



# **Lonestar Technical Services (L.L.C.)**

(Engineering, Inspection, Testing & Lab Services)

P.O. Box: 8817, Building # DY34  
Inside Dubai Ship Docking Yard  
Al Jadaf, Dubai - United Arab Emirates

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Email: [Testing@Lonestar-Lab.com](mailto:Testing@Lonestar-Lab.com)  
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## **WATER ANALYSIS REPORT**

### **SCOPE:**

DABV Middle East Water Treatment and Purification contacted Lonestar to carry out the water sample analysis for the pre and post deployment of the Decalcification gadget (DabV unit).

### **EXERCISE:**

DABV Middle East Water Treatment and Purification identified two locations for deployment of the Decalcification gadget (DabV unit). The locations are:

1. LYRA Building.
2. CIAN`S House.

The gadget (DabV unit) was deployed in the inlet line of the customer and prior to that a raw water samples was collected from each location. After deployment water samples were again drawn at several intervals and were logged in chain of custody document submitted to the laboratory along with samples. The water samples were submitted to laboratory for 12 Ions analysis.



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The sample description is tabulated as below;

## LTS Job No: 135720.

LTS SAMPLE ID	DATE	DESCRIPTION
2319545	04-OCT-2023	Water sample. Seq # 1A Sample description: Raw water. Location: Lyra Building. Sampled by: Client. Sampling date and time: 03/10/2023 @ 17:15 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.
2319546	04-OCT-2023	Water sample. Seq # 2A Sample description: Dabu water. Location: Lyra Building. Sampled by: Client. Sampling date and time: 03/10/2023 @ 17:26 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.
2319547	04-OCT-2023	Water sample. Seq # 3A Sample description: Dabu water. Location: Lyra Building. Sampled by: Client. Sampling date and time: 03/10/2023 @ 17:26 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.
2319548	04-OCT-2023	Water sample. Seq # 4A Sample description: Dabv water. Location: Lyra Building. Sampled by: Client. Sampling date and time: 03/10/2023 @ 17:31 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.



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2319548	04-OCT-2023	Water sample. Seq # 5A. Sample description: Dabv water. Location: Lyra Building. Sampled by: Client. Sampling date and time: 03/10/2023 @ 17:31 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.
2319550	04-OCT-2023	Water sample. Seq # 7A. Sample description: Raw water. Location: Cian's House. Sampled by: Client. Sampling date and time: 04/10/2023 @ 11:05 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.
2319551	04-OCT-2023	Water sample. Seq # 8A. Sample description: Dabv (1 Under sink, 2 at intake from Dubai). Location: Cian's House. Sampled by: Client. Sampling date and time: 04/10/2023 @ 11:30 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.
2319552	04-OCT-2023	Water sample. Seq # 9A. Sample description: Dabv (1 Under sink, 2 at intake from Dubai). Location: Cian's House. Sampled by: Client. Sampling date and time: 04/10/2023 @ 11:35 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.
2319553	04-OCT-2023	Water sample. Seq # 10A. Sample description: Raw water. Location: Dabv (1 Under sink, 2 at intake from Dubai) Sampled by: Client. Sampling date and time: 04/10/2023 @ 11:35 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.
2319554	04-OCT-2023	Water sample. Seq # 11A. Sample description: Dabv Water after 19 Hours. Location: Dabv (1 Under sink, 2 at intake from Dubai) Sampled by: Client. Sampling date and time: 04/10/2023 @ 11:35 Hrs. Date and time received: 04-Oct-2023 @ 15:00 Hrs.



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## ANALYSIS RESULTS:

Laboratory analysed the submitted samples for 12 Ions and the results are tabulated in the below table:

