

Action Taken Report by Jharkhand State Pollution Control Board (JSPCB) in light of the directions issued by the Hon'ble NGT (PB), New Delhi in O.A. No. 205 of 2022 dated 12/10/2022 in the matter of Rana Singh Chouhan Vs State of Jharkhand.

1. In light of the report of the Committee constituted by the Hon'ble NGT, the Competent Authority, JSPCB by exercising the powers conferred under section 33(A) of the Water (Prevention and Control of Pollution) Act, 1974 and under section 31(A) of the Air (Prevention and Control of Pollution) Act, 1981 has issued directions to the Unit vide Board's Ref. No. B-2142 dated 08/10/2022. The details of which are as follows: -

- (i) To maintain proper lightning along the transportation route especially during transportation of coal.
- (ii) To ensure periodic water sprinkling so that emission during transportation should be minimized.
- (iii) To avoid over loading of transportation vehicles and to ensure covered transportation.
- (iv) To install PM₁₀ Analyzer near Rajhara Thana between the narrow transportation route (from Colliery more to Rajhara Railway siding) and connect it to JSPCB and CPCB server by 31.10.2022.
- (v) To ensure quarterly monitoring of ground water level from third party and submit report to concerned departments.
- (vi) To ensure monthly monitoring of Pizeometer and submit report to concerned departments.
- (vii) To develop proper plantation and green belt wherever possible and submit the report to the Board by 31.10.2022 along with number of plants.

The Copy of the Board's Ref. No. B-2142 dated 08/10/2022 is attached as Annexure - 'A'.

2. In light of the above directions issued to the Unit, the Unit has submitted the compliance report of the above directions issued

vide its Ref. No. HIL/KOCCM/22-23/JSPCB/03 dated 31/10/2022. The details of which is as follows: -

Sl. No.	Directives via letter no. B-2142	Compliance status and Action Taken Report
1.	To maintain proper lighting along the transportation route especially during transportation of coal.	HIL has already installed 15 LED flood lights of 200W capacity to ensure proper lighting especially during transportation of coal. This may be verified at the site. (Photos attached - Annexure 1).
2.	To ensure periodic water sprinkling so that emission during transportation should be minimized.	HIL has employed two movable water tankers which ply to and fro all along the transportation route to sprinkle water to minimize fugitive emissions during transportation and the same can be verified on site.
3.	To avoid over loading of transportation vehicles and to ensure covered transportation.	No overloading is allowed at the weigh bridge and the same can be verified from the JIMMS portal. HIL has already been transporting its coal via vehicles covered by tarpaulin.
4.	To install PM10 Analyser near Rajhara Thana between the narrow transportation route (from Colliery more to Rajhara Railway Siding) and connect it to JSPCB and CPCB server by 31.10.2022.	The PM 10 Analyser has been installed at the Pandwa Thana, which is located between the Colliery More and Rajhara Railway Siding. (Make-Focuse Photonic Inc. USA, Model- BPM-200-Serial no-107P214006A)(Photo attached, Annexure 2).
5.	To ensure quarterly monitoring of Ground Water Level from third party and submit report to the concerned departments.	HIL has already employed M/s Environmental Laboratories & Engineering Services Pvt Ltd., Ranchi, to monitor ground water level and report the same to the CGWA, Patna on quarterly basis.
6.	To ensure monthly monitoring of Piezometer and submit report to concerned departments.	HIL shall monitor the piezometer data on monthly basis, from November 2022 and submit the report to CGWA and JSPCB on monthly basis.
7.	To develop proper plantation and green belt wherever possible and submit the report to the Board by 31.10.2022 along with number of plants.	HIL has already distributed 350 fruit bearing plants among the local villagers residing between colliery more and Rajhara railway siding. We also planted several Sisham, Mahogany and Guava plants along the transportation road. Moreover, we are in the process of procuring more fruit bearing plants to be distributed among the locals for generating good

		green belt cover in the area. Total plants distributed and planted till date, is around 500. (Photos Attached- Annexure 3)
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The Copy of the Unit's Ref. No. HIL/KOCCM/22-23/JSPCB/03 dated 31/10/2022 is attached as Annexure - 'B'.

3. In light of the reply submitted by the Unit the Board Vide its letter no. B - 2615 dated 14/12/2022 has requested the Regional Officer, JSPCB Regional Office, Ranchi to submit the compliance verification report to the Headquarters.

The Copy of the Board's letter no. B - 2615 dated 14/12/2022 is attached as Annexure - 'C'.

4. The Regional Officer, JSPCB Regional Office, Ranchi along with the Consulting Executive, Regional Office, Ranchi has inspected the site on 11/01/2023 and has submitted the Verification Report of the reply submitted by the Unit vide his Letter. No. 19 dated 12/01/2023. The details of which is as follows: -

Sl. No.	Board show cause letter dated	Reply submitted by the unit	Observation/ Status of Compliance
01	To Maintain proper lighting along the transportation route especially during transportation of coal	HIL has already installed 15 LED flood lights of 200W capacity to ensure proper lighting especially during transportation of coal. This may be verified at the site.	The unit has installed 07 No's of light lamp post along the transportation road which is found operational and the remaining lamp posts are still to be installed.

2	To ensure periodic water sprinkling so that emission during transportation should be minimised.	HIL has employed two movable water tankers which ply to and fro all along the transportation route to sprinkle water to minimize fugitive emission during transportation and the same can be verified on site.	Manual Water sprinkling through mobile water tankers is being carried out for dust suppression.
3	To avoid over loading of transportation vehicles' and to ensure cover transportation.	No overloading is allowed at the weigh bridge and the same can be verified from the JIMMS portal. HIL has already been transporting its coal via vehicles covered by tarpaulin.	Cover transportation is being carried out at the time of inspection.
.4	To install PM10 Analyzer near Rajhara Thana between the narrow Transportation route (fro colliery more to Rajhara Railway Siding) and connect it to JSPCB Server and CPCB Server by 31.10.2022.	The PM10 Analyser has been installed at the Pandwa Thana, which is located between the Colliery More and Rajhara Railway Siding.	Online PM10 Analyzer has been installed at the Pandwa Thana and made connectivity with the JSPCB Server but no proper / correct data is transmitting in online server. (Details Attached as Annexure -I)
5	To ensure quarterly monitoring report of Ground water level from third party and submit report to the concern department.	HIL has already employed M/s Environmental Laboratories & Engineering Service Pvt. Ltd. Ranchi to monitor ground water level and report the same to the CGWA, Patna on quarterly basis.	Monitoring reports are submitted and parameters have been found within the limit. (Annexure II)
6	To ensure monthly monitoring of Pizometre and submit report to concern department	HIL shall monitor the piezometer data on monthly basis, from November 2022 and submit the report to	Details are attached. (Annexure III)

		CGWA and JSPCB on monthly basis.	
7	To developed proper plantation and green belt wherever possible and submit to the Board by 31.10.2022 along with number of plants.	HIL has already distributed 350 fruit bearing plants among the local villagers residing between colliery more and Rajhara railway siding. We also planted several sisham, Mohogany and Guava plants along the transportation raod. Moreover, we are in the process of procuring more fruit bearing plants to be distributed among the locals for generating good green belt cover in the area. Total plants distributed and planted till date, is around 500.	As informed by the unit's representatives approx. 350 fruit bearing plants distributed to the local villagers residing between the colliery more to Rajhara Railway siding. 14-15 new plants are planted along the approach road. more plantation should be carried out in vacant space along the approach road.

