

# तालचेर फर्टिलाइजर्स लिमिटेड Talcher Fertilizers Limited

[ Erstwhile Rashtriya Coal Gas Fertilizers Limited ]

निगमित पहचान क्रमांक / Corporate Identification Number (CIN): U24120OR2015PLC019575

TFL/Talcher/ADGF/05/2021/328(^)

May 31, 2021

The Additional Director General of Forests (C), Ministry of Environment, Forests and Climate Change, Regional Office (EZ), A/3 Chandersekharpur, Bhubaneswar- 751023 Odisha.

Sir,

Sub: Submission of six monthly compliance report pertaining to M/s Talcher Fertilizers Ltd. for setting up Ammonia & Urea Fertilizer plant at Village Vikrampur, Tehsil Talcher, District Angul (Odisha).

Ref: File No. J-11011/231/2013-IA-II(I), MoEF&CC (IA-II Section)
Environmental clearance dated 09.02.2018

Dear Sir,

Reference to the above subject, we have obtained Environmental Clearance on 09.02.2018 vide reference cited. To comply certain conditions of the said EC, we herewith submitting half yearly compliance report of the conditions imposed in the said EC issued for the said project for the period of October 2020 to March 2021.

We request you to acknowledge the receipt of the same.

Thanking you,

Yours faithfully,

Solemya Kanti Kaso.

(Soumya Kanti Kar) Manager,

Talcher Fertilizers Limited

Soumyakanti Kar Manager (PE)

Copy to:

- Member Secretary, Odisha Pollution Control Board, Parivesh Bhawan, A/118, Nilakanlha Nagar, Unit – VII, Bhubaneswar – 12 (Odisha).
- 2. Zonal Office, CPCB, Kolkata.
- 3. Regional Office, OSPCB, Angul.

# SIX-MONTHS COMPLIANCE STATUS REPORT October 2020 to March-2021.

# TALCHER FERTILIZERS LIMITED VILLAGE VIKRAMPUR THESIL TALCHER DISTRICT ANGUL, ODISHA

Prepared by

# ABC Techno Labs India Private Limited

An ISO: 9001:2008, ISO:14001:2004 & OHSAS:18001:2007 Certified Company

(Accrediated by NABL, NABET, MoEF)



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#### 1.0 About the Industry

In 1971, The Fertilizer Corporation of India Ltd. (FCIL), set up Talcher Unit over an area of 902 acre in the district of Angul, Odisha which is located about 126 km away from Bhubaneswar to produce urea using coal as feed stock. Licensor for the Coal gasification was M/s Krupp Koppers, Germany and for Ammonia and Urea units Ammonia synthesis, M/s Tecnimont, Italy.

Commercial Production of Ammonia and Urea commenced on 01.11.1980 with Ammonia and Urea production capacity of 900 and 1500 Tons per day respectively. However due to frequent power restriction, obsolete and mismatch of technology and precarious steam balance the plant could not be sustained. The Board for Industrial and Financial Reconstruction (BIFR) declared the FCIL sick in 1992 and in 2002 Government of India initiated actions to close thecompany.

Due to shortage of domestic Urea and availability of large land banks, infrastructure and tied-up rail, water & electricity in the units of FCIL, GoI in the year 2007 decided to revive all units of FCIL. Government of India approved Policy for new Investments in the Urea Sector in September 2008 and constituted Empowered Committee of Secretaries (ECOS) in October 2008 with the mandate to evaluate all options of revival of closed units of FCIL/HFCL and to make suitable recommendations for consideration of the Government.In August, 2011, the Cabinet Committee on Economic Affairs (CCEA) had approved the Draft Rehabilitation Scheme (DRS) for revival of all the Units of FCIL and HFCL. DRS envisaged revival of Talcher Unit by the consortium of M/s.Rashtriya Chemical & Fertilizers Limited (RCF), M/s Coal India Limited (CIL) and M/s GAIL (India) Ltd.(GAIL).

**Project - Talcher Fertilizers Limited, Talcher, Odisha.** 

#### ECLetter No. - F. No. J-11011/231/2013-IA-II(I)dated 9thFebruary, 2018

#### A. STATUTORY COMPLIANCE:

S. No.	Conditions	Compliance	
1.	In view of the base line air quality data for PM10 already exceeding the prescribed standards, one more season data to be collected to confirm the consistency of readings/values, and for suggesting mitigating measures accordingly.	<ul> <li>Monitoring of PM10 has been completed for the period October 2020 to March-2021.</li> <li>Copy of the same is enclosed in this report.</li> </ul>	
2.	The project proponent shall, take stringent mitigating measures to minimize the incremental concentration of air pollutants (mainly PM10& PM 2.5) to the extent possible due to the proposed industrial operations.	As the monitored results are well within the specified limits no additional measures are proposed to be installed.	
3.	The project proponent shall develop local air quality management plan in consultation with SPCB and implemented to achieve desired standards.	Compliance Assured	
4.	The incremental ground level concentrations (GLCs) for PM10, PM 2.5, SO2& NO2 due to the increased vehicular and other allied / developmental activities, shall be analysed and reported for actual impact of the project, besides remedial measures.	<ul> <li>Compliance Assured</li> <li>To check the incremental increase in air pollutants during construction phase, two monitoring stations were selected in the project site. The data is included in this report.</li> <li>As indicated in EIA the major transport of raw material will be by conveyor and hence no impact on GLC due to transport is expected.</li> </ul>	
5.	Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	Procedure for getting Consent to Establish is initiated.	
6.	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	Feasibility study for ZLD will be undertaken and appropriate treatment/recycling method will be selected to achieve ZLD.	
7.	Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016,	Compliance Assured. It will be obtained in consent to operate.	

	Solid Wasta Managament Pulas, 2016 shall be	
	Solid Waste Management Rules, 2016 shall be	
	obtained and the provisions contained in the	
	Rules shall be strictly adhered to.	
8.	National Emission Standards for Organic	Compliance Assured
	Chemicals Manufacturing industry issued by	
	the Ministry vide G,S,R, 608(E) dated 21st	
	July, 2010 and amended from time to time	
	shall be followed.	
9.	To control source and the fugitive emissions,	Plants will be designed with state of
	suitable pollution control devices shall be	Art technologies with inbuilt pollution
	installed to meet the prescribed norms	control systems so that the prescribe
	and/or the NMQS. The gaseous emissions	norms and fugitive emissions will be
	shall be dispersed through stack of adequate	under control.
		under control.
10.	height as per CPCB/SPCB guidelines.  Total freshwater requirement shall not	- Funda Michael Common will be accepted
10.	_	• Fresh Water source will be received
	exceed 49200 cum/day to be met from	from the stipulated source.
	surface water from Brahmini River. Prior	And all necessary permissions will be
	permission in this regard shall be obtained	ensured prior to installation of the
	from the concerned regulatory authority.	project.
11.	Process effluent/any wastewater shall not be	Compliance Assured.
	allowed to mix with storm water. Storm	
	water drain shall be passed through guard	
	pond.	
12.	Hazardous chemicals shall be stored in tanks,	Compliance Assured.
	tank farms, drums, carboys etc, Flame	
	arresters shall be provided on tank farm, and	
	solvent transfer through pumps.	
13.	ETP sludge, process inorganic & evaporation	Compliance Assured.
	salt, if any, shall be disposed off to the TSDF.	•
14.	The Company shall strictly comply with the	Compliance Assured.
	rules and guidelines under Manufacture,	1
	Storage and Import of Hazardous Chemicals	
	(MSIHC) Rules, 1989 as amended time to	
	time. All transportation of Hazardous	
	Chemicals shall be as per the Motor Vehicle	
	Act (MVA), 1989.	
15.	The company shall undertake waste	Compliance Assured.
	1 3	Compnance Assureu.
(a)	minimization measures as below: - Metering	
	and control of quantities of active ingredients	
(I-)	to minimize waste.	Constitution
(b)	Reuse of by-products from the process as raw	Compliance Assured.
	materials or as raw material substitutes in	
	other processes.	
(c)	Use of automated filling to minimize spillage,	Compliance Assured.
(d)	Use of Close Feed system into batch reactors.	Compliance Assured.
(e)	Venting equipment through vapour recovery	Compliance Assured.

	system.		
(f)	Use of high pressure hoses for equipment	Compliance Assured.	
	clearing to reduce wastewater generation.		
16.	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant	The project activities will be implemented in existing site of TFL with lot of greenery and the guideline	
	periphery, in downward wind direction, and along roadsides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.	of 33% area under greenbelt out of total project area will be achieved.	
17.	All the commitment made regarding issues raised during the Public Hearing/consultation	CSR dept. will keep aside a sum for CSR	
	meeting held on 30h August ,2017 shall be	activities for project to meet public hearing requirement to the practical	
	satisfactorily implemented.	extent possible for an industrial unit.	
18.	At least 2.5% of the total project cost shall be	Compliance Assured.	
	allocated for Enterprise Social Commitment		
	based on Public Hearing issues and item-wise details along with time bound action plan		
	shall be prepared and submitted to the		
	Ministry's Regional Office.		
19.	For the DG sets, emission limits and the stack	Compliance Assured.	
	height shall be in conformity with the extant		
	regulations and the CPCB guidelines, Acoustic enclosure shall be provided to DG set for		
	controlling the noise pollution,		
20.	The unit shall make the arrangement for	Compliance Assured.	
	protection of possible fire hazards during		
	manufacturing process in material handling.		
24	Firefighting system shall be as per the norms.	HP - LOHC D - 4 - 22 - 1 - 1	
21.	Occupational health surveillance of the workers shall be done on a regular basis and	HR and OHC Dept. will conduct regular health checkups and records for the	
	records maintained as per the Factories Act.	same will be maintained as per the	
	F = 1	Factories Act.	
22.	Continuous online (24x7) monitoring system	Compliance Assured.	
	for stack emissions shall be installed for		
	measurement of flue gas discharge and the		
	pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For		
	online continuous monitoring of effluent, the		
	unit shall install web camera with night vision		
	capability and flow meters in the		
	channel/drain carrying effluent within the		
	premises.		

