

REEL/OWMP/MOEF-EC/18-19/007

Date: 25.07.2019



To

The Member Secretary
Expert Appraisal Committee (Infra-2)
Ministry of Environment, Forest & Climate Change
Indira Paryavaran Bhawan, JorBagh Road
New Delhi – 110003

Ramky Enviro Engineers Limited

ODISHA WASTE MANAGEMENT PROJECT
Plot No: 420/648/1, Near Village Kanchichuan
PO: Mangalpur, Via: Sukinda, Dist: Jajpur, Odisha
☎ 09178458227/9437275862
Email: pradiptakumar@ramky.com
Website: www.ramky.com

Subject: **Submission of ADS-** Proposed expansion of Odisha Waste Management Project (Division of Ramky Enviro Engineers Ltd) at plot no. 420/648/1 under khata no.61, village – Kanchichuan, Tehsil – Sukinda, district – jajpur, Odisha.

Reference: 1. Proposal No : IA/OR/MIS/90750/2008
2. File no : 10-10/2009-IA.III
3. EAC Meeting : 39th EAC Meeting (Infra -2), item no 39.5.8 held on 28th March 2019

Dear sir/ Ma'am

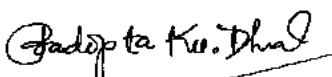
With the reference Minutes of 39th EAC meeting (Infra -2), held on 26th – 28th March 2019, we hereby submitting the additional details for the following

1. Submit updated action taken report on issues which have been stated to be partially complied or non/not complied in the certified compliance report issued.
2. Submit revised CER plan for the proposed project.

Thanking you

Yours sincerely

**For Odisha Waste Management Project
(a division of Ramky Enviro Engineers Limited)**


Authorized Signatory



Attachment - 1

Updated EC Compliance Report

REEL/OWMP/MoEF&CC/EC/19-20/002
Date: 25.07.19



To
The Member Secretary
EAC (Infra – 2)
Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhawan, Jor Bagh Road
New Delhi – 110 003

Ramky Enviro Engineers Limited

ODISHA WASTE MANAGEMENT PROJECT
Plot No: 420/648/1, Near Village Kanchichuan
PO: Mangalpur, Via: Sukinda, Dist: Jajpur, Odisha
☎ 09178458227/9437275862
Email: pradiptakumar@ramky.com
Website: www.ramky.com

Sub: Submission of Additional Information for the Proposed Expansion of Odisha Waste Management Project (A division of Ramky Enviro Engineers Limited) located at Plot No.:420/648/1, Near Village Kanchichuan, PO: Mangalpur, Via: Sukinda, Jajpur, Odisha.

**Red.: 1. Agenda Item No.39.5.8 of 39th EAC Meeting (Infra – 2) on 28th March 2019.
2. Proposal No.: IA/OR/MIS/90750/2008 and File No.: 10-10/2009-IA.III**

Dear Sir,

With reference to the EC Meeting held on 28th March 2019 and subsequent Minutes of Meeting, we herewith submit the following compliances.

S. No	Condition Details	Updated Compliance
a)	It is required to set up rainwater harvesting pits for recharging of ground water from roof top water of office building and as stipulated in the condition, rainwater harvesting pits and leachate tanks should be at sufficient distance to avoid contamination of ground after (Specific conditions No. ii).	Complied. Two rain water harvesting pits are constructed near presently operated office area. The construction of Administrative Building is also under progress. Two more rain water harvesting pits will also be constructed near the new Administrative Building.
b)	Point wise compliance of commitments made public hearing along with the status of compliance made public hearing along with the status of compliance is yet to be submitted (Specific Condition No. ii).	Complied Environmental Commitment 1. Storm water drains are already constructed along the internal roads. 2. Adequate water sprinkling is done on regular basis on internal as well as external roads. 3. Green Belt is already developed.
		Community Management Commitment 1. The approach road from NH is already constructed by IDCO. 2. Concreted internal roads are already developed. 3. Necessary fund has been provided to local Administration for development of bore wells at Kanchichuan and Golakpur Village. Photographs Enclosed for reference in Annexure – I.

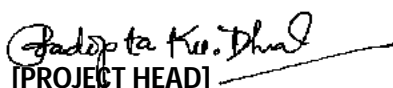


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S. No	Condition Details	Updated Compliance
		More than 70% local people are engaged in the project based on qualification and eligibility. The total strength of people engaged in the project are 71 and out of which 50 people are engaged from local area. The list of employees engaged from local area is enclosed in Annexure – II .
c)	It is required to conduct analysis of AAQ In and around the project site including VOC and HC parameters by third party monitoring by MoEF&CC/NABL accredited laboratory only and analysis report should be submitted along with six monthly compliance reports to this Regional Office both hard as well as soft copies on regular Analysis (Specific Condition xvi)	Complied Ambient Air Quality is monitored in and around the project site including VOC and HC parameters on monthly basis at six locations through internal labs. The analysis report submitted along with six monthly compliance reports. The copy of the reports enclosed in Annexure – III . Third party AAQ analysis reports carried out by Kalyani Laboratories (P) Ltd. is enclosed as Annexure – IV .
d)	It is required to set up Environmental Management Cell with qualified Environmental Officer for better environmental management and satisfactory compliance level (General Conditions ii)	Complied The environmental management cell has been established with qualified Environmental officers for better environmental management and satisfactory compliance level. The structure of Environmental Management Cell is enclosed as Annexure – V .
e)	It is required to carry out assessment on the functioning of the landfill site, through the third party, constitution of such independent body shall be informed to the officers of this ministry/ regional office (General Condition No iii)	OWMP is engaging IIT Bhubaneswar to carry out assessment on the functioning of the OWMP landfill site. A Budgetary Proposal for the proposed study has been submitted by IIT, Bhubaneswar. The copy of the Budgetary Proposal is enclosed in Annexure – VI .
f)	It is required to ensure proper safety measures of the workers in the project and also use of proper PPEs should be strictly ensured (Specific Condition No x)	Complied Noted and same has been implemented

Thanking you sir.

Yours sincerely,


[PROJECT HEAD]

For Odisha Waste Management Project
A Division of Ramky Enviro Engineers Limited



Encl.: As above.

**ODISHA WASTE MANAGEMENT PROJECT
A DIVISION OF RAMKY ENVIRO ENGINEERS LIMITED**

**SUPPORT TO LOCAL ADMINISTRATION BY PROVIDING DRINKING WATER FACILITIES TO
SURROUNDING VILLAGES**



ODISHA WASTE MANAGEMENT PROJECT
A DIVISION OF RAMKY ENVIRO ENGINEERS LIMITED

LIST OF EMPLOYEES WORKING FROM LOCAL AREA

S. No	Employee Name	Designation
1	PRADIPTA KUMAR DHAL	SR. MANAGER
2	PRASANNA KUMAR PATNAIK	ASST. MANAGER
3	MANOJ KUMAR SAMANTRAY	ASST. MANAGER
4	DHANANJAY BEHERA	ASST. MANAGER
5	DEBI PRASAD SAMANTRAY	ASST. MANAGER
6	BIBHUTI BHUSHAN SETHI	ASST. MANAGER
7	RASHMI RANJAN BEHERA	SR. EXECUTIVE
8	PRANAB RANJAN DASH	EXECUTIVE
9	MEGHRAY MARNDI	EXECUTIVE
10	RANJEET DASH	EXECUTIVE
11	NIHAR RANJAN LENKA	EXECUTIVE
12	ABINASH SAHU	MECHANICAL ENGINEER
13	BISWADHAR MALICK	SUPERVISOR
14	CHAKRADHAR BEHERA	HMV DRIVER
15	MURALI CHHATAR	COOK/CARE TAKER
16	MAYADHAR MOHANTA	HMV DRIVER
17	DEEPAK KUMAR MOHANTA	HELPER
18	RATNAKAR MOHANTA	HMV DRIVER
19	BATA JAMUDA	HMV DRIVER
20	KRUSHNA CHANDRA MOHANTA	HMV DRIVER
21	AJAY KUMAR GAIPAI	HMV DRIVER
22	DAMBARUDHAR NAIK	HMV DRIVER
23	KESAB CHANDRA BEHERA	SUPERVISOR
24	HADI CHATTAR	HELPER
25	MAKARANDA DEHURY	HMV DRIVER
26	NIRA SIDU	HELPER
27	BHAJAN SUREN	HELPER
28	LOCHAN MOHANTA	HELPER
29	BUDHU CHATAR	HELPER
30	MANICHARAN SINGH	HELPER
31	BABULA MUNDA	HELPER
32	MAHINDRA SOREN	HELPER
33	BHARAT MUNDA	HELPER
34	MILAN MAHANTA	HELPER
35	DIPU SIDHU	HELPER
36	BHARAT CHANDRA MOHANTA	HMV DRIVER
37	DHANU PURTY	HELPER
38	NEHERU MAHANTA	HMV DRIVER
39	PAKALA MUNDA	HELPER
40	RAMESH CHANDRA BEHERA	ELECTRICIAN
41	SATYA RANJAN ROUT	SUPERVISOR
42	BIMAL KUMAR SWAIN	SUPERVISOR

ANNEXURE - II

S. No	Employee Name	Designation
43	SOUBHAGYA CHANDRA SAHOO	HMV DRIVER
44	ASHOK KUMAR MAHANTA	HMV DRIVER
45	PITABAS SAHOO	HMV DRIVER
46	ARUN PRAKASH ROUT	STORES ASST.
47	HIRANYA KUMAR MALLICK	OFFICE BOY
48	ASHOK SWAIN	GARDNER
49	RAMA CHANDRA MOHANTA	OPERATOR
50	SUNIL MOHANTA	MECHANIC HELPER

Laboratory
Approved by
MOEF
GOI Notification. No.
S.O. 1174(E) Lab No.57
dated 3rd Jan 2014
valid up to 2nd Jan 2019.