The Copy of the Regional Officer, Ranchi Letter No. 19 dated 12/01/2023 is attached as Annexure – 'D'.

5. Further, action will be taken by the Board in accordance with law and the Hon'ble Tribunal will be apprised of the same.

Yatindra Kumar Das
(Yatindra Kumar Das)
Member Secretary
SPCB, Jharkhand



झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद् JHARKHAND STATE POLLUTION CONTROL BOARD

T.A. DIVISION BUILDING (GROUND FLOOR), H.E.C., DHURWA, RANCHI -834004

Phone.: 0651-2400851/2400852/2400979/2401847, Fax-0651-2400850/138,

Web site : www.jspcb.nic.in; e-mail : ranchijspcb@gmail.com

Ref. No. B-2142

Ranchi, dated: 08/10/2022

From,

Yatindra Kumar Das,
Member Secretary.

To

Kathautia Open Cast Coal Mines
of M/s Hindalco Industries Ltd.
At-Vasundhara Mega, Mart,
2nd Floor, Near Argora Chowk,
Dist.-Ranchi-834002.

Sub:- Direction issued u/s 33A of Water (Prevention & Control of Pollution) Act, 1974 and and u/s 31A of Air (Prevention & Control of Pollution) Act, 1984-regarding .

**Ref.: (i) Board's letter no. B-1727 dated 26.08.2022.
(ii) Your letter no. Nil dated 30.08.2022.**

Whereas, a matter is pending before the Hon'ble NGT (PB), New Delhi in O.A. No. 205 of 2022. The Hon'ble NGT in its order dated 22.04.2022 has constituted a committee comprising of representatives of CPCB and State PCB, Director, Dept. of Mines & Geology, Govt. of Jharkhand and District Magistrate, Palamu, Jharkhand. More-over the committee was directed to undertake site visits, look into the grievances of the applicant and take requisite action by following due process of law.

Whereas, the report of the joint committee was submitted vide Ref. No. 454 Ranchi, dated 14.07.2022. The recommendation of which are as follow:-

“4.1 The unit should provide continuous online PM10 Analyser near Rajhara Thana between the Narrow transporting areas (Colliery More to Rajhara Railway siding) and connect it to JSPCB and CPCB server and ensure its continuous operation with an objective to ensure that ambient air quality in the area must meet the standard ambient air quality.

4.2 Monitoring of quarterly Ground water level from third Party and Piezometer detail of every month shall submit the report to the Concern departments.

4.3 Proper water sprinkling and lighting arrangement should be maintained along transportation route.

4.4 Wherever possible develop proper plantation and green belt.

4.5 Overloading as well as spillage from the loaded vehicle must not be allowed as per rule.”

Whereas, in light of the above a show cause notice was issued to the unit vide Board's letter no. B-1727 dated 26.08.2022 on the following points:-

“1. Proper water sprinkling and lighting arrangement should be maintained along the transportation road.

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2. Overloading as well as spillage from the loaded vehicle must not be allowed as per Rules and develop tree plantation where ever possible.

3. The unit should provide Continuous Online PM10 Analyzer near Rajhara Thana between the Narrow transportation areas (Colliery More to Rajhara Railway Siding) and connect it to JSPCB and CPCB server and ensure its continuous operation with an objective to ensure that the ambient air quality in the area must meet the standard ambient air quality.”

Whereas, show cause reply was submitted by the unit vide letter dated 30.08.2022. The details of which is as follows:-

1. Proper water sprinkling and lighting arrangement should be maintained along the transportation road?

In compliance of this, HIL has taken several steps, to curb down on the fugitive emissions, during coal transportation. HIL has already converted the earthen road into black top road, so that dust generation is minimized. Moreover, HIL has deployed water tankers that ply to and fro from Rajhara Police Station to Rajhara Railway Siding, for dust suppression.

We are in the process of increasing the lighting arrangement from the Thana to the Railway Siding, i.e. along the transportation road from NH to the Railway Siding, and shall complete the installation within 30th September 2022, i.e. within one month. (Supporting Photographs are attached herewith as Annexure-1)

2. Overloading as well as spillage from the loaded vehicle must not be allowed as per Rules and develop tree plantation wherever possible?

In compliance of this, Hindalco Industries Limited has taken effective steps to ensure zero spillage by adopting following means.

*a. **Tarpaulin Covering of Truck.** Each and every coal truck is being properly covered by tarpaulin before dispatch. The photographs of the dispatch trucks from the mines is as shown below.*

*b. **Sealing/Lock:** Each and every coal transport truck is being covered and properly sealed with the use of plastic/wire seals to avoid uncovering of tarpaulin in the route. The photographs are shown below.*

*c. **Water Sprinkling:** To avoid the dust problem in the area, HIL has provided water truck mounted with water sprinklers in the transport route.*

*d. **PUC Certificate:** Periodic checking of PUC Certificate of each truck engaged in the coal transportation has in place.*

We have already planted fruit bearing trees, viz. mango and guava and also non fruit bearing trees like Kadam, Sisham and Neem and are also in the process of establishing greenbelt and plantation wherever possible by planting local species of plants along the transportation road.

3. The unit should provide Continuous Online PM10 Analyzer near Rajhara Thana between the Narrow transportation areas (Colliery More to Rajhara Railway Siding) and connect it to JSPCB and CPCB server and ensure its continuous operation with an objective to ensure that the ambient air quality in the area must meet the standard ambient air quality?

M. S. D.

In compliance of this, the Online PM 10 Analyser is being installed near Rajhara Thana between the Narrow transportation areas (Colliery More to Rajhara Railway Siding) and connect it to JSPCB and CPCB server within 60 days.

Whereas, in light of the reply submitted by the unit the Regional Officer, JSPCB Regional Office, Ranchi was requested to send the inspection report w.r.t. the reply submitted by the unit vide Board's letter no. B-1787 Ranchi, dated 02.09.2022.

