

**ANDHRA PRADESH CAPITAL REGION DEVELOPMENT AUTHORITY**

Lenin Center, Governorpet, Vijayawada, Andhra Pradesh - 520002

Phone: 0866 – 2577475 Fax: 0866 – 2577357

Rc. No. 1389/LSE/APCRDA/2015

Date: 06.03.2019

To

Additional Principal Chief Conservator of Forests (C),  
Ministry of Environment, Forest and Climate Change,  
Regional Office (SEZ),  
1st and 2nd Floor, Handloom Export Promotion Council,  
34, Cathedral Garden Road, Nungambakkam,  
Chennai – 34

Sir,

**Sub:** APCRDA – Environmental Clearance – 2<sup>nd</sup> Half Yearly Compliance Report – 2018 for  
EC issued for Greenfield Capital City, Amaravati – Submission – Regarding.

**Ref:** Environmental Clearance Order No. SEIAA/AP/GTN-151/2015 Dt: 09.10.2015.

Adverting to the reference cited above and as per the General Condition No. (vii) of the Environmental Clearance, I am herewith submitting the 2<sup>nd</sup> half yearly compliance report for the year 2018 for Greenfield Capital City, Amaravati.

  
16/2/19  
**Commissioner**  
APCRDA, Vijayawada  
Andhra Pradesh  


1. Copy to the Chairman, State Level Environment Impact Assessment Authority (SEIAA) A-3, Paryavarna Bhavan, Industrial Estate, Sanath Nagar, Moosapet, Hyderabad, 500018.
2. Copy to the Regional Director, Zonal Office, Central Pollution Control Board, A-Block, Nisarga Bhavan, 1<sup>st</sup> and 2<sup>nd</sup> Floors, 7<sup>th</sup> D Cross, Thimmaiah Road, Shivanagar, Bengaluru, Karnataka – 5600879.
3. Copy to the Environmental Engineer, A.P. Pollution Control Board, Regional Office, D.No. 4-5-4/5C, 4/3, Navabharath Nagar, Ring Road, Guntur, Andhra Pradesh – 522006
4. Copy to Joint Chief Environmental Engineer, A.P. Pollution Control Board, Zonal Office, Plot No. 41, Gurunanak Road, Opp. State Bank of Hyderabad, Sri Kanakadurga Officer's Colony, Vijayawada – 520 008





## **2<sup>nd</sup> Half Yearly Compliance Report – 2018**

**Specific Conditions:**

S.No.	EC Condition	Compliance Status
<b>Water Environment</b>		
1	The Krishna river be protected from all types of harmful discharges from all developmental activities before, during and after Capital Region Development.	<p>Measures have been taken such that no harmful discharges enter into River Krishna in designing Water supply, Waste Water, Solid Waste and Storm Water Master Plans as part of the Smart Integrated Infrastructure Master Plan of Amaravati.</p> <p>As per the City Sewerage plan total 13 zones with STPs along with trunk sewers have been planned in capital city, of which tenders have been finalised for 11 zones with total treatment capacity of 350 MLD and for the remaining zones tender process will be initiated.</p> <p>In the Capital city interlinked building projects, it is ensured that STPs and treatment facilities have been incorporated in the designs for sewage treatment within the facility.</p> <p>In the Interim Government Complex STP of 0.5 MLD capacity is under operation and the treated wastewater is being used for the development of Greenery and landscape within the project site.</p> <p>Annexure 1</p> <p>The SRM University has STP within their premises and is under operation. The treated waste water is being used for the Landscape maintenance. In VIT AP there are Septic tanks and STP has been proposed as per the EMP.</p>
2	The proponent shall utilize only surface water from Krishna River and Kondaveetivagu to the tune of 1067 MLD, after obtaining the approvals from the concerned statutory bodies and after proper treatment in the proposed Water Treatment Plants. Proponent shall ensure supply of water round the clock i.e., 24x7, meeting the drinking water quality standards as per IS-10500.	<p>Being complied and Water for all the interlinked projects in the capital city is being drawn from Krishna River through Rayapudi and Thullur lift irrigation schemes. A WTP of 10 MLD capacity near Rayapudi village is under construction for supplying water to the interlinked projects.</p> <p>The tenders for the construction of WTP of 370 MLD and the trunk systems have been finalized. The WTP construction and trunk system works have been initiated.</p> <p>The Universities SRM, VIT are being supplied</p>

		with Krishna water through a temporary water supply line from the Thullur lift irrigation scheme. The universities have water treatment plant within their premises.
3	<p>The proponent shall construct nine internal detention ponds and two reservoirs within the Capital City in addition to two external detention ponds of adequate capacity to overcome the flood menace posed by the Kondaveetivagu and its tributaries. The proponent shall carry detailed hydrological study of the Kondaveetivagu and its tributaries and plan location of detention ponds and reservoirs to achieve twin objectives – combat of inundation and utilization of water. The proponent shall consider factor of increase in intensity of the flow and volume due to pavement of the City and area inundated for 1 hour or more and having water depth of more than 6 inches may be considered as affected by water logging for designing of Storm Water Drainage System. The proponent shall take into account climate change considerations and design storm water drains for 20% more capacity than the calculated discharge. The proponent shall protect and improve the existing natural drains and construct modern storm water drainage system to avoid flooding and water logging problems. The proponent shall ensure that sewage shall not enter into storm water drainage system under any circumstances. Proponent shall construct adequate detention ponds and reservoirs at appropriate locations to collect entire storm water. Proponent shall also take measures to strengthen the Krishna River Bund to minimize flood related issues.</p>	<p>The detailed hydrological study of the Kondaveeti Vagu and its catchment has been done by Tata and Arcadis. The detention ponds, storm water drains and the pumping stations are designed as per the hydrological studies. The hydrological study of the Kondaveetivagu and its tributaries has considered the expected paved areas and its factor contributing to the flooding conditions and accordingly suggested various possible options. Further, the Design of the storm sewers have been done considering the effects of various land cover areas and its respective runoff coefficients considering the 1 in 5 year storm frequency and 1 in 100 extreme storm conditions.</p> <p>Sewage and storm water network are designed in such a way that sewage does not enter storm water drainage system. Subsequent to detailed engineering studies, the storm water network including detention ponds are planned (Apart from the two detention Reservoirs near Krishnayapalem and Neerukonda, many of the existing ponds in the Capital City will be retained and redesigned as detention ponds) to achieve twin objectives combat of inundation and utilization of water.</p> <p>The interlinked projects have been planned and with Storm water drainage network and rain water harvesting structures to avoid flooding and water logging problems and to effectively use storm water for ground water recharge.</p> <p>The tender process for detention ponds at Krishnayapalem in an area 190 acres and sakhamuru in an area 52 acres has been finalized.</p> <p>Bund strengthening/ alignment changes may be required considering that the capital city shall be protected from potential flooding from Krishna River. Proposals in this regard will be taken up after duly conducting studies. The Agency, M/s WAPCOS has completed the Topographical and</p>

		<u>Hydrological survey and awaiting proposals.</u>
4	Detailed studies on the flood management of the Storm water drains, mainly Kondaveeti vagu and its branches and a detailed plan to avoid inundation of the areas be developed taking in to account of the impact of the increased built up area in different development zones of the project.	<p>In building a world-class capital city, GoAP have considered all the measures pertaining to city resilience. ADCL has appointed M/s. ARCADIS, a Dutch consulting firm and M/s. TCE for the preparation of Blue Master Plan. The Blue Master Plan has been prepared in consultation with the Expert Committee constituted by Government of Andhra Pradesh for flood management works in Amaravati. Further, the DPRs have been reviewed by the KWD, the World Bank &amp; CLC Singapore. The CE&amp;CDO of WRD Department, GoAP has vetted all the designs and DPRs.</p> <p>As part of flood mitigation works, Kondaveeti vaagu pump station with a capacity of 4000 cusecs is commissioned.</p> <p>The Tenders of storm network development for the Kondaveetivaagu and Pala vagu as part of flood mitigation works have been finalized.</p>
5	The proponent shall ensure cleaning of storm water drains at least three times in a year. (i) First, the process must start by 31 March each year. (ii) The drains should also be thoroughly cleaned after first heavy shower (iii) subsequently, after retreating of rain i.e., in the post monsoon.	<p>The construction of the storm drains are part of the LPS zones package and the tenders for the 11 zones out of 13 zones are finalized. Following conditions are incorporated in the tender documents</p> <ol style="list-style-type: none"> <li>1. Maintenance of storm water drains for 7 to 10 years after construction.</li> <li>2. Inspection and cleaning of storm water drains during pre, post and during monsoon and made ready for free flow of storm water as per IRC standards.</li> </ol>
6	Proponent shall ensure construction of rain water harvesting structures and also promote rain water storage and use system by considering heavy rains in the area. Proponent shall make these as mandatory by incorporating in the Bye-laws of APCRDA & CA.	<p>The interlinked projects have been planned with the rain water harvesting system and storage tanks.</p> <p>All the interlinked projects have also been planned with RWH and the compliance will be submitted. The construction of RWH structure is made mandatory in building Bye-laws / Zonal Regulations and is being implemented.</p>
7	Water pumping system and sewage conveyance and treatment systems are energy intensive and as such the proponent shall follow Bureau of Energy Efficiency Norms.	<p>Noted.</p> <p>The Conditions of EC are being complied and provisions have been made in the tender documents.</p> <ol style="list-style-type: none"> <li>1. VFDs will be installed in STP's &amp; WTP's to</li> </ol>



		<p>reduce the energy consumption.</p> <p>2. Energy audit is planned for saving energy as a part of operation and maintenance.</p> <p>Appropriate O&amp;M will ensure minimum electrical energy usage in pumping. Accounting monthly energy consumption and annual energy audit are important performance indicators to take necessary remedial action to control consumption within approved guaranteed energy parameters. An MoU was concluded by APCRDA with BEE &amp; APSECM on 26.02.2018 to comprehensively come up with Energy Conservation guidelines, which will be adopted in the Capital City.</p>
8	Proponent shall encourage low flow plumbing efficient fixtures, sensors, auto valves, pressures reducing devices for toilets, faucet aerators and shower heads to conserve the water. Proponent shall incorporate these guidelines in the Bye-laws.	<p>Noted.</p> <p>Water efficient products have been used in the IGC building and it will be ensured that in all interlinked projects of the capital city water efficient products are installed. Incorporation of the said condition in the building bye laws/Zonal Regulations is under progress.</p>
9	The proponent shall ensure 100% collection of sewage by covering entire area of the city with modern underground sewerage network. The proponent shall treat entire (100%) waste water of 877 MLD (year 2050) in the proposed Five Sewage Treatment Plants and one dedicated Industrial Waste Water Treatment Plant to the International Municipal Sewage reuse standards of BOD $\leq$ 10 mg/l, COD $\leq$ 10 mg/l, Total Suspended Solids (TSS) $\leq$ 10 mg/l, Residual Chlorine $\leq$ 1mg/l and Faecal Coli /100 ML – No detectable levels as committed in EIA report. The proponent shall recycle 100% treated sewage for non potable applications like flushing, gardening, road and vehicle cleaning, HVAC, fire protection, construction activities, industrial applications by laying dedicated pipeline for supply of treated grey water as committed in the EIA report. The	<p>Sewage collection system has been planned for the entire Capital City area, with the city divided into thirteen sewerage zones, serviced by 12 sewage treatment plants and 1 combined effluent treatment plant. All generated sewage shall be collected and conveyed to the treatment plants for treatment. The total wastewater generation for the year 2050 is projected to be 742 MLD, and treatment plants of sufficient capacity have been provided to treat this quantity.</p> <p>CPCB Guidelines have been followed for maintaining quality of treated effluent. 29% of treated wastewater is proposed to be used for urban irrigation and supply to district cooling plant, and 71% shall be used for discharging to primary storm water network. The tenders for the construction of the 9 STPs catering the sewage demand from the 11 zones have been finalized. The total capacity of the 9 STPs is 350 MLD will be completed within a period of 3 years in the Phase I.</p> <p>The STPs are part LPS package along with the underground sewer lines, Water supply lines, separate storm water lines, reuse lines</p>

	proponent shall construct treated sewage storage ponds of adequate capacity with HDPE liner to store treated sewage during rainy season as committed. The proponent shall lay dual piping at street level service ducts with 24 x7 water supply provision by ensuring sufficient pressure in the main water supply network and always maintain at least twice the pressure in dual pipe carrying treated waste water to avoid contamination of the fresh water.	<p>(for distribution of the treated waste water to the greenery areas), Roads with foot paths and street lighting, Avenue plantation.</p> <p>Dedicated pipeline shall be provided for distribution of treated effluent network (reuse water).</p> <p>The treated waste water shall be sent to the existing ponds through primary storm water network in the capital city during rainy seasons after conducting necessary capacity assessment studies.</p>
10	<p>The proponent shall construct Sewage Treatment Plant of capacity 216 MLD in the 1<sup>st</sup> phase and reuse 114 MLD for green belt development and Horticulture and 102 MLD for flushing, construction activities, HVAC requirements, road washings, emergency fire fighting, industrial applications etc., as committed.</p> <p>The proponent shall also construct 3500 MLD treated sewage storage pond for storage of treated sewage in the rainy season as committed. The proponent shall undertake construction of Sewage Treatment Plant simultaneously with the construction of the city.</p>	<p>Tenders were invited and awarded for construction of STPs in 11 zones (total 13 zones) and the waste water will be treated as per the standards for various applications and shall be distributed through proposed reuse water network system to the proposed avenue plantations. The Reuse lines and avenue plantation are also part of the Awarded tenders. The balance is proposed to be taken up in subsequent phase on modular basis including the provision for storage of treated sewage during rainy season.</p>
11	<p>The proponent shall provide continuous online water quality monitoring facilities for WTPs, STPs and upstream of drinking water source at Krishna River. Results of monitoring shall be linked to SPCB / CPCB website.</p>	<p>Online Water Quality System shall be installed on upstream of River Krishna. The tender for the installation of the online water quality monitoring system has been finalised.</p> <p>The City level WTPs and STPs shall be monitored using SCADA system and same shall be integrated with SPCB/CPCB.</p> <p>The SCADA systems are part of the Awarded tenders for the STP and WTP. It will be ensured that the monitoring results are linked to SPCB /CPCB website.</p>
12	<p>All roads should have rain water drains connected separately (from the sewage network) to the</p>	<p>Separate system for Storm water and Sewage Water has been proposed. The said Storm water network was already awarded and is in</p>



	treatment facility of the zone.	progress.
13	Appropriate sites be identified and selected for establishing the STPs for different zones, and the proponent shall reserve the area within 200 m from the STPs, as no habitation vegetation zone and may use for establishing waste recycling or processing or handling facilities for the respective zone.	The establishing waste recycling or processing or handling facilities for the respective zone will be as per the Detailed Project Report for Solid Waste Management plan for the Amaravati Capital City submitted by the GIIC and M/s Aarvee Associates. Buffer will be provided on case to case basis.
14	Water quality of all the surface water bodies, including the storm water drains be monitored during pre-monsoon and post-monsoon seasons, for their management purposes and the report is submitted as compliance.	Water quality monitoring for surface water is being carried out on Periodic basis.  Annexure 2
15	The proponent shall prepare water footprint and carry auditing every year.	The metering system for the water supply system will be ensured. Water footprint will be prepared and Water Audit will be carried out as part of the Operation and Maintenance measures proposed for the system.
<b>Air Environment</b>		
1	The proponent shall give priority for walking, cycling and integrated public transport system for laying of the roads and usage of cleaner fuels and plying of fuel efficient vehicles on the road.	<p>All roads in the capital city have designated pedestrian walk ways and cycle tracks, totaling 3444 kms.</p> <ol style="list-style-type: none"> <li>1. The elements of walking, cycling, public transport are well planned and spread over in the city as per notified Master Plan</li> <li>2. Walking, Cycling: Dedicated space is planned on all Trunk and LPS roads.</li> <li>3. Public Transportation: Sub-Arterial roads are provided with dedicated PT corridor and ordinary PT system will ply on Arterial Roads.</li> </ol> <p>In the interlinked project of the Capital city – i.e., Interim Government Complex, battery operated vehicles have been in use for movement within the premises.</p> <p>Collection of waste in the existing settlements by using battery operated vehicles is in operation stage. Total 17 battery operated vehicles are in operation to collect the waste from the existing settlements.</p>

		<p>The APCRDA has ordered 35 electric cars of which 5 have been delivered and are in usage. 7 charging stations are established in IGC and APCRDA premises.</p> <p>In addition, APCRDA is initiating talks with various Manufactures of Battery Operated Vehicles to bring various kinds of fleet in a big way.</p>
2	<p>Proponent shall construct a continuous unobstructed foot path on each side of all streets with ROW wider than 12 mtrs. Minimum width of footpath shall be 2 mtrs. In addition to space for trees/greenery/vending spaces and surface utilities. Width of footpath shall be determined based on pedestrian volume and have to be wider than 2m wherever required. Intermittent buffers, bollards and other physical elements should be used to protect foot paths from encroachment by motor vehicle parking. At least 125 trees per kilometre length of footpath on the streets shall be ensured. Spacing of trees at no place should be greater than 12 m except at intersections. On streets with ROW of 18 m or less, if pedestrian traffic is greater than 8000 per hour in both directions together, the entire ROW should be notified for pedestrianization. Footpath Elevation over the carriage way at all times should be less than 150 mm. All pedestrian facilities should be barrier free for universal access by all persons with reduced mobility including those with hearing and visual impairments. At least 5 safe street-level crossing opportunities per kilometre of street with 250m being maximum spacing between two crossings shall be ensured. Depending on context, these crossings may be signalized and / or traffic calmed (through</p>	<p>Yes, the details of roads as per the planning documents is as follows-</p> <ol style="list-style-type: none"> <li>1. The walking and plantation elements are well planned and spread over in the city as per the notified Master Plan.</li> <li>2. Footpaths: Proposed on all the Trunk and LPS roads of length 3444 Km with width ranging between 2 mt to 3 mt.</li> <li>3. Trees per Km.: Plantation zones with width ranging from 5 mt to 1 mt are proposed all along the Trunk and LPS roads. These Plantation zones along with Multifunctional Zones will house with continuous row of tress, provide shade to the pedestrians and cyclists in the city. Big Trees were placed at 5 mt interval whereas small trees were placed at 2 mt to 3 mt interval in all trunk roads.</li> <li>4. Speeds on roads: The city roads are planned by following the Urban road hierarchy system and designed by adopting the best national, International standards/practices.</li> <li>5. The major road classes of Master Plan are designed with recommended speed limits along with proper safety measures.</li> </ol> <p>The roads along with the footpaths, avenues development are part of the finalized tenders of 11 zonal LPS development packages</p> <p>The total tendered out road length is ~1270 Km with footpath of width 2 m.</p>

	<p>raising crosswalk over street level by 150 mm) to reduce vehicular speed. Limiting speed on urban arterial roads and sub-arterial streets to 50 kmph and on collector and local streets to 30 kmph shall be ensured. Traffic calming of all streets with ROW of 12m or less through narrowing of driveway and meandering path with use of trees, islands and street furniture should be done and speed should be limited to 20 km/hr by design. Highways within urban areas should be avoided since they disrupt pedestrian activity and disconnect neighbourhoods. Vending spaces should be marked in addition and adjacent to the walking path, especially along high pedestrian volume areas to activate the street and make it safe. Space to be planned for utilities including drinking water kiosks and toilets so that the walking space is enhanced but not compromised.</p>	
3	<p>Proponent shall</p> <ul style="list-style-type: none"> <li>- Construct dedicated and physically segregated bicycle tracks with width of 2m or more, one in each direction on all streets with total motor vehicle carriageway larger than 10 m (not ROW) after providing adequately sized footpaths in each direction based on pedestrian traffic</li> <li>- Develop at least 5 safe street crossings per km for bicycles with spacing between two crossings not more than 250m.</li> <li>- Provide secure parking for cycles at transit stations, all public places and commercial and institutional buildings.</li> <li>- Promote and implement public</li> </ul>	<ol style="list-style-type: none"> <li>1. With a vision and objective to encourage Non-Motorized Transport (NMT) in the city, required Infrastructure is planned in the notified Master Plan. A dedicated NMT corridor of 3,444 km length all along the trunk and LPS roads were proposed in the master plan. The Right of Way (RoW) created for NMT will encourage and generate awareness among citizens about the bicycle activity. In context of maintaining the safety of cyclists and create environment friendly transport system these segregated bicycle tracks were planned.</li> <li>2. The proposed Multi-functional Zone width allows a degree of flexibility to fit several different infrastructure such as kiosks, street furniture, Bicycle stations, etc.</li> <li>3. The tender for development of the public bike sharing system has been finalized and proposals are expected soon.</li> <li>4. Based on the IRC and other international</li> </ol>



	sharing schemes.	standards road and street crossing designs such as Table Tops, Pelican signals, zebra crossings, etc. and bollards restricting the vehicles entering into Pedestrian and Cycle tracks were proposed as part of detailed Infrastructure Master Plan and are included in the awarded tenders of the LPS zone development.
4	Proponent shall design streets with emphasis on Pedestrian and cyclist safety, comfort and convenience. Proponent shall establish a dedicated unit for planning and auditing of Non-Motorized Transport (NMT) facility. Area of blocks surrounded by public access pedestrian / cyclist streets or pathways shall not exceed 2 Ha. No development shall be permitted until local street grid is put in the place which subdivides land into blocks of no more than 2 Ha.	<p>The conditions of EC have been complied in planning documents / design of roads. Local grid is being first implemented in the form of LPS layouts, major roads.</p> <p>All Non Motorized transportation provision are addressed and are being complied both in plan and while executing the project.</p>
5	Proponent shall develop high quality and high frequency rapid public transport system with dedicated lines for bus rapid transit system. All public facilities (institutional / educational / cultural etc.) should be accessible by public transport within 400m walking distance.	<p>1. Grid pattern is planned as the road network in the city. The distance between any two major roads (Arterial/Sub-Arterial) in the city is 1km. All the sub-arterial roads were provided with dedicated PT corridor and ordinary PT system will ply on arterial roads. The Arterial and Sub-Arterial roads were planned one adjacent to another. This will create an access to citizen for Public Transportation system within 400mt walking distance.</p> <p>2. Each Community Centre is within 5 minute walking distance for any resident, and public transport node is within 10 minute walking distance.</p>
6	The proponent shall encourage battery operated vehicles by providing separate lane with a provision for recharging.	Options are being explored for the use of battery operated vehicles for provision of separate lane and recharging.
7	On making available of cleaner fuels like LPG/CNG, the proponent shall ensure plying of only CNG/LPG fuelled public transport vehicles like buses, taxis, autos on the road. Proponent shall also ensure that	The use of the cleaner fuels in Amaravati is the subject of the national level and state level policies. Also, in the design of infrastructure much emphasis is being given to the battery / electric vehicles, Unleaded Petrol/Low Sulphur Diesel Oil based vehicles which are non polluting vehicles. Apart from

	vehicle beyond 15 years of age shall not ply in the city. Proponent shall also encourage usage of low sulphur diesel and unleaded petrol by vehicles. Proponent shall ensure plying of latest emission compliant vehicles only on road.	the above cleaner fuels like LPG/CNG will also be made available & plying of CNG/LPG fuelled public transport vehicles like buses, taxis, autos on the road will be encouraged.
8	The proponent shall encourage environmental friendly modes of transport like public transport and non motorized transport and discourage usage of personal cars by devising disincentives for private car use, in the form of both spatial (like parking control) and physical (like levies on car, fuels, congesting charges).	<p>The design of the city encourages the public transport system for which about 150 km of dedicated corridor for public transportation network is identified.</p> <p>Model split in favour of public transportation is 80:20 by 2050. where the portion of public transport trips also include walk and cycle trips.</p> <p>Designated commercial areas are connected with public transportation in the master plan.</p> <p>Policy shall be prepared for discouraging the use of personal vehicles and promotion of public transport.</p>
9	The proponent shall provide adequate parking facilities by giving priority to public vehicles and non motorized transport vehicles.	<p>1. Dedicated Parking and Ride locations with an extent of 23 Acres of land were identified near prime activity areas in city as per the Infrastructure Master Plan.</p> <p>2. In addition, all the commercial parcels with C2 land use are provided with exclusive parking area under LPS plan preparation at individual village level.</p>
10	The proponent shall ensure that all utility lines (electricity, telephone, cable, water supply, sewerage, drainage etc.) shall be laid below the ground. Duct shall be provided along and across the roads to lay the utility lines. Major trunk (water/sewerage) lines are to be laid along the utility corridor.	With an objective to make Amaravati as a dig free city, the Infrastructure Master plan has recommended to develop Utility Corridor all along Trunk and LPS roads placed on either sides of the carriageway. Utility duct works are tendered for select roads under execution.
11	The proponent shall ensure that DG sets shall comply with noise and emission norms prescribed by MoEF & CC in Environment (Protection) Rules.	<p>Noted</p> <p>In the Interim Government Complex of Amaravati capital city, the ARAI approved DG sets only are installed and it will be complied in all interlinked projects.</p>
12	The proponent shall ensure development and meeting of not less than 10% of energy needs from the renewable energy	Policies and guidelines are being worked out to achieve the 10% of the energy needs from Renewable energy Use.



	sources like Solar, Wind, WTE, Bio mass etc. To meet the demands of the Capital City, at least 120 MW of solar power with investment to the tune of RS.500 Crores and wind power with investment of Rs.100 Crores in the 1 <sup>st</sup> phase shall be taken up as committed.	
13	The proponent shall ensure installation of solar panels by all buildings by allocating at least 1/3 of roof top for this purpose. This is in addition to installation of solar heaters. The proponent shall incorporate these guidelines in Bye-laws.	<p>Noted. Incorporation of guidelines regarding installation of solar panels for buildings in Bye-laws/Zonal Regulations is under process.</p> <p>All the proposed interlinked projects are planned with the Roof top solar plants. It will be ensured that the plants are installed and the compliance will be submitted.</p> <p>In the Interim Government Complex two solar trees of total capacity 20.8 KW are installed.</p>
14	The proponent shall incorporate energy efficiency guidelines (Energy Conservation Building Code) and Green Building Concepts (GRIHA/IGBC/LEED) in the Bye-laws. Buildings shall utilize natural lighting and ventilation to the maximum extent. All point light sources shall be CFL or LEDs or equivalent. All linear light sources shall be T-5 or at least 4* BEE rated TFLs or equivalent. The distributed cooling system shall be at least BEE 3* rated products. All the major buildings having connected load of more than 100 KW shall maintain power factor of above 0.95. All multi story residential apartment / complexes shall meet at least 15% of total external lighting load through renewable energy sources and all commercial, institutional, industrial and mixed use buildings shall meet at least 5% of the total lighting loads through the renewable energy sources. All residential buildings	<p>Noted.</p> <p>Efforts are being made to incorporate the guidelines of GRIHA, IGBC, LEED in to the bye-laws / Zonal Regulations. M/s TERI, CII and ASCI are actively working with APCRDA in drafting guidelines and handholding both government and public in implementation of energy efficiency guidelines.</p> <p>All the interlinked building projects in Amaravati Government Complex have considered the green building and ECBC guidelines. Energy efficiency and green building concepts will be adopted for other interlinked projects and their incorporation in Bye-laws / Zonal Regulations is under process.</p>



	<p>having plot area of more than 500 Sq.mtrs, multi story residential apartments / complexes, hotels and banquet halls, hospitals, all government buildings, residential schools, educational institutes, hostels and industries requiring hot water shall install solar water heating systems to meet at least 20% of hot water requirement. 24 hours use buildings like hospitals, hotels, call centers, shall ensure that thermal performance of external walls and roof shall conform to ECBC 2007 requirements i.e., maximum U-factor (<math>W/m^2K</math>) of 0.44 and 0.261 respectively and for day time use buildings U-factor of 0.44 and 0.409 respectively. U-factor for windows shall not be more than 3.30. All major buildings land complexes shall meet Energy Performance Index of less than 150kWh/Sq.m per year. All commercial buildings with connected load of 100kW and above shall invariably comply with energy conservation building code. All the Capital complexes, Commercial, institutional and major residential complexes should be constructed following Green Building concepts and ensure – energy efficiency, low carbon foot-print, resources conservation etc. The proponent shall ensure that all the bulk consumers of the energy, shall meet a greater part of their demand through renewable energies and avoid use of fossil fuels; The proponent shall incorporate these in Bye-laws.</p>	
15	<p>The proponent shall establish minimum 3 online continuous Ambient Air Quality Stations in there zones i.e., residential, commercial and business zones and connect the results to CPCB</p>	<p>One station is installed by APPCB at Interim Govt., Complex, Velagapudi, and connected to APPCB/CPCB. Other stations will be taken up simultaneous with developments.</p> <p>The process of the establishment of a CAAQ</p>

