

添付資料 7. 5) 試掘結果

1. Summary

Test drilling of boreholes were conducted at the villages of Lopati, Amosi, Chimbalinga, Hiwa and Lumbe from May 4 to May 21, 2010. The results of test drilling are summarized in the Table 1.

Table 1 Results of Test Drilling

No	Date	Village	Result	Remarks
1	May 4	Mwanza, Lopati	Dry	Drilled up to -50m. Hard rock was found below -34m. No aquifers were found.
2	May 5 and 6	Mwanza, Amosi	Production well	Drilled up to -68m. Hard rock was found below -63m. Static water level is -19m.
3	May 13 and 14	Neno Chimbalinga 1B	Wet but non-productive	Drilled up to -78m. Hard rock was found below -60m. Static water level is -28m. The permeability of the material was very low and the well was declared non-productive.
4	May 15	Neno, Hiwa	Dry	Drilled up to -72m. Hard rock was found below -50m. No aquifers were found.
5	May 21	Neno, Lumbe	Wet but non-productive	Drilled up to -80m. Hard rock was found below -40m. Static water level is -33.8m. The permeability of the material was very low and the well was declared non-productive.

The results of test drilling are one productive well at Amosi village, two wet but non-productive wells at Chimbalinga and Lumbe villages and two dry wells at Lopati and Hiwa villages. The four step drawdown pumping tests were conducted for the productive well at Amosi village, Mwanza. Based on the results of these pumping tests constant drawdown test was carried out at the pumping rate of 0.34 l/sec for 24 hours.

Table 2 Results of step drawdown test at Amosi village

	Step 1	Step 2	Step 3	Step4
Pumping Rate Q(l/sec)	0.23	0.31	0.42	0.5
Drawdown(m)	5.00	9.75	12.30	26.00

Borehole construction report and borehole logs are shown in section 2 and pumping test results are shown in section 3. The field data for penetration rate and pumping test are attached in appendix.

2.1 LOPATI VILLAGE

District	<u>MWANZA</u>	Client	<u>CTI INTERNATIONAL</u>
T.A	<u>KAMDUKA</u>	Address	<u>KOTO - KU, TOKYO, JAPAN</u>
Locality	<u>LOPATI VILLAGE</u>	Driller	<u>V. MWANGOMBA</u> Rig Name <u>SELECT RIG</u>
Vehicle No.	<u>SA 3260</u> Kms on hole	Drilling Started	<u>5/04/2010</u>
Moved from	<u>CAMP</u> Distance <u>0</u> Kms	Drilling Finished	<u></u>
Moved to	<u>SITE</u> Distance <u>36</u> Kms	Construction completed	<u></u>

1. Daily Record						
Date	Hours Drilled	From (m)	To (m)	Other works (hrs)	W.L. at start (m)	Remarks
05/04/2010	2 ¹ / ₂	0	51	1		RIG SETTING
				1 ¹ / ₂		TAKING IN AND OUT OF DRILLING RODS

2. Details for Costing and Charging	
<p>A. DRILLING DETAILS</p> <p><u>150</u> mm, from <u>0</u> m, to <u>51 M</u></p> <p><u></u> mm, from <u></u> m, to <u></u></p> <p><u></u> mm, from <u></u> m, to <u></u></p> <p>No. of bailer test <u>AIR</u></p> <p>Hours cleaning and developing <u>-</u></p> <p>Hours test pumping <u>-</u></p> <p>Hours recovery measurement <u>-</u></p>	<p>B. CONSTRUCTION MATERIALS USED</p> <p>(i) Plain casing <u>-</u> mm, <u>-</u> m</p> <p>(ii) Slotted casing <u>-</u> mm, <u>-</u> m</p> <p>(iii) Bottom cap <u>-</u></p> <p>(iv) Centralizers <u>-</u></p> <p>(v) Solvent Cement <u>-</u> tin</p> <p>(vi) Cleaning fluid <u>-</u> tin</p> <p>(vii) Cement <u>-</u> Bag</p> <p>(viii) Pump head <u>-</u> m</p> <p>(ix) Rising main <u>-</u> m</p> <p>(x) Pump rods <u>-</u> m</p> <p>(xi) Gravel Pack <u>-</u></p>
<p>Signed By <u></u></p> <p>for Client</p>	<p>Signed by <u></u></p> <p>for Chitsime Drilling Co.</p>

FIELD BOREHOLE LOG			BOREHOLE NUMBER		LD 4-8		
THE PROJECT FOR DEVELOPMENT OF GROUND WATER IN LILONGWE - DEDZA (2/2)							
VILLAGE NAME			Lapati Village		SCREEN DEPTH		0.00 m ~ 0.00 m
DRILLING DATE			05/04/10				m ~ m
DRILLING DEPTH			51.00 m				m ~ m
WELL DEPTH			51.00 m		STATIC WATER LEVEL		0.00 m
PUMP DEPTH			m		DRAWDOWN WATER LEVE		0.00 m
RIG No.			0		DISCHARGE Q't y		0.00 l/min
H.D.P.	LITHOLOGY		WELL STRUCTURE		GEOPHYSICAL LOGGING		
	SYMBOL	DESCRIPTION	Drilling Dia 10-5/8" 8-1/2" 6-3/4"		SP _____ Gamma - - - - - (1000mV) (ohm. m) (cps)	Long Normal Short Normal - - - - - 0 100 200 300 400 0 4 8 12 16	
GL							
0m							
10m							
20m							
30m							
40m							
50m							
60m							
70m							
80m							

