

**SIXTH REPORT, JUNE 2017**

**POST- CLEARANCE ENVIRONMENTAL REPORT**  
**(Residential Complex)**

**Village-Gopalpur Sector-99A**  
**GURGAON, HARYANA**



**Prepared by**

**SHIMI RESEARCH CENTER PVT. LTD.**

**Submitted to**

**MINISTRY OF ENVIRONMENT & FORESTS**  
**(New Delhi & Panchkula)**

## **SALIENT FEATURES OF THE PROPOSED PROJECT**

- Type of Project : Group Housing Colony
- Name of Company : M/s Leo Agro Pvt. Ltd.
- Location : Village-Gopalpur Sector-99A, Gurgaon,  
Haryana
- Land Title : Licence No. 05 of 21/01/2014,  
Town & Country Planning Department  
Haryana
- Plot size : 40671 Sqm (10.05 acres)
- Project Features :
- Total Plot Area 40671 Sqm
  - Total Built –up Area 101101.45 Sqm
  - 07 Towers
  - A1 & A2 (2 Basements + GF + 23 Floors)
  - B1 & B2 (1 Basements + GF + 18 Floors)
  - C1, C2 & C3 (1 Basement + GF + 12 Floors)
  - EWS, Club House, Guard Room & Fir Room
  - Max. Height Allowed : 75.45 Mt
  - Total water requirement, 505 KLD

- Fresh water, 302 KLD from HUDA
- Waste water generation, 353 KLD
- STP capacity of 420 KLD
- Solid waste generation of 1563 kg/day
- Power Requirement 4800 KVA from DHBVN
- Parking Space 989 ECS

NOC for Non-Forest Land : No. 2131-G dated 07/02/2013

Environmental Clearance : Clearance Received vide  
No. SEIAA/HR/2014/732 dated 29-05-2014  
Compliances report to be submitted on  
every 1<sup>st</sup> June & 1<sup>st</sup> December of year till  
completion of project

Zoning Plan : Approved vide DG, TCP No. 4563  
Dated 23/01/2014

Aravali Notification : Received vide Memo No. No. 3208  
Dated 08/08/2013

Consent to Establish NOC : Received vide Memo No.  
HSPCB/Consent/2821215  
GUSOCTE/226619  
Dated 07/01/2015

Building Plan : Approved vide DG, TCP  
No. ZP-964/AD/RA/2014/4183  
Dated 01/07/2014

Approval for Fire : NO. DFS/F.A./2014/102/52379  
Fighting Scheme Dated 11/11/2014

Assurance of Water : EE, Huda, GGN Memo No. 6958  
Supply Dated 20/03/2014

## PROJECT STATUS

There is no activity at site for the past 1 year and the current status of the project is as follows:

1. Land leveling has been done.
2. 100% fencing has been done around the site.
3. The construction of sample flat is complete.
4. The construction of site office is complete.
5. The guard room is complete.
6. Partial green area development has been done.
7. AAC blocks are used in constructions of site office and sample flat.
8. The water for the construction purpose is provided through HUDA.
9. No bore well water is used for the construction.
10. All DG sets used are with acoustic enclosures.
11. Adequate sanitary and hygienic measures for workers have been adopted and have been maintained throughout construction phase. Drinking water facility and toilets at construction site have been provided for workers. For officers

and supervisors, site office with required facilities has been developed.

12. No hazardous material and bituminous material has been generated from site. Every precaution has been taken to prevent groundwater from contamination.
13. A continuous fencing has been provided all around the project site. It acts as a safety barrier. No incremental increase in air pollution or noise in nearby areas has been recorded after construction. The data on air pollution, water, noise and soil are enclosed with the report.
14. Secured area has been provided for storage of cement bags.
15. Workers are advised to use helmets at construction site.
16. No stagnant water formation is found in the premises.
17. Regular water spray is being used to suppress the dust generated from haul road inside the construction site.

