	ີ
	7
	-
	ρ.
	5
	6
	••••
	DATA CHEFT OF PI MPINC
	Ĺ
	\overline{c}
	r
	£1
	Ĺ
	1
	1
	Y
	<
	5
	٤.
	- 2
	£
	ς.
_	3
<u> </u>	^
~	•
- 12	
. ve	Ś.,
~	τ.
163-21	•
ehle.	>
يكو ا	2
0	5

TEST

D

Status. Centrant Direction C Pump Setting: Depth Num Sector Tempolo (n) (n) (n) (n) Act Time Tempolo (n) (n) (n) (n) Act Time Tempolo (n) (n) (n) (n) (n) Act Time Tempolo (n) (n) (n) (n) (n) Act Time Tempolo (n) (n) (n) (n) (n) Act Time (n) (n) (n) (n) (n) (n) Act Time (n) (n) (n) (n) (n) (n) You And	Borchoic No : AK	1411 C7 YW ON							~
Elapsed (*) Water Draw- Pumper Bate Time (n) (m) (m) (m) (m) (m) 0.0 (m) (m) (m) (m) (m) 0.10 (m) (m) (m) (m) (m) 0.10 (m) (m) (m) (m) (m) 1.1 (m) (m) (m) (m) (m) 1.3 1.4.0 0.35 1.4.0 0.36 (m) 1.10 1.1.4.0 0.36 1.4.0 0.36 (m) 1.4.0 0.35 1.4.0 0.36 1.4.0 0.36 1.10 1.1.8 1.4.0 0.36 1.4.0 0.36 1.10 1.1.3 1.4.0 0.36 1.4.0 0.36 1.10 1.1.3 1.4.6 1.4.6 1.4.6 1.4.6 1.10 1.1.3 1.1.3 1.4.6 1.4.6 1.4.6 1.10 1.1.3 1.1.3 1.4.	Status .	Constant Disch	1175		뎕		50	111 / X	
Elapsed (* Water Draw- Level Purtprig Bate 7 Time (n) (mn) (mn) (mn) (mn) 0.0 (13,1) (mn) (mn) (mn) 1.0 1.4.0 0.0 (mn) (mn) 2.5 1.4.0 0.0 (mn) (mn) 3.5 1.4.0 0.0 (mn) (mn) 4.5 1.5.7 1.4.0 0.0 (mn) 5.6 1.7.0 1.7.5 3.9 1.7.5 4.0 1.7.5 3.9 1.7.5 3.9 1.10 1.7.5 3.9 1.7.5 3.9 1.10 1.7.5 3.9 1.7.5	Screen :				IMS	13.81 m	Date	• •	۔
Elapsed r Water Drawn Pumprig Adde Time (t) (m) (m) (m) (m) (m) 0.0 10 13.81 0.00 900 10.0 10 13.1 0.00 600 10.0 (m) 15 14.25 0.44 0.00 600 10.0 15 14.40 0.05 0.44 10.0 0.05 15 14.40 0.05 14.40 0.05 10.0 15 14.40 0.05 14.40 0.05 10.0 15 14.0 0.05 17.5 14.6 10.0 10.0 17.71 3.05 17.5 3.05 17.7 10.0 17.71 3.05 17.7 3.05 17.7 11.0 17.71 3.05 17.7 3.05 11.7 10.0 17.71 3.05 17.7 3.05 11.7 10.0 17.71 3.05 17.7							í		
Literoli (min) (min) (13, ki) (m) (13, ki) (m) (13, ki) (m) (13, ki) (m) (13, ki) (m) (13, ki) (m) (14, ki) (m) (19,	Ard Time	Elapsod	. .	Water	Draw-	Indum	ng Rate	Kcmarks	
Λ 0.0 1.3.41 0.00 7.0 1.1 1.4.10 0.39 7.0 1.4 1.4.10 0.39 7.0 1.4 1.4.10 0.39 7.0 1.4 1.4 0.39 7.0 1.4 1.4 0.39 7.0 1.4 1.4 0.39 7.0 1.4 1.4 1.4 7.0 1.4 1.4 1.4 7.0 1.4 1.4 1.4 7.0 1.4 1.4 1.4 7.0 1.4 1.4 1.4 7.0 1.7 1.4 1.4 7.0 1.7 1.7 1.4 1.10 1.7 1.7 1.4 1.10 1.7 1.7 1.4 1.10 1.7 1.7 1.4 1.10 1.7 1.7 1.4 1.10 1.7 1.7 1.4 1.10 1.7 <t< td=""><td></td><td>- 1 </td><td>(min)</td><td>(m)</td><td>(m)</td><td>(liter/min)</td><td></td><td></td><td>_</td></t<>		- 1 	(min)	(m)	(m)	(liter/min)			_
14.2.0 0.44 14.2.0 0.39 14.4.0 0.39 14.4.0 0.39 14.67 0.39 14.95 1.14 15.77 1.36 15.77 1.36 15.77 1.36 15.77 1.36 15.73 1.36 15.74 1.36 15.75 1.36 17.33 3.34 17.34 3.39 17.55 3.37 17.55 3.37 17.55 3.37 17.55 3.36 17.54 3.30 17.55 3.38 17.56 4.16 17.57 3.36 17.56 4.13 17.57 3.36 17.56 4.13 17.57 3.36 17.59 4.13 17.59 4.13 17.59 4.14 17.59 4.13 17.59 4.14 17.59 4.13 17.59 4.14 17.59 4.14 17.59 4.14 17.59 4.14 17.59 4.15 17.59 4.14 <	<	0.0		13.81	00.0	WW8			
14.40 0.39 14.67 0.39 14.95 0.86 15.17 1.16 15.17 1.16 15.17 1.16 15.17 1.16 15.17 1.16 17.01 1.16 17.03 5.31 17.04 1.16 17.05 5.31 17.06 5.32 17.07 5.90 17.51 5.91 17.53 5.92 17.54 5.93 17.55 5.94 17.54 5.95 17.54 5.95 17.55 5.95 17.56 4.04 17.79 4.13 17.79 4.13 17.79 4.13 17.95 4.13 17.95 4.14 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.16 17.95 4.15 </td <td></td> <td>0</td> <td></td> <td></td> <td>17.0</td> <td></td> <td></td> <td></td> <td>τ-</td>		0			17.0				τ-
14.67 0.86 14.67 0.86 15.17 1.14 15.17 1.15 15.17 1.16 15.17 1.15 15.73 1.15 15.73 1.15 15.73 1.75 17.53 5.74 17.53 5.74 17.53 5.74 17.53 5.74 17.54 5.75 17.55 5.74 17.54 5.75 17.55 5.75 17.54 5.79 17.55 5.74 17.54 5.79 17.55 5.74 17.54 5.79 17.55 5.74 17.56 5.74 17.57 5.82 17.56 4.15 17.57 5.93 17.56 4.15 17.57 4.15 17.58 4.15 17.59 4.15 17.59 4.15 17.59 4.15 17.59 4.15 17.59 4.15 17.59 4.15 17.59 4.15 17.59 4.15 17.59 4.15 1				01.1	0.39				
14.80 0.09 15.77 1.4.6 15.77 1.4.6 15.77 1.4.6 15.77 1.4.6 15.77 1.4.6 17.707 2.5.6 17.707 2.5.7 17.707 2.5.7 17.707 2.5.7 17.707 3.75 17.707 3.75 17.707 3.75 17.707 3.92 17.707 3.92 17.707 3.92 17.707 3.92 17.707 3.92 17.707 3.92 17.707 3.92 17.707 3.92 17.707 3.92 17.707 3.92 17.707 3.92 17.707 3.92 17.707 4.04 17.707 4.12 17.708 4.13 17.709 4.14 17.709 4.13 17.709 4.14 17.709 4.14 17.709 4.14 17.709 4.14 17.709 4.14 17.709 4.14 17.709 4.14 17.709 4.14 17.709				49.1	0.86				
14.95 1.4.95 1.1.4 15.717 1.5.77 1.5.6 15.77 1.5.77 1.5.6 15.77 1.5.75 3.75 17.05 3.75 3.75 17.05 3.75 3.75 17.05 3.75 3.75 17.05 3.75 3.75 17.75 3.75 3.75 17.76 3.95 1.75 17.76 3.95 1.1 17.76 3.95 4.04 17.76 3.95 4.13 17.76 3.95 4.14 17.76 3.95 4.14 17.76 3.95 4.14 17.76 3.95 4.14 17.76 3.95 4.14 17.76 3.95 4.14 17.76 4.13 4.15 17.76 4.13 4.15 17.79 4.13 4.16 17.79 4.15 4.16 17.79 4.15 4.16 17.79 4.15 4.16 17.79 4.15 4.16 17.79 4.15 4.16 17.79 4.15 4.16 17.79 4.15 17.99<			ļ	0171	0.00				r T
15.17 1.5.0 15.37 1.46 15.37 1.46 15.37 1.56 15.37 1.75 15.37 1.75 17.35 3.73 17.35 3.73 17.35 3.73 17.56 3.73 17.56 3.73 17.56 3.73 17.56 3.73 17.56 3.73 17.56 3.92 17.57 3.92 17.56 3.93 17.57 3.93 17.56 4.04 17.76 3.93 17.76 3.93 17.76 3.93 17.77 3.93 17.78 4.04 17.79 4.04 17.79 4.13 17.79 4.13 17.93 4.13 17.94 4.14 17.95 4.14 17.95 4.14 17.95 4.14 17.95 4.14 17.95 4.14 17.95 4.15 17.95 4.16 17.95 4.16 17.95 4.16 17.96 4.16		101		14,95	114				-
15.27 1.54 15.27 1.56 15.73 1.76 17.55 5.75 17.55 5.75 17.55 5.75 17.55 5.75 17.55 5.75 17.55 5.75 17.55 5.75 17.55 5.75 17.55 5.75 17.55 5.75 17.55 5.75 17.56 5.82 17.57 5.93 17.56 5.93 17.57 5.93 17.57 5.93 17.57 5.93 17.57 5.93 17.57 5.93 17.59 4.12 17.59 4.13 17.59 4.14 17.59 4.15 17.59 4.16 17.59 4.15 17.59 4.16 17.59 4.15 17.59 4.16 17.59 4.16 17.59 4.16 17.59 4.16 18.60 4.16 18.75 4.16 18.75 4.16 18.75 4.16 18.75 4.16 1		5.5 - 5.5		- 15.17	-1.36				-
15.3.1 1.1.25 15.3.1 1.1.55 17.3.5 5.3.1 17.3.5 5.3.1 17.3.5 5.3.1 17.3.5 5.3.2 17.3.5 5.3.2 17.3.5 5.3.2 17.3.5 5.3.2 17.3.5 5.3.2 17.3.6 5.3.2 17.3.6 5.3.2 17.3.6 5.3.2 17.3.6 5.3.2 17.3.6 5.3.2 17.3.6 5.3.2 17.3.6 5.3.2 17.3.6 5.3.2 17.3.6 4.04 17.3.8 4.04 17.3.9 4.04 17.3.9 4.04 17.3.9 4.13 17.3.9 4.13 17.3.9 4.13 17.3.9 4.13 17.3.9 4.14 17.99 4.14 17.99 4.14 17.99 4.14 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 18.16 4.16 18.17 4.16 18.18<		+ 0 +		15.27	Ĵ				т
(57) (57) (57) (70) (70) (20) (70) (70) (70) (70) (70) (70) (70) (70) (70) (77) (70) (70) (77) (70) (70) (77) (70) (71) (77) (70) (71) (77) (70) (17) (77) (70) (17) (77) (70) (17) (77) (70) (17) (77) (70) (17) (77) (17) (17) (77) (17) (17) (77) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17) (17)				10.0	8				T
17.01 5.23 17.03 5.34 17.04 5.34 17.05 5.34 17.05 5.34 17.60 5.39 17.61 5.00 17.61 5.00 17.61 5.00 17.61 5.00 17.76 5.00 17.76 5.00 17.76 5.00 17.76 5.00 17.76 5.00 17.76 5.00 17.76 5.01 17.76 5.01 17.76 4.04 17.76 4.04 17.79 4.04 17.79 4.04 17.91 4.04 17.92 4.15 17.93 4.16 17.94 4.13 17.95 4.14 17.96 4.15 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1-</td>									1 -
17.25 3.44 17.25 5.54 17.51 3.73 17.53 3.73 17.54 3.73 17.55 3.73 17.56 3.73 17.57 3.95 17.56 3.95 17.76 3.95 17.76 3.95 17.76 3.95 17.76 3.95 17.76 3.95 17.76 3.95 17.76 3.95 17.76 4.04 17.77 3.95 17.76 4.04 17.79 4.04 17.91 4.04 17.92 4.13 17.93 4.14 17.94 4.13 17.95 4.14 17.95 4.14 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 </td <td></td> <td></td> <td></td> <td>102</td> <td>13</td> <td></td> <td></td> <td></td> <td>r T</td>				102	13				r T
17.35 5.34 17.51 3.731 17.53 3.731 17.54 3.731 17.55 3.731 17.56 3.731 17.57 3.331 17.56 3.932 17.57 3.932 17.57 3.936 17.57 3.936 17.575 3.936 17.575 4.014 17.587 4.034 17.583 4.03 17.593 4.12 17.595 4.13 17.595 4.14 17.595 4.15 17.595 4.15 17.595 4.15 17.595 4.15 17.595 4.15 17.595 4.15 17.595 4.15 17.595 4.15 17.595 4.15 17.595 4.16 17.595 4.16 17.595 4.16 17.595 4.16 17.595				224	H (
17.51 3.72 17.50 3.72 17.60 3.82 17.60 3.92 17.60 3.92 17.61 3.92 17.61 3.92 17.61 3.92 17.62 3.92 17.76 3.93 17.76 3.93 17.76 3.93 17.78 4.04 17.78 4.04 17.78 4.04 17.78 4.04 17.78 4.13 17.78 4.14 17.78 4.15 17.93 4.15 17.94 4.15 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 </td <td></td> <td>00</td> <td></td> <td>17.35</td> <td>15.5</td> <td></td> <td></td> <td></td> <td></td>		00		17.35	15.5				
17.53 5.72 17.60 3.79 17.71 3.96 17.71 3.96 17.71 3.96 17.76 3.93 17.76 3.93 17.76 3.96 17.76 3.96 17.76 3.96 17.76 3.96 17.78 4.04 17.85 4.04 17.86 4.13 17.89 4.13 17.99 4.14 17.99 4.15 17.99 4.14 17.99 4.15 17.99 4.14 17.99 4.15 17.99 4.14 17.99 4.15 17.99 4.14 17.99 4.15 17.99 4.15 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.91 18.15 4.91 18.16 4.91 </td <td></td> <td></td> <td></td> <td></td> <td>043</td> <td></td> <td></td> <td></td> <td></td>					043				
17.60 5.79 17.76 3.92 17.76 3.95 17.76 3.95 17.76 3.95 17.76 3.95 17.76 3.95 17.76 3.95 17.76 3.96 17.79 4.04 17.99 4.04 17.99 4.12 17.99 4.13 17.99 4.14 17.99 4.15 17.99 4.16 17.99 4.15 17.99 4.16 17.99 4.15 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 18.15 4.94 18.15 4.94 </td <td></td> <td>0 11</td> <td></td> <td>17.51</td> <td>5.72</td> <td></td> <td></td> <td></td> <td>-1</td>		0 11		17.51	5.72				-1
(76.) 3.82 (7.71 3.90 (7.71 3.90 (7.71 3.90 (7.71 3.96 (7.71 3.96 (7.71 3.96 (7.71 3.96 (7.71 3.96 (7.79 3.96 (7.79 4.04 (7.81 4.05 (7.92 4.13 (7.93 4.13 (7.94 4.13 (7.95 4.14 (7.97 4.15 (7.98 4.15 (7.99 4.15 (7.99 4.16 (7.99 4.16 (7.99 4.16 (7.99 4.16 (7.99 4.16 (7.99 4.16 (7.99 4.16 (7.99 4.16 (7.99 4.16 (7.99 4.16 (7.91 4.90 (8.02 4.91 (8.15 4.91 </td <td></td> <td>12.0</td> <td></td> <td>17 60</td> <td>56.3</td> <td></td> <td></td> <td></td> <td>T</td>		12.0		17 60	56.3				T
17.71 5.00 17.75 5.02 17.76 5.02 17.76 5.04 17.78 4.04 17.87 4.04 17.87 4.04 17.87 4.04 17.87 4.04 17.89 4.10 17.89 4.11 17.99 4.13 17.99 4.14 17.99 4.15 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 17.99 4.16 18.03 4.16 18.04 4.90 18.05 4.90 18.05 4.90 18.05 4.90 18.05 4.90 18.05 4.90 18.05 4.90 18.05 4.90 18.05 4.90 18.05 4.90 1		10.01		17,63	3.82				-T
17.75 3.92 17.76 3.98 17.76 3.98 17.79 3.98 17.79 3.98 17.78 4.04 17.85 4.04 17.86 4.13 17.93 4.13 17.94 4.13 17.95 4.13 17.94 4.13 17.95 4.14 17.94 4.15 17.95 4.14 17.96 4.15 17.96 4.15 17.96 4.16 17.96 4.16 17.96 4.16 17.96 4.16 17.96 4.16 17.96 4.16 17.96 4.16 17.97 4.16 17.98 4.16 17.99 4.16 18.15 4.36 18.15 4.36 18.15 4.36 18.15 4.36 18.16 4.36 18.17 4.36 18.18 4.36 18.19 4.36 18.19 4.36 18.19 4.36 18.19 4.36 18.18 4.36 1		14.0		17.71	3.90				- T
17.76 3.95 17.76 3.98 17.79 3.98 17.79 3.98 17.79 3.98 17.79 3.98 17.79 3.94 17.79 4.06 17.79 4.06 17.81 4.06 17.81 4.08 17.93 4.12 17.94 4.13 17.95 4.14 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 18.05 4.24 18.15 4.96 18.15 4.96 18.16 4.96 18.17 4.96 18.18 4.95 18.95 5.14 18.95 5.14 18.95 5.14	:	1031	,	17.75	26.1				÷
17.77 3.96 17.87 3.96 17.85 4.04 17.87 4.04 17.81 4.06 17.91 4.08 17.91 4.08 17.91 4.04 17.91 4.12 17.93 4.13 17.94 4.13 17.95 4.14 17.95 4.15 17.95 4.15 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 18.15 4.16 18.15 4.94 18.15 4.94 18.15 4.94 18.15 4.94 18.15 4.94 18.15 4.94 18.15 4.94 18.15 4.95 18.95 5.14 18.95 5.14 18.95 5.14		20.0.		17.76	50.5				Т
17.82 4.04 17.83 4.04 17.84 4.04 17.85 4.04 17.84 4.05 17.85 4.04 17.84 4.04 17.85 4.04 17.84 4.04 17.95 4.12 17.95 4.13 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 18.05 4.26 18.05 4.95 18.15 4.95 18.15 4.95 18.95 5.14 18.95 5.14 18.95 5.14 18.95 5.14		25.0		17.77	\$ }				T
17.85 4.04 17.87 4.06 17.89 4.06 17.93 4.10 17.93 4.12 17.93 4.13 17.93 4.13 17.94 4.13 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 18.15 4.41 18.15 4.36 18.15 5.14 18.15 5.14 18.95 5.14 18.95 5.14 18.95 5.14 18.95 5.14		10.01		27.71 20.71					τ
17.87 4.06 17.89 4.08 17.89 4.08 17.93 4.12 17.93 4.12 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.14 17.94 4.15 17.94 4.14 17.94 4.15 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 17.95 4.16 18.15 4.16 18.15 4.36 18.15 4.36 18.15 4.36 18.16 4.36 18.17 4.36 18.18 4.36 18.18 4.36 18.18 4.36 18.18 4.36 18.18 4.36 18.35 5.14 18.35 5.14 </td <td></td> <td></td> <td></td> <td>78.61</td> <td>1017</td> <td></td> <td></td> <td></td> <td>r-</td>				78.61	1017				r-
17.80 4.08 17.91 4.10 17.93 4.13 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.14 17.94 4.15 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 18.05 4.34 18.15 4.34 18.15 4.34 18.16 4.86 18.17 4.90 18.18 4.90 18.19 4.90 18.14 4.90 18.15 4.91 18.15 4.91 18.18 4.91 18.95 5.14 18.95 5.14				1 87	1				r ~1
17.91 4.10 17.95 4.12 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.13 17.94 4.14 17.94 4.15 17.94 4.15 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 17.94 4.16 18.15 4.16 18.15 4.94 18.15 4.94 18.15 4.94 18.15 4.94 18.14 4.94 18.15 4.94 18.15 4.94 18.15 4.94 18.95 5.14 18.95 5.14		0.00		2 XV	ĺ				
17.95 4.12 17.95 4.12 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.15 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 17.95 4.16 18.05 4.47 18.05 4.47 18.15 4.49 18.15 4.81 18.15 4.93 18.15 5.01 18.15 5.01 18.15 5.14 18.95 5.14 18.95 5.14		1050		16.41					
17.95 4.12 17.94 4.13 17.94 4.14 17.94 4.15 17.95 4.16 17.96 4.15 17.97 4.16 17.97 4.16 17.97 4.16 17.97 4.16 17.97 4.16 17.97 4.16 17.97 4.16 18.15 4.41 18.15 4.41 18.12 4.43 18.12 4.43 18.12 5.01 18.12 5.01 18.13 5.01 18.15 5.01 18.15 5.01 18.15 5.01 18.15 5.14 18.15 5.14 18.15 5.14		120.01		19.11					
17.94 4.15 17.96 4.15 17.96 4.15 17.96 4.15 17.96 4.15 17.96 4.16 17.96 4.15 17.96 4.16 17.97 4.16 17.97 4.16 17.97 4.16 17.97 4.16 17.97 4.16 18.05 4.24 18.15 4.36 18.15 4.36 18.16 4.36 18.17 4.36 18.18 4.36 18.19 4.36 18.18 4.36 18.18 4.36 18.18 4.36 18.18 4.36 18.35 5.01 18.35 5.01 18.35 5.14 18.35 5.14		0301	Ī		4.12				- 1
17.94 4.13 17.96 4.14 17.96 4.15 17.96 4.16 17.96 4.16 17.96 4.16 17.97 4.16 17.97 4.16 17.97 4.16 17.97 4.16 17.97 4.16 18.15 4.14 18.15 4.47 18.15 4.47 18.13 4.47 18.14 4.90 18.15 4.47 18.14 4.90 18.15 4.91 18.14 4.93 18.15 4.93 18.16 4.93 18.17 4.93 18.95 5.01 18.95 5.14 18.95 5.14		150.0		オト	11.15				Т
17.95 4-14 17.95 4-15 17.96 4-15 17.97 4-16 17.97 4-16 18.05 4-24 18.05 4-24 18.05 4-24 18.05 4-24 18.05 4-24 18.05 4-30 18.02 4-80 18.02 4-90 18.02 4-90 18.03 5.14 18.03 5.14 19.04 10.		165.0		14.41	51.4				Ť
17.96 4.15 17.97 4.16 17.97 4.16 17.97 4.16 17.97 4.16 18.05 4.24 18.13 4.47 18.13 4.47 18.13 4.47 18.13 4.47 18.13 4.47 18.14 4.93 18.14 4.93 18.14 4.93 18.15 5.14 18.15 5.14 18.15 5.14		0.041		56741				·	Ţ
17.90 4.15 17.97 4.16 17.97 4.16 18.05 4.24 18.15 4.16 18.15 4.16 18.15 4.16 18.15 4.14 18.15 4.14 18.15 4.14 18.16 4.14 18.17 4.56 18.18 4.56 18.19 4.56 18.10 4.56 18.11 4.56 18.12 4.93 18.18 4.93 18.19 4.93 18.19 4.93 18.19 4.93 18.19 4.93 18.19 4.93 18.19 5.14 18.19 5.14		210.0		96741					T
17.97 17.97 18.05 18.05 18.05 18.15 18		240.0		17.8					Ť
17.597 4.16 18.05 4.24 18.05 4.24 18.05 4.24 18.05 4.24 18.05 4.45 18.05 4.45 18.05 4.45 18.12 4.60 18.14 4.90 18.14 4.90 19.14		276.0		17.67					Ť
(K,0) 4.15 (K,5) 4.45 (K,5) 4.45 (K,1) 4.45 (K,1) 4.45 (K,1) 4.45 (K,2) 4.45 (K,2) 4.45 (K,2) 4.46 (K,2) 5.01 (K,2) 5.01 (K,3) 5.14 (K,3) 5.14 (K,3) 5.14		300.0		17.97					Ť
IK.05 *.24 IK.35 *.24 IK.35 *.45 IK.31 4.56 IK.31 4.56 IK.31 4.56 IK.31 4.56 IK.32 4.51 IK.31 4.56 IK.32 4.51 IK.32 5.01 IK.35 5.01				00.81					Ť
(K, K) (K, K) <th(k)< th=""> (K) <th(k)< th=""></th(k)<></th(k)<>		360.0		\$0. % 1					Ť
(8.1) 4.50 (8.1) 4.50 (8.1) 4.50 (8.1) 4.50 (8.2) 4.50 (8.2) 4.50 (8.2) 4.50 (8.2) 4.50 (8.2) 4.90 (8.3) 5.01 (8.4) 4.90 (8.5) 5.01 (8.7) 4.90 (8.7) 5.01 (8.7) 5.01 (8.7) 5.01 (8.7) 5.01 (8.7) 5.01 (8.7) 5.14 (8.8) 5.14		420.0		18.15					Ť
18.73 4.56 18.73 4.56 18.62 4.60 18.62 4.81 18.73 5.01 18.74 5.01 18.75 5.01 18.74 4.93 18.75 5.01 18.74 4.93 18.75 5.14 18.75 5.14 18.75 5.14 18.75 5.14		0.04		¥7.8					Ť
18.50 4.60 18.51 4.60 18.62 4.81 18.62 4.81 18.71 4.90 18.72 5.01 18.74 4.93 18.75 5.14 18.75 5.14 18.75 5.14 18.75 5.14 18.75 5.14					ļ				m
[8,02] 4.81 [8,73] 4.90 [8,74] 4.90 [8,75] 5.01 [8,76] 5.01 [8,76] 5.01 [8,76] 5.01 [8,76] 5.01 [8,76] 5.01 [8,76] 5.01 [8,76] 5.14 [8,76] 5.14				18 50					П
[X,7] 4.90 [X,2] 5.01 [X,2] 5.04 [X,2] 5.04 [X,2] 5.04				18.62					[]]
18.82 5.01 18.74 4.93 18.75 5.14 18.75 4.93 18.75 5.14 18.75 5.14		740.01		18.71					
18,74 4,93 18,95 5,14 18,74 4,95 18,85 5,14		0.04%		18.82					Т
18.95 18.74 18.95		0.000		18.74					Ť
18.74		960.0		18.95					Ť
18.95		1020.0		18.74					T
		0.0801		18.95					T