Laboratory
Accredited by
NABL
(ISO/IEC 17025)
Certificate No.
T-0769

BSI
IAF
ANAB
Certificate NO : EMS 570497 (ISO 14001 : 2004)
Certificate NO : FS 570487 (ISO 9001 : 2008)
Certificate NO : IM 570907 (PAS 99 : 2012)
Certificate NO : OHS 570500 (ISO 18001 : 2007)



HYDERABAD WASTE MANAGEMENT PROJECT

(A Division of Ramky Enviro Engineers Limited)
TSDF at : Survey No. 684/1, Dundigal Village,
Quthbullapur Mandal, Ranga Reddy Dist - 43.
Telangana. India. Tel. : 9390005600
Telefax : 08418-257000
E-mail : hwmp@ramky.com

Pages 1 of 2

Report No: HWMP/ COM (ENV)/19-058A, B

Name and address of the client

M/s. Orissa Waste Management Project.
(A Division of RAMKY Enviro Engineers Ltd.)
Plot No. 420/648/1, Vill. Kanchichuan
PO: Mangalpur, Via Sukinda Dist.
Jajpur, Orissa.

Date of Report : 30.03.2019
Analysis Starting Date : 07&10.03.2019
Analysis Completion Date : 07&10.03.2019
Sample Collected by : HWMP-Laboratory
Date of Sampling on : 04&05.03.2019 & 07&08.03.2019
Sample Registration no : WMC-AAQ-190058-A/1-4 to WMC- AAQ-190058-B/1-4
Sample Description : Ambient Air Quality Samples
Subcontract Tests : HWMP LAB was not given any subcontracting work to other parties

Locations:

- | | |
|--|---|
| 1. AAQ-I-190058-A/1: SO ₂ (Near Main Gate) | 1. AAQ-I-190058-B/1: SO ₂ (Near Main Gate) |
| 2. AAQ-I-190058-A/2: NO ₂ (Near Main Gate) | 2. AAQ-I-190058-B/2: NO ₂ (Near Main Gate). |
| 3. AAQ-I-190058-A/3: PM ₁₀ (Near Main Gate) | 3. AAQ-I-190058-B/3: PM ₁₀ (Near Main Gate) |
| 4. AAQ-I-190058-A/4: PM _{2.5} (Near Main Gate) | 4. AAQ-I-190058-B/4: PM _{2.5} (Near Main Gate) |
| 1. AAQ-II-190058-A/1: SO ₂ (Near Administrative Building) | 1. AAQ-I-190058-B/1: SO ₂ (Near Administrative Building) |
| 2. AAQ-II-190058-A/2: NO ₂ (Near Administrative Building) | 2. AAQ-I-190058-B/2: NO ₂ (Near Administrative Building) |
| 3. AAQ-II-190058-A/3: PM ₁₀ (Near Administrative Building) | 3. AAQ-I-190058-B/3: PM ₁₀ (Near Administrative Building) |
| 4. AAQ-II-190058-A/4: PM _{2.5} (Near Administrative Building) | 4. AAQ-I-190058-B/4: PM _{2.5} (Near Administrative Building) |
| 1. AAQ-III-190058-A/1: SO ₂ (Near Landfill) | 1. AAQ-I-190058-B/1: SO ₂ (Near Land Fill) |
| 2. AAQ-III-190058-A/2: NO ₂ (Near Landfill) | 2. AAQ-I-190058-B/2: NO ₂ (Near Land Fill) |
| 3. AAQ-III-190058-A/3: PM ₁₀ (Near Landfill) | 3. AAQ-I-190058-B/3: PM ₁₀ ((Near Land Fill) |
| 4. AAQ-III-190058-A/4: PM _{2.5} (Near Landfill) | 4. AAQ-I-190058-B/4: PM _{2.5} (Near Land Fill) |

Checked By
(Y. Swathi)
Dy. Manager Laboratory

Authorized Signatory
(D.S.S.Srinivas)
Manager Laboratory


TEST RESULTS FOR AMBIENT AIR MONITORING

Samples are analyzed "as is where basis is"

S. No	Parameter	Unit	Method	Results			NAAQS-Vol-1 (2011)
				AAQ-I 190058-A/1-4	AAQ-II 190058-A/1-4	AAQ-III 190058-A/1-4	
1.	Sulfur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part 2) : 2001	10.23	9.32	14.36	80
2.	Oxides of Nitrogen (NO ₂)	µg/m ³	IS 5182 (Part 6) : 2006	24.52	19.86	27.98	80
3.	Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part 23) : 2006	40.25	36.87	50.23	100
4.	Particulate Matter (PM _{2.5})	µg/m ³	SOP Based on CPCB Guidelines	18.02	16.78	34.65	60

S. No	Parameter	Unit	Method	Results			NAAQS-Vol-1 (2011)
				AAQ-I 190058-B/1-4	AAQ-II 190058-B/1-4	AAQ-III 190058-B/1-4	
1.	Sulfur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part 2) : 2001	10.67	7.69	13.78	80
2.	Oxides of Nitrogen (NO ₂)	µg/m ³	IS 5182 (Part 6) : 2006	22.42	20.21	29.65	80
3.	Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part 23) : 2006	44.11	38.25	48.98	100
4.	Particulate Matter (PM _{2.5})	µg/m ³	SOP Based on CPCB Guidelines	17.52	17.25	35.98	60

- Opinion and interpretation: Nil
- Reports pertained only to the collected samples while monitoring.
- Test reports shall not be reproduced except in full, without written approval of the Laboratory


 Checked By
 (Y. Swathi)
 Dy. Manager Laboratory


 Authorized Signatory
 (D.S.S. Srinivas)
 Manager Laboratory

1. Respirable Dust Sampler Model: APM 860, SI. No.274-DTF-2017, PM10/2.5Sampler, Model APM154 – S. No 252-DTF-2017
2. Respirable Dust Sampler Model: APM 860, SI. No.279-DTF-2017, PM10/2.5Sampler, Model APM154 – S. No 254-DTF-2017
3. Respirable Dust Sampler Model: APM 860, SI. No.280-DTF-2017, PM10/2.5Sampler, Model APM154 – S. No 253-DTF-2017

Calibrated by –LATA ENVIROTECH SERVICES

Laboratory
Approved by
MOEF
GOI Notification No.
S.O. 1174(E) Lab No.57
dated 3rd Jan 2014
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HYDERABAD WASTE MANAGEMENT PROJECT

(A Division of Ramky Enviro Engineers Limited)
TSDF at : Survey No. 684/1, Dundigal Village,
Quthbullapur Mandal, Ranga Reddy Dist - 43.
Telangana. India. Tel. : 9390005600
Telefax : 08418-257000
E-mail : hwmp@ramky.com

Report No: HWMP/ COM (ENV)/19-058C, D

Pages 1 of 2

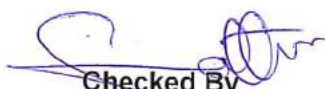
Name and address of the client

M/s. Orissa Waste Management Project.
(A Division of RAMKY Enviro Engineers Ltd.)
Plot No. 420/648/1, Vill. Kanchichuan
PO: Mangalpur, Via Sukinda Dist.
Jajpur, Orissa.

Date of Report : 30.03.2019
Analysis Starting Date : 14&17.03.2019
Analysis Completion Date : 14&17.03.2019
Sample Collected by : HWMP-Laboratory
Date of Sampling on : 11&12.03.2019 & 14&15.03.2019
Sample Registration no : WMC-AAQ-190058-C/1-4 to WMC- AAQ-190058-D/1-4
Sample Description : Ambient Air Quality Samples
Subcontract Tests : HWMP LAB was not given any subcontracting work to other parties

Locations:

- | | |
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| 2. AAQ-I-190058-C/2: NO ₂ (Near Main Gate) | 2. AAQ-I-190058-D/2: NO ₂ (Near Main Gate) |
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| 3. AAQ-III-190058-C/3: PM ₁₀ (Near Landfill) | 3. AAQ-I-190058-D/3: PM ₁₀ ((Near Land Fill) |
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Checked By
(Y. Swathi)
Dy. Manager Laboratory


Authorized Signatory
(D.S.S. Srinivas)
Manager Laboratory


TEST RESULTS FOR AMBIENT AIR MONITORING

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S. No	Parameter	Unit	Method	Results			NAAQS-Vol-1 (2011)
				AAQ-I 190058-C/1-4	AAQ-II 190058-C/1-4	AAQ-III 190058-C/1-4	
1.	Sulfur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part 2) : 2001	9.66	8.36	12.65	80
2.	Oxides of Nitrogen (NO ₂)	µg/m ³	IS 5182 (Part 6) : 2006	23.11	21.58	28.56	80
3.	Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part 23) : 2006	39.28	37.63	47.36	100
4.	Particulate Matter (PM _{2.5})	µg/m ³	SOP Based on CPCB Guidelines	17.11	15.22	36.33	60

S. No	Parameter	Unit	Method	Results			NAAQS-Vol-1 (2011)
				AAQ-I 190058-D/1-4	AAQ-II 190058-D/1-4	AAQ-III 190058-D/1-4	
1.	Sulfur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part 2) : 2001	11.22	10.02	11.97	80
2.	Oxides of Nitrogen (NO ₂)	µg/m ³	IS 5182 (Part 6) : 2006	21.98	18.98	27.33	80
3.	Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part 23) : 2006	40.02	36.52	46.25	100
4.	Particulate Matter (PM _{2.5})	µg/m ³	SOP Based on CPCB Guidelines	16.35	18.36	37.12	60

- Opinion and interpretation: Nil
- Reports pertained only to the collected samples while monitoring.
- Test reports shall not be reproduced except in full, without written approval of the Laboratory


 Checked By
 (Y. Swathi)
 Dy. Manager Laboratory


 Authorized Signatory
 (D.S.S. Srinivas)
 Manager Laboratory

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Report No: HWMP/ COM (ENV)/19-058E,F

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Name and address of the client


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(A Division of RAMKY Enviro Engineers Ltd.)
Plot No. 420/648/1, Vill. Kanchichuan
PO: Mangalpur, Via Sukinda Dist.
Jajpur, Orissa.