### **GREEN BELT DEVELOPMENT**

The site is under the initial phase of construction and so far no green belt development has been done at site.

S. No.	Year	Area Covered	No. of Plants Planted	Species of Plants Planted	Expenditure Incurred
1	June 2017	Nil	Nil	N/A	Nil

## **SAFETY MEASURES**

The other safety measures to be followed during the construction period by Project Manager/Deputy Project Manager

- ❖ That no staff should go to the project site without wearing helmets and safety shoes
- ❖ Wearing helmets need to be mandatory for visitors
- ❖ Safety net should be used at risky areas
- ❖ Safety helmet, shoes and gloves should be mandatory for all the workers
- ❖ That access to and from site should clear
- ❖ That proper signboards should be available about safety and safe exit points
- ❖ All water tanks at site should be properly covered for further use.

## **TESTING**

### **Ambient Air Quality**

The ambient air quality monitoring was conducted in May 2017.

Monitoring was carried out at two stations for 7 days. The guidelines for selections of ambient air monitoring stations as given in IS – 5182 part 14, were followed. These guidelines state that, “when the objective of air sampling is to identify the contribution from specific sources of pollution, the sampling locations should be located in upwind and the downwind of such sources”. The location of air quality monitoring stations should satisfy the following conditions:

1. The site should be representative of the area selected;
2. The station should be set up and operated so as to yield data that can be compared with those from stations within the network

### **Sampling Stations:**

**Station A-1:** Near the plot entrance

**Station A-2:** At the center of plot

### **Duration of Sampling**

Duration : 7 days during May 2017.

Period : Sampling was done 24 hourly continuous of SPM/RSPM and 8 hourly for gaseous parameters.



## **Sampling Procedure**

Time averaged in – situ sampling was adopted by passing a known volume of air through a trap, and a collecting medium (filter paper and bubbler). Repairable Dust Sampler was used for the purpose.

This procedure was adopted because there are no short-term variations and low concentration of gaseous pollutants was expected.

## **Analytical methods followed for ambient air quality monitoring**

### **(i) Suspended Particular Matter (SPM):**

The samples for SPM were collected on GF/A Filter paper by Respirable Dust Sampler (RDS), operated at maximum rate of 1.5 cu.m./min. and concentration were determined gravimetrically on 24 hrs. basis.

### **(ii) Sulphur dioxide (SO<sub>2</sub>):**

Sulphur dioxide collection was done by aspirating a measured volume of air through a dilute acidified solution of hydrogen peroxide. For analysis, TCM method was followed (Ref. Chapter 700, Standard Method of Air Sampling and Analysis, 2nd edition, APHA, 1977).