#### **COMPLIANCE OF OTHER GENERIC CONDITIONS**

S. No.	Conditions	Compliance
1.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and any other statutory authority.	Compliance assured.
2.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Compliance assured.
3.	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one station each is Installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Compliance assured.
4.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G,S.R. No. 826(E) dated 16th November, 2009 shall be followed,	Compliance assured.
5.	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection)Act, 1986 Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).	Compliance assured.
6.	The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	Compliance assured.
7.	Training shall be imparted to all employees	Training on safety and health aspects

S. No.	Conditions	Compliance	
	on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling	of handling of chemicals used and MSDS will be imparted regularly.	
8.	of chemicals shall be imparted.  The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Compliance assured.	
9.	The company shall undertake all relevant measures for improving the socioeconomic conditions of the surrounding area. ESC activities shall be undertaken by involving local villages and administration.	CSR activities shall be undertaken by involving local and other stake holders.	
10.	The company shall undertake eco developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Greenery development in the area will be undertaken. Activities shall be undertaken for Developmental measures for welfare of overall environment.	
11.	The. company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management pollution control measures shall not be diverted for any other purpose,	Compliance assured.	
12.	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZillaParishad /Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal.	Complied.	
13.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance	Compliance assured. We have submitted first six-monthly compliance report for the TFL joint venture	

S. No.	Conditions	Compliance	
	conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and sixmonthly compliance status report shall be posted on the website of the company.	project.	
14.	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by email,	This will be complied after commencement of commercial production.	
15.	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <a href="http://moef.nic.in">http://moef.nic.in</a> . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local, newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Compliance done. Communicated on In local Odiya newspaper and English newspaper. i) Oriya on date 16.02.2018 in Samaj (Angul Edition) ii) English on date 15.02.2018 in New Indian Express (Bhubaneswar Edition) Copy of the same has been submitted already.	
16.	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	This will be complied with. Presently, the site preparation work is under progress.	

Monthly Compliance Report of Talcher Fertilizers Limited, Talcher, Odisha .	October 2020 - March 20
Annexure 1	
Annexure 1	
<b>Environmental Clearance Letter</b>	
Livii oiiiieitai Gearanee Lettei	

# F. No. J-11011/231/2013-IA-II(I) Government of India Ministry of Environment, Forest and Climate Change (IA- II Section)

Indira Paryavaran Bhawan Jorbagh Road, New Delhi -3

Dated: 9th February, 2018

Tο

M/s Talcher Fertilizers Ltd Village Vikrampur, Tehsil Talcher District <u>Angul</u> (Odisha)

Sub: Setting up Ammonia & Urea Fertilizer Unit at Village Vikrampur, Tehsil Talcher, District Angul (Odisha) by M/s Talcher Fertilizers Ltd - Environmental Clearance -reg.

Sīr.

This has reference to your proposal No. IA/OR/IND2/58560/2013 dated 11th October, 2017, submitting the EIA/EMP report with public consultation details on the above subject matter.

- The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for setting up ammonia & urea fertilizer unit based on coal gasification for production of 1.27 MMTPA of neem coated urea (end product) by M/s Talcher Fertilizers Ltd at Village Vikrampur, Tehsil Talcher, District Angul (Odisha).
- The total land area of the project is 570 acre, out of which green belt will be developed in 180 acre. The cost of the project is Rs.10741.05 Crores. The project will provide employment to 1500 people during construction phase.
- The proposed product/unit and capacity are as under:

S.No	Product/Unit	Capacity
1	Ammonia	2200 MTPD
2	Urea (Neem coated)	3850 MTPD
3	Coal Gasification Plant	Synthesis Gas: 242978 Nm3/hr

 Total water requirement for the project is 49,200 m³/day. The permission for drawal of surface water from Brahmini River has been obtained from the State Government of Odisha vide letter No. 1513/SF/59 dated 3<sup>rd</sup> November, 2009.

The power requirement of 72 MW will be met from the Captive Power Plant. The raw Material required for the project are Coal, Pet Coke and lime stone. During initial stages of operation of the plant, coal shall be supplied through Bhubaneswari Coal Mine of M/s Mahanadi Coalfields Ltd. Later, the project proponent shall develop the dedicated coal mine for the procurement of coal in the desired quantity.

- 6. The project/activity is covered under category A of item 5(a) 'Chemical fertilizers' of the Schedule to the Environment Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral Expert Appraisal Committee in the Ministry.
- 7. The terms of reference (ToR) for the project was initially granted on 26th November, 2013, and then extended up to 25th November, 2017. The ToR was transferred in the name of M/s Talcher Fertilizers Ltd from M/s Rashtriya Chemicals & Fertilizers Ltd, vide Ministry's letter dated 27th September, 2017. Public hearing was conducted by the State Pollution Control Board on 30th August, 2017.



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- 8. The proposal for environmental clearance was considered by the EAC (Industry-2) in its meeting held on 12-13 October, 2017. The project proponent and the accredited consultant M/s Projects & Development India Ltd presented the EIA/EMP report. The committee found the EIA/EMP report satisfactory and recommended the proposal for environmental clearance with certain conditions.
- 9. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project 'Setting up Ammonia & Urea Fertilizer Unit for production of 1.27 MMTPA of Neem Coated Urea (end product)' by M/s Talcher Fertilizers Ltd at Village Vikrampur, Tehsil Talcher, District Angul (Odisha), under the provisions of EIA Notification, 2006 and the amendments made therein, subject to the compliance of terms and conditions, as under:-
- (i) In view of the base line air quality data for PM<sub>10</sub> already exceeding the prescribed standards, one more season data to be collected to confirm the consistency of readings/values, and for suggesting mitigating measures accordingly.
- (ii) The project proponent shall take stringent mitigating measures to minimize the incremental concentration of air pollutants (mainly PM<sub>10</sub> & PM<sub>25</sub>) to the extent possible due to the proposed industrial operations.
- (lii) The project proponent shall develop local air quality management plan in consultation with SPCB and implemented to achieve desired standards.
- (iv) The incremental ground level concentrations (GLCs) for PM<sub>10</sub>, PM<sub>25</sub>, SO<sub>2</sub> & NO<sub>2</sub> due to the increased vehicular and other allied/developmental activities, shall be analysed and reported for actual impact of the project, besides remedial measures.
- (v) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- (vi) As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/breated water shall be discharged outside the premises.
- (vii) Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- (viii) National Emission Standards for Organic Chemicals Manufacturing Industry Issued by the Ministry vide G.S.R. 608(E) dated 21st July, 2010 and amended from time to time shall be followed.
- (ix) To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- (x) Total fresh water requirement shall not exceed 49200 cum/day to be met from surface water from Brahmini River. Prior permission in this regard shall be obtained from the concerned regulatory authority.
- (xi) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (xii) Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.
- (xiii) ETP sludge, process inorganic & evaporation salt, if any, shall be disposed off to the TSDF.



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- (xiv) The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- (xv) The company shall undertake waste minimization measures as below:-
  - (a) Metering and control of quantities of active ingredients to minimize waste.
  - (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - (c) Use of automated filling to minimize spillage.
  - (d) Use of Close Feed system into batch reactors.
  - (e) Venting equipment through vapour recovery system.
  - Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- (xvi) The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (xvii) All the commitment made regarding issues raised during the Public Hearing/consultation meeting held on 30<sup>th</sup> August, 2017 shall be satisfactorily implemented
- (xviii) At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- (xix) For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- (xx) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- (xxi) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (xxii) Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
- **9.1.** The grant of environmental clearance is subject to compliance of other general conditions, as underc-
- The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and any other statutory authority.
- (ii) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (iii) The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.



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- (iv) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. . 826(E) dated 16th November, 2009 shall be followed.
- (v) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (vi) The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.
- (vii) Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.
- (viii) The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- (ix) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. ESC activities shall be undertaken by involving local villages and administration.
- (x) The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- (xi) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- (xii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (xiii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (xiv) The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental dearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.
- (xv) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://moef.nic.ln. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular



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- language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
- (xvi) The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
- The Ministry may revoke or suspend the clearance, at subsequent stages, if implementation of any of the above conditions is not satisfactory.
- The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.
- 12. The above conditions will be enforced, inter alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

(S. K. Srivastava) Scientist E

#### Copy to:-

- The Additional PCCF (C), MoEF&CC Regional Office (EZ), A/3, Chandersekharpur, Bhubaneswar -23 (Odisha)
- The Secretary, Department of Forest and Environment, Government of Odisha, Bhubaneswar (Odisha)
- The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office. Complex, East Arjun Nagar, Delhi - 32
- The Member Secretary, Odisha State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit - VIII, Bhubaneswar -12 (Odisha)
- Guard File/Monitoring File/Website/Record File

(S. K. Srivastava) Scientist E

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Monthly Compliance Report of Talcher Fertilizers Limited, Talcher, Odisha.	October 2020 - March 2
Annexure 2	
Air Quality Monitoring Report (October-N	March 2021)

#### 1.0 Air Quality Monitoring Report (October-March 2021)

The prime objective of ambient air quality monitoring is to evaluate the existing air quality of the proposed project area. This will also be useful for assessing the conformity to standards of the ambient air quality during the operations of proposed project. This section describes the selection of sampling locations, methodology adopted for sampling, analytical techniques and frequency of samplingMeteorological conditions prevailing within study area.

#### 1.1 Sampling and Analytical Techniques

The sampling and analytical techniques used for the monitoring of Ambient Air quality is given in **Table –1**.

TABLE - 1: TECHNIQUES USED FOR AMBIENT AIR QUALITY MONITORING

S.No	Parameter	Technique	Technical Protocol	Detectable Limit
1	Particulate Matter size less than 10 $\mu$ m (PM <sub>10</sub> ), $\mu$ g/m <sup>3</sup>	Gravimetric method	IS 5182 Part-23 : 2006 (Reaff. 2017)	5 μg/m <sup>3</sup>
2	Particulate Matter size less than 2.5 $\mu$ m (PM <sub>2.5</sub> ), $\mu$ g/m <sup>3</sup>	Gravimetric method	EPA- 40 Appendix L To Part 50	5 μg/m <sup>3</sup>
3	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Improved West and Gaeke	IS 5182: Part 2:2001 (Reaff. 2017)	5 μg/m <sup>3</sup>
4	NitrogenDioxide (NO <sub>2</sub> ), μg/m <sup>3</sup>	Modified Jacob &Hochheiser	IS 5182: Part 6:2006 (Reaff. 2017)	5 μg/m <sup>3</sup>
5	Ammonia (NH <sub>3</sub> ), μg/m <sup>3</sup>	GC FID	ABCTL/SOP/A05 Is. No.1 02-01-2015	0.1 μg/m <sup>3</sup>
6	VOCs	GC FID	U.S. EPA Method T017: 1999	0.1 μg/m <sup>3</sup>
7	Methane Hydrocarbons (MHC)	HC Analyzer for Spot Concentration	ABCTL/SOP/A15 Is. No.1 02-01-2015	0.1 μg/m <sup>3</sup>
8	Non Methane Hydrocarbons (NMHC)	HC Analyzer for Spot Concentration	ABCTL/SOP/A15 Is. No.1 02-01-2015	0.1 μg/m <sup>3</sup>

#### 1.2 Selection of Sampling Locations:

The baseline status of the ambient air quality has been assessed through a scientifically designed ambient air quality monitoring network. The design of monitoring network in the air quality surveillance programme has been based on the following considerations:

- Topography / Terrain of the study area
- History of wind pattern
- Human Settlements
- Health status
- Accessibility of monitoring site
- Resource Availability
- Representativeness of the region for establishing baseline status
- Representativeness with respect to likely impact areas
  - ➤ Air Quality monitoring has been conducted at six sampling locations during season (October to March 2021). The location of ambient air sampling stations has been presented below in Table 2& Table 3.