2.2 Amosi Village

District	MWANZA	Client	CTI INTERNATIONAL
T.A	KANDUKA	Address	KOTO - KU, TOKYO, JAPAN
Locality	AMOSI VILLAGE	Driller	V. MWANGOMBA RIG Name SELECT RIG
Vehicle No.	SA 3260 Kms on hole	Drilling Started	5/05/2010
Moved from	CAMP Distance 0 Kms	Drilling Finished	6/05/2010
Moved to	SITE Distance 60 Kms	Construction completed	

1. Daily Record						
Date	Hours Drilled	From (m)	To (m)	Other works (hrs)	W.L. at start (m)	Remarks
05/05/2010	21/2	0	48	1		RIG SETTING
				11/2		TAKING IN DRILLING ROD, INSTALL STEEL CASING
				1		INSERTING PVC
				1/2		PLACING GRAVEL PACKING
				8		CLEANING AND DEVELOPMENT
				32		PUMPING TEST

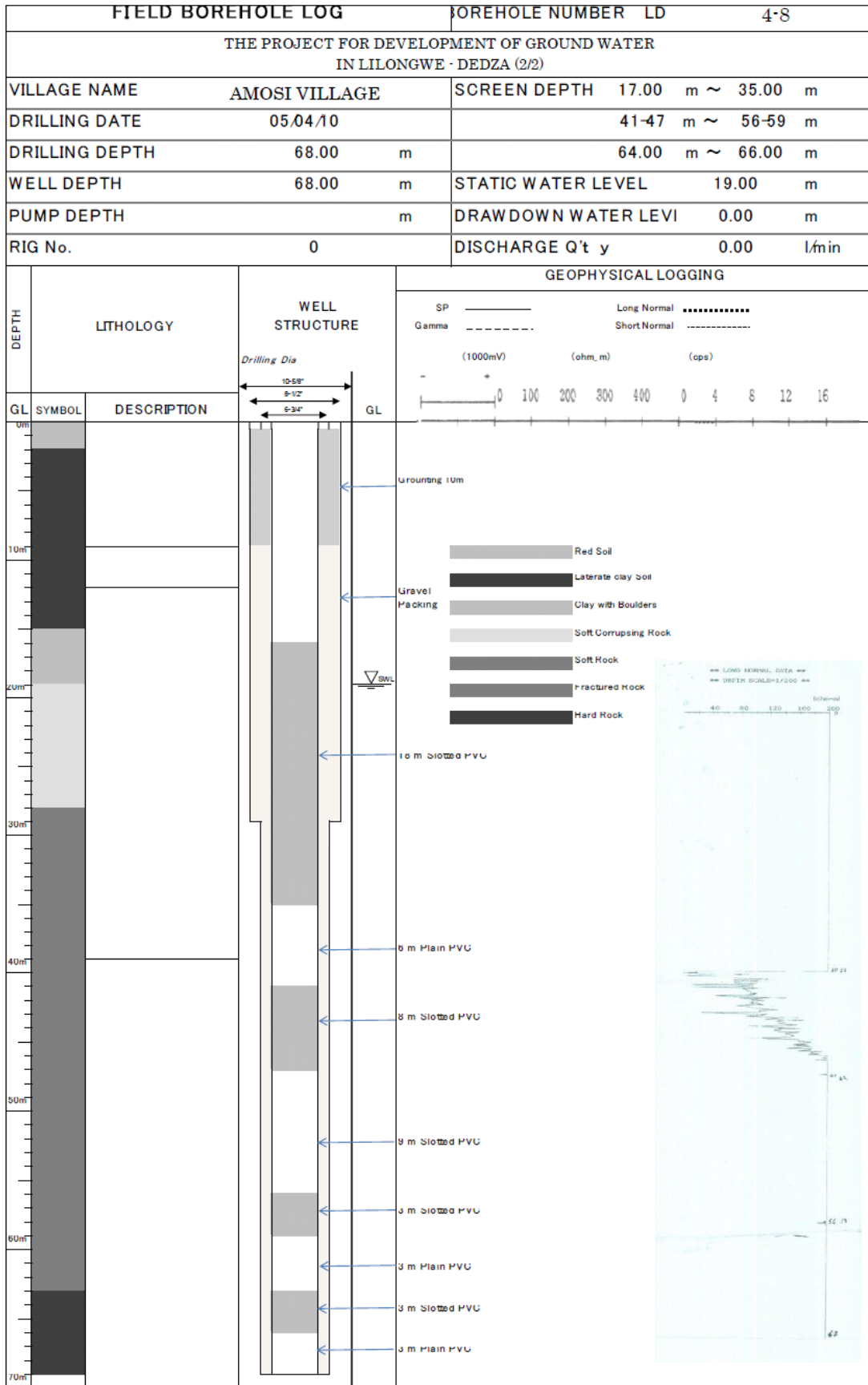
2. Details for Costing and Charging

A. DRILLING DETAILS			
200	mm, from	0	m, to 29 M
150	mm, from	29	m, to 68 M
	mm, from		m, to
No. of bailer test	AIR DRILLING		
Hours cleaning and developing	8 HOURS		
Hours test pumping	32 HOURS		
Hours recovery measurement	55 MINUTES		

