EMPERIUM
REALTY

Date: 3/10/2019

To

The Regional Office,
Ministry of Environment & Forests,
MoEF&CC Govt. Of India,
Bay's No. 24-25, sector-31-A, Dakshin Marg, Chandigarh

Sub: Submission of Six Monthly Compliance Report of Stipulated Conditions of Environmental Clearance for Proposed Affordable Group Housing Colony on an area 5.08339 acres at village Taraf Insar & Rajputn,Sector-1A Panipat, Haryana for the submission period of December 2019.

Ref. No. SEIAA/HR/2018/106 Dated on 13/02/2018

This has reference to the EC letter no. **SEIAA/HR/2018/106 Dated on 13/02/2018** vide which we have been asked to submit the Compliance with the specific and general conditions.

In view of above, we are approaching you by submitting a (Soft) copy of the following information/documents for your kind perusal:

1. Point-wise compliance of the stipulated environmental condition/safeguards.
2. Analysis Reports.
3. Supporting Documents

For M/s Emperium Reality Pvt Ltd

(Authorized Signatory)

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Copy to:

1. The Additional Director (IA Division), MoEF&CC, GoI, Indra Paryavaran Bhawan, Zor Bagh Road-Delhi.
2. The Member Secretary, State Environment Impact Assessment Authority, Bay No. 55-58, Paryatan Bhawan, Sector-2, Panchkula.
3. The Chairman, Haryana State Pollution Control Board, C-11, Sector-6, Panchkula.

Project: Environmental Clearance for Proposed Affordable Group Housing Colony on an area 5.08339 acres at village Taraf Insar & Rajputan Sector 1-A, Panipat, Haryana (EC No SEIAA/HR/2018/106 on Dated 13th February 2018)

SEMI ANNUAL ENVIRONMENTAL COMPLIANCE MONITORING REPORT OF STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE (December - 2019)

FOR

Affordable Group Housing project on area 5.08339 acres Village-TarafInsar & Rajputan, Sector-1A Panipat, Haryana

For Submission to:
Ministry of Environment and Forests (MoEF)

SUBMITTED BY:

M/s Emperium Reality Pvt ltd
Two Horizon Centre, 618-619, 6th floor

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1 INTRODUCTION

1.1 INTRODUCTION:

M/s Emperium Reality Private Limited.has proposed a group housing project at village-TarafInsar & Rajputan, Sector-1-A, Panipat, Haryana.

The Project has been recommended by State Expert Appraisal Committee (SEAC).This Project has obtained its Environmental Clearance from State Environment Impact Assessment Authority (SEIAA), Haryana with certain condition.

Status of project:
The project is in construction phase and construction has been carried out as per the EC conditions.

1.2 Purpose of the Report

As per the "Sub Para (i)" of "Para 10" of EIA Notification 2006, it is stated that "It shall be mandatory for the project proponent to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the concerned regulatory authority, on 1st June and 1st December of each calendar year"and as per compliance condition mentioned in Environment Clearance Letter.

The regulatory authorities in this case are SEIAA, Punchkula, MoEF& CC, Chandigarh and HSPCB, Panchkula. Various scheduled Site Visits were conducted by a team of Experts to Monitor Pollution related parameters as defined by CPCB / HSPCB. Samples for water and soil were also collected by NABL/ MoEF approved laboratory for analysis.

Based on the Specific and General Conditions mentioned in the EC Letter, a Compliance Report has been prepared and sumittedregulary to the authority.
The Environmental assessment has been carried out to verify:

1) The proposed project has not any adverse effect on the project site as well as it's surrounding.
2) There is compliance with the conditions stipulated in the Environmental Clearance Letter.
3) The Project proponent is implementing the environmental safeguards in true spirit.
4) The non conformity in the project with respect to the environmental implication of the project.
5) The project proponent is implementing the environmental pollution mitigative measures as suggested in approved Form-1 and Form – 1A, Environmental Management Plan and Building Plan.

1.3 Methodology for Preparation of Report is as follows:

1) Study of EC Letter & Related Documents,
2) Site Visits by a Team of Experts,
3) Monitoring of Environment Parameters, viz. Ambient Air, Water, Noise & Soil by the NABL/Moef labs
4) Interpretation of Monitoring Results.
5) Preparation of half yearly Environmental Compliance Report.

1.4 Generic Structure of Report:

1) Purpose of the Report, explaining the need of a Compliance Report and Methodology Adopted for preparation of Report.
2) Compliance Report, explaining the entire General & specific conditions in the EC Letter and providing details w.r.t. each condition/ guideline.
3) Monitoring Reports & Analysis, showing the level of emission within the project site for various Environment Parameters.
4) Photographs showing status of the project and site.
5) Supporting Documents which are mandatory for the project.

2 ADHERENCE OF SPECIFIC AND GENERAL CONDITIONS

PART A – SPECIFIC CONDITIONS

I. Construction Phase

S. No.	Conditions of Environmental Clearance	*Status of Compliance*
1)	"Consent For Establishment" shall be obtained from Haryana State Pollution Control Board under Air and Water Act and a copy shall be submitted to the SEIAA, Haryana before start of any construction work at site.	*Consent to establishment for the project has already been obtained vide letter no. HSPCB/Consent/:329962318PITCTE5103092 on dated: 06/03/2018.*
2)	A First aid room as proposed in the project report shall be provided in both during construction and operational phase of the project.	*Noted and Complied.*
3)	Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. Open defecation by the laboures is strictly prohibited. The safe disposal of waste water and solid wastes generated during the construction phase should be ensured.	*Adequate drinking water & sanitary facilities are being provided for construction workers at the site.* *Solid waste generated during the construction phase is being disposed off safely.*
4)	All the top soil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.	*Noted and same is being complied.*
5)	The project proponent should ensure that the building material used in the construction phase should be stored within the project area and disposal of construction waste should not create any adverse effect on the neighboring and should be disposed of after taking necessary precautions for general safety and health aspects of the people, only in the approved sites with the approval of competent authority.	*The constructional waste is being stored in the project site so as to avoid any ill effect on neighborhood.*
6)	Construction spoils, including bituminous materials and other hazardous materials must not be allowed to contamination watercourses and the dump site for such materials must be secured so that they should not leak into Drinking water and any hazardous waste generated during construction phase should be disposed off as per applicable rules and norms with necessary approval of Haryana State Pollution Control Board.	*Noted and same is being complied.*
7)	The diesel generator sets to be used during construction phase should be of ultra low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standard.	*Noted and same is being complied.*
8)	The diesel required for operating DG sets shall be stored in under Drinking tanks if required, clearance from Chief Controller of Explosive shall be taken.	*Agreed and Noted.*
9)	Ambient noise levels should conform to the residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase.	*Ambient air & noise monitoring has been conducted at project site and the results shows that the noise levels were within the prescribed limits. Lab report attached in* ***Annexure-1.***

	Adequate measures should be taken to reduce ambient air and noise level during construction phase, so as to confirm stipulated residential standards.	
10)	Fly ash should be used as building materials in the construction as per the provision of Fly Ash Notification of September 1999 and amendment as on 27th August 2003.	*Fly ash based construction material is being used in construction activities.*
11)	Storm water control and its re-use as per CGWB and BIS standard for various applications should be ensured.	*The recharge structures for storm water control as well as rain water harvesting have been proposed for recharging of Ground water.*
12)	Water demand during construction phase should be reduced by uses of pre-mixed concrete, curing agent and other best practices.	*Premix concrete and curing agent are being used to conserve water.*
13)	Roof should meet prescribed requirements as per Energy Conservation Building Code by using appropriate thermal insulation material.	*Noted and building is designed as per ECBC norms.*
14)	Opaque wall should meet prescribed requirements as per energy conservation building code which is proposed to be mandatory for all air conditioned spaces while it is desirable for non air conditioned spaces by use of appropriate thermal insulation to fulfill the requirement.	*Noted and building is designed as per ECBC norms.*
15)	The approval of competent authority shall be obtained for structural safety of the building due to earthquake, adequacy in firefighting equipment etc as per National Building Code including protection measures for light etc. If any forest land is involved in the proposed site, clearance under Forest Conservation Act shall be taken from competent Authority.	*Agreed and Noted.*
16)	The project proponent as stated in the proposal shall construct 09 rainwater harvesting pits for recharging the Drinking water with in project premises. Rain water harvesting pits shall be designed to make provision for silting chamber and removal of floating matter before entering harvesting pit Maintenance budget and person responsible for maintenance must be provided. Care shall also be taken that contaminated water do not enter any RHW pit.	*09 RWH pits will be constructed in due course of time. Best possible measures will be practiced to avoid the recharge of Drinking water with the contaminated water.*
17)	The project proponent shall provide for adequate fire safety measures and equipments as required by Haryana Fire Service Act, 2009 and instructions issued by the local Authority/Directorate of fire from time to time. Further the project proponent shall take necessary permission regarding fire safety scheme/NOC from competent Authority as required.	*Adequate fire safety measures and equipment as required by Haryana Fire Service Act 2009 and as per instructions of local concerned departments and authorities are being complied.*
18)	The project proponent shall obtain assurance from the DHBVN for supply of 5424KW of power supply before the start of construction. In no case project will be operational solely on generators without any power supply from any external power utility.	*Noted.* *Power supply Assurance has been obtained and copy attached as* ***Annexure-2.***
19)	Detail calculation of power load and ultimate power load of the project shall be submitted to DHBVN under intimation to SEIAA Haryana before the start of the construction. Provisions shall be made for electrical infrastructure in the project area.	*We have already submitted ultimate power load to SEIAA along with EC application.*
20)	The project proponent shall not raise any construction in the natural land depression/ Nallah/ Water course and	*Agreed and Noted.*

	shall ensure that the natural flow from the Nallah/ Water course is not obstructed.	
21)	The Project Proponent shall keep the plinth level of the building blocks sufficiently above the level of the approach road to the Project as per prescribed by-laws. Levels of the other areas in the Projects shall also be kept suitably so as to avoid flooding.	*Plinth level is kept above the level of the road to avoid flooding.*
22)	Construction shall be carried out so that the density of population does not exceed norms approved by the Director General Town and Country Department Haryana.	*Agreed.*
23)	The project proponent shall submit an affidavit with the declaration that Drinking water will not be used for construction and only the treated water should be used for construction.	*Agreed and Complied.*
24)	The project proponent shall not cut any existing tree in the project area and project landscaping plan should be modified to include those trees in the green area.	*Agreed and Noted.*
25)	The project proponent shall provide 3 meter high barricade around the project area, dust screen for every floor above the Drinking, proper sprinkling and covering of stored material to restrict dust and air pollution during construction.	*Noted and same is being complied.*
26)	The project proponent shall construct a sedimentation basin in the lower level of the project site to trap pollutant and other wastes during rains.	*Agreed and Complied.*
27)	The project proponent shall provide Rasta of proper width and proper strength for each project before the start of construction.	*Agreed and Complied.*
28)	The project proponent shall ensure that the U-value of the glass is less than 3.177 and maximum solar heat gain co-efficient is 0.25 for vertical fenestration.	*Agreed and Noted.*
29)	The project proponent shall adequately control construction dust like silica dust, non-silica dust, and wood dust. Such dusts shall not spread outside the project premises. The project proponent shall provide respiratory protective equipments to all construction workers.	*Agreed and same is being complied.*
30)	The project proponent shall develop complete civic infrastructure of the Residential Plotted colony including internal roads,green belt development , sewerage line, Rainwater recharge arrangements, Storm water drainage system, Solid waste management site and provision for treatment of bio-degradable waste, STP, water supply line, dual plumbing line, electric supply lines etc. And shall offer possession of the units/flats thereafter.	*Agreed and Noted.*
31)	The project proponent shall provide fire control room and fire officer for building above 30 meter as per National Building Code.	*Noted and same is complied as per NBC.*
32)	The project proponent shall obtain permission of Mines and Geology Department for excavation of soil before the start of construction.	*Permissions from Mines and Geology Department has been obtained before the start of construction.*
33)	The project proponent shall provide one refuse area till 24 meter and one till 39 meter and one after every 15 meter as per National Building Code.	*The refuse area as per the norms has been provided.*

