## The Dhamra Port Company Limited

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



DPCL/ENV-06/04/2014 To November 28, 2014

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 Orissa by M/s Dhamra Port Company Limited
- Ref : 1) Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4<sup>th</sup> January 2000 bearing No. PD/26017/8/98-PDZ (CRZ).
  - Environment and CRZ Clearance granted to M/s Dhamra Port Company Limited vide letter dated 1<sup>st</sup> January 2014 bearing F. No. 11-104/2009-IA.III.

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'14 to Sept'14 in both hard & soft copy for your kind reference.

Please note that Environment and CRZ clearance issued on 1<sup>st</sup> January 2014 is subjected to the "Prior Clearance from National Board for Wildlife" under specific condition (ii). M/s DPCL has submitted the proposal to National Board for Wildlife in August, 2012. The proposal was taken up on 12<sup>th</sup>-13<sup>th</sup> August, 2014 in the meeting of the standing committee of National Board for Wildlife. The clearance for the proposal is still awaited and there is no project activities taken up during the said period. Thus compliance of this Environment and CRZ clearance will be submitted in the due course after the receipt of the clearance from the National Board for wildlife.

Thank you,

Yours Sincerely,

Chief E

### Encl: As above

Copy to:

FlimaRECEIVED

- 1) The Director (Monitoring –IA Division), Ministry of Environment, Forest & Limate change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi – 110003
- Zonal Office, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700 107 (W. B.)
- 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



Sr. No.	Specific Conditions	Compliance Status
i	All Construction design/drawings relating to construction activities must have the approval of the concerned Government Departments/Agencies of the State Government of Odisha.	All Construction drawings and designs of Phase I Expansion of Dhamra Port were approved by State Government of Odisha vide letter no. DPP- 4/07.1331/Com dated February 19, 2007 and Memo no. 1153/Com dated February 14, 2007 of Commerce and Transport Department.
	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.	Groundwater is not drawn for construction activities. The water requirement for Dhamra Port is being met from Matai River.
ii	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.	The facilities such as water supply, fuel, sanitation etc. for laborers have been provided during both construction & operation of the port.
iii	Dredging operations if any, should be undertaken in consultation with either 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.	DPCL had engaged NIO, Goa to study impacts of dredging operation. NIO's study reports concluded that there are no adverse impacts on water quality during Dredging. The capital dredging has been completed in 2010- 11. Marine water quality and productivity is being monitored by engaging approved laboratories. The Marine Water quality report is enclosed as <b>Annexure I</b>
iv	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.	The dredged material was disposed off at the designated site beyond 20 meter contour in the deep sea. DPCL has ensured that the change in land use pattern do not interfere with the natural drainage. The natural drainage system has been maintained.



Sr. No.	Specific Conditions	Compliance Status
V	To meet with any emergency situation, adequate foam containers should be kept ready with supporting firefighting system and water pipeline.	DPCL has a Fire Fighting Team comprising of two fire tenders, two foam type fire extinguishers and 168 (ABC & CO <sub>2</sub> ) type of extinguishers.
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 conducted 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.	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 from April to Sept 2014 is enclosed as <b>Annexure II</b>
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	A large nursery of multi species has been established for raising for the green belt. Plantation on both the edges of the 62.5 km railway corridor has been taken up & 1,60,000 plants have been planted. Plantation of suitable species has been taken up in and around port bulb and Administration/Residential area. So far 1,90,500 plants have been planted inside the port. Peripheral Plantations of 10,000 plants have also been carried out around the port. Details furnished in <b>Annexure-III</b> . Permission for cutting of 267 trees was obtained from Forest Department & handed over to Odisha Forest Development Corporation for felling & disposal.
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	DPCL has installed a Sewage Treatment Plant (STP) to handle 140 KLD of sewage generated at port site. The treated water is being used in plantation. The monitoring reports are attached as <b>Annexure IV</b> MARPOL and Ballast Water Convention are



Sr. No.	Specific Conditions	Compliance Status
		enforced by DPCL for visiting ships.
ix	Adequate noise control measures must be	Suitable Personal Protective Equipments (PPEs)
	provided to noise levels at various work places	are mandatory for workers in noisy areas. Ear
	within the standard prescribed by the competent	muffs & ear plugs are being provided. Noise
	authorities. If need be, ear plugs and ear muffs	monitoring at site is being done by OPCB
	should be provided to the workers in the project	approved agency and the reports are attached as
	area	Annexure V
х	The quality of treated effluents, solid wastes and	There are is no effluents being discharged by the
	emissions must confirm to the standards laid	port. All emissions are well within the prescribed
	down by the competent authority including	limits. Ambient Air Quality reports are attached as
	State Pollution Control Board, Govt. of Odisha,	Annexure VI
	Bhubaneswar	
xi	An Environmental Cell should be set up	DPCL has a well structured Environmental
	immediately and made operational with	Management Cell, staffed with qualified man
	adequate laboratory facilities, equipments and a	power for monitoring of the ambient environment
	mobile van for collecting air samples. The record	together with an OPCB approved agency,
	and data should be submitted with proper	
	analysis and corrective measures required, if any,	The monitoring results (attached as Annexures I,
	for maintaining the levels within the prescribed	IV, V and VI) are well within the permissible limits.
	limits to the Eastern Regional Office, Ministry of	
	Environment & Forests, Govt of India,	Monitoring date is being submitted along with
	Bhubaneswar. The Environment Cell should	half yearly compliance reports to the Eastern
	coordinate and monitor environmental	Regional Office, MoEF. Our Last Half Yearly
	mitigative measures executed in the project	Report was submitted on 6 <sup>th</sup> June 2014
	area. The Project Proponent is advised to	
	institutionalize their Environmental Monitoring	
	through some recognized Scientific Institution	
	for the project.	
xii	Necessary leakage detection devices with early	Not applicable as no gaseous cargo is being
	warning system must be provided at strategic	handled by the port.
	locations.	
xiii	Standby DG sets must be provided to ensure	DG Sets have been provided for emergency
	uninterrupted power supply (to) the pump house	backups & uninterrupted power supply which