**Table 2: Details of sampling locations** 

Sl. No	Location Name	With respect to Project Site	
		Dir.	Distance
01.	Tech. Building of FCI	-	•
02.	Housing Board Colony	ENE	1.2 km
03.	Karnpur village	W	4.5 Km
04.	TFL Guest House	-	-
05.	Balanda village	NW	2.5 Km
06.	Kukudanga village	SW	2.5 km

Table 3: Details of Air Quality Monitoring Locations (October to March 2021)

Sr. No.	Sample Code	Sampling Locations	Geographical Position
1.	TFL/A1	Administrative Building TFL	20°54'42.8" N 85°09'38.4" E
2.	TFL/A2	Housing Board Colony, Bikrampur	20°54'19.3" N 85°10'20.2" E
3.	TFL/A3	Village Karnapur	20°54'26.4" N 85°07'06.1" E
4.	TFL/A4	TFL-Guest House	20°54'14.8" N 85°09'56.9" E
5.	TFL/A5	Village Balanda	20°55'31.0" N 85°09'26.8" E
6.	TFL/A6	Village Kukudanga	20°53′23.3″ N 85°08′50.8″ E

### **Ambient Air Quality Monitoring Results:**

		AAQ 1 – T	FL Admin Bu	ilding		
S.No	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	voc
1	61	34	22	48	29	BDL
2	58	33	25	56	33	BDL
3	3 63		19	43	27	BDL
4 59		35	23	39	36	BDL
5	54	31	24	44	39	BDL
6	60	36	26	49	34	BDL
Min	54	29	19	39	27	0
Max	63	36	26	56	39	0
Mean	59	33	23	47	33	0
NAAQ Standards	100	60	80	80	400	

		AAQ	2 – H.B. Colon	ıy		
S.No	PM <sub>10</sub>	PM <sub>2.5</sub>	<b>SO</b> <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	VOC
1	58	30	27	50	25	BDL
2	54	27	25	48	28	BDL
3	51	26	22	52	21	BDL
4	4 61		30	46	24	BDL
5	58	28	24	45	26	BDL
6	55	25	23	53	23	BDL
Min	51	24	22	45	21	0
Max	61	30	30	53	28	0
Mean	56	27	25	49	24.5	0
NAAQ Standards	100	60	80	80	400	

		AAQ 3 -	Karnapur vil	lage			
S.No	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	VOC	
1	52	25	15	34	25	BDL	
2	49	21	13	28	22	BDL	
3	3 53		13	26	27	BDL	
4	4 46		14	32	24	BDL	
5	52	28	16	35	28	BDL	
6	47	22	14	30	24	BDL	
Min	46	20	12.5	26	22	0	
Max	53	28	15.9	35	28	0	
Mean	50	23	14	31	25	0	
NAAQ Standards	100	60	80	80	400		

		AAQ 4 -	TFL Guest Ho	ouse		
S.No	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	VOC
1	61	27	35	50	25	BDL
2	67	25	30	42	24	BDL
3	3 58		28	36	26	BDL
4	4 65		34	37	23	BDL
5	60	28	31	40	27	BDL
6	56	32	28	38	29	BDL
Min	56	23	28	36	23	0
Max	67	32	35	50	29	0
Mean	61	28	31	40	26	0
NAAQ Standards	100	60	80	80	400	

		AAQ 5	- Balanda vill	age		
S.No	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	voc
1	95	53	37	55	37	BDL
2	85	57	41	50	45	BDL
3	86	54	36	46	49	BDL
4	93	53	34	43	51	BDL BDL BDL
5	88	57	39	51	43	
6	96	59	33	44	48	
Min	85	53	33	43	37	0
Max	96	59	41	55	51	0
Mean	91	55	37	48	45	0
NAAQ Standards	100	60	80	80	400	

		AAQ 6 - H	Kukudanga vi	illage		
S.No	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	voc
1	50	27	24	40	26	BDL
2	46	23	28	35	32	BDL
3	49	26	31	37	28	BDL
4	58	24	26	42	30	BDL
5	51	28	22	33	27	BDL
6	44	29	29	36	31	BDL
Min	44	23	22	33	26	0
Max	58	29	31	42	32	0
Mean	50	26	27	37	29	0
NAAQ Standards	100	60	80	80	400	

<sup>\*</sup> Source: ABC Techno Labs India Private Limited

#### 1.3 Observations:

**PM**<sub>10</sub>: The maximum and minimum concentrations for PM<sub>10</sub> were recorded as  $96\mu g/m^3$  and  $46\mu g/m^3$  respectively. The maximum concentration was recorded at the Balanda village and the minimum concentration was recorded Karnapur village.

 $PM_{2.5}$ : The maximum and minimum concentrations for  $PM_{2.5}$  were recorded as  $59\mu g/m^3$  and  $20\mu g/m^3$  respectively. The maximum concentration was recorded at Balanda village and the minimum concentration was recorded Karnapur village.

SO<sub>2</sub>: The maximum  $SO_2$  concentrations were recorded were recorded as 41  $\mu$ g/m³ and 12.5  $\mu$ g/m³ respectively. The maximum concentration was recorded at Balanda village and the minimum concentration was recorded Karnapur village.

 $NO_2$ : The maximum and minimum  $NO_2$  concentrations were recorded were recorded as  $55\mu g/m^3$  and 26  $\mu g/m^3$  respectively. The maximum concentration was recorded at Balanda village and the minimum concentration was recorded Karnapur village.

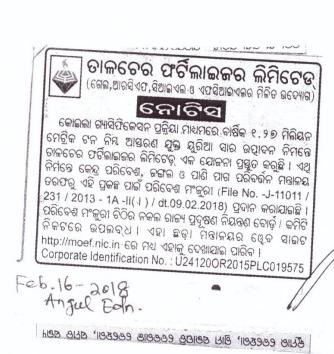
 $NH_3$ : The maximum and minimum  $NH_3$  concentrations were recorded as 51 mg/m<sup>3</sup> and 21 mg/m<sup>3</sup> respectively. The maximum concentration was recorded at Balanda village and the minimum concentration was recorded H.B. Colony.

The overall concentrations of  $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$ ,  $NO_X$  and  $NH_3$  were observed to be well within the standards prescribed by Central Pollution Control Board (CPCB) for Industrial, Rural, Residential and other area.

#### **ANNEXURE -III**

The project proponent shall inform the public that the project has been accorded Advertisement of environmental clearance by the Ministry has been advertised in two local newspapers in which one is the vernacular language of the locality concerned.





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Quality Uncompromised

# ABC Techno Labs India Private Limited

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#### **TEST REPORT**

ISSUED TO:

M/s Talcher Fertilizers Limited

(FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist-Angul (Odisha State) PIN-759 106

Report Number	:	ABCTL/C/210503/N/7051	
Sample Drawn by		ABC Techno Labs India Private Limited	
Sample Description	1	Ambient Air Quality Monitoring	
Location Sampling	:	AAQ 1 - TFL Admin Building	
Date of Sampling	:	17-03-2021 to 31-03-2021	
Sampling method	:	IS 5182 Part 5 & 14	
Report Date	:	08-04-2021	Page 1 of 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), μg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m <sup>3</sup>	Non Methane H µg/m³
Test Methods Date of Sampling	IS 5182 : Part-23	40 CFR Appendix L ( Part 50)	IS 5182 : Part 2	IS 5182 : Part 6	ABCTL/SO P/A/05	IS 5182 : Part 11	IS 5182 : Part 11	IS 5182 : Part 11
17.03.2021	58	32	21	46	28	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
20.03.2021	63	31	24	53	31	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
24.03.2021	57	28	18	41	26	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
26.03.2021	56	33	22	37	34	BDL(<1.0)	BDL(<0.1)	BDL(<0.
29.03.2021	51	29	23	42	37	BDL(<1.0)	BDL(<0.1)	BDL(<0.
31.03.2021	57	34	25	47	32	BDL(<1.0)	BDL(<0.1)	BDL(<0.:
Min	51	28	18	37	25	0	0	0
Max	63	34	24	53	37	0	0	0
Mean	57	31	22	44	31	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specified

BDL-Below Detection Limit

\*National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

.....End of Report.....

Verified by







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Technical Building (JV Site Office)

POST-VIKRAMPUR

Dist- Angul (Odisha State)

PIN-759 106

Report Number		ABCTL/C/210503/N/7052	
Sample Drawn by	1	ABC Techno Labs India Private Limited	
Sample Description	:	Ambient Air Quality Monitoring	
Location Sampling		AAQ 2 - H.B. Colony	
Date of Sampling	:	17-03-2021 to 31-03-2021	
Sampling method	:	IS 5182 Part 5 & 14	
Report Date		08-04-2021	Page 1 of 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), μg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m <sup>3</sup>	Non Methane H µg/m³
Test Methods Date of Sampling	IS 5182 : Part-23	40 CFR Appendix L ( Part 50)	IS 5182 : Part 2	IS 5182 : Part 6	ABCTL/SO P/A/05	IS 5182 : Part 11	IS 5182 : Part 11	IS 5182: Part 11
17.03.2021	63	32	29	54	27	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
20.03.2021	58	29	27	52	25	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
24.03.2021	52	30	24	56	23	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
26.03.2021	61	26	32	46	26	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
29.03.2021	63	31	26	49	28	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
31.03.2021	59	27	25	57	25	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
Min	52	26	24	46	23	0	0	0
Max	63	32	32	57	28	0	0	0
Mean	59	29	27	52	26	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specified

**BDL-Below Detection Limit** 

\*National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

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ISSUED TO:

#### M/s Talcher Fertilizers Limited

(FCIL, Talcher Unit)

Technical Building (JV Site Office)

POST-VIKRAMPUR

Dist- Angul (Odisha State)

PIN-759 106

Report Number	:	ABCTL/C/210503/N/7053	
Sample Drawn by	:	ABC Techno Labs India Private Limited	
Sample Description	:	Ambient Air Quality Monitoring	**************************************
Location Sampling	:	AAQ 3 - Karnapur village	
Date of Sampling	:	17-03-2021 to 31-03-2021	
Sampling method	:	IS 5182 Part 5 & 14	
Report Date	:	08-04-2021	Page 1 of 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), μg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	· Methane HC μg/m³	Non Methane F µg/m³
Test Methods	IS 5182 :	40 CFR	IS 5182 ·	IS 5182 ·	ABCTL/SO	IS 5182 ·	IS 5182 ·	IS 5182
Date of Sampling	Part-23	Appendix L ( Part 50)	Part 2	Part 6	P/A/05	Part 11	Part 11	Part 11
17.03.2021	47	23	12	30	23	BDL(<1.0)	BDL(<0.1)	BDL(<0.
20.03.2021	44	20	14	27	26	BDL(<1.0)	BDL(<0.1)	BDL(<0.
24.03.2021	48	18	11	28	27	BDL(<1.0)	BDL(<0.1)	BDL(<0.
26.03.2021	50	24	16	30	22	BDL(<1.0)	BDL(<0.1)	BDL(<0.
29.03.2021	47	23	14	33	24	BDL(<1.0)	BDL(<0.1)	BDL(<0.
31.03.2021	42	21	13	31	23	BDL(<1.0)	BDL(<0.1)	BDL(<0.
Min	42	18	11	27	22	0	0	0
Max	50	24	16	33	27	0 -	0	0
Mean	46	21	13	30	24	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specifie

