

### **Ground Water Survey Report**

**Introduction:** On the receipt of request from Sri Rajeev Kumar and Smt Neelam Kumari, Dhanbad on the plot no (CS) old plot no 2082, New plot no 2553, Plot no (MSP) old plot no 2082, New plot no 2553, under Khata No old 41, New Khata no 07 and Holding no 0230003106000M0; village Kolakusma in Dhanbad Municipal Corporation, District Dhanbad, Jharkhand for selection of deep bore well sinking point, one geo-electrical resistivity survey using Schlumberger array has conducted at a point. The location of the vertical electrical sounding has shown in Figure-1. Geo electrical survey has carried out on 07/06/2019.

**Geology of the area:** The topography of the area is even. The formation in the area is the hard & compact metamorphic rock. In such an area, it is the degree and extent of weathering of rocks, joints and fracture patterns, soil covers, control porosity & permeability of rocks, which constitutes the main source of ground water. The groundwater occurs under unconfirmed condition in the weathered and fractured zones at shallow to greater depths.

**Methodology:** A reconnaissance survey, following dowsing method (Geo-divining technique) has made and accordingly geo electrical resistivity survey work has planned as per the topography of the area. One vertical electrical sounding (VES) in the proposed site have carried out by using SSR-MP-ATS instrument. Schlumberger configuration has been used with maximum electrodes spacing between the centre of the electrode configuration and outer most current electrode (AB/2) equal to 300 meters.

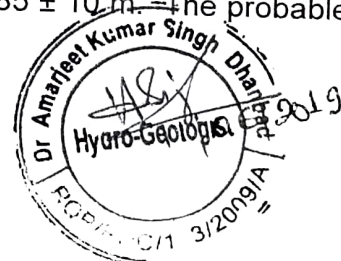
**Results & data interpretations:** The measured apparent resistivity in this site is ranges from 24 - ohm m to 753 ohm m in VES-1. The analysis of the geo electrical sounding data indicates the presence of three geo- hydrological layers, which are important for ground water exploration in this surveyed point. The calculated resistivity of this zone ranges from 49 -ohm m to 1625 -ohm m in VES-1 at various depths. The topsoil consisting of loose material has a thickness of approximately 22 to 25 m. The expected fracture and weathered water saturated zones has interpreted at depths from 26 m to 28 m, 45 m to 47 m & 149 m to 151 m depth and after 160 m depth, a semi-weathered layer has also been expected in this site.

**Recommendation:** On the basis of the available local geological information, topography of the area and the interpreted results from analysis of resistivity sounding data, VES-1 is recommended for deep tube well up to depth  $185 \pm 10$  m. The probable discharge of the tube well will be more than 3 inches.

Aarya Developers and Builders

*Suman Kumar*

Partner



**Dr. Amarjeet Kumar Singh** Ph.D

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Ref: Hydrogeo/AKS/Dhan/June-k/623

Date 11/06/2019

### **Drilling Report**

1. Bore well No.- : BW -1
2. Location of Tube well : See figure no -1
3. Site Address : Sri Rajeev Kumar and Smt Neelam Kumari, Dhanbad on the plot no (CS) old plot no 2082, New plot no 2553, Plot no (MSP) old plot no 2082, New plot no 2553, under Khata No old 41, New Khata no 07 and Holding no 0230003106000M0; village Kolakusma in Dhanbad Municipal Corporation, District Dhanbad, Jharkhand
4. Driller s Name : M/s Shri Balajee Rig Services, Dhanbad
5. Drilling depth(R) : 615 feet VES-1
6. Diameter of Boring : 6 inches diameter
7. Yield of Boring : 7600 liter /hour discharge (approx). VES-1  
At present the yield of bore well are sufficient for the requirement of habitants.
8. Aquifer Status : Aquifers are unconfirmed in nature.
9. Recorded by : Dr. Amarjeet Kumar Singh, Ph D (Hydrogeology)
10. Remarks : It has no any adversed impact on the surrounding water Resources i.e., dug well and bore well due to lack of Hydraulic connectivity and different fracture sets.