Sr. No.	Specific Conditions	Compliance Status
	and the fire fighting system	includes the water supply system and fire fighting system. Kindly refer <b>Annexure VI</b> for the details of DG sets inside the port.
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 monthly reports are regularly submitted to the Eastern Regional Office of MoEF, Bhubaneswar and the last report was submitted on 6 <sup>th</sup> June.
	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	MoEF Regional Office and OPCB are regularly inspecting the project site. Safeguard measures as advised by inspection team are always implemented.
XV	Full support should be extended to the Eastern Regional Office, Ministry of Environment & Forests, Govt. of India, Bhubaneswar during inspection of the project for monitoring purposes by the project proponents by furnishing full details and action plans including action taken report on mitigative measures.	Full support is extended to the Eastern Regional Office, Ministry of Environment & Forests, Bhubaneswar and other regulating authorities for inspection of the Project. All the details are submitted as and when required by the Authorities.
xvi	Adequate funding provisions, year-wise and item-wise, must be made for implementation of the above mentioned safeguard measures.	Adequate funding has been provided for the implementation of safeguard measures. A sum of INR 3.255 Crores was allocated and INR 1.979 Crores has been spent for environment management from April to Sept 2014.
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 sever cyclonic storms while going ahead with their project.	The Rapid Environmental Impact Assessment Study has been conducted in time & the said report has been submitted. DPCL has already formulated detailed Disaster Preparedness & Management Plan to handle any natural calamities such as cyclones, storms, quakes etc., along the Coast.
2	In case of any deviation or alteration in the project including the implementation agency, a	Point Noted.



Sr. No.	Specific Conditions	Compliance Status
	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.	
З	The Ministry reserves the right to revoke	Point Noted
5	clearance, if the conditions stipulated as above	
	are not implemented to the satisfaction of the	
	Ministry	
4	These stipulations would be enforced among	Point Noted
4	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.	

## ANNEXURE I – MARINE WATER QUALITY

### **BIOLOGICAL STUDIES**

### **PHYTOPLANKTON**

The community of the phytoplankton indicates regarding the availability of the nutrient level in the water sources. It can be seen through the usual result of intense algal blooms. The higher number of algal blooms is hampering the aquatic vegetation by not allowing the sunlight to pass from the surface water and continuing these leads to Dissolved Oxygen (D.O) concentration level. Plankton also may be used as indicators of relative treatment efficiencies of water treatment plants and the probability of groundwater sources under the direct influence of surface water.

### Sample Collection

Eight Different locations of surface water have been identified at Dhamra Port harbor. Water sample from each location (1 L approx.) was collected in Polyethylene Bottle. The collection of water sample may be from the surface or depth of the water body. Without delay, add Lugol's solution (10 ml/L) to the sample.

### Processing

These samples were brought to the laboratory and were kept for standing for atleast 24 hours for concentrating in the laboratory. The lugol's solution will be fixed and settle down to the bottom of the container. After 24 hours the lower layer containing phytoplankton biomass was removed carefully. The upper layer of the water should be undisturbed. The concentrated samples are then used for the plankton estimation under microscope.

### Estimation

The concentrated sample was uniformly mixed and the slide preparation was done by taking 1 ml from the concentrated sample and was loaded on the phytoplankton counting slide (Sedwick-Rafter Chamber) with cover slip placed in respected position. The slide was observed under compound microscope. The entire chamber was magnified with microscope and their population was identified and their number was counted.

### **CHLOROPHYLL ESTIMATION**

The concentration of photosynthetic pigments is used extensively to estimate phytoplankton biomass. All green plants contain chlorophyll *a*, which constitutes approximately 1 to 2% of the dry weight of planktonic algae. Other pigments that occur in phytoplankton include chlorophylls *b* and *c*. Surface water that has high chlorophyll conditions is typically high in nutrients, generally phosphorous and nitrogen. These nutrients cause the algae to grow or bloom. When algae populations bloom, they deplete dissolved oxygen level. High levels of nitrogen and phosphorus can be indicators of pollution from manmade sources, such as septic system leakage, poorly functioning wastewater treatment plants, or fertilizer runoff.

### Methodology

Spectrophotometry is the classical method of determining the quantity of chlorophyll in surface water. It involves the collection of a fairly large water sample, filtration of the sample to concentrate the chlorophyll-containing organisms, mechanical rupturing of the collected cells, and extraction of the chlorophyll from the disrupted cells into the organic solvent acetone. The extract is then analyzed by spectrophotometer method using the known optical properties of chlorophyll within 650-675 nm. Chlorophyll-a concentration obtained from the samples collected in the month of May-2014 and presented in the Table-1 and represented graphically in Graph-1 & 2.

TABLE-1

Sampling Location/ Station	Total Count/L	No. of Species	Chlorophyll-a (µg/L)	Major Species
Station-1	1548	11	1.1214	C.pentagonum, C.furca
Station-2	4748	15	2.6587	C.pentagonu,Pleurosigma
Station-3	8154	18	1.6524	C.pentagonum, N.longisigma
Station-4	2854	14	0.3985	C.pentagonum, N.striata
Station-5	1025	8	0.9857	Pleurosigma, Chaetocerous, Ceratium, Podosira
Station-6	1328	9	0.3665	C.pentagonum, Chaetocerous
Station-7	1296	12	0.3854	C.pentagonum, Bacillaria
Station-8	1948	14	1.1025	C.pentagonum, Skeletonema, N.longisigma





GRAPH-2



### Result

Water physico-chemical parameters such as alkalinity, temperature, turbidity, nutrient availability and water current, all are responsible for phytoplankton population and their diversity. During this period the phytoplankton population shows qualitative and quantitative seasonal variations at he studied location. The total phytoplankton population encountered during May-2014 was between 1025 and 8154 cell/L.

The highest count 8154 cell/L was encountered at Station-3 during the month of May-2014 and the major species was found to be *C.pentagonu, Chaetocerous, Pleurosigma*. The lowest count 1025 cell/L at Station-5 during the month of May-2014. The chlorophyll concentration remained between 0.3665 and 2.6587 µg/L.

The phytoplankton number may be very low during the month May-2014, this is because of increased temperature which compels the sub surface growth of phytoplankton and lower phytoplankton population in the surface layer. The lower count also may be due to high turbidity which reduces the light penetration to water column which ultimately reduce photosynthetic rate and causes moderate phytoplankton populations. High turbidity of water might be due to dredging activity.

### **ZOOPLANKTON**

Zooplankton is a categorization spanning a range of organism sizes including small protozoans and large metazoans. It includes holoplanktonic organisms whose complete life cycle lies within the plankton, as well as meroplanktonic organisms that spend part of their lives in the plankton before graduating to either the nekton or a sessile, benthic existence. Although zooplanktons are primarily transported by ambient water currents, many have locomotion, used to avoid predators or to increase prey encounter rate.

This wide phylogenetic range includes a similarly wide range in feeding behavior: filter feeding, predation and symbiosis with autotrophic phytoplankton as seen in corals. Zooplankton feed on bacterioplankton, phytoplankton, other zooplankton, detritus and even nektonic organisms. As a result, zooplanktons are primarily found in surface waters where food resources are abundant.