'National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

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Technical Building ( JV Site Office)
POST- VIKRAMPUR

Dist- Angul (Odisha State)

PIN-759 106

Report Number		ABCTL/C/210503/N/7054	
Sample Drawn by	1	ABC Techno Labs India Private Limited	
Sample Description		Ambient Air Quality Monitoring	
Location Sampling		AAQ 4 - TFL Guest House	
Date of Sampling	1	17-03-2021 to 31-03-2021	
Sampling method	:	IS 5182 Part 5 & 14	
Report Date	:	08-04-2021	Page 1 of 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m³	Non Methane F µg/m³
Test Methods Date of Sampling	IS 5182 : Part-23	40 CFR Appendix L ( Part 50)	IS 5182 : Part 2	IS 5182 : Part 6	ABCTL/SO P/A/05	IS 5182 : Part 11	IS 5182 : Part 11	IS 5182 : Part 11
17.03.2021	66	28	38	47	26	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
20.03.2021	58	26	33	45	24	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
24.03.2021	63	27	27	40	23	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
26.03.2021	59	33	35	44	28	BDL(<1.0)	BDL(<0.1)	BDL(<0.
29.03.2021	61	27	36	48	25	BDL(<1.0)	BDL(<0.1)	BDL(<0.
31.03.2021	63	29	35	39	27	BDL(<1.0)	BDL(<0.1)	BDL(<0.
Min	58	26	27	39	23	0	0	0
Max	66	33	38	48	28	0	0	0
Mean	62	28	34	44	26	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specifie

**BDL-Below Detection Limit** 

\*National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

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#### M/s Talcher Fertilizers Limited

(FCIL, Talcher Unit)

Technical Building (JV Site Office)

POST-VIKRAMPUR

Dist-Angul (Odisha State)

PIN-759 106

Report Number	1	ABCTL/C/210503/N/7055	
Sample Drawn by	:	ABC Techno Labs India Private Limited	
Sample Description	:	Ambient Air Quality Monitoring	17
Location Sampling	:	AAQ 5 - Balanda village	
Date of Sampling	1	17-03-2021 to 31-03-2021	
Sampling method		IS 5182 Part 5 & 14	
Report Date	:	08-04-2021	Page 1 of 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), μg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m³	Non Methane H µg/m³
Test Methods	IS 5182 :	40 CFR Appendix L (	IS 5182 :	IS 5182 :	ABCTL/SO	IS 5182 :	IS 5182 ;	IS 5182 :
Date of Sampling	Part-23	Part 50)	Part 2	Part 6	P/A/05	Part 11	Part 11	Part 11
17.03.2021	98	57	40	51	42	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
20.03.2021	103	54	38	54	48	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
24.03.2021	95	56	37	49	44	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
26.03.2021	97	58	41	47	46	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
29.03.2021	93	54	35	50	37	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
31.03.2021	101	56	37	48	40	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
Min	93	54	35	47	37	0	0	0
Max	103	58	41	54	48	0	0	0
Mean	98	56	38	50	43	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specified

**BDL-Below Detection Limit** 

\*National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

.....End of Report.....









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ISSUED TO:

POST-VIKRAMPUR Dist-Angul (Odisha State) PIN-759 106

Report Number	:	ABCTL/C/210503/N/7056	
Sample Drawn by	:	ABC Techno Labs India Private Limited	
Sample Description		Ambient Air Quality Monitoring	
Location Sampling	:	AAQ 6 - Kukudanga village	
Date of Sampling		17-03-2021 to 31-03-2021	
Sampling method	1	IS 5182 Part 5 & 14	
Report Date	:	08-04-2021	Page 1 of 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m <sup>3</sup>	No Methar μg/1
Test Methods Date of Sampling	IS 5182 : Part-23	40 CFR Appendix L ( Part 50)	IS 5182 :	IS 5182 : Part 6	ABCTL/SO P/A/05	IS 5182 : Part 11	IS 5182 : Part 11	IS 518 Part
17.03.2021	53	26	20	36	29	BDL(<1.0)	BDL(<0.1)	BDL(<
20.03.2021	49	28	21	32	31	BDL(<1.0)	BDL(<0.1)	BDL(<
24.03.2021	52	30	19	37	26	BDL(<1.0)	BDL(<0.1)	BDL(<
26.03.2021	53	25	23	40	33	BDL(<1.0)	BDL(<0.1)	BDL(<
29.03.2021	57	27	25	35	29	BDL(<1.0)	BDL(<0.1)	BDL(<
31.03.2021	54	31	22	33	27	BDL(<1.0)	BDL(<0.1)	BDL(<
Min	49	25	19	32	26	0	0	0
Max	57	31	25	40	33	0	0	0
Mean	53	28	22	36	29	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specif

'National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

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Ministry of Environment a Forest Government of India



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#### **TEST REPORT**

ISSUED TO:

M/s Talcher Fertilizers Limited

(FCIL, Talcher Unit)

Technical Building (JV Site Office)

POST-VIKRAMPUR

Dist- Angul (Odisha State)

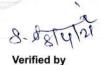
PIN-759 106

Report Number		ABCTL/C/210503/N/7057	
Sample Drawn by	:	ABC Techno Labs India Private Limited	
Sample Description	1	Noise Level Monitoring	
Location Sampling	:	N1 - TFL Admin Building	
Date of Sampling	:	17-03-2021 to 31-03-2021	
Report Date	:	08-04-2021	Page 1 of 1

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
17.03.2021	71.2	47.5	64.2	50.5	62.5
20.03.2021	746	49.8	66.8	52.9	65.1
24.03.2021	81.3	46.8	69.1	51.3	67.4
26.03.2021	79.5	47.4	67.2	53.8	65.5
29.03.2021	76.2	47.1	68.7	52.8	67.0
31.03.2021	78.3	49.6	66.3	54.5	64.7

Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)	
Industrial Area	75	70	
Commercial Area	65	55	
Residential Area	55	45	
Silence Zone	50	40	

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Report Number	:	ABCTL/C/210503/N/7058	
Sample Drawn by	:	ABC Techno Labs India Private Limited	
Sample Description	:	Noise Level Monitoring	
Location Sampling	:	N2 - H.B. Colony	
Date of Sampling	:	17-03-2021 to 31-03-2021	
Report Date	:	08-04-2021	Page 1 of 1

-	Date of Sampling	Lmax	Lmin	L day	L Night	Leq
	17.03.2021	63.5	38.6	50.8	42.0	49.3
	20.03.2021	67.4	39.1	51.9	43.5	50.4
	24.03.2021	69.5	37.2	50.6	41.9	49.1
	26.03.2021	63.1	36.9	51.5	40.2	49.9
	29.03.2021	71.2	37.1	51.9	41.9	50.4
ĺ	31.03.2021	68.8	39.8	51.6	41.7	50.1

Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

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Report Number		ABCTL/C/210503/N/7059			
Sample Drawn by		ABC Techno Labs India Private Limited	ABC Techno Labs India Private Limited		
Sample Description	:	Noise Level Monitoring	Noise Level Monitoring		
Location Sampling	:	N3- Karnapur village			
Date of Sampling	:	17-03-2021 to 31-03-2021			
Report Date	:	08-04-2021	Page 1 of 1		

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
17.03.2021	70.3	34.5	50.8	44.4	49.5
20.03.2021	64.0	34.7	48.6	41.0	47.2
24.03.2021	72.8	35.6	49.1	38.2	47.5
26.03.2021	66.5	34.8	51.7	41.4	50.1
29.03.2021	64.0	36.6	50.5	39.5	48.9
31.03.2021	68.3	34.6	52.6	40.6	51.0

Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

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# TEST REPORT

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(FCIL, Talcher Unit)
Technical Building ( JV Site Office)
POST- VIKRAMPUR
Dist- Angul ( Odisha State)
PIN-759 106

Report Number		ABCTL/C/210503/N/7060			
Sample Drawn by	1	ABC Techno Labs India Private Limited			
Sample Description	:	Noise Level Monitoring			
Location Sampling	:	N4 – TFL Guest House			
Date of Sampling		17-03-2021 to 31-03-2021			
Report Date	:	08-04-2021	Page 1 of 1		

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
17.03.2021	67.8	39.1	52.8	42.8	51.3
20.03.2021	65.5	36.3	52.8	40.1	51.2
24.03.2021	66.5	36.2	54.8	42.7	53.2
26.03.2021	61.3	38.0	57.3	45.4	55.7
29.03.2021	64.8	37.2	54.4	45.6	52.9
31.03.2021	68.9	37.0	54.9	46.3	53.4

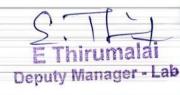
Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)
Industrial Area	75	. 70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

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Report Date		08-04-2021	Page 1 of 1	
Date of Sampling		17-03-2021 to 31-03-2021		
Location Sampling	:	N5 - Balanda Village		
Sample Description		Noise Level Monitoring		
Sample Drawn by	1	ABC Techno Labs India Private Limited		
Report Number	1	ABCTL/C/210503/N/7061	1	

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
17.03.2021	76.3	38.3	51.2	43.5	49.8
20.03.2021	69.0	39.0	50.8	41.8	49.3
24.03.2021	70.0	36.0	53.1	43.1	51.6
26.03.2021	68.9	37.5	52.9	40.6	51.3
29.03.2021	67.1	37.9	51.5	42.4	50.0
31.03.2021	69.4	39.5	53.2	42.8	51.6

Ambient Noise Standards Zone Classification	Lday dB(A)	Lnight dB(A)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

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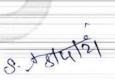
PIN-759 106

Report Number	1	ABCTL/C/210503/N/7062				
Sample Drawn by	:	ABC Techno Labs India Private Limited	ABC Techno Labs India Private Limited			
Sample Description	:	Noise Level Monitoring				
Location Sampling	:	N6 - Kukudanga village				
Date of Sampling		17-03-2021 to 31-03-2021				
Report Date	:	08-04-2021	Page 1 of 1			

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
17.03.2021	66.9	34.8	53.1	42.5	51.6
20.03.2021	62.9	36.6	52.4	41.9	50.8
24.03.2021	66.0	34.6	51.3	40.9	49.8
26.03.2021	65.1	34.1	50.7	41.4	49.2
29.03.2021	65.5	35.5	54.1	44.1	52.6
31.03.2021	62.4	34.7	52.2	42.0	50.6

Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

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









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### TEST REPORT

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M/s Talcher Fertilizers Limited

(FCIL, Talcher Unit)
Technical Building (JV Site Office)
POST- VIKRAMPUR
Dist- Angul (Odisha State)
PIN-759 106

SAMPLE DETAILS:

Page 1 of 2

		1 450 1 01 2
ABCTL/C/210503/N/7063	Sample Drawn By	Laboratory
Ground Water	Sampling Method	IS: 3025 - Part 1
GW1 - Tentulei Village	Date of Sampling	25-03-2021
Good	Report Date	08-04-2021
	Ground Water GW1 - Tentulei Village	Ground Water Sampling Method GW1 - Tentulei Village Date of Sampling

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	<1	5
2	Odour		IS 3025 (Part 5)-2018	Agreeable	Agreeable
3	Taste		IS 3025 (Part 8)-1984(RA:2017)	Agreeable	Agreeable
4	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	0.8	ī
5	pH at 25 °C	-	IS 3025 (Part 11)-1983(RA:2017)	7.54	6.5-8.5
6	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	298	500
7	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	BDL(<2)	Not specified
8	Temperature	°C	APHA 23rd EDITION 2550 B	25.6	Not specified
9	P Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	BDL(< 1)	Not specified
10	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	134	200
11	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	82	250
12	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	18	200
13	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	11	45
14	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.19	1
15	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	142	200
16	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	45	75
17	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	7.2	30

Contd.....









