg/l	10	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

Authorized Signatory: Dr. A. K. Mishra
Govt. Analyst
(GAZETTE No-1357, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS&GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & GPS Survey.

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Reference no. - CEMC/DPCL/010717/SW

Issued Date-01.07.2017

SEA WATER ANALYSIS REPORT

Name & Address of the Customer

: M/s. Dhamra Port Company Ltd., Doshinga,
Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 08.06.2017

Sampling by

: Biswaranjan Behera

Sample Description

: Sea Water

STATION DESCRIPTION

SL. NO.	STATION	GPS COORDINATES
01	STATION-1	20°46'55.5" N 86°57'40.5" E
02	STATION-2	20°49'05.0" N 86°58'14.3" E
03	STATION-3	20°51'33.5" N 87°00'17.0" E
04	STATION-4	20°52'55.8" N 87°02'44.9" E
05	STATION-5	20°54'20.4" N 87°05'14.0" E
06	STATION-6	20°54'54.3" N 87°06'13.8" E
07	STATION-7	20°54'45.0" N 87°07'13.6" E
08	STATION-8	20°54'42.8" N 87°07'50.4" E



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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SEA WATER ANALYSIS REPORT

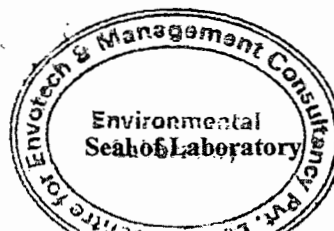
WATER ANALYSIS DATA									
Locations		Temp. (°C)	Turbidity (NTU)	Conductivity (µS/cm)	pH	Salinity (ppt)	DO (mg/l)	BOD (mg/l)	COD (mg/l)
Station-1	SW	28	28	47.62	8.1	27.35	7.7	3.6	40
	BW	22	25	50.12	7.7	29.12	6.5	< 3	20
Station-2	SW	29	22	47.57	8.3	28.41	6.6	3.2	60
	BW	21	31	50.32	7.5	29.66	6.8	< 3	30
Station-3	SW	29	23	47.48	8.0	24.40	7.3	3.1	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	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	5.1	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	4.2	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	3.6	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	3.1	50
	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

Authorized Signatory
Govt. Analyst
(GAZETTE No-1357, Dt-03-06-2016)



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SEA WATER ANALYSIS REPORT

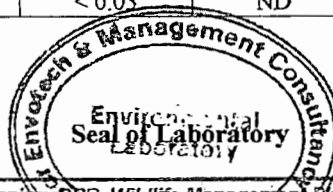
WATER ANALYSIS DATA							
Locations		Calcium Hardness (mg/l)	Magnesium Hardness (mg/l)	Total Hardness (mg/l)	Total Dissolved Solids (mg/l)	Ammonical Nitrogen (mg/l)	Total Nitrogen (mg/l)
Station-1	SW	2660	860	30953	4420	ND	12.4
	BW	2510	810	32120	4320	ND	16.9
Station-2	SW	2980	700	30920	4680	ND	13.8
	BW	2680	790	31890	4470	ND	18.4
Station-3	SW	2090	710	30580	3810	ND	14.4
	BW	2560	750	32024	4310	ND	17.8
Station-4	SW	2510	530	30586	4240	ND	13.7
	BW	2530	780	31891	4310	ND	16.8
Station-5	SW	2330	690	29956	4020	ND	12.5
	BW	2370	710	31758	4080	ND	17.4
Station-6	SW	2510	710	29124	4220	ND	12.9
	BW	2540	810	32174	4350	ND	15.9
Station-7	SW	2760	750	29751	4510	ND	11.1
	BW	2390	800	31875	4690	ND	13.5
Station-8	SW	2240	740	30154	3980	ND	12.7
	BW	2620	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 (‰)	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

Dr. T. P. Singh
Authorized Signatory, Env. Sc.
Govt. ANALYST



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PHYTOPLANKTON MONITORING DATA

Locations		Total Count/L	No. of Species	Chlorophyll-a (µg/L)	Major Species
Station-1	SW	1556	16	1.1518	<i>C. pentagonum</i> , <i>N.longisigma</i> , <i>C.furca</i> , <i>Bacillaria</i> , <i>Podosira</i> ,
	BW	1032	09	0.6111	<i>Pleurosigma</i> , <i>N.longisigma</i> , <i>Podosira</i>
Station-2	SW	4458	21	2.0520	<i>C. pentagonu</i> , <i>Bacillaria</i> , <i>Podosira</i> , <i>Skeletonema</i> ,
	BW	1533	08	1.0529	<i>Podosira</i> , <i>C.pentagonum</i> , <i>Bacillaria</i>
Station-3	SW	7665	26	3.2021	<i>C. pentagonum</i> , <i>N.striata</i> , <i>C.furca</i> , <i>Ceratium</i>
	BW	921	06	1.1164	<i>C.pentagonum</i> , <i>N.striata</i> , <i>C.furca</i>
Station-4	SW	3369	14	1.6131	<i>C. pentagonum</i> , <i>Chaetoceros</i> , <i>Bacillaria</i> , <i>N.striata</i>
	BW	3282	08	1.0321	<i>Bacillaria</i> , <i>Chaetoceros</i> , <i>Ceratium</i>
Station-5	SW	901	08	0.4674	<i>Bacillaria</i> , <i>Chaetoceros</i> , <i>Podosira</i>
	BW	785	03	1.3014	<i>C.pentagonum</i> , <i>Chaetoceros</i> , <i>Bacillaria</i>
Station-6	SW	1696	17	1.4815	<i>Podosira</i> , <i>Bacillaria</i>
	BW	1286	07	1.4298	<i>C.pentagonu</i> , <i>Bacillaria</i> , <i>Podosira</i>
Station-7	SW	1143	14	1.0591	<i>C.pentagonum</i> , <i>Pleurosigma</i> , <i>N.longisigma</i> ,
	BW	4232	10	2.1398	<i>Pleurosigma</i> , <i>C.pentagonum</i> ,
Station-8	SW	2136	15	1.3192	<i>Pleurosigma</i> , <i>N.longisigma</i> , <i>C.pentagonum</i>
	BW	7135	12	1.9789	<i>C.pentagonum</i> , <i>Skeletonema</i> , <i>N.longisigma</i> , <i>C.furca</i> , <i>Bacillaria</i>

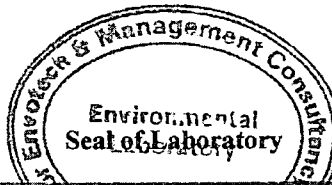
*SW= Surface Water, BW= Bottom Water.

ZOOPLANKTON MONITORING DATA

Locations		Total Count/L	No. of Species	Major Species
Station-1	SW	1312	13	<i>Rotifera, Protoza, Nematoda, Crustacean Larvae</i>
	BW	1012	11	<i>Rotifera, Protoza, Nematoda</i>
Station-2	SW	1396	14	<i>Anostraca, Cladocera, Nematoda</i>
	BW	1109	15	<i>Protozoa, Nematoda, Rotifera</i>
Station-3	SW	1912	21	<i>Protozoa, Rotifera, Copepod</i>
	BW	869	12	<i>Anostraca, Cladocera,</i>
Station-4	SW	2096	23	<i>Cladocera, Nematoda</i>
	BW	995	11	<i>Ostracoda, Protozoa, Copepod, Rotifera</i>
Station-5	SW	1445	15	<i>Crustacean Larvae, Protozoa, Nematoda</i>
	BW	1001	13	<i>Crustacean Larvae, Protozoa, Nematoda</i>
Station-6	SW	1112	10	<i>Ostracoda, Protozoa, Copepod, Rotifera</i>
	BW	932	07	<i>Cladocera, Nematoda</i>
Station-7	SW	1130	10	<i>Copepod, Rotifera</i>
	BW	665	04	<i>Copepod, Rotifera</i>
Station-8	SW	1008	07	<i>Protozoa, Rotifera, Nematoda</i>
	BW	2074	19	<i>Protozoa, Rotifera, Nematoda</i>

*SW= Surface Water, BW= Bottom Water

Dr. T. S. Sargent, Env. Sc.
Authorized Signatory
Govt. ANALYST



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SEA WATER ANALYSIS REPORT

MICROBIOLOGICAL MONITORING DATA					
Locations		Total Bacterial Count (CFU/ml)	Total Coliform (CFU/ml)	Faecal Coliform (CFU/ml)	E.coli (CFU/ml)
Station-1	SW	240	22	4.0	ND
	BW	320	74	3.6	ND
Station-2	SW	120	14	2.0	ND
	BW	150	17	1.8	ND
Station-3	SW	150	52	3.7	ND
	BW	290	63	1.8	ND
Station-4	SW	140	58	3.6	ND
	BW	250	41	2.0	ND
Station-5	SW	110	34	<1.8	ND
	BW	320	20	5.5	ND
Station-6	SW	280	60	3.6	ND
	BW	490	88	6.8	ND
Station-7	SW	440	23	1.8	ND
	BW	190	21	1.8	ND
Station-8	SW	170	34	2.3	ND
	BW	280	44	3.7	ND

*SW= Surface Water, BW= Bottom Water

MICROBIOLOGICAL MONITORING DATA					
Locations		Enterococcus (CFU/ml)	Salmonella (CFU/ml)	Shigella (CFU/ml)	Vibrio (CFU/ml)
Station-1	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-2	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-3	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-4	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-5	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-6	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-7	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-8	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND

*SW= Surface Water, BW= Bottom Water

Dr. T. S. R. D. U. Env. Sc.
Authorized Signatory

(Gazette No. 1357 D-00-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, BPS, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ERS Survey.

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SEA WATER ANALYSIS REPORT

PRIMARY PRODUCTIVITY MONITORING DATA			
Locations		Gross Primary Productivity (mgC/ L/ day)	Net Primary Productivity (mgC/ L/ day)
Station-1	SW	2.2	1.3
	BW	1.9	1.3
Station-2	SW	1.9	1.3
	BW	2.0	1.8
Station-3	SW	1.9	0.8
	BW	1.5	1.2
Station-4	SW	2.2	1.4
	BW	1.9	1.3
Station-5	SW	1.8	1.2
	BW	2.1	1.6
Station-6	SW	2.1	1.8
	BW	1.8	1.3
Station-7	SW	2.0	1.3
	BW	2.1	1.7
Station-8	SW	1.6	1.1
	BW	2.5	1.9

*SW= Surface Water, BW= Bottom Water

PHYTOBENTHOS MONITORING DATA						
Locations		Fungus (CFU/1 g dry wt.)	Total Count/ 50g wet sediment	No. of Species	Diversity Index	Major Species
Station-1	SW	2485	144	3	0.4587	<i>N.longsigma</i>
	BW	1956	140	7	0.5487	<i>Podosira</i>
Station-2	SW	4155	241	7	0.4565	<i>Podosira</i>
	BW	3547	541	12	0.4512	<i>Podosira, Ditylum</i>
Station-3	SW	1124	541	2	0.8955	<i>Podosira, N.longsigma</i>
	BW	1784	365	2	0.8547	<i>Ditylum</i>
Station-4	SW	2147	2654	3	0.4652	<i>Podosira</i>
	BW	1254	210	4	0.5684	<i>Ditylum</i>
Station-5	SW	2415	210	4	0.7562	<i>Podosira</i>
	BW	1845	154	6	0.8456	<i>Podosira, N.longsigma, Ditylum</i>
Station-6	SW	4875	124	3	0.5421	<i>Podosira</i>
	BW	3512	140	3	0.5478	<i>Podosira, N.longsigma</i>
Station-7	SW	2584	1547	4	0.9565	<i>Podosira, N.longsigma, Ditylum</i>
	BW	3652	1542	9	1.2457	<i>Podosira, N.longsigma, Ditylum</i>
Station-8	SW	1478	319	4	1.0214	<i>Podosira, N.longsigma</i>
	BW	1487	235	9	1.2455	<i>Podosira</i>

*SW= Surface Water, BW= Bottom Water

Authorized Signature
GOVT. APPROVAL
(06.2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & GIS Survey.

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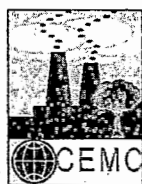
SEA WATER ANALYSIS REPORT

TOTAL FAUNA MONITORING DATA				
Locations		Name of Phylum, Class and Number of individuals encountered	Total number of species Encountered	Total Fauna per m ³
Station-1	SW	1. Phylum- Arthropoda Class- Malacostraca-40 2. Phylum- Annelida Class- Polychaeta-16	12	158
	BW	1. Phylum- Arthropoda Class- Malacostraca-52 2. Phylum- Annelida Class- Polychaeta-21	14	121
Station-2	SW	1. Phylum- Annelida Class- Polychaeta-16 2. Phylum- Arthropoda Class- Copepoda-3	12	184
	BW	1. Phylum- Annelida Class- Polychaeta-17 2. Phylum- Arthropoda Class- Copepoda-9	18	181
Station-3	SW	1. Phylum- Arthropoda Class- Malacostraca-22 2. Phylum- Annelida Class- Polychaeta-24 3. Phylum- Mollusca Class- Gastropoda-12 Class- Pelecypoda-7	141	985
	BW	1. Phylum- Arthropoda Class- Malacostraca-45 2. Phylum- Annelida Class- Polychaeta-12 3. Phylum- Mollusca Class- Gastropoda-56 Class- Pelecypoda-7	103	1985
Station-4	SW	1. Phylum- Annelida Class- Polychaeta-41 2. Phylum- Mollusca Class- Gastropoda-3 Class- Pelecypoda-4 Class- Bivalvia-3	15	547
	BW	1. Phylum- Annelida Class- Polychaeta-21 2. Phylum- Mollusca Class- Gastropoda-19 Class- Pelecypoda-10 Class- Bivalvia-9	24	451

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Station-5	SW	1. Phylum- Anthropoda Class- Amphipoda-10 2. Phylum- Annelida Class- Polychaeta-14 3. Phylum- Mollusca Class- Pelecypoda-15 Class- Bivalvia-21 Class- Gastropoda-3	98	1473
	BW	1. Phylum- Anthropoda Class- Amphipoda-19 2. Phylum- Annelida Class- Polychaeta- 11 3. Phylum- Mollusca Class- Pelecypoda-8 Class- Bivalvia-11 Class- Gastropoda-11	79	1021
Station-6	SW	1. Phylum- Annelida Class- Polychaeta-29 2. Phylum- Mollusca Class- Bivalvia-4	44	635
	BW	1. Phylum- Annelida Class- Polychaeta-31 2. Phylum- Mollusca Class- Bivalvia-6	45	1785
Station-7	SW	1. Phylum- Annelida Class- Polychaeta-19 2. Phylum- Mollusca Class- Gastropoda-5 Class- Bivalvia-4 Class- Scaphopoda-12	24	495
	BW	1. Phylum- Annelida Class- Polychaeta-12 2. Phylum- Mollusca Class- Gastropoda-11 Class- Bivalvia-3 Class- Scaphopoda-4	24	657
Station-8	SW	1. Phylum- Annelida Class- Polychaeta-21	15	348
	BW	1. Phylum- Annelida Class- Polychaeta-20	33	421

*SW= Surface Water, BW= Bottom Water

Authorized Signatory
Dr. J. K. Mishra
Govt. Analyst
(GAZETTE No-1357, Dt-03-06-2016)



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference no- CEMC/DPCL/010717/SED

Issued Date-01.07.2017

Name & Address of the Customer

: M/s. Dhamra Port Company Ltd., Doshinga, Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 08.06.2017

Sampling by

: Biswaranjan Behera

Sample Description

: Sediment

SEA SEDIMENT ANALYSIS REPORT

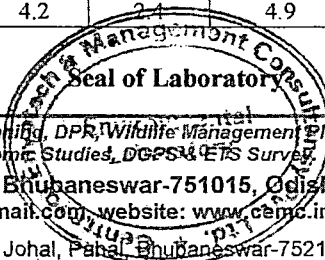
SEDIMENT ANALYSIS DATA									
Locations	pH	Organic Matter	Moisture Content (%)	Conductivity (μ S/cm)	Iron (%)	Sodium (%)	Copper (mg/kg)	Nickel (mg/Kg)	Zinc (mg/kg)
Station-1	6.8	3.8	5.1	5.21	4.3	22.44	< 5	< 1	< 3
Station-2	6.9	3.4	6.9	5.6	3.5	21.69	< 5	< 1	< 3
Station-3	6.4	4.2	7.5	5.8	4.0	25.74	< 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

Authorized Signature:  Env. Sc.