	/ SPCB website in the 1 <sup>st</sup> phase. Permanent Online Air Monitoring Stations for Air Quality be established, one for every 25 km <sup>2</sup> of area, located strategically considering the wind rose of the area and terrain conditions.	station has been initiated.
16	The project proponent should develop mechanism for monitoring Carbon sequestration from the plantations made and should achieve a Mean Annual Increment of the Carbon stock of at least 5 tons/Ha/annum. The proponent should monitor the carbon stock of each area, at least once in two years and submit reports.	Will be complied. M/s TERI has been entrusted with the task of conducting this study. The TERI has submitted the interim progress report.
17	The proponent shall prepare carbon footprint for the city and strive for carbon neutrality.	Will be complied. M/s TERI has been entrusted with the task of conducting this study. The TERI has submitted the interim progress report. The details will be submitted as part of the compliance.
<b>Solid Waste Management</b>		
1	The proponent shall ensure that occupiers of all premises to keep two receptacles, one for the storage of food / organic / biodegradable waste and another for non biodegradable / recyclable and other types of solid waste generated. Hazardous waste generated by households shall be kept separately in suitable container as and when such a waste is generated.	<p>Will be complied.</p> <p>The Households in the Existing settlements have been distributed with two bins for the wet and dry waste. 80% of the households are supplied with 2 dustbins by district panchayat wing for this purpose and leftover households will be supplied by APCRDA through Sanitation agency within a week.</p> <p>Awareness campaigns are in progress regarding storage of the wet and dry waste separately.</p>
2	The project proponent shall ensure that all the newly developed areas shall not have any open waste disposal sites on the road sides and develop efficient waste collection mechanism that ensures segregation at the origin level only.	<p>Suitable no. of the collection vehicles and manpower have been employed for the Door to Door waste collection.</p> <p>Street levels bins, Garbage covers are part of the proposal and tender process has been initiated.</p>
3	Proponent shall arrange for door to door collection and / or community bin collection of domestic waste; trade and institutional waste stored by the waste generators in segregated	<p>Noted.</p> <p>Door to door collection of domestic, institutional and commercial waste is happening in the City.</p>

	manner.	
4	Proponent shall identify and allocate suitable pieces of land in the jurisdiction of the city to facilitate sorting of various components of recyclable material collected by waste collectors and prevent such activities being carried out on the foot paths/road side etc.	Will be complied.  Provided in the waste management plan. The sites are allocated in the Master plan.
5	The proponent shall identify and allocate adequate land for Multiple Transfer Stations with mechanical Material Recovery Facility for secondary segregation and storage of dry waste as committed. Transfer Stations shall be properly covered and hygienically maintained to minimize Environmental and Health Hazards.	Will be complied.  In the city solid waste management plan transfer stations are provided with necessary material recover facility and secondary segregation. The sites are allocated in the Master plan.
6	The proponent shall ensure daily sweeping of all public streets and periodical cleaning of all public places.	Is being complied.
7	The proponent shall make arrangements for separate collection of construction and demolition waste and shall be transferred to Construction and Demolition Waste Recycling Facility. Proponent shall allocate adequate and suitable land for establishment of Construction and Demolition Waste Recycling Facilities.	Will be complied.  It will be ensured that the C&D waste is used in low lying areas of the city and construction of roads. The C & D facility will be provided in the designated site allocated for ISWMF. Until then the left over C & D waste will be sent to the nearby C & D facility in Vijayawada as per the viability (decided based on the quantum of the waste).
8	The proponent shall ensure that a separate adequate space for segregation /storage and decentralized processing of solid waste is demarcated in the plan for group housing or commercial/ institutional or any non residential complex exceeding 200 dwellings or having a plot area of more than 10000 Sq.mtrs.	It is proposed in the interlinked building projects and it will be ensured that it is implemented. These provisions will be incorporated in buildings Bye-Laws/ Zoning Regulations.  Proposals for the conversion of the City biodegradable waste to Composting is being worked out.
9	The proponent shall ensure collection of waste from vegetable, fruit, meat and fish markets on daily basis and promote setting up of decentralized compost plant or bio	The establishment of the decentralized compost plant will be dealt case by case basis and further, it is submitted that Space will be provided for de-centralized compost plants / bio methanisation plants for waste generated from vegetable, fruit, meat and



	methanisation plant at suitable location in the market.	fish markets on case to case basis.
10	The proponent shall ensure establishment of modern abattoirs (slaughter houses) with appropriate waste management facilities. The proponent shall also take measures for establishment of Rendering Plant for disposal of carcass or parts of any dead animal in scientific manner.	Suitable land will be identified in the master plan for Modern abattoir.
11	The proponent shall allocate suitable and adequate site for setting up of Common Bio Medical Waste Treatment and Disposal Facility within the city limits.	Common Bio Medical Waste Treatment and Disposal Facility will be developed within the designated space allotted for the ISWMF.
12	Proponent shall make arrangement for setting up of Waste Collection Centres for plastic waste in association with plastic manufacturers. The Proponent shall also ensure safe collection, storage, segregation and transportation, processing and disposal of plastic waste in environmentally sound manner. The proponent shall allocate suitable and adequate site for setting up of plastic recycling, processing and disposal facilities.	Will be complied.  Plastic wastes are taken to the Transfer Station, processed through the Material Recovery Facility, and forwarded to the Recyclable Waste Collection Centre (RWCC) and then to respective recycling facilities. The sites for the Transfer stations and the Material Recovery facilities have been allotted in the Master plan.
13	The proponent shall facilitate setting up of E-waste Collection Centres by the producers and channelize e-waste to recyclers or dismantlers. The proponent shall allocate suitable and adequate site for setting up of e-waste recycling / dismantling facilities.	Will be complied.  The sites for the Material Recovery facilities have been allotted in the Master plan. E-wastes are segregated at the Material Recovery Facility and forwarded to the Recyclable Waste Collection Centre, which shall have a special Electronic Waste Collection Centre. The waste generator can also himself deposit his waste at the center. From the collection center, the waste shall then be transferred to respective recycling facilities.
14	The proponent shall identify and allocate suitable site for establishment of common Hazardous Waste Treatment and Disposal Facility.	It will be complied. The Hazardous waste Treatment and Disposal facility will be developed within in the designated ISWMF.
15	The proponent shall facilitate establishment of used battery Collection Centers by	It will be complied.  Used batteries are classified as hazardous

	manufactures / importers / assemblers / reconditioners and channelize the used batteries to registered recyclers. Proponent shall allocate suitable site for setting up of used battery recycling facilities.	waste, and shall be handled as per rules and sent to Integrated Solid Waste Management Facility (ISWMF).
16	Proponent shall ensure proper collection and scientific disposal of sludge from the water treatment plants, sewage treatment plants, water seal latrines and septic tanks.	Sludge generated from WTP/STP/ETP/Septic Tanks is proposed to be dispose in the Sanitary Landfill. SIIMP Master Plan has proposed to adopt certain regulations as part of the bye-laws to the APCRDA.
17	Proponent shall take measures for proper collection and scientific disposal of bulky waste like discarded tables, chairs, cots, cup-boards, mattresses, Electric cookers, microwave ovens, washing machines etc.	It will be complied.  Transfer Station is suitably designed with special arrangements to handle bulky objects.
18	Proponent shall take measures for establishment of state of the art modern Integrated Solid Waste Management Facility for the city as committed consisting of Sorting / Material Recovery Plant, Compost Plant / Anaerobic Digesters, Waste to Energy Plant, Construction and Demolition Waste Recycling Plant, Bio medical Waste Facility, Plastic Waste Processing and Recycling Facility and Engineered Landfill Facility. Proponent shall allocate suitable and adequate space for ISWMF in the city limits and ensure establishment of ISWMF simultaneously with the construction of the city in the first phase itself.	It will be complied.  Integrated Solid Waste Management facility has been proposed in Amaravati. The entire solid waste management infrastructure is proposed to be developed in Phase-1 of the development of the Capital City.
19	The proponent shall maintain adequate green buffer around Integrated Solid Waste Management Facility and Common Hazardous Waste Treatment and Disposal facility By carrying proper assessment, but not less than 100 mtrs width.	It will be complied.  List of plant species for buffer area is provided.
20	The proponent shall ensure usage of fly ash for levelling / reclamation of low lying areas,	This will be incorporated in Zonal Regulations/Bye laws and usage of fly ash and its products in the constructions

	road embankments, for raising platforms in inundated areas, and usage of fly ash based products for construction purpose including fly ash bricks, PPC cement, Concrete etc., in compliance with Fly Ash Notification issued by the MoEF under Environment (Protection) Act. The proponent shall incorporate usage of fly ash by construction agencies in the Bye-laws.	activities of interlinked projects is under practice.  In the interlinked building projects which are under construction, the fly ash is being utilised and details of fly ash utilization has been submitted for each interlinked project as part of the compliance.
<b>Ecology</b>		
1	A list of all existing water bodies (including ponds, tanks, drains, irrigating channels) falling in the proposed area, shall be prepared village wise with survey no., extent, use and other details duly certified by a competent authority and a certified map of these water bodies as on project commencement date should be kept as base map with the APCRDA & CA, and should be displayed on its web site;	Noted.  All the existing water bodies, which were mentioned in the EIA report are being protected and maintained.
2	All construction activities by the proponent should ensure that the activities do not alter or do not adversely affect the water bodies and their ecology;	Will be complied.
3	Improvement or rehabilitation of existing natural streams, channels / nallas shall be carried out without disturbing the ecological habitat.	Noted.
4	No untreated or treated wastewater shall be discharged in any of the water bodies including Krishna River under any circumstances.	It is complied.  It is detailed in Water – condition no. 1. As per CPCB norms all waste water will be treated to the Recycling & Reuse standards as per Environmental (Protection) Rules, 1986.
5	The proponent shall create primary green spaces of 7200 Ha. Consisting of city parks, lake parks, town parks, neighbourhood parks as committed. The proponent shall create primary green space of 3924.57 Ha in the 1 <sup>st</sup> phase as committed.	30.92% of total city areas are planned for open green spaces and recreational spaces.  The tanks in the capital city are developed with greenery and are developed as public spaces. The developed greenery along tanks are appreciated and regularly used by the local people. The greenery development at Thullur tank, Venkatapalem tank is



		<p>completed and development for other tank in thullur village is under progress.</p> <p>Development for other village tanks is under planning stage.</p> <p>The ADC has started development of park at Sakhamuru village.</p> <p>The ADC has proposed to develop the greenery all along the natural drains of Kondaveeti vaagu and Pala Vaagu.</p> <p>The Avenue plantation by ADC along the Seed Access Road and other arterial roads is under progress.</p>
6	<p>The proponent shall create and maintain secondary green space of 1910 Ha. Weave through the townships connecting the various town and neighbourhood parks acting as a passive recreation places, interactive jogging tracks and Non Motorized Transport corridors across the city. The proponent shall create secondary green space of 510.04 Ha in the 1<sup>st</sup> phase as committed.</p>	<p>Secondary green spaces are provided in the LPS layouts and will be developed as part of LPS development works.</p> <p>The greenery development in the LPS layouts is tendered out.</p> <p>The Avenues have been planted along few proposed arterial roads and village roads and plantation along other roads is under progress.</p> <p>Annexure 3</p>
7	<p>The proponent shall protect and conserve the existing water bodies of 4815 Ha. In addition to creating new water bodies integrated with green spaces as committed.</p>	<p>Will be complied.</p> <p>Existing Water bodies have been protected and large water bodies in Krishnayapalem, Neerukonda and Sakhamuru are being developed to store up to 0.5 TMC total.</p>
8	<p>A buffer of 30m on either side of canals and streams; 50m around water bodies and 100m along the Krishna River Front shall be reserved as greenbelt without allowing any development. Plantation along the side of the roads and in the open spaces shall be developed to act as sinks of air pollutants.</p>	<p>It will be complied.</p> <p>It is proposed to develop the greenery all along the natural drains of Kondaveeti vaagu and Pala Vaagu.</p> <p>Annexure 4</p>
9	<p>The proponent shall encourage urban agriculture to meet the city food requirements and reserve high value agriculture land wherever possible for this purpose as committed.</p>	<p>As per City Zoning Regulations, urban agriculture is not allowed. However, necessary steps will be taken to increase productivity of farm lands within the Capital Region Area to compensate the loss within the city area.</p>
10	<p>The proponent shall utilize natural features such as forest and hills to create regional green</p>	<p>Noted</p>

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	network as committed.	
11	The proponent shall utilize reserve forest land of 251.814 hectares, after obtaining approval for diversion from competent authorities for development of green belt/eco friendly activities only.	Provision made in Amaravati Zoning Regulations and Master Plan. Master Plan proposes 13.62% of total City area as ‘Protected Area’ that comprise of ‘Reserve forest land’. This Reserve Forest land will be utilized only after obtaining diversion approval.
12	The proponent shall utilize treated sewage water for irrigation of primary and secondary green areas by laying pipeline network.	Dedicated pipeline shall be provided for distribution of treated effluent network for irrigation purposes. The said work is already tendered out in 11 zones.
13	All archaeological, cultural and ecologically-sensitive areas (i.e. estuaries, mangroves, rocky shores, caves etc.) in and around the Amaravati capital city be adequately protected and conserved. The proponent shall take appropriate measures for protection of Undavalli caves. The proponent has to declare no development activity Zone of 100 to 300 mtrs around Undavalli caves as per ASI regulations.	Complied as per master plan.
14	A comprehensive PRIMARY BASELINE DATA on the productivity of the Krishna River in the CRDA Area (primary, secondary and tertiary productions), before and after Capital region development shall essentially be collected and processed in systematic and scientific way.	It will be complied.  The Andhra University has been requested to take up said studies.  Annexure 5
15	Development of the green belts, green corridors, avenue plantations etc., be made only with the native species with multiple uses, and the plantation should not affect the native species diversity and shall help enhance carbon stocks.	It is proposed to take up greenery based on the agro climatic zone of Guntur and Krishna district with native species of this district along with native species of AP and India only will be planted.
16	The proponent shall reserve most of the waterfront along the Krishna River for public use as committed.	River front along Krishna is planned as vibrant city edge for public use in Master Plan.  The sports and recreational spaces like marina, fitness center are proposed as part of the Riverfront public spaces.
17	The proponent shall create 780	City Master Plan provides for 9.83% as

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	Ha recreational landscapes including Theme Parks, Golf Courts, Sports and Recreational Spaces.	'Passive Recreational Zones' and 7.01% as 'Active Recreational Zones'.  The sports and recreational spaces like marina, fitness center are proposed as part of the Riverfront public spaces.
18	The proponent shall create green and blue network interconnecting all reservoirs, water bodies and green spines as committed.	Will be complied.  Details are provided in Amaravati Capital City Master Plan.
19	The proponent shall create network of water ways as committed to connect various eco tourism attractions on the cluster of islands in the river Krishna. These water ways have to be inter connected with Islands and mainland within the city.	Navigation by water is integrated as part of the Blue Master Plan.
20	A major part of the development of the water bodies and green areas be completed before the end of the construction phase;	Noted
21	All construction activities by the proponent should ensure that the activities do not adversely affect the water bodies and their ecology.	Noted and will be complied.
22	No natural water body shall be lined or no embankment shall be cemented except for protection and safety of the people in the surrounding area. The water bodies shall be kept in natural conditions without disturbing the ecological habitat.	Noted and will be complied.
23	Improvement or rehabilitation of existing natural streams, channels / nallas shall be carried out without disturbing the ecological habitat.	Improvement of existing natural streams will be taken up from flood mitigation perspective and as per the recommendations of Hydrological studies without disturbing the ecological habitat.
24	Mitigation measures like providing adequate drainage, embankment consolidation and slope stabilization shall be taken on the built up areas and along the city roads to avoid soil erosion. Top soils (30 cm) of the borrow pit sites shall be conserved and restored after completion of excavation. All the topsoil excavated during	Noted  The contractors are stacking and preserving top soil near borrow area and will be utilized for landscape works.

	construction activities shall be stored for use in horticulture / landscape development within the project site. Proper erosion control and sediment control measures shall be adopted.	
25	Recognizing the fact that the Capital City project is being proposed on the Green & Blue Concepts, as such to protect the environment, the 24.29% of the land allocation for greening and open spaces, be achieved at the Development stage, zone wise as far as possible.	It is being complied.
26	Deep rooted large foliage plantation along the side of the roads and in the open spaces shall be developed to act as sinks of air pollutants.	It is proposed to develop plantation on road sides and open spaces with the deep rooted, large foliage sapling of trees.
<b>Resettlement and Rehabilitation</b>		
1	The APCRDA & CA shall submit the specific plans for the inclusion of the existing habitations in the capital area development and submit the details of the Project Affected Families and the RR Plans to address the PAFs. As far as possible, Least Dislocation Principle be adopted;	<p>Being adopted.</p> <p>The social development and infrastructure development in the existing habitations is among the first priorities of capital city development.</p> <p>Resettlement policy Framework and Environmental and Social Management Framework addresses the resettlement and rehabilitation of the project affected families and is approved by Govt. Of AP vide G.O.MS.No.320 dt 19.09.2018. The resettlement framework policy will be implemented accordingly.</p> <p>Annexure 6</p>
2	The proponent shall develop a peripheral area development plan and provide plans for the compensation of the loss of rural productivity like loss of grazing areas for the livestock dependent communities, vegetable growing farmers and sellers etc.	<p>Implemented through Amaravati Skill Development Centre.</p> <p>Annexure 7</p>
<b>Disaster Management</b>		
1	The proponent shall prepare and implement proper flood management plan to overcome threats posed by the Kondaveeti Vagu and its tributaries, Krishna River, heavy rains (more than	In efforts to build a world-class capital city, GoAP have considered all the measures pertaining to city resilience. ADCL has appointed M/s. ARCADIS a Dutch consulting firm and M/s. TCE for the preparation of Blue Master Plan. The Blue Master Plan has

	1000 mm) and cyclones.	been prepared in consultation with the Expert Committee constituted by Government of Andhra Pradesh for flood management works in Amaravati. Further, the DPRs have been reviewed by the KWD, the World Bank & CLC Singapore. The CE&CDO of WRD Department, GoAP has vetted all the designs and DPRs.
2	The proponent shall prepare earth quake response management plan by considering the location of the city in the class III seismic zone. The proponent shall incorporate structural design requirements of buildings for Seismic Zone – III in the Bye-Laws.	Will be incorporated in bye laws. It is requested with NDMA & SDMA to carry out the earthquake response management plan for the capital city.  Annexure 8
3	The proponent shall create adequate infrastructure for emergency fire fighting.	At the city level, it is being taken up by Andhra Pradesh Disaster Management & fire services Department. It is requested with NDMA & SDMA to prepare emergency fire fighting plan for the capital city.  Annexure 8
4	The proponent shall prepare emergency Health Management Plan.	1. At present, contractors have prepared Health Safety Management plan as per EHS policy for ongoing construction projects and implemented accordingly on site. 2. It is requested with NDMA & SDMA to prepare emergency Health Management plan for the capital city.  Annexure 8
<b>Environment Management during Construction Phase</b>		
1	The proponent shall ensure safe and secure accommodation, clean drinking water, hygienic sanitation facilities like mobile toilets, community level gas supply, rest areas for female workers, nutrition development programme for workers at all construction sites for the projected work force of 5,000–10,000 spread in about 40 labour camps as committed in EIA report.	1. Contractors have been mandated to have onsite facilities/amenities as part of their contract. Monitoring of the same is undertaking by ADCL / APCRDA on regular basis. 2. The contractors have constructed labour camps for labours with adequate welfare and sanitary facilities and other basic amenities for safe working conditions on site, safe and secure accommodation required for the social development of the workers and such facilities are within the reach of the workers camp. It is assessed by the authority and evaluated by a third party.  It is ensured that the same conditions with regard to the provision of basic facilities to the labour at the construction sites are incorporated in the tender documents.
2	The proponent shall ensure	All the measures pertaining to the labour



	<p>following mitigation measures as committed, to minimize pollution problems during construction stage.</p> <ul style="list-style-type: none"> <li>• All the loose material either stacked or transported shall be provided with suitable covering such as tarpaulins etc.</li> <li>• Water sprinkling shall be done at the location where dust generation is anticipated.</li> <li>• Construction equipment be maintained and serviced regularly such that the gaseous emissions from these equipment are maintained within the design specifications.</li> <li>• Provision for insulating caps and aids at the exit of noise source on the machinery.</li> <li>• The use of dampening materials such as thin rubber/lead sheet for wrapping the work places like compressors, generator, etc.</li> <li>• Inlet and outlet mufflers shall be provided.</li> <li>• Earmuffs shall be provided to workers and enforced to be used by the workers.</li> <li>• Noise prone activities shall be restricted to the extent possible during the night time, in order to have minimum environmental impact on the workers as well as on the neighbourhood.</li> </ul>	<p>camps are complied for all the capital city development works and the details for each project are already submitted as part of the Compliance.</p> <p>Regular water sprinkling is being done to suppress dust generation during construction.</p> <p>Regular servicing of equipment and vehicles used in construction activity is being done to maintain the gaseous emission from these equipment.</p> <p>PPEs have been provided to all workers and precautionary measures have been taken for safety of workers on site.</p>
3	<p>Groundwater should not be used for any activities during the construction phase also and a policy for the use of water by different users in the project area</p>	<p>For all the construction activities, only surface water from the designated places is being used.</p>



	be developed for their sustainable use and submitted.	
<b>Environment Management Monitoring System</b>		
1	The responsibility of implementation of environmental safeguards rests fully on the project proponent. Project proponent shall establish an Environmental Management Regulatory Authority to carryout functions relating to environmental management under the supervision of a senior executive, directly reporting to the Project Proponent. It should have separate wings for (a) Greenery and Ecological Management; (b) Sewage Management; (c) Solid Waste Management; (d) Fly Ash Utilisation and (e) Pollution Control, staffed by Scientists / Engineers and supported by established laboratories and adequate supporting staff.	As per the condition in EC, Environment Management Regulatory Authority has been constituted under the chairmanship of Additional commissioner, APCRDA to carry out functions relating to environmental management. The EMRA is meeting regularly.
<b>General Conditions</b>		
1	Any change(s) in the scope of the project, shall require a fresh appraisal by the SEIAA. As the details of the Inter Linked Projects for the Government Complexes, Housing Complexes, Cultural Centres, Industrial/IT Parks, Commercial Complexes, Education Institutions etc. have not been submitted with-respect to built-up area, excavation, water consumption, sewage generation, solid wastes generation, power requirement, pollution control arrangements, environmental safeguards, construction material etc. for construction and operation phases, the respective project proponents shall obtain separate Environmental Clearances for all the projects which falls under the schedule of Environment Impact Assessment Notification, 2006 from State Level Environmental Impact Assessment Authority, as per	<p>It is being complied</p> <p>1. Infrastructure Sector Office Complex vide Order No: SEIAA//AP/GNT/CON/05/2018/591 - 751 dt: 14.08.2018</p> <p>2. Industry Sector Office complex vide Order No: SEIAA//AP/GNT/CON/05/2018/592 - 752 dt: 14.08.2018</p> <p>3. Service Sector Office Complex vide Order No: SEIAA//AP/GNT/CON/05/2018/593 - 750 dt:14.08.2018</p> <p>4. Hon'ble CM's Office Complex vide Order No. SEIAA/AP/GNT/CON/05/2018/590-1393, dt: 27.11.2018</p> <p>5. Amaravati Happy Nest Project vide Order No. SEIAA/AP/GNT/CON/10/2018/70-1392, dt: 27.11.2018</p> <p>Annexure 9</p>

	provisions of Environment Impact Assessment Notification 2006.	
2	The proponent shall incorporate penal provision in the byelaws/regulations for any violation of environmental issues. The proponent shall also create proper intuitional mechanism to ensure continual environmental awareness among all stakeholders.	Under progress.
3	The proponent shall obtain consent from Andhra Pradesh Pollution Control Board.	It is complied
4	The proponent shall strictly comply with Municipal solid waste (Management & Handling) Rules, the plastic manufacturer, sales & usage Rules, the Hazardous Waste (Management, Handling & Transboundary movement) Rules, Bio Medical Waste (Management and Handling) Rules, E-waste (Management & handling) Rules, the noise pollution (Regulation and Control) Rules, the Manufacture, Storage and Import of Hazardous Chemical Rules, Fly ash notification and standards notified by MoEF under Environment (Protection) Act, wherever applicable..	It will be Complied and the flyash is being utilized in the construction of the various interlinked projects and the details are already submitted as part of the compliance.
5	The project proponent shall inform the public that the project has been accorded Environmental Clearance by SEIAA, AP and copies of clearance letters are available with the APPCB and may also be seen at website of SEIAA, AP at <a href="http://www.seiaa.ap.nic.in">www.seiaa.ap.nic.in</a> and at website of Ministry of Environment and Forest at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This shall be advertised within 7 days from the date of issue of clearance letter, at least in 2 local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned and a copy of	It is complied

	the same forwarded to SEIAA AP and Regional Office, MoEF & CC, Chennai.	
6	The proponent shall obtain all other mandatory clearances from respective departments.	Being complied
7	The project proponent shall submit / upload half yearly 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 MoEF & CC, its Regional Office, Chennai, SEIAA, AP, Zonal Office of Central Pollution Control Board, Bangalore and A.P. Pollution Control Board. The Regional Office of MoEF / APPCB / CPCB / SEIAA, AP shall monitor the stipulated conditions. The proponent shall upload the status of compliance of the environmental clearance, conditions including results of monitored data on their websites and shall update the same periodically.	Submitting and uploading half yearly reports on the status of compliance of the stipulated environmental clearance conditions.  From 2016 onwards till date 5 compliance reports were submitted and uploaded the same in APCRDA website.  Annexure 10
8	The environmental statement for each financial year ending 31st march in Form-V as mandated is to be submitted by the project proponent to the A.P. Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the Proponent along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional office of the MoEF & CC, Chennai by e-mail.	Noted and it will be complied
9	Concealing the factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act,	Noted



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	1986.	
10	The SEIAA may revoke or suspend the order, if implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	Noted
11	Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted
12	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Noted
<b>Additional Conditions as per Amended EC SEIAA/AP/GTN-151/2015-515, 11.06.2018.</b>		
1	The project proponent shall conduct or cause to be conducted a comprehensive study on Hydro Geomorphology of the area with a view to effectively plan water retention ponds/reservoirs, storm water drains and their interconnectivity, so as to optimize water conservation, both surface & sub-surface.	<p>Hydrological studies were carried out so far by Arcadis (IIC technologies), M/s Aarvee &amp; TCE. British Geological Survey is doing work on Aquifers &amp; soil profiling.</p> <p>APCRDA has entered in to an MOU with Cooperative Research Centre for Water Sensitive Cities to design the entire city i.e. Water Sensitive. The NGRI has been requested to take up the hydrogeomorphological studies and the NGRI has submitted its proposal. The APCRDA during its 1<sup>st</sup> meeting with NGRI has decided to take up the Air borne studies for the entire catchment area of the Kondaveeti vaagu and requested to the NGRI to submit the proposal for the revised scope.</p>
2	Any alteration of the flood plains by construction of storm water drains, retention ponds and related development within the Capital City should be done only after conducting a study.	<p>No alternations have been proposed to the flood plains.</p> <p>Blue Master Plan envisages for protection of the city from floods and strengthening the Vagus/Canals.</p>

3	No alteration of the river or natural storm water morphology, flow pattern and location by way of straightening shall be permitted, as such alteration may increase soil erosion, sediment transport due to raised velocity and decrease in ground water recharge which may reduce base flow during the dry season.	No alternations have been proposed either to the river Krishna or its natural storm water morphology, flow pattern and location.
4	No alteration to the pre-existing embankments if any should be permitted except as may be required for its strengthening for flood protection of the proposed Capital City. Even such exercise should be undertaken after detailed study of the flood pattern & hydraulics of the River or the Storm Water Drains.	The M/s WAPCOS firm was entrusted for study of River Topographical and Hydrology survey. Draft Survey Report has been submitted and awaiting proposals.  The report will be submitted as part of compliance.
5	All bulk generators of Municipal Solid Waste in the proposed Constructions both residential & non-residential, must necessarily segregate waste at the source and process entire biodegradable waste by Composting or Bio-methanation with in the premises.	Source segregation is proposed as part of the master plan and it would be mandatory to adopt across the generators including residential, commercial, industrial, institutional and etc. Source segregation has been planned considering 3-bin strategy (green-wet waste, blue-dry waste and black-domestic hazardous waste) for residential waste and in 2 bins for non-residential areas (green-wet waste, blue-dry waste). For bulk generators, all segregated biodegradable waste is proposed to be treated in decentralized composting plants such as "organic waste converters" with capacities depending on the quantity of waste generated within their premises. Accordingly the conditions have been incorporated in the ZR.