Whereas, the Regional Officer, JSPCB Regional Office, Ranchi has submitted the inspection report vide letter no. 733 dated 20.09.2022. The details of which is as follows:-

S.No.	Observations	Current Status	Remark
1.	Proper Water Sprinkling and lighting arrangement should be maintained along the transportation road	Manual Water sprinkling is being done through mobile water sprinklers. No lightning arrangements have been made along the road.	The unit has submitted that improvement of lighting and their installation shall be completed within 30 th September, which (timeline) may be further decided from H.O Level.
2.	Overloading as well as spillage from the loaded vehicles must not be allowed as per Rules and developed tree plantation wherever possible.	During inspection the mining operation was found closed, therefore same could not be verified. No new plants are planted along or nearby approach road.	
3.	The unit should provided Continuous Online PM10 Analyzer near Rajhara Thana between the Narrow transportation areas (Colliery More to Rajhara Railway siding) and connect it to JSPCB and CPCB server and ensure its continuous operation with an objective to ensure that ambient air quality in the area must meet the standard ambient air quality.	No Continuous Online PM10 Analyzer near Rajhara Thana between the Narrow transportation area has been installed.	The unit has submitted that Online PM10 Analyzer will be installed Rajhara Thana between the Narrow transportation areas (Colliery More to Rajhara Railway siding) within 60 Days, which (timeline) may be further decided from H.O Level.

Now, therefore, in light of the above, the Competent Authority in exercise of the powers conferred under section 33A of the Water (Prevention and Control of Pollution) Act, 1974 and under section 31A of the Air (Prevention and Control of Pollution) Act, 1981 is pleased to issue the following directions:-

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1. To maintain proper lightning along the transportation route especially during transportation of coal.
2. To ensure periodic water sprinkling so that emission during transportation should be minimized.
3. To avoid over loading of transportation vehicles and to ensure covered transportation.
4. To install PM10 Analyzer near Rajhara Thana between the narrow transportation route (from Colliery more to Rajhara Railway siding) and connect it to JSPCB and CPCB server by 31.10.2022.
5. To ensure quarterly monitoring of ground water level from third party and submit report to concerned departments.
6. To ensure monthly monitoring of Piezometer and submit report to concerned departments.
7. To develop proper plantation and green belt wherever possible and submit the report to the Board by 31.10.2022 along with number of plants.

In case of failure to comply with the above-mentioned directions legal action may be initiated against the Unit.

This issues with the approval of the Competent Authority.

(Yatindra Kumar Das)
Member Secretary

Yatindra Kumar Das

		<i>(Make- Focuse Photonic Inc. USA, Model – BPM-200- Serial no-107P214006A)(Photo attached, Annexure 2)</i>
5	To ensure quarterly monitoring of Ground Water Level from third party and submit report to the concerned departments.	HIL has already employed M/s Environmental Laboratories & Engineering Services Pvt Ltd., Ranchi, to monitor ground water level and report the same to the CGWA, Patna on quarterly basis
6	To ensure monthly monitoring of Piezometer and submit report to concerned departments.	HIL shall monitor the piezometer data on monthly basis, from November 2022 and submit the report to CGWA and JSPCB on monthly basis.
7	To develop proper plantation and green belt wherever possible and submit the report to the Board by 31.10.2022 along with number of plants.	HIL has already distributed 350 fruit bearing plants among the local villagers residing between colliery more and Rajhara railway siding. We also planted several Sisham, Mahogany and Guava plants along the transportation road. Moreover, we are in the process of procuring more fruit bearing plants to be distributed among the locals for generating good green belt cover in the area. Total plants distributed and planted till date, is around 500. <i>(Photos Attached- Annexure 3)</i>

We hope you find our response in accordance with your directives and in positive light.

Thank You,

M Chakraborty

Mainak Chakraborty

VP and Unit Head

Kathautia Open Cast Coal Mine

Hindalco Industries Limited,

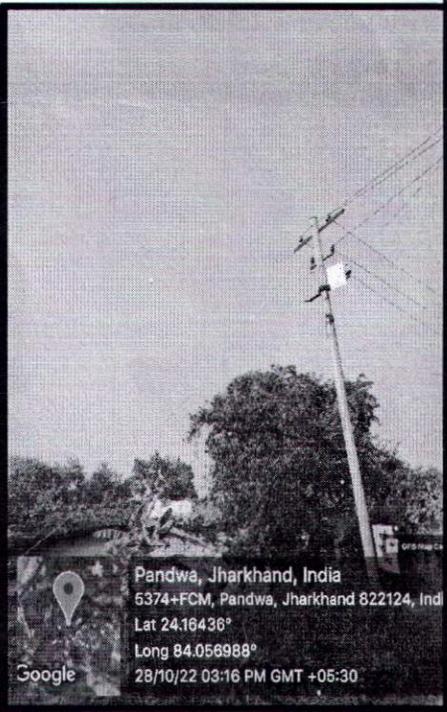
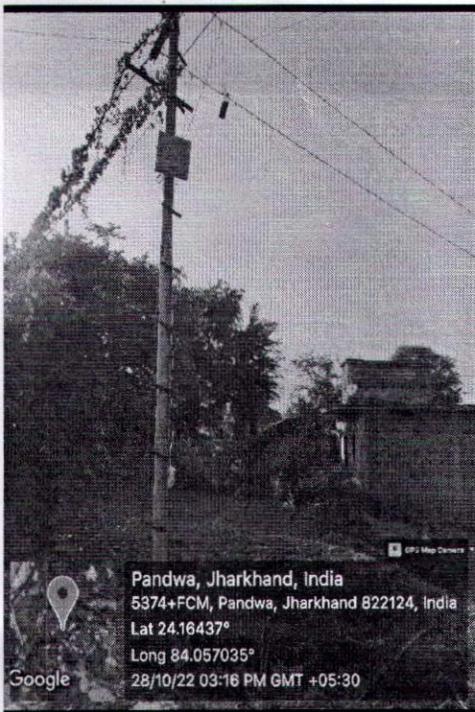
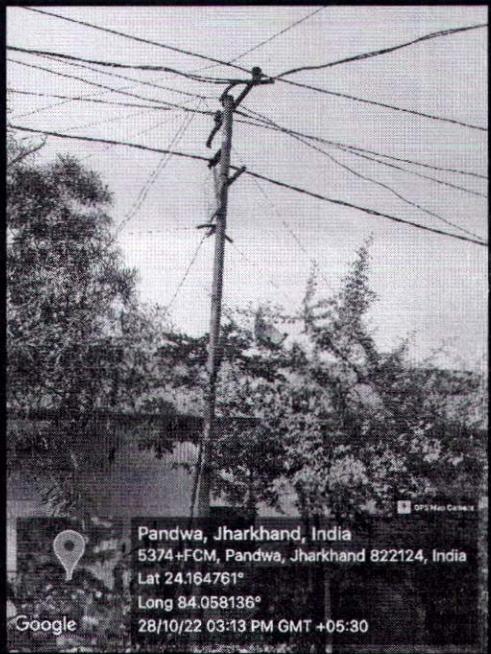
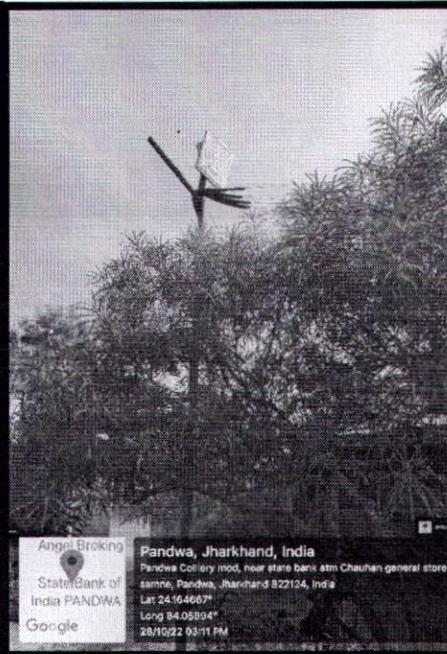
Daltonganj, Palamau,

Jharkhand- 822123.