G. V. K. S. T.



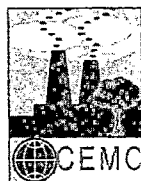
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SEA SEDIMENT ANALYSIS REPORT

PHYTOBENTHOS MONITORING DATA					
Locations	Fungus (CFU/1 g dry wt.)	Total Count/ 50g wet sediment	No. of Species	Diversity Index	Major Species
Station-1	2548	526	4	0.5894	<i>Podosira, N.longsigma</i>
Station-2	4861	685	5	0.5485	<i>N.longsigma, Ditylum</i>
Station-3	902	316	4	0.4862	<i>Podosira, Ditylum</i>
Station-4	1478	495	3	0.4218	<i>Podosira, N.longsigma, Ditylum</i>
Station-5	1785	241	10	0.9655	<i>Podosira</i>
Station-6	5426	149	9	0.4841	<i>Podosira, N.longsigma</i>
Station-7	6541	1254	3	1.5147	<i>Podosira, N.longsigma</i>
Station-8	4598	254	4	1.2214	<i>Podosira, Ditylum</i>

TOTAL FAUNA MONITORING DATA			
Locations	Name of Phylum, Class and Number of individuals encountered	Total number of species Encountered	Total Fauna per m ³
Station-1	1. Phylum- Arthropoda Class- Malacostraca-24 2. Phylum- Annelida Class- Polychaeta-27	14	168
Station-2	1. Phylum- Annelida Class- Polychaeta-19 2. Phylum- Arthropoda Class- Copepoda-5	17	193
Station-3	1. Phylum- Arthropoda Class- Malacostraca-18 2. Phylum- Annelida Class- Polychaeta-13 3. Phylum- Mollusca Class- Gastropoda-9 Class- Pelecypoda-5	120	1895
Station-4	1. Phylum- Annelida Class- Polychaeta-11 2. Phylum- Mollusca Class- Gastropoda-14 Class- Pelecypoda-2 Class- Bivalvia-12	21	547
Station-5	1. Phylum- Arthropoda Class- Amphipoda-17 2. Phylum- Annelida Class- Polychaeta-10 1. Phylum- Mollusca Class- Pelecypoda-9 Class- Bivalvia-12 Class- Gastropoda-2	82	1045

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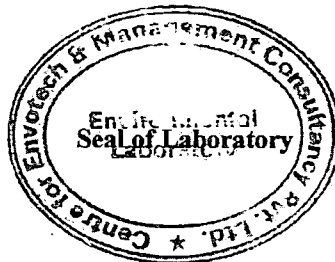


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Station-6	1. Phylum- Annelida Class- Polychaeta-11 2. Phylum- Mollusca Class- Bivalvia-10	32	640
Station-7	1. Phylum- Annelida Class- Polychaeta-21 2. Phylum- Mollusca Class- Gastropoda-14 Class- Bivalvia-5 Class- Scaphopoda-7	28	687
Station-8	1. Phylum- Annelida Class- Polychaeta-21	15	178

Authorized Signatory Env. Sc.
Govt. of Odisha
(GAZETTE No-1357, Dt-03-06-2016)



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Reference no. - CEMC/DPCL/010817/A

Issued Date-01.08.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s.The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01082017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near MCC-1
Sampling By	Mr. Biswaranjan Behera
Sampling Duration	01.07.2017 to 31.07.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
04.07.2017	50.2	26.2	5.6	10.5	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
07.07.2017	50.8	25.4	5.3	10.2	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

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Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
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Reference no. - CEMC/DPCL/010817/A

Issued Date-01.08.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s.The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01082017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Settling Pond
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.07.2017 to 31.07.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
04.07.2017	73.3	37.1	6.4	13.8	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
07.07.2017	72.7	35.9	6.8	14.1	0.19	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetri c Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

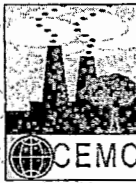
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Reference no. - CEMC/DPCL/010817/A

Issued Date-01.08.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s.The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01082017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near WTP
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.07.2017 to 31.07.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
04.07.2017	41.5	20.6	6.2	11.9	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
07.07.2017	40.8	19.7	5.9	11.4	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimet ric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophe nol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

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BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3), Benzene <5 $\mu\text{g}/\text{m}^3$)

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Reference no. - CEMC/DPCL/010817/A

Issued Date-01.08.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s.The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01082017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Community Hall
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.07.2017 to 31.07.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
04.07.2017	52.9	26.1	5.8	12.4	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
07.07.2017	53.5	25.4	5.5	12.7	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetri c Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

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AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s.The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Reference No.	CEMC-01082017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Dhamra Old guest house
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.07.2017 to 31.07.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
04.07.2017	41.5	21.1	5.1	10.4	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
07.07.2017	40.3	19.8	4.6	11.1	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

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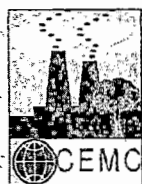
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Reference no. - CEMC/DPCL/010817/A

Issued Date-01.08.2017

NOISE LEVEL MONITORING REPORT

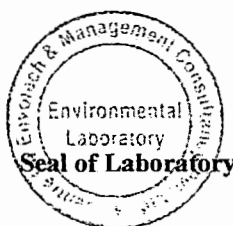
Issued to	M/s.The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	5700205794, dtd-28.03.2017
Analysis No.	CEMC/DPCL-D00N1
Nature of Sampling	Noise Sample
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.07.2017 to 31.07.2017

Date	Location	NL Day Time dB (A)			NL Night Time dB (A)		
		Max	Min.	Avg.	Max.	Min.	Avg.
10.07.2017	Near Dhamra Old Guest House	65.2	61.9	63.5	42.3	37.8	40.0
11.07.2017	Near Community Hall	62.9	58.7	60.8	40.9	38.6	39.7
12.07.2017	Near WTP	68.1	63.5	65.8	43.6	40.9	42.2
13.07.2017	Near MCC-1	64.8	63.7	64.2	47.5	45.2	46.3
14.07.2017	Near Settling Pond	67.1	64.1	65.6	48.1	46.5	47.3

National Standard of Noise Level

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

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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Reference no. - CEMC/DPCL/010817/WW

Issued Date-01.08.2017

STP REPORT

Name & Address of the Customer

: M/s.The Dhamra Port Company Ltd., Dosinga,
Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 11.07.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP section (15 KLD)

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Raw Sewage
1	Appearance	—	Turbid	-
2	Colour	—	Blackish	-
3	Odour	—	Foul	-
4	pH Value @ 25°C	—	6.57	6-8.5
5	Total Suspended Solids	mg/l	102.6	1000
6	B.O.D for 3 days @ 27°C	mg/l	94.8	300-350
7	Oil & grease	mg/l	5.7	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurements	Result	Design parameter for Treated Sewage
1	Appearance	—	Clear	-
2	Colour	—	Colorless	-
3	Odour	—	Odourless	-
4	pH Value @ 25°C	—	6.92	5.5-9
5	Total Suspended Solids	mg/l	23.4	<100
6	B.O.D for 3 days @ 27°C	mg/l	18.4	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable


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Reference no. - CEMC/DPCL/010817/WW

Issued Date-01.08.2017

STP REPORT

Name & Address of the Customer

: M/s.The Dhamra Port Company Ltd., Dosinga,
Bhadrak

Work Order No.

: 5700205794, dtd-28.03.2017

Date of Sampling

: 11.07.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP section (140KLD)

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

SL No.	Parameter	Units of Measurement	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.89	6-8.5
5	Total Suspended Solids	mg/l	112.4	1000
6	B.O.D for 3 days @ 27°C	mg/l	120	300-350
7	Oil & grease	mg/l	4.7	100

SAMPLE 2

SL No.	Parameter	Units of Measurement	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.16	5.5-9
5	Total Suspended Solids	mg/l	24.7	<100
6	B.O.D for 3 days @ 27°C	mg/l	12.4	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

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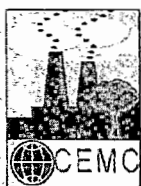
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E-mail: cemclab@yahoo.in, Mobile: 7752014842



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Reference no. - CEMC/DPCL/010817/WW

Issued Date-01.08.2017

STP REPORT

Name & Address of the Customer : M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No. : 5700205794, dtd-28.03.2017
Date of Sampling : 21.07.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP section (15 KLD)
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Raw Sewage
1	Appearance	—	Turbid	—
2	Colour	—	Blackish	—
3	Odour	—	Foul	—
4	pH Value @ 25°C	—	6.47	6-8.5
5	Total Suspended Solids	mg/l	107.8	1000
6	B.O.D for 3 days @ 27°C	mg/l	124	300-350
7	Oil & grease	mg/l	4.3	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Treated Sewage
1	Appearance	—	Clear	—
2	Colour	—	Colorless	—
3	Odour	—	Odourless	—
4	pH Value @ 25°C	—	7.12	5.5-9
5	Total Suspended Solids	mg/l	24.3	<100
6	B.O.D for 3 days @ 27°C	mg/l	14.8	<30
7	Oil & grease	mg/l	ND	<10

*N.B: ND-Not Detectable

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Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference no. - CEMC/DPCL/010817/WW

Issued Date-01.08.2017

STP REPORT

Name & Address of the Customer : M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No. : 5700205794, dtd-28.03.2017
Date of Sampling : 21.07.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP section (140 KLD)
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	7.22	6-8.5
5	Total Suspended Solids	mg/l	117.4	1000
6	B.O.D for 3 days @ 27°C	mg/l	96	300-350
7	Oil & grease	mg/l	5.3	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	7.41	5.5-9.0
5	Total Suspended Solids	mg/l	26.8	<100
6	B.O.D for 3 days @ 27°C	mg/l	12.4	<30
7	Oil & grease	mg/l	ND	<10

*ND-Not Detectable

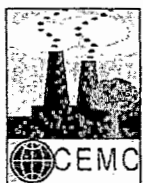
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Report no. - CEMC/DPCL/050917/A

Issued Date-05.09.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-05092017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Kanakaprasad Village
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.08.2017 to 31.08.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
08.08.2017	44.3	26.1	5.9	12.5	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
11.08.2017	40.9	21.5	7.1	13.5	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.08.2017	42.7	22.3	6.2	12.9	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
18.08.2017	38.4	18.9	5.9	13.9	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.08.2017	47.2	25.4	6.4	12.9	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
24.08.2017	45.8	22.4	5.9	12.5	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
28.08.2017	42.5	25.4	6.4	13.3	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 µg/m³, SO₂<4.0 µg/m³, NH₃<20 µg/m³, As<0.44 ng/m³, Ni<0.6 ng/m³, Pb<0.06 µg/m³, CO<0.1 mg/m³, Benzo(a)pyrene<1 ng/m³, Benzene <5 µg/m³)

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Report no. - CEMC/DPCL/050917/A

Issued Date-05.09.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. TheDhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-05092017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near BMH
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.08.2017 to 31.08.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
08.08.2017	43.5	22.2	6.1	12.1	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
11.08.2017	47.2	24.1	5.6	11.2	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.08.2017	41.8	28.4	6.1	11.0	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
18.08.2017	42.2	28.4	5.2	11.3	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.08.2017	40.3	24.1	4.9	10.9	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
24.08.2017	45.4	24.5	5.8	11.3	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
28.08.2017	44.1	24.6	6.1	10.6	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophe not Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 µg/m³, SO₂<4.0 µg/m³, NH₃<20 µg/m³, As<0.44 ng/m³, Ni<0.6 ng/m³, Pb<0.06 µg/m³, CO<0.1 mg/m³, Benzo(a)pyrene<1 ng/m³, Benzene <5 µg/m³)

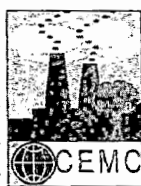
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Report no. - CEMC/DPCL/050917/A

Issued Date-05.09.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-05092017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Jetty
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.08.2017 to 31.08.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
08.08.2017	75.4	36.5	6.0	12.5	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
11.08.2017	78.7	37.4	5.9	13.1	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.08.2017	72.5	38.5	5.9	12.1	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
18.08.2017	80.2	39.9	5.7	12.3	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.08.2017	77.3	35.4	6.2	12.2	1.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
24.08.2017	72.4	39.5	5.9	12.0	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
28.08.2017	79.3	40.5	5.7	12.1	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen of Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

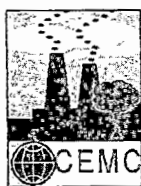
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Report no. - CEMC/DPCL/050917/A

Issued Date-05.09.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. TheDhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-05092017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Dosinga Village
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.08.2017 to 31.08.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
08.08.2017	48.3	25.3	5.3	10.6	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
11.08.2017	45.9	23.7	5.1	10.9	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.08.2017	42.5	24.6	5.7	11.3	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
18.08.2017	47.2	23.3	6.1	10.8	0.17	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.08.2017	41.5	24.2	5.2	10.6	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
24.08.2017	40.2	28.6	5.2	10.3	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
28.08.2017	42.4	24.3	5.4	11.6	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen of Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 µg/m³, SO₂<4.0 µg/m³, NH₃<20 µg/m³, As<0.44 ng/m³, Ni<0.6 ng/m³, Pb<0.06 µg/m³, CO<0.1 mg/m³, Benzo(a)pyrene<1 ng/m³, Benzene <5 µg/m³)

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Report no. - CEMC/DPCL/050917/A

Issued Date-05.09.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-05092017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Bhitarkanika (Eco Sensitive)
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.08.2017 to 31.08.2017

Date	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	O ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	BaP (ng/m ³)
08.08.2017	40.2	21.6	5.6	10.2	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
11.08.2017	38.5	22.6	5.1	12.3	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.08.2017	39.5	20.1	5.2	10.9	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
18.08.2017	41.2	19.5	5.7	10.5	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.08.2017	42.3	22.6	5.1	10.9	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
24.08.2017	41.9	23.1	5.6	10.1	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
28.08.2017	40.5	20.4	5.8	12.6	0.18	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 µg/m³, SO₂<4.0 µg/m³, NH₃<20 µg/m³, As<0.44 ng/m³, Ni<0.6 ng/m³, Pb<0.06 µg/m³, CO<0.1 mg/m³, Benzo(a)pyrene<1 ng/m³, Benzene <5 µg/m³)

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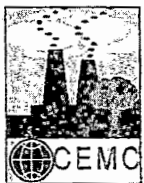
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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Report no. - CEMC/DPCL/050917/A

Issued Date-05.09.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-05092017A
Nature of Sampling	Ambient Air Sample
Sampling Location	Colony Area
Sampling By	Mr. Biswaranjan Behera
Sampling Duration	01.08.2017 to 31.08.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
08.08.2017	51.5	27.5	5.7	11.2	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
11.08.2017	52.7	25.9	4.9	10.5	0.12	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.08.2017	48.4	26.1	5.9	10.9	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
18.08.2017	53.2	29.6	6.1	11.2	0.13	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.08.2017	51.3	30.1	4.9	11.1	0.15	<20	<10	<0.06	<0.6	<0.44	<5	<1
24.08.2017	55.4	29.4	6.2	11.3	0.16	<20	<10	<0.06	<0.6	<0.44	<5	<1
28.08.2017	49.2	24.9	6.4	11.2	0.14	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

