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Office of Senior Geologist
Groundwater Surveys and Development Agency, GoM
Bhujal Bhavan, K B Joshi Marg, Shivajinagar, Pune 05
Email- sgpune23@gmail.com

O.No/SGPune/GSDA/Tech/LGW/171/2024

Dated 20/08/2024

To.

Bhujangrao Ogale,
Village Wakhari, Taluka Daund,
District Pune

Subject- Regarding Hydrogeological Survey at Gat no.18 of Village Wakhari, Taluka Daund,
District Pune

Reference- 1. Your Letter dated 14/08/2024
2. Hydrogeological Survey Challan dated 14/08/2024

With reference to the above subject hydrogeological survey was carried out at Gat no.18 of Village Wakhari, Taluka Daund, District Pune. At the time of hydrogeological survey Shri. Divekar was present.

The details of Proposed site are as follows:

Name Of Village	Wakhari
Co-Ordinates	18°27'54.3" N and 74°21'11.2" E
Elevation	577 m
Toposheet & Morpho Unit	47 J/7
Watershed No.	BM 50
Category	Semi-Critical (As per Groundwater Assessment 2022-23)
Rock Type	Basalt
Aquifer (Water Bearing Zone)	Shallow Aquifer (Jointed / Fractured Basalt)

Location

The site location of village Wakhari is located in the East Direction of Pune City at a distance of 52 km. The area under study i.e., said Gat no.18 is located Northeast direction of Village Wakhari at around distance of 0.80 km.

Geomorphology- The topography is plateau in canal command area. A gentle to medium slope is in the south direction.

Geology- The area of village Wakhari consists of different layers of Basalt and the thickness varies from 8.00 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 – 1.50 mt
	Highly to moderately weathered basalt	1.50 – 6.00 mt
	Greyish black colored, fine to medium grained jointed fractured basalt	6.00 – 12.00 mt
	Greyish black colored, fine to medium grained partly jointed fractured massive basalt	12.00 mt and below

Hydrogeological Conditions – At the surveyed area the soil thickness ranges from 0.00 to 1.50 mt the weathered basalt thickness varies from 1.50 to 6.00 mt, jointed and fractured basalt from 6.00 to 12.00 mt and partly fractured and jointed basalt below 12.00. An entire area of the studied Gat no.18 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 12.00 mt bgl under unconfined conditions. The water bearing strata at deeper depths exists under semi confined to confined conditions. 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 at the applicant's Gat no.18. The dugwell is perennial in nature. The groundwater which is obtained from the existing dugwell can be used for domestic and drinking purposes and is 2,07,000 lt/day

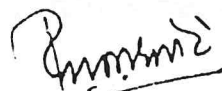
Sr. no	Source	Location Sr.no/Gat.no	Dimensions		SWL (summer) (R)	Pump	Water availability
			Depth	Dia			
1.	Dugwell	Gat no.18	12.70 m	15.00 m	2.00 mt	5 Hp	Around 2,07,000 lt/day

Recommendations -

1. The category of the area as per the groundwater assessment 2022-23 is Semicritical, 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.
3. To have sustainable groundwater, groundwater recharge from rainwater harvesting to the existing sources should be implanted so that groundwater will be available perennially.
4. The topographical, hydrogeological conditions and rainfall play an important role in fulfilling the requirement of drinking, domestic 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.
5. 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.
6. The rainwater harvesting structures should be implemented under the technical guidance of this office (GSDA Pune)
7. During the Scarcity period the Scarcity Rule of Maharashtra Groundwater (Development and Management) Act 2009 are mandatory to the applicant.

Surveyed by

 Sujata R Sawale
 Assistant Geologist


 (Dwakar Dhote)
 Senior Geologist
 Groundwater Surveys and Development Agency,
 Pune