B. CONSTRUCTION MATERIALS USED			
(i) Plain casing	110	mm,	39 m
(ii) Slotted casing	110	mm,	30 m
(iii) Bottom cap	2		
(iv) Centralizers	8		
(v) Solvent Cement	2		tin
(vi) Cleaning fluid	2		tin
(vii) Cement	3		Bag
(viii) Pump head			m
(ix) Rising main			m
(x) Pump rods			m
(xi) Gravel Pack	50 BAILS		

Signed By _____
for Client

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for Chitsime Drilling Co.



2.3 Chimbalanga Village

District	<u>NENO</u>	Client	<u>CTI INTERNATIONAL</u>
T.A	<u>DAMBE</u>	Address	<u>KOTO - KU, TOKYO, JAPAN</u>
Locality	<u>CHIMBALANGA VILLAGE</u>	Driller	<u>V. MWANGOMBA</u> Rig Name <u>SELECT RIG</u>
Vehicle No.	<u>SA 3260</u> Kms on hole _____	Drilling Started	<u>13/05/2010</u>
Moved from	<u>CAMP</u> Distance <u>0</u> Kms	Drilling Finishe	<u>14/05/2010</u>
Moved to	<u>SITE</u> Distance <u>128</u> Kms	Construction completed	_____

1. Daily Record						
Date	Hours Drilled	From (m)	To (m)	Other works (hrs)	W.L. at start (m)	Remarks
13/05/2010	2 ¹ / ₂	0	78	1		RIG SETTING
				1 ¹ / ₂		TAKING IN AND OUT OF DRILLING RODS
						AND INSTALLING STEEL CASING
14/05/2010	1/2					MEASURING AMOUNT OF WATER

2. Details for Costing and Charging

A. DRILLING DETAILS

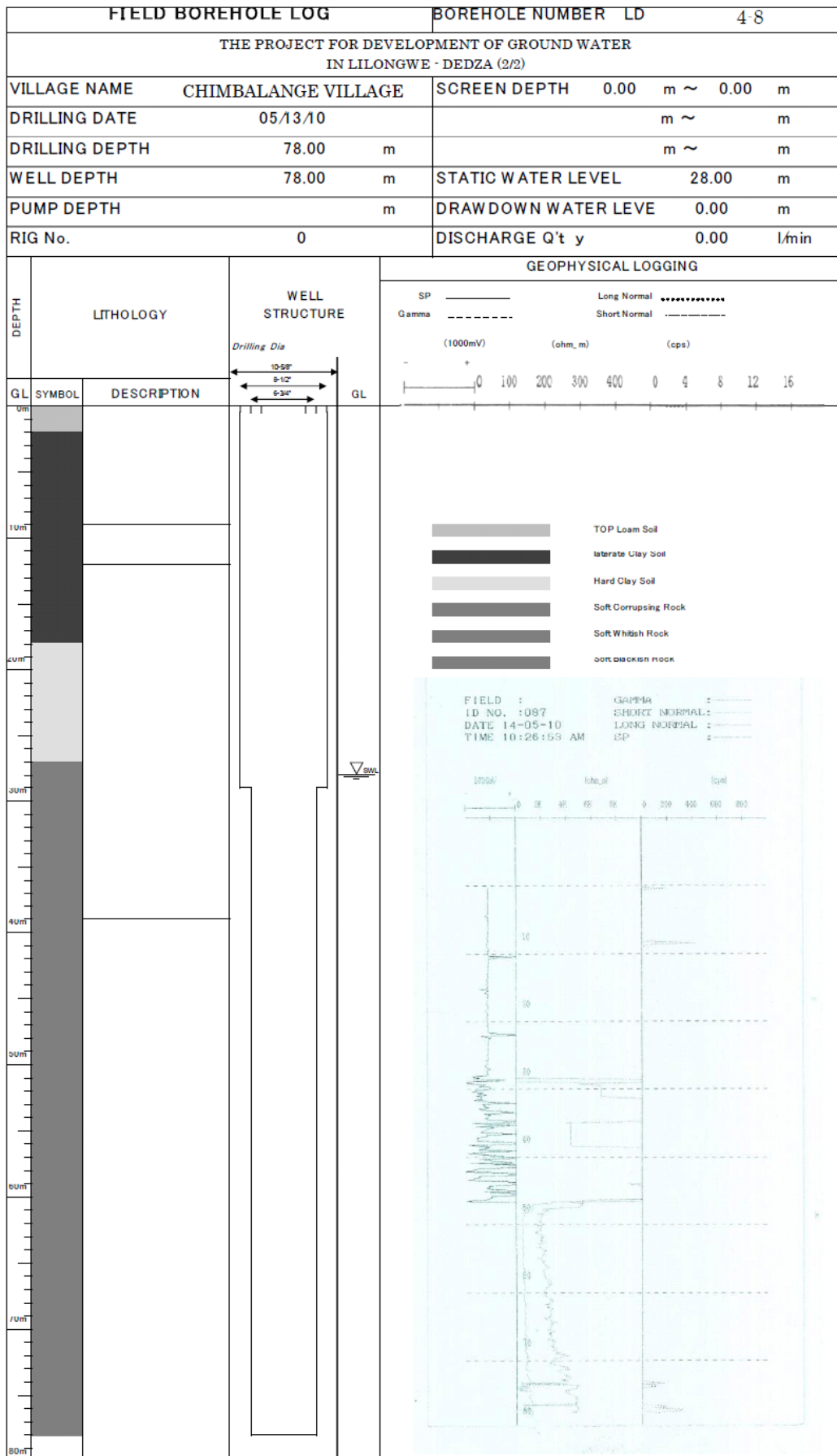
<u>200</u> mm, from <u>0</u> m, to <u>29 M</u>
<u>150</u> mm, from <u>29</u> m, to <u>78 M</u>
mm, from _____ m, to _____
No. of bailer test <u>AIR</u>
Hours cleaning and developing <u>-</u>
Hours test pumping <u>-</u>
Hours recovery measurement <u>-</u>