BDL Value- (NO_x<9.0 $\mu\text{g}/\text{m}^3$, SO₂<4.0 $\mu\text{g}/\text{m}^3$, NH₃<20 $\mu\text{g}/\text{m}^3$, As<0.44 ng/m^3 , Ni<0.6 ng/m^3 , Pb<0.06 $\mu\text{g}/\text{m}^3$, CO<0.1 mg/m^3 , Benzo(a)pyrene<1 ng/m^3 , Benzene <5 $\mu\text{g}/\text{m}^3$)

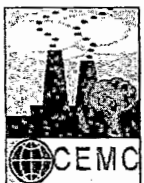
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Report no. - CEMC/DPCL/050917/N

Issued Date-05.09.2017

NOISE LEVEL MONITORING REPORT

Issued to	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Analysis No.	CEMC/DPCL-D00N1
Nature of Sampling	Noise Sample
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.08.2017 to 31.08.2017

Date	Location	NL Day Time dB (A)			NL Night Time dB (A)		
		Max	Min.	Avg.	Max.	Min.	Avg.
22.08.2017	Colony Area (R)	54.1	50.4	52.2	43.4	39.8	41.6
16.08.2017	Kanakaprasad Village (R)	53.8	49.7	51.7	41.3	38.2	39.7
23.08.2017	Near BMH (I)	73.2	69.5	69.3	69.4	64.3	66.8
24.08.2017	Near Jetty (I)	72.4	66.9	69.6	68.2	61.8	65.0
17.08.2017	Dosinga village (R)	54.2	48.9	51.5	44.1	37.5	40.8
18.08.2017	Bhitarkanika (R)	53.3	49.2	51.2	43.5	37.9	40.7

*NL- Noise Level, I- Industrial, R- Residential

National Standard of Noise Level

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

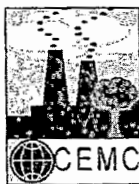
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Reference no. - CEMC/DPCL/050917/WW

Issued Date-05.09.2017

STP REPORT


Name & Address of the Customer : M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No. : 4800026792, dtd-22.07.2017
Date of Sampling : 15.08.2017
Sampling by : Biswaranjan Behera
Sampling Plan & Procedure : APHA 22nd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr
Sample Location : STP - 15 KLD
SOURCE
SAMPLE 1: STP Inlet Water
SAMPLE 2: STP Outlet Water

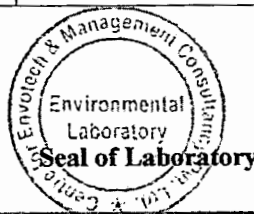
SAMPLE 1

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.63	6.0-8.5
5	Total Suspended Solids	mg/l	162.7	1000
6	B.O.D for 3 days @ 27°C	mg/l	150	300-350
7	Oil & Grease	mg/l	<5	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	6.76	5.5-9.0
5	Total Suspended Solids	mg/l	31.4	<100
6	B.O.D for 3 days @ 27°C	mg/l	24.4	<30
7	Oil & Grease	mg/l	<5	<10


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Reference no. - CEMC/DPCL/050917/WW

Issued Date-05.09.2017

STP REPORT

Name & Address of the Customer

: M/s. The Dhamra Port Company Ltd., Dosinga,
Bhadrak

Work Order No.

: 4800026792, dtd-22.07.2017

Date of Sampling

: 15.08.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP - 140 KLD

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.69	6.0-8.5
5	Total Suspended Solids	mg/l	139.6	1000
6	B.O.D for 3 days @ 27°C	mg/l	164	300-350
7	Oil & Grease	mg/l	<5	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	6.81	5.5-9.0
5	Total Suspended Solids	mg/l	31.6	<100
6	B.O.D for 3 days @ 27°C	mg/l	21.2	<30
7	Oil & Grease	mg/l	<5	<10

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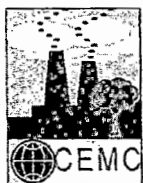
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Reference no. - CEMC/DPCL/050917/WW

Issued Date-05.09.2017

STP REPORT

Name & Address of the Customer

: M/s. The Dhamra Port Company Ltd., Dosinga,
Bhadrak

Work Order No.

: 4800026792, dtd-22.07.2017

Date of Sampling

: 24.08.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP - 15 KLD

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.52	6.0-8.5
5	Total Suspended Solids	mg/l	122.8	1000
6	B.O.D for 3 days @ 27°C	mg/l	144	300-350
7	Oil & Grease	mg/l	5.1	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	6.73	5.5-9.0
5	Total Suspended Solids	mg/l	30.2	<100
6	B.O.D for 3 days @ 27°C	mg/l	18.4	<30
7	Oil & Grease	mg/l	<5	<10

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Reference no. - CEMC/DPCL/050917/WW

Issued Date-05.09.2017

STP REPORT

Name & Address of the Customer

: M/s. The Dhamra Port Company Ltd., Dosinga,
Bhadrak

Work Order No.

: 4800026792, dtd-22.07.2017

Date of Sampling

: 24.08.2017

Sampling by

: Biswaranjan Behera

Sampling Plan & Procedure

: APHA 22nd Edition

Sample Description

: Waste Water

Sample Quantity

: 1.0 Ltr

Sample Location

: STP -140 KLD

SOURCE

SAMPLE 1: STP Inlet Water

SAMPLE 2: STP Outlet Water

SAMPLE 1

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Raw Sewage
1	Appearance	--	Turbid	-
2	Colour	--	Blackish	-
3	Odour	--	Foul	-
4	pH Value @ 25°C	--	6.61	6.0-8.5
5	Total Suspended Solids	mg/l	142.4	1000
6	B.O.D for 3 days @ 27°C	mg/l	152	300-350
7	Oil & Grease	mg/l	5.7	100

SAMPLE 2

Sl. No.	Parameter	Units of Measurement	Result	Design parameter for Treated Sewage
1	Appearance	--	Clear	-
2	Colour	--	Colorless	-
3	Odour	--	Odourless	-
4	pH Value @ 25°C	--	6.69	5.5-9.0
5	Total Suspended Solids	mg/l	34.3	<100
6	B.O.D for 3 days @ 27°C	mg/l	20.4	<30
7	Oil & Grease	mg/l	<5	<10

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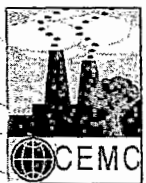
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Reference no. - CEMC/DPCL/050917/SW

Issued Date-05.09.2017

SEA WATER ANALYSIS REPORT

Name & Address of the Customer : M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No. : 4800026792, dtd-22.07.2017
Date of Sampling : 05.08.2017
Sampling by : Biswaranjan Behera
Sample Description : Sea Water

STATION DESCRIPTION

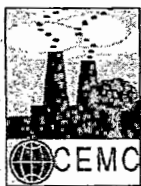
SL. NO.	STATION	GPS COORDINATES
01	STATION-1	20°46'55.5" N 86°57'40.5" E
02	STATION-2	20°49'05.0" N 86°58'14.3" E
03	STATION-3	20°51'33.5" N 87°00'17.0" E
04	STATION-4	20°52'55.8" N 87°02'44.9" E
05	STATION-5	20°54'20.4" N 87°05'14.0" E
06	STATION-6	20°54'54.3" N 87°06'13.8" E
07	STATION-7	20°54'45.0" N 87°07'13.6" E
08	STATION-8	20°54'42.8" N 87°07'50.4" E

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5/9/17

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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SEA WATER ANALYSIS REPORT

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	27	26	49.14	8.3	27.82	6.7	< 3	30
	BW	20	24	51.73	7.9	29.47	6.9	< 3	30
Station-2	SW	28	23	48.92	8.4	28.76	6.8	3.4	36
	BW	21	24	51.54	7.7	29.91	6.4	< 3	40
Station-3	SW	27	26	49.12	8.2	25.16	7.0	3.2	24
	BW	20	30	51.64	7.9	30.21	6.8	< 3	28
Station-4	SW	28	28	49.17	8.3	28.43	7.1	4.8	32
	BW	21	26	51.22	7.9	29.88	6.7	< 3	30
Station-5	SW	27	27	48.92	8.4	28.13	6.4	4.4	24
	BW	20	32	51.21	7.8	29.92	6.6	< 3	28
Station-6	SW	27	29	48.97	8.3	27.89	7.0	4.0	34
	BW	20	26	50.91	7.6	29.78	7.1	< 3	30
Station-7	SW	27	25	49.53	8.5	27.98	6.7	3.9	28
	BW	20	29	50.98	7.9	29.86	6.8	4.0	24
Station-8	SW	27	31	49.16	8.4	28.12	6.9	4.4	32
	BW	21	37	51.68	8.0	30.07	6.6	4.2	28

*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	1809	0.32	6.9	412.7
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1750	0.41	10.4	215.5
Station-2	SW	< 0.05	< 0.01	< 0.001	< 0.05	1910	0.12	7.6	392.1
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1760	0.29	8.4	415.4
Station-3	SW	< 0.05	< 0.01	< 0.001	< 0.05	1935	0.31	9.7	385.7
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1785	0.27	11.1	412.2
Station-4	SW	< 0.05	< 0.01	< 0.001	< 0.05	1826	0.13	12.3	328.3
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1769	0.8	9.5	256.1
Station-5	SW	< 0.05	< 0.01	< 0.001	< 0.05	1806	0.19	11.8	546.8
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1970	0.41	14.6	385.8
Station-6	SW	< 0.05	< 0.01	< 0.001	< 0.05	1895	0.32	9.8	362.7
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1756	0.23	12.1	330.4
Station-7	SW	< 0.05	< 0.01	< 0.001	< 0.05	1823	0.17	8.9	420.6
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1965	0.22	11.4	319.8
Station-8	SW	< 0.05	< 0.01	< 0.001	< 0.05	1867	0.09	5.9	360.4
	BW	< 0.05	< 0.01	< 0.001	< 0.05	1785	0.31	10.4	307.5

*SW= Surface Water, BW= Bottom Water

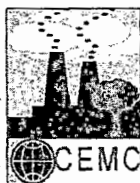
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SEA WATER ANALYSIS REPORT

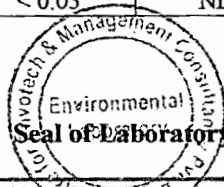
WATER ANALYSIS DATA							
Locations		Calcium Hardness (mg/l)	Magnesium Hardness (mg/l)	Total Hardness (mg/l)	Total Dissolved Solids (mg/l)	Ammonical Nitrogen (mg/l)	Total Nitrogen (mg/l)
Station-1	SW	1282.56	289.2	4390	32455	ND	14.2
	BW	1230.46	267.3	4170	30985	ND	17.1
Station-2	SW	1290.58	291.6	4420	33260	ND	15.4
	BW	1266.53	267.3	4260	31890	ND	16.8
Station-3	SW	1202.4	277.02	4140	31060	ND	15.9
	BW	1282.56	303.75	4450	33870	ND	16.6
Station-4	SW	1282.56	269.73	4310	32585	ND	15.4
	BW	1238.47	291.6	4290	32140	ND	16.2
Station-5	SW	1290.58	291.6	4420	33410	ND	14.8
	BW	1266.53	267.3	4260	32255	ND	17.1
Station-6	SW	1242.48	262.44	4180	31320	ND	15.9
	BW	1286.57	291.6	4410	33410	ND	17.2
Station-7	SW	1282.56	289.2	4390	32765	ND	16.2
	BW	1302.6	303.75	4500	33870	ND	15.7
Station-8	SW	1262.52	296.46	4370	32620	ND	14.6
	BW	1258.51	277.02	4240	32030	ND	15.1

*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	1.1	13.12	4.7
	BW	< 0.05	< 0.001	< 0.05	ND	12.94	ND
Station-2	SW	< 0.05	< 0.001	< 0.05	0.8	12.73	5.1
	BW	< 0.05	< 0.001	< 0.05	ND	13.44	ND
Station-3	SW	< 0.05	< 0.001	< 0.05	1.1	13.16	4.9
	BW	< 0.05	< 0.001	< 0.05	ND	14.12	ND
Station-4	SW	< 0.05	< 0.001	< 0.05	0.8	13.28	5.3
	BW	< 0.05	< 0.001	< 0.05	ND	12.97	ND
Station-5	SW	< 0.05	< 0.001	< 0.05	1.2	12.56	4.8
	BW	< 0.05	< 0.001	< 0.05	ND	13.86	ND
Station-6	SW	< 0.05	< 0.001	< 0.05	0.8	12.75	5.1
	BW	< 0.05	< 0.001	< 0.05	ND	13.24	ND
Station-7	SW	< 0.05	< 0.001	< 0.05	1.1	13.36	5.9
	BW	< 0.05	< 0.001	< 0.05	ND	14.11	ND
Station-8	SW	< 0.05	< 0.001	< 0.05	0.8	12.35	4.9
	BW	< 0.05	< 0.001	< 0.05	ND	13.86	ND

*SW= Surface Water, BW= Bottom Water

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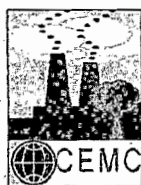
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SEA WATER ANALYSIS REPORT

PHYTOPLANKTON MONITORING DATA					
Locations		Total Count/L	No. of Species	Chlorophyll-a (µg/L)	Major Species
Station-1	SW	1564	17	1.0659	<i>C. pentagonum</i> , <i>N. longisigma</i> , <i>C. furca</i> , <i>Bacillaria</i> , <i>Podosira</i>
	BW	1325	12	0.7455	<i>Pleurosigma</i> , <i>N. longisigma</i> , <i>Podosira</i>
Station-2	SW	5456	26	2.1546	<i>C. pentagonum</i> , <i>Bacillaria</i> , <i>Podosira</i> , <i>Skeletonema</i>
	BW	1745	10	1.1265	<i>Podosira</i> , <i>C. pentagonum</i> , <i>Bacillaria</i>
Station-3	SW	7625	24	2.9654	<i>C. pentagonum</i> , <i>N. striata</i> , <i>C. furca</i> , <i>Ceratium</i>
	BW	1232	07	1.2213	<i>C. pentagonum</i> , <i>N. striata</i> , <i>C. furca</i>
Station-4	SW	3562	16	1.4589	<i>C. pentagonum</i> , <i>Chaetoceros</i> , <i>Bacillaria</i> , <i>N. striata</i>
	BW	3295	09	1.1562	<i>Bacillaria</i> , <i>Chaetoceros</i> , <i>Ceratium</i>
Station-5	SW	912	10	0.5465	<i>Bacillaria</i> , <i>Chaetoceros</i> , <i>Podosira</i>
	BW	826	04	1.2965	<i>C. pentagonum</i> , <i>Chaetoceros</i> , <i>Bacillaria</i>
Station-6	SW	1762	15	1.5647	<i>Podosira</i> , <i>Bacillaria</i>
	BW	1456	09	1.5032	<i>C. pentagonum</i> , <i>Bacillaria</i> , <i>Podosira</i>
Station-7	SW	1058	16	1.1256	<i>C. pentagonum</i> , <i>Pleurosigma</i> , <i>N. longisigma</i>
	BW	4758	11	2.0321	<i>Pleurosigma</i> , <i>C. pentagonum</i>
Station-8	SW	2565	14	1.4564	<i>Pleurosigma</i> , <i>N. longisigma</i> , <i>C. pentagonum</i>
	BW	6965	10	2.0254	<i>C. pentagonum</i> , <i>Skeletonema</i> , <i>N. longisigma</i> , <i>C. furca</i> , <i>Bacillaria</i>

*SW= Surface Water, BW= Bottom Water.