### (iii) Nitrogen Oxides (IS: 5182; Part – VI – 1975 ):

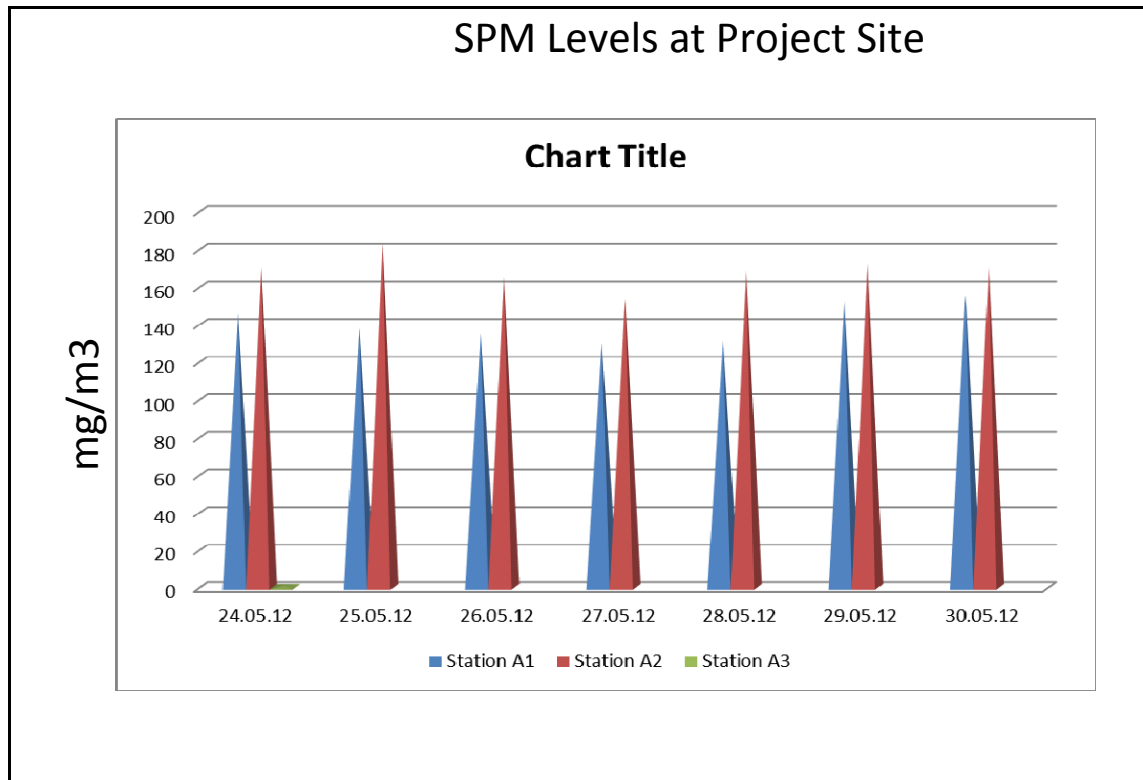
Nitrogen oxides were estimated by bubbling air through 0.1 N Sodium hydroxide solution and measured as nitrate through spectrophotometer at 540 nm.

### Results

Air quality is a complex and dynamic characteristic of any area. Most of the areas in Gurgaon and adjoining locations reel under air pollution and construction activity is the major contributor of pollutants. The climatic conditions and high rise buildings aid and abet their dispersion in the adjoining areas. The ambient air quality results are summarized in following tables:

SPM $\mu\text{g}/\text{m}^3$						
DATE	A-1			A-2		
	Max	Min	Mean	Max	Min	Mean
16.05.17	351	109	146	388	193	170
17.05.17	341	106	138	380	202	183
18.05.17	330	110	135	378	195	165
19.05.17	327	111	130	373	186	153
20.05.17	335	150	131	380	201	168
21.05.17	350	103	152	364	190	172
22.05.17	360	108	155	367	201	170

RSPM $\mu\text{g}/\text{m}^3$						
DATE	A-1			A-2		
	Max	Min	Mean	Max	Min	Mean
16.05.17	202	76	128	214	101	136
17.05.17	253	107	165	259	110	201
18.05.17	222	81	169	326	132	188
19.05.17	171	98	112	322	112	201
20.05.17	231	147	123	258	130	214
21.05.17	199	110	126	279	115	187
22.05.17	240	173	189	291	115	203



The results show that there is a slight increase of SPM level due to excessive wind flow. When assessed air quality is compared to the prescribed standards, it was observed that SPM and RSPM values

were very near to the standards. The higher values of SPM & RSPM are not solely contributed by the construction activities at this particular site but also by the nearby construction activities. The results confirm that the particulate load generated by traffic and construction activities remain as aerosol for longer period of time. The smaller the particulate, larger is the time it stays in suspension (RSPM). The detailed results indicate that night-time ambient air was usually better than that of morning and afternoon due to lesser traffic density and least construction activity.