Just as any species can be limited within a geographical region, so is zooplankton. However, species of zooplankton are not dispersed uniformly or randomly within a region of the ocean. Instead 'patches' of zooplankton species exist throughout the ocean. Though few physical barriers exist above the mesopelagic, specific species of zooplankton are strictly restricted by salinity and temperature gradients; while other species can withstand wide temperature and salinity gradients. Zooplankton patchiness can also be influenced by biological factors, as well as other physical factors. Biological factors include breeding, predation, concentration of phytoplankton, and vertical migration. The physical factor that influences zooplankton distribution the most is mixing of the water that affects nutrient availability and, in turn, phytoplankton production.

Through their consumption and processing of phytoplankton and other food sources, zooplankton play a role in aquatic food webs, as a resource for consumers on higher tropic levels, and as a conduit for packaging the organic material in the biological pump. Since they are typically small, zooplankton can respond rapidly to increases in phytoplankton abundance for instance, during the spring bloom.

Zooplankton can also act as a disease reservoir. Crustacean zooplanktons have been found to house the bacterium Vibrio cholerae, which causes cholera, by allowing the cholera vibrios to attach to their chitinous exoskeletons.

### Sample Collection

Eight Different locations of surface water have been identified at Dhamra Port harbor. Water sample from each location (1 L approx.) was collected in Polyethylene Bottle. The collection of water sample may be from the surface or depth of the water body. Two types of sampling were done for zooplankton i.e, for identification of Micro zooplankton, water sample was collected from the surface or sub-surface and Macro zooplankton

sampling net was used whose pore size is approx 20 µm mesh net. The bottle is attached at the bottom of the net and sample collected in the bottle. Without delay, add formalin solution (10 ml/L) to the water sample.

### Processing

These samples were brought to the laboratory and were kept for standing for atleast 24 hours for concentrating in the laboratory. After 24 hours the lower layer containing zooplankton biomass was removed carefully. The upper layer of the water should be undisturbed. The concentrated samples are then used for the plankton estimation under microscope.

### Estimation

The concentrated sample was uniformly mixed and the slide preparation was done by taking 1 ml from the concentrated sample and was loaded on the zooplankton counting slide with cover slip placed in respected position. The slide was observed under compound microscope. The entire chamber was magnified with microscope and their population was identified and their number was counted. The zooplankton result is tabulated at Table-2 and represented graphically in Graph-3.

Sampling Location/Station	Total Count/L	No. of Species	Major Species
Station-1	980	18 Protozoa, Nematoda	
Station-2	1120	11	Rotifera, Protoza, Nematoda
Station-3	3545	14	Rotifera, Anostraca
Station-4	2176	13	Protozoa, Cladocera, Nematoda
Station-5	1542	18	Copepod, Rotifera
Station-6	928	12	Ostracoda, Protozoa
Station-7	1147	9	Protozoa, Rotifera, Nematoda
Station-8	1523	14	Crustacean Larvae, Protozoa, Nematoda, Rotifera

### TABLE-2

**GRAPH-3** 



### Result

Water physico-chemical parameters such as alkalinity, temperature, turbidity, nutrient availability and water current, all are responsible for phytoplankton population and their diversity. During this period the

phytoplankton population shows qualitative and quantitative seasonal variations at he studied location. The total zooplankton population encountered during May-2014 was between 928 and 3545 cell/L.

The highest count 3545 cell/L was encountered at Station-3 during the month of May-2014 and the major species was found to be *Protozoa, Rotifera, Nematoda.* The lowest count 928 cell/L at Station-6 during the month of May-2014.

### **BACTERIAL ESTIMATION**

Bacterial population in aquatic environment is a complex phenomenon due to their numerous sources in a given water body and the various fate and transport processes that control their behavior and distribution in aquatic ecosystems. Bacterial indicators such as total viable count, total coliform counts, fecal coliform count are used to identify the potential for the presence of other pathogenic organism. These originate from human and non-human sources and they are released into water bodies via point source such as effluents and runoff from rain water drainage as well as dispersed sources such as direct runoff from residential areas and streets, on-site sewage disposal by man, deposition from birds and animals and re-suspension of bacteria from stream sediments. Bacteria present in water and sediment and experience re-growth and death within a water body.

The coliform group consists of several genera of bacteria belonging to the family *Enterobacteriaceae*. The historical definition of this group has been based on the method used for detection rather than on the tenets of systematic bacteriology. Accordingly, when the fermentation technique is used, this group is defined as all facultative anaerobics, gram negative, non-spore-forming, rod shaped bacteria that ferment lactose with gas and acid formation within 48h at 35 °C.

For the estimation of bacterial population in water samples of Dhamra Port, samples were collected from approved sampling points in pre-sterilized bottles. The surface water Samples from 8 different locations were brought to the laboratory under ice pack and processes for estimation of viable bacterial population following standard plate count method and multiple tube fermentation method. Nutrient agar medium was used for the estimation for total viable bacterial count, Lauryl tryptose broth for Total Coliform, EC medium was used for Fecal Coliform count and EC-MUG medium was used for *E.Coli count*. For total viable count sterile medium was poured into sterile petri plates and allowed to solidify; water samples (0.1 ml) were inoculated into each plate. Inoculated plates were incubated at 35 °C for 48 hr. the bacterial colonies growing in the plates were examined and the colony forming units were counted. Similarly, for T.C and F.C (after getting confirmation from T.C count) sterile medium was poured in to the test tubes and allow for incubation for 48 h at 35 °C and 44°C. The result obtained from the samples of May-2014 is presented in Table-3 and represented in Graph-4, 5 & 6.

Stations	TVC (CFU/ml)	TC (CFU/ml)	FC (CFU/ml)	EC (CFU/ml)
Station-1	180	25	10	ND
Station-2	160	24	8.1	ND
Station-3	110	17	6.1	ND
Station-4	140	13	4	ND
Station-5	90	6	1.8	ND
Station-6	110	1.8	<1.8	ND
Station-7	90	5.5	1.8	ND
Station-8	100	10	3.6	ND

TABLE-3

Note: ND- Not Detected





**GRAPH-5** 







### Result

The TVC count in surface water remained between 90 and 180 per 1 ml during the month of May-2014. The TVC count in surface water found to be higher at station -1 during the month of May-2014. TVC count in surface water found to be lower at the station -5 & 7 during the month of May-2014.