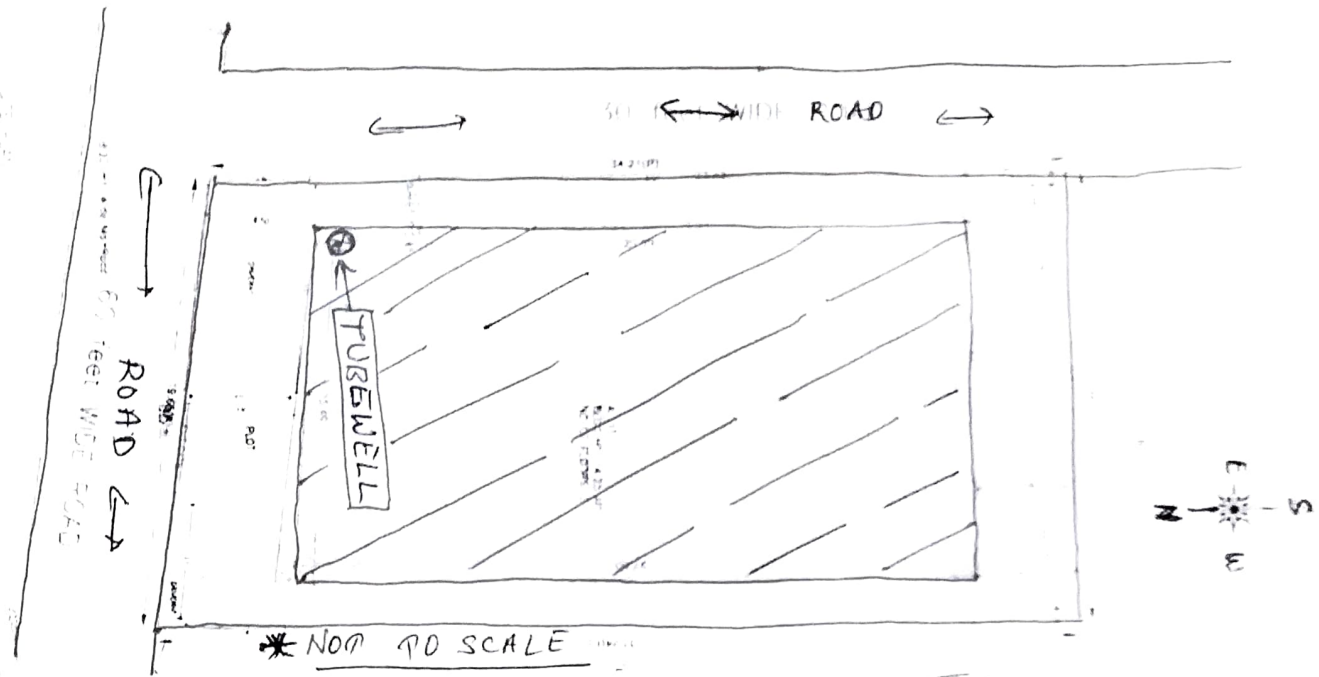
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Partner



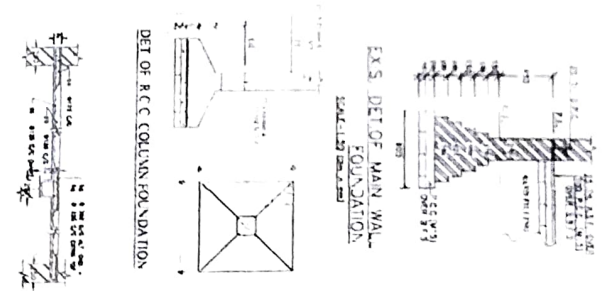
Ref: - Hydrogeology/AKS/Chan/Juneek/623; dated 11/06/2019



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This is system generated map. No need to physically sign.

Fig. → 1. LOCATION MAP OF TUBEWELL