

## BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

## PRINCIPAL BENCH AT NEW DELHI

## ORIGINAL APPLICATION NO. 152 OF 2022

**IN THE MATTER OF:**

GHANSHYAM SINGH PASI

...APPLICANT

VERSUS

STATE OF U.P. &amp; ORS.

...RESPONDENTS

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*Vanita Bhargava*

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**NEW DELHI**  
**DATED: 11.12.2024**



**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL**

**PRINCIPAL BENCH AT NEW DELHI**

**ORIGINAL APPLICATION NO. 152 OF 2022**

**IN THE MATTER OF:**

**GHANSHYAM SINGH PASI**

**...APPLICANT**

**VERSUS**

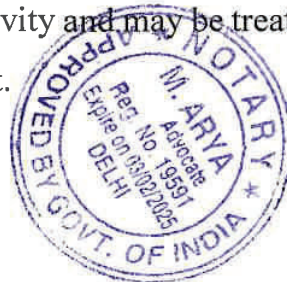
**STATE OF U.P. & ORS.**

**...RESPONDENTS**

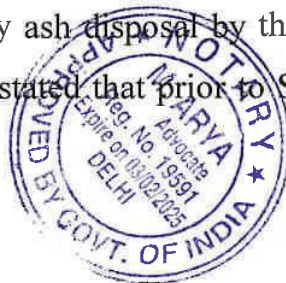
**RESPONSE/ OBJECTIONS FILED ON BEHALF OF M/S  
RADICO KHAITAN LIMITED TO THE ADDITIONAL REPORT  
/ AFFIDAVIT DATED 20.11.2024 FILED BY UPPCB**

I, Dinesh Kumar Gupta, son of Late Shri Ram Karan Gupta, aged about 45 years, working as Sr. Vice President – Legal & Company Secretary with Radico Khaitan Limited, r/o B-1/54, Rajasthali Apartments, Pitampura, Delhi - 110034, do hereby solemnly affirm and state as under:

1. That I am the authorized signatory of the Project Proponent (“**Answering Respondent**”) and am well conversant with the facts and circumstances of this case and thereby competent and authorized to affirm this affidavit.
2. That the present response/objection is being filed in pursuance to and in compliance of the directions of this Hon’ble Tribunal in its order dated 21.11.2024. It is humbly submitted that the submissions made by way of the Affidavit dated 30.09.2023 and the additional affidavits dated 22.01.2024, 28.08.2024 and 20.11.2024 filed by Answering Respondent are not repeated herein for the purpose of brevity and may be treated as part and parcel of the present Additional Affidavit.

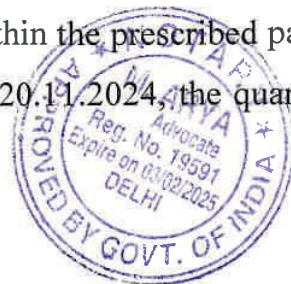


3. That in terms of the order dated 21.11.2024, the Hon'ble Tribunal directed the Answering Respondent to file the present reply/ objections to the additional report dated 20.11.2024 filed by the Uttar Pradesh Pollution Control Board ("UPPCB").
4. At the outset, it is submitted that the report dated 20.11.2024 of UPPCB does not refer to/take into account our reply RKL/VPO/736 dated 18.11.2024 to the earlier letter no. H19371/C – 7/Vividh –608/2024 dated 05.11.2024 issued by UPPCB. A copy of the letter dated 18.11.2024 along with annexures written by the Answering Respondent in reply to the letter dated 05.11.2024 of the UPPCB is annexed as ANNEXURE A.
5. That the report of inspection team incorrectly records that during the inspection, the arrangement for disposal of fly ash generated was not found to be in accordance with the provisions of the notification dated 31.12.2021 as no disposal of fly ash was found during the inspection. However, it is submitted that since no activity of disposal of fly ash was found at the relevant time during the inspection therefore it would be incorrect to observe any non-compliance with provisions of the notification dated 31.12.2021. However, it is submitted that the notification issued by the Ministry of Environment, Forest, and Climate Change (MoEF&CC) on 31.12.2021 provides the norms for the disposal of fly ash generated by thermal power plants which use coal/lignite as fuel, whereas our unit is using substantial quantity of rice husk as fuel and a very limited quantity of coal is used as fuel only to meet the remaining fuel requirement, that too when no biogas is used in the boilers. Central Pollution Control Board (CPCB) guidelines of 2019 were also issued for fly ash disposal by thermal power plants using only coal as fuel. It may be stated that prior to September 2023, our Unit



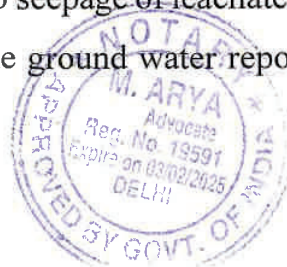
used only Rice Husk as fuel in the boilers. It is worth mentioning that Rick husk is a form of bio-fuel which reduces carbon emissions and greenhouse gases in the environment. Our unit is meeting maximum fuel requirements by using biofuel i.e. rice husk and is therefore substantially contributing to effective reduction in carbon emissions and greenhouse gases in and around its industrial unit.

6. Therefore, the fly ash generated by substantial use of rice husk as fuel with very limited ratio of coal as submitted earlier, cannot be equated with fly ash generated by using only coal as fuel by a thermal power plant. Apart from the above, it would be relevant to mention here that our Unit is disposing fly ash for the activities like building construction, road construction, parks/playgrounds, and industrial landfilling which are also permissible users of fly ash under the above notification dated 31.12.2021 meant only for the disposal of fly ash generated by coal and lignite based thermal power plants unlike our Unit. In this manner, disposal of the fly ash by our unit is not causing any adverse impact on the environment.
7. It is submitted that the plant has installed an Electro Static Precipitator (“ESP”) as an air pollution control device in our both 30 TPH & 60 TPH Boilers and the same is being operated and maintained efficiently to ensure that the standards for emission from stacks are being met. Due to the installation and smooth functioning of the ESP, the emissions from the stack boilers have been within parameters. In this regard it may be relevant to note that during past inspections conducted pursuant to the directions of the NGT, emissions from the boilers have been found to be within parameters. UPPCB in its report dated 16.01.2024 notes that the emissions from the boilers in operation were within the prescribed parameters. Even as per the report of the UPPCB dated 20.11.2024, the quantity of pollutants emitted



from chimney was found in accordance with prescribed standards.

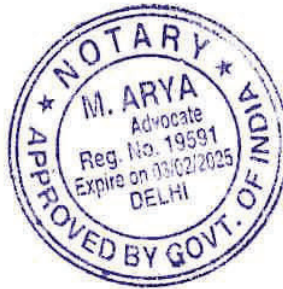
8. Further, the Online Continuous Monitoring System (“OCEMS”) installed in all boiler stacks connected with the CPCB server also show that the emissions were within parameters. Copy of OCEMS report for the relevant period is attached as **ANNEXURE B**.
9. That it is submitted that the Answering Respondent has addressed letters dated 25.11.2024 to the National Highways Authority of India, Public Works Department, Moradabad Zone and the State Bridge Corporation Limited, Uttar Pradesh to explore opportunities for fly ash utilization in government projects. These letters dated 25.11.2024 are annexed as **ANNEXURE C**. The Answering Respondent has since received a positive response vide letter dated 04.12.2024 to discuss further modalities for fly ash utilization and collection, annexed as **ANNEXURE D**.
10. Further, it is pertinent to note that UPPCB has discharged its Show Cause Notice dated 19.11.2024 vide letter dated 06.12.2024 issued to the Answering Respondent, annexed as **ANNEXURE E** after considering Answering Respondent’s reply dated 28.11.2024, annexed as **ANNEXURE F**. The said Show Cause Notice which also forms part of the UPPCB report alleged non-compliance with existing rules/ notification dated 31.12.2021 regarding Fly ash disposal.
11. That it is submitted that the Answering Respondent got the samples of ground water from the fly ash disposal sites analysed from an MOEF &CC approved laboratory and quality of the ground water was found to be within the prescribed parameters and no seepage of leachate in the groundwater has been noticed or observed. The ground water reports for the areas where



fly ash was supplied by the Answering Respondent are annexed as **ANNEXURE G**. That it is submitted that the Answering Respondent also got ground water samples analysed from areas near/ around the aforementioned fly ash disposal sites from an MOEF &CC approved laboratory, where no fly ash was utilised. The analysis reports do not reflect any variance in the contents of ground water in the nearby areas showing that no negative effects have been caused by the utilisation of fly ash for land filling in these areas. This demonstrates that use of fly ash has not caused any damage to groundwater of the site where fly ash was utilized for filling low lying areas. The ground water reports for the surrounding areas where fly ash was not used by the Answering Respondent along with comparison chart are annexed as **ANNEXURE H**.

Further, it is to be noted that there has been no complaint of any kind from any individual or establishment regarding any damage or suffering of public health in any manner due to the consumption of the ground water by the persons living in the areas mentioned above from where the groundwater sampled have been taken and tested.

12. That the above statements are true and correct based on records maintained by the Answering Respondent in the regular course of its business.
13. The annexures are true copies of their respective originals.



For RADICO KHAITAN LTD.

Authorised Signatories

DEPONENT

### VERIFICATION

I, the Deponent abovenamed do hereby verify that the contents of the foregoing

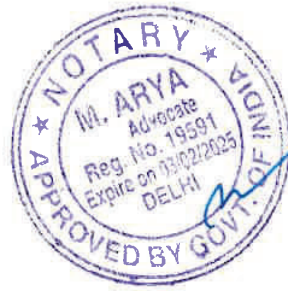
affidavit are true and correct to my knowledge, no part of it is false and nothing material has been concealed therefrom.

Verified at \_\_\_\_\_ on this \_\_\_\_\_ day of December 2024.

For RADICO KHAITAN LTD.

  
Authorised Signatories

**DEPONENT**



**ATTESTED**

**MANISH ARYA**  
NOTARY PUBLIC, DELHI  
GOVT OF INDIA

**11 DEC 2024**



1164  
उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड  
UTTAR PRADESH POLLUTION CONTROL BOARD



संदर्भ संख्या

11937/10-7/वि/वि/व्य-608/2024

दिनांक

5/11/24

सेवा में,

मै0 रेडिको खेतान लि0,  
बरेली रोड,  
रामपुर।

**विषय:—माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर O.A. No. 152/2022 Ghanshyam Singh Pasi Vs. State of UP में पारित आदेश दिनांक 18.10.2024 के अनुपालन के संबंध में।**

महोदय,

कृपया उपरोक्त विषयक माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर O.A. No. 152/2022 Ghanshyam Singh Pasi Vs. State of UP में पारित आदेश दिनांक 18.10.2024 का संदर्भ ग्रहण करें (छायाप्रति संलग्न)। उक्त आदेश दिनांक 18.10.2024 के संबंध में आपको निम्नानुसार निर्देशित किया जाता है :-

- पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार की अधिसूचना दिनांक 31.12.2021 द्वारा फ्लाई-राख का भण्डारण, रख-रखाव एवं परिवहन किये जाने हेतु किये गये प्राविधानों के अनुपालन के संबंध में विगत 01 वर्ष के रिकार्ड के साथ आख्या प्रेषित करना सुनिश्चित करें।
- आप द्वारा फ्लाई-राख का निस्तारण निचले भराव क्षेत्र हेतु किया जा रहा है, के संबंध में इकाई से जनित फ्लाई-राख की जाँच मान्यता प्राप्त प्रयोगशाला से कराते हुए आख्या प्रेषित करना सुनिश्चित करें।
- निचले भराव क्षेत्र में फ्लाई-राख का निस्तारण किये जाने हेतु केन्द्रीय प्रदूषण नियंत्रण बोर्ड की गाइडलाइन की प्रति संलग्न है, के संबंध में आपको निर्देशित किया जाता है कि केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उक्त गाइडलाइन के अनुसार की गयी कार्यवाही के संबंध में विगत 01 वर्ष के रिकार्ड के साथ आख्या प्रेषित करना सुनिश्चित करें।
- आप द्वारा निचले भराव क्षेत्र में फ्लाई-राख का निस्तारण किये जाने से कृषि भूमि पर पड़ने वाले प्रभाव के संबंध में संबंधित विभाग से आख्या प्राप्त करते हुए भराव क्षेत्र की भूमि के विवरण के साथ विगत 01 वर्ष का विवरण सहित आख्या प्रेषित करना सुनिश्चित करें। इस संबंध में यह भी निर्देशित किया जाता है कि आप द्वारा जिस कांटेक्टर से निचले भराव क्षेत्र में फ्लाई-राख के निस्तारण हेतु अनुबन्ध किया जा रहा है, उस कांटेक्टर द्वारा संबंधित भूमि के स्वामी से अनुमति प्राप्त की गयी है, के संबंध में पूर्ण विवरण सहित आख्या प्रेषित करना सुनिश्चित करें।

संलग्नक:—उपरोक्तानुसार।

भवदीय

मुख्य पर्यावरण अधिकारी, वृत्त-7

टी.सी. - 12 वी, विभूति खण्ड, गोमती नगर,  
लखनऊ - 226 010  
दूरभाष : 0522-2720828, 2720831  
ई-मेल : info@uppcb.com  
वेबसाइट : www.uppcb.com

T.C.-12 V, Vibhuti Khand, Gomti Nagar,  
Lucknow - 226 010  
Phone : 0522-2720828, 2720831  
E-mail : info@uppcb.com  
Website : www.uppcb.com

**UTTAR PRADESH POLLUTION CONTROL BOARD**

Reference No. 1119371/C-7/ Miscellaneous -608/2024

Date: 5.11.2024

To,

M/s Radico Khaitan Ltd.,  
Bareilly Road,  
Rampur.

Sub: In compliance with the order dated 18.10.2024 passed in O.A. No. 152/2022 (Ghanshyam Singh Pasi Vs. State of U.P.) filed in the Hon'ble National Green Tribunal, New Delhi – regarding.

Sir,

With reference to the above subject, please refer to the aforesaid order dated 18.10.2024 passed in O.A. No. 152/2022 (Ghanshyam Singh Vs. State of U.P.) filed in the Hon'ble National Green Tribunal, New Delhi (photocopy attached) and in this context, you are directed as follows:-

1. In compliance with the provisions prescribed for storage of fly ash, maintenance and transportation, through Notification dated 31.12.2021 issued by the Ministry of Environment, Forest and Climate Change, Government of India, please ensure to send the comments with record of last 01 year.
2. In respect of disposal of fly ash being made by you for the lower landfill area, please ensure to get the fly ash generated from the unit tested by a recognized laboratory and send the report.
3. For disposal of fly ash in the lower landfill area, copy of the guideline of the Central Pollution Control Board is attached,

regarding which, you are directed to ensure sending the comments with record of last 01 year in relation to the action taken in accordance with the aforesaid guideline.

4. Due to disposal of the fly ash in the landfill area by you, please ensure sending your comment with detail of last 01 year as well as the detail of land of land filling area by obtaining the comment from the concerned department in relation to affecting the agriculture land

**Enclosure:- As above.**

**Sincerely,**

**Signature**

**Chief Environment Officer, Circle-7**

---

T.C. 12, Vibhuti Khand, Gomti Nagar

Lucknow 226 010

Telephone: 0522-2720828, 2720831

E-mail: [info@uppcb.com](mailto:info@uppcb.com)

Website: [www.uppcb.com](http://www.uppcb.com)

TC-12 V, Vibhuti Khand,

Gomti Nagar, Lucknow - 226010

Phone: 0522-2720828, 2720831

E-mail: [infor@uppcb.com](mailto:infor@uppcb.com)

Website: [www.uppcb.com](http://www.uppcb.com)

1167



संदर्भ संख्या: RKL/VP(P)/ 736

दिनांक: 18.11.2024

सेवा में,

**मुख्य पर्यावरण अधिकारी (सी-7)**

उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड,

टीसी - 12 वी, पिकअप भवन,

विभूति खंड, गोमती नगर,

लखनऊ-226010

**विषय: माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर O.A. संख्या 152/2022 घनश्याम सिंह पासी Vs, उत्तर प्रदेश राज्य, में पारित आदेश दिनांक 18.10.2024 के अनुपालन के संबंध में।**

महोदय,

उपरोक्त विषयक आपके पत्र संख्या एच19371/सी-7/विविध-608/2024 दिनांक 05.11.2024 का संदर्भ ग्रहण करने कि कृपा करे, इस संबंध में आपके द्वारा जारी निर्देशों की बिंदुवार आख्या निम्न प्रकार है:

- 1 पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार की अधिसूचना दिनांक 31.12.2021 द्वारा फ्लाई-राख का भण्डारण, रख-रखाव एवं परिवहन किये जाने हेतु किये गये प्राविधानों के अनुपालन के संबंध में विगत 01 वर्ष के रिकार्ड के साथ आख्या प्रेषित करना सुनिश्चित करें।

**आख्या:** उद्योग द्वारा उत्पन्न राख को साइलो में संग्रहित किया जा रहा है और राख कंडीशनिंग के बाद टके हुए वाहनों के माध्यम से ले जाया जाता है। फ्लाई ऐश भंडारण और परिवहन का विवरण संलग्नक - 1 के रूप में संलग्न है।

अवगत कराना है कि, भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा जारी दिनांक 31.12.2021 की अधिसूचना कोयला/लिग्नाइट आधारित बिजली संयंत्रों से उत्पन्न फ्लाई ऐश के लिए ही निर्देशित है।

**Radico Khaitan Limited**

**ISO 9001 : 2015 & 22000 : 2018 Certified Company**

Regd. Office : Bareilly Road, Rampur-244901 [U.P.]