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## TEST REPORT

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist-Angul (Odisha State) PIN-759 106

REPORT NO	:	ABCTL/C/210503/N/7063	
SAMPLE DESCRIPTION	:	GW1 - Tentulei Village	
DATE OF REPORT	:	08-04-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	55	Not specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	1.8	Not specified
20	Silica as SiO2	mg/l	APHA 23rd Edition -4500-SiO2- D	42	Not specified
21	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.19	1
22	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
23	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
24	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
25	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	5
26	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
27	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
28	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
29	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
30	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(< 1)	Not specified
31	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	<2	Absent/100ml

BDL - Below Detection Limit

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









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## TEST REPORT

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M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist-Angul (Odisha State) PIN-759 106

SAMPLE DETAILS:

Page 1 of 2

Report Number	ABCTL/C/210503/N/7064	Sample Drawn By	Laboratory
Sample Description	Ground Water	Sampling Method	IS: 3025 - Part 1
Location Sampling	GW2 - Balanda Village	Date of Sampling	25-03-2021
Sample Condition	Good	Report Date	08-04-2021

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	1	5
2	Odour	-	IS 3025 (Part 5)-2018	Agreeable	Agreeable
3	Taste	•	IS 3025 (Part 8)-1984(RA:2017)	Agreeable	Agreeable
4	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	11	1
5	pH at 25 °C		IS 3025 (Part 11)-1983(RA:2017)	7.36	6.5-8.5
6	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	396	500
7	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	BDL(<2)	Not specified
8	Temperature	°C	APHA 23rd EDITION 2550 B	35.8	Not specified
9	P Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	BDL(<1)	Not specified
10	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	180	200
11	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	115	250
12	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	32	200
13	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	5	45
14	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.31	1
15	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	190	200
16	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	62	75
17	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	8.5	30 Contd







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## TEST REPORT

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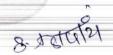
M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist-Angul (Odisha State) PIN-759 106

REPORT NO	:	ABCTL/C/210503/N/7064	
SAMPLE DESCRIPTION	;	GW2 - Balanda Village	
DATE OF REPORT	:	08-04-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	84	Not specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	2	Not specified
20	Silica as SiO2	mg/l	APHA 23rd Edition -4500-SiO2- D	31.6	Not specified
21	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.21	1
22	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
23	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
24	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
25	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	5
26	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
27	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
28	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
29	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
30	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(<1)	Not specified
31	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	4	Absent/100ml

BDL - Below Detection Limit

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PIN-759 106

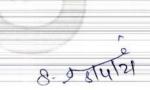
SAMPLE DETAILS:

Page 1 of 2

Report Number	ABCTL/C/210503/N/7065	Sample Drawn By	Laboratory
Sample Description	Ground Water	Sampling Method	IS: 3025 - Part 1
Location Sampling	GW3 - Kukudang Village	Date of Sampling	25-03-2021
Sample Condition	Good	Report Date	08-04-2021

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	1	5
2	Odour	(w)	IS 3025 (Part 5)-2018	Agreeable	Agreeable
3	Taste	-	IS 3025 (Part 8)-1984(RA:2017)	Agreeable	Agreeable
4	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	BDL(<0.5)	1
5	pH at 25 °C	-	IS 3025 (Part 11)-1983(RA:2017)	7.51	6.5-8.5
6	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	338	500
7	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	BDL(<2)	Not specified
8	Temperature	°C	APHA 23rd EDITION 2550 B	26	Not specified
9	P Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	BDL(< 1)	Not specified
10	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	152	200
11	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	98	250
12	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	21	200
13	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	1	45
14	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.24	1
15	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	160	200
16	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	55	75
17	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	5.6	30

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REPORT NO	:	ABCTL/C/210503/N/7065	
SAMPLE DESCRIPTION	1	GW3 - Kukudang Village	
DATE OF REPORT	:	08-04-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	71	Not specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	1.3	Not specified
20	Silica as SiO2	mg/l	APHA 23rd Edition -4500-SiO2-D	34	Not specified
21	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.09	-1
22	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
23	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
24	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
25	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	5
26	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
27	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
28	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
29	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
30	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(< 1)	Not specified
31	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	< 2	Absent/100ml

BDL - Below Detection Limit

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









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<sup>•</sup> The test results relate only to the items tested. • The test report shall not be reproduced in full or part without the written approval of ABCTL. • The test items will not be retained for more than 15 days from the date of issue of test report for Non-Perishable samples and in the case of Perishable samples test items will be retained for one day after date of issue of report. The laboratory's responsibility under this report is limited to proven willful negligence and will in no case be more than the invoiced amount. • The test report is issued for the purpose of identifying the characteristic and not intended to use for any publicity / litigation purpose.



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PIN-759 106

Page 1 of 2 SAMPLE DETAILS:

Report Number	ABCTL/C/210503/N/7066	Sample Drawn By	Laboratory
Sample Description	Surface Water	Sampling Method	IS: 3025 - Part 1
Location Sampling	SW1 - Pump House	Date of Sampling	25-03-2021
Sample Condition	Good	Report Date	08-04-2021

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	<1	5
2	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	BDL(<0.5)	1
3	pH at 25 °C		IS 3025 (Part 11)-1983(RA:2017)	7.35	6.5-8.5
4	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	172	500
5	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	2	Not Specified
6	Temprature	°C	APHA 23rd EDITION 2550 B	26	Not Specified
7	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	58	200
8	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	47	250
9	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	8	200
10	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	1	45
11	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.1	1
12	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	52	200
13	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	19	75
14	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	3	30
	Dissolved Oxygen	mg/l	IS:3025:Part-38:1989 (Reaff:2019)	6.9	Not Specified
15	COD	mg/l	IS:3025:Part-58:2006(Reaff:2017)	12	Not Specified
16	BOD	mg/l	IS:3025:Part-44:1993 (Reaff:2019)	BDL(<2)	Not Specified

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Dist-Angul (Odisha State)

PIN-759 106

REPORT NO	:	ABCTL/C/210503/N/7066	
SAMPLE DESCRIPTION	:	SW1 - Pump House	
DATE OF REPORT	:	08-04-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	31	Not Specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	3	Not Specified
20	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.12	1
21	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
22	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
23	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
24	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	0.1	5
25	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
26	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
27	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
28	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
29	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(<1)	Not Specified
30	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	14	Absent/100ml

BDL - Below Detection Limit

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





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CAMPLE DETAILS.

Page 1 of 2

AMPLE DETAILS:			14601011
Report Number	ABCTL/C/210503/N/7067	Sample Drawn By	Laboratory
Sample Description	Surface Water	Sampling Method	IS: 3025 - Part 1
Location Sampling	SW2- River Near Jatia Bridge	Date of Sampling	25-03-2021
		Report Date	08-04-2021
Sample Condition	Good	Report Date	

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	10	5
2	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	3.8	1
3	pH at 25 °C		IS 3025 (Part 11)-1983(RA:2017)	7.67	6.5-8.5
4	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	236	500
5	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	7	Not Specified
6	Temprature	°C	APHA 23rd EDITION 2550 B	27	Not Specified
7	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	96	200
8	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	65	250
9	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	14	200
10	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	7	45
11	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.13	1
12	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	84	200
13	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	25	75
	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	5	30
14	Dissolved Oxygen	mg/l	IS:3025:Part-38:1989 (Reaff:2019)	6.1	Not Specified
15		mg/l	IS:3025:Part-58:2006(Reaff:2017)	18	Not Specified
16	BOD	mg/l	IS:3025:Part-44:1993 (Reaff:2019)	2	Not Specified

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REPORT NO	;	ABCTL/C/210503/N/7067	
SAMPLE DESCRIPTION	:	SW2- River Near Jatia Bridge	
DATE OF REPORT	:	08-04-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	48	Not Specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	3.7	Not Specified
20	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.35	1
21	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
22	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
23	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
24	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	0.15	5
25	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
26	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
27	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
28	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
29	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(<1)	Not Specified
30	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	1100	Absent/100ml

BDL - Below Detection Limit

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SAMPLE DETAILS:

Page 1 of 2

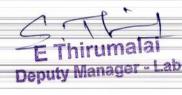
HII DD D DITTIEU.			1 460 1 01 2
Report Number	ABCTL/C/210503/N/7068	Sample Drawn By	Laboratory
Sample Description	Surface Water	Sampling Method	IS: 3025 - Part 1
Location Sampling	SW3 - River PTBS Thermal Area	Date of Sampling	25-03-2021
Sample Condition	Good	Report Date	08-04-2021

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	3	5
2	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	1.6	1
3	pH at 25 °C	-	IS 3025 (Part 11)-1983(RA:2017)	7.43	6.5-8.5
4	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	196	500
5	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	3	Not Specified
6	Temprature	°C	APHA 23rd EDITION 2550 B	26	Not Specified
7	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	68	200
8	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	56	250
9	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-S042- E	10	200
10	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	2	45
11	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.11	1
12	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	68	200
13	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	23	75
14	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	2.5	30
15	Dissolved Oxygen	mg/l	IS:3025:Part-38:1989 (Reaff:2019)	6.6	Not Specified
16	COD	mg/l	IS:3025:Part-58:2006(Reaff:2017)	14	Not Specified
17	BOD	mg/l	IS:3025:Part-44:1993 (Reaff:2019)	BDL(<2)	Not Specified