34)	The project proponent shall seek specific prior approval from concerned local Authority /HUDA regarding provision of storm drainage and sewerage system including their integration with external services of HUDA/Local authorities beside other required services before taking up any construction activity.	*Noted.* *Prior approval from concerned local authority/HUDA has been taken for provision of storm drainage and sewage system.*
35)	The site for solid waste management plant be earmarked on the layout plan and the detailed project for setting up the solid waste management plant shall be submitted to the Authority within one month.	*Noted and Complied.*
36)	The project proponent shall submit the copy of the safety plan duly approved by Fire Department before the start of construction.	*Noted and Complied.*
37)	The project proponent shall discharge excess of treated waste water in the public drainage system and shall seek permission of Huda before the start of Construction.	*Noted and Complied.*
38)	The Project Proponent shall maintain the distance between STP and water supply line.	*Noted and same will be Complied.*
39)	The Project Proponent shall ensure that the stack height is 6 meter more than the highest tower.	*Noted and will be Complied.*
40)	The Project Proponent shall ensure that the structural stability to withstand earthquake of magnitude 8.5 on Richter scale.	*Agreed and Noted.*

II. Operation Phase

S. No.	Conditions of Environmental Clearance	*Status of Compliance*
a)	"Consent to operate" shall be obtained from Haryana State Pollution Control Board under air and water act and a copy shall be submitted to the SEIAA, Haryana.	*CTO will be applied and obtained before the operation phase.*
b)	The STP shall be installed for the treatment of sewage generated to be prescribed standards including odors and treated effluent will be recycled to achieve zero discharge. The installation of STP should be certified by an independent expert and a report in this regard should be submitted to SEIAA, Haryana before the project is commissioned for operation. Discharge of treated sewage shall confirm to the norms and standards of HSPCB, Panchkula. The project proponent shall implement such STP technology which does not require filter backwash.	*STP of adequate capacity will be installed and treated effluent will be recycled to achieve zero discharge during operational phase.*
c)	Separation of grey water should be done by use of dual plumbing line. Treatment of 100% grey water by decentralized treatment should be done ensuring that the re-circulated water should have BOD maximum 10 mg/litre and the recycled water will be used for flushing, gardening and DG set cooling etc to achieve zero exit discharge.	*Same will be compiled with during the operation phase. Provisional of dual plumbing will be made for separation of black and grey water. Treated water will be used for flushing, HVAC water makeup, gardening and DG set cooling.*
d)	For disinfections of treated waste water ultra violation radiation or ozonization should be used.	*Noted.*
e)	Diesel power generating sets proposed as source of backup power for lifts, common areas illumination and for domestic use should be of enclosed type and confirm to the rule made under Environment Protection Act, 1986. The location of DG sets should be in the basement as promised by the project proponent with appropriate stack height i.e above the roof level as per the CPCB norms. The diesel used for DG should be low sulphur content (maximum 0.05% sulphur), instead of low sulphur diesel.	*Yes, we will use low sulphur diesel and all diesel power generating sets used are of "enclosed type" to prevent noise and should conform to rules made under Environment (Protection) Act 1986, prescribed for air and noise emission standards.*
f)	Ambient Noise level should be controlled to ensure that it does not exceed the prescribed standards both within and at the boundary of proposed commercial complex.	*Yes, we have monitored noise level at boundary of proposed residential complex & it's within permissible limit. We will also take relevant steps to keep noise in permissible limit.*
g)	The project proponent as stated in the proposal should maintain at least 20.615% as green cover area for tree plantation especially all around the periphery of the project site and on the road sides preferably with local species so as to provide protection against particulates and noise. The open space inside the plot should be preferably landscaped and covered with vegetation/grass. Herbs & shrubs. Only locally available species shall be used.	*Yes, the green belt will be developed as per the guidelines of SEIAA Haryana.* *Please refer the landscape details submitted with initial compliance report.*
h)	The project proponent shall strive to minimize water in irrigation by minimizing the grass area, using native verity, xcriscaping and mulching, utilizing efficient irrigation system, scheduling irrigation only after checking evaporation data.	*Same will be compiled with during the operation phase.*
i)	Rain water harvesting for runoff and surface runoff, as plan submitted should be implemented. Before recharging the surface runoff, pretreatment must be done to remove	*Yes, rain water harvesting and ground water recharging will be practiced. All the ground water levels and Its quality will be monitored regularly in*

S. No.	Conditions of Environmental Clearance	*Status of Compliance*
	suspended matter, oil and greases. The bore well for rain water recharging should be kept at least 5 mts. above the highest ground water table. Care shall be taken that contaminated water do not entry any RWH pit. The project proponed shall avoid rain water harvesting of first 10 minutes of rain fall. Roof top of the building shall be without any toxic materials or paints which can contaminate rain water. Wire mess and filter should be used wherever required.	*consultation with.*
j)	The ground water level and its quality should be monitored regularly in consultation with CGWA.	*Ground water will not be extracted. However, regular monitoring of water quality as provided by HUDA will also be done during the operation phase.*
k)	A report on energy conservation measures conforming to energy conservations norms finalize by bureau of energy efficiency should be prepared incorporating details about building materials & technology, "R & U factors etc" and submit to IA division of environment and forest department, Haryana in three months time.	*We will provide the same as per ECBC norms.*
l)	Energy conservation measures like installation of LED for the lighting the area outside the building should be integral part of the projects design and should be in place before project commissioning. Use of solar panels must be adapted to the maximum energy conversion.	*The LED will be used for lightening purposes at common areas. The used CFLs and TFLs will be handed over to authorized vendors for the proper disposal.*
m)	The project proponent shall use zero ozone depleting potential material in the insulation, refrigeration, air-conditioning and adhesive. The project proponent shall also provide halon free fire suppression system.	*Yes, we will use zero ozone depleting potential material in the insulation, refrigeration, air-conditioning and adhesive; also provide Halon free fire suppression system in construction as well as operational phase.*
n)	The solid waste generated should be properly collected and segregated as per requirements of MSW rules, 2000. The biodegradable waste should be composted by vermin-composting at the site ear marked with in the project area and dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable materials.	*Yes, the solid waste will be collected & segregated. The composting of biodegradable waste and non-bio-degradable solid waste would be disposed off to municipal landfill sites after recovering recyclable waste.*
o)	The provision of the solar water heating system shall be as per the norms specified by HAREDA and shall be made operational in each building block.	*Same will be provided during the operation phase. Provisions for the same shall be made during the construction phase itself.*
p)	The traffic plan and the parking plan proposed by the PP should be adhered to meticulously with further scope of additional parking for future requirement. There should be no traffic congestion near the entry and exit points from the road adjoining the proposed project site. Parking should be fully internalized and no public space should be used.	*The traffic and parking plan has been proposed as per the bylaws of the region. MoEF norms, norms of National Building Code and TCP, Haryana laws have been strictly adhered to while preparation of the plans. Same shall be implemented during the operation phase.*
q)	The project shall be operationalized only once HUDA/ Local authority will provide domestic water supply system in the area.	*Agreed and Noted.*
r)	Operation and maintenance of STP, solid waste management and electrical infrastructure, pollution control measures shall be ensured even after the completion of sale.	*Agreed and Noted.*
s)	Different type of wastes should be disposed off as per	*Different type of wastes will be disposed off as per*

S. No.	Conditions of Environmental Clearance	*Status of Compliance*
	provisions of municipal solid waste, biomedical waste, hazardous waste, e waste, battery shall be disposed off as per existing E waste Management rules 2011 and battries management rules 2001. The project proponent should maintain a collection center for e waste and it should be disposed of to only registered and authorized dismantler/recycler.	*provisions of municipal solid waste, biomedical waste, hazardous waste, e-waste, batteries & plastic rule made under Environment Protection Act, 1986.*
t)	Standards for discharge of environmental pollutants as enshrined in various schedules of rule -3 environmental protection rules 1986 shall be strictly complied with.	*The standards for discharge depicted in Environmental Protection Rules will be met.*
u)	Water supply shall be metered among different users and different utilities.	*Agreed and Noted.*
v)	The project proponent shall ensure that the stack height of DG sets is as per the CPCB guidelines and also ensure that emission standards of noise and air are within the CPCB prescribed limits. Noise and emission level of DG sets are greater than 800 KVA shall be as per the CPCB latest standards for high capacity DG sets.	*Adequate stack height will be provided as per CPCB guidelines and norms. Regular monitoring and measures shall be undertaken to ensure that the emission levels are below the prescribed limits.*
w)	All electric supply exceeds 100 amp, 3 phase shall maintain the power factor between 0.98 lag to 1 at the point of connection.	*Same will be compiled during the operation phase.*
x)	The project proponent shall not use fresh water for HVAC & DG cooling. The project proponent shall also use evaporating cooling technology and double stage cooling system for HVAC in order to reduce water consumption. Further temperature, relative humidity during summer and winter season should be kept at optimal level. Variable speed drive, best co-efficient of performance, as well as optimal integrated point load value and minimum outside fresh air supply may be resorted for conservation of water and power. Coil type cooling DG sets shall be used for saving cooling water consumption for water cooling DG sets.	*Agreed and Noted.*
y)	The project proponent shall ensure that the transformer is constructed with high quality grain oriented. Low loss silicon steel and virgin electrolyte grade copper. The project proponent shall obtain manufacturers certificate also for that.	*Agreed and Noted.*
z)	The project proponent shall ensure that exit velocity from the stack should be sufficiently high. Stack shall be designed in such a way that there is no stack down-water under any metrological condition.	*Agreed and Noted.*
aa)	The project proponent shall provide water sprinkling system in the project area to suppress the dust in addition to the already suggested mitigation measures in the Air Environment Chapter of EMP.	*Agreed and Noted.*
ab)	The project proponent shall ensure proper air ventilation and light system in the basement area for comfortable living of human being and shall ensure that number of Air changes per hour in basement never falls below 16.In case of emergency capacity for increasing ACH to the extent of 30must be provided by the project proponent.	*Noted and will be Complied.*
ac)	The project proponent shall ensure drinking/domestic	*Agreed and Noted.*