To ards sustainable growth

Date of Report : 30.03.2019
Analysis Starting Date : 21&24.03.2019
Analysis Completion Date : 21&24.03.2019
Sample Collected by : HWMP-Laboratory
Date of Sampling on : 18&19.03.2019 & 21&22.03.2019
Sample Registration no : WMC-AAQ-190058-E/1-4 to WMC- AAQ-190058-F/1-4
Sample Description : Ambient Air Quality Samples
Subcontract Tests : HWMP LAB was not given any subcontracting work to other parties

Locations:

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Checked By
(Y. Swathi)
Dy. Manager Laboratory


Authorized Signatory
(D.S.S. Srinivas)
Manager Laboratory


TEST RESULTS FOR AMBIENT AIR MONITORING

Samples are analyzed "as is where basis is"

S. No	Parameter	Unit	Method	Results			NAAQS-Vol-1 (2011)
				AAQ-I 190058-E/1-4	AAQ-II 190058-E/1-4	AAQ-III 190058-E/1-4	
1.	Sulfur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part 2) : 2001	9.02	9.65	12.58	80
2.	Oxides of Nitrogen (NO ₂)	µg/m ³	IS 5182 (Part 6) : 2006	24.33	19.36	29.02	80
3.	Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part 23) : 2006	38.77	38.85	47.96	100
4.	Particulate Matter (PM _{2.5})	µg/m ³	SOP Based on CPCB Guidelines	18.56	15.98	34.52	60

S. No	Parameter	Unit	Method	Results			NAAQS-Vol-1 (2011)
				AAQ-I 190058-F/1-4	AAQ-II 190058-F/1-4	AAQ-III 190058-F/1-4	
1.	Sulfur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part 2) : 2001	10.87	8.25	14.32	80
2.	Oxides of Nitrogen (NO ₂)	µg/m ³	IS 5182 (Part 6) : 2006	20.77	18.72	30.11	80
3.	Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part 23) : 2006	41.25	37.55	46.52	100
4.	Particulate Matter (PM _{2.5})	µg/m ³	SOP Based on CPCB Guidelines	17.69	16.02	36.78	60

- Opinion and interpretation: Nil
- Reports pertained only to the collected samples while monitoring.
- Test reports shall not be reproduced except in full, without written approval of the Laboratory


Checked By
 (Y. Swathi)
 Dy. Manager Laboratory


Authorized Signatory
 (D.S.S. Srinivas)
 Manager Laboratory

1. Respirable Dust Sampler Model: APM 860, SI. No.274-DTF-2017, PM10/2.5Sampler, Model APM154 – S. No 252-DTF-2017
2. Respirable Dust Sampler Model: APM 860, SI. No.279-DTF-2017, PM10/2.5Sampler, Model APM154 – S. No 254-DTF-2017
3. Respirable Dust Sampler Model: APM 860, SI. No.280-DTF-2017, PM10/2.5Sampler, Model APM154 – S. No 253-DTF-2017

Calibrated by –LATA ENVIROTECH SERVICES



HYDERABAD WASTE MANAGEMENT PROJECT

(A Division of Ramky Enviro Engineers Limited)
TSDF at : Survey No. 684/1, Dundigal Village,
Quthbullapur Mandal, Ranga Reddy Dist - 43.
Telangana. India. Tel. : 9390005600
Telefax : 08418-257000
E-mail : hwmp@ramky.com

Pages 1 of 2

Report No: HWMP/ COM (ENV)/19-058G, H

Name and address of the client

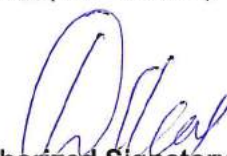
**M/s. Orissa Waste Management Project.
(A Division of RAMKY Enviro Engineers Ltd.)
Plot No. 420/648/1, Vill. Kanchichuan
PO: Mangalpur, Via Sukinda Dist.
Jajpur, Orissa.**

Date of Report : 30.03.2019
Analysis Starting Date : 28&31.03.2019
Analysis Completion Date : 28&31.03.2019
Sample Collected by : HWMP-Laboratory
Date of Sampling on : 25&26.03.2019 & 28&29.03.2019
Sample Registration no : WMC-AAQ-190058-G/1-4 to WMC- AAQ-190058-H/1-4
Sample Description : Ambient Air Quality Samples
Subcontract Tests : HWMP LAB was not given any subcontracting work to other parties

Locations:

- | | |
|--|---|
| 1. AAQ-I-190058-G/1: SO ₂ (Near Main Gate) | 1. AAQ-I-190058-H/1: SO ₂ (Near Main Gate) |
| 2. AAQ-I-190058-G/2: NO ₂ (Near Main Gate) | 2. AAQ-I-190058-H/2: NO ₂ (Near Main Gate) |
| 3. AAQ-I-190058-G/3: PM ₁₀ (Near Main Gate) | 3. AAQ-I-190058-H/3: PM ₁₀ (Near Main Gate) |
| 4. AAQ-I-190058-G/4: PM _{2.5} (Near Main Gate) | 4. AAQ-I-190058-H/4: PM _{2.5} (Near Main Gate) |
| 1. AAQ-II-190058-G/1: SO ₂ (Near Administrative Building) | 1. AAQ-I-190058-H/1: SO ₂ (Near Administrative Building) |
| 2. AAQ-II-190058-G/2: NO ₂ (Near Administrative Building) | 2. AAQ-I-190058-H/2: NO ₂ (Near Administrative Building) |
| 3. AAQ-II-190058-G/3: PM ₁₀ (Near Administrative Building) | 3. AAQ-I-190058-H/3: PM ₁₀ (Near Administrative Building) |
| 4. AAQ-II-190058-G/4: PM _{2.5} (Near Administrative Building) | 4. AAQ-I-190058-H/4: PM _{2.5} (Near Administrative Building) |
| 1. AAQ-III-190058-G/1: SO ₂ (Near Landfill) | 1. AAQ-I-190058-H/1: SO ₂ (Near Land Fill) |
| 2. AAQ-III-190058-G/2: NO ₂ (Near Landfill) | 2. AAQ-I-190058-H/2: NO ₂ (Near Land Fill) |
| 3. AAQ-III-190058-G/3: PM ₁₀ (Near Landfill) | 3. AAQ-I-190058-H/3: PM ₁₀ ((Near Land Fill) |
| 4. AAQ-III-190058-G/4: PM _{2.5} (Near Landfill) | 4. AAQ-I-190058-H/4: PM _{2.5} (Near Land Fill) |


**Checked By
(Y. Swathi)
Dy. Manager Laboratory**


**Authorized Signatory
(D.S.S. Srinivas)
Manager Laboratory**

Report No: HWMP/ COM (ENV)/19-058G, H

TEST RESULTS FOR AMBIENT AIR MONITORING


Samples are analyzed "as is where basis is"


S. No	Parameter	Unit	Method	Results			NAAQS-Vol-1 (2011)
				AAQ-I 190058-G/1-4	AAQ-II 190058-G/1-4	AAQ-III 190058-G/1-4	
1.	Sulfur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part 2) : 2001	8.98	7.99	12.88	80
2.	Oxides of Nitrogen (NO ₂)	µg/m ³	IS 5182 (Part 6) : 2006	21.96	20.68	28.59	80
3.	Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part 23) : 2006	42.75	36.02	49.36	100
4.	Particulate Matter (PM _{2.5})	µg/m ³	SOP Based on CPCB Guidelines	16.97	17.36	37.52	60

Towards sustainable growth

S. No	Parameter	Unit	Method	Results			NAAQS-Vol-1 (2011)
				AAQ-I 190058-H/1-4	AAQ-II 190058-H/1-4	AAQ-III 190058-H/1-4	
1.	Sulfur Dioxide (SO ₂)	µg/m ³	IS 5182 (Part 2) : 2001	9.44	8.02	13.24	80
2.	Oxides of Nitrogen (NO ₂)	µg/m ³	IS 5182 (Part 6) : 2006	22.68	21.63	28.66	80
3.	Particulate Matter (PM ₁₀)	µg/m ³	IS 5182 (Part 23) : 2006	43.20	38.69	50.65	100
4.	Particulate Matter (PM _{2.5})	µg/m ³	SOP Based on CPCB Guidelines	18.67	18.66	35.42	60

- Opinion and interpretation: Nil
- Reports pertained only to the collected samples while monitoring.
- Test reports shall not be reproduced except in full, without written approval of the Laboratory


Checked By
(Y. Swathi)
Dy. Manager Laboratory


Authorized Signatory
(D.S.S. Srinivas)
Manager Laboratory

1. Respirable Dust Sampler Model: APM 860, SI. No.274-DTF-2017, PM10/2.5Sampler, Model APM154 – S. No 252-DTF-2017
2. Respirable Dust Sampler Model: APM 860, SI. No.279-DTF-2017, PM10/2.5Sampler, Model APM154 – S. No 254-DTF-2017
3. Respirable Dust Sampler Model: APM 860, SI. No.280-DTF-2017, PM10/2.5Sampler, Model APM154 – S. No 253-DTF-2017

Calibrated by –LATA ENVIROTECH SERVICES



HYDERABAD WASTE MANAGEMENT PROJECT

(A Division of Ramky Enviro Engineers Limited)
TSDF at : Survey No. 684/1, Dundigal Village,
Quthbullapur Mandal, Ranga Reddy Dist - 43.
Telangana, India. Tel. : 9390005600
Telefax : 08418-257000
E-mail : hwmp@ramky.com