ANNEXURE

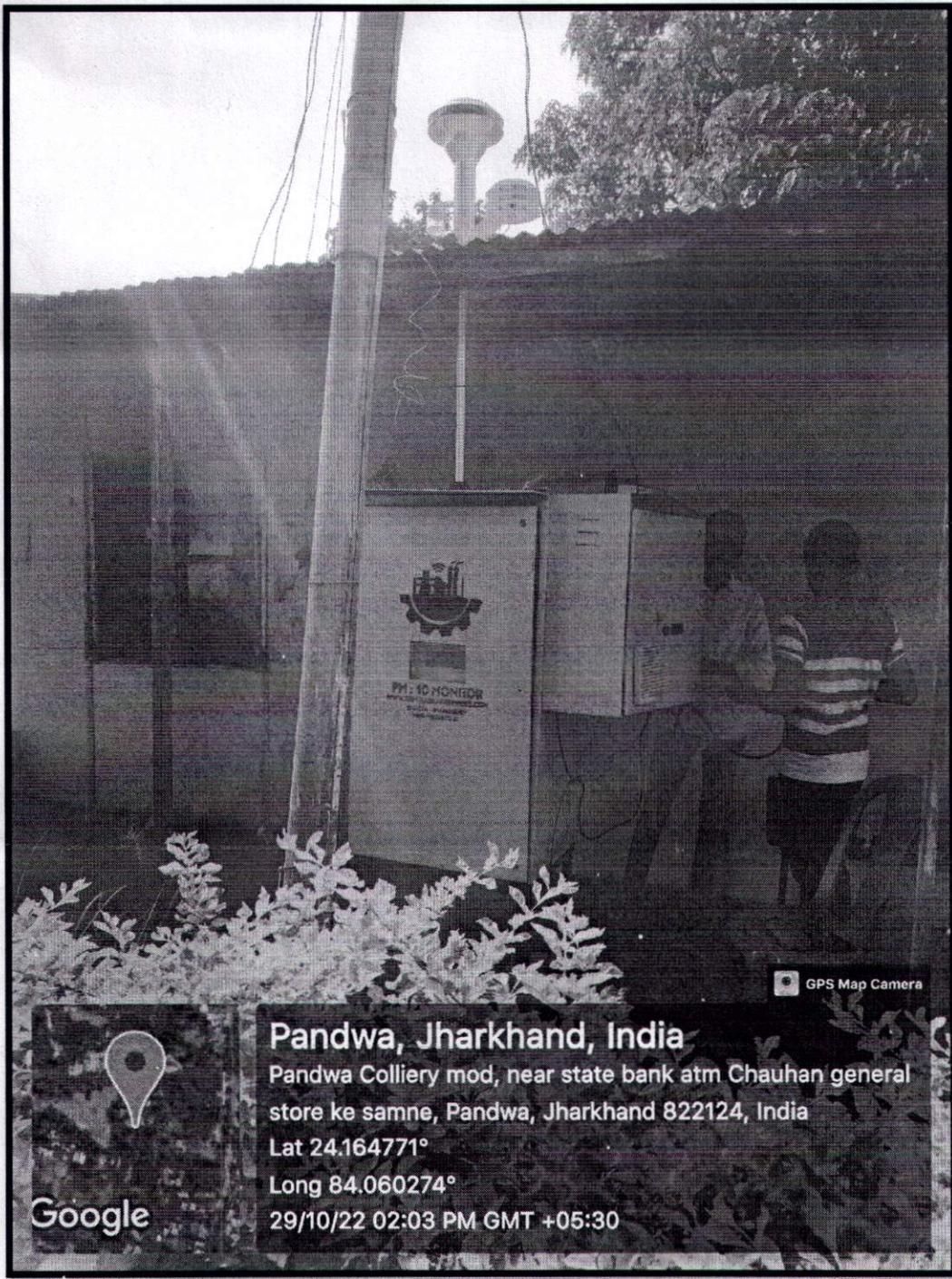
Annexure 1-



Annexure 2-



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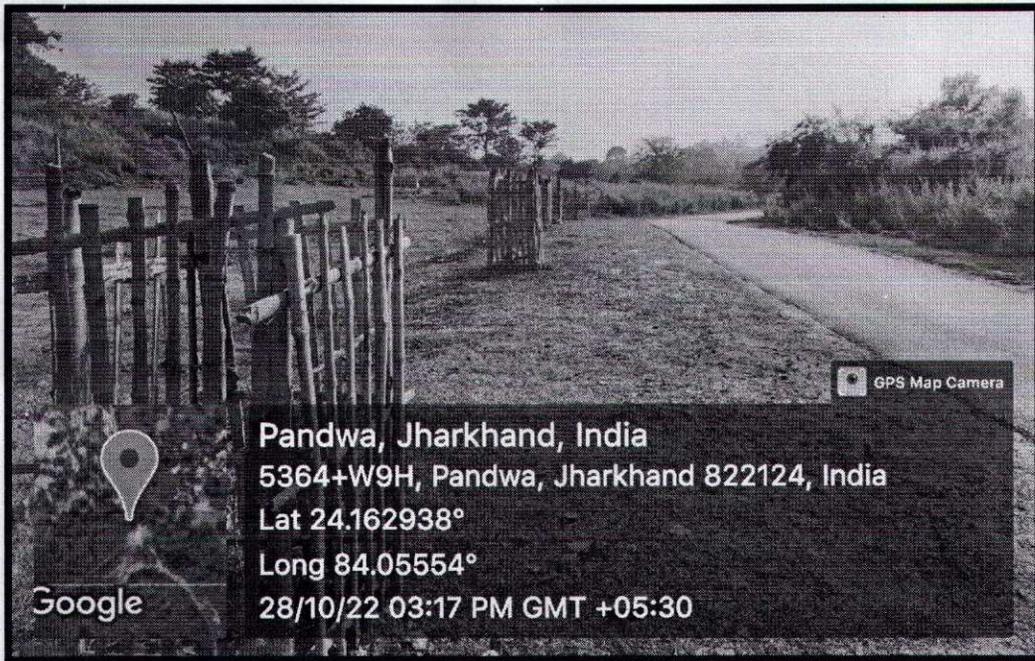