S. No.	Conditions of Environmental Clearance	*Status of Compliance*
	water supply as per prescribed standards till treated water supply is made available by HUDA.	
ad)	The project proponent shall provide green area on terrace and roof top.	*Agreed and Noted.*
ae)	The project proponent shall install solar panel for energy conservation.	*Agreed and Noted.*

PART B – GENERAL CONDITIONS

S. No.	Conditions of Environmental Clearance	*Status of Compliance*
I.	The project proponent shall ensure the commitments made in Form-1, Form-1A, EIA/EMP and other documents submitted to the SEIAA for the protection of environment and proposed environmental safeguards are compiled with in letter and spirit. In case of contradiction between two or more documents or any point, the most environmentally friendly commitment shall be taken as commitment by the project proponent.	*Environmental Safeguards as prescribed by the Ministry of Environment and Forests in the clearance document shall be implemented in true spirit both during the construction and operation phase.*
II.	The Project Proponent shall also submit Six monthly compliance reports to the HSPCB and regional office. MoEF. GOI, Northern region, Chandigarh and a copy to SEIAA, Haryana.	*We are/will regularly submit six monthly compliance reports along with the test reports both in hard and soft forms to the SEIAA and the regional office, MoEF. GOI, Northern region Chandigarh.*
III.	STP outlet after stabilization and stack emission shall be monitored monthly. Other environmental parameters and green belt shall be monitored on quarterly basis. After every 3 months, the project proponent shall conduct environmental audit, and shall take corrective measures, If required, without any delay.	*The environmental parameters are being monitored as per the guidelines.*
IV.	The SEIAA, Haryana and reserve the right to add additional safeguards measures subsequently, If found necessary. Environmental clearance granted will be revoked if it is found that false information has been given for getting approval of this project. SEIAA reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of SEIAA / MoEF.	*Yes, the ministry reserves the right to add additional safeguards measures subsequently, If found necessary and to take action including revoking of the environmental clearance under the provision of EPA 1986 to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.*
V.	The Project proponent shall not violate any judicial orders /pronouncements issued by court/Tribunal.	*We will respect and not to violate any judicial orders/ pronouncements issued by the Court / Tribunal.*
VI.	All other statutory clearance such as approval for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department ,Forest Conservation Act,1980, and Wildlife (Protection) Act, 1972, Forest Act, 1927, PLPA 1900, etc. shall be obtained, as applicable by project proponent from the respective authorities prior to construction of the project.	*Yes, we will follow the instruction and NOC of height clearance from civil aviation has been submitted to your esteemed office and will seek the rest permission as and when required.*
VII.	The project proponent should inform the public that the project has been in accorded Environmental clearance by SEIAA and copies of the clearance letter are available with the State Pollution Control Board & SEIAA. This should be advertised within 7 days from date of issue of clearance letter at least in two local newspapers that are widely circulated in the region and copy of the same should be forwarded to SEIAA Haryana. A copy of environmental clearance conditions shall also be put on	*Already Complied.*

S. No.	Conditions of Environmental Clearance	*Status of Compliance*
	the project proponent's web site for public awareness.	
VIII.	Under the provision of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponents if it was found that construction of the projects has been started before obtaining prior Environmental Clearance.	*All statutory clearance will be obtained from respective departments.*
IX.	Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, If preferred with in a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.	*Noted for the compliance.*
X.	The project proponent shall put in place Corporate Environment Policy as mentioned inMoEF, GoI Office Memorandum No. J-11013/41/2006-IA.II(I) dated 26.04.2012 within 3 months period Latest Corporate Environment Policy should be submitted to SEIAA within 3 months of Insurance of this letter.	*All relevant clearances will be obtained as and when required.*
XI.	The fund ear-marked for environment protection measures should be kept in separate account and should not be diverted for other purposes and year wise expenditure report should be submitted to the SEIAA/RO MoEF, GoI under rules prescribed for Environmental Audit.	*The funds will be maintained as per the guidelines.*
XII.	The project proponent shall ensure the compliance of Forest Department, Haryana Notification no. S.O.121/PA2/1900/S.4/97 dated 28.11.1997.	*Noted for the Compliance.*
XIII.	The project proponent shall ensure that no vehicle during construction/operation please enter the project premises without valid "Pollution Under Control "certificate from competent Authority.	*Agreed and Noted.*
XIV.	The project proponent is responsible for compliance of all conditions in Environmental Clearance letter and project proponent can not absolve himself/herself of the responsibility by shiftin it to any contractor engaged by project proponent.	*Noted.*
XV.	The proponent shall seek fresh Enviromental clearance if at any stage there is change in the planning of the proposed project.	*Agreed and Noted.*
XVI.	Besides the developer/applicant, the responsibility to ensure the compliance of Environmental safeguards/ conditions imposed in the Environmental Clearance letter shall also lie on the license/ licenses in whose name/names the license/CLU has been granted by the Town & Country Planning Department, Haryana.	*We will comply the same.*
XVII.	The Proponent shall upload the status of the compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely PM $_{2.5}$, PM_{10}, SO_X. NO_X, Ozone, Lead, CO, Benzene, Ammonia, Benzopyrene, Arsenic and Nickel. (Ambient levels as well as stack emission) or critical sectoral parameters, indicated for the project shall be monitored	*Agreed and Noted.*

S. No.	Conditions of Environmental Clearance	*Status of Compliance*
	and displayed at a convenient location near the main gate of the company in the public domain.	
VIII.	The environmental statement for each financial year ending 31st March in Form V as is mandated to be submitted by the project proponent to the HSPCB Panchkula as prescribed under the Environmental Protection Rules, 1986 as amended subsequently, shall also be put on the website of the company along with the status of the compliance of theEC Conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	*Agreed and Noted.*
XIX.	The project proponent shall conduct environment audit at every three months interval and thereafter corrected measures shall be taken without any delay.Details of environment audit and corrective measures shall be submitting in the monitoring report.	*Agreed and Noted.*
XX.	Corporate Environment and Social Responsibility (CSER) shall be laid down by the project proponent (2% shall be earmarked) as per guidelines of MoEF, GoI Office Memorandum No.J-11013/41/2006-IAII (1) dated 18.05.2012 and Ministry of corporate Affairs, GoI Notification Dated 27.02.2014. A separate audit statement shall be submitted in the compliance. Environment related work proposed to be executed under this responsibility shall be undertaken simultaneously. The project proponent shall select and prepare the list of the work for implementation of CSER of its own choice and shall submit the same before the start of construction.	*Agreed and Noted.*
XXI.	The Validity of this environment clearance letter is valid upto 7 years from the date of issuance of EC letter. The environment clearance conditions applicable till life space project in case of Residential project will continue to apply. The resident welfare association/Housing co-operative societies shall responsible to Comply conditions laid down in EC. In case of violation the action would be taken as per laid down law of land. Compliance Report should be sent to this office till life of the project.	*Agreed and Noted.*
XXII.	If project is not completed within the validity period then the project proponent shall submit the application for extension of validity within one month before the lapse of validity period of Environment Clearance i.e.7 years.	*Agreed and Noted.*

3 *DETAILS OF ENVIRONMENTAL MONITORING*

3.1 AMBIENT AIR QUALITY MONITORING

3.1.1 Ambient Air Quality Monitoring Stations

Ambient air quality monitoring has been carried out at three locations, to assess the ambient air quality of the project site. This will enable to have a comparative analytical understanding about air quality and the changes in the air environment in the study area with respect to the condition prevailing. The locations of the ambient air quality monitoring stations are given in **Table 3.1**.

Table 3.1 Details of Ambient Air Quality Monitoring Stations

S. No.	Location	Location Name/ Description
1.	AAQ1	Near Main Gate
2.	AAQ2	Centre of the Project
3.	AAQ3	Backside of the Project

AAQ-1: Near Main Gate
The sampler was placed near main gate of Project site and was free from any obstructions. Surroundings of the sampling site represent residential environmental setting.

AAQ-2: Centre of the Project
The sampler was placed near the centre of the project. Vicinity represents residential environmental setting

AAQ-3: Backside of the Project
The sampler was placed at backside of the Project and was free from any obstructions. Surroundings of the sampling site represent residential environmental setting.

3.1.2 Ambient Air Quality Monitoring Methodology

Monitoring was conducted in respect of the following parameters:

- Particulate Matter 2.5 (PM 2.5)
- Particulate Matter 10 (PM 10)
- Sulphur Dioxide (SO_2)
- Oxides of Nitrogen (NO_x)
- Carbon Monoxide (CO)

The duration of sampling of $PM_{2.5}$, PM_{10}, SO_2 and NOx were 8 hourly continuous monitoring this is to allow a comparison with the National Ambient Air Quality Standards. This is to allow a comparison with the National Ambient Air Quality Standards.

The air samples were analyzed as per standard methods specified by Central Pollution Control Board (CPCB) and IS: 5182. The techniques used for ambient air quality monitoring and minimum detectable levels are given in **Table 3.2**.

Fine Particulate Sampler instruments have been used for monitoring Particulate Matter 2.5 (PM2.5 i.e. <2.5 microns), and Respirable Dust Sampler was used for sampling Respirable fraction (<10 microns), gaseous pollutants like SO2, and NOx. Bladder and Aspirator bags were used for collection Carbon monoxide samples. Gas Chromatography techniques have been used for the estimation of CO.