B. CONSTRUCTION MATERIALS USED

(i) Plain casing	<u>-</u> mm, <u>-</u> m
(ii) Slotted casing	<u>-</u> mm, <u>-</u> m
(iii) Bottom cap	<u>-</u>
(iv) Centralizers	<u>-</u>
(v) Solvent Cement	<u>-</u> tin
(vi) Cleaning fluid	<u>-</u> tin
(vii) Cement	<u>-</u> Bag
(viii) Pump head	<u>-</u> m
(ix) Rising main	<u>-</u> m
(x) Pump rods	<u>-</u> m
(xi) Gravel Pack	<u>-</u>

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2.4 Hiwa Village

District NENO Client CTI INTERNATIONAL
 T.A CHEKA-CHEKA Address KOTO - KU, TOKYO, JAPAN
 Locality HIWA VILLAGE Driller V. MWANGOMBA Rig Name SELECT RIG
 Vehicle No. SA 3260 Kms on hole _____ Drilling Started 15/05/2010
 Moved from CAMP Distance 0 Kms Drilling Finishe 15/05/2010
 Moved to SITE Distance 20 Kms Construction completed _____

1. Daily Record						
Date	Hours Drilled	From (m)	To (m)	Other works (hrs)	W.L. at start (m)	Remarks
13/05/2010	2	0	72	1		RIG SETTING
				1		TAKING IN AND OUT OF DRILLING RODS

2. Details for Costing and Charging

A. DRILLING DETAILS

200 mm, from 0 m, to 29 M
150 mm, from 29 m, to 78 M
 mm, from _____ m, to _____
 No. of bailer test AIR
 Hours cleaning and developing - _____
 Hours test pumping - _____
 Hours recovery measurement - _____

B. CONSTRUCTION MATERIALS USED

(i) Plain casing - _____ mm, - _____ m
 (ii) Slotted casing - _____ mm, - _____ m
 (iii) Bottom cap - _____
 (iv) Centralizers - _____
 (v) Solvent Cement - _____ tin
 (vi) Cleaning fluid - _____ tin
 (vii) Cement - _____ Bag
 (viii) Pump head - _____ m
 (ix) Rising main - _____ m
 (x) Pump rods - _____ m
 (xi) Gravel Pack - _____

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 for Client

Signed by _____
 for Chitsime Drilling Co.

FIELD BOREHOLE LOG		BOREHOLE NUMBER LD		4-8	
THE PROJECT FOR DEVELOPMENT OF GROUND WATER IN LILONGWE - DEDZA (2/2)					
VILLAGE NAME	HIWA VILLAGE		SCREEN DEPTH	0.00 m ~ 0.00 m	
DRILLING DATE	05/15/10			m ~ m	
DRILLING DEPTH	72.00	m		m ~ m	
WELL DEPTH	72.00	m	STATIC WATER LEVEL	0.00	m
PUMP DEPTH		m	DRAWDOWN WATER LEVE	0.00	m
RIG No.	0		DISCHARGE Q't y	0.00	l/min

		WELL STRUCTURE		GEOPHYSICAL LOGGING			
DEPTH	LITHOLOGY				SP _____	Long Normal	
	SYMBOL	DESCRIPTION	Drilling Dia	GL	Gamma - - - - -	Short Normal . - - - -	
			10-5/8"		(1000mV)	(ohm_m)	(cps)
GL			8-1/2"		0 100 200 300 400	0 4 8 12 16	
			6-3/4"				
0m							
10m							
20m							
30m							
40m							
50m							
60m							
70m							
80m							