(min) (m) (m) </th <th>Act. Time</th> <th>Ciapsed (1)</th> <th>_</th> <th>Lord</th> <th>Down (2)</th> <th>0</th> <th></th>	Act. Time	Ciapsed (1)	_	Lord	Down (2)	0	
19.01 5.32 10 19.13 5.32 10 19.13 5.33 10 19.13 5.33 10 19.23 5.44 8000 10 19.23 5.44 8000 10 19.23 5.44 8000 10 19.53 3.45 8000 10 19.53 3.44 8000 10 19.53 3.45 8000 10 10.55 2.94 3.05 10 10.55 2.94 3.05 10 10.55 2.94 3.05 10 10.55 2.94 3.05 10 10.55 2.94 2.95 10 10.55 2.44 2.67 10 10.55 2.94 2.95 10 10.55 2.94 2.95 10 10.56 2.94 2.95 10 10.56 2.94 2.95 10		(mm)	(uim)	(iii	(m)	(liter/min)	
10.13 5.32 10.13 5.34 10.5 17.55 5.44 10.5 17.55 5.44 10.5 17.55 5.44 1.5 10.34 3.13 1.5 10.39 3.14 1.5 10.39 3.15 2.6 1.5 10.34 3.7 16.46 3.05 2.6 16.55 2.86 3.7 16.55 2.86 4.5 16.55 2.86 4.6 16.55 2.86 5.0 16.55 2.86 5.0 16.55 2.86 5.0 16.55 2.86 5.0 16.55 2.86 10.0 16.12 2.13 10.0 16.13 2.35 10.0 16.13 2.35 10.0 16.13 2.35 10.0 16.13 2.35 10.0 16.13 2.35 10.0	t	1260 0		19.01	5.22		
(0.1) (0.1) <th< td=""><td>t</td><td>1260.0</td><td></td><td>10.17</td><td>25.22</td><td></td><td></td></th<>	t	1260.0		10.17	25.22		
19/22 5.41 8000 0.5 17/29 5.46 1.5 16/94 3.13 1.6 17/29 3.44 2.0 16/85 3.45 3.1 16/94 3.13 4.6 16/85 2.94 3.5 16/85 2.94 4.6 16.55 2.94 4.6 16.55 2.94 4.6 16.53 2.94 4.7 16.53 2.94 4.8 16.43 2.64 9.0 16.43 2.55 9.0 16.43 2.54 11.0 16.23 2.44 11.0 16.53 2.44 11.0 16.53 2.44 11.0 16.53 2.45 11.0 16.53 2.45 11.0 16.54 2.55 11.0 16.57 2.45 11.0 16.57 2.45 11.0 16.57 1.45	t	1320.0		19.19	86.8		
0.5 1757 546 1.5 1755 534 1.5 16.34 3.15 2.6 1.55 2.94 2.5 16.45 2.94 3.5 16.55 2.86 3.6 1.6.32 2.79 3.5 16.45 2.79 3.6 16.55 2.86 4.0 16.52 2.79 4.0 16.53 2.79 5.0 16.53 2.79 5.0 16.53 2.79 70 16.53 2.79 9.0 16.53 2.46 11.0 16.53 2.46 11.0 16.54 2.55 11.0 16.52 2.46 11.0 16.52 2.46 11.0 16.52 2.46 11.0 16.55 2.46 11.0 16.52 2.46 11.0 16.56 2.46 11.0 16.55 2.46	t	0.080.1		19.22	14.5	KO(K)	
0.5 17.65 3.5 1.0 1.7.9 5.4.4 1.1.0 1.7.9 5.4.4 1.1.1 1.6.4.4 3.5 2.5 1.6.4.4 3.5 3.1.0 1.6.4.4 3.5 3.1.1 1.6.4.4 3.5 3.1.1 1.6.4.4 2.5 3.1.1 1.6.4.4 2.5 3.1.1 1.6.4.4 2.5 4.5 1.6.4.4 2.5 4.6.0 1.6.4.4 2.5 4.7 1.6.4.4 2.2 4.7 1.6.4.4 2.2 1.1.0 1.6.4.4 2.2 1.1.0 1.6.4.4 2.2 1.1.0 1.6.4.4 2.2 1.1.0 1.6.4.4 2.2 1.1.0 1.6.4.4 2.2 1.1.0 1.6.4.4 2.2 3.0.0 1.6.1.7 2.2 4.6.0 1.5.4.4 1.1 1.1.0 1.5.4.4 1.1 1.1.30.0	t	0.0441		10.27	5.40		runping stoppod
1.0 17.29 N 1.5 16.94 N 2.0 16.75 2 2.1 16.75 2 3.5 16.75 2 3.5 16.75 2 3.5 16.75 2 4.5 16.75 2 4.5 16.75 2 4.5 16.75 2 5.0 16.75 2 7.0 16.47 2 7.0 16.47 2 7.0 16.47 2 7.0 16.47 2 7.0 16.47 2 7.0 16.47 2 7.0 16.47 2 11.0 16.24 2 11.0 16.47 2 11.0 16.47 2 11.0 16.47 2 11.0 16.47 2 11.0 16.47 2 11.0 16.47 2 <td>t</td> <td>5.0111</td> <td>5.0</td> <td>59:61</td> <td>18.1</td> <td></td> <td></td>	t	5.0111	5.0	59:61	18.1		
1.5 16.94 5. 2.0 16.86 5. 2.1 16.67 2. 2.5 16.64 2. 3.5 16.64 2. 4.0 16.42 2. 5.0 16.42 2. 5.0 16.43 2. 5.0 16.43 2. 7.0 16.43 2. 7.0 16.43 2. 7.0 16.43 2. 7.0 16.43 2. 7.0 16.43 2. 7.0 16.43 2. 7.0 16.43 2. 7.0 16.43 2. 7.0 16.44 2. 11.0 16.43 2. 11.0 16.44 2. 11.0 16.44 2. 25.0 15.56 1. 156.0 15.57 1. 156.0 15.54 1. 156.0	t	0141	0	67.71	St. (
2.0 16.86 3. 2.5 16.67 2. 3.5 16.67 2. 4.5 16.67 2. 3.5 16.67 2. 4.5 16.67 2. 5.0 16.85 2. 5.0 16.85 2. 5.0 16.84 2. 5.0 16.84 2. 7.0 16.34 2. 7.0 16.34 2. 7.0 16.34 2. 7.0 16.34 2. 7.0 16.42 2. 7.0 16.34 2. 7.0 16.34 2. 7.0 16.34 2. 7.0 16.34 2. 7.0 16.34 2. 7.0 16.34 2. 7.0 16.35 2. 7.0 15.36 1. 7.30 15.31 1. 7.30 15.31 <td>t</td> <td>141 5</td> <td>5.1</td> <td>16.91</td> <td>61.6</td> <td></td> <td></td>	t	141 5	5.1	16.91	61.6		
2.5 16.75 2 3.5 16.64 2 4.6 16.55 2 4.6 16.55 2 4.6 16.55 2 4.6 16.55 2 5.0 16.55 2 6.0 16.55 2 7.0 16.55 2 7.0 16.55 2 7.0 16.55 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 11.0 16.54 2 11.0 16.54 2 75.0 15.56 1 75.0 15.54 1 135.0 15.54 1 135.0 15.54 1 135.0 15.54 1 14.00 15.54 <td< td=""><td>T</td><td>0 CPT</td><td>2.0</td><td>16.86</td><td>3.05</td><td></td><td></td></td<>	T	0 CPT	2.0	16.86	3.05		
5.0 6.07 5.5 4.5 16.63 2 4.5 16.43 2 5.0 16.43 2 5.0 16.43 2 5.0 16.43 2 5.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.43 2 7.0 16.44 2 11.0 15.44 1 12.0 15.56 1 75.44 15.54 1 130.0 15.54 1 130.0 15.52 1 14.60 15.52	t	2 5 5 5	5 6	16.75	10.2		
3.5 16.60 2 4.0 16.55 2 4.0 16.55 2 5.0 16.55 2 5.0 16.55 2 7.0 16.55 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 15.54 1 135.0 15.54 1 135.0 15.54 1 135.0 15.54 1 14.60 15.54 1 15.51 15.51 1	T	0.744	0	6.67	2.86		
4.0 15.3 5.0 16.53 2 4.5 16.54 2 2 2 7.0 16.54 2 2 2 7.0 16.54 2 2 2 7.0 16.54 2 2 2 2 7.0 16.54 2	T				16		
4.0 15.35 4.50 16.53 2 4.5 16.43 2 2 2 5.0 16.43 2 2 2 7.0 16.43 2 2 2 7.0 16.43 2 2 2 7.0 16.43 2 2 2 10.0 16.43 2 2 2 10.0 16.43 2 2 2 2 11.0 16.43 2<		1.1.1		10.01			
4.5 16.52 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 7.0 16.54 2 9.0 16.0 2 9.0 16.1 2 11.0 16.0 2 13.0 15.50 1 14.0 16.0 2 15.0 15.54 1 15.0 15.54 1 15.50 15.54 1 15.54 15.54 1 15.54 15.54 1 15.54 15.54 1 15.54 15.54 1 15.54 15.54 1 15.54 15.54 1 15.54 15.54 1 15.54 15.54 1 15.54 15.54 1 15.54 15.54		0.4441	0.4	50 ⁻⁰¹			
5.0 16.48 2 7.0 16.42 2 7.0 16.42 2 7.0 16.42 2 7.0 16.42 2 7.0 16.42 2 7.0 16.42 2 11.0 16.42 2 11.0 16.41 2 11.0 16.42 2 11.0 16.43 2 11.0 16.43 2 11.0 16.44 2 11.0 16.44 2 11.0 16.44 2 20.0 16.03 2 20.0 15.49 1 15.56 15.56 1 75.0 15.49 1 15.49 15.49 1 15.56 15.56 1 15.56 15.49 1 15.56 15.49 1 15.56 15.49 1 15.56 15.49 <td>Г</td> <td>S 1111</td> <td>4.5</td> <td>16.52</td> <td>2.71</td> <td></td> <td></td>	Г	S 1111	4.5	16.52	2.71		
6.0 16.42 2 7.0 16.42 2 8.0 16.43 2 8.0 16.44 2 9.0 16.47 2 11.0 16.24 2 12.0 16.24 2 13.0 16.24 2 13.0 16.24 2 13.0 16.24 2 13.0 16.14 2 14.0 16.14 2 13.0 15.30 1 90.0 15.30 1 93.0 15.36 1 93.0 15.36 1 135.0 15.36 1 135.0 15.36 1 135.0 15.36 1 135.0 15.36 1 135.0 15.36 1 135.0 15.36 1 135.0 15.36 1 135.0 15.37 1 14.60 15.37	Ē	0.541	0.5	16.48	2.67		
7.0 16.38 2 9.0 16.33 2 9.0 16.34 2 9.0 16.34 2 11.0 16.24 2 11.0 16.24 2 11.0 16.24 2 11.0 16.03 2 13.0 15.34 2 14.0 16.03 2 25.0 16.03 2 25.0 15.36 1 35.0 15.36 1 35.0 15.36 1 135.0 15.36 1 135.0 15.34 1 135.0 15.34 1 135.0 15.34 1 135.0 15.31 1 210.0 15.31 1 210.0 15.31 1 226.0 15.31 1 230.0 15.31 1 240.0 15.31 1 25.0 15.	Г	1446.0	0.9	16.42	2.61		
K0 16.13 2 9.0 16.23 2 11.0 16.24 2 11.0 16.24 2 11.0 16.14 2 12.0 16.14 2 13.0 16.14 2 15.0 16.14 2 15.0 15.56 16.03 2 25.0 16.03 2 2 15.0 15.56 1 2 25.0 16.03 2 2 30.0 15.56 1 2 450.1 15.56 1 2 1050.0 15.49 1 1 1050.0 15.49 1 1 210.0 15.49 1 1 155.0 15.49 1 1 200.0 15.10 1 1 200.0 15.14 1 1 200.0 15.12 1 1 300.0 <td< td=""><td>T</td><td>0 (77</td><td>2.0</td><td>16.38</td><td></td><td></td><td></td></td<>	T	0 (77	2.0	16.38			
9.0 16.24 2 10.0 16.24 2 11.0 16.24 2 12.0 16.24 2 12.0 16.24 2 12.0 16.24 2 13.0 16.24 2 13.0 16.24 2 13.0 15.0 16.14 2 25.0 16.03 2 2 30.0 16.03 2 2 30.0 15.50 1 2 30.0 15.50 1 2 30.0 15.44 1 1 135.0 15.44 1 135.0 15.44 1 135.0 15.44 1 135.0 15.44 1 155.0 15.44 1 155.0 15.44 1 155.0 15.44 1 155.0 15.44 1 155.0 15.44 1	1	1 V 01 T	3	191			
10.0 16.21 2 11.0 16.24 2 13.0 16.14 2 13.0 16.14 2 13.0 16.14 2 13.0 16.14 2 13.0 16.14 2 15.0 16.00 2 25.0 16.00 2 25.0 16.00 2 25.0 15.86 1 0.00 15.35 1 0.00 15.36 1 135.0 15.36 1 135.0 15.44 1 135.0 15.43 1 135.0 15.44 1 135.0 15.44 1 135.0 15.44 1 135.0 15.44 1 135.0 15.27 1 210.0 15.21 1 230.0 15.21 1 240.0 15.12 1 250.0 <	1			01.91			
11.0 16.24 2 17.0 16.24 2 17.0 16.21 2 17.0 16.14 2 15.0 16.14 2 15.0 16.14 2 15.0 16.14 2 15.0 16.14 2 20.0 15.95 2 20.0 15.62 1 75.0 15.64 2 75.0 15.44 1 105.0 15.49 1 105.0 15.49 1 105.0 15.49 1 105.0 15.49 1 105.0 15.49 1 105.0 15.49 1 105.0 15.49 1 105.0 15.49 1 200.0 15.49 1 15.40 15.49 1 166.0 15.49 1 166.0 15.49 1 166.0	T				Ì		
17.0 16.21 2 17.0 16.21 2 15.0 16.14 2 15.0 16.14 2 15.0 16.14 2 15.0 16.03 2 20.0 16.03 2 20.0 15.05 1 20.0 15.62 1 20.0 15.62 1 75.0 15.62 1 75.0 15.62 1 75.0 15.62 1 75.0 15.44 1 135.0 15.44 1 135.0 15.44 1 135.0 15.44 1 135.0 15.44 1 135.0 15.44 1 135.0 15.44 1 135.0 15.44 1 135.0 15.52 1 1460 15.53 1 15.40 15.10 1 15.10 <td< td=""><td>T</td><td>0.004</td><td></td><td></td><td>14</td><td></td><td></td></td<>	T	0.004			14		
13.0 16.21 2 13.0 16.12 2 14.0 16.13 2 15.0 16.13 2 25.0 16.03 2 25.0 16.03 2 25.0 16.03 2 25.0 15.05 2 30.0 15.56 1 90.0 15.56 1 135.0 15.56 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 210.0 15.37 1 210.0 15.27 1 200.0 15.27 1 200.0 15.27 1 200.0 15.21 1 200.0 15.21 1 200.0		1451.0	2	1.0.1			
13.0 16.19 2 15.0 16.14 2 15.0 16.14 2 25.0 16.03 2 25.0 16.03 2 25.0 16.03 2 25.0 15.00 2 75.0 15.895 2 75.0 15.63 2 75.0 15.64 1 75.0 15.64 1 75.0 15.44 1 105.0 15.43 1 105.0 15.43 1 105.0 15.43 1 155.6 15.49 1 155.6 15.49 1 155.6 15.49 1 165.0 15.49 1 155.6 15.49 1 155.6 15.49 1 165.0 15.49 1 165.10 15.37 1 200.0 15.19 1 400.0		0.234	0.21	19.01			
14.0 16.17 2 20.0 16.04 2 25.0 16.00 2 25.0 16.00 2 25.0 15.05 2 30.0 15.05 2 45.0 15.05 2 45.0 15.62 1 75.0 15.62 1 75.0 15.62 1 75.0 15.44 1 105.0 15.44 1 105.0 15.44 1 105.0 15.44 1 105.0 15.44 1 105.0 15.44 1 105.0 15.44 1 105.0 15.44 1 105.0 15.44 1 100.0 15.44 1 200.0 15.44 1 200.0 15.44 1 200.0 15.45 1 200.0 15.10 1 450.0		1453.0	13.0	10.14			
15.0 16.14 2 25.0 16.03 2 25.0 16.03 2 25.0 15.95 2 25.0 15.95 2 30.0 15.95 2 30.0 15.95 2 90.0 15.60 15.49 135.0 15.56 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 2100 15.49 1 2100 15.21 1 2100 15.21 1 200.0 15.21 1 300.0 15.21 1 420.0 15.10 1 420.0 15.10 1 420.0 15.10 1		0.4541	14.0	16.17	9/~7 7		
2000 16.03 2 25.0 16.03 2 35.0 15.95 2 30.0 15.95 2 75.0 15.65 1 90.0 15.65 1 15.66 10		0.2541	15.0	19.14	7 1		
25.0 15.00 2 30.0 15.95 2 45.0 15.95 1 93.0 15.62 1 93.0 15.62 1 93.0 15.63 1 150.0 15.44 1 15.40 1 15.40 1 15.41 1 250.0 15.41 1 250.0 15.41 1 15.40 1 15.41 1 15.40 1 15.41 1 15.40 1 15		0.0341	20.0	16.03			
30.0 15.95 2 45.0 15.80 1 660 15.80 1 75.0 15.80 1 75.0 15.45 1 75.0 15.45 1 105.0 15.44 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.49 1 135.0 15.21 1 2160 15.21 1 2160 15.21 1 200.0 15.21 1 300.0 15.21 1 420.0 15.10 1 430.0 15.10 1 430.0 15.10 1	Γ	1465.0	25.0	16.00			
45.0 15.80 15.80 75.0 15.30 1 75.0 15.65 1 75.0 15.65 1 75.0 15.65 1 75.0 15.65 1 75.0 15.65 1 75.0 15.65 1 155.0 15.54 1 155.0 15.44 1 155.0 15.34 1 165.0 15.34 1 165.0 15.34 1 165.0 15.34 1 165.0 15.34 1 270.0 15.37 1 270.0 15.27 1 270.0 15.27 1 270.0 15.27 1 420.0 15.10 1 430.0 15.10 1 430.0 15.10 1	Γ	0.041	30.0	15.95			
60.0 15.70 1 75.0 15.62 1 75.0 15.62 1 105.0 15.64 1 155.0 15.44 1 155.0 155.0 1 155.0 1000000000000000000000000000000000	Γ	0 587	450	15.80	ĺ		
75.0 15.65 90.0 15.62 105.0 15.54 120.0 15.54 150.0 15.44 150.0 15.44 150.0 15.44 180.0 15.18 180.0 15.21 180.0 15.21 1460.0 15.21 1460.0 15.21 1460.0 15.21 1460.0 15.21 15.10 250.0 15.21 1460.0 15.21 15.10 15.10	Т	1400.0	60.0	Γ			
90.0 15.62 1 105.0 15.58 1 120.0 15.58 1 150.0 15.54 1 150.0 15.54 1 165.0 15.54 1 165.0 15.54 1 200.0 15.21 1 200.0 15.21 1 200.0 15.21 1 420.0 15.10 1 5.10 1 5.1	T	1515.0	250	ſ			
105.0 15.58 1 120.0 15.49 1 155.0 15.44 1 155.0 15.43 1 155.0 15.44 1 155.0 15.43 1 155.0 15.44 1 155.0 15.44 1 155.0 15.44 1 200.0 15.21 1 200.0 15.21 1 300.0 15.18 1 420.0 15.18 1 420.0 15.10 540.1	Γ		0.00				
120.0 15.49 1 135.0 15.44 1 150.0 15.44 1 150.0 15.45 1 180.0 15.16 1 240.0 15.17 1 240.0 15.27 1 1460.0 15.17 1 420.0 15.12 1 420.0 15.10 1 540.0 15.10 1 540.0 15.10 1	ſ		0501				
135.0 13.44 1 150.0 15.43 1 160.0 15.38 1 160.0 15.29 1 240.0 15.21 1 240.0 15.21 1 300.0 15.21 1 420.0 15.20 1 420.0 1 420.0 15.20 1 420.0 10	ſ	1000	0.001				
150.0 15.43 1 165.0 15.43 1 165.0 15.43 1 165.0 15.43 1 165.0 15.43 1 200.0 15.21 1 270.0 15.23 1 300.0 15.23 1 480.0 15.18 1 480.0 15.18 1 480.0 15.18 1	1	2.272	121				
165.0 15.38 1 165.0 15.38 1 200.0 15.27 1 200.0 15.27 1 300.0 15.27 1 420.0 15.17 1 420.0 15.12 1 480.0 15.10 1 5.10 1		0.000	10.05				
15.00 180.00 210.00 240.00 240.00 15.27 15.27 10.00 15.27 10.00 15.17 10.00 15.17 10.00 15.17 10.00 15.10	ſ	2222	0'00'				
2000 15.21 1 240.0 15.21 1 270.0 15.22 1 300.0 15.23 1 480.0 15.18 1 480.0 15.18 1 480.0 15.10 1 5.10 1		1002.0	0'COT				
210.0 15.21 1 276.0 15.25 1 276.0 15.25 1 300.0 15.21 1 420.0 15.17 1 420.0 15.17 1 420.0 15.10 2 420.0 15.10 1 420.0 1 420.0 15.10 1 420.0 1 400.0 100.0 1000000000000000000000000000		1620.0	121				
240.00 15.27 1 240.00 15.23 1 300.00 15.23 1 420.00 15.17 1 420.00 15.17 1 240.00 15.10 1 540.00 15.10 1		1650.0	210.0				
270.00 [5.23 1 200.0 [5.21 1 200.0 [5.18 1 480.0 15.12 1 480.0 15.10 1 5.10 1		0.0801	240.0		Ŷ		
300.0 15.23 1 360.0 15.1% 1 420.0 15.1% 1 480.0 15.10 1 540.0 15.10	Ľ	1710.0	270.0				
360.0 15.1% 1 420.0 15.17 1 480.0 15.12 1 540.0 15.10 1	ł	0.0471	0.000			-	
420:0 15.17 480:0 15.12 540:0 15.10		10000	160.0				
480.0 15.12 540.0 15.10		0.0421	0.041		ſ		
540.0 15.10	1		0.021				
		0.07/1					
			2				