Authorized Signature

*[Handwritten Signature]*  
16/2/19

## Annexure 1

### Capacities of the STP's in the Capital City Interlinked Projects

S.No	Name of the Interlinked Project	STP Capacity
1	Interim Government Complex Buildings	500 KLD
2	Group D Staff Housing Project	400 KLD
3	Legislative Assembly Building Project	300 KLD
4	MLA & MLC Housing Project	240 KLD
5	Gazetted Officers Type – I & II Housing project	500 KLD
6	Secretariat Staff Housing Project	450 KLD
7	AIS Officers Housing Project	120 KLD
8	High Court Building Project	300 KLD
9	HOD Staff Housing Project	520 KLD
10	Infrastructure Sector Office Complex	170 KLD
11	Industry Sector Office Complex	170 KLD
12	Service Sector Office Complex	170 KLD
13	Hon'ble CMs Office Complex	360 KLD
14	Amaravati Happy Nest Project	520 KLD



# SURFACE WATER QUALITY REPORT



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01844	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180865611	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Navuluru Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	8.09	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	54	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1810	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1180	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	78	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	301	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	74	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	28	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	350	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	50	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.90	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	7.7	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	346	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.23	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	253	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	43	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01844	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180865611	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Navuluru Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.61	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.13	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg		1.18	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	5.0	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	48	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	14	3 Max.
*32	Total Nitrogen as N	mg/l		7.4	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	3.4	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





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**TEST REPORT**



Certificate No: TC-5233

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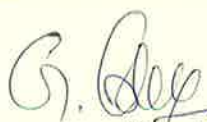
<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01844</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180865611	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample		<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilised Bottle		<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd Edn	
<b>Location of Sampling:</b> Navuluru Tank		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

**TEST RESULTS**

**Microbiological Analysis:**

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	350	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	17	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
**Authorized Signatory**  
(G.Muralidhara Swamy)  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01845	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180865511	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Venkatapalem Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.39	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	7	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1200	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	782	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	26	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	346	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	84	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	33	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	158	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	48	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.52	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	9.4	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	316	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.15	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	87	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	50	--

Note: \* the parameter not covered in NABL scope .  
Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01845 <b>Lab Code No :</b> 180865511 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing</b> : Plastic Bottle <b>Test Required</b> : As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Venkatapalem Tank Water		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

## TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.45	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.15	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.03	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.78	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	5.2	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	36	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	10	3 Max.
*32	Total Nitrogen as N	mg/l	-	6.7	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	2.60	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01845</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180865511 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b>		29.11.2018
	<b>Date of commencement of testing</b>		30.11.2018
	<b>Date of completion of testing</b>		06.12.2018
	<b>Sample condition at receipt</b>		Found ok
		<b>Sample tested as received</b>	
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Venkatapalem Tank		<b>Sampling Method/Procedure:</b> APHA 23rd <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	220	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	11	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr.Microbiologist**



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01846	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180865411	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Velagapudi Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.84	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	5	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	3620	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	2354	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	18	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	827	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	193	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	84	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	722	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	240	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.63	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	52	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	489	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.20	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	443	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	15	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01846	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180865411	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Velagapudi Tank Water		<b>General Environment conditions:</b> Ok	
		<b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.03	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	2.35	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	5.4	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	23	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	7	3 Max.
*32	Total Nitrogen as N	mg/l	-	14.3	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	1.7	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

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Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01846</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180865411 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b> : Pre Sterilised Bottle	<b>Date of commencement of testing</b>	30.11.2018	
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018	
		<b>Sample condition at receipt</b>	Found ok
<b>Sample tested as received</b>			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Velagapudi Tank		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	170	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	8	-

Interpretation of results: Nil  
 Deviation from test method: Nil

  
**Authorized Signatory**  
 ( G.Muralidhara Swamy )  
**Sr.Microbiologist**

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01847 <b>Lab Code No :</b> 180865311 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing</b> : Plastic Bottle			
<b>Test Required</b> : As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Nidamaru Tank Water		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.63	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	9	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1100	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	716	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	34	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	311	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	70	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	33	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	143	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	105	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.69	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	7.4	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	229	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.13	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	105	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	8.4	--

Note: \* the parameter not covered in NABL scope .  
 Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
 (A.V. Hanumantha Rao)  
 Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01847 <b>Lab Code No :</b> 180865311 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing :</b> Plastic Bottle			
<b>Test Required :</b> As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Nidamaru Tank Water		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok	

## TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.28	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.03	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg		0.72	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	5.3	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	32	--
*31	BOD for 3 days at 27°C	mg/l	IS:3025 -Part-44	9	3 Max.
*32	Total Nitrogen as N	mg/l		5.1	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	2.30	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01847</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180865311	<b>Issue Date</b> : 19.12.2018
		<b>Your Ref</b> : Letter Dated 28.11.2018	<b>Date of Receipt</b> : 29.11.2018
<b>.Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b> : Pre Sterilised Bottle	<b>Date of commencement of testing</b>	30.11.2018	
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018	
	<b>Sample condition at receipt</b>	Found ok	
	<b>Sample tested as received</b>		
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Nidamaru Tank		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

**TEST RESULTS**

**Microbiological Analysis:**

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	240	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	9	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr. Microbiologist  


\*\*\* End of the Report\*\*\*

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01848 <b>Lab Code No :</b> 180865211 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing :</b> Plastic Bottle			
<b>Test Required :</b> As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Nelapadu Tank Water		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.71	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	6	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	460	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	304	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	15	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	115	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	28	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	11	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	34	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	22	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.74	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	4.6	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	153	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	< 0.1	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	48	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	4	--

Note: \* the parameter not covered in NABL scope .  
 Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
 (A.V. Hanumantha Rao)  
 Director - Laboratory

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Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01848	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180865211	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Nelapadu Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.22	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.30	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	5.2	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	25	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	7	3 Max.
*32	Total Nitrogen as N	mg/l	-	3.9	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	1.9	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

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**TEST REPORT**



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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01848</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180865211	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample		<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilised Bottle		<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Nelapadu Tank		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

**TEST RESULTS**


**Microbiological Analysis:**

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	MPN/100 ml	9221B, APHA 23rd Edition, 2012	210	-
*2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23rd Edition, 2012	11	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01849	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180865111	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Yerrabalem Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.73	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	10	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1680	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1094	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	38	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	321	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	64	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	39	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	216	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	61	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.76	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	18	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	453	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.15	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	198	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	72	--

Note: \* the parameter not covered in NABL scope .  
Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01849	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180865111	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Yerrabalem Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

## TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.29	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.02	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	1.09	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	5.0	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	38	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	11	3 Max.
*32	Total Nitrogen as N	mg/l	-	8.6	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	3.1	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





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## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01849</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180865111 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>.Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b> : 29.11.2018		<b>Date of commencement of testing</b> : 30.11.2018
	<b>Date of completion of testing</b> : 06.12.2018		<b>Sample condition at receipt</b> : Found ok
	<b>Sample tested as received</b>		
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Yerrabalem Tank		<b>Sampling Method/Procedure:</b> APHA 23rd <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	280	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	14	-

Interpretation of results: Nil  
 Deviation from test method: Nil

  
 Authorized Signatory  
 (G.Muralidhara Swamy)  
 Sr. Microbiologist

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01850	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180865011	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Thullur Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	8.04	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	7	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1480	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	962	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	18	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	216	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	54	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	20	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	231	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	149	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.89	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	6.8	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	250	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.23	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	232	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	13	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01850	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180865011	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Thullur Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.07	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.03	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.96	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	5.1	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	28	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	8	3 Max.
*32	Total Nitrogen as N	mg/l	-	4.7	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	2.0	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01850</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180865011 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b> : 29.11.2018		<b>Date of commencement of testing</b> : 30.11.2018
	<b>Date of completion of testing</b> : 06.12.2018		<b>Sample condition at receipt</b> : Found ok
	<b>Sample tested as received</b>		
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Thulluru Tank		<b>Sampling Method/Procedure:</b> APHA 23rd <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	140	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	4	-

Interpretation of results: Nil  
 Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr. Microbiologist**



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01851	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180864911	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Thullur Tank Water (Behind School)		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.18	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	21	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	2520	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1630	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	64	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	491	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	105	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	56	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	676	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	160	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.65	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	12	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	112	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.75	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	341	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	18	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01851	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864911	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
<b>Quantity :</b> 1 No. x 500 ml Sample(Metals)		<b>Date of Registration :</b> 29.11.2018	
		<b>Date of commencement of testing :</b> 30.11.2018	
		<b>Date of completion of testing :</b> 19.12.2018	
		<b>Sample condition at receipt :</b> Found ok	
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Thullur Tank Water (Behind School)		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.08	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.05	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.03	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	1.63	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	4.2	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	58	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	17	3 Max.
*32	Total Nitrogen as N	mg/l	-	10.3	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	4.6	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

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Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01851</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180864911 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b> : 29.11.2018		<b>Date of commencement of testing</b> : 30.11.2018
	<b>Date of completion of testing</b> : 06.12.2018		<b>Sample condition at receipt</b> : Found ok
	<b>Sample tested as received</b>		
	<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Thulluru Tank Behind School		<b>Sampling Method/Procedure:</b> APHA 23rd <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	920	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	140	-

Interpretation of results: Nil  
 Deviation from test method: Nil

*(Signature)*  
 Authorized Signatory  
 ( G.Muralidhara Swamy )  
 Sr.Microbiologist



\*\*\* End of the Report\*\*\*

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## TEST REPORT



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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01852	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864811	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Inavolu Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.61	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	15	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	5100	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	3320	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	46	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	777	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	141	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	104	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	1420	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	225	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.85	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	15	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	280	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.85	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	707	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	187	--

Note: \* the parameter not covered in NABL scope .  
Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01852	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864811	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Inavolu Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.05	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	--	3.32	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	4.3	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	52	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	15	3 Max.
*32	Total Nitrogen as N	mg/l	--	9.3	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	3.6	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

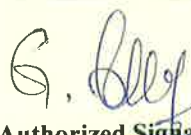
<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01852</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180864811 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>.Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b>		29.11.2018
	<b>Date of commencement of testing</b>		30.11.2018
	<b>Date of completion of testing</b>		06.12.2018
	<b>Sample condition at receipt</b>		Found ok
<b>Sample tested as received</b>			
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Inavolu Tank		<b>Sampling Method/Procedure:</b> APHA 23rd <b>General Environment conditions:</b> Ok	
Page No: 1 of 1			

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	540	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	40	-

Interpretation of results: Nil  
 Deviation from test method: Nil

  
**Authorized Signatory**  
 (G.Muralidhara Swamy)  
 Sr.Microbiologist

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01853 <b>Lab Code No :</b> 180864711 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing :</b> Plastic Bottle			
<b>Test Required :</b> As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Penumaka Tank Water		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.69	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	8	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1550	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1008	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	28	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	321	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	62	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	39	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	180	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	61	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.70	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	18	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	438	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.13	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	170	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	67	--

Note: \* the parameter not covered in NABL scope .  
 Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
 (A.V. Hanumantha Rao)  
 Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01853	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864711	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Penumaka Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	1.01	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	4.6	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	35	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	10	3 Max.
*32	Total Nitrogen as N	mg/l	-	8.6	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	2.9	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01853</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180864711 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b> : 29.11.2018		<b>Date of commencement of testing</b> : 30.11.2018
	<b>Date of completion of testing</b> : 06.12.2018		<b>Sample condition at receipt</b> : Found ok
	<b>Sample tested as received</b>		
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Penumaka Tank		<b>Sampling Method/Procedure:</b> APHA 23rd <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	350	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	14	-

Interpretation of results: Nil  
 Deviation from test method: Nil

  
**Authorized Signatory**  
 (G.Muralidhara Swamy)  
**Sr. Microbiologist**

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01854	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864611	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Sakhamuru Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.71	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	25	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	860	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	554	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	48	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	196	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	64	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	8.5	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	100	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	77	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.53	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	5.1	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	204	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.28	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	103	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	8.3	--

Note: \* the parameter not covered in NABL scope .  
Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01854	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864611	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Sakhamuru Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.28	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.03	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg		0.55	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	4.2	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	54	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	15	3 Max.
*32	Total Nitrogen as N	mg/l		7.6	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	4.1	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
( A.V. Hanumantha Rao )  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01854</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180864611 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b>		29.11.2018
	<b>Date of commencement of testing</b>		30.11.2018
	<b>Date of completion of testing</b>		06.12.2018
	<b>Sample condition at receipt</b>		Found ok
<b>Sample tested as received</b>			
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Sakhamuru Tank		<b>Sampling Method/Procedure:</b> APHA 23rd <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	540	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	17	-

Interpretation of results: Nil  
 Deviation from test method: Nil

Authorized Signatory  
 ( G.Muralidhara Swamy )  
 Sr.Microbiologist



\*\*\* End of the Report\*\*\*

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01855	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864511	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Date of Sampling:</b> 26.11.2018			
<b>Location of Sampling:</b> Dondapadu Tank Water			
<b>Sampling Details</b>			
<b>Sampling Method/Procedure:</b> IS 3025 Part 1			
<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	8.48	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	113	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	2140	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1390	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	126	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	105	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	22	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	12	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	353	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	160	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.91	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	22	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	382	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.25	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	441	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	6.6	--

Note: \* the parameter not covered in NABL scope .  
Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01855 <b>Lab Code No :</b> 180864511 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing :</b> Plastic Bottle			
<b>Test Required :</b> As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Dondapadu Tank Water		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

## TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.90	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.03	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.08	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	1.39	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	3.5	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	68	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	23	3 Max.
*32	Total Nitrogen as N	mg/l	-	16.9	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	6.9	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil



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**TEST REPORT**



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01855</b>	
<b>Sample Description:</b> Surface Water Sample	<b>Lab Code No</b>	: 180864511
	<b>Issue Date</b>	: 19.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilised Bottle	<b>Date of commencement of testing</b>	30.11.2018
	<b>Date of completion of testing</b>	06.12.2018
	<b>Sample condition at receipt</b>	Found ok
<b>Test Required</b> : As given below	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Dondapadu Tank	<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	


**TEST RESULTS**

**Microbiological Analysis:**

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	1600	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	280	-

Interpretation of results: Nil

Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr.Microbiologist**

\*\*\* End of the Report\*\*\*



Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01856 <b>Lab Code No :</b> 180864411 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing :</b> Plastic Bottle			
<b>Test Required :</b> As given below			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Nekkallu Tank Water		<b>Sampling Details</b> <b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.57	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	14	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	880	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	570	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	38	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	140	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	32	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	15	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	131	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	70	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.58	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	13	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	163	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.13	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	116	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	36	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01856 <b>Lab Code No :</b> 180864411 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing</b> : Plastic Bottle			
<b>Test Required</b> : As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Nekkallu Tank Water		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

## TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.07	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.08	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.03	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.57	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	4.8	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	34	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	10	3 Max.
*32	Total Nitrogen as N	mg/l	-	7.3	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	2.7	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01856</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180864411 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b>		29.11.2018
	<b>Date of commencement of testing</b>		30.11.2018
	<b>Date of completion of testing</b>		06.12.2018
	<b>Sample condition at receipt</b>		Found ok
<b>Sample tested as received</b>			
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Nekkallu Tank		<b>Sampling Method/Procedure:</b> APHA 23rd <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	


### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	170	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	9	-

Interpretation of results: Nil

Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr.Microbiologist**



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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01857	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864311	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Kuragallu Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.58	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	30	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1870	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1216	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	42	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	326	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	62	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	42	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	389	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	66	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.80	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	15	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	295	--
14	Boron as B	mg/l	4500-B B, Curcumin Method, APHA 23rd Edition 2017	0.20	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	248	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	54	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01857	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864311	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Kuragallu Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.09	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.04	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.10	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	1.22	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	4.3	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	40	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	12	3 Max.
*32	Total Nitrogen as N	mg/l	-	8.4	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	3.0	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

Authorized Signatory  
( A.V. Hanumantha Rao )  
Director - Laboratory



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**TEST REPORT**



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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01857</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180864311 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b> : 29.11.2018		<b>Date of commencement of testing</b> : 30.11.2018
	<b>Date of completion of testing</b> : 06.12.2018		<b>Sample condition at receipt</b> : Found ok
	<b>Sample tested as received</b>		
	<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Kuragallu Tank		<b>Sampling Method/Procedure:</b> APHA 23rd <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

**TEST RESULTS**

**Microbiological Analysis:**

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	350	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	17	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
**Authorized Signatory**  
 (G.Muralidhara Swamy)  
 Sr.Microbiologist

\*\*\* End of the Report\*\*\*

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01858	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864211	
		<b>Issue Date :</b> 19.12.2018	
		<b>Your Ref :</b> Letter Dated 28.11.2018	
		<b>Date of Receipt :</b> 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Right bank of River Krishna at Ganapathi Sachchidananda Ashram (upstream -500m from Barrage)			
<b>General Environment conditions:</b> Ok		<b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.88	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	2	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	520	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	337	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	15	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	135	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	32	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	13	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	49	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	39	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.53	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	2.5	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	143	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	<0.1	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	56	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	2.5	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01858 <b>Lab Code No :</b> 180864211 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)	<b>Packing</b> : Plastic Bottle <b>Test Required</b> : As given below		
<b>Sampling Details</b> <b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Right bank of River Krishna at Ganapathi Sachchidananda Ashram (upstream -500m from Barrage) <b>General Environment conditions:</b> Ok <b>Sampling Method/Procedure:</b> IS 3025 Part 1			

Page No: 2 of 2

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.02	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.34	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	6.2	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	10	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	2	3 Max.
*32	Total Nitrogen as N	mg/l	-	1.7	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	0.7	--
*34	Total Organic Carbon	mg/l	By TOC Analyzer	3.2	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.





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Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01858</b>			
<b>Sample Description:</b> Surface Water Sample	<b>Lab Code No</b>	: 180864211		
	<b>Issue Date</b>	: 19.12.2018		
	<b>Your Ref</b>	: Letter Dated 28.11.2018		
	<b>Date of Receipt</b>	: 29.11.2018		
<b>.Quantity</b>	: 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b>	: Pre Sterilised Bottle	<b>Date of commencement of testing</b>	30.11.2018	
	<b>Test Required</b>	: As given below	<b>Date of completion of testing</b>	06.12.2018
				<b>Sample condition at receipt</b>
			<b>Sample tested as received</b>	
<b>Sampling Details</b>				
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd		
<b>Location of Sampling:</b> Right bank of River Krishna at Ganapathi Sachidananda Ashramam (Upstream 500 m from Barriage)				
<b>General Environment conditions:</b> Ok		<b>Page No:</b> 1 of 1		

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	63	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	< 1.8	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01859	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180864111	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Right bank of River Krishna near Hon'ble CM's House (upstream -3km from Barrage)			
<b>General Environment conditions:</b> Ok			

Page No: 1 of 2

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.92	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	3	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	500	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	326	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	18	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	130	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	32	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	12	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	46	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	38	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.59	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	2.5	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	138	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	<0.1	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	54	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	2.4	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01859 <b>Lab Code No :</b> 180864111 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)	<b>Packing</b> : Plastic Bottle <b>Test Required</b> : As given below		
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Right bank of River Krishna near Hon'ble CM's House (upstream -3km from Barrage) <b>General Environment conditions:</b> Ok		<b>Sampling Details</b> <b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.33	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	6.1	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	12	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	2	3 Max.
*32	Total Nitrogen as N	mg/l	-	2.1	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	0.9	--
*34	Total Organic Carbon	mg/l	By TOC Analyzer	3.9	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





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## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01859</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180864111	<b>Issue Date</b> : 19.12.2018
		<b>Your Ref</b> : Letter Dated 28.11.2018	<b>Date of Receipt</b> : 29.11.2018
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b> : Pre Sterilised Bottle	<b>Date of commencement of testing</b>	30.11.2018	
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018	
	<b>Sample condition at receipt</b>	Found ok	
		<b>Sample tested as received</b>	
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Right Bank of River Krishna near Hon'ble CM's House (Upstream 3KM from Barriage)			
<b>General Environment conditions:</b> Ok		<b>Page No:</b> 1 of 1	


### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	94	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	< 1.8	-

Interpretation of results: Nil

Deviation from test method: Nil

  
 Authorized Signatory  
 ( G.Muralidhara Swamy )  
 Sr.Microbiologist



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01860	
		<b>Lab Code No :</b> 180864011	
		<b>Issue Date :</b> 19.12.2018	
		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Receipt :</b> 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Left bank of River Krishna near Dr. K.L.Rao Head water works (upstream -500m from Barrage)			
<b>General Environment conditions:</b> Ok		<b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.79	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	2.5	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	490	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	319	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	14	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	135	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	34	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	12	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	49	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	37	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.57	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	2.7	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	132	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	< 0.1	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	49	
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	2.3	

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01860 <b>Lab Code No :</b> 180864011 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing :</b> Plastic Bottle			
<b>Test Required :</b> As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Left bank of River Krishna near Dr. K.L.Rao Head water works (upstream -500m from Barrage) <b>General Environment conditions:</b> Ok		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	

Page No: 2 of 2

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.03	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.10	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.32	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	6.0	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	14	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	2	3 Max.
*32	Total Nitrogen as N	mg/l	-	2.3	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	1.0	--
*34	Total Organic Carbon	mg/l	By TOC Analyzer	4.6	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
 (A.V. HanumanthaRao)  
 Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01860</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180864011 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>.Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b> : Pre sterilised Bottle	<b>Date of commencement of testing</b>	30.11.2018	
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018	
	<b>Sample condition at receipt</b>	Found ok	
<b>Sample tested as received</b>			
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Krishna River Left Bank Dr K.L.Rao Head Water Works (Up stream-500 m from Barriage)			
<b>General Environment conditions:</b> Ok		<b>Page No:</b> 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	79	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	< 1.8	-

Interpretation of results: Nil  
 Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr.Microbiologist**



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
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## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01861 <b>Lab Code No :</b> 180863911 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Surface Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing</b> : Plastic Bottle			
<b>Test Required</b> : As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Left bank of River Krishna at SKCV Children Trust (upstream -3km from Barrage) <b>General Environment conditions:</b> Ok		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	

Page No: 1 of 2

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	8.22	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	4.2	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	530	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	345	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	20	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	145	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	36	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	13	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	51	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	39	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.58	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	2.3	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	143	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	<0.1	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	52	
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	2.5	

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01861	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180863911	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Left bank of River Krishna at SKCV Children Trust (upstream -3km from Barrage)			
<b>General Environment conditions:</b> Ok		<b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.34	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	5.8	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	18	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	3	3 Max.
*32	Total Nitrogen as N	mg/l	-	2.4	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	1.1	--
*34	Total Organic Carbon	mg/l	By TOC Analyzer	5.8	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

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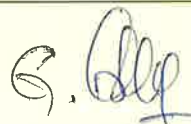
<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01861</b>	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No</b> : 180863911 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilised Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b>		29.11.2018
	<b>Date of commencement of testing</b>		30.11.2018
	<b>Date of completion of testing</b>		06.12.2018
	<b>Sample condition at receipt</b>		Found ok
<b>Sample tested as received</b>			
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Sampling Method/Procedure:</b> APHA 23rd <b>Location of Sampling:</b> Krishna River Left Bank at SKCV Children Trust (Upstream-3 Km from Barriage) <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1			

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	110	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	< 1.8	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr.Microbiologist**



\*\*\* End of the Report\*\*\*

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Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01862	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180863811	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Mandadam Tank Water		<b>General Environment conditions:</b> Ok Page No: 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	8.21	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	5	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1790	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1164	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	23	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	446	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	88	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	55	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	265	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	151	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.57	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	9.6	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	346	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	<0.1	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	162	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	75	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
( A.V. Hanumantha Rao )  
Director – Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01862	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180863811	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Mandadam Tank Water		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

## TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.05	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	1.16	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	4.9	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	21	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	5	3 Max.
*32	Total Nitrogen as N	mg/l	-	5.0	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	1.7	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director – Laboratory

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Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01862</b>  <b>Lab Code No</b> : 180863811  <b>Issue Date</b> : 19.12.2018  <b>Your Ref</b> : Letter Dated 28.11.2018  <b>Date of Receipt</b> : 29.11.2018	
<b>Sample Description:</b> Surface Water Sample			
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b> : Pre sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018	
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018	
	<b>Sample condition at receipt</b>	Found ok	
		<b>Sample tested as received</b>	
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Mandadam Tank		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

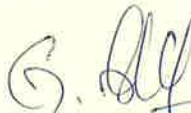
### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	280	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	24	-

Interpretation of results: Nil

Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr.Microbiologist**

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

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Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01863/A	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180863711/A	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Storm Water near Mandadam Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.56	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	5	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	2520	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1640	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	18	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	777	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	175	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	83	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	394	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	189	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.55	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	51	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	458	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	< 0.1	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	213	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	14	--

Note: \* the parameter not covered in NABL scope .  
Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director – Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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Certificate No: TC-5233

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<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01863/A	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180863711 /A	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Storm Water near Mandadam Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	0.03	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23 <sup>rd</sup> Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	1.64	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	4.7	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	42	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	12	3 Max.
*32	Total Nitrogen as N	mg/l	-	7.4	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	4.6	

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil



Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

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Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01863/A</b> <b>Lab Code No : 180863711/A</b> <b>Issue Date : 19.12.2018</b> <b>Your Ref : Letter Dated 28.11.2018</b> <b>Date of Receipt : 29.11.2018</b>	
<b>Sample Description:</b> Surface water			
<b>Quantity : 1 No. x 250 ml Sample</b>	<b>Date of Registration</b>		29.11.2018
<b>Packing : Pre Sterilized Bottle</b>	<b>Date of commencement of testing</b>		30.11.2018
<b>Test Required : As given below</b>	<b>Date of completion of testing</b>		06.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Storm Water near Mandadam Village		<b>General Environment conditions:</b> Ok Page No: 1 of 1	


### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	920	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	40	-

Interpretation of results: Nil

Deviation from test method: Nil

  
 Authorized Signatory  
 ( G.Muralidhara Swamy )  
 Sr.Microbiologist

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01864	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180863611	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Storm Water near Undavalli Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	7.61	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	2	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	560	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	367	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	32	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	150	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	38	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	13	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	56	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	43	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.62	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	3.2	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	153	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	< 0.1	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	58	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	4	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01864	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180863611	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Storm Water near Undavalli Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.37	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	5.1	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	38	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	11	3 Max.
*32	Total Nitrogen as N	mg/l	-	5.9	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	3.3	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
( A.V. Hanumantha Rao )  
Director - Laboratory

... End of the Report...

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\*Complaints Register is available at Laboratory.





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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01864</b>  <b>Lab Code No</b> : 180863611  <b>Issue Date</b> : 19.12.2018  <b>Your Ref</b> : Letter Dated 28.11.2018  <b>Date of Receipt</b> : 29.11.2018	
<b>Sample Description:</b> Surface water			
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018	
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018	
	<b>Sample condition at receipt</b>	Found ok	
	<b>Sample tested as received</b>		
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Storm Water near Undavalli Village		<b>General Environment conditions:</b> Ok Page No: 1 of 1	


## TEST RESULTS

### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	210	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	17	-

Interpretation of results: Nil

Deviation from test method: Nil

  
 Authorized Signatory  
 ( G.Muralidhara Swamy )  
 Sr. Microbiologist

... End of the Report...

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01863	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180863711	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Storm Water near Kuragallu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	pH at 25 °C	--	IS:3025- Part-11	8.46	6.5-8.5
2	Turbidity	NTU	IS:3025 -Part-10	10	--
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	790	--
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	512	1500 Max.
*5	Total Suspended Solids	mg/l	IS:3025 - Part-17	45	--
6	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	130	--
7	Calcium as Ca	mg/l	IS:3025- Part-40	34	--
8	Magnesium as Mg	mg/l	IS:3025 -Part-46	11	--
9	Chlorides as Cl	mg/l	IS:3025 -Part-32	114	600 Max.
10	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	57	400 Max.
11	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.58	1.5 Max.
12	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	5.3	50 Max.
13	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	168	--
14	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	< 0.1	--
15	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	118	--
16	Potassium as K	mg/l	IS:3025 -Part-45, 1993	6.9	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01863	
<b>Sample Description:</b> Surface Water Sample		<b>Lab Code No :</b> 180863711	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Storm Water near Kuragallu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
17	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.06	50 Max.
18	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.03	1.5 Max.
19	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	--
20	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.06	15 Max.
21	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.01 Max.
22	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.1 Max.
23	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	--
24	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.2 Max.
25	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
26	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	--
*27	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	--
*28	Salinity	PPT or g/kg	-	0.51	--
*29	Dissolved Oxygen	mg/l	IS:3025 -Part-38	4.9	4.0 Min.
*30	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	48	--
*31	BOD for 3 days at 27oC	mg/l	IS:3025 -Part-44	14	3 Max.
*32	Total Nitrogen as N	mg/l	-	8.0	--
*33	Ammonical Nitrogen as N	mg/l	IS:3025 -Part-34	4.1	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

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Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01863</b>	
<b>Sample Description:</b> Surface water		<b>Lab Code No</b> : 180863711	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018	
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018	
	<b>Sample condition at receipt</b>	Found ok	
	<b>Sample tested as received</b>		
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> APHA 23rd	
<b>Location of Sampling:</b> Storm Water near Kuragallu Village		<b>General Environment conditions:</b> Ok Page No:1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	SURFACE WATER QUALITY STANDARDS AS PER IS:2296 CLASS C
1	Total Coliforms	MPN/100 ml	9221B, APHA 23 <sup>rd</sup> Edition, 2017	280	5000 Max
2	Faecal Coliforms	MPN/100 ml	9221E, APHA 23 <sup>rd</sup> Edition, 2017	24	-

Interpretation of results: Nil

Deviation from test method: Nil

*G. Muralidhara Swamy*  
Authorized Signatory  
(G.Muralidhara Swamy)  
Sr. Microbiologist



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.







AMARANTH DEVELOPMENT CORPORATION LIMITED  
CONTINUITY OF GREEN BELT  
GREEN BELT FOR PLANTATION & GARDEN  
PROJECT  
ALLOCATION, AMARANTH DEVELOPMENT CORPORATION

ADC



**Estimated number of 1, 42, 000 trees along KV canal and 1,11,300 trees along PV canal green buffer would be planted.**

Kondaveeti Vaagu Canal spreads for a length of 21.3 km within the city boundary. The proposed KV Canal section is ranging from 120M to 170 M in width with 30m wide green buffer on both sides. This would amount to an area of about 815 acres for Canal Front Landscape Development.

In the first phase of development, a stretch of approximately 12km of the KV Canal front has been taken up for development.

Waterfronts are further sub-categorized into the following Components.

#### **A Canal fronts**

#### **B Reservoir periphery**

A seamless network of green and blue will be created by interweaving the existing water tanks and canals together. This network will be supported with reservoirs to mitigate flood related issues within the city.

##### **5.4.2.1 Planting Palette and Horticulture Intent**

- Trees suitable for high moisture and water logged soils
- Native indigenous trees with striking flowers
- Trees tolerant to high moisture water logged soils.
- Trees with willow like habit

##### **5.4.2.2 Qualifying criteria**

- Independent water channels used for navigation and recreation.
- Green buffer on either sides and passing through varied land uses.
  1. Residential
  2. Institutional
  3. Commercial
  4. Parks

##### **5.4.2.3 Characteristics**

- Waterfront to address each of these land use conditions and give distinct and unique proposal for development of each of them.

REGD. POST WITH  
ACK. DUE

AP Capital Region Development Authority  
Lenin Center, Vijayawada

Rc. No. 1389/LSE/APCRDA/2015, Dt. 15.09.2018

From  
The Commissioner  
APCRDA  
Lenin center  
Vijayawada

To  
The Director  
Development Center  
Andhra University

Sir,

**Sub:** APCRDA – LSE – Request to take up Comprehensive Primary Baseline Data on the productivity of the Krishna River in the CRDA area in compliance to the Conditions of Environmental Clearance of Greenfield Capital City, Amaravati – Request -Reg

**Ref:** 1) Environmental Clearance of Greenfield Capital City, Amaravati, order No: SEIAA/AP/GTN-151/2015, Dt: 09.10.2015.

DESPATCHED

Dt: 17/9/18

1)

I wish to inform you that for the Construction of Greenfield capital city Amaravati for the bifurcated State of Andhra Pradesh has been accorded with the Environment Clearance by the SEIAA, AP on 09.10.2015 vide ref 1<sup>st</sup> cited. The Greenfield capital city is being constructed along the right bank of the River Krishna upstream of the Prakasam barrage and it is known that the Krishna River is source for -drinking water for Amaravati, Vijayawada, Guntur and Tenali; irrigating thousands of acres; fishing communities who take their sustenance; religious centric activities; tourism activities and with the Vijayawada city which is expanding very rapidly on the left bank and the construction of Greenfield capital city Amaravati on Right bank of the River Krishna, there is a possibility of polluting the River Krishna.

- 2) Considering the multipurpose utilisation of the River water, development that is expected in the near future, vide ref 1<sup>st</sup> cited, the SEIAA has stipulated certain conditions that the project proponent APCRDA shall take up "A comprehensive Primary Baseline Data on the productivity of the Krishna River in the CRDA area (primary, second and tertiary productions), before and after Capital region

development shall essentially be collected and processed in a systematic and scientific way."

- 3) The Project proponent APCRDA has to comply with the above said condition. Hence, it is proposed to take up the said studies through your reputed institution i.e. Andhra University and therefore it is requested with Director, Development Center, Andhra University to take up the said studies through concerned subject experts. The cost of the study will be borne by the APCRDA.

  
10/9/2018  
  
**Commissioner**  
**APCRDA**  




**GOVERNMENT OF ANDHRA PRADESH  
ABSTRACT**

Municipal Administration & Urban Development Department – World Bank supported Amaravati Sustainable Capital City Development Project – Project Safeguard documents viz., Resettlement Policy Framework and Environmental and Social Management Framework – Approved – Orders issued.

---

**MUNICIPAL ADMINISTRATION & URBAN DEVELOPMENT (CRDA.2) DEPARTMENT**

---

**G.O.MS.No. 320**

**Dated:19.09.2018  
Read the following:**

1. Andhra Pradesh Capital Region Development Authority Act, 2014
2. G.O.Ms.No.257, MA & UD (M2) Department, dated: 30.12.2014
3. Resolution No. 290/2018 of the 19th Authority Meeting held on 23.08.2018
4. From the Commissioner, CRDA, Letter No. 15023(33)/12/2017-CMNTMBZR-ESTE-APCRDA-Part(1), dt.19.09.2018.

\*\*\*

**ORDER:**

The Government in the reference 2<sup>nd</sup> read above directed the Andhra Pradesh Capital Region Development Authority (APCRDA) to undertake development schemes in the Capital City area. As a part of overall Capital City Development, priority infrastructure, investments and institutional strengthening initiative within the Capital City are proposed to be taken up with the World Bank Assistance, under the Amaravati Sustainable Capital City Development Project – ASCCDP (the project).

2. The Commissioner, Capital Region Development Authority, Vijayawada in the reference 4<sup>th</sup> read above has informed that the Authority has passed a resolution vide reference 3<sup>rd</sup> read above and requested to approve the Resettlement Policy Framework (RPF) and Environmental and Social Management Framework (ESMF) to enable the AP CRDA to avail World Bank assistance.

3. The Government, after careful examination, hereby approve the safeguards documents namely – 1. Resettlement Policy Framework (RPF) and 2.Environmental and Social Management Framework (ESMF) for implementing the identified components under the World Bank assisted ASCCDP. The RPF Provisions will be adopted while procuring the lands required for construction of ASCCDP components through Land Pooling Scheme / LA, R&R Act, 2013 / Negotiated Settlement Policy or by any other means permissible under any law.