ZOOPLANKTON MONITORING DATA				
Locations		Total Count/L	No. of Species	Major Species
Station-1	SW	1256	12	<i>Rotifera</i> , <i>Protozoa</i> , <i>Nematoda</i> , <i>Crustacean Larvae</i>
	BW	992	10	<i>Rotifera</i> , <i>Protozoa</i> , <i>Nematoda</i>
Station-2	SW	1456	15	<i>Anostraca</i> , <i>Cladocera</i> , <i>Nematoda</i>
	BW	1236	16	<i>Protozoa</i> , <i>Nematoda</i> , <i>Rotifera</i>
Station-3	SW	2015	22	<i>Protozoa</i> , <i>Rotifera</i> , <i>Copepod</i>
	BW	1035	11	<i>Anostraca</i> , <i>Cladocera</i>
Station-4	SW	2235	25	<i>Cladocera</i> , <i>Nematoda</i>
	BW	1245	14	<i>Ostracoda</i> , <i>Protozoa</i> , <i>Copepod</i> , <i>Rotifera</i>
Station-5	SW	1568	17	<i>Crustacean Larvae</i> , <i>Protozoa</i> , <i>Nematoda</i>
	BW	1156	12	<i>Crustacean Larvae</i> , <i>Protozoa</i> , <i>Nematoda</i>
Station-6	SW	1250	09	<i>Ostracoda</i> , <i>Protozoa</i> , <i>Copepod</i> , <i>Rotifera</i>
	BW	965	08	<i>Cladocera</i> , <i>Nematoda</i>
Station-7	SW	1252	11	<i>Copepod</i> , <i>Rotifera</i>
	BW	912	05	<i>Copepod</i> , <i>Rotifera</i>
Station-8	SW	1563	08	<i>Protozoa</i> , <i>Rotifera</i> , <i>Nematoda</i>
	BW	1265	20	<i>Protozoa</i> , <i>Rotifera</i> , <i>Nematoda</i>

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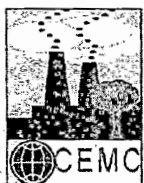
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SEA WATER ANALYSIS REPORT

MICROBIOLOGICAL MONITORING DATA					
Locations		Total Bacterial Count (CFU/ml)	Total Coliform (CFU/ml)	Faecal Coliform (CFU/ml)	E.coli (CFU/ml)
Station-1	SW	280	34	5.1	ND
	BW	300	52	4.7	ND
Station-2	SW	160	21	3.5	ND
	BW	190	25	2.9	ND
Station-3	SW	185	63	3.4	ND
	BW	260	79	2.7	ND
Station-4	SW	190	61	3.6	ND
	BW	240	39	2.2	ND
Station-5	SW	120	38	2.9	ND
	BW	280	21	3.8	ND
Station-6	SW	230	62	4.1	ND
	BW	380	36	5.3	ND
Station-7	SW	310	24	3.3	ND
	BW	390	19	2.8	ND
Station-8	SW	210	37	1.9	ND
	BW	290	49	2.8	ND

*SW= Surface Water, BW= Bottom Water

MICROBIOLOGICAL MONITORING DATA					
Locations		Enterococcus (CFU/ml)	Salmonella (CFU/ml)	Shigella (CFU/ml)	Vibrio (CFU/ml)
Station-1	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-2	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-3	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-4	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-5	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-6	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-7	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND
Station-8	SW	ND	ND	ND	ND
	BW	ND	ND	ND	ND

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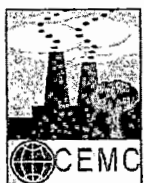
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SEA WATER ANALYSIS REPORT

PRIMARY PRODUCTIVITY MONITORING DATA			
Locations		Gross Primary Productivity (mgC/ L/ day)	Net Primary Productivity (mgC/ L/ day)
Station-1	SW	2.5	1.5
	BW	2.1	1.4
Station-2	SW	2.3	1.6
	BW	2.1	1.7
Station-3	SW	2.0	0.9
	BW	1.7	1.5
Station-4	SW	2.9	1.6
	BW	2.5	1.2
Station-5	SW	1.9	1.4
	BW	2.6	1.8
Station-6	SW	2.2	1.7
	BW	1.9	1.1
Station-7	SW	2.1	1.2
	BW	2.0	1.4
Station-8	SW	1.5	1.0
	BW	2.7	1.7

*SW= Surface Water, BW= Bottom Water

PHYTOBENTHOS MONITORING DATA						
Locations		Fungus (CFU/1 g dry wt.)	Total Count/ 50g wet sediment	No. of Species	Diversity Index	Major Species
Station-1	SW	2256	145	4	0.4654	<i>N.longsigma</i>
	BW	1856	139	8	0.5565	<i>Podosira</i>
Station-2	SW	4235	240	6	0.4654	<i>Podosira</i>
	BW	3695	540	10	0.4632	<i>Podosira, Ditylum</i>
Station-3	SW	1365	542	3	0.9021	<i>Podosira, N.longsigma</i>
	BW	1254	354	3	0.8654	<i>Ditylum</i>
Station-4	SW	2231	245	4	0.4754	<i>Podosira</i>
	BW	1365	221	5	0.5746	<i>Ditylum</i>
Station-5	SW	2564	212	4	0.7501	<i>Podosira</i>
	BW	1965	152	7	0.8564	<i>Podosira, N.longsigma, Ditylum</i>
Station-6	SW	4965	122	4	0.5564	<i>Podosira</i>
	BW	3632	147	5	0.5546	<i>Podosira, N.longsigma</i>
Station-7	SW	2745	1254	4	0.9565	<i>Podosira, N.longsigma, Ditylum</i>
	BW	3652	1126	8	1.3457	<i>Podosira, N.longsigma, Ditylum</i>
Station-8	SW	1524	326	5	1.1251	<i>Podosira, N.longsigma</i>
	BW	1490	253	8	1.3011	<i>Podosira</i>

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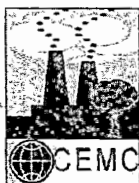
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SEA WATER ANALYSIS REPORT

TOTAL FAUNA MONITORING DATA				
Locations		Name of Phylum, Class and Number of individuals encountered	Total number of species Encountered	Total Fauna per m ³
Station-1	SW	1. Phylum- Arthropoda Class- Malagostraca-40 2. Phylum- Annelida Class-Polychaeta-16	14	162
	BW	1. Phylum- Arthropoda Class- Malagostraca-52 2. Phylum- Annelida Class-Polychaeta-21	16	125
Station-2	SW	1. Phylum- Annelida Class- Polchaeta-16 2. Phylum- Arthropoda Class- Copepoda-3	13	178
	BW	1. Phylum- Annelida Class- Polchaeta-17 2. Phylum- Arthropoda Class- Copepoda-9	20	190
Station-3	SW	1. Phylum- Arthropoda Class- Malagostraca-22 2. Phylum- Annelida Class-Polychaeta-24 3. Phylum- Mollusca Class-Gastropoda-12 Class- Pelecypoda-7	149	1002
	BW	1. Phylum- Arthropoda Class- Malagostraca-45 2. Phylum- Annelida Class-Polychaeta-12 3. Phylum- Mollusca Class-Gastropoda-56 Class- Pelecypoda-7	110	2012
Station-4	SW	1. Phylum- Annelida Class-Polychaeta-41 2. Phylum-Mollusca Class-Gastropoda-3 Class-Pelecypoda-4 Class-Bivalvia-3	17	621
	BW	1. Phylum- Annelida Class-Polychaeta-21 2. Phylum-Mollusca Class-Gastropoda-19 Class-Pelecypoda-10 Class-Bivalvia-9	30	460

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5/9/17



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Reference no- CEMC/DPCL/050917/SED

Issued Date-05.09.2017

Name & Address of the Customer

: M/s.The Dhamra Port Company Ltd., Dosinga, Bhadrak

Work Order No.

: 4800026792, dtd-22.07.2017

Date of Sampling

: 05.08.2017

Sampling by

: Biswaranjan Behera

Sample Description

: Sediment

SEA SEDIMENT ANALYSIS REPORT

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	6.9	3.6	6.4	6.3	3.2	23.14	< 5	< 1	< 3
Station-2	6.7	3.2	6.7	5.8	3.4	22.41	< 5	< 1	< 3
Station-3	6.6	3.8	6.9	5.6	3.8	23.78	< 5	< 1	< 3
Station-4	6.9	4.1	6.4	5.8	3.7	19.32	< 5	< 1	< 3
Station-5	6.7	5.0	6.6	5.3	3.4	20.29	< 5	< 1	< 3
Station-6	6.4	4.6	5.9	5.7	3.2	21.12	< 5	< 1	< 3
Station-7	7.0	4.9	6.8	5.0	3.7	22.26	< 5	< 1	< 3
Station-8	6.8	4.2	5.2	4.8	3.5	21.31	< 5	< 1	< 3

SEDIMENT ANALYSIS DATA

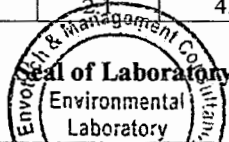
Locations	Manganese (mg/kg)	Lead (mg/kg)	Boron (mg/kg)	Phosphate (mg/kg)	Chloride (mg/kg)	Sulphate (mg/kg)	Sulphide (mg/kg)	Pesticide (mg/kg)	Potassium (mg/kg)
Station-1	< 1	< 5	< 0.5	< 0.5	812.4	2016.3	ND	ND	0.96
Station-2	< 1	< 5	< 0.5	< 0.5	768.2	1992.6	ND	ND	0.88
Station-3	< 1	< 5	< 0.5	< 0.5	802.5	2104.2	ND	ND	0.94
Station-4	< 1	< 5	< 0.5	< 0.5	784.7	1962.6	ND	ND	0.84
Station-5	< 1	< 5	< 0.5	< 0.5	864.2	2014.4	ND	ND	0.82
Station-6	< 1	< 5	< 0.5	< 0.5	822.4	1896.2	ND	ND	0.92
Station-7	< 1	< 5	< 0.5	< 0.5	712.8	1754.3	ND	ND	0.81
Station-8	< 1	< 5	< 0.5	< 0.5	844.7	1902.1	ND	ND	0.93

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	0.8	< 0.1	3.7	1.3	4.8	0.19	18.93	79.98
Station-2	< 1	0.5	< 0.1	3.6	2.4	4.1	0.54	26.32	72.69
Station-3	< 1	0.4	< 0.1	3.4	2.2	4.9	0.39	45.21	54.39
Station-4	< 1	ND	< 0.1	4.3	1.3	3.1	0.16	15.95	83.12
Station-5	< 1	ND	< 0.1	3.4	1.5	3.4	0.85	21.56	76.97
Station-6	< 1	ND	< 0.1	4.2	2.4	2.9	1.56	37.25	60.94
Station-7	< 1	ND	< 0.1	4.3	2.6	5.2	0.49	14.91	84.12
Station-8	< 1	ND	< 0.1	3.9	2.1	4.6	1.54	30.01	67.98

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5/9/17



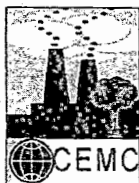
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SEA SEDIMENT ANALYSIS REPORT

PHYTOBENTHOS MONITORING DATA					
Locations	Fungus (CFU/1 g dry wt.)	Total Count/ 50g wet sediment	No. of Species	Diversity Index	Major Species
Station-1	2678	551	5	0.5962	<i>Podosira, N.longsigma</i>
Station-2	5124	785	6	0.6214	<i>N.longsigma, Ditylum</i>
Station-3	964	362	4	0.4963	<i>Podosira, Ditylum</i>
Station-4	1632	507	5	0.4365	<i>Podosira, N.longsigma, Ditylum</i>
Station-5	1957	284	9	0.9235	<i>Podosira</i>
Station-6	5632	159	10	0.5023	<i>Podosira, N.longsigma</i>
Station-7	6635	1368	4	1.5398	<i>Podosira, N.longsigma</i>
Station-8	4987	294	5	1.3215	<i>Podosira, Ditylum</i>

TOTAL FAUNA MONITORING DATA			
Locations	Name of Phylum, Class and Number of individuals encountered	Total number of species Encountered	Total Fauna per m ³
Station-1	1. Phylum- Arthropoda Class- Malacostraca-24 2. Phylum- Annelida Class- Polychaeta-27	16	175
Station-2	1. Phylum- Annelida Class- Polychaeta-19 2. Phylum- Arthropoda Class- Copepoda-5	20	201
Station-3	1. Phylum- Arthropoda Class- Malacostraca-18 2. Phylum- Annelida Class- Polychaeta-13 3. Phylum- Mollusca Class- Gastropoda-9 Class- Pelecypoda-5	135	1994
Station-4	1. Phylum- Annelida Class- Polychaeta-11 2. Phylum- Mollusca Class- Gastropoda-14 Class- Pelecypoda-2 Class- Bivalvia-12	22	554
Station-5	1. Phylum- Arthropoda Class- Amphipoda-17 2. Phylum- Annelida Class- Polychaeta-10 1. Phylum- Mollusca Class- Pelecypoda-9 Class- Bivalvia-12 Class- Gastropoda-2	90	1156

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Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Station-6	1. Phylum- Annelida Class- Polychaeta-11 2. Phylum- Mollusca Class- Bivalvia-10	39	701
Station-7	1. Phylum- Annelida Class- Polychaeta-21 2. Phylum- Mollusca Class- Gastropoda-14 Class- Bivalvia-5 Class- Scaphopoda-7	35	721
Station-8	1. Phylum- Annelida Class- Polychaeta-21	14	169


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5/9/17



Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Report no. - CEMC/TDPCL/041017/A1

Issued Date-04.10.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-04102017A1
Nature of Sampling	Ambient Air Sample
Sampling Location	Colony Area
Sampling By	Mr. Biswaranjan Behera
Sampling Duration	01.09.2017 to 30.09.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
01.09.2017	48.7	23.5	7.1	12.3	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.09.2017	52.5	26.8	6.8	11.7	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
08.09.2017	55.3	28.2	6.5	11.4	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.09.2017	54.7	25.7	6.9	12.1	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.09.2017	51.2	23.7	7.0	12.2	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.09.2017	53.4	25.9	6.7	11.8	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.09.2017	56.9	27.4	6.9	12.1	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.09.2017	54.2	23.9	6.5	11.7	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.09.2017	51.8	21.7	6.8	11.9	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

Dr. T. Sahu, Env. Sc.
Authorized Signatory
(Gazette No-1357, Dt-03-06-2016)



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Report no. - CEMC/TDPCL/041017/A2

Issued Date-04.10.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-04102017A2
Nature of Sampling	Ambient Air Sample
Sampling Location	Kanakaprasad Village
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.09.2017 to 30.09.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
01.09.2017	41.5	20.5	6.6	11.7	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.09.2017	45.7	23.9	6.9	12.1	0.1	<20	<10	<0.06	<0.6	<0.44	<5	<1
08.09.2017	47.3	23.8	6.8	11.9	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.09.2017	44.5	22.1	7.0	12.2	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.09.2017	43.4	21.6	6.8	11.8	0.1	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.09.2017	46.3	23.1	7.1	12.3	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.09.2017	45.4	22.7	6.9	12.0	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.09.2017	44.7	22.1	6.7	11.8	0.1	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.09.2017	40.2	21.7	6.6	11.7	0.1	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophenol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

Dr.T. Sanu, Ph.D. Env. Sc.

Authorized Signatory

(GATE No-1357, Dt-03-06-2016)

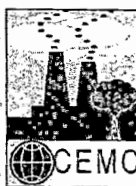


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Report no. - CEMC/TDPCL/041017/A3

Issued Date-04.10.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-04102017A3
Nature of Sampling	Ambient Air Sample
Sampling Location	Near BMH
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.09.2017 to 30.09.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
01.09.2017	40.3	20.1	7.2	12.3	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.09.2017	43.9	21.9	7.0	12.1	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
08.09.2017	48.1	22.2	6.9	11.8	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.09.2017	45.9	20.6	6.7	11.6	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.09.2017	42.0	21.8	7.1	12.2	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.09.2017	44.7	21.5	6.9	11.8	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.09.2017	47.5	24.1	6.7	11.9	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.09.2017	45.2	23.7	7.0	12.1	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.09.2017	41.3	20.5	7.2	12.3	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophe nol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B. *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

Dr.T. Sahoo, Ph.D. Env. Sc.