	Top Red Soil
	Laterite Clay Soil
	Dry Fractured Rock
	Soft Rock
	Soft Granite Rock
	Hard Granite rock

2.5 Lumbe Village

District NENO Client CTI INTERNATIONAL
 T.A CHEKA-CHEKA Address KOTO - KU, TOKYO, JAPAN
 Locality LUMBE VILLAGE Driller V. MWANGOMBA Rig Name SELECT RIG
 Vehicle No. SA 3260 Kms on hole _____ Drilling Started 21/05/2010
 Moved from CAMP Distance 0 Kms Drilling Finishe 21/05/2010
 Moved to SITE Distance 122 Kms Construction completed _____

1. Daily Record

Date	Hours Drilled	From (m)	To (m)	Other works (hrs)	W.L. at start (m)	Remarks
21/05/2010	41/2	0	80	1		RIG SETTING
				3		TAKING IN AND OUT OF DRILLING RODS

2. Details for Costing and Charging

A. DRILLING DETAILS

200 mm, from 0 m, to 1 M
150 mm, from 1 m, to 80 M
 _____ mm, from _____ m, to _____
 No. of bailer test AIR
 Hours cleaning and developing - _____
 Hours test pumping - _____
 Hours recovery measurement - _____

B. CONSTRUCTION MATERIALS USED

(i) Plain casing - _____ mm, - _____ m
 (ii) Slotted casing - _____ mm, - _____ m
 (iii) Bottom cap - _____
 (iv) Centralizers - _____
 (v) Solvent Cement - _____ tin
 (vi) Cleaning fluid - _____ tin
 (vii) Cement - _____ Bag
 (viii) Pump head - _____ m
 (ix) Rising main - _____ m
 (x) Pump rods - _____ m
 (xi) Gravel Pack - _____

Signed By _____
 for Client

Signed by _____
 for Chitsime Drilling Co.

FIELD BOREHOLE LOG			BOREHOLE NUMBER LD		4-8	
THE PROJECT FOR DEVELOPMENT OF GROUND WATER IN LILONGWE - DEDZA (2/2)						
VILLAGE NAME		LUMBE Village		SCREEN DEPTH		0.00 m ~ 0.00 m
DRILLING DATE		05/15/10				m ~ m
DRILLING DEPTH		80.00 m				m ~ m
WELL DEPTH		80.00 m		STATIC WATER LEVEL		33.80 m
PUMP DEPTH		m		DRAWDOWN WATER LEVE		0.00 m
RIG No.		0		DISCHARGE Q't y		0.00 l/min
DEPTH	LITHOLOGY		WELL STRUCTURE		GEOPHYSICAL LOGGING	
	SYMBOL	DESCRIPTION	Drilling Dia 10-5/8" 8-1/2" 6-3/4" GL		SP _____ Gamma - - - - - (1000mV) (ohm, m) (cps) - + 0 100 200 300 400 0 4 8 12 16	Legend: [Light Gray] Loam Sandy Soil [Dark Gray] Very Soft Rock [Medium Gray] Dry Soft Rock [Light Gray] Fractured Rock [Dark Gray] Granite Rock
0m						
10m						
20m						
30m						
40m						
50m						
60m						
70m						
80m						

PENETRATION RATE AT LOPATI VILLAGE

Depth (m)	Time (sec)
0 - 1	58
1 - 2	50
2 - 3	39
3 - 4	18
4 - 5	16
5 - 6	26
6 - 7	23
7 - 8	19
8 - 9	19
9 - 10	18
10 - 11	19
11 - 12	31
12 - 13	28
13 - 14	28
14 - 15	27
15 - 16	24
16 - 17	20
17 - 18	30
18 - 19	39
19 - 20	27
20 - 21	27
21 - 22	29
22 - 23	30
23 - 24	39
24 - 25	24
25 - 26	28
26 - 27	38
27 - 28	28
28 - 29	26
29 - 30	28
30 - 31	16
31 - 32	18
32 - 33	23
33 - 34	22
34 - 35	21
35 - 36	30
36 - 37	26
37 - 38	25
38 - 39	27
39 - 40	31
40 - 41	32

Depth (m)	Time (sec)
41 - 42	37
42 - 43	34
43 - 44	38
44 - 45	39
45 - 46	38
46 - 47	41
47 - 48	40
48 - 49	42
49 - 50	43
50 - 51	43

PENETRATION RATE AT AMOSI VILLAGE

Depth(m)	Time(sec)
0 - 1	46
1 - 2	21
2 - 3	10
3 - 4	22
4 - 5	33
5 - 6	18
6 - 7	24
7 - 8	27
8 - 9	22
9 - 10	21
10 - 11	26
11 - 12	35
12 - 13	32
13 - 14	34
14 - 15	34
15 - 16	27
16 - 17	54
17 - 18	43
18 - 19	49
19 - 20	44
20 - 21	46
21 - 22	49
22 - 23	51
23 - 24	66
24 - 25	93
25 - 26	81
26 - 27	80
27 - 28	72
28 - 29	68
29 - 30	67
30 - 31	55
31 - 32	57
32 - 33	18
33 - 34	19
34 - 35	17
35 - 36	15
36 - 37	21
37 - 38	46
38 - 39	38
39 - 40	54
40 - 41	42

