ACTION TAKEN REPORT

SUBMITTED BEFORE HON'BLE NATIONAL GREEN TRIBUNAL (NGT), PRINCIPAL BENCH (PB), NEW DELHI

IN THE MATTER OF

(NEWS ITEM TITLED "AHMEDABAD SURAT LANDFILLS AMONG WORST THREE METHANE HOTSPOTS IN INDIA" APPEARING IN THE TIMES OF INDIA DATED 07.02.2024.

(HON'BLE NGT, PB ORDER DATED 27.09.2024 IN OA NO. 247/2024)

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6.	**Annexure V -** Copy of the direction issued by CPCB on bio mining of legacy waste and management of Fire hazard in dumpsites	
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Filed by: Adv. Rajkumar

(On behalf of Central Pollution Control Board)

Date:

Place:

ACTION TAKEN REPORT

SUBMITTED

(IN COMPLIANCE TO HON'BLE NGT ORDER DATED 27.09.2024 IN THE MATTER OF NEWS ITEM TITLED "AHMEDABAD SURAT LANDFILLS AMONG WORST THREE METHANE HOTSPOTS IN INDIA" APPEARING IN THE TIMES OF INDIA DATED 07.02.2024)

CENTRAL POLLUTION CONTROL BOARD

(*Ministry of Environment, Forest & Climate Change*)

"Parivesh Bhawan", East Arjun Nagar,

Delhi-110032

21 January, 2024

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1.0.Background

Hon'ble NGT vide order dated 27.9.2024 in O.A No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024 directed in para 4 are reproduced below:

Para 4 *"Learned Counsel for Respondent No. 2-CPCB, Respondent No. 3-Maharashtra Pollution Control Board, Respondent No. 4- Gujarat Pollution Control Board and Respondent No. 8-State of Gujarat and Respondent No.5-Rajasthan Pollution Control Board seek time for filing of 2 action taken reports. The same be filed at least one week before the next date of hearing fixed".*

A copy of Hon'ble NGT order dated 27.09.2024 is attached as **Annexure I.**

CPCB has previously filed a Joint Committee report in compliance with Hon'ble NGT order dated 19.03.2024 **(Annexure II)** wherein Hon'ble NGT had constituted a joint committee comprising of Central Pollution Control Board (CPCB), concerned Regional Officers (RO) of respective State Pollution Control Board (SPCBs) (namely, Assam, Gujarat, Maharashtra & Rajasthan), Indian Space Research Organization (ISRO) and Ministry of Environment, Forest and Climate Change (MoEF&CC) The committee was required to submit a factual report relating to compliance status of Schedule I of Solid Waste Management Rules, 2016 of the sites attributing to methane emissions as per IIRS (Indian

Institute of Remote Sensing Report. The report covered detailed assessment of 13 sites which were identified as possible methane emission sources as per the IIRS Report. These included dumpsites (06 sites) , Sanitary Landfill Sites (02 SLFs) and Oil & Gas sites (05 sites) covering four states namely Surat & Ahmedabad in Gujarat; , Central Mumbai, Kalyan Dombiveli, Kanjurmarg , Pimpri Chinchinwad in Maharashtra; Chirawa & Tarnagar, Jaiselmer , Barmer in Rajasthan, and; Dibrugarh-Tinsukia & Nazira in Assam. A copy of the Joint committee report is attached as **Annexure III.**

2.0.Action Taken by CPCB

2.1.Communications issued to 4 SPCBs

In compliance to the Hon'ble NGT order dated 27.09.2024, CPCB vide letter dated 06.01.2025 **(Annexure IV),** requested SPCBs namely, Assam, Gujarat, Maharashtra and Rajasthan to provide action taken report on non-compliances attributing to the sources of methane emission as per the joint committee report, in their respective jurisdiction.

2.2.Meeting with SPCBs

A follow-up Meeting on the matter was convened the SPCBs on 16.01.2025. The following action was to be taken by the concerned SPCBs as per the deliberations during the Meeting:

i) To review the action taken reports in line with the discussion held in the meeting on 16.1.25 and CPCB letter dated 06.01.2025 and submit the same on Jan 16, 2025.

ii) To submit the compliance status of directions issued by CPCB previously under section 5 of Environment (Protection) Act, 1986 related to Bio mining of legacy waste (27.1.21) and for management of fire hazards at dumpsites (26.5.22). Directions are placed at **Annexure V** for reference

iii) To submit the compliance status as per Schedule I (F) of Solid Waste Management Rules, 2016.

The minutes of the meeting is attached as **Annexure VI.**

2.3 Action taken report by SPCBs/PCC

The Action taken reports submitted by the SPCBs/PCCs have been examined by CPCB and overview of the same is given in Table 1.0. The requisite actions to be taken by the concerned State Boards to check methane emissions as also emerged during the follow-up meeting held on 16/1/2025, is enlisted in Column 5 of Table 1.0

Table 1: Observations of the Joint Committee report and status of action taken report

S.N.	Sites as identified as methane emission sources (1)	Observations in the Joint Committee report (2)	Action to be Taken as per the Observations in the Joint Committee Report (3)	Action taken by SPCBs (4)	CPCB observations (5)
1.	**Gujarat (02 Dumpsites identified as methane emission sources)**				
a)	**Khajod dumpsite, Surat**	• Average methane emission- 4706 kg/h • No Fire reported • Gas collection system provided • Ambient air quality not monitored at the dumpsite	• Details of Fire control measures taken • Ambient Air Quality monitoring to be conducted	Regional Office, Surat, Gujarat SPCB vide email dated 16.1.2025 informed following action taken: Surat Municipal Corporation has completed bio mining work at the site and capped with soil cover.	(i) Gujarat SPCB to examine as to why methane is still being generated when site has been biomined and capped

		• Leachate collection and treatment system provided • Methane detector not installed • Fresh waste is not being disposed	• Methane detectors to be installed	Regular air quality monitoring will be conducted as per the regulations. Regarding methane control measures, Surat Municipal Corporation has made provisions to capture and flare methane gas. However, a detailed feasibility study on methane generation and its potential for utilization will be conducted before implementation, starting within the next six months.	(ii) Gujarat SPCB is to regularly carry out Air Quality Monitoring in and around the Biomined area

				The information received from Gujarat SPCB is enclosed at **Annexure VII A**	
b)	**Pirana dumpsite, Ahmedabad**	• Average methane emission- 4272 kg/h • Biomining completed	• To identify source of methane emission	Regional Office, Ahmedabad, Gujarat SPCB through whatsapp dated 17.1.2025 informed that following action had been taken on the matter: As per information received from Ahmedabad Municipal corporation (AMC); the Methane emission reported in the IIRS could be due to the bio mining work carried out in that	No further action on the matter is required by the Gujarat SPCB

				period. However, Bio mining is completed at the site. In addition to that, following actions are taken: 100% of fresh waste is being processed. Bio mining work of legacy waste as per NGT order at Pirana dumpsite has been completed in Dec 2023. No major Fire incidents have been reported during last 5 years. The 500 Metric Tons Per Day (MTPD) composting plant and the 1000 TPD waste-to-energy facility are established.	

				The information received from Gujarat SPCB is enclosed at Annexure **VII B**	
2.	**Maharashtra (02 dumpsites and 02 Sanitary Landfill sites (SLFs) identified as methane emission sources)**				
a)	**Deonar dumpsite, Greater Mumbai**	• Average methane emission- 6202 kg/h • Biomining not initiated • No Fire reported • No provision of gas collection system • Ambient air quality monitored at the dumpsite	• Methane control measures to be taken • Time line for Biomining to be given • Details of Fire control measures taken	Maharashtra SPCB vide dated 15.1.2025 issued Interim Direction to Municipal Corporation of Greater Mumbai for following: (i) To carry out Biomining at Deonar Dumpsite, for installation of methane detection system, Gas collection system, Leachate	(i) Maharashtra SPCB is required to enforce and monitor compliance of its direction dated 15/1/2025.

		• No provisons for leachate collection and treatment • Methane detector not installed • Fresh waste is still disposed	• Methane detectors to be installed • Gas collection & utilisation to be done • Leachate management system to be installed • Disposal of Fresh waste to be stopped	collection and treatment system (ii) To submit bioremediation plan and subsequent scientific closure plan for legacy waste dumpsite (iii) To provide Fogger Canon (Mist type) water sprinkling System and fixed water sprinkling system (rain guns) at the dumpsite (iv) To submit bank guarantee of Rs 2.00Lakh The information received from Maharashtra SPCB is enclosed at Annexure **VII C**	(ii) It has to ensure that: (a) fresh waste is not disposed at the dumpsite (b) Requisite fire control measures are implemented at site.

b)	**Aadharwadi dumpsite, Kalyan Dombivli**	• Average methane emission- 6202 kg/h • Biomining commenced • No Fire reported • No provision of gas collection system • Ambient air quality monitored at the dumpsite • No provisions for leachate collection and treatment • Methane detector not installed • Fresh waste is not being disposed	• Methane control measures to be taken • Time line for Biomining to be given • Details of Fire control measures taken • Methane detectors to be installed • Gas collection & utilisation to be done • Leachate management	Maharashtra SPCB vide letter dated 15.1.2025 issued Interim Direction to Kalyan Dombivli Municipal Corporation (KDMC) for following: (i) To submit time bound programme for completion of bio mining within 15 days. Submit bank guarantee of Rs 1.00 Lakh for compliance of the same (ii) Methane gas detectors to be installed within 03 months & submit bank guarantee of Rs 3.00 Lakh for compliance of the same (iii) Monthly monitoring of methane gas	(i) Maharashtra SPCB is required to enforce and monitor compliance of its direction dated 15/1/2025 (ii) It has to ensure that: requisite fire control measures are implemented at site

			system to be installed	(iv) To provide gas collection system within 03 months & submit bank guarantee of Rs 3.00 Lakh for compliance of the same. (v) To provide Leachate collection arrangement and shall treat the leachate in STP Umbarde and submit bank guarantee of Rs 1.00 Lakh of compliance of the same. The information as received from Maharashtra SPCB is enclosed at Annexure **VII D**	

c)	**Kanjurmarg SLF, Greater Mumbai**	• Authorization valid till Oct, 2026 • Gas collection system provided • Ambient air quality monitored • No fire reported • Leachate collection and treatment system provided	• Gas utilisation details to be provided	Maharashtra SPCB vide letter dated 15.1.2025 issued Interim Direction to Municipal Corporation Greater Mumbai for following: (i) To provide Adequate Leachate collection system (ii) To carry out regular monitoring of methane (iii) Shall submit Bank guarantee of Rs 2.00 Lakh within seven days The information received as received from Maharashtra SPCB is enclosed at Annexure **VII E**	(i) Maharashtra SPCB is required to enforce and monitor compliance of its direction dated 15/1/2025 (ii) It has to further ensure that Gas generated in the SLF is effectively collected and utilised

d)	**Pimpri-Chinchawad SLF, Pune**	• Average methane emission- 1333 kg/h • Authorization valid till Dec, 2024 • Gas collection system not provided • Ambient air quality monitored • Fire reported • Leachate collection and treatment system provided	• Methane/gas collection & Utilisation 'to be done	Maharashtra SPCB vide letter dated 16.1.2025 issued conditional Direction to Pimpri Chinchinwad Municipal Corporation for following actions to be taken at SLF: (i) To carry out regular monitoring of methane and submit report regularly (ii) To install Gas collection system and utilisation (iii) To install leakage detection & repair system at SLF	(i) Maharashtra SPCB is required to enforce and monitor compliance of its direction dated 15/1/2025 (ii) It further has to ensure that the SLF operates with valid Authorization from the SPCB

				(iv) Installation of methane detector & fire preventive measures at dumpsites (v) To maintain details of dumped waste at SLF only segregated inert waste to be permitted for dumping at SLF (vi) Biomining of waste dumped during COVID period (vii) Install solid waste processing plant to treat 100% waste (viii) Submit bank guarantee of Rs 2.00 Lakh towards compliance of above directions within 15 days.	

				The information received as received from Maharashtra SPCB is enclosed at at Annexure **VII F**	
3.	**Rajasthan (02 dumpsites identified as methane emission sources)**				
a)	**Chirawa dumpsite**	• Average methane emission- 478 kg/h • Biomining commenced • Fire reported • Gas collection system not provided • Ambient air quality not monitored at the dumpsite	• Gas collection & utilisation to be done • Time line for Bio mining to be given • Fire control measures to be taken	Regional Office, Jhunjhunu, Rajasthan SPCB issued a notice to Nagarpalika Chirawa vide dated 8th January, 2025 to ensure the following measures: (i) Submit an action plan for bio mining (ii) To install methane detectors (iii) Fire preventive measures to be implemented	**(i)** Rajasthan SPCB is required to enforce and monitor compliance of its direction dated 8/1/2025

		• Leachate collection and treatment system not provided • Methane detector not installed • Fresh waste still disposed	• Methane detectors to be installed • Leachate management system to be installed • Disposal of Fresh waste to be stopped	(iv) Regular monitoring of methane to be carried out (v) Quarterly monitoring report of methane to be submitted to SPCB (vi) Regular Ambient Air Quality monitoring shall be conducted and quarterly report shall be submitted to SPCB The notice issued to Nagarpalika Chirawa also directed for taking following actions: • Detailed corrective actions for each non	(ii) It has to ensure that: (a) fresh waste is not disposed at the dumpsite (b) leachate generated is effectively managed at site.

				compliance observed in Joint Committee report • Supportive evidence & documents & updated compliance plan for actions to be to be given as per the directions issued by Rajasthan SPCB • Response to be submitted by 11.01.2025 Further, show cause notices has also been issued on 02.07.2024 to Nagar Palika Chirawa based on the inspections of dumpsite conducted by Rajasthan SPCB on 25.6.2024	

				The information as received from Rajasthan SPCB is enclosed at Annexure **VII G**	
b)	**Taranagar dumpsite**	• Average methane emission- 589 kg/h • Biomining not initiated • No Fire reported • Gas collection system not provided • Ambient air quality not monitored at the dumpsite • Leachate collection and treatment system not provided	• Gas collection & utilisation to be done • Bio mining to be initiated & timelines to be provided • Ambient Air Quality to be monitored • Leachate management	Rajasthan SPCB through whatsapp dated 16.1.2025 informed following action taken: Regional Office, Jhunjhunu, Rajasthan SPCB issued a notice to Nagarpalika Taranagar ,Churu vide dated 8th January, 2025 to ensure the following measures:	i. Rajasthan SPCB is required to enforce and monitor compliance of its direction dated 8/1/2025 **ii.** It has to ensure that: (a) fresh waste is not disposed at the dumpsite (b) leachate

		• Methane detector not installed • Fresh waste still disposed	system to be installed • Methane detectors to be installed • Disposal of fresh waste to be stopped	i. Submit an action plan for bio mining, Status of bio mining which was proposed to be initiated after August, 2024 ii. To install methane detectors iii. Fire preventive measures to be implemented iv. Regular monitoring of methane to be carried out v. Quarterly monitoring report of methane to be submitted to SPCB vi. Regular Ambient Air Quality monitoring shall be conducted and	generated is effectively managed at site.

				quarterly report shall be submitted to SPCB vii. Quantity of methane generated to be reported on annual basis viii. Response to be submitted by 11.01.2025 Rajasthan SPCB had also letter to Nagar Palika Taranagar during 2024 for enforcement of SWM Rules, 2016 & to provide action taken report on emission of methane from the dumpsites. Further, show cause notices has also been issued on 02.07.2024 to Nagar Palika Taranagar based on the inspections of dumpsite	

				conducted by Rajasthan SPCB on 25.6.2024 The information as received from Rajasthan SPCB is enclosed at Annexure **VII G**	
4.	**05 O&G sites identified as methane emission sources – Assam (Tinsukia, Dibrugarh & Nazira) & Rajasthan (Jaisalmer & Barmer)**				
	• All O & G units are equipped with fire prevention arrangements as reported by SPCBs. • Emergency response plan for fire prevention is available at all O & G sites. • Ambient air quality is measured at all sites during 2024 (except Nazira during 2023).		• Ambient Air Quality to be monitored at Nazira • Strengthening of Fire control measures to be done at Nazira • Implementation of measures for	Assam & Rajasthan SPCB through whatsapp dated 16.1.2025 informed following action taken: **Assam:** Regional Office, Sivasagar forwarded a letter received from, ONGC, submitting	Assam & Rajasthan SPCB to regularly monitor the methane emissions and ambient air quality at the Oil & Gas Facilities in their state. The State Boards have to regularly monitor the O&G facilities to ensure

	• Compliance to the standards is given at all sites for ambient air quality except at Barmer having high PM_{10} concentration. • Methane detectors have been provided at all sites. • Mitigation measures taken for reduction in organic emission including methane have been taken at all sites which mainly includes, LEL monitoring System, High-energy ignition based remote ignition system, Online Gas monitoring system, Preventive maintenance of equipment, Installation of advance flaring system, Vapour recovery unit to capture methane emission,	higher conversion rate of methane to be done • Measures for control of PM_{10} concentration to be taken at Barmer	following actions taken for methane mitigation (i) Flare system is installed in Lakwa, Rudrasagar and Lakhmani area (ii) The processes adopted in all the installations are optimised to prevent release of methane gas. (iii) Methane detectors are installed (iv) Equipment's and pipelines are maintained **Rajasthan:** Associated gas containing high level of CO2 is separated and flared after proper combustion	effective implementation of measures for controlling methane emissions.

	Installation of leak detection and repair system, Methane oxidising Bio filters, Regular assessments and audits etc. • One fire incident has been reported at Nazira site during the year 2023 due to gasket failure. • Sites with low conversion rates of methane to products and high flaring rates have reported higher methane generation.		The design of flaring system ensures proper combustion of hydrocarbons, minimising the release of untreated gases Methane gas detectors and temperature sensors installed Rajasthan SPCB has monitored ambient air quality at Barmer O & G site on 9.1.2025 and analysis results indicate that parameters NO_2, SO_X and PM_{10} are within prescribed norms of NAAQS. (The information received is attached as Annexure **VII H**)	

3.0. Conclusions

(a) The concerned local authorities in Maharashtra including Kalyan Dombivili Municipal Corporation, Municipal Corporation of Greater Mumbai & Pimpri-Chinchwad Municipal Corporation to take further necessary action so as to comply with the interim directions dated January 15-16, 2025 issued by Maharashtra Pollution Control Board (MPCB).

(b) Maharashtra SPCB is required to enforce and monitor compliance of its direction dated January 15-16, 2025 issued to the Local bodies listed in Table 1.0 of this Report.

(c) Maharashtra SPCB has to take further necessary action so as to ensure that: (i) fresh waste is not disposed at the Deonar dumpsite (ii) Requisite fire control measures are implemented at Deonar and Athwarwadi site (iii) Gas generated at Kanjurmarg SLF is effectively collected and utilized (iv) Pimpri-Chinchwad SLF operates with valid Authorization from the Maharashtra SPCB.

(d) The concerned local authorities in Rajasthan including Chirawa and Taranagar to take further necessary action so as to comply with the interim directions dated January 08, 2025 issued by Rajasthan SPCB.

(e) Rajasthan SPCB is required to enforce and monitor compliance of its direction dated January 08, 2025 issued to Local Authorities listed in Table 1.0 of this report.

(f) Rajasthan SPCB to take further necessary action so as to ensure (i) That Fresh waste is not disposed at the Chirawa and Taranagar dumpsite (ii) leachate generated is effectively managed at site.

(g) Gujarat SPCB to examine as to why methane is still being generated when site has been biomined and capped and take appropriate control methods accordingly.

(h) Gujarat SPCB is to regularly carry out Air Quality Monitoring Reports in and around the Biomined area in Khajod.

(i) Regular monitoring of methane emissions & ambient air quality to be conducted at all O&G facilities in Rajasthan and Assam by concerned SPCB/PCC. The State Boards to regularly monitor the O&G facilities to ensure effective implementation of measures for controlling methane emissions.

Divy.

(Divya Sinha)
Scientist 'F'
Central Pollution Control Board

दिव्या सिन्हा / Divya Sinha
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
(M/o Environment, Forest & Climate Change, Govt. of India)
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली–110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

Item No. 09 Court No. 3

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 247/2024

News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024

Date of hearing: 27.09.2024

CORAM: HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Respondents: Mr. Raj Kumar, Adv. for CPCB (Through VC).
Mr. Maulik Nanavati, Adv. for the State of Gujarat & GPCB (ThroughVC).
Mr. Nishant Awana, Adv. for RSPCB (Through VC).
Mr. Mukesh Verma & Ms. Vatsala Tripathi, Advs. for MPCB (Through VC).

ORDER

1. Report dated 13.08.2024 of the joint Committee has been filed by the CPCB via email dated 14.08.2024.

2. None has appeared for Respondent No. 1-MoEF&CC, Respondent No. 6-Assam Pollution Control Board, Respondent No. 7-State of Maharashtra, Respondent No. 9-State of Assam and Respondent No. 10-State of Rajasthan.

3. Notices be issued again to Respondents No. 1, 6, 7, 9 and 10 requiring them to file their responses/replies at least one week before the next date of hearing fixed and also ensuring their representation before this Tribunal on the next date of hearing.

4. Learned Counsel for Respondent No. 2-CPCB, Respondent No. 3-Maharashtra Pollution Control Board, Respondent No. 4- Gujarat Pollution Control Board and Respondent No. 8-State of Gujarat and Respondent No.5-Rajasthan Pollution Control Board seek time for filing of

action taken reports. The same be filed at least one week before the next date of hearing fixed.

5. List on 22.01.2025 for further consideration.

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

September 27, 2024
O.A. No. 247/2024
A

Item No. 01 Court No. 2

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 247/2024

News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024

Date of hearing: 19.03.2024

CORAM: HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

ORDER

1. This Original Application (hereinafter referred to as '**OA**') under Section 14 and 15 of National Green Tribunal Act, 2010 (hereinafter referred to as '**NGT Act, 2010'**) has been registered in *suo-motu* exercise of jurisdiction based on a news item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" published in daily newspaper 'Times of India' dated 07.02.2024.

2. The news publication highlights principally emission of high-level Methane gas from landfill sites at Ahmedabad and Surat based on a study conducted by Indian Space Research Organization (hereinafter referred to as '**ISRO'**). However, news item contains a Chart in respect to certain cities of States of Maharashtra, Gujarat, Rajasthan and Assam giving details of landfill sites thereat and average emission of Methane from said sites causing huge pollution.

3. It is said that about 14.43% of India's carbon emissions come from methane emanating from agriculture and waste sites. Decomposition process at landfill sites creates unhealthy conditions and releases substantial emissions even after landfills are closed. Methane's impact is particularly concerning as it is 25 times more potent than carbon dioxide

at trapping heat in atmosphere. News item also shows that this must be the condition Pan India inasmuch as there is emission of Methane from solid/municipal waste landfills across the country and no effective steps are being taken by statutory regulators as also those who are responsible for proper handling, management and disposal of such sites.

4. In our view, the above contents of above news item give rise to a substantial question relating to environment due to implementation of Scheduled Enactments under NGT Act, 2010 and the issue is not confined to four States in respect whereof some details have been given but it appears to be a Pan India problem. However, for the time being, in order to collect primary informations, we find it appropriate to call for a factual report in respect of landfill sites mentioned in said news item report in cities Central Mumbai, Pune and Kalyan in State of Maharashtra, Ahmedabad and Surat in State of Gujarat, Barmer, Jaisalmer, Taranagar and Chirawa in State of Rajasthan and Nazira, Dibrugarh-Tinsukia in State of Assam.

5. For the purpose of submitting factual report, we constitute a Joint Committee comprising a Senior Officer to be nominated by Member Secretary, Central Pollution Control Board (hereinafter referred to as '**CPCB**), concerned Regional Officers of respective State Pollution Control Boards, a representative of ISRO to be nominated by Director; and a Senior Scientist nominated by Ministry of Environment, Forest and Climate Change (hereinafter referred to as '**MoEF&CC**).

6. CPCB shall be the nodal agency for coordination and compliance.

7. The said Committee shall collect relevant factual information; if necessary, visit the sites and submit factual report particularly relating to compliance of such sites with Schedule I of Solid Waste Management

Rules, 2016 (hereinafter referred to as '**MSW Rules, 2016**') and remedial measures taken on para (F) of the said Schedule within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF. The report should also give status of Authorization granted by State Pollution Control Bard, accumulation of waste in quantified terms on sites in question and ambient air quality monitoring data around these sites as per MSW Rules, 2016. The Committee may also indicate mitigation measures taken for reduction in organic emissions, including methane from ONGC sites separating them from landfill sites as the case may be.

8. We also implead following as respondents in the matter:

(1). MoEF&CC through its Secretary, Indira Paryavaran Bhawan Jorbagh Road New Delhi – 110 003.

(2). CPCB through its Member Secretary, Parivesh Bhawan, East Arjun Nagar, Delhi-110032

(3). Maharashtra Pollution Control Board through its Member Secretary, Kalpataru Point, 2nd – 4th Floor Opp. Cine Planet Cinema, Nr. Sion Circle, Sion (E) Mumbai – 400 022

(4). Gujarat Pollution Control Board through its Member Secretary, Paryavan Bhavan, Sector 10- A Gandhinagar – 382 043.

(5). Rajasthan State Pollution Control Board through its Member Secretary, 4, Jhalana Institutional Area, Jhalana Doongri, Jaipur, Rajasthan - 302 004.

(6). Assam Pollution Control Board through its Member Secretary, Bamunimaidan, Guwahati, Assam – 781021.

(7). State of Maharashtra through Additional Chief Secretary/Principal Secretary, Environment and Forest

Department, Govt. of Maharashtra, New Administrative Bhavan, 15th Floor, Madame Kama Road, Mantralaya, Mumbai - 400 032,

(8). State of Gujarat through Additional Chief Secretary/Principal Secretary, Environment and Forest Department, Government of Gujarat Block 14, 8th floor, Sachivalaya, Gandhinagar - 382 010.

(9). State of Assam through Additional Chief Secretary/Principal Secretary, Environment and Forest Department, 2nd Floor, Janata Bhawan, Dispur.

(10). State of Rajasthan through Additional Chief Secretary/Principal Secretary, Environment and Forest Department, Govt. of Rajasthan, Secretariate, Jaipur, Rajasthan 302005.

9. Registry is directed to issue notices to above respondents so that they may file their responses within two months.

10. List on 05.07.2024.

11. A copy of this order be forwarded to CPCB, SPCBs of Maharashtra, Gujarat, Rajasthan and Assam, ISRO and MoEF&CC by e-mail for compliance.

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

March 19, 2024
Original Application No. 247/2024
DV

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

Principal Bench, New Delhi

O.A No. 247 of 2024

News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the times of India dated 07.02.2024.

Index

Divya Sinha
Scientist 'F'
Central Pollution Control Board
East Arjun Nagar

Place: Delhi
Dated: 13.08.2024

JOINT COMMITTEE REPORT

(IN COMPLIANCE TO HON'BLE NGT ORDER DATED 19.03.2024 IN THE MATTER OF NEWS ITEM TITLED "AHMEDABAD SURAT LANDFILLS AMONG WORST THREE METHANE HOTSPOTS IN INDIA" APPEARING IN THE TIMES OF INDIA DATED 07.02.2024)

CENTRAL POLLUTION CONTROL BOARD
(*Ministry of Environment, Forest & Climate Change*)
"Parivesh Bhawan", East Arjun Nagar,
Delhi-110032

August, 2024

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JOINT COMMITTEE REPORT SUBMITTED IN COMPLIANCE TO HON'BLE NGT ORDER DATED 19.03.2024 IN THE MATTER OF NEWS ITEM TITLED "AHMEDABAD SURAT LANDFILLS AMONG WORST THREE METHANE HOTSPOTS IN INDIA" APPEARING IN THE TIMES OF INDIA DATED 07.02.2024)

1.0. BACKGROUND

Hon'ble NGT vide order dated 19.3.2024 in O.A No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024 directed in para 5,6 and 7 are reproduced below:

- ***Para 5*** *"for the purpose of submitting factual report we constitute a Joint Committee comprising a Senior Officer to be nominated by Member Secretary, Central Pollution Control Board (hereinafter referred to as CPCB,) concerned Regional Officers of respective State Pollution Control Boards, a representative of ISRO to be nominated by Director and a Senior Scientist nominated by Ministry of Environment, Forest and Climate Change (hereinafter referred to as MoEF&CC) "*
- ***Para 6*** *"CPCB shall be the nodal for coordination and compliance."*
- ***Para 7*** *"The said committee shall collect relevant factual information : if necessary , visit the sites and submit factual report particularly relating to compliance of such sites with Schedule I of Solid Waste Management Rules, 2016 (herein after referred to as MSW Rules , 2016) and remedial measures taken on Para (F) of the said Schedule within three months by email at judicial–ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF.*
- *The report should also give status of Authorisation granted by State Pollution Control Board, accumulation of waste in quantified terms on sites in question and ambient air quality monitoring data around these sites as per MSW Rules, 2016. the Committee may also indicate mitigation measures taken for reduction in organic emissions, including methane from ONGC sites separating them from landfill sites as the case may be."*

A copy of Hon'ble NGT order is attached as **Annexure I**

2.0. FOLLOW UP ACTION INITIATED BY CPCB

In compliance to the said order, nominations were invited by Central Pollution Control Board (CPCB) from committee member's organizations vide letter dated 18.04.2024 **(Annexure II)**. The Joint committee was constituted as per response received from the concerned organization. The details given below:

1	Mrs Divya Sinha , Director & Divisional Head , UPC-II
2	Sh Amit Love , Scientist 'E' MoEF&CC
3	Dr Raghvendra Pratap Singh , Director, Indian Institute of Remote Sensing (IIRS) , ISRO, Dehradun
4	Sh Sujit Dholam , Regional Officer (HQ) , Maharashtra
5	Sh. Jagdish Choudhary, Regional Officer , Jaisalmer, Rajasthan
6	Sh. Rajkumar Sehra, Regional Officer, Balotra , Rajasthan
7	Sh. Deepak Dhanetwal,Regional Officer , Jhunjhunu , Rajasthan
8	Dr. Jignasa Oza , Regional Officer Surat, Gujarat
9	Dr Talika Patel , Regional Officer, Ahmedabad , Gujarat
10	Sh Hiren Pegu , Executive Engineer and Regional Officer , Tinsukia , Assam
11	Sh Jayanta Kumar Das, Regional Executive Engineer, Sivasagar , Assam

3.0. MEETINGS OF THE JOINT COMMITTEE

The meeting of committee members was convened on 03.06.2024 through Video Conferencing (VC) to discuss the further line of action in the said matter. Copy of the Minutes of Meeting is enclosed **(Annexure III)**. Three formats were sent to the concerned SPCBs/PCCs to provide the relevant information including. (i) City wise details: information of dumpsites and sanitary landfills in the city. (ii) Details of the legacy waste dumpsites (iii) Details of sanitary landfills

Second meeting of the committee was held on 18.06.2024. As per the deliberations, additional format was circulated to the concerned SPCBs/PCC to provide relevant information w.r.t Oil & Gas establishments in cities indicated in IIRS, Report. Copy of the Minutes of Meeting is enclosed **(Annexure IV).** Third meeting of the committee was held on 02.07.2024 and minutes of the meeting is enclosed as **(Annexure V)**

4.0. LITERATURE REVIEW

Literature survey was conducted to review information with respect to methane emissions from dumpsites available in the various studies/publications on the subject. CPCB has published a document on "Status of Methane Emission from Municipal Solid Waste Disposal Sites " in April 2006. Indian Institute of Remote sensing (IIRS), ISRO, Dehradun has conducted a study and a research paper on "Detecting Methane Emissions from Space over India: analysis using EMIT and Sentinel-5P TROPOMI datasets" has been published. The aforementioned documents were reviewed. Further, international practices and regulations for mitigation of methane arising was also reviewed. The details are placed at **Annexure VI**

5.0 COMPILATION & ANALYSIS OF INFORMATION:

The concerned SPCBs/PCCs were requested to provide information related to Solid Waste processing facilities as well as Oil & Gas establishments in four States covering 12 cities viz Assam (Nazira, Dibrugarh & Tinsukia) , Gujarat (Ahmedabad and Surat) , Maharashtra (Central Mumbai , Pune , Kalyan) and Rajasthan (Barmer, Jaisalmer, Taranagar and Chirawa) Formats in which the information was to be provided is placed at **Annexure-VII.** It is to be noted that the SPCBs/PCCs were requested to provide the GPS location of the aforementioned facilities to CPCB
The city wise information is attached as **Annexure-VIII.**

The GPS location of the hotspots of methane generation in the IIRS report was compared with the GPS location of the SWM / O&G facilities in the particular cities provided by the SPCBs/PCCs. SWM Facilities / O&G facilities close to the hotspots as per the IIRS report could be identified based on the assessment. 13 such sites (except one site at Nazira) could be identified whose GPS coordinates were close to the hotspots as per the IIRS report. The same have been highlighted in Table **5.1**. The GPS locations of Nazira was visited by Regional Office , Assam SPCB at Nazira and it was informed that ,there are 8 nos of ONGCL installations such as Gelekey GGS-2, Gelekey CTF, Gelekey ETP (old), Gelekey WIP(old) , Gelekey New ETP-WIP, Gelekey CPP, Gelekey GCP-1 & Gelekey GCP-2 and 3.The technical flaring of natural gas generated from GGS-2 and GCPs is being flared in the ground flare pit, enclosed by asbestos sheets which is approx 250-300 meters (aerial distance) from the installations and has shown the same GPS coordinates as mentioned by ISRO

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Table 5.1 : Sources of methane emission nearest to the location provided by IIRS, ISRO

State	City	Primary Emission Sources	Other Emission sources	Average methane emission (kg/hr)	Coordinates	Dumpsites/SLFs/O&G Sites	Coordinates	Corresponding closest sites	Remarks
Gujarat	Surat	SW Landfill Site Khajod	STP Khajod	4705	21.11 72.81	Khajod Dumpsite	21.100 72.803	Khajod Dumpsite	Coordinates of Khajod Dumpsite is matching to ISRO identified site .
						Bhatar Dumpsite	21.159 72.819		
						Khajod SLF	21.100 72.803		
	Ahmedabad	SW-Pirana Landfill Site	TI-Chiripal Textile mill Ltd	4727	22.98 72.57	Pirana Dumpsite	22.976 72.563	Pirana Dumpsite	Coordinates of Pirana Dumpsite is matching with ISRO data
						Gyaspur SLF	22.960 72.546		

State	City	Primary Emission Sources	Other Emission sources	Average methane emission (kg/hr)	Coordinates	Dumpsites/SLFs/O&G Sites	Coordinates	Corresponding closest sites	Remarks
Maharashtra	Central Mumbai	SO		6202	19.12 72.95	Deonar Dumpsite	19.126 72.946	Deonar Dumpsite	As reported by MPCB RO, dumpsite at Deonar and SLF at Kanjurmarg are located in Central Mumbai. Further the GPS location are also nearby.
						Kanjurmarg SLF	19.122 72.947	Kanjurmarg SLF	

State	City	Primary Emission Sources	Other Emission sources	Average methane emission (kg/hr)	Coordinates	Dumpsites/SLFs/O&G Sites	Coordinates	Corresponding closest sites	Remarks
						Mulund Dumpsite	19.171 72.973		
	Thane	Kanjur SW BMC Dumping	SW Deonar Dumping	Not given	19.12 72.95				

State	City	Primary Emission Sources	Other Emission sources	Average methane emission (kg/hr)	Coordinates	Dumpsites/SLFs/O&G Sites	Coordinates	Corresponding closest sites	Remarks
	Kalyan Dombivli	SW Dumping site (KDMC Dump-1)		889	19.25 73.12	Aadharwadi Dumpsite	19.265 73.104	Aadharwadi Dumpsite	As reported by MPCB RO, Kalyan Dombivli is one Municipal corporation, but as per IIRS ISRO kalyan and Dombivli have separate sites. Hence Aadharwadi dumpsite is considered as emission source.
		SW Dumping site (KDMC Dump-2)	WT	820	19.28 73.12				Do
		SW Landfill Site		750	19.18 73.04	Umbarade SLF	19.278 73.12		Not identified by ISRO
						Barave SLF	19.264 73.147		

State	City	Primary Emission Sources	Other Emission sources	Average methane emission (kg/hr)	Coordinates	Dumpsites/SLFs/O&G Sites	Coordinates	Corresponding closest sites	Remarks
	Pune	SW Landfill site, Adarsha nagar, Pimpri-chinchwad		1333	18.66 73.86	Pimpri-Chinchwad SLF	18.658 73.853	Pimpri-Chinchwad	Coordinates are nearby
						Urali Devachi Dumpsite	18.470 73.952		
						Urali Devachi SLF	18.470 73.952		
Rajasthan	Chirawa	SW Dumping Chirawa, Jhunjhunu		478	28.26 75.64	Baghniya Johar	28.26, 75.64	Baghniya Johar	Coordinates are nearby
	Taranagar	SW Bhootiya Taranagar		589	28.65 75.07	Alagla Road, Bhootiya	28.6656, 75.0247	Alagla Road, Bhootiya	Coordinates are nearby
	Jaisalmer	O&G-GGS-Jaisalmer		931	27.14 69.75	Focus energy Ltd. SGL gas field, Jaisalmer	27.141, 69.759	Focus energy Ltd. SGL gas field, jaisalmer	Coordinates are nearby

State	City	Primary Emission Sources	Other Emission sources	Average methane emission (kg/hr)	Coordinates	Dumpsites/SLFs/O&G Sites	Coordinates	Corresponding closest sites	Remarks
	Barmer	O&G-ABH facility, Banda Talwar		1475	25.9 71.57	Vedanta Ltd. Cairn oil & gas ABH facility	25.90, 71.572	Vedanta Ltd. Cairn oil & gas ABH facility	Coordinates are nearby
Assam	Nazira	O&G ONGC Refinery		561	26.8 94.69	ONGC, ASSAM Asset, Nazira, Assam	26.916 94.740	ONGC, ASSAM Asset, Nazira, Assam	RO Assam, SPCB visited on July 03, 2024 & ascertained that at the location identified by IIRS, ISRO, there is ONGCL site exists with 8 no. of installations.
	Dibrugarh	O&G Kathalguri-OCS		521	27.34 95.48	Kathalguri OCS Duliajan	27.368 95.446	Kathalguri OCS Duliajan	Coordinates are not much apart. However this is the only Oil India Limited site in Dibrugarh
	Tinsukia	Jorojan-GCS			27.34 95.48	Jorajan OCS, Digboi	27.341 95.483	Jorajan OCS, Digboi (Oil India Ltd.)	Coordinates are nearby

6.0 Detailed analysis of identified sites

These sites identified in Section 5 were taken up for detailed assessment in compliance with NGT Directions. The details are given table

Table 6.1: Dumpsites

IIRS, ISRO Site					Data provided by SPCB ROs									
State	**S.No.**	**City**	**Place of Dumpsites**	**IIRS ISRO, Average methane Emission kg/hr**	**Location of Site (Lat., Long.)**	**Biomining Status (Not initiated/Commenced/ Completed)**	**Age (Years) & Avg. height (m) of Dump**	**Volume of Waste in the dumpsites**	**No. of fires reported & cause of fire**	**Provision for gas collection System**	**Ambient Air Quality Monitoring**	**Provision for leachate Collection & treatment**	**Provision for Methane Detector (Y/N)**	**Disposal of fresh waste (Y/N)**
Gujarat	1	**Surat**	Khajod	4705	21.1004, 72.563	Capped	20-25 years	35 Lakh Cum	None	Yes, in closed landfill cells (40 gas collection system)	No	yes, Leachate is collected in tankers & treated in Leachate treatm	No, but gas vent provided in scientifically closed area .	No

IIRS, ISRO Site					Data provided by SPCB ROs									
State	**S.No.**	**City**	**Place of Dumpsites**	**IIRS ISRO, Average methane Emission kg/hr**	**Location of Site (Lat., Long.)**	**Biomining Status (Not initiated/Commenced/ Completed)**	**Age (Years) & Avg. height (m) of Dump**	**Volume of Waste in the dumpsites**	**No. of fires reported & cause of fire**	**Provision for gas collection System**	**Ambient Air Quality Monitoring**	**Provision for leachate Collection & treatment**	**Provision for Methane Detector (Y/N)**	**Disposal of fresh waste (Y/N)**
												ent unit		
	2	**Ahmedabad**	Pirana	4727	22.976, 72.563	Completed in Dec. 2023	Biomining completed							

IIRS, ISRO Site					Data provided by SPCB ROs									
State	**S.No.**	**City**	**Place of Dumpsites**	**IIRS ISRO, Average methane Emission kg/hr**	**Location of Site (Lat., Long.)**	**Biomining Status (Not initiated/Commenced/ Completed)**	**Age (Years) & Avg. height (m) of Dump**	**Volume of Waste in the dumpsites**	**No. of fires reported & cause of fire**	**Provision for gas collection System**	**Ambient Air Quality Monitoring**	**Provision for leachate Collection & treatment**	**Provision for Methane Detector (Y/N)**	**Disposal of fresh waste (Y/N)**
Maharashtra	3	**Greater Mumbai**	Deonar	6202	19.05, 72.08	Not initiated	103 Years & 40 m	200 Lakh MT	None	No	Yes	No	No	Yes
	4	**Kalyan Dombivali**	Aadharwadi		19.265, 73.104	Commenced	42 years & 15 m	13.70 Lakh MT	None	No	Yes	No	No	No

IIRS, ISRO Site					Data provided by SPCB ROs									
State	**S.No.**	**City**	**Place of Dumpsites**	**IIRS ISRO, Average methane Emission kg/hr**	**Location of Site (Lat., Long.)**	**Biomining Status (Not initiated/Commenced/ Completed)**	**Age (Years) & Avg. height (m) of Dump**	**Volume of Waste in the dumpsites**	**No. of fires reported & cause of fire**	**Provision for gas collection System**	**Ambient Air Quality Monitoring**	**Provision for leachate Collection & treatment**	**Provision for Methane Detector (Y/N)**	**Disposal of fresh waste (Y/N)**
Rajasthan	5	**Chirawa**	Chirawa	478	28.261, 75.639	Commenced	39 years & 3.3-6.1 m	0.81118 Cum (0.68951 Lakh MT)	7 small fires due to flammable material	No	No	No	No	Yes
	6	**Taranagar**	Taranagar	589	28.665, 75.025	Not initiated	20 years & 6 m	0.12045 Lakh Cum (0.10630 LakhMT)	None	No	No	No	No	Yes

Table 6.2: Sanitary Landfill Sites (SLFs)

State	S.No.	City	Sanitary Landfill	IIRS ISRO, Average methane Emission kg/hr	Location of Site (Lat., Long.)	Operation year of SLF (Prior to 2016/After 2016)	Quantity of disposed at Sanitary Landfill	Authorization under SWM Rules, 2016/CTO & its validity	Provision for gas collection System	Ambient air quality Monitoring	No. of fire & reason	Provision for leachate Collection & treatment
Maharashtra	1	**Greater Mumbai**	Kanjurmarg	**Not given**	19.12, 72.9	After 2016	2.03 Lakh MT	Authorization obtained (valid till Oct. 2026)	Yes	Yes	No	Yes
	2	**Pune**	Pimpri-Chinchwad	1333	18.66, 73.85	Prior to 2016	23 Lakh Cum	Authorization obtained (valid till Dec.2024)	No	Yes	Yes	Yes

Table 6.3: Oil & Gas Sites

State	S.No.	City	O&G Site Name	IIRS ISRO, Average methane Emission kg/hr	Location of Site (Lat., Long.)	CTE/CTO Status	Methane Gas Generated(SCMD)	Conversion to production	Disposed to environment	Provision for Methane detector	No. of fire incidents during last 5 years	Ambient air quality monitoring
Assam	1	**Tinsukia**	Jorajan OCS Digboi, GGS	521	27.341, 95.484	Yes, Valid till 2027	181958	98.88%	Flaring: 1.12%Other: Nil	Yes	No	Yes (Parameters $PM_{2.5}$, PM_{10}, SO_2 & NO_x are within prescribed limit as per NAAQS
	2	**Dibrugarh**	Kathalguri OCS Duliajan, GCS		27.368, 95.446	Yes, Valid till 2027	396050	99.66%	Flaring: 0.34%Other: Nil	Yes	No	Yes (Parameters $PM_{2.5}$, PM_{10}, SO_2 & NO_x are within prescribed limit as per NAAQS

State	S.No.	City	O&G Site Name	IIRS ISRO, Average methane Emission kg/hr	Location of Site (Lat., Long.)	CTE/CTO Status	Methane Gas Generated(SCMD)	Conversion to production	Disposed to environment	Provision for Methane detector	No. of fire incidents during last 5 years	Ambient air quality monitoring
	3	**Nazira**	ONGC, Assam Asset. (GGS), Nazira	561	26.91, 94.74	Yes, Valid till 2026	274 MMSCM	92.87%	Flaring: 7.13% Other: Nil	Yes	01, reason not ascertained	Yes (Parameters $PM_{2.5}$, PM_{10}, SO_2 & NO_x are within prescribed limit as per NAAQS
Rajasthan	4	**Jaisalmer**	Focus Energy Limited, SGL gas field, GGS	931	27.141, 69.759	Yes, Valid till 2028	66300	NP	Flaring: Nil Other: Suplied to gas based thermal power plant	Yes	No	Yes (Parameters $PM_{2.5}$, PM_{10}, SO_2 & NO_x are within prescribed limit as per NAAQS

State	S.No.	City	O&G Site Name	IIRS ISRO, Average methane Emission kg/hr	Location of Site (Lat., Long.)	CTE/CTO Status	Methane Gas Generated(SCMD)	Conversion to production	Disposed to environment	Provision for Methane detector	No. of fire incidents during last 5 years	Ambient air quality monitoring
	5	**Barmer**	Vedanta Limited, CAIRN Oil & gas ABH facility, Extraction site	1475	25.90, 71.57	Yes, Valid till 2025	52091	0% (Due to high CO2 content	Flaring: 100%Other: Nil	Yes	No	Yes (Parameters SO_2 & NO_x CO are within prescribed limit as per NAAQS however PM_{10} is exceeding the prescribed limit.

7.0 Assessment of Identified 13 sites as per Hon'ble NGT Directions

The sites mentioned in Table 5.1 were taken up for detailed assessment in compliance with NGT Directions. The details are given in this section:

7.1. Municipal Solid Waste Dumpsites

6 dumpsites could be identified as possible methane emission sources closest to the locations identified by IIRS, ISRO study viz Surat, Ahmedabad, Central Mumbai, Kalyan-Dombivali, Chirawa, & Taranagar. Detailed assessment of these sites is given in **Table 6.1**, Following are the observations:

- Bio mining has been completed at 1 site (Pirana) , under process at 2 sites ((Kalyan –Dombivelli and Chirawa) , has not been initiated at 2 sites (Deonar & Taranagar) and 1 site has been capped (Khajod, Surat) .
- Gas collection systems is installed at only 1 site i.e Khajod , Surat.
- Methane detectors are not installed at any of the dumpsites.
- Ambient air quality is measured at 2 dumpsites namely Aadaharwadi & Deonar in Maharashtra and PM_{10} concentration is exceeding the limit of NAAQS norms at both sites, however, other parameters are within limit **(Annexure IX).**
- Methane emissions have been reported from Khajod (which is capped) and Pirana, Ahemdabad (where biomining has been completed)
- The dumpsite heights range from 3.3 Meters (Chirawa) to 40 Meters (Deonar, Mumbai).
- The age of the dumpsites ranges from 20 years (Taranagar) to 103 years (Deonar, Mumbai).
- Fresh waste disposal is ongoing at 3 dumpsites viz Deonar, Chirawa , Taranagar .
- Leachate collection and treatment system is installed only at Khajod, Surat. A fire incident was reported at Chirawa, Rajasthan (small fires due to flammable materials) in the last five years.
- According to the IIRS report, the Deonar site, which receives the largest amount of waste disposal, has been identified as the source of the highest methane emissions.

7.2 Sanitary Landfill Sites (SLFs)

Two SLFs could be identified viz Kanjurmarg (after 2016) and Pimpri-Chinchwad,Pune (before 2016) as possible methane emission sources closest to the locations identified by IIRS, ISRO. Detailed assessment of these sites is given in **Table 6.2**, Following are the observations

- Gas collection system is installed only at Kanjurmarg, Greater Mumbai. Methane emissions not reported for this site. Collection system not provided at Pimpri-Chinchwad,Pune. Methane emission reported from this site. A fire incident was reported at the Pimpri-Chinchwad site, with the cause not ascertained
- Ambient air quality is monitored at both SLFs viz Pimpri-Chinchwad & Kanjurmarg. The PM_{10} concentration is exceeding NAAQS norms at both SLFs. Report is placed at Annexure-IX.
- Both SLFs have been granted authorization by SPCBs, valid until October 2026 for Kanjurmarg and December 2024 for Pimpri-Chinchwad.
- Leachate collection systems are installed at both SLFs.