Pandwa, Jharkhand, India
Pandwa Colliery mod, near state bank atm Chauhan general store ke samne, Pandwa, Jharkhand 822124, India
Lat 24.164771°
Long 84.060274°
29/10/22 02:03 PM GMT +05:30

GPS Map Camera

Annexure 3-





Pandwa, Jharkhand, India
 5364+W9H, Pandwa, Jharkhand 822124, India
 Lat 24.162938°
 Long 84.05554°
 28/10/22 03:17 PM GMT +05:30

दैनिक भास्कर पलामू भास्कर 14-09-2022

हिंडाल्को ने किया 350 फलदार पौधे का वितरण

पड़वा मंगलवार को हिंडाल्को इंडस्ट्रीज लिमिटेड के कड़ीतिया ओपन कास्ट कोल माईंस प्रबंधन द्वारा राजहरा कोलियरी एवं सात नंबर में लगभग 350 फलदार पौधों का वितरण किया गया। इसकी शुरुआत पड़वा थाना प्रभारी रूपेश कुमार दुबे, सीएसआर हेड विजय तिवारी व सस्टेनेबिलिटी के आरआर शुक्ला ने संयुक्त रूप से किया। थाना प्रभारी रूपेश कुमार दुबे ने कहा कि वृक्ष पर्यावरण संरक्षण के साथ साथ लोगों की आर्थिक रूप से भी मजबूती प्रदान करता है। आज की तारीख में पर्यावरण प्रदूषित होने के कारण ही लोगों को सुखाड़ अकाल की विभिन्निका डेलना पड़ रहा है। थाना प्रभारी रूपेश दुबे ने कहा कि पर्यावरण संरक्षण के प्रति आम लोगों में जागरूकता जरूरी है क्योंकि कोई भी अभियान को सामूहिक प्रयास से ही सफल हो सकता है। उन्होंने कहा कि सभी लोगों को अपने स्तर से पर्यावरण संरक्षण के प्रति सजगता के साथ काम करने की जरूरत है। सीएसआर हेड विजय तिवारी ने कहा कि आने वाले भविष्य को खुशहाल व सुखमय जीवन के लिए पर्यावरण संरक्षण के प्रति सजगता बहुत जरूरी है। खनन से पर्यावरण प्रदूषित न हो इसके लिए कंपनी अपने माईंस परिसर के साथ साथ खनन क्षेत्र के परिधि में आने वाले गांव में पौधा वितरण कर लोगों को पर्यावरण संरक्षण के प्रति जागरूक करने का काम करती है।





झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद JHARKHAND STATE POLLUTION CONTROL BOARD

T.A. DIVISION BUILDING (GROUND FLOOR), H.E.C., DHURWA, RANCHI -834004
Phone.: 0651-2400851/2400852/2400979/2401847, Fax-0651-2400850/138,
Web site : www.jspcb.nic.in; e-mail : ranchijspcb@gmail.com

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पत्रांक:- B-2615

प्रेषक,

संजय कुमार श्रीवास्तव,
शाखा प्रमुख, राँची।

राँची, दिनांक:- 14/12/2022

सेवा में,

क्षेत्रीय पदाधिकारी,
क्षेत्रीय कार्यालय,
झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद, राँची।

विषय:- M/s. Kathautia Open Cast Coal Mines of M/s Hindalco Industries Ltd., P.O.-Naudiha, Dist.-Palamau-822123 द्वारा प्राप्त पत्र के आलोक में समर्पित जबाब का सत्यापन कर निरीक्षण प्रतिवेदन भेजने के संबंध में।

महाशय,

उपर्युक्त विषयक सम्बन्ध में आपको सूचित करना है कि M/s. Kathautia Open Cast Coal Mines of M/s Hindalco Industries Ltd., P.O.-Naudiha, Dist.-Palamau-822123 द्वारा पर्वद पत्रांक B-2142 दिनांक 08.10.2022 के आलोक में जवाब समर्पित किया गया है। (छायाप्रति संलग्न)

अतः अनुरोध है कि समर्पित जवाब के आलोक में शीघ्र निरीक्षण प्रतिवेदन मुख्यालय को भेजने का कष्ट करें।

अनु०:- यथो०।

विश्वासभाजन

संजय कुमार श्रीवास्तव
14/12/22
(संजय कुमार श्रीवास्तव)
शाखा प्रमुख, राँची
Kas

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झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद
 JHARKHAND STATE POLLUTION CONTROL BOARD
 REGIONAL OFFICE, C.T.I. COLONY, E-1, DHURWA, RANCHI

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पत्रांक.....19.....

राँची, दिनांक: 12-01-2023

प्रेषक,

गोपाल कुमार,
 क्षेत्रीय पदाधिकारी,
 राँची।

सेवा में,

संजय कुमार श्रीवास्तव,
 शाखा प्रमुख, राँची

विषय : Kathautia Open Cast Coal Mine of M/s Hindalco Industries Ltd., P.O.-
 Pandwa, Naudiha, Dist.- Palamu- 822123 द्वारा समर्पित जबाब का सत्यापन कर निरीक्षण
 प्रतिवेदन भेजने के संबंध में।

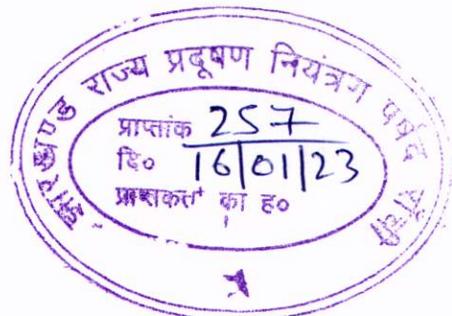
प्रसंग : मुख्यालय पत्रांक- बी0-2615 दिनांक-14.12.2022

महाशय,

उपर्युक्त विषयक सूचित करना है कि Kathautia Open Cast Coal Mine of M/s Hindalco
 Industries Ltd., P.O.- Pandwa, Naudiha, Dist.- Palamu- 822123 द्वारा समर्पित जबाब का
 सत्यापन कर निरीक्षण प्रतिवेदन संलग्न कर आवश्यक कार्रवाई हेतु मुख्यालय भेजी जा रही है।

अनु0-यथो0

(Handwritten Signature)
 (गोपाल कुमार)
 क्षेत्रीय पदाधिकारी, राँची।



Verification report of Kathautia Open Cast Coal Mines of M/s Hindalco Industries Ltd. P.O Naudiha, Dist-Palamu , in the light of H.O Letter No. B-2615 dated-14.12.2022.

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Verification report in the light direction issued by the Board vide letter no. B-2142 dated-08.10.2022 and the reply submitted by the unit its letter No:-HIL/KOCCM/22-23/JSPCB/03 dated 31.10.2022, Kathautia Open Cast Coal Mines of M/s Hindalco Industries Ltd. P.O Naudiha, Dist-Palamu was inspected by Gopal Kumar, Regional Officer, Regional Office, Ranchi, Sumit Kumar Jha, CE, RO, Ranchi on 11/01/2023 in the presence of Mr. Rakesh Shukla, Assistant Manager (Mining) and Mr. Sayantan Chakraborty, Assistant Manager.(Environment).