Report No: HWMP/ COM / ENV/19-0581

Pages 1 of 1

Name and address of the client

Date of Report : 30.03.2019
Analysis Starting Date : 18.03.2019
Analysis Completion Date : 19.03.2019
Sample Collected by : HWMP-Laboratory
Date of Sampling on : 18.03.2019
Sample Registration no : VOC-190058/II/1-3
Sample Description : VOC Samples
Subcontract Tests : HWMP LAB was not given any subcontracting work to other parties

M/s. Orissa Waste Management Project,
(A Division of Ramky Enviro Engineers Ltd.)
Plot No. 420/648/1, Village. Kanchichuan
PO: Mangalpur, Via Sukinda, Dist. Jajpur, Orissa

Locations:

- 1) VOC-190058/II/1 : Near Main Gate
- 2) VOC-190058/II/2 : Near Admin Building
- 3) VOC-190058/II/3 : Near Landfill

TEST RESULT FOR VOC LEVEL

Sample Registration no's	Locations	Parameter	Unit	Method	Result
					190058/II/1-3
190058/II/1	Near Main Gate	Volatile Organic Compounds (VOC)	ppm	General Guidelines (GIIP)	0.5
190058/II/2	Near Admin Building	Volatile Organic Compounds (VOC)	ppm		0.3
190058/II/3	Near Landfill	Volatile Organic Compounds (VOC)	ppm		1.8

- Opinion and interpretation: Nil
- Reports pertained only to the submitted sample
- Test reports shall not be reproduced except in full, without written approval of the Laboratory

Checked By
(Y. Swathi)
Dy. Manager Laboratory
VOC Detector : Model - PGM 7320, SN: 592-903473
Mini RAE 3000

Authorized Signatory
(D.S.S.Srinivas)
Manager Laboratory

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 001

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1.	05/11/2018	OWMP KANCHICHUAN	Sulphur Dioxide (SO ₂), µg/m ³	11.6	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2.			Nitrogen Dioxide (NO ₂), µg/m ³	16.1	80	
3.			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	59.5	100	
4.			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	28.2	60	
5.			Lead (Pb), µg/m ³	< 0.02	01	
6.			Ammonia (NH ₃), µg/m ³	< 10	400	
7.			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8.			Arsenic (As), ng/m ³	< 1.0	06	
9.			Nickel (Ni), ng/m ³	6.2	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

D. N. Sankar Dasgupta
Authorized Signatory
Kalyani Laboratories Private Limited



TEST REPORT

Test Report No.: KLPL-TR/11/18/S-002

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	08/11/2018	OWMP KANCHICHU AN	Sulphur Dioxide (SO ₂), µg/m ³	12.9	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	17.8	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	62.1	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	32.7	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	5.8	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report


 Authorized Signatory
 Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 003

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	12/11/2018	OWMP KANCHICHUAN	Sulphur Dioxide (SO ₂), µg/m ³	12.3	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	17.1	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	58	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	30.6	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	6.7	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory
Kalyani Laboratories Private Limited



TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 004

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	15/11/2018	OWMP KANCHICHUAN	Sulphur Dioxide (SO ₂), µg/m ³	11.8	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	16.4	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	55.1	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	29	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	6.4	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 005

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1.	05/11/2018	SUKINDA	Sulphur Dioxide (SO ₂), µg/m ³	10.7	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2.			Nitrogen Dioxide (NO ₂), µg/m ³	14.8	80	
3.			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	58.2	100	
4.			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	25.4	60	
5.			Lead (Pb), µg/m ³	< 0.02	01	
6.			Ammonia (NH ₃), µg/m ³	< 10	400	
7.			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8.			Arsenic (As), ng/m ³	< 1.0	06	
9.			Nickel (Ni), ng/m ³	6.3	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar Aswatha
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 006

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	08/11/2018	SUKINDA	Sulphur Dioxide (SO ₂), µg/m ³	11.4	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.8	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	52.3	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	27.6	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	4.9	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory
Kalyani Laboratories Private Limited



TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 007

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	12/11/2018	SUKINDA	Sulphur Dioxide (SO ₂), µg/m ³	11.2	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.5	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	50.8	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	26.8	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	5.4	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Diganta Ananta
Authorized Signatory
Kalyani Laboratories Private Limited





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 008

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	15/11/2018	SUKINDA	Sulphur Dioxide (SO ₂), µg/m ³	10.9	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.0	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	49.2	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	23	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	6.2	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar Asyikla
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 009

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1.	05/11/2018	Baulapal	Sulphur Dioxide (SO ₂), µg/m ³	11.0	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2.			Nitrogen Dioxide (NO ₂), µg/m ³	15.1	80	
3.			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	55.7	100	
4.			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	23.2	60	
5.			Lead (Pb), µg/m ³	< 0.02	01	
6.			Ammonia (NH ₃), µg/m ³	< 10	400	
7.			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8.			Arsenic (As), ng/m ³	< 1.0	06	
9.			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar Anurupa
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 010

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	08/11/2018	Baulapal	Sulphur Dioxide (SO ₂), µg/m ³	11.1	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.3	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	50.6	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	24.7	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory
Kalyani Laboratories Private Limited





TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 012

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	15/11/2018	Baulapal	Sulphur Dioxide (SO ₂), µg/m ³	13.2	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	16.4	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	55	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	27	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar Adhikari
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 013

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1.	05/11/2018	Khararhi	Sulphur Dioxide (SO ₂), µg/m ³	11.7	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2.			Nitrogen Dioxide (NO ₂), µg/m ³	16.2	80	
3.			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	54.3	100	
4.			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	28.6	60	
5.			Lead (Pb), µg/m ³	< 0.02	01	
6.			Ammonia (NH ₃), µg/m ³	< 10	400	
7.			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8.			Arsenic (As), ng/m ³	< 1.0	06	
9.			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory
Kalyani Laboratories Private Limited



TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 014

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	08/11/2018	Khararhi	Sulphur Dioxide (SO ₂), µg/m ³	11.9	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	16.5	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	55.6	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	27.3	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report


 Authorized Signatory
 Kalyani Laboratories Private Limited


TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 015

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	12/11/2018	Khararhi	Sulphur Dioxide (SO ₂), µg/m ³	12.1	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	16.7	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	56.5	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	26.8	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar Anurkha
Authorized Signatory
Kalyani Laboratories Private Limited





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 016

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	15/11/2018	Khararhi	Sulphur Dioxide (SO ₂), µg/m ³	11.3	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.7	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	51.8	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	25.4	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 017

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1.	05/11/2018	Mangalpur	Sulphur Dioxide (SO ₂), µg/m ³	11.3	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2.			Nitrogen Dioxide (NO ₂), µg/m ³	15.3	80	
3.			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	60.7	100	
4.			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	23.9	60	
5.			Lead (Pb), µg/m ³	< 0.02	01	
6.			Ammonia (NH ₃), µg/m ³	< 10	400	
7.			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8.			Arsenic (As), ng/m ³	< 1.0	06	
9.			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory
Kalyani Laboratories Private Limited



TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 018

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	08/11/2018	Mangalpur	Sulphur Dioxide (SO ₂), $\mu\text{g}/\text{m}^3$	11.1	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), $\mu\text{g}/\text{m}^3$	15	80	
3			Particulate Matter (Size less than 10 μm) or PM10, $\mu\text{g}/\text{m}^3$	59	100	
4			Particulate Matter (Size less than 2.5 μm) or PM2.5, $\mu\text{g}/\text{m}^3$	26.1	60	
5			Lead (Pb), $\mu\text{g}/\text{m}^3$	< 0.02	01	
6			Ammonia (NH ₃), $\mu\text{g}/\text{m}^3$	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m^3	< 1.0	01	
8			Arsenic (As), ng/m^3	< 1.0	06	
9			Nickel (Ni), ng/m^3	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S-019

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	12/11/2018	Mangalpur	Sulphur Dioxide (SO ₂), µg/m ³	10.8	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	14.7	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	57.3	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	26.3	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Dipankar Anisha
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 020

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	15/11/2018	Mangalpur	Sulphur Dioxide (SO ₂), µg/m ³	10.9	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	14.8	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	57.8	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	28.5	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digantbar Asyale
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 021

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1.	05/11/2018	Anantpur	Sulphur Dioxide (SO ₂), µg/m ³	11.1	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2.			Nitrogen Dioxide (NO ₂), µg/m ³	15.1	80	
3.			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	59.2	100	
4.			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	27.2	60	
5.			Lead (Pb), µg/m ³	< 0.02	01	
6.			Ammonia (NH ₃), µg/m ³	< 10	400	
7.			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8.			Arsenic (As), ng/m ³	< 1.0	06	
9.			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Diganta Souda
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 022

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	08/11/2018	Anantpur	Sulphur Dioxide (SO ₂), µg/m ³	11.4	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.4	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	61	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	29.1	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digamber Anil
Authorized Signatory
Kalyani Laboratories Private Limited



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 023

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	12/11/2018	Anantpur	Sulphur Dioxide (SO ₂), µg/m ³	12.6	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	17.2	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	62.5	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	32.8	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S-024

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

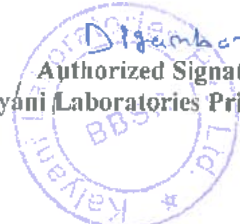
Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	15/11/2018	Anantpur	Sulphur Dioxide (SO ₂), µg/m ³	12.1	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	16.4	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	56	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	22.6	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar Boudha
Authorized Signatory
Kalyani Laboratories Private Limited





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 025

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1.	05/11/2018	Malukhamba	Sulphur Dioxide (SO ₂), µg/m ³	10.8	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2.			Nitrogen Dioxide (NO ₂), µg/m ³	14.7	80	
3.			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	56.7	100	
4.			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	27.9	60	
5.			Lead (Pb), µg/m ³	< 0.02	01	
6.			Ammonia (NH ₃), µg/m ³	< 10	400	
7.			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8.			Arsenic (As), ng/m ³	< 1.0	06	
9.			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory *Asuleha*
Kalyani Laboratories Private Limited