Authorized Signatory
(GATEWAY No-1357, Dt-03-06-2016)

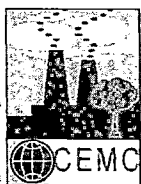


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Report no. - CEMC/TDPCL/041017/A4

Issued Date-04.10.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-04102017A4
Nature of Sampling	Ambient Air Sample
Sampling Location	Near Jetty
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.09.2017 to 30.09.2017

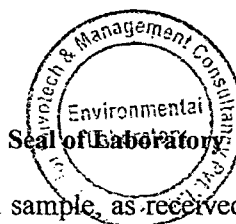
Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
01.09.2017	73.4	36.8	6.6	11.8	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.09.2017	77.5	35.4	6.8	12.1	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
08.09.2017	78.9	37.1	7.0	12.3	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.09.2017	79.3	39.9	6.9	12.1	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.09.2017	74.5	36.1	6.7	11.8	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.09.2017	77.8	35.7	7.1	12.3	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.09.2017	76.2	37.5	6.9	12.0	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.09.2017	80.4	41.9	6.8	11.9	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.09.2017	73.7	36.7	7.0	12.1	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

Dr. T. Sahi, Ph.D., Env. Sc.

Authorized Signatory

(GAZ. No. 156/07-03-06-2016)

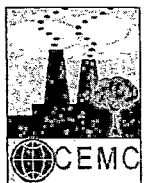


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Report no. - CEMC/TDPCL/041017/A5

Issued Date-04.10.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

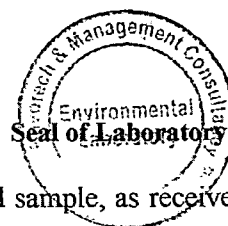
Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-04102017A5
Nature of Sampling	Ambient Air Sample
Sampling Location	Dosinga Village
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.09.2017 to 30.09.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
01.09.2017	41.8	21.1	7.2	12.6	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.09.2017	43.7	22.5	6.9	12.3	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
08.09.2017	47.5	24.1	7.0	11.9	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.09.2017	48.6	23.9	7.1	12.1	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.09.2017	42.9	21.7	6.8	11.7	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.09.2017	45.7	23.2	6.9	11.6	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.09.2017	49.0	24.4	7.0	12.2	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.09.2017	46.5	23.3	7.2	12.3	0.3	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.09.2017	40.9	20.4	6.8	11.8	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.

Dr. T. Sahasrabudhe, Env. Sc.

Authorized Signatory
(GAZETTED No-1357, Dtd-06-2016)



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Report no. - CEMC/TDPCL/041017/A6


Issued Date-04.10.2017

AMBIENT AIR QUALITY MONITORING TEST REPORT

Client Name & Address	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Reference No.	CEMC-04102017A6
Nature of Sampling	Ambient Air Sample
Sampling Location	Bhitarkanika (Eco Sensitive)
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.09.2017 to 30.09.2017

Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	Ni (ng/m^3)	As (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)
01.09.2017	39.7	20.2	6.5	10.7	0.1	<20	<10	<0.06	<0.6	<0.44	<5	<1
05.09.2017	43.4	21.6	6.8	10.9	0.1	<20	<10	<0.06	<0.6	<0.44	<5	<1
08.09.2017	39.9	20.1	6.4	10.5	0.1	<20	<10	<0.06	<0.6	<0.44	<5	<1
12.09.2017	42.5	20.9	6.9	11.2	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
15.09.2017	38.1	19.3	6.7	11.0	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
19.09.2017	44.7	22.1	6.4	10.8	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
22.09.2017	41.5	21.7	6.8	11.5	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
26.09.2017	42.6	21.4	6.4	11.1	0.1	<20	<10	<0.06	<0.6	<0.44	<5	<1
29.09.2017	38.5	20.0	6.6	11.4	0.2	<20	<10	<0.06	<0.6	<0.44	<5	<1
NAAQ Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	Gravimetric Method as per CPCB method	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	Indophen ol Blue Method followed by CPCB	IS: 5182 (Part-9)	IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part-12)

N.B- *NAAQ- National Ambient Air Quality Standard as per 18th Nov, 2009 Gatt. Notification.


Dr. T. Sahu, Ph.D., Env. Sc.
Govt. ANALYST
Authorized Signatory
(GAZETTED NO-1357, Dt-03-06-2016)

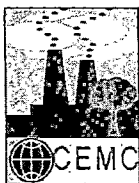


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Report no. - CEMC/TDPCL/041017/N

Issued Date-04.10.2017

NOISE LEVEL MONITORING REPORT

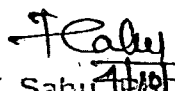
Issued to	M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No.	4800026792, dtd-22.07.2017
Analysis No.	CEMC/TDPCL-D00N1
Nature of Sampling	Noise Sample
Sampling By	Mr. Biswaranjan Behera
Sampling Date	01.09.2017 to 30.09.2017

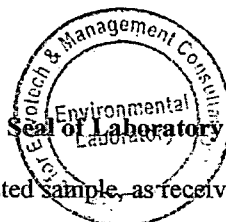
Date	Location	NL Day Time dB (A)			NL Night Time dB (A)		
		Max	Min.	Avg.	Max.	Min.	Avg.
14.09.2017	Colony Area (R)	52.8	50.1	51.5	41.9	38.3	40.1
12.09.2017	Kanakaprasad Village (R)	51.6	49.4	50.5	40.7	39.1	39.9
19.09.2017	Near BMH (I)	72.9	69.2	71.1	68.7	65.1	66.9
13.09.2017	Near Jetty (I)	71.8	68.3	70.1	69.1	62.3	65.7
15.09.2017	Dosinga village (R)	52.1	47.6	49.9	43.7	38.2	41.0
11.09.2017	Bhitarkanika (R)	51.9	48.4	50.2	42.8	38.1	40.5

*NL- Noise Level, I- Industrial, R- Residential

National Standard of Noise Level

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


Dr. T. Sahu, Ph.D., Env. Sc.
Authorized Signatory
(GAZETTE No-1357, Dt-03-06-2016)



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Report no. - CEMC/TDPCL/041017/W1

Issued Date-04.10.2017

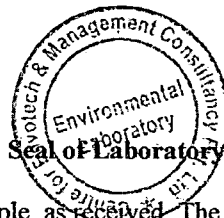
STP REPORT

Name & Address of the Customer : M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No. : 4800026792, dtd-22.07.2017
Sampling by : Biswaranjan Behera
Date of Sampling : 05.09.2017 & 22.09.2017
Date of Receiving : 06.09.2017 & 23.09.2017
Sampling & Testing Procedure : APHA 23rd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr each
Sample Location with Job Code : STP - 15 KLD (Inlet-CEMC/17-18/223W & 246W)
Reference Number : CEMC-04102017(223&246)W

STP INLET RESULT

SL No.	Parameter	Unit of Measurement	Result		Design parameter for Raw Sewage
			1 st Fortnight	2 nd Fortnight	
1	Appearance	--	Turbid	Turbid	-
2	Colour	--	Blackish	Blackish	-
3	Odour	--	Foul	Foul	-
4	pH Value @ 25°C	--	6.61	6.74	6.0-8.5
5	Total Suspended Solids	mg/l	147.3	131.6	1000
6	B.O.D for 3 days @ 27°C	mg/l	150	140	300-350
7	Oil & Grease	mg/l	<5	<5	100
8	COD	mg/l	450	420	--
9	Ammonical Nitrogen	mg/l	7.8	7.3	--
10	Total Nitrogen	mg/l	32.3	27.8	--
11	Faecal Coliform	MPN/100ml	920	920	--

Dr. T. Sanu, B.Ph. Env. Sc.
Authorized Signatory
(GAZETTE No-1357, Dt-03-06-2016)



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Report no. - CEMC/TDPCL/041017/W2

Issued Date-04.10.2017

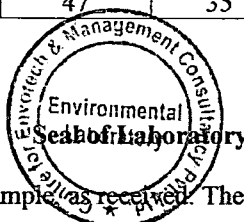
STP REPORT

Name & Address of the Customer : M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No. : 4800026792, dtd-22.07.2017
Sampling by : Biswaranjan Behera
Date of Sampling : 05.09.2017 & 22.09.2017
Date of Receiving : 06.09.2017 & 23.09.2017
Sampling & Testing Procedure : APHA 23rd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr each
Sample Location with Job Code : STP - 15 KLD (Outlet-CEMC/17-18/224W & 247W)
Reference Number : CEMC-04102017(224&247)W

STP OUTLET RESULT

Sl. No.	Parameter	Unit of Measurement	Result		Standards for New STPs Design after notification 2015
			1 st Fortnight	2 nd Fortnight	
1	Appearance	--	Clear	Clear	-
2	Colour	--	Colorless	Colorless	-
3	Odour	--	Odourless	Odourless	-
4	pH Value @ 25°C	--	6.68	7.14	6.5-9.0
5	Total Suspended Solids	mg/l	17.9	18.2	<20
6	B.O.D for 3 days @ 27°C	mg/l	9.6	8.8	<10
7	Oil & Grease	mg/l	<5	<5	--
8	COD	mg/l	48	40	<50
9	Ammonical Nitrogen	mg/l	2.2	2.3	<5
10	Total Nitrogen	mg/l	11.4	9.8	<10
11	Faecal Coliform	MPN/100ml	47	35	<100

Dr. T. S. Sahu, B.Sc. Env. Sc.
Authorized Signatory
(GAZETTE No-1357, Dt-03-06-2016)



- The result given above related to the tested sample, as received. The customer asked for the above test only.
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- The samples received shall be destroyed after two weeks from the date of issue of the Test Report unless specified otherwise.
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Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

Regd. Office: 1st Floor, N-5/305, IRC village, Nayapalli, Bhubaneswar-751015, Odisha, India, Mobile: 9861032826
E-mail- ccmc_consultancy@yahoo.co.in, ccmc122@gmail.com, website: www.ccmc.in, Landline: 0674-2360344.

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
E-mail: ccmclab@yahoo.in, Mobile: 7752014842



CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY PVT. LTD.

An ISO 9001-2008 & OHSAS 18001:2007 Certified Company, Empanelled with OCCL, ORSAC and SPCB of Govt. of Odisha
Accredited by NABET, QCI for EIA Studies as 'A' Category Consultant Organization. Empanelled with PCCF(Wildlife) & CWLW, Odisha
Enlisted in Construction Industry Development Council (CIDC) established by the Planning Commission (Govt. of India)
MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Report no. - CEMC/TDPCL/041017/W3


Issued Date-04.10.2017

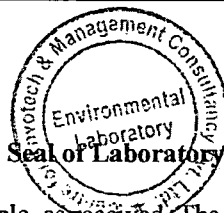
STP REPORT

Name & Address of the Customer : M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No. : 4800026792, dtd-22.07.2017
Sampling by : Biswaranjan Behera
Date of Sampling : 05.09.2017 & 22.09.2017
Date of Receiving : 06.09.2017 & 23.09.2017
Sampling & Testing Procedure : APHA 23rd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr each
Sample Location with Job Code : STP - 140 KLD (Inlet-CEMC/17-18/225W & 248W)
Reference Number : CEMC-04102017(225&248)W

STP INLET RESULT

Sl. No.	Parameter	Unit of Measurement	Result		Design parameter for Raw Sewage
			1 st Fortnight	2 nd Fortnight	
1	Appearance	--	Turbid	Turbid	-
2	Colour	--	Blackish	Blackish	-
3	Odour	--	Foul	Foul	-
4	pH Value @ 25°C	--	6.68	6.84	6.0-8.5
5	Total Suspended Solids	mg/l	152.7	144.8	1000
6	B.O.D for 3 days @ 27°C	mg/l	220	180	300-350
7	Oil & Grease	mg/l	5.9	6.2	100
8	COD	mg/l	900	750	--
9	Ammonical Nitrogen	mg/l	9.3	8.7	--
10	Total Nitrogen	mg/l	51.4	49.6	--
11	Faecal Coliform	MPN/100ml	>1600	>1600	--


Dr. T. Sahu, Env. Sc.
Govt. ANALYST
Authorized Signatory
(Gazette No-1357, Dt-03-06-2016)
Notes:

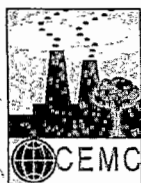


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Regd. Office: 1st Floor, N-5/305, IRC village, Nayapalli, Bhubaneswar-751015, Odisha, India, Mobile: 9861032826
E-mail- ccmc_consultancy@yahoo.co.in, ccmc122@gmail.com, website: www.ccmc.in, Landline: 0674-2360344.

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
E-mail: cemclab@yahoo.in, Mobile: 7752014842



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Report no. - CEMC/TDPCL/041017/W4

Issued Date-04.10.2017

STP REPORT

Name & Address of the Customer : M/s. The Dhamra Port Company Ltd., Dosinga, Bhadrak
Work Order No. : 4800026792, dtd-22.07.2017
Sampling by : Biswaranjan Behera
Date of Sampling : 05.09.2017 & 22.09.2017
Date of Receiving : 06.09.2017 & 23.09.2017
Sampling & Testing Procedure : APHA 23rd Edition
Sample Description : Waste Water
Sample Quantity : 1.0 Ltr each
Sample Location with Job Code : STP - 140 KLD (Outlet-CEMC/17-18/226W & 249W)
Reference Number : CEMC-04102017(226&249)W

STP OUTLET RESULT

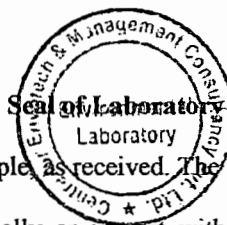
Sl. No.	Parameter	Unit of Measurement	Result		Standards for New-STPs Design after notification 2015
			1 st Fortnight	2 nd Fortnight	
1	Appearance	--	Clear	Clear	-
2	Colour	--	Colorless	Colorless	-
3	Odour	--	Odourless	Odourless	-
4	pH Value @ 25°C	--	6.78	7.19	6.5-9.0
5	Total Suspended Solids	mg/l	16.3	17.5	<20
6	B.O.D for 3 days @ 27°C	mg/l	9.2	9.2	<10
7	Oil & Grease	mg/l	<5	<5	--
8	COD	mg/l	48	44	<50
9	Ammonical Nitrogen	mg/l	3.1	2.9	<5
10	Total Nitrogen	mg/l	6.6	5.8	<10
11	Faecal Coliform	MPN/100ml	63	46	<100

Dr. T. S. Sahoo, Env. Sc.
Govt. of Odisha

Authorized Signatory
(Gazetted No. 1387, Dt-03-05-2016)

Notes:

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Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
E-mail: cemclab@yahoo.in, Mobile: 7752014842

ANNEXURE - II

TYPES AND QUANTITY OF FIRE EXTINGUISHERS

The Dhamra Port Company Limited
Fire Extinguisher Details

SI No	Location	Type of Extinguishers & Quantity
1	SWITCH YARD	DCP-5KG-4nos
2	MCC -1	(CO2-4.5KG)-4nos (CO2 -3KG)-2nos
3	MCC -2	(CO2-4.5KG)-2nos
4	MCC -2(A)	(CO2-4.5KG)-1nos (CO2 -3KG)-1nos
5	MCC -3	(CO2-4.5KG)-2nos (CO2 -3KG)-1no
6	MCC -4	(CO2-4.5KG)-02 (DCP- 5KG)-1nos
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 (DCP- 5KG)-1nos
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-6nos
26	SL	CO2 -4.5KG-4nos DCP-5KG-1no
27	SUL-1	CO2 -4.5KG-5nos (CO2 -3KG)-1no (DCP-5KG)-2nos
28	SUL-2	CO2 -4.5KG-5nos (CO2 -3KG)-1no (DCP-5KG)-2nos
29	SUL-3	CO2 -4.5KG-6nos (DCP-2KG)-3no
30	SUL-4	CO2 -4.5KG-6nos (DCP- 5KG)-3nos
31	SUL-5	CO2 -4.5KG-6nos (DCP-2KG)-1no (DCP-5KG)-2nos
32	LIBHERR-11	CO2 -4.5KG-2no, DCP-10KG-1no, DCP-5KG-1no DCP-2KG-2no
33	LIBHERR-12	CO2 -4.5KG-2no, DCP-10KG-1no, DCP-5KG-2no DCP-2KG-1no
34	SILO - 1	CO2 -4.5KG-3nos DCP-5KG-1no