Depth(m)	Time(sec)
41 - 42	52
42 - 43	44
43 - 44	48
44 - 45	67
45 - 46	70
46 - 47	59
47 - 48	61
48 - 49	63
49 - 50	65
50 - 51	69
51 - 52	70
52 - 53	70
53 - 54	69
54 - 55	68
55 - 56	59
56 - 57	58
57 - 58	57
58 - 59	60
59 - 60	67
60 - 61	68
61 - 62	71
62 - 63	72
63 - 64	73
64 - 65	78
65 - 66	79
66 - 67	80
67 - 68	89

PENETRATION RATE AT CHIMBALANGA VILLAGE

Depth(m)	Time(sec)
0 - 1	54
1 - 2	47
2 - 3	46
3 - 4	44
4 - 5	47
5 - 6	46
6 - 7	47
7 - 8	38
8 - 9	27
9 - 10	32
10 - 11	33
11 - 12	38
12 - 13	36
13 - 14	37
14 - 15	42
15 - 16	30
16 - 17	41
17 - 18	40
18 - 19	39
19 - 20	40
20 - 21	39
21 - 22	40
22 - 23	42
23 - 24	53
24 - 25	45
25 - 26	52
26 - 27	51
27 - 28	42
28 - 29	41
29 - 30	38
30 - 31	28
31 - 32	57
32 - 33	58
33 - 34	60
34 - 35	59
35 - 36	56
36 - 37	95
37 - 38	93
38 - 39	70
39 - 40	77
40 - 41	72

Depth(m)	Time(sec)
41 - 42	90
42 - 43	103
43 - 44	99
44 - 45	123
45 - 46	132
46 - 47	141
47 - 48	167
48 - 49	128
49 - 50	99
50 - 51	68
51 - 52	80
52 - 53	125
53 - 54	120
54 - 55	121
55 - 56	99
56 - 57	95
57 - 58	90
58 - 59	82
59 - 60	80
60 - 61	72
61 - 62	70
62 - 63	69
63 - 64	60
64 - 65	60
65 - 66	61
66 - 67	59
67 - 68	58
68 - 69	55
69 - 70	55
70 - 71	50
71 - 72	54
72 - 73	30
73 - 74	45
74 - 75	40
75 - 76	41
76 - 77	42
77 - 78	40

PENETRATION RATE AT HIWA VILLAGE

Depth(m)	Time(sec)
0 - 1	47
1 - 2	13
2 - 3	17
3 - 4	18
4 - 5	24
5 - 6	20
6 - 7	20
7 - 8	27
8 - 9	34
9 - 10	37
10 - 11	41
11 - 12	30
12 - 13	29
13 - 14	23
14 - 15	24
15 - 16	27
16 - 17	28
17 - 18	25
18 - 19	27
19 - 20	28
20 - 21	25
21 - 22	27
22 - 23	28
23 - 24	38
24 - 25	40
25 - 26	41
26 - 27	39
27 - 28	37
28 - 29	34
29 - 30	32
30 - 31	40
31 - 32	41
32 - 33	39
33 - 34	37
34 - 35	38
35 - 36	41
36 - 37	37
37 - 38	42
38 - 39	49
39 - 40	51
40 - 41	55

Depth(m)	Time(sec)
41 - 42	57
42 - 43	60
43 - 44	60
44 - 45	66
45 - 46	66
46 - 47	70
47 - 48	68
48 - 49	68
49 - 50	69
50 - 51	70
51 - 52	71
52 - 53	78
53 - 54	78
54 - 55	76
55 - 56	75
56 - 57	77
57 - 58	80
58 - 59	82
59 - 60	85
60 - 61	86
61 - 62	87
62 - 63	90
63 - 64	97
64 - 65	99
65 - 66	98
66 - 67	100
67 - 68	112
68 - 69	120
69 - 70	112
70 - 71	110
71 - 72	110

PENETRATION RATE AT LUMBE VILLAGE

Depth(m)	Time(sec)	
0	1	88
1	2	37
2	3	19
3	4	15
4	5	14
5	6	13
6	7	21
7	8	27
8	9	32
9	10	30
10	11	29
11	12	31
12	13	25
13	14	27
14	15	25
15	16	36
16	17	42
17	18	44
18	19	31
19	20	27
20	21	28
21	22	26
22	23	18
23	24	23
24	25	19
25	26	34
26	27	27
27	28	22
28	29	30
29	30	26
30	31	28
31	32	31
32	33	33
33	34	29
34	35	30
35	36	28
36	37	43
37	38	47
38	39	51
39	40	62
40	41	67

Depth(m)	Time(sec)	
41	42	69
42	43	68
43	44	65
44	45	60
45	46	71
46	47	73
47	48	80
48	49	87
49	50	91
50	51	99
51	52	100
52	53	114
53	54	114
54	55	112
55	56	101
56	57	98
57	58	95
58	59	96
59	60	100
60	61	121
61	62	133
62	63	133
63	64	146
64	65	147
65	66	150
66	67	149
67	68	156
68	69	150
69	70	150
70	71	161
71	72	165
72	73	167
73	74	167
74	75	170
75	76	170
76	77	178
77	78	177
78	79	178
79	80	180

