Drilling & Exploration Company Ltd
We route up to the natural resource...

63, Wilkinson Road, Freetown
SIERRA LEONE

Cell: +232-79669999
Landline: +232-22239999
Email: contact@babadrill.com

Website: www.babadrill.com

BOREHOLE COMPLETION REPORT

CROSSING VILLAGE

SUBMITTED TO:

OXFAM

TABLE OF CONTENT

1.0: INTRODUCTION

BABA Drilling and Exploration Company Limited was contracted by OXFAM to drill a borehole and develop groundwater for use.
This report therefore documents the activities carried out and information obtained during the exercise.

2.0 FIELD WORK

2.1 METHODOLOGY

The methodology adopted in carrying out the drilling includes:

i. **Mobilization**
ii. **Borehole Drilling**
This includes:
- Drilling through all sort of formation (consolidated and competent) for completion of borehole using mud fluid.
- Supply and installation of casings (plains and screens)
- Gravel packing
- Development of borehole by surging with compressed air and airlifting test

Drilling was done at the best position within the project area; considering all other factors. The delivery rate (yield) estimated from borehole development by surging with compressed air is $5m^3$/hr. This however certified the borehole as successful after completion.

iii. **Demobilization**

3.0 BOREHOLE LOG SHEET

CONTRACTOR	BABA DRILLING & EXPLORATION COMPANY	**CLIENT**	OXFAM
LOCATION	CROSSING VILLAGE	**DEPTH OF HOLE**	60m
		START DATE	28th September, 2016
BORE-HOLE REFERENCE NO.	One (1)	**COMPLETION DATE**	1st October, 2016
DEPTH STRUCK WATER	18m, 44m -60m	**DRILLING METHOD**	Mud Drilling

DRILLING DEPTH (m)		DRILLING PROCESS			SAMPLE DSECRIPTION	
DEPTH (m)	**INTERVAL**	FROM	TO	PENETRATION RATE (m/min)	SAMPLES	DRILLING DIAMETER/CHANGE OF BIT (inches)
0 - 4.6	4.6	16:00	16:20	0.23	Reddish brown Clayey sand	10”
4.6 - 9.2	4.6	16:25	16:47	0.21		
9.2 - 13.8	4.6	11:23	11:45	0.21		
13.8 - 18.4	4.6	11:50	12:13	0.20		
18.4 - 23	4.6	12:21	12:42	0.22	Black mud clay	
23 - 27.6	4.6	12:48	13:07	0.24		
27.6 - 32.2	4.6	13:15	13:56	0.11		
32.2 - 36.8	4.6	15:35	16:17	0.11		
36.8 - 41.4	4.6	16:23	17:01	0.12	White sand	
41.4 - 46	4.6	10:02	10:32	0.15		
46 - 50.6	4.6	10:35	11:03	0.14		
50.6 - 55.2	4.6	11:06	11:37	0.15		
55.2- 60	4.6	11:40	12:10	0.15		

First Water Strike: **18m**
Second Water Strike: **44m**

4.0 INSTALLATION OF CASINGS AND BOREHOLE COMPLETION

Casing Material : Poly - Vinyl Chloride (PVC)			
Casing Diameter			6 inches
INSTALLATION			
SCREENS& PLAINSCASINGS			
	From (m)	To (m)	See Borehole Diagram Below
Plain Casings	0	18	
Screens	18	21	
Plain	21	27	
Screen	27	33	
Plain	33	42	
Screen	42	45	
Plain	45	48	
Screen	48	54	
Plain + Bottom Plug	54	60	

Lower Grouting: Cement; **13m**

5.0: BOREHOLE DEVELOPMENT RECORD

COMMUNITY: **Crossing Village**

BOREHOLE REF. No: **One (1)**

DEPTH: 6**0m**

DATE: **01/10/2016**

TOTAL TIME OF DEVELOPMENT: **2hrs**.

STATIC WATER LEVEL: **20m**

TIME		YEILD (m^3/hr.)	OBSERVATION
From	To		
10:15	10: 45	$5m^3$/hr	Muddy water flushed out
10:45	11:45		Cloudy water flushed out
11:45	12:15		Clean water flushed out

NOTE: Estimated yield during development:

YIELD : (Liter / hour)

$$Y = \frac{\text{Liter x 3,600}}{\text{time}}$$

$$Y = \frac{21x3,600}{15}$$

$$Y = \frac{75,600}{15}$$

Y = 5,040L/hr.

6.0:CONCLUSIONS AND RECOMMENDATIONS

- Based on the estimated yield from the development and other tests conducted, the borehole is certified as successful and sustainable.
- The pump should be installed at a depth of 46m.
- A minimum of one day constant discharge pumping must be carried out to purely clean the water and determine the sustainability of the borehole.

PREPARED BY:

Morlai Kanu
Supervising Geologist
BABA Drilling and Exploration Company Limited.
Cell No.: +232 76950032