4. The expenditure for implementing the RPF / ESMF shall be met by AP CRDA out of earmarked funds already allocated by GoAP under Land Pooling and acquisition.

5. The Commissioner, AP CRDA, Vijayawada shall take necessary action in the above matter duly apprising / taking approval of the Authority.

**(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)**

**AJAY JAIN  
PRINCIPAL SECRETARY TO GOVERNMENT (CRDA)**

To  
The Commissioner,  
Andhra Pradesh Capital Region Development Authority,  
Vijayawada.

Contd...2

**Copy to:**

The PS to Hon'ble Chief Minister  
The PS to Hon'ble Minister for MA&UD  
The PS to Hon'ble Minister for Finance  
The PS to Chief Secretary  
The PS to Principal Secretary to Government, Revenue Department  
The PS to Principal Secretary to Government, MA&UD Dept.,  
The PS to Principal Secretary to Government Finance Department;  
The PS to Principal Secretary to Government I&I Department;  
The PS to Principal Secretary to Government Panchayat Raj Department;  
**SF/SC**

**//FORWARDED : : BY ORDER//**

  
**SECTION OFFICER**

**Establish Skill Development Institution and provide training with stipend to enhance the skills of cultivating tenants, agricultural labourers and other needy persons.**

- Under schedule 3 (1) (iii) (d) of land pooling scheme , the Government promised to establish skill development institution and provide training with stipend to enhance the skills of cultivating tenants, agricultural laborers and other needy persons.
- Andhra Pradesh Skill Development Corporation (APSSDC) is the nodal agency for implementation of the skill development.
- Government has released an amount of Rs: 3.5 crores to the Nodal Agency.
- The Amaravati Skill Development institute (ASDI) started in the month of July 2016 at Nowluru Village.
- AS part of the to know the skill base through Team lease 2032 candidates are assessed to know the quality.
- Since 2015 June 2239 candidates are trained in CRDA Capital city.
- The Financial year from 2015 to 2018 – 1572 candidates have been trained and 1463 have been placed.
- In this financial year 221 candidates have completed training and 446 students are under training.
- 10 mega Job melas were conducted till date, 3361 candidates attended for interviews 881 placed.
- Currently we are training in courses like 1) Basic Data Entry Operator, 2) Tally & Accountancy 3) Front Office Associate 4) Retail Sales Associate 5) Licensed Land Surveyor, 6) Bed Side Assistant 7) Masonry 8) Electrician 9) Painting, 10) Housekeeping 11) Security more programs to come up like 1) Artificial Jewellerymaking 2) Cooking 3) Heavy machinery Training etc.
- Based on the demand from candidates locally currently 9 centers are running in CRDA region they are ASDI Nowluru, NAC Thulluru, NAC Lingayapalem, NAC- Ananthavaram, Sewing Machine operator programs at Yerrabalem, Velagapudi, Nelapadu, Dondapadu and Inavolu villages.



APCRDA-APSSDC SKILL DEVELOPMENT								
TRAINING & PLACEMENTS DETAILS AS ON 23-01-2018								
S.No	Course	Training Partner	Year	M	F	Total	Status	Placed
1	IT_Java&Automation	APSSDC,Etcherla	2015-16	54	35	89	Completed	58
2	Jute Bags	St. Jhon's Welfare Mandadam,Malkapuram	2015-16	0	143	143	Completed	143
3	Electrical	ASV &QXY,Jedcherla	2015-16	30	0	30	Completed	3
4	BCBF	Stardigm,Thulluru	2015-16	15	28	43	Completed	43
5	Electrical	L&T,Jedcherla	2015-16	6	0	6	Completed	2
6	Logistics	ADS Softech,Thulluru	2015-16	10	20	30	Completed	30
7	Land Surveyour	APSSDC,Vijayawada	2015-16	20	4	24	Completed	24
8	Herbal Making	DhatriFoundation,Undavalli	2015-16	0	40	40	Completed	40
9	Maggam Work	DhatriFoundation,Venkatapalem	2015-16	0	40	40	Completed	40

10	Electrical	Involute,Lam	2015-16	5	0	5	Completed	1
11	Mechanical	Involute,Lam	2015-16	6	0	6	Completed	1
12	LMV Driving	KDLOA,Gannavar am	2015-16	20	0	20	Completed	20
13	English Employability skills	APSSDC,Nowluru	2016-17	9	24	33	Completed	7
14	Beautician	Centum Skills,Nowluru	2017-18	0	77	77	Completed	77
15	Mobile technician	Centum Skills,Nowluru	2017-18	13	0	13	Completed	13
16	2Wheeler Technician	Gram Tarang,Nowluru	2017-18	8	0	8	Completed	8
17	AC Technician	Gram Tarang,Nowluru	2017-18	35	0	35	Completed	35
18	LMV Driving	KDLOA,Gannavar am	2017-18	27	0	27	Completed	27
19	Accountancy	Synchroserve Global Ltd,Nowluru	2017-18	40	60	100	Completed	64
20	Selfemployed Tailor	COWE,Penumaka	2017-18	0	600	600	Completed	600
21	Electrician	NAC,Thulluru	2017-18	47	0	47	Completed	46
22	Painter	NAC,Thulluru	2017-18	19	0	19	Completed	44

23	Masionary	NAC,Thulluru	2017-18	22	23	55	Completed	55
24	Electrical	NAC,Thulluru	2018-19	59	0	59	Completed	59
25	Painting and Decoration	NAC,Thulluru	2018-19	0	23	23	Completed	23
<b>Total</b>				<b>445</b>	<b>1117</b>	<b>1572</b>		<b>1463</b>
S No	Course	Training Partner	Year	M	F	Total	Status	Placed
26	Mason general	NAC,Thulluru	2018-19	0	25	25	Waiting for Assessment	0
27	Painting and Decoration	NAC,Thulluru	2018-19	0	24	24	Waiting for Assessment	0
28	Land surveyour	SDC, Vijayawada	2018-19	21	4	25	Waiting for next assessment	-
29	Tally&Accountancy	Times center for learning-ASDI,Navuluru	2018-19	7	18	25	Waiting for Assessment	8
30	Front office Associate	PCFCT-ASDI,Navuluru	2018-19	10	15	25	Waiting for Assessment	13
31	Retail sales	Celebron solutions-ASDI,Navuluru	2018-19	18	4	22	Waiting for Assessment	0
32	Front office Associate	PCFCT-ASDI,Navuluru	2018-19	14	11	25	Waiting for Assessment	13



33	Domestic data entry	Times center for learning-ASDI,Navuluru	2018-19	8	17	25	Waiting for Assessment	18
34	Domestic data entry	Times center for learning-ASDI,Navuluru	2018-19	8	17	25	Waiting for Assessment	3
35	Self employed tailor	Dondapadu	2018-19	0	50	50	Under Training	0
36	Self employed tailor	Yerrabalem	2018-19	0	50	50	Under Training	0
37	Mason general	NAC,Thulluru	2018-19	0	23	23	Under Training	0
38	Mason general	NAC,Navuluru	2018-19	0	25	25	Under Training	0
39	Mason general	NAC,Ananthavararam	2018-19	0	23	23	Under Training	0
40	Self employed tailor	Neerukonda	2018-19	0	50	50	Under Training	0
41	Self employed tailor	Velagapudi	2018-19	0	50	50	Under Training	0
42	Self employed tailor	Nelapadu	2018-19	0	50	50	Under Training	0
43	Housekeeping	Thulluru	2018-19	0	25	25	Under Training	0

44	Electrical underground cabling (RPL)	NAC,Thulluru	2018-19	25	0	25	Under Training	0
45	Bed side Assistant	ASDI, Nowluru	2018-19	2	23	25	Under Training	0
46	Painting and Decoration	NAC,Thulluru	2018-19	0	25	25	Under Training	0
47	Mason general	NAC, Lingayapalem	2018-19	0	25	25	Under Training	0
<b>Total</b>				<b>113</b>	<b>554</b>	<b>667</b>		<b>55</b>
<b>Grand Total</b>				<b>558</b>	<b>1671</b>	<b>2239</b>		<b>1518</b>

APCRDA in collaboration with APSSDC and Horticulture department conducting skill development activities in CRDA region 7 batches completed most of them are working in Nurseries and road side plantation projects.

## ANDHRA PRADESH CAPITAL REGION DEVELOPMENT AUTHORITY: VIJAYAWADA

From  
Dr. Sreedhar Cherukuri, IAS  
Commissioner, APCRDA

Vijayawada

Andhra Pradesh

To  
The Chairperson  
National Executive Committee

NDMA, NDMA Bhavan

A-1, Safdarjung enclave

New Delhi - 110029

File No. CRDA-14023(40)/1/2018-ENV1-LSENV-APCRDA 07/06/2018

Sir,

Sub: APCRDA, Vijayawada – Environmental Clearance for Greenfield Capital City, Amaravati  
- Preparation of Disaster Management Plan for Greenfield Capital City, Amaravati, Andhra  
Pradesh State – Request – Reg.

Ref: Environmental Clearance for Greenfield Capital City, Amaravati-Order No. SEIAA/AP/GTN-  
151/2015 dt:09-10-2015

DESPATCHED

—X—

Dr. 12/6/18

I wish to inform you that Government of Andhra Pradesh proposed to develop a new Greenfield Capital City with an extent of 217.23 sq.km covering 29 villages in Thullur, Tadepalli and Mangalagiri of Guntur district in Andhra Pradesh. The entire development is envisaged in three phases.

Phase I - (up to 10 years) 39% of development of the land for 0.85 million population

Phase II - (10-20 years) 18.4% of development of land for 0.9 million population

Phase III - (20-35 years) 42.6% of development of land for 2.4 million population

Further, the Government of Andhra Pradesh established of the APCRDA (Andhra Pradesh Capital Region Development Authority) for the purpose of Planning, Co-ordination, Execution, Supervision, Financing, Funding and for Promoting and Securing the Planned Development of the Capital Region and Capital City Area for the State of Andhra Pradesh.

The APCRDA has been accorded Environmental Clearance for Greenfield Capital City, Amaravati from State Level Environmental Impact Assessment Authority (SEIAA) vide ref cited. As per the said Environmental Clearance, an Disaster Management Plan is required for entire city.

In this connection it is requested to prepare a comprehensive Disaster Management Plan for Capital City, Amaravati by considering following Environmental Clearance conditions...

- The proponent shall prepare and implement proper **flood management plan** to overcome threats posed by the Kondaveeti Vagu and its tributaries, Krishna River, heavy rains (more than 1000 mm) and cyclones.
- The proponent shall prepare **earth quake response management plan** by considering the location of the city in the class III seismic zone.
- The proponent shall create adequate infrastructure for **emergency fire fighting**.
- The proponent shall prepare emergency **Health Management Plan**.

It is also requested to inform the under signed that the service charges in any required for the




preparation of Flood Management Plan, Earth Quake Response Management Plan, Emergency Fire Fighting Plan, Emergency Health Management Plan for Amaravati Capital City. The same will be paid by the APCRDA.

SREEDHAR CHERUKURI

COMMISSIONER

Signature valid

Digitally signed by Cherukuri  
Sreedhar  
Date: 2018.06.05 15:46:18 IST  
Reason: Approved



**AP Capital Region Development Authority  
Lenin Center, Vijayawada**

**Rc. No. 1389/LSE/APCRDA/2015**, Dt. 15.09.2018.

**From  
The Commissioner  
APCRDA  
Lenin center  
Vijayawada**

**To  
The Managing Director  
AP State Disaster Management Authority  
Kunchanpalli**

**DESPATCHED**

**Dt: 17/9/18**

**Sir,**

**Sub:** APCRDA-LSE- Request to take up disaster management studies for the Greenfield Capital city Amaravati, Andhra Pradesh- Reg.

**Ref:** 1) Environmental Clearance of Greenfield Capital City, Amaravati, order No: SEIAA/AP/GTN-151/2015, Dt: 09.10.2015.  
2) Minutes of Meeting held on Implementation of EC held at APCRDA, Dt: 31.05.2018

I wish to inform you that the Greenfield capital city Amaravati for the bifurcated State of Andhra Pradesh has been accorded with the Environment Clearance by the SEIAA, AP on 09.10.2015 vide ref 1<sup>st</sup> cited. The proposed capital city is designed for a population of 4 million by the year 2050 in an area of 217.23 sq km falling in the mandals of Thullur, Tadepalli and Mangalagiri of Guntur District. Considering the geographic location and the capital city design population, it is important for the city administration and governance system to prevent and mitigate the adverse effects of Manmade and Natural disasters. Accordingly, the EC has also specified conditions pertaining to disaster management and emergency situation as detailed below –

- 1) The proponent shall prepare and implement proper flood management plan to overcome threats posed by the Kondaveeti Vagu and its tributaries, Krishna River, heavy rains (more than 1000 mm) and cyclones.
- 2) The Proponent shall prepare earth quake response management plan by considering the location of the city in the class III seismic zone. The Proponent shall incorporate structural design requirements of the buildings for the Seismic Zone –III in the Bye laws.

- 3) The proponent shall create adequate infrastructure for emergency fire fighting.
- 4) The proponent shall prepare emergency Health management plan.

The State Disaster Management Authority is the highest authority at the state level and for a project like construction of Capital city requires the expertise and services of SDMA in preparation of the Flood management plan to overcome threats posed by the heavy rains and cyclones, Earthquake response management plan, Emergency fire fighting plan and emergency Health management plan.

And as the Greenfield capital city construction has already started and few buildings like Transit Government Complex, private universities are already in operation and few major government buildings in the Amaravati Government Complex area are under construction, we wish you to consider our request on a priority and provide your services in preparing the said disaster management plans for the Greenfield Capital city Amaravati.

  
10/12/2018  
  
**Commissioner**  
**APCRDA**  






**State Level Environment Impact Assessment Authority (SEIAA)**  
**Andhra Pradesh**  
**Ministry of Environment, Forests & Climate Change**  
**Government of India**

D.No.33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre,  
 Chalamavari Street, Kasturibaipet, Vijayawada-520010.

BY REGD. POST WITH ACK DUE

**Order No. SEIAA//AP/GNT/CON/05/2018/591 - 751**

**Dt:14.08.2018.**

<b>Sub:</b>	<b>SEIAA, AP – Construction of “Infrastructure Sector Office Complex” Andhra Pradesh Capital Region Development Authority (APCRDA) at Sy.Nos. Part of 99, 100, 101 of Kondamarajupalem (V) and Part of 246, 253, 254, 259 of Rayapudi (V), Thullur (M), Kondamarajupalem &amp; Rayapudi Village, Amaravati Capital City, Guntur District, Andhra Pradesh., Andhra Pradesh - Environmental Clearance – Issued – Reg.</b>
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- I. This has reference to your application submitted through online on 11.05.2018, seeking Environmental Clearance for Construction of “Infrastructure Sector Office Complex” Andhra Pradesh Capital Region Development Authority (APCRDA) at Sy.Nos. Part of 99, 100, 101 of Kondamarajupalem (V) and Part of 246, 253, 254, 259 of Rayapudi (V), Thullur (M), Kondamarajupalem & Rayapudi Village, Amaravati Capital City, Guntur District, Andhra Pradesh by M/s APCRDA. The capital cost of the project is Rs.1058.85 Crores.
- II. It is noted that the proposal is a Construction Project in a total site area of 58,696 Sq.m. The total Built-up area is 1,49,891.69 Sq.m. (Basement + Ground + 41 Floors & Amenity Blocks) Landscape area is 22359.406 Sq.m. Basement Parking area of 34892.69 Sq.m & Open parking area is 38431.85 Sq.m is to be provided to park about 500 four wheelers & 450 two wheelers. The amenities to be provided includes Sewage Treatment Plants (STPs), Tot lots/ open spaces, MSW Segregation /processing plant, D.G. sets for emergency supply – 3 Nos x 2000 kVA & 1 No x 1010 kVA etc. The details of the project are as follows:

**Typical Built-Up Area of Tower**

S. No	Floor	Built Up Area
1	Basement for parking	34892.69
2	Ground Floor	2246.76
3	Level 01	1458
4	Level 02	2246.76
5	Level 03	2246.76
6	Level 04	2031.09
7	Level 05	2246.76
8	Level 06	2246.76
9	Level 07	2246.76
10	Level 08	2246.76
11	Level 09	2246.76
12	Level 10	2246.76
13	Level 11	2246.76



*pay*



S. No	Floor	Built Up Area
14	Level 12	2246.76
15	Level 13	2246.76
16	Level 14	2246.76
17	Level 15	2246.76
18	Level 16	2246.76
19	Level 17	2246.76
20	Level 18	2246.76
21	Level 19	2246.76
22	Level 20	2246.76
23	Level 21	2031.09
24	Level 22	2246.76
25	Level 23	2246.76
26	Level 24	2246.76
27	Level 25	2246.76
28	Level 26	2246.76
29	Level 27	2246.76
30	Level 28	2246.76
31	Level 29	2246.76
32	Level 30	2246.76
33	Level 31	2246.76
34	Level 32	2031.09
35	Level 33	2246.76
36	Level 34	2246.76
37	Level 35	2246.76
38	Level 36	2246.76
39	Level 37	2246.76
40	Level 38	2246.76
41	Level 39	2246.76
42	Level 40	2031.09
43	Level 41	2246.76
	Built-up area of tower	127605.17
	Built-up area of amenities Blocks –A1, A2, A3 & A4	22286.52
	<b>Total Built up area</b>	<b>149891.69</b>

- III. The source of fresh water is Thulluru lift irrigation Scheme. The total water requirement during occupational stage is 289 KLD. Out of that, fresh water requirement is 157 KLD & treated waste water recycled is 132 KLD. Quantity of sewage generated is 155 KLD and it shall be treated in a STP of capacity 170 KLD. The treated waste water is to be used for flushing the toilets, development of greenery. The Garbage (Organic waste - 603 kg/day & inorganic waste - 780 kg/day) generated is to be sent to Municipal Solid Waste facilities; STP sludge (182 kg/day) is to be used as manure; used oil and used batteries are to be sent to Authorized Recyclers.

The proposal has been examined and processed in accordance with EIA Notification, 2006



& its amendments thereof. The State Level Expert Appraisal Committee (SEAC) examined the proposal in its meeting held on **30.06.2018**. The representatives of the project proponent - APCRDA and their consultant M/s. B.S Envi- Tech Pvt. Ltd., have attended the meeting and presented their case. Also the committee noted that this proposed project is one of the inter-linked projects of the Greenfield Capital City Amaravati Project. *The Committee noted that the proposed project falls under Item 8(a) of the schedule of the EIA Notification 2006- Construction projects , as the proposed project site covering an area is < 50 ha and built up area is <1,50,000 sq. m. This proposal comes under category 'B2' project. The Committee recommended for issue of Environmental Clearance to this construction project: Infrastructure Sector Office Complex Project with built up area-149891.69 Sq.m., in the Greenfield Capital City Amaravati Project area, by stipulating the standard conditions and other conditions: (i) The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon'ble NGT Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - "Infrastructure Sector Office Complex" as it is one of the inter-linked projects of the Greenfield Capital City Amaravati Project.(ii) The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rules, 2016, applicable for construction projects; (iii) The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher; (iv) The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site.* The State Level Environment Impact Assessment Authority (SEIAA), in its meeting held on **02.08.2018** examined the proposal and the recommendations of SEAC, and after due discussions, the SEIAA decided to issue Environmental Clearance. The SEIAA, A.P hereby **accords prior Environmental Clearance to the project** as mentioned at Para No. II under the provisions of the EIA Notification 2006 and its subsequent amendments issued under Environment (Protection) Act, 1986 subject to implementation of the following special, specific and general conditions.

#### **PART-A: SPECIAL CONDITIONS:**

- (i) The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon'ble NGT Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - "Infrastructure Sector Office Complex" as it is one of the *inter-linked projects* of the Greenfield Capital City Amaravati Project.
- (ii) *The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rules, 2016, applicable for construction projects;*
- (iii) *The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher;*
- (iv) *The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site.*



1. Separate space for segregation, storage, decentralized processing of solid waste shall be provided in addition to processing of biodegradable waste in the premises.
2. The proponent shall provide the Sewage Treatment Plant (STP) of 170 KLD. As the treated effluent is proposed for recycle, the suitable disinfection system is to be provided in addition to the STP proposed in the EMP.
3. Dual plumbing system to be provided for reuse of the treated effluent for flushing and other purposes.
4. Solar Energy systems to be planned to utilize at least one third of the roof area.
5. The building shall be designed for compliance with earth quake resistance and resisting other natural hazards.
6. The proponent shall use only fly ash based products for construction, such as cement or concrete, fly ash bricks or tiles or clay fly ash bricks, or bricks, blocks or tiles or cement fly ash bricks or blocks or similar products or a combination or aggregate of them as required under MOEF notification S.O.763(E) d 14.9.1999 amended thereof.
7. Provision for Rain Water Harvesting (RWH) is to be made for collection, usage and also for ground water table maintenance.
8. The proponent shall use only LED lights in the common areas and internal roads.
9. The proponent shall create Corpus Fund of Rs.102 Lakhs to ensure continuous operation of STP.
10. The proponent shall obtain required clearances if any from all regulatory Departments including Fire Department, before starting the construction.
11. The proponent shall develop green belt in an area not less than 10% of plot area in addition to green belt in set-back areas.
12. Construction and demolition waste shall be handled and disposed as per the provisions of construction and demolition waste Management Rules, 2016.

#### **PART-B SPECIFIC CONDITIONS:**

##### **I. CONSTRUCTION PHASE:**

- i. Provision shall be made for the housing of the construction labour within the site with all necessary infrastructure and facilities such as safe drinking water, fuel for cooking, mobile toilets, mobile STP, medical health care, crèche etc., The housing may be in the form of temporary structures to be removed after the completion of the project. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.
- ii. A First Aid Room shall be provided in the project both during construction and operation of the project.
- iii. All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
- iv. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- v. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- vi. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.

- vii. Any hazardous waste including biomedical waste, if any, should be disposed of as per applicable Rules & norms with necessary approvals of the Andhra Pradesh Pollution Control Board.
- viii. The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to E (P) Rules prescribed for air and noise emission standards.
- ix. Vehicles hired for bringing construction material to the site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
- x. Ambient noise levels should conform to the residential standards both during day and night as notified by the MoEF&CC, GOI from time to time. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by the CPCB.
- xi. Ready mixed concrete must be used in building construction.
- xii. Storm water control and its re-use shall be as per CGWB and BIS standards for various applications.
- xiii. Permission to draw ground water shall be obtained from the competent Authority prior to construction/operation of the project.
- xiv. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- xv. Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices of sensor based control.
- xvi. Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on air-conditioning. If necessary, high quality double glass with special reflective coating in window is to be used.
- xvii. Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.
- xviii. Adequate measures to reduce air and noise pollution during construction keeping in mind CPCB norms on noise limits.
- xix. Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air conditioned spaces by use of appropriate thermal insulation material to fulfill requirement.
- xx. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening etc.
- xxi. Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.





## II. Occupational Phase:

- i. The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the SEIAA before the project is commissioned for operation. Discharge of treated sewage shall conform to the norms & standards of the Andhra Pradesh Pollution Control Board. Sewage Treatment Plant should be monitored on a regular basis. No waste water shall be discharged out side the premises until outlet is connected to public sewer line. Till such time, the excess treated sewage, if any, is to be discharged into an artificial pond with in the premises and can be utilized for recreational purpose.
- ii. Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
- iii. The solid waste generated should be properly collected & segregated before disposal to the Facility. The organic waste shall be composted.
- iv. The D.G. Sets shall be provided with acoustic enclosures and adequate stack height as per CPCB norms. The fuel used for the diesel generator sets should be low sulphur diesel and should conform to E (P) Rules prescribed for air and noise emission standards.
- v. Any hazardous waste including biomedical waste should be disposed of as per applicable Rules & norms with necessary approvals of the Andhra Pradesh Pollution Control Board.
- vi. The green belt design along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use by the MoEF&CC, GOI/CPCB. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous variety. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- vii. Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.
- viii. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid systems or fully solar system for a portion of the apartments should be provided by utilizing atleast 1/3<sup>rd</sup> roof area for solar energy system.
- ix. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- x. Adequate number of parking spaces shall be provided for visitor vehicles. Rest room facilities should be provided for service population. The proponent shall provide public convenience facilities such as toilets, bathrooms, waiting rooms etc. for the drivers, workers etc. so as to maintain cleanness/hygienic conditions in the surroundings of the project.



- xi. The proponent shall comply with Energy Conservation Practices, Energy efficient practices and energy audit practices. Wherever feasible, green building concepts shall be adopted. Use of solar panels may be done to the extent possible.
- xii. Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.

**PART – C. GENERAL CONDITIONS:**

- i. **This order is valid for a period of 7 years.**
- ii. "Consent for Establishment" shall be obtained from Andhra Pradesh Pollution Control Board under Air and Water Act before the start of any construction work at site.
- iii. The proponent shall submit half-yearly compliance reports in respect of the terms and conditions stipulated in this order & monitoring reports in hard and soft copies to the SEIAA, A.P., District Collector and Ministry's Regional office, Chennai on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
- iv. Officials from the Regional Office of MoEF&CC, Chennai / The SEIAA, Andhra Pradesh through the Regional Offices of Andhra Pradesh Pollution Control Board who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents shall be submitted to the CCF, Regional Office, MoE&F, Chennai.
- v. In the case of any change (s) in the scope of the project, the project would require a fresh appraisal by this SEIAA. No further expansion or modifications in the project shall be carried out without prior approval of the SEIAA, AP.
- vi. The project proponent shall submit the copies of the environmental clearance to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- vii. The proponent shall obtain clearance from Fire Department. All other statutory clearances shall be obtained, as applicable by project proponents from the competent authorities.
- viii. The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters are available with the Andhra Pradesh Pollution Control Board. The advertisement should be made within 7 days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Chennai.
- ix. The funds earmarked for environmental protection measures (**Capital cost is Rs.6.69 Crores and recurring cost is Rs.0.54 Crores/annum**) should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the SEIAA and Ministry's Regional Office located at Chennai.





- x. At least 0.5% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared in accordance to the MoEF&CC's office Memorandum No.F.No.22-65/2017 IA.III, dated.01.05.2018 and submit to the SEIAA, A.P and Ministry's Regional Office, Chennai.
- xi. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- xii. The SEIAA may revoke or suspend the order, if implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
- xiii. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986 without any prior notice.
- xiv. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.

Sd/-  
MEMBER SECRETARY,  
SEIAA, A.P.

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MEMBER,  
SEIAA, A.P.

Sd/-  
CHAIRMAN,  
SEIAA, A.P.

To  
The Additional Commissioner (CCP),  
Andhra Pradesh Capital Region Development Authority (APCRDA),  
Lenin Centre, Governorpet,  
Vijayawada- 520002,  
Andhra Pradesh  
Phone : 7995084172  
Email. [shan@apcrda.org](mailto:shan@apcrda.org) & [dorababu@apcrda.org](mailto:dorababu@apcrda.org)

//T.C.F.B.O//

  
SENIOR ENVIRONMENTAL ENGINEER (EC)



**State Level Environment Impact Assessment Authority (SEIAA)**

**Andhra Pradesh**

**Ministry of Environment, Forests & Climate Change**

**Government of India**

D.No.33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre,  
Chalamavari Street, Kasturibaipet, Vijayawada-520010.

BY REGD. POST WITH ACK DUE

**Order No. SEIAA//AP/GNT/CON/05/2018/593 - 750**

**Dt:14.08.2018.**

<b>Sub:</b>	<b>SEIAA, AP – Construction of “Service Sector Office Complex” of Andhra Pradesh Capital Region Development Authority (APCRDA) at Sy.Nos. Part of 101, 102, 103 of Kondamarajupalem (V) and Part of 246, 253 of Rayapudi (V), Thullur (M), Amaravati Capital City, Guntur District, Andhra Pradesh., Andhra Pradesh - Environmental Clearance – Issued – Reg.</b>
-------------	---

- I. This has reference to your application submitted through online on 11.05.2018, seeking Environmental Clearance for **Construction of “Service Sector Office Complex” of Andhra Pradesh Capital Region Development Authority (APCRDA) at Sy.Nos. Part of 101, 102, 103 of Kondamarajupalem (V) and Part of 246, 253 of Rayapudi (V), Thullur (M), Amaravati Capital City, Guntur District, Andhra Pradesh** by M/s APCRDA. The capital cost of the project is Rs.858.85 Crores.
- II. It is noted that the proposal is a Construction Project in a total site area of 15,611 Sq.m. The total Built-up area is 1,13,157.72 Sq.m (1 Tower & 1 Amenities Block). Landscape area is 2663.88 Sq.m. Basement Parking area of 13720 Sq.m & Open parking area is 12731 Sq.m is to be provided to park about 500 four wheelers & 450 two wheelers. The amenities to be provided includes Sewage Treatment Plants (STPs), Tot lots/ open spaces, MSW Segregation /processing plant, D.G. sets for emergency supply – 2000 kVA x 4 Nos etc. The details of the project are as follows:

**Typical Built-Up Area of Tower**

S. No	Floor	Built Up Area
1	Basement for parking	13720
2	Ground Floor	2246.76
3	Level 01	1458
4	Level 02	2246.76
5	Level 03	2246.76
6	Level 04	2031.09
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10	Level 08	2246.76
11	Level 09	2246.76
12	Level 10	2246.76
13	Level 11	2246.76
14	Level 12	2246.76



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S. No	Floor	Built Up Area
15	Level 13	2246.76
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39	Level 37	2246.76
40	Level 38	2246.76
41	Level 39	2246.76
42	Level 40	2031.09
43	Level 41	2246.76
	Built-up area of tower	106432.48
	Built-up area of amenities Blocks –A1	6725.24
	<b>Total Built up area</b>	<b>1,13,157.72</b>

- III. The source of fresh water is Thulluru lift irrigation Scheme. The total water requirement during occupational stage is 293 KLD. Out of that, fresh water requirement is 161 KLD & treated waste water recycled is 132 KLD. Quantity of sewage generated is 155 KLD and it shall be treated in a STP of capacity 170 KLD. The treated waste water is to be used for flushing the toilets, development of greenery. The Garbage (Organic waste - 530 kg/day & inorganic waste - 780 kg/day) generated is to be sent to Municipal Solid Waste facilities; STP sludge (182 kg/day) is to be used as manure; used oil and used batteries are to be sent to Authorized Recyclers.