STEP DOWN TEST

STEP 1 (Q=0.23 l/sec)

Pump Capacity _____

SITE NAME: AMOSI VILLAGE

Number: _____

DATE: 08/05/2010

Pump Set Depth 60 M

Site Forman _____

GPS Reading S 063 99 16
E 829 23 38

DRAW DOWN

Start Time: 6:30 PM

RECOVERY

Start Time: 8:30 PM

Time(min)	Water Level	Drawn Down
0	19.08	0.00
1	19.95	0.87
2	20.15	0.20
3	20.37	0.22
5	20.79	0.42
6	21.08	0.29
7	21.36	0.28
8	21.49	0.13
9	21.74	0.25
10	21.97	0.23
12	22.11	0.14
14	22.35	0.24
16	22.47	0.12
18	22.55	0.08
20	22.70	0.15
25	22.89	0.19
30	22.96	0.07
35	23.17	0.21
40	23.30	0.13
45	23.42	0.12
50	23.50	0.08
55	23.55	0.05
60	23.61	0.06
65	23.66	0.05
70	23.70	0.04
75	23.73	0.03
80	23.77	0.04
85	23.81	0.04
90	23.84	0.03
95	23.89	0.05
100	23.91	0.02
105	23.95	0.04
110	23.97	0.02
115	23.99	0.02
120	24.00	0.01

Time(min)	Water Level	Drawn Down
0	24.00	
1	22.89	
2	21.75	
3	21.50	
5	19.85	
6	19.75	
7	19.64	
8	19.56	
9	19.44	
10	19.36	
12	19.27	
14	19.17	
16	19.15	
18	19.14	
20	19.13	
25	19.12	
30	19.11	
35	19.10	
40	19.09	
45	19.09	
50	19.08	
55		
60		
65		
70		
75		
80		
85		
90		
95		
100		
105		
110		
115		
120		

STEP DOWN TEST

STEP 2 (Q=0.31 l/sec)

Pump Capacity _____

SITE NAME: AMOSI VILLAGE Number: _____

DATE: 08/05/2010 Pump Set Depth 60 M

Site Forman _____ GPS Reading S 063 99 16
E 829 23 38

DRAW DOWN

Start Time: 3:50 PM

Time(min)	Water Level	Drawn Down
0	19.07	0.00
1	20.78	1.71
2	21.36	0.58
3	21.47	0.11
5	22.70	1.23
6	23.56	0.86
7	23.71	0.15
8	23.98	0.27
9	24.11	0.13
10	24.36	0.25
12	24.82	0.46
14	25.21	0.39
16	25.79	0.58
18	26.11	0.32
20	26.66	0.55
25	26.96	0.30
30	27.05	0.09
35	27.52	0.47
40	27.68	0.16
45	27.72	0.04
50	27.98	0.26
55	28.14	0.16
60	28.20	0.06
65	28.27	0.07
70	28.30	0.03
75	28.36	0.06
80	28.40	0.04
85	28.45	0.05
90	28.47	0.02
95	28.51	0.04
100	28.58	0.07
105	28.62	0.04
110	28.67	0.05
115	28.70	0.03
120	28.75	0.05

RECOVERY

Start Time: 5:50 PM

Time(min)	Water Level	Drawn Down
0	28.75	
1	26.21	
2	24.96	
3	23.40	
5	22.75	
6	21.86	
7	19.79	
8	19.68	
9	19.54	
10	19.47	
12	19.36	
14	19.29	
16	19.20	
18	19.17	
20	19.15	
25	19.08	
30	19.08	
35		
40		
45		
50		
55		
60		
65		
70		
75		
80		
85		
90		
95		
100		
105		
110		
115		
120		

STEP DOWN TEST

STEP 3 (Q=0.42 l/sec)

Pump Capacity _____

SITE NAME: AMOSI VILLAGE

Number: _____

DATE: 08/05/2010

Pump Set Depth 60 M

Site Forman _____

GPS Reading S 063 99 16
E 829 23 38

DRAW DOWN

Start Time: 9:50 AM

RECOVERY

Start Time: 11:50 AM

Time(min)	Water Level	Drawn Down
0	15.00	0.00
1	20.41	5.41
2	21.65	1.24
3	22.35	0.70
5	23.61	1.26
6	24.72	1.11
7	25.65	0.93
8	26.12	0.47
9	26.98	0.86
10	27.25	0.27
12	27.30	0.05
14	27.37	0.07
16	27.61	0.24
18	27.95	0.34
20	27.99	0.04
25	28.06	0.07
30	28.56	0.50
35	28.78	0.22
40	29.42	0.64
45	29.81	0.39
50	30.09	0.28
55	30.37	0.28
60	30.52	0.15
65	30.65	0.13
70	30.72	0.07
75	30.81	0.09
80	30.89	0.08
85	30.92	0.03
90	30.98	0.06
95	31.04	0.06
100	31.10	0.06
105	31.17	0.07
110	31.21	0.04
115	31.25	0.04
120	31.30	0.05