Basodesh Constant

Basodesh Constant

.

LA SHEET OF PUMPING TEST
DATA
3
.6.3-2
~
Table

ļ		-19			ŀ	A to the second s	MACKADONA
000000				Dian College	- 31 m	Texts	78.00
Screen :				SWL	0	Date	
							())
	Elapsod		Water	-werQ	Pumping Rate	Rate	Remarks
Act. Time	Time (t)		10001	Down (2)			
7 6 41 41 41	(mm)	(uim)	(m)	(m) (m)	(Inter/min)		artestan Bow
t l	0.0		050	95.6	0000		
	1.0		9,83	\$X.9			
	1.5		10.07	20:01			
			10.3.1				
	2.2		10.75	0.75			
			0.11	61.11			
	0.4		11.47	11.47			
	4.5		11.75	52713			
	5.0		10.05	1.95	-		
	0.6						
				:			
	0.0		25 61	l			
	10.01		10.55				
	0.11		12.56	ŀ			
	12.0		12.56				
	13.0		12.60				
	071		12.64				
	15.0		- 12.66	- 2.66			
	0.02		17.71				
	0.54		13.43				
	60.0	1. 	13.75				
	75.0		14,75				
	0.06		14.60	-			
	- 105.0		78.41				
				ľ			
	0.02		200				
	1221		66.9				
	0.081		16.55		7200		
	210.0		17.05				
	240.0		17.25				
-	2.70.0	1	5175		-		
;	0.005		77.6	14.6	;		
	0 (19)		10.02	20.02			
:	120.0		20.50	20.50			
	180.0		34.61	19.48			
2 	240.0		20.90	20.50			
	600.0		19.69	19.69			
	0000		9.69	02.01	-		
	0.002	Í	10.60	19.61			
	20072		20.52	20.52			
	0000		20.52	20.52			
	0.0%		6/6	69.61			
	1020.0		0.70	14.70	-		
			17.71	12.00		:	
	1 1-11-11		CC'07	1			
		-		•		· * •	
			Marka	nda const	ant discharge		

Draw- Pumping Rate Remarks	Down (s)	(m) (later/min)	20.52	19.70	19.72	19.73	19.73 Summing	19.46	17.(N)	13.00	9.X0	4 4 2	5.27	1.33	950	2.70	1.7%	0.93	0.00 and an
Waler D	Level De		20.52	02.61	19.72	19.73	19.75	19.66	17,001	10.00	0.80	6.47	5.27	1.03	35.5	2.70 [1.7K	0.93	00'0
		(mm)						0.51	1.0.1	131	2.0	2.5	3.0	3.5	0.4	\$° †	5.0	6.0	10.7
Elapsed	Time (i)	(ann)	1200.0	1260.0	0.0201	0.0%11	0.0441	5.0441	0 1111	5 1441	1442.0	1442.5	1-147.0	1443.5	0.4441	5.444.5	0.2441	0.544.1	0.741
	Act.Time																		