TEST REPORT

Test Report No.: KLPL-TR/11/18/S-026

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

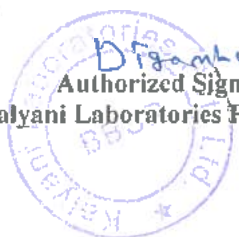
No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	08/11/2018	Malukhamba	Sulphur Dioxide (SO ₂), $\mu\text{g}/\text{m}^3$	10.6	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), $\mu\text{g}/\text{m}^3$	14.4	80	
3			Particulate Matter (Size less than 10 μm) or PM10, $\mu\text{g}/\text{m}^3$	55.9	100	
4			Particulate Matter (Size less than 2.5 μm) or PM2.5, $\mu\text{g}/\text{m}^3$	27.5	60	
5			Lead (Pb), $\mu\text{g}/\text{m}^3$	< 0.02	01	
6			Ammonia (NH ₃), $\mu\text{g}/\text{m}^3$	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m^3	< 1.0	01	
8			Arsenic (As), ng/m^3	< 1.0	06	
9			Nickel (Ni), ng/m^3	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report


Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 027

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	12/11/2018	Malukhamba	Sulphur Dioxide (SO ₂), µg/m ³	11.3	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.3	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	58.5	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	29.8	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digamber Anagha
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 028

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	15/11/2018	Malukhamba	Sulphur Dioxide (SO ₂), µg/m ³	11.1	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	58.8	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	29	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Authorized Signatory
Kalyani Laboratories Private Limited





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78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 029

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1.	05/11/2018	Harirhabahali	Sulphur Dioxide (SO ₂), µg/m ³	10.8	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2.			Nitrogen Dioxide (NO ₂), µg/m ³	14.6	80	
3.			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	57.1	100	
4.			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	28.1	60	
5.			Lead (Pb), µg/m ³	< 0.02	01	
6.			Ammonia (NH ₃), µg/m ³	< 10	400	
7.			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8.			Arsenic (As), ng/m ³	< 1.0	06	
9.			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Diganta Anupla
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 030

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	08/11/2018	Harirhabahali	Sulphur Dioxide (SO ₂), µg/m ³	10.9	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	14.7	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	57.6	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	28.4	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

***** End of Test Report *****

Digambar Anand
Authorized Signatory
Kalyani Laboratories Private Limited



TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 031

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	12/11/2018	Harirhabahali	Sulphur Dioxide (SO ₂), µg/m ³	11	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	14.9	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	58.6	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	28.9	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report


 Authorized Signatory
 Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 032

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	15/11/2018	Harirhabahali	Sulphur Dioxide (SO ₂), µg/m ³	11.1	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.1	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	59.4	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	29.3	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar Anurkha
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 033

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality


No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1.	05/11/2018	Kanakhal	Sulphur Dioxide (SO ₂), µg/m ³	10.9	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2.			Nitrogen Dioxide (NO ₂), µg/m ³	15	80	
3.			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	58.9	100	
4.			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	25.8	60	
5.			Lead (Pb), µg/m ³	< 0.02	01	
6.			Ammonia (NH ₃), µg/m ³	< 10	400	
7.			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8.			Arsenic (As), ng/m ³	< 1.0	06	
9.			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report


 Authorized Signatory
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TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 034

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 10.11.2018

Testing Dt.: 10.11.2018

Test completion Dt.: 17.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	08/11/2018	Kanakhal	Sulphur Dioxide (SO ₂), $\mu\text{g}/\text{m}^3$	10.7	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), $\mu\text{g}/\text{m}^3$	14.8	80	
3			Particulate Matter (Size less than 10 μm) or PM10, $\mu\text{g}/\text{m}^3$	58.2	100	
4			Particulate Matter (Size less than 2.5 μm) or PM2.5, $\mu\text{g}/\text{m}^3$	25.4	60	
5			Lead (Pb), $\mu\text{g}/\text{m}^3$	< 0.02	01	
6			Ammonia (NH ₃), $\mu\text{g}/\text{m}^3$	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m^3	< 1.0	01	
8			Arsenic (As), ng/m^3	< 1.0	06	
9			Nickel (Ni), ng/m^3	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Diganta Das
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 035

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project ,
A Division of Ramky Enviro Engineers Ltd,
Jajpur , Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	12/11/2018	Kanakhal	Sulphur Dioxide (SO ₂), µg/m ³	11.4	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.8	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	54.3	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	27.6	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar Sankha
Authorized Signatory
Kalyani Laboratories Private Limited

TEST REPORT

Test Report No.: KLPL-TR/11/18/S- 036

Issue date: 30.11.2018

Name and address of the Customer: Orissa Waste Management Project,
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customer's reference: NIL

Date of Sample Receipt: 17.11.2018

Testing Dt.: 17.11.2018

Test completion Dt.: 24.11.2018

Sample Description: Ambient Air Quality

No. of Samples: 1

Sample Condition: Gaseous sample absorbing solutions refrigerated

Sampling Method used, if any: KLPL/SOP/ Air-06

Sl. No	Date of Sampling	Sampling Location	Parameters	Observed Value	NAAQS, 2009	Test Method
1	15/11/2018	Kanakhal	Sulphur Dioxide (SO ₂), µg/m ³	11.2	80	Guidelines for the Measurement of Ambient Air Pollutants Volume-I & II, CPCB
2			Nitrogen Dioxide (NO ₂), µg/m ³	15.5	80	
3			Particulate Matter (Size less than 10µm) or PM10, µg/m ³	50.8	100	
4			Particulate Matter (Size less than 2.5µm) or PM2.5, µg/m ³	21.8	60	
5			Lead (Pb), µg/m ³	< 0.02	01	
6			Ammonia (NH ₃), µg/m ³	< 10	400	
7			Benzo (a) Pyrene (BaP) Particulate phase only, ng/m ³	< 1.0	01	
8			Arsenic (As), ng/m ³	< 1.0	06	
9			Nickel (Ni), ng/m ³	< 4.0	20	
Remarks					Nil	
Any unusual feature observed during determination					Nil	

End of Test Report

Digambar Anilika
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NOISE ANALYSIS REPORT

Name of the Industry : Orissa Waste Management Project
A division of Ramky Enviro Engineers Ltd ,
Jajpur , Odisha.

Customers Reference : Nil

Sample Collected By : KLPL

No. of Samples : 14

Reference No. : KLPL-TR/11/18/Noise-001-007 Dt-30.11.2018

Location ID	Location	CATEGORY	Day time Equivalent	Night time Equivalent
			Noise Level in dB(A) Leq	
N-1	OWMP, KANCHICHUAN	INDUSTRIAL	64.3	55.4
N-2	Sukinda	COMMERCIAL	62.9	50.5
N-3	Baulapal	COMMERCIAL	59.8	46.5
N-4	Botalanda	RESIDENTIAL	53.7	42.3
N-5	Mangalpur	COMMERCIAL	62.1	52.6
N-6	Malukhamba	RESIDENTIAL	51.5	41.5
N-7	Anantpur	RESIDENTIAL	52.5	43.2
Standard as per CPCB		INDUSTRIAL	75	70
		COMMERCIAL	65	55
		RESIDENTIAL	55	45
		SILENCE	50	40


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KLPL- 31738A

SOIL ANALYSIS REPORT

Name of the Industry : Orissa Waste Management Project
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customers Reference : Nil

Sample Collected By : KLPL

No. of Samples : 3

Date of Collection : 19.11.2018

Date of analysis : 20.11.2018

Reference No. : KLPL-TR/11/18/SOIL-001-003 Dt-30.11.2018

Sl.No	Parameter	Proposed Site	Baulapal	Malukhamba
1	Colour	Brown	Gray	Gray
2	Texture	Sandy Loamy	Clay Loamy	Sandy Clay Loamy
3	Moisture %	9.2	7.9	8.6
4	pH	6.42	6.39	6.51
5	Electrical conductivity µmhos/Cm	167.4	152.5	161.3
6	Chloride as Cl %	0.012	0.011	0.009
7	Bulk Density Gm/cc	1.36	1.34	1.37
8	Copper as Cu %	< 0.001	< 0.001	< 0.001
9	Total Organic carbon %	2.6	2.2	2.7
10	Calcium as Ca %	0.4	0.34	0.35
11	Magnesium as Mg %	0.18	0.12	0.11
12	Available Phosphorus %	0.0014	0.0013	0.0013
13	Available Potassium %	0.07	0.05	0.02
14	Available Nitrogen %	0.012	0.015	0.013
Test Method		A text Book Of Soil Analysis By T.C.Baruah & H.P.Barthakur		

Digamber Boudha
Authorized Signatory

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SOIL ANALYSIS REPORT

Name of the Industry : Orissa Waste Management Project
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customers Reference : Nil

Sample Collected By : KLPL

No. of Samples : 3

Date of Collection : 19.11.2018

Date of analysis : 20.11.2018

Reference No. : KLPL-TR/11/18/SOIL-004-006 Dt-30.11.2018

Sl.No	Parameter	Sukinda	Khararhi	Anantpur
1	Colour	Brown	Gray	Brown
2	Texture	Sandy Clay Loamy	Clay Loamy	Clay Loamy
3	Moisture %	7.8	7.5	8.2
4	pH	6.32	6.71	6.64
5	Electrical conductivity $\mu\text{mhos/Cm}$	149.5	156.4	139.7
6	Chloride as Cl %	0.008	0.007	0.009
7	Bulk Density Gm/cc	1.29	1.34	1.31
8	Copper as Cu %	< 0.001	< 0.001	< 0.001
9	Total Organic carbon %	2.9	2.4	26
10	Calcium as Ca %	0.34	0.29	0.31
11	Magnesium as Mg %	0.11	0.16	0.12
12	Available Phosphorus %	0.0014	0.0012	0.0012
13	Available Potassium %	0.03	0.04	0.03
14	Available Nitrogen %	0.016	0.013	0.011
Test Method		A text Book Of Soil Analysis By T.C.Baruah & H.P.Barthakur		

Digamber Anilika
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SOIL ANALYSIS REPORT

Name of the Industry : Orissa Waste Management Project
A Division of Ramky Enviro Engineers Ltd,
Jajpur, Odisha.