### **Noise Level**

**Noise Measurement Locations:** The locations selected for the noise monitoring were as follows:

**Station N-1 :** Near the plot entrance

**Station N-2 :** At the center of the plot

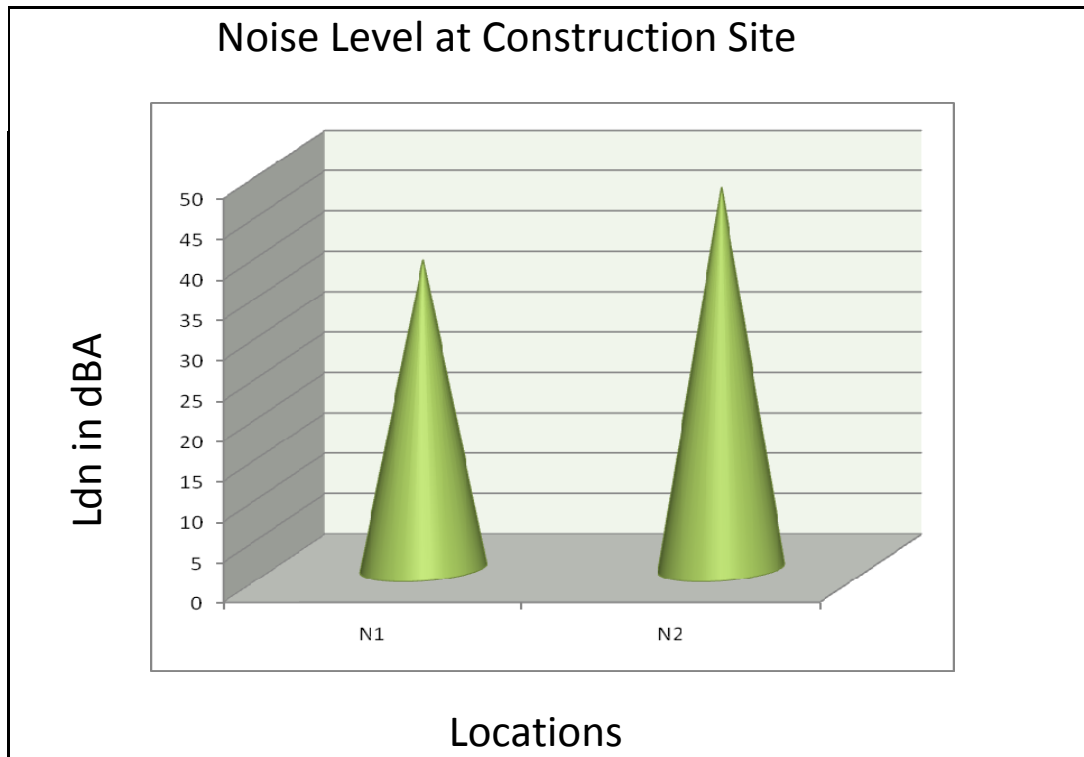
### **Methodology:**

At each station noise level was monitored by noise meter for 24-hours simultaneously. For each measurement, dB (A) readings were taken for every 15 minutes to get  $L_d$ ,  $L_n$  and  $L_{dn}$ .

## Results

The noise level at legend site has not monitored as the project is almost complete and there is no construction activities at Legend site. However, the noise monitoring results of Aloha site are summarized in following **Table**. The ambient noise level at the proposed project site are lower as compared to other areas. During the day time, noise at center of project site was 56.62 dB (A). The standards for residential areas is  $\approx$  55 dB (A). However, the ambient noise level at entrance has been lower than the center of project site, 52.40 dB(A). The noise level measured at night was much lower than the night-time noise standards of 45 dB(A). This may be attributed to the fact that at night there was no construction activities.

		NOISE LEVEL		
		Day	Night	
		55	45	Residential
		65	55	Commercial
Standard in dB(A)				
Site	Land use	Ld	Ln	Ldn
N1	Near Entrance of Aloha	52.40	40.24	38.19
N2	Centre of Construction in Aloha	56.62	40.12	47.10





**FENCING AROUND THE PROJECT SITE**



**FENCING AROUND THE PROJECT SITE**





**PROSPECTIVE VIEW OF CONSTRUCTION SITE**