Maskaroda constant discharge

Maskaroda constant discharge

Pumping Raic Hiter/min) (m ³ /hr)	
Pumping Raic (hter/min) (m ³ /ht) oxxxi	
	Draw-
0000	
	80
	0.40
-+	212
	17.0
	0+0
	940
	9
	0.40
	0.40
	8
	ð,
	۲,
	0.15
	0.35
	3
	6
	0.31
	0.31
	0.1
	0.30
	0.30
	6
	0
	9
	8
	2
	0.30
	0.11
	6
	Ĉ
	6
	0
0. 12	° [•
	> (<
	> <

¥	Elapsed		Water	Draw-	Pumping Rate	cate	Rcm
	(mn)	(unu)	(m)	(m)	(liter/min) ((m ³ /hr)	
Ē	840.0		7.62	0.32			
	0.006		7.62	0.32			
	960.0		2.63	0.33			
	1020.0		7.62	0.32			
	0'0%01		2.63	11.0			
	0.0411		7.63	0.33			
	1200.0		7.63	0.33			
	1260.0		7.63	0.33			
1	1320.0		7.63	0.33			
ľ	0.0851		7.63	0.33	0006		
	0.0441		7.63	0.35			Pumping st
	5.0441	0.5	7.63	0.33			ROCOVERV
	1441.0	0'1	7.63	0.03			
	141.5	1.5	1.51	0.21			
	142.0	2.0	7.50	0.20			
	1442.5	2.5	61-2	0.19			i
	0.6445	3.0	XT 2	0.18			
	2.6441	3.5	7.19	61.0			
	0.1111	07	7 - 14	0.16			
	1444	5.7	246	0.16			
	1445.0	5.0	7.46	0.16			
	0 94461	09	7.45	0.15			
	1447.0	7.0	245	0.15			
	O XTTI	0 *	2.15	0.15			
	0.0141	0.0	7.45	\$10			
	0.0211		YV I				
	0.004	0.01					
	071041		<u>,</u>				
	1452.0	12.0	2	0			
1	1453.0	0.61	7.45	0.15	-		
	1454.0	0'#1	7.45	0.15			
	1455.0	15.0	7.44	11 °C			
	1460.01	20.0	44.2	11.0			
	1465.0	25.0	2.43	0.13			
	1470.0	30.05	7.42	0.12			
	0'9851	0'\$1	7.40	0.10		-	
	1500.0	0.09	61. 2	60.0			
	1515.0	75.0	7, 18	80.0			
	1530.0	0.00	-91-2	90.0			
	1545.0	105.0	51.7	0.05	1		
	1560.0	120.0	tr. 2	10.0	-		
	1575.0	135.0	7.14	0.04			
	1500.0	150.0	7.33	0.03			
	1605.0	165.0	7.13	0.03			
	1620.0	1×0.0	7.33	0.03			
	16.50.0	210.0	7.32	0.02			
		0.000	ŗ				

Kemurks												Pumping stopped	Recovery																																				
Pumping Raic	(m'/hr)																																																
ndund	(liter/min)										0006																																						
Draw- Dona (s)	(m)	0.32	0.32	0.33	0.32	0.33	0.33	0.33	65.0	0.33	0.33	0.33	0.33	0.33	0.21	0.20	0.19	0.1%	0.19	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	1 0	10	0.13	0.12	010	0.0	0.0X	9.0	50.0	d	0.04	0.03	0.03	0.03	0.02	0.02	0.02	20.0
Water Level	(m)	7.62	7.62	7.63	7.62	7.63	1.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.51	7.50	7.19	XT 2	61-2	7 44	7.46	2.46	7.45	7.45	2.45	7.45	7.45	7.45	7.45	7.45	7.45	4.7	7	ET 2	7.12	2 40	61.6	7 18	- 10-	5. Y	7.24	7 2	7.33	7.13	7.33	7.32	7.32	7.32	7.32
<i>ت</i>	(unu)												0.5	1.0	1.5	2.0	2.5	3.0	3.5	0.4	5.4	5.0	6.0	7.0	8.0	9.0	10.01	11.0	12.0	13.0	0'11	15.0	20.0	25.0	30.0	55.0	0.09	75.0	0.04	1.001	120.0	135.0	150.0	165.0	1×0.0	210:0	240.0	270.0	300.0
Elapsed Time (1)	(min)	X40.0	0.000	960.0	1020.0	10%0.0	0'0+11	1200.0	1260.0	1320.0	0.0861	0.0441	1440.5	1441.0	1441.5	1442.0	1442.5	0.6448	1443.5	0.4441	1444.5	1445.0	1446.0	1447.0	0"%***1	0.9441	1450.0	1451.0	1452.0	1453.0	1454.0	1455.0	1460.0	1465.0	1470.0	14X5.0	1500.0	1515.0	1530.01	0.040	1560.0	1575.0	1590.0	1605.0	1620.0	16:50.0	16X0.0	1710.0	1740.0

T

Ţ

I

Mara Constant Discharge

.

Mara Constant Discharge in 1999

1-128

- E
-
- 5
_
ā
- LL
c
~
SUBET OF PLANE
- 5
L
£1
=
شر ا
· · ·
<
- H
4 F 4 C
\sim
4
~
~
Ň
~
~
5-2
~
5-2
5-2
.6.3-2 (
e 1.6.3-2 (
e 1.6.3-2 (
e 1.6.3-2 (
ble 1.6.3-2 (
ble 1.6.3-2 (
e 1.6.3-2 (

