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Office of Senior Geologist
Groundwater Surveys and Development Agency, GoM
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O.No/SGPune/GSDA/Tech/LGW/686/2024

Dated 07/08/2024

To,.
Swapnil Fharate,
Dalimb, Daund
District Pune

Subject- Regarding Hydrogeological Survey at Gat no.710,738,805 of Village Dalimb, Taluka Daund, District Pune

Reference- 1. Your Letter dated 31/07/2024
2. Hydrogeological Survey Challan dated 02/08/2024

With reference to the above subject hydrogeological survey was carried out at Gat no.710,738,805 of Village Dalimb, Taluka Daund, District Pune. At the time of hydrogeological survey Shri. Swapnil Fharate the applicant was present.

The details of Proposed site are as follows:

Name Of Village	Dalimb
Co-Ordinates	18°27'0.14" N and 74°09'00.6" E
Elevation	539 m
Toposheet & Morpho Unit	47 F/3
Watershed No.	BM 51
Category	Semi Critical (As per Groundwater Assessment 2022-23)
Rock Type	Basalt
Aquifer (Water Bearing Zone)	Shallow Aquifer (Jointed / Fractured Basalt)

Location

The village Dalimb is located in the West Direction of Pune City at a distance of 32.00 km. The area under study i.e., said Gat 710,738,805 are located Northwest direction of Village Dalimb at around distance of 500 mt.

Geomorphology- The topography is undulating to plain. A gentle to medium slope is in the North-to-Northwest direction with first and second order streams originating and flowing towards Northwest direction. Lineament at a distance of 500 mt is present to the South East direction of the site.

Geology- The area of village Dalimb consists of different layers of Basalt and the thickness varies from 2.00 to 10.00 mt which are formed during the Upper Cretaceous to Lower Eocene period of Geological time scale. The basalt is dark grey to black in color, fine to medium grained and medium jointed and fractured in nature. The geological/lithological data as per field observations in the surveyed area is as below.

Lithology	Brownish coarse-grained soil	0.00 – 1.00 mt
	Highly to moderately weathered basalt	1.00 – 2.50 mt
	Greyish black colored, fine to medium grained jointed fractured vesicular basalt	2.50 – 6.00 mt
	Greyish black colored compact Massive Basalt	Below 6.00 mt

Hydrogeological Conditions – At the surveyed area the soil thickness ranges from 0.00 to 1.00 mt the weathered basalt thickness varies from 1.00 to 2.50 mt, jointed and fractured basalt from 2.50 to 6.00 mt and from 6.00 followed by massive basalt. The entire area of the studied Gat no.664 is underlain by the

basaltic flows of Upper Cretaceous to Lower Eocene. Groundwater in the Deccan Trap occurs mostly in the weathered and fractured, jointed parts till 6.00 mt bgl under unconfined conditions. There is a lineament which is towards the Southwest of the dug well. The water bearing strata at deeper depths exists under semi confined to confined conditions at the depth of about 20-30 mt. From the groundwater availability point of view, the area has moderate groundwater yielding potential zone.

The availability of groundwater depends largely on surface and subsurface geology, geomorphology, natural drainage pattern, depth of weathering and the fractures present. Actual annual rainfall, groundwater extraction from other sources in the surrounding area is also the factor which controls and affects the availability of groundwater.

Observations - At the time of survey 1 Dugwell was observed with 7.5 hp pump at the North of applicant's gat number (710,738,805). The existing dug well is perennial in nature. Groundwater which is obtained from the existing dug well is used for drinking and domestic purposes and can meet the water requirement which is 2,10,000 lt/day for drinking and domestic demand of the in Gat no 710,738,805.

Sr. no	Source	Location Sr.no/Gat.no	Dimensions		SWL (summer)	Pump	Water availability
			Depth	Dia			
1	Dug well	North of Gat no. 710,738,805	4.00 mt	9.00 mt	2.00 mt(R)	7.5Hp	Around 2,10,000Lt/day

Recommendations -

1. As the category of the area as per the groundwater assessment 2022-23 is Semi Critical, and the available water should be strictly used for drinking and domestic purposes.
2. The groundwater quality should be analyzed twice in a year (pre and post monsoon) by the applicant from the water testing laboratory at his own cost. Also, water quality to be maintained hence RO is recommended.
3. The dug well when silted should be desilted as and when required.
4. To have sustainable groundwater, groundwater recharge from rainwater harvesting to the existing sources should be implanted so that groundwater will be available perennially.
5. The topographical, hydrogeological conditions and rainfall play an important role in fulfilling the requirement of drinking, domestic and irrigation use. In view of sustainable groundwater for the drinking and domestic purpose the groundwater recharge through surface runoff and rainwater harvesting measures in a quantity equal to the extraction of groundwater from the existing sources is mandatory to the applicant.
6. In view of sufficient water requirements for drinking, domestic and irrigation use, it is strongly recommended that a minimum of 70% of the extracted ground water must be recycled and reused for further usage.
7. The rainwater harvesting structures should be implemented under the technical guidance of this office (GSDA Pune)
8. During the Scarcity period the Scarcity Rule of Maharashtra Groundwater (Development and Management) Act 2009 are mandatory to the applicant.

Surveyed by

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