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REPORT NO	1	ABCTL/C/210503/N/7068	
SAMPLE DESCRIPTION	:	SW3 - River PTBS Thermal Area	
DATE OF REPORT		08-04-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	38	Not Specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	2.4	Not Specified
20	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.18	1
21	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
22	Total Chromium as Cr	mg/l	IS 3025 (Part 65) 2014	BDL(< 0.01)	0.05
23	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
24	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	0.06	5
25	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
26	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
27	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
28	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
29	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(<1)	Not Specified
30	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	350	Absent/100ml

BDL - Below Detection Limit

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







8- 2819

Authorised Signatory

#### Terms and conditions

Verified by



## ABC Techno Labs India Private Limited

ABC TOWER #400, 13th Street, SIDCO Industrial Estate - North Phase, Ambattur, Chennai - 600 098, Tamilnadu, INDIA. Ph:+91-44-2625 7788 / 99, +91 94442 60000 / 95661 87777 Email: lab@abctechnolab.com / Web: www.abctechnolab.com





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### TEST REPORT

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST- VIKRAMPUR Dist- Angul (Odisha State) PIN-759 106

:	ABCTL/C/210503/N/7069	
:		
:		
1		
:		
:	IS 5182 Part 5 & 14	
- 1	10-05-2021	Page 1 of 1
	: : : : : : : :	

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), μg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), μg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m <sup>3</sup>	Methane HC μg/m <sup>3</sup>	Non Metha HC µg/m³
Test Methods Date of	IS 5182 : Part-23	40 CFR Appendix L ( Part 50)	IS 5182 : Part 2	IS 5182 : Part 6	ABCTL/SO P/A/05	IS 5182 : Part 11	IS 5182 : Part 11	IS 5182 : Pa
Sampling		,						
05.04.2021	70	39	23	43	29	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
09.04.2021	62	33	20	37	33	BDL(<1.0)	BDL(<0.1)	BDL(<0
13.04.2021	65	37	22	42	27	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
16.04.2021	60	41	19	45	36	BDL(<1.0)	BDL(<0.1)	BDL(<0.
21.04.2021	67	32	24	37	39	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
24.04.2021	63	40	19	34	34	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
26.04.2021	59	34	22	36	33	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
28.04.2021	66	39	24	37	29	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
Min	59	32	18	34	27	0	0	0
Max	70	40	24	45	39	0	0	0
Mean	64	37	22	39	33	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specific

\*National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

.....End of Report.....

S- No km







**Authorised Signatory** 

<sup>•</sup>The test results relate only to the items tested. • The test report shall not be reproduced in full or part without the written approval of ABCTL. • The test items will not be retained for more than 15 days under this report is limited to proven willful negligence and will in no case be more than the invoiced amount. • The test report is issued for the purpose of identifying the characteristic and not intended to



# ABC Techno Labs India Private Limited

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## **TEST REPORT**

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST- VIKRAMPUR Dist-Angul (Odisha State) PIN-759 106

Report Number	:	ABCTL/C/210503/N/7070	
Sample Drawn by	:	ABC Techno Labs India Private Limited	
Sample Description		Ambient Air Quality Monitoring	
Location Sampling	:	AAQ 2 - H.B. Colony	
Date of Sampling		05-04-2021 to 28-04-2021	
Sampling method	:	IS 5182 Part 5 & 14	
Report Date	:	10-05-2021	Page 1 of 1
			rage 1 01 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), μg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m <sup>3</sup>	Non Methan HC µg/m³
Test Methods	IS 5182 : Part-23	40 CFR Appendix L (	IS 5182 :	IS 5182 :	ABCTL/SO	IS 5182 : Part	IS 5182 : Part	IS 5182 : Par
Date of Sampling 05.04.2021 09.04.2021 13.04.2021 16.04.2021 21.04.2021 24.04.2021	Part-23	Part 50)	Part 2	Part 6	P/A/05	11	11	11
The state of the s	58	30	27					
	54			50	25	BDL(<1.0)	BDL(<0.1)	BDL(<0.1)
		27	25	48	28	BDL(<1.0)	BDL(<0.1)	BDL(<0.1)
13.04.2021	51	26	22	52	21	BDL(<1.0)	BDL(<0.1)	BDL(<0.1)
16.04.2021	61	24	30	46	24	BDL(<1.0)	BDL(<0.1)	BDL(<0.1)
21.04.2021	58	28	24	45	26	BDL(<1.0)	BDL(<0.1)	BDL(<0.1)
24.04.2021	55	25	23	53	23	BDL(<1.0)	BDL(<0.1)	BDL(<0.1)
26.04.2021	63	28	26	49	25	BDL(<1.0)	BDL(<0.1)	BDL(<0.1)
28.04.2021	58	31	28	57	27	BDL(<1.0)	BDL(<0.1)	
Min	51	24	22	45	21	0		BDL(<0.1)
Max	63	31	30	57	28	0	0	0
Mean	57	27	26	50	25	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	0 Not Specified	0  Not Specified

\*National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

.....End of Report.....

Verified by







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## TEST REPORT

ISSUED TO:

M/s Talcher Fertilizers Limited

(FCIL, Talcher Unit)

Technical Building (JV Site Office)

POST-VIKRAMPUR

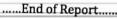
Dist-Angul (Odisha State)

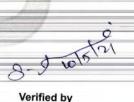
PIN-759 106

Report Number	:	ABCTL/C/210503/N/7071	
Sample Drawn by	:	ABC Techno Labs India Private Limited	
Sample Description		Ambient Air Quality Monitoring	
Location Sampling		AAQ 3 - Karnapur village	
Date of Sampling	1	05-04-2021 to 28-04-2021	
Sampling method	:	IS 5182 Part 5 & 14	
Report Date	:	10-05-2021	Page 1 of 1
			rage 101 1

	Test Parameters	Particulate Matter (PM <sub>10</sub> ), μg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), μg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m <sup>3</sup>	Non Methar HC µg/m³
-	Test Methods  Date of Sampling	IS 5182 : Part-23	40 CFR Appendix L ( Part 50)	IS 5182 : Part 2	IS 5182 : Part 6	ABCTL/SO P/A/05	IS 5182 : Part 11	IS 5182 : Part 11	IS 5182 : Pa
-	05.04.2021	52	25			2.5			
-		NINT.		17	31	25	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
100	09.04.2021	49	21	16	29	22	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
-	13.04.2021	53	20	18	27	27	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
	16.04.2021	46	23	20	30	24	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
	21.04.2021	52	28	14	32	28	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
	24.04.2021	47	22	17	30	24	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
_	26.04.2021	55	24	19	26	29	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
	28.04.2021	51	26	21	28	25	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
	Min	46	20	14	26	22	0	0	
	Max	55	28	21	32	29	0		0
8	Mean	51	24	18	29	26	0	0	0
	NAAQ Standards	100	60	80	80	400	Not Specified	0 Not Specified	0 Not Specifie

\*National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.











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## TEST REPORT

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building ( JV Site Office) POST-VIKRAMPUR Dist- Angul (Odisha State) PIN-759 106

Report Number	:	ABCTL/C/210503/N/7072	
Sample Drawn by		ABC Techno Labs India Private Limited	9
Sample Description		Ambient Air Quality Monitoring	
Location Sampling	:	AAQ 4 - TFL Guest House	
Date of Sampling	:	05-04-2021 to 28-04-2021	
Sampling method	:	IS 5182 Part 5 & 14	
Report Date	1	10-05-2021	Page 1 of 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), μg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), μg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m <sup>3</sup>	Non Metha HC µg/m³
Test Methods	IC #100	40 CFR						
Date of Sampling	IS 5182 : Part-23	Appendix L ( Part 50)	IS 5182 : Part 2	IS 5182 : Part 6	ABCTL/SO P/A/05	IS 5182 : Part 11	IS 5182 : Part 11	IS 5182 : Pa 11
05.04.2021	61	27	35	50	25	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
09.04.2021	67	25	30	42	24	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
13.04.2021	58	23	28	36	26	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
16.04.2021	65	31	34	37	23	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
21.04.2021	60	28	31	40	27	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
24.04.2021	56	32	28	38	29	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
26.04.2021	53	29	33	40	25	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
28.04.2021	62	26	29	41	24	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
Min	53	23	28	36	23	0	0	0
Max	67	32	35	50	29	0	0	0
Mean	60	28	31	40	25	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specifie

'National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

Verified by

india A 600 098.





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### TEST REPORT

ISSUED TO:

M/s Talcher Fertilizers Limited

(FCIL, Talcher Unit) Technical Building ( JV Site Office) POST- VIKRAMPUR

Dist-Angul (Odisha State)

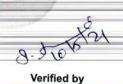
PIN-759 106

Report Number		ABCTL/C/210503/N/7073	
Sample Drawn by	;	ABC Techno Labs India Private Limited	
Sample Description	:	Ambient Air Quality Monitoring	
Location Sampling	:	AAQ 5 – Balanda Village	
Date of Sampling	1	05-04-2021 to 28-04-2021	
Sampling method	:	IS 5182 Part 5 & 14	
Report Date		10-05-2021	Page 1 of 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), μg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m <sup>3</sup>	Non Metha HC μg/m³
Test Methods	IS 5182 :	40 CFR	IS 5182 :	IS 5182 :	ADCTT /CO	IC 5102 . D	10 5400 P	
Date of Sampling	Part-23	Appendix L ( Part 50)	Part 2	Part 6	ABCTL/SO P/A/05	IS 5182 : Part 11	IS 5182 : Part 11	IS 5182 : P 11
05.04.2021	85	57	37	50	37	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
09.04.2021	95	48	36	53	45	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
13.04.2021	83	49	40	47	49	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
16.04.2021	85	54	38	56	51	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
21.04.2021	90	46	34	49	43	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
24.04.2021	89	53	37	53	48	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
26.04.2021	93	57	35	52	50	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
28.04.2021	87	52	38	57	44	BDL(<1.0)	BDL(<0.1)	BDL(<0.1
Min	82	46	34	47	37	0	0	0
Max	95	57	40	57	51	0	0	0
Mean	88	52	37	52	46	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specifi

\*National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

.....End of Report.....