CONSTANT Descringe Fox Timp sering Date Time (1) (min) (min) (min) (min) (min) (min) (min) (min) (min) (min) (min) (min) (n) (n) (min) (min) (min) (min) (min) (min) (min) (n) (n) (min) (min) <t< th=""><th>Constant Jesonarge Elapsod (1) Time (1) (min) 0.5 (min) 0.5 (min) 0.5 (1) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0</th><th>100 100 100 100 100 100 100 100</th><th>SWL Draw- Draw- Count (s) Cond (m) <th(m)< th=""> <th(m)< th=""></th(m)<></th(m)<></th><th>Pumpns 10,8 K 4800 4800 4800</th><th>alle alle alle alle alle alle alle alle</th><th>Remarks</th></t<>	Constant Jesonarge Elapsod (1) Time (1) (min) 0.5 (min) 0.5 (min) 0.5 (1) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	100 100 100 100 100 100 100 100	SWL Draw- Draw- Count (s) Cond (m) (m) <th(m)< th=""> <th(m)< th=""></th(m)<></th(m)<>	Pumpns 10,8 K 4800 4800 4800	alle alle alle alle alle alle alle alle	Remarks
SWL WL WARE Draw- trans. Pumbring Rate Trime.(1) (min) (min) (min) (min) 0:0 (min) (min) (min) (min) 0:1 (min) (min) (min) (min) 0:1 (min) (min) (min) (min) 1:1 (min) (min) (min) (min) 1:3 44.3 4.5 4.600 (min) 3:0 (min) (min) (min) (min) 3:1 44.3 4.5 4.600 (min) 3:1 4.3.3 4.3.4 4.4 4.4 5:0 (min) (min) (min) (min) 5:0 (min) (min) (min) (min) 5:1 (min) (min) (min) (min) 5:1 (min) (min) (min) (min) 5:1 (min) (min) (min) (min) 5:0 (min)	Elapsod (f) Time (1) (mun) (mun) (mun) 0.5 (mun) 0.5 (mun) 1.0 1.0 2.5 3.5 3.5 3.5 3.5 3.5 1.0 11.0 11.0 11.0 11.0 11.0 11.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25	Water 1,250 1,550	SWL Draw- Down (x) (m) (m) (m) (m) (m) (m) (m) (m) (m) (m	Pumpns (itter/hr) (itter/hr) (44800) 44800	Auto	Remark
(f) Water I.cvul Drawn. (s) (m) Pumping Rate (muit) (m) (m) (m) (muit) (m) (m) (m) (m) 458 450 450 (m) 450 450 443 (m) 450 450 443 (m) 450 443 443 (m) 450 443 443 (m) 450 443 443 (m) 513 4400 450 (m) 450 443 443 (m) 513 4430 4430 (m) 450 4430 4400 (m) 450 4430 4400 (m) 450 4433 450 (m) 45	Elapsod (() Time (1) (mun) 0.5 (mun) 0.5 (mun) 0.5 (mun) 0.5 (mun) 2.5 2.5 (mun) 2.6 (Water 1. Cond (m) (m) (m) (m) (m) (m) (m) (m)	Draw- Down (5) (\overline{n}) (\overline{n}	Pumpns (itter/hr) 44800 44800	2 Parte	Remark
Time (1) Lorel Down (n) (m) (m) 0 0 (m) (m) (m) (m) 0 0 (m) (m) (m) (m) 1 0 44.38 4.58 4.58 4.58 1.5 44.33 4.54 4.53 4.54 4.54 3.0 4.0 44.33 4.54 4.55 4.43 4.54 3.0 4.0 4.43 4.43 4.54 4.55 4.43 4.55 4.45 4.55 4.45 4.55 4.45 4.55 4.45 4.55 4.45 4.55 4.45 4.45 4.55 4.45	Time (1) (min) (min) (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1000 100 1000 1	Dava (1) (1) (1) (1) (1) (1) (1) (1)	(itter/hr) 44800		
(100) (100) (100) (100) 5 44.33 4.58 6 44.33 4.58 7 44.33 4.58 6 44.33 4.58 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 7 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 44.33 4.59 6 </td <td></td> <td>10-20 10-20</td> <td>0 00 0 00</td> <td>44000</td> <td></td> <td></td>		10-20 10-20	0 00 0 00	44000		
44.38 4.38 4.38 44.35 4.58 4.58 44.30 4.59 4.56 44.30 4.59 4.56 44.30 4.59 4.56 44.30 4.59 4.56 44.30 4.56 4.56 44.30 4.56 4.56 44.30 4.56 4.56 44.30 4.56 4.56 44.30 4.56 4.56 44.30 4.56 4.56 44.57 5.11 4.55 44.57 5.17 7.76 44.57 5.540 4.55 44.57 5.540 4.55 44.57 5.17 7.76 45.78 5.11 4.55 45.78 5.12 4.55 45.79 5.12 4.55 45.78 5.11 4.55 57.01 11.67 7.76 57.02 5.20 11.62 57.56 11.02 <td>0,5 1,0 2,0 2,5 3,0 4,5 4,5 4,5 4,5 4,5 4,5 4,5 4,5 6,0 11,0 11,0 11,0 11,0 11,0 11,0 11,0</td> <td>41.33 41.34 41.344</td> <td>6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>44000</td> <td></td> <td></td>	0,5 1,0 2,0 2,5 3,0 4,5 4,5 4,5 4,5 4,5 4,5 4,5 4,5 6,0 11,0 11,0 11,0 11,0 11,0 11,0 11,0	41.33 41.34 41.344	6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	44000		
44.18 4.58 4.58 44.13 4.59 4.59 44.10 4.59 4.59 44.10 4.50 4.50 44.10 4.50 4.50 44.10 4.50 4.50 44.10 4.50 4.50 44.10 4.50 4.50 44.10 4.50 4.50 44.10 4.50 4.50 44.10 4.50 4.50 44.10 4.50 4.50 44.50 5.50 5.50 44.50 5.50 5.50 44.50 5.50 5.50 45.75 5.77 7.76 45.76 5.73 7.76 45.76 5.74 7.76 45.78 5.50 5.50 45.79 5.77 7.76 45.76 7.76 7.76 45.76 7.76 7.76 45.76 7.76 7.76 45.76 7.76	1.0 1.5 2.0 2.5 3.0 4.5 4.5 4.5 4.5 4.5 4.5 4.5 5.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	41.34 41.34 41.34 41.35	4 55 4 55 5 55	CODA:		
44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.15 4.55 44.55 4.55 44.55 4.55 44.55 5.11 44.55 5.11 44.55 5.11 44.55 5.11 45.56 5.93 45.57 5.77 45.55 5.12 45.55 5.12 45.55 5.11 45.55 5.11 51.55 5.11 51.55 5.56 51.55 5.57 51.55 5.58 51.55 5.58 51.55 5.58 </td <td>1,5 2,0 2,5 3,0 4,5 4,5 4,5 5,0 6,0 7,0 8,0 8,0 11,0 11,0 11,0 11,0 11,0 11,0</td> <td>41.34 44.34 44.34 44.35 44.37 44.4744 44.47 44.47 44.47 44.4744 44.47 44.47 44.47 44.4744 44.47 44.47 44.47447</td> <td>4 54 4 54 4 55 4 55 5 50 5 50 5 50 5 50</td> <td>OCU:</td> <td></td> <td></td>	1,5 2,0 2,5 3,0 4,5 4,5 4,5 5,0 6,0 7,0 8,0 8,0 11,0 11,0 11,0 11,0 11,0 11,0	41.34 44.34 44.34 44.35 44.37 44.4744 44.47 44.47 44.47 44.4744 44.47 44.47 44.47 44.4744 44.47 44.47 44.47447	4 54 4 54 4 55 4 55 5 50 5 50 5 50 5 50	OCU:		
44.30 4.54 44.30 4.50 44.30 4.50 44.30 4.50 44.30 4.50 44.30 4.50 44.30 4.50 44.30 4.50 44.30 4.50 44.30 4.50 44.30 4.50 44.50 4.45 44.50 4.45 44.50 4.50 44.50 4.50 44.50 5.10 44.50 5.10 44.50 5.10 44.50 5.10 45.50 5.40 45.50 5.40 45.50 5.10 45.50 5.10 45.50 5.10 45.50 5.10 45.50 5.10 45.50 5.10 45.50 5.10 45.50 5.10 45.50 5.10 45.50 5.10 5.10 5.20 <td>2.0 2.5 3.0 3.0 4.6 4.0 5.0 6.0 7.0 7.0 7.0 7.0 8.0 11.0 11.0 11.0 11.0 13.0 13.0 13.0 25.0</td> <td>42.34 44.34 44.35 44.37 44.4744 44.47 44.47 44.47 44.47 44.47 44.4744 44.47 44.47 44.47 44.4744 44.47 444</td> <td>4 54 4 55 5 55 5 55 5 55 5 55 5 55 5 55</td> <td>00947</td> <td></td> <td></td>	2.0 2.5 3.0 3.0 4.6 4.0 5.0 6.0 7.0 7.0 7.0 7.0 8.0 11.0 11.0 11.0 11.0 13.0 13.0 13.0 25.0	42.34 44.34 44.35 44.37 44.4744 44.47 44.47 44.47 44.47 44.47 44.4744 44.47 44.47 44.47 44.4744 44.47 444	4 54 4 55 5 55 5 55 5 55 5 55 5 55 5 55	00947		
44.33 4.54 44.33 4.56 44.33 4.56 44.33 4.56 44.34 4.56 44.35 4.45 44.35 4.45 44.35 4.45 44.35 4.45 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.13 44.35 5.14 44.35 5.13 44.56 5.34 45.57 5.13 45.58 5.14 45.59 5.14 45.59 5.14 45.50 11.62 51.45 5.33 51.45 5.34 51.55 11.62	2.5 3.0 3.5 3.5 4.6 5.0 5.0 5.0 6.0 11.0 11.0 11.0 11.0 11.0 11.0 11.	41.34 44.37 44.4744 44.47 44.47 44.47 44.47 44.4744 44.47 44.47 44.47 44.47 44.47 44.4744 44.47 44.47 44.4744 44.47 44.474	6.223 6.20 6.20 6.20 6.20 6.20 6.20 6.20 6.20	0094		
44.33 4.53 4.53 44.33 4.53 4.55 44.33 4.53 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 4.45 4.45 44.35 5.40 5.40 44.35 5.43 5.43 44.35 5.43 5.44 44.35 5.43 5.43 44.45 5.44 5.44 44.55 5.44 5.44 44.55 5.44 5.44 45.56 5.44 5.44 45.56 5.44	3.0 3.5 3.5 4.0 5.0 5.0 6.0 7.0 8.0 8.0 11.0 11.0 11.0 11.0 11.0 11.0	4133 4130 4130 4137 4137 4137 4137 4137 4137 4137 4137	4 53 4 55 4 55 5 55 5 4 4 5 5 5 5 4 4 5 5 5 5	00227		
44,30 4,50 4,50 44,37 4,47 4,45 44,37 4,47 4,45 44,37 4,47 4,45 44,37 4,45 4,45 44,37 4,45 4,45 44,35 4,45 4,45 44,35 4,45 4,45 44,35 4,45 4,45 44,35 4,45 4,45 44,35 4,56 6,30 44,35 4,57 6,30 46,10 6,30 4,57 46,10 6,30 4,57 46,10 6,30 4,57 46,10 6,30 4,57 46,10 6,30 6,30 46,10 6,30 4,57 46,10 6,30 4,57 46,10 6,30 4,57 46,10 6,30 4,57 46,10 6,30 4,57 46,10 6,30 4,57 46,10 6,31	3.5 4.0 4.5 4.5 4.5 4.5 6.0 7.0 7.0 8.0 8.0 11.0 11.0 11.0 11.0 11.0 11.0	41.23 41.23	6.20 6.20 6.20 6.20 6.20 6.20 6.20 6.20	00227		
44.30 4.50 4.50 44.30 4.50 4.50 44.22 4.42 44.22 4.45 44.23 4.45 44.23 4.45 44.33 4.57 44.33 4.53 44.35 6.77 44.35 6.77 44.55 6.77 45.50 6.70 45.51 7.23 45.53 6.77 45.54 7.73 45.55 6.77 45.56 7.73 45.57 6.77 45.56 7.73 45.57 7.73 45.56 7.73 45.57 7.73 45.56 7.73 45.57 7.73 45.56 7.73 45.57 7.73 45.56 7.74 45.57 7.73 45.56 11.60 51.44 11.63 51.44 11.63 51.44 11.63 51.44 11.63 51.44 11.63 51.45 52.85 51.65 11.63 51.65 11.63 51.74 11.64 51.75 </td <td>40 45 45 50 50 70 80 80 80 110 110 110 110 110 110 110 1</td> <td>41.30 41.37</td> <td>6.22 6.22 6.22 6.22 6.22 6.22 6.22 6.22</td> <td>OC124</td> <td></td> <td></td>	40 45 45 50 50 70 80 80 80 110 110 110 110 110 110 110 1	41.30 41.37	6.22 6.22 6.22 6.22 6.22 6.22 6.22 6.22	OC124		
44.30 4.50 4.50 44.22 4.45 44.22 4.45 44.22 4.45 44.33 4.45 44.35 4.45 44.35 4.45 44.35 4.45 44.35 6.73 44.35 6.30 45.30 6.30 45.30 6.30 45.31 7.33 45.32 6.30 45.33 6.30 45.34 7.30 45.35 6.30 45.36 7.73 45.37 6.30 45.36 7.73 45.37 7.73 45.35 6.30 45.35 7.73 45.36 11.60 51.42 7.73 51.42 7.73 51.42 7.75 52.32 11.62 53.30 11.62 53.30 13.04 53.30 13.04 53.30	4.5 5.0 6.0 7.0 7.0 8.0 8.0 8.0 11.0 11.0 11.0 11.0 11.0	44.30 44.30 44.25 44.25 44.29 44.35 44.75 44.75 44.75 44.75 44.75 44.75	6 20 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	QUX		
44.30 4.50 44.22 4.42 44.32 4.43 44.32 4.43 44.32 4.43 44.32 4.35 44.32 4.35 44.32 4.35 44.32 4.35 44.32 4.35 44.32 4.35 44.35 4.53 45.37 5.30 45.37 5.31 45.37 5.31 45.37 5.31 45.37 5.31 45.37 5.31 45.37 5.31 45.37 5.34 45.37 5.34 45.37 5.34 45.37 5.34 45.37 5.34 45.37 5.34 45.37 5.34 45.37 7.73 45.37 7.73 45.37 7.73 45.37 7.73 45.37 7.74 45.37 7.74 45.37 7.74 45.37 7.74 45.37 7.74 45.37 7.74 45.37 7.74 45.37 7.74 45.31 1.162	50 60 70 70 80 80 80 110 110 110 110 110 110 110 1	44.27 44.27 44.27 44.27 44.35 44.93 44.93 45.00 46.02	4.50 4.47 4.45 4.49 4.49 5.13 5.13 5.13 5.13 5.13 5.13 5.13 5.13	CODA		
44.27 4.427 44.27 4.425 44.23 4.455 44.37 5.17 44.37 5.17 44.37 5.17 44.37 5.17 44.37 5.17 44.37 5.17 44.37 5.17 44.37 5.17 45.36 5.90 45.37 5.91 45.36 5.91 45.37 5.91 45.36 5.91 45.37 5.91 45.36 5.91 45.37 5.91 45.38 5.91 45.39 5.91 45.36 11.62 91.44 11.62 91.43 11.62 91.44 11.62 91.45 11.62 91.46 11.62 91.40 11.62 91.40 11.62 91.40 11.62 91.70 11.62 91.71 11.	6.0 7.0 8.0 8.0 9.0 10.0 11.0 11.0 12.0 13.0 13.0 13.0 13.0 13.0 13.0 23.0 23.0	44.27 44.25 44.25 44.35 44.93 44.93 45.00 46.02	447 445 442 442 445 495 513 513 513 513 513 513 6130	COX7		
44.02 4.42 44.02 4.42 44.03 5.13 44.03 5.13 44.03 5.13 44.03 5.13 44.03 5.13 44.03 5.13 45.20 5.40 45.20 5.40 45.20 5.40 45.31 5.13 45.32 5.40 45.33 5.14 45.34 5.30 45.35 5.40 45.36 5.40 45.37 5.30 45.36 5.40 45.37 7.23 45.36 11.02 51.42 11.02 51.43 11.02 51.44 11.03 51.45 11.02 52.36 13.00 53.36 13.00 53.36 13.00 53.36 13.00 53.36 13.00 53.36 13.00 53.36 13.00 53.36 13.00 53.36 13.00 53.36 13.00 53.36 13.00 53.30 13.20 53.30 13.20 53.30 13.20 <td>7.0 8.0 9.0 10.0 11.0 13.0 13.0 13.0 13.0 13.0 13</td> <td>44.25 44.29 44.79 44.75 44.95 45.95 45.00 46.10</td> <td>445 442 442 442 445 495 513 513 513 513 630 630</td> <td>000</td> <td></td> <td></td>	7.0 8.0 9.0 10.0 11.0 13.0 13.0 13.0 13.0 13.0 13	44.25 44.29 44.79 44.75 44.95 45.95 45.00 46.10	445 442 442 442 445 495 513 513 513 513 630 630	000		
44.22 4.42 44.23 4.93 44.135 4.95 45.22 5.10 45.23 5.10 45.24 5.10 45.25 5.20 45.26 5.31 45.27 5.23 45.26 5.31 45.27 7.24 45.28 5.31 45.39 5.31 45.31 5.32 45.35 11.04 47.35 7.30 47.35 7.30 47.35 7.30 47.35 7.32 47.45 7.33 47.55 7.34 47.55 7.36 47.55 7.36 47.55 7.36 47.55 7.36 47.55 7.36 47.55 7.36 47.55 7.36 51.41 11.62 51.43 11.62 52.20 11.36 52.20 12.46 52.30 13.00 52.46 13.00 52.46 13.00 52.47 13.00 52.48 13.00 52.40 13.00 52.40 13.00 <	8.0 9.0 11.0 11.0 11.0 13.0 13.0 15.0 25.0 25.0	44.25 44.29 44.35 44.95 44.95 45.00 46.10	442 449 455 495 511 511 540 627 630	0087		
44,29 4,45 44,10 4,55 45,10 4,55 46,10 6,94 46,10 6,94 46,10 6,94 46,10 6,94 46,10 6,94 46,10 6,94 46,10 6,94 46,10 6,94 46,10 6,94 46,11 1,92 46,11 1,14 1,14 1,164 1,14 1,164 1,14 1,164 1,14 1,164 1,14 1,164 1,14 1,164 1,14 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164 1,164<	9.0 11.0 11.0 11.0 11.0 14.0 15.0 25.0 25.0	44.29 44.75 44.75 44.95 45.05 45.02	4.49 4.55 4.95 5.11 5.11 5.40 6.22 6.20	001		
44,15 4,55 4,55 64,75 4,95 4,95 44,57 5,13 5,40 45,50 6,50 6,50 46,57 6,73 6,73 46,57 6,73 6,73 46,57 6,73 6,73 46,57 6,73 6,73 46,57 6,73 7,33 47,55 7,34 7,34 47,55 7,73 11,63 47,55 7,73 11,63 47,55 7,73 11,63 51,44 11,63 11,63 51,42 11,63 11,63 51,42 11,63 11,63 51,44 11,63 5,26 51,42 11,63 2,23 51,43 11,63 3,36 51,43 11,63 3,36 51,55 5,36 13,06 52,36 13,06 5,36 53,07 13,29 3,36 51,09 13,29<	100 11.0 12.0 13.0 13.0 15.0 25.0 25.0	44.75 44.93 45.02 46.02	4.55 4.95 5.11 5.40 6.22 6.30	COX+		
44, 05 44, 05 4, 95 44, 07 5, 10 4, 95 45, 20 5, 40 6, 22 46, 67 6, 50 6, 98 46, 57 6, 57 6, 57 46, 57 6, 57 5, 30 46, 57 6, 57 5, 54 46, 57 6, 57 5, 54 46, 57 6, 57 5, 54 46, 57 6, 57 5, 54 46, 57 6, 57 5, 54 47, 55 7, 73 7, 74 47, 55 7, 75 7, 74 47, 55 7, 75 7, 75 47, 55 7, 75 7, 75 47, 55 7, 75 7, 75 51, 20 11, 67 7, 76 51, 20 13, 64 5, 26 51, 20 13, 06 5, 26 52, 26 13, 106 5, 26 53, 26 13, 106 5, 26 53, 76 13, 106 5, 26 53, 67 13, 107 5, 27<	11.0 12.0 13.0 13.0 15.0 25.0 25.0 25.0	44, 75 44, 95 45, 20 46, 10	4.95 5.13 5.40 6.22	COX+		
44,93 5,10 45,20 5,40 46,10 6,50 46,57 6,73 46,57 6,73 46,57 6,73 46,57 6,74 45,76 7,74 45,76 7,74 45,76 7,74 45,76 7,74 45,76 7,74 47,60 7,74 47,60 7,74 47,60 7,74 47,60 7,74 47,60 7,74 47,60 7,74 47,60 7,74 47,60 7,74 47,60 7,74 47,60 7,74 51,40 7,74 51,40 11,67 51,40 11,67 51,40 11,62 52,20 13,06 52,32 13,06 53,36 13,06 53,36 13,06 53,36 13,06 53,36 13,06 <td>12.0 13.0 14.0 15.0 25.0 25.0 25.0</td> <td>44.93 45.20 46.02</td> <td>5.13 5.40 6.22 6.30</td> <td>GOXT</td> <td></td> <td></td>	12.0 13.0 14.0 15.0 25.0 25.0 25.0	44.93 45.20 46.02	5.13 5.40 6.22 6.30	GOXT		
45,20 5,40 46,02 6,50 46,62 6,50 46,73 6,70 46,73 6,70 46,73 6,70 46,73 6,70 47,67 7,80 47,67 7,80 47,67 7,73 47,67 7,73 47,67 7,73 47,66 7,80 47,66 7,80 47,66 7,80 47,66 7,80 47,66 7,80 47,66 7,80 47,66 7,80 47,66 7,80 47,66 7,80 47,66 7,80 51,61 11,62 51,63 11,62 51,63 11,62 51,63 11,62 52,83 11,62 53,261 13,02 53,361 13,02 53,361 13,02 53,361 13,02 53,361 13	13.0 14.0 15.0 26.0 25.0 30.0	45.20 46.10	5.40 6.22	COXT		
46,02 6,22 46,10 6,70 46,57 6,79 46,57 6,79 46,57 6,79 47,07 7,73 47,67 7,70 47,67 7,73 47,55 7,73 47,55 7,73 47,56 7,73 47,56 7,73 47,56 7,73 47,55 7,73 47,56 7,73 47,56 7,73 47,56 7,73 47,56 7,73 47,56 7,73 47,56 7,73 47,56 7,73 47,56 7,73 51,42 11,62 51,42 11,62 51,43 11,62 51,43 11,63 52,20 12,45 53,20 13,46 53,26 13,69 53,34 13,09 53,34 13,09 53,407 13,27<	14.0 15.0 26.0 25.0 30.0	46.10	6.30			_
46.10 6.30 46.70 6.30 46.70 6.70 46.70 6.71 46.70 6.73 47.60 7.34 47.60 7.34 47.60 7.34 47.60 7.36 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 51.41 11.03 51.41 11.03 52.20 13.02 52.30 13.02 52.30 13.02 52.30 13.02 53.03 13.20 53.04 13.27 53.05 13.20 <td>15.0 20.0 25.0 30.0</td> <td>46.10</td> <td>6.30</td> <td></td> <td></td> <td></td>	15.0 20.0 25.0 30.0	46.10	6.30			
46.30 6.50 46.50 46.50 46.50 46.57 46.77 5.29 46.73 6.29 47.76 7.30 47.76 7.30 47.75 7.31 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.773 47.55 7.324 11.00 20 20 20 11.00 20 20 20 11.00 20 20 20 11.102 20 20 20 20 11.102 20 20 20 20 11.102 20 20 20 20 11.102 20 20 20 11.102 20 20 20 20 20 20 20 20 20 20 20 20 2	25.0	ĺ				
46.72 6.77 47.65 6.98 47.65 6.98 47.65 7.77 47.65 7.77 47.77 7.77	25.0	46.30	6.9			
46.78 6.98 47.07 7.27 47.65 7.79 47.65 7.79 47.65 7.79 47.65 7.79 47.65 7.79 47.65 7.79 47.65 7.79 47.65 7.79 47.65 7.79 47.65 7.79 51.44 11.64 51.42 11.64 51.44 11.64 51.24 11.64	30.0	46.57 4	6.7			
47.60 7.20 47.66 7.73 47.66 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 47.55 7.73 7.81 81.20 11.60 51.44 11.64 51.44 11.62 51.44 11.62 51.44 11.63 51.44 11.63 51.44 11.63 51.44 11.63 51.44 11.63 51.44 11.63 51.44 11.63 51.44 11.63 51.44 11.63 51.44 11.63 51.64 11.64 51.64 11.64 11.64 51.64 11.6	•	46.78	6.98			
47,554 7.74 47,660 7.760 47,555 7.75 47,555 7.75 47,556 11.60 51.300 11.40 51.300 11.40 51.300 11.40 51.300 11.60 52.25 11.245 52.25 11.64 53.07 11.62 52.36 11.164 53.07 11.02 52.36 11.166 52.36 11.166 52.36 11.166 52.36 11.166 52.36 11.106 52.36 11.106 53.00 11.006 53.00 11.106	1 10'51	17.07	127			
47.60 7.80 47.60 7.80 47.55 7.77 47.55 1.773 4.7.55 1.1.05 81.20 81.20 11.42 11.62 91.44 11.64 91.42 11.62 91.44 11.64 91.42 11.62 91.44 11.64 91.42 11.62 91.44 11.64 91.42 11.62 91.44 11.64 91.43 11.65 91.44 11.64 91.44 11.64 1	(0.0)	7.27	7.74			
47.60 7.80 47.55 7.73 47.55 7.73 47.55 7.75 47.55 11.60 51.20 51.40 51.40 52.25 12.40 52.26 12.40 52.26 12.40 52.26 12.40 52.26 12.40 52.26 12.40 52.26 12.40 52.26 12.40 52.26 12.40 52.26 12.40 52.60 13.00 52.60 13.00 53.00 13.00 50.00 13.00 50.0	75.0	47,60	7.80			
47.55 7.75 47.55 7.75 47.55 7.75 50.681 11.00 51.20 11.60 51.20 11.62 51.20 11.62 51.20 11.62 51.20 12.46 52.25 12.46 52.30 13.00 52.40 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 53.80 13.00 53.80 13.00 53.80 13.00 53.80 13.00 53.80 13.00 53.90 13.00 53.90 13.00 53.90 13.00 53.90	0.00	47.60	7,80			
47.55 7.75 50.83 11.03 51.20 11.63 51.20 11.64 51.21 11.62 51.42 11.64 51.44 11.64 51.45 11.65 51.45 11.64 51.45 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 52.80 13.00 53.00 13.20 51.01 13.27 51.00 13.20	105.0	47.53	. 7.73			
S0.87 11.03 51.200 11.42 51.42 11.42 51.42 11.42 51.43 11.64 51.44 11.64 52.20 12.46 52.21 13.45 52.22 13.46 52.20 13.46 52.46 13.00 52.36 13.02 52.36 13.02 52.36 13.02 52.36 13.02 52.36 13.02 52.36 13.02 53.36 13.02 53.36 13.02 53.36 13.02 53.36 13.02 53.36 13.02 53.36 13.24 53.36 13.25 53.36 13.27 53.36 13.27 53.36 13.27 54.44 13.27	120.0	47.55	7.75			
\$1,20 \$1,42 \$1,42 \$2,20 \$2,20 \$2,23 \$2,24 \$2,24 \$2,34 \$2,34 \$2,34 \$2,34 \$2,34 \$2,34 \$2,34 \$2,34 \$2,34 \$2,34 \$2,35 \$2,36 \$2,36 \$2,36 \$3,96 \$4,96 <t< td=""><td></td><td>\$8.02</td><td>11:03</td><td>7200</td><td></td><td></td></t<>		\$8.02	11:03	7200		
51,42 51,44 51,44 52,20 52,20 52,25 52,25 52,26 53,07 53,07 53,07 53,07 53,07 53,07	0.021	\$1.20	01.1	-		
51.44 52.20 52.20 52.25 52.25 52.82 53.07 53.07 53.07 53.07		51,42	11,62			
52.20 52.25 52.25 52.26 52.86 53.07 53.07 53.07 53.07	180.0	51.44	11.64	•		
\$2.25 \$2.65 \$2.80 \$2.84 \$2.84 \$2.84 \$2.96 \$3.07 \$5.07 \$5.07	210.0	52.20	12.40			
52.65 52.80 52.82 52.84 52.84 52.96 53.07 53.07 53.07	240.0	52.25	.12.45.			
22.80 22.82 52.84 52.96 52.96 53.07 53.07 53.07	270.0	\$2.65	12.85			
22.82 52.84 52.96 51.07 51.07 51.07 51.09	0.000	52.80	13.00			
\$2.84 \$2.96 \$3.07 \$1.07 \$1.07 \$1.09	230.0 L	52.82	13.02		:	
\$2.96 \$1.07 \$1.07 \$1.07 \$1.07	an 0.000 a a	\$2,84	-13.04			
53.07 53.07 53.09 54.00 54.000 54.000 54.0000000000	420.0	\$2.96	13.16		-	
60°VS	780.0	\$3.07	13.27			
t 60°V\$	- 240.0 -	20.62	13.27			
	600.0	53.09	- 13 29			