The total Coliform count in surface water remained between 1.8 and 25 CFU per ml. The TC count in surface water during the month of May-2014 at Station-1 was found to be higher among other months. Similarly the TC count in surface water was found lower during the month of May-2014 was 1.8 CFU per ml.

The fecal coliform count in surface water remained between < 1.8 and 10 CFU per ml. The FC count in surface water during the month of May-2014 at Station-1 was found to be higher i.e, 10 CFU per ml. Similarly the FC count in surface water was found lower during the month of May-2014 was < 1.8 CFU per ml. Absence of *E.coli* was noticed in surface water samples collected in the month of May-2014.

# ANNEXURE II – DETAILS OF MOCK DRILLS

S. No.	Description of mock drills and training	Numbers of training & mock drill conducted
1	Oil spillage Drill	01
2	Emergency Rescue mock drill	01
3	Safety Induction Training	276
4	Portable fire Extinguishers training	11
5	First Aid training	0
6	Contractor supervisor(s) training	2
7	Defensive driving training	4
8	Tool box training	4669
9	Safety Awareness Program	11





# **ANNEXURE III – DETAILS GREEN BELT**

Year of Plantation	Species Planted	Spacing	Height	Total Area Covered	Area Still Available
2010-2015	Casuarina equisetifolia	2m X 2.5m	8m	93Acre	Nil
Green Belt	Acacia mangium	2m X 2m			
	Acacia auriculiformis	1m X 1m			
	Peltophorum ferrugineum				
	Terminalia arjuna				
	Svzvajum cumini				
	Azadirachta indica				
	Phyllanthus emblica				
	Pongamia pinnata				
	Aegle marmelos				
	Albizia lebbeck				
	Dalbergia sissoo				
	Simarouba glauca				
	Haldinia cordifolia				
	Terminalia bellirica				
	Pterospermum acerifolium				
	Terminalia tomentosa				
	Swietenia mahagoni				
	Oroxylum indicum				
2008-201/	Pithecellobium dulce	1m X 1m	om	106Acre	/ Acre
Railway Corridor	Terminalia catanna	1117(111)	9	100/10/0	4, 1010
Railway Corridor	Acacia auriculiformis				
	Acacia mangium				
	Peltonhorum ferrugineum				
	Bambusa sn				
	Ficus religiosa				
	Terminalia ariuna				
	Albizia lebbeck				
	Thespesia sp				
	Svzvajum cumini				
	Azadirachta indica				
	Dalbergia sissoo				
	Calophyllum inophyllum				
2011-2017		2m X 2m	6m	7 8 Acre	Nil
Block plantation	Acacia mangium	21117 2111	onn	7.0 Acic	
Bioek plantation	Acacia auriculiformis				
	Delonix regia				
	Azadirachta indica				
	Phyllanthus emplica				
	Pongamia pinnata				
	Aegle marmelos				
	Albizia lebbeck				
	Dalbergia sissoo				
	Simarouba dauca				
	Haldinia cordifolia				
	Terminalia bellirica				
	Pterospermum acerifolium				
	Terminalia tomentosa				
	Swietenia mahagoni				
	Oroxylum indicum				

#### Survival % of plantation

1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year	
100%	100%	95%	85%	80%	
Financial details (Apr-Sep 2014)					
Budget for planta	ation	:	Rs.	34 Lakh	

#### nancial details (Apr-Sep 2014)

Budget for plantation	:	Rs. 34 Lakh
Expenditure	:	Rs. 6.40 Lakh

## **ANNEXURE IV – STP MONITORING REPORT**



AND MANAGEMENT CONSULTANCY (P) LTD. (An ISO 9001-2008 Certified Company, Empanelled by SPCB, Orissa & OCCL.) Registered Office: N-5/305, IRC village, Navapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socioeconomic studies

#### Reference no. - CEMC/dpl/160414/WW

Issued Date-16.04.14

STP REPORT Name & Address of the Customer Date of Sampling Sampling by Date of Sample Received Sampling Plan & Procedure Sample Description Sample Quantity Sample Location

: Dhamra Port Ltd., Bhadrak : 11.04.2014 : B.Samntray : 11.04.2014 : APHA : Waste Water : 2.0 Ltr : STP section

SOURCE

SAMPLE 1: Raw Sewage SAMPLE 2: Treated Sewage

#### SAMPLE 1

SL. No.	Parameter	Units of Measurements	Sample 1	Design parameter for Raw Sewage
1	Appearance		Turbid	-
2	Colour		Blackish	-
3	Odour		Foul	-
4	pН	-	6,9	6-8,5
5	Total Suspended Solids	mg/l	498.0	1000
6	B.O.D	mg/l	160.0	300-350
7	Oil & grease	mg/l	22.0	100



SI. No.	Parameter	Units of Measurements	Sample 2	Design parameter for Raw Sewage
1	Appearance		Clear	-
2	Colour		Colorless	-
3	Odour		Odorless	-
4	pН	-	7.3	5.5-9
5	Total Suspended Solids	mg/l	47.0	<100
6	B.O.D	mg/l	24	<30
7	Oil & grease	mg/l	1.1	<10

Bishnupniya Day Analyzed by

16.4.14. Authorized Signatory

Laboratory At: Plot No. 800/1274, Johat, Pahal, Bhubaneswar, E-mail- cemc\_consultancy@yahoo.co.in/ cemc122@gmail.com, website: www.cemc.in, Tele Fax: 0674-2556444

#Environmental

unboratory



## CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY (P) LTD. (An ISO 9001-2008 Certified Company, Empanelled by SPCB, Orissa & OCCL.)

Begistered Office: N-5/305, IRC village, Navapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

#### Reference no. - CEMC/dpl/030614/WW

Issued Date-03.06.14

STP	REPORT		
Name & Address of the Customer	: Dhamra Port Ltd., Bhadrak		
Date of Sampling	: 23.05.2014		
Sampling by	: B.Samantray		
Date of Sample Received	: 24.05.2014		
Sampling Plan & Procedure	: APHA		
Sample Description	: Waste Water		
Sample Quantity	: 2.0 Ltr		
Sample Location	: STP section		

### SOURCE

SAMPLE 1: Raw Sewage SAMPLE 2: Treated Sewage

### SAMPLE 1

SI. No.	Parameter	Units of Measurements	Sample 1	Design parameter for Raw Sewage
1	Appearance		Turbid	-
2	Colour		Blackish	-
3	Odour		Foul	-
4	pH		6.3	6-8.5
5	Total Suspended Solids	mg/l	679.4	1000
6	B.O.D	mg/l	117	300-350
7	Oil & grease	mg/l	7.2	100