7.3 Oil and Gas Establishments.

5 Oil & Gas establishments - in 05 cities of Assam (Tinsukia, Dibrugarh & Nazira) and Rajasthan (Jaisalmer & Barmer) could be identified as possible methane emission sources closest to the locations identified by IIRS, ISRO. Detailed assessment of these sites is given in **Table 6.3**, Following are the observations

- The content of methane in the extracted Gas varies from 16- 89%.
- Methane flaring varies from 0.34 to 100% (100% at Barmer due to high CO_2 content). Consents are granted to all 05 No. of O&G sites by the respective SPCBs/PCCs.
- All O & G units are equipped with fire prevention arrangements as reported by SPCBs. Emergency response plan for fire prevention is available at all O & G sites.
- Ambient air quality is measured at all sites during 2024 (except Nazira during 2023). Compliance to the standards is given at all sites for ambient air quality

except at Barmer having high PM10 concentration. Ambient air quality report of all O&G sites is attached as **(Annexure X**)

- Methane detectors have been provided at all sites. Mitigation measures taken for reduction in organic emission including methane have been taken at all sites which mainly includes, LEL monitoring System, High-energy ignition based remote ignition system, Online Gas monitoring system, Preventive maintenance of equipment, Installation of advance flaring system, Vapour recovery unit to capture methane emission, Installation of leak detection and repair system, Methane oxidising Bio filters, Regular assessments and audits etc.
- One fire incident has been reported at Nazira site during the year 2023 due to gasket failure.
- Sites with low conversion rates of methane to products and high flaring rates have reported higher methane generation. Additionally, sites with nearly 100% conversion to products have also reported significant methane generation.
- The GPS locations of Nazira was visited by Regional Office, Assam SPCB on July 03, 2024 ,at Nazira and it was informed that ,there are 8 nos of ONGCL installations such as Gelekey GGS-2, Gelekey CTF, Gelekey ETP (old), Gelekey WIP(old) , Gelekey New ETP-WIP, Gelekey CPP, Gelekey GCP-1 & Gelekey GCP-2 and 3.The technical flaring of natural gas generated from GGS-2 and GCPs is being flared in the ground flare pit, enclosed by asbestos sheets which is approx 250-300 meters (aerial distance) from the installations and has shown the same GPS coordinates as mentioned by ISRO.The detailed information in the prescribed format has been shared by RO, Shivsagar, Assam SPCB is attached in Annexure-VIII.

8.0 CONCLUSIONS

a) Methane generation at the hotspots reported in the IIRS report may have correlation to the SWM facilities / O&G establishments operational at these sites.

b) It is observed that fresh waste is still being disposed at three identified dumpsites viz. (Chirawa, Taranagar & Deonar). Concerned SPCBs to ensure that fresh municipal solid waste is not dumped at these sites.

c) It is observed that bioremediation has been completed only at one of the six dumpsites included in this report. As per provision of SWM Rules,2016 bioremediation was to be completed by April 07, 2021. Hon'ble NGT has issued several directions to the concerned State Authorities for bioremediation of the dumpsites stipulating timeframe. Directions dated January 27, 2021 have also been issued by CPCB for bioremediating sites. In view of above, concerned local authorities are required to submit their action plan for biomining of legacy waste dumpsites. The State Urban Development Department to monitor the implementation in a time bound manner. The concerned SPCBs to ensure implementation in their respective States.

d) Methane detectors have not been installed at any of the dumpsites. Methane detectors at appropriate locations to be installed & necessary fire preventive measures to be implemented at all dumpsites. Directions dated 26.5.2022 have been issued by CPCB under E(P) Act, 1986 to all SPCBs/PCCs for implementation of measures for prevention of fire accidents at dumpsites. Compliance of the same is to be ensured by the concerned SPCBs.

e) Methane monitoring data is not available for any of the six dumpsites, covered in this report. Regular Monitoring of methane at source needs to be carried out

at the dumpsites till bioremediation is completed at these sites. Quarterly monitoring reports to be submitted to the concerned SPCBs. CPCB's Report on "Status of Methane Emission from MSW disposal sites" may be referred to for the purpose.

f) Details of waste disposed at the SLF to be maintained and only segregated inert waste to be permitted to be dumped at the Sanitary Landfill sites in accordance with 15 (zi) of the SWM Rules 2016.

g) Methane monitoring data is not available for any of the two SLFs, covered in this report. Regular Monitoring of methane at these sites be carried out to ensure compliance with lower explosive limit (LEL) in accordance with Schedule I (F)(ii) of SWM Rules. Quarterly monitoring reports to be submitted to the concerned SPCBs.

h) Regular Ambient Air Quality Monitoring to be conducted at SLF Sites as per clause (F) of Schedule I of SWM Rules, 2016 and quarterly reports to be submitted to the SPCB/PCC.

i) It was observed that gas collection system has been installed at the SLF of Kanjurmarg, but not at Pimpri Chinchwad, Pune. Necessary steps to be taken for Collection and Utilization for energy /flaring of methane gas at SLF as per Schedule I (F) (ii) of SWM Rules, 2016.

j) The SLFs should install Leakage detection and repair system and undertake preventive maintenance of the Methane collection and utilization system ensuring that the concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL) as stipulated under Schedule I (F) (ii) of SWM Rules, 2016.

k) The quantity of methane generated from dumpsites/ SLFs to be reported on annual basis to the SPCB/PCC.

l) SPCBs/PCCs to ensure implementation of aforementioned measures not only at dumpsites/ SLFs covered in this report but at all dumpsites/ SLFs in the Country.

m) O&G establishments should ensure maximum conversion of methane to products. They should further optimize their process to identify and curtail the source of methane emission.

S.No.	Name & Designation of Joint Committee Members	Signature
1	(Mrs. Divya Sinha) Director & Divisional Head , UPC-II, CPCB	
2	(Sh. Amit Love) Scientist 'E', MoEF&CC	
3	(Dr. Raghvendra Pratap Singh) Director, Indian Institute of Remote Sensing (IIRS) , ISRO, Dehradun	
4	(Sh. Sujit Dholam) Regional Officer (HQ) , Maharashtra	
5	Sh. Jagdish Choudhary Regional Officer , Jaisalmer, Rajasthan	
6	(Sh. Rajkumar Sehra) Regional Officer, Balotra , Rajasthan	
7	(Sh. Deepak Dhanetwal) Regional Officer , Jhunjhunu , Rajasthan	
8	(Dr. Jignasa Oza) Regional Officer, Surat, Gujarat	
9	(Dr. Talika Patel) Regional Officer, Ahmedabad , Gujarat	
10	(Sh. Hiren Pegu) EE and Regional Officer , Tinsukia , Assam	
11	(Sh. Jayanta Kumar Das) Regional Executive Engineer, Sivasagar , Assam	

Item No. 01 Court No. 2

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 247/2024

News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024

Date of hearing: 19.03.2024

CORAM: HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

ORDER

1. This Original Application (hereinafter referred to as '**OA**') under Section 14 and 15 of National Green Tribunal Act, 2010 (hereinafter referred to as '**NGT Act, 2010'**) has been registered in *suo-motu* exercise of jurisdiction based on a news item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" published in daily newspaper 'Times of India' dated 07.02.2024.

2. The news publication highlights principally emission of high-level Methane gas from landfill sites at Ahmedabad and Surat based on a study conducted by Indian Space Research Organization (hereinafter referred to as '**ISRO'**). However, news item contains a Chart in respect to certain cities of States of Maharashtra, Gujarat, Rajasthan and Assam giving details of landfill sites thereat and average emission of Methane from said sites causing huge pollution.

3. It is said that about 14.43% of India's carbon emissions come from methane emanating from agriculture and waste sites. Decomposition process at landfill sites creates unhealthy conditions and releases substantial emissions even after landfills are closed. Methane's impact is particularly concerning as it is 25 times more potent than carbon dioxide

at trapping heat in atmosphere. News item also shows that this must be the condition Pan India inasmuch as there is emission of Methane from solid/municipal waste landfills across the country and no effective steps are being taken by statutory regulators as also those who are responsible for proper handling, management and disposal of such sites.

4. In our view, the above contents of above news item give rise to a substantial question relating to environment due to implementation of Scheduled Enactments under NGT Act, 2010 and the issue is not confined to four States in respect whereof some details have been given but it appears to be a Pan India problem. However, for the time being, in order to collect primary informations, we find it appropriate to call for a factual report in respect of landfill sites mentioned in said news item report in cities Central Mumbai, Pune and Kalyan in State of Maharashtra, Ahmedabad and Surat in State of Gujarat, Barmer, Jaisalmer, Taranagar and Chirawa in State of Rajasthan and Nazira, Dibrugarh-Tinsukia in State of Assam.

5. For the purpose of submitting factual report, we constitute a Joint Committee comprising a Senior Officer to be nominated by Member Secretary, Central Pollution Control Board (hereinafter referred to as '**CPCB**), concerned Regional Officers of respective State Pollution Control Boards, a representative of ISRO to be nominated by Director; and a Senior Scientist nominated by Ministry of Environment, Forest and Climate Change (hereinafter referred to as '**MoEF&CC**).

6. CPCB shall be the nodal agency for coordination and compliance.

7. The said Committee shall collect relevant factual information; if necessary, visit the sites and submit factual report particularly relating to compliance of such sites with Schedule I of Solid Waste Management

Rules, 2016 (hereinafter referred to as '**MSW Rules, 2016**') and remedial measures taken on para (F) of the said Schedule within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF. The report should also give status of Authorization granted by State Pollution Control Bard, accumulation of waste in quantified terms on sites in question and ambient air quality monitoring data around these sites as per MSW Rules, 2016. The Committee may also indicate mitigation measures taken for reduction in organic emissions, including methane from ONGC sites separating them from landfill sites as the case may be.

8. We also implead following as respondents in the matter:

(1). MoEF&CC through its Secretary, Indira Paryavaran Bhawan Jorbagh Road New Delhi – 110 003.

(2). CPCB through its Member Secretary, Parivesh Bhawan, East Arjun Nagar, Delhi-110032

(3). Maharashtra Pollution Control Board through its Member Secretary, Kalpataru Point, 2nd – 4th Floor Opp. Cine Planet Cinema, Nr. Sion Circle, Sion (E) Mumbai – 400 022

(4). Gujarat Pollution Control Board through its Member Secretary, Paryavan Bhavan, Sector 10- A Gandhinagar – 382 043.

(5). Rajasthan State Pollution Control Board through its Member Secretary, 4, Jhalana Institutional Area, Jhalana Doongri, Jaipur, Rajasthan - 302 004.

(6). Assam Pollution Control Board through its Member Secretary, Bamunimaidan, Guwahati, Assam – 781021.

(7). State of Maharashtra through Additional Chief Secretary/Principal Secretary, Environment and Forest

Department, Govt. of Maharashtra, New Administrative Bhavan, 15th Floor, Madame Kama Road, Mantralaya, Mumbai - 400 032,

(8). State of Gujarat through Additional Chief Secretary/Principal Secretary, Environment and Forest Department, Government of Gujarat Block 14, 8th floor, Sachivalaya, Gandhinagar - 382 010.

(9). State of Assam through Additional Chief Secretary/Principal Secretary, Environment and Forest Department, 2nd Floor, Janata Bhawan, Dispur.

(10). State of Rajasthan through Additional Chief Secretary/Principal Secretary, Environment and Forest Department, Govt. of Rajasthan, Secretariate, Jaipur, Rajasthan 302005.

9. Registry is directed to issue notices to above respondents so that they may file their responses within two months.

10. List on 05.07.2024.

11. A copy of this order be forwarded to CPCB, SPCBs of Maharashtra, Gujarat, Rajasthan and Assam, ISRO and MoEF&CC by e-mail for compliance.

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

March 19, 2024
Original Application No. 247/2024
DV

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

File No. CM-13011/67/2024-LAW-HO-CPCB-HO Date: 18.04.2024

To,

The Member Secretary,
SPCBs – Assam, Gujarat, Maharashtra, Rajasthan

Director,
Indian Space Research Organisation,
ISRO Headquarters, Antariksh Bhavan, New BEL Road
Bengaluru-560 094

Director, CP Division,
Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhawan
Jorbagh Road New Delhi – 110 003

Sub: - Hon'ble NGT, PB Order dated 19.03.2024 (page no. 1-4) in OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024

Sir/Madam,

Enclosed please find herewith Hon'ble NGT order dated 19.3.2024 issued in abovementioned matter wherein directions given in Para 5, 6 & 7 are reproduced below:

Para 5 "for the purpose of submitting factual report we constitute a Joint Committee comprising a Senior Officer to be nominated by Member Secretary, Central Pollution Control Board (hereinafter referred to as CPCB,) concerned Regional Officers of respective State Pollution Control Boards, a representative of ISRO to be nominated by Director and a Senior Scientist nominated by Ministry of Environment, Forest and Climate Change (hereinafter referred to as MoEF&CC)"

Para 6 "CPCB shall be the nodal for coordination and compliance."

Para 7 "The said committee shall collect relevant factual information: if necessary, visit the sites and submit factual report particularly relating to compliance of such sites with Schedule I of Solid Waste Management Rules, 2016 (hereinafter referred to as MSW Rules, 2016) and remedial measures taken on Para (F) of the said Schedule within three months by email at

judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF. The report should also give status of Authorisation granted by State Pollution Control Board, accumulation of waste in quantified terms on sites in question and ambient air quality monitoring data around these sites as per MSW Rules, 2016. the Committee may also indicate mitigation measures taken for reduction in organic emissions, including methane from ONGC sites separating them from landfill sites as the case may be."

In this regard, it is requested to forward nomination to represent Joint Committee for ensuring compliance of the Hon'ble NGT order dated 19.3.2024 preferably within one week.

Yours faithfully

(Divya Sinha)
Director & In charge, UPC-II

Encl. As above

Copy to: -

1	Divisional Head, Law Section	:	For information, please
2	Regional Directors, Regional Directorates – Shillong, Vadodara, Pune, Bhopal	:	For information & follow up with concerned SPCBs, please
3	PS to MS	:	For kind information to MS, please

(Divya Sinha)

D/C

Item No. 01 Court No. 2

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 247/2024

News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024

Date of hearing: 19.03.2024

CORAM: HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

ORDER

1. This Original Application (hereinafter referred to as '**OA**') under Section 14 and 15 of National Green Tribunal Act, 2010 (hereinafter referred to as '**NGT Act, 2010**') has been registered in *suo-motu* exercise of jurisdiction based on a news item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" published in daily newspaper 'Times of India' dated 07.02.2024.

2. The news publication highlights principally emission of high-level Methane gas from landfill sites at Ahmedabad and Surat based on a study conducted by Indian Space Research Organization (hereinafter referred to as '**ISRO**'). However, news item contains a Chart in respect to certain cities of States of Maharashtra, Gujarat, Rajasthan and Assam giving details of landfill sites thereat and average emission of Methane from said sites causing huge pollution.

3. It is said that about 14.43% of India's carbon emissions come from methane emanating from agriculture and waste sites. Decomposition

at trapping heat in atmosphere. News item also shows that this must be the condition Pan India inasmuch as there is emission of Methane from solid/municipal waste landfills across the country and no effective steps are being taken by statutory regulators as also those who are responsible for proper handling, management and disposal of such sites.

4. In our view, the above contents of above news item give rise to a substantial question relating to environment due to implementation of Scheduled Enactments under NGT Act, 2010 and the issue is not confined to four States in respect whereof some details have been given but it appears to be a Pan India problem. However, for the time being, in order to collect primary informations, we find it appropriate to call for a factual report in respect of landfill sites mentioned in said news item report in cities Central Mumbai, Pune and Kalyan in State of Maharashtra, Ahmedabad and Surat in State of Gujarat, Barmer, Jaisalmer, Taranagar and Chirawa in State of Rajasthan and Nazira, Dibrugarh-Tinsukia in State of Assam.

5. For the purpose of submitting factual report, we constitute a Joint Committee comprising a Senior Officer to be nominated by Member Secretary, Central Pollution Control Board (hereinafter referred to as '**CPCB**), concerned Regional Officers of respective State Pollution Control Boards, a representative of ISRO to be nominated by Director; and a Senior Scientist nominated by Ministry of Environment, Forest and Climate Change (hereinafter referred to as '**MoEF&CC**).

6. CPCB shall be the nodal agency for coordination and compliance.

Rules, 2016 (hereinafter referred to as '**MSW Rules, 2016**') and remedial measures taken on para (F) of the said Schedule within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF. The report should also give status of Authorization granted by State Pollution Control Bard, accumulation of waste in quantified terms on sites in question and ambient air quality monitoring data around these sites as per MSW Rules, 2016. The Committee may also indicate mitigation measures taken for reduction in organic emissions, including methane from ONGC sites separating them from landfill sites as the case may be.

8. We also implead following as respondents in the matter:

(1). MoEF&CC through its Secretary, Indira Paryavaran Bhawan Jorbagh Road New Delhi – 110 003.

(2). CPCB through its Member Secretary, Parivesh Bhawan, East Arjun Nagar, Delhi-110032

(3). Maharashtra Pollution Control Board through its Member Secretary, Kalpataru Point, 2nd – 4th Floor Opp. Cine Planet Cinema, Nr. Sion Circle, Sion (E) Mumbai – 400 022

(4). Gujarat Pollution Control Board through its Member Secretary, Paryavan Bhavan, Sector 10- A Gandhinagar – 382 043.

(5). Rajasthan State Pollution Control Board through its Member Secretary, 4, Jhalana Institutional Area, Jhalana Doongri, Jaipur, Rajasthan - 302 004.

(6). Assam Pollution Control Board through its Member

Department, Govt. of Maharashtra, New Administrative Bhavan, 15th Floor, Madame Kama Road, Mantralaya, Mumbai - 400 032,

(8). State of Gujarat through Additional Chief Secretary/Principal Secretary, Environment and Forest Department, Government of Gujarat Block 14, 8th floor, Sachivalaya, Gandhinagar - 382 010.

(9). State of Assam through Additional Chief Secretary/Principal Secretary, Environment and Forest Department, 2nd Floor, Janata Bhawan, Dispur.

(10). State of Rajasthan through Additional Chief Secretary/Principal Secretary, Environment and Forest Department, Govt. of Rajasthan, Secretariate, Jaipur, Rajasthan 302005.

9. Registry is directed to issue notices to above respondents so that they may file their responses within two months.

10. List on 05.07.2024.

11. A copy of this order be forwarded to CPCB, SPCBs of Maharashtra, Gujarat, Rajasthan and Assam, ISRO and MoEF&CC by e-mail for compliance.

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

March 19, 2024

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

File No.CM-13011/67/2024-LAW-HO-CPCB-HO Date: 10.06.2024

To,

All Joint Committee Members
(As per the list enclosed)

Sub: - **Minutes of the meeting held on 03.06.2024 , 4.00 PM in compliance to Hon'ble NGT (PB) Order dated 19.03.2024 in OA No. 247/2024, News item titled" Ahmedabad & Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.**

Sir/Madam,

This is in reference to the VC meeting held on 03.06.2024 on the above said subject. The minutes of the meeting is enclosed herewith for your kind perusal & necessary action, please.

Yours faithfully,

(Divya Sinha)
Director & Divisional Head, UPC-II

Encl: As above

Copy to:

1.	Concerned Regional Directors (Bhopal, Shillong, Vadodara & Pune	:	For information and follow up Concerned SPCBs/PCCs please
2.	Sh Amit Love 6th floor, Jal Wing Indira Paryavaran Bhawan, Jorbagh Road, Aliganj New Delhi-110003	:	For information, please
3.	DH , Law Section	:	For information, please
4.	PS to MS	:	For kind information to 'MS', please

(Divya Sinha)

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, New Delhi - 110032
दूरभाष/Tel: 43102030, 22305792, वेबसाईट/Website : www.cpbc.nic.in

Central Pollution Control Board

"Parivesh Bhawan", East Arjun Nagar, Delhi-110032

Minutes of the meeting held at 4.00PM on dated 03/06/2024 in compliance to Hon'ble NGT, PB Order dated 19.03.2024 in OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.

A meeting was convened by CPCB at 4.00 PM on June 03, 2024 through video conferencing in compliance with Hon'ble NGT order dated 19.03.2024. Members of Joint Committee, officials of Regional Offices, concerned State Pollution Control Board, concerned officials of Regional Directorates of Pune, Bhopal, Vadodara, Shillong and CPCB officials participated in the Meeting. List of participants is attached at **Annexure-I**

Divisional Head, UPC-II, CPCB welcomed the participants and in her opening remarks, briefed the committee on the matter.

Mrs Suniti Parashar Scientist 'C', UPC-II division gave a detailed presentation covering agenda of the meeting, composition of Joint Committee constituted by Hon'ble NGT & the directions of Hon'ble NGT vide Order dated 19.3.2024 and other relevant issues. The presentation given by CPCB is enclosed as **Annexure II**. Further the formats which were shared with the SPCBs to provide requisite information as per the Hon'ble NGT order were also shared with the Committee members. Formats are attached as **Annexure III**

Subsequently, Indian Institute of Remote Sensing (IIRS) , ISRO, Dehradun made a presentation on methane emission from Landfill sites and findings of the study conducted by them . The presentation made by IIRS, ISRO Dehradun is placed as **Annexure IV.**

Sh. Amit Love, Scientist E, MoEF&CC enquired whether the validation and ground truthing of the data obtained in the study conducted by IIRS had been done or not. He

further enquired if the validity/reliability of the data which has been obtained from Carbon Mapper and used in the study has been ascertained or not.

It was informed by IIRS that Carbon mapper is an open source data provider. It provides emission fluxes, plumes size and data. Validation of ISRO data is required however, the findings are relatively correct to some extent but may not be an absolute number.

Further, four States viz Maharashtra, Gujarat, Rajasthan and Assam shared the preliminary information about Solid waste management status in 12 Cities including waste dumped /disposed, landfill sites, status of bio mining, provision of ambient air quality monitoring, methane monitoring etc.

Based on a detailed deliberations and discourses held by the joint Committee following decisions were made:

i. Ground truthing for the ISRO data related to methane as feasible, may be carried out.
ii. Some cities have multiple Landfill /legacy sites. Based on IIRS, ISRO data and findings of where high concentration of Methane gas has been detected through Satellite studies, such landfill/dumpsites are to be identified for assessment as per Hon'ble NGT order.
iii. SPCBs to submit the duly filled up format by 8th of June, 2024. The information shall be compiled. The same shall be assessed by CPCB. The overview of the information provided by SPCBs/PCCs and proposed course of action shall be discussed in the next Committee meeting
iv. It is observed that very limited information is available w.r.t Methane emission, its collection and utilisation at Landfills/legacy waste dumpsites in the States as per the information provided by SPCBs/PCCs. Concerned Regional Directorates of CPCB, MoEF&CC as well as ISRO shall be associated for the detailed assessments, as per requirement.

The meeting ended with vote of thanks to all.

*****

Annexure I

List of Participants attended the meeting held on 03/06/2024 at 4.00 PM in compliance to Hon'ble NGT, PB Order dated 19.03.2024 in OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.

S N	Officials and Designation	Organization	Email id	Phone No
1	Ms. Divya Sinha, Director and Divisional Head UPC-II	CPCB	divyasinha.cpcb@nic.in	9868262316
2	Sh. Amit Love, Sc. E	MOEF&CC	amit.love@nic.in	9968689432
3	Dr. Raghavendra Pratap Singh, Director	IIRS, ISRO, Dehradun	director@iirs.gov.in	+91 135 2524101
4	Dr. Asfa Siddaqui	IIRS Dehradun	asfa@iirs.gov.in	9557448903
5	Sh Sujit Dholam , Regional Officer	(HQ) SPCB , Maharashtra	rohq@mpcb.gov.in	9820255945
6	Sh. Jagdish Choudhary, Regional Officer , Jaisalmer	SPCB , Rajasthan	rorpcb.jai@gmail.com	7023042914
7	Sh. Rajkumar Sehra, Regional Officer, Balotra	SPCB , Rajasthan	ro.balotara@gmail.com	9829664373
8	Sh. Deepak dhanetwal,Regional Officer , Jhunjhunu	SPCB , Rajasthan	rorpcb.jjn@gmail.com	9785291723
9	Dr Jignabaen Oza , Regional Officer , Surat	SPCB , Gujarat	ro-gpcb-sura@gujarat.gov.in	9825329663
10	Dr Talika Patel (Regional Officer , Ahmedabad)	SPCB ,Gujarat	ro-gpcb-ahmc@gujarat.gov.in	9974380240
11	Sh. Hiren Pegu(Executive Engineer and Regional Officer , Tinsukia	SPCB Assam	ro_dibrugarh@pcbassam.org rodibrugarh.pcba@gmail.com	9435154044
12	Sh. Jayanta Kumar Das(Regional Executive Engineer, Sivasagar)	SPCB Assam	rosivasagar.pcba@gmail.com ro_sivasagar@pcbassam.org	9435401956

CPCB Officials:

S N	Officials and Designation	Organization	Email id	Phone No
1	Sh. P. Jagan, Regional Director	RD Bhopal	jagan191.cpcb@gov.in	9755559745
2	Sh. M K Choudhary, Regional Director	RD Shillong	mkc.cpcb@gov.in	9868129126
3	Sh. Sashikant Lokhande, Sc. E	RD Pune	lokhandesl.cpcb@gov.in	9974199416
4	Mrs Kavitha B.V, Sc. E	RD Vadodara	kavitha.cpcb@nic.in	9810031261
5	Dr Y.K. Saxena, Sc. C	RD Bhopal	yksaxena.cpcb@nic.in	9425677776
6	Mrs. Suniti Parashar, Sc. C	CPCB, HO	suniti.cpcb@gov.in	9868819711
7	Sh. Amit Kumar, Sc. B	CPCB, HO	amitk22.cpcb@gov.in	8303154631

*****

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

File No. CM-13011/67/2024-LAW-HO-CPCB-HO

Date: 25-06-2024

To,

All Joint Committee Members
(As per the list enclosed)

Sub: - Minutes of the Second meeting held on 18.06.2024, 4.30PM in compliance to Hon'ble NGT (PB) Order dated 19.03.2024 in OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024

Sir/Madam,

This is in reference to the VC meeting held on 18.06.2024 on the above said subject. The minutes of the second meeting is enclosed herewith for your kind perusal & necessary action, please.

Yours faithfully,

(Divya Sinha)
Director & Divisional Head, UPC-II

Encl.: As above

Copy to:

1.	Regional Director, Regional Directorate – Bhopal, Pune, Shillong, and Vadodara	:	For information & follow up with concerned SPCBs/PCCs, please
2.	Sh. Amit Love, Scientist 'E', Ministry of Environment, Forest and Climate Change 6th floor, Jal Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003	:	For information, please
3.	DH, Law Section	:	For information, please
4.	PS to MS	:	For kind information to 'MS', please

(Divya Sinha)

List of Concerned Officers & Organizations (Joint Committee Members)

SN	Officer & Organization	Email
1.	Sh. Amit Love, Scientist 'E', Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhawan, Jorbagh Road, New Delhi — 110 003	amit.love@nic.in;
2.	Dr. Raghavendra Pratap Singh Director, Indian Institute of Remote Sensing ISRO, Govt. of India 4, Kalidas Road, Dehradun- 248001	director@iirs.gov.in;
3.	Sh. Sujit Dholam, Regional Officer (HQ), Maharashtra Pollution Control Board Kalpataru Point, 3rd floor, Sion Matunga Scheme Road No. 8 Near Sion Circle, Sion (East) Mumbai-400022	rohq@mpcb.gov.in;
4.	Sh. Rajkumar Sehra, Regional Officer, Rajasthan State Pollution Control Board, Regional Office, Balotra Infront of JdVVNL Office, Jasol Fanta, Nakoda ji Road, Balotra, District- Barmer Pincode: 344022	ro.balotara@gmail.com;
5.	Sh. Jagdish Choudhary, Regional Officer, Rajasthan State Pollution Control Board, Regional Office, Jaisalmer Field Hostel of Indira Gandhi Nahar Pariyojna Residential Colony, Jaisalmer, Pincode: 345001	rorpcb.jai@gmail.com;
6.	Sh. Deepak Dhanetwal Regional Officer, Rajasthan State Pollution Control Board, Regional Office, Jhunjhunu, C.P.1/90, Rajcomplex, 1st Floor, RIICO Industrial Area Phase-2, Jhunjhunu Pincode: 333001	rorpcb.jjn@gmail.com;

SN	Officer & Organization	Email
7.	Dr. Jignaben Oza, Regional Officer, Surat Gujarat Pollution Control Board RO Surat Plot No:11-12/2,3 GIDC-Pandesara Surat-394221	ro-gpcb-sura@gujarat.gov.in;
8.	Dr. Talika Patel, Regional Officer, Ahmedabad Gujarat Pollution Control Board RO Ahmedabad Room No. 201, Old Buidling, Paryavaran Bhavan, Sector 10-A, Gandhinagar - 302010	ms-gpcb@gujarat.gov.in; uh-gpcb-msw@gujarat.gov.in; ro-gpcb-ahmc@gujarat.gov.in;
9.	Sh. Hiren Pegu, Executive Engineer and Regional Officer, Tinsukia Pollution Control Board, Assam RO Tinsukia Bairagimath, Dibrugarh Pin: 786001	ro_dibrugarh@pcbassam.org; rodibrugarh.pcba@gmail.com;
10.	Sh. Jayanta Kumar Das, Executive Engineer, Regional Laboratory cum Office Pollution Control Board, Assam Melachakar, Sibsagar, PIN: 785640	ro_sivasagar@pcbassam.org; rosivasagar.pcba@gmail.com;

Central Pollution Control Board
"Parivesh Bhawan", East Arjun Nagar, Delhi-110032

Minutes of the Second meeting held on 18/06/2024 at 4:30 PM in compliance to Hon'ble NGT, PB Order dated 19.03.2024 in OA No. 247/2024, on basis of News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.

Second Meeting of the Joint Committee was held on 18.06.2024 at 4:30 PM in OA No. 247/2024, under the Chairpersonship of Mrs Divya Sinha, Director and Divisional Head, UPC-II to discuss about the information submitted by concerned regional offices w.r.t format circulated by CPCB. List of participants is attached at **Annexure-I.**

At the outset, Mrs Divya Sinha Divisional Head, UPC-II, CPCB welcomed the participants and informed the committee that the information received so far has been compiled by CPCB and shall be presented in the meeting.

Thereafter, Mrs. Suniti Parashar Scientist 'C', UPC-II division made a detailed presentation on the compiled information w.r t individual and overall status on dumpsites & Sanitary Landfill sites (SLFs), methane mitigation measures taken, ambient air quality monitoring around the dumpsites/SLF etc. She also highlighted the identified gap/incomplete details provided by respective Regional Offices of concerned SPCB. The presentation made by CPCB is enclosed as **Annexure-II**.

Ms. Asfa Siddique, Scientist, Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun clarified that some sites viz Jaisalmer, Barmer, Dibrugarh, Tinsukia, and Nazira, exhibit methane emissions primarily from Oil & Gas (O&G) operations rather than from solid waste sites. She further suggested that CPCB should verify these sites through ground truthing.

Sh. Amit Love, Scientist E, MoEF&CC suggested to share the coordinates provided by regional offices with IIRS, ISRO, Dehradun so that they can overlay with their identified sites of methane emission and inform the committee about the specific locations. He inquired about the number of sanitary landfill sites (SLFs) equipped with gas control systems, operations of these SLFs commenced before or after 2016, causes of landfill fires at the site, and whether such fires were primarily due to methane emissions. Based on these points, the committee can make informed decisions.

Sh Mantu Kumar Chaudhary, Regional Director, Regional Directorate, Shillong opined that potential for methane emission depends mainly on the depth, age and characteristics of the waste deposited at the dumping sites.

Sh. Jayanta Kumar Das, Executive Engineer, Regional Office, Shivsagar, SPCB Assam, requested to include concerned ULBs in the meeting from next time if required.

Based on deliberations during the meeting following actions were decided:

i. CPCB to share the coordinates of landfill/dumpsites to IIRS, ISRO (**Action: CPCB**).
ii. IIRS, ISRO to overlay the coordinates of sites provided by CPCB & inform the committee regarding their locations relative to the coordinates reported by IIRS (**Action: IIRS**).
iii. Format to be shared with SPCBs/PCCs to provide the information w.r.t as Oil & Gas Establishments located in the selected cities as per IIRS report (**Action: CPCB**).
iv. Regional Offices of concerned SPCB to provide site-specific information after verifying the details provided with the ULBs, as per the format circulated by CPCB (**Action: SPCB ROs**).
v. CPCB to compile the inputs & prepare a matrix of the site containing the relevant information such as Location & Coordinates of sites, Status of bio mining, provision for collection of methane gas, height & age of dumping sites, reasons of landfill fire, if occurred in last five years, status of CTO/Authorization of SLF, methane mitigation / monitoring measures taken etc., Methane flux reported in IIRS report (**Action: CPCB**).
vi. CPCB to share the compiled results with the Committee members, based on which the future course of actions on the matter (**Action: CPCB & committee members**).

The meeting ended with vote of thanks to all.

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Annexure-I

List of Participants who attended the meeting held on 18/06/2024 at 4.30 PM in compliance to Hon'ble NGT, PB Order dated 19.03.2024 in OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.

S N	Officials and Designation	Organization	Email id	Phone No
1	Ms. Divya Sinha, Director and Divisional Head, UPC-II	CPCB	divyasinha.cpcb@nic.in	9868262316
2	Sh. Amit Love, Sc. E	MoEF&CC	amit.love@nic.in	9968689432
3	Dr. Asfa Siddiqui	IIRS, ISRO Dehradun	asfa@iirs.gov.in	9557448903
4	Sh Sujit Dholam, Regional Officer	(HQ) SPCB, Maharashtra	rohq@mpcb.gov.in	9820255945
5	Sh. Jagdish Choudhary, Regional Officer, Jaisalmer	SPCB, Rajasthan	rorpcb.jai@gmail.com	7023042914
6	Sh. Rajkumar Sehra, Regional Officer, Balotra	SPCB, Rajasthan	ro.balotara@gmail.com	9829664373
7	Sh. Deepak Dhanetwal,Regional Officer , Jhunjhunu	SPCB, Rajasthan	rorpcb.jjn@gmail.com	9785291723
8	Dr Jignabaen Oza, Regional Officer, Surat	SPCB, Gujarat	ro-gpcb-sura@gujarat.gov.in	9825329663
9	Dr Talika Patel (Regional Officer, Ahmedabad)	SPCB, Gujarat	ro-gpcb-ahmc@gujarat.gov.in	9974380240
10	Sh. Hiren Pegu (Executive Engineer and Regional Officer, Tinsukia	SPCB Assam	ro_dibrugarh@pcbassam.org rodibrugarh.pcba@gmail.com	9435154044
11	Sh. Jayanta Kumar Das (Regional Executive Engineer, Sivasagar)	SPCB Assam	rosivasagar.pcba@gmail.com ro_sivasagar@pcbassam.org	9435401956

CPCB Officials:

S N	Officials and Designation	Organization	Email id	Phone No
1	Sh. P. Jagan, Regional Director	RD - Bhopal	jagan191.cpcb@gov.in	9755559745
2	Sh. M K Choudhary, Regional Director	RD - Shillong	mkc.cpcb@gov.in	9868129126
3	Sh. Sashikant Lokhande, Sc. E	RD - Pune	lokhandesl.cpcb@gov.in	9974199416
4	Mrs Kavitha B.V, Sc. E	RD - Vadodara	kavitha.cpcb@nic.in	9810031261
5	Sh Nripendra Semwal, Sc C,	RD - Vadodara	semwaln.cpcb@gov.in	9722027220
6	Dr Y.K. Saxena, Sc. C	RD - Bhopal	yksaxena.cpcb@nic.in	9425677776
7	Mrs. Suniti Parashar, Sc. C	CPCB, HO	suniti.cpcb@gov.in	9868819711
8	Sh Madnesh Kumar Dubey, Sc B	CPCB, HQ	mkdubey.cpcb@gov.in	956070083
9	Sh. Amit Kumar, Sc. B	CPCB, HO	amitk22.cpcb@gov.in	8303154631

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केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

File No.CM-13011/67/2024-LAW-HO-CPCB-HO Date: 02.07.2024

To,

All Joint Committee Members
(As per the list enclosed)

Sub: - Minutes of the third meeting held on 2.7.2024, 2.30 PM in compliance to Hon'ble NGT (PB) Order dated 19.03.2024 in OA No. 247/2024, News item titled" Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.

Sir/Madam,

This is in reference to the VC meeting held on 02.07.2024 at 2:30 PM on the above said subject. The minutes of the third meeting is enclosed herewith for your kind perusal & necessary action, please.

Yours faithfully,

(Divya Sinha)
Director & Divisional Head, UPC-II

Encl: As above

Copy to:

1.	Regional Director-Regional Directorate –Bhopal, Pune, Shillong and Vadodara	:	For information and follow up concerned SPCBs/PCCs please
2.	Sh Amit Love 6th floor, Jal Wing Indira Paryavaran Bhawan, Jorbagh Road, Aliganj New Delhi-110003	:	For information, please
3.	DH, Law Section	:	For information, please
4.	PS to MS	:	For kind information to 'MS', please

(Divya Sinha)

Central Pollution Control Board

“Parivesh Bhawan”, East Arjun Nagar, Delhi-110032

Minutes of the meeting held at 2.30 PM on dated 02/07/2024 in compliance to Hon'ble NGT, PB Order dated 19.03.2024 in OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.

A meeting was held at 2.30 PM on July 02nd ,2024 through video conferencing under the chairpersonship of Mrs Divya Sinha, Director and Divisional Head, UPC-II with the members of Joint Committee, officials of Regional Offices, concerned State Pollution Control Board, concerned officials of Regional Directorates of Pune, Bhopal, Vadodara, Shillong and CPCB officials in compliance with Hon’ble NGT order dated 19.03.2024. List of participants is attached as **Annexure-I**

Mrs Divya Sinha, Director and Divisional Head, UPC-II welcomed the participants and informed the committee about the directions of Hon’ble NGT and action taken so far for compliance. She informed that, the coordinates of methane emission sources identified by IIRS, ISRO have been compared with those of dumpsites, SLFs, and O&G sites provided by SPCBs. 13 Sites with coordinates that are close to IIRS, ISRO-identified hotspots have been identified with matching coordinates (except 1 Site at Nazira) . She Proposed to carry out further assessment of these 13 sites. The detailed presentation is enclosed as **Annexure II**.

Dr Raghvendra Pratap Singh, Director, IIRS, ISRO informed that methane plumes are spread over a large area and the size of the plume depends upon various composite

factors such as transport of gases, wind direction etc. It was also informed by CPCB that the waste disposal sites which are closest to the coordinates provided in the IIRS, ISRO reports have been identified for further assessments.

Sh Amit Love, Scientist E, MoEF&CC informed that SWM Rules specifies the provision of bioremediation and bio mining of dumpsites. Concerned local authorities are required to prepare action plan and adhere to the same with linkage to Swacch Bharat Mission 1 and 2.

Based on the deliberations held, following decisions were taken:

1) Information as compiled by CPCB for dumpsites, SLFs and Oil and Gas sites in all 12 Cities was endorsed by the committee.
2) The committee recommended that, the concerned officials of SPCB, Assam shall visit the location as specified in the IIRS report (at Nazira) to identify the actual source of methane.
3) SPCBs were requested to provide the remaining information as indicated during the meeting by tomorrow 12.30 PM.

The meeting ended with thanks to all.

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Annexure-I

List of Participants attended the meeting held on 02/07/2024 at 2.30 PM in compliance to Hon'ble NGT, PB Order dated 19.03.2024 in OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.

S N	Officials and Designation	Organization	Email id	Phone No
1	Ms. Divya Sinha, Director and Divisional Head UPC-II	CPCB	divyasinha.cpcb@nic.in	9868262316
2	Sh. Amit Love, Sc. E	MOEF&CC	amit.love@nic.in	9968689432
3	Dr. Asfa Siddaqui	IIRS Dehradun	asfa@iirs.gov.in	9557448903
4	Sh Sujit Dholam , Regional Officer	(HQ) SPCB , Maharashtra	rohq@mpcb.gov.in	9820255945
5	Sh. Jagdish Choudhary, Regional Officer , Jaisalmer	SPCB , Rajasthan	rorpcb.jai@gmail.com	7023042914
6	Sh. Rajkumar Sehra, Regional Officer, Balotra	SPCB , Rajasthan	ro.balotara@gmail.com	9829664373
7	Sh. Deepak dhanetwal,Regional Officer , Jhunjhunu	SPCB , Rajasthan	rorpcb.jjn@gmail.com	9785291723
8	Dr Jignabaen Oza , Regional Officer , Surat	SPCB , Gujarat	ro-gpcb-sura@gujarat.gov.in	9825329663
9	Dr Talika Patel (Regional Officer , Ahmedabad)	SPCB ,Gujarat	ro-gpcb-ahmc@gujarat.gov.in	9974380240
10	Sh. Hiren Pegu(Executive Engineer and Regional Officer , Tinsukia	SPCB Assam	ro_dibrugarh@pcbassam.org rodibrugarh.pcba@gmail.com	9435154044
11	Sh. Jayanta Kumar Das(Regional Executive Engineer, Sivasagar)	SPCB Assam	rosivasagar.pcba@gmail.com ro_sivasagar@pcbassam.org	9435401956

CPCB Officials:

S N	Officials and Designation	Organization	Email id	Phone No
1	Sh. P. Jagan, Regional Director	RD Bhopal	jagan191.cpcb@gov.in	9755559745
2	Sh. M K Choudhary, Regional Director	RD Shillong	mkc.cpcb@gov.in	9868129126
3	Sh. Sashikant Lokhande, Sc. E	RD Pune	lokhandesl.cpcb@gov.in	9974199416
4	Mrs Kavitha B.V, Sc. E	RD Vadodara	kavitha.cpcb@nic.in	9810031261
5	Sh. Nriprendra Semwal Sc. C			
6	Dr Y.K. Saxena, Sc. C	RD Bhopal	yksaxena.cpcb@nic.in	9425677776
7	Mrs. Suniti Parashar, Sc. C	CPCB, HO	suniti.cpcb@gov.in	9868819711
8	Sh. Madnesh Dubey, Sc.B	CPCB, HO	mkdubey.cpcb@gov.in	956070083
9	Sh. Amit Kumar, Sc. B	CPCB, HO	amitk22.cpcb@gov.in	8303154631

*****

ANNEXURE VI

Details of Literature review

A. STUDY & RESEARCH BY INDIAN INSTITUTE OF REMOTE SENSING (IIRS) , ISRO , DEHRADUN

The lead author of the paper titled “Detecting Methane Emissions from Space in India: analysis using EMIT and Sentinel-5P TROPOMI datasets”, by Dr. Asfa Siddiqui has undertaken the study which is related to detecting methane emissions through remote sensing datasets from EMIT (Earth Mineral Dust Source Investigation Onboard International Space Station) and TROPOMI (Tropospheric Monitoring Instrument) sensors. The document (preprint at Research Square) highlights the methane enhancement over selected plumes at 17 unique locations in India as per data collected until September, 2023. The sites include solid waste, sewage outlet, oil refinery, sewage treatment plant, oil collection station, gas compressor station, Oil India Ltd. station, textile industry and wetlands. The data had been taken from www.carbonmapper.org (a nonprofit data dissemination platform) related to EMIT. The website demonstrates plumes and quantifies the emission fluxes and the same has been reported in the manuscript. The regional hotspots at few locations have also been identified using TROPOMI sensor. The authors indicated the role of remote sensing in detecting methane hotspots but informed that methane quantification need ground verification. Methane detection from satellite is a very challenging task and high resolution (spatial and spectral) sensors are only few in number. As per IIRS, ISRO publication there is a chart containing 17 locations identified as methane hots spots..

B. CPCB Publication on “Status of Methane Emission from Municipal Solid Waste Disposal Sites” April, 2006

The Central Pollution Control Board (CPCB) in co-ordination with National Environmental Engineering Research · Institute (NEERI) and Indian Agricultural Research Institute (IARI), Delhi assessed the status of methane emissions from solid waste landfills for MSW disposal sites at Nagpur, Amravati and in Delhi were carried out. Static Flux Box chamber was used for monitoring LFG emission for both these sites.

Approach of the Study

The site was suitably divided into imaginary zones. LFG emission was monitored through flux box. Samples collected in the flux box were withdrawn for 0, 5, 10 & 15 minutes and immediately analysed in the laboratory using Gas Chromatograph with flame ionization detector. GC was standardized with pure methane standards and operating conditions were optimized for sample analysis. Methane flux expressed in mg.m2.sec was calculated by volume of the box divided by the area and multiplied by the rate of change of gas concentration with time.

Monitoring of LFG Emission

Methane concentration in the atmosphere is reported as 1 .7 parts per million by volume. Due to addition from anthropogenic activities, it is expected to result 17% enhanced climatic changes (IPCC 1 996)

LFG production potential in a landfill gives quantitative estimate only whereas emission of LFG gives flux and rate of emission from the surface of disposal site. Emission of LFG depends on various factors such as porosity in the waste and adjoining soil, practices adopted for waste disposal, methane oxidation potential at the surface, etc. In order to plan strategy for developing preventive measures and capture of LFG, the rate of LFG emission is essential. Various techniques exist in the literature for monitoring LFG emission from the surface of landfills to the atmosphere

Gas emission approaches can be categorized as direct or indirect techniques (Hwang, 1 985; Balfour et al.,1 987). Direct emission rate measurement technique utilizes vent sampling, measurement of velocity, passive sampling technique and flux chamber technique (Reinhart et al., 1 992). Indirect emission rate monitoring involves ambient air concentration measurements, and technique specific atmospheric dispersion model.

The flux chamber is used for direct measurement of gas emission from MSW landfills, surface impoundments, natural sediments, etc. Other methods including accumulation chambers, air borne infra-red thermography, external recirculation chamber, measurement inside the landfills are applied for measuring LFG emission

(Tregours et al., 1 999). Nozhevnikova, et al)

Estimation of Methane Potential

MSW consists of biodegradables, resistant and inert components. Under anaerobic conditions, biodegradable fraction generates methane, carbon dioxide, water, traces of hydrogen sulphide, ammonia and volatile organic compounds through biochemical reactions. Biodegradable organics consist mainly of celluloses and hemicelluloses. Carbohydrates (cellulose and hemicellulose) comprise 25-40 per cent of organic matter. Protein concentration normally varies between 3-9 per cent. Pectins, sugars and starches occur in very small concentration.

Celluloses, hemicelluloses and proteins mainly contribute for biogas generation. From the results of analysis for celluloses, hemicelluloses and proteins, the potential of methane yield is estimated. Studies carried out by Barlaz et al. (1 989) related with anaerobically decomposed refuse indicated that 373 litres of methane is produced on complete decomposition of carbohydrates. Similarly, protein on complete degradation, yields 51 7.4 litres of methane per kg of protein. Protein content is much less in MSW. However, considering physico-chemical binding of carbohydrate and protein components in organic matter, approximately 1 -30 parts of biodegradable fraction contribute for LFG generation (Barlaz1 989). This approach is adopted to estimate potential of biogas yield from cellulose, hemicellulose and protein content.

Based on the literature survey, approach for the study was planned which encompasses chemical analysis viz. cellulose, hemicellulose and protein contents for MSW samples for estimating the methane production potential

Findings

Investigations carried out for monitoring the LFG flux at Nagpur (Bhandewadi) was applied to the disposal site at Amravati for observing the suitability of the approach (static flux box method). Results of LFG analysis at disposal site at Nagpur is in the range 0.27 to 1.659 mg/m2s (1.83 Gg/yr to 11.2 Gg/yr) whereas at Amravati it is

0.02 to 0.88 mg/m2s (0.059 Gg/yr to 2.63 Gg/yr). Values were extrapolated for the year 2004 from the NATCOM data for National level and specifically for Maharashtra State (cities having population > 10 lakhs in plain areas). The values computed for Nagpur and Amravati landfill sites using default method are 1.141 mg/m2s (7.65 Gg/yr) and 0.761 mg/m2s (2.28 Gg/yr) respectively and those computed by Triangular method are 0.919 mg/m2s (6.16 Gg/yr) and 0.6024 mg/m2s (1.81 Gg/yr) respectively for Nagpur and Amravati. This indicates that the values obtained in the present study compare well with the earlier values obtained through NATCOM data

The results of the analysis of the LFG samples show that methane emission occurs at all the sampling points. It was revealed that in spite of unplanned and haphazard deposition of waste, emission is observed from the various zones throughout the disposal area. It was also observed that the potential for methane generation decreases from top to bottom in the landfills.

During the study, it was observed that there was a variation in methane emission from the landfills which might be due to variation in characteristics and composition of waste dumped at the landfill site, and non-availability of records of quantity of solid waste dumped earlier at each landfill from the year of start.