(mim)	(mm)	in (iii)	(m)	(itter/hr)	
0.060		53.09	13.29		
720.0		51 09	13.29		
740,0		53.10	13.30		
0.04X		53.10	13,70		
0.006		53.10	13,30		
0.096		53.11	13.31		
1020.0		53.11	13.31		
10%0.0		53.11	13.31		
1140.0		53.12	13.32		
1200.0		53.12	13.32		
1260.0		53.12	13.32		
1320.0		53.12	13.32		
1380.0		53.12	13.32		
0.0441		53.12	13.32		Pumping stopped
1440.5	0.5	49.50	9.70		Recovery
01111	1.0	47.30	8.00	-	
5 1771	\$ 1	47.10	01.7		
1442.0	2.0	42.60	2.80		
1442.5	2.5	42.20	2.40		
1413.0	3.0	06.14	2.10		
5141	3.5	41.70	1.90		
0 777	01	1 50	1.80		
2 44-1	5 7	11.50	1.50		
0.5442	05	01.14	1.36	, 	
1446.0	6.0	41.40	1.26		
0.7441	7.0	41.79	1.17		
0'8441	0'X	66.14	. 1.12		
1449.0	0.6	41.19	901		
0.0211	0.01	91.36	101		
1451-0	11.0	17.0 1	6.07		
-1452.0	12.0	40.75	0.95		
1453.0	13.0	10.71	16'0		
0.4571	0.41	40.67	78.0		
1455.0	15.0	10.01	118'0		
1400.0	20.0	LS OF	6.7.3		
1465.0	25.0	91-01	.9970		
1470.0	30.05	01-01	0.60		
0.5x1	45.0	81.01	0.58	_	
1500.0	0.05	40.15	0.55		
1515.0	25.0	10, 13	6.53	• •	
1530.0	0.00	40.32	0.52	-	
0.8481	105.0	40.30	0.0		-
1560.0	120.0	40.29	61-0		-
1575.0	135.0	40.23	0.48		
1590.0	150.0	40.28	84'0		-
1605.0	- 165.0	40 27	0.47		

Nkuhi Constant

Ĩ

Ť

Water Level 26,09 26,00 25,95 25,94	25.92 25.92 25.87 25.87	A C C C C C A X X X X X X X X X X X X X
r (min) 2.5 3.0 3.0 3.0		
Elapsod Time (1) (min) (021 5 1022 0 1022 5 1022 5	1025.5 1024.6 1024.5 1025.0 1025.0 1027.0 1028.0	(022) 0 (022) 0 (072)

T

Ŧ

	Constant Discharge Elapsed (Time () (min)	Water Wa	Pump Setti SWL Dmrw (m) 0.000 2.03 2.03 2.03 2.03 2.03 2.03 2.0	5.67 m Pumpu Pumpu (cr/min)	Depth Date	102 m
	(min)	Match March	SWL Dmw (m) (S) (m) (25.67 m Pumpi (liter/min)	Date	
Ea (0) (0) (1) (1) (1) (1) (1) (1) (1) (1		Water Water 27,7577 27,7577 27,7577 27,7577 27,7577 27,7577 27,75777 27,	Draw (m) (S) (m) (S) (Pumpis (liter/min)		
		Markan Sana Sana Sana Sana Sana Sana Sana S	2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	(liter/min)	Data	Bemarks
U,		19 19 19 19 19 19 19 19 19 19 19 19 19 1	(m) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	(liter/min)	E name	
		5222 5225 5225 5225 5255 5255 5255 525				
10.0 10.0		55,55,55,55,55,55,55,55,55,55,55,55,55,				
20 10 10 10 10 10 10 10 10 10 1		2222 2222 22222 22222 22222 22222 22222 2222				
2.0 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5		27,88 27,98 27,98 27,98 28,29,29 28,29 29,20 29,20 20,20,20 20,20,20 20,20,20 20,20,20 20,20,20 20,20,20 20,20,20 20,20,20 20,				
2.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1		27 86 27 99 27 99 28 20 28 20				
110 110 110 110 110 110 110 110		27.00 27.00 28.00 28.20 29.20 20.20				
4.5 4.5 4.5 7.0 7.0 7.0 11.0 11.0 11.0 11.0 11.0 11		27.92 27.94 28.06 28.25				
4.0 4.0 7.0 7.0 7.0 7.0 7.0 11.0 11.0 11.0 11		28.00 29.00 29.00 29.00 20.000		T		
5,5 5,0 7,0 7,0 7,0 7,0 7,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1		28.22 28.25 29.25 28.25 29.25 20.25		Į		
50 50 50 50 50 50 50 50 50 50				Ī		
7.0 (0.0 11.0 10.0 1		10727 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7				
25.0 25.0		28.25 28.25 28.25 28.25 28.25 28.25 28.25			;	
0.0 11.0 12.0 13.0 1		28.25 27.25 27.25 27.25 27.25 27.25 27.25 27.25		ľ		
10.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 15.000		28.23 28.25				
11.0 17.0 17.0 17.0 17.0 17.0 17.0 17.0		28.25 27.25 27.25	1111			
12.0 14.0 14.0 14.0 14.0 14.0 25.0 14.0 15.0 10.0 10.0 10.0 10.0 10.0 10.0		28 26 28 27 28 28				
11.0 11.0 14.0 14.0 14.0 14.0 15.0 15.0 15.0 10.0 10.0 10.0		28.27 28.28				
14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 15.0		28, 28		ļ		
20.0 20.0 20.0 20.0 20.0 25.0 25.0 25.0						
2000 2500 3000 4500 4500 7500 1000 1000		28.79				
25.0 30.0 45.0 45.0 45.0 75.0 105.0		01 X		0006		
30.0 45.0 75.0 90.0 105.0		21.15				
45.0 75.0 90.0 105.0		2K X3				
(0.0 90.0 90.0 105.0		28.34				
75.0 90.0 105.0		28.36				
105.0		10.07				
0.001		22 X				
		()+ 07				
1.121	Í	CT NC	L			
0.661		74.07				
0.521		17 30				
11/01		5T 76	L	(UXX)		
210.0		St 12				
0.042		24.45	l			
270.0		28.46				
3000		28.4G				
0.015		28.46				
360.0		28,46				
420.0		28,46				
() ONT		28.46				
0.046		28 46				
(90)		28.46				
(%))		28.46				
720.0		9 23				
7X0.0		2X 40				
0.04%	-	2% 46				
0.000		28.46	1			
0.096		94 X2				
1020.0		14 40 7 4 0				
2.0201		0, 07				
0.1201		11.02	1.+1			

Choda constant discharge

i-130

•

· · · .

_ Q
×
-
-
5
DE DI MO
t e
- 2
- 5
- F
- Li
ι U
- 2
5
~
ł
- ۲
<u>د</u>
c
c
c
c
° C
' ھ
' و
' @
-
<u>5</u>
<u>5</u>
-
<u>5</u>
1.6.3-2
1.6.3-2
1.6.3-2
1.6.3-2
1.6.3-2
1.6.3-2
1.6.3-2
<u>5</u>

c Remarks					Pumping stopped	Recivery					•					-																			-	-		
Pumping Rate	(liter/hr)							-			1			_		_	•													-				-				
Draw-	(m)	57 71	35.11	35.61	35.96	36.16	35.74	35.45	35.30	34,9X	34,80	34.56	34.30	34.16	33.96	33.66	33.60	32.26	31.26	30.46	29.48	28,90	2X.44	27.24	26.65	25,80	14.74	95:91	14.58	+8.6	6.90	. 5.10	- 1.15	0.71	0.51	17:0	0.21	
Walcr	(m)	60.75	54.75	55.25	55 60	55.80	55.38	\$5.09	54.94	14.62	24.44	54.20	16/15	53.80	53.60	53.30	53.24	21.90	50.30	20.10	49.12	18.84	80'84	46.38	46.29	14 54	38.38	36.20	34.22	29.48	26.54	74.77	20.79	20.35	20.15	20.05	19.85	
e	inn)					0.0	0.5	0.1	1.5	2.0	2.5	1.0	3.5	0.4	57	0.5	6.0	7.0	8.0	0.0	10.01	0.11	12.0	13.0	0't1	15.0	20.0	25.0	30.00	45.0	60.09	- 75.0	0.06	0.201	120.0	135.0	150.0	
Elapsed	Tune (1) (min)	0.009	0.068	720.0	780.0	0'01%	S.OLA	01178	\$118	842.0	842.5	0 L4X	2.648	0'1113	S.44.5	0.54%	0.048	0'418	0.848	849.0	850.0	851.0	852.0	851.0	0.42%	X55.0	860.0	0.25%	870.0	X85.0	900.0	0110	0,000	0'516	0.0%	975.0	0.060	
	Act. Lime																																					

Chokola constant

.

Ê

Chokola constant

.

F			- -	_	- r -	1	·					- r-	-1		T		— Т	-т		Ť		т	- T -	Ť	- r	-1-	-	-			r		- 1	-1	-r	- - T	ľ	.	T	; T	ः T	: 1	T				-1	
	Mpapa	W 1771		Remarks																																												
EST		Depth	Date	Pumping Rate																																					-							
PING T	District : Manvon	cting		Pump	director)		89																					2.	770											ľ	250						150	
OF PUN	District	Pump Sotting		Draw-	Down (s)	80	2.65	3.15	3.50	1, KO	51.4	4.70	Q 4	*	- -	6.35	6.60	2.05	7.40	7.60	7.80	7.X5	8.30	N.(6)	30,9	9.20	9.75	9.70	62.5	07.01	0.70	11.00	11.30	11.60	12.40	12.80	12.85	12.90	12.95	200	91	13.20	11,40	13.50	13.61	13.69	11	
DATA SHEET OF PUMPING TEST		Lest	ĺ	Water	+	0	37.05	37.55	17,90	38,20	78.75	01.65	39.20	0	0.01	10.75	41.00	51.145	08.14	42.00	12.20	42.25	42.70	43.00	51.51	13 (0	40.75	2)	52.14	09 14	15.10	15.40	15.70	16.00	16. XO	47.20	52.74	17 30	17.35	12 10	17 %	47.60	17 80	47.00	10 X†	4X 09	48.12	
		lischarge		9																										Ţ	T									Ţ								
Table 1.6.3-2 (7)	Borchole No :SG 251/97	Constant Discharge Test		Elansed	Time (1)	(mm)	0	0		2.0	2.5	10.0	5.5			09	7.0	0.8	9,0	10.01	11.0	12.0	0.61	0.1	15.0	20.0	25.0	0.0	2 22	0.00	00	105.0	120.0	135.0	0.021	165.0	1×0.0	210.0	240.0	270.0	300.0	330.0	360.0	420.0	0.084	\$40.0	600.0	
Table 1	~		Screen :		Act. Time												ſ																															

T20.5 (mu) (m) 660.0 0.5 47.00 720.5 0.5 47.00 720.5 0.5 45.80 721.5 1.5 44.00 721.5 1.5 44.00 721.5 1.5 44.00 722.5 2.5 45.70 722.5 2.5 45.70 722.6 3.5 41.00 722.6 3.5 41.00 722.6 3.5 41.00 724.6 4.0 41.00 724.0 7.0 38.00 724.0 7.0 38.00 724.0 7.0 38.00 724.0 7.0 38.00 724.0 7.0 38.00 723.0 11.0 37.70 73.0 10.0 36.00 73.0 10.0 35.40 73.0 13.0 35.40 73.0 13.0 35.40 73.0 13.0 3	5	(Incr/hr)	
0 0			
0.3 0.3 0.5 0.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0			
0.3 0.5 0.5 1.5 1.5 2.0 2.0 2.0 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5			
0.5 1.0 1.5 1.5 2.5 3.5 3.5 3.5 3.5 3.5 3.5 1.0 1.0 1.0 2.5 3.5 2.5 3.0 2.5 3.0 2.5 3.0 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5			
1.0 1.5 2.5 2.5 3.0 3.0 3.0 3.0 3.0 4.5 0.0 1.1.0 1.0			
1.5 2.0 2.5 2.5 3.5 3.5 3.5 4.5 5.0 5.0 6.0 7.0 7.0 7.0 7.0 11.0 11.0 11.0 11.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7			
2.0 3.5 3.5 3.5 3.5 3.5 4.0 7.0 6.0 11.0 7.0 7.0 13.0 13.0 13.0 14.0 13.0 14.0 13.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25			
2.5 3.5 3.5 4.0 4.5 4.5 7.0 7.0 7.0 7.0 11.0 11.0 11.0 11.0 11.			
3.0 3.5 4.5 4.5 5.0 7.0 7.0 11.0 11.0 11.0 11.0 11.0 11.0			
3.5 4.0 4.5 5.0 5.0 6.0 7.0 11.0 11.0 11.0 11.0 20 11.0 11.0 20 11.0 20 11.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25			
4.0 4.5 5.0 7.0 7.0 7.0 11.0 11.0 11.0 11.0 11.0			
4.5 5.0 5.0 7.0 7.0 8.0 11.0 11.0 11.0 11.0 11.0 11.0 11.	09'9 (
5.0 6.0 7.0 7.0 7.0 7.0 11.0 11.0 11.0 11.0 1	0 6.20		
6.0 7.0 7.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	01-5 0		
7.0 8.0 9.0 10.0 11.0 11.0 13.0 13.0 13.0 14.0 15.0 25.0 25.0 25.0 75.0	3.90		
x.0 9.0 11.0 12.0 12.0 12.0 13.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	0.00		
9.0 10.0 11.0 13.0 13.0 14.0 14.0 14.0 14.0 14.0 14.0 25.0 25.0 25.0		-	
10.0 11.0 12.0 14.0 14.0 14.0 14.0 25.0 25.0 25.0 25.0 25.0			
11.0 12.0 14.0 14.0 14.0 25.0 25.0 25.0 45.0 75.0	1.93		
12.0 14.0 15.0 26.0 25.0 25.0 25.0 25.0 25.0 25.0			
13.0 14.0 25.0 25.0 45.0 66.0 75.0	0 1.26		
14.0 15.0 20.0 25.0 30.0 45.0 60.0			
15.0 20.0 30.0 45.0 60.0	2 0.92		
20.0 25.0 30.0 45.0 60.0	5 0.85		
25.0 30.0 45.0 60.0 75.0	9 0.69		
30.0 45.0 60.0 75.0	3 0.3		
45.0 60.0 75.0	11-0-11		
60.0	1 0.41		
75.0	XC 0 X		
	3 0.35		
825.0 105.0 34.71	c		
840.0 120.0 34.70	00.0		