Water Analysis Report																						
S.No.	Description	Location	Timings	LTS Sample Number	pH value	Conductivity µS/cm	Sodium mg/L	Potassium mg/L	Calcium mg/L	Magnesium mg/L	Iron mg/L	TurbidityNTU	Calcium hardness mg/L	Total Hardness mg/L	Carbonates mg/L	Bicarbonates mg/L	Fluoride mg/L	Nitrite mg/L	Chloride mg/L	Sulfate mg/L	Nitrate mg/L	TDS, mg/L
1	Raw water	Lyra building	0 min	2319545	8.20	396	60.29	1.45	17.55	3.66	0.0000	ND	44	59	ND	65	ND	ND	90.38	9.00	0.44	253
2	DabV water after 5 min	Lyra building	5 min	2319546	8.05	392	58.44	1.92	17.58	4.34	0.0110	ND	44	62	ND	60	ND	ND	94.18	9.43	0.43	250
3	DabV water after 5 min	Lyra building	5 min	2319547	8.07	384	55.85	2	18.27	4.91	0.0091	ND	46	66	ND	65	ND	ND	90.86	9.13	0.00	245
4	DabV water after 10 min	Lyra building	10 min	2319548	8.10	389	58.02	1.89	16.86	4.79	0.0090	ND	42	62	ND	65	ND	ND	90.58	9.16	0.42	249
5	DabV water after 10 min	Lyra building	10 min	2319549	8.08	382	56.21	1.98	17	4.79	0.0090	ND	42	62	ND	60	ND	ND	91.27	9.13	0.44	244
10	DabV water after 19 Hours	Lyra building	19 hours	2319554	8.06	416	60.61	2.26	17.72	6.03	0.0170	ND	44	69	ND	65	ND	ND	95.21	9.24	0.84	266
6	Raw water	Cian's Villa	0 min	2319550	7.59	454	71.84	1.98	16.32	4.82	0.0114	ND	41	61	ND	60	ND	ND	111.50	12.00	0.84	290
7	DabV water after 2 min	Cian's Villa	2 min	2319551	7.77	450	67.25	2.25	18.84	6.11	0.0145	ND	47	72	ND	70	ND	ND	105.00	11.22	0.85	288
8	DabV water after 8 min	Cian's Villa	8 min	2319552	7.99	470	72.52	2.14	18.44	5.93	0.0200	ND	46	70	ND	70	ND	ND	110.77	12.09	0.85	300
9	DabV water after 8 min	Cian's Villa	8 min	2319553	8.00	451	66.90	2.17	17.89	6.13	0.0200	ND	45	70	ND	60	ND	ND	111.74	12.09	0.84	288



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Deviations or change in values were calculated by comparison of samples collected at intervals after Installation of gadget (DabV unit) to the raw water collected from respective location before installation of the gadget (DabV unit) and below is the tabular representation of the same;

Sl.#	Description	Location	LTS Sample Number	Sodium mg/L	Change %	Potassium mg/L	Change %	Calcium mg/L	Change %	Magnesium mg/L	Change %	Calcium Hardness mg/L	Change %	Total Hardness mg/L	Change %	Bicarbonates mg/L	Change %	Chloride mg/L	Change %	Sulfate mg/	Change %
1	Raw water	Lyra building	2319545	60.29		1.45		17.55		3.66		44		59		65		90.38		9.00	
2	DabV water after 5 min	Lyra building	2319546	58.44	-3.07	1.92	32.41	17.58	0.17	4.34	18.58	44	0.17	62	4.88	60	-7.69	94.18	4.20	9.43	4.81
3	DabV water after 5 min	Lyra building	2319547	55.85	-7.36	2	37.93	18.27	4.10	4.91	34.15	46	4.10	66	11.79	65	0.00	90.86	0.53	9.13	1.48
4	DabV water after 10 min	Lyra building	2319548	58.02	-3.77	1.89	30.34	16.86	-3.93	4.79	30.87	42	-3.93	62	4.98	65	0.00	90.58	0.22	9.16	1.81
5	DabV water after 10 min	Lyra building	2319549	56.21	-6.77	1.98	36.55	17	-3.13	4.79	30.87	42	-3.13	62	5.57	60	-7.69	91.27	0.98	9.13	1.48
10	DabV water after 19 Hours	Lyra building	2319554	60.61	0.53	2.26	55.86	17.72	0.97	6.03	64.75	44	0.97	69	17.29	65	0.00	95.21	5.34	9.24	2.70
6	Raw water	Cian's Villa	2319550	71.84		1.98		16.32		4.82		41		61		60		111.50		12.00	
7	DabV water after 2 min	Cian's Villa	2319551	67.25	-6.39	2.25	13.64	18.84	15.44	6.11	26.76	47	15.44	72	19.15	70	16.67	105.00	-5.83	11.22	-6.50
8	DabV water after 8 min	Cian's Villa	2319552	72.52	0.95	2.14	8.08	18.44	12.99	5.93	23.03	46	12.99	70	16.28	70	16.67	110.77	-0.65	12.09	0.75
9	DabV water after 8 min	Cian's Villa	2319553	66.90	-6.88	2.17	9.60	17.89	9.62	6.13	27.18	45	9.62	70	15.37	60	0.00	111.74	0.22	12.09	0.75



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## CONCLUSION:

From the above table of comparisons of values for various parameters it is documented that there are significant changes in the values of Calcium, Magnesium and Hardness of water in the various periods of time after installation of the gadget (DabV unit).

This confirms that the gadget (DabV unit) unit clearly elevates the level of Calcium, Magnesium and Hardness in the post installation samples.

Checked by		Approved by	
Name	Arun Tom Mathew	Name	M.Mubin Shaikh
Designation	Assistant Manager	Designation	Chemistry Manager
Signature		Signature	