Customers Reference : Nil

Sample Collected By : KLPL

No. of Samples : 2

Date of Collection : 19.11.2018

Date of analysis : 20.11.2018

Reference No. : KLPL-TR/11/18/SOIL-007-008 Dt-30.11.2018

Sl.No	Parameter	Harirhabali	Kanakhal
1	Colour	Gray	Brown
2	Texture	Sandy Clay Loamy	Clay Loamy
3	Moisture %	8.4	8.2
4	pH	6.8	6.73
5	Electrical conductivity µmhos/Cm	149.6	158.6
6	Chloride as Cl %	0.008	0.008
7	Bulk Density Gm/cc	1.33	1.38
8	Copper as Cu %	< 0.001	< 0.001
9	Total Organic carbon %	2.4	2.5
10	Calcium as Ca %	0.27	0.29
11	Magnesium as Mg %	0.12	0.14
12	Available Phosphorus %	0.0011	0.0011
13	Available Potassium %	0.05	0.04
14	Available Nitrogen %	0.013	0.012
Test Method		A text Book Of Soil Analysis By T.C.Baruah & H.P.Barthakur	

Digambar Aswaha
Authorized Signatory

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GROUND WATER QUALITY MONITORING

Name of the Industry : Orissa Waste Management Project
A division of Ramky Enviro Engineers Ltd ,
Jajpur , Odisha.

Customers Reference : Nil

Sampling Point Description : Proposed Site, Sukinda

Sample Collected By : KLPL

No. of Samples : 2

Date of Sampling : 19.11.2018

Date of Analysis : 20.11.2018

Reference No. : KLPL-TR/11/18/GW-001-002 Dt-30.11.2018

A. Physical Charecterstics		Unit	IS: 10500 Desirable Limits	IS: 10500 Permissible Limit	Proposed Site GW1	Sukinda GW2	Protocol
1	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	IS3025:PART05:1983
2	Turbidity	NTU	1	5	0.5	0.3	IS 3025:PART10:1984
3	pH	--	6.5-8.5	No Relaxation	7.16	7.23	IS3025:PART11:1983
4	Electrical Conductivity (EC)	$\mu\text{S}/\text{cm}$	--	--	254	247	APHA-23rd Edition (2510 A)
5	Total Dissolved Solids (TDS)	mg/l	500	2000	168	162	IS 3025:PART15:1984
B. Chemical							
6	Calcium Hardness as CaCO_3	mg/l	--	--	68	64	IS 3025:PART40:1991 (Reaff 2003)
7	Magnesium Hardness as CaCO_3	mg/l	--	--	24	24	IS 3025:PART46:1994
8	Total Alkalinity	mg/l	200	600	62	66	IS 3025:PART23:1986
9	Total hardness	Mg/l	200	600	92	88	IS 3025:PART21:2009
10	Chloride as Cl^-	mg/l	250	1000	24	26	IS 3025:PART32:1988
11	Sulphate as SO_4	mg/l	200	400	6.5	7.8	IS 3025:PART24:1986
12	Nitrate as NO_3	mg/l	45	No Relaxation	3.5	4.2	IS 25:PART34:1988
13	Fluoride F^-	mg/l	1	1.5	0.25	0.28	IS 3025:PART60:2008
14	Calcium as Ca^{2+}	mg/l	75	200	27.2	25.6	IS 3025:PART40:1991
15	Magnesium as Mg^{2+}	mg/l	30	100	5.83	5.83	IS 3025:PART46:1994
16	Iron (Fe)	mg/l	1	No Relaxation	0.14	0.2	IS 3025:PART53:2003
17	Copper (Cu)	mg/l	0.05	1.5	<0.02	<0.02	IS 3025:PART42:1992
18	Arsenic (As)	mg/l	0.01	No Relaxation	<0.001	<0.001	IS 3025:PART37:1988
19	Lead (Pb)	mg/l	0.01	No Relaxation	<0.005	<0.005	IS 3025:PART47:1994
20	Zinc (Zn)	mg/l	5	15	<0.05	<0.05	IS 3025:PART49:1994
21	Sodium as Na	mg/l	0.05	No	8	9	APHA 22nd Edition (3500-NA-



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				Relaxation			B), 2012
22	Mercury (Hg)	mg/l	0.001	No Relaxation	<0.0005	<0.0005	IS 3025:PART48:1994
23	Cadmium (Cd)	mg/l	0.003	No Relaxation	<0.001	<0.001	IS 3025:PART41:1992
24	Potassium as K	mg/l	0.03	0.2	3	3	APHA 22nd Edition (3500-K-B), 2012
25	Cyanide as CN	mg/l	0.05	No Relaxation	<0.01	<0.01	IS 3025:PART27:1986
26	Chromium as Cr	mg/l	0.05	No Relaxation	<0.02	<0.02	IS 3025:PART52:2003
27	Boron (B)	mg/l	0.5	1	<0.1	<0.1	IS 3025:PART57:2005

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GROUND WATER QUALITY MONITORING

Name of the Industry : Orissa Waste Management Project
A division of Ramky Enviro Engineers Ltd ,
Jajpur , Odisha.

Customers Reference : Nil

Sampling Point Description : Baulapa , Anantpur

Sample Collected By : KLPL

No. of Samples : 2

Date of Sampling : 19.11.2018

Date of Analysis : 20.11.2018

Reference No. : KLPL-TR/11/18/GW-003-004 Dt-30.11.2018

A. Physical Characteristics		Unit	IS: 10500 Desirable Limits	IS: 10500 Permissible Limit	Baulapur GW3	Anantpur GW4	Protocol
1	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	IS3025:PART05:1983
2	Turbidity	NTU	1	5	0.7	0.4	IS 3025:PART10:1984
3	pH	--	6.5-8.5	No Relaxation	7.25	7.34	IS3025:PART11:1983
4	Electrical Conductivity (EC)	$\mu\text{S}/\text{cm}$	--	--	260	235	APHA-23rd Edition (2510 A)
5	Total Dissolved Solids (TDS)	mg/l	500	2000	172	154	IS 3025:PART15:1984
B. Chemical							
6	Calcium Hardness as CaCO_3	mg/l	--	--	60	64	IS 3025:PART40:1991 (Reaff 2003)
7	Magnesium Hardness as CaCO_3	mg/l	--	--	36	28	IS 3025:PART46:1994
8	Total Alkalinity	mg/l	200	600	60	64	IS 3025:PART23:1986
9	Total hardness	Mg/l	200	600	96	92	IS 3025:PART21:2009
10	Chloride as Cl^-	mg/l	250	1000	28	20	IS 3025:PART32:1988
11	Sulphate as SO_4	mg/l	200	400	6.4	5.8	IS 3025:PART24:1986
12	Nitrate as NO_3	mg/l	45	No Relaxation	3.9	5.4	IS 25:PART34:1988
13	Fluoride F^-	mg/l	1	1.5	0.24	0.31	IS 3025:PART60:2008
14	Calcium as Ca^{2+}	mg/l	75	200	24	25.6	IS 3025:PART40:1991
15	Magnesium as Mg^{2+}	mg/l	30	100	8.75	6.80	IS 3025:PART46:1994
16	Iron (Fe)	mg/l	1	No Relaxation	0.18	0.16	IS 3025:PART53:2003
17	Copper (Cu)	mg/l	0.05	1.5	<0.02	<0.02	IS 3025:PART42:1992
18	Arsenic (As)	mg/l	0.01	No Relaxation	<0.001	<0.001	IS 3025:PART37:1988



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19	Lead (Pb)	mg/l	0.01	No Relaxation	<0.005	<0.005	IS 3025:PART47:1994
20	Zinc (Zn)	mg/l	5	15	<0.05	<0.05	IS 3025:PART49:1994
21	Sodium as Na	mg/l	0.05	No Relaxation	7	9	APHA 22nd Edition (3500-NA-B), 2012
22	Mercury (Hg)	mg/l	0.001	No Relaxation	<0.0005	<0.0005	IS 3025:PART48:1994
23	Cadmium (Cd)	mg/l	0.003	No Relaxation	<0.001	<0.001	IS 3025:PART41:1992
24	Potassium as K	mg/l	0.03	0.2	3	4	APHA 22nd Edition (3500-K-B), 2012
25	Cyanide as CN	mg/l	0.05	No Relaxation	<0.01	<0.01	IS 3025:PART27:1986
26	Chromium as Cr	mg/l	0.05	No Relaxation	<0.02	<0.02	IS 3025:PART52:2003
27	Boron (B)	mg/l	0.5	1	<0.1	<0.1	IS 3025:PART57:2005

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GROUND WATER QUALITY MONITORING

Name of the Industry : Orissa Waste Management Project
A division of Ramky Enviro Engineers Ltd ,
Jajpur , Odisha.