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Head Office : Plot No. J-1, Block B-1, Mohan Co-op. Industrial Area,

Mathura Road, New Delhi-110044

Tel : (91-11) 40975400/444/500/555, Fax : (91-11) 41678841-42, 41676718 (Exports)

e-mail : info@radico.co.in

website : www.radicoKhaitan.com

CIN No. L26941UP1983PLC027278





2. आप द्वारा फलाई-राख का निस्तारण निचले भराव क्षेत्र हेतु किया जा रहा है, के संबंध में इकाई से जनित फलाई-राख की जाँच मान्यता प्राप्त प्रयोगशाला से कराते हुए आख्या प्रेषित करना सुनिश्चित करें।

**आख्या:** उद्योग से उत्पन्न फलाई ऐश को निर्माण गतिविधियों की भूमि भराव के लिए भेजा जा रहा है। केवल अक्टूबर 2023 से जनवरी 2024 के दौरान, हमने किसानों/जमींदारों से प्राप्त अनुरोध पत्रों/सहमति के अनुसरण में कृषि गतिविधियों के लिए 380 मीट्रिक टन राख एवं जैविक खाद निर्माण के लिए 267 मीट्रिक टन राख भेजी गई है। एन.ए.बी.एल./एम.ओ.ई.एफ. द्वारा अनुमोदित प्रयोगशाला द्वारा विश्लेषित फलाई ऐश की विश्लेषण रिपोर्ट संलग्नक-2 के रूप में संलग्न है।

3. निचले भराव क्षेत्र में फलाई-राख का निस्तारण किये जाने हेतु केन्द्रीय प्रदूषण नियंत्रण बोर्ड की गाइडलाइन की प्रति संलग्न है, के संबंध में आपको निर्देशित किया जाता है कि केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उक्त गाइडलाइन के अनुसार की गयी कार्यवाही के संबंध में विगत 01 वर्ष के रिकार्ड के साथ आख्या प्रेषित करना सुनिश्चित करें।

**आख्या:** यहां यह उल्लेख करना उचित है कि सीपीसीबी दिशानिर्देश आपके द्वारा हमें पत्र संख्या एच19371/सी-7/विविध-608/2024 दिनांक 05.11.2024 के माध्यम से साझा किए गए हैं, विशेष रूप से कोयला/लिग्नाइट आधारित ताप विद्युत संयंत्रों पर इसकी प्रयोज्यता के बारे में बताता है। हालाँकि, हम पर्यावरण और आसपास के इलाकों और आबादी के प्रति अपनी सामाजिक जिम्मेदारी के रूप में स्वेच्छा से लगभग उसी कार्यप्रणाली का पालन करते हैं।

उद्योग से उत्पन्न राख को संपत्ति मालिक से मांग/सहमति प्राप्त करने के बाद निर्माण गतिविधियों में भूमि भराव के लिए भेजा जा रहा है। पिछले एक वर्ष का फलाई ऐश वितरण का रिकार्ड संलग्नक-3 के रूप में संलग्न है।

4. आप द्वारा निचले भराव क्षेत्र में फलाई-राख का निस्तारण किये जाने से कृषि भूमि पर पड़ने वाले प्रभाव के संबंध में संबंधित विभाग से आख्या प्राप्त करते हुए भराव क्षेत्र की भूमि के विवरण के साथ विगत 01 वर्ष का विवरण सहित आख्या प्रेषित करना सुनिश्चित करें। इस संबंध में यह भी निर्देशित किया जाता है कि आप द्वारा जिस कांटेक्टर से निचले भराव क्षेत्र में फलाई-राख के निस्तारण हेतु अनुबन्ध किया जा रहा है, उस कांटेक्टर द्वारा संबंधित भूमि के स्वामी से अनुमति प्राप्त की गयी है, के संबंध में पूर्ण विवरण सहित आख्या प्रेषित करना सुनिश्चित करें।

### Radico Khaitan Limited

ISO 9001 : 2015 & 22000 : 2018 Certified Company

Regd. Office : Bareilly Road, Rampur-244901 (U.P.)

Tel. : EPABX (0595) 2350601, 2350602, Fax : (0595) 2350009

Head Office : Plot No. J-1, Block B-1, Mohan Co-op. Industrial Area,

Mathura Road, New Delhi-110044

Tel : (91-11) 40975400/444/500/555, Fax : (91-11) 41678841-42, 41676718 (Exports)

e-mail : info@radico.co.in

website : www.radicoKhaitan.com

CIN No. L26941UP1983PLC027278





**आख्या:** वर्तमान में, उत्पन्न राख को निर्माण गतिविधियों में भूमि भराव के लिए भेजा जा रहा है और कृषि भूमि के लिए फ्लाइ एश का उपयोग नहीं किया जा रहा है। केवल अक्टूबर 2023 से जनवरी 2024 के दौरान, हमने किसानों/जमींदारों से प्राप्त विशेष अनुरोध पत्रों/सहमति के अनुसार कृषि गतिविधियों के लिए 380 मीट्रिक टन एवं जैविक-खाद के लिए 267 मीट्रिक टन राख उपलब्ध कराई गई है। कृषि उद्देश्यों के लिए उपयोग की गई उपरोक्त मात्रा बहुत कम है तथा मृदा परीक्षण प्रयोगशाला, रामपुर द्वारा की गई उक्त भूमि के मृदा स्वास्थ्य कार्ड के अनुसार, भूमि की गुणवत्ता पर सकारात्मक प्रभाव पड़ा है। मृदा परीक्षण प्रयोगशाला, रामपुर द्वारा की गई उक्त भूमि की जाच की आख्या *संलग्नक- 4* के रूप में संलग्न है।

उत्पन्न राख को संपत्ति के मालिक से मांग प्राप्त करने के बाद ठेकेदार द्वारा निर्माण गतिविधियों की भूमि भराव के लिए भेजा जा रहा है। पिछले एक वर्ष का रिकॉर्ड *संलग्नक-4 (अ)* के रूप में संलग्न है।

मैसर्स रेडिको खेतान लिमिटेड, रामपुर आपके द्वारा जारी सभी निर्देशों/निर्देशों का कड़ाई से पालन करने के लिए प्रतिबद्ध है।

धन्यवाद,

कृते,

रेडिको खेतान लिमिटेड,

(अधिकृत हस्ताक्षरकर्ता)



प्रतिलिपि: क्षेत्रीय अधिकारी, उ.प्र. प्रदूषण नियंत्रण बोर्ड, 1-ए/आईएनएस-1, आवास विकास कॉलोनी, बुद्धि विहार, मुरादाबाद, उ.प्र.

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e-mail : info@radico.co.in

website : www.radickhaitan.com

CIN No. L26941UP1983PLC027278

**Annexure - I****Ash Storage:**

To ensure proper storage of ash within the plant to prevent airborne dispersion & mixing with stormwater, the following measures implemented by us:

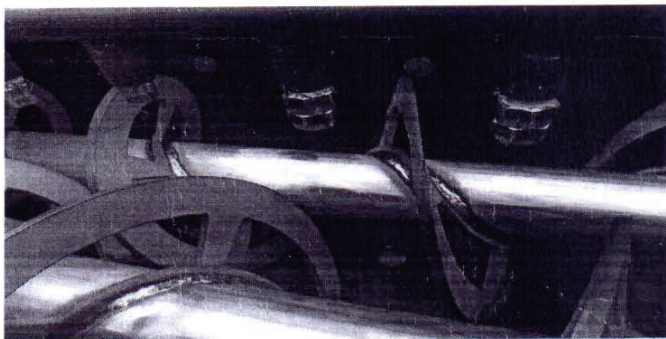
- Use of Silo with Bag Filter.
- Use of ESP
- Handling of fly ash with control moisture %.
- We used Conditioned Ash with control moisture % immediately at Bio-compost site by mixing it with Bio Compost to prevent environmental contamination & ensure compliance with environmental standards.
- Latest technology for ash collection, transportation, storage, conditioning has been adopted by Radico Khaitan Ltd.

**Ash Collection & Transportation**

- Latest dense phase ash collection and conveying system has been installed in Radico. It is PLC base system and protect the system so closely, no dust particle can come out from the system.

**Ash Conditioning**

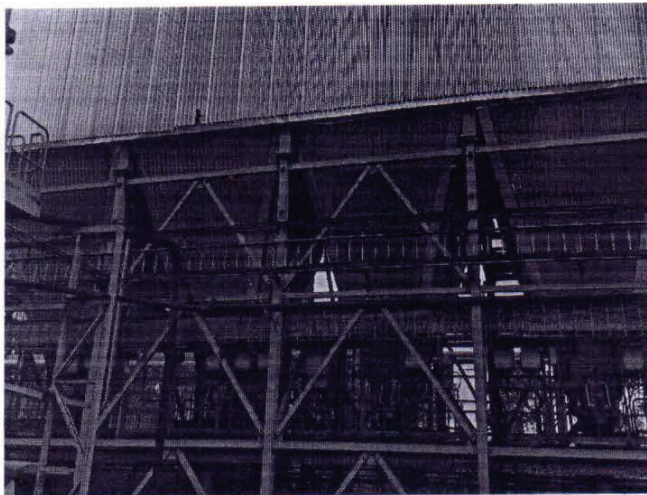
- Automatic ash conditioning allows spray of water into the collected ash, to make it dense and protect the environment from its fly. After conditioning ash become easy to transport and handle.



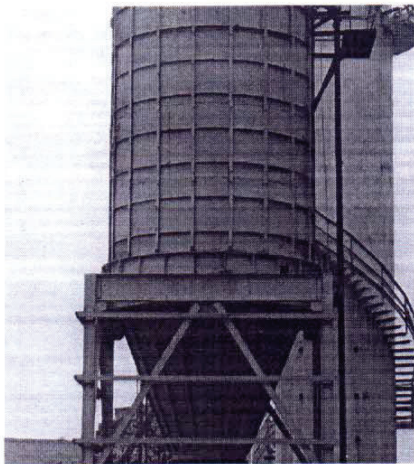
**Electro Static Precipitator (ESP)**

- ESP ensures collection of all the fuel dust on its collection plates. Its PLC base wrapper system ensures collection of all the dust into close circuit. Automatic ash handling system transfers the collected from ESP bottom to ash storage silo.

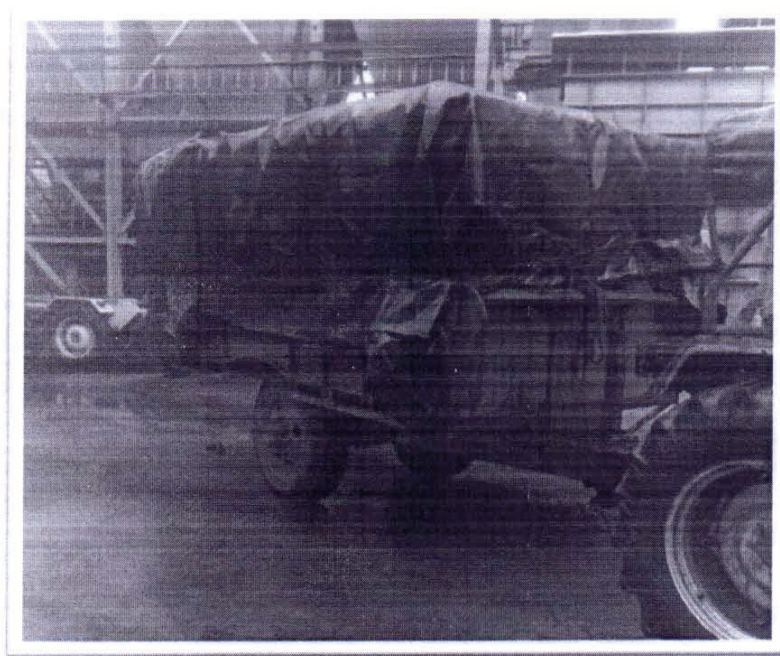
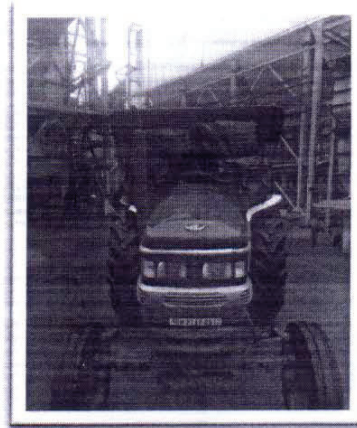
ESP :



**Ash Storage Silo with Bag Filter Arrangement:**



Ash Transportation Through Covered Vehicles





## ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

Office & Laboratory : 2/261, Vishwas Khand, Gomti Nagar, Lucknow - 226 010 (U.P.)

Email : ETRCLTH@YAHOO.IN, Web.: www.etrindia.com  
(ISO 9001:2015, ISO 45001:2018 (OH&S) ISO 14001:2015)

An approved laboratory from Ministry of Environment, Forest and Climate change, Govt. of India under EPA 1986



ETRC/PM09/TEST-REP/FT/46

### TEST REPORT Ash Analysis

Test Report Ref No.: ETRC/ASH/198/2024	Date of Report: 09/10/2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Sampling Location	Ash Hopper	5	Packing Condition	Sealed
2	Sample Description	Composite Ash (Rice Husk + Coal)	6	Sample Collected By	Industry self
3	Sample received date	05.10.2024	7	Analysis Start Date	05.10.2024
4	Sample Quantity	1.0 kg	8	Analysis End Date	09.10.2024

### TEST RESULT

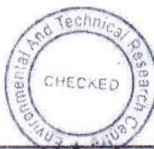
Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result
1	pH	-	IS: 2720 (Part-26): 1987, Reaffirmed: 2021	8.16
2	Moisture	%	IS: 2720 (Part-02): 1973, Reaffirmed: 2020	1.22
3	Calcium	mg/kg	IS: 2720 (Part-23): 1976, Reaffirmed: 2020	416.83
4	Total Nitrogen	%	IS: 14684: 1999, Reaffirmed: 2019	0.0168
5	Total Phosphorus	%	Method Manual of Soil Testing in India	0.00152
6	Total Potassium	%	Method Manual of Soil Testing in India	0.237
7	Arsenic as As	mg/kg	USEPA 3050 B, Revision 2: 1996	3.0
8	Cadmium as Cd	mg/kg	USEPA 3050 B, Revision 2: 1996	BDL
9	Total Chromium as Cr	mg/kg	Method Manual of Soil Testing in India	26.0
10	Copper as Cu	mg/kg	Method Manual of Soil Testing in India	24.0
11	Mercury as Hg	mg/kg	USEPA 3050 B, Revision 2: 1996	BDL
12	Iron as Fe	mg/kg	Method Manual of Soil Testing in India	4100.0
13	Nickel as Ni	mg/kg	USEPA 3050 B, Revision 2: 1996	16.0
14	Lead as Pb	mg/kg	USEPA 3051 A, Revision 1: 2007	23.0
15	Zinc as Zn	mg/kg	Method Manual of Soil Testing in India	52.0

Method Manual of Soil Testing in India (Department of Agriculture and Corporation Ministry of Agriculture, Government of India), 4.6.3 (16b): 2022

#### ..... END OF REPORT.....

- ETRC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices and that this data reflects our best attempt to generate accurate results for the sample, mentioned in the report as above.
- The result relate only to the items tested.
- ETRC does not assume any liability for any claims or damages related to the quality of parameter analyzed in the results and/or the performance of the equipment constituting to the results.
- All disputes subject to Lucknow jurisdiction.
- 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 our special permission in writing.
- Complain register is available in our laboratory

Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



Authorized Signatory  
(Ritu Garg)  
QM





# ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

Office & Laboratory : 2/261, Vishwas Khand, Gomti Nagar, Lucknow - 226 010 (U.P.)

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ETRC/PM09/TEST-REP/FT/46

## TEST REPORT Ash Analysis

Test Report Ref No.: ETRC/ASH/198/2024	Date of Report: 09/10/2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Sampling Location	Ash Hopper	5	Packing Condition	Sealed
2	Sample Description	Composite Ash (Rice Husk + Coal)	6	Sample Collected By	Industry self
3	Sample received date	05.10.2024	7	Analysis Start Date	05.10.2024
4	Sample Quantity	1.0 kg	8	Analysis End Date	09.10.2024

### TEST RESULT

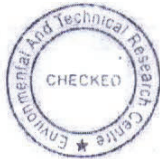
Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result
1	Silica	%	Method Manual of Soil Testing in India	87.1
2	C : N Ratio	-	Method Manual of Soil Testing in India	8 : 1

Method Manual of Soil Testing in India (Department of Agriculture and Corporation Ministry of Agriculture, Government of India), 4.8.3 (16b): 2022

..... END OF REPORT.....