C. INTERNATIONAL PRACTICES OF METHANE MITIGATION AND REGULATIONS

International practices of methane mitigation

Country	Guidelines/directives to control methane emission	Weblink
EUROPIAN UNION(EU)	• The reduction of food waste promoted by Farm to Fork strategy will reduce methane emissions. • The Waste Framework Directive, 1975-22 establishes five-steps “waste hierarchy”: Waste prevention, re-use, recycling composting & energy recovery. • The EU Landfill Directive, 1999, introduces restrictions on landfilling of all waste suitable for recycling or other material or energy recovery, limits the share of municipal waste landfilled, and requires landfill operators to manage landfill gas by either using it for energy or flaring it. The directive was amended in 2018 to introduce an	• https://www.ccacoalition.org/sites/default/files/resources//European%20Union%20Methane%20Action%20Plan.pdf • https://www.eea.europa.eu/publications/methane-emissions-in-the-eu

	obligation to collect biodegradable waste separately by 2024 and set a new target of a maximum 10% landfilling of waste by 2035.	
SWEDEN	• The Swedish government and the EU have implemented a landfill tax and strong waste-sector goals, including a 50% organics target separation rate, which has led to a strong waste-diversion program • The government also developed a robust educational program on waste sorting for home and business.	https://rmi.org/top-strategies-to-cut-dangerous-methane-emissions-from-landfills/
GERMANY	• In 2005, landfilling untreated municipal solid waste was banned, avoiding methane formation in landfills. Waste is diverted from landfills, recycling has been expanded and so as the thermal or mechanical biological treatment of the municipal solid waste. • In 2013, the National Climate Initiative started promoting landfill aeration to further reduce methane emissions from landfills.	
USA	• In 2022, the Washington Legislature set a target to reduce the amount of organic materials going into landfills to 75% by 2030. The Legislature also directed to adopt regulations requiring municipal solid waste landfills to take steps to monitor and capture methane emissions. • Landfill owners and operators affected by the new rule will be required to install gas collection and control equipment, energy recovery devices, and/or treatment and processing systems to reduce their methane emissions. Collecting and burning methane gas, as it leaves a landfill limits its heat-trapping power, and the gas can be processed for electricity generation and vehicle fuel. • In addition, the rule requires quarterly monitoring of the landfill surface, quarterly monitoring of gas collection and control system equipment, and a timeline to ensure any methane leaks are quickly fixed. • In October 2009, EPA issued a rule (40 CFR Part 98) that requires the reporting of (GHG) emissions from large sources and suppliers in	https://ecology.wa.gov/about-us/who-we-are/news/2024-news-stories/new-rule-to-decrease-landfill-methane-emissions https://www.epa.gov/ghgreporting

	the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. • Annually, EPA issues an inventory report to present the U.S. government's. estimates on human-related GHG emissions and sinks for each year since 1990. Emissions from the waste sector as well as other sectors are presented in this inventory. • Current EPA regulations under the Clean Air Act require many larger landfills to collect and combust LFG. There are several compliance options, including flaring the gas or installing an LFG energy recovery system. Only LFG energy recovery gives communities and landfill owners the opportunity to reduce the costs associated with regulatory compliance by turning pollution into a valuable community resource	
China	In November 2023, China released its long-awaited methane mitigation action plan. Methane mitigation in Waste Sector such as : • Implement waste source reduction, and establish waste recycling systems to reach about 60% by 2025 • Promote the construction of organic waste treatment facilities, and further utilize methane from landfills • Mitigate methane emissions from wastewater treatment to reach 90% by 2025	https://ccci.berkeley.edu/sites/default/files/China%E2%80%99s%20Climate%20Action%20Brief.pdf
Argentina	Argentina Ministry of Environment and Sustainable Development has undertaken a number of methane reduction initiatives as a part of its actions under the Global Methane Pledge. • Two projects were launched to enhance the capacity of local authorities, farmers, and markets to establish sustainable organic waste diversion and processing systems.	https://www.ccacoalition.org/news/municipalities-markets-and-reducing-waste-methane-argentina

City wise information required for OA No. 247/2024

S.No.	Questions	Details
1.	State Name	
2.	City Name & Solid waste generated (TPD)	
3.	Number of Sites in the city **a.** Legacy waste dumpsites **(Annexure-A)** b. Sanitary Landfill **(Annexure-B)**	
4.	Location Details GPS locations and map	
5.	Total Coverage area of all the sites (Sq.km)	
6.	Total Quantity of waste disposed at the sites (Tonnes)	
7.	Number of dumpsites cleared (As on Date)	
8.	Number of dumpsites where biomining has commenced	
9.	Process adopted to remediate at each site	
10.	Timeline to process at each site	
11.	Final destination of the component	
12.	Details of Authorization and other permissions granted for operation of these sites and validity a. Number of landfill sites to which authorization/other permissions have been granted and details of the same b. Number of dumpsites to which authorization/other permissions have been granted and details of the same	
13.	Ambient Air Quality in and around the sites in the city along with GPS location of the monitoring stations a. Status of compliance with SWM rules, 2016, for each site/city	
14.	Fire incidents, if any, at sites in the city (please provide details and number of incidents reported and their location in last 5 years)	
15.	Details of methane monitoring, if any carried out at the site in the city (Please provide details	
16.	Methane detectors, if any, provided at the site in the city	
17.	Mitigation measures taken for reduction in organic emissions at the site in the city	

18.	Status of compliance of Directions w.r.t controlling fire at dumpsites , issued by CPCB in each city	
19	Overall Observations (Site wise and City Wise)	
20	Overall Recommendations (Site wise and City Wise)	

Annexure A

Format For Legacy waste Biomining

Serial No.			Item	Details
1			**General Information**	
	A		City & Location (Lat., Long) of Landfill	
	B		Name,Designation & Contact Details of Nodal Officers for Biomining	
	C		Stage of Biomining (Planned/Being Executed/Completed	
2			**Volume of Waste**	
	A		Has Contour Survey of site been Done (Y/N)	
	B		Length (Initial -M)	
	C		Width (Initial -M)	
	D		Height (Initial -M)	
	E		Total Volume (Cub.Meter)	
3			**Characteristics of Waste** **Inerts- Construction waste, wood glass etc (%)** **Compost – Organic (%)** **RDF- Plastic (%)** **Any other material (%)**	
4			**Leachate Characteristics**	
5			**Baseline Survey**	
	A		Ground Water Analysis	
	B		Soil Analysis	
	C		Quantity Of Waste Processed Per Day (TPD)	
6			**Process Flow sheet of Bio-Mining**	
7			**Stabilization of waste**	
	A		Type of biomining method Adopted (Tractor tiller,Trenchmethod; Cone Method;Windrow,Thin Layer Method)	
	B		Machinery used for Excavating dumpsite (Tractor Tiller Etc)	
	C		Machinery Used for preparing Windrows (JCB etc)	

	D		Are large objects removed prior to windrow preparation	
	E		Are Windrows Turned Every 4-5 Days	
	F		Duration of Stabilization	
	G		Bio-culture Used	
	H		Is End Product Stabilized (No Heat / Gas /leachate /Smell)	
	I		Is leachate Being Generated From the waste	
	J		If Yes,methodology for leachate Management Adopted	
8			**Processing Of Legacy Waste**	
			Machinery Used For processing of legacy waste	
	A		Screening	
		i	Trommel (Number & Capacity (TPD)	
		ii	Size of screens used (Mostly used 150 mm. 80 to 100 mm, 24 to 50mm, 1216 mmand 4-6)	
		iii	Vibrating Screen (No)	
		iv	Electromagnet (For separating ferrous metals)	
		v	Air Classifier (for separating light material from heavy organic)	
		vi	Disc/Star (No)	
	B		Handling	
		i	Loader (No.)	
		ii	Conveyor (No.)	
		iii	Fork Lift (No.)	
		iv	Categories in which the waste is segregated (Compost/Recyclables/RDF/C&D/Inerts etc.)	
		v	Quantity of items which is being generated in each category	
		vi	Quantity of items being utilized of different categories	
		vii	Documents supporting usage of different fractions (Bioearth/Recyclable/RDF/Other wastes)	

		viii	Analysis results of fine earth	
		ix	Frequency of testing of bio-earth	
9			**Miscellaneous**	
		A	Have fires being reported at the site	
		B	Methodology to tackle fires	
		C	Status of compliance of Directions w.r.t controlling fire at dumpsites , issued by CPCB	
		D	Is fresh waste being dumped at the site	
		E	Percentage land recovered so far	
		F	Is third party audit of biomining being done	
10			**Ambient air quality monitoring**	
		A	Landfill Gas control System ,	
		B	Methane gas measurement and mitigation measures adopted	
		C	Use of Landfill Gas	
		D	Ambient Air quality monitoring in & around the site along with GPS location	
		E	Compliance with standards	
11			Detailed observations:	
12			Recommendations	

Annexure B

Format for Sanitary Landfill

SN.		Questions	Details
1		**General information**	
	i	Name of State	
	ii	City & Location (Lat., Long) and map of Landfill	
	iii	Name, Designation & Contact Details of Nodal Officers for	
	iv	Coverage area of the site	
	v	Quantity of the waste disposed at the site	
A		**Site selection**	
	i	Landfill site initiated in the year	
	ii	Distance of Landfill site as per (vii) of Schedule 1	
	iii	Buffer zone around landfill /processing site	
	iv	Provisions for Disposal of Bio Medical, Hazardous and E Waste	
	v	Temporary storage facility at landfill site	
B		**Development of facilities at sanitary landfill**	
	i	Fencing /hedging of sites with gate to monitor incoming vehicles	
	ii	Paved/concretized internal road	
	iii	Record keeping for waste received, processed and disposed at the site , with office facility, shelter for equipment's & machinery	
	iv	Provision of weigh bridge (Manual or computerized)	
	v	Fire protection equipment	
	vi	Drinking water and Sanitary facilities for workers	
	vii	Safety provisions including health inspection of workers at landfill site	
C.		**Landfill operations and Closure**	
	i	Compaction of waste /alternative measures	
	ii	Measures taken for rainy season	
	iii	Final cover type	

D		**For Pollution prevention**	
	i	Storm water drains to avoid mixing of surface runoff with leachate	
	ii	Non permeable lining system at the base and wall of waste disposal area	
	iii	Provision for management of Leachate , collection and treatment system , details	
	iv	Arrangement to prevent leachate runoff from landfill area entering any water body	
E		**Water Quality monitoring**	
	i	Groundwater analysis	
	ii	Use of groundwater in and around landfill (irrigation & Drinking) purpose	
F		**Ambient air quality monitoring**	
	i	Landfill Gas control System ,	
	ii	Methane gas measurement/mitigation measures adopted	
	iii	Use of Landfill Gas	
	iv	Ambient Air quality monitoring in & around the site along with GPS location	
	v	Compliance with standards	
	vii	Fire incident, if any at the site	
	vii	Status of compliance of Directions w.r.t controlling fire at dumpsites , issued by CPCB	

Additional information to be provided (O.A. No. 247/2024)

Citywise Details							
S.No.	**Items**	**Details**					
1	Quantity of waste generated in the city						
2	Quantity of waste collected						
3	Quantity of waste segregated						
4	Quantity of waste processed with method of processing	Composting (Quantity in %)	Biomethanation (Quantity in %)	WtoE (Quantity in %)	MRF (Quantity in %)	Landfilling (%)	Any other (%)
5	% Gap in SW generation Vs SW processed						
6	How is unprocessed solid waste (SW) disposed of?						
Sanitary Landfill Site Details (Site wise)							
7	Status of CTO for SLF with Validity						
8	Authorization status of SLF with validity						
Details of dumpsite & SLF (Site wise)							
9	Whether methane gas detector has been installed & temperature at windrow is being monitored.(Site wise)						
10	Whether treated leachate/water is being sprayed during high temperature.(Site wise)						
11	Whether CCTV cameras have been installed at the site & patrolling, mock drills, and safety audits are being conducted regularly.(Site wise)						
12	Whether arrangement of fire extinguishing has been provided.(Site wise)						
13	Weather health and safety measures for workers have been provided.(Site wise)						
14	Whether an onsite/offsite emergency plan there.(Site wise)						

Format for Cities having O&G sites : Onshore

S.No.	Particulars	Remarks
1.	State Name	
2.	City Name	
3.	Name & Address of the O & G Unit with contact details	
4.	Lat, Long of site	
5.	CTO/CTE/Authorization given by SPCB : Details with validity status	
6.	Methane gas generation (Specify the latest quantity) Conversion to production (% Utilization) Balance- % Disposed to the environment 1. Flaring 2. Other purposes	
7.	Mitigation measures taken for reduction in organic emission including methane	
8.	Methane detector installed (Yes/No)	
9.	Fire incident at site in last 5 years (If yes , mention the year & reason for the fire)	
10.	Emergency plan for fire prevention (Onsite & Offsite with details)	
11.	OCEMS installed & connected to CPCB/SPCB Server (Yes/No)	
12.	Ambient air quality monitoring with standards (Recent data & Compliance of the parameters)	
13.	Any other information	

Annexure-VIII

CITY & SITE WISE COMPILED INFORMATION

(A) CITY WISE DETAILS OF DUMPSITES, SLFS AND O& G SITES

The city wise compiled information for 08 sites in 07 cities in three states viz Gujarat, Maharashtra & Rajasthan w.r..t dumpsite, and Sanitary Landfill sites. In three cities of Assam viz Nazira, Dibrugarh and Tinsukia , there is no solid waste dumpsite & SLF sites identified by IIRS, ISRO study as methane emission hot spot . The status of Oil and Gas sites in Assam & Rajasthan for 5 cities (05 O& G sites) are mentioned in further section. The detailed observations of Solid waste dumpsites and SLF in cities of Gujarat, Maharashtra and Rajasthan are given below:

7.1 AHMEDABAD & SURAT IN GUJARAT

There are two cities in Gujarat where methane hotspot areas have been identified by IIRS, ISRO. These cities are Surat & Ahmedabad. Details are given below:

1. There are two dumpsites (one in Surat as Khajod & another at Ahmedabad as Pirana) .
2. Bio mining at Pirana dumpsite in Ahmedabad has been completed & capping has been done at Khajod in Surat .
3 Fresh waste disposal is not done at Surat as it is capped.
3. Provision of gas collection is done at Khajod in closed landfill cells.
4. Leachate is collected in tankers at Khajod site and treated in leachate treatment unit
5. Methane detectors not in place at Khajod

7.2 CENTRAL MUMBAI, KALYAN- DOMBIVLI & PUNE IN MAHARASHTRA

There are 3 cities in Maharashtra as methane hotspots identified by IIRS, ISRO Dehradun which are Central Mumbai, Kalyan ,Dombiveli and Pune . The details are given below:

1. There are 02 dumpsites (Deonar and Adharwadi) & 02 sanitary landfills (Kanjurmarg and Pimpri –Chinchwad) in these three cities of Maharashtra.
2. Bio mining at Adharwadi –Kalyan Dombiveli dumpsites has been commenced whereas at one dumpsite (Deonar) it has not been initiated as yet.

3. Fire incidents are not reported during last five years at both the dumpsites.
4. Ambient air quality is monitored at both the dumpsites.
5. Fresh waste is not disposed at Adharwadi while disposed at Deonar dumpsite
6. 02 Sanitary landfill sites are established i.e one at Kanjurmarg (after 2016) & another at Pimpri-Chinchwad (prior to 2016)
7. Authorization granted by SPCB for both the SLFs sites and validity exists till date.
8. Fire incidents have been reported once at Pimpri-Chinchwad SLF, however reason not ascertained. Ambient air quality is being monitored at both SLF sites however as per latest reports PM10 is exceeding at both the sites.
9. The provision for leachate collection and treatment is available at both SLF sites in Maharashtra.
10. Gas collection system is in place at Kanjurmarg no tat Pimpri-Chinchwad.

7.3 CHIRAWA & TARANAGAR IN RAJASTHAN

There are two cities in Rajasthan where methane hotspots have been identified by IIRS, ISRO. These cities are Chirawa & , Taranagar, Details are given below**:**

1. There are two dumpsites (one in Chirawa and another in Taranagar)
2. There is a 44% gap in solid waste management in Chirawa & 100% gap in Taranagar. Fresh waste is being dumped at both dumpsites i.e Chirawa and Taranagar.
3. Biomining has not been initiated at Taranagar .
4. Bio mining has been started at Baghania, Johar dumpsite in Chirawa on May 2024 & proposed to be completed by July 2025.Seven small fire incidents have been reported during last 5 years due to flammable material at Chirawa dumpsite.
5. Ambient air quality monitoring is not being carried out at both dumpsites of Chirawa and Taranagar.
6. On-site monitoring of methane emissions is not done at dumpsites of both cities.

OIL & GAS SITES IN 5 CITIES OF ASSAM & RAJASTHAN

1. There are 3 O&G sites in Assam and 2 in Rajasthan.
2. CTO/CTE has been granted by SPCBs of Assam and Rajasthan to all 5 Oil and Gas sites and validity exits.
3. The natural gas produced on the site contains varying percentage of methane content. At O & G sites of Assam viz. Dibrugarh & Tinsukia , 89% methane content is found out of which 0.34% & 1.12 % is flared respectively , at Nazira - 7.13% methane is flared in the environment .
4. At O&G sites of Rajasthan viz. Jaisalmer, & Barmer , 85% & 16% methane content is found respectively, with utilization of entire methane content at Jaisalmer and 100% flaring at Barmer .
5. No fire incidents have been reported in last 5 years at any of the sites except at Nazira site, Assam due to gasket failure.
6. Air quality monitoring at the sites shows that the ambient air quality is within the prescribed limits, except at Barmer, Rajasthan, where the PM10 concentration exceeds the acceptable levels of National Ambient Air Quality Standards (NAAQS).

(B) SITE WISE COMPILED INFORMATION IN 12 CITIES

Assam:

There are 3 cities in Assam viz. methane hotspot area is identified by IIRS, ISRO Dehradun which are Dibrugarh, Tinsukia and Nazira. The details are given below:

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	Tinsukia
2	Population of City	1.25 Lakhs
3	Quantity of Waste Generated	70 TPD
5	Quantity of Waste Collected	60-65 TPD
6	Quantity of waste segregated	2-3 TPD
7	Quantity of waste processed	4%
8	% Gap in solid waste management	80%
B. Status of legacy waste Bio mining		
1	No, of Dumpsites	01, Tinsukia (Lat 27.45, Long 95.36)
2	Age & Height of dumpsites	Age is 31 years & height is 6.5 m (Before Bio mining)
3	Volume of waste accumulated at the dumpsite	14,500 Cum (Before Bio mining)
4	Bio mining Started/ Completed	Completed (Year 2024)
5	Area cleared & use of reclaimed land	Site restoration is being carried out
6	Quantity of waste processed per day	NA
7	Proposed plan for completion of biomining	NA
8	Leachate management	Leachate is generated from the waste but there is no leachate control measures adopted
9	No. of Fire incidents & reasons thereof	No fire incidents occurred in last 5 years
10	Ambient air quality monitoring	Air quality not monitored
11	Methane gas measurement and mitigation measures adopted	No provision
C. Status of sanitary landfill		
1	No. of SLF	No SLF in Tinsukia

NA – Not applicable

Observation:

- Out of 70 TPD, only 2-3 TPD waste is being segregated in Tinsukia
- There is 80% gap between solid waste generation and solid waste disposal.
- Biomining is completed at the legacy waste dumpsite through the process of bioremediation and windrow.
- The reclamation of land is ongoing.
- There is no provision of leachate collection and treatment system.
- There are no fire incidents reported during last 5 years.
- There is no ambient air quality monitoring done around the site.
- There is no methane gas measurement and mitigation measures adopted.
- There is no SLF in Tinsukia.

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	Dibrugarh
2	Population of City	1.5 Lakhs
3	Quantity of Waste Generated	100 TPD
5	Quantity of Waste Collected	90 TPD
6	Quantity of waste segregated	90 TPD
7	Quantity of waste processed	NP
8	% Gap in solid waste management	NIL
B. Status of legacy waste Biomining		
1	No, of Dumpsites	01, Lekai Ghoramara (Lat 27.413, Long 94.925)
2	Age & Height of dumpsites	Age is 2 years & height is Not Provided
3	Volume of waste accumulated at the dumpsite	50,000 MT
4	Biomining Started/ Completed	Started (Year 2022)
5	Area cleared & use of reclaimed land	NA
6	Quantity of waste processed per day	NP
7	Proposed plan for completion of biomining	Within 6 months
8	Leachate management	No Leachate is being generated from the waste
9	No. of Fire incidents & reasons thereof	No such fire incidents has occurred in last 5 years
10	Ambient air quality monitoring	Air quality not monitored
11	Methane gas measurement and mitigation measures adopted	No provision
C. Status of sanitary landfill Site (SLF)		
1	No. of SLF	01, Lekai Ghoramara (Lat 27.412, Long 94.925)

2	Operation year of SLF (Prior or after 2016.	After 2016
3	Quantity of waste disposed at Site	NP
4	CTE/CTO status	NA
5	Details of authorization under SWM Rules, 2016	NP
6	Provision of gas collection system	NP
7	Provision of leachate collection & treatment	Yes
8	Ambient air quality monitoring	No

Observation:

- 100% waste is being segregated in the Dibrugarh.
- The biomining at the dumpsite has been initiated through the process of windrow. 100 TPD fresh waste processing plant has been commissioned and fully operational.
- There is no fire incident reported during last 5 years.
- Ambient air quality monitoring is not being carried out at the dumpsite.
- On-site monitoring of methane emissions is also lacking.
- The operation year of SLF at Lekai Ghoramara was after 2016
- The provision of leachate collection and treatment was provided at SLF. The SLF is converted to dumpsite. It is also informed by the Regional Office, Dibugarh , Assam that the solid waste management project at Lekai was set up by Dibrugarh Municipal Board during 2021 with facility to dispose Solid Waste of 70 TPD capacity with Integrated composting and Sanitary Landfill facility, however due to various operational reasons it was observed that sanitary landfill facility was used as dumping site since September, 2022. At present bio mining is under progress at that site to restore Sanitary landfill facility.

A. Solid Waste Management Status			
S.No.	**Particulars**	**Details**	
1	Name of City	**Nazira (New site)**	**Simaluguri (Closed site)**
2	Population of City	13,300	8286
3	Quantity of Waste Generated	3.1 TPD	2.1 TPD
5	Quantity of Waste Collected	2.7 TPD	1.7 TPD
6	Quantity of waste segregated	0.7 TPD	0.6 TPD
7	Quantity of waste processed	25 %	~25-30%
8	% Gap in solid waste management	35%	75%

B. Status of legacy waste Biomining			
1	No, of Dumpsites	01 Nazira , Lat Long (Lat 26.92 Long 94.741)	01, Tetaliguri master chuk (Lat 26.919, Long 94.740)
2	Age & Height of dumpsites	Age is 5 months & height is 2 m	10 years , 2 meter
3	Volume of waste accumulated at the dumpsite	300 m^3	2520 Tons (approx.)
4	Biomining Started/ Completed	No	Site Non functional
5	Area cleared & use of reclaimed land	NA	NA
6	Quantity of waste processed per day	NP	NP
7	Proposed plan for completion of biomining	NP	NP
8	Leachate management	No leachate control measures adopted.	NP
9	No. of Fire incidents & reasons thereof	NIL	02 in last five years
10	Ambient air quality monitoring	Air quality not monitored	NP
11	Methane gas measurement and mitigation measures adopted	No provision	Not carried out
C. Status of sanitary landfill			
1	No. of SLF	No SLF in Nazira	

Observation:

- There are two dumpsites one at viz Nazira(New site) and another at Simaluguri (Old site) . The old site has been nonfunctional since 31March, 2024 due to public complaints and new site is functional at Nazira .
- Out of 2.7 TPD only 0.7 TPD waste is being segregated in Nazira .
- There is approx. 35% gap between solid waste generation and solid waste disposal.
- Bio mining has not yet initiated at the Simaluguri legacy waste dumpsite.
- No provision of leachate collection and control system at both dumpsites.
- Fire incidents have been reported twice at Simaluguri site, reason has not ascertained.
- Ambient air quality monitoring is not being carried out at dumpsite
- On-site monitoring of methane emissions is also lacking.
- There is no SLF in Nazira.

Gujarat:

There are two cities in Gujarat where methane hotspot areas have been identified by IIRS, ISRO Dehradun. These cities are Surat & Ahmedabad. Details are given below:

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	**Surat**
2	Population of City	44,67,797 (As per 2011 Census)
3	Quantity of Waste Generated	2450 TPD
5	Quantity of Waste Collected	2450 TPD
6	Quantity of waste segregated	2450 TPD
7	Quantity of waste processed	Approx. 94%
8	% Gap in Solid waste management	Approx. 6% (Generation Vs. Processed)
B. Status of legacy waste Biomining		
1	No, of Dumpsites	02 , namely Bhatar dumpsite (Lat. 21.159, Long. 72.819) and Khajod dumpsite (Lat. 21.100, Long. 72.803
2	Age & Height of dumpsites	Age is 20-25 years
3	Volume of waste accumulated at the dumpsite	1,50,000 Cum at Bhatar (Prior to biomining) & 35,00,000 Cum at Khajod
4	Biomining Started/ Completed	At bhatar biomining has been completed & at Khajod capping has been undertaken prior to 2017-18
5	Area cleared & use of reclaimed land	70,000 sq M at Bhatar, an ecological park has been developed on the reclaimed land
6	Quantity of waste processed per day	NA
7	proposed plan for completion of biomining	Completed
8	Leachate management	Leachate collected in Tankers and treated in Leachate Treatment Unit
9	No. of Fire incidents & reasons thereof	No
10	Ambient air quality monitoring	No
11	Methane gas measurement and mitigation measures adopted	No (Gas vent provided in scientifically closed area)

C. Status of sanitary landfill		
1	No. of SLF	01. Khajod (Lat. 21.1004, Long. 72.8032)
2	Operation year of SLF (Prior or after 2016.	2004-2005 (prior to 2016)
3	Quantity of waste disposed at Site	10 Lakh M.T.
4	CTE/CTO status	NP
5	Details of authorization under SWM Rules, 2016	Expired & renewal is under consideration
6	Provision of gas collection system	Yes, in closed sanitary landfill cell
7	Provision of leachate collection & treatment	Provisions for leachate collection and treatment, along with a non-permeable lining system at the base and sides of the sanitary landfill site, have been implemented. Leachate is collected in leachate collection wells and subsequently treated in the nearby sewage treatment plant (STP). Landfill gas control system has not been deployed.
8	Ambient air quality monitoring	At Khajod, as per ambient air quality report dated April 25, 2024, PM2.5, PM10, SO2, NOx & SPM are within prescribed limit

Observation:

- 94% of fresh waste is being processed in Surat.
- Information w.r.t. completion year of bio mining at Bhatar, CTO status & validity, Authorization validity of SLF at Khajod has not been provided.
- Bio mining work at Bhatar dumpsites has been completed & capping has been under taken at Khajod prior to NGT guideline, in year 2017-2018.
- Fire incidents have been reported at Khajod SLF, twice. Fire erupted due to concentration of sunlight.
- SLF at Khajod has been initiated before 2016.
- Authorization of SLF at Khajod is expired & renewal application is pending at GPCB.
- Ambient air quality is monitored at SLF Khajod . Latest data during 2024 indicates compliance of criteria parameters of NAAQS.

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	**Ahmedabad**
2	Population of City	75 Lakh
3	Quantity of Waste Generated	3495 TPD
5	Quantity of Waste Collected	3495 TPD

6	Quantity of waste segregated	3495 TPD
7	Quantity of waste processed	100% (Generation Vs. Processed)
8	% Gap in Solid waste management	Nil
B. Status of legacy waste Biomining		
1	No, of Dumpsites	1. Pirana (22.976711, 72.563286)
2	Age & Height of dumpsites	Age is 44 approx. years & Avg. height is 50 m (Prior to biomining)
3	Volume of waste accumulated at the dumpsite	126.32 lakh tonnes (Prior to biomining)
4	Biomining Started/ Completed	Completed in Dec 2023
5	Area cleared & use of reclaimed land	45 Acres of land cleared; an ecological park has been developed on the reclaimed land.
6	Quantity of waste processed per day	40,000 TPD (Biomining completed)
7	proposed plan for completion of biomining	NA
8	Leachate management	Leachate is collected through leachate channel and treated along with STP (Prior to biomining) water
9	No. of Fire incidents & reasons thereof	No big/considerable scale fire reported
10	Ambient air quality monitoring	No (Prior to biomining)
11	Methane gas measurement and mitigation measures adopted	No (Prior to biomining)
C. Status of Sanitary landfill Site		
1	No. of SLF	1. Gyaspur SLF (Ahmedabad (22.960629, 72.546685)
2	Operation year of SLF (Prior or after 2016.	2011

3	Quantity of waste disposed at Site	11 Lakh M.T.
4	CTE/CTO status	Valid till July 2024
5	Details of authorization under SWM Rules, 2016	Authorization obtained (valid till July 2024)
6	Provision of gas collection system	No
7	Provision of leachate collection & treatment	leachate is collected in leachate collection well which is then treated in the nearby STP.
8	Ambient air quality monitoring	Air quality monitored

Observations:

- 100% of fresh waste is being processed in Ahmedabad.
- Biomining work at Pirana dumpsite has been completed in Dec 2023.
- Fire incidents have not been reported during last 5 years.
- SLF has been initiated before 2016.
- The Gyaspur Sanitary Landfill (SLF) lacks provisions for a gas collection system and methane detectors.
- Ambient air quality monitoring is being conducted but the data showing compliance with air quality standards has not been provided.

Maharashtra

There are 3 cities in Maharashtra as methane hotspots identified by IIRS, ISRO Dehradun which are Central Mumbai, Kalyan Dombivli & Pune. The details are given below:

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	Central Mumbai
2	Population of City	1.24 Crores
3	Quantity of Waste Generated	6400 TPD
5	Quantity of Waste Collected	6360 TPD
6	Quantity of waste segregated	6360 TPD
7	Quantity of waste processed	5500 TPD

8	% Gap in solid waste management	14 % (Generation Vs processing)
B. Status of legacy waste Biomining		
1	No, of Dumpsites	02, Deonar (Lat : 19.05, Long 72.08) Mulund (Lat : 19.17, Long : 72.97)
2	Age & Height of dumpsites	Deonar : Age 103 & height is 40 m Mulund : Age is 60 years & height is 52 m
3	Volume of waste accumulated at the dumpsite	Deonar : 200 Lakh MT Mulund : 70 lakh MT
4	Biomining Started/ Completed	Deonar : Not started Mulund : Started (Year 2019)
5	Area cleared & use of reclaimed land	NP
6	Quantity of waste processed per day	Mulund : 7000-8000 TPD
7	Proposed plan for completion of biomining	NP
8	Leachate management	NA
9	No. of Fire incidents & reasons thereof	Not recorded
10	Ambient air quality monitoring	Air quality monitored
11	Methane gas measurement and mitigation measures adopted	No provision
C. Status of sanitary landfill Site (SLF)		
1	No. of SLF	1, kanjurmarg (Lat 19.12, Long 72.95)
2	Operation year of SLF (Prior or after 2016)	After 2016
3	Quantity of waste disposed at Site	2.03 Lakh MT
4	CTE/CTO status	
5	Details of authorization under SWM Rules, 2016	MPCB Authorization dated 23.08.2022, validity upto 2026
6	Provision of gas collection system	Methane gas measured, collected and used for generating electricity and rest is flared.
7	Provision of leachate collection & treatment	Yes
8	Ambient air quality monitoring	Yes

Observation:

- There is a 14% gap between solid waste generation and solid waste processing.
- The biomining has started at Mulund dumpsite whereas at deonar dumpsite biomining has not started yet.
- No fire incidents have been reported during last 5 years at both the dumpsites.
- There is no leachate management provision at any of the dumpsites.
- Ambient air quality monitoring is being carried out at both the dumpsite.
- On-site monitoring of methane emissions is also lacking.
- The SLF at kanjumarg is operational after 2016
- CTO/CTE for operation of SLF is granted & validity of authorization is upto 2026.
- The methane gas at SLF is collected, used for generating electricity and rest is flared.
- There is no leachate management provision at any of the two dumpsites.
- Ambient air quality at the site is not being monitored at both dumpsites. The reports indicating compliance of air quality parameters measured at SLF has not been provided for SLF Kanjurmarg.

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	Kalyan Dombivli
2	Population of City	20 Lakhs
3	Quantity of Waste Generated	650 TPD
5	Quantity of Waste Collected	650 TPD
6	Quantity of waste segregated	650 TPD
7	Quantity of waste processed	650 TPD
8	% Gap in solid waste management	NIL(Generation Vs processing)
B. Status of legacy waste Biomining		
1	No, of Dumpsites	01, Aadharwadi Dumpsite (Lat : 19.265, Long : 73.104)
2	Age & Height of dumpsites	42 years & height is 15 m
3	Volume of waste accumulated at the dumpsite	16 Lakh cum
4	Biomining Started/ Completed	Started (Year 2024)
5	Area cleared & use of reclaimed land	1.5 ha

6	Quantity of waste processed per day	1814 TPD
7	Proposed plan for completion of biomining	NP
8	Leachate management	No Leachate generated
9	No. of Fire incidents & reasons thereof	Not recorded since last 5 years
10	Ambient air quality monitoring	Air quality monitored
11	Methane gas measurement and mitigation measures adopted	No provision
C. Status of sanitary landfill Site (SLF)		
1	No. of SLF	02, Umbarde SLF (Lat : 19.27, Long : 73.12) Barave SLF (Lat : 19.26, Long : 73.15)
2	Operation year of SLF (Prior or after 2016.	Umbarde : after 2016 Barave : after 2016
3	Quantity of waste disposed at Site	Umbarde : 45246 MT Barave : 14295 MT
4	CTE/CTO status	Not obtained
5	Details of authorization under SWM Rules, 2016	Umbarde: Validity upto Dec 2024 Barave: Validity upto Dec 2023 (applied for renewal)
6	Provision of gas collection system	At Umbarde
7	Provision of leachate collection & treatment	No Leachate generated
8	Ambient air quality monitoring	Yes

Observation:

- There is no gap between solid waste generation and solid waste disposal at Kalyan Dombivili.
- The biomining has started at Aadharwadi dumpsite during 2024.
- No fire incident reported during last 5 years.
- Ambient air quality is being monitored at Adharvadi dumpsite and both SLFs. However, reports/ data are not provided regarding compliance of Criteria parameters with NAAQS.
- Provisions for on-site monitoring gas collection system is available at Umbarde , and not available at Barave .Information on methane measurement at both SLF is not provided
- The SLF of Umbarde and Barave site is operational after 2016
- Authorization is granted for the operation of SLF Umbarde site with validity upto Dec 2024 and Barave SLF site is presently operational without valid authorization.

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	**Pune**
2	Population of City	55 Lakhs
3	Quantity of Waste Generated	2300 TPD
5	Quantity of Waste Collected	2300 TPD
6	Quantity of waste segregated	2300 TPD
7	Quantity of waste processed	2300 TPD
8	% Gap in Solid waste management	NIL(Generation Vs processing)
B. Status of legacy waste Biomining		
1	No, of Dumpsites	01, Uruli Devachi Dumpsite (Lat : 18.4702841 ,Long: 73.9525822)
2	Age & Height of dumpsites	30 years & 12m
3	Volume of waste accumulated at the dumpsite	33 Lakh MT
4	Biomining Started/ Completed	Started (Year 2020)
5	Area cleared & use of reclaimed land	20 acre & reclaimed land not used yet
6	Quantity of waste processed per day	2000 TPD
7	Proposed plan for completion of biomining	NP
8	Leachate management	Leachate treatment plant established
9	No. of Fire incidents & reasons thereof	Not recorded Since last 5 years
10	Ambient air quality monitoring	Air quality monitored Quarterly
11	Methane gas measurement and mitigation measures adopted	No
C. Status of sanitary landfill Site (SLF)		
1	No. of SLF	02, Uruli Devachi Site (Lat : 18.4702841 Long : 73.9525822) Pimpri-Chinchwad
2	Operation year of SLF (Prior or after 2016.	Uruli Devachi – After 2016 Pimpri-Chinchwad- Prior to 2016
3	Quantity of waste disposed at Site	Uruli- 300 TPD Pimpri-Chinchwad-110 TPD

4	CTE/CTO status	Uruli- Applied
5	Details of authorization under SWM Rules, 2016	Uruli- Validity upto 2026 Pimpri-Chinchwad- Validity upto 2024
6	Provision of gas collection system	No
7	Provision of leachate collection & treatment	Uruli- Yes Pimpri-Chinchwad- Yes, Separate system to collect and convey Leachate treatment plant is available
8	Ambient air quality monitoring	Uruli : Yes Pimpri-Chinchwad -Yes

Observation:

- There is no gap between solid waste generation and solid waste disposal.
- The bio mining has started in year 2020 at the Uruli Devachi legacy waste dumpsite.
- Leachate treatment plant established on the legacy site.
- There is no fire incident reported during last 5 years.
- On-site monitoring of methane emissions is also lacking at both Legacy waste dumpsite as well as SLF.
- The SLF at Uruli is operational after 2016 and SLF at Pimpri-Chinchwad is operational prior to 2016.
- CTO/CTE for SLF Uruli and Pimpri –Chinchwad is not there. Validity of authorization fo SLF Uruli at upto 2026 and Pimpri is upto 2024 .
- There is no provision of gas collection system at both the SLF sites.
- Ambient air quality monitoring is being done at both the legacy waste site and SLFs. However, as per latest reports/data provided the PM10 value exceeds the limit as per NAAQS.

Rajasthan:

There are four cities in Rajasthan where methane hotspots have been identified by IIRS, ISRO Dehradun. These cities are Chirawa, Taranagar, Jaisalmer and Barmer. Details are given below:

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	Chirawa, Jhunjhunu, Rajasthan
2	Population of City	43953 (As per 2011 census)
3	Quantity of Waste Generated	18 TPD
5	Quantity of Waste Collected	16 TPD
6	Quantity of waste segregated	9 TPD

7	Quantity of waste processed	56% (Collection Vs Segregation)
8	% Gap in Solid waste management	44%
B. Status of legacy waste Biomining		
1	No, of Dumpsites	01, Baghania, Johar (28.261, 75.639)
2	Age & Height of dumpsites	Age is 39 years & Height 20 Feet (approx.)
3	Volume of waste accumulated at the dumpsite	81118 Cum (68,951 tonnes)
4	Biomining Started/ Completed	Biomining started on May 2024
5	Area cleared & use of reclaimed land	10,000 Cum cleared
6	Quantity of waste processed per day	900 TPD
7	Proposed plan for completion of biomining	July 2025
8	Leachate management	No Leachate management
9	No. of Fire incidents & reasons thereof	7 small fire incidents reported due to flammable material
10	Ambient air quality monitoring	Air quality not monitored
11	Methane gas measurement and mitigation measures adopted	No
C. Status of sanitary landfill		
1	No. of SLF	No Sanitary Landfill Site (SLF) at Chirawa

Observation:

- There is a 44% gap in solid waste management in Chirawa.
- Biomining has been started at Baghania, Johar dumpsite on May 2024 & proposed to be completed by July 2025.
- Seven small fire incidents have been reported during last 5 years due to flammable material
- Fresh waste is being dumped at dumpsite.
- Remediation of legacy waste at Baghania, dumpsite, Chirawa has been started but all necessary process including conducting a baseline survey, ensuring waste stabilization and implementing bio-culture and aeration before processing the waste is not being followed.
- Ambient air quality monitoring is not being carried out at dumpsite.
- On-site monitoring of methane emissions is not done.
- There is no SLF at Chirawa.

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	**Taranagar, Churu, Rajasthan**
2	Population of City (As per 2011 Census)	32640
3	Quantity of Waste Generated	11 TPD
5	Quantity of Waste Collected	9 TPD
6	Quantity of waste segregated	-
7	Quantity of waste processed	Nil
8	% Gap in Solid waste management	100% (All fresh waste is being dumped)
B. Status of legacy waste Biomining		
1	No, of Dumpsites	01, Alasla road, Bhootiya village (28.665, 75.024)
2	Age & Height of dumpsites	20 years & Average height is 6 m
3	Volume of waste accumulated at the dumpsite	12045 Cum (10,630 Tonnes)
4	Biomining Started/ Completed	Proposed to be started after August ,2024
5	Area cleared & use of reclaimed land	NA
6	Quantity of waste processed per day	NA
7	proposed plan for completion of biomining	NA
8	Leachate management	Not done
9	No. of Fire incidents & reasons thereof	None
10	Ambient air quality monitoring	No
11	Methane gas measurement and mitigation measures adopted	No
C. Status of sanitary landfill		
1	No. of SLF	No Sanitary Landfill Site (SLF) at Taranagar

Observation:

1. There is no processing of solid waste in Taranagar and 100% fresh waste is being dumped at the dumpsite.

2. Biomining proposed to be started after August 2024.
3. Fire incidents have not been reported during last 5 years.
4. Ambient air quality monitoring is not being carried out at dumpsite.
5. On-site monitoring of methane emissions is not done.
6. There is no SLF at Taranagar.

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	Barmer, Rajasthan
2	Population of City	96225 (As per 2011 census)
3	Quantity of Waste Generated	50 TPD
5	Quantity of Waste Collected	45-50 TPD
6	Quantity of waste segregated	20 TPD
7	Quantity of waste processed	Approx. 40%
8	% Gap in Solid waste management	Approx. 60% (Collection Vs Segregation)
B. Status of legacy waste Biomining		
1	No, of Dumpsites	01. Gehu Road Dumping site (25.778, 71.348)
2	Age & Height of dumpsites	Age is 20 years
3	Volume of waste accumulated at the dumpsite	105954 Cum
4	Biomining Started/ Completed	Biomining has been initiated on March 2022
5	Area cleared & use of reclaimed land	50 % land recovered
6	Quantity of waste processed per day	NP
7	Proposed plan for completion of biomining	October 2024
8	Leachate management	No
9	No. of Fire incidents & reasons thereof	None
10	Ambient air quality monitoring	Yes (PM10 is exceeding the limit of NAQQS)
11	Methane gas measurement and mitigation measures adopted	No
C. Status of sanitary landfill		
1	No. of SLF	No Sanitary Landfill Site (SLF)at Barmer

Observation:

1. There is a 60% gap in solid waste management in Barmer.
2. Biomining has been initiated at Barmer dumpsite during May 2022 & proposed to be completed by October, 2024.

3. Fire incidents have not been reported during last 5 years.
4. Quantity of legacy waste processed per day has not been provided.
5. Provision of leachate management is not there.
6. Ambient air quality monitoring is carried out at dumpsite.
7. On-site monitoring of methane emissions is not done.
8. There is no SLF at Barmer.

A. Solid Waste Management Status		
S.No.	**Particulars**	**Details**
1	Name of City	Jaisalmer
2	Population of City (As per 2011 Census)	65471
3	Quantity of Waste Generated	30 TPD
5	Quantity of Waste Collected	30 TPD
6	Quantity of waste segregated	18 TPD
7	Quantity of waste processed	35%
8	% Gap in Solid waste management	65% (Generation Vs. Processed)
B. Status of legacy waste Biomining		
1	No, of Dumpsites	01, Badabagh, Jaislmer (Lat. 26.9742, Long. 70.8761)
2	Age & Height of dumpsites	Age is 16 years & Average height is 2.9 m
3	Volume of waste accumulated at the dumpsite	72692 Cum
4	Biomining Started/ Completed	Not initiated
5	Area cleared & use of reclaimed land	NA
6	Quantity of waste processed per day	NA
7	proposed plan for completion of biomining	NA
8	Leachate management	NP
9	No. of Fire incidents & reasons thereof	None
10	Ambient air quality monitoring	No
11	Methane gas measurement and mitigation measures adopted	No
C. Status of sanitary landfill		
1	No. of SLF	No Sanitary Landfill Site (SLF) Jaisalmer (1 SLF proposed)

Observation:

1. There is a 65% gap in solid waste management in Jaisalmer.
2. Fresh waste is being dumped at Badabagh, Jaislmer dumsite.
3. Leachate management status has not been provided.
4. Bio mining has not yet started at Badabagh dumpsite.
5. Fire incidents have not been reported during last 5 years.
6. Ambient air quality monitoring is not being carried out at dumpsite.
7. On-site monitoring of methane emissions is not done.
8. There is not SLF at Jaisalmer.

OIL & GAS SITES IN ASSAM & RAJASTHAN

The Oil and Gas sites identified by IIRS, ISRO as hospots locations for methane emissions in cities of Nazira, Tinsukia, Dibrugarh, Jaiselmer, Barmer have been verified and details are given below:

Assam:

There are 03 O & G sites viz Kathalguri, Dibrugarh, Jorajan OCS,Tinsukia and ONGC site at Nazira. Details are given below:

S.No.	Particulars	Remarks
1.	State Name	Assam
2.	City Name	Dibrugarh
3.	Name & Address of the O & G Unit with contact details	Kathalguri OCS, Duliajan, Dist : Dibrugarh, Pin-786602
4.	Lat, Long of site	27.368, 95.446
5.	CTO/CTE/Authorization given by SPCB : Details with validity status	Yes Validity upto 31.03.2027
6.	Methane gas generation (Specify the latest quantity) Conversion to production (% Utilization) Balance- % Disposed to the environment 1. Flaring 2. Other purposes	4,45,000 (natural gas)SCMD 89 % Methane content Utilization – HP & LP gas Flaring : 1500 SCMD Other purpose : NIL
7.	Mitigation measures taken for reduction in organic emission including methane	LEL monitoring system
8.	Methane detector installed (Yes/No)	Yes
9.	Fire incident at site in last 5 years (If yes , mention the year & reason for the fire)	No
10.	Emergency plan for fire prevention (Onsite & Offsite with details)	Inhouse Firefighting facilities,

		Emergency response plan available
11.	OCEMS installed & connected to CPCB/SPCB Server (Yes/No)	No
12.	Ambient air quality monitoring with standards (Recent data & Compliance of the parameters)	Yes Under prescribed limit (SO_x – 8.1µg/m^3 NO_x – 24.1 µg/m^3 $PM_{2.5}$ - 31.1 µg/m^3 PM_{10} - 62.2 µg/m^3)
13.	**Any other information**	NIL

Observations:

- There is one site of O&G in Dibrugarh which is Kathaguri OCS Duliajan.
- CTO/CTE/Authorization is given by SPCB having validity upto 31.03.2027.
- There is 89 % methane content in natural gas out of which 0.34 % is flared in the environment.
- Continuous LEL monitoring system is in place to monitor and control fugitive emissions.
- No fire incident reported at the site in last 5 years.
- Ambient air quality measured on April 2024, which is under prescribed limit.

S.No.	Particulars	Remarks
1.	State Name	Assam
2.	City Name	Tinsukia
3.	Name & Address of the O & G Unit with contact details	JORAJAN OCS, Vill-JORAJAN, P.O. DIGBOI, Dist : Tnsukia, Pin : 786171
4.	Lat, Long of site	27.341, 95.484
5.	CTO/CTE/Authorization given by SPCB : Details with validity status	Yes Validity : 31.03.2027
6.	Methane gas generation (Specify the latest quantity) Conversion to production (% Utilization) Balance- % Disposed to the environment 3. Flaring 4. Other purposes	2,04,447(Natural gas) SCMD 89 % Methane content Utilization – HP & LP gas Flaring: 2285 SCMD Other purpose : NIL
7.	Mitigation measures taken for reduction in organic emission including methane	LEL monitoring system High energy ignition based remote ignition system Online gas monitoring system
8.	Methane detector installed (Yes/No)	Yes

9.	Fire incident at site in last 5 years (If yes , mention the year & reason for the fire)	No
10.	Emergency plan for fire prevention (Onsite & Offsite with details)	Inhouse Firefighting facilities, Emergency response plan available
11.	OCEMS installed & connected to CPCB/SPCB Server (Yes/No)	No
12.	Ambient air quality monitoring with standards (Recent data & Compliance of the parameters)	Yes Under prescribed limit (SO_x – 7.3 µg/m^3 NO_x – 23.2 µg/m^3 $PM_{2.5}$ – 39.3 µg/m^3 PM_{10} – 66.8 µg/m^3)
13.	**Any other information**	NIL

Observations:

- There is one site of O&G in Tinsukia which is Jorajan OCS, Digboi.
- CTO/Authorization is given by SPCB having validity upto 31.03.2027.
- There is 89 % methane content in natural gas out of which 1.12 % flared in the environment.
- Continuous LEL monitoring system is in place to monitor and control fugitive emissions. Implementation of high energy ignition based remote ignition system for flaring is going on.
- No fire incident reported at the site in last 5 years.
- Ambient air quality measured on April 2024, which is under prescribed limit.

S.No.	Particulars	Remarks
1.	State Name	Assam
2.	City Name	Nazira
3.	Name & Address of the O & G Unit with contact details	ONGC, Assam Asset, Nazira, Assam-785685.
4.	Lat, Long of site	26.91, 94.74
5.	CTO/CTE/Authorization given by SPCB : Details with validity status	Yes Validity : 31.03.2026
6.	Methane gas generation (Specify the latest quantity) Conversion to production (% Utilization) Balance- % Disposed to the environment 5. Flaring 6. Other purposes	Natural Gas production and utilization data of the year 2023-24 is as follows: Natural Gas production: 274.31 MMSCM. Natural Gas Sales: 80.09 MMSCM. Internal Use:

		174.67 MMSCM Technical Flare: 19.55 MMSCM
7.	Mitigation measures taken for reduction in organic emission including methane	Preventive maintenance of equipment and pipeline, Patrolling and line walks of pipelines, Installation of Advanced flaring systems
8.	Methane detector installed (Yes/No)	Yes
9.	Fire incident at site in last 5 years (If yes , mention the year & reason for the fire)	In 2023, due to gasket failure, a fire incident took place which was brought under control and no crew members were injured during this incident.
10	Emergency plan for fire prevention (Onsite & Offsite with details)	Installation wise ERP (Emergency response Plan) is maintained
11	OCEMS installed & connected to CPCB/SPCB Server (Yes/No)	No
12	Ambient air quality monitoring with standards (Recent data & Compliance of the parameters)	Yes Under prescribed limit (SO_x – 12µg/m^3 NO_x – 16µg/m^3 $PM_{2.5}$ – 16µg/m^3 PM_{10} – 68µg/m^3)
13	Any other information	In 2023 – 24, approximately 15000 saplings were planted by ONGC Assam Asset to maintain carbon sink in and around Sivasagar district. This FY (2024-25) too, the target to be achieved. Carbon Capture Utilization and Storage - under preliminary/ testing stage.