Time(min)	Water Level	Drawn Down
0	31.30	
1	27.07	
2	25.26	
3	23.85	
5	22.56	
6	21.54	
7	20.95	
8	20.60	
9	20.24	
10	20.03	
12	19.88	
14	19.68	
16	19.48	
18	19.38	
20	19.32	
25	19.27	
30	19.25	
35	19.24	
40	19.17	
45	19.15	
50	19.09	
55	19.05	
60		
65		
70		
75		
80		
85		
90		
95		
100		
105		
110		
115		
120		

STEP DOWN TEST

STEP 4 (Q=0.50 l/sec)

Pump Capacity _____

SITE NAME: AMOSI VILLAGE

Number: _____

DATE: 08/05/2010

Pump Set Depth 60 M

Site Forman _____

GPS Reading S 063 99 16

E 829 23 38

DRAW DOWN

Start Time: 12:47 PM

RECOVERY

Start Time: 2:47 PM

Time(min)	Water Level	Drawn Down
0	19.05	0.00
1	22.37	3.32
2	23.43	1.06
3	24.58	1.15
5	27.45	2.87
6	28.53	1.08
7	28.82	0.29
8	30.40	1.58
9	31.37	0.97
10	31.90	0.53
12	32.07	0.17
14	32.43	0.36
16	33.07	0.64
18	34.26	1.19
20	35.61	1.35
25	36.20	0.59
30	36.85	0.65
35	37.65	0.80
40	37.98	0.33
45	38.25	0.27
50	38.58	0.33
55	38.84	0.26
60	39.08	0.24
65	40.62	1.54
70	41.78	1.16
75	42.25	0.47
80	42.85	0.60
85	43.91	1.06
90	44.10	0.19
95	44.66	0.56
100	44.75	0.09
105	44.80	0.05
110	44.91	0.11
115	44.93	0.02
120	45.00	0.07

Time(min)	Water Level	Drawn Down
0	45.00	
1	38.41	
2	37.92	
3	36.40	
5	36.10	
6	33.30	
7	32.72	
8	30.20	
9	28.10	
10	27.56	
12	24.10	
14	22.30	
16	21.18	
18	20.58	
20	20.08	
25	19.79	
30	19.62	
35	19.37	
40	19.17	
45	19.15	
50	19.07	
55		
60		
65		
70		
75		
80		
85		
90		
95		
100		
105		
110		
115		
120		

**2. CONSTANT DRAW DOWN TEST
CONSTANT DWAU DOWN (Q=0.34 l/sec)**

SITE NAME: AMOSI VILLAGE

DATE: 08/05/2010 09/05/2010

Site Forman _____

Pump Capacity _____

Number: _____

Pump Set Depth 60 M

GPS Reading S 063 99 16
E 829 23 38

DRAW DOWN

Start Time: 4:30 PM

RECOVERY

Start Time: 4:30 PM

Time(min)	Water Level	Drawn Down
0	19.08	
1	20.48	1.40
2	21.17	0.69
3	21.47	0.30
5	22.36	0.89
6	22.73	0.37
7	23.20	0.47
8	23.55	0.35
9	24.00	0.45
10	24.36	0.36
12	24.67	0.31
14	24.96	0.29
16	25.21	0.25
18	25.48	0.27
20	25.57	0.09
25	25.68	0.11
30	25.76	0.08
35	25.87	0.11
40	25.94	0.07
45	26.11	0.17
50	26.32	0.21
55	26.48	0.16
60	26.61	0.13
65	26.89	0.28
70	27.17	0.28
75	27.37	0.20
80	27.54	0.17
85	27.70	0.16
90	27.89	0.19
95	28.20	0.31
100	28.39	0.19
105	28.47	0.08
110	28.54	0.07
115	28.66	0.12
120	28.72	0.06
150	28.87	0.15
180	28.95	0.08
210	29.03	0.08
240	29.11	0.08
270	29.23	0.12
300	29.32	0.09
360	29.41	0.09
420	29.53	0.12
480	29.63	0.10
540	29.71	0.08
600	29.80	0.09
660	29.99	0.19
720	30.14	0.15
780	30.28	0.14
840	30.41	0.13
900	30.45	0.04
960	30.49	0.04
1020	30.50	0.01
1080	30.51	0.01
1140	30.53	0.02
1200	30.57	0.04
1260	30.60	0.03
1320	30.63	0.03
1380	30.65	0.02
1440	30.70	0.05

Time(min)	Water Level	Drawn Down
0	30.70	
1	28.37	
2	26.71	
3	23.89	
5	21.73	
6	20.82	
7	20.13	
8	19.87	
9	19.68	
10	19.44	
12	19.37	
14	19.26	
16	19.18	
18	19.15	
20	19.14	
25	19.13	
30	19.12	
35	19.11	
40	19.10	
45	19.09	
50	19.09	
55	19.08	
60		
65		
70		
75		
80		
85		
90		
95		
100		
105		
110		
115		
120		