Table 3.2 Techniques used for Ambient Air Quality Monitoring

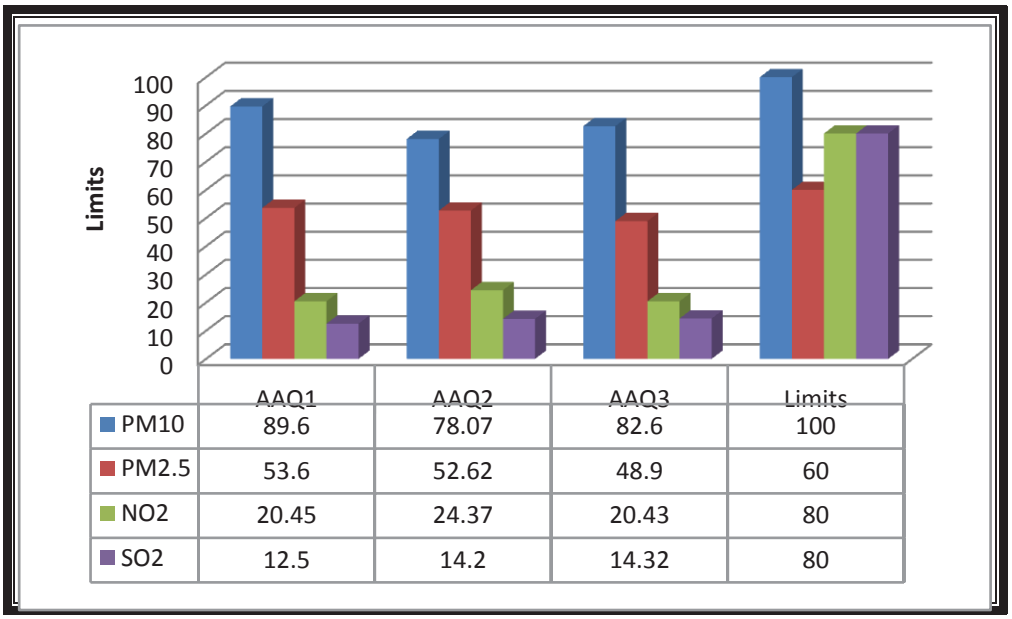
S. No.	Parameter	Technique	Technical Protocol
1	Particulate Matter 2.5	Fine Particulate Sampler, Gravimetric Method	#SOP No. VEL/SOP/01, Section No. SP 63
2	Particulate Matter 10	Respirable Dust Sampler, with cyclone separator, Gravimetric Method	IS: 5182 (P-23) Gravimetric Method
3	Sulphur dioxide	Modified West and Gaeke	IS: 5182 (P-6) Jacob & Hochheiser
4	Oxides of Nitrogen	Jacob &Hochheiser	IS: 5182 (P-2) Modified West and Gaeke
5	Carbon Monoxide	Gas Chromatography	IS: 5182 (P-10) Gas Chromatography

3.1.3 Ambient Air Quality Monitoring Results

The detailed on-site monitoring results of PM $_{2.5}$, PM $_{10}$, SO_2, NO_x and CO are presented in **Table 3.3**.

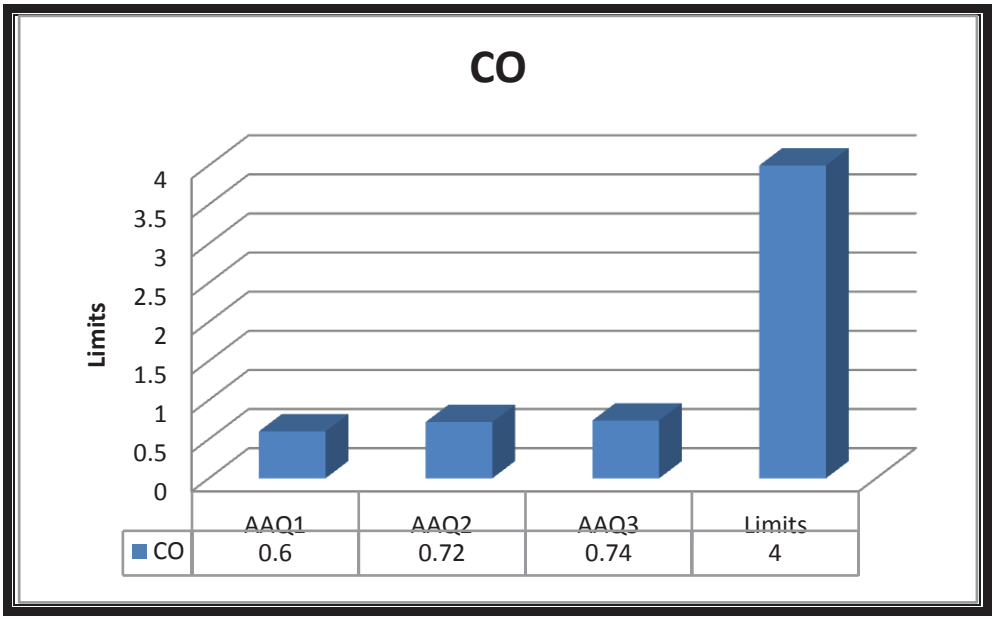
Table 3.3 Ambient Air Quality Monitoring Results

S. No.	Parameter	Test Result			NAAQS*
		AAQ1	AAQ2	AAQ3	
1.	Particulate Matter (PM_{10}), µg/m^3	**89.60**	**78.07**	**82.60**	100
2.	Particulate Matter ($PM_{2.5}$), µg/m^3	**53.60**	**52.62**	**48.90**	60
3.	Nitrogen Dioxide (NO_2), µg/m^3	**20.45**	**24.37**	**20.43**	80
4.	Sulphur Dioxide (SO_2), µg/m^3	**12.50**	**14.20**	**14.32**	80
5.	Carban Monoxide (CO), mg/m^3	**0.60**	**0.72**	**0.74**	4.0



	AAQ1	AAQ2	AAQ3	Limits
PM10	89.6	78.07	82.6	100
PM2.5	53.6	52.62	48.9	60
NO2	20.45	24.37	20.43	80
SO2	12.5	14.2	14.32	80

Figure 3.1 Location-wise Variation of Ambient Air Quality



	AAQ1	AAQ2	AAQ3	Limits
CO	0.6	0.72	0.74	4

Figure 3.2 Location-wise Variation of CO in Ambient Air Quality

3.1.4 Discussion on Ambient Air Quality in the Study Area

PM_{10} and $PM_{2.5}$ levels at the project site are within the permissible limit of 100µg/m^3 and 60 µg/m^3 respectively (for residential, rural and other areas as stipulated in the National Ambient Air Quality Standards). SO_2, NOx and CO was observed within the corresponding stipulated limits (Limit for SO_2 and NOx: 80 µg/m^3 and limit for CO: 4.0 mg/m^3) at all monitoring locations. Station wise variation of ambient air quality parameters has been pictorially shown in **Figure 3.1 & 3.2**

3.2 AMBIENT NOISE MONITORING

3.2.1 AmbientNoise Monitoring Locations

The main objective of noise monitoring in the study area is to assess the present ambient noise levels in near front gate due to various construction allied activities and increased vehicular movement. A preliminary reconnaissance survey has been undertaken to identify the major noise generating sources in the area. Ambient noise monitoring was conducted at 3 locations at the boundary of the project site as given in **Table 3.4**.

Table 3.4 Details of Ambient Noise Monitoring Stations

S. No.	Location Code	Location Name/ Description	Present Land use
1.	N1	Near Main Gate	Residential
2.	N2	Centre of the Project	Residential
3.	N3	Backside of the Project	Residential

3.2.2 Methodology of Noise Monitoring

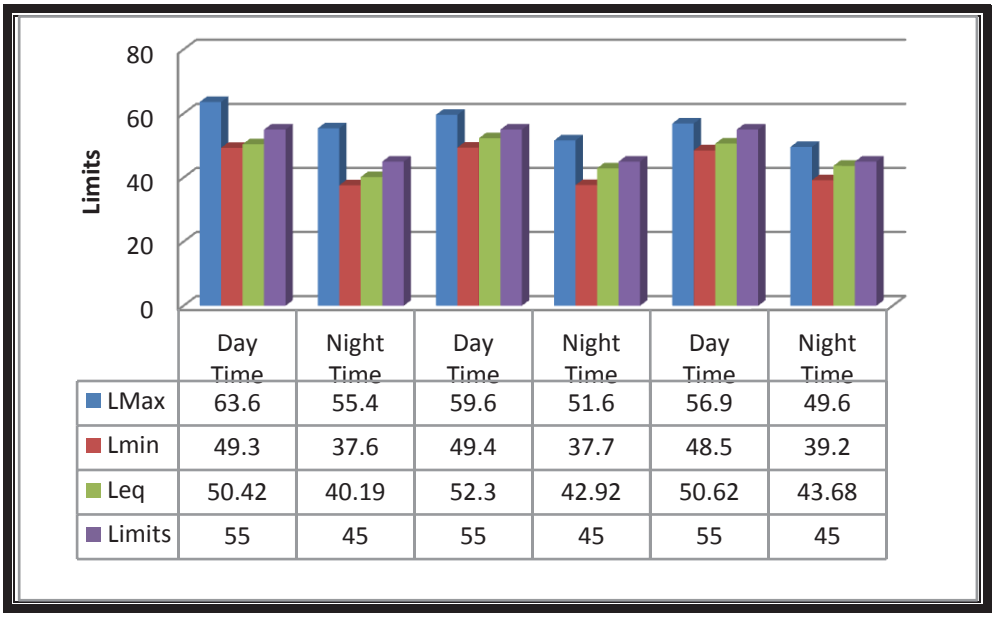
Noise levels were measured using sound level meter. Noise level monitoring was carried out continuously for 24-hours with one hour interval starting at 06:00hrs to 06:00hrs next day. The noise levels were monitored on working days only. During each hour Leq were directly computed by the instrument based on the sound pressure levels. Monitoring was carried out at 'A' response and fast mode.

3.2.3 Ambient Noise Monitoring Results

The location wise ambient noise monitoring results is summarized in **Table 3.5**. The location-wise variation of noise levels are graphically presented in **Figure 3.3**.

Table 3.5 Ambient Noise Monitoring Results

Parameter	N1		N2		N3	
	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
Lmax	**63.6**	**55.4**	**59.6**	**51.6**	**56.9**	**49.6**
Lmin	**49.3**	**37.6**	**49.4**	**37.7**	**48.5**	**39.2**
Leq	**50.42**	**40.19**	**52.30**	**42.92**	**50.62**	**43.68**
CPCB Limit (Leq in dB(A) Residential Limit)	55.0	45.0	55.0	45.0	55.0	45.0



	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
LMax	63.6	55.4	59.6	51.6	56.9	49.6
Lmin	49.3	37.6	49.4	37.7	48.5	39.2
Leq	50.42	40.19	52.3	42.92	50.62	43.68
Limits	55	45	55	45	55	45

Figure 3.3 Location-wise Variation of Ambient Noise Levels

3.2.4 Discussion on Ambient Noise Levels in the Study Area

Day Time Noise Levels (L_{day}):
The day time noise level at all the locations were found to within limits prescribed for residential area i.e. 55 dB (A).

Night Time Noise Levels (L_{night}):
The night time noise level at all the locations were found to within limit prescribed for residential area i.e. 45 dB (A).

3.3 DG Noise Monitoring

S.No.	Location Code	Capacity of DG
1.	DG1	125 KVA
2.	DG1	32 KVA

Table 3.6 Details of DG Noise Monitoring Stations

Table 3.7 DG Noise Monitoring Results

S. No.	Parameters	Protocol	Open the Canopy of D.G Set Result dB(A)	Close the Canopy of D.G Set (0.5 mtr Distance) Result dB(A)	Insertion Loss dB(A)
1.	L_{eq}	Indian Standard:9989	98.5	73.4	25.3
2.	CPCB Limit in Leq dB(A)	-	---	75.00	25.00

Note- * A "decibel" is a unit in which noise is measured.