Observations:

- There is one site of O&G in Nazira, Assam .
- CTO/Authorization is given by SPCB having validity upto 31.03.2026.
- Out of 274.31 MMSCM, 7.13 % is flared in the environment.
- Preventive maintenance of equipment and pipeline, Patrolling and line walks of pipelines & installation of Advanced flaring systems as mitigation measures.
- Fire incident reported once in 2023 due to gasket failure.
- Ambient air quality measured on Dec 2023, which is under prescribed limit.

Rajasthan:

There are 2 O & G sites viz. methane hotspot area is identified by IIRS, ISRO Dehradun which are in Focus energy limited, Jaisalmer and O&G Banda , Barmer.

S.No.	Particulars	Remarks
1.	State Name	Rajasthan
2.	City Name	Jaisalmer
3.	Name & Address of the O & G Unit with contact details	M/s Focus energy limited, SGL Gas field, block-RJ-ON/6 Vill-Langtala, Tehsil & District- Jaisalmer
4.	Lat, Long of site	27.141, 69.759
5.	CTO/CTE/Authorization given by SPCB : Details with validity status	Yes Validity : 31.01.2028
6.	Methane gas generation (Specify the latest quantity) Conversion to production (% Utilization) Balance- % Disposed to the environment 7. Flaring 8. Other purposes	78000 (Natural gas) SCMD 85 % Methane gas Flaring: NIL Other purpose : Supplied to gas based thermal power plant
7.	Mitigation measures taken for reduction in organic emission including methane	Vapour recovery units to capture methane emissions. Installation of leak detection and repair system, methane oxidizing bio-filters. Regular assessments and audits.
8.	Methane detector installed (Yes/No)	Yes
9.	Fire incident at site in last 5 years (If yes , mention the year & reason for the fire)	No
10	Emergency plan for fire prevention (Onsite & Offsite with details)	Fire extinguishers, Fire detection and alarm system, Regular fire drills
11	OCEMS installed & connected to CPCB/SPCB Server (Yes/No)	No

12	Ambient air quality monitoring with standards (Recent data & Compliance of the parameters)	Yes Under prescribed limit (SO_x – 8.12 µg/m^3 NO_x – 25.72 µg/m^3 $PM_{2.5}$ – 45.12 µg/m^3 PM_{10} – 90.23 µg/m^3)
13	Any other information	NIL

Observations:

- There is one site of O&G in Jaisalmer which is O&G-GGS.
- CTO/Authorization is given by SPCB having validity upto 31.01.2028.
- There is 85 % methane in natural gas out of which no flaring is being carried out.
- Installation of vapor recovery to capture and process methane emissions, regular maintenance and inspection of equipment to prevent leaks, implementation of leak detection and repair system, methane oxidizing bio-filters to reduce emissions
- No fire incident reported at the site in last 5 years.
- Ambient air quality measured at 2 locations on April 2024.Out of 2 locations, all sites comply with SOx, NOx & PM_{10} data as per NAAQS norms.

S.No.	Particulars	Remarks
14.	State Name	Rajasthan
15.	City Name	Barmer
16.	Name & Address of the O & G Unit with contact details	Vedanta Limited , Cairn oil & Gas Aishwarya NA 01 &AWP 08 (ABH facility) Village- Kauka Khera, Tehsil & District- Barmer
17.	Lat, Long of site	25.903, 71.572
18.	CTO/CTE/Authorization given by SPCB : Details with validity status	Yes Validity : 30.09.2025
19.	Methane gas generation (Specify the latest quantity) Conversion to production (% Utilization) Balance- % Disposed to the environment 9. Flaring 10. Other purposes	318795(Natural gas) SCMD 16 % Methane content (52091 SCMD) No utilization Flaring: 52091 SCMD Other purpose : NIL
20.	Mitigation measures taken for reduction in organic emission including methane	Separation and flaring after proper combustion

		through designed flaring system
21.	Methane detector installed (Yes/No)	Yes
22.	Fire incident at site in last 5 years (If yes , mention the year & reason for the fire)	No
23.	Emergency plan for fire prevention (Onsite & Offsite with details)	Emergency plan available
24.	OCEMS installed & connected to CPCB/SPCB Server (Yes/No)	No
25.	Ambient air quality monitoring with standards (Recent data & Compliance of the parameters)	Yes Under prescribed limit (Monitored at 3 sites)
26.	Any other information	NIL

Observations:

- There is one site of O&G in Barmer which is Vedanta limited, Cairn Oil & gas.
- CTO/Authorization is given by SPCB having validity upto 30.09.2025.
- There is 16 % methane in natural gas out of which 100% flaring is being carried out.
- Separation and flaring after proper combustion through designed flaring system to reduce emissions.
- No fire incident reported at the site in last 5 years.
- Ambient air quality measured at 3 locations on June 2024. Out of 3 locations, all sites comply with the NOx, SOx data, but PM_{10} exceeds as per NAAQS norms

Format for Cities having O&G sites: Onshore

Ref.: i) Letter No. PCBA/T-404/24-25/18, dated 24.06.2024

ii) Site visit of Geleky oilfield by PCBA, Sivasagar officials on 03.07.2024

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Remarks</th></tr>
<tr><td>1.</td><td>State Name</td><td>Assam</td></tr>
<tr><td>2.</td><td>City Name</td><td>Geleki, Nazira, Dist. Sivasagar, Assam</td></tr>
<tr><td>3.</td><td>Name & Address of the O&G Unit with contact details</td><td>Following O&G units are in the same campus:
<table><tr><th>S/N</th><th>Installation Name</th></tr><tr><td>i</td><td>GELEKY GGS-2</td></tr><tr><td>ii</td><td>GELEKY CTF</td></tr><tr><td>iii</td><td>GELEKY ETP (old)</td></tr><tr><td>iv</td><td>GELEKY WIP (old)</td></tr><tr><td>v</td><td>GLK NEW ETP-WIP</td></tr><tr><td>vi</td><td>GELEKY CPP</td></tr><tr><td>vii</td><td>GELEKY GCP-I</td></tr><tr><td>viii</td><td>GELEKY GCP-II & III</td></tr></table>
Address: Chutia Gaon, Assam-785696</td></tr>
<tr><td>4.</td><td>Lat, Long of site</td><td><table><tr><th>S/N</th><th>Installation Name</th><th>Lat</th><th>Long</th></tr><tr><td>i</td><td>GELEKY GGS-2</td><td>26.80196</td><td>94.68829</td></tr><tr><td>ii</td><td>GELEKY CTF</td><td>26.79406</td><td>94.68591</td></tr><tr><td>iii</td><td>GELEKY ETP (old)</td><td>26.79306</td><td>94.68278</td></tr><tr><td>iv</td><td>GELEKY WIP (old)</td><td>26.79306</td><td>94.68278</td></tr><tr><td>v</td><td>GLK NEW ETP-WIP</td><td>26.79194</td><td>94.68333</td></tr><tr><td>vi</td><td>GELEKY CPP</td><td>26.79694</td><td>94.68528</td></tr><tr><td>vii</td><td>GELEKY GCP-I</td><td>26.80075</td><td>94.68536</td></tr><tr><td>viii</td><td>GELEKY GCP-II & III</td><td>26.80075</td><td>94.68536</td></tr></table></td></tr>
<tr><td>5.</td><td>CTO/CTE/Authorization given by SPCB: Details with validity status</td><td>CTO (Consent To Operate) Certificates:
i) GLK GGS-2: valid up to 31.03.2026.
ii) GLK CTF: valid up to 31.03.2026.
iii) GLK ETP OLD: valid up to 31.03.2025.
iv) GLK WIP OLD: valid up to 31.03.2026.
v) GLK NEW ETP-WIP: valid up to 31.03.2026.
vi) GLK CPP: valid up to 31.03.2026.
vii) GLK GCP-I: valid up to 31.03.2026.
viii) GCP-II&III: valid up to 31.03.2026.

HWM Authorization Certificate: No. WB/OTWA/HW-353/20-21/373, dated 29/06/2022, Valid up to 31/03/2027.</td></tr>
</table>

6.	Methane gas generation (Specify the latest quantity) Conversion to production (% Utilization) Balance- % Disposed to the environment. 1. Flaring 2. Other purposes	In the above-mentioned complex of 8 installations, technical flaring is being done from Geleki GGS-2 and Geleki GCP (I, II & III). Average Natural gas produced from Geleky GGS-2 is 45,266 SCM/day (% of Methane in Natural gas is 81 to 83% approx.). 1) Average Technical Flaring of GLK GGS-2: 333 SCM/day (0.8%) 2) Other purpose: Nil Utilization: 99.2% No Natural Gas is generated in Geleky GCP (I, II & III). Natural Gas received from Geleki GGS-1, 2 & 3 is compressed in Geleky GCP (I, II & III). 1) Average Technical Flaring of GCP: 5,501 SCM/day 2) Other purpose: Nil
7.	Mitigation measures taken for reduction in organic emission including methane	▪ Preventive maintenance of equipment and pipeline is carried out to protect equipment and integrity of the system to avoid accidental release of oil and gas. Patrolling and line walks of pipelines is undertaken to detect any leakage. ▪ Measures like cathodic protection, corrosion inhibitor injection, pigging etc. are taken for pipeline health maintenance. ▪ Advanced and eco-friendly flaring systems are being installed at Geleky GGS-2 and GCP under Flare Revamping Project of ONGC, Assam Asset.
8.	Methane detector installed (Yes/No)	Yes. Fixed Hydrocarbon Gas Detection system is installed in the operational areas of the installations.
9.	Fire incident at site in last 5 years (If yes , mention the year & reason for the fire)	No.
10.	Emergency plan for fire prevention (Onsite & Offsite with details)	ERP (Onsite and offsite) available. Inhouse firefighting facilities are available in the installation. ONGC Fire Station with Fire tenders is located at Atkhal Village near GGS-2 Geleky.

11.	OCEMS installed & connected to CPCB/SPCB Server (Yes/No)	No.
12.	Ambient air quality monitoring with standards (Recent data & Compliance of the parameters)	Available. Ambient air quality monitoring was done in November 2023 and next cycle of monitoring is ongoing. All parameters are within normal limits.
13.	Any other information	In 2023 – 24, approximately 15,000 saplings were planted by ONGC Assam Asset to maintain carbon sink in and around Sivasagar district. This FY (2024-25) too, the target to be achieved.

MAHARASHTRA POLLUTION CONTROL BOARD

Phone : 022-67195031 Email : icclab@mpcb.gov.in Website : http://mpcb.gov.in	"Your Service is our Duty"	**Central Laboratory** Central Laboratory, Maharashtra Pollution Control Board, P-3, "Nirmal Bhavan", MIDC Industrial Area, Mahape, Navi Mumbai- 400 710

Repot Outward No.: MPCB/CLab/Ambient/24-25/04/11
Date: 01/04/2024 04:03 PM

Analysis Report-Air (Ambient)

Client/Industry/location Name & Address
Dumping Ground R14 Common treatment and disposal facilities (CETP, TSDF, E-Wast

Sample Details	
Field Sample ID :	BR-0068514
Laboratory Sample Code :	MPCB/CLab/AMB/23-24/881
Sample Details (Water/Air/HW) :	Air
Sample Volume Received :	
Sample Collected By :	FO-Kalyan I (Rajesh D. Nandgaonkar) (SRO-Kalyan I)
Seal No. :	217
Type of Industry / Location details :	
Sample Collected On :	Mar 7 2024 01:00:00:000PM

Sr.No	Parameter	Starting Time	Closing Time	Result	Unit	Method of analysis
1	PM10	07-03-2024 13:00	07-03-2024 21:00	822	µg/m^3	
2	PM10	07-03-2024 21:00	08-03-2024 05:00	1249	µg/m^3	
3	PM10	08-03-2024 05:00	08-03-2024 13:00	203	µg/m^3	
4	SO2	07-03-2024 13:00	07-03-2024 17:00	BDL	µg/m^3	
5	SO2	07-03-2024 17:00	07-03-2024 21:00	BDL	µg/m^3	
6	SO2	07-03-2024 21:00	08-03-2024 01:00	BDL	µg/m^3	
7	SO2	08-03-2024 01:00	08-03-2024 05:00	BDL	µg/m^3	
8	SO2	08-03-2024 05:00	08-03-2024 09:00	BDL	µg/m^3	
9	SO2	08-03-2024 09:00	08-03-2024 13:00	BDL	µg/m^3	
10	NOx	07-03-2024 13:00	07-03-2024 17:00	BDL	µg/m^3	
11	NOx	07-03-2024 17:00	07-03-2024 21:00	BDL	µg/m^3	
12	NOx	07-03-2024 21:00	08-03-2024 01:00	BDL	µg/m^3	
13	NOx	08-03-2024 01:00	08-03-2024 05:00	BDL	µg/m^3	
14	NOx	08-03-2024 05:00	08-03-2024 09:00	BDL	µg/m^3	
15	NOx	08-03-2024 09:00	08-03-2024 13:00	BDL	µg/m^3	

Report Type: final

Report generated on: 01/04/2024 03:50 PM

Complied by: Archana Lendait

Approved by: Dr P D Khadkikar

Reviewed on Date: 01/04/2024 04:03 PM

Reviewed by: Dr P D Khadkikar

Dr P D Khadkikar
Senior Scientific Officer,
I/c Central Laboratory,
MPCB, Navi Mumbai.

* Electronic report does not require signature

Note :
1. The results refer to the samples and parameters requested for analysis.
2. Abbreviations: - BDL=Below Detectable limit, N.D.=Not Detected, N.A.= Not Analyzed
3. The Contents of this Report shall not be reproduced in part or in full without written approval of laboratory.

*** End of the Report ***

MAHARASHTRA POLLUTION CONTROL BOARD

Phone : 022-25820423 Fax : - Email : mpcbthanelab@mpcb.gov.in Website : http://mpcb.gov.in	"Your Service is our Duty"	**Regional Laboratory** Regional Laboratory, Thane, Maharashtra Pollution Control Board, Office Complex Building, 5th Floor, Wagle Estate, Near Mulund check Naka. Thane-400 604.

Repot Outward No.: MPCB/RL-Thane/Ambient/24-25/04/5
Date: 12/04/2024 03:39 PM

Analysis Report-Air (Ambient)

Client/Industry/location Name & Address
Deonar Dumping Ground Local Body

Sample Details	
Field Sample ID :	BR-0069751
Laboratory Sample Code :	MPCB/RL-Thane/AMB/24-25/2
Sample Details (Water/Air/HW) :	Air
Sample Volume Received :	
Sample Collected By :	FO-Mumbai III (Shri. Nilesh Marbhal) (SRO-Mumbai III)
Seal No. :	183
Type of Industry / Location details :	
Sample Collected On :	Mar 27 2024 11:00:00:000AM

Sr.No	Parameter	Starting Time	Closing Time	Result	Unit	Method of analysis
1	PM10	27-03-2024 11:00	27-03-2024 19:00	172	$\mu g/m^3$	
2	PM10	27-03-2024 19:00	28-03-2024 03:00	233	$\mu g/m^3$	
3	PM10	28-03-2024 03:00	28-03-2024 11:00	164	$\mu g/m^3$	
4	PM 2.5	27-03-2024 11:00	28-03-2024 11:00	54	$\mu g/m^3$	
5	SO2	27-03-2024 11:00	27-03-2024 15:00	BDL	$\mu g/m^3$	
6	SO2	27-03-2024 15:00	27-03-2024 19:00	BDL	$\mu g/m^3$	
7	SO2	27-03-2024 19:00	27-03-2024 23:00	BDL	$\mu g/m^3$	
8	SO2	27-03-2024 23:00	28-03-2024 03:00	BDL	$\mu g/m^3$	
9	SO2	28-03-2024 03:00	28-03-2024 07:00	BDL	$\mu g/m^3$	
10	SO2	28-03-2024 07:00	28-03-2024 11:00	BDL	$\mu g/m^3$	
11	H2S	27-03-2024 11:00	27-03-2024 15:00	0	$\mu g/m^3$	
12	H2S	27-03-2024 19:00	27-03-2024 23:00	0	$\mu g/m^3$	
13	H2S	27-03-2024 23:00	28-03-2024 03:00	0	$\mu g/m^3$	
14	H2S	27-03-2024 15:00	27-03-2024 19:00	0	$\mu g/m^3$	
15	H2S	28-03-2024 03:00	28-03-2024 07:00	0	$\mu g/m^3$	
16	H2S	28-03-2024 07:00	28-03-2024 11:00	0	$\mu g/m^3$	

Sr.No	Parameter	Starting Time	Closing Time	Result	Unit	Method of analysis
17	NOx	27-03-2024 11:00	27-03-2024 15:00	BDL	$\mu g/m^3$	
18	NOx	27-03-2024 15:00	27-03-2024 19:00	BDL	$\mu g/m^3$	
19	NOx	27-03-2024 19:00	27-03-2024 23:00	BDL	$\mu g/m^3$	
20	NOx	27-03-2024 23:00	28-03-2024 03:00	BDL	$\mu g/m^3$	
21	NOx	28-03-2024 03:00	28-03-2024 07:00	BDL	$\mu g/m^3$	
22	NOx	28-03-2024 07:00	28-03-2024 11:00	BDL	$\mu g/m^3$	

Report Type: final

Report generated on: 12/04/2024 03:39 PM

Complied & Approved by: Dr. Smita Wagh

Reviewed on Date: 12/04/2024 03:38 PM

Reviewed by: Dr. Smita Wagh

Dr. Smita Wagh
Scientific Officer,
I/c Regional Laboratory,
Thane,

* Electronic report does not require signature

Note :
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*** End of the Report ***

"Your Service is our Duty"

MAHARASHTRA POLLUTION CONTROL BOARD
Regional Laboratory, Pune.
Regional Laboratory, Pune, Maharashtra Pollution Control Board, Jog Center, 3rd Floor,Mumbai Pune Road, Wakdewadi,Pune- 411 003 Tel : 020-25811698
Fax : 020-25811698
e-mail : sopunelab@mpcb.gov.in
website : http://mpcb.gov.in

NABL Accreditation: ISO/IEC 17025:2017, TC-11275	Issue Date: 10-01-2023 Validity: 09-01-2025
Certification Standards: ISO 9001: 2015, C.NO.944015/r1-S-2	Issue Date: 18-04-2023 Validity: 25-02-2024
Certification Standards: ISO 45001: 2018, C.NO.944015/S-2	Issue Date: 09/04/2021 Validity: 25-02-2024
MoEF Recognition: LB/99/7/2021-INST LAB-CPCB-HO/Govt./6646	Issue Date: 16-06-2023 Validity: 25-02-2024

COA/Test Report No.: MPCB/RL-Pune/Ambient/24-25/04/47	**Date:** 10/04/2024 01:15 PM
ULR No.: TC-1127524000000147F	

Test Report-Air (Ambient)

Field Sample ID		BR-0069774	Type of Industry	Red (LSI)
Name & Address of the Industry		Antony Lara Renewable Energy Private Limited		
Industry Consent No./UAN No.		MPCB-CONSENT-0000095070	Type of Sample	Air
Sample collected by (Officer Name)		FO-Pimpri Chinchwad (Mrs. Seema Salve) (SRO-Pimpri Chinchwad)	Location of sample collection	N/A
Seal No.:		210	Method of sample collection	N/A
Sample Collection	Date	19/03/2024	Total No. of Containers	N/A
	Time	10:00 PM	Nature/Description of Sample	-
Sampler UID		-	Sampling Duration	480
Serial No		3304		

Lab ID		MPCB/RL-Pune/AMB/24-25/2		
Receipt	Date	02/04/2024	Anylysis Started On	02/04/2024 12:44 PM
	Time	11:46 AM	Anylysis Completed On	10/04/2024 01:01 PM
Sample recived by (Name & Degsignation)		Anil Sandansing (Scientific Officer)		

Sr.No	Parameter	Results	Unit	Test Method	Permissible Limit
1	PM10	216	µg/m3	As Per SOP	100

Sr.No	Parameter	Results	Unit	Test Method	Permissible Limit
2	SO2	7	µg/m3	As Per SOP	80
3	SO2	9	µg/m3	As Per SOP	80
4	NOx	21	µg/m3	As Per SOP	80
5	NOx	24	µg/m3	As Per SOP	80

Remarks:

Approved & Reviewed By

Anil Sandansing
I/c Scientific Officer,
Regional Laboratory, Pune,

Note :
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MAHARASHTRA POLLUTION CONTROL BOARD

Phone : 020-25811698 Fax : 020-25811698 Email : sopunelab@mpcb.gov.in Website : http://mpcb.gov.in	"Your Service is our Duty"	**Regional Laboratory** Regional Laboratory, Pune, Maharashtra Pollution Control Board, Jog Center, 3rd Floor,Mumbai Pune Road, Wakdewadi,Pune- 411 003

Repot Outward No.: MPCB/RL-Pune/Ambient/24-25/04/47
Date: 10/04/2024 01:15 PM

Analysis Report-Air (Ambient)

Client/Industry/location Name & Address
Antony Lara Renewable Energy Private Limited R9 Power generation plant [except Wind and Solar renewable power plants of all capacities and Mini Hydel power plant of capacity <25MW]

Sample Details	
Field Sample ID :	BR-0069774
Laboratory Sample Code :	MPCB/RL-Pune/AMB/24-25/2
Sample Details (Water/Air/HW) :	Air
Sample Volume Received :	
Sample Collected By :	FO-Pimpri Chinchwad (Mrs. Seema Salve) (SRO-Pimpri Chinchwad)
Seal No. :	210
Type of Industry / Location details :	red
Sample Collected On :	Mar 19 2024 10:00:00:000PM

Sr.No	Parameter	Starting Time	Closing Time	Result	Unit	Method of analysis

Report Type: final

Report generated on: 10/04/2024 01:02 PM

Complied & Approved by: Anil Sandansing

Reviewed on Date: 10/04/2024 01:15 PM

Reviewed by: Anil Sandansing

Anil Sandansing
I/c Scientific Officer,
Regional Laboratory, Pune,

* Electronic report does not require signature

Note :
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"Your Service is our Duty"

MAHARASHTRA POLLUTION CONTROL BOARD
Regional Laboratory, Thane.
Office complex building, 5th floor, Wagle Estate, Near Mulund Check Naka,
Thane- 400604, Tel : 022-25820423
e-mail : sothanelab@mpcb.gov.in
website : http://mpcb.gov.in

TC-11520

NABL Accreditation:- ISO/IEC 17025:2017, TC-11520	Issue Date: 30-03-2023 Validity: 29-03-2025
Certification Standards:- ISO 45001: 2018, 944015/r1-S-7	Issue Date: 18-04-2023 Validity: 25-02-2024
MoEF Recognition:	Issue Date: Validity:

COA/Test Report No.: MPCB/RL-Thane/Ambient/24-25/05/18	**Date:** 18/05/2024 04:30 PM
ULR No.: TC-1152024000000040F	

Test Report-Air (Ambient)

Field Sample ID		BR-0072380	Type of Industry	Red (LSI)
Name & Address of the Industry		Antony Lara, Enviro Solution Pvt. Ltd.		
Industry Consent No./UAN No.		MPCB-UNCONSENTED-0000047682	Type of Sample	Air
Sample collected by (Officer Name)		FO-Mumbai III (Shri. Nilesh Marbhal) (SRO-Mumbai III)	Location of sample collection	N/A
Seal No.:		183	Method of sample collection	N/A
Sample Collection	Date	08/05/2024	Total No. of Containers	N/A
	Time	10:00 AM	Nature/Description of Sample	-
Sampler UID		-	Sampling Duration	480
Serial No		1633		

Lab ID		**MPCB/RL-Thane/AMB/24-25/39**		
Received by lab	Date	10/05/2024	Anylysis Started On	13/05/2024 11:41 AM
	Time	03:44 PM	Anylysis Completed On	18/05/2024 04:30 PM
Sample recived by (Name & Designation)		Dr. Smita Wagh (Scientific Officer)		

Sr.No	Parameter	Results	Unit	Test Method	Permissible Limit
1	PM10	187	µg/m3	0	100
2	PM10	351	µg/m3	0	100
3	PM10	225	µg/m3	0	100
4	SO2	BDL	µg/m3	0	80

Sr.No	Parameter	Results	Unit	Test Method	Permissible Limit
5	SO2	BDL	µg/m3	0	80
6	SO2	BDL	µg/m3	0	80
7	SO2	BDL	µg/m3	0	80
8	SO2	BDL	µg/m3	0	80
9	SO2	BDL	µg/m3	0	80
10	NOx	BDL	µg/m3	0	80
11	NOx	BDL	µg/m3	0	80
12	NOx	BDL	µg/m3	0	80
13	NOx	BDL	µg/m3	0	80
14	NOx	BDL	µg/m3	0	80
15	NOx	BDL	µg/m3	0	80

Remarks:

Approved & Reviewed By

Dr. Smita Wagh
Scientific Officer,
I/c Regional Laboratory, Thane,

Note :
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MAHARASHTRA POLLUTION CONTROL BOARD

Phone : 022-25820423 Fax : - Email : sothanelab@mpcb.gov.in Website : http://mpcb.gov.in	"Your Service is our Duty"	**Regional Laboratory** Office complex building, 5th floor, Wagle Estate, Near Mulund Check Naka, Thane- 400604

Repot Outward No.: MPCB/RL-Thane/Ambient/24-25/05/18
Date: 18/05/2024 04:30 PM

Analysis Report-Air (Ambient)

Client/Industry/location Name & Address
Antony Lara, Enviro Solution Pvt. Ltd. Local Body

Sample Details	
Field Sample ID :	BR-0072380
Laboratory Sample Code :	MPCB/RL-Thane/AMB/24-25/39
Sample Details (Water/Air/HW) :	Air
Sample Volume Received :	
Sample Collected By :	FO-Mumbai III (Shri. Nilesh Marbhal) (SRO-Mumbai III)
Seal No. :	183
Type of Industry / Location details :	
Sample Collected On :	May 8 2024 10:00:00:000AM

Sr.No	Parameter	Starting Time	Closing Time	Result	Unit	Method of analysis
1	PM 2.5	08-05-2024 10:00	09-05-2024 10:00	4	$\mu g/m^3$	
2	H2S	08-05-2024 10:00	08-05-2024 14:00	0	$\mu g/m^3$	
3	H2S	08-05-2024 14:00	08-05-2024 18:00	0	$\mu g/m^3$	
4	H2S	08-05-2024 18:00	08-05-2024 22:00	0	$\mu g/m^3$	
5	H2S	08-05-2024 22:00	09-05-2024 02:00	0	$\mu g/m^3$	
6	H2S	09-05-2024 02:00	09-05-2024 06:00	0	$\mu g/m^3$	
7	H2S	09-05-2024 06:00	09-05-2024 10:00	0	$\mu g/m^3$	

Report Type: final

Report generated on: 18/05/2024 04:32 PM

Complied & Approved by: Dr. Smita Wagh

Reviewed on Date: 18/05/2024 04:30 PM

Reviewed by: Dr. Smita Wagh

Dr. Smita Wagh
Scientific Officer,
I/c Regional Laboratory,
Thane,

* Electronic report does not require signature

Note :
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*** End of the Report ***

NAKSHATRA ENVIRO SERVICES

Plot No. 46, Solitaire Industrial Park, Phase I, Dahmi Kalan, Bagru (Ext.), Jaipur - 303007
Website : www.nakshatraenviro.in I M.: 9413666777, 8003896245
E-mail : neslab2004@gmail.com, nakshatraenviro@gmail.com

Recognized by Ministry of Environment, Forest and Climate Change, Government of India
ISO 9001 : 2015, ISO 14001 : 2015 & ISO 45001 : 2018 Certified Laboratory

Reference No.: NES-ENV-240417002 Date:22/04/2024

TEST CERTIFICATE
AMBIENT AIR QUALITY MONITORING

Issued to	M/s. Focus Energy Limited Gas Gathering Station (GGS)
Address	Near Village – Langtala, Tehsil – Jaisalmer, District – Jaisalmer (Rajasthan – IN)
Industrial Activity	Natural Gas Collection Station

SAMPLE DETAILS

Sampling Location	Near Main Gate, GGS Installation
Date of Sampling	14/04/2024
Ambient Temperature	Max. 34°C & Min. 26°C
Relative Humidity	34%
Weather Conditions	Clear Sky
Period of Testing	17/04/2024 to 22/04/2024

TEST RESULTS

Sl. No.	Parameters	Values Found	NAAQS	Unit	Protocol
1.	PM_{10}	93.45	100	$\mu g/m^3$	IS 5182 (P-23):2006 (RA 2017)
2.	$PM_{2.5}$	44.98	60	$\mu g/m^3$	As per CPCB guidelines
3.	Sulphur dioxide (SO_2)	9.12	80	$\mu g/m^3$	IS 5182 (P-02):2001 (RA 2017)
4.	Oxides of Nitrogen (NO_X)	26.52	80	$\mu g/m^3$	IS 5182 (P-06):2006 (RA 2017)
5.	Carbon Monoxide (CO)	0.71	2.00	mg/m^3	IS 5182 (P-10):1999 (RA 2019)
6.	Total Hydrocarbon (as CH_4)	0.19	--	$\mu g/m^3$	IS 5182 (P-17):1979 (RA 2019)
7.	Volatile Organic Carbon (as BTX)	0.30	--	$\mu g/m^3$	IS 5182 (P-11):2006 (RA 2017)

Note: BDL – Below Detection Limit

- This report is not to be reproduced wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without special permission in writing.
- Total liability of this laboratory is limited to the invoice amount.
- The results enlisted refer only to the above sample and applicable parameters endorsement of products is neither inferred nor implied.
- Samples will be destroyed after 15 days from the date of issuing of analysis of report unless otherwise specified.

Harshita
(Harshita)
Review By

Seal

(Saurabh Sharma)
Authorized Signatory

*** END OF REPORT ***

NAKSHATRA ENVIRO SERVICES

Plot No. 46, Solitaire Industrial Park, Phase I, Dahmi Kalan, Bagru (Ext.), Jaipur - 303007
Website : www.nakshatraenviro.in I M.: 9413666777, 8003896245
E-mail : neslab2004@gmail.com, nakshatraenviro@gmail.com

Recognized by Ministry of Environment, Forest and Climate Change, Government of India
ISO 9001 : 2015, ISO 14001 : 2015 & ISO 45001 : 2018 Certified Laboratory

Reference No.: NES-ENV-240417003 Date: 22/04/2024

TEST CERTIFICATE
AMBIENT AIR QUALITY MONITORING

Issued to	M/s. Focus Energy Limited Gas Gathering Station (GGS)
Address	Near Village – Langtala, Tehsil – Jaisalmer, District – Jaisalmer (Rajasthan – IN)
Industrial Activity	Natural Gas Collection Station

SAMPLE DETAILS

Sampling Location	Near MLU Barnet Rig, Loharu
Date of Sampling	14/04/2024
Ambient Temperature	Max. 34°C & Min. 26°C
Relative Humidity	34%
Weather Conditions	Clear Sky
Period of Testing	17/04/2024 to 22/04/2024

TEST RESULTS

Sl. No.	Parameters	Values Found	NAAQS	Unit	Protocol
1.	PM_{10}	90.23	100	$\mu g/m^3$	IS 5182 (P-23):2006 (RA 2017)
2.	$PM_{2.5}$	45.12	60	$\mu g/m^3$	As per CPCB guidelines
3.	Sulphur dioxide (SO_2)	8.12	80	$\mu g/m^3$	IS 5182 (P-02):2001 (RA 2017)
4.	Oxides of Nitrogen (NO_X)	25.72	80	$\mu g/m^3$	IS 5182 (P-06):2006 (RA 2017)
5.	Carbon Monoxide (CO)	0.69	2.00	mg/m^3	IS 5182 (P-10):1999 (RA 2019)
6.	Total Hydrocarbon (as CH_4)	0.10	--	$\mu g/m^3$	IS 5182 (P-17):1979 (RA 2019)
7.	Volatile Organic Carbon (as BTX)	0.35	--	$\mu g/m^3$	IS 5182 (P-11):2006 (RA 2017)

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Harshita
(Harshita)
Review By

Seal

Saurabh
(Saurabh Sharma)
Authorized Signatory

*** END OF REPORT ***

Mitra S. K. Private Limited

MSK TESTING • INSPECTION

Ambient Air Quality Monitoring Report

Name & Address of the Customer :	Report No. : MSK/2024-25/00062
"M/s OIL INDIA LIMITED", Duliajan, Dibrugarh, Assam-786602	Report Date : 30.05.2024 Sample Description : Ambient Air Sample Number : MSKGL/ED/2024-25/05/00872 **Sampling Location : OCS KATHALGURI** Instrument ID : RDS 221-DTJ-2016/ FDS 94-DTL-2021
Ref. No.:W.O. NO.- 8129283 of Contract No. 6119277	GPS Reading : N 27°20'43", E 95°27'39"

Date of Sampling	Sample Received Date	Analysis Start Date	Analysis Complete Date
06.04.2024	09.04.2024	09.04.2024	16.04.2024

Enviromental Conditions During Sampling & Transport Condition :Temperature : 26°C, Rain fall : NO

Analysis Result

Sl. No.	Test Parameter	Method	Unit	Results	CPCB Limit
1.	Particulate Matter (PM_{10})	IS : 5182 (Part-23)-2006	(µg/m3)	62.2	100
2.	Particulate Matter ($PM_{2.5}$)	IS : 5182 (Part-24)	(µg/m3)	31.1	60
3.	Sulphur Dioxide (SO_2)	IS : 5182 (Part-2)-2001	(µg/m3)	8.1	80
4.	Nitrogen Dioxide (NO_2)	IS : 5182 (Part-6)-2006	(µg/m3)	24.1	80
5.	Carbon Monoxide (CO)	IS 5182 : (Part-10) :1999	(mg/m3)	0.74	2
6.	Ozone (O_3)	IS:5182 (Part-IX)-1974 Reaffirmed-2019	(µg/m3)	23.5	180
7.	Ammonia (NH_3)	IS 5182 (Part 25) : 2018	(µg/m3)	11.7	400
8.	Lead (Pb)	USEPA IO-3.4	(µg/m3)	<0.01	1
9.	Nickel (Ni)	USEPA IO-3.4	(ng/m3)	<5.0	20
10.	Arsenic (As)	USEPA IO-3.4	(ng/m3)	<1.0	6
11.	Benzene (C_6H_6)	IS 5182 : (Part 11) :2006	(µg/m3)	<4.2	5
12.	Benzo(a)Pyrene (BaP)	IS 5182 : (Part 12) :2004	(ng/m3)	<0.5	1
13.	Mercury (Hg)	USEPA IO-5.0	(µg/m3)	<0.002	...
14.	Methane (Hydrocarbon)	IS 5182 : (Part 17)	ppm	1.92	...
15.	Non-methane (Hydrocarbon)	IS 5182 : (Part 17)	ppm	<0.5	...
16.	Total Hydrocarbon	IS 5182 : (Part 17)	ppm	1.92	...
17.	Volatile Organic Compounds (VOC)	IS 5182 : (PART-11):2006	(µg/m3)	<4.2	...

Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality

Analyzed By:
Signature :
Name : Mr. Dipankar Mazumdar
Designation. : Executive Chemist

Prepared By:
Signature :
Name : Mr.Gaurav Gogoi
Designation. : Office Assistant

Authorized Signatory
For Mitra S.K. Private Limited
Signature :
Name : Mr. Rajib Roy
Designation : Branch Manager

- *The results relate only to the item(s) tested.*
- *This Test Report shall not be reproduced except in full, without the permission of Mitra S.K. Private Limited.*
- *Our Lab is Approved by NABL & MOEF, Lab Address :P-48 Udayan Industrial Estate,3 Pagladanga Road Kol-700015*

Head Office: Shrachi Centre (5th floor), 74B, A.J.C. Bose Road, Kolkata - 700 016. West Bengal, India.
Tel. : 91 33 40143000 / 22650006 / 22650007 Fax : 91 33 22650008
Email : info@mitrask.com. Website: www.mitrask.com

Ambient Air Quality Monitoring Report

Name & Address of the Customer :	Report No. : MSK/2024-25/00054
	Report Date : 30.05.2024
"M/s OIL INDIA LIMITED",	Sample Description : Ambient Air
Duliajan, Dibrugarh, Assam-786602	Sample Number : MSKGL/ED/2024-25/05/00864
	Sampling Location : OCS JORAJAN
	Instrument ID : RDS 1317-DTK-2008/ FDS 92-DTL-2021
Ref. No.:W.O. NO.- 8129283 of Contract No. 6119277	GPS Reading : N 27°20'43", E 95°27'39"

Date of Sampling	Sample Received Date	Analysis Start Date	Analysis Complete Date
05.04.2024	08.04.2024	08.04.2024	15.04.2024

Enviromental Conditions During Sampling & Transport Condition :Temperature : 30°C, Rain fall : NO

Analysis Result

Sl. No.	Test Parameter	Method	Unit	Results	CPCB Limit
1.	Particulate Matter (PM_{10})	IS : 5182 (Part-23)-2006	(µg/m3)	66.8	100
2.	Particulate Matter ($PM_{2.5}$)	IS : 5182 (Part-24)	(µg/m3)	39.3	60
3.	Sulphur Dioxide (SO_2)	IS : 5182 (Part-2)-2001	(µg/m3)	7.3	80
4.	Nitrogen Dioxide (NO_2)	IS : 5182 (Part-6)-2006	(µg/m3)	23.2	80
5.	Carbon Monoxide (CO)	IS 5182 : (Part-10) :1999	(mg/m3)	0.86	2
6.	Ozone (O_3)	IS:5182 (Part-IX)-1974 Reaffirmed-2019	(µg/m3)	25.3	180
7.	Ammonia (NH_3)	IS 5182 (Part 25) : 2018	(µg/m3)	12.6	400
8.	Lead (Pb)	USEPA IO-3.4	(µg/m3)	<0.01	1
9.	Nickel (Ni)	USEPA IO-3.4	(ng/m3)	<5.0	20
10.	Arsenic (As)	USEPA IO-3.4	(ng/m3)	<1.0	6
11.	Benzene (C_6H_6)	IS 5182 : (Part 11) :2006	(µg/m3)	<4.2	5
12.	Benzo(a)Pyrene (BaP)	IS 5182 : (Part 12) :2004	(ng/m3)	<0.5	1
13.	Mercury (Hg)	USEPA IO-5.0	(µg/m3)	<0.002	...
14.	Methane (Hydrocarbon)	IS 5182 : (Part 17)	ppm	1.98	...
15.	Non-methane (Hydrocarbon)	IS 5182 : (Part 17)	ppm	<0.5	...
16.	Total Hydrocarbon	IS 5182 : (Part 17)	ppm	1.98	...
17.	Volatile Organic Compounds (VOC)	IS 5182 : (PART-11):2006	(µg/m3)	<4.2	...

Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality

Analyzed By:
Signature :
Name : Mr. Dipankar Mazumdar
Designation. : Executive Chemist

Prepared By:
Signature :
Name : Mr.Gaurav Gogoi
Designation. : Office Assistant

Authorized Signatory
For **Mitra S.K. Private Limited**
Signature :
Name : Mr. Rajib Roy
Designation : Branch Manager

- *The results relate only to the item(s) tested.*
- *This Test Report shall not be reproduced except in full, without the permission of Mitra S.K. Private Limited.*
- *Our Lab is Approved by NABL & MOEF, Lab Address :P-48 Udayan Industrial Estate,3 Pagladanga Road Kol-700015*

Head Office: Shrachi Centre (5th floor), 74B, A.J.C. Bose Road, Kolkata - 700 016. West Bengal, India.
Tel. : 91 33 40143000 / 22650006 / 22650007 Fax : 91 33 22650008
Email : info@mitrask.com. Website: www.mitrask.com

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No. : **982**

Report On : **24/06/2024**

I hereby certify that I **Dr. Narain Bhoot**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **24/06/2024** from **Harish Parihar, JSO, Balotra ,RSPCB Balotra** a sample of **Ambient Air Quality** of **M/S Vedanta Limited, Cairn Oil and Gas(Old Name Cairn India Limited (Aishwariya Field)) , Plant - , , Tehsil- Barmer , District- Barmer** Collected from **Ambient Air Quality Monitoring of Aishwarya well pad no.-08** Collected on **23/06/2024**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **24/06/2024** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Nitrogen Dioxide as NO2 µg/M3	12.72
2	Particulate Matter (PM10) µg/m3	248
3	Sulphur Dioxide as SO2 ug/m3	3.73

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **24/06/2024**

Dr. Narain Bhoot

BOARD ANALYST

Rajasthan State Pollution Control Board

Regional Office Balotra

Regional office,Rajasthan state pollution control Board,Jasol phanta,OppJDVVNL office,Jasol Road Balotra,District -Balotra

Phone: 9667576064

Fax: 9667576064

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No. : **983**

Report On : **24/06/2024**

I hereby certify that I **Dr. Narain Bhoot**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **24/06/2024** from **Harish Parihar, JSO, Balotra ,RSPCB Balotra** a sample of **Ambient Air Quality** of **M/S Vedanta Limited, Cairn Oil and Gas(Old Name Cairn India Limited (Aishwariya Field)) , Plant - , , Tehsil- Barmer , District- Barmer** Collected from **Ambient Air Quality Monitoring of Aishwarya well pad no.-NA 01** Collected on **23/06/2024**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **24/06/2024** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Nitrogen Dioxide as NO2 µg/M3	16.72
2	Particulate Matter (PM10) µg/m3	157
3	Sulphur Dioxide as SO2 ug/m3	3.71

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **24/06/2024**

Dr. Narain Bhoot

BOARD ANALYST

Rajasthan State Pollution Control Board

Regional Office Balotra

Regional office,Rajasthan state pollution control Board,Jasol phanta,OppJDVVNL office,Jasol Road Balotra,District -Balotra

Phone: 9667576064

Fax: 9667576064

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No. : **984**

Report On : **24/06/2024**

I hereby certify that I **Dr. Narain Bhoot**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **24/06/2024** from **Harish Parihar, JSO, Balotra ,RSPCB Balotra** a sample of **Ambient Air Quality** of **M/S Vedanta Limited, Cairn Oil and Gas(Old Name Cairn India Limited (Aishwariya Field)) , Plant - , , Tehsil- Barmer , District- Barmer** Collected from **Ambient Air Quality Monitoring of Aishwarya well pad no.-06** Collected on **23/06/2024**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **24/06/2024** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Nitrogen Dioxide as NO2 µg/M3	14.87
2	Particulate Matter (PM10) µg/m3	220
3	Sulphur Dioxide as SO2 ug/m3	3.84

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **24/06/2024**

Dr. Narain Bhoot

BOARD ANALYST

Rajasthan State Pollution Control Board

Regional Office Balotra

Regional office,Rajasthan state pollution control Board,Jasol phanta,OppJDVVNL office,Jasol Road Balotra,District -Balotra

Phone: 9667576064

Fax: 9667576064

Test Report No.: A231202C -13.

MANTEC ENVIRONMENTAL LABORATORY
[Recognized by MoEF&CC-Govt. of India]
D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification	:	A231202 13
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Start Date & Time of Sampling	:	20.11.2023, 09:55 AM
End Date & Time of Sampling	:	21.11.2023, 09:55 AM
Date of Receipt	:	02.12.2023
Sample Description	:	Ambient Air
Sample Condition	:	OK
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Demulgaon GGS-1
Sample Submitted by	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

TEST RESULTS

Sl. No.	Parameter	Units of Measurements	Value	Prescribed Limits	Protocol
1.	RPM	µg/m³	68	100	IS 5182(Part-23):2022
2.	PM_{10}	µg/m³	68	100	IS 5182(Part-23):2022
3.	$PM_{2.5}$	µg/m³	16	60	IS 5182(Part-24):2019
4.	SO_2	µg/m³	12	80	IS 5182(Part-2):2022
5.	NO_2	µg/m³	16	80	IS 5182(Part-6):2022
6.	NH_3	µg/m³	23	400	IS 5182(Part-25):2018
7.	O_3	µg/m³	6.0	100(8 hours)	IS 5182(Part-09):2019
8.	CO	mg/m³	0.64	02	IS 5182(Part-10):2019 NDIR spectroscopy
9.	C_6H_6	µg/m³	BDL#	05	IS 5182(Part-11):2017
10.	B(a)P	ng/m³	BDL#	01	IS 5182(Part-12):2019
11.	Pb	µg/m³	BDL#	01	IS 5182(Part-22):2019
12.	Ni	ng/m³	BDL#	20	IS 5182(Part-26):2020
13.	As	ng/m³	BDL#	06	CPCB Guidelines Vol. I,2011
14.	HC	ppm	0.06	----	IS 5182(Part-17):2019 (Gas Chromatograph)
15.	VOC	µg/m³	4.5	----	T017-USEPA

#Below Detection Limit

Manoranjan
Analyzed by:

Seal of Lab: Mantec Environmental Laboratory NOIDA

Gaja Nand Mallick
Quality Manager:

Notes:

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****End of Report****

Test Report No.: W231202C -12.

MANTEC ENVIRONMENTAL LABORATORY
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D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification No.	:	W231202 12
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Date of Sampling	:	30.11.2023
Date of Receipt	:	02.12.2023
Sample Description	:	Ground Water
Sample Condition	:	Ok
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Demulgaon GGS-1
Sample Collected By	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

TEST RESULTS

Sl. No.	Parameters	Units	Value	Acceptable Limit	Permissible Limit	Test Method
1.	pH	-	6.68	6.5-8.5	No Relaxation	IS 3025 (Part-11):2022
2.	Temperature	°C	21	---	---	IS 3025 (Part-9):2017
3.	Conductivity	µmhos/cm	294	---	---	IS 3025 (Part-14):2019
4.	Total Dissolved Solids	mg/l	191	500	2000	IS 3025 (Part-16):2017
5.	P-Alkalinity	mg/l	000	200	600	IS 3025 (Part-23):2019
6.	M-1 Alkalinity	mg/l	000	200	600	IS 3025 (Part-23):2019
7.	Total Hardness as $CaCO_3$	mg/l	102.0	200	600	IS 3025 (Part-21):2019
8.	Calcium as Ca	mg/l	28	75	200	IS 3025 (Part-40):2019
9.	Magnesium as Mg	mg/l	7.77	30	100	IS 3025 (Part-46):2019
10.	Chloride as Cl	mg/l	18	250	1000	IS 3025 (Part-32):2019
11.	Phosphate as PO_4	mg/l	0.28	----	----	IS 3025 (Part-31):2021
12.	Nitrate as NO_3	mg/l	2.60	45	No Relaxation	IS 3025 (Part-34):2019
13.	Sulphate as SO_4	mg/l	28.00	200	400	IS 3025 (Part-24):2019
14.	Fluoride as F	mg/l	0.46	<1.0	1.5	IS 3025 (Part-60):2019
15.	Phenolic Compound	mg/l	<0.001	0.001	0.002	IS 3025 (Part-43):2019
16.	Oil & Grease	mg/l	<0.4	----	----	IS 3025 (Part-39):2021
17.	Total Arsenic as As	mg/l	<0.01	0.01	0.05	IS 3025 (Part-2):2019
18.	Nickel as Ni	mg/l	<0.005	0.02	No Relaxation	IS 3025(Part-2):2019
19.	Zinc as Zn	mg/l	<0.02	5	15	IS 3025(Part-2):2019
20.	Lead as Pb	mg/l	<0.01	0.01	No Relaxation	IS 3025 (Part-2):2019
21.	Total Chromium as Cr	mg/l	<0.05	0.05	No Relaxation	IS 3025(Part-2):2019
22.	Copper as Cu	mg/l	<0.01	0.05	1.5	IS 3025(Part-2):2019
23.	Cadmium as Cd	mg/l	<0.001	0.003	No Relaxation	IS 3025(Part-2):2019
24.	Iron as Fe	mg/l	0.12	0.3	No Relaxation	IS 3025(Part-2):2019

Test Report No.: W231202C -12.

25.	Mercury	mg/l	<0.0005	0.001	No Relaxation	IS 3025 (Part-48):2019
26.	COD	mg/l	<5	----	----	IS 3025(Part-58):2017

Ajmal Husain
Analyzed by:

Marine Environmental Laboratory NOIDA

Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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

Test Report No.: S231202C -30.

MANTEC ENVIRONMENTAL LABORATORY
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D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification No.	:	S231202 30
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Date of Sampling	:	20.11.2023
Date of Receipt	:	02.12.2023
Sample Description	:	D.G.Set-1 380 KVA
Sample Condition	:	Ok
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Demulgaon GGS-1
Sample Collected By	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

STACK DESCRIPTION

Name of the Emission Sources Monitored	:	Stack
Stack Identification/Stack Details	:	Stack attached to DG Set
Normal Operating Schedule	:	1 Hr.

TEST RESULTS

Sl. No.	Parameter	Units of Measurements	Results	Protocol
1.	PM(at 15% O_2)	mg/Nm^3	18	IS 11255(Part-1):2019
2.	NOx(as NO_2) at 15% O_2	mg/Nm^3	37	IS 11255(Part-7):2022
3.	NO_x (Dry basis)	ppmv	16	IS 11255(Part-7):2022
4.	NMHC (as C) at 15% O_2	%v/v	88	IS 11255(Part-15):2019
5	CO(at 15% O_2)	mg/Nm^3	10	IS 13270:2019

Prabhat Ranjan Dutta
Analyzed by:

Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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****End of Report****

Test Report No.: S231202C -31.