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*Sandeep Kr Verma*  
Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



*Ritu Garg*  
Authorized Signatory  
(Ritu Garg)  
QM



## ANNEXURE 3

## ASH GENERATION AND DISPOSAL DETAILS FROM OCT 2023 TO OCT 2024

Details From Oct 2023 to Oct 2024

Period	Alcohol Production			Steam Consumed				Total Steam Gen	Solid Fuel	Ash
	Mol	Grain	Malt	Mol	Grain	Malt	Others		Consumption	Generation
	(BL)	(BL)	(BL)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	
Oct 2023 to Mar 2024	19760111	22302473	1414336	74661	84516	9613	75114	243904	46143	6753
Apr 2024 to Oct 2024	12082295	36290271	1563375	50847	158829	10594	83544	303814	70412	11715

Ash Utilisation  
Summary

Period	Building Construction	Road Construction	Garden / Parking / Play Ground	Industrial Filling	Agriculture	Biocompost	Total
Oct 2023 to Mar 2024	6106	0	0	0	380	267	6753
Apr 2024 to Oct 2024	3115	2500	4900	1200	0	0	11715
	9221	2500	4900	1200	380	267	18468



1176

मृदा परीक्षण रिपोर्ट पत्र

सेवा में,  
रेडिको खेतान लिमिटेड

अवगत करना है की आपके द्वारा दिए गए पत्रांक दिनांक 08/11/2024 के संदर्भ मे 5 प्लॉट से सयुक्त रूप से मृदा नमूने लिए गए जिनका परीक्षण हो गया है जिनमे कृषि करने हेतु (12 पैरामीटर ) पोषक तत्वों की मात्रा उपलब्ध हैं | चावल भूसी की राख का प्रयोग कृषि पर सकारात्मक प्रभाव है |

रिपोर्ट संलग्न हैं |

भवदीय  
Ranjiv  
18/11/2024  
अध्यक्ष

मृदा परीक्षण प्रयोगशाला,  
रामपुर।

कृषि एवं सहकारिता विभाग  
कृषि एवं किसान कल्याण मंत्रालय  
भारत सरकार

कृषि विभाग, उत्तर प्रदेश

## मृदा स्वास्थ्य कार्ड



मृदा स्वास्थ्य कार्ड संख्या: 77

किसान का नाम: मि. राजेश कुमार

वैधता: 2024 से 2025 तक

### द्वितीयक एवं सूक्ष्म पोषक तत्वों संबंधी सिफारिशें

क्रमांक	पैरामीटर	मृदा परीक्षण के आधार पर संस्तुति
1	सल्फर (S)	
2	जिंक (Zn)	
3	बोरॉन (B)	
4	ऑयरन (Fe)	
5	मैगनीज (Mn)	
6	कॉपर (Cu)	

### General Recommendations

1	जैविक खाद
2	जैव उर्वरक
3	चूना/ जिप्सम

International  
Year of Soils  
2015



Healthy Soils  
for  
a Healthy Life

मृदा स्वास्थ्य कार्ड		प्रयोगशाला का नाम				
किसान का विवरण		जलपद स्तूपी मृदा परीक्षण प्रयोगशाला				
नाम	मि. राजेश कुमार	राजपुर				
पता	राजपुर					
ग्राम	राजपुर					
उप-जिला/तहसील	राजपुर					
जिला	राजपुर					
पिन कोड						
आधार संख्या						
मोबाइल संख्या	9012794786					
मृदा नमूना विवरण		मृदा परीक्षण परिणाम				
मृदा नमूना संख्या	77	क्रमांक	पैरामीटर	परिणाम	इकाई	आकलन/श्रेणी
नमूना एकत्र करने की तिथि		1	पी एच (pH)	6.9		सामान्य
सर्व संख्या/ग्रिड सं.		2	ई सी (EC)	0.884	ds/m	सामान्य
खसरा संख्या/		3	जीविक कार्बन (OC)	0.81	%	उच्च
खेत का क्षेत्रफल		4	उपलब्ध नाइट्रोजन (N)	182.25	kg/ha	मध्यम
भू-स्थिति (GPS) अक्षांश: देशांतर :		5	उपलब्ध फास्फोरस (P)	35.84	kg/ha	उच्च
सिंचित भूमि/वर्षा सिंचित भूमि		6	उपलब्ध पोटैशियम (K)	285.2	kg/ha	उच्च
		7	उपलब्ध सल्फर (S)	8.835	ppm	कम
		8	उपलब्ध जिंक (Zn)	0.71	ppm	पर्याप्त
		9	उपलब्ध बोरॉन (B)	0.393	ppm	पर्याप्त
		10	उपलब्ध ऑयरन (Fe)	4.13	ppm	कम
		11	उपलब्ध मैगनीज (Mn)	3.51	ppm	पर्याप्त
		12	उपलब्ध कॉपर (Cu)	0.32	ppm	पर्याप्त

### संदर्भ उपज के लिए उर्वरक सिफारिशें (जैविक खाद के साथ)



क्रमांक	फसल व किस्म	संदर्भ उपज	एन.पी.के. के लिए उर्वरक संयोजन-1		एन.पी.के. के लिए उर्वरक संयोजन-2	
			उर्वरक का नाम	मात्रा किग्रा.	उर्वरक का नाम	मात्रा किग्रा.
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कृपया अधिक जानकारी हेतु किसान कॉल सेन्टर के निःशुल्क टॉल फ्री नं. 1800-180-1551 पर सम्पर्क करें।

विशेष जानकारी हेतु कृषि विभाग के स्थानीय कर्मचारी/अधिकारी से सम्पर्क करें अथवा कृषि विभाग की वेबसाइट agriculture.up.nic.in देखें।

प्रकाशक : ब्यूरो, कृषि विभाग, 9, विश्वविद्यालय मार्ग, लखनऊ


Ranjit  
हस्ताक्षर  
अध्यक्ष प्रयोगशाला

कृषि एवं सहकारिता विभाग  
 कृषि एवं किसान कल्याण मंत्रालय  
 भारत सरकार

कृषि विभाग, उत्तर प्रदेश

## मृदा स्वास्थ्य कार्ड


  
 स्वस्थ धरा, केन हरा

मृदा स्वास्थ्य कार्ड संख्या: 78

किसान का नाम मुभातात रवा 8/0 मसूदरता रवा


वैधता 2024 से 2025 तक

### द्वितीयक एवं सूक्ष्म पोषक तत्वों संबंधी सिफारिशें

क्रमांक	पैरामीटर	मृदा परीक्षण के आधार पर संस्तुति
1	सल्फर (S)	
2	जिंक (Zn)	
3	बोरॉन (B)	
4	ऑयरन (Fe)	
5	मैगनीज (Mn)	
6	कॉपर (Cu)	

### General Recommendations

1	जैविक खाद	
2	जैव उर्वरक	
3	चूना / जिप्सम	


 Healthy Soils for a Healthy Life

मृदा स्वास्थ्य कार्ड		प्रयोगशाला का नाम	जलपद स्थानीय मृदा परीक्षण प्रयोगशाला				
किसान का विवरण		का नाम	रामपुर				
नाम	पता	क्रमांक	पैरामीटर	परिणाम	इकाई	आकलन/श्रेणी	
मुभातात रवा	राइला	1	पी एच (pH)	7.7		सामान्य	
राइला	राइला	2	ई सी (EC)	0.266	dSm <sup>1</sup>	सामान्य	
राइला	राइला	3	जीविक कार्बन (OC)	0.92	%	उच्च	
राइला	राइला	4	उपलब्ध नाइट्रोजन (N)	207	kg/ha	मध्यम	
राइला	राइला	5	उपलब्ध फास्फोरस (P)	35.84	kg/ha	उच्च	
राइला	राइला	6	उपलब्ध पोटेशियम (K)	296.8	kg/ha	उच्च	
राइला	राइला	7	उपलब्ध सल्फर (S)	8.908	ppm	कम	
राइला	राइला	8	उपलब्ध जिंक (Zn)	0.64	ppm	पर्याप्त	
राइला	राइला	9	उपलब्ध बोरॉन (B)	0.430	ppm	पर्याप्त	
राइला	राइला	10	उपलब्ध ऑयरन (Fe)	5.63	ppm	पर्याप्त	
राइला	राइला	11	उपलब्ध मैगनीज (Mn)	4.13	ppm	पर्याप्त	
राइला	राइला	12	उपलब्ध कॉपर (Cu)	0.35	ppm	पर्याप्त	

**मृदा नमूना विवरण**  
 मृदा नमूना संख्या 78

नमूना एकत्र करने की तिथि

सर्व संख्या/ग्रिड सं.

खसरा संख्या/

खेत का क्षेत्रफल

भू-स्थिति (GPS) अक्षांश: देशांतर :

सिंचित भूमि/वर्षा सिंचित भूमि

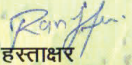
### संदर्भ उपज के लिए उर्वरक सिफारिशें (जैविक खाद के साथ)

क्रमांक	फसल व किस्म	संदर्भ उपज	एन.पी.के. के लिए उर्वरक संयोजन-1		एन.पी.के. के लिए उर्वरक संयोजन-2	
			उर्वरक का नाम	मात्रा किग्रा.	उर्वरक का नाम	मात्रा किग्रा.
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कृपया अधिक जानकारी हेतु किसान कॉल सेन्टर के नि:शुल्क टॉल फ्री नं. 1800-180-1551 पर सम्पर्क करें।

विशेष जानकारी हेतु कृषि विभाग के स्थानीय कर्मचारी/अधिकारी से सम्पर्क करें अथवा कृषि विभाग की वेबसाइट agriculture.up.nic.in देखें।

प्रकाशक : ब्यूरो, कृषि विभाग, 9, विश्वविद्यालय मार्ग, लखनऊ

  
 हस्ताक्षर  
 अध्यक्ष प्रयोगशाला

**मृदा स्वास्थ्य कार्ड**

कृषि एवं सहकारिता विभाग  
कृषि एवं किसान कल्याण मंत्रालय  
भारत सरकार

कृषि विभाग, उत्तर प्रदेश

मृदा स्वास्थ्य कार्ड संख्या: 79

किसान का नाम: संदेश कुमार

वेधता: 2024 से 25 तक

**द्वितीयक एवं सूक्ष्म पोषक तत्वों संबंधी सिफारिशें**

क्रमांक	पैरामीटर	मृदा परीक्षण के आधार पर संस्तुति
1	सल्फर (S)	
2	जिंक (Zn)	
3	बोरॉन (B)	
4	ऑयरेन (Fe)	
5	मैगनीज (Mn)	
6	कॉपर (Cu)	

**General Recommendations**

1	जैविक खाद
2	जैव उर्वरक
3	चूना/जिप्सम

International Year of Soils 2015

Healthy Soils for a Healthy Life

मृदा स्वास्थ्य कार्ड		प्रयोगशाला का नाम				
किसान की विवरण		जलपट्ट कृषि मृदा परीक्षण-प्रयोगशाला				
नाम	संदेश कुमार	रामपुर				
पता	रायपुर	मृदा परीक्षण परिणाम				
ग्राम	रायपुर	क्रमांक	पैरामीटर	परिणाम	इकाई	आकलन/श्रेणी
उप-जिला/तहसील	सदर	1	पी एच (pH)	7.2		सामान्य
जिला	रामपुर	2	ई सी (EC)	0.234	dsm/cm	सामान्य
पिन कोड		3	जीविक कार्बन (OC)	0.77	%	उच्च
आधार संख्या		4	उपलब्ध नाइट्रोजन (N)	173.25	Kg/ha	मध्यम
मोबाइल संख्या	9018794786	5	उपलब्ध फॉस्फोरस (P)	26.8	Kg/ha	उच्च
मृदा नमूना विवरण		6	उपलब्ध पोटैशियम (K)	296.4	Kg/ha	उच्च
मृदा नमूना संख्या	79	7	उपलब्ध सल्फर (S)	8.630	PPM	कम
नमूना एकत्र करने की तिथि		8	उपलब्ध जिंक (Zn)	0.55	PPM	कम
सर्व संख्या/ग्रिड सं.		9	उपलब्ध बोरॉन (B)	0.468	PPM	पर्याप्त
खसरा संख्या/		10	उपलब्ध ऑयरेन (Fe)	6.06	PPM	पर्याप्त
खेत का क्षेत्रफल		11	उपलब्ध मैगनीज (Mn)	2.94	PPM	पर्याप्त
भू-स्थिति (GPS)	अक्षांश: देशांतर :	12	उपलब्ध कॉपर (Cu)	0.41	PPM	पर्याप्त
सिंचित भूमि/वर्षा सिंचित भूमि						

**संदर्भ उपज के लिए उर्वरक सिफारिशें (जैविक खाद के साथ)**

क्रमांक	फसल व किस्म	संदर्भ उपज	एन.पी.के. के लिए उर्वरक संयोजन-1		एन.पी.के. के लिए उर्वरक संयोजन-2	
			उर्वरक का नाम	मात्रा किग्रा.	उर्वरक का नाम	मात्रा किग्रा.
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कृपया अधिक जानकारी हेतु किसान कॉल सेंटर के निःशुल्क टॉल फ्री नं. 1800-180-1551 पर सम्पर्क करें।

विशेष जानकारी हेतु कृषि विभाग के स्थानीय कर्मचारी/अधिकारी से सम्पर्क करें अथवा कृषि विभाग की वेबसाइट agriculture.up.nic.in देखें।

प्रकाशक : ब्यूरो, कृषि विभाग, 9, विश्वविद्यालय मार्ग, लखनऊ

हस्ताक्षर  
अध्यक्ष प्रयोगशाला

**कृषि एवं सहकारिता विभाग**  
कृषि एवं किसान कल्याण मंत्रालय  
भारत सरकार

**कृषि विभाग, उत्तर प्रदेश**

## मृदा स्वास्थ्य कार्ड

सर्वसमृद्ध जल  
सुखदा, क्षेत्र हर

मृदा स्वास्थ्य कार्ड संख्या: 21

किसान का नाम: विष्णु शर्मा

वैधता: 2024 से 2025 तक

**द्वितीयक एवं सूक्ष्म पोषक तत्वों संबंधी सिफारिशें**

क्रमांक	पैरामीटर	मृदा परीक्षण के आधार पर संस्तुति
1	सल्फर (S)	
2	जिंक (Zn)	
3	बोरॉन (B)	
4	ऑयनरन (Fe)	
5	मैगनीज (Mn)	
6	कॉपर (Cu)	

**General Recommendations**

1	जैविक खाद	
2	जैव उर्वरक	
3	चूना / जिप्सम	

International Year of Soils 2015

Healthy Soils for a Healthy Life

**मृदा स्वास्थ्य कार्ड**

**किसान का विवरण**

प्रयोगशाला का नाम: जलपद स्तरीय - मृदा परीक्षण प्रयोगशाला

नाम: विष्णु शर्मा

पता: राजपुर

ग्राम: राजपुर

उप-जिला/तहसील: राजपुर

जिला: राजपुर

पिन कोड: 201101

आधार संख्या: 9761937222

मोबाइल संख्या: 9761937222

**मृदा परीक्षण परिणाम**

क्रमांक	पैरामीटर	परिणाम	इकाई	आकलन/श्रेणी
1	पी एच (pH)	6.9		सामान्य
2	ई सी (EC)	0.174	dsm <sup>-1</sup>	सामान्य
3	जीविक कार्बन (OC)	0.70	%	मध्यम
4	उपलब्ध नाइट्रोजन (N)	157.5	kg/ha	मध्यम
5	उपलब्ध फास्फोरस (P)	26.88	kg/ha	उच्च
6	उपलब्ध पोटैशियम (K)	268.8	kg/ha	मध्यम
7	उपलब्ध सल्फर (S)	7.315	ppm	कम
8	उपलब्ध जिंक (Zn)	0.54	ppm	कम
9	उपलब्ध बोरॉन (B)	0.319	ppm	पर्याप्त
10	उपलब्ध ऑयनरन (Fe)	4.57	ppm	पर्याप्त
11	उपलब्ध मैगनीज (Mn)	3.05	ppm	पर्याप्त
12	उपलब्ध कॉपर (Cu)	0.53	ppm	पर्याप्त

**मृदा नमूना विवरण**

मृदा नमूना संख्या: 9761937222

नमूना एकत्र करने की तिथि: 2024

सर्व संख्या/ग्रिड सं.:

खसरा संख्या/

खेत का क्षेत्रफल:

भू-स्थिति (GPS) अक्षांश: देशांतर :

सिंचित भूमि/वर्षा सिंचित भूमि

**संदर्भ उपज के लिए उर्वरक सिफारिशें (जैविक खाद के साथ)**



क्रमांक	फसल व किरम	संदर्भ उपज	एन.पी.के. के लिए उर्वरक संयोजन-1		एन.पी.के. के लिए उर्वरक संयोजन-2	
			उर्वरक का नाम	मात्रा किया.	उर्वरक का नाम	मात्रा किया.
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कृपया अधिक जानकारी हेतु किसान कॉल सेन्टर के नि:शुल्क टॉल फ्री नं. 1800-180-1551 पर सम्पर्क करें।

विशेष जानकारी हेतु कृषि विभाग के स्थानीय कर्मचारी/अधिकारी से सम्पर्क करें अथवा कृषि विभाग की वेबसाइट agriculture.up.nic.in देखें।

प्रकाशक : ब्यूरो, कृषि विभाग, 9, विश्वविद्यालय मार्ग, लखनऊ


हस्ताक्षर  
अध्यक्ष प्रयोगशाला

कृषि एवं सहकारिता विभाग  
 कृषि एवं किसान कल्याण मंत्रालय  
 भारत सरकार

कृषि विभाग, उत्तर प्रदेश

## मृदा स्वास्थ्य कार्ड



मृदा स्वास्थ्य कार्ड संख्या: 80

किसान का नाम R.S. मजमजर

वैधता 2024 से 2025 तक


### द्वितीयक एवं सूक्ष्म पोषक तत्वों संबंधी सिफारिशें

क्रमांक	पैरामीटर	मृदा परीक्षण के आधार पर संस्तुति
1	सल्फर (S)	
2	ज़िंक (Zn)	
3	बोरॉन (B)	
4	ऑयरेन (Fe)	
5	मैंगनीज (Mn)	
6	कॉपर (Cu)	

### General Recommendations

1	जैविक खाद
2	जैव उर्वरक
3	चूना / जिप्सम

International Year of Soils 2015



Healthy Soils for a Healthy Life

मृदा स्वास्थ्य कार्ड		प्रयोगशाला का नाम	जनपद/कृषि मृदा परीक्षण-प्रयोगशाला			
किसान का विवरण		का नाम	राजपुर			
नाम	<u>R.S. मजमजर</u>	मृदा परीक्षण परिणाम				
पता	<u>ताड़का</u>	क्रमांक	पैरामीटर	परिणाम	इकाई	आकलन/श्रेणी
ग्राम	<u>ताड़का</u>	1	पी एच (pH)	<u>6.8</u>		सामान्य
उप-जिला/तहसील	<u>सदर</u>	2	ई सी (EC)	<u>0.126</u>	<u>ds/m</u>	सामान्य
जिला	<u>राजपुर</u>	3	जीविक कार्बन (OC)	<u>0.85</u>	%	उच्च
पिन कोड		4	उपलब्ध नाइट्रोजन (N)	<u>191.25</u>	<u>kg/ha</u>	मध्यम
आधार संख्या		5	उपलब्ध फास्फोरस (P)	<u>31.36</u>	<u>kg/ha</u>	उच्च
मोबाइल संख्या	<u>9917536000</u>	6	उपलब्ध पोटैशियम (K)	<u>291.2</u>	<u>kg/ha</u>	उच्च
मृदा नमूना विवरण		7	उपलब्ध सल्फर (S)	<u>7.588</u>	<u>ppm</u>	कम
मृदा नमूना संख्या		8	उपलब्ध जिंक (Zn)	<u>0.47</u>	<u>ppm</u>	कम
नमूना एकत्र करने की तिथि		9	उपलब्ध बोरॉन (B)	<u>0.949</u>	<u>ppm</u>	पर्याप्त
सर्व संख्या/ग्रिड सं.		10	उपलब्ध ऑयरेन (Fe)	<u>5.76</u>	<u>ppm</u>	पर्याप्त
खसरा संख्या/		11	उपलब्ध मैंगनीज (Mn)	<u>2.92</u>	<u>ppm</u>	पर्याप्त
खेत का क्षेत्रफल		12	उपलब्ध कॉपर (Cu)	<u>0.72</u>	<u>ppm</u>	पर्याप्त
भू-स्थिति (GPS) अक्षांश:						
देशांतर :						
सिंचित भूमि/वर्षा सिंचित भूमि						