SI No	Location	Type of Extinguishers & Quantity
35	SILO - 2	CO2 -4.5KG-3nos
36	FIRE PUMP HOUSE	CO2 -4.5KG-2nos
37	WTC -1	CO2 -4.5KG-1no DCP-5KG-2Nos, CO2 -3KG-1no
38	WTC -2	CO2 -4.5KG-1no DCP-5KG-2nos CO2 -3KG-2no
39	SR -1	CO2 -4.5KG-1nos CO2 -3KG-1no DCP-5KG-1nos
40	R - 1	CO2 -4.5KG-1no CO2 -3KG-1no DCP-5KG-1nos
41	SR -2	CO2 -4.5KG-1nos CO2 -3KG-1no, DCP-5KG-1no
42	SR -3	CO2 -4.5KG-1nos CO2 -3KG-1no, DCP-5KG-1no
43	SR -4	CO2 -4.5KG-1nos CO2 -3KG-1no, DCP-5KG-1no
44	F.L SMIDTH OFFICE	CO2-4.5KG-2No
45	PSS	CO2 -4.5KG-3nos
46	BMH WORK SHOP	CO2 -4.5KG-1no DCP-5KG-2nos
47	All Equipment	DCP-5KG-08nos
48	LOCO SHED	CO2 -4.5KG-1nos DCP-5KG-1nos
49	TRANSFORMER HOUSE	CO2 -4.5KG-2nos DCP-5KG-2nos
50	IMWB Office	CO2 -4.5KG-1no
51	DIESEL FILLING STATION	DCP-5KG-1nos Foam-9ltr-1no
52	IOCL	Foam-9ltr-1no
53	WTP	CO2 -4.5KG-3nos
54	DPCL OFFICE(SALANDI)	CO2-9KG-1no DCP-5KG-2nos,
55	REWA OFFICE	CO2-4.5KG-2No DCP-5KG-1No
56	CUSTOMS OFFICE	CO2-4.5KG-1No DCP-5KG-1No
57	DPCL STORE	CO2 -4.5KG-1no
58	Lubricant Store	Foam-9ltr-1no
59	SS-01	CO2 -4.5KG-1no
60	SS-02	CO2 -4.5KG-1no
61	SS-03	CO2 -4.5KG-1no
62	SS-04	CO2 -4.5KG-1no
63	SS-05	CO2 -4.5KG-1no
64	NEW CANTEEN	CO2 -3KG-01no DCP-5KG-1no
65	DHAMRA HOUSE	DCP-5KG-5nos DCP-2KG-01no
66	KANIKA GUEST HOUSE	CO2 -4.5KG-01no DCP-5KG-2nos
67	DAV SCHOOL, KUAMARA	CO2 -4.5KG-07nos DCP-5KG-5no
68	TOWNSHIP	CO2 -4.5KG-11nos
69	COMMUNITY HALL	CO2 -4.5KG-2nos DCP-5KG-1no
70	PREFAB	CO2 -4.5KG-4nos DCP-5KG-4nos
71	PMC OFFICE(HR)	CO2 -4.5KG-1nos

SI No	Location	Type of Extinguishers & Quantity
72	DHAMRA GUEST HOUSE	CO2 -4.5KG-2nos CO2 -3KG-2nos
73	RAILWAY OFFICE	CO2 -4.5KG-02nos DCP-5KG-3nos
74	BHATATIRA STATION	CO2(4.5kg)-2Nos DCP-5KG-1no
75	BHATATIRA LC-5	DCP-5KG-1no
76	BHATATIRA- SP	CO2(4.5kg)-1Nos
77	GURUDASPUR STATION	CO2-4.5KG-1No DCP-5KG-1No
78	GURUDAS PUR TSS	CO2 -4.5KG-1no DCP-5KG-2nos
79	GURUDAS PUR SUB STATION	DCP-5KG-2Nos
80	INTAKE	CO2 -4.5KG-3nos DCP-5KG-1nos
81	RANITAL	CO2 -4.5KG-1nos
82	GURUDAS PUR LC-19	DCP-5KG-1no
83	TOWER WAGON	DCP-5KG-3nos
84	TIHIDI STATION	CO2 -4.5KG-1nos DCP-5KG-1nos
85	BANSADA STATION	CO2 -4.5KG-3nos
86	LC-26,NEAR DI ROAD	CO2 -4.5KG-1no
87	PASS SECTION	CO2-4.5KG-1Nos
88	BRAMHANI OFFICE	CO2 -4.5KG-1nos DCP-5KG-1nos
89	KANIKA TRANSFORMER	CO2 -4.5KG-1no
90	SECURITY CONTAINER, NEAR MAIN GATE	CO2 -4.5KG-1nos DCP-5KG-1nos
91	FIRST AID CENTER	CO2 -4.5KG-1nos
92	DPCL AMBULANCE (OLD & NEW)	DCP-5KG-2nos
93	RAILWAY GSS	CO2 -4.5KG-1no DCP-5KG-1no
94	RUNNING ROOM	CO2 -4.5KG-1no DCP-5KG-1no
95	INDUCTION HALL	CO2 -4.5KG-1no
96	FCC GODOWN	CO2 -4.5KG-20no DCP-5KG-1no Foam-9ltr-2nos
97	FCC OFFICE	CO2 -4.5KG-1no DCP-5KG-1no
98	FCC CANTEEN	DCP-5KG-1no
99	WOISTAGE OIL STORE	Foam-9ltr-1nos
Total Fire Extinguisher Installed at site		CO2-9kg=01no,Co2-4.5kg=177nos,CO2-3kg =17nos, DCP-10kg= 02nos, DCP-5kg=96nos,DCP-2kg=07nos & Foam-9ltrs=06nos ,
STOCK BALANCE FIRE TENDER WITH FIRE STORE		DCP(ABC)-6KG-41nos, CO2(4.5kg)= 37nos, Foam-9ltrs-04nos & Foam(50ltrs)-02nos

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	2	52
2	Safety Induction Training	182	1466
3	Portable fire Extinguishers training	19	554
4	Contractor safety training	25	710
5	Defensive driving training	43	682
6	Tool box training	25792	183283
7	On the Job Safety Awareness	122	2329

FIRE EXTINGUISHER TRAINING

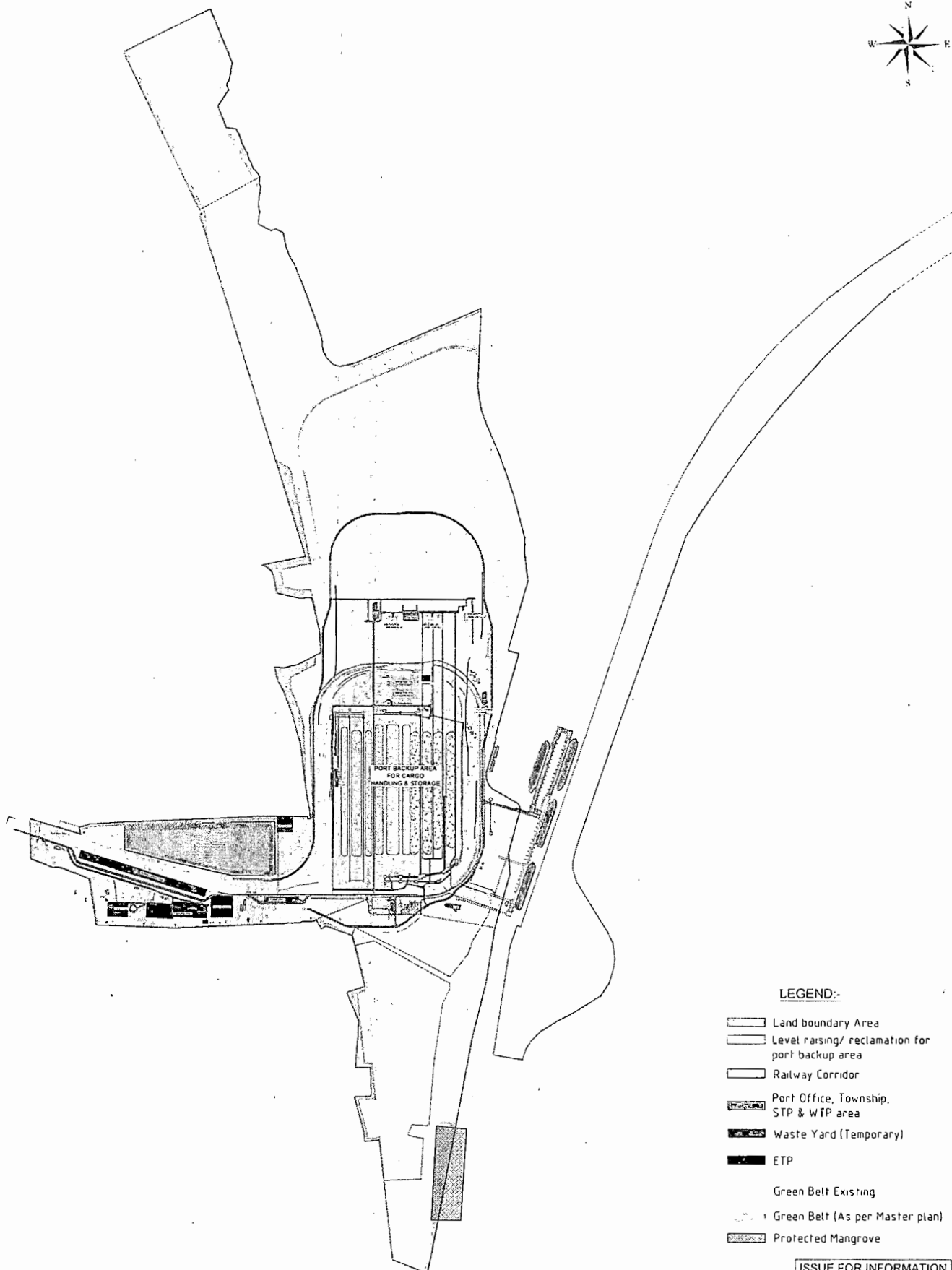
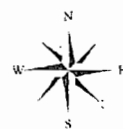


FIRE MOCK DRILL AT SITE



ANNEXURE - IV

PORT LAYOUT



LEGEND:-

- Land boundary Area
- Level raising/ reclamation for port backup area
- Railway Corridor
- Port Office, Township, STP & WTP area
- Waste Yard (Temporary)
- ETP
- Green Belt Existing
- Green Belt (As per Master plan)
- Protected Mangrove