MANTEC ENVIRONMENTAL LABORATORY
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D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification No.	:	S231202 31
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Date of Sampling	:	20.11.2023
Date of Receipt	:	02.12.2023
Sample Description	:	Diesel Fire Water Pump
Sample Condition	:	Ok
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Demulgaon GGS-1
Sample Collected By	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

STACK DESCRIPTION

Name of the Emission Sources Monitored	:	Stack
Stack Identification/Stack Details	:	Stack attached to Diesel Fire Water Pump
Normal Operating Schedule	:	1 Hr.

TEST RESULTS

Sl. No.	Parameter	Units of Measurements	Results	Protocol
1.	PM(at 15% O_2)	mg/Nm³	20	IS 11255(Part-1):2019
2.	NOx(as NO_2) at 15% O_2	mg/Nm³	42	IS 11255(Part-7):2022
3.	NO_x (Dry basis)	ppmv	18	IS 11255(Part-7):2022
4.	NMHC (as C) at 15% O_2	%v/v	16	IS 11255(Part-15):2019
5	CO(at 15% O_2)	mg/Nm³	83	IS 13270:2019

Prabhat Ranjan Dutta
Analyzed by:

Mantec Environmental Laboratory NOIDA
Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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

Test Report No.: S231202C -32.

MANTEC ENVIRONMENTAL LABORATORY
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D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification No.	:	S231202 32
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Date of Sampling	:	20.11.2023
Date of Receipt	:	02.12.2023
Sample Description	:	Heater Treater
Sample Condition	:	Ok
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Demulgaon GGS-1
Sample Collected By	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

STACK DESCRIPTION

Name of the Emission Sources Monitored	:	Stack
Stack Identification/Stack Details	:	Stack attached to Heater Treater
Normal Operating Schedule	:	1 Hr.

TEST RESULTS

Sl. No	Parameter	Units of Measurements	Results	Protocol
1.	PM(at 15% O_2)	mg/Nm^3	24	IS 11255(Part-1):2019
2.	NOx(as NO_2) at 15% O_2	mg/Nm^3	37	IS 11255(Part-7):2022
3.	NO_x (Dry basis)	ppmv	14	IS 11255(Part-7):2022
4.	NMHC (as C) at 15% O_2	%v/v	14.3	IS 11255(Part-15):2019
5	CO(at 15% O_2)	mg/Nm^3	81.7	IS 13270:2019

Prabhat Ranjan Dutta
Analyzed by:

Seal of Lab: Mantec Environmental Laboratory NOIDA

Gaja Nand Mallick
Quality Manager:

Notes:

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

****End of Report****

Test Report No.: S231202C -33.

MANTEC ENVIRONMENTAL LABORATORY
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D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification No.	:	S231202 33
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Date of Sampling	:	20.11.2023
Date of Receipt	:	02.12.2023
Sample Description	:	Bath Heater
Sample Condition	:	Ok
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Demulgaon GGS-1
Sample Collected By	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

STACK DESCRIPTION

Name of the Emission Sources Monitored	:	Stack
Stack Identification/Stack Details	:	Stack attached to Bath Heater
Normal Operating Schedule	:	1 Hr.

TEST RESULTS

Sl. No	Parameter	Units of Measurements	Results	Protocol
1.	PM(at 15% O_2)	mg/Nm^3	28	IS 11255(Part-1):2019
2.	NOx(as NO_2) at 15% O_2	mg/Nm^3	42	IS 11255(Part-7):2022
3.	NO_x (Dry basis)	ppmv	17	IS 11255(Part-7):2022
4.	NMHC (as C) at 15% O_2	%v/v	14.6	IS 11255(Part-15):2019
5	CO(at 15% O_2)	mg/Nm^3	82.7	IS 13270:2019

Prabhat Ranjan Dutta
Analyzed by:

Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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

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

Test Report No.: A231202C -14.

MANTEC ENVIRONMENTAL LABORATORY
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D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification	:	A231202 14
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Start Date & Time of Sampling	:	21.11.2023, 10:05 AM
End Date & Time of Sampling	:	22.11.2023, 10:05 AM
Date of Receipt	:	02.12.2023
Sample Description	:	Ambient Air
Sample Condition	:	OK
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Lakhmani GGS-4
Sample Submitted by	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

TEST RESULTS

Sl.No.	Parameter	Units of Measurements	Value	Prescribed Limits	Protocol
1.	RPM	µg/m³	64	100	IS 5182(Part-23):2022
2.	PM_{10}	µg/m³	64	100	IS 5182(Part-23):2022
3.	$PM_{2.5}$	µg/m³	17	60	IS 5182(Part-24):2019
4.	SO_2	µg/m³	11	80	IS 5182(Part-2):2022
5.	NO_2	µg/m³	13	80	IS 5182(Part-6):2022
6.	NH_3	µg/m³	36	400	IS 5182(Part-25):2018
7.	O_3	µg/m³	10	100(8 hours)	IS 5182(Part-09):2019
8.	CO	mg/m³	0.58	02	IS 5182(Part-10):2019 NDIR spectroscopy
9.	C_6H_6	µg/m³	3.7	05	IS 5182(Part-11):2017
10.	B(a)P	ng/m³	BDL#	01	IS 5182(Part-12):2019
11.	Pb	µg/m³	BDL#	01	IS 5182(Part-22):2019
12.	Ni	ng/m³	BDL#	20	IS 5182(Part-26):2020
13.	As	ng/m³	BDL#	06	CPCB Guidelines Vol. I,2011
14.	HC	ppm	0.06	----	IS 5182(Part-17):2019 (Gas Chromatograph)
15.	VOC	µg/m³	6.1	----	T017-USEPA

#Below Detection Limit

Manoranjan
Analyzed by:

Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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

****End of Report****

Test Report No.: S231202C -34.

MANTEC ENVIRONMENTAL LABORATORY
{Recognized by MoEF&CC-Govt. of India}
D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification No.	:	S231202 34
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Date of Sampling	:	21.11.2023
Date of Receipt	:	02.12.2023
Sample Description	:	D.G.Set 625 KVA
Sample Condition	:	Ok
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Lakhmani GGS-4
Sample Collected By	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

STACK DESCRIPTION

Name of the Emission Sources Monitored	:	Stack
Stack Identification/Stack Details	:	Stack attached to DG Set
Normal Operating Schedule	:	1 Hr.

TEST RESULTS

Sl. No	Parameter	Units of Measurements	Results	Protocol
1.	PM(at 15% O_2)	mg/Nm³	18	IS 11255(Part-1):2019
2.	NOx(as NO_2) at 15% O_2	mg/Nm³	43	IS 11255(Part-7):2022
3.	NO_x (Dry basis)	ppmv	22	IS 11255(Part-7):2022
4.	NMHC (as C) at 15% O_2	%v/v	16	IS 11255(Part-15):2019
5	CO(at 15% O_2)	mg/Nm³	101.4	IS 13270:2019

Prabhat

Prabhat Ranjan Dutta
Analyzed by:

Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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

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

Test Report No.: S231202C -35.

MANTEC ENVIRONMENTAL LABORATORY
{Recognized by MoEF&CC-Govt. of India}
D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification No.	:	S231202 35
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Date of Sampling	:	21.11.2023
Date of Receipt	:	02.12.2023
Sample Description	:	Diesel Fire Water Pump
Sample Condition	:	Ok
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Lakhmani GGS-4
Sample Collected By	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

STACK DESCRIPTION

Name of the Emission Sources Monitored	:	Stack
Stack Identification/Stack Details	:	Stack attached to Diesel Fire Water Pump
Normal Operating Schedule	:	1 Hr.

TEST RESULTS

Sl. No	Parameter	Units of Measurements	Results	Protocol
1.	PM(at 15% O_2)	mg/Nm³	20	IS 11255(Part-1):2019
2.	NOx(as NO_2) at 15% O_2	mg/Nm³	38	IS 11255(Part-7):2022
3.	NO_x (Dry basis)	ppmv	16	IS 11255(Part-7):2022
4.	NMHC (as C) at 15% O_2	%v/v	15.2	IS 11255(Part-15):2019
5	CO(at 15% O_2)	mg/Nm³	92	IS 13270:2019

Prabhat Ranjan Dutta
Analyzed by:

Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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

****End of Report****

Test Report No.: S231202C -36.

MANTEC ENVIRONMENTAL LABORATORY
{Recognized by MoEF&CC-Govt. of India}
D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification No.	:	S231202 36
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Date of Sampling	:	21.11.2023
Date of Receipt	:	02.12.2023
Sample Description	:	Heater Treater
Sample Condition	:	Ok
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Lakhmani GGS-4
Sample Collected By	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

STACK DESCRIPTION

Name of the Emission Sources Monitored	:	Stack
Stack Identification/Stack Details	:	Stack attached to Heater Treater
Normal Operating Schedule	:	1 Hr.

TEST RESULTS

Sl. No	Parameter	Units of Measurements	Results	Protocol
1.	PM(at 15% O_2)	mg/Nm^3	10	IS 11255(Part-1):2019
2.	NOx(as NO_2) at 15% O_2	mg/Nm^3	12	IS 11255(Part-7):2022
3.	NO_x (Dry basis)	ppmv	7	IS 11255(Part-7):2022
4.	NMHC (as C) at 15% O_2	%v/v	15.2	IS 11255(Part-15):2019
5	CO(at 15% O_2)	mg/Nm^3	13.6	IS 13270:2019

Prabhat

Prabhat Ranjan Dutta
Analyzed by:

Mantec Environmental Laboratory NOIDA

Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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

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

Test Report No.: A231202C -15.

MANTEC ENVIRONMENTAL LABORATORY
{Recognized by MoEF&CC-Govt. of India}
D-36, SECTOR-VI, NOIDA, District-Gautam Budh Nagar, U. P.
Ph.0120-4215000, 4215805, Fax, 0120-4215809, e-mail :manteclab@gmail.com

Sample Identification	:	A231202 15
Name & Address of the Customer	:	M/s Oil & Nature Gas Corporation Ltd. Environmental Monitoring Around Surface Installations of Nazira (Assam)
Start Date & Time of Sampling	:	20.11.2023, 09:55 AM
End Date & Time of Sampling	:	21.11.2023, 09:55 AM
Date of Receipt	:	02.12.2023
Sample Description	:	Ambient Air
Sample Condition	:	OK
Start Date of Analysis	:	02.12.2023
End Date of Analysis	:	08.12.2023
Date of Reporting	:	08.12.2023
Sampling Location	:	Lakhmani GGS-5
Sample Submitted by	:	Md. Danish Alam & Mr. Ankit Kumar Tiwari
Environmental Condition at Lab	:	Temp. 25 ± 2 °C Humidity 50 ± 10 %
Ref. of Sampling Procedure No.	:	MEL/MSP/7.3/P-01

TEST RESULTS

Sl. No.	Parameter	Units of Measurements	Value	Prescribed Limits	Protocol
1.	RPM	µg/m³	58	100	IS 5182(Part-23):2022
2.	PM_{10}	µg/m³	58	100	IS 5182(Part-23):2022
3.	$PM_{2.5}$	µg/m³	14	60	IS 5182(Part-24):2019
4.	SO_2	µg/m³	08	80	IS 5182(Part-2):2022
5.	NO_2	µg/m³	12	80	IS 5182(Part-6):2022
6.	NH_3	µg/m³	28	400	IS 5182(Part-25):2018
7.	O_3	µg/m³	08	100(8 hours)	IS 5182(Part-09):2019
8.	CO	mg/m³	0.72	02	IS 5182(Part-10):2019 NDIR spectroscopy
9.	C_6H_6	µg/m³	3.4	05	IS 5182(Part-11):2017
10.	B(a)P	ng/m³	BDL#	01	IS 5182(Part-12):2019
11.	Pb	µg/m³	BDL#	01	IS 5182(Part-22):2019
12.	Ni	ng/m³	BDL#	20	IS 5182(Part-26):2020
13.	As	ng/m³	BDL#	06	CPCB Guidelines Vol. I,2011
14.	HC	ppm	0.04	----	IS 5182(Part-17):2019 (Gas Chromatograph)
15.	VOC	µg/m³	9.5	----	T017-USEPA

#Below Detection Limit

Manoranjan
Analyzed by:

Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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****End of Report****

Test Report No.: W231202C -16.

25.	Mercury	mg/l	<0.0005	----	IS 3025 (Part-48):2019
26.	COD	mg/l	46	----	IS 3025(Part-58):2017

Designated Best Use	Class	
Ground Water source without conventional treatment but after disinfection	A	
Outdoor Bathing(Organized)	B	
Ground Water source after conventional treatment & disinfection	C	
Propagation of wild life & Fisheries	D	√
Irrigation, Industrial cooling, Controlled Waste Disposal	E	
	Below E	

Ajmal Husain
Analyzed by:

Seal of Lab:

Gaja Nand Mallick
Quality Manager:

Notes:

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

Item No.16 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 247/2024

News item titled "Ahemdabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024

Date of hearing: 05.07.2024

CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Respondent: Mr. Rajkumar, Mr. Ankit Choudhary, Mr. Sumit Choudhary, Ms. Neetu Singh, Mr. Bharat Bhushan, Ms. Vandana Sachdeva & Ms. Anamika Singh, Advs. for CPCB (Through VC)
Mr. Mukesh Verma, Adv. for MPCB (Through VC)
Mr. Maulik Nanavati, Adv. for Gujarat PCB (Through VC)
Mr. Nishant Awana & Ms. Rebecca Mishra, Advs. for RSPCB (Through VC)

ORDER

1. In this original application, Tribunal is considering the issue of emission of methane gas from landfill sites in certain cities in the States of Maharashtra, Gujarat, Rajasthan and Assam.

2. Tribunal by order dated 19.03.2024 had constituted a Joint Committee.

3. Report dated 04.07.2024 has been filed by Central Pollution Control Board (CPCB). Said report, however, neither states that it is a report by Joint Committee nor it is signed by Joint Committee, though, it refers to some of the meetings of the Joint Committee.

4. Learned Counsel for CPCB seeks time to clarify the position and file a proper report of the Joint Committee. It will also be opened to all the other respondents to file their response within four weeks.

6. Let a proper report of the Joint Committee be also filed within four weeks by giving an advance copy to Counsel for all the parties.

7. List on 27.09.2024.

Prakash Shrivastava, CP

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

July 05, 2024
Original Application No. 247/2024
JG.

Annexure-IV

CPCB

LiFE Lifestyle for Environment

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार.
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA.

F. No. CM-13011/67/2024-LAW-HO-CPCB-HO

Date: 06.01.2025

To,

The Member Secretary,
SPCBs (As per list enclosed)

Sub: - Hon'ble NGT order in OA 247/2024 dated 19.03.2024 & 27.9.2024 in the matter of News item titled "*Ahmedabad Surat landfills among worst three methane hotspots in India*" appearing in the Times of India dated 07.02.2024-reg

Sir,

This is in reference to the Hon'ble NGT order dated 19.03.2024 in OA 247/2024 **(Annexure I)** registered suo-motu on the basis of a News item titled ***"Ahmedabad Surat landfills among worst three methane hotspots in India" published in the 'Times of India' dated 07.02.2024.*** The news item highlighted emission of high-level Methane gas emission sources by Indian Institute of Remote Sensing, Indian Space Research Organization (IIRS, ISRO), Dehradun in 04 States covering 12 Cities viz Maharashtra (Central Mumbai, Pune & Kalyan), Gujarat (Ahmedabad & Surat), Rajasthan (Barmer, Jaisalmer, Taranagar & Chirawa) and Assam (Nazira, Diburgarh & Tinsukia), based on IIRS-ISRO (Indian Institute of Remote Sensing, Indian Space Research Organization (IIRS,ISRO) Report

Joint Committee, constituted in compliance of the Hon'ble NGT Court Order, submitted the report on the matter to the Court **(Annexure II).** The compiled information provided by SPCBs and possible sources of methane emission nearest to the location provided by ISRO are tabulated in the table 5.1 of the Joint committee report. The identified 13 sites in 12 cities were assessed by the Joint committee and concluded that Methane generation at the hot-spots reported in the IIRS report may have correlation with SWM facilities & O & G establishments at the sites. Further, committee observed specific non-compliance w.r.t possible sources of methane emission as given in Section 8.0 of the joint committee report.

Subsequently, Hon'ble NGT vide order dated 27.9.2024 **(Annexure III)** has directed the following:

*"Learned Counsel for Respondent No. 2-CPCB, Respondent No. 3- Maharashtra Pollution Control Board, Respondent No. 4- Gujarat Pollution Control Board and Respondent No. 8-State of Gujarat and Respondent No.5-Rajasthan Pollution Control Board seek time for filing of **action taken reports**. The same be filed at least one week before the next date of hearing fixed".*

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली - 110032.
Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032.
दूरभाष /Tel : 43102030, 22305792, वेबसाइट/Website: www.cpcb.nic.in

In view of the above mentioned recent NGT order on the matter, you are requested to take necessary action on the non-compliance attributing to sources of methane emission as per the Joint committee report. The action taken report may please be submitted to this office latest by January 15th, 2025. The matter is listed on **22.01.2025**.

This may be treated as '**URGENT**'.

Encl: As above

Yours faithfully,

(Divya Sinha)
Director & Divisional Head, UPC-II

Copy to:

(i) RDs (Pune, Bhopal, Shillong, Vadodara): For information and follow up with respective SPCBs Please

(ii) DH, Law section: For information, Please

(iii) PS to MS: For kind information of 'MS', Please

(Divya Sinha)

o/c

To,

(1) The Member Secretary,
Maharashtra Pollution Control Board,
Kalpataru Point, 3rd and 4th floor,
Opp. PVR Cinema, Sion Circle,
Mumbai-400 022

(2) The Member Secretary,
Rajasthan Pollution Control Board,
4, Jhalana Institutional Area
Jhalana Doongri, Jaipur- 302004

(3) The Member Secretary,
Pollution Control Board Assam,
Bamunimaidam, Guwahati – 21

(4) The Member Secretary,
Gujarat Pollution Control Board
Paryavaran Bhavan, Sector-10 A,
Gandhinagar-382010

SPEED POST केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

F. No. B-11011/UPC-II/MSW(Direction)/2020-21 27.01.2021

15320-15354

To,

The Chairman,
All SPCBs/PCCs

Direction under Section 5 of the Environment (Protection) Act, 1986 for enforcement of Provisions of Solid Waste Management (SWM) Rules,2016 regarding bio mining of legacy waste.

WHEREAS, the Central Government has notified the standards for discharge of environmental pollutants from various categories of industries under the Environment (Protection) Act, 1986 and the rules framed there under;

WHEREAS, the Ministry of Environment, Forest & Climate Change has notified Solid Waste Management Rules, 2016, which inter-alia state procedures for Solid Waste Management;

WHEREAS, under Rule 15(zj) of SWM Rules, 2016 local authorities and village Panchayats shall investigate and analyse all old open dumpsites and existing operational dumpsites for their potential of bio-mining and bio-remediation and whosesoever feasible, take necessary actions to bio-mine or bio-remediate the sites;

WHEREAS, under Rule 16(a) of Solid Waste Management Rules, 2016, the State Pollution Control Board or Pollution Control Committee shall enforce these rules in their State through local bodies in their respective jurisdiction and review implementation of these rules at least twice a year in close coordination with concerned Directorate of Municipal Administration or Secretary-in-charge of State Urban Development Department;

WHEREAS, remediation of all Dumpsites has to be completed by April 7, 2021 as per Rule 22 of SWM Rules,2016.

WHEREAS, in compliance of Hon'ble NGT Order dated 16.01.2019 in the matter of OA no. 606/2018, CPCB published Guidelines for Disposal of Legacy waste;

WHEREAS, Hon'ble NGT has issued several Directives on the matter including the following:

Contd.

(i) In OA no. 519/2019, all Chief Secretaries, States/UTs to ensure completion of remediation of dumpsites by October, 2020.

(ii) In OA no. 53/2020, CPCB to complete inventorization of dumpsites in the Country.

(iii) In OA no. 593/2017, CPCB to compile information related to Legacy Waste Management and identify gaps thereof.

WHEREAS in compliance with above orders of Hon'ble NGT, several communications dated 14.05.2020 ,28.07.20 & 31.07.2020 have been issued by CPCB to States/UTs to provide requisite information on the matter.

WHEREAS complete information on the matter is yet to be received from all States/UTs.

WHEREAS, CPCB officials inspected dumpsites in various States where bioremediation of legacy waste is being carried out and made the following observation:

i. Most of the ULBs engaged in the bio mining process of the legacy waste not following CPCB Guidelines on disposal of legacy waste.

ii. Analysis of different screened fractions is not being carried out prior to disposal/utilization.

iii. Poor quality of screen fractions and screened fractions not being lifted by the users.

iv. Adequate plan for disposal of screened fractions at the dumpsites not prepared and screened fractions accumulated on site.

v. No leachate treatment being carried out and stagnation of leachate noticed at the dumpsites.

vi. Records/documents for the sale of the RDFs, inerts and other materials not maintained.

vii. Fresh Solid Waste continued to be dumped at these dumpsites.

WHEREAS, vide Order dated 21-8-2020 in the matter of OA no. 681/2018, Hon'ble NGT directed CPCB to issue fresh Direction in this regard to all the State PCBs/ PCCs to coordinate with concerned Local Authorities for further Action in the matter. Further, as per the Hon'ble NGT's Direction, at least one site is to be remediated and made a model of compliance in each of the 122 Non-Attainment Cities;

Contd.

NOW THEREFORE, in view of the above and in exercise of powers delegated to the Chairman, Central Pollution Control Board (CPCB), under Section 5 of the Environment (Protection) Act, 1986, the following directions are issued for compliance:

1. SPCBs/PCCs to provide complete list of Legacy Waste dumpsites in their States/UTs as per format enclosed.
2. SPCB/PCCs to ensure that necessary action for biomining and bio-remediation of these dumpsites is done by the concerned Local Authorities in compliance with Provisions of SWM Rules,2016.
3. SPCBs/PCCs shall ensure that concerned Local Authorities engaged in the bio mining process of legacy waste follow procedures as per CPCB Guidelines for Disposal of Legacy Waste with specific compliance to the following points.
   (i) Analysis of various screened fraction materials i.e. RDF, fine earth/bio earth etc., prior to its disposal/utilization.
   (ii) Preparation of plan for utilization/disposal of screened fractions
   (iii) Adequate provisions for leachate treatment.
   (iv) Maintenance of records / documents for disposal/utilization of the RDFs or fine earth and other materials.
4. SPCBs/PCCs shall ensure that the local bodies prepare time targeted Action Plan for biomining /bio-remediation of these dumpsites in compliance with points listed above. The timelines as specified in SWM Rules,2016 and Hon'ble NGT Directions on the matter are to be adhered to for remediation of these sites.
5. SPCBs/PCCs to ensure that no fresh waste is disposed at these dumpsites and local authorities make proper arrangement for management of fresh solid waste.
6. SPCBs to ensure that at least one legacy waste dumpsite is remediated in their jurisdiction which can be considered as model for compliance for other legacy waste dumpsites in Non-Attainment Cities (NAC).

SPCBs/PCCs are hereby directed to submit action taken report within **30 days** from receipt of these Directions.

Sd/-

(Shiv Das Meena)
Chairman

Copy to:

1. **Joint Secretary (CP),**
   Ministry of Environment, Forest and Climate Change,
   Indira Paryavaran Bhavan, Jorbagh Road,
   New Delhi-110003 : For necessary information pls

2. **DH- IT Division, CPCB** : For uploading on website pls

(Prashant Gargava)
Member Secretary

INFORMATION FOR REMEDIATION OF LEGACY WASTE DUMPSITES								
Name of city	Dumpsite Location	Quantity of waste at dumpsite (T)	Is fresh waste still being dumped at the dumpsite	If yes,-then quantity of waste being dumped (TPD)	Has remediation of Legacy waste been done (Y/N/under consideration)	If Y/under consideration- please attach Action Plan	Has disposal of Legacy Waste been planned in accordance with CPCB Guidelines (Y/N)	Has Leachate Management System been provided (Y/N)

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

CP-99/143/2021-UPC-II-HO-CPCB-HO

May 26, 2022

To,

The Chairman
All SPCBs/ PCCs

Sub: **Directions under Section 5 of Environment (Protection) Act, 1986 for implementation of the Solid Waste Management Rules, 2016-regarding Fire Incidents at MSW Dumpsites.**

WHEREAS, the Ministry of Environment, Forest & Climate Change has notified Solid Waste Management Rules on April 08, 2016 which inter-alia state procedures for Solid Waste Management;

WHEREAS, in accordance with Rule 11(d) of the Rules, it is the duty of the State/UT Urban Development Department to ensure implementation of provisions of these Rules by all local authorities;

WHEREAS, in accordance with Rule 15(a) of the Solid Waste Management (SWM) Rules, 2016, the local authorities and Panchayats should prepare a solid waste management plan as per state policy and strategy on solid waste management within six months from the date of notification;

WHEREAS, in accordance with provision of Rule15(zd) of the SWM Rules, 2016, the local authorities and Panchayats shall ensure that the operator of a facility provides personal protection equipment including uniform, fluorescent jacket, hand gloves, raincoats, appropriate foot wear and masks to all workers handling solid waste and the same are used by the workforce;

WHEREAS, in accordance with provision of Rule 16 (1a) of SWM Rules, 2016, the State Pollution Control Board or Pollution Control Committee shall enforce these rules in their State through local bodies and review implementation of these rules at least twice a year in close coordination with concerned Directorate of Municipal Administration or Secretary-in-charge of State Urban Development Department;

WHEREAS, MSW is being disposed of unscientifically in most cases which is one of the major causes for public nuisance due to frequent fire incidents, foul odour, generation of leachate and other adverse environmental impacts;

WHEREAS, waste disposed at dumpsites is prone to catching fire in view of inadequate waste management practices adopted at these sites;

WHEREAS, several fire incidents have been reported recently at Ghazipur & Bhalsawa dumpsites in Delhi, Manesar in Haryana and Ludhiana in Punjab;

WHEREAS, fire incidents at dumpsites may lead to severe adverse impact on environment and related health hazards. People living in and around the dumpsites are likely to be affected due to the frequent outbreaks of fire

WHEREAS, Hon'ble NGT in OA No. 286 of 2022, in reference to News item published in The Indian Express dated 20th April, 2022, titled "7 Charred to death in fire near Ludhiana dumpsite" issued the following Directions:

"*CPCB to collect information about garbage dumpsites from all States/ UTs in respect of at least Metro cities and issue statutory directions / guidelines for preventing such fires and handling them effectively if they take place, specifying serious consequences of delay in dealing with the issue, in violation of binding rules.*"

WHEREAS, as per the information provided by SPCBs/PCCs there are 3,184 dumpsites in the country, of which XXX are located in your State/UT;

WHEREAS, CPCB had issued Directions dated October 20, 2018 regarding fire at Bhalsawa site to North Delhi Municipal Corporation in which specific measures to be taken for prevention of fire at the dumpsites had been identified which amongst others included using Construction & Demolition waste material to immediately check fire, stopping dumping of fresh waste, installation of CCTV cameras, setting up of decentralized facilities for biodegradable waste;

WHEREAS, as per Guidelines for Disposal of Legacy Waste (Old Municipal Solid Waste) issued by CPCB, it is important to carry out comprehensive risk assessment and develop onsite emergency plan which should be kept handy prior to commencement of dumpsite bio-remediation & bio-mining;

WHEREAS, CPCB had issued following Directions dated January 27, 2021 to SPCBs/PCCs regarding biomining of legacy waste

i. SPCBs/PCCs to provide complete list of legacy waste dumpsite in their States /UTs as per format enclosed
ii. SPCBs/PCCs to ensure that necessary action for biomining and bio-remediation of these dumpsites is done by the concerned Local authorities in compliance with provisions of SWM Rules 2016
iii. SPCBs/PCCs shall ensure that concerned Local authorities engaged in the biomining process of legacy waste follow procedures as per CPCB Guidelines for disposal of legacy waste with specific compliance to the following points:

    a. Analysis of various screened fractions i.e. RDF, fine earth / bio earth etc. prior to its disposal / utilization
    b. Preparation of action plan for utilization / disposal of screened fractions
    c. Adequate provisions for leachate treatment
    d. Maintenance of records / documents for disposal / utilization of the RDFs or fine earth and other material

iv. SPCBS shall ensure that the local bodies prepare time targeted Action Plan for biomining / bio-remediation of these dumpsites in compliance with points listed above. The timeline as specified in SWM Rules and Hon'ble NGT Directions on the matter are to be adhered to for remediation of these sites

v. SPCBs/PCCs to ensure that no fresh waste is disposed at these dumpsites and local authorities make proper arrangement for management of fresh solid waste

vi. SPCBs/PCSS to ensure that at least one legacy waste dumpsite is remediated in their jurisdiction which can be considered as model for compliance for other legacy waste dumpsites in Non-Attainment Cities

WHEREAS Hon'ble NGT in its Order dated April 22, 2022 in O.A No. 288/ 2022 regarding News item published in the Times of India dated April 22, titled "Delhi: Another long-drawn effort to douse fire at Ghazipur landfill" has stated that dumpsite may be considered as isolated and vulnerable site which require On-site and Off-site Fire and other disaster management plans; **AND**

WHEREAS, CPCB made the following observations based on inspected various dumpsites, where bioremediation of legacy waste is being carried out:

i. Fresh solid waste continued to be dumped at these dumpsites.

ii. Fire incidents have been reported at locations where fresh waste is being dumped

iii. Inaccessible slopes of garbage were observed

iv. No standard operating plan in place for prevention and management of dumpsite fires

v. Cause of fire incident reported is excess release of Methane (CH_4) gas due to anaerobic decomposition of the bio-degradable organic waste, high temperature and dry atmospheric conditions.

vi. Partial fencing with barbed wire provided at the boundary observed.

vii. Police patrolling the site not observed.

viii. No fire tender observed at site.

ix. Anti-Smog Gun have been installed which were not found in use; **AND**

NOW THEREFORE, in view of above and in exercise of powers vested under section 5 of Environment (protection) Act, 1986 to the Chairman, Central Pollution Control Board (CPCB) the following directions are issued for compliance;

i. Provide updated information w.r.t Directions dated 27.1.21 regarding biomining issued to SPCBs/PCCs. It is to be ensured that updated information w.r.t at least all Metro cities is provided in accordance with NGT Directions

ii. Direct State UDDs to conduct comprehensive risk assessment studies and accordingly prepare detailed On-site Emergency Plan for each dumpsite located in their jurisdiction addressing the following issues:

   a. The onsite emergency plan to cover potential risks / emergencies due to fire, obnoxious / flammable emissions, odour, vector borne diseases,

rodents, bird nuisance, seasonal affects i.e. summer / winter / monsoon (rainy season) and all other potential risks at the dumpsites.

b. The onsite emergency plans to address the worst possible case scenarios preferably using appropriate risk assessment softwares covering any or all of the potential emergency issues / scenarios cited above.
c. The on-site emergency management plan to cover likely affected geographical area including population, flora & fauna in and around the dumpsites
d. The on-site emergency plan to contain detailed remedial measures both hardware and software based for mitigating various emergency situations, which should finally be available with respective control rooms and on-site emergency notice boards.

iii. To direct District Collector or District Emergency Authority designated by the State Government for integrating such (dumpsites) On-site Emergency Plans with the existing Off-site District Disaster Management Plans in their respective Districts, prepared by the Local Authorities in compliance with Rule 14 of The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989

iv. The State / UT Authorities to prepare the on-site & off-site (or update off-site) emergency management plans preferably through an expert agency on the subject.

v. The following interim measures to be implemented on priority till the time On-site/Off-site Emergency Plans are prepared and implemented.

a. **Disposal of Waste**: Fresh waste not to be disposed at the dumpsite where bio-remediation is being undertaken. Organic waste from slaughter house, fish market etc., industrial waste not to be disposed at the dumpsite. It is to be further ensured that industrial waste / E-waste / lithium battery is not dumped at the site. Waste that is being unloaded at the site should be examined visually for potential fire sources fire sources when located, should be neutralized with cover material immediately. Emergency tipping area to be provided to set aside from the immediate working area where incoming loads of material known to be on fire or suspected of being so can be deposited, inspected and dealt with.Adequate compacting of waste to be done to minimize formation of air or methane pockets which can lead to subsurface fire at site
b. **Monitoring at dumpsites**: Methane Gas Detectors (on downwind side) to be installed at site so that area with high methane concentration can be identified and preventive actions be undertaken. Further temperature at windrows to be monitored with non-contact infrared thermometer (as used for monitoring human body temperature under COVID circumstances) and recordsbe maintained for any major deviations. The temperature is to be in the range of 35°C to 59°C. Treated leachate / water to be sprayed on the waste when rise in temperature is observed

at the bioremediation site. Suitable mechanism to be in place.Installation of CCTV cameras at the site and provision of fencing & frequent patrolling to be donefor checking unauthorized entry at dumpsite

c. **Arrangements for Fire Extinguishing**: Arrangements for adequate storage of sand / chemical fire extinguishing medias such as foam or powder at site to be made to douse fire in case a fire incident is reported. Usage of water for dousing fire to be avoided. Isolation and allowing rapid natural burnout or smothering with soil to be done for dousing dumpsite fires. Dedicated fire tenders (preferably chemical extinguishing media) and adequate fire safety measures are to be deputed, specifically during summer season when dumpsites fire is more likely to take place. All mobile equipment or vehicles should be fitted with fire extinguisher and spark arrester

d. **Health &Safety of Workers**: Fire protection measures and safety equipment to be provided to all workers at the site and checked before entry to the dumpsite. Workers to be trained for detection of fire and necessary action to be taken in case of fire. Periodic training of workers be conducted in Safe handling of Waste, PPE's, Health & Safety issues etc

e. **Mock Drills & safety audits**: Periodic mock drills to be conducted to prevent fire accidents at dumpsites. Quarterly, Fire Safety and Hazardous Emissions Audits to be conducted.

SPCBs/PCCs are hereby directed to submit action taken report within 15 days for Action Point listed at (v) above. Action taken report for Points (i-iv) to be provided within thirty days of receipt of these Directions

(Naresh Pal Gangwar)
Chairman

Copy to:

1. **Additional Secretary (CP Division)** : for information please
   Ministry of Environment, Forests & Climate Change,
   Indira Paryavaran Bhawan, Jor Bagh Road,
   New Delhi - 110003

2. **DH-IT Division, CPCB** : for uploading on website please

(Prashant Gargava)
Member Secretary

O/C

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार.
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA.

File No.CM-13011/67/2024-LAW-HO-CPCB-HO 699

Date: 17.01.2025

To,

SPCBs
(As per the list enclosed)

Sub: Minutes of the meeting held on 16.01.2025 at 12.00PM in compliance to Hon'ble NGT (PB) Order dated 27.09.2024 in OA No. 247/2024, News item titled" Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated07.02.2024.

Sir/Madam,

This is in reference to the VC meeting held on 16.01.2025 at 12:00 PM on the above said subject. The minutes of the meeting is enclosed herewith for your kind perusal & necessary action, please.

Yours faithfully,

(Divya Sinha)
Director & Divisional Head, UPC-II

Encl: As above

Copy to:

1. Concerned Regional Directors (Bhopal, Shillong, Vadodara & Pune) : For information,please
2. DH , Law Section : For information, please
3. PS to MS : For kind information to 'MS', please

(Divya Sinha)

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत.....
दिनांक...17/01/25... O/C

Central Pollution Control Board

"Parivesh Bhawan", East Arjun Nagar, Delhi-110032

Minutes of the meeting held on dated 16/01/2025, 12.00 PM in compliance to Hon'ble NGT, PB Order dated 27.09.2024 in OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.

A meeting was convened on January 16, 2025,12 PM through video conferencing in compliance to Hon'ble NGT order dated September 27, 2024 with officials of four SPCBs namely Assam, Gujarat, Maharashtra, Rajasthan and CPCB officials to discuss the action taken report as sought by CPCB. The list of participants is attached as **Annexure-I.**

The Divisional Head, UPC-II, CPCB, welcomed the participants and briefed them on directions of Hon'ble NGT in order dated September 27, 2024. It was further informed that CPCB letter dated 06.01.2025 sent to 4 SPCBs viz Assam, Gujarat, Maharashtra & Rajasthan requesting to provide action taken reports on non-compliances as observed in Joint Committee report w.r.t. biomining of legacy waste dumpsites, methane emissions, ambient air quality monitoring, fire control measures, leachate management system and gas collection & its utilization system in dumpsites, Sanitary Landfill sites (SLFs) and Oil and Gas sites.

Thereafter, Scientist 'D', UPC-II division delivered a presentation **(Annexure II)**. covering the background of Hon'ble NGT orders in the matter & state-wise observations from the Joint Committee's report. Pointwise actions taken required corresponding as per the observations in the Report was explained to the participants. Subsequently, the SPCBs were requested to provide updates on the status of actions taken and proposed plan with time lines for completion of the activities to be carried out .

Gujarat SPCB informed that 70% of the Khajod dumpsite in Surat has been closed. Further, it was also informed that plan for a new municipal solid waste (MSW)

processing sites is underway. It was pointed out by CPCB that capping of dumpsites is not permitted as per NGT orders and SWM rules, 2016 and sought an explanation for its implementation. GPCB was further requested to provide reports on the status of capping, adoption of methane control measures, fire control measures, and ambient air quality monitoring at the site.

Maharashtra SPCB informed that interim directions have been issued to the concerned Municipal Corporations seeking time bound plan for the non-compliances observed in the joint committee report.

Rajasthan SPCB informed that Ambient air quality monitoring at both the dumpsites in Rajasthan viz Chirawa and Taranagar had been carried out recently.

Assam SPCB informed that compliance report shall be submitted to CPCB .

Based on the deliberations held during the meeting, following decisions were made:

i. All four SPCBs were requested to review the reports in line with the discussion held in the meeting and CPCB letter dated 06.01.2025 and submit the same on Jan 16, 2025 by 4 PM.
ii. All four SPCBs to submit the compliance status of directions issued by CPCB previously under section 5 of E(P) Act, 1986 related to Bio mining of legacy waste and management of fire hazards.
iii. SPCBs to submit the compliance status as per Schedule I (F) of Solid Waste Management Rules, 2016.

The meeting ended with vote of thanks to all.

*****

Annexure I

List of Participants in the meeting held at 12:00 PM on dated 16/01/2025 in compliance to Hon'ble NGT, PB Order dated 27.09.2024 in OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024.

S.No.	Name & Designation
1	Ms. Divya Sinha Director & DH, UPC-II, CPCB-HO
2	Sh. Jayanta Kumar Dutta Regional Officer, Sivasagar, Assam SPCB
3	Sh. Prabhakar Wavde Field Officer, Maharashtra SPCB
4	Sh. Sudhir Yadav Regional Officer, Jhunjhunu, Rajasthan SPCB
5	Sh. Jagdish choudhary Regional Officer, Jaisalmer, Rajasthan SPCB
6	Sh. Rajkumar Shera Regional Officer, Balotara, Rajasthan SPCB
7	Sh. Saurabh AEE, RO Surat, Gujarat SPCB
8	Ms. Anjana Patel Unit head, Gujarat SPCB
9	Dr. Talika Patel Regional Officer Ahemdabad, Gujarat SPCB
10	Sh. N. Semval Scientist ‘D’, UPC-II, RD-Vadodara CPCB
11	Sh. Shashikant Lokhande Scientist ‘E’, RD-Pune, CPCB
12	Ms. Suniti Parashar Scientist ‘D’, UPC-II, CPCB-HO
13	Sh. Amit Kumar Scientist ‘B’, UPC-II, CPCB-HO

MEETING

In compliance to

Hon’ble NGT order dated 27.9.2024 in O.A No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024

UPC-II Div, CPCB

16 Jan, 2024 ,12.00 PM

(Through Video Conference)

Background

- Hon'ble NGT vide order dated 19.3.2024 constituted a joint committee and directed to submit the factual report on the sites identified as possible methane emission sources as per IIRS, ISRO.
- The Joint Committee report submitted before Hon'ble NGT on 13.08.2024.
- In accordance with the above said report, Hon'ble NGT vide order dated 27.9.2024 directed CPCB in para 4 reproduced below:

Para 4: *Learned Counsel for Respondent No. 2-CPCB, Respondent No. 3-Maharashtra Pollution Control Board, Respondent No. 4- Gujarat Pollution Control Board and Respondent No. 8-State of Gujarat and Respondent No.5-Rajasthan Pollution Control Board seek time for filing of 2 action taken reports. The same be filed at least one week before the next date of hearing fixed.*

Role of SPCBs

As regulatory authorities, SPCBs oversee compliance with the rules by municipal bodies, and other stakeholders involved in waste generation and disposal. As per Rule 16 of SWM Rules, 2016, SPCBs shall

- monitor environmental standards and adherence to conditions as specified under the Schedule I and Schedule II for waste processing and disposal sites.
- issue authorisation within a period of sixty days in Form II to the local body or an operator of a facility or any other agency authorised by local body stipulating compliance criteria and environmental standards as specified in Schedules I and II.
- monitor the compliance of the standards as prescribed or laid down and treatment technology as approved and the conditions stipulated in the authorization and the standards specified in Schedules I and II.

Observations of Joint Committee Report

Municipal Solid Waste Dumpsites

- Bio mining has been completed at 1 site (Pirana) , under process at 2 sites ((Kalyan –Dombivelli and Chirawa) , has not been initiated at 2 sites (Deonar & Taranagar) and 1 site has been capped (Khajod, Surat)
- Gas collection systems is installed at only 1 site i.e Khajod , Surat.
- Methane detectors are not installed at any of the dumpsites.
- Ambient air quality is measured at 2 dumpsites namely Aadaharwadi & Deonar in Maharashtra and PM_{10} concentration is exceeding the limit of NAAQS norms at both sites

Observations of Joint Committee Report Contd…

- Methane emissions have been reported from Khajod (which is capped) and Pirana, Ahemdabad (where biomining has been completed)
- Fresh waste disposal is ongoing at 3 dumpsites viz Deonar, Chirawa ,Taranagar .
- Leachate collection and treatment system is installed only at Khajod, Surat. A fire incident was reported at Chirawa, Rajasthan (small fires due to flammable materials) in the last five years.
- According to the IIRS report, the Deonar site, which receives the largest amount of waste disposal, has been identified as the source of the highest methane emissions.

Observations of Joint Committee Report Contd…

Sanitary Landfill Sites (SLFs)

- Gas collection system is installed only at Kanjurmarg, Greater Mumbai.
- Collection system not provided at Pimpri-Chinchwad,Pune. Methane emission reported from this site. A fire incident was reported at the Pimpri-Chinchwad site, with the cause not ascertained
- Ambient air quality is monitored at both SLFs viz Pimpri-Chinchwad & Kanjurmarg. The PM_{10} concentration is exceeding NAAQS norms at both SLFs.
- Both SLFs have been granted authorization by SPCBs, valid until October 2026 for Kanjurmarg and December 2024 for Pimpri-Chinchwad.

Observations of Joint Committee Report Contd…

O & G Sites

- Ambient air quality is measured at all sites during 2024 (except Nazira during 2023). Compliance to the standards is given at all sites for ambient air quality except at Barmer having high PM10 concentration.
- One fire incident has been reported at Nazira site during the year 2023 due to gasket failure.
- Sites with low conversion rates of methane to products and high flaring rates have reported higher methane generation. Additionally, sites with nearly 100% conversion to products have also reported significant methane generation.

GUJARAT

Dumpsites	Joint committee report	Action to be taken
Khajod dumpsite, Surat	Average methane emission- 4706 kg/h Dumpsite is capped No Fire reported Gas collection system provided Ambient air quality not monitored at the dumpsite Leachate collection and treatment system provided Methane detector not installed Fresh waste is not being disposed	Methane control measueres Fire control measures AAQ montoring Methane detectors Gas utilisation
Pirana Dumpite, Ahemdabad	Average methane emission- 4272 kg/h Biomining completed	To identify source of methane emission

Maharashtra

Dumpsites	Joint committee report	Action to be taken
Deonar dumpsite, Greater Mumbai	Average methane emission- 6202 kg/h Biomining not initiated No Fire reported No provision of gas collection system Ambient air quality monitored at the dumpsite No provisons for leachate collection and treatment Methane detector not installed Fresh waste is still disposed	Methane control measures Time line for Biomining Fire control measures Methane detectors Gas collection & utilisation Leachate management Fresh waste no t to be disposed
Aadharwadi dumpsite, Kalyan Dombivli	Average methane emission- 6202 kg/h Biomining commenced No Fire reported No provision of gas collection system Ambient air quality monitored at the dumpsite No provisons for leachate collection and treatment Methane detector not installed Fresh waste is not being disposed	Methane control measures Time line for Biomining Fire control measures Methane detectors Gas collection & utilisation Leachate management

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MAHARASHTRA

SLF	Joint committee report	Action to be taken
Kanjurmarg SLF, Greater Mumbai	• Average methane emission- Not given • Authorization valid till Oct, 2026 • Gas collection system provided • Ambient air quality monitored • No fire reported • Leachate collection and treatment system provided	Gas utilisation details to be provided
Pimpri-Chinchawad SLF, Pune	• Average methane emission- 1333 kg/h • Authorization valid till Dec, 2024 • Gas collection system not provided • Ambient air quality monitored • Fire reported • Leachate collection and treatment system provided	Methane collection & Utilisation ‘ Fire control measures

RAJASTHAN

Dumpsite	Joint committee report	Action to be taken
Chirawa dumpsite	• Average methane emission- 478 kg/h • Biomining commenced • Fire reported • Gas collection system not provided • Ambient air quality not monitored at the dumpsite • Leachate collection and treatment system not provided • Methane detector not installed • Fresh waste still disposed	Gas collection & utilisation Time line for Biomining Fire control measures Methane detectors Leachate management Fresh waste disposal to be stopped
Taranagar dumpsite	• Average methane emission- 589 kg/h • Biomining not initiated • No Fire reported • Gas collection system not provided • Ambient air quality not monitored at the dumpsite • Leachate collection and treatment system not provided • Methane detector not installed	Gas collection & utilisation Biomining to be intiated & timelines to be provided AAQ to be done Leachate management Methane detectors Fresh waste disposal to be stopped

RAJASTHAN & ASSAM (O & G)

O & G	Joint committee report	Action to be taken
Tinsukia, Dibrugarh, & Nazira (Assam) Rajasthan (Jaiselmer, & Barmer) All O & G units are equipped with fire prevention arrangements as reported by SPCBs. Emergency response plan for fire prevention is available at all O & G sites. • Ambient air quality is measured at all sites during 2024 (**except Nazira during 2023**). **Compliance to the standards is given at all sites for ambient air quality except at Barmer having high PM10 concentration**. Methane detectors have been provided at all sites. Mitigation measures taken for reduction in organic emission including methane have been taken at all sites which mainly includes, LEL monitoring System, High-energy ignition based remote ignition system, Online Gas monitoring system, Preventive maintenance of equipment, Installation of advance flaring system, Vapour recovery unit to capture methane emission, Installation of leak detection and repair system, Methane oxidising Bio filters, Regular assessments and audits etc. • One fire incident has been reported at Nazira site during the year 2023 due to gasket failure. Sites with low conversion rates of methane to products and high flaring rates have reported higher methane generation		AAQ to be monitored at Nazira Strengthening of Fire control measures at Nazira Implementation of measures for higher conversion rate of methane Measures for control of PM 10 concentration

THANK YOU

List of Joint Committee members

S.N	Nominees	Name & Designation	
1	**SPCB Maharashtra**	Sh. Sujit Dholam, Regional Officer	**For kind information, please**
4	**Rajasthan**		
	i) Jaisalmer	Sh. Jagdish Choudhary Regional Officer, Jaisalmer	**-do-**
	ii) Balotra	Sh. Rajkumar Shera Regional Officer, Balotara	**-do-**
	iii) Jhunjhunu	Sh. Deepak Dhantewal Regional Officer, Jhunjhunu	**-do-**
5	**Gujarat**		
	i) Surat	Dr.Jignasa Oza Regional Officer, Surat	**-do-**
	ii) Ahmedabad	Dr. Talika Patel Regional Officer, Ahemdabad	**-do-**
6	**Assam**		
	i) Tinsukia	Sh. Hiren Pegu Executive Engineer and Regional Officer	**-do-**
	ii) Sivasagar	Sh. Jayanta Kumar Dutta Assistant Executive Engineer and Incharge	**-do-**

Actions taken concerning the Khajod Dump Site in Surat - Regarding

DJ Dr. Jignasa D Oza(GoG-GPCB Dept.) <ro-gpcb-sura@gujarat.gov.in>
Thu, 16 Jan 2025 6:27:49 PM +0530

To "swm.cpcb@gov.in" <swm.cpcb@gov.in>, "Anjana Patel (GOG-GPCB Dept.)" <uh-gpcb-biom@gujarat.gov.in>

Cc "Unit Head Surat (GoG-GPCB Dept.)" <uh-gpcb-sura@gujarat.gov.in>

Madam/Sir

Below are the actions taken concerning the Khajod Dump Site in Surat, as discussed during the recent team meeting:

Dumpsite	Joint Committee Remarks	Action taken report
Khajod Dumpsite, Surat	Methane control measures, Fire control measures, AAQ Monitoring, Methane Detectors, Gas Utilization	Surat Municipal Corporation has already completed biomining work and plans to close the entire site within 18 months. Regular air quality monitoring will be conducted as per the regulations. Regarding methane control measures, Surat Municipal Corporation has made provisions to capture and flare methane gas. However, a detailed feasibility study on methane generation and its potential for utilization will be conducted before implementation, starting within the next six months.