#### SAMPLE 2

SI. No.	Parameter	Units of Measurements	Sample 2	Design parameter for Raw Sewage
1	Appearance		Clear	-
2	Colour		Colorless	-
3	Odour		Odourless	-
4	pH		7.1	5.5-9
5	Total Suspended Solids	mg/l	95.0	<100
6	B.O.D	mg/l	22	<30
7	Oil & grease	mg/l	2.2	<10

Hanademen Feally B.P. Das Environmental Analyzed by Authorized Signatory Laboratory Laboratory At: Plot No. 800/1274, John Parket Bhubaneswar cemc122@gmail.com, website: www.cemc.in, Tele Fax: 0674-2556444 Bhubaneswar, E-mail- cemc\_consultancy@yahoo.co.in/





(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Orissa & OCCL.) Registered Office: N-5/305, IRC village, Navapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socioeconomic studies

#### Reference no. - CEMC/dpl/300614/WW

#### Issued Date-30.06.14

STP F	REPORT
Name & Address of the Customer	: Dhamra Port Ltd., Bhadrak
Date of Sampling	: 21.06.2014
Sampling by	: B.Samantray
Date of Sample Received	: 21.06.2014
Sampling Plan & Procedure	: APHA
Sample Description	: Waste Water
Sample Quantity	: 2.0 Ltr
Sample Location	: STP section

#### SOURCE

Analyzed by

SAMPLE 1: Raw Sewage SAMPLE 2: Treated Sewage

#### SAMPLE 1

SI. No.	Parameter	Units of Measurements	Sample 1	Design parameter for Raw Sewage
1	Appearance		Turbid	-
2	Colour		Blackish	-
3	Odour		Foul	
4	pH		6.42	6-8.5
5	Total Suspended Solids	mg/l	213.2	1000
6	B.O.D	mg/l	118	300-350
7	Oil & grease	mg/l	7.2	100

#### SAMPLE 2

Sl. No.	Parameter	Units of Measurements	Sample 2	Design parameter for Raw Sewage
1	Appearance		Clear	
2	Colour		Colorless ·	-
3	Odour		Odourless	-
4	pH		7.3	5.5-9
5	Total Suspended Solids	mg/l	24.8	<100
6	B.O.D	mg/l	14.2	<30
7	Oil & grease	mg/L	ND	<10

Laboratory At: Plot No. 800/1274, John Paber, Bhubaneswar, E-mail- cemc\_consultancy@yahoo.co.in/ cemc122@gmail.com, website: www.cemc.in, Tele Fax: 0674-2556444

Laboratory

anc,

**Authorized Signatory** 



#### CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY (P) LTD. (An ISO 9001-2008 Certified Company, Empanelled by SPCB, Orissa & OCCL.) Registered Office: N-5/305, IRC, village, Navapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socioeconomic studies

STP REPORT

#### Reference no. - CEMC/dpl/220714/WW

Issued Date-22.07.14

Name & Address of the Customer	: Dhamra Port Ltd., Bhadrak
Date of Sampling	: 12.07.2014
Sampling by	: B.Samantray
Date of Sample Received	: 12.07.2014
Sampling Plan & Procedure	: APHA
Sample Description	: Waste Water
Sample Quantity	: 2.0 Ltr
Sample Location	: STP section

SOURCE

SAMPLE 1: Raw Sewage SAMPLE 2: Treated Sewage

#### SAMPLE 1

Sl. No.	Parameter	Units of Measurements	Sample 1	Design parameter for Raw Sewage
1	Appearance		Turbid	-
2	Colour		Blackish	-
3	Odour		Foul	-
4	pH		6.9	6-8.5
5	Total Suspended Solids	mg/l	278.2	1000
6	B.O.D	mg/l	224	300-350
7	Oil & grease	mg/l	8.2	100

#### SAMPLE 2

			for Kaw Sewage
1 Appearance		Clear	-
2 Colour		Colorless	-
3 Odour		Odourless	-
4 pH		7.6	5.5-9
5 Total Suspended Solids	mg/l	42.6	<100
6 B.O.D	mg/l	18.6	<30
7 Oil & grease	maging	ND	<10
P. Das	Environmental	Authorize	alu d Signatory

cemc122@gmail.com, website: www.cemc.in, Tele Fax: 0674-2556444



### CENTRE FOR ENVOTECH

AND MANAGEMENT CONSULTANCY (P) LTD.

(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Orissa & OCCL.) Registered Office: N-5/305 IRC village, Navapalli, Bhuhaneswar-751015 Environmental Studies (ELA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

#### Report No. - CEMC/DPL/220814/WW

Issued Date-22.08.2014

Name & Address of the Customer	: Dhamra Port Ltd., Dhamra
Date of Sampling	: 14.08.2014
Sampling by	: B. Samantray
Date of Sample Received	: 14.08.2014
Date of Analysis	: 14.08.2014 to 19.08.2014
Sample Description	: Waste Water
Sample Quantity	: 2.0 Ltr
Sample Location	: STP section
Source	: SAMPLE 1: Raw Sewage-CEMC/14/112W
	:SAMPLE2:Treated Sewage-CEMC/14/113W
Reference No.	: CEMC-22082014112W113W
ST	TP REPORT

SAMPLE 1

SI. No.	Parameter	Unit	Testing Method	CEMC/14 /112W	Design parameter for Raw Sewage
1	Appearance			Turbid	
2	Colour		APHA 2120 B,C	Blackish	
3	Odour		APHA 2150 B	Foul	
4	pH		APHA 4500H <sup>+</sup> B	7.9	6-8.5
5	Total Suspended Solids	mg/l	APHA 2540 D	588.2	1000
6	B.O.D	mg/l	APHA 5210 B	177	300-350
7	Oil & grease	mg/l	APHA 5220 B	5.8	100
		C	AMDIE 2		

SAMPLE 2

SI. No.	Parameter	Unit	Testing Method	CEMC/14 /113W	Design parameter for Raw Sewage
1	Appearance			Clear	
2	Colour		APHA 2120 B,C	Colorless	
3	Odour		APHA 2150 B	Odourless	
4	pH		APHA 4500H <sup>+</sup> B	7.4	5.5-9
5	Total Suspended Solids	mg/l	APHA 2540 D	81.0	<100
6	B.O.D	mg/l	APHA 5210 B	19	<30
7	Oil & grease	mg/l	APHA 5220 B	1.6	<10