### संदर्भ उपज के लिए उर्वरक सिफारिशें (जैविक खाद के साथ)

क्रमांक	फसल व किस्म	संदर्भ उपज	एन.पी.के. के लिए उर्वरक संयोजन-1		एन.पी.के. के लिए उर्वरक संयोजन-2	
			उर्वरक का नाम	मात्रा किग्रा.	उर्वरक का नाम	मात्रा किग्रा.
1						
2						
3						
4						
5						
6						

कृपया अधिक जानकारी हेतु किसान कॉल सेंटर के नि:शुल्क टॉल फ्री नं. 1800-180-1551 पर सम्पर्क करें।

विशेष जानकारी हेतु कृषि विभाग के स्थानीय कर्मचारी/अधिकारी से सम्पर्क करें अथवा कृषि विभाग की वेबसाइट agriculture.up.nic.in देखें।

प्रकाशक : ब्यूरो, कृषि विभाग, 9, विरविविद्यालय मार्ग, लखनऊ

  
 हस्ताक्षर  
 अध्यक्ष प्रयोगशाला

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### मृदा परीक्षण परिणाम के आधार पर उपलब्ध पोषक तत्वों की उर्वरता स्तर श्रेणियाँ :

क. प्रमुख पोषक तत्वों की उर्वरता स्तर श्रेणियाँ :

प्रमुख पोषक तत्वों में नत्रजन, फास्फोरस एवं पोटैश आते हैं। मृदा में नत्रजन जीवांश कार्बन के आधार पर किया जाता है। मृदा के ह्यूमस (पूर्ण रूप से सड़ा हुआ जीवांश पदार्थ) के कार्बन एवं नत्रजन का अनुपात १०:१ के अनुपात में होते हैं। अगर मृदा में जीवांश कार्बन ०.४ प्रतिशत है तो उसमें नत्रजन ०.०४ प्रतिशत होता है। इसी के आधार पर मृदा में नत्रजन के उपलब्धता के आगणन किया जाता है। प्रदेश की मृदा में प्रमुख तत्वों के स्तर की निम्नलिखित चार श्रेणियाँ निर्धारित की गयी हैं।

१. अतिन्यून २. न्यून ३. मध्यम ४. उच्च

प्रमुख पोषक तत्व	अतिन्यून	न्यून	मध्यम	उच्च
जीवांश कार्बन प्रतिशत (नत्रजन)	< ०.२०	०.२१-०.५	०.५१-०.८	> ०.८
उपलब्ध फास्फेट (किग्रा./हे.)	< १०.०	१०.१-२०.०	२०.१-४०.०	> ४०.०
उपलब्ध पोटैश (किग्रा./हे.)	< ५०.०	५१-१००	१०१-२५०	> २५०

ख. द्वितीयक एवं सूक्ष्म पोषक तत्वों की उर्वरता स्तर श्रेणियाँ :

द्वितीयक पोषक तत्वों में कैल्शियम, मैग्नीशियम एवं सल्फर आते हैं। प्रदेश की मृदाओं में सल्फर पोषक तत्व की कमी अधिकांश क्षेत्रों में परिलक्षित होने लगी है। अभी कैल्शियम एवं मैग्नीशियम की कमी प्रदेश की मृदाओं में परिलक्षित नहीं

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हुई है। इसलिये प्रयोगशाला में केवल सल्फर पोषक तत्व के विश्लेषण किया जाता है। सूक्ष्म पोषक तत्वों में जिंक, लोहा, तांबा, मैगनीज, बोरान, मालिब्डेनम एवं क्लोरीन होते हैं। क्लोरीन की कमी अभी प्रदेश की मृदाओं में नहीं दिखाई दी है इसलिए प्रयोगशालाओं में इस तत्व का विश्लेषण नहीं किया जाता। शेष छः सूक्ष्म पोषक तत्वों का आवश्यकतानुसार विश्लेषण का कार्य सम्पादित किया जाता है। प्रदेश में सल्फर एवं छः सूक्ष्म पोषक तत्वों के उर्वरता स्तर की तीन श्रेणियाँ निर्धारित की गयी हैं, जिनका विवरण निम्नवत् है :

द्वितीय चक्र सूक्ष्म पोषक तत्व	कम स्तर	सीमांत कम	पर्याप्त स्तर
सल्फर (पी.पी.एम.)	< १०१	१०.१-१५.०	> १५
जिंक (पी.पी.एम.)	< ०.६	०.६१-१.२	> १.२
लोहा (पी.पी.एम.)	< ४.०	४.१-८.०	> ८.०
तांबा (पी.पी.एम.)	< ०.२	०.२१-०.४	> ०.४
मैगनीज (पी.पी.एम.)	< २.०	२.१-४.०	> ४.०
बोरान (पी.पी.एम.)	< ०.२५	०.२६-०.५	> ०.५
मालिब्डेनम (पी.पी.एम.)	< ०.०५		> ०.५

### पी.एच. मान के आधार पर भूमि का वर्गीकरण :

पी.एच. मान से भूमि की अम्लीयता, क्षारीयता अथवा सामान्य स्थिति की जानकारी होती है। पी.एच. से भूमि में पोषक तत्वों के उपलब्धता पर प्रभाव पड़ता है। इसलिए मृदा में पी.एच. का विश्लेषण अनिवार्य हो जाता है। अगर भूमि क्षारीय अथवा अम्लीय होती है तो उसमें अधिकांश पोषक तत्व उपलब्ध हो जाते हैं जो पानी में अघुलनशील होकर स्थिर हो जाते हैं जिसे पौधे ग्रहण नहीं कर पाते। पी.एच. मान की सामान्य स्थिति विभिन्न पोषक तत्वों की उपलब्धता के लिए उपयुक्त होती है। भूमि का पी.एच. मान के आधार पर वर्गीकरण निम्नवत् है :

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पी.एच. मान	मृदा वर्ग	पोषक तत्वों की उपलब्धता
६.५ से कम	अम्लीय मृदा	अधिकांश पोषक तत्व अनुपलब्ध
६.५ से ८.५	सामान्य मृदा	पोषक तत्व उपलब्ध
८.५ से अधिक	क्षारीय मृदा	अधिकांश पोषक तत्व अनुपलब्ध

अगर मृदा अम्लीय अथवा क्षारीय होती है तो इस प्रकार की मृदाओं में फसलों की वृद्धि भली प्रकार नहीं हो पाती तथा उपज मारी जाती है। इस प्रकार की भूमि को सुधार हेतु मृदा सुधारकों द्वारा उपचार आवश्यक होता है।

### घुलनशील लवण (इलेक्ट्रिकल कण्डक्टिविटी) के आधार पर भूमि का वर्गीकरण :

१.२ मृदा जल निष्कर्ष की इलेक्ट्रिकल कण्डक्टिविटी (विद्युत संवाहिता) का ज्ञान फसलों हेतु उपयुक्तता के आधार पर निम्न प्रकार से वर्गीकृत किया गया है :

विद्युत संवाहिता (२५° से.ग्रे.) पर मिलीमोज प्रति सेमी.	व्याख्या
१ से कम	सामान्य
१ से २	बीज अंकुरण के लिए क्रान्तिक (बीज अंकुरण में कठिनाई)
२ से ३	लवण अनुक्रियाशील (फसलों की वृद्धि के लिए क्रान्तिक)
३ से अधिक	अधिकांश फसलों के लिए हानिकारक

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### संस्तुत पोषक तत्वों के समतुल्य उर्वरकों की मात्रा का आगणन :

तालिका - ३ में विभिन्न खाद्यान्न वाली फसलों के लिए मृदा परीक्षण परिणाम के आधार पर उपलब्ध प्रमुख पोषक तत्वों की मात्रा दी गयी है। नत्रजन-फास्फोरस एवं पोटेश की मात्रा विभिन्न रासायनिक उर्वरकों के माध्यम से पूर्ति की जाती है। उक्त पोषक तत्वों की पूर्ति उर्वरकों की मात्रा का आगणन निम्न प्रकार करें :

- मृदा परीक्षण परिणाम के आधार पर तालिका - ३ में बढाये गये उपलब्ध पोषक तत्वों की श्रेणी ज्ञात करें।
- तालिका में दर्शाई गयी फसल के सम्मुख प्रमुख पोषक तत्वों की संस्तुत मात्रा नोट करें।
- माना आपकी खेत की मिट्टी में नत्रजन-न्यून, फास्फेट-मध्यम एवं पोटेश-मध्यम स्तर का है तथा आपको बौनी प्रजाति का गेहूँ बोने के लिए उर्वरकों की गणना करनी है। संस्तुत पोषक तत्वों की मात्राओं की तालिका के अनुसार १२० किग्रा. नत्रजन/हे., ३० किग्रा. फास्फेट/हे. तथा २० किग्रा. पोटेश/हे. का प्रयोग किया जाना है।
- यदि किसान के पास यूरिया सुपर फास्फेट तथा म्युरेट आफ पोटेश उपलब्ध है। प्रमुख पोषक तत्वों वाली उक्त उर्वरकों में उनकी प्रातशत मात्रा तालिका - ६ में देखें। इसके बाद उनकी मात्रा का आगणन निम्न प्रकार करें :

$$\text{अ. यूरिया की मात्रा } \frac{900 \times 120}{46} = 230.4 = 231 \text{ किग्रा./हे.}$$

$$\text{ब. सुपर फास्फेट की मात्रा } \frac{900 \times 30}{96} = 281.25 = 281 \text{ किग्रा./हे.}$$

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LOGO



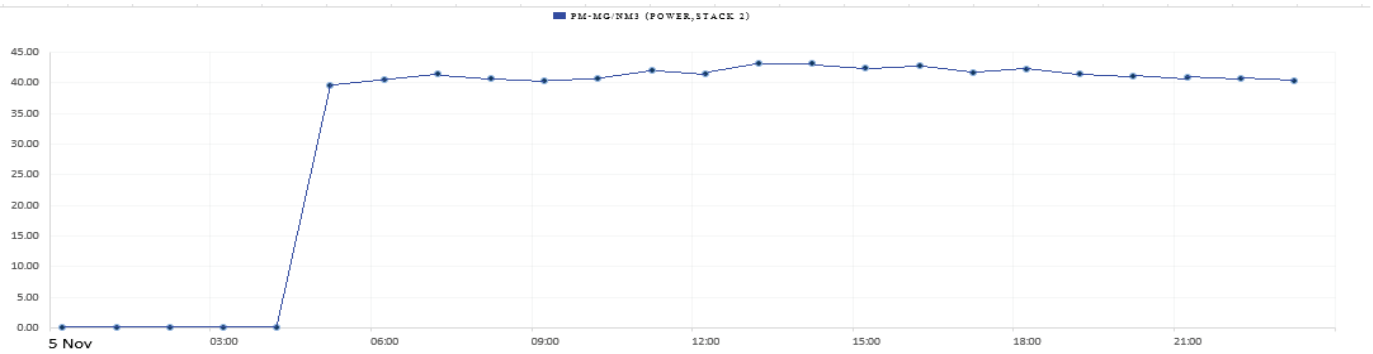
**Forbes Marshall  
Multi Station Report**

**From :** 05-11-2024 00:00:00

**To :** 05-11-2024 23:59:59

**Interval :** 1 Hour

**Function :** Average



**Flag legends:** < - Average with less data, C - Calibration mode, M - Maintenance mode, S - Data under scrutiny, B - Bad data, H - High permissible limit crossed, L - Low permissible limit crossed, P - Processed Data, V - Corrected Data, D - Delayed Data, R - Analyzer drift

Calender	PM Avg					
Plant	<b>POWER</b>					
Station	<b>Stack 2</b>					
Units	mg/Nm3					
Range	0 - 150					
05-11-2024 00:00:00	0.00 P					
05-11-2024 01:00:00	0.00 P					
05-11-2024 02:00:00	0.00 P					
05-11-2024 03:00:00	0.00 P					
05-11-2024 04:00:00	0.00 P					
05-11-2024 05:00:00	39.46 P					
05-11-2024 06:00:00	40.28 P					

Calender	PM Avg					
Plant Station	<b>POWER Stack 2</b>					
Units Range	mg/Nm3 0 - 150					
05-11-2024 07:00:00	41.45 P					
05-11-2024 08:00:00	40.57 P					
05-11-2024 09:00:00	40.21 P					
05-11-2024 10:00:00	40.65 P					
05-11-2024 11:00:00	40.89 P					
05-11-2024 12:00:00	41.37 P					
05-11-2024 13:00:00	42.14 P					
05-11-2024 14:00:00	43.08 P					
05-11-2024 15:00:00	42.28 P					
05-11-2024 16:00:00	42.67 P					
05-11-2024 17:00:00	41.59 P					
05-11-2024 18:00:00	42.08 P					
05-11-2024 19:00:00	41.34 P					
05-11-2024 20:00:00	41.01 P					
05-11-2024 21:00:00	40.75 P					
05-11-2024 22:00:00	40.53 P					
05-11-2024 23:00:00	40.29 P					

**Report Summary**

Average	32.70					
Maximum	43.08					
Minimum	0.00					
Std.Deviation	0.18					
Geom.Mean	32.70					
Median	.00					
Mode	0.00					
Total Active Duration						



LOGO



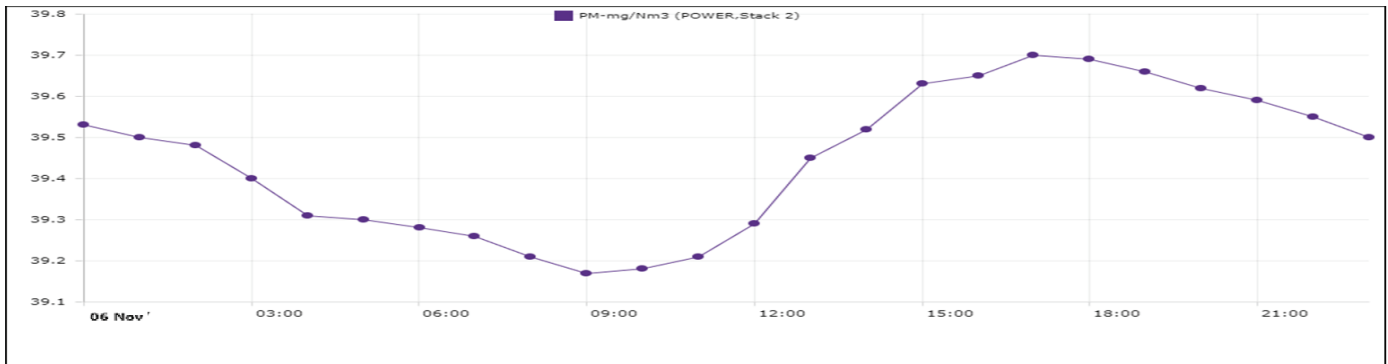
**Forbes Marshall  
Multi Station Report**

**From :** 06-11-2024 00:00:00

**To :** 06-11-2024 23:59:59

**Interval :** 1 Hour

**Function :** Average



**Flag legends:** < - Average with less data, C - Calibration mode, M - Maintenance mode, S - Data under scrutiny, B - Bad data, H - High permissible limit crossed, L - Low permissible limit crossed, P - Processed Data, V - Corrected Data, D - Delayed Data, R - Analyzer drift

Calender	PM Avg				
Plant	<b>POWER</b>				
Station	<b>Stack 2</b>				
Units	mg/Nm3				
Range	0 - 150				
06-11-2024 00:00:00	39.54 P				
06-11-2024 01:00:00	39.49 P				
06-11-2024 02:00:00	39.50 P				
06-11-2024 03:00:00	39.48 P				
06-11-2024 04:00:00	39.32 P				
06-11-2024 05:00:00	39.29 P				
06-11-2024 06:00:00	39.27 P				

Calender	PM Avg					
Plant Station	<b>POWER Stack 2</b>					
Units Range	mg/Nm3 0 - 150					
06-11-2024 07:00:00	39.25 P					
06-11-2024 08:00:00	39.22 P					
06-11-2024 09:00:00	39.19 P					
06-11-2024 10:00:00	39.17 P					
06-11-2024 11:00:00	39.20 P					
06-11-2024 12:00:00	39.30 P					
06-11-2024 13:00:00	39.46 P					
06-11-2024 14:00:00	39.51 P					
06-11-2024 15:00:00	39.64 P					
06-11-2024 16:00:00	39.63 P					
06-11-2024 17:00:00	39.72 P					
06-11-2024 18:00:00	39.70 P					
06-11-2024 19:00:00	39.65 P					
06-11-2024 20:00:00	39.61 P					
06-11-2024 21:00:00	39.60 P					
06-11-2024 22:00:00	39.54 P					
06-11-2024 23:00:00	39.49 P					

**Report Summary**

Average	39.45					
Maximum	39.72					
Minimum	39.17					
Std.Deviation	0.18					
Geom.Mean	39.45					
Median	39.49					
Mode	39.65					
Total Active Duration						

Registered Post

RKL/ADMIN/

Date:25.11.2024

NHAI RO West UP,  
3/248, Near SRS MALL, 3/248,  
Dr Akhilesh Das Gupta Marg,  
Vishal Khand - 3,  
Vishal Khand, Gomti Nagar,  
Lucknow, Uttar Pradesh - 226010.

**Subject: Proposal for Utilization of Fly Ash for Landfilling and Construction Activities by NHAI**

Dear Sir/Madam,

We hope this communication finds you in good health and high spirits.

This is to formally bring to your kind attention that **M/s Radico Khaitan Ltd., Rampur**, is one of the premier manufacturing facilities of Radico Khaitan Ltd., a leading Indian conglomerate specializing in the production of human consumable spirits. With a legacy of excellence, Radico Khaitan Ltd. operates multiple distilleries across India, and the Rampur facility stands as one of its oldest and most esteemed manufacturing units, located on Bareilly Road, Rampur, Uttar Pradesh.

The Rampur plant is equipped with state-of-the-art technology and infrastructure, producing **Extra Neutral Alcohol (ENA)**, which is bottled and marketed under globally recognized brands of brown and white spirits. As part of our commitment to sustainable operations and self-reliance, the facility maintains captive power generation capabilities through modern boilers that utilize biomass and coal as fuel.

These boilers generate approximately **60 tons of fly ash daily** as a byproduct of energy production. In line with our corporate ethos of sustainability and responsible environmental management, we are actively exploring avenues for the effective and environmentally sound utilization of fly ash.