ISSUE FOR INFORMATION

ANNEXURE - V GREEN BELT DETAILS



Fig 1 : Nursery with 1 Lakh Sapling Stock



Fig 2: Railway Corridor Edge Plantation

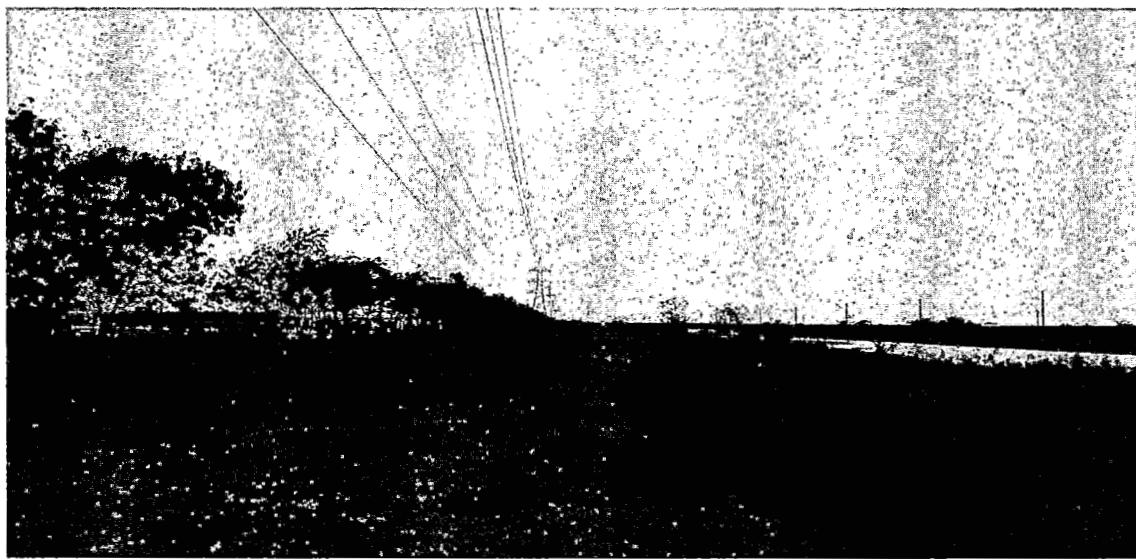


Fig 3: Railway Corridor Edge Plantation



Fig 4: Greenbelt around the Port

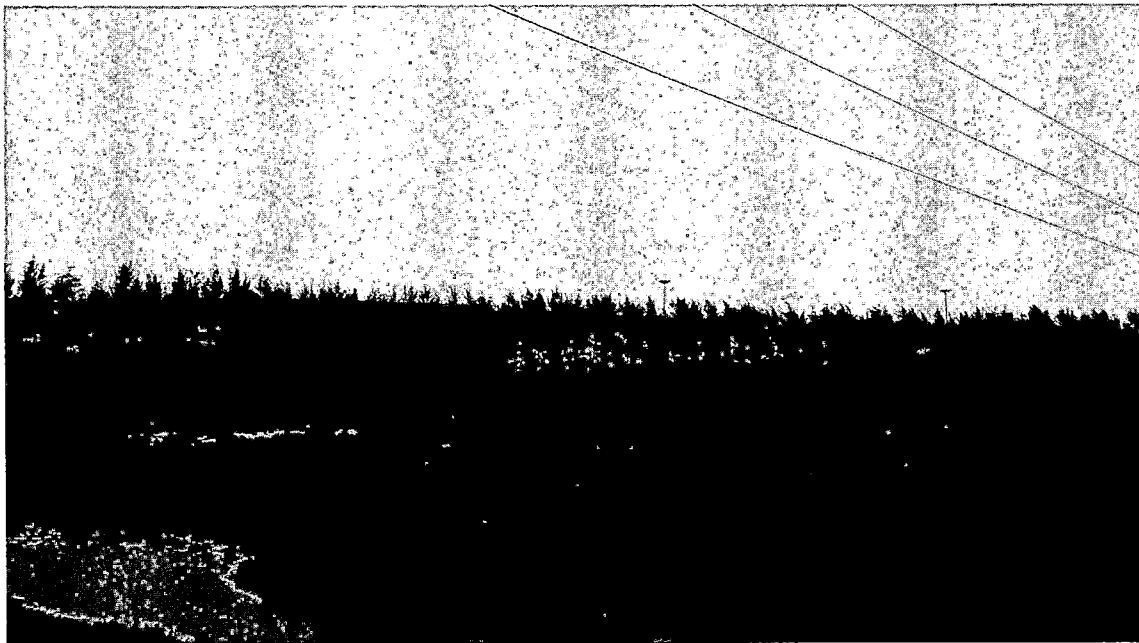


Fig 6: Greenbelt around the Port

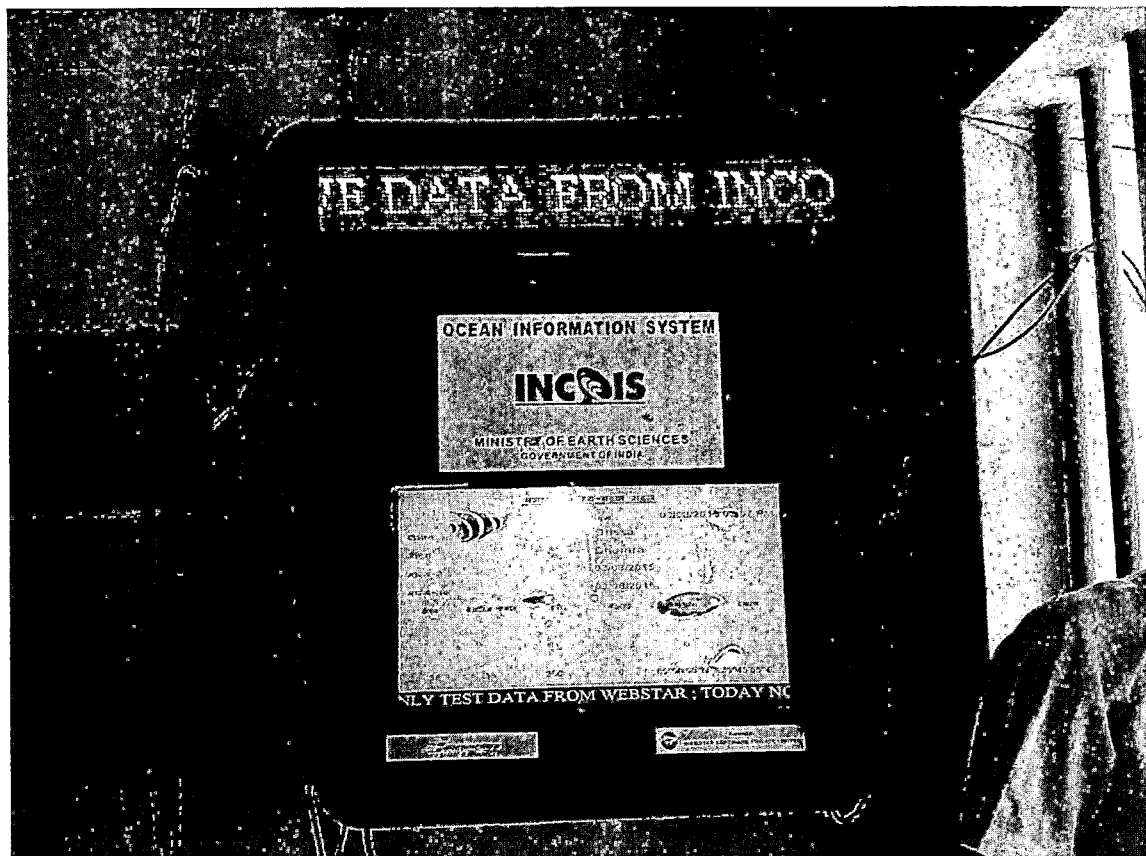
ANNEXURE - VI

ENVIRONMENT EXPENSES

ENVIRONMEN PROTECTION EXPENDITURES FY 2017-18		
S. No.	Activity/ Category	Expenditure in lacs
1	Environmental Study / Audit	16.42
2	Legal & Statutory Expenses	15.60
3	Environmental Monitoring Services	7.30
4	Hazardous Waste Management & Disposal	14.97
5	Environment Day Celebration	1.03
6	Mangrove conservation	1.03
7	Horticulture/Plantation	52.0
8	O&M of Sewage Treatment Plant	8.79
9	Capital Cost of renovation	2.27
10	Water Treatment Plant	40.39
11	Dust suppression	24.62
12	Online display board	0.00
13	Turtle conservation (Trawler for patrolling)	8.27
Total Environmental Expenditures (in Lakhs)		194.21

ANNEXURE – VII

PICTURE OF INCOIS ELECTRONIC DISPLAY BOARD INSTALLED AT DHAMRA FISHING HARBOUR



ANNEXURE- VIII

INTIMATION LETTER TO MoEF&CC

adani



DPCL

(A wholly owned subsidiary of APSEZ)

DPCL/ENV-06/02/2015

20th Nov 2015

To
The Additional Principal Chief Conservator of Forests
Ministry of Environment and Forests,
Eastern Regional Office,
A/3, Chandrasekharpur,
Bhubaneswar- 751023
E-mail: roe2_bsr-mef@nic.in

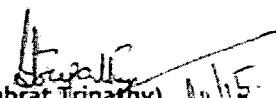
Dear Sir,

Sub : Half yearly Compliance report of Environment and CRZ Clearance for expansion of Dhamra Port at Dhamra, Bhadrak District of Odisha by M/s Dhamra Port Company Limited

Ref : 1) Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4th January 2000 bearing No. PD/26017/8/98-PDZ (CRZ), F. No. 11-104/2009-IA-II dt. 1st Jan, 2014 & subsequent amendment dt. 25th March, 2015 and OCZMA recommendation vide letter no. OCZMA-1/2018-19/No.17 dt. 20th December, 2012

With reference to the above mentioned letter for the said subject matter, please find enclosed herewith the compliance to the conditions stipulated in the letters for the period of Apr'15 to Sep'15 in both hard & soft copy for your kind reference.

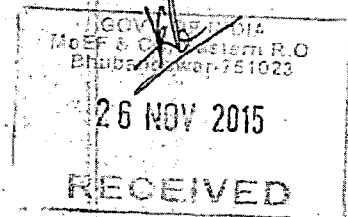
Thank you,
Yours Sincerely,


(Subrat Tripathy) 20/11/15
Chief Executive Officer

Encl: As above

Copy to:

- 1) The Director (Monitoring -IA-III Division), Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003
- 2) Zonal Office, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700 107 (W. B.)
- 3) The Member Secretary, State Pollution Control Board, Odisha, Parivesh Bhawan, A/118, Unit 8, Nilakantha Nagar, Nayapalli, Bhubaneswar-751012
- 4) The Regional Officer, State Pollution Control Board, Odisha, 150, Sahadev Khunta, Balasore - 756001



The Dhamra Port Company Limited

Head Office :

At - Dosinga, Po- Dhamra.

Dist : Bhadrak, Odisha. Pin - 756171

Tel: +91 6786 212068

CIN - U45205OR1998PLC005448

Website : www.dhamraport.com

Bhubaneswar Office :

2nd Floor, Fortune Towers, Chandrasekharpur.

Bhubaneswar - 751023, Odisha.

Tel : +91 674 2303829, Fax : +91 674 2303828

DPCL/ENV-06/02/2015

20th Nov 2015

To
The Additional Principal Chief Conservator of Forests
Ministry of Environment and Forests,
Eastern Regional Office,
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 expansion of Dhamra Port at Dhamra, Bhadrak District of Odisha by M/s Dhamra Port Company Limited

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Thank you,
Yours Sincerely,

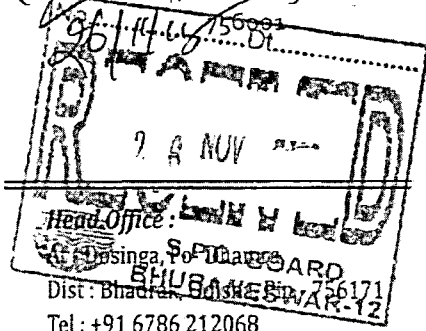
(Signature)
(Subrat Tripathy) 20/11/15
Chief Executive Officer

Encl: As above

Copy to:

- 1) The Director (Monitoring -IA-III Division), Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003
- 2) Zonal Office, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700 107 (W. B.)
- 3) The Member Secretary, State Pollution Control Board, Odisha, Parivesh Bhawan, A/118, Unit 8, Nilakantha Nagar, Nayapalli, Bhubaneswar-751012
- 4) The Regional Officer, State Pollution Control Board, Odisha, 160, Sahadev Khunta, Balasore -

Recd



The Dhamra Port Company Limited

CIN - U45205OR1998PLC005448

Website : www.dhamraport.com

Bhubaneswar Office :

2nd Floor, Fortune Towers, Chandrasekharpur,
Bhubaneswar - 751023, Odisha

Tel : +91 674 2303829, Fax : +91 674 2303828

ANNEXURE - IX: 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	<p>Scattered mangroves identified near southern boundary of the port in phase I development needs to be conserved.</p> <p>The port boundary will be at a minimum distance of 50 m from the mangrove area on the northern side.</p> <p>Awareness will be created amongst port workers about the importance of mangroves and their conservation</p>	<p>Scattered mangroves identified near southern boundary of Phase I development spread over an area of 9 ha. Bamboo fencing has been done at southern boundary over an area of 9 ha for conservation of mangroves.</p> <p>A buffer of 50m is being maintained between the project boundary and mangrove vegetation.</p> <p>Awareness programs for mangrove conservation for port workers are being undertaken</p>
		Impact on turtle nesting	Glare of Port Light may cause disturbance to hatchlings	<p>Install specialized illumination system in line with "International Dark Sky Association (IDA)" to avoid illuminating the sky or focusing light towards sea.</p> <p>Mercury vapour and metal halides will not be used Sodium vapour lamps will be used</p>	<p>DPCL has already implemented the suggested mitigation measures during Phase I and these measures shall also be implemented during Phase II Expansion of port.</p>

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
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	<p>Providing adequately sized construction yard for storage of construction materials, equipment tools, earthmoving equipment, etc</p> <p>Provide enclosures on all sides of construction site</p> <p>Movement of material will be mostly during non-peak hours.</p> <p>On-site vehicle speeds will be controlled to reduce excessive dust suspension in air and dispersion by traffic</p> <p>Construction equipment and transport vehicles will be periodically washed to remove accumulated dirt</p> <p>Water sprinkling will be carried out to suppress fugitive dust</p> <p>Environmental awareness training</p>	<p>We have a regular air monitoring protocol twice a week to ensure air quality parameters never exceed the prescribed limits.</p> <p>Vehicular Traffic Speed is kept limited to 20 kmph</p> <p>Regular water sprinkling on roads are done by water tankers.</p> <p>Environment Awareness/training programme is being conducted on regular basis by Environment Department to personnel involved in developmental works.</p>

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
				will be imparted to personnel involved in developmental works	
		Noise	<p>Noise from following activities</p> <p>Vehicles transporting construction material</p> <p>Diesel run engines of construction machinery and dredgers</p> <p>Pile driving activities during construction of cargo berths</p>	<p>Procurement of machinery / construction equipment will be done in accordance with specifications conforming to source noise levels less than 85 dB (A)</p> <p>Well-maintained construction equipment, which meets the regulatory standards for source noise levels, will be used</p> <p>Noise attenuation will be practiced for noisy equipment by employing suitable techniques such as acoustic controls, insulation and vibration dampers</p> <p>Personnel exposed to noise levels beyond threshold limits will be provided with protective gear like earplugs, muffs, etc.</p> <p>Ambient noise levels will be monitored</p>	<p>We have a strict maintenance regimen for all plant machinery and equipment which is reviewed by the management every day.</p> <p>PPE's like Earplug, muffs are being used in noise prone areas.</p> <p>Noise level monitoring is being carried out by a MoEF & CC accredited agency.</p>
		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	Storm water drainage network is planned to facilitate proper drainage of the area and requirement of local villager for tide water and boat movement has

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
					been duly considered in the drainage plan.
		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
		Existing Traffic	Traffic addition	The existing road will be strengthened to cater the increased traffic	Government of Odisha has already 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.	Construction waste generated was used in low lying areas as a standard practice

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
				<p>Composted bio-degradable waste will be used as manure in greenbelt. Other recyclable wastes will be sold.</p> <p>General refuse generated on-site will be collected in waste skips and separated from construction waste.</p> <p>Burning of refuse at construction sites will be prohibited.</p>	<p>Bio- degradable waste is being used as manure for horticulture activities and for development of nursery</p> <p>Waste Segregation is being done at Point of Generation and Color Coded bins are in use in the Port Residential Area</p> <p>Burning of wastes is prohibited within the premises</p>
6	Handling of hazardous wastes	Human safety and property loss	Accidents during construction	<p>Adequate safety measures as per OSHA standards will be adopted.</p> <p>Construction site will be secured by fencing with controlled/limited entry points.</p> <p>Hazardous materials such as lubricants, paints, compressed gases, and varnishes etc., will be stored as per the prescribed/approved (MSIHC) safety norms.</p> <p>Medical facilities including first-aid will be available for attending to injured workers.</p>	<p>We have a strict safety regimen with the motto "Safety First"</p> <p>Safety Observations are mandatory from every department of the port and immediate measures are undertaken to rectify the shortcoming.</p> <p>OHSAS Guidelines and MSIHC Guidelines are followed for Hazardous wastes</p>
7	Fishing	Fishermen and	Impact on fishing	Signboards will be placed at the	Our navigational channel is well

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
		fishing villages	due to Construction works	construction sites in order to make fishermen aware of the ongoing activities	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 Periodic cleaning of cargo spills and speed regulations for vehicles engaged in transportation	Noted and complied.
		Noise	Due to equipment handling and vehicular movement Ship (un)loading operations	Acoustic Barriers and Enclosures Personal Protection Equipment (PPE) Counseling and traffic regulation	Noted and complied.
		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	Majority of the cargo is being transported through rail.

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
				corridor has been proposed in the Phase II	
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.	<p>Ships should comply with the MARPOL convention.</p> <p>As a mitigation measure for accidental spillages, Oil spill contingency plan will be implemented.</p> <p>Carrier will be required to exchange ballast water in a deep sea location prior to arrival in the harbor</p> <p>Provision of waste reception facility for bilge oily water and waste oil will be provided</p>	<p>Noted and complied.</p> <p>All visiting ships are MARPOL Compliant</p>
3.	Accidental Cargo and Oil spills	Marine water quality and ecology	Change in marine water quality	<p>In case of any cargo spillage during transfer from/to ships, it will be attempted to recover the spills.</p> <p>Oil spill control equipment such as booms / barriers will be provided for containment and skimmers will be provided for recovery</p> <p>Response time for shutting down the fueling, containment and recovery will be quicker.</p>	<p>Noted and complied.</p> <p>Oil Spill Containment equipment in readiness.</p> <p>Oil Spill drills are conducted on a regular basis</p>

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
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.	Noted and complied.
		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 requirement for port expansion. Water Treatment Plant (WTP) of 5 MLD and water distribution system developed for Phase I. Distribution system shall be	Complied.

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
				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	Complied.
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

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
9.	Handling of hazardous materials	Accidents due to products handling	Human life and loss of property	<p>Hazardous materials will be stored as per the prescribed/approved (MSIHC) safety norms.</p> <p>Operation areas will be secured by fencing with controlled/limited entry points.</p> <p>Hazardous wastes (used oil & used battery) will be sent to OPCB approved recyclers.</p> <p>Medical facilities including first aid will be available for attending to injured workers.</p> <p>Regular check of pipelines and tank farms</p> <p>Emergency alarms, provision of fire hydrant system and fire station.</p> <p>Effective Disaster Management Plan (DMP) which covers onsite and offsite emergency plans.</p>	<p>Three types of hazardous waste i.e Used oil, Oil contaminated filters & Waste containing oil is being handled presently on our port premises.</p> <p>Used oil is being recycled through authorized recyclers.</p> <p>Proper Care is taken when handling of this waste and a well-marked storage shed is used for storage of hazardous waste.</p> <p>Hazardous Waste Storage and Handling Facilities will be upgraded during the advance stage of Phase II operation.</p>
10.	Fishing activity	Fishermen livelihood	Impact on fishing due to vessel movement	Creation of awareness among the fisher folk about orientation of approach channel	<p>Fishermen Community are a part of the port community and we have regular and positive interactions with them.</p> <p>Oriental of Navigational Channel is well marked with marker buoys and known to the fishing community</p>

ANNEXURE-X

ENVIRONMENT CLEARANCE COPY TO ZILLA PARISAD

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



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-XI - 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 (पेसो)
Petroleum & Explosives Safety Organisation (PESO)
F-35/A, बी. जे. पी. नगर,
भुवनेश्वर - 751014
F-35/A, BJB Nagar,
Bhubaneswar - 751014

E-mail : dycsbhu@explosives.gov.in
Phone/Fax No : 0574-2433370, 2433390 Fax 2430066

संख्या : No. : PESO/GR/14/1587 (P237780)

दिनांक : Dated : 27/12/2018

सेवा में / To,

The Bhenira Port Company Limited,
2nd Floor, Fortune Towers,
Chandrasekharpur,
Bhubaneswar (M. Corp.),
Taluka: Bhubaneswar (M. Corp.),
District: KHURDA,
State: Odisha
PIN: 751023

27 DEC 2018

विषय : Subject - Plot No. Plot No.896(P), Khata No.183, Mouza - Doshinga, Tahasil - Chandabali, District: BHADRAK, State: Odisha, PIN: 999999 में स्थित विद्युत्गत पेट्रोलियम वर्क A.B Consumer Pump की अनुमति हेतु PESO/GR/14/1587 (P237780) - नवीकरण के हेतु में।
Existing Petroleum Class A.B Consumer Pump at Plot No. Plot No.896(P), Khata No.183, Mouza - Doshinga, Tahasil - Chandabali, District: BHADRAK, State: Odisha, PIN: 999999 - Licence No. PESO/GR/14/1587 (P237780) - Reg. Renewal of Licence.