The proposal has been examined and processed in accordance with EIA Notification, 2006 & its amendments thereof. The State Level Expert Appraisal Committee (SEAC) examined the proposal in its meeting held on **30.06.2018**. The representatives of the project

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proponent - APCRDA and their consultant M/s. B.S Envi- Tech Pvt. Ltd., have attended the meeting and presented their case. Also the committee noted that this proposed project is one of the inter-linked projects of the Greenfield Capital City Amaravati Project. *The Committee noted that the proposed project falls under Item 8(a) of the schedule of the EIA Notification 2006- Construction projects , as the proposed project site covering an area is < 50 ha and built up area is <1,50,000 sq. m. This proposal comes under category 'B2' project. The Committee recommended for issue of Environmental Clearance to this construction project: Service Sector Office Complex Project with built up area- 113157.72 Sq.m., in the Greenfield Capital City Amaravati Project area, by stipulating the standard conditions and other conditions: (i) The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon'ble NGT Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - "Service Sector Office Complex" as it is one of the inter-linked projects of the Greenfield Capital City Amaravati Project.(ii) The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rule, 2016, applicable for construction projects; (iii) The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher; (iv) The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site. The State Level Environment Impact Assessment Authority (SEIAA), in its meeting held on **02.08.2018** examined the proposal and the recommendations of SEAC, and after due discussions, the SEIAA decided to issue Environmental Clearance. The SEIAA, A.P hereby **accords prior Environmental Clearance to the project** as mentioned at Para No. II under the provisions of the EIA Notification 2006 and its subsequent amendments issued under Environment (Protection) Act, 1986 subject to implementation of the following special, specific and general conditions.*

#### **PART-A: SPECIAL CONDITIONS:**

1. The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon'ble NGT Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - "Service Sector Office Complex" as it is one of the *inter-linked projects* of the Greenfield Capital City Amaravati Project.
2. *The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rule, 2016, applicable for construction projects;*
3. *The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher;*
4. *The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site.*
5. Separate space for segregation, storage, decentralized processing of solid waste shall be provided in addition to processing of biodegradable waste in the premises.





6. The proponent shall provide the Sewage Treatment Plant (STP) of 170 KLD. As the treated effluent is proposed for recycle, the suitable disinfection system is to be provided in addition to the STP proposed in the EMP.
7. Dual plumbing system to be provided for reuse of the treated effluent for flushing and other purposes.
8. Solar Energy systems to be planned to utilize at least one third of the roof area.
9. The building shall be designed for compliance with earth quake resistance and resisting other natural hazards.
10. The proponent shall use only fly ash based products for construction, such as cement or concrete, fly ash bricks or tiles or clay fly ash bricks, or bricks, blocks or tiles or cement fly ash bricks or blocks or similar products or a combination or aggregate of them as required under MOEF notification S.O.763(E) d 14.9.1999 amended thereof.
11. Provision for Rain Water Harvesting (RWH) is to be made for collection, usage and also for ground water table maintenance.
12. The proponent shall use only LED lights in the common areas and internal roads.
13. The proponent shall create Corpus Fund of Rs.102 Lakhs to ensure continuous operation of STP.
14. The proponent shall obtain required clearances if any from all regulatory Departments including Fire Department, before starting the construction.
15. The proponent shall develop green belt in an area not less than 10% of plot area in addition to green belt in set-back areas.
16. Construction and demolition waste shall be handled and disposed as per the provisions of construction and demolition waste Management Rules, 2016.

## **PART-B SPECIFIC CONDITIONS:**

### **I. CONSTRUCTION PHASE:**

- i. Provision shall be made for the housing of the construction labour within the site with all necessary infrastructure and facilities such as safe drinking water, fuel for cooking, mobile toilets, mobile STP, medical health care, crèche etc., The housing may be in the form of temporary structures to be removed after the completion of the project. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.
- ii. A First Aid Room shall be provided in the project both during construction and operation of the project.
- iii. All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
- iv. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- v. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- vi. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.



- vii. Any hazardous waste including biomedical waste, if any, should be disposed of as per applicable Rules & norms with necessary approvals of the Andhra Pradesh Pollution Control Board.
- viii. The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to E (P) Rules prescribed for air and noise emission standards.
- ix. Vehicles hired for bringing construction material to the site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
- x. Ambient noise levels should conform to the residential standards both during day and night as notified by the MoEF&CC, GOI from time to time. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by the CPCB.
- xi. Ready mixed concrete must be used in building construction.
- xii. Storm water control and its re-use shall be as per CGWB and BIS standards for various applications.
- xiii. Permission to draw ground water shall be obtained from the competent Authority prior to construction/operation of the project.
- xiv. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- xv. Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices of sensor based control.
- xvi. Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on air-conditioning. If necessary, high quality double glass with special reflective coating in window is to be used.
- xvii. Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.
- xviii. Adequate measures to reduce air and noise pollution during construction keeping in mind CPCB norms on noise limits.
- xix. Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air conditioned spaces by use of appropriate thermal insulation material to fulfill requirement.
- xx. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening etc.
- xxi. Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.



## II. Occupational Phase:

- i. The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the SEIAA before the project is commissioned for operation. Discharge of treated sewage shall conform to the norms & standards of the Andhra Pradesh Pollution Control Board. Sewage Treatment Plant should be monitored on a regular basis. No waste water shall be discharged out side the premises until outlet is connected to public sewer line. Till such time, the excess treated sewage, if any, is to be discharged into an artificial pond with in the premises and can be utilized for recreational purpose.
- ii. Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
- iii. The solid waste generated should be properly collected & segregated before disposal to the Facility. The organic waste shall be composted.
- iv. The D.G. Sets shall be provided with acoustic enclosures and adequate stack height as per CPCB norms. The fuel used for the diesel generator sets should be low sulphur diesel and should conform to E (P) Rules prescribed for air and noise emission standards.
- v. Any hazardous waste including biomedical waste should be disposed of as per applicable Rules & norms with necessary approvals of the Andhra Pradesh Pollution Control Board.
- vi. The green belt design along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use by the MoEF&CC, GOI/CPCB. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous variety. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- vii. Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.
- viii. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid systems or fully solar system for a portion of the apartments should be provided by utilizing atleast 1/3<sup>rd</sup> roof area for solar energy system.
- ix. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- x. Adequate number of parking spaces shall be provided for visitor vehicles. Rest room facilities should be provided for service population. The proponent shall provide public convenience facilities such as toilets, bathrooms, waiting rooms etc. for the drivers, workers etc. so as to maintain cleanness/hygienic conditions in the surroundings of the project.





- xi. The proponent shall comply with Energy Conservation Practices, Energy efficient practices and energy audit practices. Wherever feasible, green building concepts shall be adopted. Use of solar panels may be done to the extent possible.
- xii. Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.

**PART – C. GENERAL CONDITIONS:**

- i. **This order is valid for a period of 7 years.**
- ii. "Consent for Establishment" shall be obtained from Andhra Pradesh Pollution Control Board under Air and Water Act before the start of any construction work at site.
- iii. The proponent shall submit half-yearly compliance reports in respect of the terms and conditions stipulated in this order & monitoring reports in hard and soft copies to the SEIAA, A.P., District Collector and Ministry's Regional office, Chennai on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
- iv. Officials from the Regional Office of MoEF&CC, Chennai / The SEIAA, Andhra Pradesh through the Regional Offices of Andhra Pradesh Pollution Control Board who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents shall be submitted to the CCF, Regional Office, MoE&F, Chennai.
- v. In the case of any change (s) in the scope of the project, the project would require a fresh appraisal by this SEIAA. No further expansion or modifications in the project shall be carried out without prior approval of the SEIAA, AP.
- vi. The project proponent shall submit the copies of the environmental clearance to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- vii. The proponent shall obtain clearance from Fire Department. All other statutory clearances shall be obtained, as applicable by project proponents from the competent authorities.
- viii. The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters are available with the Andhra Pradesh Pollution Control Board. The advertisement should be made within 7 days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Chennai.
- ix. The funds earmarked for environmental protection measures (**Capital cost is Rs.4.92 Crores and recurring cost is Rs.0.37 Crores/annum**) should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the SEIAA and Ministry's Regional Office located at Chennai.





- x. At least 1% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared in accordance to the MoEF&CC's office Memorandum No.F.No.22-65/2017 IA.III, dated.01.05.2018 and submit to the SEIAA, A.P and Ministry's Regional Office, Chennai.
- xi. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- xii. The SEIAA may revoke or suspend the order, if implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
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**To**

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**Email. [shan@apcrda.org](mailto:shan@apcrda.org) & [dorababu@apcrda.org](mailto:dorababu@apcrda.org)**

**//T.C.F.B.O//**

  
**SENIOR ENVIRONMENTAL ENGINEER (EC)**



**State Level Environment Impact Assessment Authority (SEIAA)**  
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Chalamavari Street, Kasturibaipet, Vijayawada-520010.

BY REGD. POST WITH ACK DUE

**Order No. SEIAA//AP/GNT/CON/05/2018/592 - 252.**

**Dt:14.08.2018.**

**Sub: SEIAA, AP – Construction of “Industry Sector Office Complex” Andhra Pradesh Capital Region Development Authority (APCRDA) at Sy.Nos. Part of 102, 103 of Kondamarajupalem (V), Thullur (M), Amaravati Capital City, Guntur District, Andhra Pradesh., Andhra Pradesh - Environmental Clearance – Issued – Reg.**

- I.** This has reference to your application submitted through online on 11.05.2018, seeking Environmental Clearance for **Construction of “Industry Sector Office Complex” Andhra Pradesh Capital Region Development Authority (APCRDA) at Sy.Nos. Part of 102, 103 of Kondamarajupalem (V), Thullur (M), Amaravati Capital City, Guntur District, Andhra Pradesh by M/s APCRDA.** The capital cost of the project is Rs.870.38 Crores.
- II.** It is noted that the proposal is a Construction Project in a total plot area of 15,611 Sq.m. The total Built-up area is 1,13,157.72 Sq.m. (Basement + Ground + 41 Floors along with amenity block) Landscape area is 2665 Sq.m. Basement Parking area of 13720 Sq.m & Open parking area is 12731 Sq.m is to be provided to park about 500 four wheelers & 450 two wheelers. The amenities to be provided includes Sewage Treatment Plants (STPs), Tot lots/ open spaces, MSW Segregation /processing plant, D.G. sets for emergency supply – 4 Nos x 2000 kVA etc. The details of the project are as follows:

**Typical Built-Up Area of Tower**

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- III.** The source of fresh water is Thulluru lift irrigation Scheme. The total water requirement during occupational stage is 295 KLD. Out of that, fresh water requirement is 163 KLD & treated waste water recycled is 132 KLD. Quantity of sewage generated is 155.0 KLD and it shall be treated in a STP of capacity 170.0 KLD. The treated waste water is to be used for flushing the toilets, development of greenery. The Garbage (Organic waste - 530 kg/day & inorganic waste - 780 kg/day) generated is to be sent to Municipal Solid Waste facilities; STP sludge (182 kg/day) is to be used as manure; used oil and used batteries are to be sent to Authorized Recyclers.

The proposal has been examined and processed in accordance with EIA Notification, 2006 & its amendments thereof. The State Level Expert Appraisal Committee (SEAC) examined the proposal in its meeting held on **30.06.2018**. The representatives of the project proponent

*Handwritten signature*



- APCRDA and their consultant M/s. B.S Envi- Tech Pvt. Ltd., have attended the meeting and presented their case. Also the committee noted that this proposed project is one of the inter-linked projects of the Greenfield Capital City Amaravati Project. *The Committee noted that the proposed project falls under Item 8(a) of the schedule of the EIA Notification 2006- Construction projects , as the proposed project site covering an area is < 50 ha and built up area is <1,50,000 sq. m. This proposal comes under category 'B2' project. The Committee recommended for issue of Environmental Clearance to this construction project: Industry Sector Office Complex Project with built up area- 113157.72 Sq.m., in the Greenfield Capital City Amaravati Project area, by stipulating the standard conditions and other conditions: (i) The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon'ble NGT Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - "Industry Sector Office Complex" as it is one of the inter-linked projects of the Greenfield Capital City Amaravati Project. (ii) The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rule, 2016, applicable for construction projects; (iii) The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher; (iv) The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site. The State Level Environment Impact Assessment Authority (SEIAA), in its meeting held on 02.08.2018 examined the proposal and the recommendations of SEAC, and after due discussions, the SEIAA decided to issue Environmental Clearance. The SEIAA, A.P hereby accords prior Environmental Clearance to the project as mentioned at Para No. II under the provisions of the EIA Notification 2006 and its subsequent amendments issued under Environment (Protection) Act, 1986 subject to implementation of the following special, specific and general conditions.*

#### **PART-A: SPECIAL CONDITIONS:**

1. The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon'ble NGT Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - "Industry Sector Office Complex" as it is one of the inter-linked projects of the Greenfield Capital City Amaravati Project.
2. *The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rule, 2016, applicable for construction projects;*
3. *The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher;*
4. *The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site.*
5. Separate space for segregation, storage, decentralized processing of solid waste shall be provided in addition to processing of biodegradable waste in the premises.





6. The proponent shall provide the Sewage Treatment Plant (STP) of 170 KLD. As the treated effluent is proposed for recycle, the suitable disinfection system is to be provided in addition to the STP proposed in the EMP.
7. Dual plumbing system to be provided for reuse of the treated effluent for flushing and other purposes.
8. Solar Energy systems to be planned to utilize at least one third of the roof area.
9. The building shall be designed for compliance with earth quake resistance and resisting other natural hazards.
10. The proponent shall use only fly ash based products for construction, such as cement or concrete, fly ash bricks or tiles or clay fly ash bricks, or bricks, blocks or tiles or cement fly ash bricks or blocks or similar products or a combination or aggregate of them as required under MOEF notification S.O.763(E) d 14.9.1999 amended thereof.
11. Provision for Rain Water Harvesting (RWH) is to be made for collection, usage and also for ground water table maintenance.
12. The proponent shall use only LED lights in the common areas and internal roads.
13. The proponent shall create Corpus Fund of Rs.102 Lakhs to ensure continuous operation of STP.
14. The proponent shall obtain required clearances if any from all regulatory Departments including Fire Department, before starting the construction.
15. The proponent shall develop green belt in an area not less than 10% of plot area in addition to green belt in set-back areas.
16. Construction and demolition waste shall be handled and disposed as per the provisions of construction and demolition waste Management Rules, 2016.

## **PART-B SPECIFIC CONDITIONS:**

### **I. CONSTRUCTION PHASE:**

- i. Provision shall be made for the housing of the construction labour within the site with all necessary infrastructure and facilities such as safe drinking water, fuel for cooking, mobile toilets, mobile STP, medical health care, crèche etc., The housing may be in the form of temporary structures to be removed after the completion of the project. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.
- ii. A First Aid Room shall be provided in the project both during construction and operation of the project.
- iii. All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
- iv. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- v. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- vi. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.



- vii. Any hazardous waste including biomedical waste, if any, should be disposed of as per applicable Rules & norms with necessary approvals of the Andhra Pradesh Pollution Control Board.
- viii. The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to E (P) Rules prescribed for air and noise emission standards.
- ix. Vehicles hired for bringing construction material to the site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
- x. Ambient noise levels should conform to the residential standards both during day and night as notified by the MoEF&CC, GOI from time to time. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by the CPCB.
- xi. Ready mixed concrete must be used in building construction.
- xii. Storm water control and its re-use shall be as per CGWB and BIS standards for various applications.
- xiii. Permission to draw ground water shall be obtained from the competent Authority prior to construction/operation of the project.
- xiv. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- xv. Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices of sensor based control.
- xvi. Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on air-conditioning. If necessary, high quality double glass with special reflective coating in window is to be used.
- xvii. Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.
- xviii. Adequate measures to reduce air and noise pollution during construction keeping in mind CPCB norms on noise limits.
- xix. Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air conditioned spaces by use of appropriate thermal insulation material to fulfill requirement.
- xx. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening etc.
- xxi. Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.





## II. Occupational Phase:

- i. The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the SEIAA before the project is commissioned for operation. Discharge of treated sewage shall conform to the norms & standards of the Andhra Pradesh Pollution Control Board. Sewage Treatment Plant should be monitored on a regular basis. No waste water shall be discharged out side the premises until outlet is connected to public sewer line. Till such time, the excess treated sewage, if any, is to be discharged into an artificial pond with in the premises and can be utilized for recreational purpose.
- ii. Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
- iii. The solid waste generated should be properly collected & segregated before disposal to the Facility. The organic waste shall be composted.
- iv. The D.G. Sets shall be provided with acoustic enclosures and adequate stack height as per CPCB norms. The fuel used for the diesel generator sets should be low sulphur diesel and should conform to E (P) Rules prescribed for air and noise emission standards.
- v. Any hazardous waste including biomedical waste should be disposed of as per applicable Rules & norms with necessary approvals of the Andhra Pradesh Pollution Control Board.
- vi. The green belt design along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use by the MoEF&CC, GOI/CPCB. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous variety. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- vii. Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.
- viii. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid systems or fully solar system for a portion of the apartments should be provided by utilizing atleast 1/3<sup>rd</sup> roof area for solar energy system.
- ix. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- x. Adequate number of parking spaces shall be provided for visitor vehicles. Rest room facilities should be provided for service population. The proponent shall provide public convenience facilities such as toilets, bathrooms, waiting rooms etc. for the drivers, workers etc. so as to maintain cleanness/hygienic conditions in the surroundings of the project.



- xi. The proponent shall comply with Energy Conservation Practices, Energy efficient practices and energy audit practices. Wherever feasible, green building concepts shall be adopted. Use of solar panels may be done to the extent possible.
- xii. Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.

**PART – C. GENERAL CONDITIONS:**

- i. **This order is valid for a period of 7 years.**
- ii. “Consent for Establishment” shall be obtained from Andhra Pradesh Pollution Control Board under Air and Water Act before the start of any construction work at site.
- iii. The proponent shall submit half-yearly compliance reports in respect of the terms and conditions stipulated in this order & monitoring reports in hard and soft copies to the SEIAA, A.P., District Collector and Ministry’s Regional office, Chennai on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
- iv. Officials from the Regional Office of MoEF&CC, Chennai / The SEIAA, Andhra Pradesh through the Regional Offices of Andhra Pradesh Pollution Control Board who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents shall be submitted to the CCF, Regional Office, MoE&F, Chennai.
- v. In the case of any change (s) in the scope of the project, the project would require a fresh appraisal by this SEIAA. No further expansion or modifications in the project shall be carried out without prior approval of the SEIAA, AP.
- vi. The project proponent shall submit the copies of the environmental clearance to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- vii. The proponent shall obtain clearance from Fire Department. All other statutory clearances shall be obtained, as applicable by project proponents from the competent authorities.
- viii. The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters are available with the Andhra Pradesh Pollution Control Board. The advertisement should be made within 7 days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Chennai.
- ix. The funds earmarked for environmental protection measures (**Capital cost is Rs.4.92 Crores and recurring cost is Rs.0.37 Crores/annum**) should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the SEIAA and Ministry’s Regional Office located at Chennai.





- x. At least 1% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared in accordance to the MoEF&CC's office Memorandum No.F.No.22-65/2017 IA.III, dated.01.05.2018 and submit to the SEIAA, A.P and Ministry's Regional Office, Chennai.
- xi. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- xii. The SEIAA may revoke or suspend the order, if implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
- xiii. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986 without any prior notice.
- xiv. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.

Sd/-  
**MEMBER SECRETARY,**  
**SEIAA, A.P.**

Sd/-  
**MEMBER,**  
**SEIAA, A.P.**

Sd/-  
**CHAIRMAN,**  
**SEIAA, A.P.**

To

The Additional Commissioner (CCP),  
Andhra Pradesh Capital Region Development Authority (APCRDA),  
Lenin Centre, Governorpet,  
Vijayawada- 520002,  
Andhra Pradesh  
Phone : 7995084172  
Email. [shan@apcrda.org](mailto:shan@apcrda.org)

//T.C.F.B.O//

  
**SENIOR ENVIRONMENTAL ENGINEER (EC)**





**State Level Environment Impact Assessment Authority (SEIAA)**

**Andhra Pradesh**

**Ministry of Environment, Forests & Climate Change**

**Government of India**

D.No.33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre,  
Chalamavari Street, Kasturibaipet, Vijayawada-520010.

**BY REGD. POST WITH ACK DUE**

**Order No. SEIAA/AP/GNT/CON/05/2018/590 - 1393 .**

**Dt:27.11.2018.**

**Sub: SEIAA, AP – Construction of “Hon’ble CM’s Office Complex” of Andhra Pradesh Capital Region Development Authority (APCRDA) at Sy.Nos. Part of 102, 103, 104, 105, 106, & 108 of Kondamarajupalem (V), Thullur (M), Amaravati Capital City, Guntur District, Andhra Pradesh - Environmental Clearance – Issued – Reg.**

- Def (LSIR)*
- I. This has reference to your application submitted through online on 09.05.2018 (SIA/AP/NCP/26047/2018) EIA report through online on 11.10.2018, seeking Environmental Clearance for **Construction of “Hon’ble CM’s Office Complex” at Sy.Nos. Part of 102, 103, 104, 105, 106, & 108 of Kondamarajupalem (V), Thullur (M), Amaravati Capital City, Guntur District, Andhra Pradesh by M/s. Andhra Pradesh Capital Region Development Authority (APCRDA).** The capital cost of the project is Rs.2112 Crores.
- II. It is noted that the proposal is a Construction Project in a total Plot area of 54,035 Sq.m. The total Built-up area is 2,85,499.75 Sq.m. Landscape area is 25,702.26 Sq.m. Basement Parking area of 59678.23 Sq.m is to be provided to park about 3728 four wheelers & 18664 two wheelers. The amenities to be provided includes Sewage Treatment Plants (STPs), Tot lots/ open spaces, MSW Segregation /processing plant, D.G. sets for emergency supply – 2000 kVA x 6 Nos & 2 x 1010 KVA etc. The details of the project are as follows:

**Built-Up Area of Tower - 1**

S. No	Floor	Built Up Area
1	Basement for parking	13720
2	Ground Floor	2246.76
3	Level 01	1458
4	Level 02	2246.76
5	Level 03	2246.76
6	Level 04	2031.09
7	Level 05	2246.76
8	Level 06	2246.76
9	Level 07	2246.76
10	Level 08	2246.76
11	Level 09	2246.76
12	Level 10	2246.76



S. No	Floor	Built Up Area
13	Level 11	2246.76
14	Level 12	2246.76
15	Level 13	2246.76
16	Level 14	2246.76
17	Level 15	2246.76
18	Level 16	2246.76
19	Level 17	2246.76
20	Level 18	2246.76
21	Level 19	2246.76
22	Level 20	2246.76
23	Level 21	2031.09
24	Level 22	2246.76
25	Level 23	2246.76
26	Level 24	2246.76
27	Level 25	2246.76
28	Level 26	2246.76
29	Level 27	2246.76
30	Level 28	2246.76
31	Level 29	2246.76
32	Level 30	2246.76
33	Level 31	2246.76
34	Level 32	2031.09
35	Level 33	2246.76
36	Level 34	2246.76
37	Level 35	2246.76
38	Level 36	2246.76
39	Level 37	2246.76
40	Level 38	2246.76
41	Level 39	2246.76
42	Level 40	2031.09
43	Level 41	2246.76
<b>Total Built up area</b>		<b>106432.48</b>

#### Built-Up Area of Tower - 2

S. No	Floor	Built Up Area
1.	Basement for parking	45958.23
2.	Ground Floor	2246.76
3.	Level 01	1458
4.	Level 02	2246.76
5.	Level 03	2246.76
6.	Level 04	2031.09
7.	Level 05	2246.76
8.	Level 06	2246.76
9.	Level 07	2246.76

*Buy*



10.	Level 08	2246.76
11.	Level 09	2246.76
12.	Level 10	2246.76
13.	Level 11	2246.76
14.	Level 12	2246.76
15.	Level 13	2246.76
16.	Level 14	2246.76
17.	Level 15	2246.76
18.	Level 16	2246.76
19.	Level 17	2246.76
20.	Level 18	2246.76
21.	Level 19	2031.09
22.	Level 20	2246.76
23.	Level 21	2246.76
24.	Level 22	2246.76
25.	Level 23	2246.76
26.	Level 24	2246.76
27.	Level 25	2246.76
28.	Level 26	2246.76
29.	Level 27	2246.76
30.	Level 28	2246.76
31.	Level 29	2246.76
32.	Level 30	2031.09
33.	Level 31	2246.76
34.	Level 32	2246.76
35.	Level 33	2246.76
36.	Level 34	2246.76
37.	Level 35	2246.76
38.	Level 36	2246.76
39.	Level 37	2031.09
40.	Level 38	2246.76
41.	Level 39	2246.76
42.	Level 40	2031.09
43.	Level 41	2246.76
44.	Level 42	2246.76
45.	Level 43	2246.76
46.	Level 44	2246.76
47.	Level 45	2246.76
48.	Level 46	2246.76
49.	Level 47	2246.76
50.	Level 48	2246.76
51.	Level 49	2246.76
52.	<b>Level 50 (Helipad)</b>	2246.76
	<b>Total</b>	<b>158891.55</b>



Sl. No	Block	No. of Floors	Built-up area (Sq.M)
1.	Tower-I	Basement parking + G+41 levels	106432.48
2.	Tower-II	Basement parking + G+49 levels & 50 <sup>th</sup> level for helipad	158891.55
3.	P 4: Amenities Block – A1	G+4 levels	6725.24
4.	P 4: Amenities Block – A2	G+4 levels	6725.24
5.	P 4: Amenities Block – A3	G+4 levels	6725.24
	<b>Total</b>		<b>285499.75</b>

III. The source of fresh water is Thulluru lift irrigation Scheme. The total water requirement during occupational stage is 540 KLD. Out of that, fresh water requirement is 242 KLD and recycled water is 296 KLD. Quantity of sewage generated is 348 KLD and it shall be treated in a STP of capacity 360 KLD. The treated waste water is to be used for flushing the toilets, development of greenery. The solid waste generated is 3359 kg/day (Organic waste - 1401 kg/day & inorganic waste - 1958 kg/day). The organic waste generated shall be converted as compost in the premises and in-organic waste shall be sent to Municipal Solid Waste facilities; STP sludge (381 kg/day) is to be used as manure; used oil and used batteries are to be sent to Authorized Recyclers.

The proposal has been examined and processed in accordance with EIA Notification, 2006 & its amendments thereof. The State Level Expert Appraisal Committee (SEAC) examined the proposal in its meeting held on **13.10.2018**. The representatives of the project proponent - APCRDA and their consultant M/s. B.S EnviTech Pvt. Ltd., have attended the meeting and presented their proposal with final EIA report. The Committee noted that this proposed project is one of the inter-linked projects of the Greenfield Capital City Amaravati Project. This proposal was earlier appraised in the SEAC meetings held on 12.05.2018, 23.06.2018 & 30.06.2018 and recommended for issue of Standard Terms of Reference (TOR) with exemption public hearing with the following additional TOR for the proposed Construction of Townships and Area Development project-“Hon’ble Chief Minister’s Office Complex” with total Built-up area – 285499.75 Sq.m., and with Additional TOR: (i). The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon’ble NGT Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction



project - -“Hon’ble Chief Minister’s Office Complex” as it is one of the inter-linked projects of the Greenfield Capital City Amaravati Project. The SEIAA,A.P., in its meetings 01.06.2018,01.08.2018 & 02.08.2018, after due discussions, the SEIAA agreed with the recommendations of the SEAC, A.P. for issue of TOR. The SEIAA,A.P. issued the TOR with exemption of public hearing on 23.08.2018. The project proponent – APCRDA submitted the final EIA report presented before the committee and requested for Environmental Clearance for construction project – Hon’ble Chief Minister’s Complex with Two Towers and Amenities Blocks – 3 Nos. Tower -1 : Basement + Ground floor + 41 Floors; Tower -2 : Basement + Ground floor + 49 Floors and 50<sup>th</sup> floor ( Helipad). The proposed project falls under Item 8(b) of the schedule of the EIA Notification 2006- Township and Area Development Projects - [  $\geq 1,50,000$  sq. m built up area ] or [covering an area  $\geq 50$  Ha.] and the exemption of public consultation, as provided for under Para 7(i) III. Stage(3)(i)(d) of EIA Notification, 2006. This proposal comes under category ‘B1’project. *The Committee recommended for issue of Environmental Clearance to this construction project : “Hon’ble Chief Minister’s Office Complex “ Project with built up area- 285499.75 Sq.m., in the Greenfield Capital City Amaravati Project area, by stipulating the standard conditions and other conditions: (i) The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon’ble NGT Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - “Hon’ble Chief Minister’s Office Complex” as it is one of the inter-linked projects of the Greenfield Capital City Amaravati Project. (ii) The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rule, 2016, applicable for construction projects; (iii) The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher; (iv) The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site. The State Level Environment Impact Assessment Authority (SEIAA), in its meeting held on 01.11.2018 examined the proposal and the recommendations of SEAC, and after due discussions, the SEIAA decided to issue Environmental Clearance. The SEIAA, A.P hereby accords prior Environmental Clearance to the project as mentioned at Para No. II under the provisions of the EIA Notification 2006 and its subsequent amendments issued under Environment (Protection) Act, 1986 subject to implementation of the following special, specific and general conditions.*

#### **PART-A: SPECIAL CONDITIONS:**

1. The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon’ble NGT Order dated 17.11.2017 in O.A.No.171



of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - "Hon'ble Chief Minister's Office Complex" as it is one of the inter-linked projects of the Greenfield Capital City Amaravati Project.

2. The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rule, 2016, applicable for construction projects;
3. The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher;
4. The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site.
5. Separate space for segregation, storage, decentralized processing of solid waste shall be provided in addition to processing of biodegradable waste in the premises.
6. The proponent shall provide the Sewage Treatment Plant (STP) of 360 KLD. As the treated effluent is proposed for recycle, the suitable disinfection system is to be provided in addition to the STP proposed in the EMP.
7. Dual plumbing system to be provided for reuse of the treated effluent for flushing and other purposes.
8. Solar Energy systems to be planned to utilize at least one third of the roof area.
9. The building shall be designed for compliance with earth quake resistance and resisting other natural hazards.
10. The proponent shall use only fly ash based products for construction, such as cement or concrete, fly ash bricks or tiles or clay fly ash bricks, or bricks, blocks or tiles or cement fly ash bricks or blocks or similar products or a combination or aggregate of them as required under MOEF notification S.O.763(E) d 14.9.1999 amended thereof.
11. Provision for Rain Water Harvesting (RWH) is to be made for collection, usage and also for ground water table maintenance.
12. The proponent shall use only LED lights in the common areas and internal roads.
13. The proponent shall create Corpus Fund of Rs.2.16 Crores to ensure continuous operation of STP.
14. The proponent shall obtain required clearances if any from all regulatory Departments including Fire Department, before starting the construction.
15. The proponent shall develop green belt in an area not less than 10% of plot area in addition to green belt in set-back areas.
16. Construction and demolition waste shall be handled and disposed as per the provisions of construction and demolition waste Management Rules, 2016.

#### **PART-B SPECIFIC CONDITIONS:**

##### **I. CONSTRUCTION PHASE:**

- i. Provision shall be made for the housing of the construction labour within the site with all necessary infrastructure and facilities such as safe drinking water, fuel for cooking, mobile toilets, mobile STP, medical health care, crèche etc., The housing may be in the form of temporary structures to be removed after the completion of the project. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.