B.P. Das Analyzed by

Calu Authorized Signatory

"ag hat Laboratory At: Plot No. 800/1274, Johal, Bhubaneswar, E-mail- cemc\_consultancy@yahoo.co.in/ cemc122@gmail.com, website: www.cemc.in, Tele Fax: 0674-2556444

rv

Environmental 



(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Orissa & OCCL.) Registered Office: N-5/305, IRC village, Navapalli, Bhubaneswar-751015 Emvironmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socioeconomic studies

#### Report No. - CEMC/DPL/180914/WW

#### Issued Date-18.09.2014

Name & Address of the Custome	r
Date of Sampling	
Sampling by	
Date of Sample Received	
Date of Analysis	
Sample Description	
Sample Quantity	
Sample Location	
Source	

: Dhamra Port Ltd., Dhamra : 13.09.2014 : B. Samantray : 13.09.2014 : 13.09.2014 to 17.09.2014 : Waste Water : 2.0 Ltr : STP section : SAMPLE 1: Raw Sewage-CEMC/14/144W :SAMPLE2:Treated Sewage-CEMC/14/145W : CEMC-18092014144W145W

Reference No.

B.P. Day

Analyzed by

#### STP REPORT

### SAMPLE 1

SI. No.	Parameter	Unit	Testing Method	CEMC/14 /144W	Design parameter for Raw Sewage
1	Appearance			Turbid	
2	Colour		APHA 2120 B,C	Blackish	
3	Odour		APHA 2150 B	Foul	
4	pH		APHA 4500H <sup>+</sup> B	7.8	6-8.5
5	Total Suspended Solids	mg/l	APHA 2540 D	722.6	1000
6	B.O.D	mg/l	APHA 5210 B	210	300-350
7	Oil & grease	mg/l	APHA 5220 B	7.4	100
		0	A REPART OF A		

SAMPLE 2

SI. No.	Parameter	Unit	Testing Method	CEMC/14 /145W	Design parameter for Raw Sewage
1	Appearance			Clear	
2	Colour		APHA 2120 B,C	Colorless	
3	Odour		APHA 2150 B	Odourless	
4	pH		APHA 4500H <sup>+</sup> B	7.3	5.5-9
5	Total Suspended Solids	mg/l	APHA 2540 D	77.6	<100
6	B.O.D	mg/l	APHA 5210 B	20	<30
7	Oil & grease	mg/l	APHA 5220 B	1.8	<10

Environmenta Laboratory Laborato Sea

Talu Authorized Signatory

## **ANNEXURE V – NOISE MONITORING REPORT**



## CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY (P) LTD.

(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

### NOISE LEVEL MONITORING REPORT

Issued to	Dhamara Port Ltd.,Bhadrak
Analysis No.	CEMC/DPL-D00N1
Nature of Sampling	Noise Sample
Sampling By	B.Samntaray, M.Dhani
Sampling Date	28.04.2014

Sl. No.	Location	NL max. dB(A)	NL min. dB(A)
1.	NEAR MCC-1	53.4	49.36
2.	NEAR SETTLING POND	55.6	43.4
3.	NEAR WTP	50.3	47.2
4.	NEAR COMMUNITY HALL	55.9	46.3
5.	NEAR DHAMRA GUEST HOUSE	58.3	46.4

#### National Standard Noise Level

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





Bikath Sanartaray MONITORED BY:



(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

### NOISE LEVEL MONITORING REPORT

Issued to	Dhamara Port Ltd.,Bhadrak
Analysis No.	CEMC/DPL-D00N1
Nature of Sampling	Noise Sample
Sampling By	B.Samntaray, R.R Padhan
Sampling Date	23.05.2014

SI. No.	Location	NL max. dB(A)	NL min. dB(A)
1.	NEAR MCC-1	61.75	59.6
2.	NEAR SETTLING POND	48.27	43.1
3.	NEAR WTP	50.72	48.4
4.	NEAR COMMUNITY HALL	39.14	36.3
5.	NEAR DHAMRA GUEST HOUSE	51.33	45.3

#### National Standard Noise Level

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





MONITORED BY:

СЕМО

## CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY (P) LTD.

(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

### NOISE LEVEL MONITORING REPORT

Issued to	Dhamara Port Ltd.,Bhadrak
Analysis No.	CEMC/DPL-D00N1
Nature of Sampling	Noise Sample
Sampling By	B.Samntaray, R.R Padhan
Sampling Date	05.06.2014 to 07.06.2014

Sl. No.	Location	NL max. dB(A)	NL min. dB(A)
1.	NEAR MCC-1	62.8	54.1
2.	NEAR SETTLING POND	48.5	42.4
3.	NEAR WTP	50.8	46.1
4.	NEAR COMMUNITY HALL	38.4	35.2
5.	NEAR DHAMRA GUEST HOUSE	60.6	55.2

#### National Standard Noise Level

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

WROU VERIFIED BY:



Bikaph Samantaray MONITORED BY:



### CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY (P) LTD. (An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.)

(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

### NOISE LEVEL MONITORING REPORT

Issued to	Dhamara Port Ltd., Bhadrak
Analysis No.	CEMC/DPL-D00N1
Nature of Sampling	Noise Sample
Sampling By	B.Samntaray, R.R Padhan
Sampling Date	10.07.2014 to 12.07.2014

SI. No.	Location	NL max. dB(A)	NL min. dB(A)
1.	NEAR MCC-1	60.8	52.7
2.	NEAR SETTLING POND	46.2	41.2
3.	NEAR WTP	50.6	44.8
4.	NEAR COMMUNITY HALL	36.7	32.6
5.	NEAR DHAMRA GUEST HOUSE	60.9	53.9

#### National Standard Noise Level

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

WRAUS VERIFIED BY:



Bikash Sanartaray MONITORED BY:

.

CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY (P) LTD.

