

Treatment report – Bio-wish FOG @ Barbeque Nation, Saket (New Delhi)

Date of report	03 Feb 2020
Date of start of treatment	11 Jan 2020
Date of completion of treatment demonstration	31 Jan 2020
Treatment (Number of dosing) done for treatment	20 (excluding 25 Jan)

Background

Barbeque Nation operates casual dining restaurants across India offering live grill, Barbeque, DIY options across wide range of vegetarian & non-vegetarian quality food and beverages. The restaurants serve Lunch & Dinner offering variety of food & beverages.

BBQ Nation restaurant at Saket uses water in kitchen, dish washing and bar. An estimated 3m<sup>3</sup>/day of raw water is used, majority of which is drained after use.

Wastewater from kitchen (cooking area & dishwashing are) has Fat & Oil and flows into existing manhole. Water from this manhole then flow out onto downstream treatment plant.

Also, water is used in Bar for mixing beverages and drained into sink. Due to use of juices and syrups containing high sugar, the accumulation in under-sink pipe & drainpipe was heavy with foul odour in entire bar area. Water from the sink flows through drainpipe into manhole at Bar area & then onto downstream treatment plant.

Restaurant has problem of choking of pipelines, accumulation of excess FOG (Fat, Oil & Grease) in drainpipes besides foul odour. Heavy FOG and food particulate has accumulated on drainpipe surfaces resulting in reduced flow and unhygienic conditions and bacterial growth.

Bio-wish FOG treatment was proposed for treatment of FOG in drains, sumps and grease traps & treatability demonstration was undertaken by InNow. This treatment shall eliminate existing problem & prevent future problem of FOG accumulation and Odour.


Treatment methodology

Estimated water usage in kitchen

Water usage in kitchen & Bar:                    3 m<sup>3</sup>/day

The FOG treatment of pipelines, drains & sumps was scheduled for two weeks (14 days) but later extended to 3 weeks (21 days). Please refer attached Annexure-I for details of daily dose. The initial dosing based on water consumption was estimated as 50 gm/day, but due to heavy accumulation in drainpipes, it was increased to 200 gm/day for few days.

**BiOWiSH®  
Aqua FOG**



- Rapidly reduces fats, oils, and grease
- Reduces sludge production and handling
- Increases treatment plant performance & capacity
- Reduces odors
- Reduces aeration requirements
- Reduces need for chemical additives
- Improves plant stability
- Reduces hydrogen sulfide, ammonia, and nitrates
- Pre-treats influent in collection systems
- Natural and non-toxic

**Available Sizes**

- 100g/3.5oz
- 1kg/2.2lbs
- 5kg/11lbs
- 10kg/22lbs

Treatment methodology comprised of daily dosing of Bio-wish Aqua FOG in all sinks & drains in the kitchen by InNow team & Store team. Dosing was done around 0100 Hrs after the kitchen were cleaned and possibility of water into kitchen pipelines, drains & sumps were reduced.

#### Performance parameters

Daily treatment was monitored for following performance parameters

- 1) Frequency of choking of pipelines & drains compared to frequency before the treatment
- 2) Reduction / Elimination of foul odour in sinks and drains. Odour perception & judgement of store team was used to monitor result
- 3) Grease trap was analysed on daily basis for incoming load & quality of sludge

#### Treatment Outcome

Following are outcome of Biowish FOG treatment, for period of 03 weeks is based on site data and feedback of BBQN – Saket store team.

- 1) Cleaning of under sink pipe & drainpipe in Bar area
- 2) Elimination of odour from beverage sink, drainpipe & manhole in Bar area
- 3) Reduction of Odour in kitchen & dishwash area
- 4) Due to heavy FOG accumulation in drainpipe of kitchen, the treatment needs further continuity. During the period of treatment, we observed softening of old accumulated FOG & gradual removal. Fresh O&G was observed in manholes indicating that the current usage Oil & Grease was not getting accumulated into drainpipes & was flowing out.

Manholes & drainpipes were monitored on daily basis and photographs of each day during treatment are attached herewith.

#### Conclusion

During the 21-day treatment period, Bio-Wish FOG treatment was successful in cleaning of under-sink pipe, drainpipe & elimination of odour in Bar area. To achieve faster results, ten days of treatment was done with higher dosage (50 gm/day) and under-sink & drainpipe were plugged for few hours during non-operation hours to ensure higher contact time for culture.

Substantial improvement was observed in kitchen & dishwash area. Substantial reduction in Odour was achieved besides fresh oil & grease was observed in manholes. This reflects that the anaerobic decay of food-mass had substantially reduced and incoming O&G during the period of treatment was not accumulating in pipes. Also, we have observed loosening of accumulation as occasional shearing of accumulation was observed.

Kitchen and Dishwash drainpipes have high accumulation which can be easily removed by continued treatment over next few weeks. Also customized initial treatment as was done in bar area is recommended.

Routine feedback of store (maintenance & operations) team validates achievement of above stated performance results.

Treatment dosage was changed wef 21 Jan after joint review and feedback of store team.

Though the pipelines and drains are cleaned, continuation of routine dosing is recommended.

Annexure – I

Treatment dosage details

Dosing was done at all drain outlets in kitchen, dish washing area & sink and drain outlet in bar area.

S. No	Date of dosing	Treatment reference	Dosage qty (Kg)	Remarks
1	11 Jan 2020	1	0.2 (200 gm)	Initial shock dosing
2	12 Jan 2020	2	0.2 (200 gm)	Initial shock dosing
3	13 Jan 2020	3	0.05 (50 gm)	Routine dosage based on water consumption
4	14 Jan 2020	4	0.05 (50 gm)	Routine dosage based on water consumption
5	15 Jan 2020	5	0.05 (50 gm)	Routine dosage based on water consumption
6	16 Jan 2020	6	0.05 (50 gm)	Routine dosage based on water consumption
7	17 Jan 2020	7	0.05 (50 gm)	Routine dosage based on water consumption
8	18 Jan 2020	8	0.05 (50 gm)	Routine dosage based on water consumption
9	19 Jan 2020	9	0.05 (50 gm)	Routine dosage based on water consumption
10	20 Jan 2020	10	0.05 (50 gm)	Routine dosage based on water consumption
11	21 Jan 2020	11	0.2 (200 gm)	<b>Revised dosage based on joint review and reassessment of accumulation in bar and kitchen drainpipes</b>
Joint review of drainpipes & manhole with store team done on 21 Jan Dosage was increased & holdup time in Bar drainpipe was changed due to heavy old accumulation. Drainpipe in Bar was considered as test for Odour & accumulation cleaning				
12	22 Jan 2020	12	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.
13	23 Jan 2020	13	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.
14	24 Jan 2020	14	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.
15	25 Jan 2020	15	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.
16	26 Jan 2020	16	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.

17	27 Jan 2020	17	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.
18	28 Jan 2020	18	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.
19	29 Jan 2020	19	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.
17	30 Jan 2020	20	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.
17	31 Jan 2020	21	0.2 (200 gm)	Revised & increased dose – 50 gm/day in bar sink & drainpipes & 100 gm/day in kitchen/dishwash drainpipe.