Customers Reference : Nil

Sampling Point Description : Malukhamba , Harirhabahali

Sample Collected By : KLPL

No. of Samples : 2

Date of Sampling : 19.11.2018

Date of Analysis : 20.11.2018

Reference No. : KLPL-TR/11/18/GW-005-006 Dt-30.11.2018

A. Physical Charecterstics	Unit	IS: 10500 Desirable Limits	IS: 10500 Permissible Limit	Malukhamba	Harirhabahali	Protocol
				GW5	GW6	
1 Odour	—	Agreeable	Agreeable	Agreeable	Agreeable	IS3025:PART05:1983
2 Turbidity	NTU	1	5	0.8	0.6	IS 3025:PART10:1984
3 pH	—	6.5-8.5	No Relaxation	7.26	7.13	IS3025:PART11:1983
4 Electrical Conductivity (EC)	µS/cm	--	--	272	240	APHA-23 rd Edition (2510 A)
5 Total Dissolved Solids (TDS)	mg/l	500	2000	180	158	IS 3025:PART15:1984
B. Chemical						
6 Calcium Hardness as CaCO ₃	mg/l	—	--	72	60	IS 3025:PART40:1991 (Reaff 2003)
7 Magnesium Hardness as CaCO ₃	mg/l	--	--	32	32	IS 3025:PART46:1994
8 Total Alkalinity	mg/l	200	600	62	58	IS 3025:PART23:1986
9 Total hardness	Mg/l	200	600	104	92	IS 3025:PART21:2009
10 Chloride as Cl ⁻	mg/l	250	1000	28	24	IS 3025:PART32:1988
11 Sulphate as SO ₄	mg/l	200	400	6.2	4.9	IS 3025:PART24:1986
12 Nitrate as NO ₃	mg/l	45	No Relaxation	6.1	3.9	IS 25:PART34:1988
13 Fluoride F ⁻	mg/l	1	1.5	0.26	0.28	IS 3025:PART60:2008
14 Calcium as Ca ²⁺	mg/l	75	200	28.8	24.0	IS 3025:PART40:1991
15 Magnesium as Mg ²⁺	mg/l	30	100	7.78	7.78	IS 3025:PART46:1994
16 Iron (Fe)	mg/l	1	No	0.14	0.18	IS 3025:PART53:2003



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				Relaxation			
17	Copper (Cu)	mg/l	0.05	1.5	<0.02	<0.02	IS 3025:PART42:1992
18	Arsenic (As)	mg/l	0.01	No Relaxation	<0.001	<0.001	IS 3025:PART37:1988
19	Lead (Pb)	mg/l	0.01	No Relaxation	<0.005	<0.005	IS 3025:PART47:1994
20	Zinc (Zn)	mg/l	5	15	<0.05	<0.05	IS 3025:PART49:1994
21	Sodium as Na	mg/l	0.05	No Relaxation	9	8	APHA 22nd Edition (3500-NA-B), 2012
22	Mercury (Hg)	mg/l	0.001	No Relaxation	<0.0005	<0.0005	IS 3025:PART48:1994
23	Cadmium (Cd)	mg/l	0.003	No Relaxation	<0.001	<0.001	IS 3025:PART41:1992
24	Potassium as K	mg/l	0.03	0.2	4	3	APHA 22nd Edition (3500-K-B), 2012
25	Cyanide as CN	mg/l	0.05	No Relaxation	<0.01	<0.01	IS 3025:PART27:1986
26	Chromium as Cr	mg/l	0.05	No Relaxation	<0.02	<0.02	IS 3025:PART52:2003
27	Boron (B)	mg/l	0.5	1	<0.1	<0.1	IS 3025:PART57:2005

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GROUND WATER QUALITY MONITORING

Name of the Industry : Orissa Waste Management Project
A division of Ramky Enviro Engineers Ltd ,
Jajpur , Odisha.

Customers Reference : Nil

Sampling Point Description : Botalanda

Sample Collected By : KLPL

No. of Samples : 1

Date of Sampling : 19.11.2018

Date of Analysis : 20.11.2018

Reference No. : KLPL-TR/11/18/GW-007 Dt-30.11.2018

A. Physical Characteristics	Unit	IS: 10500 Desirable Limits	IS: 10500 Permissible Limit	Botalanda	Protocol
				GW7	
1 Odour	--	Agreeable	Agreeable	Agreeable	IS3025:PART05:1983
2 Turbidity	NTU	1	5	0.8	IS 3025:PART10:1984
3 pH	--	6.5-8.5	No Relaxation	7.38	IS3025:PART11:1983
4 Electrical Conductivity (EC)	$\mu\text{S}/\text{cm}$	—	—	262	APHA-23rd Edition (2510 A)
5 Total Dissolved Solids (TDS)	mg/l	500	2000	174	IS 3025:PART15:1984
6 Calcium Hardness as CaCO_3	mg/l	--	--	68	IS 3025:PART40:1991 (Reaff 2003)
7 Magnesium Hardness as CaCO_3	mg/l	--	--	28	IS 3025:PART46:1994
8 Total Alkalinity	mg/l	200	600	72	IS 3025:PART23:1986
9 Total hardness	Mg/l	200	600	96	IS 3025:PART21:2009
10 Chloride as Cl^-	mg/l	250	1000	32	IS 3025:PART32:1988
11 Sulphate as SO_4	mg/l	200	400	6.4	IS 3025:PART24:1986
12 Nitrate as NO_3	mg/l	45	No Relaxation	4.8	IS 25:PART34:1988
13 Fluoride F^-	mg/l	1	1.5	0.29	IS 3025:PART60:2008
14 Calcium as Ca^{2+}	mg/l	75	200	27.2	IS 3025:PART40:1991
15 Magnesium as Mg^{2+}	mg/l	30	100	6.80	IS 3025:PART46:1994
16 Iron (Fe)	mg/l	1	No Relaxation	0.22	IS 3025:PART53:2003
17 Copper (Cu)	mg/l	0.05	1.5	<0.02	IS 3025:PART42:1992
18 Arsenic (As)	mg/l	0.01	No Relaxation	<0.001	IS 3025:PART37:1988
19 Lead (Pb)	mg/l	0.01	No Relaxation	<0.005	IS 3025:PART47:1994
20 Zinc (Zn)	mg/l	5	15	<0.05	IS 3025:PART49:1994





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21	Sodium as Na	mg/l	0.05	No Relaxation	8	APHA 22nd Edition (3500-NA-B), 2012
22	Mercury (Hg)	mg/l	0.001	No Relaxation	<0.0005	IS 3025:PART48:1994
23	Cadmium (Cd)	mg/l	0.003	No Relaxation	<0.001	IS 3025:PART41:1992
24	Potassium as K	mg/l	0.03	0.2	4	APHA 22nd Edition (3500-K-B), 2012
25	Cyanide as CN	mg/l	0.05	No Relaxation	<0.01	IS 3025:PART27:1986
26	Chromium as Cr	mg/l	0.05	No Relaxation	<0.02	IS 3025:PART52:2003
27	Boron (B)	mg/l	0.5	1	<0.1	IS 3025:PART57:2005

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SURFACE WATER ANALYSIS REPORT

Name of the Industry	:	Orissa Waste Management Project A division of Ramky Enviro Engineers Ltd , Jajpur , Odisha
Customers Reference	:	NIL
Sampling Point Description	:	Brahmani River , Gonda Nallah
Sample Collected By	:	KLPL
Date of Collection	:	19.11.2018
Date of Analysis	:	20.11.2018
No. of Samples	:	2
Reference No.	:	KLPL-TR/11/18/SW-001-002 Dt-30.11.2018

Sl. No.	Characteristics	Unit	IS:2296-1982 Class 'C' Limits	Brahmani River	Gonda Nallah	Protocol
				SW1	SW2	
1	pH	-	6.5-8.5			IS 3025:PART11:1983 (Reaff 2002)
2	DO	mg/l	4	6.8	6.3	IS 3025:PART58:2006
3	Odour	-	-	Agreeable	Agreeable	IS3025:PART05:1983
4	BOD	mg/l	3	2.6	2.8	IS 3025:PART44:1993
5	Turbidity	NTU	--	3.5	4.2	IS 3025:PART10:1984
6	COD	mg/l	--	18	21	APHA-22nd Edition (5220 B):2012
7	Alkalinity as Ca CO ₃	mg/l	--	46	40	IS 3025:PART23:1986
8	Colour	Hazen	300	15	12	IS 3025:PART04:1983 (Reaff 2002)
9	Electrical conductivity	μS/cm	--	156	167	APHA-22nd Edition (2510A):2012
10	Fluoride (as F)	mg/l	1.5	0.27	0.28	IS 3025:PART60:2008
11	Cadmium	mg/l	0.01	< 0.001	< 0.001	IS 3025:PART41:1992
12	Chloride (as Cl)	mg/l	600	24	18	IS 3025:PART32:1988
13	Total Hardness as CaCO ₃	mg/l	--	64	60	IS 3025:PART21:2009
14	Cyanide (as CN)	mg/l	0.05	< 0.01	< 0.01	IS 3025:PART27:1986
15	Total Dissolved Solid	mg/l	1500	96	104	IS 3025:PART15:1984 (Reaff 2002)
16	Calcium Hardness as CaCO ₃	mg/l	--	40	36	IS 3025:PART40:1991 (Reaff 2003)
17	Mercury	mg/l	--	< 0.001	< 0.001	IS 3025:PART56:2003
18	Calcium as Ca	mg/l	--	16	14.6	IS 3025:PART40:1991 (Reaff 2003)
19	Sulphate (as SO ₄)	mg/l	400	4.7	5.9	IS 3025:PART24:1986
20	Lead	mg/l	0.1	< 0.01	< 0.01	IS 3025:PART47:1994
21	Copper	mg/l	1.5	< 0.01	< 0.01	IS 3025:PART42:1992
22	Arsenic	mg/l	0.2	< 0.01	< 0.01	IS 3025:PART37:1988 (Reaff 1999)
23	Iron	mg/l	50	0.42	0.38	IS 3025:PART53:2003
24	Magnesium Hardness as CaCO ₃	mg/l	--	24	24	IS 3025:PART46:1994