We understand that **National Highways Authority of India (NHAI)** extensively utilizes fly ash in various applications, including:

1. **Road and Flyover Construction:** Fly ash serves as an effective material for road embankments and structural fills, improving strength, durability, and workability.

### **Radico Khaitan Limited**

**ISO 9001 : 2015 & 22000 : 2018 Certified Company**

Regd. Office & Works : Bareilly Road, Rampur-244901 (U.P.)

Tel. : (0595) 2350601, 2350602 Fax : 0595-2350009

Head Office : Plot No. J-1, Block B-1, Mohan Co-op. Industrial Area,

Mathura Road, New Delhi-110044

Tel : (91-11) 40975444/555, Fax : (91-11) 41678841-42

e-mail : info@radico.co.in, website : www.radicoKhaitan.com

CIN No. L26941UP1983PLC027278

2. **Landfilling and Reclamation:** Fly ash is also employed in landfilling and reclamation activities to stabilize and reinforce land around national highways and associated infrastructure projects.

In this regard, **Radico Khaitan Ltd. offers to collaborate with NHAI to supply fly ash generated at our Rampur facility** for the above-mentioned purposes. We propose to formalize this initiative through a **Memorandum of Understanding (MoU)** under mutually agreed terms and conditions.

Our proposal emphasizes the following key points:

1. **Consistent Supply:** Assurance of uninterrupted availability of fly ash from our facility, subject to agreed terms.
2. **Compliance:** Fly ash will meet all regulatory and technical requirements as prescribed by the relevant authorities.
3. **Environmental Responsibility:** Utilization of fly ash will contribute to sustainable development goals by minimizing waste and reducing the environmental footprint.
4. **Cost Efficiency:** By using fly ash as a construction material, cost efficiencies in highway projects can be realized.

We are confident that this collaboration will be mutually beneficial. While NHAI will gain access to a reliable source of fly ash for its infrastructural projects, Radico Khaitan Ltd. will advance its goal of responsible waste management and sustainable practices.

We kindly request you to acknowledge this communication and provide us with an opportunity to discuss the modalities of this initiative further. We are willing to conduct site visits, technical assessments, or any other activity required to initiate this partnership at the earliest.

We look forward to exploring this opportunity for association with NHAI and contributing to the nation's infrastructure development endeavours.

Thank you for your time and consideration.

Warm regards,

For **Radico Khaitan Ltd, Rampur,**

  
A.P. Singh  
Asstt. Vice President -HR & Administration,  
**Radico Khaitan Ltd,**  
**Bareilly Road, Rampur-244901(UP)**  
Mobile- 7535004505  
e-mail- [singhap@radico.co.in](mailto:singhap@radico.co.in)

CC

- : District Magistrate, Rampur

- : Member Secretary: Central Pollution Control Board; Parivesh Bhawan, East Arjun Nagar; Delhi- 110032.
- : Member Secretary: Uttar Pradesh Pollution Control Board; T.C.-12 V, Vibhuti Khand, Gomti Nagar Lucknow 226010.
- : Chief Environmental Officer (Circle-7) - Uttar Pradesh Pollution Control Board.  
• T.C.- 12 V, Vibhuti Khand, Gomti Nagar: Lucknow 226010
- : Regional Officer; Uttar Pradesh Pollution Control Board; 1-A/I.N.S-1, Awas Vikas Colony, Bodh Vihar, Delhi Road, Moradabad.
- : GM, NHAI-PIU, A-54, Ashiana, Phase-I (Near Dhap Mandir) Kanth Road, Moradabad-244 001 (U.P)



RKL/ADMIN/

Date:25.11.2024

**Chief Engineer -PWD**  
**Moradabad Zone,**  
YQ44+G7V, Kanth Rd, in front of 23rd PAC,  
Civil Lines, Moradabad, Uttar Pradesh 244001

**Subject: Proposal for Utilization of Fly Ash for Landfilling and Construction Activities by PWD**

Dear Sir/Madam,

We hope this communication finds you in good health and high spirits.

This is to formally bring to your kind attention that **M/s Radico Khaitan Ltd., Rampur**, is one of the premier manufacturing facilities of Radico Khaitan Ltd., a leading Indian conglomerate specializing in the production of human consumable spirits. With a legacy of excellence, Radico Khaitan Ltd. operates multiple distilleries across India, and the Rampur facility stands as one of its oldest and most esteemed manufacturing units, located on Bareilly Road, Rampur, Uttar Pradesh.

The Rampur plant is equipped with state-of-the-art technology and infrastructure, producing **Extra Neutral Alcohol (ENA)**, which is bottled and marketed under globally recognized brands of brown and white spirits. As part of our commitment to sustainable operations and self-reliance, the facility maintains captive power generation capabilities through modern boilers that utilize biomass and coal as fuel.

These boilers generate approximately **60 tons of fly ash daily** as a byproduct of energy production. In line with our corporate ethos of sustainability and responsible environmental management, we are actively exploring avenues for the effective and environmentally sound utilization of fly ash.

We understand that PWD-Uttar Pradesh extensively utilizes fly ash in various applications, including:

1. **Road and Flyover Construction:** Fly ash serves as an effective material for road embankments and structural fills, improving strength, durability, and workability.
2. **Landfilling and Reclamation:** Fly ash is also employed in landfilling and reclamation activities to stabilize and reinforce land around national highways and associated infrastructure projects.

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e-mail : info@radico.co.in, website : www.radicokhaitan.com

CIN No. L26941UP1983PLC027278

In this regard, **Radico Khaitan Ltd. offers to collaborate with PWD to supply fly ash generated at our Rampur facility** for the above-mentioned purposes. We propose to formalize this initiative through a **Memorandum of Understanding (MoU)** under mutually agreed terms and conditions.

Our proposal emphasizes the following key points:

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4. **Cost Efficiency:** By using fly ash as a construction material, cost efficiencies in highway projects can be realized.

We are confident that this collaboration will be mutually beneficial. While PWD will gain access to a reliable source of fly ash for its infrastructural projects, Radico Khaitan Ltd. will advance its goal of responsible waste management and sustainable practices.

We kindly request you to acknowledge this communication and provide us with an opportunity to discuss the modalities of this initiative further. We are willing to conduct site visits, technical assessments, or any other activity required to initiate this partnership at the earliest.

We look forward to exploring this opportunity for association with PWD and contributing to the nation's infrastructure development endeavours.

Thank you for your time and consideration.

Warm regards,

For **Radico Khaitan Ltd, Rampur,**

  
A.P. Singh  
Asstt. Vice President -HR & Administration,  
**Radico Khaitan Ltd,**  
**Bareilly Road,Rampur-244901(UP)**  
Mobile- 7535004505  
e-mail- [singhap@radico.co.in](mailto:singhap@radico.co.in)  
CC

- : District Magistrate, Rampur
- : Member Secretary: Central Pollution Control Board; Parivesh Bhawan, East Arjun Nagar; Delhi-110032.
- : Member Secretary: Uttar Pradesh Pollution Control Board; T.C.-12 V, Vibhuti Khand, Gomti Nagar: Lucknow 226010.
- : Chief Environmental Officer (Circle-7) - Uttar Pradesh Pollution Control Board T.C.- 12 V,Vibhuti Khand, Gomti Nagar: Lucknow 226010
- : Regional Officer; Uttar Pradesh Pollution Control Board;1-A/I.N.S. -1, Awas Vikas Colony, BodhVihar, Delhi Road, Moradabad.
- : Executive Engineer-PWD; Rampur



pk

RKL/ADMIN/

Date:25.11.2024

Managing Director  
UP State Bridge Corporation Limited  
16, Madan Mohan Malvige Marg  
Lakhnôw (U.P)

**Subject: Proposal for Utilization of Fly Ash for Landfilling and Construction Activities by Rural Engineering Department (UP)**

Dear Sir/Madam,

We hope this communication finds you in good health and high spirits.

This is to formally bring to your kind attention that **M/s Radico Khaitan Ltd., Rampur**, is one of the premier manufacturing facilities of Radico Khaitan Ltd., a leading Indian conglomerate specializing in the production of human consumable spirits. With a legacy of excellence, Radico Khaitan Ltd. operates multiple distilleries across India, and the Rampur facility stands as one of its oldest and most esteemed manufacturing units, located on Bareilly Road, Rampur, Uttar Pradesh.

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These boilers generate approximately **60 tons of fly ash daily** as a byproduct of energy production. In line with our corporate ethos of sustainability and responsible environmental management, we are actively exploring avenues for the effective and environmentally sound utilization of fly ash.

We understand **UP-SBCL** extensively utilizes fly ash in various applications, including:

1. **Road and Flyover Construction:** Fly ash serves as an effective material for road embankments and structural fills, improving strength, durability, and workability.
2. **Landfilling and Reclamation:** Fly ash is also employed in landfilling and reclamation activities to stabilize and reinforce land around national highways and associated infrastructure projects.

In this regard, **Radico Khaitan Ltd. offers to collaborate with UP-SBCL to supply fly ash generated at our Rampur facility** for the above-mentioned purposes. We propose to formalize this initiative through a **Memorandum of Understanding (MoU)** under mutually agreed terms and conditions.

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e-mail : info@radico.co.in, website : www.radico.khaitan.com

CIN No. L26941UP1983PLC027278

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4. **Cost Efficiency:** By using fly ash as a construction material, cost efficiencies in highway projects can be realized.

We are confident that this collaboration will be mutually beneficial. While UP-SBCL will gain access to a reliable source of fly ash for its infrastructural projects, Radico Khaitan Ltd. will advance its goal of responsible waste management and sustainable practices.

We kindly request you to acknowledge this communication and provide us with an opportunity to discuss the modalities of this initiative further. We are willing to conduct site visits, technical assessments, or any other activity required to initiate this partnership at the earliest.

We look forward to exploring this opportunity for association with UP-SBCL and contributing to the nation's infrastructure development endeavours.

Thank you for your time and consideration.

Warm regards,

For **Radico Khaitan Ltd, Rampur,**



A.P. Singh  
Asstt. Vice President -HR & Administration,  
**Radico Khaitan Ltd,**

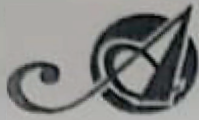
**Bareilly Road,Rampur-244901(UP)**

Mobile- 7535004505

e-mail- [singhap@radico.co.in](mailto:singhap@radico.co.in)

CC

- : District Magistrate, Rampur
- : Member Secretary: Central Pollution Control Board; Parivesh Bhawan, East Arjun Nagar; Delhi-110032.
- : Member Secretary: Uttar Pradesh Pollution Control Board; T.C.-12 V, Vibhuti Khand, Gomti Nagar: Lucknow 226010.
- : Chief Environmental Officer (Circle-7) - Uttar Pradesh Pollution Control Board. T.C.- 12 V, Vibhuti Khand, Gomti Nagar: Lucknow 226010
- : Regional Officer; Uttar Pradesh Pollution Control Board;1-A/I.N.S-1,Awas Vikas Colony, Bodh Vihar, Delhi Road, Moradabad.
- Deputy Project Manager Uttar Pradesh State Bridge Corporation Limited MIG: B-1:Ram ganga Vihar,Phase-1: In front of Sonakpur Station, Kath Road Moradabad-244001

**ART PROJECTS LTD.**

Project Management Consultants, Consulting Engineers & Planners  
 In JV with GLOBAL INFRA SOLUTIONS PVT LTD. In Association with RENAISSANCE IOT LLP  
 Site Office: 45 Ram Vihar Colony, Janta Nagar, Rampur-244901, (U.P) India  
 Email: rampur@artefactprojects.com, Website: WWW.artefactprojects.com

Ref: APL/AE/Rampur/2024-25/204

Date: 04.Dec.2024

To

Dev Yash Projects & Construction Pvt.Ltd.  
 M/s Raj Shyama Construction Pvt.Ltd (JV)  
 Near Raunak Marriage Hall, House No. 140,  
 Afridiran Nalapar, Rampur,  
 Uttar Pradesh-244901

Project: - : Construction of Four-Lane "Western Side Spur of Rampur-Rudrapur section connecting NH-24 (New NH- 09) To NH-87 Bypassing Rampur Town" (Design Km 00+000 to Design Km 13+700) on EPC mode in the state of Uttar Pradesh. Regarding: Proposal for utilization of flyash for land filling and construction activities by NHAI.

Ref: - NHAI Letter No. 72015/2/2021/EPC/PIU-MBD/29190 Dated 30.11.2024.

Dear Sir,

We have received a letter via above referenced letter from Authority wherein the Authority has enclosed a proposal for utilization of Fly ash for Landfilling and Construction Activities by Radio Khaitan Ltd Rampur.

You are therefore instructed to make a visit to Radio Khaitan for discussing with them the modalities for utilization of Fly ash and to collect and send samples of Fly ash to be tested in third party laboratory for suitability of the same for use in our project.

Thanks &amp; Regards.

For Artefact Projects Ltd.

Rajeev Kumar

Team Leader

Copy to:- The Project Director, NHAI, PIU, Moradabad - 244001

1197

# भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन और राजमार्ग मंत्रालय, भारत सरकार)

## National Highways Authority of India

(Ministry of Road Transport & Highways, Government of India)

पि.यू.ई. - मुरादाबाद, एफ-31, सेक्टर-14, निकट पानी का टैंक नया मुरादाबाद, दिल्ली रोड, मुरादाबाद-244 001 (उ.प्र.)

PIU - Moradabad, F-31, Sector-14, Near Water Tank - New Moradabad, Delhi Road, Moradabad-244 001 (U.P.)

Tel: 0591-2453070 E-mail: mor@nhai.org, pdnhai.moradabad@gmail.com



72015/2/2021 /PIU/MBD/29/30

Dated: 29.11.2024

To,  
The Team Leader  
M/s Artefact Projects Limited  
Rampur (U.P.)

**Sub:** Construction of Western Side Spur of Rampur - Rudrapur section connecting NH-24 to NH-87 bypassing Rampur town on EPC Mode - Reg. Proposal for utilization of flyash for land filling and construction activities by NHAI.

**Ref:** M/s Radico Khaitan Limited letter no.RKL/ADMIN/ dt.25.11.2024.

Sir,

Please find attached herewith letter from M/s Radico Khaitan Limited, Rampur vide which submitted proposal for utilization of Fly Ash for landfilling and construction activities of project highway after execution of MoU.

2. It is intimated that MoRT&H/NHAI, HQ has already issued instructions for use of flyash for filling of approaches of flyovers/structures of NH projects.

3. In view of above, it is requested to issue necessary directions to the Contractors for utilizing flyash in co-ordination with M/s Radico Khaitan Limited, Rampur on under construction project highway.

Thanking you.

Yours sincerely,

Encl: As above.

*Arvind*  
29.11.24  
(Arvind Kumar)  
Project Director

Copy to: Authorized Signatory, M/s Dev Yash - RSCPL (JV), 2-East West (EW-2), Miarwali Nagar, Paschim Vihar, New Delhi -110087 for necessary coordination with M/s Radico Khaitan Limited, Rampur and use the available flyash in under construction works.



Registered Post

Date: 25.11.2024

RKL/ADMIN

NHAI RO West UP,  
3/248, Near SKN MALL, 3/248,  
Whitefield, Gas Gupta Marg,  
Industrial Estate - 3,  
Central Khairat, Gomti Nagar,  
Lucknow, Uttar Pradesh - 226010.

NHAI, PIU-MORADABAD

Serial No. 65291 Date 28/11/2024  
NEM (N/Menaror(T))  
SE-I, II, III & IV  
FC/Sleng-I, H/Acct/Lekhpal/LAA

Subject: Proposal for Utilization of Fly Ash for Landfilling and Construction Activities by NHAI

Dear Sir/Madam,

- seek comments from AE (defect)

We hope this communication finds you in good health and high spirits.

It is to formally bring to your kind attention that M/s Radico Khaitan Ltd., Rampur, is one of the premier manufacturing facilities of Radico Khaitan Ltd., a leading Indian conglomerate specializing in the production of human consumable spirits. With a legacy of excellence, Radico Khaitan Ltd. operates multiple distilleries across India, and the Rampur facility stands as one of its oldest and most esteemed manufacturing units, located on Bareilly Road, Rampur, Uttar Pradesh.

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These boilers generate approximately 60 tons of fly ash daily as a byproduct of energy production. In line with our corporate ethos of sustainability and responsible environmental management, we are actively exploring avenues for the effective and environmentally sound utilization of fly ash.

We understand that National Highways Authority of India (NHAI) extensively utilizes fly ash in various applications, including:

- Road and Flyover Construction:** Fly ash serves as an effective material for road embankments and structural fills, improving strength, durability, and workability.

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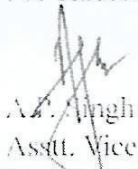
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Thank you for your time and consideration.

Warm regards,

For Radico Khaitan Ltd, Rampur,

  
A.K. Singh

Asstt. Vice President -HR & Administration,

Radico Khaitan Ltd,

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Mobile- 7535004505

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- GM. NHAI-PIU. A-54, Ashiana, Phase-I (Near Dhap Mandir) Kanth Road, Moradabad-244001 (U.P)



# उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD



LIFE  
Lifestyle for  
Environment

संदर्भ सं०-19889/सी-71 जल-40/2024

दिनांक: 19/11/24  
पंजीकृत

सेवा में,

मै० रेडिको खेतान लि०,

बरेली रोड,

जनपद-रामपुर।

मोबाइल नं०-9889032734

यह कि माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर O.A. No. 152/2022 Ghanshyam Singh Pasi Vs. State of UP में पारित आदेश दिनांक 18.10.2024 द्वारा निम्नवत् सुसंगत अंश पारित किये गये हैं -

**ANNEXURE-E**

".....6. Further, pursuant to order dated 19.09.2024, report has been submitted by Uttar Pradesh Pollution Control Board vide email dated 16.10.2024 but a perusal thereof shows that report is absolutely incomplete in as much as neither it is shown that Ministry of Environment Forest and Climate Change, Government of India orders issued in respect of disposal of flyash have been complied with nor it is mentioned that flyash disposed in alleged low lying area whether constitute agriculture or otherwise and if it is agriculture land whether consent of owners has been obtained and also whether disposal in agriculture land is consistent with order issued by Government of India in this regard and that quality contents of flyash has also not been examined so as to ascertain whether there is any damage due to seepage of leachate in groundwater and/or it is safe for environmental protection.