During the inspection following observations are made which are as follows:-

Sl. No.	Board show cause letter dated 08.10.2022	Reply submitted by the unit	Observation/ Status of Compliance
01	To Maintain proper lighting along the transportation route especially during transportation of coal	HIL has already installed 15 LED flood lights of 200W capacity to ensure proper lighting especially during transportation of coal. This may be verified at the site.	The unit has installed 07 No's of light lamp post along the transportation road which is found operational and the remaining lamp posts are still to be installed.
2	To ensure periodic water sprinkling so that emission during transportation should be minimised.	HIL has employed two movable water tankers which ply to and fro all along the transportation route to sprinkle water to minimize fugitive emission during transportation and the same can be verified on site.	Manual Water sprinkling through mobile water tankers is being carried out for dust suppression.
3	To avoid over loading of transportation vehicles' and to ensure cover transportation.	No overloading is allowed at the weigh bridge and the same can be verified from the JIMMS portal. HIL has already been transporting its coal via vehicles covered by tarpaulin.	Cover transportation is being carried out at the time of inspection.
.4	To install PM10 Analyzer near Rajhara Thana between the narrow Transportation route (fro colliery more to Rajhara Railway Siding) and connect it	The PM10 Analyser has been installed at the Pandwa Thana, which is located between the Colliery More and Rajhara Railway Siding.	Online PM10 Analyzer has been installed at the Pandwa Thana and made connectivity with the JSPCB

	to JSPCB Server and CPCB Server by 31.10.2022.		Server but no proper/correct data is transmitting in online server. (Details Attached as Annexure -I)
5	To ensure quarterly monitoring report of Ground water level from third party and submit report to the concern department.	HIL has already employed M/s Environmental Laboratories & Engineering Service Pvt. Ltd. Ranchi to monitor ground water level and report the same to the CGWA, Patna on quarterly basis.	Monitoring reports are submitted and parameters have been found within the limit.(Annexure II)
6	To ensure monthly monitoring of Pizometre and submit report to concern department	HIL shall monitor the piezometer data on monthly basis, from November 2022 and submit the report to CGWA and JSPCB on monthly basis.	Details are attached.(Annexure III)
7	To developed proper plantation and green belt wherever possible and submit to the Board by 31.10.2022 along with number of plants.	HIL has already distributed 350 fruit bearing plants among the local villagers residing between colliery more and Rajhara railway siding. We also planted several sisham, Mohogany and Guava plants along the transportation raod. Moreover, we are in the process of procuring more fruit bearing plants to be distributed among the locals for generating good green belt cover in the area. Total plants distributed and planted till date, is around 500.	As informed by the unit's representatives approx. 350 fruit bearing plants distributed to the local villagers residing between the colliery more to Rajhara Railway siding. 14-15 new plants are planted along the approach road. more plantation should be carried out in vacant space along the approach road.

Based on above necessary direction may be issued from H.O. level.

Sumit Kr. Jha
11/10/2023
(Sumit Kumar Jha)
 Consulting Executive,
 Regional Office, Ranchi

Gopal Kumar
11/10/2023
(Gopal Kumar)
 Regional Officer
 Regional Office, Ranchi

PM10 ONLINE DATA DATED FROM 12.12.2022 TO 12.01.2023

ANNEXURE- I

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Sl. No	Industry Name	stationId	analyserId	Parameter	Process Value	Unit	Submitted Date
1	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2023-01-01:01:15 AM
2	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2023-01-01:01:00 AM
3	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2023-01-01:12:37 AM
4	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2023-01-01:12:22 AM
5	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2023-01-01:12:07 AM
6	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:11:52 PM
7	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:11:33 PM
8	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:11:17 PM
9	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:11:00 PM
10	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:10:45 PM
11	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:10:30 PM
12	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:10:15 PM
13	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:09:45 PM
14	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:09:15 PM
15	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:09:00 PM
16	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:08:30 PM
17	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:08:15 PM
18	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:08:00 PM
19	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:07:45 PM
20	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:07:15 PM
21	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:07:00 PM
22	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:06:45 PM
23	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:06:30 PM
24	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:06:00 PM
25	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:05:45 PM
26	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:05:30 PM

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83	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:12:32 AM
84	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:12:17 AM
85	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-31:12:02 AM
86	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:11:45 PM
87	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:11:30 PM
88	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:11:15 PM
89	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:11:00 PM
90	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:10:45 PM
91	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:10:30 PM
92	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:10:15 PM
93	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:10:00 PM
94	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:08:00 PM
95	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:07:45 PM
96	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:07:30 PM
97	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:07:15 PM
98	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:07:00 PM
99	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:06:45 PM
100	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:06:30 PM
101	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:06:15 PM
102	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:06:00 PM
103	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:05:45 PM
104	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:05:30 PM
105	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:05:15 PM
106	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:05:00 PM
107	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:04:45 PM
108	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:04:30 PM
109	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:04:15 PM
110	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-30:04:00 PM

447	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-19:03:30 AM
448	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-19:03:04 AM
449	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-19:02:45 AM
450	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-19:02:30 AM
451	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-19:02:04 AM
452	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-19:01:48 AM
453	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-19:01:15 AM
454	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-19:12:45 AM
455	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-19:12:15 AM
456	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:11:59 PM
457	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:11:43 PM
458	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:11:20 PM
459	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:07:46 PM
460	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:07:30 PM
461	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:06:54 PM
462	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:06:36 PM
463	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:06:15 PM
464	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:05:55 PM
465	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:05:36 PM
466	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:05:20 PM
467	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:05:04 PM
468	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:04:51 PM
469	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:04:37 PM
470	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:04:15 PM
471	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:03:54 PM
472	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:03:41 PM
473	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:03:20 PM
474	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:03:04 PM

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475	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:02:52 PM
476	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:02:35 PM
477	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:02:15 PM
478	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:02:00 PM
479	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	63.7	ug/m3	2022-12-18:01:45 PM
480	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:10:30 AM
481	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:10:10 AM
482	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:09:55 AM
483	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:09:40 AM
484	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:09:25 AM
485	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:09:10 AM
486	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:08:54 AM
487	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:08:38 AM
488	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:08:22 AM
489	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:08:03 AM
490	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:07:50 AM
491	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:07:35 AM
492	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:07:15 AM
493	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:06:08 AM
494	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:05:57 AM
495	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:05:38 AM
496	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:05:19 AM
497	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:05:03 AM
498	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:04:52 AM
499	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-18:04:30 AM
500	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-17:04:12 PM
501	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-17:04:02 PM
502	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-17:03:46 PM