Thanking You,

(Dr Jignasa Oza)
Regional Officer,
Gujarat Pollution Control Board
Plot No: 11 – 12/2, 3
GIDC PANDESARA,
SURAT-394221
Phone: (0261) 2891696,
E-mail : ro-gpcb-sura@gujarat.gov.in

Dr. Tallika L Patel (GoG- GPCB Dept.)
Fri 17-01-2025 12:17

Show all 5 recipients

To: Suniti Parashar <swm.cpcb@g... amitk22.cpcb@gov.in;...

Enterprise Vault

Respected Sir.

As per trailing E-mail, With regards to Hon'ble NGT Order dated:-19/03/2024, As per submission received from Ahmedabad Municipal corporation (AMC); the Methane hotspot observed as per joint report may be possible due to the bio mining work carried out in that period as mentioned in report. However Bio mining is completed for Ajmeri Dump and High Dump.

Following actions are taken in consideration with joint report:-

- 100% of fresh waste is being processed.
- Bio mining work of legacy waste as per NGT order at Pirana dumpsite has been completed in Dec 2023.
- No major Fire incidents have been reported for last 5 years.
- The 500 Metric Tons Per Day (MTPD) composting plant and the 1000 TPD waste-to-energy facility are established.

This is for your kind information and necessary further action please.

With regards,

Dr. T. L. Patel
Regional Officer

MAHARASHTRA POLLUTION CONTROL BOARD			1
Phone :	*(022)- 25505928*		Kalpataru Point, 1st floor, Sion-
Fax :	***(022)- 25505926***		Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E),
Email :	*romumbai@mpcb.gov.in*		Mumbai - 400 022
Visit At :	**http://mpcb.gov.in**		

"Your Service is our Duty"

No: MPCB/ID/2501150002 **Date: - 15/01/2025**

To,
The Municipal Commissioner,
Municipal Corporation of Greater Mumbai,
Doenar Dumping ground, Deonar, Mumbai.

Sub: Interim Directions under the provisions of the Water (P & CP) Act, 1974, Air (P & CP) Act, 1981 and Hazardous & Other Waste (M & TM) Rules, 2016 r.w. Solid Waste Management Rules, 2016.

Ref: 1. Authorization granted by the Board on 23/08/2022
2. Interim direction issued by Board on 15/03/2024
3. Office note approved by the competent authority dtd. 15/01/2025.

……..

We refer to the direction issued by Board vide letter dated 15/03/2024 due to unscientific handling of municipal solid waste at the aforesaid site. You have submitted reply of Direction issued by the Board and Sub Regional Officer, Mumbai III submitted compliance report.

Considering the status report submitted by SRO Mumbai-III following interim directions are issued

1. You shall provide Biomining at this Deonar Dumping Site.
2. You shall install Methane Detectors at the dumpsite.
3. You shall Gas collection systems at the dumpsite.
4. You shall install Leachate collection and treatment system at dumpsite.
5. You shall submit Bio-remediation plan and Scientific Closure Plan for Legacy waste dump site.
6. You shall provide adequate fixed water Sprinkling (Rain Guns) system.
7. You shall install Fogger Cannon (Mist type) water sprinkling system at the dumpsite.
8. You shall submit additional Bank Guarantee of Rs. 2,00,000/- within 7 days period from the date of receipt of this direction.

In case of your failure to comply with the above directions within 15 days, Board will proceed against you as per provision of Water (P & C P) Act, 1974 and Air (P C & C P) Act, 1981 & Solid Waste Management Rules, 2016 which may please be noted.

For and on behalf of
Maharashtra Pollution Control Board

(R.B. Andhale)
Regional Officer, Mumbai

Copy submitted to:-
1. Regional officer (BMW), MPC Board, Sion, Mumbai – for information.

Copy to:
1) Sub Regional Officer, MPC Board, Mumbai -III - He is directed to serve copy of direction to industry, take necessary follow-up towards compliance of the direction and submit Action taken report.
2) Master File.

MAHARASHTRA POLLUTION CONTROL BOARD

Regional Office, Kalyan

Tel: (0251) 2310167/2310212
Fax: (0251) 2310192
Website: http://mpcb.mah.nic.in
E-mail: rokalyan@mpcb.gov.in

Siddhivinayak Sankul,
3rd Floor, Near Oak Baug,
Station Road,
Kalyan (West) – 421 301.

"Your Service is our Duty"

No. MPCB/ROK/ID/TB- 25011500008/1 **Date:** 15/01/2025

To,
The Deputy Commissioner,
Kalyan Dombivali Municipal Corporation,
Shankarrao Chowk, Station Road,
Tal.-Kalyan, Dist.- Thane.

Sub: Interim Directions under Section 31A of the Air (Prevention & Control of Pollution) Act, 1981 & r.w. Solid Waste (Management & Handling) Rules, 2016.

Ref:- 1) Suo Motu case having No.247/2024 registered by Hon'ble National Green Tribunal and order passed on 19/02/2024.
2) Visit of Board officials to solid waste site Adharwadi Dumping Ground, Umbardegaon and Barave Secured Land Filling (SLF) site on 30/10/2024
3) Personal Hearing was extended before Hon'ble Member Secretary of the Board on 26/12/2024.
4) Proposal received from Sub-Regional Officer, Kalyan-I having No. 301024018.
5) Approval received from Competent Authority.

.....

During the course of personal hearing extended to you on dtd.26/12/2024, non-compliances with respect management of Solid Waste were discussed. Considering your assurance made during the course of hearing, following directions are issued for immediate compliances,

1) The Kalyan Dombivli Municipal Corporation (KDMC) shall submit time bound program for completion of Bio-mining at Adharwadi site within 15 days and adhere the same time bound program and submit Bank Guarantee of Rs. 1,00,000/- towards compliance of the same within 15 days.
2) KDMC shall provide methane gas detectors at all the places i.e. Adharwadi Dumping ground, Umbarde Gaon Secured Land Filling (SLF) site and Barave SLF site within three months and submit Bank Guarantee of Rs.3,00,000/- towards compliance of the same within 15 days.
3) KDMC shall carry out Monthly Monitoring of Methane gas at Adharwadi dumping ground, Umbarde Gaon SLF site and Barave SLF site and submit report to the MPC Board.
4) KDMC shall provide gas collection system at all above mentioned sites within three months and submit the Bank guarantee of Rs.3,00,000/- towards compliance of the same.
5) KDMC shall lift all the solid waste material dumped in a secured landfill from both the processing sites other than inert material within three months and shall ensure landfilling of inert material only and submit Bank Guarantee of Rs.2,00,000/- for the compliance of the same within 15 days.

...2

In case of your failure to comply with the above directions, Board will proceed against you as per the provisions of the Air (P&CP) Act, 1981 and Solid Waste Management Rules, 2016, which may please be noted.

Dr. R. A. Rajput
Regional Officer, Kalyan

Copy submitted for information to:
Regional Officer (BMW), MPC Board, Sion Mumbai.

Copy to:
1) Sub-Regional Officer, MPC Board, Kalyan-I– You shall carryout regular monitoring of industry & submit report w.r.t. Consent Condition/Direction/Bank Guarantee and their compliances within 1 month period.
2) Master file.

MAHARASHTRA POLLUTION CONTROL BOARD			1
Phone :	*(022)- 25505928*		Kalpataru Point, 1st floor, Sion-
Fax :	***(022)- 25505926***		Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E),
Email :	*romumbai@mpcb.gov.in*		Mumbai - 400 022
Visit At :	**http://mpcb.gov.in**		

"Your Service is our Duty"

No: MPCB/ID/2501150003 **Date: - 15/01/2025**

To,
The Municipal Commissioner,
Municipal Corporation of Greater Mumbai,
Integrated Solid Waste Processing Plant (MCGM),
Survey No.275, CTS No.657, Opp.Eastern Express Highway
Village Kanjur, Mumbai 400042

Sub: Interim Directions under the provisions of the Water (P & CP) Act, 1974, Air (P & CP) Act, 1981 and Hazardous & Other Waste (M & TM) Rules, 2016 r.w. Solid Waste Management Rules, 2016.

Ref: 1. Authorization granted by the Board on 23/08/2022
2. Interim direction issued by Board on 15/03/2024
3. Office note approved by the competent authority dtd. 15/01/2025.

……..

We refer to the direction issued by Board vide letter dated 15/03/2024 due to unscientific handling of municipal solid waste at the aforesaid site. You have submitted reply of Direction issued by the Board and Sub Regional Officer, Mumbai III submitted compliance report.

Considering the status report submitted by SRO Mumbai-III following interim directions are issued

1. You shall provide adequate Leachate collection system for BLF cell and operate it scientifically.
2. You shall provide Internal roads of concrete/cemented/blacktop to avoid fugitive dust emission.
3. You shall provide proper cleaning and washing of transport vehicles.
4. You shall install Methane gas detectors at SLF and BLF cell.
5. You shall install Leakage detection and repair system at SLF site.
6. You shall carry out regular monitoring of Methane at source and at BLF cell and SLF site.
7. You shall operate pollution control system continuously to avoid any pollution nuisance in the vicinity.

8. You shall submit additional Bank Guarantee of Rs. 2,00,000/- within 7 days period from the date of receipt of this direction.

In case of your failure to comply with the above directions within 15 days, Board will proceed against you as per provision of Water (P & C P) Act, 1974 and Air (P C & C P) Act, 1981 & Solid Waste Management Rules, 2016 which may please be noted.

For and on behalf of
Maharashtra Pollution Control Board

(R.B. Andhale)
Regional Officer, Mumbai

Copy submitted to:-
1. Regional officer (BMW), MPC Board, Sion, Mumbai – for information.

Copy to:
1) Sub Regional Officer, MPC Board, Mumbai -III - He is directed to serve copy of direction to industry, take necessary follow-up towards compliance of the direction and submit Action taken report.
2) Master File.

MAHARASHTRA POLLUTION CONTROL BOARD
REGIONAL OFFICE - PUNE

Phone No. 020-25811694
Fax No. 020-25811701
e-mail : ropune@mpcb.gov.in
visit us : www.mpcb.gov.in

"Your Service is our Duty"

Jog Centre, 3rd Floor,
Wakdewadi,
Old-Pune Mumbai Road,
Pune- 411003

ROP/ MPCB/ID / 2501160003 **Date:** 16/01/2025

To,

Joint City Engineer (Environment),
Solid Waste Management Section,
Pimpri Chinchwad Municipal
Corporation, Pimpri, Pune.

Sub: Conditional Directions under 31A of Air (Prevention & Control of Pollution) Act,1981.

Ref : 1) Application filed before Hon'ble NGT (PB), New Delhi vide no. O.A. 247/2024 w.r.t. News Item Titled 'Ahmedabad Surat Landfills among the worst three Methane Hotspots in India' appeared in Times of India Dtd. 07/02/2024.
2) Hon'ble NGT order dated 19/03/2024 in OA No. 247/2024.
3) Meeting regarding identification of source of meeting of methane emission in OA No. 247/2024, Dtd. 22/10/2024
4) Letter issued by this office to you regarding compliance of Joint Committee report in OA No. 247/2024 and Solid Waste Management Rules, 2016.
5) Reply submitted by you to the above letter vide letter Dtd. 19/12/20024.
6) Legal Action Proposal Submitted by Sub Regional Officer, Pimpri Chinchwad vide MPCB- LEGAL-ACTIONS-241224005, Dtd. 14/01/2025

The Hon'ble NGT (PB), New Delhi passed the order on 19/03/2024 in the matter of OA No. 247/2024 (WZ) regarding "News Item Titled 'Ahmedabad Surat Landfills among the worst three Methane Hotspots in India' appeared in Times of India dated 07/02/2024. In compliance with the Hon'ble NGT order, a Joint Committee was constituted comprising of officials of MoEF & CC, CPCB, IIRS, ISRO and SPCBs.

The Joint Committee has submitted their final report to the Hon'ble NGT, which includes a source of Methane from Solid Waste Processing site of PCMC at Moshi. Accordingly, the Board has issued a letter to you vide reference (4) above and requested you to submit compliance of the observations noted by the Joint Committee in the report. In response to the Board's letter, you have submitted reply vide reference (5) above, which is partial.

Thereafter, the Sub Regional Officer, Pimpri Chinchwad submitted proposal vide reference (6) and therein reported that, (i) PCMC has not initiated the biomining of waste dumped during the Covid Period (ii) Excess RDF and inert are being dumped in SLF-II regularly (iii) Methane collection, utilization system and flare system are not installed. (iv) AAQM and methane emission monitoring are not carried out by PCMC. (v) PCMC does not have 100 % processing capacity to process waste generated.

2...

In view of the above, the following conditional directions are issued for necessary compliance,

(1) You shall not dump the fresh Municipal Solid Waste at these sites.
(2) You shall submit the action plan for biomining of legacy waste dumpsites in a time-bound manner.
(3) You shall install methane detector systems at appropriate locations and take fire preventive measures at the dump sites.
(4) You shall carry out regular monitoring of the methane at source at the dumpsites till the completion of bio remediations and you shall submit monitoring reports regularly.
(5) You shall maintain the details of dumped waste at SLF sites and only segregated inert waste to be permitted for dump at the sanitary landfill sites.
(6) You shall carry out regular monitoring of methane to ensure compliance with lower explosive limit in accordance and you shall submit the monitoring report regularly.
(7) You shall take necessary effective steps towards installation of gas collection and utilization for energy / flaring of methane as per the provisions of the SWM Rules, 2016.
(8) You shall install the leakage detection and repair system at SLF and preventive maintenance of the methane collection and utilization shall be carried out to ensure concentration of methane gas generated shall not be exceed 25% of lower explosive limit as stipulated in Schedule -1(F) (ii) of SWM Rules, 2016.
(9) You shall initiate the biomining of waste dumped during the covid period.
(10) You shall install solid waste processing plant in tune to treat 100% waste generated in your entire jurisdictions.
(11) You shall submit the Bank Guarantee of Rs.2,00,000/- (Two Lakh Only) towards compliance of the above directions within 15 days in favour of Regional Officer, M.P.C. Board, Pune.

You shall submit the time bound action plan towards compliance of the above directions and the recommendations by the committee in the Hon'ble NGT matter within 15 days, in case you fail to comply with the same the Board will have no option to initiate further legal action on as deemed fit against the corporation, which may please be noted.

For and on behalf of
Maharashtra Pollution Control Board

(J. S. Salunkhe)
Regional Officer, Pune

Copy submitted for information to :-
1. The Commissioner, Pimpri Chinchwad Municipal Corporation, Pimpri, Pune.
2. Joint Director (APC), MPCB, Mumbai
3. Law Officer, MPCB, Mumbai.

Copy to : The Sub-Regional Officer, M.P.C. Board, Pimpri Chinchwad : **You shall verify the compliance of above directions and submit the report.**

Action Taken Report

SUBMITTED

IN COMPLIANCE TO HON'BLE NGT ORDER DATED 19.03.2024 & 27.09.2024 IN THE MATTER OF NEWS ITEM TITLED "AHMEDABAD SURAT LANDFILLS AMONG WORST THREE METHANE HOTSPOTS IN INDIA" APPEARING IN THE TIMES OF INDIA DATED 07.02.2024

ORIGINAL APPLICATION NO. 247/2024

INDEX

ACTION TAKEN REPORT

1. BACKGROUND

A. Hon'ble NGT vide order dated 19.3.2024 in O.A No. 247/2024 registered suo-motu on the basis of a News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024. The news item highlighted emission of high-level methane gas emission sources by Indian Institute of Remote Sensing, Indian Space Research Organization (IIRS, ISRO), Dehradun in 04 states covering 12 cities viz Maharashtra (Central Mumbai, Pune & Kalyan), Gujarat (Ahmedabad & Surat), Rajasthan (Barmer, Jaisalmer, Taranagar & Chirawa). In the order Hon'ble NGT directed in para 5, 6 and 7 are reproduced below:

- **Para 5** "*for the purpose of submitting factual report we constitute a Joint Committee comprising a Senior Officer to be nominated by Member Secretary, Central Pollution Control Board (hereinafter referred to as CPCB,) concerned Regional Officers of respective State Pollution Control Boards, a representative of ISRO to be nominated by Director and a Senior Scientist nominated by Ministry of Environment, Forest and Climate Change (hereinafter referred to as MoEF & CC)*"
- **Para 6** "*CPCB shall be the nodal for coordination and compliance.*"
- **Para 7** "*The said committee shall collect relevant factual information: if necessary, visit the sites and submit factual report particularly relating to compliance of such sites with Schedule I of Solid Waste Management Rules, 2016 (herein after referred to as MSW Rules, 2016) and remedial measures taken on Para (F) of the said Schedule within three months by email at judicial–ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF.*
- *The report should also give status of Authorization granted by State Pollution Control Board, accumulation of waste in quantified terms on sites in question and ambient air quality monitoring data around these sites as per MSW Rules, 2016. the Committee may also indicate mitigation measures taken for reduction in organic emissions, including methane from ONGC sites separating them from landfill sites as the case may be.*"

B. In response to this, several meetings of committee members were held through video conferencing (VC) where further line of action was discussed and formats were shared by the CPCB to provide the relevant information. There are two landfill sites namely Chirawa (District Jhunjhunu) & Taranagar (District Churu) which comes under the jurisdiction of this office. The given formats were filled and the GPS location of the aforementioned sites were sent to the CPCB in order to identify if the GPS coordinates were close to the hotspots as per the IIRS report.

C. Following are the excerpts from Joint Committee Report related to MSW sites that fall under the jurisdiction of Regional Office, Jhunjhunu:

a) GPS coordinates: The GPS location of the hotspots of methane generation in the IIRS report was compared with the GPS location of the dumpsites in the particular cities provided by Regional Office, Jhunjhunu and it was concluded that it is close to the hotspots as per the IIRS report.

City	Primary Emission Sources	Average methane emission (kg/hr)	Coordinates	Dumpsites/ SLFs/O&G Sites	Coordinates	Corresponding Closest sites	Remarks
Chirawa	SW Dumping Chirawa, Jhunjhunu	478	28.26 75.64	Baghniya Johar	28.26, 75.64	Baghniya Johar	Coordinates are nearby
Taranagar	SW Bhootiya Taranagar	589	28.65 75.07	Alagla Road, Bhootiya	28.6656, 75.0247	Alagla Road, Bhootiya	Coordinates are nearby

b) Detailed assessment in compliance with NGT Directions:

IIRS, ISRO Site				Data provided by RO Jhunjhunu									
State	**City**	**Place of Dumpsites**	**IIRS ISRO, Average methane Emission kg/hr.**	**Location of Site (Lat., long.)**	**Biomining Status (Not initiated/Commenced/ Completed)**	**Age (Years) & Avg. height (m) of Dumpsite**	**Volume of Waste in the dumpsites**	**No. of fires reported & cause of fire**	**Provision for gas collection System**	**Ambient Air Quality Monito ring**	**Provision for leachate Collection & treatment**	**Provision for Methan e Detector (Y/N)**	**Disposal of fresh waste (Y/N)**
Rajasthan	**Chirawa**	Chirawa	478	28.261, 75.639	Commenced	39 years & 3.3-6.1 m	0.81118 Cum (0.68951 Lakh MT)	7 small fires due to flammable material	No	No	No	No	Yes
	Taranagar	Taranagar	589	28.665, 75.02	Not initiated	20 Years & 6 m	0.12045 Lakh Cum (0.10630 Lakh MT)	None	No	No	No	No	Yes

c) City & site-wise compiled information:

a) There are two dumpsites (one in Chirawa and another in Taranagar).

b) There is a 44% gap in solid waste management in Chirawa & 100% gap in Taranagar. Fresh waste is being dumped at both dumpsites i.e. Chirawa and Taranagar.

c) Biomining has not been initiated at Taranagar.

d) Bio mining has been started at Baghania, Johar dumpsite in Chirawa on May 2024 & proposed to be completed by July 2025. Seven small fire incidents have been reported during last 5 years due to flammable material at Chirawa dumpsite.

e) Ambient air quality monitoring is not being carried out at both dumpsites of Chirawa and Taranagar.

f) On-site monitoring of methane emissions is not done at dumpsites of both cities.

A. Solid Waste Management Status		
	Particulars	**Details**
1	Name of City	Chirawa, Jhunjhunu, Rajasthan
2	Population of City	43953 (As per 2011 census)
3	Quantity of Waste Generated	18 TPD
5	Quantity of Waste Collected	16 TPD
6	Quantity of waste segregated	9 TPD
7	Quantity of waste processed	56% (Collection Vs Segregation)
8	% Gap in Solid waste management	44%
B. Status of legacy waste Biomining		
1	No, of Dumpsites	01, Baghania, Johar (28.261, 75.639)
2	Age & Height of dumpsites	Age is 39 years & Height 20 Feet (approx.)
3	Volume of waste accumulated at the dumpsite	81118 Cum (68,951 tonnes)
4	Biomining Started/ Completed	Biomining started on May 2024
5	Area cleared & use of reclaimed land	10,000 Cum cleared
6	Quantity of waste processed per day	900 TPD

7	Proposed plan for completion of biomining	July 2025
8	Leachate management	No Leachate management
9	No. of Fire incidents & reasons thereof	7 small fire incidents reported due to flammable material
10	Ambient air quality monitoring	Air quality not monitored
11	Methane gas measurement and mitigation measures adopted	No
C. Status of sanitary landfill		
1	No. of SLF	No Sanitary Landfill Site (SLF) at Chirawa

A. Solid Waste Management Status		
	Particulars	**Details**
1	Name of City	**Taranagar, Churu, Rajasthan**
2	Population of City	32640
3	Quantity of Waste Generated	11 TPD
5	Quantity of Waste Collected	9 TPD
6	Quantity of waste segregated	-
7	Quantity of waste processed	Nil
8	% Gap in Solid waste management	100% (All fresh waste is being dumped)
B. Status of legacy waste Biomining		
1	No, of Dumpsites	01, Alasla road, Bhootiya village (28.665, 75.024)
2	Age & Height of dumpsites	20 years & Average height is 6 m
3	Volume of waste accumulated at the dumpsite	12045 Cum (10,630 Tonnes)
4	Biomining Started/ Completed	Proposed to be started after August ,2024

5	Area cleared & use of reclaimed land	NA
6	Quantity of waste processed per day	NA
7	Proposed plan for completion of biomining	NA
8	Leachate management	Not done
9	No. of Fire incidents & reasons thereof	None
10	Ambient air quality monitoring	No
11	Methane gas measurement and mitigation measures adopted	No
C. Status of sanitary landfill		
1	No. of SLF	No Sanitary Landfill Site (SLF) at Taranagar

d) Observations:

a) Chirawa

i. There is a 44% gap in solid waste management in Chirawa.

ii. Biomining has been started at Baghania, Johar dumpsite on May 2024 & proposed to be completed by July 2025.

iii. Seven small fire incidents have been reported during last 5 years due to flammable material.

iv. Fresh waste is being dumped at dumpsite.

v. Remediation of legacy waste at Baghania, dumpsite, Chirawa has been started but all necessary process including conducting a baseline survey, ensuring waste stabilization and implementing bio-culture and aeration before processing the waste is not being followed.

vi. Ambient air quality monitoring is not being carried out at dumpsite.

vii. On-site monitoring of methane emissions is not done.

viii. There is no SLF at Chirawa.

b) Taranagar

i. There is no processing of solid waste in Taranagar and 100% fresh waste is being dumped at the dumpsite.

ii. Biomining proposed to be started after August 2024.

iii. Fire incidents have not been reported during last 5 years in Taranagar.

iv. Ambient air quality monitoring is not being carried out at dumpsite.

v. On-site monitoring of methane emissions is not done.

vi. There is no SLF at Taranagar.

D. Thereafter, Hon'ble NGT vide order dated 27.09.2024 has directed the following:

- *"Learned Counsel for Respondent No. 2-CPCB, Respondent No. 3- Maharashtra Pollution Control Board, Respondent No. 4- Gujarat Pollution Control Board and Respondent No. 8- State of Gujarat and Respondent No.5-Rajasthan Pollution Control Board seek time for filing of action taken reports. The same be filed at least one week before the next date of hearing fixed."*

E. In compliance to above-mentioned order dated 27.09.2024, action taken report is being submitted by Regional Office, Jhunjhunu.

2. ACTION INITIATED BY RPCB, RO JHUNJHUNU

A. Letter to Nagar Palika, Taranagar, & Nagar Palika, Chirawa

As per directions by Hon'ble NGT vide order dated 19.3.2024 regarding "*compliance of sites with Schedule I of Solid Waste Management 2 Rules, 2016 (hereinafter referred to as 'MSW Rules, 2016')"* a letter dated 23.05.2024 was issued to physically submit the action taken till date by the concerned Nagar Palikas in compliance of SWM Rules, 2016 (**Annexure A**) to which replies were submitted dated 28.05.2024 (**Annexure B-1 & Annexure B-2**), respectively.

B. Letter to director, DLB

Letter to the Director of DLB was issued requesting to direct the concerned ULBs to ensure the compliances of MSW Rules, 2016 and to apply for Environmental Clearance, if applicable. (**Annexure- C**)

C. Inspection of MSW Sites:

The Municipal Solid Waste (MSW) sites of Chirawa (Jhunjhunu district), Jhunjhunu, and Taranagar (Churu district) were inspected on 25.06.2024 by officials from the Pollution Control Board, Regional Office, Jhunjhunu to assess compliance with waste management regulations.

During the visit of dump site of Nagar Palika Chirawa, municipal solid waste (MSW) it was observed that segregation and processing at the dump site were temporarily halted due to the expiration of the previous tender. A new tender was informed to be allotted soon. Approximately 16 MT of solid waste per day was collected from the Chirawa Nagarpalika area is being dumped at this site as informed by the representative (latitude 28.263946, longitude 75.640626). Local bodies headquarters, Jaipur gave work order to

M/s. M.K.G. Computers, dated 22.09.2023 for Chirawa Nagar Palika, for the processing and disposal of legacy waste. The contacted representative informed that approximately 900 MT of legacy waste per day was being processed. During the visit, fresh municipal solid waste was observed dumped in heaps on one portion of the total land, separated from the legacy waste. No stagnation of leachate noticed at the dumpsite. According to the individual in charge of the site for the purpose of biomining of legacy waste, no leachate was generated due to the high temperatures observed in this region. However, no leachate management was adopted. Powdered culture was informed to be mist-sprayed for stabilization. RDF material was found segregated and informed to be sent to M/s Green Gene Recyclers Pvt. Ltd., Chittorgarh, Rajasthan. No records of quantity of RDF waste sent was provided during inspection. No fire incidents were noted during the inspection. However, the unit was instructed to take necessary precautions to prevent fires and to provide fire safety equipment on a permanent basis, as per CPCB guidelines. The unit has also been instructed to develop a sanitary landfill site and a bio-composting site at the earliest.

The dump site of Nagar Palika Taranagar was also inspected on June 25, 2024. During the visit, municipal solid waste (MSW) segregation and processing at the dump site was not carried out. Approximately 11 MT of solid waste per day was collected from the Taranagar Nagarpalika area was being dumped at this site as informed by the representative (latitude 28.654262, longitude 75.069032). Local bodies headquarters, Jaipur gave work order to M/s. M.K.G. Computers, dated 22.09.2023 for Taranagar Nagar Palika, for the processing and disposal of legacy waste. Bio-mining was not yet started. No stagnation of leachate noticed at the dumpsite. According to the individual in charge of the site for the purpose of biomining of legacy waste, no leachate was generated due to the high temperatures observed in this region. However, no leachate management was adopted. The dumpsite had wall on one side; however, the remaining sides remained open. However, the waste was even found outside the wall boundary. During the visit, fresh municipal solid waste was observed dumped on one portion of the total land, separated from the legacy waste. No fire incidents were noted during the inspection. However, the unit was instructed to take necessary precautions to prevent fires and to provide fire safety equipment on a permanent basis, as per CPCB guidelines. The unit has also instructed to develop a sanitary landfill site and a bio-composting site at the earliest.

D. Issuance of Show Cause Notices:

Based on the inspection findings, Show Cause Notices highlighting deficiencies and non-compliance issues were issued to the concerned Nagar Palikas. The notices were issued vide letters dated 02.07.2024. Copies of the notices are attached as **Annexure D-1** and **Annexure D-2**.

E. Submission of Replies to Show Cause Notices:

The concerned Nagar Palikas submitted their replies to the Show Cause Notices where they requested provide additional time to ensure compliance. The responses were received via letters dated 22.07.2024 and 31.07.2024, respectively.

F. Ambient Air Quality Monitoring:

Ambient Air Quality Monitoring was conducted at the MSW dumpsites. The analysis reports of the air samples collected are attached as **Annexure E-1** and **Annexure E-2**.

G. Present Status Report and Compliance Action Plan:

The concerned Nagar Palikas were directed to submit a Present Status Report on the observed deficiencies from the site inspections and the non-compliances noted in the Joint Committee Report (**Annexure F-1** & **Annexure F-2**, respectively).
The report shall include detailed corrective actions taken, supporting evidence, and an updated compliance plan with timelines for achieving full compliance.

(Sudheer Yadav)
Regional Officer
RSPCB, Jhunjhunu

Annexure-A

क्षेत्रीय कार्यालय
REGIONAL OFFICE
Ph.- 01592-295461
राजस्थान राज्य प्रदूषण नियंत्रण मण्डल, झुंझुनूं
RAJASTHAN STATE POLLUTION CONTROL BOARD, JHUNJHUNU
Email:-rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in

क्रमांक: रा.प्र.नि.म./क्षे.का./झुन्झुनूं/[redacted]/811-818 दिनांक 23/05/2024

1. अधिशाषी अधिकारी,
   नगरपालिका,
   तारानगर, जिला – चुरू।
2. अधिशाषी अधिकारी,
   नगरपालिका,
   चिड़ावा, जिला – झुन्झुनूं।

विषयः– माननीय राष्ट्रीय हरित प्राधिकरण के आदेश दिनांक 19.03.2024, ओ.एं. संख्या 247/2024 (मुख्य पीठ), सुओ मोटो के क्रम में।
सन्दर्भः– मुख्यालय का पत्र दिनांक 23.05.2024 के क्रम में।

महोदय,

उपरोक्त विषयान्तर्गत लेख है कि, माननीय राष्ट्रीय हरित प्राधिकरण द्वारा दिनांक 19.03.2024 के आदेश के क्रम में एक संयुक्त जांच दल का गठन किया है। यह जांच दल तारानगर एवं चिड़ावा में स्थित लैंडफिल साईटस से निकलने वाली जहरीली मीथेन गैस की वस्तु स्थिति एवं इससे सम्बधित अन्य तथ्यों यथा सम्बन्धित नगरपालिका द्वारा उक्त साईट की राज्य मण्डल से प्राधिकार सम्मति, लैंडफिल साईट पर जमा अपशिष्ट पदार्थ की मात्रा एवं ठोस अपशिष्ट प्रबन्धन नियम, 2016 की अनुपालना में किये गये कार्यो की सूचना इत्यादि शामिल है, की जांच करेगा।

उक्त जांच दल को अपनी रिपोर्ट आदेश दिनांक से 2 माह के भीतर प्रस्तुत करनी है। अतः उपरोक्त तथ्यों ध्यान में रखते हुये आपसे अनुरोध है कि, आप तारानगर, जिला – चुरू एवं चिड़ावा, जिला – झुन्झुनूं में ठोस अपशिष्ट प्रबन्धन नियम, 2016 के अन्तर्गत आप द्वारा आज दिनांक तक किये गये कार्यो की पालना रिपोर्ट दिनांक 28.05.2024 को सायं 04:00 बजे इस कार्यालय में लेकर उपस्थित होना सुनिश्चित करे।

पालनार्थ प्रेषित है।

भवदीय

(दीपक धनेटवाल)
क्षेत्रीय अधिकारी

प्रतिलिपि सूचनार्थ प्रेषित है:–

1. सदस्य सचिव, राजस्थान राज्य प्रदूषण नियंत्रण मण्डल, जयपुर।
2. जिला कलक्टर, झुन्झुनूं/चुरू।
3. सुश्री सुनिती पराशर, वैज्ञानिक– C केन्द्रीय प्रदूषण नियंत्रण मण्डल, दिल्ली।
4. सुश्री मीनल पूनियां/श्री सौरभ कुमार, कनिष्ठ पर्यावरण अभियंता को उक्त प्रकरण में इस कार्यालय स्तर पर समस्त सूचना संकलन एवं रिपोर्ट बनाने हेतु नोडल अधिकारी नियुक्त किया जाता है।

क्षेत्रीय अधिकारी

Annexure-B1

कार्यालय नगरपालिका मण्डल तारानगर (चूरू) राज.

Office Telephone No. 01561-240245, E-mail- eotrn2009@gmail.com

क्रमांक / न.पा.ता. / 2024–25 / 553 दिनांक :– 28.05.2024

श्रीमान् क्षेत्रीय अधिकारी महोदय,
राजस्थान राज्य प्रदूषण नियंत्रण मण्डल
झून्झूनू।

विषय :– माननीय राष्ट्रीय हरित प्राधिकरण के आदेश दिनांक 19.03.2024, ओ.ए. संख्या 247 / 2024 (मुख्य पीठ), सुओ मोटो के क्रम में।

प्रसंग :– श्रीमान्जी के पत्रांक 811 दिनांक 23.05.2024 के क्रम में।

महोदय,

उपरोक्त प्रासांगिक विषयान्तर्गत निवेदन है, कि आप द्वारा चाही गई वांछित सूचना बिन्दूवार निम्न प्रकार तैयार कर श्रीमान्जी की सेवामें सादर् प्रेषित है :–

1. लिगेसी वेस्ट :– एमकेजी कम्प्यूटरर्स कम्पनी द्वारा जनवरी 2024 में लिगेसी वेस्ट का सर्वे किया गया जिसमें लिगेसी वेस्ट की मात्रा 12045.023 क्यूबिक मीटर प्राप्त हुई है जिसका निस्तारण कार्य जून 2024 तक कम्पनी द्वारा किये जाने की अभिशंषा की गई है।

2. प्रोसेसिग प्लाट :– एमआरएफ : एमआरएफ की क्षमता 8.00 टन प्रति दिन है। प्लांट पर कुल 3 मशीने उपस्थित है 1. श्रेडिग मशीन, 2. बॉलिंग मशीन, 3. फटका मशीन।
जिसका संचालन हेतु डेमो एनसोल कम्पनी द्वारा किया जा चुका है तथा पालिका स्वय के स्तर पर रेगपीकरर्स के माध्यम से सेग्रीगेशन का कार्य किया जा रहा है तथा उक्त मशीनो के संचालन हेतु निविदा प्रक्रिया लोकसभा आम चुनाव की आदर्श आचार संहिता प्रभावी होने के कारण संचालन नहीं हो सका जिसे अगले माह तक निविदा प्रक्रिया पूर्ण करते हुवे कार्य शुरू करवा दिया जायेगा।

3. एफएसटीपी :– एफएसटीपी की क्षमता 25 केएलडी है एफएसटीपी के निर्माण कार्य एमवीआर कम्पनी द्वारा किया जा रहा है जो प्रक्रियाधीन है जिसे शीघ्र ही पूर्ण करवाकर कार्य शुरू कर दिया जायेगा।

4. डोर–टू–डोर : राज वेस्ट कम्पनी द्वारा पालिका क्षेत्र के समस्त वार्डो में नियमित डोर – टू–डोर के माध्यम से कचरा संग्रहण किया जा रहा है।

5. सीवरेज : पालिका द्वारा सीवरेज के लिए डीपीआर तैयार कर निदेशालय को स्वीकृति हेतु भिजवाई हुई है स्वीकृति पश्चात् शीघ्र ही कार्य शुरू करवा दिया जायेगा।

6. कचरा संग्रहण भूमि – पालिका की कचरा संग्रहण भूमि शहर से 3 किलोमीटर दूर अलायला रोड़ पर 10 बीघा (25292.8 वर्गमीटर) है।

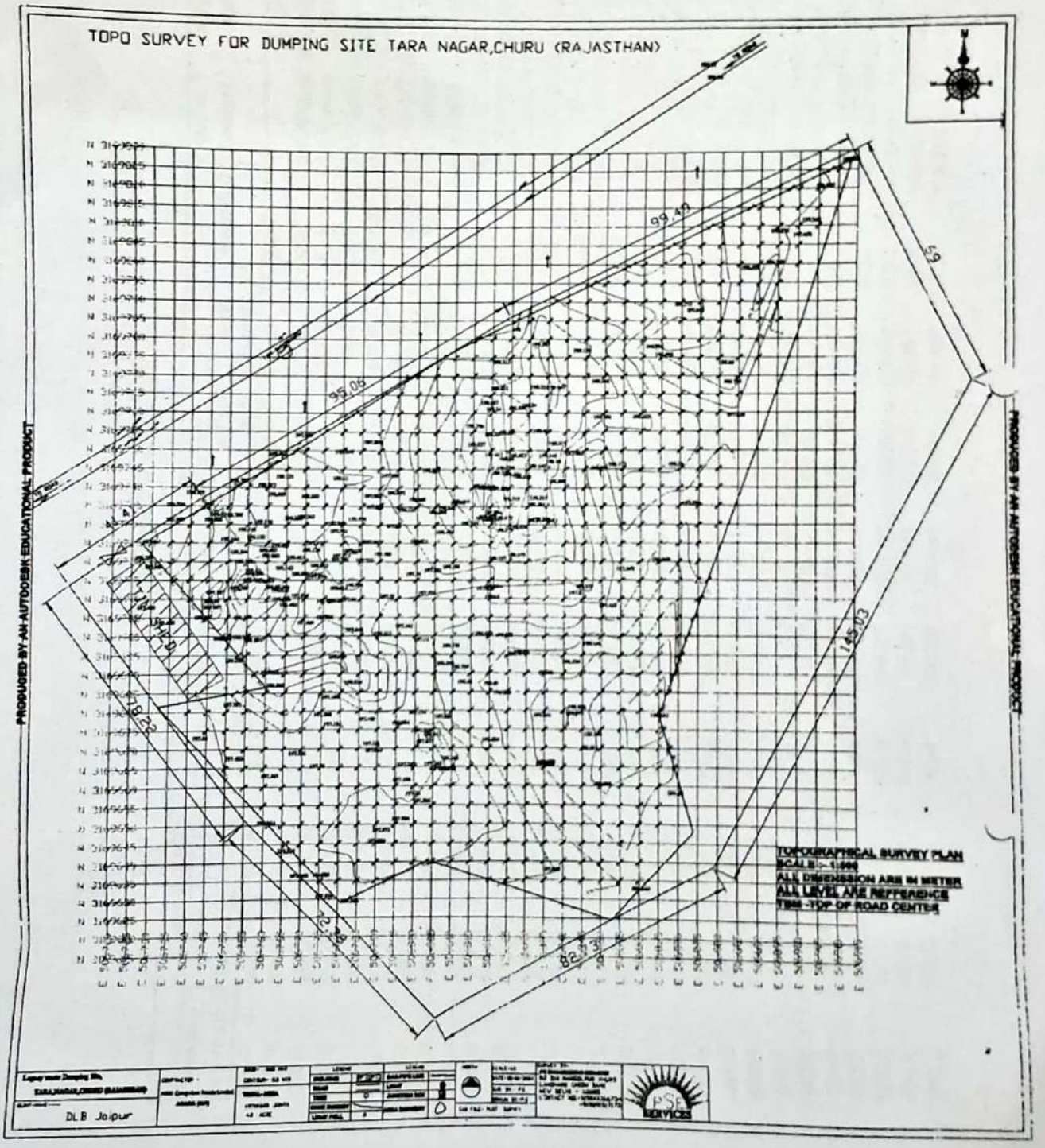
(अजय प्रताप सिंह)
अधिशाषी अधिकारी
नगरपालिका तारानगर

Signature valid

RajKaj Ref
7552738

Digitally signed by Ajay Partap Singh
Designation : Executive Officer
Date: 2024.05.28 12:14:14 IST
Reason: Approved

Latter 2024

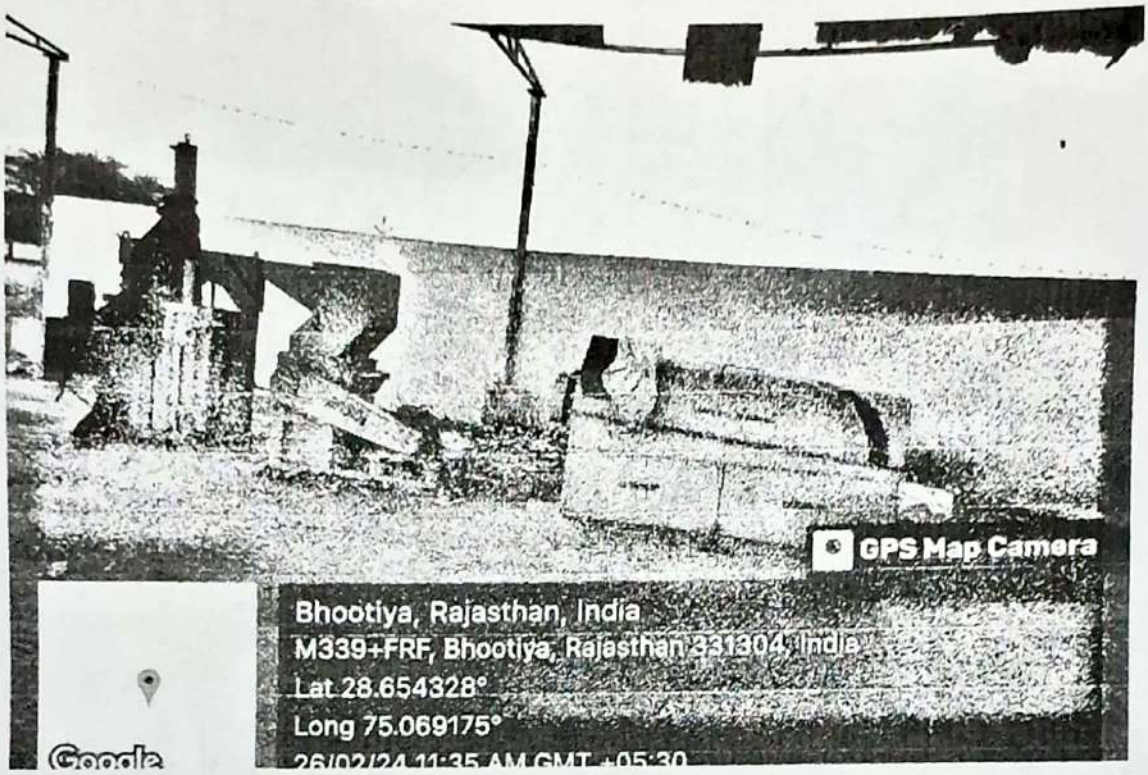


Taranagar Volume Report

Sl. No.	Section From	Previous Section	Difference	Cutting Volume					Filling Volume				
				Area Sq. Meters	Previous Area	Average Sq. Meters	Volume Cubic Meters	Area Sq. Meters	Previous Area	Average Sq. Meters	Volume Cubic Meters
1	3169630.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	3169635.000	3169630.000	5.000	4.062	0.000	2.031	10.155	14.744	0.000	7.372	0.000
3	3169640.000	3169635.000	5.000	16.139	4.062	10.101	50.503	15.228	14.744	14.986	0.000
4	3169645.000	3169640.000	5.000	27.851	16.139	21.995	109.975	21.226	15.228	18.227	0.000
5	3169650.000	3169645.000	5.000	29.396	27.851	28.624	143.118	32.625	21.226	26.926	0.000
6	3169655.000	3169650.000	5.000	26.485	29.396	27.941	139.703	39.251	32.625	35.938	0.000
7	3169660.000	3169655.000	5.000	19.679	26.485	23.082	115.410	46.939	39.251	43.095	0.000
8	3169665.000	3169660.000	5.000	12.641	19.679	16.160	80.800	62.800	46.939	54.870	0.000
9	3169670.000	3169665.000	5.000	12.111	12.641	12.376	61.880	70.885	62.800	66.843	0.000
10	3169675.000	3169670.000	5.000	13.516	12.111	12.814	64.068	72.741	70.885	71.813	0.000
11	3169680.000	3169675.000	5.000	21.089	13.516	17.303	86.513	77.816	72.741	75.279	0.000
12	3169685.000	3169680.000	5.000	40.915	21.089	31.002	155.010	77.001	77.816	77.409	0.000
13	3169690.000	3169685.000	5.000	57.175	40.915	49.045	245.225	69.010	77.001	73.006	0.000
14	3169695.000	3169690.000	5.000	60.930	57.175	59.053	295.263	57.186	69.010	63.098	0.000
15	3169700.000	3169695.000	5.000	46.212	60.930	53.571	267.855	39.808	57.186	48.497	0.000
16	3169705.000	3169700.000	5.000	52.368	46.212	49.290	246.450	17.521	39.808	28.665	0.000
17	3169710.000	3169705.000	5.000	78.491	52.368	65.430	327.148	11.906	17.521	14.714	0.000
18	3169715.000	3169710.000	5.000	106.957	78.491	92.724	463.620	8.800	11.906	10.353	0.000
19	3169720.000	3169715.000	5.000	117.180	106.957	112.069	560.343	5.305	8.800	7.053	0.000
20	3169725.000	3169720.000	5.000	128.963	117.180	123.072	615.358	2.468	5.305	3.887	0.000
21	3169730.000	3169725.000	5.000	140.645	128.963	134.804	674.020	0.362	2.468	1.415	0.000
22	3169735.000	3169730.000	5.000	149.945	140.645	145.295	726.475	0.000	0.362	0.181	0.000
23	3169740.000	3169735.000	5.000	140.904	149.945	145.425	727.123	0.100	0.000	0.050	0.000
24	3169745.000	3169740.000	5.000	143.627	140.904	142.266	711.328	0.000	0.100	0.050	0.000
25	3169750.000	3169745.000	5.000	147.329	143.627	145.478	727.390	0.000	0.000	0.000	0.000
26	3169755.000	3169750.000	5.000	154.935	147.329	151.132	755.660	0.000	0.000	0.000	0.000
27	3169760.000	3169755.000	5.000	145.938	154.935	150.437	752.183	0.000	0.000	0.000	0.000
28	3169765.000	3169760.000	5.000	134.440	145.938	140.189	700.945	0.000	0.000	0.000	0.000

Taranagar Volume Report

Sl. No.	Section From	Previous Section	Difference	Cutting Volume				Filling Volume			
				Area Sq. Meters	Previous Area	Average Sq. Meters	Volume Cubic Meters	Area Sq. Meters	Previous Area	Average Sq. Meters	Volume Cubic Meters
29	3169770.000	3169765.000	5.000	112.657	134.440	123.549	617.743	3.538	0.000	1.769	0.000
30	3169775.000	3169770.000	5.000	86.244	112.657	99.451	497.253	7.529	3.538	5.534	0.000
31	3169780.000	3169775.000	5.000	64.945	86.244	75.595	377.973	4.210	7.529	5.870	0.000
32	3169785.000	3169780.000	5.000	56.450	64.945	60.698	303.488	4.744	4.210	4.477	0.000
33	3169790.000	3169785.000	5.000	34.542	56.450	45.496	227.480	5.170	4.744	4.957	0.000
34	3169795.000	3169790.000	5.000	14.632	34.542	24.587	122.935	5.404	5.170	5.287	0.000
35	3169800.000	3169795.000	5.000	6.330	14.632	10.481	52.405	7.271	5.404	6.338	0.000
36	3169805.000	3169800.000	5.000	2.672	6.330	4.501	22.505	6.328	7.271	6.800	0.000
37	3169810.000	3169805.000	5.000	0.528	2.672	1.600	8.000	5.885	6.328	6.107	0.000
38	3169815.000	3169810.000	5.000	0.080	0.528	0.304	1.520	4.199	5.885	5.042	0.000
39	3169820.000	3169815.000	5.000	0.000	0.080	0.040	0.200	1.800	4.199	3.000	0.000
40	3169825.000	3169820.000	5.000	0.000	0.000	0.000	0.000	0.160	1.800	0.980	0.000
41	3169827.568	3169825.000	2.568	0.000	0.000	0.000	0.000	0.000	0.160	0.080	0.000
				Total		TOTAL	12045.023 CUM				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M339+FRF, Bhootiya, Rajasthan 331304, India
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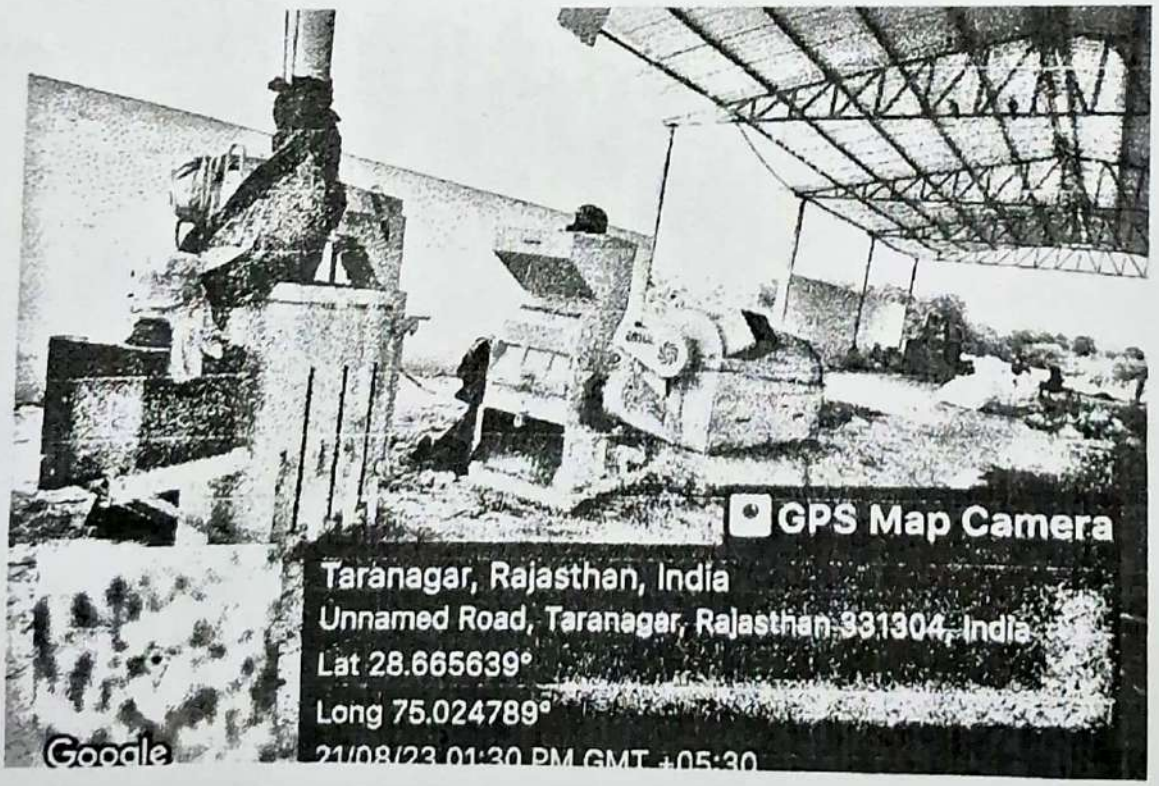
Long 75.069175°
26/02/24 11:35 AM GMT +05:30
Google