7. UPPCB therefore is directed to submit a further additional report within three weeks. ..."

यह कि उद्योग का निरीक्षण क्षेत्रीय कार्यालय, उ०प्र० प्रदूषण नियंत्रण बोर्ड, मुरादाबाद के अधिकारियों द्वारा दिनांक 06.11.2024 एवं 07.11.2024 को किया गया।

यह कि निरीक्षण के दौरान उद्योग से जनित फ्लाई ऐश के निस्तारण हेतु ट्रांसपोर्टिंग की व्यवस्था पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार द्वारा जारी अधिसूचना दिनांक 31.12.2021 में निहित प्राविधानों के अनुरूप नहीं पायी गयी। निरीक्षण के दौरान उद्योग से जनित फ्लाई ऐश का निस्तारण किया जाता नहीं पाया गया।

यह कि उद्योग द्वारा चिन्हित 13 लो-लाइंग एरिया का निरीक्षण किया गया। उद्योग द्वारा अधिग्रहीत किसी भी भूमि पर लो-लाइंग एरिया उपलब्ध नहीं है, अतः उद्योग द्वारा फ्लाई ऐश को विभिन्न निजी स्थलों पर उपलब्ध लो-लाइंग एरिया में भूमि भराव द्वारा ठेकेदार के माध्यम से निस्तारण कराया जाता है।

यह कि उक्त से स्पष्ट है कि इकाई द्वारा माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली द्वारा जारी आदेशों एवं बोर्ड द्वारा निर्गत निर्देशों का अनुपालन नहीं किया जा रहा है।

अतः उपरोक्त तथ्यों के दृष्टिगत उद्योग द्वारा फ्लाई ऐश की ट्रांसपोर्टिंग की व्यवस्था एवं उद्योग में वायु प्रदूषण नियंत्रण हेतु स्थापित व्यवस्थाएँ सुचारु रूप से संचालित न होने के दृष्टिगत उद्योग के विरुद्ध वायु (प्रदूषण निवारण एवं नियंत्रण) अधिनियम 1981 की धारा 31ए सपटित 21(4) के अन्तर्गत के अन्तर्गत सक्षम अधिकारी की अनुमति से उद्योग मै० रेडिको खेतान लि०, बरेली रोड, जनपद-रामपुर के विरुद्ध निम्नानुसार कारण बताओ नोटिस जारी किये जाते हैं :-

1. यह कि क्यों न उद्योग मै० रेडिको खेतान लि०, बरेली रोड, जनपद-रामपुर के पक्ष में बोर्ड के पत्र सं०-196484/UPPCB/Moradabad(UPPCBRO)/CTO/both/Rampur/2023 दिनांक 05.01.2024 द्वारा निर्गत सशर्त सहमति जल एवं वायु को खण्डित करते हुए उद्योग के विरुद्ध बन्दी आदेश जारी कर दिये जायें।
2. यह कि क्यों न सक्षम अधिकारियों से यह अपेक्षा की जाये की उद्योग मै० रेडिको खेतान लि०, बरेली रोड, जनपद-रामपुर को मिलने वाले जल एवं बिजली की समस्त सुविधाएँ तत्काल प्रभाव से रोक दी जाएं।
3. यह कि पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार की अधिसूचना दिनांक 31.12.2021 द्वारा फ्लाई-राख का भण्डारण, रख-रखाव एवं परिवहन किये जाने हेतु किये गये प्राविधानों के अनुपालन के संबंध में विगत 01 वर्ष के रिकार्ड के साथ आख्या प्रेषित करना सुनिश्चित करें।

.....क०पृ०उ०

T.C/12V, Vibhuti Khand Gomti Nagar, Lucknow - 226010

Phone: 2720831, 2720828, 2720691 & 2720681 - Fax: 0522 - 2720764

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- (2)
4. यह कि इकाई द्वारा फलाई-राख का निस्तारण निचले भराव क्षेत्र हेतु किया जा रहा है, के संबंध में इकाई से जनित फलाई-राख की जाँच मान्यता प्राप्त प्रयोगशाला से कराते हुए आख्या प्रेषित करना सुनिश्चित करें।
  5. यह कि इकाई द्वारा निचले भराव क्षेत्र में फलाई-राख का निस्तारण किये जाने हेतु केन्द्रीय प्रदूषण नियंत्रण बोर्ड की गाइडलाइन की प्रति संलग्न है, के संबंध में आपको निर्देशित किया जाता है कि केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उक्त गाइडलाइन के अनुसार की गयी कार्यवाही के संबंध में विगत 01 वर्ष के रिकार्ड के साथ आख्या प्रेषित करना सुनिश्चित करें।
  6. यह कि इकाई द्वारा निचले भराव क्षेत्र में फलाई-राख का निस्तारण किये जाने से कृषि भूमि पर पड़ने वाले प्रभाव के संबंध में संबंधित विभाग से आख्या प्राप्त करते हुए भराव क्षेत्र की भूमि के विवरण के साथ विगत 01 वर्ष का विवरण सहित आख्या प्रेषित करना सुनिश्चित करें। इस संबंध में यह भी निर्देशित किया जाता है कि आप द्वारा जिस कांटेक्टर से निचले भराव क्षेत्र में फलाई-राख के निस्तारण हेतु अनुबन्ध किया जा रहा है, उस कांटेक्टर द्वारा संबंधित भूमि के स्वामी से अनुमति प्राप्त की गयी है, के संबंध में पूर्ण विवरण सहित आख्या प्रेषित करना सुनिश्चित करें। संतोषजनक उत्तर उपरोक्त के संबंध में स्पष्टीकरण पत्र प्राप्ति के 15 दिन में प्रस्तुत करें।
- निर्धारित समयावधि में प्राप्त न होने की दशा में उपरोक्त वर्णित आदेश/निर्देश की पुष्टि कर दी जाएगी, जिसका सम्पूर्ण उत्तरदायित्व स्वयं उद्योग का होगा।

4 मुख्य पर्यावरण अधिकारी, वृत्त-7

प्रतिलिपि: निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. जिलाधिकारी, रामपुर को सूचनार्थ।
2. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, मुरादाबाद को इस निर्देश के साथ प्रेषित कि उद्योग के विरुद्ध जारी कारण बताओ नोटिस की प्रति उद्योग को प्राप्त कराते हुए आख्या 07 दिन के अन्दर बोर्ड मुख्यालय प्रेषित करना सुनिश्चित करें।

10 मुख्य पर्यावरण अधिकारी, वृत्त-7

**Uttar Pradesh Pollution Control Board**

T.C. /12V, Vibhuti khand Gomti nagar, Lucknow-226010

Reference No./H-19889// C-7/ Water-40/2024

Date: 19-11-24

Registered

To,

M/s Redico Khaitan Ltd.,

Bareilly Road,

District-Rampur.

Mobile No. 9889032734

Whereas in the Hon'ble National Green Tribunal, New Delhi in O.A. No. 152/2022 Ghanshyam Singh Pasi Vs. State of UP, the following relevant excerpts were passed vide order dated 18.10.2024:

"....6.. Further, pursuant to order dated 19.09.2024, report has been submitted by Uttar Pradesh Pollution Control Board vide email dated 16.10.2024 but a perusal thereof shows that report is absolutely incomplete in as much as neither it is

shown that Ministry of Environment Forest and Climate Change, Government of India orders issued in respect of disposal of flyash have been complied with nor it is mentioned that flyash disposed in alleged low lying area whether constitute agriculture or otherwise and if it is agriculture land whether consent of owners has been obtained and also whether disposal in agriculture land is consistent with order issued by Government of India in this regard and that quality contents of flyash has also not been examined so as to ascertain whether there is any damage due to seepage of leachate in groundwater and/or it is safe for environmental protection.

7. UPPCB therefore is directed to submit a further additional report within three weeks....."

Whereas the industry was inspected by the officers of the Regional Office, U.P. Pollution Control Board, Moradabad on 06.11.2024 and 07.11.2024.

Whereas during the inspection, the transportation arrangement for disposal of fly ash generated by the industry was found not in accordance with the provisions contained in the notification dated 31.12.2021 issued by the Ministry of Environment, Forest and Climate Change,

Government of India. During the inspection, no disposal of fly ash generated by the industry was found.

Whereas 13 low-lying areas identified by the industry were inspected. No low-lying areas are available on any land acquired by the industry, therefore, fly ash is being disposed of by the industry through contractors by filling low-lying areas at various private sites.

Whereas it is clear that the unit is not complying with the orders issued by the Hon'ble National Green Tribunal, New Delhi and the directions issued by the Board.

Therefore, in view of the above facts, and considering that the transportation arrangement of fly ash and air pollution control systems installed in the industry are not being operated smoothly, a show cause notice is hereby issued against M/s Redico Khaitan Ltd., Bareilly Road, District-Rampur under Section 31A read with 21(4) of the Air (Prevention and Control of Pollution) Act, 1981, with the permission of the competent authority:

1. Why should the conditional consent letter No. 196484/UPPCB/Moradabad(UPPCBRO)/CTO/both/Rampur/2023 dated 05.01.2024 issued in favor of M/s Redico Khaitan Ltd., Bareilly Road, District-Rampur not be revoked by issuing a closure order against the industry by violating water and air provisions?

2. Why should the authorities not be requested to immediately stop all water and electricity facilities being provided to M/s Redico Khaitan Ltd., Bareilly Road, District-Rampur?
3. Ensure submission of a report with records of the past 01 year regarding compliance with the provisions for storage, maintenance, and transportation of fly ash as per the notification dated 31.12.2021 of the Ministry of Environment, Forest and Climate Change, Government of India.
4. Ensure submission of a report regarding the disposal of fly ash from the unit in low-lying areas.
5. Direct the unit to ensure submission of a report with records of the past 01 year regarding the action taken in accordance with the guidelines issued by the Central Pollution Control Board for disposal of fly ash in low-lying areas.
6. Ensure submission of a report with details of the past 01 year, including land details of the filling area, by obtaining a report from the concerned department regarding the impact on agricultural land due to fly ash disposal in low-lying areas. It is also directed that you provide complete details regarding whether the contractor through whom you are contracting for fly ash

disposal in low-lying areas has obtained permission from the landowners.

Submit clarifications within 15 days of receipt of this letter. In case a satisfactory response is not received within the specified time frame, the above-mentioned orders/directions will be confirmed, for which the entire responsibility will be that of the industry.

Sd/-

Chief Environmental Officer, Circle-7

Copy to:

1. District Magistrate, Rampur for information.
2. Regional Officer, U.P. Pollution Control Board, Moradabad with instructions to ensure that a copy of the show cause notice against the industry is delivered to the industry and a report is sent to the Board Headquarters within 07 days.

Sd/-

Chief Environmental Officer, Circle-7



1208  
उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड  
UTTAR PRADESH POLLUTION CONTROL BOARD



संदर्भ संख्या: P20793/C-7/W-40/2024

दिनांक: 06/12/24

सेवा में,

मैसर्स रेडिको खैतान लि०, (आसवनी इकाई),  
बरेली रोड, रामपुर।

विषय : बोर्ड के पत्र संख्या एच 19889/सी-7/जल-40/2023 दिनांक 19.11.2024 द्वारा वायु (प्रदूषण निवारण एवं नियंत्रण) अधिनियम 1981 की धारा 31ए सपठित 21(4) के अन्तर्गत जारी कारण बताओ नोटिस को निक्षेपित किये जाने के संबंध में।

महोदय,

कृपया उपरोक्त विषयक बोर्ड के पत्र संख्या एच 19889/सी-7/जल-40/2023 दिनांक 19.11.2024 द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम 1974 की धारा 33ए सपठित 27 (2) के अन्तर्गत जारी कारण बताओ नोटिस का संज्ञान ले। माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर एचए छवप 152ध2022 लीडीलंड पदही चै टेण जंजम वन्च में पारित आदेश दिनांक 18.10.2024 के अनुपालन में निरीक्षण के दौरान उद्योग से जनित फलाई ऐश के निस्तारण हेतु ट्रांसपोर्टिंग की व्यवस्था पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार द्वारा जारी अधिसूचना दिनांक 31.12.2021 में निहित प्राविधानों के अनुरूप नहीं पाये जाने, निरीक्षण के दौरान उद्योग से जनित फलाई ऐश का निस्तारण किया जाता नहीं पाये जाने एवं उद्योग द्वारा चिन्हित 13 लो-लाइंग एरिया का निरीक्षण किया गया। उद्योग द्वारा अधिग्रहीत किसी भी भूमि पर लो-लाइंग एरिया उपलब्ध न होने के दृष्टिगत कारण बताओ नोटिस जारी किया गया था।

उक्त कारण बताओ नोटिस के क्रम में क्षेत्रीय अधिकारी उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड, मुरादाबाद के पत्र दिनांक 04.12.2024 द्वारा की गयी संस्तुति एवं उद्योग द्वारा प्रेषित प्रत्यावेदन/अभिलेख दिनांक 28.11.2024 को दृष्टिगत रखते हुए सक्षम अधिकारी की अनुमति से मैसर्स रेडिको खैतान लि०, (आसवनी इकाई), बरेली रोड, रामपुर के विरुद्ध बोर्ड के पत्र संख्या एच 19889/सी-7/जल-40/2023 दिनांक 19.11.2024 द्वारा वायु (प्रदूषण निवारण एवं नियंत्रण) अधिनियम 1981 की धारा 31ए सपठित 21(4) के अन्तर्गत जारी कारण बताओ नोटिस निम्नलिखित शर्तों के साथ निक्षेपित किया जाता है :-

1. उद्योग मै० रेडिको खैतान लि०, बरेली रोड, रामपुर का संचालन राज्य बोर्ड से निर्गत सहमति जल एवं वायु की समस्त शर्तों अक्षरशः अनुपालन सुनिश्चित किया जाए तथा अनुपालन आख्या त्रैमासिक रूप से बोर्ड को प्रेषित किया जाए।
2. उद्योग मै० रेडिको खैतान लि०, बरेली रोड, रामपुर से जनित फलाई ऐश का निस्तारण केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी गाइडलाइन एवं पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार द्वारा जारी अधिसूचना दिनांक 31.12.2021 के प्राविधानों के अनुरूप की जाए एवं कृत कार्यवाही की आख्या त्रैमासिक रूप बोर्ड को प्रेषित की जाए।
3. उद्योग मै० रेडिको खैतान लि०, बरेली रोड, रामपुर द्वारा जल प्रदूषण नियंत्रण व्यवस्था एवं वायु प्रदूषण नियंत्रण व्यवस्था का सुचारू संचालन एवं रख-रखाव उचित प्रकार से सुनिश्चित किया जाए तथा ई०टी०पी० लॉगबुक मेनटेन किया जाए।
4. उद्योग मै० रेडिको खैतान लि०, बरेली रोड, रामपुर ई०टी०पी० आउटलेट की मान्यता प्राप्त प्रयोगशाला से विश्लेषण आख्या प्रत्येक तिमाही बोर्ड प्रेषित की जाए।

भवदीय

मुख्य पर्यावरण अधिकारी, वृत्त-7

टी.सी. - 12 वी, विभूति खण्ड, गोमती नगर,  
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ई-मेल : info@uppcb.com  
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T.C.-12 V, Vibhuti Khand, Gomti Nagar,  
Lucknow - 226 010  
Phone : 0522-2720828, 2720831  
E-mail : info@uppcb.com  
Website : www.uppcb.com

प्रतिलिपि :निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. क्षेत्रीय अधिकारी उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड, मुरादाबाद को इस निर्देश के साथ की उक्त निर्देशों के क्रम आवश्यक कार्यवाही करना सुनिश्चित करे।
2. मुख्य पर्यावरण अधिकारी, डब्लूएमडी, उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड, मुख्यालय, लखनऊ को इस अनुरोध के साथ प्रेषित है कि उक्त कारण बताओ नोटिस को आई0एम0एस0 पोर्टल पर उपलोड किये जाने हेतु से संबंधित को निर्देशित करना चाहे।

मुख्य पर्यावरण अधिकारी,वृत्त-7

**UTTAR PRADESH POLLUTION CONTROL BOARD****LIFE  
Lifestyle for  
Environment**

Ref. No. H20793/C-7/W-40/2024

Date 06.12.24

To,

M/s Radico Khaitan Ltd. (Distillery Unit),  
Bareilly Road, Rampur.

Sub: Submission of show cause notice issued under section 31A read with 21 (4) of the Air (Prevention and Control of Pollution) Act, 1981 vide Board's letter No. H 19889/C-7/Water-40/2023 dated 19.11.2024 – Reg.

Sir,

Please refer to the show-cause notice dated 19.11.2024 issued under section 33A read with 27 (2) of the Water (Prevention and Control of Pollution) Act, 1974 vide Board's letter No. H 19889/C-7/Water-40/2023 dated 19.11.2024 in the aforesaid subject. In compliance with the order dated 18.10.2024 passed in Case No. 152/2022.....filed in the Hon'ble National Green Tribunal, New Delhi, during the course of inspection, the arrangement for transportation for disposal of fly ash generated by the industry was not found to be in accordance with the provisions contained in the notification dated 31.12.2021 issued by the Ministry of Environment, Forest and Climate Change, Government of India. During the course of inspection, disposal of fly ash generated by the industry was not found to be done and 13 low-lying areas, identified by the industry, were inspected. In view of the non-availability of low-lying area on any land acquired by the industry, a show cause notice was issued.

During the course of thus the aforesaid show-cause notice, keeping in view the recommendation made by the Regional Officer, Uttar Pradesh Pollution Control Board, Moradabad, vide letter dated 04.12.2024 and the representation/records, submitted by the industry dated 28.11.2024, with

the permission of the competent authority, the show cause notice issued against M/s Radico Khaitan Ltd., (Distillery Unit), Bareilly Road, Rampur, vide Board's letter No. H 19889/C-7/Jal-40/2023 dated 19.11.2024 under section 31A read with 21 (4) of the Air (Prevention and Control of Pollution) Act, 1981 is submitted with the following conditions:-

1. It should be ensured by the industry M/s Radico Khaitan Ltd., Bareilly Road, Rampur that all the conditions of water and air consent issued by the State Board are complied with strictly and the compliance report should be sent to the Board on a quarterly basis.
2. The fly ash, generated from the industry M/s Radico Khaitan Ltd., Bareilly Road, Rampur, should be disposed in accordance with the guidelines issued by the Central Pollution Control Board and the provisions of the notification dated 31.12.2021 issued by the Ministry of Environment, Forest and Climate Change, Government of India and action report should be remitted to the Board on a quarterly basis.
3. The smooth operation and maintenance of water pollution control system and air pollution control system should be properly ensured by the industry M/s Radico Khaitan Ltd., Bareilly Road, Rampur and the ETP logbook should be maintained.
4. The analysis report from the recognized laboratory of the Industry M/s Radico Khaitan Ltd., Bareilly Road, Rampur ETP outlet should be remitted to the Board every quarter.