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531	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-17:08:01 AM
532	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-17:07:46 AM
533	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-17:07:30 AM
534	Near Rajhara Siding beside PO office ,Rajhara OCP, Padwa,CCL	CAAQMS	1000057	PM10	0	ug/m3	2022-12-17:07:15 AM



ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.
Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no : 0651-2290103
Website : www.elespl.co.in



CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No. : ELES/RNC/2022/3206	Report Release Date : 31.12.2022
Work Order No. : 13572310110	Work Order Date : 18.10.2022
ULR No. : TC883922000001496F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2022/GW/3988
Address	: Kathautia Open Cast Coal Mines, Post- Naudiha, P.S. Pandwa, Daltongang, Dist- Palamu Jharkhand, Pin-822123	Sampling Date	: 30.11.2022
		Sample Received Date	: 02.12.2022
Plant Status	: Operational	Type of Sample	: Ground Water
		Source of Sample	: AMPL Barrick
Period of Analysis	02.12.2022 to 31.12.2022	Sampling Procedure	: ELES/DOC/SMPL/01
		Sample Collected By	: ELES Pvt. Ltd
		Sample Condition	: Sealed & Preserved

NABL Accredited					
Discipline : Chemical		Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 22.9 °C)	--	APHA 23 rd Ed.2017, 4500-H ⁺ -B	7.91	6.5-8.5	No Relaxation
Odour	-	IS 3025 (Part-5):1983;RA2017	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 23 rd Ed.2017, 2120B&D	13.0	5	15
Turbidity	NTU	APHA 23 rd Ed.2017, 2130 B	0.30	1.0	5.0
Taste	-	APHA 23 rd Ed.2017, 2160C	Agreeable	Agreeable	Agreeable
Total Dissolved Solids (TDS)	mg/L	APHA 23 rd Ed.2017, 2540B, C & D	512	500	2000
Chloride (as Cl)	mg/L	APHA 23 rd Ed.2017, 4500 Cl-B	28	250	1000
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23):1986; RA2019	386	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2340 C	349	200	600
Sulphate (as SO ₄ ⁻²)	mg/L	APHA 23 rd Ed.2017, 4500 SO ₄ ⁻² -E	27	200	

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"Saving Environment will only save the Future"



ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECE9713D1Z4

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no : 0651-2290103
Website : www.elespl.co.in



CIN: U74999JH2018BPTC011125

TEST REPORT

Test Report No. : ELES/RNC/2022/3206	Report Release Date
Work Order No. : 13572310110	Work Order Date
ULR No. : TC883922000001496F	

NABL Accredited				Regulatory Limit as per IS 10500:2012	
Discipline : Chemical		Group : Water		Acceptable Limit	Permissible Limit
Parameter	Unit	Test Protocol	Result		
Cyanide (as CN)	mg/l	APHA 23 rd Ed.2017, 4500 CN-E	<0.0125	0.05	No Relaxation
Fluoride (as F)	mg/L	APHA 23 rd Ed.2017, 4500 F-D	1.385	1.0	1.5
Residual Free Chlorine	mg/L	IS 3025 (Part-26):2021	<0.1	0.02	1.0
Nitrate(as NO ₃)	mg/L	APHA 23 rd Ed.2017, 4500 NO ₃ -B	<0.5	45	No Relaxation
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43):1992;RA2019	<0.00002	0.001	0.002
Calcium (as Ca)	mg/L	APHA 23 rd Ed.2017, 3500 Ca B	103	75	200

Remarks: 1. pH done at Lab.

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

****End of Report****



Authorized Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com

Phone no : 0651-2290103
Website : www.elespl.co.in

CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No.	ELES/RNC/2022/3231	Report Release Date	: 31.12.2022
Work Order No.	: 13572310110	Work Order Date	: 18.10.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample ID:	: ELES/RNC/2022/P/0001
Address	: Kathautia Open Cast Coal Mines,	Sampling Date	: 30.11.2022
	Post- Naudiha, P.S. Pandwa,	Sampling Received Date	: 02.12.2022
	Daltongang, Dist- Palamu	Type of Sample	: Piezometer
	Jharkhand, Pin-822123	Location	: Bore well No -1 (Rajhara colliery Borewell)
		Sample Drawn By	: ELES Pvt. Ltd.

Location	Unit	Depth from Surface	Water Level From Surface
Rajhara colliery Borewell	Feet	250	100
Latitude: 24°09'49.13"N			
Longitude : 84°03'23.86"E			

Dr. Deependra Kumar Sinha

 Authorized Signatory

****End of Report****
Dr. Deependra Kumar Sinha
 Ph. D. Environmental Engg.
 ELES Pvt. Ltd. Technical Manager

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HINDALCO INDUSTRIES Piezometer data- Kathautia Coal Mine		
Date	Time	Height(m)
1/12/2022	00:00	8.88
1/12/2022	06:00	8.9
1/12/2022	12:00	8.95
1/12/2022	18:00	8.98
2/12/2022	00:00	8.95
2/12/2022	06:00	8.92
2/12/2022	12:00	8.98
2/12/2022	18:00	8.94
3/12/2022	00:00	8.89
3/12/2022	06:00	8.87
3/12/2022	12:00	8.93
3/12/2022	18:00	8.9
4/12/2022	00:00	8.93
4/12/2022	06:00	8.92
4/12/2022	12:00	8.98
4/12/2022	18:00	8.94
5/12/2022	00:00	8.88
5/12/2022	06:00	8.83
5/12/2022	12:00	8.92
5/12/2022	18:00	8.94
6/12/2022	00:00	8.89
6/12/2022	06:00	8.85
6/12/2022	12:00	8.96
6/12/2022	18:00	9
7/12/2022	00:00	8.97
7/12/2022	06:00	9.02
7/12/2022	12:00	9.06
7/12/2022	18:00	9.01
8/12/2022	00:00	8.95
8/12/2022	06:00	8.93
8/12/2022	12:00	8.97
8/12/2022	18:00	8.94
9/12/2022	00:00	8.96
9/12/2022	06:00	8.92
9/12/2022	12:00	8.96
9/12/2022	18:00	8.98
10/12/2022	00:00	8.96
10/12/2022	06:00	8.95
10/12/2022	12:00	9.04
10/12/2022	18:00	9.03
11/12/2022	00:00	8.97
11/12/2022	06:00	8.97
11/12/2022	12:00	9.05
11/12/2022	18:00	9.07
12/12/2022	00:00	8.97



