

EDAL DRILLING COMPANY LIMITED



**BOREHOLE DRILLING REPORT AT NASSIT COMMERCIAL SITE, MAKENI
GEOPHYSICS. REF. NO. A45/S1**



OCTOBER, 2010

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Borehole Drilling Log

DAILY LOG FOR DRILLING SUPERVISION

CONTRACT			WELL NO.:		DATE	11/10/2010	
LOCATION/CODE					CONTRACTOR	EDAL DRILLING COMPANY LIMITED	
TIME	START OF	END OF			WEATHER	RAINY/ CLOUDY /SUNNY	
	WORKING HR	WORKING HR			DURATION OF RAIN		
DATE	11/10/2010	12/10/2010			COMMUNITY	NASSIT COMM. SITE, MAKAMA, MAKENI	
DEPTH OF HOLE(m)			60		GEOPHYSICS		
DEPTH CASED (m)			18		REF. POINT	A45/S1	

LITHOLOGICAL BOUNDARIES AND SAMPLES OF FORMATION						YIELD	REMARKS (Drilling Methods Including Change of Bit)
DEPTH OF CONTACT ZONE		DRILLING PROCESS			DESCRIPTION OF FORMATION		
DEPTH	SAMPLE	FROM	TO	SPEED (M/MIN)			
0	5	14:04	14:08	2.5	(0 - 15)m Red-brown completely weathered rock		(0 - 18)m Air Drilling With 10" DTH
5	10	14:10	14:13	2.5	"	h20	"
10	15	2:16	14:21	2.5	"	"	"
15	20	14:25	14:27	2.5	(15 - 30)m Gray moderately weathered rock	h20	"
20	25	14:30	14:35	2.5	"		(18 - 60)m Air Drilling with 7" DTH
25	30	14:39	14:43	1.667	"		(27 - 55)m Air Drilling with 6.5" DTH
30	35	9:45	10:01	1.667	(30 - 45)m Ash-gray slightly weathered rock		"
35	40	10:09	10:25	1.667	"	150l/m	"
40	45	10:29	10:44	1.667	(45 - 55)m Ash-gray fresh rock	180l/m	"
45	50	10:46	11:05	1.25	"	180l/m	"
50	55	11:09	11:37	1.25	"	180l/m	"
55	60	11:38	12:06		"	180l/m	"
Ph Static Water Level:					AQUIFER ZONE(S):		

Borehole Drilling Report

Borehole Drilling Record

Geophysics ref. No. A45 SI		Makema Makema		BH ref. No.	PRD	Method	AIR	BH status: Successful
Contractor		EDAL		Drilling date	12 10 2010	Operator		
Drilling start date		11 10 2010		Completion date	14 10 2010	Top of screen *		m
TEST PUMPING		Date		Pedrollo		Static WL *		m
Dynamic WL *		m		Pump type	2	Potential drawdown		m ³ h
Static WL *		s		Pumping rate (Q)	6	Potential yield		m ³ h
Drawdown (s)		m		Duration		Depth of borehole *	60	m
* Levels to ground level datum		Specific capacity (Q s)						m ³ h
BIT SIZE & TYPE		PROFILE		TIME DEPTH MIN	WATER ZONES CUMULATIVE Q (l/min)	WELL DIAGRAM with STATIC AND DYNAMIC WATER LEVELS		
10" Super DTH		Red-brown completely weathered material				Sanitary Seal 8" Solid uPVC Casing Back fill Cement grout 6" Solid uPVC insertion 6" Slotted uPVC insertion Filter Gravel pack Bottom Plug Seal		
7" Super DTH		Gray moderately weathered rock						
		Ash-gray Slightly weathered rock						
		Ash-gray fresh rock						

EDAL DRILLING COMPANY LIMITED

BOREHOLE DEVELOPMENT FORM

PROJECT: Private

Date: 12th October, 2010

Community: NASSIT Comm. Site, Makeni

Geophysics Ref. No. A45/S1

Depth (m): 60

Static Water Level (m): _____

Tot time of Developmt: 2Hrs20m

Time		Position of pipe BGL (m)	Yield (l/m)	Pressure (bar)	Observations
From	To				
14 : 00	14 : 30	59	180	220	Very dirty water with sediments flushed out
14:30	15:05	57	180	220	Clean water flushed out
15 : 05	16 : 20	55	180	220	Clean and clear water flushed out

AQUIFER DATA SHEET

District:

Bombali

Date: 14/10/2010

Community:

**NASSIT
Commercial Site,
Makama-Makeni**

Tested by: EDAL

Geophys. Ref. No. A45/S1

Borehole No.