Sincerely

Sd/-

Chief Environmental Officer,  
Circle-7

Copy to:

1. The Regional Officer, Uttar Pradesh Pollution Control Board, Moradabad with the instruction to ensure necessary action according to the above instructions.

2. The Chief Environmental Officer, WMD, Uttar Pradesh Pollution Control Board, Headquarters, Lucknow with the request to direct the concerned to upload the said show cause notice on the IMS portal.  
- For information and necessary action.

Sd/- Chief Environmental Officer,  
Circle-7



Ref. No.: RKL/VP(P)/763

Date: 28.11.2024

To,  
The Chief Environmental Officer (Circle-7)  
Uttar Pradesh Pollution Control Board  
TC-12 V, Pickup Building  
Vibhuti Khand, Gomti Nagar, Lucknow

**Subject: Reply to the Show Cause Notice Issued Vide Letter No. H19889/C-7/Water-40/2024 Dated 19.11.2024 and receipt on dated 23.11.24.**

Dear Sir,

We, Radico Khaitan Limited, Rampur, are in receipt of the Show Cause Notice dated 19 November 2024 which we received on dated 23 November 2024 bearing reference No. H-19889// C-7/ Water-40/2024 ("SCN") issued by Uttar Pradesh Pollution Control Board ("UPPCB").

At the outset, we would like to submit that the present SCN does not refer to/take on record our reply RKL/VPO/736 dated 18 November 2024 to the earlier letter no. H19371/C - 7/Vividh - 608/2024 dated 05 November 2024 issued by UPPCB ("Reply to Letter"). The said letter specifically sought information with respect to paragraph 3 to 6 of the present SCN, accordingly, the same was submitted vide our above-mentioned reply dated 18 November 2024. Copy of the reply dated 18 November 2024 along with receiving is annexed as Annexure-A.

Please find below our submissions with respect to observations made in the SCN regarding:

1. Transportation arrangement of fly ash
2. Air pollution control system installed in the industry

**RE: TRANSPORTATION ARRANGEMENT OF FLY ASH**

- A. That Fly ash generated by the plant is stored in silos and transported in covered vehicles after conditioning, ensuring compliance with standards. Details of the arrangements for the storage, maintenance, and transportation of fly ash are attached as Annexure 1 to Reply to Letter.
- B. From October 2023 to January 2024, based on written requests and consent from farmers/landowners, we provided 380 metric tons of fly ash for agricultural purposes and 267 metric tons for our own organic composting. Laboratory tests conducted by the Soil Testing Laboratory, Rampur, indicate that the use of fly ash has had a positive impact on soil quality. Relevant soil health records are attached as Annexure 4(A) to Reply to Letter.

डाक प्राप्ति रसीद  
प्राप्ति दिनांक 29/11/24  
प्राप्तकर्ता के हस्ताक्षर.....  
उपरो प्रदूषण नियंत्रण बोर्ड, लखनऊ

**Radico Khaitan Limited**

ISO 9001 : 2015 & 22000 : 2018 Certified Company

Regd. Office : Bareilly Road, Rampur-244901 (U.P.)

Tel : EPABX (0595) 2350601, 2350602, Fax : (0595) 2350009

Head Office : Plot No. J-1, Block B-1, Mohan Co-op. Industrial Area,

Mathura Road, New Delhi-110044

Tel : (91-11) 40975400/444/500/555, Fax : (91-11) 41678841-42, 41676718 (Exports)

e-mail : info@radico.co.in

website : www.radico.khaitan.com

CIN No. L26941UP1983PLC027278



- C. Fly ash for construction landfills is sent on the written request of private property owners through contractors. Records of this activity over the past year are attached as **Annexure 4 to Reply to Letter**.
- D. Since there are no low-lying areas available within the premises, fly ash is disposed of in private lands with the written consent of the landowners. This is facilitated through contractors for use in landfilling and construction activities. Our plant has silos with storage capacities of 80 metric tons for the 30 TPH boiler and 100 metric tons for the 65 TPH boiler. These silos are sufficient to store one day's fly ash generated. During the subjected inspection, the generated fly ash was stored in the silos and accordingly disposed of. Details with respect to fly ash generation, transportation and disposal are already provided in **Annexure 3 to Reply to Letter**.
- E. SCN incorrectly records that during the inspection, the arrangement for disposal of fly ash generated was not found to be in accordance with the provisions of the notification dated 31 December 2021 as no disposal of fly ash was found during the inspection. However, it is submitted that since no disposal of fly ash was found during the inspection therefore it would be incorrect to observe any non-compliance with provisions of the notification dated 31 December 2021.
- F. However, it is submitted that the notification issued by the Ministry of Environment, Forest, and Climate Change (MoEF&CC) on 31 December 2021 provides specific directions for the disposal of fly ash from coal/lignite-based thermal power plants. In compliance with these guidelines, our plant uses fly ash in activities such as building construction, road construction, parks/playgrounds, and industrial landfilling as enumerated above. A latest analysis report of the fly ash, certified by NABL/MoEF-approved laboratories, is attached as **Annexure -C**.
- G. No specific instance of non-compliance per directions of the National Green Tribunal and CPCB have been pointed out in the SCN.

**RE: AIR POLLUTION CONTROL SYSTEM INSTALLED IN THE INDUSTRY**

- H. It is submitted that the plant has installed an Electro Static Precipitator ("ESP") as an air pollution control device in our both 30 TPH & 60 TPH Boilers and the same is being operated and maintained efficiently to ensure that the standards for emission from stacks are being met. Due to the installation and smooth functioning of the ESP, the emissions from the stack boilers have been within parameters. In this regard it may be relevant to note that during past inspections conducted pursuant to the directions of the NGT, emissions from the boilers have been found to be within parameters. UPPCB in its report dated 16 January 2024 notes that the emissions from the boilers in operation were within the prescribed parameters. Even as per the report of the UPPCB dated 20 November 2024, the

**Radico Khaitan Limited**

Page 2 of 3

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CIN No. L26941UP1983PLC027278



quantity of pollutants emitted from chimney was found in accordance with prescribed standards.

- I. Further, the Online Continuous Monitoring System ("OCEMS") installed in all boiler stacks connected with the CPCB server also show that the emissions are within parameters. Copy of OCEMS report for the relevant period is attached as Annexure B.

### OTHER SUBMISSIONS



- J. The water and air consent order no. 196484/UPPCB/Moradabad (UPPCBRO)/CTO/both/Rampur/2023 dated 5 January 2024 referred to in the SCN pertains to the bottling plant and the boilers does not get covered in this consent.
- K. CPCB guidelines mentioned in the notice are specifically applicable to coal/lignite-based thermal power plants. Nevertheless, as part of our social responsibility towards the environment and local communities, we voluntarily adhere to similar practices.
- L. We have also reached out to National Highways Authority of India (NHAI), the Rural Engineering Department, Public Works Department (PWD), and UP State Bridge Corporation Ltd., to explore opportunities for fly ash utilization in government projects.

M/s Radico Khaitan Limited, Rampur, is fully committed to adhering to all directions issued by your office. The above facts do not merit any revocation by issuance of closure order against us as there has been no violation of water and air provisions.

In view of the above stated facts and submission, the proposed revocation of consent is not warranted nor any other coercive action proposed in the show cause notice is called for. It is therefore requested the above said show cause notice may be discharged without taking any coercive action proposed in the above notice.

Thanking you.

For Radico Khaitan Limited, Rampur

(Authorized Signatory)  
  


Copy To: The Regional Officer, UP Pollution Control Board, 1-A/INS-1, Housing Development Colony, Buddha Vihar, Moradabad, Uttar Pradesh.

### Radico Khaitan Limited

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CIN No. L28941UP1983PLC027278



# ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

Laboratory Address : 2/261, Vishwas Khand, Gomti Nagar, Lucknow - 226 010 (U.P.)

Email : ETRCLTH@YAHOO.IN, Web.: www.etrccindia.com

(ISO 9001:2015, ISO 45001:2018 (OH&S) ISO 14001:2015)

An approved laboratory from Ministry of Environment, Forest and Climate change, Govt. of India under EPA 1986

1216

ETRC/PM09/TEST-REP/FT/46

## TEST REPORT Ash Analysis

Test Report Ref No.: ETRC/AHS/201/2024	Date of Report: 28/11/2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Sampling Location	Ash Silo-01	5	Packing Condition	Sealed
2	Sample Description	ASH	6	Sample Collected By	ETRC
3	Sample received date	22.11.2024	7	Analysis Start Date	22.11.2024
4	Sample Quantity	1.0 kg	8	Analysis End Date	28.11.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result
1	pH	-	IS: 2720 (Part-26): 1987, Reaffirmed: 2021	7.9
2	Moisture	%	IS: 2720 (Part-02): 1973, Reaffirmed: 2020	1.08
3	Calcium	mg/kg	IS: 2720 (Part-23): 1976, Reaffirmed: 2020	408.4
4	Total Nitrogen	%	IS: 14684: 1999, Reaffirmed: 2019	0.017
5	Total Phosphorus	%	Method Manual of Soil Testing in India	0.0014
6	Total Potassium	%	Method Manual of Soil Testing in India	0.21
7	Silica	%	Method Manual of Soil Testing in India	82.4
8	C : N Ratio	-	Method Manual of Soil Testing in India	8:1
9	Arsenic as As	mg/kg	USEPA 3050 B, Revision 2: 1996	3.12
10	Cadmium as Cd	mg/kg	USEPA 3050 B, Revision 2: 1996	BDL
11	Total Chromium as Cr	mg/kg	Method Manual of Soil Testing in India	25.8
12	Copper as Cu	mg/kg	Method Manual of Soil Testing in India	23.07
13	Mercury as Hg	mg/kg	USEPA 3050 B, Revision 2: 1996	BDL
14	Nickel as Ni	mg/kg	USEPA 3050 B, Revision 2: 1996	7.90
15	Lead as Pb	mg/kg	USEPA 3051 A, Revision 1: 2007	BDL
16	Zinc as Zn	mg/kg	Method Manual of Soil Testing in India	33.6

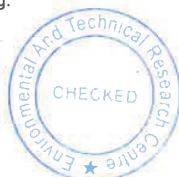
Method Manual of Soil Testing in India (Department of Agriculture and Corporation Ministry of Agriculture, Government of India), 4.6.3 (16b): 2022

BDL = Below Detection Limit

..... END OF REPORT.....

- ETRC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices and that this data reflects our best attempt to generate accurate results for the sample, mentioned in the report as above.
- The result relate only to the items tested.
- ETRC does not assume any liability for any claims or damages related to the quality of parameter analyzed in the results and/or the performance of the equipment constituting to the results.
- All disputes subject to Lucknow jurisdiction.
- 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 our special permission in writing.
- Complain register is available in our laboratory

Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



Authorized Signatory  
(Ritu Garg)  
QM



# ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

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TC-5469

ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6520/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Parasnath Breilly Road Rampur	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.4	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	618.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	376.4	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	46.4	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	18.46	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	36.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.12	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	48.2	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	4.98	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	196.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	192.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	18.68	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.2	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.12	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.032	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6520/2024

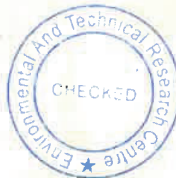
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

..... END OF REPORT.....

- ETRC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices and that this data reflects our best attempt to generate accurate results for the sample, mentioned in the report as above.
- The result relate only to the items tested.
- ETRC does not assume any liability for any claims or damages related to the quality of parameter analyzed in the results and/or the performance of the equipment constituting to the results.
- All disputes subject to Lucknow jurisdiction.
- 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 our special permission in writing.
- Complain register is available in our laboratory.

  
**Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge**



  
**Authorized Signatory  
(Ritu Garg)  
QM**



# 1219 ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

<b>Test Report Ref No.:</b> ETRC/GW/6521/2024	<b>Date of Report:</b> 07.12.2024
<b>Name /Address/Type of Industry</b>	<b>M/s Radico Khaitan Limited</b> <b>Bareilly Road</b> <b>District: Rampur (U.P.) - 244901</b>

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	<b>Perfect Test House, Shazadnagar, rampur</b>	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.3	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	557.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	322.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	56.0	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	12.63	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	34.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.12	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	48.2	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	184.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	192.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	14.46	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.98	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.11	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.028	0.02 - 5.0	0.1	0.3



# 1220 ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

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TC-5469

## Test Report Ref No.: ETRC/GW/6521/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



  
Authorized Signatory  
(Ritu Garg)  
QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6522/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Mr. Vipul S/o Ramb Udayraj Ke Maridya, Sardar Rampur	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.4	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	470.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	286.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	52.8	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	14.58	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	18.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.33	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	22.6	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	188.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	192.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	10.24	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	1.46	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.065	0.05 - 20	0.3	No Relaxation



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TC-5469

## Test Report Ref No.: ETRC/GW/6522/2024

18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.024	0.02 - 5.0	0.1	0.3
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

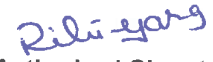
BDL=Below Detection Limit

..... END OF REPORT.....

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- Complain register is available in our laboratory.

  
Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



  
Authorized Signatory  
(Ritu Garg)  
QM



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TC-5469

ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6523/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Mr. Room Singh S/o Ram Bahadur (Village: Nankar, Rampur)	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	6.7	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	652.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	378.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	52.8	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	13.6	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	32.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.18	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	38.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	172.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	188.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	14.12	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.18	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.24	0.05 - 20	0.3	No Relaxation



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TC-5469

## Test Report Ref No.: ETRC/GW/6523/2024

18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.032	0.02 - 5.0	0.1	0.3
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.55	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

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**Authorized Signatory**  
**(Sandeep Kr Verma)**  
**Lab-Incharge**



  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



1225

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ETRC/PM09/TEST-REP/FT/45

**TEST REPORT  
WATER & WASTE WATER ANALYSIS**

<b>Test Report Ref No.:</b> ETRC/GW/6524/2024	<b>Date of Report:</b> 07.12.2024
<b>Name /Address/Type of Industry</b>	<b>M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901</b>

**SAMPLE DETAILS**

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	<b>Mr. Karan Singh (Village: Kalyanpur Petti, Milak, Rampur)</b>	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

**TEST RESULT**

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.4	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	486.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	288.4	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	49.6	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	16.52	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	16.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.13	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	48.8	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	4.36	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	180.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	192.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	10.1	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	5.24	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.13	0.05 - 20	0.3	No Relaxation



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## Test Report Ref No.: ETRC/GW/6524/2024

18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.035	0.02 - 5.0	0.1	0.3
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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*Sandeep Kr Verma*  
**Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge**



*Ritu Garg*  
**Authorized Signatory  
(Ritu Garg)  
QM**



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6525/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Mr. Bharumpal Singh Yadav S/o Surajpal Singh (Village: Milak)	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.3	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	414.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	226.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	46.4	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	16.52	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl B	12.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F-C	0.16	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	10.4	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	176.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	184.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	21.85	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.22	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.21	0.05 - 20	0.3	No Relaxation



1228

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TC-5469

## Test Report Ref No.: ETRC/GW/6525/2024

18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.051	0.02 - 5.0	0.1	0.3
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.33	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

..... END OF REPORT.....

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**Authorized Signatory**  
**(Sandeep Kr Verma)**  
**Lab-Incharge**



  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



# 1229 ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6526/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Mr. Rakesh Yadav (Village: Raipur Shahabad Rampur)	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.2	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	478.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	292.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	52.8	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	22.0	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	16.01	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.17	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	26.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	180.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	196.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	11.32	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.64	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 20	0.3	No Relaxation



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TC-5469

## Test Report Ref No.: ETRC/GW/6526/2024

18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.023	0.02 - 5.0	0.1	0.3
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.08	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



  
Authorized Signatory  
(Ritu Garg)  
QM



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TC-5469

ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6527/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Mr. Bhagat Soran S/o Baba Ram Singh (Village: Koyala, Rampur)	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.4	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	533.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	332.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	51.2	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	16.52	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	30.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.18	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	40.2	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	184.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	196.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	40.20	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.38	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.066	0.05 - 20	0.3	No Relaxation



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TC-5469

## Test Report Ref No.: ETRC/GW/6527/2024

18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.026	0.02 - 5.0	0.1	0.3
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.17	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

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**Authorized Signatory  
(Sandeep Kr Verma)  
Lab-In-charge**



  
**Authorized Signatory  
(Ritu Garg)  
QM**



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ETRC/PM09/TEST-REP/FT/45

**TEST REPORT**  
**WATER & WASTE WATER ANALYSIS**

Test Report Ref No.: ETRC/GW/6528/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

**SAMPLE DETAILS**

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	<b>BIR Academy Village: Tajka, Rampur</b>	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

**TEST RESULT**

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	6.9	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	488.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	310.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	44.8	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	20.41	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	30.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.32	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	42.60	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	192.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	196.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	18.98	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	1.48	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.20	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.026	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6528/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.52	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

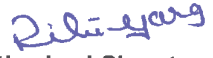
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**(Sandeep Kr Verma)**  
**Lab-Incharge**



  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6529/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Mr. Bablu S/o Nand Bhamrava Kumajhra	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.1	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	648.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	408.6	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	44.8	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	18.46	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	34.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.22	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	46.2	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	8.25	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	192.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	188.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	14.24	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	BDL	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.030	0.02 - 5.0	0.1	0.3



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TC-5469

**Test Report Ref No.: ETRC/GW/6529/2024**

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.68	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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*Sandeep Kr Verma*  
**Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge**



*Ritu Garg*  
**Authorized Signatory  
(Ritu Garg)  
QM**



1237

**ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE**

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TC-5469

ETRC/PM09/TEST-REP/FT/45

**TEST REPORT  
WATER & WASTE WATER ANALYSIS**

Test Report Ref No.: ETRC/GW/6530/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

**SAMPLE DETAILS**

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Mr. Mohd Babu S/o Mohd. Istehaq Bhamrava Rampur	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

**TEST RESULT**

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.7	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	662.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	296.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	48.0	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	18.46	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	34.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.14	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	35.4	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	188.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	196.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	22.26	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.12	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.22	0.05 - 20	0.3	No Relaxation



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## Test Report Ref No.: ETRC/GW/6530/2024

18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.030	0.02 - 5.0	0.1	0.3
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.09	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



  
Authorized Signatory  
(Ritu Garg)  
QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6531/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Mr. Bhura S/o Mr. Mizle (Village: Chamarpura, Rampur)	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.5	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	603.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	462.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	48.0	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	13.6	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	38.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.19	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	36.8	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	188.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	176.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	14.88	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.40	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 20	0.3	No Relaxation



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## Test Report Ref No.: ETRC/GW/6531/2024

18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.035	0.02 - 5.0	0.1	0.3
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

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**Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge**



  
**Authorized Signatory  
(Ritu Garg)  
QM**



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6532/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Mr. Ganga Ram S/o Khubi Singh Chamraoya, Rampur	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.1	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	614.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	342.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	54.4	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	12.63	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	20.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.15	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	24.8	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	176.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	188.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	32.56	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.46	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.09	0.05 - 20	0.3	No Relaxation



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TC-5469

## Test Report Ref No.: ETRC/GW/6532/2024

18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.029	0.02 - 5.0	0.1	0.3
19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.15	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

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**Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge**



  
**Authorized Signatory  
(Ritu Garg)  
QM**



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ETRC/PM09/TEST-REP/FT/45

### TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6507/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

#### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Atik Ahmad S/o Raish Ahmad	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

#### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.3	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	624.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	372.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	54.4	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	12.63	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	30.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.13	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	42.2	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	4.86	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	172.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	188.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	20.0	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.45	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.12	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.04	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6507/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.20	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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**(Sandeep Kr Verma)**  
**Lab-Incharge**



  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



# ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

Office & Laboratory : 2/261, Vishwas Khand, Gomti Nagar, Lucknow - 226 010 (U.P.)