Mpapa constant

Ì

Ţ

Mpapa constant

Table-1.6.6-4(1)	4(1)			Water Quality of Target Villages in Hanang District.	y of Targ	et Villages	in Hanai		Arush	Arusha Region	_						ł	
									Ę	Temper					 	Colon	a Colon	
Division	Ward	ż	Village	Sample	উ	Gride	Color	Muddin Smell	<u> </u>		Нq	S	F NO3	3 N02	22 NH4		us Bacilly No.	Bacillus Bacillus Remarks No.
		ź	Name	Point Source	×	Å				0			mdd mdd	udd u	mqq m	Pap	r Water Sp	ė
Reserve	Bassotu	-		pio	734083	9415286	0	1		20.50	9.62	63.70	Ś				20	
		-		River & Basotu I	731810	9516351	0	7		21.30	9.72	63.80	ŝ				0	
				Water hole	733727	7769129	0	1		21.60	8.63	98.60	S	_		_	v 1	
		•	Ī	House hold	722901	9521348	0	1		21.20 1		579.00	¢,			_ุ ผั	200	
		2 63		Water hole	723012	9521930	0	1	1	23.30	9.92	721.00	v,		_	5	50	
	I achanca			Dug Well	735.014	9497.651		-		19.30	6.75	20.00					202	
	- Sumpar			House h Boiled					_								8	न
				Charco Dam	729906	9496183	T	1		22.50	8.20	16.27	6				12	
			Lachanga	House hold	729663	9496690	1	1		22.90	8.82	16.45	8				8	
		1			724962	9502400		_					_		_	_		
	Recordesh	· •		Water hole	726131	9527597	0	1	0	24.60	9.90	90.30	1				50	
		0		House hold	726444	9525819	0	0	_	23.10	9.22	92.70	-		-		500	
		~	Ģ	River & Lake Ba	736466	9525312				21.10	8.40	31.50	-		-			L Pilot V
	Hirhadaw	8			709663	9518467	-	1		24.40	9.27	7.88	r 4				32	
		~~~		House hold	709924	9518602	<b>1</b>	-1		25.80	9.26	8.46	7				62	
		~ ~~		Water hole	709638	9518458	1	1	0	22.60	9.51	8.99	-		-	й —	200	
		0		House hold	711310	9525646	0	0		22.30		91.60	3				5	
		0		Water hole	712675	9525538	1	1	0	25.50	8.33	169.80	S			ñ	500	
	Cataonuas	9		House hold	717950	9519968	0	0		22.80	10.88	81.30	ત				16	
	Catalityas	2 2		Water hole	717658	9523680	2	0	-	19.90	10.95	384.00	7	-	_		25	r
		∣≓	as															
		11	Gatanuwas											-	_	_		-1
	:	12		House hold	722052		0	0	0			68.80	ŝ				10	
		12		Water hole	721375	9506736	61	13				130.30	5		-	_	35	-1
Katesh	Mogitu	51	a	River & Katesh I	766017		0	0	0		11.43	23.60	Ś				35	
	<u> </u>	13	Dumbeta	River & DP (D/T	765282	9496982		0			11.07	24.30	5				5	•
		£1	Dumbeta	House hold	764990	9495429	ļ	0		18.10	10.79	24.60	<u>s</u>	-	+		22	-
	Nangwa	14	Dirma															
		14	Dirma				-		-	1	┨			┦	_	┦		-т
	Gisambalang	15	Gisambalang	Water hole	773527	9469100	-1	13			10.38	25.30	-			. <u>.</u>	40 40	
	•	15		House hold	774700	947007	H.				10.34	27.40	()				38	
		15		House hold	774700	947007	1	1	0		10.34	27.40	63	-	+	-	38	-1
		2		House hold	777164	9472523	1	7		24.60	9.42	9.03	~				12	
		16		Water hole	779011	9472791			0	19.00	9.68	10.09	11				22	
			Waranga	Water hole	779084	9472788	2	1			<u>8</u>	25.40	<u>٥.5</u>	+			0	- 1
	Balangdalalu	11	Murero.	House h RWT								6.37						0
	>	5		Dug We 2		· · · ·				23,40	9.00	230.00						52

1

A state	kemarks	T					Pilot V	Pilot VE													ار المربسي ال					<u></u>											
<b>₹</b> .	Colon Baciltus No.	Water Sp.	2					0 Q						T		T														242	, 0	) oc	ŝ		70	0	
		Paper		2 2	35				37	. 0	• 4	21	1	51	<u>भू</u> २		\$	o y	0.0	9 E	12	<u>`</u> °	18	50	0	1 ( 2		0 0	3								17
	NH4	udd																																			
	N02	udd																																			
	KON N	udd																				<u> </u>												<u> </u>			
	<b>L</b> 4	mdd									י ע ו				<u> </u>		<u> </u>	_			- 4					(								<u> </u>			
	E	(mS/m)	278.00	9.06	50.50	23.80	54.00	39.10	01 U8	071001	107.40	15.42	00.51	15.68	92.50	97.40	12.90	66.60 09.00	55.50	18.69	19.07	63.30	8.47	34.00	35.10	13.38	20.70	33.60	34-20	10.20	5.01 5.01	00.44	56	07.62	52.60	1.88	131.00
	Hd				865	8.89	7.76	8.44 7 75	51.1	C/ 11	70.01 10.75	2.0	990	9.38	10.46	10.74	12.18	10.70	200	9.66	20.6 6 6 6 6 6	0.41	36.6	10.37	9.67	10.15	10.48	11.29	11.38	1.06	60.7	74.0	\$ <u>0</u> , 0	11.	10.51	7.89	8.38
	Temper ature	U	21.30	22.00	20215	20.90	23.00	23.10	07.77	24.30	00'07 01 00	07.07 V	20.40	19.40	23.00	20.60	23.50	23.20	Z7.60	24.00	23.40	24.10	18.40	16.70	21.50	21.70	21.00	21.40	27.40	18.50	04.91	01.22	20.00	3.8	20.00	19.00	19.80
	Smell 7			00	ē					50	5 0	> <	<del>_</del> _	0	0	ö	0	0	0	0	5 0	2 0	7-		0	<b>-</b> -1 (		0	0				ſ	5 0	00	2	
	Muddin					t			+		50	- -		-	-4	0	ř	0	ō		(	50	2	1 =1	0	N		0	7				ſ	5 ¢	5 6	,	
	Color			1	- C	2			ľ	1	0	5	-1	1	0	0	0	0	0	-		00	> -		0		-	0	0					00	5 0	,	
		Y	9485788	9469889	01/01/010	15/164	9488765	9507317	9507761	9505178	9504998	07.15056	9509819	9510535	9505720	9504187	9502049	9205376	9503618	9492058	9491798	9491798	0487430	9484828	9482820	9491578	9494713	9501347	9502160		9525553		9526291	9525990	9520013	1002302	
	Gride	X		L		< TC0/ †/	734532 5		1	-			787440	786903		780317			778457			791316					783674	793457	794184		783162		781764		770468	00+6	
	<b>_</b>	12			-[	╉		1	┥	<u></u>		-					Ba		_				+						⁄دr (H	8 Well	ain W	(1	F			- No	all wa
	Sample	Point Sou		House hold	Water hole	House hold	Due WelsTW	River & Water (6	Water hole	Charco   Dam	House hold	Borchole	Water hole	House hold	Water hole	House hold	River & Lake	Water hole	House hold	Water hole	House hold	House hold	Borehold	Water note House hold	Dug Well	Water hole	House hold	House hold	River & River (B	House h Dug	House h 1Rain W	Water h	Water h	Water hole	Water hole	House nota	House n Litain Water House h Dug Well
	Village	Name	Γ				Ishnonga 1			ababieg			Endasaboghechan N			•	ughang					•	T	Matangannu Matangarinu			Simbay	arabuk	Gidagharabuk				Masakta	Lambo		Lambo	Maskaroda Maskaroda
	Ϋ́ο.	óŻ				-1	3 8						8		5	_	1		52				_	2 6	5	<b>T</b>	2	63	જ્ઞ	30	30	30	30	31	E	5	2 2
	Ward					Gehandu		Measkron		Gidahababicg					Hidet					Sirop						Simbay	•			Masakta							Maskaroda
	Divísion							Endasak	:					-																							

F NO3 NO2 NH4 Bacilius Bacilius Remarks No.	ppm ppm Paper Water Sp.	0 Pilot V	10	255	0	
33 NO.	nqq m					
ž 4	pm   pr		S	Vi	5	
<u>5</u>	(mS/m) ppm ppm	168.70	86.80	10.75 91.20	92.40	
Hd		8.31 168.70	10.88	10.75	11.04	
Temper ature	c	21.70	23.70	22.00	26.00	-
Smell			0	0	0	
Muddin			1	0	0	
Color			<b>-</b>	0	0	
Gride	X Y	783.902 9516.827	784129 9515166	785727 9514581	784036 9515169	
Sample	8	L	┢╴			
Village	Name	Maskaroda	33 Getasum	33 Getasum	33 Getasum	
ź	ź	32	33	33	33	
Ward						Total
Division						

								-						•		_			
Division	Ward	° Z	Village	Sample	v	ច	Gride	Color	Muddu	Smell	ature	Hq	с З	ц	<u>203</u>	NO3 NO2 NH4	H4 Baciltus	lus Bacillus No.	us Remarks
			Name	Point	Source	×	Y			1	υ		(mS/m)	I mdd	g mqq	ppm ppm	om Paper	er Water Sp.	Sp.
Dkungi Ikungi	aŭ -		Ikungi	Water hole		690650	9431767	0	0	0	22.20	8.08	16.00					10	
	¹	1	Dkungi	House hold		696244	9432404	0	2	0	20.50	8.55	12.40			-		8	-1
	I		Ighuka	Dug Well	E.	696208	9434902		0	0	22.00	7.46	15.89					0	
<b>_</b> _			Ighuka	House hold		696289	9435151	0	0	0	19.60	7.82	16.25					101	
			Ighuka	Dug Well	-1	696437	9435736	0	0	0	21.80	7.84	18.7					13	
		64	Ighuka	Dug Well	2	695783	9434259	0	0	0	24.30	9.28	36.80			-			
	<b></b>	e	Ulyampin	House hold		697832	9425024	0	0	0	23.00	8.60	50.40					1	
		m	Ulyampiti	Dug Well		697482	9425605	0	0	0	23.80	8.40	50.70					0	
		, m	Ulyampiti	Borcholc		697147	9424608	0	0	0	26.70	9.46	66.30					0	
<del></del>		. (7)	Ulyampit	Dug Well	64	697152	9424519	0	0	0	23.60	9.63	69.10					1	
	<b>L</b> .	4	Matongo	Water hole		689465	9426055	0	(1	2	19.40	8.40	34.60					-	
		4	Matongo	House hold		689496	9426164	0	2	11	19.20	8.38	35.00					0	
		4	Matongo	Borchole		691489	9426384	0	0	0	25.90	10.50	77.50					0	
		4	Matongo	Dug Well		690645	9427511	0	0	0	24.50	9.24	308.00			• •		0	
	L	s	Muungano	Dug Well	64	696556	9430241	0	0	0	21.30	8.85	33.30					સ	
			Muungano	House hold		697520	9429465	ò	0	0	19.70	9.23	90.20					m	<b></b>
			Muungano	Dug Well		697520	9429455	•	0	0	23.00	8.93	90.80					17	
			Muungano	Water hole		696626	9430224	0	0	0	21.60	9.47	58.60					18	
	L	0	Matare	Dug Well	5	705890	9429731	0	0	0	23.20	8.90	38.70					0	
		v	Matarc	House hold		705761	9429746	0	0	0	23.10	8.99	38.90					0	
		ø	Matare	Dug Well	I.	706141	9429594	ō	0	0	23.40	9.05	40.40					1	
	L		Mahambe	Water hole		701560	9429841	1	۲	0	23.10	8.80	25.00					7	
		2	Mahambe	Dug Well		700697	9430318	0	0	0	26.40	8.67	46.80					0	<b>-</b>
		2	Mahambe	House hold		700697	9430318	0	0	0	21.10	8.93	49.30			_		0	
Issuna	1na		Issuna	House hold		695653	9404813	י ז	6	0	21.00	9.36	10.30					<b>1</b> 2	
		~	Issuna	Charco Dam		694794	9403921	-	<del>7</del> 1	0	20.20	9.56	10.60						
		8	Issuna	Water hole		697090	9405923	-	1	0	22.50	9.79	58.50	1					T
	-		Choda	Water hole							22.50	6.00	6.77						
		ð	Choda	Water hole	6	695542	9389575				21.00	7.30	<u>.</u>			•••			
	,	6	Choda	Water hole	1					-									Pilot Villa
	L		Mkiwa	Dug Well		684065	9386238	-1	0	0	23.40	7.87	18.00		-			50	
			Mkiwa	Water hole		684294	9386346	()	<b>63</b>	~	23.40	8.58	34.40						
			Mkiwa	House hold		684083	9386722	0	0	0	20.60	8.82	51.40			-		50	
			Mkiwa	Borchole		684050	9386681	0	0	0	23.70	7.74	52.60					0	
		10	Mkiwa	Dug Well	with	688873	9391202	0	0	0	24.70	7.56	71.20					50	<u> </u>
		10	Mkiwa	Charco Dam	-	683714	9386515	61	6	6	20.10	9.22	78.40					-	-1
		11	Nkuhi	Charco Dam		697341	9409615				25.70		7.39						Pilot Villa
a C	Dunchavi		Samaka	Water hole		699255	9434706	P-4	0	<del>, ,</del>	19.90	8 33	10.26		-			0	

Ĵ

i i i	Kemarks													Pilot Villa						_													_											
Colon De - Iter	baciius	öz.	Water Sp.											48							1	Γ																						Γ
Colon	pacilius	,	Paper	1	0		0	1	30	0	11	15	4		8	3	16		0	67	c	) 	C	2	0		7	7	0	ŝ			3	0		12	1				۲.y	5 6	1	
	tHZ		ppm																			Ì						_														T		Ē
	NO3 NO2 NH4		ppm ppm																																									
	Ö.								 														-		_							<b> </b>							:	Ļ				L
ļ	2.		) ppm	~	_	2	_				_	-	\$			:										_	_	0		16			_						:				. ei	
ļ	S S		(mS/m)	34.30	35.20	11.25	39.80	40.60	14.23	65.20	13.50	13.77	13.63	250.00	56.60	110.90	50.40	354.00	103.80	14.95	131 40				6.21	56.00	61.50	62.80	11.15	11.65	20.00	24,80	74.60	86.30	97.40	45.40	16.22	21.70	44.50	10.44	01.02	1512	18.34	12.32
3	Hd			9.24	9.68	8.60	8.87	9.06	9.22	9.69	9.13	8.80	8.49	7.02	66'.	9.90	6.79	10.95	9.74	8.31	000		<b></b>	11.2	8.72	9.88	9.99	. 9.73	8.74	9.08	8.38	8.15	7.95	9.72	10.60	9.54	8.11	8.51	10.39	8.56	10.44		8 74	8.45
Temper	ature		С	23.70	19.70	20.00	23.40	22.50	19.30	23.80	18.60	22.30	20.20	23.59	21.60	24.10	24.30	32.60	26.30	22.00	00 00		07.02	00.44	22.70	19.00	21.70	23.60	22.10	19.10	21.70	22.80	25.10	27.20	21.80	25.00	23.40	20.40	21.20	19.70			20.00	21.50
	Smell			0	0	0	0	0	0	0	5	0	0		ò	0	0	0	0	c	• C	, ,		- c	0	•	0	0	0	ò	0	0	0	ō	0	0	0	ò	c	Ē	• •	<b>5-</b>		0
Muddi				0	0	<del>(</del> 1	0	0	0	0	0	0	0		0	0	0	5	0	c		>	3	5	0	0	0	0	0	0	0	0	0	0		0	0	0	C		2 -		-	
	Color			0	0	۲	0	0	F	0			0		0	0	0	0	0	-	• •	Ī		ç	0	0	0	-1	0	0	0		0	o	г	0	1	0	C	, -	< <	5		
	Gride		Υ	9435513	9435513	9437650	9437708	9437708	9436965	9438897	9438710	9438710	9437742	9481666	9417698	9417634	9422295	9415932	9420736	0442045	0440300	00000446	9439723	14/2042	9438980	9435374	9434970	9434970	9444017	9444350	9444017	9447444	9447212	9450889	9450548	9449686	9428321	9428740	9424075	17771	122117	1770-140	0478475	9453309
	ર્ક		x	702856	702856	710274	709739	709739	695933	695066	701895	701895	700210	715552	714879	714852	711368	733018	730219	X85518	LLLLBY	00/2/10	080985	08/008	687393	685510	685633	685633	687921	687832	687919	684746	685178	672043	672435	670345	680301	679294	680164	670130	VELVES	0010/0	961289	688221
	U U		Source											124/72		<u> </u>		Hot Son							-														-					
	Sample		Point	Dug Well	House hold	Water hole	Duy Well	House hold	Water hole	Due Well	House hold	Due Well	Dug Well	Borchole	Water hole	House hold	Dug Well	Water hole	Borchole	Water bole	Perchalo	DOICHOIG	Water hole	House hold	Dug Well	Water hole	House hold	Dug Well	Dug Well	House hold	Water hole	Water hole	Due Well	Dug Well	Water hole	Water hole	Due Well	Water hole	House hold	Water hole	VIALUE LON	Pionse Hold	House noid	Water hole
	Village		Name	Samaka	Samaka	Uaire	Lhaire	Ulaire	Kinumhurko	Kipumbuiko	Mkinva	Minva	Mcinva	Mang'onvi	Tupendane	Tupendane	Mwau	Sembaru	Samhani	Thereis		anga a	Isseke	Isseke	Isseke	Nkoiree	Nkoiree	Nkoiree	Unvanewe	Unvanewe	Unvanewe	Chuncu	Chungu	Minvuene	Minvuche	Misake	Muhintiri	Muhintiri	Muhinti	Manada	Manyange Manange	Mnyange	Mperu	Matyuku
	°Z			5	12	5			1-	4	Y			t	17		T	Г				Ŋ,			21	52		12	ព	3		$\mathbf{T}$	24			17	T	- :	3.5	100		3		<u>8</u> 8
	Ward					•			*					Mane'onvi				•		There is	elueur					<u>~</u>						- <i>t</i>		<b>.</b> .	Minvuehe			Muhintini		-				Puma
	Division																				elueur																							

5

	Kemarks												<del></del>	<u>.</u>			<u></u>																		Model Vil		Model VI			<u>deriver</u>				
Colon	Racillus No.	Water Sp.																								T								200	10									
Colon	Bacultus	Paper	э	00	2	5 0	2		0			0	6		0			0		0	C	)		C	<u>, c</u>	3 0	5			°		ō	n			4								
	NH4	bpm										-									-		T																			T	T	-
	NO3 NO2 NH4	ppm																					Ι																				I	_
	EO2	ppm																																										
5	<u>بد</u>	ppm																																	•									
Ċ	ដ្ឋ	(mS/m)	118.40	34.30	00.00	22.50	30.30	21.50	26.50	28.00	6.35	12.73	6.27	14.78	28.30	17.87	36.80	38.00	13.00	14.49	13 58	00000	20.04	20.01	C7-61	01.47	20.70			19.21		***4	18.97	76.80	79.50	75.30	7.44	17.50	31.10	33.03	52.80	17 48		NC.80
;	Hq		9.47	60.6	50.5	9.04	9.4 9	9.14	9.03	9.55	8.53	8.89	9.59	8.50	8.57	8.43	9.26	8.92	8.41	8.55	× ×	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	*	() () ()	0.01	4.04	8.77	8.80	9.16	8.19	8.91	9.9	10.36	8.75	8.72	10.01	9.51	9.30	7.48	7 88	000	9 47		10.7
Temper	ature	υ	24.10	23.90	19.30	23.40	18.50	22.30	24.20	21.10	20.00	22.50	21.80	21.60	23.30	24.00	18.80	24.00	23.40	23.50	00 01	04.71		01.12	07.47	40.YU	21.60	19.80	25.60	26.10	24.60			20.10	21.30	22.90		28.00	26.02	29.00	27.00	27.60		1011-27
	Smell		0	0	5	0	0	0	¢	0	0	0	0	0	0	5	0	0	171	0	ŀ		-	4 (	50	5 I	0	0		0	-	0	1			0	ſ					Ē	Ī	5
Muddi			0	0	0	0	0	I	0	0	ò	0	0	0	0	17	0	0	1	0	<u>-</u>		+		ò c	5	н	ы		0	++	0	1			1						ć	il.	7
	Color		0	0	Ö	0	0	r	0	0	-		0	H	0	-	0	0	-		ŀ	-1	1	→ (	<u>э</u> (	5		1	-	0		0	1		·	0						ſ	•	4
	Gride	7	9454702	9448337	9450201	9448681	9448682	9447083	9446993	9447710	9444019	9443785	9443045	9443744	9444082	9446848	9446850	9448265	9474411	9474137	0477207	1001346	1070146	01/00/42	9400755	C/02046	9474079	9472573	9466565	9467518	9472204	9471858	9477246		9452305	9452594	9447520	9446693	9445041	0445041	0445041	0458747	4140410	9431126
	ቼ	×	688120	695419	694444	695207	695218	693710	692935	693731	691619	692004	695053	696661	695743	699315	700711	700346	670455	669048	100003	907070	C/ 17/0	0742/0	675679	672353	674728	676364	667001	667762)	642214	641760	626787		648335	628661	614365	611924	612153	617153	612120 61215	11443		וחכההחס
		Source										• •		Unproted	-	Unprote	•				Ī				• •			-										. v.			শ ব			
	Sample	Point	Borchole	Dug Well	House hold	Dug Well	Water hole	Water hole	Dug Well	Due Well	Water hole	Dug Well	Due Well	Water hole	Due Well	Water bole	House hold	Due Well	Water hole	Due Well		Dug well	water noic	Water hole	Dug Well	House hold	Dug Well	Water hole	Water hole	Dug Well	Water hole	Borchole	Water hole	House hold	Water hole	Water hole	Water hole	Water holo	Water hole	Ware bolo	Water Bole	Water bole	Walci Buic	Water hole
	Village	Name	Matvuku	Utaho	Utaho	Isalanda	Isalanda	Kituate	Kituntu	Kinnn	Msambu	Msamhr	Nkuninkana	Nruninkana	Nkuninkana	Wibia	Wihis .	Wibia	Meimi	Meimi		Msungua	Msungua	Kintandaa	Kintandaa	Kintandaa	Mnang'ana	Mnangana	Mtunduru	Mtunduru	Mwaru	Mwaru	Miandala	Izombwe	Isombwe	Mensa	Menneira	Mennera	Manadra	Manager	Mgungra	116.54	UIANA	Iyumbu
	°Z		30	1	31	32	32	33	33		Т		T	35	16	Г					Т		38	39	66	39	40	4	41	41	42	42	1	44	44	Г	Т	4 4	2	2 4	<del>4</del> 4	; ;		÷
	Ward			-															Conversion of the	Spund			~								Mwaru						Manadara	INEGUERA						
	Division					****													Contra	acputa											•													

J

(mS/m)         p           9.72         25.70           9.55         328.00           9.55         328.00           9.55         328.00           9.59         45.50           7.61         2.40           7.51         125.60           7.51         125.60           7.51         255.00           7.51         255.00           7.54         205.00	C C C C C C C C C C C C C C C C C C C		<u> </u>	00000000000000000000000000000000000000	Y 9483152 0 9483152 0 9483152 0 94832111 1 9481564 1 9481564 1 9497423 1 9497423 1 9497423 1 9497423 1 9497568 1 9497356 0 9499324 0 9497756 1 9497359 0 9497759 0 9493719 0 9493779 0	X         Y         X         Y           Cr6476         9483152         0           677310         9483152         0           677310         9483152         0           679331         9482111         1           679345         9482304         1           679714         9481564         1           7044678         9491564         1           704451         9491564         1           704451         9491564         1           704451         9497423         1           704451         9499392         0           704451         9499334         0           704414         9499234         0           704414         9499234         0           704413         9497346         1           706007         9497783         1           706507         94977868         1           706507         94977868         1           706507         9497785         1           705577         9497785         1           705577         9497795         0           705579         9493719         0           706439	Source         X         Y         X           MD         676476         9483152         0           677310         9483152         0           6797310         9483152         0           6797310         9483152         0           679565         9483152         0           679565         9483204         1           679565         9483204         1           679714         9481564         1           679714         9481564         1           704678         94981564         1           704451         9493556         0           704451         9493556         0           704451         9493234         0           704414         9499234         0           704451         9499234         0           704414         9499234         0           704414         94973668         1           706507         94973858         1           706313         9502560         0           700531         9502560         0           706435         9497355         0           706435         94973600         0	X         Y         X         Y           X         Y         Y         0           677310         9483152         0         0           677310         9483152         0         0           679331         9482111         1         1           679565         9483955         0         0           679714         9481564         1         1           679714         9481564         1         1           7044678         9491564         1         1           704457         9491564         1         1           704451         9492343         C         7           704451         9499234         0         7           704451         9499234         1         7           704451         9499234         0         7           704451         9499234         0         7           704451         9497334         1         7           703334         9500765         1         7           703577         9497333         1         7           705569         94973559         0         0           705577         94973