12/12/2022	06:00	8.96
12/12/2022	12:00	9.02
12/12/2022	18:00	9.04
13-12-2022	00:00	8.97
13-12-2022	06:00	8.95
13-12-2022	12:00	9.04
13-12-2022	18:00	9.01
14-12-2022	00:00	8.96
14-12-2022	06:00	8.94
14-12-2022	12:00	9
14-12-2022	18:00	9.04
15-12-2022	00:00	8.96
15-12-2022	06:00	8.95
15-12-2022	12:00	9
15-12-2022	18:00	9.02
16-12-2022	00:00	8.99
16-12-2022	06:00	8.99
16-12-2022	12:00	9.08
16-12-2022	18:00	9.09
17-12-2022	00:00	9.07
17-12-2022	06:00	9.1
17-12-2022	12:00	9.15
17-12-2022	18:00	9.2
18-12-2022	00:00	9.13
18-12-2022	06:00	9.15
18-12-2022	12:00	9.14
18-12-2022	18:00	9.13
19-12-2022	00:00	9.13
19-12-2022	06:00	9.12
19-12-2022	12:00	9.16
19-12-2022	18:00	9.16
20-12-2022	00:00	9.11
20-12-2022	06:00	9.11
20-12-2022	12:00	9.15
20-12-2022	18:00	9.17
21-12-2022	00:00	9.1
21-12-2022	06:00	9.1
21-12-2022	12:00	9.19
21-12-2022	18:00	9.19
22-12-2022	00:00	9.1
22-12-2022	06:00	9.08
22-12-2022	12:00	9.13
22-12-2022	18:00	9.12
23-12-2022	00:00	9.1
23-12-2022	06:00	9.06
23-12-2022	12:00	9.13
23-12-2022	18:00	9.13



97

24-12-2022	00:00	9.07
24-12-2022	06:00	9.07
24-12-2022	12:00	9.13
24-12-2022	18:00	9.18
25-12-2022	00:00	9.14
25-12-2022	06:00	9.07
25-12-2022	12:00	9.16
25-12-2022	18:00	9.18
26-12-2022	00:00	9.09
26-12-2022	06:00	9.07
26-12-2022	12:00	9.17
26-12-2022	18:00	9.13
27-12-2022	00:00	9.07
27-12-2022	06:00	9.04
27-12-2022	12:00	9.14
27-12-2022	18:00	9.11
28-12-2022	00:00	9.07
28-12-2022	06:00	9.06
29-12-2022	00:00	9.08
29-12-2022	06:00	9.05
29-12-2022	12:00	9.13
29-12-2022	18:00	9.1
30-12-2022	00:00	9.06
30-12-2022	06:00	9.03
30-12-2022	12:00	9.12
30-12-2022	18:00	9.19
31-12-2022	00:00	9.15
31-12-2022	06:00	9.15
31-12-2022	12:00	9.15
31-12-2022	18:00	9.13
YYYYYYYY		


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96

HINDALCO INDUSTRIES Piezometer data- Kathautia Coal Mine		
Date	Time	Height(m)
1/12/2022	00:00	8.88
1/12/2022	06:00	8.9
1/12/2022	12:00	8.95
1/12/2022	18:00	8.98
2/12/2022	00:00	8.95
2/12/2022	06:00	8.92
2/12/2022	12:00	8.98
2/12/2022	18:00	8.94
3/12/2022	00:00	8.89
3/12/2022	06:00	8.87
3/12/2022	12:00	8.93
3/12/2022	18:00	8.9
4/12/2022	00:00	8.93
4/12/2022	06:00	8.92
4/12/2022	12:00	8.98
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5/12/2022	06:00	8.83
5/12/2022	12:00	8.92
5/12/2022	18:00	8.94
6/12/2022	00:00	8.89
6/12/2022	06:00	8.85
6/12/2022	12:00	8.96
6/12/2022	18:00	9
7/12/2022	00:00	8.97
7/12/2022	06:00	9.02
7/12/2022	12:00	9.06
7/12/2022	18:00	9.01
8/12/2022	00:00	8.95
8/12/2022	06:00	8.93
8/12/2022	12:00	8.97
8/12/2022	18:00	8.94
9/12/2022	00:00	8.96
9/12/2022	06:00	8.92
9/12/2022	12:00	8.96
9/12/2022	18:00	8.98
10/12/2022	00:00	8.96
10/12/2022	06:00	8.95
10/12/2022	12:00	9.04
10/12/2022	18:00	9.03
11/12/2022	00:00	8.97
11/12/2022	06:00	8.97
11/12/2022	12:00	9.05
11/12/2022	18:00	9.07
12/12/2022	00:00	8.97



12/12/2022	06:00	8.96
12/12/2022	12:00	9.02
12/12/2022	18:00	9.04
13-12-2022	00:00	8.97
13-12-2022	06:00	8.95
13-12-2022	12:00	9.04
13-12-2022	18:00	9.01
14-12-2022	00:00	8.96
14-12-2022	06:00	8.94
14-12-2022	12:00	9
14-12-2022	18:00	9.04
15-12-2022	00:00	8.96
15-12-2022	06:00	8.95
15-12-2022	12:00	9
15-12-2022	18:00	9.02
16-12-2022	00:00	8.99
16-12-2022	06:00	8.99
16-12-2022	12:00	9.08
16-12-2022	18:00	9.09
17-12-2022	00:00	9.07
17-12-2022	06:00	9.1
17-12-2022	12:00	9.15
17-12-2022	18:00	9.2
18-12-2022	00:00	9.13
18-12-2022	06:00	9.15
18-12-2022	12:00	9.14
18-12-2022	18:00	9.13
19-12-2022	00:00	9.13
19-12-2022	06:00	9.12
19-12-2022	12:00	9.16
19-12-2022	18:00	9.16
20-12-2022	00:00	9.11
20-12-2022	06:00	9.11
20-12-2022	12:00	9.15
20-12-2022	18:00	9.17
21-12-2022	00:00	9.1
21-12-2022	06:00	9.1
21-12-2022	12:00	9.19
21-12-2022	18:00	9.19
22-12-2022	00:00	9.1
22-12-2022	06:00	9.08
22-12-2022	12:00	9.13
22-12-2022	18:00	9.12
23-12-2022	00:00	9.1
23-12-2022	06:00	9.06
23-12-2022	12:00	9.13
23-12-2022	18:00	9.13



24-12-2022	00:00	9.07
24-12-2022	06:00	9.07
24-12-2022	12:00	9.13
24-12-2022	18:00	9.18
25-12-2022	00:00	9.14
25-12-2022	06:00	9.07
25-12-2022	12:00	9.16
25-12-2022	18:00	9.18
26-12-2022	00:00	9.09
26-12-2022	06:00	9.07
26-12-2022	12:00	9.17
26-12-2022	18:00	9.13
27-12-2022	00:00	9.07
27-12-2022	06:00	9.04
27-12-2022	12:00	9.14
27-12-2022	18:00	9.11
28-12-2022	00:00	9.07
28-12-2022	06:00	9.06
29-12-2022	00:00	9.08
29-12-2022	06:00	9.05
29-12-2022	12:00	9.13
29-12-2022	18:00	9.1
30-12-2022	00:00	9.06
30-12-2022	06:00	9.03
30-12-2022	12:00	9.12
30-12-2022	18:00	9.19
31-12-2022	00:00	9.15
31-12-2022	06:00	9.15
31-12-2022	12:00	9.15
31-12-2022	18:00	9.13
YYYYYYYY		