Table 3.8 DG Noise Monitoring Results

S. No.	Parameters	Protocol	Open the Canopy of D.G Set Result dB(A)	Close the Canopy of D.G Set (0.5 mtr Distance) Result dB(A)	Insertion Loss dB(A)
1.	L_{eq}	Indian Standard:9989	98.8	73.3	25.7
2.	CPCB Limit in Leq dB(A)	-	---	75.00	25.00

3.4 STACK EMISSION MONITORING

S.No.	Location Code	Capacity of DG
1.	DG1	125 KVA
2.	DG2	32 KVA

Table 3.9 Details of Stack Monitoring Station

Table 3.10 Results of Stack emission at Location DG-1

S. No.	Parameters	Protocol	Units	Results	Limits (As Per CPCB)
1.	**Particulate Matter (PM)**	IS 11255 (P-1) Gravimetric Method	gm/Kw-hr	**0.18**	≤0.2
2.	**Nitrogen Dioxide (as NO_2)**	IS 11255 (P-7) Colorimetric Method	gm/Kw-hr	**2.21**	≤4.0
3.	***Total Hydrocarbon as Methane**	By Gas Chromatography Method	gm/Kw-hr	**0.41**	
4.	**Carbon Monoxide (as CO)**	#SOP No. VEL/SOP/01, Section No. SP 74	gm/Kw-hr	**0.88**	≤3.5

Note: # This parameter is not covered under our NABL Scope.
* SOP-Laboratory Standard operating procedure

Table 3.11 Results of Stack emission at Location DG-2

S. No.	Parameters	Protocol	Units	Results	Limits (As Per CPCB)
1.	**Particulate Matter (PM)**	IS 11255 (P-1) Gravimetric Method	gm/Kw-hr	**0.16**	≤0.2
2.	**Nitrogen Dioxide (as NO_2)**	IS 11255 (P-7) Colorimetric Method	gm/Kw-hr	**2.30**	≤4.0
3.	***Total Hydrocarbon as Methane**	By Gas Chromatography Method	gm/Kw-hr	**0.31**	
4.	**Carbon Monoxide (as CO)**	#SOP No. VEL/SOP/01, Section No. SP 74	gm/Kw-hr	**0.70**	≤3.5

Note: # This parameter is not covered under our NABL Scope.
* SOP-Laboratory Standard operating procedure

3.5 WATER QUALITY MONITORING

3.5.1 Ground Water Quality Monitoring Locations

Keeping in view the importance of Ground water as an important source of ground water to the local population, sample of ground water was collected from the project site for the assessment of impacts of the project on the ground water quality.

Water sample was collected from the project site. The sample was analyzed for various parameters to compare with the standards for ground water as per IS: 10500 for ground water sources. The details of water sampling locations are given in **Table 3.6**.

Table 3.12 Details of Water Quality Monitoring Station

S. No.	Location Code	Location Name/ Description
1.	DW 1	Project Site (RO)
2.	GW 2	Near Project site

3.5.2 Methodology of water Quality Monitoring

Sampling of ground water was carried out on **September 2019**. Samples were collected as grab sample and sampling forms are filled in as per the sampling plan. The preservative sample were properly added to preserve as per standard operating procedures (SOP) and stored immediately in ice boxes, which were ensured for appropriate temperatures. Sample for chemical analysis was collected in polyethylene carboys. Sample collected for metal content were acidified to <2 pH with 1 ml HNO_3. A sample for bacteriological analysis was collected in sterilized glass bottles.

Soon after the completion of sampling, chain of custody sheets for the samples are filled in and then they were transported by road to VardanEnviro Lab, Gurgaon for further analysis. Proper care was taken during packing and transportation of samples. All the samples reached the central laboratory within the holding times for different parameters. After ensuring the same the samples were forwarded immediately for analysis.

The samples were analyzed as per the standard procedures specified in 'Standard Methods for the Examination of Water and Wastewater' published by American Public Health Association (APHA) and CPCB. The analytical techniques and the test methods adopted for testing of Drinking water are given in **Table 3.7,3.8**.

3.5.3 Water Quality Monitoring Results

The detailed water quality monitoring results are presented in **Table 3.13,3.14**.

Table 3.14 water Quality Monitoring Result

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limits)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 ^{0}C)	APHA ,4500-H^+ B Electrometric Method	**7.42**	--	6.5 to 8.5	No Relaxation
2.	Colour	APHA ,2120 B, Visual Comparison Method	***BDL (**DL 5Hazen)**	Hazen	5	15
3.	Turbidity	APHA, 2130 B, Nephlelometric Method	***BDL (**DL 1 NTU)**	NTU	1	5
4.	Odour	APHA, 2150 B , Threshold Test Method	**Agreeable**	--	Agreeable	Agreeable
5.	Taste	APHA , 2160 B, Threshold Test Method	**Agreeable**	--	Agreeable	Agreeable
6.	Total Hardness as	APHA , 2340 C, EDTA Titrimetric Method	**56.6**	mg/l	200	600
7.	Calcium as Ca	APHA, 3500 Ca B, EDTA Titrimetric Method	**9.07**	mg/l	75	200
8.	Alkalinity as $CaCO_3$	APHA , 2320 B, Titrimetric Method	**32.24**	mg/l	200	600
9.	Chloride as Cl	APHA, 4500-Cl^- B, Argentometric Method	**47.28**	mg/l	250	1000
10.	#Cyanide as CN	APHA , 4500 CN^- D	***BDL(**DL 0.05 mg/l)**	mg/l	0.05	No Relaxation
11.	Magnesium as Mg	APHA , 3500 Mg B, Calculation Method	**9.35**	mg/l	30	100
12.	Total Dissolved Solids	APHA , 2540 C, Gravimetric Method	**120.00**	mg/l	500	2000
13.	Sulphate as SO_4	APHA , 4500 E, Turbidimetric Method	**1.25**	mg/l	200	400
14.	Fluoride as F	APHA , 4500-F^- D, SPADNS Method	**0.02**	mg/l	1.0	1.5
15.	Nitrate as NO_3	IS 3025 (P-34) ,Chromotropic Method	**0.42**	mg/l	45	No Relaxation
16.	Iron as Fe	APHA , 3500-Fe B 1,10 Phenanthroline Method	**0.10**	mg/l	0.3	No Relaxation
17.	#Aluminium as Al	APHA , 3111 B	***BDL(**DL0.02 mg/l)**	mg/l	0.03	0.2
18.	Boron	APHA, 4500B C, Carmine Method	***BDL(**DL0.01 mg/l)**	mg/l	0.5	1
19.	Total Chromium as Cr	APHA , 3111 B, Direct Air, Acetylene Flame Method	***BDL(**DL 0.03 mg/l)**	mg/l	0.05	No Relaxation
20.	Phenolic Compounds	APHA, 5530 C Chloroform Extraction Method	***BDL(**DL 0.001 mg/l)**	mg/l	0.001	0.002
21.	#Mineral Oil	Clause 6 of IS:3025(Part 39)	***BDL(**DL 0.05mg/l)**	mg/l	0.5	No Relaxation
22.	Anionic Detergents as	APHA, 5540 C MBAS Method	***BDL(**DL 0.02 mg/l)**	mg/l	0.2	1.0
23.	Zinc as Zn	APHA , 3111 B, Direct Air, Acetylene Flame	***BDL(**DL 0.02 mg/l)**	mg/l	5	15
24.	Copper as Cu	APHA , 3111 B, Direct Air, Acetylene Flame	***BDL(**DL 0.06 mg/l)**	mg/l	0.05	1.5
25.	Manganese as Mn	APHA , 3111 B, Direct Air, Acetylene Flame	***BDL(**DL 0.03 mg/l)**	mg/l	0.1	0.3
26.	Cadmium as Cd	APHA , 3111 B, Direct Air, Acetylene Flame	***BDL(**DL 0.01 mg/l)**	mg/l	0.003	No Relaxation
27.	Lead as Pb	APHA , 3111 B, Direct Air, Acetylene Flame	***BDL(**DL 0.01 mg/l)**	mg/l	0.01	No Relaxation
28.	#Selenium as Se	APHA , 3114 B, Manual Hydride Generation	***BDL(**DL 0.01 mg/l)**	mg/l	0.01	No Relaxation
29.	#Arsenic as As	APHA , 3114 B, Manual Hydride Generation	***BDL(**DL 0.01 mg/l)**	mg/l	0.01	0.05
30.	#Mercury as Hg	APHA , 3111 B, Direct Air, Acetylene Flame	***BDL (**DL 0.001 mg/l)**	mg/l	0.001	No Relaxation
31.	Total Coliform	IS 1622	**Absent**	MPN/100 ml	Shall not be detectable in any 100 ml sample	
32.	E. Coli	IS 1622	**Absent**	MPN/100 ml	Shall not be detectable in any 100 ml sample	

Note: - *BDL-Below Detection Limit, **DL- Detection Limit
#These parameter are not covered in our NABL scope.