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### TEST REPORT

ISSUED TO:

## M/s Talcher Fertilizers Limited

(FCIL, Talcher Unit)
Technical Building (JV Site Office)
POST- VIKRAMPUR
Dist- Angul (Odisha State)
PIN-759 106

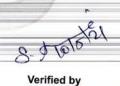
Report Number		ABCTL/C/210503/N/7074	
Sample Drawn by		ABC Techno Labs India Private Limited	
Sample Description		Ambient Air Quality Monitoring	
Location Sampling	1	AAQ 6 - Kukudanga village	
Date of Sampling	:	05-04-2021 to 28-04-2021	
Sampling method		IS 5182 Part 5 & 14	
Report Date	:	10-05-2021	Page 1 of 1

Test Parameters	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Particulate Matter (PM <sub>2.5</sub> ), μg/m <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Ammonia (NH <sub>3</sub> ), μg/m <sup>3</sup>	Volatile Organic Compounds (VOC) µg/m³	Methane HC μg/m³	Non Meth HC μg/m³
Test Methods  Date of Sampling	IS 5182 : Part-23	40 CFR Appendix L ( Part 50)	IS 5182 : Part 2	IS 5182 : Part 6	ABCTL/SO P/A/05	IS 5182 : Part 11	IS 5182 : Part 11	IS 5182 : F
05.04.2021	54	30	20	37	30	BDL(<1.0)	BDL(<0.1)	BDL(<0.
09.04.2021	58	26	22	36	29	BDL(<1.0)	BDL(<0.1)	BDL(<0.
13.04.2021	56	25	25	40	27	BDL(<1.0)	BDL(<0.1)	BDL(<0.
16.04.2021	49	28	23	38	33	BDL(<1.0)	BDL(<0.1)	BDL(<0.
21.04.2021	60	31	24	34	30	BDL(<1.0)	BDL(<0.1)	BDL(<0.
24.04.2021	57	29	21	32	24	BDL(<1.0)	BDL(<0.1)	BDL(<0.
26.04.2021	52	27	26	39	28	BDL(<1.0)	BDL(<0.1)	BDL(<0.
28.04.2021	53	25	21	42	26	BDL(<1.0)	BDL(<0.1)	BDL(<0.
Min	49	25	20	32	24	0	0	0
Max	60	31	26	42	33	0	0	0
Mean	55	28	23	37	28	0	0	0
NAAQ Standards	100	60	80	80	400	Not Specified	Not Specified	Not Specifi

BDL-Below Detection Limit

\*National Ambient Air Quality Standards prescribed by Ministry of Environment and Forests, Government of India vide Gazette Notification G.S.R. 826(E) dated 18.11.2009.

.....End of Report.....







E Thirumalai Deputy Manager - Lab

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## **TEST REPORT**

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist-Angul (Odisha State)

PIN-759 106

1:	ABCTL/C/210503/N/7075	
1		
:		
:		
:		
:	10-05-2021	Page 1 of 1
		: ABCTL/C/210503/N/7075 : ABC Techno Labs India Private Limited : Noise Level Monitoring : N1 - TFL Admin Building : 05-04-2021 to 28-04-2021 : 10-05-2021

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
05.04.2021	81.5	58.5	67.4	57.4	65.9
09.04.2021	74.3	56.7	66.8	54.4	65.2
13.04.2021	72.8	60.1	64.3	55.3	62.8
16.04.2021	74.6	58.4	66.1	53.7	64.5
21.04.2021	72.9	54.2	63.5	55.6	62.1
24.04.2021	83.2	61.8	68.8	57.9	67.2
26.04.2021	77.1	57.4	64.6	54.1	63.0
28.04.2021	76.5	59.5	63.4	52.8	61.8

Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

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









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### **TEST REPORT**

#### ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST- VIKRAMPUR Dist- Angul (Odisha State) PIN-759 106

Report Number	:	ABCTL/C/210503/N/7076	
Sample Drawn by		ABC Techno Labs India Private Limited	
Sample Description	:	Noise Level Monitoring	
Location Sampling	1	N2 - H.B. Colony	
Date of Sampling	:	05-04-2021 to 28-04-2021	
Report Date	1	10-05-2021	Page 1 of 1
			rage 1 01 1

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
05.04.2021	67.1	38.8	53.2	40.3	51.5
09.04.2021	69.4	35.8	52.9	38.6	51.2
13.04.2021	64.8	34.5	53.5	39.9	51.8
16.04.2021	68.1	34.5	53.7	40.6	52.0
21.04.2021	66.5	34.7	52.6	39.4	50.9
24.04.2021	72.8	35.6	51.9	40.1	50.3
26.04.2021	67.1	34.8	52.8	43.1	51.3
28.04.2021	69.0	36.6	53.1	41.5	51.5

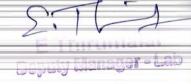
Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

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## **TEST REPORT**

ISSUED TO:

M/s Talcher Fertilizers Limited

(FCIL, Talcher Unit)

Technical Building (JV Site Office)

POST- VIKRAMPUR

Dist- Angul (Odisha State)

PIN-759 106

Report Number	:	ABCTL/C/210503/N/7077	
Sample Drawn by	:	ABC Techno Labs India Private Limited	
Sample Description	1:	Noise Level Monitoring	
Location Sampling	1	N3- Karnapur village	
Date of Sampling	:	05-04-2021 to 28-04-2021	
Report Date		10-05-2021	Page 1 of 1

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
05.04.2021	68.7	35.8	54.1	38.9	52.4
09.04.2021	66.6	34.5	52.3	39.3	50.6
13.04.2021	67.4	34.5	53.8	40.4	52.1
16.04.2021	68.3	34.7	51.6	39.4	50.0
21.04.2021	66.2	34.5	53.1	41.2	51.5
24.04.2021	71.7	34.7	53.7	41.9	52.1
26.04.2021	69.5	35.6	52.7	40.7	51.1
28.04.2021	73.5	34.8	53.8	38.4	52.1

Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

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## **TEST REPORT**

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist-Angul (Odisha State) PIN-759 106

Sample Drawn by : ABC Techno Labs India Private Limited  Sample Description : Noise Level Monitoring  Location Sampling : N4 – TFL Guest House  Date of Sampling : 05-04-2021 to 28-04-2021  Report Date : 10.05-2021	Report Number	:	ABCTL/C/210503/N/7078	
Sample Description : Noise Level Monitoring  Location Sampling : N4 – TFL Guest House  Date of Sampling : 05-04-2021 to 28-04-2021  Report Date : 10.05-2021	Sample Drawn by	:		
Location Sampling         : N4 – TFL Guest House           Date of Sampling         : 05-04-2021 to 28-04-2021           Report Date         : 10.05-2021	Sample Description	:		
Date of Sampling : 05-04-2021 to 28-04-2021  Report Date : 10.05-2021	Location Sampling	:		
Report Date . 10.05.2021	Date of Sampling	:		
10 00 1011	Report Date	1	10-05-2021	Page 1 of 1

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
05.04.2021	72.4	36.6	51.6	40.6	50.0
09.04.2021	70.3	34.6	52.2	39.4	50.6
13.04.2021	64.0	34.1	51.7	41.0	50.1
16.04.2021	72.8	34.5	50.4	38.8	48.8
21.04.2021	66.2	34.3	50.2	40.4	48.7
24.04.2021	64.0	35.2	51.5	42.2	50.0
26.04.2021	70.5	36.6	51.9	41.6	50.3
28.04.2021	63.5	36.2	49.5	40.1	48.0

Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40





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Report Number	:	ABCTL/C/210503/N/7079	
Sample Drawn by	:	ABC Techno Labs India Private Limited	9)
Sample Description		Noise Level Monitoring	
Location Sampling	1	N5 - Balanda Village	
Date of Sampling	1	05-04-2021 to 28-04-2021	
Report Date	1	10-05-2021	Page 1 of 1

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
05.04.2021	76.3	39.7	54.6	43.5	53.0
09.04.2021	70.8	36.4	53.6	43.4	52.0
13.04.2021	71.4	39.2	53.0	42.9	51.4
16.04.2021	70.8	38.9	54.4	45.1	52.9
21.04.2021	76.3	38.9	53.2	43.8	51.7
24.04.2021	70.8	38.8	53.0	44.1	51.5
26.04.2021	69.1	35.8	53.5	43.5	52.0
28.04.2021	66.3	37.5	53.7	43.7	52.2

Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)	
Industrial Area	75	70	
Commercial Area	65	55	
Residential Area	55	45	
Silence Zone	50	40	

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







Deputy Manager - Lab

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Report Number	:	ABCTL/C/210503/N/7080	
Sample Drawn by	1.	ABC Techno Labs India Private Limited	
Sample Description	:	Noise Level Monitoring	
Location Sampling	:	N6 - Kukudanga village	
Date of Sampling	:	05-04-2021 to 28-04-2021	
Report Date	:	10-05-2021	Page 1 of 1

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
05.04.2021	66.5	36.9	50.6	39.4	49.0
09.04.2021	71.2	34.5	52.8	40.7	51.2
13.04.2021	69.3	34.7	53.1	41.0	51.5
16.04.2021	68.2	35.6	52.4	38.8	50.7
21.04.2021	67.4	34.8	51.9	40.3	50.3
24.04.2021	70.0	36.6	50.9	41.7	49.4
26.04.2021	69.9	34.6	52.0	42.0	50.5
28.04.2021	69.1	34.1	52.4	40.9	50.8

Ambient Noise Standards  Zone Classification	Lday dB(A)	Lnight dB(A)	
Industrial Area	75	70	
Commercial Area	65	55	
Residential Area	55	45	
Silence Zone	50	40	

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SAMPLE DETAILS:

Page 1 of 2

			1 420 1 01 2
Report Number	ABCTL/C/210503/N/7081	Sample Drawn By	Laboratory
Sample Description	Ground Water	Sampling Method	IS: 3025 - Part 1
Location Sampling	GW1 - Tentulei Village	Date of Sampling	20-04-2021
Sample Condition	Good	Report Date	10-05-2021

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	<1	5
2	Odour	-	IS 3025 (Part 5)-2018	Agreeable	Agreeable
3	Taste	-	IS 3025 (Part 8)-1984(RA:2017)	Agreeable	Agreeable
4	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	1	1
5	pH at 25 °C		IS 3025 (Part 11)-1983(RA:2017)	7.63	6.5-8.5
6	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	308	500
7	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	BDL(<2)	Not specified
8	Temperature	°C	APHA 23rd EDITION 2550 B	25.8	Not specified
9	P Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	BDL(< 1)	Not specified
10	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	142	200
11	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	86	250
12	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	20	200
13	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	12	45
14	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.17	1
15	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	153	200
16	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	58	75
17	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	7.4	30

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## TEST REPORT

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST- VIKRAMPUR Dist- Angul (Odisha State) PIN-759 106

REPORT NO		ABCTL/C/210503/N/7081	
SAMPLE DESCRIPTION	:	GW1 - Tentulei Village	
DATE OF REPORT		10-05-2021	Page 2 of 2
			lage 2 Ul 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	60	Not specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	1.9	Not specified
20	Silica as SiO2	mg/l	APHA 23rd Edition -4500-SiO2- D	44	Not specified
21	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA.2019)	0.17	oc specifica
22	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
23	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
24	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
25	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	5
26	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
27	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
28	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
29	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
30	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(< 0.01)	Not specified
31	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	<2	Absent/100ml