(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

### NOISE LEVEL MONITORING REPORT

Issued to	Dhamara Port Ltd., Bhadrak
Analysis No.	CEMC/DPL-D00N1
Nature of Sampling	Noise Sample
Sampling By	B.Samntaray, R.R Padhan
Sampling Date	12.08.2014 to 14.08.2014

SI. No.	Location	NL max. dB(A)	NL min. dB(A)
1.	NEAR MCC-1	67.2	64.1
2.	NEAR SETTLING POND	61.4	58.6
3.	NEAR WTP	52.1	46.8
4.	NEAR COMMUNITY HALL	56.3	49.9
5.	NEAR DHAMRA GUEST HOUSE	63.9	51.3

#### National Standard Noise Level

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

Row VERIFIED BY:



Bokach Sanataray MONITORED BY:

EMC

## CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY (P) LTD.

(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

### NOISE LEVEL MONITORING REPORT

Issued to	Dhamara Port Ltd., Bhadrak
Analysis No.	CEMC/DPL-D00N1
Nature of Sampling	Noise Sample
Sampling By	B.Samntaray, R.R Padhan
Sampling Date	11.09.2014 to 13.09.2014

SI. No.	Location	NL max. dB(A)	NL min. dB(A)
1.	NEAR MCC-1	70.1	66.4
2.	NEAR SETTLING POND	61.2	58.7
3.	NEAR WTP	56.5	48.2
4.	NEAR COMMUNITY HALL	58.9	51.3
5.	NEAR DHAMRA GUEST HOUSE	69.2	52.6

#### National Standard Noise Level

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

MRG VERIFIED BY:



Bokach Savartaray MONITORED BY:

## **ANNEXURE VI – AMBIENT AIR MONITORING REPORT**

**CENTRE FOR ENVOTECH** 

# AND MANAGEMENT CONSULTANCY (P) LTD.

(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

#### AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	Dhamara Port Ltd.,Bhadrak
Analysis No.	CEMC/DPL-D00A1
Nature of Sampling	Ambient Air Sample
Sampling By	B.Samntaray, M.Dhani
Instrument Used	Respirable Dust Sampler Fine Particulate Sampler
Sampling Date	28.04.2014 to 02.05.2014

SI. No	Locations	Particulate Matter (PM10) µg/m3	Particulate Matter (PM <sub>2.5</sub> ) µg/m3	Sulphur Dioxide (SO <sub>2</sub> ) µg/m3	Nitrogen Oxides (NO <sub>x</sub> ) µg/m3	Ammonia (NH3) µg/m3
1	Near MCC-1	72.57	33.69	0.68	2.8	2.42
2	Near Settling Pond	34.0	14.74	0.9	4.8	3.62
3	Near WTP	50.9	24.24	0.74	3.6	2.44
4	Near Community Hall	86.43	57.2	1.64	4.8	4.2
5	Near Dhamra Old guest house	82.3	32.6	2.2	5.2	5.2
	CPCB Standard	100 µg/m3	60 µg/m3	80 µg/m3	80 µg/m3	400 µg/m3

N.B- BDL Value (NOX<9.0 µg/m<sup>3</sup>,SO<sub>2</sub><4.0 µg/m<sup>3</sup>,NH<sub>3</sub><20 µg/m<sup>3</sup>)

Analyzed by: Notes:





The results relate only to the sample tested.

without prio > This Test Report shall not be reproduced wholly or it written consent of the laboratory.

This Test Report shall not be reproduced wholly or in the without new written consent of the laboratory. The samples received shall be destroyed after two week from the date of issue of the Test Report unless > specified otherwise.

This Test Report shall not be used in any advertising media or as evidence in the court of Law without prior > written consent of the laboratory.



(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

#### AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	Dhamara Port Ltd.,Bhadrak
Analysis No.	CEMC/DPL-D00A1
Nature of Sampling	Ambient Air Sample
Sampling By	B.Samntaray, R.R Padhan
Instrument Used	Respirable Dust Sampler Fine Particulate Sampler
Sampling Date	21.05.2014 to 23.05.2014

SI. No	Locations	Particulate Matter (PM <sub>10</sub> ) µg/m3	Particulate Matter (PM <sub>2.5</sub> ) µg/m3	Sulphur Dioxide (SO <sub>2</sub> ) µg/m3	Nitrogen Oxides (NO <sub>x</sub> ) µg/m3	Ammonia (NH3) µg/m3
1	Near MCC-1	72.24	33.86	0.23	1.5	2.14
2	Near Settling Pond	36.06	10.35	0.11	1.08	0.8
3	Near WTP	44.36	13.31	0.08	1.21	1.2
4	Near Community Hall	83.78	54.7	0.36	2.82	3.42
5	Near Dhamra Old guest house	49.33	12.6	0.9	1.2	1.3
	CPCB Standard	100 µg/m3	60 µg/m3	80 µg/m3	80 µg/m3	400 µg/m3

Means Analyzed by:



Fealy Authorized Signatory:

Notes:

- The results relate only to the sample tested.
- \* This Test Report shall not be reproduced wholly or in p thout prior written consent of the laboratory.

The samples received shall be destroyed after two weeks from the date of issue of the Test Report unless specified otherwise.

This Test Report shall not be used in any advertising media or as evidence in the court of Law without prior written consent of the laboratory.



(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015

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

#### AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	Dhamara Port Ltd.,Bhadrak
Analysis No.	CEMC/DPL-D00A1
Nature of Sampling	Ambient Air Sample
Sampling By	B.Samntaray, R.R Padhan
Instrument Used	Respirable Dust Sampler Fine Particulate Sampler
Sampling Date	05.06.2014 to 07.06.2014

SI. No	Locations	Particulate Matter (PM10) µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ) µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ) µg/m <sup>3</sup>	Nitrogen Oxides (NO <sub>x</sub> ) µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ) μg/m <sup>3</sup>
1	Near MCC-1	66.77	34.32	1.3	5.5	1.31
2	Near Settling Pond	83.01	46.39	0.3	3.2	0.78
3	Near WTP	57.0	. 32.56	0.5	16.71	1.42
4	Near Community Hall	68.5	38.29	0.34	4.87	1.3
5	Near Dhamra Old guest house	56.97	29.31	0.53	6.04	1.07
	CPCB Standard	100 µg/m <sup>3</sup>	60 μg/m <sup>3</sup>	80 µg/m <sup>3</sup>	80 μg/m <sup>3</sup>	400 μg/m <sup>3</sup>

-

MROW Analyzed by: Notes:



Fealu

Authorized Signatory:

- The results relate only to the sample tested.
- The results relate only to the sample costor.
  This Test Report shall not be reproduced wholly or in part without prior written consent of the laboratory.
- The samples received shall be destroyed after two weeks from the date of issue of the Test Report unless specified otherwise.
- This Test Report shall not be used in any advertising media or as evidence in the court of Law without prior written consent of the laboratory.