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limits)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 ^{0}C)	APHA ,4500-H^+ B Electrometric Method	**7.62**	--	6.5 to 8.5	No Relaxation
2.	Colour	APHA ,2120 B, Visual Comparison Method	***BDL (**DL 5Hazen)**	Hazen	5	15
3.	Turbidity	APHA, 2130 B, Nephlelometric Method	***BDL (**DL 0. 1 NTU)**	NTU	1	5
4.	Odour	APHA, 2150 B , Threshold Test Method	**Agreeable**	--	Agreeable	Agreeable
5.	Taste	APHA , 2160 B, Threshold Test Method	**Agreeable**	--	Agreeable	Agreeable
6.	Total Hardness as $CaCO_3$	APHA , 2340 C, EDTA Titrimetric Method	**272.4**	mg/l	200	600
7.	Calcium as Ca	APHA, 3500 Ca B, EDTA Titrimetric Method	**44.46**	mg/l	75	200
8.	Alkalinity as $CaCO_3$	APHA , 2320 B, Titrimetric Method	**270.45**	mg/l	200	600
9.	Chloride as Cl	APHA, 4500-Cl^- B, Argentometric Method	**60.4**	mg/l	250	1000
10.	#Cyanide as CN	APHA , 4500 CN^- D	***BDL(**DL0.05mg/l)**	mg/l	0.05	No Relaxation
11.	Magnesium as Mg	APHA , 3500 Mg B, Calculation Method	**39.72**	mg/l	30	100
12.	Total Dissolved Solids	APHA , 2540 C, Gravimetric Method	**460.00**	mg/l	500	2000
13.	Sulphate as SO_4	APHA , 4500 E, Turbidimetric Method	**7.63**	mg/l	200	400
14.	Fluoride as F	APHA , 4500-F^- D, SPADNS Method	**0.68**	mg/l	1.0	1.5
15.	Nitrate as NO_3	IS 3025 (P-34) ,Chromotropic Method	**5.45**	mg/l	45	No Relaxation
16.	Iron as Fe	APHA , 3500-Fe B 1,10 Phenanthroline Method	**0.26**	mg/l	0.3	No Relaxation
17.	#Aluminium as Al	APHA , 3111 B	***BDL(**DL0.02mg/l)**	mg/l	0.03	0.2
18.	Boron	APHA, 4500B C, Carmine Method	***BDL(**DL0.01mg/l)**	mg/l	0.5	1
19.	Total Chromium as Cr	APHA , 3111 B, Direct Air, Acetylene Flame Method	***BDL(**DL0.03mg/l)**	mg/l	0.05	No Relaxation
20.	Phenolic Compounds	APHA, 5530 C Chloroform Extraction Method	***BDL(**DL 0.001 mg/l)**	mg/l	0.001	0.002
21.	#Mineral Oil	Clause 6 of IS:3025(Part 39)	***BDL(**DL 0.01mg/l)**	mg/l	0.5	No Relaxation
22.	Anionic Detergents as	APHA, 5540 C MBAS Method	***BDL(**DL 0.02 mg/l)**	mg/l	0.2	1.0
23.	Zinc as Zn	APHA , 3111 B, Direct Air, Acetylene	**0.21**	mg/l	5	15
24.	Copper as Cu	APHA , 3111 B, Direct Air, Acetylene	***BDL(**DL 0.03mg/l)**	mg/l	0.05	1.5
25.	Manganese as Mn	APHA , 3111 B, Direct Air, Acetylene	***BDL(**DL 0.06 mg/l)**	mg/l	0.1	0.3
26.	Cadmium as Cd	APHA , 3111 B, Direct Air, Acetylene	***BDL(**DL 0.03 mg/l)**	mg/l	0.003	No Relaxation
27.	Lead as Pb	APHA , 3111 B, Direct Air, Acetylene	***BDL(**DL 0.01 mg/l)**	mg/l	0.01	No Relaxation
28.	#Selenium as Se	APHA , 3114 B, Manual Hydride Generation	***BDL(**DL 0.01 mg/l)**	mg/l	0.01	No Relaxation
29.	#Arsenic as As	APHA , 3114 B, Manual Hydride Generation	***BDL(**DL 0.01 mg/l)**	mg/l	0.01	0.05
30.	#Mercury as Hg	APHA , 3111 B, Direct Air, Acetylene Flame	***BDL (**DL 0.001 mg/l)**	mg/l	0.001	No Relaxation
31.	Total Coliform	IS 1622	**<2**	MPN/100 ml	Shall not be detectable in any 100 ml sample	
32.	E. Coli	IS 1622	**Absent**	MPN/100ml	Shall not be detectable in any 100 ml sample	

3.4 Discussion on water Quality in the Study Area

The water quality in the project area is observed with total alkalinity reaching up to **32.24** mg/L , **270.45** mg/L against desirable limit of 200 mg/L, however, alkalinity is higher than the permissible limit of 600 mg/L. Total dissolved solids in the ground water is **120.00**mg/L,**460.00**mg/Lagainst the desirable limit of 500 mg/L. However, remaining parameters are within the CPCB prescribed limits.

3.6 SOIL MONITORING

3.6.1 Soil Monitoring Locations

The objective of the soil monitoring is to identify the impacts of ongoing project activities on soil quality and also predict impacts, which have arisen due to execution of various constructions allied activities. Accordingly, a study of assessment of the soil quality has been carried out.

To assess impacts of ongoing project activities on the soil in the area, the physico-chemical characteristics of soils were examined by obtaining soil samples from selected points and analysis of the same. Single sample of soil was collected from the project site for studying soil characteristics, the location of which is listed in **Table 3.8**.

Table 3.15 Details of Soil Quality Monitoring Location

S. No.	Location Code	Location Name/ Description
1.	S1	Project Site

3.6.2 Methodology of Soil Monitoring

The sampling has been done in line with IS: 2720 & Methods of Soil Analysis, Part-1, 2nd edition, 1986 of American Society for Agronomy and Soil Science Society of America. The homogenized samples were analyzed for physical and chemical characteristics (physical, chemical and heavy metal concentrations). The soil samples were collected in the month of **September 2019**.

The samples have been analyzed as per the established scientific methods for physic-chemical parameters. The heavy metals have been analyzed by using Atomic Absorption Spectrophotometer.

3.4.3 Soil Monitoring Results

Single sample of soil is collected from the site to check the quality of soil of the study area .The physio-chemical characteristics of the soil, as obtained from the analysis of the soil sample, are presented in **Table 3.16**.

Table 3.16 Physico-Chemical Characteristics of Soil in the Study Area

S. No.	Parameter	Test-Method	Result	Unit
1.	**pH (at 25 ^{0}C)**	IS : 2720 (P-26) by pH Meter	**7.41**	--
2.	**Conductivity**	IS:14767 by Conductivity meter	**0.640**	mS/cm
3.	**Soil Texture**	IS : 2720 (P-22, RA2003)	**Silty Loam**	--
4.	**Color**	*SOP , SP-78,Issue No.-01& Issue Date-14/02/2013	**Light Brown**	--
5.	**Water holding capacity**	*SOP , SP-81,Issue No.-01& Issue Date-14/02/2013	**30.10**	%
6.	**Bulk density**	*SOP , SP-80,Issue No.-01& Issue Date-14/02/2013	**2.74**	gm/cc
7.	**Chloride as Cl**	*SOP , SP-85,Issue No.-01& Issue Date-14/02/2013	**14.16**	mg/100g
8.	**Calcium as Ca**	*SOP , SP-82,Issue No.-01& Issue Date-14/02/2013	**27.12**	mg/100g
9.	**Sodium as Na**	*SOP , SP-84,Issue No.-01& Issue Date-14/02/2013	**20.12**	mg/kg
10.	**Potassium as K**	*SOP , SP-84,Issue No.-01& Issue Date-14/02/2013	**69.20**	kg/hec.
11.	**Organic Matter**	IS:2720 (P-22) Titrimetric Method	**0.84**	%
12.	**Magnesium as Mg**	*SOP , SP-83,Issue No.-01& Issue Date-14/02/2013	**17.30**	mg/100g
13.	**Available Nitrogen as N**	IS:14684 Distillation Method	**240.23**	kg./hec.
14.	**Available Phosphorus**	*SOP , SP-86,Issue No.-01& Issue Date-14/02/2013	**34.01**	kg./hec.
15.	**Zinc (as Zn)**	USEPA 3050B	**6.14**	mg/kg
16.	**Manganese (as Mn)**	USEPA 3050B	**4.87**	mg/kg
17.	**Lead (as Pb)**	USEPA 3050B	**1.30**	mg/kg
18.	**Cadmium (as Cd)**	USEPA 3050B	**0.62**	mg/kg
19.	**#Chromium (as Cr)**	USEPA 3050B	**0.41**	mg/kg
20.	**Copper (as Cu)**	USEPA 3050B	**1.32**	mg/kg

*SOP-Laboratory standard operating procedure.#Chromium- this parameter is not covered our nabl scope.

3.6.4 Discussion on Soil Characteristics in the Study Area

The soil in study area is characterized by moderate organic content. The soil quality in the project area has not been affected by the project activities.

3.5 Site Photograph

Site Photograph

Ambient Air Monitoring

Ambient Noise Monitoring

Ambient D.G. Noise Monitoring

Soil Sample

Water Sampling

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Test Report

Sample Number : VEL/A/1909230003

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.06339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : AMBIENT AIR

Report No. : VEL/A/1909230003
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-25/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	Near Main Gate
Sample Collected by	:	VEL Representative (Mr.Lavish)
Sampling Equipment used	:	RDS & FPS
Instrument Code	:	VEL/RDS/FPS/10
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	22/09/2019 To 23/09/2019
Time of Monitoring	:	09:00 AM To 09:00 AM
Ambient Temperature (°C)	:	Min.23°C Max.32°C
Surrounding Activity	:	Human, Vehicular & Other Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24 Hours
Parameter Required	:	PM10, PM2.5, NO2, SO2, & CO

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	89.60	µg/m³	100
2	Particulate Matter (as PM - 2.5)	SOP No. VEL/SOP/01, Section No. SP 63:2013	53.60	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	20.45	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	12.50	µg/m³	80
5	Carbon Monoxide (as CO)	IS:5182 (P-10) Gas Chromatography, RA:2003	0.60	mg/m³	4.0

End of Report

Ruchi Chaudhary
(Tested By)
Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
Authorised Signatory

NOTE: a)The results listed refer only to the tested samples & applicable parameters
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Corp. Off : Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
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Test Report

Sample Number : VEL/A/1909230004
Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,
Sample Description : AMBIENT AIR

Report No. : VEL/A/1909230004
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-25/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	Center Side of Project
Sample Collected by	:	VEL Representative (Mr.Lavish)
Sampling Equipment used	:	RDS & FPS
Instrument Code	:	VEL/RDS/FPS/11
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	22/09/2019 To 23/09/2019
Time of Monitoring	:	09:20 AM To 09:20 AM
Ambient Temperature (°C)	:	Min.23°C Max.32°C
Surrounding Activity	:	Human, Vehicular & Other Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24 Hours
Parameter Required	:	PM10, PM2.5, NO, SO2, & CO

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	78.07	µg/m³	100
2	Particulate Matter (as PM - 2.5)	SOP No. VEL/SOP/01, Section No. SP 63:2013	52.62	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	24.37	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	14.20	µg/m³	80
5	Carbon Monoxide (as CO)	IS:5182 (P-10) Gas Chromatography, RA:2003	0.72	mg/m³	4.0

End of Report

Ruchi Chaudhary
(Tested By)
Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
Authorised Signatory

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Test Report

Sample Number : VEL/A/1909230005

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : AMBIENT AIR

Report No. : VEL/A/1909230005
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-25/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	Back Side of Project
Sample Collected by	:	VEL Representative (Mr.Lavish)
Sampling Equipment used	:	RDS & FPS
Instrument Code	:	VEL/RDS/FPS/12
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	22/09/2019 To 23/09/2019
Time of Monitoring	:	09:40 AM To 09:40 AM
Ambient Temperature (°C)	:	Min.23°C Max.32°C
Surrounding Activity	:	Human, Vehicular & Other Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24 Hours
Parameter Required	:	PM10, PM2.5, NO2, SO2, CO

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	82.60	µg/m³	100
2	Particulate Matter (as PM - 2.5)	SOP No. VEL/SOP/01, Section No. SP 63:2013	48.90	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	20.43	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	14.32	µg/m³	80
5	Carbon Monoxide (as CO)	IS:5182 (P-10) Gas Chromatography, RA:2003	0.74	mg/m³	4.0

End of Report

Rushi Chaudhary
(Tested By)
Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
Authorised Signatory

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Test Report

Sample Number : VEL/N/1909230009

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : **AMBIENT NOISE**

Report No. : VEL/N/1909230009
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-25/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	Near Main Gate
Sample Collected by	:	VEL Representative (Mr.Lavish)
Sampling Equipment used	:	Sound Level Meter
Instrument Code	:	VEL/SLM/08
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	22/09/2019 To 23/09/2019
Time of Monitoring	:	06:00 AM To 06:00 AM
Ambient Temperature (°C)	:	Min.23°C Max.32°C
Surrounding Activity	:	Human, Vehicular & Other Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24 Hours
Parameter Required	:	Lmax.,Lmin.,Leq,

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	63.6	55.4	dB (A)
2	Lmin.	I S-9989	49.3	37.6	dB (A)
3	Leq	I S-9989	50.42	40.19	dB (A)
4	CPCB Limits in dB(A*) Leq (Residential Area)	--	55.00	45.00	dB (A)

Note:-*A"decibel" is a unit in which noise is measured.