प्रतिमान : Ref
(3).

कृपया आपसे उपर्युक्त विषय से संबंधित पत्र संख्या DIN93748 दिनांक 27/12/2018 पर संदर्भ रहण करें।

Please refer to your letter No. DIN93748 dated 27/12/2018 on the subject.

अनुमति में PESO/GR/14/1587 (P237780) दिनांक 04/10/2010 दिनांक 31/12/2018 तक नवीकृत कर लौटाई जा रही है।
Licence No. PESO/GR/14/1587 (P237780) dated 04/10/2010 is returned herewith duly renewed upto 31/12/2018.

कृपया पेट्रोलियम नियम, 2012 के अधोल बमर गप नियम 148 में दी गई प्रक्रिया का पालन करें। अनुमति के नवीकरण हेतु तमसा दस्तावेजों को दिनांक 31/12/2018 या उससे पहले इस कार्यालय में प्रस्तुत करें।

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2012 and submit complete documents for the Renewal of the licence as per the office on or before 31/12/2018.

कृपया धन्यवाद दें। Please acknowledge the receipt.

भवदीय / Yours faithfully

(सुभाष चंद्र रे)
(Subhas Ray)

विस्फोटक नियंत्रक

Controller of Explosives

For Dy. Chief Controller of Explosives

भुवनेश्वर
Bhubaneswar

आपके प्रतिक्रिया जैसे आवश्यकताओं के हिसाब, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : <http://peso.gov.in> देखें।
(For more information regarding status, fees and other details please visit our website : <http://peso.gov.in>)

**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

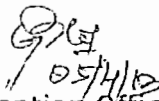
FP
02

water to the fire fighting system. Besides 11 nos Co₂ (4.5 kg), 22 nos Co₂ (3.2 kg), 03 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,


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.


Fire Prevention Officer
Odisha, Bhubaneswar

ANNEXURE-XII

ADVERTISEMENT IN LOCAL NEWSPAPER INTIMATING GRANT OF
ENVIRONMENTAL & CRZ CLEARANCE

SAMBAD, Bhubaneswar
17 Jan 2014, P. 5

ବିଜ୍ଞପ୍ତି

ଧାମରା ପୋର୍ଟର ବିଭିନ୍ନ ପର୍ଯ୍ୟାୟ ଉନ୍ନୟନ
ପାଇଁ ଉଦ୍ଦିଷ୍ଟ ଅଞ୍ଚଳର ପରିବେଶ ଓ ଜଳବାୟୁ
ବିଭାଗ ଚିଠି ସଂଖ୍ୟା F.No. 11-104/2009-
IA-III/60 ତା. ୧୧.୧୨.୨୦୧୪ ଉପରେ
ପରିବେଶ ଓ ଜଳବାୟୁ ଆକାଶ ମନ୍ତ୍ରାଳୟ ପ୍ରକାର
କରିଛନ୍ତି । ଏହାକୁ ଅଧିକାରୀଙ୍କ ଉପସ୍ଥାପନା [http://
www.envfor.nic.in](http://www.envfor.nic.in)ରେ ଉପଲବ୍ଧ ଅଛି ।



SAMAJ - 16.01.14
P. 5
୧୭ ଜାନୁଆରୀ ୨୦୧୪

ବିଜ୍ଞପ୍ତି

ଧାମରା ପୋର୍ଟର ବିଭିନ୍ନ ପର୍ଯ୍ୟାୟ ଉନ୍ନୟନ
ପାଇଁ ଉଦ୍ଦିଷ୍ଟ ଅଞ୍ଚଳର ପରିବେଶ ଓ ଜଳବାୟୁ
ବିଭାଗ ଚିଠି ସଂଖ୍ୟା F.No. 11-104/2009-
IA-III/60 ତା. ୧୧.୧୨.୨୦୧୪ ଉପରେ
ପରିବେଶ ଓ ଜଳବାୟୁ ଆକାଶ ମନ୍ତ୍ରାଳୟ ପ୍ରକାର
କରିଛନ୍ତି । ଏହାକୁ ଅଧିକାରୀଙ୍କ ଉପସ୍ଥାପନା [http://
www.envfor.nic.in](http://www.envfor.nic.in)ରେ ଉପଲବ୍ଧ ଅଛି ।

ANNEXURE-XIII

ENVIRONMENT STATEMENT FOR FY 2016-17



DPCL/ENV/OSPCB/2017-45

18th September, 2017

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

Dear Sir,

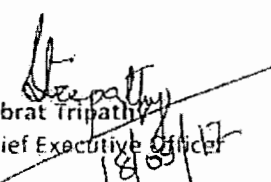
Sub: Environmental Statement for the financial year ending 31st March, 2017 for
M/s The Dhamra Port Company Limited.

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 The
Dhamra Port Company Limited for the financial year ending 31st March 2017.

Thanking you,

Yours faithfully,
For The Dhamra Port Company Limited


Subrat Tripathy
Chief Executive Officer

Encl: As above.

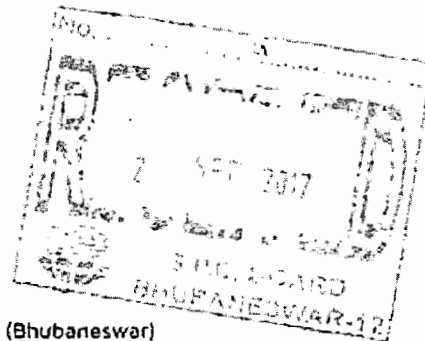
Copy to: The Regional Officer,
State Pollution Control Board, Odisha,
160, Sahadev Khunta,
Balasore, Odisha

The Dhamra Port Company Limited

At: Dosinga, Po: Dhamra
Dist: Bhadrak
PIN: 756171
Odisha, India
CIN: U45205OR1998PLCO05448

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Environment Statement for 2016-17 for M/s The Dhamra Port Company Limited

FORM V
(See Rule 14)

Environmental Statement for the Financial Year ending 31st March 2017

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
Village-Dosinga, Po.-Dhamra, Dist-Bhadrak
Odisha - 756171
- (ii) Industry Category : Red-B
Primary (STC Code) NA
Secondary (STC Code) NA
- (iii) Production Capacity : 25 Million MT/Annum
- (iv) Year of Establishment : 2000
- (v) Date of last Environment Statement
submitted : 17th September, 2016

PART – B

Water and Raw Material Consumption

(i) Water Consumption

Water Consumption Cu. Mtr./Day	
Process	Nil
Cooling	Nil
Domestic	295.2 m ³ /day
Dust suppression	474.5 m ³ /day
Fire fighting	1039.3 m ³ /day

Environment Statement for 2016-17 for M/s The Dhamra Port Company Limited

Name of Products	Process Water Consumption per unit of Product Output	
	During the current financial year (2015-16)	During the current financial year (2016-17)
Handling of Iron Ore, Coal, Limestone*	0.030 m ³ /Ton	0.026 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 (2015-16)	During the current financial year (2016-17)
NIL*	Not Applicable	Nil	Nil

* Unit does not have any manufacturing process

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.

Environment Statement for 2016-17 for M/s The Dhamra Port Company Limited

PART – D

Hazardous Wastes

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

Hazardous Wastes	Total Quantity	
	During the previous financial year (2015-16)	During the current financial year (2016-17)
(a) From Process (Used oil)	8.326 KL	5.045 KL
(b) From Process (Waste Containing Oil)	0.000	0.886 MT
(c) From Process (Oil Contaminated Filters)	0.000	124 Nos.
(d) From Pollution Control facilities	Nil	Nil

PART – E

Solid Waste

Solid Waste	Total Quantity Generated (MT/Annum)	
	During the previous financial year (2015-16)	During the current financial year (2016-17)
(a) From Process (Ash)	Nil	Nil
(b) From Pollution Control facilities	Nil	1.56 MT/Annum
(C-1) Quantity recycled or reutilized within the unit	Nil	1.56 MT/Annum
(C-2) Sold	Nil	Nil
(C-3) Disposed	Nil	Nil

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Environment Statement for 2016-17 for M/s The Dhamra Port Company Limited

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:

Hazardous Waste			
Sl. No	Name of waste	Generation quantity	Disposal method
1	Used oil	5.045 KL	Sold to Authorized Recyclers /Reprocessors
2	Waste containing oil	0.886 MT	ACC for co-incineration /energy recovery
3	Oil contaminated filter elements	124 Nos.	ACC for co-incineration /energy recovery

DPCL has got the authorization from OSPCB vide letter no. IND-IV-HW-894/1460 on dated 09.09.2015 for handling of hazardous waste used oil, waste containing oil, oil contaminated filters elements valid till 31.03.2020.

Solid Waste			
Sl. No	Name of waste	Generation quantity	Disposal method
1	Metallic waste	353.610 MT	Sold to scrap vendor for recycling
2	Rubber waste	168.030 MT	Sold to scrap vendor for reuse
3	Paper waste	3.515 MT	Recycled for making note pad through third party recycler
4	Plastic waste	1.779 MT	Sent to M/s ACC for co-incineration / energy recovery
5	Glass Waste	1.695 MT	Sold to scrap vendor for recycling
6	Food waste	41.307 MT	Used for making compost for horticulture use
7	STP Sludge	1.560 MT	Used for horticulture purpose as manure

dr

Environment Statement for 2016-17 for M/s The Dhamra Port Company Limited

PART – G

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

- DPCL has two nos. of Sewage Treatment Plant (STP) of capacity 140 KLD & 15 KLD each, so as to handle sewage generated from port & township. The STP treated water is being used for horticulture and gardening purpose. DPCL has a settling pond where all generated waste water is being collected for settling of sediments by application of lime. The treated settling pond water is further being reused for dust suppression & road sprinkling.
- During the financial year 2016-17, the total amount of Rs. 1.30 Crores was incurred on environmental protection measures.

PART – H

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

- Green belt has been developed inside the port premises and along the Rail /Road corridor of 62 km length. 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 2,01,990 plants suitable for the site have been planted at Port site apart from the rail road corridor plantation mentioned above.
- We are also conserving the natural patch of mangrove situated at south side of our port premises by bamboo fencing within area of 9 ha. We have also developed a nursery with massive numbers of mangrove sapling.

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.
- DPCL has made an effective contribution towards Environment Protection, management and conservation during this year.

at

Environment Statement for 2016-17 for M/s The Dhamra Port Company Limited

- 100 % waste water generated is being reused and recycled.
- All kind of waste generated at site are being treated in line to 5 R's.
- DPCL believe in sustainable development and are working in close harmony of biodiversity rich area. We are regularly monitoring our foot prints on environment.

Date : 18-09-2017

(Signature of a person carrying out an industry,
operation or process)

Name : Subrat Tripathy

Designation : CEO

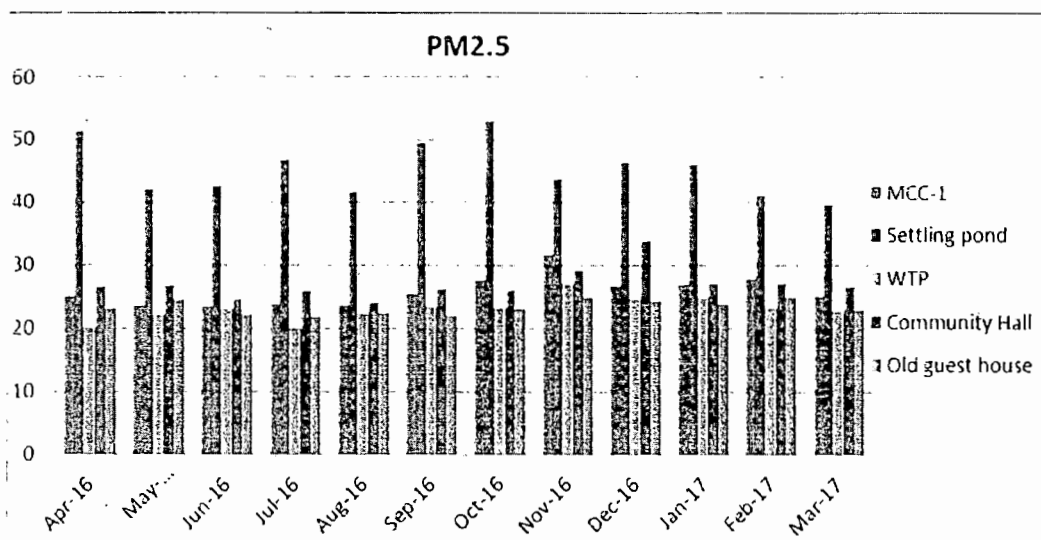
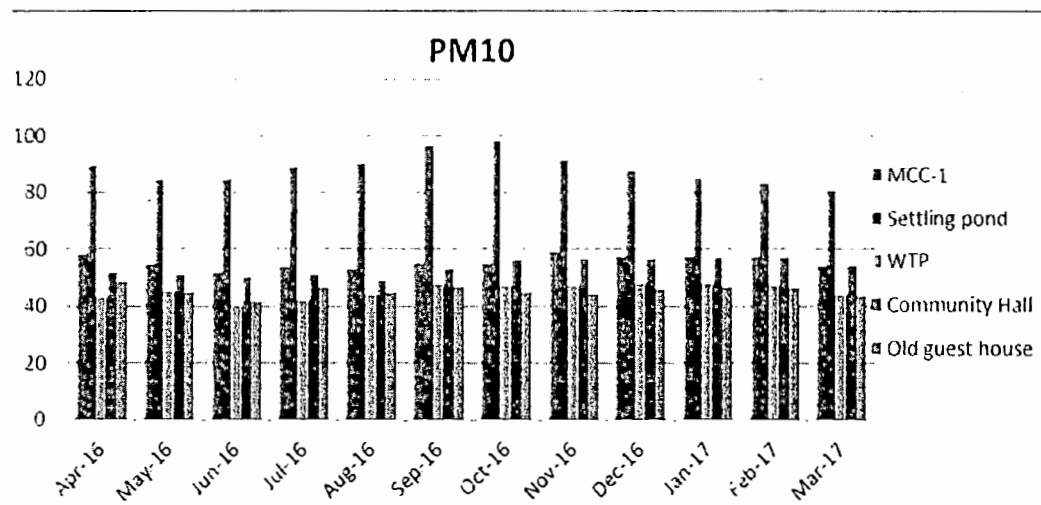
Address : M/s The Dhamra Port Company Limited

Village-Dosinga, Po. Dhamra,

Dist- Bhadrak, Odisha

Environment Statement for 2016-17 for M/s The Dhamra Port Company Limited

Annexure 1



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