(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

#### AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	Dhamara Port Ltd., Bhadrak
Analysis No.	CEMC/DPL-D00A1
Nature of Sampling	Ambient Air Sample
Sampling By	B.Samntaray, R.R Padhan
Instrument Used	<b>Respirable Dust Sampler</b> Fine Particulate Sampler
Sampling Date	10.07.2014 to 12.07.2014

Sl. No	Locations	Particulate Matter (PM10) µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ) µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ) µg/m <sup>3</sup>	Nitrogen Oxides (NO <sub>x</sub> ) µg/m <sup>3</sup>	Ammonia (NH3) µg/m <sup>3</sup>
1	Near MCC-1	57.16	26.46	0.62	5.1	2.11
2	Near Settling Pond	86.43	36.22	1.24	8.2	1.64
3	Near WTP	53.46	- 24.12	0.7	3.18	1.08
4	Near Community Hall	68.64	32.0	0.78	2.08	0.98
5	Near Dhamra Old guest house	42.12	22.18	1.24	3.14	1.24
	CPCB Standard	100 µg/m <sup>3</sup>	60 μg/m <sup>3</sup>	80 μg/m <sup>3</sup>	80 μg/m <sup>3</sup>	400 μg/m <sup>3</sup>

÷2

Mout Analyzed by: Notes:

The results relate only to the sample tested.

> This Test Report shall not be reproduced wholly or in part without prior written consent of the laboratory.

Environmenta Laboratory Seal of Lab

.

The samples received shall be destroyed after two weeks from the date of issue of the Test Report unless specified otherwise.

This Test Report shall not be used in any advertising media or as evidence in the court of Law without prior written consent of the laboratory.

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar, E-mail- cemc\_consultancy@yahoo.co.in/ cemc122@gmail.com, website: www.cemc.in, Tele Fax: 0674-2556444

FCalu

Authorized Signatory:

(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015

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

#### Report no. - CEMC/DPL22082014/A

studies

#### Issued Date-22-08-2014

#### AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	Dhamara Port Ltd., Dhamra	
Reference No.	CEMC-22082014-A	
Nature of Sampling	Ambient Air Sample	
Sampling By	<b>B.Samntaray</b>	
Instrument Used	Respirable Dust Sampler Fine Particulate Sampler	
Sampling Date	12.08.2014 to 14.08.2014	

SI. No.	Locations	Particulate Matter (PM <sub>10</sub> ) µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ) µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ) µg/m <sup>3</sup>	Nitrogen Oxides (NO <sub>x</sub> ) µg/m <sup>3</sup>	Ammonia (NH3) μg/m <sup>3</sup>
1	Near MCC-1 Job Code-CEMC/14/112A	36.8	17.6	0.62	5.2	1.12
2	Near Settling Pond Job Code-CEMC/14/113A	92.4	54.9	3.4	9.8	2.4
3	Near WTP Job Code-CEMC/14/114A	59.6	34.1	0.61	2.88	1.4
4	Near Community Hall Job Code-CEMC/14/115A	66.3	30.5	0.78	1.98	1.0
5	Near Dhamra Old guest House Job Code-CEMC/14/116A	36.7	18.7	0.92	2.32	1.0
NAA	AQ Standard	100 μg/m <sup>3</sup>	60 μg/m <sup>3</sup>	80 μg/m <sup>3</sup>	80 μg/m <sup>3</sup>	400 µg/m <sup>3</sup>
Testing Method		IS: 5182, (Part-23)	Gravimetric Method	IS: 5182, (Part-2)	IS: 5182, (Part-6)	Indophenol Blue Method

Men Analyzed by: Notes:

Environmenta Laboratory of Labora fa 0) °) \*

Flak

Authorized Signatory:

- The results relate only to the sample tested.
- This Test Report shall not be reproduced wholly or in part without prior written consent of the laboratory.
- The samples received shall be destroyed after two weeks from the date of issue of the Test Report unless specified otherwise.
- This Test Report shall not be used in any advertising media or as evidence in the court of Law without prior written consent of the laboratory.



(An ISO 9001-2008 Certified Company, Empanelled by SPCB, Odisha & OCCL.) Registered Office: N-5/305, IRC village, Nayapalli, Bhubaneswar-751015 Environmental Studies (EIA & EMP), Forest Diversion Planning, DPR, Wildlife Management Planning, Hazardous & Safety studies, Environmental Monitoring, RS & GIS, Baseline Survey, Hydrological & Geological studies, Socio-economic studies

#### Report no. - CEMC/DPL18092014/A

#### Issued Date-18-09-2014

#### AMBIENT AIR QUALITY MONITORING TEST REPORT

Issued to	Dhamara Port Ltd., Dhamra		
Reference No.	CEMC-18092014-A		
Nature of Sampling	Ambient Air Sample		
Sampling By	<b>B.Samntaray</b>		
Instrument Used	Respirable Dust Sampler Fine Particulate Sampler		
Sampling Date	11.09.2014 to 13.09.2014		

SI. No.	Locations	Particulate Matter (PM <sub>10</sub> ) µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ) µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ) µg/m <sup>3</sup>	Nitrogen Oxides (NO <sub>x</sub> ) µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ) μg/m <sup>3</sup>
1	Near MCC-1 Job Code-CEMC/14/122A	41.8	18.4	0.72	2.6	3.88
2	Near Settling Pond Job Code-CEMC/14/123A	92.4	58.2	2.12	9.4	5.6
3	Near WTP Job Code-CEMC/14/124A	50.6	29.2	0.66	3.2	2.4
4	Near Community Hall Job Code-CEMC/14/125A	60.5	33.4	1.2	4.6	3.4
5	Near Dhamra Old guest House Job Code-CEMC/14/126A	36.8	17.6	0.66	1.24	1.22
NAA	AQ Standard	100 µg/m <sup>3</sup>	60 µg/m <sup>3</sup>	80 μg/m <sup>3</sup>	80 μg/m <sup>3</sup>	400 µg/m <sup>3</sup>
Testing Method		IS: 5182, (Part-23)	Gravimetric Method	IS: 5182, (Part-2)	IS: 5182, (Part-6)	Indophenol Blue Method

Analyzed by: Notes:

Environmenta Laboratory f Labor ٠

Feely Authorized Signatory:

- The results relate only to the sample tested.
- > This Test Report shall not be reproduced wholly or in part without prior written consent of the laboratory.
- The samples received shall be destroyed after two weeks from the date of issue of the Test Report unless specified otherwise.
- This Test Report shall not be used in any advertising media or as evidence in the court of Law without prior written consent of the laboratory.

# ANNEXURE VII – DG SET DETAILS

S. No	DG Sets	Locations
1	62.5 KVA DG Set	Guest House
2	62.5 KVA DG Set	Port main gate
3	160 KVA DG Set	Intake Pump house
4	160 KVA DG Set	PSS
5	160 KVA DG Set	MCC-1
6	160 KVA DG Set	MCC-4
7	180 KVA DG Set	DPCL New Office
8	200 KVA DG Set	GSS
9	100 KVA DG Set	Guest House