End of Report

(Tested By) Analyst

(Checked By) Deputy Technical Manager

(Approved By) Authorised Signatory

Vardan EnviroLab

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Test Report

Sample Number : VEL/N/1909230008
Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,
Sample Description : **AMBIENT NOISE**

Report No. : VEL/N/1909230008
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-25/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	Center Side of Project
Sample Collected by	:	VEL Representative (Mr.Lavish)
Sampling Equipment used	:	Sound Level Meter
Instrument Code	:	VEL/SLM/07
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	22/09/2019 To 23/09/2019
Time of Monitoring	:	06:00 AM To 06:00 AM
Ambient Temperature (°C)	:	Min.23°C Max.32°C
Surrounding Activity	:	Human, Vehicular & Other Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24 Hours
Parameter Required	:	Lmax.,Lmin.,Leq,

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	59.6	51.6	dB (A)
2	Lmin.	I S-9989	49.4	37.7	dB (A)
3	Leq	I S-9989	52.30	42.92	dB (A)
4	CPCB Limits in dB(A*) Leq (Residential Area)	--	55.00	45.00	dB (A)

Note:- *A "decibel" is a unit in which noise is measured.

End of Report

Ruchi Chaudhary
(Tested By)
Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
VARDAN ENVIRO LAB * Authorised Signatory *

Vardan EnviroLab

Laboratory: Plot No. 24 & 25, Narayan Vihar, B-Block, Jaipur - 302035 (Rajasthan)
Corp. Off : Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
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Test Report

Sample Number : VEL/N/1909230007

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : AMBIENT NOISE

Report No. : VEL/N/1909230007
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-25/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	Back Side of Project
Sample Collected by	:	VEL Representative (Mr.Lavish)
Sampling Equipment used	:	SLM
Instrument Code	:	VEL/SLM/06
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	22/09/2019 To 23/09/2019
Time of Monitoring	:	06:00 AM To 06:00 AM
Ambient Temperature (°C)	:	Min.23°C Max.32°C
Surrounding Activity	:	Human, Vehicular & Other Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24 Hours
Parameter Required	:	Lmax.,Lmin.,Leq,

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	56.9	49.6	dB (A)
2	Lmin.	I S-9989	48.5	39.2	dB (A)
3	Leq	I S-9989	50.62	43.68	dB (A)
4	CPCB Limits in dB(A*) Leq (Residential Area)	--	55.00	45.00	dB (A)

End of Report

Ruchi Chaudhary
(Tested By)
Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
Authorised Signatory

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Test Report

Sample Number : VEL/N/1909230010

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : DG Noise

Report No. : VEL/N/1909230010
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-25/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	DG Set No.1 (125 KVA)
Sample Collected by	:	VEL Representative (Mr.Lavish)
Sampling Equipment used	:	SLM
Instrument Code	:	VEL/SLM/09
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	23/09/2019
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS 9989
Sampling duration (Minutes)	:	30 Minute
Parameter Required	:	Leq,& Insertion

S.No.	Parameters	Test Method	Open the canopy of DG Set Results dB(A)	Close th canopy of DG Set (1.0 mtr. Distance) Result dB(A)	Insertion Loss
1	Leq	CPCB Guidelines & Indian Standard:9989	98.5	73.4	25.3
2	CPCB Limit in Leq dB (A)	--	--	75.00	25.00

Note:- *A "decibel" is a unit in which noise is measured.

End of Report

Ruchi Chaudhary
(Tested By)
Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
Authorised Signatory

Vardan EnviroLab

Laboratory: Plot No. 24 & 25, Narayan Vihar, B-Block, Jaipur - 302035 (Rajasthan)
Corp. Off : Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
NABL Accredited | ISO 9001|ISO 14001|OHSAS 18001

Test Report

Sample Number : VEL/N/1909230011

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : DG Noise

Report No. : VEL/N/1909230011
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-25/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	DG Set No.2 (32 KVA)
Sample Collected by	:	VEL Representative (Mr.Lavish)
Sampling Equipment used	:	SLM
Instrument Code	:	VEL/SLM/10
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	23/09/2019
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS 9989
Sampling duration (Minutes)	:	30 Minute
Parameter Required	:	Leq, & Insertion

S.No.	Parameters	Test Method	Open the canopy of DG Set Results dB(A)	Close th canopy of DG Set (1.0 mtr. Distance) Result dB(A)	Insertion Loss
1	Leq	CPCB Guidelines & Indian Standard:9989	98.8	73.7	25.7
2	CPCB Limit in Leq dB (A)	--	--	75.00	25.00

Note:- *A"decibel" is a unit in which noise is measured.

End of Report

Ruchi Chaudhary
(Tested By)
Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
Authorised Signatory

Vardan EnviroLab

Laboratory: Plot No. 24 & 25, Narayan Vihar, B-Block, Jaipur - 302035 (Rajasthan)
Corp. Off : Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
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Test Report

Sample Number : VEL/S/1909230006

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : **Stack Emission Monitoring**

Report No. : VEL/S/1909230006
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-28/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	DG Set Area
Sample Collected by	:	VEL Representative (Mr.Lavish)
Date of Sampling	:	23/09/2019
Sampling duration (Minutes)	:	30 Minute
Stack attached to	:	DG Set No.1 (125 KVA)
Make of stack	:	MS
Diameter of stack(m)	:	3 Inch
Height of stack(m)	:	7 Feet
Instrument calibration status	:	Calibrated
Meteorological Condition	:	Clear Sky
Ambient Temperature - Ta (°C)	:	32°C
Temperature of Stack Gases - Ts (°C)	:	170.0
Velocity of Stack Gases (m/sec.)	:	9.21
Flow rate of PM (LPM)	:	25.0
Flow rate of Gas (LPM)	:	2.0
Sampling condition	:	Isokinetic
Protocol used	:	IS 11255 & EPA

S.No.	Parameters	Test Method	Results	Units	Limits as per CPCB
1	Particulate Matter (as PM)	IS:11255 (P-1), Gravimetric Method, RA:2003	0.18	gm/kw-hr	<0.2
2	Oxide of Nitrogen (as NOX)	IS:11255 (P-7), Colorimetric Method, RA:2012	2.21	gm/kw-hr	<4.0**
3	Carbon Monoxide (as CO)	SOP,SP-74, Issue No.01:2018	0.88	gm/kw-hr	<3.5
4	Total Hydrocarbon (as Methane)	SOP, SP-194, Issue No.01:2018	0.41	gm/kw-hr	--

End of Report

Ruchi Chaudhary
(Tested By)
Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
Authorised Signatory

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Corp. Off : Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
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Test Report

Sample Number : VEL/S/1909230007

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : **Stack Emission Monitoring**

Report No. : VEL/S/1909230007
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-28/09/2019
Receipt Date : 23/09/2019

General Information

Sampling Location	:	DG Set Area
Sample Collected by	:	VEL Representative (Mr.Lavish)
Date of Sampling	:	23/09/2019
Sampling duration (Minutes)	:	30 Minute
Stack attached to	:	DG Set No.2 (32 KVA)
Make of stack	:	MS
Diameter of stack(m)	:	3 Inch
Height of stack(m)	:	7 Feet
Instrument calibration status	:	Calibrated
Meteorological Condition	:	Clear Sky
Ambient Temperature - Ta (°C)	:	32°C
Temperature of Stack Gases - Ts (°C)	:	200.0
Velocity of Stack Gases (m/sec.)	:	8.70
Flow rate of PM (LPM)	:	25.25
Flow rate of Gas (LPM)	:	2.0
Sampling condition	:	Isokinetic
Protocol used	:	IS 11255 & EPA

S.No.	Parameters	Test Method	Results	Units	Limits as per CPCB
1	Particulate Matter (as PM)	IS:11255 (P-1), Gravimetric Method, RA:2003	0.16	gm/kw-hr	<0.2
2	Oxide of Nitrogen (as NOX)	IS:11255 (P-7), Colorimetric Method, RA:2012	2.30	gm/kw-hr	<4.0**
3	Carbon Monoxide (as CO)	SOP,SP-74, Issue No.01:2018	0.70	gm/kw-hr	<3.5
4	Total Hydrocarbon (as Methane)	SOP, SP-194, Issue No.01:2018	0.31	gm/kw-hr	--

End of Report

Ruchi Chaudhary
(Tested By)
Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
VARDAN ENVIRO LAB
Authorised Signatory

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Corp. Off : Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
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Test Report

Sample Number : VEL/W/1909230003

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : Drinking Water Sample
Location : Near Project Site (R.O)
Sample Collected by : VEL Representative (Mr.Lavish)
Preservation : Refrigerated
Sampling and Analysis Protocol : IS 10500 2012

Report No. : VEL/W/1909230003
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-28/09/2019
Receipt Date : 23/09/2019
Sampling Date : 23/09/2019
Sampling Quantity : 2.0 Ltr.
Sampling Type : --

S.No.	Test Parameters	Test Method	Results	Units	Requirement as per IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	pH (at 25°C)	APHA 4500 H+B Electrometric Method:2017	7.42	--	6.5 to 8.5	No Relaxation
2	Colour	APHA 2120 B Visual Comparison Metod:2017	*BDL(**DL 5Hazen)	Hazen	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	*BDL(**DL 0.1NTU)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeble	--	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeble	--	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	56.6	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	9.07	mg/l	75	200
8	Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	32.24	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	47.28	mg/l	250	1000
10	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	*BDL(**DL-0.05 mg/L)	mg/l	0.05	No Relaxation
11	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	9.35	mg/l	30	100
12	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	120.00	mg/l	500	2000
13	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	1.25	mg/l	200	400
14	Fluoride (as F)	APHA 4500 F D Spands Method:2017	0.02	mg/l	1.0	1.5
15	Nitrate (as NO3)	IS 3025 (P-34), Chromotropic	0.42	mg/l	45.0	No Relaxation

MEENU KAUSHIK
Technical Manager

Subodh Shekhawat
Quality Technical Manager

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VARDAN ENVIRO LAB Authorised Signatory

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Corp. Off : Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
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Test Report