Email : ETRCLTH@YAHOO.IN, Web.: www.etrcindia.com

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TC-5469

ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6508/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Shazad Ali S/o Bajid Ali	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.3	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	526.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	314.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	52.8	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	14.58	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	26.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.14	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	44.6	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	184.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	192.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	15.0	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.98	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.10	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.02	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6508/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.43	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

- ETRC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices and that this data reflects our best attempt to generate accurate results for the sample, mentioned in the report as above.
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- Complain register is available in our laboratory.

*Sandeep Kr Verma*  
Authorized Signatory  
(Sandeep Kr Verma)  
Lab-In-charge



*Ritu Garg*  
Authorized Signatory  
(Ritu Garg)  
QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6509/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Krishan Avtar S/o Ram Avtar	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.2	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	492.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	296.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	49.6	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	17.49	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	12.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.22	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	13.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	144.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	196.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	10.8	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	1.88	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.08	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6509/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.19	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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*Sandeep Kr Verma*  
**Authorized Signatory**  
**(Sandeep Kr Verma)**  
**Lab-Incharge**



*Ritu Garg*  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



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TC-5469

ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6510/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Param Singh S/o Gulabi Singh	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.1	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	618.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	368.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	52.8	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	12.63	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	24.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.18	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	32.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	180.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	184.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	14.8	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.32	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.18	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6510/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.52	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

..... END OF REPORT.....

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(Sandeep Kr Verma)  
Lab-Incharge



  
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(Ritu Garg)  
QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6511/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Ravi S/o Jagdish	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.4	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	476.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	284.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	48.0	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	17.49	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	16.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.16	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	42.6	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	3.43	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	176.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	192.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	10.6	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	5.24	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.13	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.04	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6511/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.22	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

..... END OF REPORT.....

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Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



  
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(Ritu Garg)  
QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6512/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Jaswant S/o Parvat Singh	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.4	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	398.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	226.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	44.8	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	13.60	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	10.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.18	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	6.8	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	136.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	168.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	22.6	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.64	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.16	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.08	0.02 - 5.0	0.1	0.3



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## Test Report Ref No.: ETRC/GW/6512/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.30	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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- All disputes subject to Lucknow jurisdiction.
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- Complain register is available in our laboratory.

*Sandeep Kr Verma*  
 Authorized Signatory  
 (Sandeep Kr Verma)  
 Lab-Incharge



*Ritu Garg*  
 Authorized Signatory  
 (Ritu Garg)  
 QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6513/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Surrender S/o Mahinder Pal	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.3	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	456.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	278.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	49.6	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	17.49	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	14.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.16	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	16.2	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	156.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	196.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	12.0	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.86	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.05	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6513/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.14	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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- Complain register is available in our laboratory.

  
Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



  
Authorized Signatory  
(Ritu Garg)  
QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6514/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Surajpal S/o Dorilal	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.3	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	532.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	314.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	51.2	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	11.66	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	24.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.19	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	36.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	196.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	176.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	40.0	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.12	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.09	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.028	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6514/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.19	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

..... END OF REPORT.....

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Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



  
Authorized Signatory  
(Ritu Garg)  
QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6515/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Farid Ahmad S/o Farmood Ahmad	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	6.9	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	492.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	296.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	46.4	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	15.55	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	28.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.32	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	40.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	178.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	180.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	20.2	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	1.85	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.17	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.033	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6515/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.42	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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*Sandeep Kr Verma*  
 Authorized Signatory  
 (Sandeep Kr Verma)  
 Lab-Incharge



*Ritu Garg*  
 Authorized Signatory  
 (Ritu Garg)  
 QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6516/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Sharafat Ali S/o Chote Ali	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.5	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	460.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	268.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	44.6	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	13.60	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	24.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.16	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	34.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	192.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	168.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	22.0	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.06	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.18	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.024	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6516/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.09	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

..... END OF REPORT.....

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- Complain register is available in our laboratory.

  
**Authorized Signatory**  
**(Sandeep Kr Verma)**  
**Lab-Incharge**



  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6517/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Naresh S/o Shookaram	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.1	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	636.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	378.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	41.6	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	14.58	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	26.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.20	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	46.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	6.25	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	180.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	164.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	15.0	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	BDL	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.031	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6517/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.45	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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- Complain register is available in our laboratory.

*Sandeep Kr Verma*  
Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



*Ritu Garg*  
Authorized Signatory  
(Ritu Garg)  
QM



ETRC/PM09/TEST-REP/FT/45

**TEST REPORT  
WATER & WASTE WATER ANALYSIS**

Test Report Ref No.: ETRC/GW/6518/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

**SAMPLE DETAILS**

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Shoukat Ali S/o Pyare	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

**TEST RESULT**

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.4	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	602.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	342.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	45.8	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	11.66	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	38.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.16	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	34.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	180.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	160.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	16.0	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.10	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.029	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6518/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation


BDL=Below Detection Limit

..... END OF REPORT.....

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Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



  
Authorized Signatory  
(Ritu Garg)  
QM



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ETRC/PM09/TEST-REP/FT/45

## TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/GW/6519/2024	Date of Report: 07.12.2024
Name /Address/Type of Industry	M/s Radico Khaitan Limited Bareilly Road District: Rampur (U.P.) - 244901

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Fazel S/o Shabbir	6	Sample Collected By	ETRC
3	Sample received date	02.12.2024	7	Analysis Start Date	02.12.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	07.12.2024

### TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
1	pH	-	APHA 24 <sup>th</sup> Ed. 2023-4500 H <sup>+</sup>	7.2	1 - 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023-2130 B	BDL	2 - 40	1	5
3	Electrical Conductivity	µs/cm	APHA 24 <sup>th</sup> Ed. 2023 - 2552 A+B	598.0	1 - 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	358.0	10 - 5000	500	2000
5	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	49.6	2.0 - 600	75	200
6	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Mg, B	14.58	0.1 - 200	30	100
7	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-Cl <sup>-</sup> B	20.0	2.0 - 2000	250	1000
8	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 F <sup>-</sup> C	0.17	0.02 - 5.0	1.0	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500-SO <sub>4</sub> <sup>2-</sup> E	24.0	1.0 - 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2320 B	196.0	2.0 - 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-2340 C	184.0	5.0 - 800	200	600
13	Sodium as Na	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 Na	32.0	1.0 - 50	-	-
14	Potassium as K	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3500 K	2.38	1.0 - 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023-4500 - P - D	BDL	0.1 - 50	-	-
16	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
17	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.08	0.05 - 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.030	0.02 - 5.0	0.1	0.3



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TC-5469

## Test Report Ref No.: ETRC/GW/6519/2024

19	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	0.16	0.05 - 15	5	15
20	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
22	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023-3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation

BDL=Below Detection Limit

..... END OF REPORT.....

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*Sandeep Kr Verma*  
Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



*Ritu Garg*  
Authorized Signatory  
(Ritu Garg)  
QM

Test Location			Parasnath	Atik Ahmad S/o Raish Agmad	Perfect Test House	Shazad Ali S/o Bajid Ali	Mr. Vipul S/o Ramb Sardar	Krishan Avtar S/o Ram Avtar	Mr. Room Singh S/o Ram Bahadur	Param Singh S/o Gulabi Singh	Mr. Karan Singh	Ravi S/o Jagdish	Mr. Bharumpal Singh Yadav S/o Surajpal Singh	Jaswant S/o Parvat Singh	Range of testing /limit of detection	Indian Standard 10500: 2012	
Distance			150 meters		250 meters		200 meters		200 meters		250 meters		250 meters			Desirable	Permissible
Sr. No.	Test Parameter	Unit															
1	pH	-	7.4	7.3	7.3	7.3	7.4	7.2	6.7	7.1	7.4	7.4	7.3	7.4	1 to 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2 to 40	1	5
3	Electrical Conductivity	µs/cm	618.0	624.0	557.0	526.0	470.0	492.0	652.0	618.0	486.0	476.0	414.0	398.0	1 to 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	376.4	372.0	322.0	314.0	286.0	296.0	378.0	368.0	288.4	284.0	226.0	226.0	10 to 5000	500	2000
5	Calcium as Ca	mg/l	46.4	54.4	56.0	52.8	52.8	49.6	52.8	52.8	49.6	48.0	46.4	44.8	2.0 to 600	75	200
6	Magnesium as Mg	mg/l	18.46	12.63	12.63	14.58	14.58	17.49	13.6	12.63	16.52	17.49	16.52	13.6	0.1 to 200	30	100
7	Chloride as Cl	mg/l	36.0	30.0	34.0	26.0	18.0	12.0	32.0	24.0	16.0	16.0	12.0	10.0	2.0 to 2000	250	1000
8	Fluoride as F	mg/l	0.12	0.13	0.12	0.14	0.33	0.22	0.18	0.18	0.13	0.16	0.16	0.18	0.02 to 5.0	1	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	48.2	42.2	48.2	44.6	22.6	13.0	38.0	32.0	48.8	42.6	10.4	6.8	1.0 to 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	4.98	4.86	BDL	BDL	BDL	BDL	BDL	BDL	4.36	3.43	BDL	BDL	1.0 to 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	196.0	172.0	184.0	184.0	188.0	144.0	172.0	180.0	180.0	176.0	176.0	136.0	2.0 to 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	192.0	188.0	192.0	192.0	192.0	196.0	188.0	184.0	192.0	192.0	184.0	168.0	5.0 to 800	200	600
13	Sodium as Na	mg/l	18.68	20.0	14.46	15.0	10.24	10.8	14.12	14.8	10.1	10.6	21.85	22.6	1.0 to 50	-	-
14	Potassium as K	mg/l	2.2	2.45	2.98	2.98	1.46	1.88	2.18	2.32	5.24	5.24	2.22	2.64	1.0 to 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.1 to 50	-	-
16	Copper as Cu	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.03 to 10	0.05	1.5
17	Iron as Fe	mg/l	0.12	0.12	0.11	0.10	0.065	0.08	0.24	0.18	0.13	0.13	0.21	0.16	0.05 to 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	0.032	0.04	0.028	0.02	0.024	0.03	0.032	0.03	0.035	0.04	0.051	0.08	0.02 to 5.0	0.1	0.3
19	Zinc as Zn	mg/l	BDL	0.20	BDL	0.43	BDL	0.19	0.55	0.52	BDL	0.22	0.33	0.30	0.05 to 15	5.0	15
20	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.003 to 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.01 to 10	0.01	No Relaxation
22	Total Chromium	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.03 to 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02 to 5.0	0.02	No Relaxation

Test Location			Mr. Rakesh Yadav	Surrender S/o Mahinder Pal	Mr. Bhagat Soran S/o Baba Ram Singh	Surajpal S/o Dorilal	BIR Academy	Farid Ahmad S/o Farmood Ahmad	S/o Nand Mr. Bablu 1270	Sharafat Ali S/o Chote Ali	Mr. Mohd Babu S/o Mohd. Istehaq	Naresh S/o Shookaram	Mr. Bhura S/o Mr. Mizle	Shoukat Ali S/o Pyare	Mr. Ganga Ram S/o Khubi Singh	Fazel S/o Shabbir	Range of testing /limit of detection	Indian Standard 10500: 2012	
Distance			250 meters		200 meters		250 meters		150 meters		100 meters		150 meters		250 meters			Desirable	Permissible
Sr. No.	Test Parameter	Unit																	
1	pH	-	7.2	7.3	7.4	7.3	6.9	6.9	7.1	7.5	7.7	7.1	7.5	7.4	7.1	7.2	1 to 14	6.5 - 8.5	No Relaxation
2	Turbidity	NTU	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2 to 40	1	5
3	Electrical Conductivity	µs/cm	478.0	456.0	533.0	532.0	488.0	492.0	648.0	460.0	662.0	636.0	603.0	602.0	614.0	598.0	1 to 40000	-	-
4	Total Dissolved Solids (TDS)	mg/l	292.0	278.0	332.0	314.0	310.0	296.0	408.6	268.0	296.0	378.0	462.0	342.0	342.0	358.0	10 to 5000	500	2000
5	Calcium as Ca	mg/l	52.8	49.6	51.2	51.2	44.8	46.4	44.8	44.6	48.0	41.6	48.0	45.8	54.4	49.6	2.0 to 600	75	200
6	Magnesium as Mg	mg/l	22.0	17.49	16.52	11.66	20.41	15.55	18.46	13.60	18.46	14.58	13.6	11.66	12.63	14.58	0.1 to 200	30	100
7	Chloride as Cl	mg/l	16.01	14.0	30.0	24.0	30.0	28.0	34.0	24.0	34.0	26.0	38.0	38.0	20.0	20.0	2.0 to 2000	250	1000
8	Fluoride as F	mg/l	0.17	0.16	0.18	0.19	0.32	0.32	0.22	0.16	0.14	0.20	0.19	0.16	0.15	0.17	0.02 to 5.0	1	1.5
9	Sulphate as SO <sub>4</sub>	mg/l	26.0	16.2	40.2	36.0	42.60	40.0	46.2	34.0	35.4	46.0	36.8	34.0	24.8	24.0	1.0 to 500	200	400
10	Nitrate as NO <sub>3</sub>	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	8.25	BDL	BDL	6.25	BDL	BDL	BDL	BDL	1.0 to 70	45	No Relaxation
11	Alkalinity as CaCO <sub>3</sub>	mg/l	180.0	156.0	184.0	196.0	192.0	178.0	192.0	192.0	188.0	180.0	188.0	180.0	176.0	196.0	2.0 to 1000	200	600
12	Total Hardness as CaCO <sub>3</sub>	mg/l	196.0	196.0	196.0	176.0	196.0	180.0	188.0	168.0	196.0	164.0	176.0	160.0	188.0	184.0	5.0 to 800	200	600
13	Sodium as Na	mg/l	11.32	12.0	40.20	40.0	18.98	20.2	14.24	22.0	22.26	15.0	14.88	16.0	32.56	32.0	1.0 to 50	-	-
14	Potassium as K	mg/l	2.64	2.86	2.38	2.12	1.48	1.85	BDL	2.06	2.12	BDL	2.40	2.10	2.46	2.38	1.0 to 50	-	-
15	Phosphate as P <sub>2</sub> O <sub>5</sub>	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.1 to 50	-	-
16	Copper as Cu	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.03 to 10	0.05	1.5
17	Iron as Fe	mg/l	BDL	0.05	0.066	0.09	0.20	0.17	BDL	0.18	0.22	BDL	BDL	BDL	0.09	0.08	0.05 to 20	0.3	No Relaxation
18	Manganese as Mn	mg/l	0.023	0.03	0.026	0.028	0.026	0.033	0.030	0.024	0.030	0.031	0.035	0.029	0.029	0.03	0.02 to 5.0	0.1	0.3
19	Zinc as Zn	mg/l	0.08	0.14	0.17	0.19	0.52	0.42	0.68	0.09	0.09	0.45	BDL	BDL	0.15	0.16	0.05 to 15	5.0	15
20	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.003 to 2.0	0.003	No Relaxation
21	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.01 to 10	0.01	No Relaxation
22	Total Chromium	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.03 to 5.0	0.05	No Relaxation
23	Nickel as Ni	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02 to 5.0	0.02	No Relaxation

# 1271

**From:** [Deepak Singh](#)  
**To:** ["Consultant Judicial-NGT\(P.B.\)"; "pradeepmisra@yahoo.com"; "balendushekhar@gmail.com"; "gigicgeorge.adv42@yahoo.in"](#)  
**Cc:** [Nandita Chauhan; Tijil Thakur; Sushil Dogra](#)  
**Subject:** NGT | OA No. 152 of 2022 | Ghanshyam Singh Pasi versus State of U.P & Ors.  
**Date:** 11 December 2024 15:04:00  
**Attachments:** [OBJECTION.pdf](#)  
[RADICO APPLICATION 11.pdf](#)

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Dear Sir/Madam

Please find attached Response/Objection alongwith application for exemption that is being filed on behalf of Project Proponent/ Respondent (Radico Khaitan Private Limited) in OA 152 of 2022.

Please acknowledge the receipt.

Regards  
Deepak Singh  
Court Clerk  
KHAITAN & CO  
9911180884