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25	Magnesium as Mg	mg/l	--	5.83	5.83	IS 3025:PART46:1994
26	Zinc	mg/l	15	< 0.01	< 0.01	IS 3025:PART49:1994 (Reaff 2003)
27	Boron	mg/l	--	< 0.01	< 0.01	IS 3025:PART57:2005
28	Nitrate (as NO ₃)	mg/l	50	2.7	2.5	IS 3025:PART34:1988

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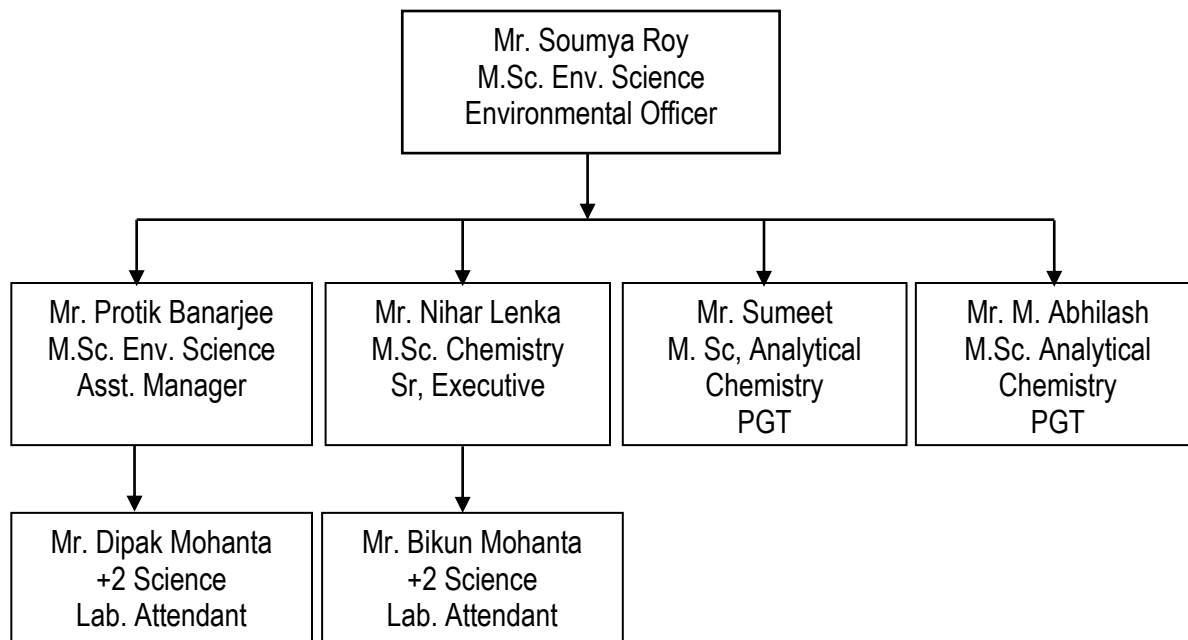
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ODISHA WASTE MANAGEMENT PROJECT
A DIVISION OF RAMKY ENVIRO ENGINEERS LIMITED

Organogram of Environment Management Division





INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR
SCHOOL OF INFRASTRUCTURE
BHUBANESWAR-751013, ODISHA

16/07/2019

To

Mr. Nihar R Lenka
Executive-Laboratory
M/s. Ramky Enviro Engineers Limited
Sukinda, Odisha

Dear Sir,

Referring to vide letter No.: REEL/OWMP/Lab/IIT/19-20/001 Dt: 10th June 2019 requesting for submission of budgetary estimate for carrying out third party Performance audit of Common Hazardous Waste Treatment, Storage and Disposal Facility (CHWTSDf), Odisha Waste Management Project, a division of Ramky Enviro Engineers, Located near village Kanchichun, PO: Mangalpur, Via: Sukinda, Jajpur, Odisha, it is to inform you that IIT Bhubaneswar is interested to take up the consultancy work and the approximate budget for executing the project is given herein.

Scope of the work:

As mentioned in the invitation letter.

Duration

8 months (6 months sample collection and 2 months for analysis and report preparation)

Methodology

Odisha Waste Management Project, a division of Ramky Enviro Engineers Limited, has set up a facility for hazardous waste management in the state of Odisha in an area of 70 acres. The common facility is currently under operational and accepting 60 to 70 varieties of wastes from around 100 numbers of industries across the state. M/s. Ramky is adopting manual stabilization for a few waste types before they being disposed into the landfill facility in order to keep the concentrations lower as stipulated by MH & TM rules 2018. It is necessary that the performance of CHWTSDf would be evaluated to verify that the wastes disposed off in the landfill are meeting the Environmental Laws and Regulations stipulated by CPCB.

For accomplishing the above stated objectives, it is proposed to collect solid waste samples from inside the landfill area, soil samples from surrounding the landfill area, leachate generated by various wastes, and air samples within the premises of landfill. The sampling collection would be continued for a period of six months. It is planned to collect 20 number of soil samples by drilling three numbers of boreholes up to a depth of 30 feet at three different locations outside the landfill area. Approximately 50 numbers of waste samples with a frequency of two months from different grid areas would be collected. Leachate samples would be collected almost every month. Similarly,

water samples will be collected from 15 numbers of borewells with an interval of one month. All these samples would be subjected to physical and chemical testing for analyzing their characteristics. Additionally, visits to approximately 40 numbers of varieties of industries would be made for auditing the data on:

- Capacity of the plant and systems
- hazardous waste type
- hazardous waste storage, handling, recycling, treatment, and disposal
- vehicles used for transport
- volume of waste received and recycled per day
- compliance conditions stipulated in consent granted by Odisha PCB

The data from various sources (viz., laboratory tests, visual observations, field observations, field tests, samples collection, etc) would be assimilated, examined, scrutinized and analyzed for verifying the path ways of the waste to be treated and disposed.

Budgetary estimate

An approximate budget for undertaking the work is Rupees seventy nine lakhs seventy six thousand one hundred fifty one only (Rs. 79,76,151/-). The quoted charges include Institute overhead charges and GST at prevailing rates, excluding that TDS, subjected to terms and conditions of the institute. M/s. RAMKY Enviro Engineers Limited, if willing to award the consultancy work to IIT Bhubaneswar is requested to intimate with necessary detail so that R&D office of IIT Bhubaneswar can initiate the process of contract agreement.

Payment mode

The consultancy fee can be paid in the form of cheque/DD in favour of SRIC IIT Bhubaneswar or can be transferred through NEFT as a project fee, so that the processing of the project can be initiated at the earliest.

Thanking you.

Sincerely



(Dr. B. Hanumantha Rao)

Project Investigator

Attachment – 2

CER Activities

Budgetary Provision for CER activities

Corporate Social Responsibility has become an integral, self-regulating mechanism through which business monitors and safeguards its active compliance with the Law and ethical standards. CSR aims to embrace responsibility for the company's actions and encourage a positive impact through its activities on the environment, employees, consumers, stakeholders, communities and the larger public.

Since inception, OWMP as a responsible citizen has been engaged in community development and creation of sustainable livelihoods for the targeted beneficiaries. It played an active role in developing health, education, skill development needs of people living in the villages of project area. The following are some of the activities which are currently implemented by the TSDF.

- Health check-up programs for children, mother, pregnant women & old age persons.
- Providing Drinking Water through bore wells
- Awareness on immunization, nutrition, sanitation
- Need based support to strengthen educational infrastructure of schools and Anganwadi centers
- Encouraging rural sports
- Women Empowerment through self-employability initiatives
- Green rallies and plantation drive in local villages
- Scholarships for the merit

The proposed project would proactively promote the public interest through provision of basic amenities such as roads, transportation, electricity, education, sanitation and healthcare facilities. This would also encourage community growth and development and improved socio-economic conditions, and quality of life of the people living in the project area. The Company shall also continue to have among its objectives the promotion and growth of the national economy through increased productivity, effective utilization of material, manpower resources and continued application of modern scientific and managerial techniques, in keeping with the national aspiration; and the company shall continue to be mindful of its social and moral responsibilities to consumers, employees, shareholders, society and the local community. The company shall earmark funds for social development and welfare measures as per the companies act 2013, 2% of the project profit shall be allotted for CSR.

CER fund shall be allotted as per the MoEF&CC office memorandum F.No.22-65/2017-IA.III dated 1st May 2018.

“The fund allocation for CER shall be deliberated in the EAC or SEAC or DEAC as the many case may be with a due diligence subject to maximum percentage as prescribed below for the different cases”

S. No	Capital Investment /Additional Capital Investment (in Rs.)	Greenfield Project - % of Capital Investment	Brownfield Project – % of Additional Capital Investment
1.	≤ 100 Crores	2.0%	1.0%
2.	> 100 Crores ≤ 500 Crores	1.5%	0.75%
3.	> 500 Crores ≤ 1000 Crores	1.0%	0.50%
4.	> From 1000 Crores to ≤ 10000 Crores	0.5%	0.25%
5.	> 10000 Crores	0.25%	0.125%

The CER budget allotted based on the total cost of the proposed project shall be Rs.113 Lakhs (0.75% of the Project Cost Rs. 150 Crores). The details break up and activities considered under CER activities are given in **Table 1** below.

Table 1 Proposed CER activities and its budget

S. No	Item	Brownfield project (Rs in Lakhs)	Remarks
1	Drinking water supply	20	The budget breakup is tentative, allotment will be based on the requirement of villagers and district collector advise
2	Health camps and Skill development	20	
4	Roads & Cross drains	20	
5	Electrification, Solar power	10	
6	Sanitation, Solid waste management	10	
7	Scientific support to farmers	11	
8	Rainwater harvesting, soil conservation	12	
9	Plantation (Avenue, community, schools, etc)	10	
	Total	113	
Cost of the proposed expansion is Rs 150 Crores, CER fund is 0.75 % maximum based on EAC recommendation			

Note: The CER fund shall be utilized over a period of 1 year in addition to the existing CSR budget i.e 2% of the company's annual profit as per Company act.