GPS Map Camera
Taranagar, Rajasthan, India
Unnamed Road, Taranagar, Rajasthan 331304, India
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Long 75.024789°
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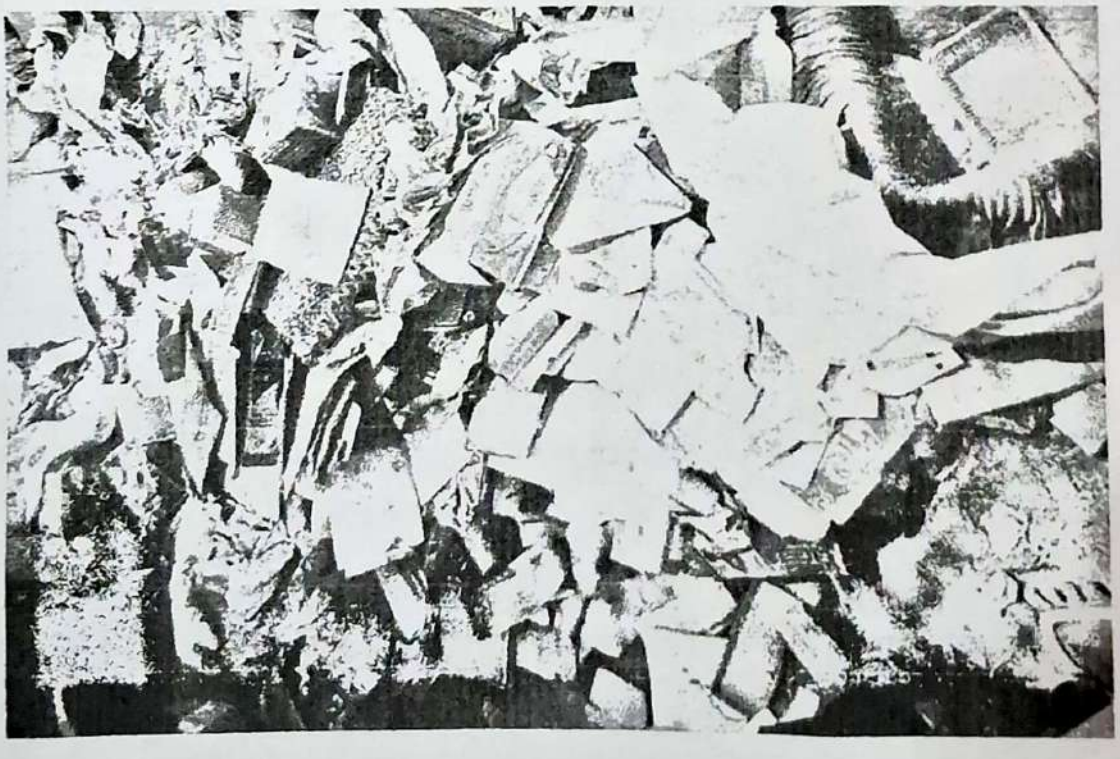
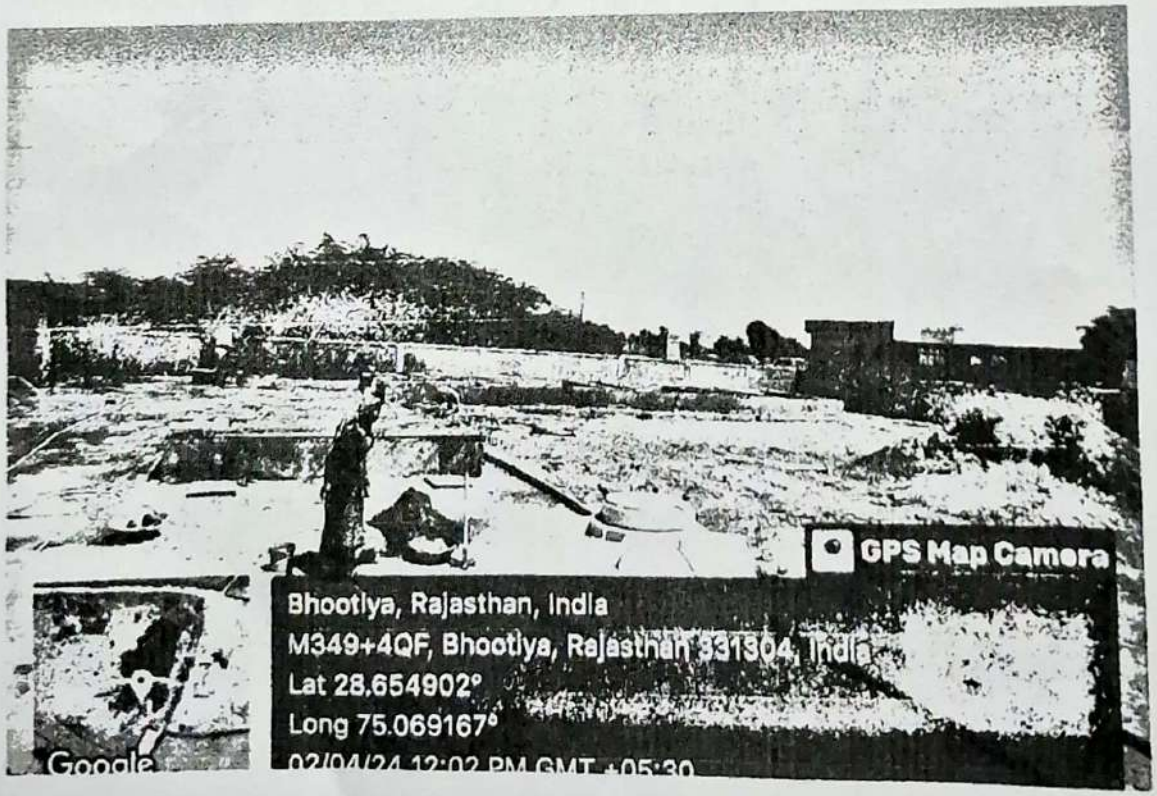
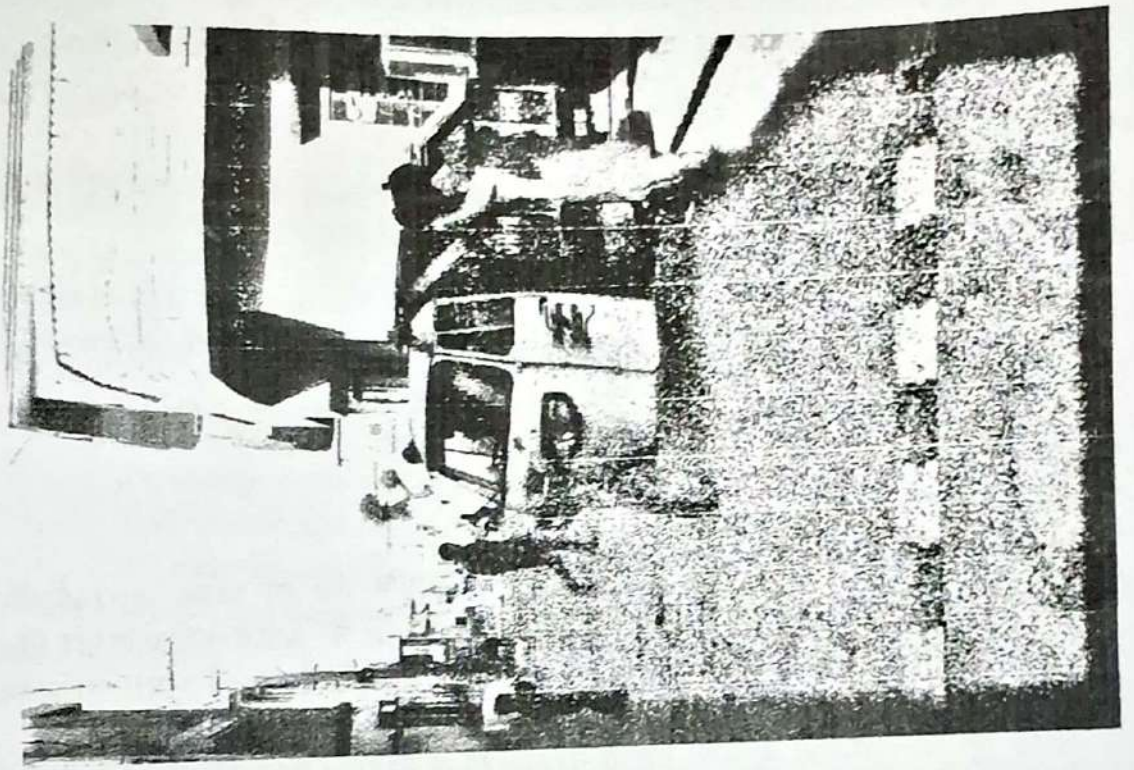
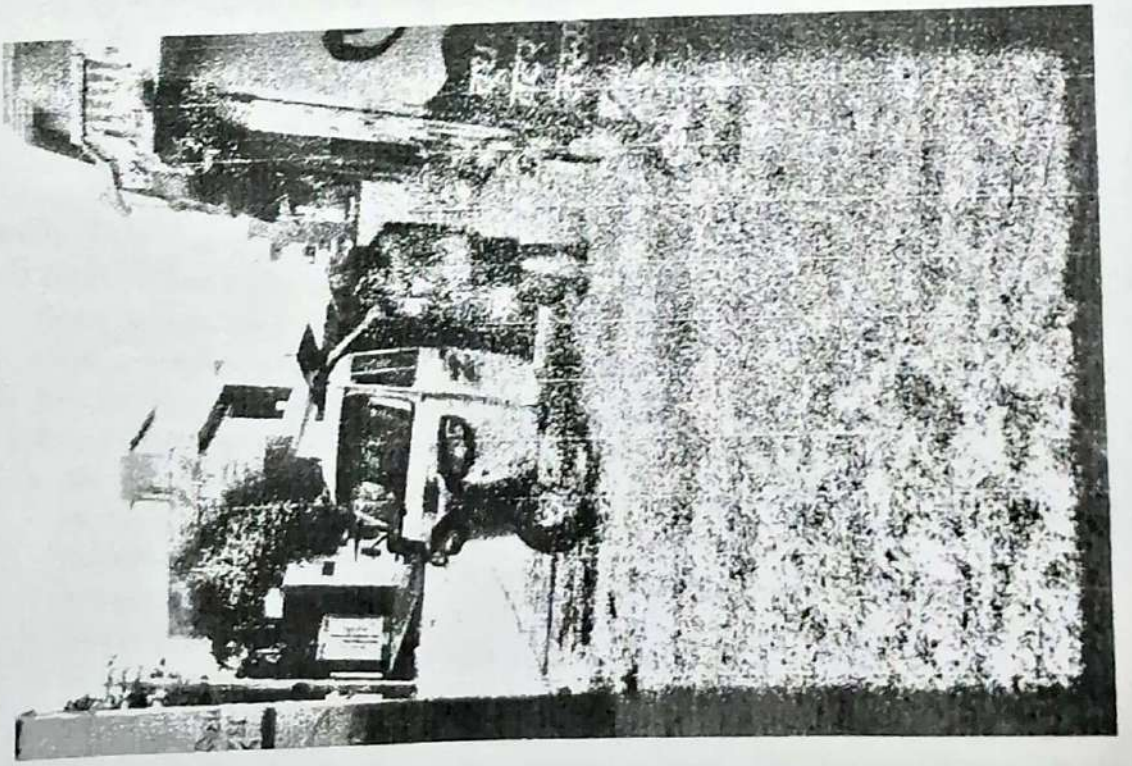
Google




GPS Map Camera
Taranagar, Rajasthan, India
M29X+5RR, Taranagar, Rajasthan 331304, India
Lat 28.668075°
Long 75.049615°
15/03/24 12:17 PM GMT +05:30
Google


GPS Map Camera
Bhootiya, Rajasthan, India
M349+4QF, Bhootiya, Rajasthan 331304, India
Lat 28.654902°
Long 75.069167°
02/04/24 12:02 PM GMT +05:30
Google





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Annexure-B-2

कार्यालय नगर पालिका मण्डल चिड़ावा (झुंझुनू)
Ph. 01596-220430, 220040 Email- nagarpalika.chirawa@gmail.com

कमांक :नपाचि/2024–2025/258 दिनांक :- 28/05/24

श्रीमान क्षेत्रीय अधिकारी
राजस्थान राज्य प्रदुषण नियंत्रण मण्डल
झुंझुनूं (राज.)

विषय :– ठोस कचरा प्रबंधन की पालना रिपोर्ट के संबध में ।
प्रसंग :– आपका पत्र क्रमांक रा.प्र.नि.म./क्षे.का./झुंझुनूं/विधि–45/811–818 दिनांक 23.05.2024 के क्रम में ।

महोदय,

उपरोक्त विषयान्तर्गत नगरपालिका चिड़ावा द्वारा पिलानी रोड़ पर खसरा सं. 135 में 7200 वर्गमीटर में Dumping Yards स्थित है। उक्त Dumping Yards में MRF+COMPOST Plant हेतु स्वायत्त शासन विभाग के कार्यादेश क्रमांक 27911 दिनांक 13-03-2024 द्वारा में MRF+RDF का कार्य शीघ्र प्रारम्भ किया जा रहा है।

इससे पूर्व नगरपालिका के उक्त खसरा संख्या 135 में 34718 CUM लिगेसी वेस्ट के निस्तारण का कार्य स्वायत्त शासन विभाग के कार्यादेश क्रमांक 106698 दिनांक 22-09-2023 के अन्तर्गत किया जा रहा है । जिसके अन्तर्गत वर्तमान में 10,000 CUM कचरे का निस्तारण किया जा चुका है।

अधिशाषी अधिकारी
नगरपालिका चिड़ावा

Annexure-C

क्षेत्रीय कार्यालय
REGIONAL OFFICE
राजस्थान राज्य प्रदूषण नियंत्रण मण्डल, झुंझुनूं
RAJASTHAN STATE POLLUTION CONTROL BOARD, JHUNJHUNU
Email:-rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in

RPCB/ROJJN/Legal-45/ 961-962 Date:- 30/05/2024

Director
Department of Local Bodies (DLB)
Jaipur

Sub: - Regarding Hon'ble NGT Case (PB) OA No. 247/2024, News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024
Ref.: Hon'ble NGT Order dated 19.03.2024

Sir,

In reference to above subject matter, it is to inform you that, as per the survey conducted by ISRO and News article published in TOI dated 07.02.2024, it has been observed that solid waste dump sites of Taranagar (Churu) and Chirawa (Jhunjhunu) comes under methane gas emission hotspot and taking suo moto cognizance to this Hon'ble NGT vide its order dated 19.03.2024 has constituted a joint team comprised of senior members as mentioned in enclosed order. Also, Hon'ble NGT has asked the concerned authorities to ensure the compliances of Municipal Solid Waste Management Rules (MSW) 2016 which includes authorization from State Board for development of land fill sites and other such facilities at the proposed site.

In reference to this, show cause notice(s) have been issued to the ULB's of Jhunjhunu and Churu District to apply for Environmental Clearnce, wherever applicable and to obtain necessary consent from State Board. By enclosing the copy of notices issued to theses ULB's, you are hereby kindly requestd to direct the concern ULB's to ensure the compliances of the MSW Rules 2016 and to apply EC (if applicable), so that same may be submitted to Hon'ble NGT before the next date of hearing.

Regards

Sincerely,

Enclosed: As above

(Deepak Dhanetwal)
SEE & Regional Officer O/C

Copy to: Member Secretary, RPCB, Jaipur for information please

Regional Officer O/C

राज कॉम्पलेक्स, प्रथम तल, सी.पी. 01/90 फेज–II रीको औद्योगिक क्षेत्र, झुंझुनूं, राजस्थान – 333001
CP-01/90, Raj Complex, First Floor, RIICO Phase-II,Jhunjhunu(Rajasthan)-333001

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Annexure D-1

Regional Office
Rajasthan State Pollution Control Board, Jhunjhunu
Email: - rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in
Ph: -01592-295461

LiFE Lifestyle for Environment

No RPCB/RO-Jhunjhunu/JHU-GEN-06/1426-1427 Date: - 02.07.2024

Executive officer
Nagar Palika Chirawa,
District Jhunjhunu

Sub.:- Show cause notice for intended legal prosecution under section 48 of the Water (Prevention & Control of Pollution) Act, 1974; under section 37 and section 41 of Air (Prevention & Control of Pollution) Act, 1981 and intended directions under section 05 of the Environment Protection Act, 1986.

Ref.: - Inspection of dumpsite located at Bhagniya Johar, Chirawa on 25.06.2024

Sir,

This notice is issued without prejudice to the right of the Rajasthan State Pollution Control Board (hereinafter called as 'the Board') to initiate proceeding under the provisions of the Water (Prevention & Control of Pollution) Act-1974 (hereinafter called as 'the Air Act') for violation of various provisions of these Acts here-in-after shown: -

1. Whereas, the Water (Prevention & Control of Pollution) Act, 1974 (herein after referred to as the "Act") has come into force in whole of State of Rajasthan with effect from 23.03.1974.
2. And whereas, the "Act" is enacted to provide for prevention, control and abatement of water pollution and to carryout aforesaid purpose, the Rajasthan State Pollution Control Board (herein after referred to as the "Board") has been conferred power to take such steps as are deemed necessary for prevention, control and abatement of water pollution,
3. And whereas, the provisions of section 24 of the Act clearly states about prohibition on the use of stream or well or sewer or land for disposal of polluting matters as follows: -
   a. No person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the state Board to enter (whether directly or indirectly) into any stream or well or sewer or on land; or
   b. No person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences,
4. Whereas, the provisions of section 25/26 of the water Act, further states about it

Signature valid
RajKaj Ref 8554266
Digitally signed by Deepak Dhanetwal
Designation : Senior Environmental Engineer
Date: 2024.07.02 16:02:39 IST
Reason: Approved

Regional Office
Rajasthan State Pollution Control Board, Jhunjhunu
Email: - rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in
Ph: -01592-295461

restrictions on outlets and discharges that no person shall **without the previous consent of the State Board -**

a. Establish or to take any steps to establish, any industry, operation or process, or any treatment and disposal system or any extension or addition there to, which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land or
b. Bring into use any new or altered outlet for the discharge of sewage or trade effluent or
c. Begin to make any new discharge of sewage or trade effluent.

5. And whereas, the discharge of sewage /trade effluent without treatment up to the prescribed standards and without consent of the Board is in contravention to the provisions of Water (Prevention & Control of Pollution) Act, 1974.
6. And whereas, the provisions of section 22 of the Air Act clearly states about the prohibition on emissions of air pollutants in excess of the standards, as follows-
   Section 22(1): No person operating any industrial plant, in any air pollution control area, shall emit any air pollutant in excess of the standards laid down by the State Board.
7. And whereas, the provisions of Section 21(1) of the Air Act states that no person shall, **without the previous consent of the State Board**, establish or operate any industrial plant in an air pollution control area.
8. And whereas, the Solid Waste Management Rules, 2016 has come into force in whole of State of Rajasthan with effect from 08.04.2016.
9. In accordance with the Solid Waste Management Rules, 2016, and further amendments, local authorities and village Panchayats of census towns and urban agglomerations which must be adhered to duties and responsibilities as per Rule 15 and Schedule I of the said rules.
10. **And whereas, the provision 15(y) of the Solid Waste Management Rules, 2016, requires the urban local bodies to make an application in Form-I for grant of authorization for setting up waste processing, treatment or disposal facility, if the volume of waste is exceeding five metric tons per day including sanitary landfills from the State Pollution Control Board or the Pollution Control Committee, as the case may be.**
11. And whereas, Hon'ble NGT in its order dated 19.03.2024 in the original application no. 247/2024 has taken Suo-motu cognizance, regarding improper disposal of municipality solid waste & legacy waste, which may result into the formation of methane Hotspot.
12. And whereas, in compliance of Hon'ble NGT order dated 11.01.2019 in the matter of OA no. 606/2018, Central Pollution Control Board (CPCB) has issued guidelines for disposal

Signature valid
Rajkeer 8554266
Digitally signed by Deepak Dhanetwal
Designation : Senior Environmental Engineer
Date: 2024.07.02 15:02:39 IST
Reason: Approved

Regional Office
Rajasthan State Pollution Control Board, Jhunjhunu
Email: - rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in
Ph: -01592-295461

of legacy waste, which shall be adhered to.

13. **And whereas, dumpsite under Nagar Palika, Chirawa located at Bhagniya Johar, Chirawa, was visited by the board officials on 25.06.2024 and following deficiencies were observed:**
    1. **Analysis of various screened fractions, i.e., fine earth/bio-earth, was not carried out prior to its disposal/utilization.**
    2. **Records and documents for the disposal/utilization of RDFs, inerts, and fine earth were not maintained.**
    3. **No standard operating procedure for preventing and managing dumpsite fires was maintained.**
    4. **No fire tender and arrangements for fire extinguishing were observed at the site.**
    5. **No records were maintained of the daily door-to-door collection of fresh waste disposed of at the dumpsite.**
    6. **Segregation of fresh waste is not taking place, and compost pits for the decomposition of biodegradable waste are not in use.**
    7. **An emergency tipping area is not provided to set aside incoming loads of material known to be on fire or suspected of being so.**
    8. **Methane gas detectors are not installed on-site (on the downside).**
    9. **The temperature at the windrows/cones is not monitored using a non-contact infrared thermometer.**
    10. **CCTV cameras are not installed at the site, and the site remains open with no fencing provisions to check unauthorized entries.**
    11. **No plan has been proposed for the development of a sanitary landfill for further disposal of fresh solid waste.**

14. And whereas, above stated violations of the provisions of the solid waste management rules, 2016 and provisions of the Air Act & Water Act have been viewed seriously by the State Board.
15. And therefore, in view of the above non-compliances, under the powers conferred by Section 5 of the Environmental Protection Act, 1986, you are hereby directed to take the suitable actions to rectify the non-compliances observed during the inspection and submit the compliance report of the same within 15 days of the issuance of this notice.
16. And whereas, you have failed to submit a proposal for the development of sanitary

RajKaj Ref. 8534266

Signature valid
Digitally signed by Deepak Dhanetwal
Designation: Senior Environmental Engineer
Date: 2024.07.02 16:02:39 IST
Reason: Approved

Regional Office
Rajasthan State Pollution Control Board, Jhunjhunu
Email: - rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in
Ph: -01592-295461

landfill site and obtain consent for the same under Air Act & Water Act.

17. And whereas, section 48 of the Water Act & and section 41 of the Air Act provides that in case an offence under this Act has been committed by any Department of Government, the Head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punishable accordingly.
18. And therefore, in view of the above stated violation under Water Act & Air Act, the Board intends to initiate legal action against the Project Proponent under relevant sections of the said acts.

In view of the above, this show cause notice is being issued as to why legal proceedings should not be initiated against you for violation of Solid Waste Management Rules, Water Act & Air Act.

If you have any objection against this action, you may submit your reply in this regard that shall reach this office within 15 days from the date of issue of this letter, failing which the action mentioned above shall be taken without any further intimation.

(Deepak Dhanetwal)
Regional Officer

Copy to: - 1. Master File, RPCB, Jhunjhunu

Regional Officer

RajKaj Ref
8554266

Signature valid
Digitally signed by Deepak Dhanetwal
Designation : Senior Environmental Engineer
Date: 2024.07.02 16:02:39 IST
Reason: Approved

राज कॉम्पलेक्स, प्रथमतल, सी.पी. 01/90 फेज–II रीको औद्योगिक क्षेत्र झुंझुनूं, राजस्थान-333001
CP-01/90, Raj Complex, First Floor, RIICO Phase-II, Jhunjhunu (Rajasthan)-333001

512

Annexure-D-2

Regional Office
Rajasthan State Pollution Control Board, Jhunjhunu
Email: - rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in
Ph: -01592-295461

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No RPCB/RO-Jhunjhunu/JHU-GEN-06/ 1428-1429 Date: - 02.07.2024

Executive officer
Nagar Palika Taranagar,
District Churu

Sub.:- Show cause notice for intended legal prosecution under section 48 of the Water (Prevention & Control of Pollution) Act, 1974; under section 37 and section 41 of Air (Prevention & Control of Pollution) Act, 1981 and intended directions under section 05 of the Environment Protection Act, 1986.

Ref.: - Inspection of dumpsite located at Alyla Road, Taranagar on 25.06.2024

Sir,

This notice is issued without prejudice to the right of the Rajasthan State Pollution Control Board (hereinafter called as 'the Board') to initiate proceeding under the provisions of the Water (Prevention & Control of Pollution) Act-1974 (hereinafter called as 'the Air Act') for violation of various provisions of these Acts here-in-after shown: -

1. Whereas, the Water (Prevention & Control of Pollution) Act, 1974 (herein after referred to as the "Act") has come into force in whole of State of Rajasthan with effect from 23.03.1974.
2. And whereas, the "Act" is enacted to provide for prevention, control and abatement of water pollution and to carryout aforesaid purpose, the Rajasthan State Pollution Control Board (herein after referred to as the "Board") has been conferred power to take such steps as are deemed necessary for prevention, control and abatement of water pollution,
3. And whereas, the provisions of section 24 of the Act clearly states about prohibition on the use of stream or well or sewer or land for disposal of polluting matters as follows: -
   a. No person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the state Board to enter (whether directly or indirectly) into any stream or well or sewer or on land; or
   b. No person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences,
4. Whereas, the provisions of section 25/26 of the water Act, further clarifies about restrictions on outlets and discharges that no person shall **without the previous consent of the State Board -**
   a. Establish or to take any steps to establish, any industry, operation or process, or any treatment and disposal system or any extension or addition thereto, which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land or
   b. Bring into use any new or altered outlet for the discharge of sewage or trade effluent or

RajKaj Ref 8564855

Signature valid
Digitally signed by Deepak Dhanetwal
Designation : Senior Environmental Engineer
Date: 2024.07.02 15:37:31 IST
Reason: Approved

राज कॉम्पलेक्स, प्रथमतल, सी.पी. 01/90 फेज–II रीको औद्योगिक क्षेत्र, झुंझुनू, राजस्थान-333001
CP-01/90, Raj Complex, First Floor, RIICO Phase-II, Jhunjhunu (Rajasthan)-333001

Regional Office
Rajasthan State Pollution Control Board, Jhunjhunu
Email: - rorpcb.jjn@gmail.com
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Ph: -01592-295461

c. Begin to make any new discharge of sewage or trade effluent.

5. And whereas, the discharge of sewage /trade effluent without treatment up to the prescribed standards and without consent of the Board is in contravention to the provisions of Water (Prevention & Control of Pollution) Act, 1974.
6. And whereas, the provisions of section 22 of the Air Act clearly states about the prohibition on emissions of air pollutants in excess of the standards, as follows-
   Section 22(1): No person operating any industrial plant, in any air pollution control area, shall emit any air pollutant in excess of the standards laid down by the State Board.
7. And whereas, the provisions of Section 21(1) of the Air Act states that no person shall, **without the previous consent of the State Board**, establish or operate any industrial plant in an air pollution control area.
8. And whereas, the Solid Waste Management Rules, 2016 has come into force in whole of State of Rajasthan with effect from 08.04.2016.
9. In accordance with the Solid Waste Management Rules, 2016, and further amendments, local authorities and village Panchayats of census towns and urban agglomerations which must be adhered to duties and responsibilities as per Rule 15 and Schedule I of the said rules.
10. **And whereas, the provision 15(y) of the Solid Waste Management Rules, 2016, requires the urban local bodies to make an application in Form-I for grant of authorization for setting up waste processing, treatment or disposal facility, if the volume of waste is exceeding five metric tons per day including sanitary landfills from the State Pollution Control Board or the Pollution Control Committee, as the case may be.**
11. And whereas, Hon'ble NGT in its order dated 19.03.2024 in the original application no. 247/2024 has taken Suo-motu cognizance, regarding improper disposal of municipality solid waste & legacy waste, which may result into the formation of methane Hotspot.
12. And whereas, in compliance of Hon'ble NGT order dated 16.01.2019 in the matter of OA no. 606/2018, Central Pollution Control Board (CPCB) has issued guidelines on disposal of legacy waste, which shall be adhered to.
13. **And whereas, dumpsite under Nagar Palika, Taranagar located at Alyla Road, Taranagar, was visited by the board officials on 25.06.2024 and following deficiencies were observed:**
    1. **No standard operating procedure for preventing and managing dumpsite fires was maintained.**
    2. **No fire tender and arrangements for fire extinguishing were observed at the site.**
    3. **No records were maintained of the daily door-to-door collection of fresh waste and their transportation details.**
    4. **Segregation of fresh waste is not taking place, and compost pits are not constructed for the decomposition of biodegradable waste.**
    5. **An emergency tipping area is not provided to se**

Signature valid
Digitally signed by Deepak Dhanawal
Designation : Senior Environmental Engineer
Date: 2024.07.02 15:37:31 IST
Reason: Approved

राज कॉम्पलेक्स, प्रथमतल, सी.पी. 01/90 फेज–II रीको औद्योगिक क्षेत्र, झुंझुनू (राजस्थान)-333001
CP-01/90, Raj Complex, First Floor, RIICO Phase-II, Jhunjhunu (Rajasthan)-333001

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Rajasthan State Pollution Control Board, Jhunjhunu
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www.environment.rajasthan.gov.in
Ph: -01592-295461

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known to be on fire or suspected of being so.

6. Methane gas detectors are not installed on-site (on the downside).
7. CCTV cameras are not installed at the site, and the site remains partially open with no fencing provisions to check unauthorized entries.
8. No plan has been proposed for the development of a sanitary landfill for further disposal of fresh solid waste.

14. And whereas, above stated violations of the provisions of the solid waste management rules, 2016 and provisions of the Air Act & Water Act have been viewed seriously by the State Board.
15. And therefore, in view of the above non-compliances, under the powers conferred by Section 5 of the Environmental Protection Act, 1986, you are hereby directed to take the suitable actions to rectify the non-compliances observed during the inspection and submit the compliance report of the same within 15 days of the issuance of this notice.
16. And whereas, you have failed to submit a proposal for the development of sanitary landfill site and obtain consent for the same under Air Act & Water Act.
17. And whereas, section 48 of the Water Act & and section 41 of the Air Act provides that in case an offence under this Act has been committed by any Department of Government, the Head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punishable accordingly.
18. And therefore, in view of the above stated violation under Water Act & Air Act, the Board intends to initiate legal action against the Project Proponent under relevant sections of the said acts.

In view of the above, this show cause notice is being issued as to why legal proceedings should not be initiated against you for violation of Solid Waste Management Rules, Water Act & Air Act.

If you have any objection against this action, you may submit your reply in this regard that shall reach this office within 15 days from the date of issue of this letter, failing which the action mentioned above shall be taken without any further intimation.

(Deepak Dhanetwal)
Regional Officer

Copy to: - 1. Master File, RPCB, Jhunjhunu

RajKaj Ref
8564855

Signature valid
Digitally signed by Deepak Dhanetwal
Designation : Senior Environmental Engineer
Date: 2024.07.02 16:37:31 IST
Reason: Approved

Regional Office
Rajasthan State Pollution Control Board, Jhunjhunu
Email: - rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in
Ph: -01592-295461

Regional Officer

RajKaj Ref
8564855

Signature valid
Digitally signed by Deepak Dhanetwal
Designation : Senior Environmental Engineer
Date: 2024.07.02 15:37:31 IST
Reason: Approved

राज कॉम्पलेक्स, प्रथमतल, सी.पी. 01/90 फेज–II रीको औद्योगिक क्षेत्र, झुंझुनू, राजस्थान-333001
CP-01/90, Raj Complex, First Floor, RIICO Phase-II, Jhunjhunu (Rajasthan)-333001

Annexure - E-1

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No 3394

Report On 12/07/2024

I hereby certify that I **Ms Poonam Kumari**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **09/07/2024** from **DARASINGH SHYORAN, SO, Sikar ,RSPCB Sikar** a sample of **Ambient Air Quality** of **Chirawa MSW Dumpsite , Pilani Road, Chirawa , Teh- Chirawa, Dist- Jhunjhunu** Collected from **Near Boundary of MSW Dumpsite** Collected on **02/07/2024**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **12/07/2024** and declare the result of the analysis to be as below :-

S. No	Parameters	Result
1	Particulate Matter (PM10) µg/m3	69
2	PM 2.5 ug/m3	12.9
3	Sulphur Dioxide as SO2 ug/m3	2.48
4	NO2 ug/m3	47.29

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **12/07/2024**

Ms Poonam Kumari
BOARD ANALYST
Rajasthan State Pollution Control Board
Regional Office Sikar
Shiv-Singhpura Housing Board Colony,
Nawalgarh Road, Sikar-332 001
Phone: 01572-248009

Signature valid
Digitally signed by Poonam Kumari
Date: 2024.07.12 [illegible]:24:38 IST
Reason: Self Attested
Location:

Annexure E-2

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No 3395

Report On 12/07/2024

I hereby certify that I **Ms Poonam Kumari**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **09/07/2024** from **DARASINGH SHYORAN, SO, Sikar ,RSPCB Sikar** a sample of **Ambient Air Quality** of **Taranagar MSW Dumpsite , Sadulpur Road, Taranagar , Tehsil Taranagar, Dist-Churu** Collected from **Near Boundary of MSW Dumpsite** Collected on **04/07/2024**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **12/07/2024** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Particulate Matter (PM10) µg/m3	93
2	PM 2.5 ug/m3	25.5
3	Sulphur Dioxide as SO2 ug/m3	Not Traceable
4	NO2 ug/m3	18.23

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **12/07/2024**

Ms Poonam Kumari
BOARD ANALYST
Rajasthan State Pollution Control Board
Regional Office Sikar
Shiv-Singhpura Housing Board Colony,
Nawalgarh Road, Sikar-332 001
Phone: 01572-248009

Signature valid
Digitally signed by Poonam Kumari
Date: 2024.07.12 17:26:45 IST
Reason: Self Attested
Location:

Annexure f-1

क्षेत्रीय कार्यालय
REGIONAL OFFICE
राजस्थान राज्य प्रदूषण नियंत्रण मण्डल, झुन्झुनूं
RAJASTHAN STATE POLLUTION CONTROL BOARD, JHUNJHUNU
Email: -rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in
Ph.- 01592-295461

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No. RPCB/RO-JJN/Gen.- 41/ 2269 Date:- as per e-sign

The Executive Officer,
Nagar Palika, Chirawa,
Jhunjhunu

Sub.: - Regarding Present Status Report of MSW Site, Chirawa
Ref.: - 1. Hon'ble NGT order in OA 247/2024 dated 19.03.2024 in the matter of news item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024
2. Show Cause Notice issued vide letter dated 02.07.2024
3. Your reply dated 31.07.2024

Sir,

This is with reference to the notice issued by the State Pollution Control Board vide letter dated 02.07.2024, and the reply submitted by your office vide letter dated 31.07.2024 concerning the non-compliances observed during inspection of your MSW site. Additionally, the Joint Committee appointed in the matter of Hon'ble National Green Tribunal (NGT) Original Application No. 247/2024 has reviewed the status of your MSW site and noted persistent non-compliances under your jurisdiction.

A. The deficiencies observed during inspection were as follows:

1. Analysis of various screened fractions i.e. fine earth/bio-earth was not carried out prior to its disposal/utilization.
2. Records and documents for the disposal/utilization of RDFs, inert, and fine earth were not maintained.
3. No standard operating procedure for preventing and managing dumpsite fires was maintained.
4. No fire tender and arrangements for fire extinguishing were observed at the site.
5. No records were maintained of the daily door-to-door collection of fresh waste disposed of at the dumpsite.

Validity unknownSignature valid
Digitally signed by S[illegible]neer Yadav
Designation : Envi[illegible]mental Engineer
Date: 2025.01.0[illegible]9:24:25 IST
Reason: Approved

क्षेत्रीय कार्यालय
REGIONAL OFFICE
राजस्थान राज्य प्रदूषण नियंत्रण मण्डल, झुन्झुनूं
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6. Segregation of fresh waste is not taking place, and compost pits for the decomposition of biodegradable waste are not in use.
7. An emergency tipping area is not provided to set aside incoming loads of material known to be on fire or suspected of being so.
8. Methane gas detectors are not installed on-site (on the downside).
9. The temperature at the windrows/cones is not monitored using a non-contact infrared thermometer.
10. CCTV cameras are not installed at the site, and the site remains open with no fencing provisions to check unauthorized entries.
11. No plan has been proposed for the development of a sanitary landfill for further disposal of fresh solid waste.

B. Further the specific observations in the Joint Committee Report of the NGT case OA 247/2024 are as follows:

1. There is a 44% gap in solid waste management in Chirawa.
2. Fresh waste disposal is ongoing at the dumpsite.
3. Though remediation of legacy waste has been started but all necessary process including conducting a baseline survey, ensuring waste stabilization and implementing bio-culture and aeration before processing the waste is not being followed.
4. Gas Collection System is not installed at the dumpsite.
5. Methane detectors are not installed at the dumpsite.
6. Regular Ambient Air Quality Monitoring is not been carried out.
7. On-site monitoring of methane emissions is not done on dumpsite.
8. Fire incidents reported on dumpsite.
9. Provision for leachate collection & treatment not provided.
10. There is no Sanitary Landfill Site at Chirawa.

C. Further you are also directed to ensure following corrective measures:

1. You are required to submit an action plan for biomining of legacy waste dumpsites.

Validity unknown Signature valid
Digitally signed by S[illegible]neer Yadav
Designation : Envi[illegible]mental Engineer
Date: 2025.01.0[illegible]9:24:25 IST
Reason: Approved

क्षेत्रीय कार्यालय
REGIONAL OFFICE
Ph.- 01592-295461
राजस्थान राज्य प्रदूषण नियंत्रण मण्डल, झुन्झुनूं
RAJASTHAN STATE POLLUTION CONTROL BOARD, JHUNJHUNU
Email: -rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in

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2. Methane detectors at appropriate locations shall be installed & necessary fire preventive measures shall be implemented.
3. Regular monitoring of methane at source shall be carried out at the dumpsites till the bio-remediation is completed.
4. Quarterly monitoring reports of methane monitoring shall be submitted to the SPCB.
5. Regular Ambient Air Quality Monitoring shall be conducted and quarterly reports shall be submitted to SPCB.
6. The quantity of methane generated from the dumpsite shall be reported on annual basis to the SPCB.

D. You are hereby directed to submit a comprehensive present status report addressing both the non-compliances cited in the State Board notice and those observed by the Joint Committee in the NGT case. This report should include:

1. **Detailed corrective actions taken for each non-compliance.**
2. **Supporting evidence and documentation.**
3. **An updated compliance plan with timelines.**

Kindly provide your response by **11.01.2024**. Failure to furnish the required information within the stipulated time may result in further action as per the provisions of relevant environmental acts and rules.

Your prompt attention to this matter is highly appreciated.

Sincerely,

(Sudheer Yadav)
EE & Regional Officer

Validity unknownSignature valid

Digitally signed by S[illegible]eer Yadav
Designation : Envi[illegible]mental Engineer
Date: 2025.01.0[illegible]9:24:25 IST
Reason: Approved

क्षेत्रीय कार्यालय
REGIONAL OFFICE
राजस्थान राज्य प्रदूषण नियंत्रण मण्डल, झुन्झुनूं
RAJASTHAN STATE POLLUTION CONTROL BOARD, JHUNJHUNU
Ph.- 01592-295461
Email: -rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in
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No. RPCB/RO-JJN/Gen.- 41/2270 Date: - as per e-sign

The Executive Officer,
Nagar Palika, Taranagar,
Churu

Sub.: - Regarding Present Status Report of MSW Site, Taranagar
Ref.: - 1. Hon'ble NGT order in OA 247/2024 dated 19.03.2024 in the matter of news item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024
2. Show Cause Notice issued vide letter dated 02.07.2024
3. Your reply dated 22.07.2024

Sir,

This is with reference to the notice issued by the State Pollution Control Board vide letter dated 02.07.2024, and the reply submitted by your office vide letter dated 22.07.2024 concerning the non-compliances observed during inspection of your MSW site. Additionally, the Joint Committee appointed in the matter of Hon'ble National Green Tribunal (NGT) Original Application No. 247/2024 has reviewed the status of your MSW site and noted persistent non-compliances under your jurisdiction.

A. The deficiencies observed during inspection were as follows:

1. No standard operating procedure for preventing and managing dumpsite fires was maintained.
2. No fire tender and arrangements for fire extinguishing were observed at the site.
3. No records were maintained of the daily door-to-door collection of fresh waste and their transportation details.
4. Segregation of fresh waste is not taking place, and compost pits are not constructed for the decomposition of biodegradable waste.
5. An emergency tipping area is not provided to set aside incoming loads of material known to be on fire or suspected of being so.

Validity unknownSignature valid
Digitally signed by S[illegible]neer Yadav
Designation : Envi[illegible]mental Engineer
Date: 2025.01.0[illegible]9:28:35 IST
Reason: Approved

क्षेत्रीय कार्यालय
REGIONAL OFFICE
राजस्थान राज्य प्रदूषण नियंत्रण मण्डल, झुन्झुनूं
RAJASTHAN STATE POLLUTION CONTROL BOARD, JHUNJHUNU
Ph.- 01592-295461
Email: -rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in

6. Methane gas detectors are not installed on-site (on the downside).
7. CCTV cameras are not installed at the site, and the site remains partially open with no fencing provisions to check unauthorized entries.
8. No plan has been proposed for the development of a sanitary landfill for further disposal of fresh solid waste.

B. Further the specific observations in the Joint Committee Report of the NGT case OA 247/2024 are as follows:

1. There is a 100 % gap in solid waste management in Taranagar.
2. There is no processing of solid waste in Taranagar and 100 % fresh waste is being dumped at the dumpsite.
3. Fresh waste disposal is ongoing at the dumpsite.
4. Gas Collection System is not installed at the dumpsite.
5. Methane detectors are not installed at the dumpsite.
6. Regular Ambient Air Quality Monitoring is not been carried out.
7. On-site monitoring of methane emissions is not done on dumpsite.
8. Provision for leachate collection & treatment not provided.
9. There is no Sanitary Landfill Site at Taranagar.

C. Further you are also directed to ensure following corrective measures/actions:

1. You are required to submit an action plan for biomining of legacy waste dumpsites.
2. Status of bio-mining which was proposed to be started after August, 2024.
3. Methane detectors at appropriate locations shall be installed & necessary fire preventive measures shall be implemented.
4. Regular monitoring of methane at source shall be carried out at the dumpsites till the bio-remediation is completed.
5. Quarterly monitoring reports of methane monitoring shall be submitted to the SPCB.
6. Regular Ambient Air Quality Monitoring shall be conducted and quarterly reports shall be submitted to SPCB.
7. The quantity of methane generated from the dumpsite shall be reported on annual basis to the SPCB.

Validity unknownSignature valid

Digitally signed by S[illegible]neer Yadav
Designation : Envi[illegible]mental Engineer
Date: 2025.01.0[illegible]9:28:35 IST
Reason: Approved

क्षेत्रीय कार्यालय
REGIONAL OFFICE
राजस्थान राज्य प्रदूषण नियंत्रण मण्डल, झुन्झुनूं
RAJASTHAN STATE POLLUTION CONTROL BOARD, JHUNJHUNU
Email: -rorpcb.jjn@gmail.com
www.environment.rajasthan.gov.in
Ph.- 01592-295461

D. You are hereby directed to submit a comprehensive present status report addressing both the non-compliances cited in the State Board notice and those observed by the Joint Committee in the NGT case. This report should include:

1. **Detailed corrective actions taken for each non-compliance.**
2. **Supporting evidence and documentation.**
3. **An updated compliance plan with timelines.**

Kindly provide your response by **11.01.2024**. Failure to furnish the required information within the stipulated time may result in further action as per the provisions of relevant environmental acts and rules.

Your prompt attention to this matter is highly appreciated.

Sincerely,

(Sudheer Yadav)
EE & Regional Officer

Validity unknownSignature valid

Digitally signed by S eer Yadav
Designation : Envi mental Engineer
Date: 2025.01.0 9:28:35 IST
Reason: Approved

ऑयल एण्ड नेचुरल गैस कॉरपोरेशन लि.
Oil and Natural Gas Corporation Limited

Office of Asset HSE, Assam Asset
3रा तल, सेंट्रल वर्कशॉप, शिवसागर-785640
3rd Floor, Central Workshop, Sivasagar - 785 640

File No.: *AA/SVS/AHSE/RLO_M/2024-25* Date: 11.01.2025

File Ref. No. : A) PCBA mail with Subject Head – '*Hon'ble NGT order in OA 247/2024 dated 19.03.2024 & 27.9.2024 in the matter of News item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" appearing in the Times of India dated 07.02.2024-reg*' – dated 09.01.2025

With reference to the mail mentioned above, following is submitted from ONGC Assam Asset in respect of the attached conclusion report for your kind information:

1. State of the art flare system is installed in Lakwa, Lakhmani and Rudrasagar Areas; and installation of the same is under progress in all the GGS/GCP of Geleky Area of Assam Asset, ONGC.

2. The processes adopted in all the installations are optimized such that there is no release of methane gas into the environment. All the produced natural gas are utilized effectively in the form of internal use as fuel, gas lift for wells; and sales to Consumers.

3. Further, Online Hydrocarbon Gas (Methane) detectors are installed in process areas of all installations of Assam Asset to detect any accidental release of methane gas.

4. All the equipment and pipelines are maintained (pigging, patrolling etc.)/ replaced as per the schedule to ensure system integrity and to avoid any accidental methane gas release.

5. Old pipelines are replaced under pipeline revamping projects to avoid any accidental release of methane gas to atmosphere.

11/01/2025
R.K. DEORI
GM (P) - AHSE
3rd Floor, CWS
ONGC, Sivasagar

RK Deori
GM (P)
Asset HSE

In the matter of O.A. No. 247/2024), regarding the news item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" published on 7th February 2024 in Times of India.

Compliance & Action Taken Report

Background: In response to the suo-motu cognizance taken by the Hon'ble National Green Tribunal (NGT) order dated 19th March 2024 (O.A. No. 247/2024), regarding the news item titled "Ahmedabad Surat landfills among worst three methane hotspots in India" published on 7th February 2024 in *Times of India*, the Hon'ble NGT took note of the high levels of methane emissions identified in various parts of India, particularly from landfills and Oil & Gas facilities. The Indian Institute of Remote Sensing (IIRS) and Indian Space Research Organisation (ISRO) identified several methane hotspots in four states, including locations in Rajasthan. The hotspot in the Barmer district was specifically related to Oil & Gas facilities.

Findings: The IIRS report provided GPS coordinates of the hotspots in the concerned regions, which were then cross-verified with the GPS locations of the Oil & Gas (O&G) facilities.This comparison helped in identifying O&G facilities near these hotspots. The hotspot of high methane emissions identified in the IIRS report for Barmer district was found to be in proximity to the Oil & Gas facilities operated by M/s Vedanta Limited (Cairn India) at the Aishwarya NA 01 & AWP 08 (ABH Facility) located at village Kauka Khera, tehsil & district Barmer. The GPS coordinates for the Aishwarya Well Pad locations are:

- **Aishwarya NA 01**: Latitude 25°54'12.67" N, Longitude 71°34'21.75" E
- **Aishwarya Well Pad 08 (AWP 08)**: Latitude 25°54'20.42" N, Longitude 71°34'7.34" E

Actions Taken:

1. **Assessment of Methane Emission:**
    - The hotspot in Barmer was specifically linked to the O&G facilities operated by M/s Vedanta Limited (Cairn India) at Aishwarya Well Pad NA 01 and AWP 08 (ABH Facility).
    - A thorough assessment was conducted comparing the location of the methane hotspot with the facilities' operational sites, confirming the proximity of high methane emissions to these sites.
2. **Consent Status (For Crude Oil, Natural Gas):**
    - **Aishwarya Well Pad NA 01**: Consent to Operate – File No. F(HDF)/Barmer (Barmer)/6163(1)/2020-2021/4145-4147 (Valid: 15/10/2020 to 30/09/2025).
    - **Aishwarya Well Pad 08**: Consent to Operate – File No. F(HDF)/Barmer (Barmer)/16(1)/2018-2019/2248-2249 & Expansion Consent to Operate – F(HDF)/Barmer

(Barmer)/6164(1)/2020-2021/3974-3976 (Valid: 01/02/2024 to 31/01/2029 & Expansion 01/04/2020 to 31/03/2025).