Sample Number : VEL/W/1909230003 Report No. : VEL/W/1909230003

S.No.	Test Parameters	Test Method	Results	Units	Requirement as per IS:10500-2012	
					Acceptable Limits	Permissible Limits
15		Method, RA:2003				
16	Iron (as Fe)	APHA 3500 Fe B 1,10 Phenanthroline Method:2017	0.10	mg/l	0.3	No Relaxation
17	Aluminium (as Al)	APHA 3111 D Direct Nitrousoxide Acetylene Flame Method:2017	*BDL(**DL-0.02 mg/L)	mg/l	0.03	0.2
18	Boron (as B)	APHA 4500 C Carmine Method:2017	*BDL(**DL-0.1 mg/L)	mg/l	0.5	1.0
19	Total Chromium (as Cr)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.03 mg/L)	mg/l	0.05	No Relaxation
20	Phenolic Compounds (C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	*BDL(**DL-0.001 mg/L)	mg/l	0.001	0.002
21	Mineral Oil	APHA 5520 C Partition Infra Red:2017	*BDL(**DL-0.5 mg/L)	mg/l	0.5	No Relaxation
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	*BDL(**DL-0.02 mg/L)	mg/l	0.2	1.0
23	Zinc (as Zn)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.03 mg/L)	mg/l	5.0	15.0
24	Copper (as Cu)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.03 mg/L)	mg/l	0.05	1.5
25	Manganese (as Mn)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.06 mg/L)	mg/l	0.1	0.3
26	Cadmium (as Cd)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.003 mg/L)	mg/l	0.003	No Relaxation
27	Lead (as Pb)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.01 mg/L)	mg/l	0.01	No Relaxation
28	Selenium (as Se)	APHA 3114 B AAS Method	*BDL(**DL-0.01 mg/L)	mg/l	0.01	No Relaxation
29	Arsenic (as As)	APHA 3114 B AAS Method	*BDL(**DL-0.01 mg/L)	mg/l	0.01	0.05
30	Mercury (as Hg)	APHA 3112 B Cold Vapor AAS Method:2017	*BDL(**DL-0.001 mg/L)	mg/l	0.001	No Relaxation
31	Total Coliform	IS 15185:2016	Absent	CFU/100 ml	Shall not be detectable in any 100 ml sample	--
32	E.Coli	IS 15185:2016	Absent	CFU/100 ml	Shall not be detectable in any 100 ml sample	--

MEENU KAUSHIK
Asst. Manager

Subodh Shekhawat
Deputy Technical Manager

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Test Report

Sample Number : VEL/W/1909230004

Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,

Sample Description : Borewall Water Sample

Location : Main Gate

Sample Collected by : VEL Representative (Mr.Lavish)

Preservation : Refrigerated

Sampling and Analysis Protocol : IS 10500 2012

Report No. : VEL/W/1909230004

Format No : 7.8 F-01

Party Reference No : Nil

Reporting Date : 28/09/2019

Period of Analysis : 23/09/2019-28/09/2019

Receipt Date : 23/09/2019

Sampling Date : 23/09/2019

Sampling Quantity : 2.0 Ltr.

Sampling Type : Grab

S.No.	Test Parameters	Test Method	Results	Units	Requirement as per IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	pH (at 25°C)	APHA 4500 H+B Electrometric Method:2017	7.62	--	6.5 to 8.5	No Relaxation
2	Colour	APHA 2120 B Visual Comparison Metod:2017	*BDL(**DL 5Hazen)	Hazen	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	*BDL(**DL 0.1NTU)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeble	--	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeble	--	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	272.4	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	44.46	mg/l	75	200
8	Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	270.45	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	60.4	mg/l	250	1000
10	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	*BDL(**DL-0.05 mg/L)	mg/l	0.05	No Relaxation
11	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	39.72	mg/l	30	100
12	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	460.00	mg/l	500	2000
13	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	7.63	mg/l	200	400
14	Fluoride (as F)	APHA 4500 F D Spands Method:2017	0.68	mg/l	1.0	1.5
15	Nitrate (as NO3)	IS 3025 (P-34) Chromotropic	5.45	mg/l	45.0	No Relaxation

Subodh Shekhawat
Deputy Technical Manager

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Test Report

Sample Number : VEL/W/1909230004 Report No. : VEL/W/1909230004

S.No.	Test Parameters	Test Method	Results	Units	Requirement as per IS:10500-2012	
					Acceptable Limits	Permissible Limits
15		Method, RA:2003				
16	Iron (as Fe)	APHA 3500 Fe B 1,10 Phenanthroline Method:2017	0.26	mg/l	0.3	No Relaxation
17	Aluminium (as Al)	APHA 3111 D Direct Nitrousoxide Acetylene Flame Method:2017	*BDL(**DL-0.02 mg/L)	mg/l	0.03	0.2
18	Boron (as B)	APHA 4500 C Carmine Method:2017	*BDL(**DL-0.1 mg/L)	mg/l	0.5	1.0
19	Total Chromium (as Cr)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.03 mg/L)	mg/l	0.05	No Relaxation
20	Phenolic Compounds (C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	*BDL(**DL-0.001 mg/L)	mg/l	0.001	0.002
21	Mineral Oil	APHA 5520 C Partition Infra Red:2017	*BDL(**DL-0.5 mg/L)	mg/l	0.5	No Relaxation
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	*BDL(**DL-0.02 mg/L)	mg/l	0.2	1.0
23	Zinc (as Zn)	APHA 3111 B Direct Acetylene Flame Method:2017	0.21	mg/l	5.0	15.0
24	Copper (as Cu)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.03 mg/L)	mg/l	0.05	1.5
25	Manganese (as Mn)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.06 mg/L)	mg/l	0.1	0.3
26	Cadmium (as Cd)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.003 mg/L)	mg/l	0.003	No Relaxation
27	Lead (as Pb)	APHA 3111 B Direct Acetylene Flame Method:2017	*BDL(**DL-0.01 mg/L)	mg/l	0.01	No Relaxation
28	Selenium (as Se)	APHA 3114 B AAS Method	*BDL(**DL-0.01 mg/L)	mg/l	0.01	No Relaxation
29	Arsenic (as As)	APHA 3114 B AAS Method	*BDL(**DL-0.01 mg/L)	mg/l	0.01	0.05
30	Mercury (as Hg)	APHA 3112 B Cold Vapor AAS Method:2017	*BDL(**DL-0.001 mg/L)	mg/l	0.001	No Relaxation
31	Total Coliform	IS 1622:2009	<2	MPN/100 ml	Shall not be detectable in any 100 ml sample	--
32	E.Coli	IS 1622:2009	Absent	MPN/100 ml	Shall not be detectable in any 100 ml sample	--

Subodh Shekhawat

MEENU KAUSHIK

Deputy Technical Manager

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Test Report

Sample Number : VEL/S0/1909230001
Name & Address of the Party : M/s Emperium Reality Pvt. Ltd. Two Horizon Center, 618-6196th floor Corporatedge Services office Course Road, DLF-5 Gurgaon 122002, Project Name:- Grouping Housing Colony, On an area 5.08339 acres, At Village-Tarafinsar & Rajputan, Sector-1A Panipat,
Sample Description : SOIL
Location : Project site
Sample Collected by : VEL Representative (Mr.Lavish)
Parameter Required : As per work order
Sampling and Analysis Protocol : IS 2720, APHA & USDA

Report No. : VEL/S0/1909230001
Format No : 7.8 F-01
Party Reference No : Nil
Reporting Date : 28/09/2019
Period of Analysis : 23/09/2019-28/09/2019
Receipt Date : 23/09/2019
Sampling Date : 23/09/2019
Sampling Quantity : 2.0 Kg.
Sampling Type : Grab
Packing Status : Temp Sealed

S.No.	Parameters	Test Method	Results	Units
1	pH (at 25°C)	IS : 2720 (P-26) By pH Meter, RA:2011	7.41	-
2	Electrical Conductivity	IS :14767,By Conductivity Meter, RA:2006	0.640	mS/cm
3	Colour	SOP, SP-85, Issue No.01:2013	Light Brown	-
4	Water holding capacity	SOP, SP-81, Issue No.01:2013	30.10	%
5	Bulk density	SOP, SP-80, Issue No.01:2013	2.74	gm/cc
6	Chloride	SOP, SP-85, Issue No.01:2013	14.16	mg/kg
7	Calcium (as Ca)	SOP, SP-82, Issue No.01:2013	27.30	mg/kg
8	Sodium (as Na)	SOP, SP-84, Issue No.01:2013	20.12	mg/kg
9	Potassium (as K)	SOP, SP-84, Issue No.01:2013	69.20	mg/kg
10	Organic Matter	IS:2720 (P-22), Titrimetric Method, RA:2009	0.84	%
11	Magnesium (as Mg)	SOP, SP-83, Issue No.01:2013	17.30	mg/kg
12	Available Nitrogen (as N)	IS:14648, Distillation Method, RA:2006	240.23	kg. /hec.
13	Phosphorus	SOP, SP-86, Issue No.01:2013	34.01	kg. /hec.
14	Total Zinc (as Zn)	USEPA 3050 B:1996	6.14	mg/kg
15	Total Manganese (as Mn)	USEPA 3050 B:1996	4.87	mg/kg
16	Total Chromium (as Cr)	USEPA 3050 B:1996	0.41	mg/kg
17	Total Lead (as Pb)	USEPA 3050 B:1996	1.30	mg/kg
18	Total Cadmium (as Cd)	USEPA 3050 B:1996	0.62	mg/kg
19	Total Copper (as Cu)	USEPA 3050 B:1996	1.32	mg/kg
20	Soil Texture	IS:2720 (P-4) RA:2006	Silty Loam	--

End of Report

MEENU KAUSHIK
(Tested By)
Senior Analyst

Subodh Shekhawat
(Checked By)
Deputy Technical Manager

(Approved By)
Authorised Signatory

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UTTAR HARYANA BIJLI VITRAN NIGAM

(A Government of Haryana undertaking)

SDO, Panipat, Haryana

To,

M/s. Emperium Realty Pvt. Ltd.
R/o. 4, Tolstoy Marg,
New Delhi- 110001

Memo No. Ch. 05/S /Drg.-PLC Dated: 20/11/2017

Sub: Assurance of supply of power load 4500 KW, for Affordable Group Housing Colony on an area measuring 5.08339 Acres at Village Taraf Insar & Rajputan, Sector 1-A, Panipat, Haryana by M/s Emperium Realty Pvt Ltd. Vide Licence No. 71 of 2017, dated 05/09/2017 valid upto 04/09/2022 by DTCP Haryana.

Reference your letter dated 17/10/2017, on the above subject. It is hereby assured that the power supply requirement of tentative load 4500 KW shall be considered from the nearest substation at the time of actual requirement as per UHBVN norms. However, the voltage level of the supply will be 33 KW for Sector-1A ,Panipat, Haryana.

20/11/17

C.C.to:-

The XEN/S/Urban Divn. UHBVN, Panipat, Haryana.

As and when Connection/Load will be applied. the Connection will be released from nearby feeder within 30 days

20/11/17

SDO M/Town S/Divn.
UHBVN, Panipat