Height of datum above ground level (m): 0.63

Static level below datum (m): 5.70

Borehole depth (m): 60

Pump setting (m): 40

DISCHARGE

RECOVERY

Time (hr)	Time (min)	Water level Below datum (m)	Draw down (m)	Discharge rate (ltr/s)	Observation	Time (hr)	Water level Below datum	Draw down (m)
	0	5.70	0	2.0	Cloudy water pump out		24.90	19.20
	1	15.58	9.88		"		21.68	16.98
	2	19.75	14.05		"		18.51	12.81
	3	21.89	16.19		"		16.20	10.50
	4	23.33	17.63	1.79	"		15.03	9.33
	5	23.35	17.65		"		14.22	8.52
	6	23.36	17.66		"		13.75	8.05
	7	23.38	17.68	1.63	"		12.59	6.89
	8	23.40	17.70		Clear and clean water pump out		10.91	5.21
	9	23.42	17.72		"		9.77	4.07
	10	23.44	17.74		"		8.40	2.70
	12	23.45	17.75		"		8.33	2.63
	14	23.46	17.76		"		8.06	2.36
	15	23.46	17.76		"		8.01	2.31
	20	23.47	17.77	1.48	"		7.96	2.26
	25	23.48	17.78		"		7.88	2.18
	30	23.48	17.78		"		7.80	2.10
	35	23.49	17.79	1.44	"		7.72	2.02
	40	23.49	17.79		"		7.69	1.99

	45	23.51	17.81				7.54	1.84
	50	23.52	17.82				7.50	1.80
Time (hr)	Time (min)	Water level Below datum (m)	Draw down(m)	Discharge rate (l/s)	Observation	Time (hr)	Water level Below datum	Draw down (m)
	60	23.58	17.88	1.53	Clear and clean water pump out		7.43	1.73
	70	23.73	18.03		"		7.36	1.68
	80	23.86	18.16		"		7.27	1.75
	90	23.98	18.28	1.49	"		7.20	1.50
	105	24.45	18.75		"		7.11	1.41
	120	24.78	19.08		"		7.06	1.36
	150	24.80	19.1		"		6.94	1.24
	180	24.81	19.11	1.49	"		6.90	1.20
	210	24.82	19.12		"		6.71	1.01
	240	24.85	19.15		"			
	270	24.87	19.17		"			
	300	24.89	19.19	1.46	"			
	330	24.89	19.19		"			
	360	24.90	19.20		"			
	390	24.92	19.22		"			
	420	24.91	19.21		"			
	450	24.91	19.21	1.46	"			
	480	24.92	19.22		"			
	510	24.93	19.23		"			
	540	24.93	19.23	1.46	"			
	570	23.92	19.22		"			
	600	24.92	19.22		"			
	630	24.91	19.21		"			
	660	24.92	19.22	1.47	"			
	690	24.91	19.21		"			
	720	24.91	19.21		"			
	750	24.90	19.20	1.48	"			
	780	24.91	19.21		"			
	810	24.91	19.21		"			
	840	24.92	19.22	1.49	"			
	870	24.92	19.22		"			
	900	24.91	19.21		"			
	960	24.91	19.21	1.46	"			
	990	24.90	19.20		"			
	1020	24.90	19.20		"			
	1050	24.90	19.20		"			
	1080	24.91	19.21		"			
	1110	24.90	19.20	1.47	"			
	1140							

Total Time of Discharge= 18hrs

Total Time of Recovery=3.5hrs

RECOMMENDATION

After 10 hours pumping, observations of the draw down shows stabilization if pumping at the flow rate of 1.87l /s, with a depth of 60m and water level at 28.90. Therefore, this borehole has a good yield with good recovery rate as well.

We also recommend that rehabilitation (De-watering and Test Pumping) be done on this well after every one and half years of usage to ensure good yielding as well as clean and pure / fresh aquifer