3. **Methane Gas Generation and Flaring:**
   - Total produced associated gas from AWP 8 and NA 1 is approximately (Annual average till date) ~281754 SCM/day, of which around 18% is methane, equating to ~52,715 SCM/day.
   - This gas is being flared through an adequate flaring system, which includes:
     - Enclosed Ground Flare (EGF)
     - Ground Flare
     - Vertical Flare (Thermal Oxidizing)
   - In normal operation, associated gases are flared through the Enclosed Ground Flare, while the other two flaring systems are used in emergencies or during maintenance.
   - The associated gas, which contains ~80-85% CO_2 and 15-20% hydrocarbons, is flared after mixing with fuel gas from the Rageshwari Gas Terminal (RGT), ensuring complete combustion and avoiding cold venting.
4. **Mitigation Measures to Reduce Organic Emissions Including Methane:**
   - The produced associated gas containing high levels of CO_2 is being separated and flared after proper combustion. The high CO_2 content (>80%) is mixed with fuel gas to ensure complete combustion and mitigate cold venting.
   - The designed flaring system (EGF, Ground Flare, and Thermal Oxidizer) ensures that methane and other hydrocarbons are properly combusted, minimizing the release of untreated gases into the atmosphere.
5. **Methane Detection and Monitoring:**
   - Methane gas detectors are installed at critical locations:
     - Two methane gas detectors are installed at each wellhead location.
     - Open path gas detectors are installed at prominent locations such as PLR, Separation, and Manifold areas.
     - Gas detectors in the EGF Flame Front Generator area to monitor hydrocarbons.
     - Temperature sensors are also installed inside the EGF combustion zone to monitor combustion temperatures and ensure optimal operation.
   - No reportable fire incidents have been reported at Aishwarya ABH in the past five years.
6. **Ambient Air Quality Monitoring:**
   - Ambient Air Quality monitoring was conducted at Aishwarya Well Pad NA 01, Aishwarya Well Pad 08, and Aishwarya Well Pad 06. The monitoring results, as of 09/01/2025, indicate that the parameters for NO_2, SO_2, and PM_{10} are within the prescribed environmental norms.

The ambient Air Quality report and Inspection report dated 09/01/2025 is enclosed and collectively marked as annexure 'A'.

Municipal Solid Waste Management Site located at Barmer:

1. **Location and Waste Accumulation:**

   - The Barmer Municipal Council operates a municipal solid waste dump site situated at Gehu Road, Barmer, with an accumulated waste volume of 105,954 cubic meters (CUM). It is pertinent to note that no Sanitary Landfill (SLF) has been established at the site.

2. **Inspection and Issuance of Notice:**

   - An inspection of the site was conducted on 19/06/2024, wherein several deficiencies were identified. Consequently, a formal notice was issued to the Commissioner, Municipal Council, Barmer, on 09/07/2024, highlighting the non-compliance with the provisions of the Solid Waste Management Rules, 2016, and requesting remedial action. Copy of notice dated 09/07/2024 is enclosed and marked as Annexure 'B'.

3. **Application for Consent to Establish:**

   - In compliance with the notice, the Municipal Council submitted an application for consent to establish the following facilities:
     - A Compost Unit with a proposed capacity of 10.00 TPD.
     - A Legacy Waste Plant with a proposed capacity of 300.00 TPD.
     - A Material Recovery Facility (MRF) with a proposed capacity of 40 TPD.
   - The State Pollution Control Board, vide Order No. 11107 dated 11/11/2024, granted approval for the establishment of the aforementioned facilities.

4. **Further Directions for Compliance:**

   - On 13/01/2025, this office issued a Direction to the Commissioner, Municipal Council, Barmer, mandating the submission of an application for Consent to Operate the aforementioned facilities and to ensure full compliance with the directions issued by the Hon'ble Tribunal in this regard. Copy of direction letter is enclosed and marked as Annexure 'C'.

5. **Environmental Compensation and Legal Proceedings:**

- Pursuant to the non-compliance with the statutory provisions, the State Pollution Control Board imposed an Environmental Compensation amounting to Rs. 13,50,800.00 upon the Municipal Council on 18/02/2022 and also recovered the same. Copy of direction letter is enclosed and marked as Annexure 'D'.
- Additionally, a prosecution was instituted against the Commissioner, Municipal Council, Barmer, under Section 15 read with Section 19 of the Environment (Protection) Act, 1986, and under the Solid Waste Management Rules, 2016, for violations thereof. The prosecution was filed in the Court of the Chief Judicial Magistrate, Barmer, on 24/09/2021.

SEE & Regional Officer,
RSPCB, Balotra.

Format for Cities having O&G sites: Onshore

S. No.	Particulars	Remarks
1.	State Name	Rajasthan
2.	City Name	Barmer
3.	Name & Address of the O & G Unit with contact details	Vedanta Limited, Cairn Oil & Gas Aishwarya NA 01 & AWP 08 (ABH Facility) Village – Kau Ka Khera, Tehsil & District - Barmer Rajasthan
4.	Lat, long of site	NA 01: - Lat - 25°54'12.67"N Long - 71°34'21.75"E AWP 08: - Lat - 25°54'20.42"N Long- 71°34'7.34"E
5.	Date of visit	09-January-2025
6.	CTO/CTE/Authorization given by SPCB. : Details with validity status	**Aishwariya Well Pad NA 01 -** • File No.- F(HDF)/Barmer (Barmer)/6163(1)/2020-2021/4145-4147. • Valid: - 15/10/2020 – 30/09/2025 **Aishwariya well Pad 08 -** • File No. - F(HDF)/Barmer (Barmer)/16(1)/2018-2019/2248-2249 & **Expansion CTO: -**F(HDF)/Barmer (Barmer)/6164(1)/2020-2021/3974-3976. • Valid: - 01/02/2024 -31/01/2029 & **Expansion** 01/04/2020 to 31/03/2025

6.	**Methane gas generation (Specify the latest quantity)** **Conversion to production (% Utilization)** **Balance- % Disposed to the environment.** **1. Flaring** **2. Other purposes**	• **Total Produced Associate Gas (annual average till date):** - ~281754 SCM/day (AWP 8 + NA-1), which contains Methane mole %: - ~18% and in vol: ~50715 SCM/Day, being flared through adequate flaring system with additional burning introduced through fuel gas source from RGT. • **No utilization of produce associated gas due to high CO_2 content (~80-85%)** Water saturated gases such as 80-85% CO_2 and about ~15-20% lighter hydrocarbons gases are associated along with crude oil from the Aishwariya field (Aishwariya & ABH). This associated gas containing high CO_2 (>80%) is being separated and flared through designed flaring system. For proper combustion the fuel gas is mixing to ensure complete combustion. There are three types of flaring in Aishwarya, i.e. Enclosed ground flare (EGF), Ground flare and Vertical flare (Thermal Oxidizing). Mostly, the produced associated gases being flared through EGF, but in case of emergency support, when EGF under maintenance the Ground Flare & Thermal Oxidizer (TO) also being operated.
7.	**Mitigation measures taken for reduction in organic emission including methane**	• Water saturated gases such as 80-85% CO_2 and about ~15-20% lighter hydrocarbons gases are associated along with crude oil from the Aishwariya field (Aishwariya & ABH). This associated gas containing high CO_2 (>80%) is being separated and flared through designed flaring system. For proper combustion the fuel gas is mixing to ensure complete combustion.
8.	**Methane detector installed (Yes/No)**	• To monitor hydrocarbons gases the gas detector is fixed in EGF Flame Front Generator area. • To monitor the temperature the sensors are installed inside EGF combustion zone. • At each well head location – 02 Methane gas detectors are installed for each well. • At prominent location (PLR, Separation & Manifold area) – Open path Gas detectors also installed to monitor the hydrocarbons.
9.	**Fire incident at site in last 5 years (If yes, mention the year & reason for the fire)**	There has been no reportable fire incident at Aishwariya ABH Field in the last 5 years.

10.	**Emergency plan for fire prevention (Onsite & Offsite with details)**	Yes, they have onsite and offsite emergency plan for fire prevention.
11.	**OCEMS installed & connected to CPCB/SPCB Server (Yes/No)**	No
12.	**Ambient air quality monitoring with standards (Recent data & Compliance of the parameters)**	Yes, being monitored, results are annex. RSPCB monitoring report is enclosed.
13.	**Any other information**	

Harish

Dr. Harish Parihar
Jr. Scientific Officer

Dalpat Singh
Jr. Scientific Officer

C/s

Raj Kumar Sehra
Regional Officer
RSPCB, RO, Balotra

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No. : **1105**

Report On : **10/01/2025**

I hereby certify that I **Dr. Narain Bhoot**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **10/01/2025** from **Harish Parihar, JSO, Balotra ,RSPCB Balotra** a sample of **Ambient Air Quality** of **M/S Vedanta Limited, Cairn Oil and Gas(Old Name Cairn India Limited (Aishwariya Field)) , Plant - , , Tehsil- Barmer , District- Barmer** Collected from **Ambient Air quality monitoring of Aishwarya well pad no-08** Collected on **09/01/2025**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **10/01/2025** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Nitrogen Dioxide as NO2 µg/M3	20.3
2	Particulate Matter (PM10) µg/m3	91
3	Sulphur Dioxide as SO2 ug/m3	5.4

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **10/01/2025**

Dr. Narain Bhoot

BOARD ANALYST

Rajasthan State Pollution Control Board

Regional Office Balotra

Regional office,Rajasthan state pollution control Board,Jasol phanta,OppJDVVNL office,Jasol Road Balotra,District -Balotra

Phone: 9667576064

Fax: 9667576064

Signature Not Verified

Digitally signed by Narain Bhoot
Date: 2025.01.10 18:20:12 IST
Reason: SelfAttested
Location:

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No. : **1106**

Report On : **10/01/2025**

I hereby certify that I **Dr. Narain Bhoot**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **10/01/2025** from **Harish Parihar, JSO, Balotra ,RSPCB Balotra** a sample of **Ambient Air Quality** of **M/S Vedanta Limited, Cairn Oil and Gas(Old Name Cairn India Limited (Aishwariya Field)) , Plant - , , Tehsil- Barmer , District- Barmer** Collected from **Ambient Air quality monitoring of Aishwarya well pad no-NA-01** Collected on **09/01/2025**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **10/01/2025** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Nitrogen Dioxide as NO2 µg/M3	21.2
2	Particulate Matter (PM10) µg/m3	64
3	Sulphur Dioxide as SO2 ug/m3	5.6

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **10/01/2025**

Dr. Narain Bhoot

BOARD ANALYST

Rajasthan State Pollution Control Board

Regional Office Balotra

Regional office,Rajasthan state pollution control Board,Jasol phanta,OppJDVVNL office,Jasol Road Balotra,District -Balotra

Phone: 9667576064

Fax: 9667576064

Signature Not Verified

Digitally signed by Narain Bhoot
Date: 2025.01.10 18:21:43 IST
Reason: SelfAttested
Location:

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No. : **1107**

Report On : **10/01/2025**

I hereby certify that I **Dr. Narain Bhoot**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **10/01/2025** from **Harish Parihar, JSO, Balotra ,RSPCB Balotra** a sample of **Ambient Air Quality** of **M/S Vedanta Limited, Cairn Oil and Gas(Old Name Cairn India Limited (Aishwariya Field)) , Plant - , , Tehsil- Barmer , District- Barmer** Collected from **Ambient Air quality monitoring of Aishwarya well pad no-06** Collected on **09/01/2025**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **10/01/2025** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Nitrogen Dioxide as NO2 µg/M3	19.9
2	Particulate Matter (PM10) µg/m3	89
3	Sulphur Dioxide as SO2 ug/m3	5.5

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **10/01/2025**

Dr. Narain Bhoot

BOARD ANALYST

Rajasthan State Pollution Control Board

Regional Office Balotra

Regional office,Rajasthan state pollution control Board,Jasol phanta,OppJDVVNL office,Jasol Road Balotra,District -Balotra

Phone: 9667576064

Fax: 9667576064

Signature Not Verified

Digitally signed by Narain Bhoot
Date: 2025.01.10 18:22:47 IST
Reason: SelfAttested
Location:

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No. : **1106**

Report On : **10/01/2025**

I hereby certify that I **Dr. Narain Bhoot**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **10/01/2025** from **Harish Parihar, JSO, Balotra ,RSPCB Balotra** a sample of **Ambient Air Quality** of **M/S Vedanta Limited, Cairn Oil and Gas(Old Name Cairn India Limited (Aishwariya Field)) , Plant - , , Tehsil- Barmer , District- Barmer** Collected from **Ambient Air quality monitoring of Aishwarya well pad no-NA-01** Collected on **09/01/2025**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **10/01/2025** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Nitrogen Dioxide as NO2 µg/M3	21.2
2	Particulate Matter (PM10) µg/m3	64
3	Sulphur Dioxide as SO2 ug/m3	5.6

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **10/01/2025**

Dr. Narain Bhoot

BOARD ANALYST

Rajasthan State Pollution Control Board

Regional Office Balotra

Regional office,Rajasthan state pollution control Board,Jasol phanta,OppJDVVNL office,Jasol Road Balotra,District -Balotra

Phone: 9667576064

Fax: 9667576064

Signature valid

Digitally signed by Narain Bhoot
Date: 2025.01.10 18:21:43 IST
Reason: SelfAttested
Location:

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No. : **1107**

Report On : **10/01/2025**

I hereby certify that I **Dr. Narain Bhoot**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **10/01/2025** from **Harish Parihar, JSO, Balotra ,RSPCB Balotra** a sample of **Ambient Air Quality** of **M/S Vedanta Limited, Cairn Oil and Gas(Old Name Cairn India Limited (Aishwariya Field)) , Plant - , , Tehsil- Barmer , District- Barmer** Collected from **Ambient Air quality monitoring of Aishwarya well pad no-06** Collected on **09/01/2025**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **10/01/2025** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Nitrogen Dioxide as NO2 µg/M3	19.9
2	Particulate Matter (PM10) µg/m3	89
3	Sulphur Dioxide as SO2 ug/m3	5.5

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **10/01/2025**

Dr. Narain Bhoot

BOARD ANALYST

Rajasthan State Pollution Control Board

Regional Office Balotra

Regional office,Rajasthan state pollution control Board,Jasol phanta,OppJDVVNL office,Jasol Road Balotra,District -Balotra

Phone: 9667576064

Fax: 9667576064

Signature valid

Digitally signed by Narain Bhoot
Date: 2025.01.10 18:22:47 IST
Reason: SelfAttested
Location:

FORM - X

RAJASTHAN STATE POLLUTION CONTROL BOARD

REPORT OF THE STATE BOARD ANALYST

(See Rule - 10)

Report No. : **1105**

Report On : **10/01/2025**

I hereby certify that I **Dr. Narain Bhoot**, State Board Analyst duly appointed **under sub Section(2) of Section 29 of the Air (Prevention & Control of Pollution) Act, 1981** received on the **10/01/2025** from **Harish Parihar, JSO, Balotra ,RSPCB Balotra** a sample of **Ambient Air Quality** of **M/S Vedanta Limited, Cairn Oil and Gas(Old Name Cairn India Limited (Aishwariya Field)) , Plant - , , Tehsil- Barmer , District- Barmer** Collected from **Ambient Air quality monitoring of Aishwarya well pad no-08** Collected on **09/01/2025**. The Sample was in a condition fit for analysis as reported below :-

I further certify that I have analyzed the aforementioned sample on **10/01/2025** and declare the result of the analysis to be as below :-

S. No.	Parameters	Result
1	Nitrogen Dioxide as NO2 µg/M3	20.3
2	Particulate Matter (PM10) µg/m3	91
3	Sulphur Dioxide as SO2 ug/m3	5.4

The condition of the seals, fastening and container on receipt was as follows : **Intact**

Signed This On **10/01/2025**

Dr. Narain Bhoot

BOARD ANALYST

Rajasthan State Pollution Control Board

Regional Office Balotra

Regional office,Rajasthan state pollution control Board,Jasol phanta,OppJDVVNL office,Jasol Road Balotra,District -Balotra

Phone: 9667576064

Fax: 9667576064

Signature valid

Digitally signed by Narain Bhoot
Date: 2025.01.10 18:20:12 IST
Reason: SelfAttested
Location:

Annexure 'B'

(क्षेत्रीय कार्यालय)
राजस्थान राज्य प्रदूषण नियंत्रण मंडल,बालोतरा
Rajasthan State Pollution Control Board, Balotra
(Regional Office)

RO/RPCB/BLT/Gen-92/1110-1112 Dated: 02/07/2024

Commissioner,
Municipal Council,
Barmer

Sub: Notice for Non-Compliance of provisions of Solid Waste Management Rules, 2016 and Water (Prevention & Control of pollution) Act-1974, Air (Prevention & Control of Pollution) Act-1981 and Environment Protection Act, 1986.

Ref:
1. Hon'ble NGT order dated 14/07/2021 in the matter of O.A. no. 38/2018.
2. Hon'ble NGT order dated 08/07/2022 in the matter of O.A. no. 42/2018(CZ).
3. Hon'ble NGT order dated 15/09/2022 in the matter of O.A. no. 606/2018.
4. Hon'ble NGT order dated 19/03/2024 in the matter of O.A. no. 247/2024.
5. Letter issued by this office dated 19/09/2023, 01/02/2024 & 27/03/2024.
6. Inspection carried out by the State Board official on 19/06/2024 of MSW disposal site.
7. Ambient Air monitoring carried out by the State Board official on 23/06/2024 of MSW disposal site.
8. Letter issued on 08/07/2024 by the State Board to LSG, Department.

Sir,

1. Whereas, the Water (Prevention and Control of Pollution) Act, 1974 (hereinafter referred to as the "Water Act") has come into force in whole of the State of Rajasthan w.e.f. 23/03/1974.
2. And whereas, the Air (Prevention & Control of Pollution) Act, 1981 (hereinafter called as 'the Air Act') has come into force in whole of the State of Rajasthan w.e.f. 16/05/1981
3. And whereas the Solid Waste Management Rules (hereinafter called as the "Rules") have been enacted by Ministry of Environment, forest and climate changes, Gol, New Delhi in exercise of power conferred upon it under the Act, with a view to ensure proper management, handling and disposal of municipal solid waste and the Rules came into the force on 08/04/2016.
4. And whereas the Environment (Protection) Act, 1986 has been enacted for the protection and improvement of environment and for matter connected with. The Act came in the effect in whole of India on 19/11/1986.
5. And whereas the Rules **cast a duty on the Municipal Authority or operator of the facility to make an application to State Board to obtain Consent to Establish/ Consent to Operate as well as Authorization.**
6. And whereas the provision of clause (h) of section 15 of the Rules makes every Municipal Authority responsible to set up material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable

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Rajasthan State Pollution Control Board, Balotra
(Regional Office)

materials to facilitate the collection of segregated recyclable waste such as paper, metal, glass etc. from the source of generation or from Material Recovery Facilities.

7. And whereas it is pertinent to mention that possibility of fugitive air pollution and generation of leachate from the waste cannot be ruled out during the rainy season while operating such facility.
8. And whereas an interdepartmental meeting was held on 08/03/2021 in the RSPCB Head Office under the Chairmanship of Chairperson, RSPCB with LSG and other departments and it was directed to obtain consent/authorization for the installed/operational MRF& MSW sites under the provisions of Water & Air Act and SWM Rules, 2016.
9. And whereas it has come to Notice of Board that you have still not applied for authorization from the Board, which is Non-compliance of the above said SWM Rules.
10. And Whereas MoEF, GoI, New Delhi vide notification No.327(E) dated 10/04/2001 has delegated the power vested in it under section 5 of EP Act to Chairman, RSPCB to issue directions to any person, officer or authority in addition of its power and performance of function under SWM Rules, 2016.
11. And whereas Central Pollution Control Board had issued directions to Chairperson, Rajasthan State Pollution Control Board under Section 18(1)(a) of Water Act, 1974 and section 18(1)(b) of Air Act, 1981 vide its letter dated 10/11/2014 stating that RSPCB shall issue direction to all the Municipal Authorities in the State for implementation of SWM Rules,2016.
12. And whereas in view if power vested under section 5 of EP Act, 1986 read with notification No. 327(E) dated 10/04/2001, it is directed that-
    i. Municipality shall apply and obtain the Consent/Authorization from the State Board for all installed/operational MRF/MSW sites/Substation in their respective areas.
    ii. To ensure proper transportation, segregation, sorting, storage and disposal of Municipal Solid Waste at the site of MRF's to control the outrageous diseases.
    iii. To ensure the fugitive air emission and water/leachate If any generated at the site meets the prescribed standards as per Water/Air Acts and schedule-II of the SWM Rules,2016.
13. And whereas it is also pertinent to mention that in the matter of **Original application no. 38/2018 Intach Chapter V/s State of Rajasthan & Ors. Which is related to Barmer District, the Hon'ble Tribunal vide order dated 14/07/2021 in the matter of miscellaneous application filed by the State Board has passed the following direction:**

"3. Section 16(1) of Solid Waste Management Rules, 2016 provides to enforce these Rules in their respective State through Local Bodies and review implementation of these rules at-least twice a year in close coordination with concerned Directorate of Municipal

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Rajasthan State Pollution Control Board, Balotra
(Regional Office)

Administration or Secretary in charge of State Urban Development Department and also to monitor environmental standards and adherence to conditions as specified under the schedule of the Act and to also to examine the proposal for provision and make such enquiries as deem fit. Sub-clause 5 of section 16(1) provides that the State Pollution Control Board or the Pollution Control Committee may give Direction to local bodies for safe handling and disposal of domestic hazardous waste deposited by the Waste Generator or Hazardous Waste Deposition Facilities. Similar provisions have been provided in Plastic Waste (Management & Handling) Rules, 2016 and other Rules and the State Pollution Control Board has been empowered to execute these rules and guidelines to protect the environment.

4. Accordingly, the State Pollution Control Board is directed to execute and enforce the Rule of Law, as contained in the Environment (Protection) Act, 1986, within their respective jurisdiction in accordance with law".

14. And whereas **Hon,ble National Green Tribunal, Principal Bench in O.A. no. 42/2018 (CZ) Yashovardhan Shandilya V/s State of Rajasthan & Ors. Has issue an order on 08/07/2020 that:**

"State Pollution Control Board is directed to take a remedial measures and also to issue show cause notice and proceed to recover the environmental compensation for the non-compliance of the orders and rules and in violation of the activities committed by the local authorities."

15. And whereas it is also pertinent to mention that in the matter of **Original application no. 606/2018 in Respect of Rajasthan, the Hon'ble Tribunal vide order dated 15/09/2022 in the matter of miscellaneous application filed by the State Board has passed the following direction:**

"2. All States/UTs and their SPCBs/PCCs have totally ignored the improvement of existing open dumps, due by 31-12-2001"

Also, "The Secretaries to the Government concerned shall be responsible for monitoring the progress and issuing necessary directions to the Pollution Control Board concerned, as may be required, for the implementation of the above directions. They shall be also responsible for collecting and maintaining records of data, in respect of the directions contained in this order. The said data shall be furnished to the Central Ground Water Authority, which shall evaluate the data and shall furnish the same to the Bench of the jurisdictional National Green Tribunal. To supervise complaints of non-implementation of the instant directions, the Benches concerned of the National Green Tribunal, will maintain running and numbered case files, by dividing the jurisdictional area into units. The abovementioned case files will be listed periodically. The Pollution Control Board concerned

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Rajasthan State Pollution Control Board, Balotra
(Regional Office)

is also hereby directed to initiate such civil or criminal action, as may be permissible in law, against all or any of the defaulters."

16. And whereas it is also pertinent to mention that in the matter of **Original application no. 247/2024 (PB), Suo Moto "Ahmedabad Surat landfills among worst three methane hotspots in india" appearing in the Times of India dated 07/02/2024, Hon'ble NGT, New Delhi has passed an order dated 19/03/2024 and directed inter-alia as follows:-**

"5. For the purpose of submitting factual report, we constitute a Joint Committee comprising a Senior Officer to be nominated by member Secretary, Central Pollution Control Board (CPCB), concerned Regional Officers of respective State Pollution Control Boards, a representative of ISRO to be nominated by Director, and a Senior Scientist nominated by Ministry of Environment, Forest and Climate Change (MoEF&CC0."

17. And whereas Letter issued by this Office under provisions of Solid Waste Management Rules,2016 with Water(Prevention & Control of Pollution) Act,1974, Air (Prevention & Control of Pollution) Act, 1981 and Environment Protection Act, 1986 on 19/09/2023, 01/02/2024 & 27/03/2024 but still you have failed to submit any reply till date.

18. And whereas the unit (MSW dumping site) was inspected by the State Board official on 19/06/2024 and during inspection it has been observed that:

a) The unit has failed to ensure the compliance of provisions of Solid waste Management Rules, 2016.
b) The unit has not obtained the authorization under Solid Waste Management Rules, 2016.
c) The unit has not operating the material recovery facility for sorting of recyclable materials to facilitate the collection of segregated recyclable waste such as paper, metal, glass etc. from the source of generation.
d) The unit has not operating the composting pits for the treatment of biodegradable waste.
e) The unit has not provided any fire protection equipment's and safety provisions at dumping site.
f) The unit has not provided the methane gas detector at the site.
g) The unit has not provided any system for leachate collection and treatment.
h) The unit has not developed the adequate green belt area.
i) The unit has not constructed the storm water drains to avoid mixing of surface runoff with leachate.
j) The unit has not operating the bio-mining facility for the legacy waste.
k) Unit has not provided weighing bridge or any other suitable weighing arrangement to determine the weight of waste received, segregated, sold or disposed.

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l) Unit has not provided logbook of waste received, segregated and sold.
m) Unit has installed the Trommel Machine but the same was found non-operational during visit.
n) Unit has installed the crushing Machine, Shredder Machine & Bailing Machine for the Material Recovery facility. But during inspection all were found non-operational.
o) No compost was observed in the compost pit (24 in no's).

19. And whereas the ambient air monitoring of the site was conducted by the Boards official on 23/06/2024 and the monitoring report dated 24/06/2024 clearly indicated that the ambient air quality does not confirm to the standards prescribed in respect of PM10.

20. And whereas, the State Board has issued a letter on 08/07/2024 to Director Cum Special Secretary, LSG, Department, Jaipur regarding non-compliance of Solid Waste Management Rules, 2016 (copy enclosed).

In view of above, you are directed to ensure the compliance of aforesaid Rules so the provisions of Solid Waste Management Rules, 2016 in accordance with Water Act, 1974, Air Act, 1981 and EP Act, 1986 may be effectively implemented. Failure to which may lead to initiation of further necessary action which may include the Environment Compensation.

Yours sincerely,

(Raj Kumar Sehra)
Regional Officer o/c

Copy to :-
1. District collector, Barmer for information & necessary action please.
2. GIC, MSW, RSPCB, JAIPUR.

Regional Officer o/c

Rajasthan State Pollution Control Board

Headquarter, 4, Institutional Area, JhalanaDoongri, Jaipur-302004
Phone :0141- 2716804, 2716800 e-mail :member-secretary@rpcb.nic.in
Helpline No. : 0141-2716877

LiFE Lifestyle for Environment

E- Mail /Registered A/D

File No.:- F16 (MSW-272)/RPCB/ 7610785 Date: 8/7/2024

Director Cum Special Secretary,
Local Self Government Department,
Jaipur.

Sub.: - Regarding non-compliances of Solid Waste Management Rules, 2016.

Ref.:- 1. This office letter dated 21/06/2021.
2. Letter issued to Director, Local Bodies, GoR, Jaipur on 15.11.2022.

Sir,

Apropos above, it may be noted that as per provision of section 15(y) of Solid Waste Management Rules, for all Material Recovery Facilities (MRF) it is necessary to obtain authorization when the volume of the municipal waste is exceeding 5 Tons/Day. Further during processing of municipal solid waste possibility of fugitive air pollution and generation of leachate from waste cannot be ruled out particularly in the rainy season. Therefore, all MRF facilities handling municipal waste more than 5 Ton/Day are required to obtain Consent to Establish/Consent to Operate under Water Act, Air Act and Authorization under Solid Waste Management Rules, 2016 from the State Board.

The State Board has categorized MRF facilities under 'Orange Category' in which Regional Officers of the State Board have been empowered vide order dated 02/03/2021 (copy enclosed) to issue authorization & Consent to Establish/Consent to Operate to all such facilities which do not require Environmental Clearance as per EIA notification dated 14/06/2006.

Director, Local Bodies was directed to issue direction to all local bodies to apply for Consent to Establish/Consent to Operate under Water Act, 1974, Air Act 1981, and Authorization under Solid Waste Management Rules, 2016 vide letter dated 15.11.2022 (copy enclosed), however, only few local bodies has applied for CTE/CTO of MRF facilities till date. Also, no local bodies have obtained authorization under SWMR from State Board till date.

Therefore, you are requested to issue directions to local bodies to apply for Consent to Establish/Consent to Operate under Water Act, 1974, Air Act 1981 and to apply for Authorization under Solid Waste Management Rules, 2016. Also, to submit the list of MRF/RDF/Compost facilities established by local bodies or permission given by local bodies to private organization in Rajasthan.

End-As aboveYours Sincerely,

(Vijai N.)
Member Secretary o/c

Copy to: -

1. Director, Local Bodies, GoR, Jaipur – with request to forward the details of MRF/RDF/Compost facilities along with their Consent status and method adopted for disposal of inert waste.
2. RO, Alwar, Bhiwadi, Bharatpur, Banswara, Bundi, Bikaner, Balotra, Bhilwara, Chittorgarh, Hanumangarh, Kota, Kishangarh, Nagaur, Pali, Jodhpur, Jaipur (N), Jaipur (S), Sikar, Sawaimadhopur, Jaisalmer, Sirohi, Rajsamand, Jhunjhunu, Jhalawar, Udaipur are requested to forward the list of units who has obtained CTE/CTO and authorization from State Board along with their mode of disposal of inert waste.

Member Secretary

Annexure 'C'

(क्षेत्रीय कार्यालय)
राजस्थान राज्य प्रदूषण नियंत्रण मंडल, बालोतरा
Rajasthan State Pollution Control Board, Balotra
(Regional Office)

RO/RPCB/BLT/Gen-92/3769-72 Dated: 13.1.2025

Commissioner,
Municipal Council,
Barmer

(Reminder)

Sub: Direction under the provisions of Solid Waste Management Rules, 2016 with Water (Prevention & Control of pollution) Act-1974, Air (Prevention & Control of Pollution) Act-1981 and Environment Protection Act, 1986 for the non-compliances.

Ref:
1. Hon'ble NGT order dated 14/07/2021 in the matter of O.A. no. 38/2018.
2. Hon'ble NGT order dated 08/07/2022 in the matter of O.A. no. 42/2018(CZ).
3. Hon'ble NGT order dated 15/09/2022 in the matter of O.A. no. 606/2018.
4. Hon'ble NGT order dated 19/03/2024 in the matter of O.A. no. 247/2024.
5. Letter issued by this office dated 19/09/2023, 01/02/2024 & 27/03/2024.
6. Inspection carried out by the State Board official on 19/06/2024 of MSW disposal site.
7. Ambient Air monitoring carried out by the State Board official on 23/06/2024 of MSW disposal site.
8. Letter issued on 08/07/2024 by the State Board to LSG, Department.
9. Notice issued by this office on 09/07/2024.
10. Consent to Establish accorded on 11/11/2024.

Sir,

1. Whereas, the Water (Prevention and Control of Pollution) Act, 1974 (hereinafter referred to as the "Water Act") has come into force in whole of the State of Rajasthan w.e.f. 23/03/1974.
2. And whereas, the Air (Prevention & Control of Pollution) Act, 1981 (hereinafter called as 'the Air Act') has come into force in whole of the State of Rajasthan w.e.f. 16/05/1981
3. And whereas the Solid Waste Management Rules (hereinafter called as the "Rules") have been enacted by Ministry of Environment, forest and climate changes, Gol, New Delhi in exercise of power conferred upon it under the Act, with a view to ensure proper management, handling and disposal of municipal solid waste and the Rules came into the force on 08/04/2016.
4. And whereas the Environment (Protection) Act, 1986 has been enacted for the protection and improvement of environment and for matter connected with. The Act came in the effect in whole of India on 19/11/1986.

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5. And whereas the Rules **cast a duty on the Municipal Authority or operator of the facility to make an application to State Board to obtain Consent to Establish/ Consent to Operate as well as Authorization.**

6. And whereas the provision of clause (h) of section 15 of the Rules makes every Municipal Authority responsible to set up material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to facilitate the collection of segregated recyclable waste such as paper, metal, glass etc. from the source of generation or from Material Recovery Facilities.
7. And whereas it is pertinent to mention that possibility of fugitive air pollution and generation of leachate from the waste cannot be ruled out during the rainy season while operating such facility.
8. And whereas an interdepartmental meeting was held on 08/03/2021 in the RSPCB Head Office under the Chairmanship of Chairperson, RSPCB with LSG and other departments and it was directed to obtain consent/authorization for the installed/operational MRF& MSW sites under the provisions of Water & Air Act and SWM Rules, 2016.
9. And whereas it has come to Notice of Board that you have still not applied for authorization from the Board, which is Non-compliance of the above said SWM Rules.
10. And Whereas MoEF, Gol, New Delhi vide notification No.327(E) dated 10/04/2001 has delegated the power vested in it under section 5 of EP Act to Chairman, RSPCB to issue directions to any person, officer or authority in addition of its power and performance of function under SWM Rules, 2016.
11. And whereas Central Pollution Control Board had issued directions to Chairperson, Rajasthan State Pollution Control Board under Section 18(1)(a) of Water Act, 1974 and section 18(1)(b) of Air Act, 1981 vide its letter dated 10/11/2014 stating that RSPCB shall issue direction to all the Municipal Authorities in the State for implementation of SWM Rules,2016.
12. And whereas in view if power vested under section 5 of EP Act, 1986 read with notification No. 327(E) dated 10/04/2001, it is directed that-
    i. Municipality shall apply and obtain the Consent/Authorization from the State Board for all installed/operational MRF/MSW sites/Substation in their respective areas.
    ii. To ensure proper transportation, segregation, sorting, storage and disposal of Municipal Solid Waste at the site of MRF's to control the outrageous diseases.

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(Regional Office)

iii.To ensure the fugitive air emission and water/leachate If any generated at the site meets the prescribed standards as per Water/Air Acts and schedule-II of the SWM Rules, 2016.

13.And whereas it is also pertinent to mention that in the matter of **Original application no. 38/2018 Intach Chapter V/s State of Rajasthan &Ors. Which is related to Barmer District, the Hon'ble Tribunal vide order dated 14/07/2021 in the matter of miscellaneous application filed by the State Board has passed the following direction:**

"3. Section 16(1) of Solid Waste Management Rules, 2016 provides to enforce these Rules in their respective State through Local Bodies and review implementation of these rules at-least twice a year in close coordination with concerned Directorate of Municipal Administration or Secretary in charge of State Urban Development Department and also to monitor environmental standards and adherence to conditions as specified under the schedule of the Act and to also to examine the proposal for provision and make such enquiries as deem fit. Sub-clause 5 of section 16(1) provides that the State Pollution Control Board or the Pollution Control Committee may give Direction to local bodies for safe handling and disposal of domestic hazardous waste deposited by the Waste Generator or Hazardous Waste Deposition Facilities. Similar provisions have been provided in Plastic Waste (Management & Handling) Rules, 2016 and other Rules and the State Pollution Control Board has been empowered to execute these rules and guidelines to protect the environment.

4. Accordingly, the State Pollution Control Board is directed to execute and enforce the Rule of Law, as contained in the Environment (Protection) Act, 1986, within their respective jurisdiction in accordance with law".

14.And whereas **Hon,ble National Green Tribunal, Principal Bench in O.A. no. 42/2018 (CZ) Yashovardhan Shandilya V/s State of Rajasthan & Ors. Has issue an order on 08/07/2020 that:**

"State Pollution Control Board is directed to take a remedial measures and also to issue show cause notice and proceed to recover the environmental compensation for the non-compliance of the orders and rules and in violation of the activities committed by the local authorities."

15.And whereas it is also pertinent to mention that in the matter of **Original application no. 606/2018 in Respect of Rajasthan, the Hon'ble Tribunal vide order dated 15/09/2022 in the matter of miscellaneous application filed by the State Board has passed the following direction:**

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Rajasthan State Pollution Control Board, Balotra
(Regional Office)

"2. All States/UTs and their SPCBs/PCCs have totally ignored the improvement of existing open dumps, due by 31-12-2001"
Also, "The Secretaries to the Government concerned shall be responsible for monitoring the progress and issuing necessary directions to the Pollution Control Board concerned, as may be required, for the implementation of the above directions. They shall be also responsible for collecting and maintaining records of data, in respect of the directions contained in this order. The said data shall be furnished to the Central Ground Water Authority, which shall evaluate the data and shall furnish the same to the Bench of the jurisdictional National Green Tribunal. To supervise complaints of non-implementation of the instant directions, the Benches concerned of the National Green Tribunal, will maintain running and numbered case files, by dividing the jurisdictional area into units. The abovementioned case files will be listed periodically. The Pollution Control Board concerned is also hereby directed to initiate such civil or criminal action, as may be permissible in law, against all or any of the defaulters."

16. And whereas it is also pertinent to mention that in the matter of **Original application no. 247/2024 (PB), Suo Moto "Ahmedabad Surat landfills among worst three methane hotspots in india" appearing in the Times of India dated 07/02/2024, Hon'ble NGT, New Delhi has passed an order dated 27/09/2024 and directed to submit the action taken report in the matter.**
17. And whereas Letter issued by this Office under provisions of Solid Waste Management Rules,2016, Water(Prevention & Control of Pollution) Act,1974, Air (Prevention & Control of Pollution) Act, 1981 and Environment Protection Act, 1986 on 19/09/2023, 01/02/2024 & 27/03/2024 incorporating the non-compliances.
18. And whereas the unit (MSW dumping site) was inspected by the State Board official on 19/06/2024 and during inspection it has been observed that:
    a) The unit has failed to ensure the compliance of provisions of Solid waste Management Rules, 2016.
    b) The unit has not obtained the authorization under Solid Waste Management Rules, 2016.
    c) The unit has not operating the material recovery facility for sorting of recyclable materials to facilitate the collection of segregated recyclable waste such as paper, metal, glass etc. from the source of generation.
    d) The unit has not operating the composting pits for the treatment of biodegradable waste.

e) The unit has not provided any fire protection equipment's and safety provisions at dumping site.
f) The unit has not provided the methane gas detector at the site.
g) The unit has not provided any system for leachate collection and treatment.
h) The unit has not developed the adequate green belt area.
i) The unit has not constructed the storm water drains to avoid mixing of surface runoff with leachate.
j) The unit has not operating the bio-mining facility for the legacy waste.
k) Unit has not provided weighing bridge or any other suitable weighing arrangement to determine the weight of waste received, segregated, sold or disposed.
l) Unit has not provided logbook of waste received, segregated and sold.
m) Unit has installed the Trommel Machine but the same was found non-operational during visit.
n) Unit has installed the crushing Machine, Shredder Machine & Bailing Machine for the Material Recovery facility. But during inspection all were found non-operational.
o) No compost was observed in the compost pit (24 in no's).

19. And whereas the ambient air monitoring of the site was conducted by the Boards official on 23/06/2024 and the monitoring report dated 24/06/2024 clearly indicated that the ambient air quality does not confirm to the standards prescribed in respect of PM10.

20. And whereas the CPCB has submitted a report in the matter of O.A 247/2024 vide letter dated 06/01/2025, which includes the reported measures to be taken at Municipal Solid Waste sites, the measures to be taken are as under:

a. **That bioremediation should be completed at Barmer Municipal Solid Waste Site.**
b. **Methane detectors to be installed at the site at appropriate locations.**
c. **Only segregated inert waste to be permitted to be dumped at sites.**
d. **Regular Ambient Air quality to be monitored at the site and report to be submitted to RSPCB.**
e. **Details related to quantity of methane generated to be provided with RSPCB on annual basis.**

21. And whereas, the State Board accorded the consent to establish to Municipal Council Barmer vide dated 11/11/2024 for setting-up the compost unit

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(Regional Office)

(10.00 TPD), Legacy waste Plant (300 TPD), Material Recovery Facility (50 TPD).

22. And whereas, the Municpal Council Barmer has failed to submit the consent to operate application till date.
23. And whereas, the State Board has issued a letter on 08/07/2024 to Director Cum Special Secretary, LSG, Department, Jaipur regarding non-compliance of Solid Waste Management Rules, 2016 (copy enclosed).
24. And whereas a notice for Non-Compliance of provisions of Solid Waste Management Rules, 2016 and Water (Prevention & Control of pollution) Act-1974, Air (Prevention & Control of Pollution) Act-1981 and Environment Protection Act, 1986 was issued by this office on 09/07/2024, but you have failed to submit any reply till date.

In view of above, you are directed to take the action on the shortcomings mentioned in this direction letter as stipulated above and ensure the compliance of aforesaid rules. Failure to which may lead to initiation of further necessary action which may include the Environment Compensation.

Yours sincerely,

(Raj Kumar Sehra)
Regional Officer

Copy to:-
1. District Collector, Barmer for information & necessary action please.
2. DDR, Local Self Government, Jodhpur.
3. GIC (MSW), RSPCB, Jaipur.

Regional Officer

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Annexure 'D'

Rajasthan State Pollution Control Board

Headquarter, 4, Institutional Area, Jhalana Doongri, Jaipur-302004
Phone : 0141-2711263,2716802 e-mail : member-secretary@rpcb.nic.in
RSPCB HelpLine No. : 0141-2716877

Registered Post

F-16(Env.Comp-Gen- 17) RPCB/Env. Comp./1647 to 1652 Date: 18-02-22

Commissioner,
Municipal Council,
Barmer.

Sub: Directions for depositing of Environmental Compensation under section 5 of Environment (Protection) Act, 1986 in compliance of orders of the Hon'ble Supreme Court in Writ Petition Civil No. 375/2012 Paryavaran Suraksha Samiti & Anr. Vs Union of India & Others and the Hon'ble National Green Tribunal in Original Application No. 606/2018 - Compliance of Municipal Solid Waste Management Rules, 2016 and Hon'ble NGT in O.A. no. 42/2018 (CZ) Yashovardhan Shandilya Sharma V/s State of Rajasthan & Ors.

1. Whereas Environment (Protection) Act, 1986 (hereinafter referred to as the "Act"), has been enacted for the protection and improvement of environment and for matters connected therewith. The Act has come into effect in whole of India on 19/11/1986.
2. And whereas the Solid Waste Management Rules, 2016 (hereinafter referred to as the "Rules"), have been enacted by the Ministry of Environment, Forest & Climate Change, Govt. of India, New Delhi in exercise of the powers conferred upon it under the Act, with a view to ensure proper management, handling and disposal of municipal solid wastes and the Rules have came into force on 08/04/2016.
3. And whereas the provision of rule 15 of the Rules make every municipal authority in its territorial area responsible for implementation of the provisions of the Rules and for every infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.
4. And whereas the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, have come into force in the whole of the country with effect from 23/03/1974 and 16/05/1981 respectively.
5. And whereas you are operating the unit/establishment/ entity (hereinafter referred to as the unit) in the name of **Municipal Council, Barmer** which is engaged in operating an industrial plant / operation / process (MSW dumping site) at **Gehun Road, Near village Gehun, Tehsil & District Barmer** and during the process the unit discharges water and/or air pollutants.
6. And whereas the unit (MSW dumping site) was inspected by the officials of the State Board on **11.09.2020** and during inspection it has been observed that:
   (i) **The unit has failed to ensure compliance of provisions of Solid Waste Management Rules, 2016.**
   (ii) **The unit was operating without obtaining prior consents of RSPCB under Air Act, 1981 and Water Act, 1974.**
7. And whereas the above observations indicate that the unit has failed to comply with the provisions of Solid Waste Management Rules, Air Act and Water Act and various directions of the Hon'ble Courts and Hon'ble National Green Tribunal (NGT) and/ or by making discharge of effluent/ emissions has caused grave damage to the environment which can be categorized as significantly huge with grave consequences on the environment, public health and flora & fauna.
8. And whereas the Hon'ble Supreme Court in Writ Petition Civil No. 375/2012 Paryavaran Suraksha Samiti & Anr. Vs Union of India & Others and the Hon'ble NGT in Original Application No. 606/2018 Compliance of Municipal Solid Waste Management Rules, 2016 and in several other

Rajasthan State Pollution Control Board
Headquarter, 4, Institutional Area, Jhalana Doongri, Jaipur-302004
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cases has directed the Board to impose Environmental Compensation on all the individuals/ units /industries/ mines/ institution/ entities etc. who are causing damage to the environment on the principle of 'POLLUTER PAYS'.

9. And whereas Hon'ble NGT has issued the directions to impose Environmental Compensation on the non complying polluting units and has directed the Board to implement the same for restoration of environmental damages caused to the environment.
10. And whereas Hon'ble National Green Tribunal, Principal Bench in O.A. no. 42/2018 (CZ) Yashovardhan Shandilya Sharma V/s State of Rajasthan & Ors. has 'inter alia' passed following directions on 08.07.2020:-

    "State Pollution Control Board is directed to take remedial measures and also to issue show cause notice and proceed to recover the environmental compensation for the non-compliance of the orders and rules and in violation of the activities committed by the local authorities."
11. And whereas the unit is liable to pay damages i.e. Environmental Compensation on the basis of 'Polluter Pays Principle' as directed by the Hon'ble Supreme Court and Hon'ble NGT in various orders.
12. And whereas the Board has estimated the amount of environmental compensation to be levied on the unit as **Rs 13,50,800/- (Thirteen Lac Fifty Thousand Eight Hundred Rupees only)** on the basis of Polluter Pays Principle.
13. And whereas a show cause notice for intended directions for depositing of Environmental Compensation under section 5 of Environment (Protection) Act, 1986 was issued to the industry vide this office letter dated 07.01.2022.
14. And whereas the submission made by the industry/ unit were considered by the Board and it is observed that industry has failed to justify the observed non-compliances. Accordingly, it has been decided to impose Environmental Compensation of **Rs 13,50,800/- (Thirteen Lac Fifty Thousand Eight Hundred Rupees only)** against your unit.
15. And whereas the Ministry of Environment, Forest & Climate Change, Govt. of India, New Delhi vide Notification No. 327(E) dated 10/04/2001, has delegated the powers vested in it under section 5 of the said Act to the Chairman, State Pollution Control Board to issue directions to any industry or any local or other authority for the violation of the standards and rules relating to Bio Medical Waste, Hazardous Chemicals, Industrial Solid Waste and Municipal Solid Waste including Plastic waste notified under Environment (Protection) Act, 1986.
16. And whereas the State Board in performance of its duties under the Acts, is competent to issue any directions under section 5 of Environment (Protection) Act, 1986 in writing to any person, officer or any authority and such person, officer or authority shall be bound to comply with such directions.

In view of above, the State Board in exercise of the powers conferred upon it under section 5 of the Environment (Protection) Act, 1986 and for performance of functions under the Act, hereby directs the industry to deposit the amount of **Rs 13,50,800/- (Thirteen Lac Fifty Thousand Eight Hundred Rupees only)** as Environmental Compensation on the basis of 'Polluter Pays Principle' in Regional office of the RSPCB at Balotra by 30.04.2022. The Environmental Compensation may be deposited through a demand draft drawn in favour of the **Member Secretary, Rajasthan State Pollution Control Board, Jaipur.**

Please be informed that in case of failure to deposit the Environmental Compensation the industry will be liable for following actions:-

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i. Consent to establish and/ or consent to operate shall be refused/ revoked without any further notice.

ii. Legal action including filing of Execution Application before the Hon'ble NGT may be initiated against the industry and its owners/ occupiers.

iii. Any application for grant/ renewal of consent to establish or consent to operate shall not be entertained by the Board.

iv. After 60 days the industry shall be liable to pay additional amount @ 1.5% of the Environmental Compensation amount per month till deposition of the Environmental Compensation.

It may be further noted that failure to comply with these directions is a criminal offence, punishable with imprisonment for a term which may extend to seven years and with fine under section 15 of the Environment (Protection) Act, 1986.

This bears approval of the competent authority.

Yours sincerely

(Vishnu Datt Purohit)

o/c Environmental Engineer (Env. Comp.)

F-16(Env.Comp-Gen- 17) RPCB/Env. Comp./ Date:

Copy to following for information and necessary action:-

1. Group Incharge, Legal, RSPCB, Jaipur.
2. Group Incharge, MSW, RSPCB, Jaipur.
3. Regional Officer, Regional Office, Rajasthan State Pollution Control Board, Balotra.
4. Master File, Environment Compensation Cell, Rajasthan State Pollution Control Board, Jaipur.
5. Guard File.

o/c Environmental Engineer (Env. Comp.)