- ii. A First Aid Room shall be provided in the project both during construction and operation of the project.
- iii. All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
- iv. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- v. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- vi. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
- vii. Any hazardous waste including biomedical waste, if any, should be disposed of as per applicable Rules & norms with necessary approvals of the Andhra Pradesh Pollution Control Board.
- viii. The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to E (P) Rules prescribed for air and noise emission standards.
- ix. Vehicles hired for bringing construction material to the site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
- x. Ambient noise levels should conform to the residential standards both during day and night as notified by the MoEF&CC, GOI from time to time. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by the CPCB.
- xi. Ready mixed concrete must be used in building construction.
- xii. Storm water control and its re-use shall be as per CGWB and BIS standards for various applications.
- xiii. Permission to draw ground water shall be obtained from the competent Authority prior to construction/operation of the project.
- xiv. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.





- xv. Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.
- xvi. Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on air-conditioning. If necessary, high quality double glass with special reflective coating in window is to be used.
- xvii. Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.
- xviii. Adequate measures to reduce air and noise pollution during construction keeping in mind CPCB norms on noise limits.
- xix. Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air conditioned spaces by use of appropriate thermal insulation material to fulfill requirement.
- xx. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening etc.
- xxi. Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.

## **II. Occupational Phase:**

- i. The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the SEIAA before the project is commissioned for operation. Discharge of treated sewage shall conform to the norms & standards of the Andhra Pradesh Pollution Control Board. Sewage Treatment Plant should be monitored on a regular basis. No waste water shall be discharged out side the premises until outlet is connected to public sewer line. Till such time, the excess treated sewage, if any, is to be discharged into an artificial pond with in the premises and can be utilized for recreational purpose.
- ii. Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
- iii. The solid waste generated should be properly collected & segregated before disposal to the Facility. The organic waste shall be composted.
- iv. The D.G. Sets shall be provided with acoustic enclosures and adequate stack height as per CPCB norms. The fuel used for the diesel generator sets should be low sulphur diesel and should conform to E (P) Rules prescribed for air and noise emission standards.





- v. Any hazardous waste including biomedical waste should be disposed of as per applicable Rules & norms with necessary approvals of the Andhra Pradesh Pollution Control Board.
- vi. The green belt design along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use by the MoEF&CC, GOI/CPCB. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous variety. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- vii. Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.
- viii. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid systems or fully solar system for a portion of the apartments should be provided by utilizing atleast 1/3<sup>rd</sup> roof area for solar energy system.
- ix. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- x. Adequate number of parking spaces shall be provided for visitor vehicles. Rest room facilities should be provided for service population. The proponent shall provide public convenience facilities such as toilets, bathrooms, waiting rooms etc. for the drivers, workers etc. so as to maintain cleanness/hygienic conditions in the surroundings of the project.
- xi. The proponent shall comply with Energy Conservation Practices, Energy efficient practices and energy audit practices. Wherever feasible, green building concepts shall be adopted. Use of solar panels may be done to the extent possible.
- xii. Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.

**PART – C. GENERAL CONDITIONS:**

- i. This order is valid for a period of 7 years.
- ii. “Consent for Establishment” shall be obtained from Andhra Pradesh Pollution Control Board under Air and Water Act before the start of any construction work at site.





- iii. The proponent shall submit half-yearly compliance reports in respect of the terms and conditions stipulated in this order & monitoring reports in hard and soft copies to the SEIAA, A.P., District Collector and Ministry's Regional office, Chennai on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
- iv. Officials from the Regional Office of MoEF&CC, Chennai / The SEIAA, Andhra Pradesh through the Regional Offices of Andhra Pradesh Pollution Control Board who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents shall be submitted to the CCF, Regional Office, MoE&F, Chennai.
- v. In the case of any change (s) in the scope of the project, the project would require a fresh appraisal by this SEIAA. No further expansion or modifications in the project shall be carried out without prior approval of the SEIAA, AP.
- vi. The project proponent shall submit the copies of the environmental clearance to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- vii. The proponent shall obtain clearance from Fire Department. All other statutory clearances shall be obtained, as applicable by project proponents from the competent authorities.
- viii. The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters are available with the Andhra Pradesh Pollution Control Board. The advertisement should be made within 7 days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Chennai.
- ix. The funds earmarked for environmental protection measures (**Capital cost is Rs.2687 Lakhs and recurring cost is Rs.221 Lakhs/annum**) should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the SEIAA and Ministry's Regional Office located at Chennai.
- x. At least 1% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared in accordance to the MoEF&CC's office Memorandum No.F.No.22-65/2017 IA.III, dated.01.05.2018 and submit to the SEIAA, A.P and Ministry's Regional Office, Chennai.





- xi. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- xii. The SEIAA may revoke or suspend the order, if implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
- xiii. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986 without any prior notice.
- xiv. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.

Sd/-  
**MEMBER SECRETARY,  
SEIAA, A.P.**

Sd/-  
**MEMBER,  
SEIAA, A.P.**

Sd/-  
**CHAIRMAN,  
SEIAA, A.P.**

To  
The Additional Commissioner (CCP),  
Andhra Pradesh Capital Region Development Authority (APCRDA),  
Lenin Centre, Governorpet,  
Vijayawada- 520002, Andhra Pradesh  
Phone : 7995084172  
Email. [shan@apcrda.org](mailto:shan@apcrda.org) & [dorababu@apcrda.org](mailto:dorababu@apcrda.org)

//T.C.F.B.O//

  
P. Muna Sanyal  
SENIOR ENVIRONMENTAL ENGINEER (EC)



**State Level Environment Impact Assessment Authority (SEIAA)**

**Andhra Pradesh**

**Ministry of Environment, Forests & Climate Change**

**Government of India**

D.No.33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre,  
Chalamavari Street, Kasturibaipet, Vijayawada-520010.

BY REGD. POST WITH ACK DUE

**Order No. SEIAA/AP/GNT/CON/10/2018/70 - 1392 .**

**Dt:27.11.2018.**

**Sub: SEIAA, AP – Construction of “Amaravati Happy Nest” Project of the Andhra Pradesh Capital Region Development Authority (APCRDA), Survey Nos. 153 (p), 154(p), 155(p), 156(p), 157(p), Nelapadu Village, Thulluru Mnadal, Amaravati Capital City, Guntur District, Andhra Pradesh., Andhra Pradesh - Environmental Clearance – Issued – Reg. .**

- I. This has reference to your application submitted through online on 11.10.2018 (SIA/AP/NCP/82122/2018), seeking Environmental Clearance for **Construction of “Amaravati Happy Nest” Project at Survey Nos. 153 (p), 154(p), 155(p), 156(p), 157(p), Nelapadu Village, Thulluru Mnadal, Amaravati Capital City, Guntur District, Andhra Pradesh by M/s. Andhra Pradesh Capital Region Development Authority (APCRDA).** The capital cost of the project is Rs.307.18 Crores.
- II. It is noted that the proposal is a Construction Project in a total Plot area of 5.78 Ha. (14.29 Acres). The total Built-up area is 1,40,756.19 Sq.m. Landscape area is 25,702.26 Sq.m., Basement Parking & Services area of 46617.94 Sq.m is to be provided to park about 942 four wheelers & 600 two wheelers. The total No. of Blocks-6. The amenities to be provided includes Sewage Treatment Plants (STPs), Tot lots/ open spaces, MSW Segregation /processing plant, D.G. sets for emergency supply – 500 kVA x 4 Nos & 1 x 320 KVA etc. The built-up details of the project are as follows:

Sl. No	Block	No. of Floors	No. of Flats	Built-up area (Sq.M)
1.	Block-A	G+18 floors+ terrace	112	16631.79
2.	Block-B	G+18 floors+ terrace	112	14127.87
3.	Block-C	G+18 floors+ terrace	76	14426.69
4.	Block-D	G+18 floors+ terrace	76	14426.69
5.	Block-E	G+18 floors+ terrace	112	14109.67



6.	Block-F	G+18 floors+ terrace	112	16634.17
7.	Amenities Block-I	G+3 Floors+ Terrace	---	2065.39
8.	Amenities Block-II	G+3 Floors+ Terrace	---	1715.98
9.	Basement Parking & Services	---	---	46617.94
	<b>Total</b>		<b>600</b>	<b>140756.19</b>

- III. The source of fresh water is Thulluru lift irrigation Scheme. The total water requirement during occupational stage is 639 KLD. Out of that, fresh water requirement is 401.5 KLD & treated waste water recycled is 237.5 KLD. Quantity of sewage generated is 460 KLD and it shall be treated in a STP of capacity 520 KLD. The treated waste water is to be used for flushing the toilets, development of greenery. The Garbage generated is 2154 kg/day (Organic waste - 1212 kg/day & inorganic waste - 942 kg/day). The organic waste generated shall be sent to composting in the premises and in-organic waste shall be sent to Municipal Solid Waste facilities; STP sludge (118 kg/day) is to be used as manure; used oil and used batteries are to be sent to Authorized Recyclers.

The proposal has been examined and processed in accordance with EIA Notification, 2006 & its amendments thereof. The State Level Expert Appraisal Committee (SEAC) examined the proposal in its meeting held on **13.10.2018**. The representatives of the project proponent - APCRDA and their consultant M/s. Sri Sai Manasa Nature Tech Pvt Ltd., have attended the meeting and presented their proposal. The Committee noted that this proposed project is one of the inter-linked projects of the Greenfield Capital City Amaravati Project. The project proponent - APCRDA submitted and presented their proposal before the Committee and requested for Environmental Clearance for construction project - "Amaravati Happy Nest" Project with Six Towers each Tower with Ground floor + 19 Floors and Amenities Blocks - 2 Nos. The Committee noted that the proposed project falls under Item 8(a) of the schedule of the EIA Notification 2006- Construction projects ; The proposed project site covering an area is < 50 ha and built up area is <1,50,000 sq. m. The present proposal comes under category 'B2' project. *The Committee recommended for issue of Environmental Clearance to this construction project: "Amaravati Happy Nest" Project with built up area- 140756.19 Sq.m., in the Greenfield Capital City Amaravati Project area, by stipulating the standard conditions and other conditions: (i) The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon'ble NGT*



Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - "Amaravati Happy Nest " Project as it is one of the inter-linked projects of the Greenfield Capital City Amaravati Project. (ii) The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rule, 2016, applicable for construction projects; (iii) The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher; (iv) The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site. The State Level Environment Impact Assessment Authority (SEIAA), in its meeting held on 01.11.2018 examined the proposal and the recommendations of SEAC, and after due discussions, the SEIAA decided to issue Environmental Clearance. The SEIAA, A.P hereby accords prior Environmental Clearance to the project as mentioned at Para No. II under the provisions of the EIA Notification 2006 and its subsequent amendments issued under Environment (Protection) Act, 1986 subject to implementation of the following special, specific and general conditions.

#### **PART-A: SPECIAL CONDITIONS:**

1. The project proponent-APCRDA shall comply with the conditions of the Environmental Clearance order issued to the Greenfield Capital City - Amaravati (EC order No.SEIAA/AP/GTN/151/2015, dated 09.10.2015 and Environmental Clearance Amendment order issued to the Greenfield Capital City - Amaravati (EC Amendment order No.SEIAA/AP/GNT/151/2015-515, dated 11.06.2018 stipulating the additional conditions in the EC as per the Hon'ble NGT Order dated 17.11.2017 in O.A.No.171 of 2015 & O.A.No.148 of 2015) relating to this APCRDA proposed construction project - "Amaravati Happy Nest " Project as it is one of the inter-linked projects of the Greenfield Capital City Amaravati Project.
2. The Project Proponent shall implement the solid waste management as per the Solid Waste Management Rule, 2016, applicable for construction projects;
3. The parking area in compliance with the NBC/ MoEF/ local Government regulations as applicable, whichever is higher;
4. The Project Proponent shall develop the avenue plantation along the approach road leading to the proposed project site.
5. Separate space for segregation, storage, decentralized processing of solid waste shall be provided in addition to processing of biodegradable waste in the premises.
6. The proponent shall provide the Sewage Treatment Plant (STP) of 520 KLD. As the treated effluent is proposed for recycle, the suitable disinfection system is to be provided in addition to the STP proposed in the EMP.
7. Dual plumbing system to be provided for reuse of the treated effluent for flushing and other purposes.
8. Solar Energy systems to be planned to utilize at least one third of the roof area.
9. The building shall be designed for compliance with earth quake resistance and resisting other natural hazards.
10. The proponent shall use only fly ash based products for construction, such as cement or concrete, fly ash bricks or tiles or clay fly ash bricks, or bricks, blocks or tiles or



- cement fly ash bricks or blocks or similar products or a combination or aggregate of them as required under MOEF notification S.O.763(E) d 14.9.1999 amended thereof.
11. Provision for Rain Water Harvesting (RWH) is to be made for collection, usage and also for ground water table maintenance.
  12. The proponent shall use only LED lights in the common areas and internal roads.
  13. The proponent shall create Corpus Fund of Rs.3.12 Crores to ensure continuous operation of STP.
  14. The proponent shall obtain required clearances if any from all regulatory Departments including Fire Department, before starting the construction.
  15. The proponent shall develop green belt in an area not less than 10% of plot area in addition to green belt in set-back areas.
  16. Construction and demolition waste shall be handled and disposed as per the provisions of construction and demolition waste Management Rules, 2016.

## **PART-B SPECIFIC CONDITIONS:**

### **I. CONSTRUCTION PHASE:**

- i. Provision shall be made for the housing of the construction labour within the site with all necessary infrastructure and facilities such as safe drinking water, fuel for cooking, mobile toilets, mobile STP, medical health care, crèche etc., The housing may be in the form of temporary structures to be removed after the completion of the project. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.
- ii. A First Aid Room shall be provided in the project both during construction and operation of the project.
- iii. All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
- iv. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- v. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- vi. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.





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- viii. The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to E (P) Rules prescribed for air and noise emission standards.
- ix. Vehicles hired for bringing construction material to the site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
- x. Ambient noise levels should conform to the residential standards both during day and night as notified by the MoEF&CC, GOI from time to time. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by the CPCB.
- xi. Ready mixed concrete must be used in building construction.
- xii. Storm water control and its re-use shall be as per CGWB and BIS standards for various applications.
- xiii. Permission to draw ground water shall be obtained from the competent Authority prior to construction/operation of the project.
- xiv. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
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- xvi. Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on air-conditioning. If necessary, high quality double glass with special reflective coating in window is to be used.
- xvii. Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.
- xviii. Adequate measures to reduce air and noise pollution during construction keeping in mind CPCB norms on noise limits.





- xix. Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air conditioned spaces by use of appropriate thermal insulation material to fulfill requirement.
- xx. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening etc.
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## II. Occupational Phase:

- i. The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the SEIAA before the project is commissioned for operation. Discharge of treated sewage shall conform to the norms & standards of the Andhra Pradesh Pollution Control Board. Sewage Treatment Plant should be monitored on a regular basis. No waste water shall be discharged out side the premises until outlet is connected to public sewer line. Till such time, the excess treated sewage, if any, is to be discharged into an artificial pond with in the premises and can be utilized for recreational purpose.
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- viii. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid systems or fully solar system for a portion of the apartments should be provided by utilizing atleast 1/3<sup>rd</sup> roof area for solar energy system.
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- x. Adequate number of parking spaces shall be provided for visitor vehicles. Rest room facilities should be provided for service population. The proponent shall provide public convenience facilities such as toilets, bathrooms, waiting rooms etc. for the drivers, workers etc. so as to maintain cleanness/hygienic conditions in the surroundings of the project.
- xi. - The proponent shall comply with Energy Conservation Practices, Energy efficient practices and energy audit practices. Wherever feasible, green building concepts shall be adopted. Use of solar panels may be done to the extent possible.
- xii. Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.

#### **PART – C. GENERAL CONDITIONS:**

- i. **This order is valid for a period of 7 years.**
- ii. “Consent for Establishment” shall be obtained from Andhra Pradesh Pollution Control Board under Air and Water Act before the start of any construction work at site.
- iii. The proponent shall submit half-yearly compliance reports in respect of the terms and conditions stipulated in this order & monitoring reports in hard and soft copies to the SEIAA, A.P., District Collector and Ministry’s Regional office, Chennai on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
- iv. Officials from the Regional Office of MoEF&CC, Chennai / The SEIAA, Andhra Pradesh through the Regional Offices of Andhra Pradesh Pollution Control Board who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents shall be submitted to the CCF, Regional Office, MoE&F, Chennai.





- v. In the case of any change (s) in the scope of the project, the project would require a fresh appraisal by this SEIAA. No further expansion or modifications in the project shall be carried out without prior approval of the SEIAA, AP.
- vi. The project proponent shall submit the copies of the environmental clearance to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- vii. The proponent shall obtain clearance from Fire Department. All other statutory clearances shall be obtained, as applicable by project proponents from the competent authorities.
- viii. The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters are available with the Andhra Pradesh Pollution Control Board. The advertisement should be made within 7 days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Chennai.
- ix. The funds earmarked for environmental protection measures (**Capital Cost Rs.9.80 Crore & Recurring cost Rs.0.98 Crores/annum**) should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the SEIAA and Ministry's Regional Office located at Chennai.
- x. At least 1% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared in accordance to the MoEF&CC's office Memorandum No.F.No.22-65/2017 IA.III, dated.01.05.2018 and submit to the SEIAA, A.P and Ministry's Regional Office, Chennai.
- xi. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- xii. The SEIAA may revoke or suspend the order, if implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.





- xiii. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986 without any prior notice.
- xiv. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.

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SEIAA, A.P.**

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To  
The Additional Commissioner (CCP),  
Andhra Pradesh Capital Region Development Authority (APCRDA),  
Lenin Centre, Governorpet,  
Vijayawada- 520002,  
Andhra Pradesh  
Phone : 7995084172  
Email. [shan@apcrda.org](mailto:shan@apcrda.org) & [dorababu@apcrda.org](mailto:dorababu@apcrda.org)

//T.C.F.B.O//

  
SENIOR ENVIRONMENTAL ENGINEER (EC)

AMBIENT AIR  
QUALITY REPORT





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01904  <b>Lab Code No :</b> 180859612  <b>Issue Date :</b> 19.12.2018  <b>Your Ref :</b> Letter Dated :11.12.2018  <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing</b> : 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Date of Sampling:</b> 28.11.2018 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Venkatapalem Village <b>Page No:</b> 1 of 1	

### TEST RESULTS

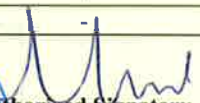

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	9.48	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	12.9	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	54.2	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	21.6	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	17.6	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.063	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	13.6	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.4	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	9.3	20 ( Annual )
*13	VOC, ppb	VOC Meter	4.12	-
*14	Hydro Carbons, ppm	Using GC	<1	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

Authorized Signatory  
 G Chandramouli  
 Env. Scientist

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01904 <b>Lab Code No :</b> 180859512 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated :11.12.2018 <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below		<b>Sampling Details</b> <b>Date of Sampling:</b> 23.11.2018 <b>General Environment conditions:</b> Ok <b>Location of Sampling:</b> Mandadam Village <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	11.38	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	18.8	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	56.5	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	24.7	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	20.6	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.066	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	13.2	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.6	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	6.4	20 ( Annual )
*13	VOC, ppb	VOC Meter	6.32	-
*14	Hydro Carbons, ppm	Using GC	<1	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

Authorized Signatory  
 G Chandramouli  
 Env. Scientist

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01905	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Lab Code No</b> : 180859412 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated :11.12.2018 <b>Date of Receipt</b> : 11.12.2018	
<b>Qty &amp; Packing</b> : 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene,,,CO tested by CO analyzer,VOC tested by VOC analyzer <b>Test Required</b> : As per given below		<b>Date of Registration</b>	11.12.2018
		<b>Date of commencement of testing</b>	12.12.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b> Date of Sampling: 23.11.2018 General Environment conditions: Ok		Location of Sampling: Rayapudi Village Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	12.12	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	16.8	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	53.4	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	20.6	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	16.9	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.052	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	15.4	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.5	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	7.9	20 ( Annual )
*13	VOC, ppb	VOC Meter	5.67	-
*14	Hydro Carbons, ppm	Using GC	-	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01907	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Lab Code No</b> : 180859212 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated :11.12.2018 <b>Date of Receipt</b> : 11.12.2018	
<b>Qty &amp; Packing</b> : 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required</b> : As per given below		<b>Date of Registration</b>	11.12.2018
		<b>Date of commencement of testing</b>	12.12.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Date of Sampling:</b> 23.11.2018 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Thullur Village <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	11.43	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	16.3	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	67.2	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	15.4	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	18.6	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.068	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	15.8	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.7	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	6.9	20 ( Annual )
*13	VOC, ppb	VOC Meter	11.26	-
*14	Hydro Carbons, ppm	Using GC	-	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

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Authorized Signatory  
G Chandramouli  
Env. Scientist





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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01906 <b>Lab Code No :</b> 180859312 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated :11.12.2018 <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Sampling Details</b>			
Date of Sampling: 23.11.2018 General Environment conditions: Ok		Location of Sampling: Uddandrayunipalem Village Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	10.88	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	15.1	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	45.6	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	17.8	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	14.2	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.054	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	11.4	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.6	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	7.9	20 ( Annual )
*13	VOC, ppb	VOC Meter	5.42	-
*14	Hydro Carbons, ppm	Using GC	-	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...



Authorized Signatory  
G Chandramouli  
Env. Scientist

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01917 <b>Lab Code No :</b> 180858212 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated :11.12.2018 <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Date of Sampling:</b> 26.11.2018 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Dondapadu Village <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	10.60	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	16.3	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	51.4	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	17.3	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	15.6	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.069	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	13.2	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.6	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	8.0	20 ( Annual )
*13	VOC, ppb	VOC Meter	4.12	-
*14	Hydro Carbons, ppm	Using GC	<1	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



Authorized Signatory  
 G Chandramouli  
 Env. Scientist





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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01913	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Lab Code No :</b> 180858612	
		<b>Issue Date :</b> 19.12.2018	
		<b>Your Ref :</b> Letter Dated :11.12.2018	
		<b>Date of Receipt :</b> 11.12.2018	
<b>Qty &amp; Packing :</b> 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below		<b>Date of Registration</b>	11.12.2018
		<b>Date of commencement of testing</b>	12.12.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
Date of Sampling: 26.11.2018 General Environment conditions: Ok		Location of Sampling: Ananthavaram Village Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	12.50	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	16.1	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	65.9	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	23.6	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	20.3	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.073	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	12.0	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.8	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	6.4	20 ( Annual )
*13	VOC, ppb	VOC Meter	12.21	-
*14	Hydro Carbons, ppm	Using GC	<1	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...



Authorized Signatory  
G Chandramouli  
Env. Scientist

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01914 <b>Lab Code No :</b> 180858512 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated :11.12.2018 <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Sampling Details</b>			
Date of Sampling: 26.11.2018 General Environment conditions: Ok		Location of Sampling: Nekkallu Village Page No: 1 of 1	

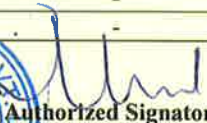
### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	9.47	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	12.9	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	45.8	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	18.9	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	15.2	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.071	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	14.2	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.6	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	8.3	20 ( Annual )
*13	VOC, ppb	VOC Meter	5.63	-
*14	Hydro Carbons, ppm	Using GC	-	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

  
 Authorized Signatory  
 G. Chandramouli  
 Env. Scientist

Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01916 <b>Lab Code No :</b> 180858312 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated :11.12.2018 <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing</b> : 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Date of Sampling:</b> 27.11.2018 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Sakhamuru Village <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	11.22	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	17.3	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	48.7	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	20.8	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	14.7	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.069	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	12.6	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.4	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	7.2	20 ( Annual )
*13	VOC, ppb	VOC Meter	6.93	-
*14	Hydro Carbons, ppm	Using GC	-	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

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Authorized Signatory  
G Chandramouli  
Env. Scientist



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01915 <b>Lab Code No :</b> 180858412 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated :11.12.2018 <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Sampling Details</b>			
Date of Sampling: 27.11.2018 General Environment conditions: Ok		Location of Sampling: Nelapadu Village Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	11.44	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	15.6	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	53.6	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	26.8	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	14.6	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.024	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	12.8	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.5	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	7.5	20 ( Annual )
*13	VOC, ppb	VOC Meter	7.32	-
*14	Hydro Carbons, ppm	Using GC	-	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...



Authorized Signatory  
**G Chandramouli**  
 Env. Scientist

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## TEST REPORT



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BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01908  <b>Lab Code No :</b> 180859112  <b>Issue Date :</b> 19.12.2018  <b>Your Ref :</b> Letter Dated :11.12.2018  <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Date of Sampling:</b> 28.11.2018 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Navuluru Village <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	13.01	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	15.7	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	46.8	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	19.7	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	20.6	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.050	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	13.6	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.6	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	7.4	20 ( Annual )
*13	VOC, ppb	VOC Meter	4.23	-
*14	Hydro Carbons, ppm	Using GC	-	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil



Authorized Signatory  
G Chandramouli  
Env. Scientist

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01909  <b>Lab Code No :</b> 180859012  <b>Issue Date :</b> 19.12.2018  <b>Your Ref :</b> Letter Dated :11.12.2018  <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing</b> : 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Date of Sampling:</b> 28.11.2018 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Nidamaru Village <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	10.80	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	16.0	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	48.2	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	31.4	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	20.3	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.052	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	14.2	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.3	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	6.2	20 ( Annual )
*13	VOC, ppb	VOC Meter	2.25	-
*14	Hydro Carbons, ppm	Using GC	<1	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

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Authorized Signatory  
G Chandramouli  
Env. Scientist







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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01910  <b>Lab Code No :</b> 180858912  <b>Issue Date :</b> 19.12.2018  <b>Your Ref :</b> Letter Dated :11.12.2018  <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Qty &amp; Packing :</b> 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below	
		<b>Date of Registration</b>	11.12.2018
		<b>Date of commencement of testing</b>	12.12.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Date of Sampling:</b> 28.11.2018 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Kuragallu Village <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	10.88	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	15.0	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	50.4	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	19.3	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	15.3	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.047	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	13.7	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.6	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	6.5	20 ( Annual )
*13	VOC, ppb	VOC Meter	10.63	-
*14	Hydro Carbons, ppm	Using GC	<1	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.

Authorized Signatory  
G Chandramouli  
Env. Scientist



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01912 <b>Lab Code No :</b> 180858712 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated :11.12.2018 <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Date of Sampling:</b> 22.11.2018 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Krishnayapalem Village <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	11.82	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	13.9	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	48.7	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	15.6	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	20.6	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.068	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	12.5	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.9	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	8.3	20 ( Annual )
*13	VOC, ppb	VOC Meter	6.63	-
*14	Hydro Carbons, ppm	Using GC	<1	-

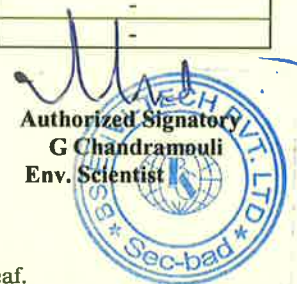
\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

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\*Complaints Register is available at Laboratory.







# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01911 <b>Lab Code No :</b> 180858812 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated :11.12.2018 <b>Date of Receipt :</b> 11.12.2018	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 11.12.2018 <b>Date of commencement of testing</b> : 12.12.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing</b> : 1 filter paper for PM <sub>10</sub> , PM <sub>2.5</sub> , Lead, Benzo(a) pyrene, Arsenic, Nickel, 30ml absorbing solution for SO <sub>2</sub> , NO <sub>2</sub> and Ammonia, 10ml absorbing solution for Ozone, 1 No Charcoal tube for Benzene, CO tested by CO analyzer, VOC tested by VOC analyzer <b>Test Required :</b> As per given below			
<b>Sampling Details</b>			
Date of Sampling: 22.11.2018 General Environment conditions: Ok		Location of Sampling: Undavalli Village Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-2) 2001 (Reaffirmed 2012)	9.49	80 (24 Hours )
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-6) 2006 (Reaffirmed 2012)	14.0	80 (24 Hours )
3	Particulate Matter – 10 µm (PM <sub>10</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-23) 2006 (Reaffirmed 2012)	67.4	100 (24 Hours )
4	Particulate Matter – 2.5 µm (PM <sub>2.5</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-02, Issue – 01, Date: 16-07-2014 (CPCB guidelines)	23.9	60 (24 Hours )
5	Ozone (O <sub>3</sub> ), µg/ m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	20.7	180 (1 Hour)
6	Lead (Pb), µg/ m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	0.052	1 ( 24 Hours )
7	Carbon Monoxide, mg / m <sup>3</sup>	Using CO Analyser	<1	2 (8 Hours)
8	Ammonia (NH <sub>3</sub> ), µg/ m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	12.5	400 (24 Hours )
9	Benzene, µg/ m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	<1	5 ( Annual )
10	Benzo (a) Pyrene, (BaP) Particulate phase only, ng / m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	<1	1 ( Annual )
11	Arsenic (As), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS - VGA	1.5	6 ( Annual )
12	Nickel (Ni), ng / m <sup>3</sup>	USEPA – IO – 3.2 – 1999, BY AAS	7.8	20 ( Annual )
*13	VOC, ppb	VOC Meter	6.89	-
*14	Hydro Carbons, ppm	Using GC	<1	-

\* Indicates the parameter not covered in NABL scope

Interpretation of results: Nil, Deviation from test method: Nil

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.

Authorized Signatory  
G Chandramouli  
Env. Scientist



# GROUND WATER QUALITY REPORT





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01824	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180867611	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Krishnayapalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.46	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	2920	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1894	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	1008	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	237	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	101	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	559	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	221	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.63	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	56	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	387	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.28	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	205	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	6.1	--	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01824	
		<b>Lab Code No</b> : 180867611	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
		<b>Date of Receipt</b> : 29.11.2018	
<b>Sample Description:</b> Ground Water Sample			
<b>Quantity</b>	: 1 No. x 2.0 Ltrs Sample	<b>Date of Registration</b>	29.11.2018
	1 No. x 500 ml Sample(Metals)	<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b>	: Plastic Bottle	<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b>	: As given below	<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Krishnayapalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.19	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	1.89	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.



\*Complaints Register is available at Laboratory.

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
St. Ann's Road, Tarnaka,  
Secunderabad - 500017,  
Telangana, India

Phone : +91 40 49783062 / 27016806 Fax : +91 40 49783063

Email : lab@bsenvitech.com, info@bsenvitech.com

Website : www.bsenvitech.com

CIN No. : U74210TG1999PTC032358





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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01824</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180867611 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018	
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018	
		<b>Sample condition at receipt</b>	Found ok
<b>Sample tested as received</b>			
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Krishnayapalem Village		<b>General Environment conditions:</b> OK Page No: 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil

Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr.Microbiologist**

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

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Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01825	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180867511	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Date of Sampling:</b> 26.11.2018			
<b>Location of Sampling:</b> Nekkallu Village			
<b>Sampling Details</b>			
<b>Sampling Method/Procedure:</b> IS 3025 Part 1			
<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2			

TEST RESULTS						
S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.34	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1420	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	924	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	512	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	131	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	45	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	231	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	47	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.70	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	10	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	321	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.13	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	65	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	42	--	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumanth Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01825	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180867511	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Issue Date</b> : 19.12.2018	
1 No. x 500 ml Sample(Metals)		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Packing</b> : Plastic Bottle		<b>Date of Receipt</b> : 29.11.2018	
<b>Test Required</b> : As given below		<b>Date of Registration</b> : 29.11.2018	
		<b>Date of commencement of testing</b> : 30.11.2018	
		<b>Date of completion of testing</b> : 19.12.2018	
		<b>Sample condition at receipt</b> : Found ok	
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Nekkallu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.40	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.05	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	6	-	-
*28	Salinity	PPT or g/kg	-	0.92	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.



