

Proposed Bill of Quantity for Borehole drilling and Equipping - Wau County (Mboro , Ngodakala and Hai Calvario)

The quantities stated against each item of the Bill of Quantities (BOQ) are the estimated quantities and are therefore provisional. The contractor shall be paid for **actual quantities used**.

S/N	Description	Unit	Qty	Unit price USD	Amount USD
1. Preliminary and general					
1.1	Mobilization of personnel, equipment and materials	Lumpsum	1		
1.2	Geo physical survey Perform VES ground water survey and determine most potential and appropriate location for high yield borehole. The survey must be conducted by an experienced Hydrogeologist consultant /expert. Including preparation and submission of hydrogeological report	Borehole	3		
Subtotal 1. Preliminary and general					
2. Borehole drilling					
2.1	Drilling to a maximal depth of 85m Note: Depth depending on geophysical survey (most boreholes in the area are 70m deep and the water intake is at around 15 to 25m depth)	Metres	255		
2.2	Sampling and storage of drill cuttings at 2m intervals or as instructed by Engineer for each of the three boreholes to be done separately	Borehole	3		
2.3	Supply and installation of UPVC blank casing (5"ND) 3m long x 170mm (5") external diameter with a minimum thickness of 3mm including end cap (average of 50m minus the length of the screen)	Pieces	68		
2.4	Supply and installation of UPVC screen casing (5"ND) 3m long x 170mm (5") external diameter with a minimum thickness of 3mm (average of 18m Screen per BH)	Pieces	18		

S/N	Description	Unit	Qty	Unit price USD	Amount USD
2.5	Supply and installation of gravel pack with uniform grading between 2.5 and 4.0 mm diameter from clean river gravel (6m3 per BH)	m3	18		
2.6	Well developed during a minimum of 6 hours until a stabilized satisfactory yield is reached and the turbidity is less than 5 NTU clear water according to technical specifications	hrs	18		
2.7	Supply and installation of cement grouting of 1.5m diameter and 2m depth below the ground level, with all required activities, around the casing to act as sanitary seal (1.5m3 per BH)	m3	4.5		
Subtotal 2. Borehole drilling					
3. Test pumping					
3.1	Perform a minimum of 4 to 6 hours constant rate test and recovery data are to be reported on standard borehole log. At least a yield with minimum of 4,500 ltrs/h is realized as per installation	Borehole	3		
Subtotal 3. Test pumping					
4. Water quality analysis					
4.1	Water sampling, physical test, bacteriological and chemical test analysis, Original copies of results of the Water quality testing, showing date of sampling and date of analysis must be availed by contractor prior to payment for drilled borehole. The analysis to be checked against GOSS and WHO standards, and levels to be permissible before further construction.	Borehole	3		
4.2	Clean and disinfect the borehole with chlorine solution of 50mg free chlorine per liter with all required related activities.	Borehole	3		
Subtotal 4. Water quality analysis					
5. Hand pump installation					

S/N	Description	Unit	Qty	Unit price USD	Amount USD
5.1	Supply and installation of complete Indian Mark II pump including; pedestral, water tank, pump head assembly, rising main, connecting rods, cylinder etc (Installation of rising main according to water level + pump test results, average of 15 pipes)	Complete kit	3		
Subtotal 5. Hand pump installation					
6. Head work					
6.1	Reinforced Concrete construction of apron (diameter 2m wide , raised 40cm to allow proper drainage) and installation of the hand pump pedestal & third plate, to cover the borehole. Construction of a drainage channel (minimu of 6m long). Keep moist for at least 72 hours. The apron should contain a sloping ramp (1:2) to aid physically challenged persons to access the borehole	Concrete apron	4		
6.2	Excavation, construction and installation of soak away pit (2m deep) filled up with stones or animal trough (as advised)	Soak away pit	3		
6.3	Cleaning the working site and removing all of the unnecessary items and foreign materials, disposing it off	Site	3		
Subtotal 6. Head work					
TOTAL					
<p>Note: Grand total should include for all costs associated with the drilling works including but not limited to company overhead, labor, materials, transport and 10% withholding tax on services. Contractors are advised to familiarize themselves with the site location in order that they may know the cost of transport.</p>					