BDL - Below Detection Limit

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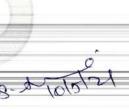
M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist-Angul (Odisha State) PIN-759 106

SAMPLE DETAILS:

Page 1 of 2 Report Number ABCTL/C/210503/N/7082 Sample Drawn By Laboratory Sample Description Ground Water Sampling Method IS: 3025 - Part 1 Location Sampling GW2 - Balanda Village Date of Sampling 20-04-2021 Sample Condition Good Report Date 10-05-2021

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	1	5
2	Odour		IS 3025 (Part 5)-2018	Agreeable	Agreeable
3	Taste		IS 3025 (Part 8)-1984(RA:2017)	Agreeable	Agreeable
4	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	1	1
5	pH at 25 °C		IS 3025 (Part 11)-1983(RA:2017)	7.31	6.5-8.5
6	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	415	500
7	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	BDL(<2)	Not specified
8	Temperature	°C	APHA 23rd EDITION 2550 B	26.1	Not specified
9	P Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	BDL(<1)	Not specified
10	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	195	200
11	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	121	250
12	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	30	200
13	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	4	45
14	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.33	1
15	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	184	200
16	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	60	75
17	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	8.3	30

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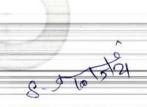
M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building ( JV Site Office) POST- VIKRAMPUR Dist- Angul ( Odisha State) PIN-759 106

REPORT NO	:	ABCTL/C/210503/N/7082	
SAMPLE DESCRIPTION	:	GW2 - Balanda Village	
DATE OF REPORT	:	10-05-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	89	Not specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	2.2	Not specified
20	Silica as SiO2	mg/l	APHA 23rd Edition -4500-SiO2- D	33	Not specified
21	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.22	1
22	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
23	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
24	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
25	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	5
26	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
27	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
28	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
29	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
30	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(<1)	Not specified
31	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	<2	Absent/100ml

BDL - Below Detection Limit

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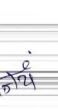
M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist-Angul (Odisha State)

PIN-759 106 SAMPLE DETAILS.

AMPLE DETAILS:			Page 1 of 2
Report Number	ABCTL/C/210503/N/7083	Sample Drawn By	Laboratory
Sample Description	Ground Water	Sampling Method	IS: 3025 - Part 1
Location Sampling	GW3 - Kukudang Village	Date of Sampling	20-04-2021
Sample Condition	Good	Report Date	10-05-2021

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	1	5
2	Odour	-	IS 3025 (Part 5)-2018	Agreeable	Agreeable
3	Taste	1 2	IS 3025 (Part 8)-1984(RA:2017)	Agreeable	Agreeable
4	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	BDL(<0.5)	1
5	pH at 25 °C	-	IS 3025 (Part 11)-1983(RA:2017)	7.58	6.5-8.5
6	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	351	500
7	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	BDL(<2)	Not specified
8	Temperature	°C	APHA 23rd EDITION 2550 B	26.3	Not specified
9	P Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	BDL(< 1)	Not specified
10	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	161	200
11	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	106	250
12	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	23	200
13	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	2	45
14	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.27	1
15	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	155	200
16	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	57	75
17	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	6	30

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## ABC Techno Labs India Private Limited

ABC TOWER #400, 13th Street, SIDCO Industrial Estate - North Phase, Ambattur, Chennai - 600 098, Tamilnadu, INDIA.

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(An ISO: 9001, ISO: 14001, ISO: 45001 & ISO: 22000 Certified Company) Recognised by MoEF&CC

## TEST REPORT

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST- VIKRAMPUR Dist- Angul (Odisha State) PIN-759 106

REPORT NO	:	ABCTL/C/210503/N/7083	
SAMPLE DESCRIPTION	:	GW3 - Kukudang Village	
DATE OF REPORT	;	10-05-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	67	Not specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff: 2019)	1.4	Not specified
20	Silica as SiO2	mg/l	APHA 23rd Edition -4500-SiO2- D	37	Not specified
21	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.12	1
22	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
23	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
24	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
25	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	5
26	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
27	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
28	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
29	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
30	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(< 1)	Not specified
31	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	< 2	Absent/100ml

BDL - Below Detection Limit

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









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#### Terms and conditions :



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## TEST REPORT

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M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist- Angul (Odisha State) PIN-759 106

SAMPLE DETAILS:

Page 1 of 2

MINIT DE DETAILS.			
Report Number	ABCTL/C/210503/N/7084	Sample Drawn By	Laboratory
Sample Description	Surface Water	Sampling Method	IS: 3025 - Part 1
Location Sampling	SW1 - Pump House	Date of Sampling	20-04-2021
Sample Condition	Good	Report Date	10-05-2021

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	<1	5
2	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	BDL(<0.5)	1
3	pH at 25 °C		IS 3025 (Part 11)-1983(RA:2017)	7.51	6.5-8.5
4	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	185	500
5	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	4	Not Specified
6	Temprature	°C	APHA 23rd EDITION 2550 B	27	Not Specified
7	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	65	200
8	Chloride as CI-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	50	250
9	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	9	200
10	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	1	45
11	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.2	1
12	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	55	200
13	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	13	75
14	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	4	30
15	Dissolved Oxygen	mg/l	IS:3025:Part-38:1989 (Reaff:2019)	7.1	Not Specified
16	COD	mg/l	IS:3025:Part-58:2006(Reaff:2017)	14	Not Specified
17	BOD	mg/l	IS:3025:Part-44:1993 (Reaff:2019)	BDL(<2)	Not Specified

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## **TEST REPORT**

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST- VIKRAMPUR Dist- Angul (Odisha State) PIN-759 106

REPORT NO	:	ABCTL/C/210503/N/7084	
SAMPLE DESCRIPTION	:	SW1 - Pump House	
DATE OF REPORT	:	10-05-2021	Page 2 of 2

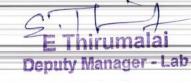
S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	33	Not Specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	3.2	Not Specified
20	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.11	1
21	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
2.2	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
23	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
24	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	0.4	5
25	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
26	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
27	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
28	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
29	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(< 1)	Not Specified
30	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	60	Absent/100ml

BDL - Below Detection Limit

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







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#### Terms and conditions :









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## TEST REPORT

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M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building ( JV Site Office) POST- VIKRAMPUR Dist- Angul ( Odisha State) PIN-759 106

REPORT NO	:	ABCTL/C/210503/N/7085	
SAMPLE DESCRIPTION	T :	SW2- River Near Jatia Bridge	
DATE OF REPORT	:	10-05-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	45	Not Specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	3.4	Not Specified
20	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.38	1
21	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
22	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
23	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
24	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	0.18	5
25	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
26	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
27	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
28	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
29	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(< 1)	Not Specified
30	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	960	Absent/100ml

BDL - Below Detection Limit

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









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## TEST REPORT

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building ( JV Site Office) POST- VIKRAMPUR Dist- Angul ( Odisha State)

SAMPLE DETAILS:

PIN-759 106

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		1 460 1 01 -
ABCTL/C/210503/N/7086	Sample Drawn By	Laboratory
Surface Water	Sampling Method	IS: 3025 - Part 1
SW3 - River PTBS Thermal Area	Date of Sampling	20-04-2021
Good	Report Date	10-05-2021
	Surface Water SW3 - River PTBS Thermal Area	Surface Water Sampling Method SW3 - River PTBS Thermal Area Date of Sampling

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
1	Colour	Hazen	IS 3025 (Part 4)-1983(RA:2017)	4	5
2	Turbidity	NTU	IS 3025 (Part 10)-1984(RA:2017)	1.9	1
3	pH at 25 °C	-	IS 3025 (Part 11)-1983(RA:2017)	7.34	6.5-8.5
4	Total dissolved solids	mg/l	IS 3025 (Part 16)-1984 (RA: 2017)	215	500
5	Total suspended Solids	mg/l	IS: 3025 Part 17-1984 (Reaff: 2017)	5	Not Specified
6	Temprature	°C .	APHA 23rd EDITION 2550 B	24	Not Specified
7	Total Alkalinity as CaCO3	mg/l	IS 3025 (Part 23)- 1986(RA:2019)	73	200
8	Chloride as Cl-	mg/l	IS 3025 (Part 32)-1988 (RA: 2019)	63	250
9	Sulphate as SO4	mg/l	APHA 23rd Edition -4500-SO42- E	8	200
10	Nitrate as NO3	mg/l	APHA 23rd Edition -4500- NO3- B	1	45
11	Fluoride as F	mg/l	APHA 23rd Edition -4500-F B&D	0.1	1
12	Total Hardness as CaCO3	mg/l	IS 3025 (Part 21)-2009(RA:2019)	61	200
13	Calcium Hardness as Ca	mg/l	IS 3025 (Part 40)-1991 (RA:2019)	19	75
14	Magnesium Hardness as Mg	mg/l	APHA 23rd Edition-3500 Mg B	3	30
15	Dissolved Oxygen	mg/l	IS:3025:Part-38:1989 (Reaff:2019)	6.5	Not Specified
16	COD	mg/l	IS:3025:Part-58:2006(Reaff:2017)	13	Not Specified
17	BOD	mg/l	IS:3025:Part-44:1993 (Reaff:2019)	BDL(<2)	Not Specified

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### **TEST REPORT**

ISSUED TO:

M/s Talcher Fertilizers Limited (FCIL, Talcher Unit) Technical Building (JV Site Office) POST-VIKRAMPUR Dist-Angul (Odisha State) PIN-759 106

REPORT NO	:	ABCTL/C/210503/N/7086	
SAMPLE DESCRIPTION	:	SW3 - River PTBS Thermal Area	
DATE OF REPORT	:	10-05-2021	Page 2 of 2

S.No	Parameters	Unit	Procedure	Results	Acceptable Limit as per IS 10500:2012
18	Sodium as Na	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	41	Not Specified
19	Potassium as K	mg/l	IS: 3025 Part 45-1993 (Reaff:2019)	2.9	Not Specified
20	Iron as Fe	mg/l	IS 3025 (Part 53)-1987 (RA:2019)	0.22	1
21	Manganese as Mn	mg/l	APHA 23rd Edition -3111B	BDL(< 0.01)	0.1
22	Total Chromium as Cr	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
23	Lead as Pb	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.03)	0.01
24	Zinc as Zn	mg/l	IS 3025 (Part 65)-2014	0.1	5
25	Cadmium as Cd	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.003)	0.003
26	Copper as Cu	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.05
27	Nickel as Ni	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.02
28	Arsenic as As	mg/l	IS 3025 (Part 65)-2014	BDL(< 0.01)	0.01
29	Oil & Grease	mg/l	IS:3025:Part39:1991(Reaff:2019)	BDL(<1)	Not Specified
30	Coliform	MPN/ 100ml	IS 1622 -1981 RA 2014	430	Absent/100ml

BDL - Below Detection Limit

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









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