\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01825</b>		
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No</b>	: 180867511	
	<b>Issue Date</b>	: 19.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 250 ml Sample	
<b>Packing</b>	: Pre Sterilized Bottle	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Nekkallu Village		<b>General Environment conditions:</b> OK Page No: 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
**Authorized Signatory**  
( G.Muralidhara Swamy )  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01826 <b>Lab Code No</b> : 180867411 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)	<b>Packing</b> : Plastic Bottle <b>Test Required</b> : As given below		
<b>Sampling Details</b> <b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Yerrabalem Village <b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.82	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	3010	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1952	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	286	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	60	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	33	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	375	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	206	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	1.43	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	89	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	677	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.35	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	502	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	99	--	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
( A.V. Hanumantha Rao )  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01826	
		<b>Lab Code No</b> : 180867411	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Yerrabalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.15	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.05	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	6	-	-
*28	Salinity	PPT or g/kg	-	1.95	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01826</b>	
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No</b>	: 180867411
	<b>Issue Date</b>	: 19.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018
	<b>Date of completion of testing</b>	06.12.2018
<b>Test Required</b> : As given below	<b>Sample condition at receipt</b>	Found ok
	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Yerrabalem Village	<b>General Environment conditions:</b> OK Page No: 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01827	
		<b>Lab Code No</b> : 180867311	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Navuluru Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.20	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	2980	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1940	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	1098	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	225	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	131	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	608	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	101	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.88	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	80	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	443	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.28	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	175	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	8	--	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
( A.V. Hanumantha Rao )  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01827	
		<b>Lab Code No</b> : 180867311	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)	<b>Date of Registration</b>		29.11.2018
	<b>Date of commencement of testing</b>		30.11.2018
<b>Packing</b> : Plastic Bottle	<b>Date of completion of testing</b>		19.12.2018
<b>Test Required</b> : As given below	<b>Sample condition at receipt</b>		Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Navuluru Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.21	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.06	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	1.94	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01827</b>	
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No</b>	: 180867311
	<b>Issue Date</b>	: 19.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018
	<b>Date of completion of testing</b>	06.12.2018
<b>Test Required</b> : As given below	<b>Sample condition at receipt</b>	Found ok
	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Navuluru Village	<b>General Environment conditions:</b> OK Page No: 1 of 1	

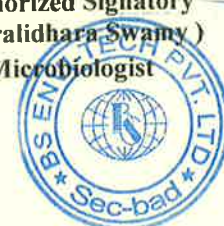
### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01828	
		<b>Lab Code No</b> : 180867211	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Thullur Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.63	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	2250	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1468	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	256	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	50	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	32	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	219	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	175	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.96	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	49	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	586	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.18	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	260	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	238	--	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01828 <b>Lab Code No :</b> 180867211 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)	<b>Packing</b> : Plastic Bottle <b>Test Required</b> : As given below		
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Thullur Village		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.15	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.06	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	1.47	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01828</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180867211 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b> : 29.11.2018	<b>Date of commencement of testing</b> : 30.11.2018	
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of completion of testing</b> : 06.12.2018	<b>Sample condition at receipt</b> : Found ok	
<b>Test Required</b> : As given below	<b>Sample tested as received</b>		
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Thulluru Village		<b>Sampling Method/Procedure:</b> IS 1622 :1981 <b>General Environment conditions:</b> OK Page No: 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
 Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr. Microbiologist**



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
 \*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01829  <b>Lab Code No</b> : 180867111  <b>Issue Date</b> : 19.12.2018  <b>Your Ref</b> : Letter Dated 28.11.2018  <b>Date of Receipt</b> : 29.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)			
<b>Packing</b> : Plastic Bottle			
<b>Test Required</b> : As given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Sakhamuru Village		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.43	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	3010	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1956	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	662	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	131	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	82	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	372	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	283	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.71	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	89	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	591	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.23	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	204	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	310	--	--

Note: \* the parameter not covered in NABL scope .  
 Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
 (A.V. Hanumantha Rao)  
 Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01829	
		<b>Lab Code No</b> : 180867111	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Sakhamuru Village		<b>General Environment conditions:</b> Ok Page No: 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.07	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.10	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	6	-	-
*28	Salinity	PPT or g/kg	-	1.96	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.



\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01829</b>		
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No</b>	: 180867111	
	<b>Issue Date</b>	: 19.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 250 ml Sample	
<b>Packing</b>	: Pre Sterilized Bottle	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
<b>Sample tested as received</b>			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Sakhamuru Village		<b>General Environment conditions:</b> OK Page No: 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01830	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180867011	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Venkatapalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.82	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1120	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	697	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	386	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	90	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	39	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	73	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	63	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.61	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	15	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	346	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	< 0.1	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	66	-	-
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	5	-	-

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
( A.V. Hanumanthappa )  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01830	
		<b>Lab Code No</b> : 180867011	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Venkatapalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.07	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.23	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.16	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	0.70	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01830</b>		
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No</b>	: 180867011	
	<b>Issue Date</b>	: 19.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 250 ml Sample	
<b>Packing</b>	: Pre Sterilized Bottle	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
<b>Sample tested as received</b>			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Venkatapalem Village		<b>General Environment conditions:</b> OK Page No: 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
**Authorized Signatory**  
( G.Muralidhara Swamy )  
**Sr.Microbiologist**



\*\*\* End of the Report\*\*\*

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01831	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866911	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Uddandrayunipalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.48	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1670	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1084	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	637	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	123	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	81	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	117	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	133	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.68	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	60	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	474	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.13	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	89	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	4	--	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01831	
		<b>Lab Code No</b> : 180866911	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Uddandrayunipalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.06	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.20	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.12	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	1.08	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
( A.V. HanumanthaRao )  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01831</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866911 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b> : 29.11.2018	<b>Date of commencement of testing</b> : 30.11.2018	
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of completion of testing</b> : 06.12.2018	<b>Sample condition at receipt</b> : Found ok	
<b>Test Required</b> : As given below	<b>Sample tested as received</b>		
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Uddandrayunipalem Village		<b>Sampling Method/Procedure:</b> IS 1622 :1981 <b>General Environment conditions:</b> OK Page No: 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
 Deviation from test method: Nil

  
 Authorized Signatory  
 ( G.Muralidhara Swamy )  
 Sr. Microbiologist

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
 \*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01832	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180866811	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Mandadam (ZPS High School)		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.21	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	6500	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	4210	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	1499	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	306	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	179	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	1537	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	296	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.79	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	108	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	672	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.78	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	756	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	87	--	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01832	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866811	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Mandadam (ZPS High School)		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.07	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.03	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	1.45	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.05	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	8	-	-
*28	Salinity	PPT or g/kg	-	4.21	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01832</b>	
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No</b>	: 180866811
	<b>Issue Date</b>	: 19.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018
	<b>Date of completion of testing</b>	06.12.2018
<b>Test Required</b> : As given below	<b>Sample condition at receipt</b>	Found ok
	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981
<b>Location of Sampling:</b> Mandadam Village(ZPS High School) - IGC		
<b>General Environment conditions:</b> OK		Page No: 1 of 1

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy ).  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01833	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180866711	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Mandadam Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.79	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1490	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	970	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	582	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	123	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	67	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	129	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	152	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.74	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO <sub>3</sub> -B UV Spectrophotometric Screening Method	42	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	362	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.13	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	72	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	4	--	--

**Note:** \* the parameter not covered in NABL scope.  
Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director, Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01833
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No :</b> 180866711
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)	<b>Issue Date :</b> 19.12.2018
<b>Packing :</b> Plastic Bottle	<b>Your Ref :</b> Letter Dated 28.11.2018
<b>Test Required :</b> As given below	<b>Date of Receipt :</b> 29.11.2018
	<b>Date of Registration :</b> 29.11.2018
	<b>Date of commencement of testing :</b> 30.11.2018
	<b>Date of completion of testing :</b> 19.12.2018
	<b>Sample condition at receipt :</b> Found ok
	<b>Sample tested as received :</b>
<b>Sampling Details</b>	
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> IS 3025 Part 1
<b>Location of Sampling:</b> Mandadam Village	<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.14	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.24	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.03	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	6	-	-
*28	Salinity	PPT or g/kg	-	0.99	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01833</b>	
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No</b>	: 180866711
	<b>Issue Date</b>	: 19.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
	<b>Quantity</b>	: 1 No. x 250 ml Sample
<b>Packing</b>	<b>Date of Registration</b>	: 29.11.2018
	<b>Date of commencement of testing</b>	: 30.11.2018
	<b>Date of completion of testing</b>	: 06.12.2018
	<b>Sample condition at receipt</b>	: Found ok
<b>Test Required</b>	: As given below	<b>Sample tested as received</b>
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Mandadam Village	<b>General Environment conditions:</b> OK Page No: 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
**Authorized Signatory**  
( G.Muralidhara Syammy )  
**Sr.Microbiologist**

\*\*\* End of the Report\*\*\*

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: IC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01834	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180866611	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Dondapadu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	8.06	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	870	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	568	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	281	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	68	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	27	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	85	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	72	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.61	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	5.0	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	229	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.13	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	69	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	3	--	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01834	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180866611	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Dondapadu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	0.57	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

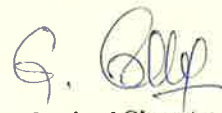
<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01834</b>	
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No</b>	: 180866611
	<b>Issue Date</b>	: 19.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018
	<b>Date of completion of testing</b>	06.12.2018
<b>Test Required</b> : As given below	<b>Sample condition at receipt</b>	Found ok
	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Dondapadu Village	<b>General Environment conditions:</b> OK	<b>Page No:</b> 1 of 1

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr. Microbiologist



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01835	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180866511	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Nelapadu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

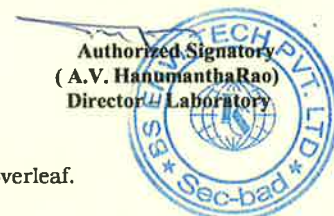
### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.57	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	3030	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1970	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	662	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	157	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	66	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	443	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	313	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.90	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	57	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	509	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.25	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	374	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	32	--	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director, Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01835	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180866511	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Nelapadu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.09	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.03	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.86	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	1.97	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01835</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866511 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilized Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b> : 29.11.2018		<b>Date of commencement of testing</b> : 30.11.2018
	<b>Date of completion of testing</b> : 06.12.2018		<b>Sample condition at receipt</b> : Found ok
	<b>Sample tested as received</b>		
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Nelapadu Village		<b>Sampling Method/Procedure:</b> IS 1622 :1981 <b>General Environment conditions:</b> OK      Page No: 1 of 1	

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
 Deviation from test method: Nil

  
 Authorized Signatory  
 ( G.Muralidhara Swamy )  
 Sr.Microbiologist

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01836	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180866411	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Kuragallu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.78	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1350	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	879	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	386	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	76	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	48	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	80	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	45	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	1.04	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	44	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	479	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.13	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	127	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	8.0	--	--

Note: \* the parameter not covered in NABL scope .  
Interpretation of results: Nil, Deviation from test method: Nil

Note: This report is subject to the terms and conditions mentioned overleaf.

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director, Laboratory



\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01836	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180866411	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Kuragallu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.15	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.13	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	6	-	-
*28	Salinity	PPT or g/kg	-	0.88	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01836</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866411 <b>Issue Date</b> : 19.12.2018 <b>Your Ref</b> : Letter Dated 28.11.2018 <b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample  <b>Packing</b> : Pre Sterilized Bottle  <b>Test Required</b> : As given below	<b>Date of Registration</b>		29.11.2018
	<b>Date of commencement of testing</b>		30.11.2018
	<b>Date of completion of testing</b>		06.12.2018
	<b>Sample condition at receipt</b>		Found ok
<b>Sample tested as received</b>			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Kuragallu Village		<b>Sampling Method/Procedure:</b> IS 1622 :1981 <b>General Environment conditions:</b> OK	
Page No: 1 of 1			

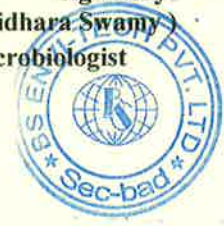
### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01837	
		<b>Lab Code No</b> : 180866311	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)	<b>Date of Registration</b>		29.11.2018
	<b>Date of commencement of testing</b>		30.11.2018
<b>Packing</b> : Plastic Bottle	<b>Date of completion of testing</b>		19.12.2018
<b>Test Required</b> : As given below	<b>Sample condition at receipt</b>		Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Penumaka Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.48	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	2050	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1336	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	672	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	127	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	87	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	238	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	131	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	1.07	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	40	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	520	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.15	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	148	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	28	--	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01837	
		<b>Lab Code No</b> : 180866311	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Penumaka Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.21	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.07	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	1.34	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01837</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866311	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample		<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle		<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Penumaka Village		<b>General Environment conditions:</b> OK	



Page No: 1 of 1

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muradhdhara Swamy )  
Sr. Microbiologist  


\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01838	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866211	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Ananthavaram Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.51	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	2410	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1564	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	762	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	145	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	98	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	324	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	126	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.90	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	70	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	535	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.23	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	201	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	2.8	--	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01838	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866211	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Ananthavaram Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.07	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	1.56	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.



\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01838</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866211	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample		<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle		<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Anantavaram Village		<b>General Environment conditions:</b> OK	


Page No: 1 of 1

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01839	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866111	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Undavalli Village		<b>General Environment conditions:</b> Ok Page No: 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.82	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1480	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	960	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	436	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	99	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	46	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	124	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	106	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	1.08	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	10	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	443	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.28	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	120	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	34	--	--

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumanth Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.



\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01839	
		<b>Lab Code No</b> : 180866111	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)	<b>Packing</b> : Plastic Bottle	<b>Test Required</b> : As given below	<b>Date of Registration</b> : 29.11.2018
			<b>Date of commencement of testing</b> : 30.11.2018
			<b>Date of completion of testing</b> : 19.12.2018
			<b>Sample condition at receipt</b> : Found ok
			<b>Sample tested as received</b>
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Undavalli Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	< 0.06	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.02	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	< 0.02	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.07	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	6	-	-
*28	Salinity	PPT or g/kg	-	0.96	-	-

Note: \* the parameter not covered in NABL scope.

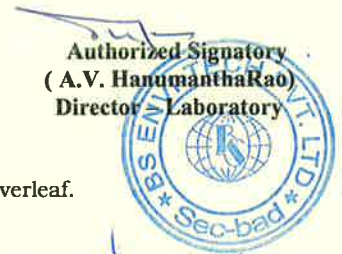
Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.



\*Complaints Register is available at Laboratory.

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
St. Ann's Road, Tarnaka,  
Secunderabad - 500017,  
Telangana, India

Phone : +91 40 49783062 / 27016806 Fax : +91 40 49783063

Email : lab@bsenvitech.com, info@bsenvitech.com

Website : www.bsenvitech.com

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CIN No. : U74210TG1999PTC032358





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Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01839</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866111	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample		<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle		<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Undavalli Village		<b>General Environment conditions:</b> OK	


Page No: 1 of 1

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr. Microbiologist



\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01840	
		<b>Lab Code No</b> : 180866011	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Velagapudi Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.83	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	2900	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1890	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	632	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	141	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	68	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	484	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	196	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.84	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	3.2	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	545	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.28	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	362	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	7.0	--	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01840	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866011	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Velagapudi Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.12	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.03	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.24	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.21	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	6	-	-
*28	Salinity	PPT or g/kg	-	1.89	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56


<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01840</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180866011	<b>Issue Date</b> : 19.12.2018
		<b>Your Ref</b> : Letter Dated 28.11.2018	<b>Date of Receipt</b> : 29.11.2018
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018	
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018	
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018	
	<b>Sample condition at receipt</b>	Found ok	
		<b>Sample tested as received</b>	
<b><u>Sampling Details</u></b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Velagapudi Village		<b>General Environment conditions:</b> OK	<b>Page No:</b> 1 of 1

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
**Authorized Signatory**  
**( G.Muralidhara Swamy )**  
**Sr. Microbiologist**

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.  
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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01841	
		<b>Lab Code No</b> : 180865911	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample		<b>Date of Registration</b>	29.11.2018
1 No. x 500 ml Sample(Metals)		<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Bottle		<b>Date of completion of testing</b>	19.12.2018
<b>Test Required</b> : As given below		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Nidamaru Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.56	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1540	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	1004	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	537	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	101	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	70	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	139	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	93	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.94	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	25	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	453	200	600
13	Boron as B	mg/l	4500-B B, Curcumin Method, APHA 23rd Edition 2017	0.25	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	81	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	45	--	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.



\*Complaints Register is available at Laboratory.

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
St. Ann's Road, Tarnaka,  
Secunderabad - 500017,  
Telangana, India

Phone : +91 40 49783062 / 27016806 Fax : +91 40 49783063

Email : lab@bsenvitech.com, info@bsenvitech.com

Website : www.bsenvitech.com

CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01841	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180865911	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Nidamaru Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.14	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.03	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.03	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.23	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	1.00	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01841</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180855911	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample		<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle		<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Nidamaru Village		<b>General Environment conditions:</b> OK	


Page No: 1 of 1

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist



\*\*\* End of the Report\*\*\*

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01842	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No :</b> 180865811	
<b>Quantity :</b> 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date :</b> 19.12.2018	
<b>Packing :</b> Plastic Bottle		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Rayapudi Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

TEST RESULTS						
S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.69	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	1150	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	748	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	396	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	86	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	44	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	88	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	79	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	0.75	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	19	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	351	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	0.18	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	75	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	3	--	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01842	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180865811	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Rayapudi Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.08	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.03	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.20	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	4	-	-
*28	Salinity	PPT or g/kg	-	0.75	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. : BSET/18-19/TR-01842</b>	
<b>Sample Description:</b> Ground Water Sample	<b>Lab Code No</b> : 180855811	<b>Issue Date</b> : 19.12.2018
	<b>Your Ref</b> : Letter Dated 28.11.2018	<b>Date of Receipt</b> : 29.11.2018
<b>Quantity</b> : 1 No. x 250 ml Sample	<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle	<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	06.12.2018
	<b>Sample condition at receipt</b>	Found ok
	<b>Sample tested as received</b>	

### Sampling Details

**Date of Sampling:** 26.11.2018

**Location of Sampling:** Rayapudi Village

**Sampling Method/Procedure:** IS 1622 :1981

**General Environment conditions:** OK

Page No: 1 of 1

### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	CFU/100 ml	IS 1622:1981	< 1	-

Interpretation of results: Nil

Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01843 <b>Lab Code No :</b> 180865711 <b>Issue Date :</b> 19.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Ground Water Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 19.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)	<b>Packing</b> : Plastic Bottle <b>Test Required</b> : As given below		
<b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Inavolu Village		<b>Sampling Method/Procedure:</b> IS 3025 Part 1 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1	pH at 25 °C	--	IS:3025- Part-11	7.55	6.5-8.5	No Relaxation
2	Turbidity	NTU	IS:3025 -Part-10	2.9	1	5
3	Electrical Conductivity	µs/cm	IS:3025 -Part-14	14500	-	-
4	Total Dissolved Solids @ 105°C	mg/l	IS:3025 - Part-16	8970	500	2000
5	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	1349	200	600
6	Calcium as Ca	mg/l	IS:3025- Part-40	259	75	200
7	Magnesium as Mg	mg/l	IS:3025 -Part-46	171	30	100
8	Chlorides as Cl	mg/l	IS:3025 -Part-32	3259	250	1000
9	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	1944	200	400
10	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23rd Edition 2017	1.07	1.0	1.5
11	Nitrate as NO <sub>3</sub>	mg/l	4500-NO3-B UV Spectrophotometric Screening Method	56	45	No Relaxation
12	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	576	200	600
13	Boron as B	mg/l	4500-B B. Curcumin Method, APHA 23rd Edition 2017	1.85	0.5	1
14	Sodium as Na	mg/l	IS:3025 -Part-45, 1993	2710	--	--
15	Potassium as K	mg/l	IS:3025 -Part-45, 1993	14	--	--

Note: \* the parameter not covered in NABL scope .

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director, Laboratory

Note: This report is subject to the terms and conditions mentioned overleaf.



\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> M/s.Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01843	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180865711	
<b>Quantity</b> : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample(Metals)		<b>Issue Date</b> : 19.12.2018	
<b>Packing</b> : Plastic Bottle		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Test Required</b> : As given below		<b>Date of Receipt</b> : 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	19.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Inavolu village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
16	Iron as Fe	mg/l	3111 B of APHA 23rd Edition 2017	0.16	1.0	No relaxation
17	Copper as Cu	mg/l	3111 C of APHA 23rd Edition 2017	0.06	0.05	1.5
18	Manganese as Mn	mg/l	3111 C of APHA 23rd Edition 2017	0.04	0.1	0.3
19	Zinc as Zn	mg/l	3111 C of APHA 23rd Edition 2017	0.26	5	15
20	Cadmium as Cd	mg/l	3111 C of APHA 23rd Edition 2017	< 0.005	0.003	No relaxation
21	Lead as Pb	mg/l	3111 C of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
22	Mercury as Hg	mg/l	3112 B of APHA 23rd Edition 2017	< 0.001	0.001	No relaxation
23	Total Arsenic as As	mg/l	3114 B of APHA 23rd Edition 2017	< 0.01	0.01	No relaxation
24	Nickel as Ni	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.02	No relaxation
25	Total Chromium as Cr	mg/l	3111 B of APHA 23rd Edition 2017	< 0.02	0.05	No Relaxation
*26	Phosphate as P	mg/l	4500 PE of APHA 23rd Edition 2017	< 0.1	-	-
*27	Chemical Oxygen Demand	mg/l	IS:3025 -Part-58	8	-	-
*28	Salinity	PPT or g/kg	-	8.97	-	-

Note: \* the parameter not covered in NABL scope.

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



... End of the Report...

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
St. Ann's Road, Tarnaka,  
Secunderabad - 500017,  
Telangana, India

Phone : +91 40 49783062 / 27016806 Fax : +91 40 49783063

Email : lab@bsenvitech.com, info@bsenvitech.com

Website : www.bsenvitech.com

CIN No. : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. : BSET/18-19/TR-01843</b>	
<b>Sample Description:</b> Ground Water Sample		<b>Lab Code No</b> : 180855711	
		<b>Issue Date</b> : 19.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 250 ml Sample		<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Pre Sterilized Bottle		<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below		<b>Date of completion of testing</b>	06.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> IS 1622 :1981	
<b>Location of Sampling:</b> Inavolu Village		<b>General Environment conditions:</b> OK	

Page No: 1 of 1



### TEST RESULTS

#### Microbiological Analysis:

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012
1	Total Coliforms	cfu /100 ml	Cl.3.3.2 of IS 1622:1981(RA 2014)	Absent	-

Interpretation of results: Nil

Deviation from test method: Nil

  
Authorized Signatory  
( G.Muralidhara Swamy )  
Sr.Microbiologist  


\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.

# NOISE MONITORING REPORT



**TEST REPORT**


**Project** : Andhra Pradesh Capital Region Development Authority

**NOISE LEVELS (dB (A))**

	Location			
	Venkatapalem	Mandadam	Rayapudi	Thullur
Date of Sampling	28.11.2018	23.11.2018	23.11.2018	23.11.2018
<b>Day Time</b>				
06:00	46.8	43.5	48.9	51.2
07:00	49.7	46.7	47.2	43.7
08:00	51.6	49.8	51.3	49.8
09:00	52.3	51.3	49.4	51.3
10:00	53.4	53.5	52.6	52.6
11:00	52.7	52.6	50.8	50.8
12:00	51.8	51.9	43.2	51.6
13:00	53.2	50.8	50.7	53.7
14:00	56.3	53.5	49.7	48.9
15:00	52.4	50.6	51.4	50.6
16:00	50.8	49.6	53.2	53.8
17:00	51.2	51.7	51.7	52.6
18:00	50.6	50.5	52.6	53.7
19:00	49.8	49.2	50.8	49.8
20:00	52.5	51.8	52.0	50.7
21:00	53.2	46.7	49.7	47.9
<b>Night Time</b>				
22:00	49.8	43.8	46.3	45.4
23:00	45.1	42.6	45.1	41.3
24:00	45.2	44.5	43.4	40.9
01:00	42.1	43.2	42.8	42.7
02:00	43.6	42.6	42.9	41.8
03:00	42.4	41.8	44.7	43.7
04:00	41.9	43.6	45.4	42.6
05:00	42.5	41.8	46.1	45.2
<b>Day Equivalent (Ld)</b>	<b>52.2</b>	<b>50.9</b>	<b>50.8</b>	<b>51.4</b>
<b>Night Equivalent (Ln)</b>	<b>45.0</b>	<b>43.1</b>	<b>44.8</b>	<b>43.2</b>
<b>Ambient Air Quality Standards w.r.t Noise for Residential Area</b>	<b>Day Time</b>	<b>55</b>		
	<b>Night Time</b>	<b>45</b>		

\*BSET laboratory is accredited by NABL vide no. TC-5233

Duration: Sample was collected on 24 hourly basis

  
**Authorized Signatory**  
**(G. Chandra Mouli)**  
**Env. Scientist**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

**Project** : Andhra Pradesh Capital Region Development Authority

### NOISE LEVELS (dB (A))

Date of Sampling	Location			
	Uddandrayunipalem	Dondapadu	Ananthavaram	Nekkallu
	23.11.2018	26.11.2018	26.11.2018	26.11.2018
<b>Day Time</b>				
06:00	47.8	46.7	50.3	48.4
07:00	49.4	45.3	49.8	43.5
08:00	53.1	51.7	53.2	50.1
09:00	52.4	56.5	49.6	49.6
10:00	51.6	55.3	52.1	53.8
11:00	50.2	55.1	48.5	51.2
12:00	53.5	52.8	43.7	49.3
13:00	50.8	53.9	52.6	47.3
14:00	52.6	51.0	53.6	50.3
15:00	55.1	49.8	50.8	52.5
16:00	49.3	48.7	51.5	49.6
17:00	50.6	47.5	50.4	51.8
18:00	51.8	48.6	48.7	50.6
19:00	50.7	49.6	49.3	48.9
20:00	53.4	47.6	50.4	45.6
21:00	49.5	48.3	47.6	49.3
<b>Night Time</b>				
22:00	47.4	45.4	45.7	44.3
23:00	45.3	43.9	40.3	42.1
24:00	42.1	39.7	39.8	40.3
01:00	39.8	38.7	37.6	39.8
02:00	41.3	42.3	39.3	42.6
03:00	45.4	43.1	40.4	40.1
04:00	46.7	40.8	44.3	41.8
05:00	42.9	42.6	45.2	40.9
<b>Day Equivalent (Ld)</b>	<b>51.8</b>	<b>51.8</b>	<b>50.7</b>	<b>50.1</b>
<b>Night Equivalent (Ln)</b>	<b>44.6</b>	<b>42.5</b>	<b>42.5</b>	<b>41.7</b>
<b>Ambient Air Quality Standards w.r.t Noise for Residential Area</b>	<b>Day Time</b>	<b>55</b>		
	<b>Night Time</b>	<b>45</b>		

\*BSET laboratory is accredited by NABL vide no. TC-5233

Duration: Sample was collected on 24 hourly basis

Authorized Signatory  
(G. Chandra Mouli)  
Env. Scientist

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

**Project** : Andhra Pradesh Capital Region Development Authority

### NOISE LEVELS (dB (A))

	Location			
	Sakhamuru	Nelapdu	Navuluru	Nidamarru
Date of Sampling	27.11.2018	27.11.2018	28.11.2018	28.11.2018
<b>Day Time</b>				
06:00	48.5	48.6	49.7	48.1
07:00	47.9	46.2	51.2	49.5
08:00	50.3	47.3	49.6	50.7
09:00	47.6	52.1	50.4	48.3
10:00	50.9	51.8	51.3	50.6
11:00	53.8	49.7	49.8	49.7
12:00	49.2	52.8	50.6	48.3
13:00	52.6	59.2	48.7	52.1
14:00	53.4	60.3	53.1	51.8
15:00	49.0	51.3	50.9	52.6
16:00	48.4	52.7	53.8	53.9
17:00	5.4	53.4	52.6	51.7
18:00	50.6	50.4	53.6	50.4
19:00	52.1	51.8	54.7	49.8
20:00	49.6	50.3	50.2	51.0
21:00	47.2	49.8	49.7	47.7
<b>Night Time</b>				
22:00	45.8	47.9	43.6	44.4
23:00	46.9	46.5	41.3	42.1
24:00	47.1	44.3	39.5	40.8
01:00	39.9	40.9	41.3	39.9
02:00	40.0	39.1	42.7	41.3
03:00	42.9	40.4	40.9	40.7
04:00	38.7	39.9	44.3	42.3
05:00	41.3	41.3	46.4	44.5
<b>Day Equivalent (Ld)</b>	<b>50.3</b>	<b>53.6</b>	<b>51.6</b>	<b>50.7</b>
<b>Night Equivalent (Ln)</b>	<b>43.9</b>	<b>43.7</b>	<b>43.0</b>	<b>42.3</b>
<b>Ambient Air Quality Standards w.r.t Noise for Residential Area</b>	<b>Day Time</b>	<b>55</b>		
	<b>Night Time</b>	<b>45</b>		

\*BSET laboratory is accredited by NABL vide no. TC-5233

Duration: Sample was collected on 24 hourly basis

**Authorized Signatory**  
(G. Chandra Mouli)  
Env. Scientist

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

**Project** : Andhra Pradesh Capital Region Development Authority

### NOISE LEVELS (dB (A))

	Location		
	Kuragallu	Krishnayapalem	Undavalli
Date of Sampling	28.11.2018	22.11.2018	22.11.2018
<b>Day Time</b>			
06:00	51.2	48.5	49.3
07:00	50.6	46.7	51.2
08:00	49.7	53.8	56.4
09:00	48.9	50.7	59.6
10:00	49.2	51.2	54.7
11:00	51.5	50.6	53.9
12:00	52.6	52.3	52.6
13:00	49.7	49.9	58.4
14:00	50.8	46.8	52.3
15:00	51.3	52.3	56.1
16:00	49.8	50.8	52.8
17:00	50.6	51.9	53.6
18:00	54.3	50.6	56.3
19:00	54.8	52.4	53.7
20:00	52.6	51.9	53.8
21:00	50.5	49.3	49.2
<b>Night Time</b>			
22:00	47.3	43.6	46.5
23:00	43.9	42.8	42.7
24:00	45.6	40.9	40.2
01:00	43.2	41.2	39.8
02:00	41.9	40.6	41.3
03:00	44.3	42.6	40.8
04:00	40.9	41.8	40.7
05:00	43.6	40.6	42.6
<b>Day Equivalent (Ld)</b>	<b>51.5</b>	<b>51.0</b>	<b>54.9</b>
<b>Night Equivalent (Ln)</b>	<b>44.3</b>	<b>41.9</b>	<b>42.4</b>
<b>Ambient Air Quality Standards w.r.t Noise for Residential Area</b>	<b>Day Time</b>	<b>55</b>	
	<b>Night Time</b>	<b>45</b>	

\*BSET laboratory is accredited by NABL vide no. TC-5233

Duration: Sample was collected on 24 hourly basis

Authorized Signatory  
(G. Chandra Mouli)  
Env. Scientist

\*Complaints Register is available at Laboratory.



# SOIL QUALITY REPORT



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01869	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180863111	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Venkatapalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	7.84
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	396
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	118
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	396
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	4128
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	1118
7	Organic Carbon	%	BSET/SOP/SS-07	0.72
8	Organic Matter	%	BSET/SOP/SS-14	1.24
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.13
10	Texture :		BSET/SOP/SS-16	Clay
	a) Sand	%		18
	b) Silt	%		37
	c) Clay	%		45
11	Moisture Content	%	BSET/SOP/SS-05	9.24

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022

**TEST REPORT**

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01869		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180863111	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20		
<b>Location of Sampling:</b> Venkatapalem Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1	

**TEST RESULTS**

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	29595
2	Manganese as Mn	mg/kg	USEPA-3050 B	949
3	Copper as Cu	mg/kg	USEPA-3050 B	86
4	Nickel as Ni	mg/kg	USEPA-3050 B	54
5	Chromium as Cr	mg/kg	USEPA-3050 B	41
6	Lead as Pb	mg/kg	USEPA-3050 B	26
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.6
8	Zinc as Zn	mg/kg	USEPA-3050 B	69
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

**Interpretation of results:** Nil  
**Deviation from test method:** Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director – Laboratory

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01870	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180863011	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Mandadam Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	8.17
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	217
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	70
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	259
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3948
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	1034
7	Organic Carbon	%	BSET/SOP/SS-07	0.40
8	Organic Matter	%	BSET/SOP/SS-14	0.69
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.13
10	Texture :		BSET/SOP/SS-16	Clay
	a) Sand	%		18
	b) Silt	%		39
	c) Clay	%		43
11	Moisture Content	%	BSET/SOP/SS-05	10.26

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01870		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180863011	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Mandadam Village		<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1

### TEST RESULTS

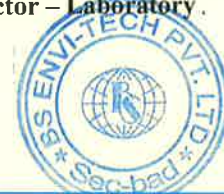
HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	26440
2	Manganese as Mn	mg/kg	USEPA-3050 B	750
3	Copper as Cu	mg/kg	USEPA-3050 B	70
4	Nickel as Ni	mg/kg	USEPA-3050 B	45
5	Chromium as Cr	mg/kg	USEPA-3050 B	38
6	Lead as Pb	mg/kg	USEPA-3050 B	21
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.8
8	Zinc as Zn	mg/kg	USEPA-3050 B	46
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

**Interpretation of results:** Nil

**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory.



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: IC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01871	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180862911	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Rayapudi Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

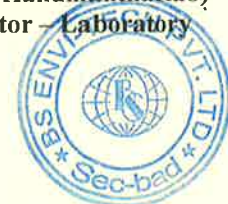
S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	7.84
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	326
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	87
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	331
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3848
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	973
7	Organic Carbon	%	BSET/SOP/SS-07	0.57
8	Organic Matter	%	BSET/SOP/SS-14	0.98
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.13
10	Texture :		BSET/SOP/SS-16	Clay
	a) Sand	%		19
	b) Silt	%		38
	c) Clay	%		43
11	Moisture Content	%	BSET/SOP/SS-05	9.18

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01871		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180862911	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Rayapudi Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	25525
2	Manganese as Mn	mg/kg	USEPA-3050 B	756
3	Copper as Cu	mg/kg	USEPA-3050 B	69
4	Nickel as Ni	mg/kg	USEPA-3050 B	45
5	Chromium as Cr	mg/kg	USEPA-3050 B	35
6	Lead as Pb	mg/kg	USEPA-3050 B	23
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.9
8	Zinc as Zn	mg/kg	USEPA-3050 B	56
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01872  <b>Lab Code No :</b> 180862811  <b>Issue Date :</b> 22.12.2018  <b>Your Ref :</b> Letter Dated 28.11.2018  <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Soil Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 21.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 1 Kg Sample  <b>Packing :</b> Plastic Cover  <b>Test Required :</b> As given below	<b>Sampling Details</b> <b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Thullur Village <b>Sampling Method/Procedure:</b> BSET-MSP-20 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1		

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	8.09
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	208
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	30
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	365
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3066
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	778
7	Organic Carbon	%	BSET/SOP/SS-07	0.36
8	Organic Matter	%	BSET/SOP/SS-14	0.62
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.71
10	Texture :		BSET/SOP/SS-16	Clay Loam
	a) Sand	%		32
	b) Silt	%		30
	c) Clay	%		38
11	Moisture Content	%	BSET/SOP/SS-05	9.42

**Interpretation of results:** Nil  
**Deviation from test method:** Nil

... End of the Report...

**Authorized Signatory**  
**( A.V. HanumanthaRao )**  
**Director - Laboratory.**



Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01872		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180862811	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Thullur Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	15225
2	Manganese as Mn	mg/kg	USEPA-3050 B	563
3	Copper as Cu	mg/kg	USEPA-3050 B	35
4	Nickel as Ni	mg/kg	USEPA-3050 B	54
5	Chromium as Cr	mg/kg	USEPA-3050 B	31
6	Lead as Pb	mg/kg	USEPA-3050 B	26
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.8
8	Zinc as Zn	mg/kg	USEPA-3050 B	40
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

... End of the Report...

Authorized Signatory  
( A.V. HanumanthaRao )  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01873	
		<b>Lab Code No</b> : 180862711	
		<b>Issue Date</b> : 22.12.2018	
		<b>Your Ref</b> : Letter Dated 28.11.2018	
<b>Sample Description:</b> Soil Sample		<b>Date of Receipt</b> : 29.11.2018	
<b>Quantity</b> : 1 No. x 1 Kg Sample		<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Plastic Cover		<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Uddandrayunipalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	8.29
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	268
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	44
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	294
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3647
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	948
7	Organic Carbon	%	BSET/SOP/SS-07	0.47
8	Organic Matter	%	BSET/SOP/SS-14	0.81
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.16
10	Texture :		BSET/SOP/SS-16	Clay
	a) Sand	%		21
	b) Silt	%		37
	c) Clay	%		42
11	Moisture Content	%	BSET/SOP/SS-05	9.60

**Interpretation of results:** Nil

**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



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**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022

**TEST REPORT**

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01873		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180862711	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Uddandrayunipalem Village		<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1

**TEST RESULTS**

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	28035
2	Manganese as Mn	mg/kg	USEPA-3050 B	728
3	Copper as Cu	mg/kg	USEPA-3050 B	42
4	Nickel as Ni	mg/kg	USEPA-3050 B	48
5	Chromium as Cr	mg/kg	USEPA-3050 B	42
6	Lead as Pb	mg/kg	USEPA-3050 B	29
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.3
8	Zinc as Zn	mg/kg	USEPA-3050 B	46
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

**Interpretation of results:** Nil

**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

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\*Complaints Register is available at Laboratory.

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director, Laboratory





**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022



Certificate No: TC-5233

BSET/TR/Form -56

## TEST REPORT

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01874	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180862611	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Dondapadu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	8.19
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	204
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	22
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	209
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3347
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	997
7	Organic Carbon	%	BSET/SOP/SS-07	0.38
8	Organic Matter	%	BSET/SOP/SS-14	0.66
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.70
10	Texture :			Clay Loam
	a) Sand	%	BSET/SOP/SS-16	28
	b) Silt	%		35
	c) Clay	%		37
11	Moisture Content	%	BSET/SOP/SS-05	8.15

**Interpretation of results:** Nil

**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

**Authorized Signatory**  
( A.V. HanumanthaRao )  
**Director – Laboratory**



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
St. Ann's Road, Tarnaka,  
Secunderabad - 500017,  
Telangana, India

Phone : +91 40 49783062 / 27016806 Fax : +91 40 49783063  
Email : lab@bsenvitech.com, info@bsenvitech.com  
Website : www.bsenvitech.com  
CIN No. : U74210TG1999PTC032358





**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022

**TEST REPORT**

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01874 <b>Lab Code No :</b> 180862611 <b>Issue Date :</b> 22.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Soil Sample		
<b>Quantity :</b> 1 No. x 1 Kg Sample	<b>Date of Registration</b>	29.11.2018
<b>Packing :</b> Plastic Cover	<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required :</b> As given below	<b>Date of completion of testing</b>	21.12.2018
	<b>Sample condition at receipt</b>	Found ok
	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Dondapadu Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1

**TEST RESULTS**

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	25220
2	Manganese as Mn	mg/kg	USEPA-3050 B	465
3	Copper as Cu	mg/kg	USEPA-3050 B	33
4	Nickel as Ni	mg/kg	USEPA-3050 B	45
5	Chromium as Cr	mg/kg	USEPA-3050 B	27
6	Lead as Pb	mg/kg	USEPA-3050 B	23
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.3
8	Zinc as Zn	mg/kg	USEPA-3050 B	35
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

**Interpretation of results:** Nil

**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



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\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01875	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180862511	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Ananthavaram Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	8.20
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	163
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	39
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	178
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	2244
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	547
7	Organic Carbon	%	BSET/SOP/SS-07	0.28
8	Organic Matter	%	BSET/SOP/SS-14	0.48
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.25
10	Texture :		BSET/SOP/SS-16	Sandy Loam
	a) Sand	%		57
	b) Silt	%		24
	c) Clay	%		19
11	Moisture Content	%	BSET/SOP/SS-05	7.74

**Interpretation of results:** Nil

**Deviation from test method:** Nil

... End of the Report...

**Authorized Signatory**  
**( A.V. HanumanthaRao )**  
**Director - Laboratory**



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01875		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180862511	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20		
<b>Location of Sampling:</b> Ananthavaram Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1	

### TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	16865
2	Manganese as Mn	mg/kg	USEPA-3050 B	536
3	Copper as Cu	mg/kg	USEPA-3050 B	33
4	Nickel as Ni	mg/kg	USEPA-3050 B	61
5	Chromium as Cr	mg/kg	USEPA-3050 B	46
6	Lead as Pb	mg/kg	USEPA-3050 B	19
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.9
8	Zinc as Zn	mg/kg	USEPA-3050 B	42
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

**Interpretation of results:** Nil  
**Deviation from test method:** Nil

... End of the Report...

Authorized Signatory  
( A.V. HanumanthaRao )  
Director - Laboratory



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## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01876	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180862411	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Nekkallu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	8.17
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	172
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	25
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	176
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	2766
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	693
7	Organic Carbon	%	BSET/SOP/SS-07	0.30
8	Organic Matter	%	BSET/SOP/SS-14	0.52
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.58
10	Texture :		BSET/SOP/SS-16	Clay Loam
	a) Sand	%		39
	b) Silt	%		27
	c) Clay	%		34
11	Moisture Content	%	BSET/SOP/SS-05	7.32

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director – Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01876	
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180862411
	<b>Issue Date</b>	: 22.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
<b>Quantity</b> : 1 No. x 1 Kg Sample	<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Plastic Cover	<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required</b> : As given below	<b>Date of completion of testing</b>	21.12.2018
	<b>Sample condition at receipt</b>	Found ok
	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Nekkallu Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1

### TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	18100
2	Manganese as Mn	mg/kg	USEPA-3050 B	848
3	Copper as Cu	mg/kg	USEPA-3050 B	35
4	Nickel as Ni	mg/kg	USEPA-3050 B	64
5	Chromium as Cr	mg/kg	USEPA-3050 B	25
6	Lead as Pb	mg/kg	USEPA-3050 B	26
7	Cadmium as Cd	mg/kg	USEPA-3050 B	1.0
8	Zinc as Zn	mg/kg	USEPA-3050 B	36
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.



**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233  
BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01877	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180862311	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Sakhamurru Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	8.13
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	194
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	55
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	205
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3367
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	900
7	Organic Carbon	%	BSET/SOP/SS-07	0.34
8	Organic Matter	%	BSET/SOP/SS-14	0.59
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.27
10	Texture :		BSET/SOP/SS-16	Clay Loam
	a) Sand	%		26
	b) Silt	%		40
	c) Clay	%		34
11	Moisture Content	%	BSET/SOP/SS-05	7.22

**Interpretation of results:** Nil  
**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director, Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01877		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180862311	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20		
<b>Location of Sampling:</b> Sakhamurru Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1	

### TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	11200
2	Manganese as Mn	mg/kg	USEPA-3050 B	591
3	Copper as Cu	mg/kg	USEPA-3050 B	25
4	Nickel as Ni	mg/kg	USEPA-3050 B	35
5	Chromium as Cr	mg/kg	USEPA-3050 B	20
6	Lead as Pb	mg/kg	USEPA-3050 B	21
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.6
8	Zinc as Zn	mg/kg	USEPA-3050 B	30
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01878	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180862211	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Nelapadu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	7.38
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	240
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	118
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	267
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	2946
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	705
7	Organic Carbon	%	BSET/SOP/SS-07	0.42
8	Organic Matter	%	BSET/SOP/SS-14	0.72
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.22
10	Texture :		BSET/SOP/SS-16	Clay Loam
	a) Sand	%		40
	b) Silt	%		31
	c) Clay	%		29
11	Moisture Content	%	BSET/SOP/SS-05	8.74

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director – Laboratory



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**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022

**TEST REPORT**

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01878		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180862211	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20		
<b>Location of Sampling:</b> Nelapadu Village	<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1		

**TEST RESULTS**

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	23160
2	Manganese as Mn	mg/kg	USEPA-3050 B	429
3	Copper as Cu	mg/kg	USEPA-3050 B	54
4	Nickel as Ni	mg/kg	USEPA-3050 B	89
5	Chromium as Cr	mg/kg	USEPA-3050 B	81
6	Lead as Pb	mg/kg	USEPA-3050 B	20
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.3
8	Zinc as Zn	mg/kg	USEPA-3050 B	38
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

**Interpretation of results:** Nil  
**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
( A.V. HanumanthaRao )  
Director - Laboratory



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**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01879	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180862111	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Navuluru Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	7.99
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	447
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	238
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	668
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3387
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	815
7	Organic Carbon	%	BSET/SOP/SS-07	0.85
8	Organic Matter	%	BSET/SOP/SS-14	1.47
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.31
10	Texture :		BSET/SOP/SS-16	Clay Loam
	a) Sand	%		42
	b) Silt	%		27
	c) Clay	%		31
11	Moisture Content	%	BSET/SOP/SS-05	9.26

**Interpretation of results:** Nil

**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



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\*Complaints Register is available at Laboratory.

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
St. Ann's Road, Tarnaka,  
Secunderabad - 500017,  
Telangana, India

Phone : +91 40 49783062 / 27016806 Fax : +91 40 49783063  
Email : lab@bsenvitech.com, info@bsenvitech.com  
Website : www.bsenvitech.com  
CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01879		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180862111	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20		
<b>Location of Sampling:</b> Navuluru Village	<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1		

### TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	21745
2	Manganese as Mn	mg/kg	USEPA-3050 B	844
3	Copper as Cu	mg/kg	USEPA-3050 B	83
4	Nickel as Ni	mg/kg	USEPA-3050 B	52
5	Chromium as Cr	mg/kg	USEPA-3050 B	41
6	Lead as Pb	mg/kg	USEPA-3050 B	19
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.8
8	Zinc as Zn	mg/kg	USEPA-3050 B	58
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

\*\*\* End of the Report\*\*\*

Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01880 <b>Lab Code No :</b> 180862011 <b>Issue Date :</b> 22.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Soil Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 21.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 1 Kg Sample <b>Packing :</b> Plastic Cover <b>Test Required :</b> As given below	<b>Sampling Details</b> <b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Nidamaru Village <b>Sampling Method/Procedure:</b> BSET-MSP-20 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1		

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	7.58
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	556
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	243
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	842
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	2525
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	596
7	Organic Carbon	%	BSET/SOP/SS-07	0.98
8	Organic Matter	%	BSET/SOP/SS-14	1.69
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.25
10	Texture :		BSET/SOP/SS-16	Sandy Clay Loam
	a) Sand	%		50
	b) Silt	%		27
	c) Clay	%		23
11	Moisture Content	%	BSET/SOP/SS-05	5.44

**Interpretation of results:** Nil

**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

**Authorized Signatory**  
**( A.V. HanumanthaRao )**  
**Director – Laboratory**



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01880		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180862011	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20		
<b>Location of Sampling:</b> Nidamaru Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1	

### TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	15210
2	Manganese as Mn	mg/kg	USEPA-3050 B	519
3	Copper as Cu	mg/kg	USEPA-3050 B	28
4	Nickel as Ni	mg/kg	USEPA-3050 B	27
5	Chromium as Cr	mg/kg	USEPA-3050 B	13
6	Lead as Pb	mg/kg	USEPA-3050 B	19
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.6
8	Zinc as Zn	mg/kg	USEPA-3050 B	42
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory

\*\*\* End of the Report\*\*\*

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\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, GoI: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01881 <b>Lab Code No :</b> 180861911 <b>Issue Date :</b> 22.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Soil Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 21.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 1 Kg Sample <b>Packing :</b> Plastic Cover <b>Test Required :</b> As given below	<b>Sampling Details</b> <b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Kuragallu Village <b>Sampling Method/Procedure:</b> BSET-MSP-20 <b>General Environment conditions:</b> Ok		

Page No: 1 of 1

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	7.65
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	2.43
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	173
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	156
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	2745
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	499
7	Organic Carbon	%	BSET/SOP/SS-07	0.42
8	Organic Matter	%	BSET/SOP/SS-14	0.72
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.16
10	Texture :		BSET/SOP/SS-16	Sandy Clay Loam
	a) Sand	%		49
	b) Silt	%		27
	c) Clay	%		24
11	Moisture Content	%	BSET/SOP/SS-05	9.88

Interpretation of results: Nil

Deviation from test method: Nil

... End of the Report...

Authorized Signatory  
( A.V. HanumanthaRao )  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01881	
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180861911
	<b>Issue Date</b>	: 22.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
	<b>Date of Registration</b>	29.11.2018
<b>Quantity</b> : 1 No. x 1 Kg Sample	<b>Date of commencement of testing</b>	30.11.2018
<b>Packing</b> : Plastic Cover	<b>Date of completion of testing</b>	21.12.2018
<b>Test Required</b> : As given below	<b>Sample condition at receipt</b>	Found ok
	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Kuragallu Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1

## TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	22185
2	Manganese as Mn	mg/kg	USEPA-3050 B	853
3	Copper as Cu	mg/kg	USEPA-3050 B	38
4	Nickel as Ni	mg/kg	USEPA-3050 B	42
5	Chromium as Cr	mg/kg	USEPA-3050 B	33
6	Lead as Pb	mg/kg	USEPA-3050 B	21
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.5
8	Zinc as Zn	mg/kg	USEPA-3050 B	38
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

... End of the Report...

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Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory







# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01882	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180861811	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Krishnayapalem Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	8.05
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	434
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	139
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	651
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3968
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	839
7	Organic Carbon	%	BSET/SOP/SS-07	0.80
8	Organic Matter	%	BSET/SOP/SS-14	1.38
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.34
10	Texture :		BSET/SOP/SS-16	Clay
	a) Sand	%		21
	b) Silt	%		37
	c) Clay	%		42
11	Moisture Content	%	BSET/SOP/SS-05	8.68

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01882	
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180861811
	<b>Issue Date</b>	: 22.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
	<b>Date of Registration</b>	: 29.11.2018
<b>Quantity</b> : 1 No. x 1 Kg Sample	<b>Date of commencement of testing</b>	: 30.11.2018
<b>Packing</b> : Plastic Cover	<b>Date of completion of testing</b>	: 21.12.2018
<b>Test Required</b> : As given below	<b>Sample condition at receipt</b>	: Found ok
	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Krishnayapalem Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1

## TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	19550
2	Manganese as Mn	mg/kg	USEPA-3050 B	1053
3	Copper as Cu	mg/kg	USEPA-3050 B	94
4	Nickel as Ni	mg/kg	USEPA-3050 B	60
5	Chromium as Cr	mg/kg	USEPA-3050 B	46
6	Lead as Pb	mg/kg	USEPA-3050 B	23
7	Cadmium as Cd	mg/kg	USEPA-3050 B	1.6
8	Zinc as Zn	mg/kg	USEPA-3050 B	62
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01883	
		<b>Lab Code No :</b> 180861711	
		<b>Issue Date :</b> 22.12.2018	
		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Sample Description:</b> Soil Sample		<b>Date of Receipt :</b> 29.11.2018	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Date of Registration</b>	29.11.2018
<b>Packing :</b> Plastic Cover		<b>Date of commencement of testing</b>	30.11.2018
<b>Test Required :</b> As given below		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Undavalli Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	7.71
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	585
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	205
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	361
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3848
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	766
7	Organic Carbon	%	BSET/SOP/SS-07	1.06
8	Organic Matter	%	BSET/SOP/SS-14	1.83
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.23
10	Texture :		BSET/SOP/SS-16	Clay loam
	a) Sand	%		36
	b) Silt	%		35
	c) Clay	%		29
11	Moisture Content	%	BSET/SOP/SS-05	8.54

**Interpretation of results:** Nil  
**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

**Authorized Signatory**  
( A.V. Hanumantha Rao )  
**Director - Laboratory**



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**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022

**TEST REPORT**

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01883 <b>Lab Code No :</b> 180861711 <b>Issue Date :</b> 22.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018
<b>Sample Description:</b> Soil Sample	
<b>Quantity :</b> 1 No. x 1 Kg Sample	<b>Date of Registration</b> 29.11.2018
<b>Packing :</b> Plastic Cover	<b>Date of commencement of testing</b> 30.11.2018
<b>Test Required :</b> As given below	<b>Date of completion of testing</b> 21.12.2018
	<b>Sample condition at receipt</b> Found ok
	<b>Sample tested as received</b>
<b>Sampling Details</b>	
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20
<b>Location of Sampling:</b> Undavalli Village	<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1

**TEST RESULTS**

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	20760
2	Manganese as Mn	mg/kg	USEPA-3050 B	404
3	Copper as Cu	mg/kg	USEPA-3050 B	34
4	Nickel as Ni	mg/kg	USEPA-3050 B	32
5	Chromium as Cr	mg/kg	USEPA-3050 B	27
6	Lead as Pb	mg/kg	USEPA-3050 B	14
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.8
8	Zinc as Zn	mg/kg	USEPA-3050 B	69
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

**Interpretation of results:** Nil  
**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/Form -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01884 <b>Lab Code No :</b> 180861611 <b>Issue Date :</b> 22.12.2018 <b>Your Ref :</b> Letter Dated 28.11.2018 <b>Date of Receipt :</b> 29.11.2018	
<b>Sample Description:</b> Soil Sample		<b>Date of Registration</b> : 29.11.2018 <b>Date of commencement of testing</b> : 30.11.2018 <b>Date of completion of testing</b> : 21.12.2018 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Quantity :</b> 1 No. x 1 Kg Sample <b>Packing :</b> Plastic Cover <b>Test Required :</b> As given below	<b>Sampling Details</b> <b>Date of Sampling:</b> 26.11.2018 <b>Location of Sampling:</b> Yerrabalem Village <b>Sampling Method/Procedure:</b> BSET-MSP-20 <b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1		

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	7.76
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	172
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	64
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	167
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	1563
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	280
7	Organic Carbon	%	BSET/SOP/SS-07	0.30
8	Organic Matter	%	BSET/SOP/SS-14	0.52
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.28
10	Texture :			Sandy Loam
	a) Sand	%	BSET/SOP/SS-16	70
	b) Silt	%		14
	c) Clay	%		16
11	Moisture Content	%	BSET/SOP/SS-05	6.12

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01884	
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180861611
	<b>Issue Date</b>	: 22.12.2018
	<b>Your Ref</b>	: Letter Dated 28.11.2018
	<b>Date of Receipt</b>	: 29.11.2018
<b>Quantity</b> : 1 No. x 1 Kg Sample	<b>Date of Registration</b>	29.11.2018
<b>Packing</b> : Plastic Cover	<b>Date of commencement of testing</b>	30.11.2018
	<b>Date of completion of testing</b>	21.12.2018
<b>Test Required</b> : As given below	<b>Sample condition at receipt</b>	Found ok
	<b>Sample tested as received</b>	
<b>Sampling Details</b>		
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Yerrabalem Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1

### TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	34105
2	Manganese as Mn	mg/kg	USEPA-3050 B	719
3	Copper as Cu	mg/kg	USEPA-3050 B	29
4	Nickel as Ni	mg/kg	USEPA-3050 B	35
5	Chromium as Cr	mg/kg	USEPA-3050 B	49
6	Lead as Pb	mg/kg	USEPA-3050 B	19
7	Cadmium as Cd	mg/kg	USEPA-3050 B	0.1
8	Zinc as Zn	mg/kg	USEPA-3050 B	36
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01885	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180861511	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Penumaka Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	7.84
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	271
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	74
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	252
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	1964
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	632
7	Organic Carbon	%	BSET/SOP/SS-07	0.50
8	Organic Matter	%	BSET/SOP/SS-14	0.86
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.36
10	Texture :		BSET/SOP/SS-16	Sandy Clay Loam
	a) Sand	%		48
	b) Silt	%		25
	c) Clay	%		27
11	Moisture Content	%	BSET/SOP/SS-05	6.36

**Interpretation of results:** Nil

**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

**Authorized Signatory**  
(A.V. Hanumantha Rao)  
**Director - Laboratory**



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01885		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180861511	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Penumaka Village		<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1

### TEST RESULTS

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	30290
2	Manganese as Mn	mg/kg	USEPA-3050 B	772
3	Copper as Cu	mg/kg	USEPA-3050 B	77
4	Nickel as Ni	mg/kg	USEPA-3050 B	59
5	Chromium as Cr	mg/kg	USEPA-3050 B	41
6	Lead as Pb	mg/kg	USEPA-3050 B	20
7	Cadmium as Cd	mg/kg	USEPA-3050 B	1.5
8	Zinc as Zn	mg/kg	USEPA-3050 B	61
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumanth Rao)  
Director - Laboratory



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Gol: Valid upto August, 2022

## TEST REPORT



Certificate No: TC-5233

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.		<b>Test Report No. :</b> BSET/18-19/TR-01890	
<b>Sample Description:</b> Soil Sample		<b>Lab Code No :</b> 180861011	
<b>Quantity :</b> 1 No. x 1 Kg Sample		<b>Issue Date :</b> 22.12.2018	
<b>Packing :</b> Plastic Cover		<b>Your Ref :</b> Letter Dated 28.11.2018	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 29.11.2018	
		<b>Date of Registration</b>	29.11.2018
		<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018		<b>Sampling Method/Procedure:</b> BSET-MSP-20	
<b>Location of Sampling:</b> Inavolu Village		<b>General Environment conditions:</b> Ok <b>Page No:</b> 1 of 1	

### TEST RESULTS

S.No	Test Parameter	Units	Test Method	Results
1	pH of 1.2 Soil water Extract	-----	BSET/SOP/SS-06	8.11
2	Available Nitrogen as N	kg/ha	BSET/SOP/SS-13	297
3	Available Phosphorous as P <sub>2</sub> O <sub>5</sub>	kg/ha	BSET/SOP/SS-11	53
4	Available Potassium as K <sub>2</sub> O	kg/ha	BSET/SOP/SS-09	398
5	Available Calcium as Ca	mg/kg	BSET/SOP/SS-01	3347
6	Available Magnesium as Mg	mg/kg	BSET/SOP/SS-02	632
7	Organic Carbon	%	BSET/SOP/SS-07	0.55
8	Organic Matter	%	BSET/SOP/SS-14	0.95
9	Sodium Absorption Ratio(SAR)	-	BSET/SOP/SS-17	0.14
10	Texture :		BSET/SOP/SS-16	Clay Loam
	a) Sand	%		31
	b) Silt	%		37
	c) Clay	%		32
11	Moisture Content	%	BSET/SOP/SS-05	7.16

Interpretation of results: Nil

Deviation from test method: Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. HanumanthaRao)  
Director - Laboratory



Note: This report is subject to the terms and conditions mentioned overleaf.

\*Complaints Register is available at Laboratory.





**B.S. ENVI - TECH PVT. LTD.**  
Recognized by MoEF & CC, Gol: Valid upto August, 2022

**TEST REPORT**

BSET/TR/FORM -56

<b>Name &amp; Address of the Customer :</b> Andhra Pradesh Capital Region Development Authority, Vijayawada, Andhra Pradesh.	<b>Test Report No. :</b> BSET/18-19/TR-01890		
<b>Sample Description:</b> Soil Sample	<b>Lab Code No</b>	: 180861011	
	<b>Issue Date</b>	: 22.12.2018	
	<b>Your Ref</b>	: Letter Dated 28.11.2018	
	<b>Date of Receipt</b>	: 29.11.2018	
	<b>Quantity</b>	: 1 No. x 1 Kg Sample	
<b>Packing</b>	: Plastic Cover	<b>Date of Registration</b>	29.11.2018
<b>Test Required</b>	: As given below	<b>Date of commencement of testing</b>	30.11.2018
		<b>Date of completion of testing</b>	21.12.2018
		<b>Sample condition at receipt</b>	Found ok
		<b>Sample tested as received</b>	
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 26.11.2018	<b>Sampling Method/Procedure:</b> BSET-MSP-20		
<b>Location of Sampling:</b> Inavolu Village	<b>General Environment conditions:</b> Ok	<b>Page No:</b> 1 of 1	

**TEST RESULTS**

HEAVY METALS:				
S.No	Test Parameter	Units	Test Method	Results
1	Iron as Fe	mg/kg	USEPA-3050 B	16860
2	Manganese as Mn	mg/kg	USEPA-3050 B	596
3	Copper as Cu	mg/kg	USEPA-3050 B	21
4	Nickel as Ni	mg/kg	USEPA-3050 B	41
5	Chromium as Cr	mg/kg	USEPA-3050 B	15
6	Lead as Pb	mg/kg	USEPA-3050 B	20
7	Cadmium as Cd	mg/kg	USEPA-3050 B	1.5
8	Zinc as Zn	mg/kg	USEPA-3050 B	32
9	Mercury as Hg	mg/kg	USEPA-3050 B	< 0.1
10	Arsenic as As	mg/kg	USEPA-3050 B	< 1.0

**Interpretation of results:** Nil

**Deviation from test method:** Nil

\*\*\* End of the Report\*\*\*

Authorized Signatory  
(A.V. Hanumantha Rao)  
Director - Laboratory



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