(mS/m)         ppm           9.72         25.70         ppm           9.55         328.00         9.56         328.00           9.56         36.00         9.56         36.00           9.59         45.50         9.50         9.50           7.61         2.40         5.0         7.12           7.51         125.60         5.0         7.3           7.51         125.60         5.0         7.0           7.53         205.00         5.0         5.0	C 25.10 25.10 18.80 18.10 18.10 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.5	-00000-100000000-			Y 9483152 0 9483152 0 9482111 1 9481564 1 9497356 0 9499392 0 9497356 0 9497356 0 9497356 1 9497868 1 9497868 1 9497856 1 9497	X         Y           X         Y           677310         9433152         0           677310         9433152         0           679331         9482111         1           679565         9483564         1           679714         9481564         1           679714         9481564         1           679714         9481564         1           704960         9497423         1           704451         9491564         1           704453         9497356         0           704414         9499234         0           704414         9499234         0           704414         9499234         0           704414         9499234         0           704414         9499234         0           704414         9499234         0           704414         9499234         0           704451         9497868         1           705707         9497833         1           705577         9502590         0           705559         9497853         1           705559         9497833         1	Source         X         Y           MD         676476         9483152         0           MD         677310         9483152         0           6797310         9483152         0           679714         9483152         0           679714         9481564         1           679714         9481564         1           679714         9481564         1           704660         9497423         1           704451         9493564         1           704451         9493324         0           704451         9499392         0           704451         94993356         0           704451         9499332         0           704451         9499332         0           704451         9499334         0           704451         94993356         1           706107         9497868         1           706507         9497855         1           706513         9502856         0           701534         950765         1           706535         9493719         0           705505         9493719         0 <tr< th=""><th>Source         X         Y           MD         677310         9483152         0           MD         677310         9484395         0           679331         9483152         0           679565         9484395         0           679565         9484395         0           679565         94831564         1           679565         9482304         1           6797314         9481564         1           704451         9481564         1           704451         9487423         1           704451         9499392         0           704451         9499392         0           704451         9499392         0           704451         9499392         0           704451         94992346         1           706007         94997368         1           706607         94997356         1           706433         95020565         0           701561         94973856         1           706435         9493719         0           705435         94937719         0           707596         94937379         0</th></tr<>	Source         X         Y           MD         677310         9483152         0           MD         677310         9484395         0           679331         9483152         0           679565         9484395         0           679565         9484395         0           679565         94831564         1           679565         9482304         1           6797314         9481564         1           704451         9481564         1           704451         9487423         1           704451         9499392         0           704451         9499392         0           704451         9499392         0           704451         9499392         0           704451         94992346         1           706007         94997368         1           706607         94997356         1           706433         95020565         0           701561         94973856         1           706435         9493719         0           705435         94937719         0           707596         94937379         0
9.72 25.70 9.55 328.00 9.56 36.00 9.59 45.50 10.64 66.70 7.61 24.60 7.51 125.60 7.34 205.00 7.34 205.00 8.00 269.00	25.10 25.80 18.10 18.10 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.500	-00000-000000000000		000000000000000000000000000000000000000	9483152 948395 9484395 94872304 9487564 9497356 9499335 9499335 9499335 9499335 9499234 9497868 9499735 9497868 9497868 9497856 9497856 9502590 9502590 9502590	9483152 9483395 9482304 9482304 94972356 9497356 9499234 9497356 9499234 9497356 9499234 9497868 9497356 9497868 9497868 9497868 9497855 9502590 9502550	MD         677310         9483152           MD         677310         9483152           679311         948111         948111           679565         9483304         67931           679565         9481564         9481564           679565         9481564         949723           704478         9497356         704451           704451         9499392         704156           704414         9499234         706414           704451         9499335         704156           704414         9499234         706705           704414         9499234         706705           706707         9497868         7066705           706707         9497868         7066705           7066707         9497868         7066705           701631         9500765         707559           700577         9502856         706705           7005334         9500765         9493719           700505         9493719         9500765           701505         9493779         94933719	MD         677310         9483152           677310         9483395         9483395           677310         9484395         9481564           679565         9482304         9481564           679714         9481564         9481564           7044678         9491564         9481564           704451         9499392         704451           704451         9499392         704414           704414         9499234         7064176           704414         9499234         706405           706411         9499234         706405           706411         9499234         706505           706411         9499234         705556           706411         94992345         7056765           705611         94992345         7056765           705611         9497719         9497855           7056121         95022590         7056425           7056121         9502790         7056425           7056335         9493719         7056456           705556         9493719         7056456           705556         9493719         7056458           705355         94937968         7056458  <
9.56 36.00 9.59 45.50 10.64 66.70 7.61 2.40 7.12 24.60 7.51 125.60 7.54 205.00 8.00 269.00	18.80 23.80 18.10 23.50 26.50 24.20 27.10 23.40 23.40 23.40 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50	<u> </u>			9482111 9482304 9481564 9495243 9497356 9497356 9497356 9497356 9497346 949734 949734 9497868 9497833 9497833 9497868 9497719 94937799 94937799	9482111 9482304 9481564 9497423 9497423 9497356 9497345 9497368 9497345 9497868 9497799 9502856 9497799 94937799 94937799	679331         9482111           679555         9481564           679714         9481564           679714         9481564           679714         9481564           704678         9481564           704473         9481564           704471         9481564           704471         9493323           704471         9493323           704414         9493323           704414         9493333           704414         9499332           704414         9499332           704414         9499335           706007         9497868           706407         9497868           706607         9497868           706607         9497868           706607         9497868           706607         9497868           706607         9497868           706607         9497869           706707         9497869           703577         9502856           703579         94937799           707206         9493600	n 679331 9482111 679565 9482304 679714 9481564 704960 9497423 704960 9497423 704451 9499392 704414 9499392 704414 9499234 706761 9497868 706414 9499234 706707 9497868 706419 9497868 706507 9497868 706507 9497868 706507 9497868 70652590 705334 9502765 705335 9493719 707295 9493768
9.59 45.50 10.64 66.70 7.61 2.40 7.51 125.60 7.34 205.00 8.00 269.00	23.90 18.10 25.50 24.20 23.40 23.40 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 25.50 25.50 25.50 25.50 25.50 25.50 25.50				9482304 9481564 94976243 9497356 9499392 9497868 9499234 9497868 94977868 94977856 94977856 9497785 9497785 9502590 9502590 9502590 94937799	9482304 9481564 9491564 9497423 9497356 9497356 9497868 9497868 94977868 94977569 9502590 9502590 9502590 94937799 94937799	679565         9482304           679565         9481564           679714         9481564           704578         9497423           704323         9497356           704451         9499392           704414         9499392           704414         9499392           704414         9499392           704414         9497368           706007         9497368           706007         9497368           706413         9497368           706607         9497368           706607         9497368           706607         9497368           706607         9497333           706607         9497833           706607         9497833           7066709         9497360           706439         9502560           706439         9493719           700706         9492600	n         679565         9482304           679714         9481564           679714         9481564           704960         9491564           704451         9491564           704451         9499392           7041451         9499392           7041451         9499392           704144         9499234           706411         9499234           7066701         9497868           7066701         9497868           7063334         9497356           701631         9502590           701631         9502590           705439         9493719           705439         9493719           705435         9493719           705435         9493719           7053355         9493719           7053355         9493719           7055355         9493708           705335         9493708
7.61 2.40 7.12 24.60 7.51 125.60 7.34 205.00 8.00 269.00	23.80 26.50 24.20 24.20 21.20 23.40 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50	-00000-10000000-		0-000	9496243 9497423 9497423 9497356 9499392 9499234 9499234 9497868 9497868 9497833 9502590 9502856 94937799 94937799	9496243 9497423 9497423 9497345 9497345 9497368 9497868 9497868 9497833 9502590 9502590 9497799 94937799	704678         9496243           7044678         9496243           704360         9497423           704451         9499392           704451         949939234           704414         9499392           704414         9499392           704414         9499392           706007         9497868           706007         9497868           706007         9497868           706607         9497868           706607         9497868           706607         9497868           706607         9497868           706607         9497868           706607         9497868           706607         9497868           703577         9502890           703677         9493719           706439         94937799           700704         9492600	704678         9496243           704960         9497423           704960         9497423           704325         9497356           704451         9499392           70414         9499392           70414         9499392           706761         9497346           706761         9497346           706701         9497868           706501         9497868           706501         9497868           706501         9497868           706502         9497856           706501         9497856           706502         9497833           706503         9497833           706439         9497719           705355         94937799           707295         94937799           707385         9493968
7.12 24.60 7.51 125.60 7.34 205.00 8.00 269.00	20.20 25.50 21.20 21.20 23.40 23.40 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.500				9497423 9497423 9497356 9499392 9499234 9497868 9497868 9497833 9497833 9497833 9497833 9497833 9497799 94937799	9497423 9497423 9499392 9499234 9497868 9497868 9497833 9500765 9500765 9497799 94937799	9497423 9497423 9499392 9499234 9497868 9497868 9497833 95027590 95025590 95025590 9502856 94937719 94937719	704960         9497423           704323         9497423           704323         9497356           704451         9499392           704176         9499392           706461         9499234           7066761         9497868           7066701         9497868           7066701         9497868           706701         9497868           706701         9497868           705334         9497335           703334         9497833           705425         9493719           705436         949260           706435         9493719           707295         9493719           707385         94937968           705385         94937968
7.51 125.60 7.34 205.00 8.00 269.00	25.50 23.10 23.10 23.10 23.10 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.500	-00000-111100000-		0000000000	9497356 9497356 9499234 9497868 9497868 9497868 9497833 9497833 9497833 9497833 9497799 94937799 94937799	9497356 9499392 9499392 9497868 9497868 9497868 95027590 9502856 94937799 94937799	9497356 9499392 9499392 9497868 9497868 9497868 9502590 9502590 94937799 94937799	704323         9497356           704451         9499392           704176         9499392           704176         9499392           706461         9499234           706761         9497368           7066707         9497868           706707         9497868           706707         9497833           705707         9497833           705707         9497833           705334         9500765           703354         9502766           705439         9493719           705436         9492600           707295         9493719           705335         9493706
8.00 269.00	24.20 23.120 27.10 27.10 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 21.50 21.50 21.50 21.20 23.50 21.20 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50 22.50	-00000-110000-		000000000	9499392 9499336 9499234 9497868 9497868 9497833 9500765 9500765 9493779 9493779 94937799	9499392 9497368 9497868 9497868 9497855 9502590 9502590 9497799 94937799 94937799	9499392 9497368 9497368 9497868 9497868 9502590 9502590 949719 94937799 94937799	704451 9499392 704176 9499234 706761 9499234 7066701 9497868 7066707 9497868 705334 95077833 701631 95027965 701631 9502756 7016425 9493719 7072439 94937799 7072385 9493968
	23.40 27.10 23.10 23.50 23.50 23.50 21.40 21.50 20.20 20.20 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50 21.50	-00000-1000		0000000	9499234 9497368 94977868 94977868 94977868 9497785 9502590 9502856 94937799 94937799	9499234 9497868 9497868 9497846 9497856 9502590 9502590 9493719 9493719 94937799	9499234 9497868 9497868 9497846 9497833 9502590 9502590 9493719 9493719 9493779	704414         9499234           706761         9497868           7066761         9497868           7066707         9497846           7066701         9497836           705707         9497836           7056707         9497836           7056707         9497836           701631         9500765           703577         9502590           703577         9493719           7056439         9493719           707296         9493799           707194         9492498           705385         94937968
7.33 270.00 5.0	27.10 23.90 23.10 24.60 24.60 23.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20 25.20	-00000-			9497868 9497946 9497833 9500765 9502590 9502856 94937799 94937799	9497868 9497946 9497833 9502590 9502856 94037799 9403600	9497868 9497845 9497833 9500765 9502590 9502856 94937799 9492600	706761         9497868           706007         9497946           706007         9497833           706707         9497833           705334         9500765           701631         9502590           703577         9502856           705439         9493799           707296         9493799           707385         9493799
9.52	23.90 23.10 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 23.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.50 20.500	-00000-1			9497946 9497833 9502590 9502856 9493719 94937799	9497946 9497833 9500765 9502590 9502856 94937799 9492600	9497946 9497833 9500765 9502590 9502856 94937799 9492600	706007 9497946 706707 9497833 705707 9497833 701631 9502590 703577 9502856 703577 9502856 705439 9493799 707296 9492498 707194 9492498
9.09 59.20	23.10 23.50 23.50 25.20 25.30 20.80 25.30 25.30 21.40 23.90 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40				940765 9502590 9502856 9493779 94937799	9497833 95027590 9502856 9493719 9493600	9497833 9500765 9502856 9493719 9493600 9492600	7065/07 703334 703334 703577 703577 703577 705435 706435 706435 9493709 707295 9493769 707385 9493968
9.75	23.50 24.60 25.20 25.20 25.30 25.30 25.30 25.30 25.30 25.30 21.40 21.40 23.90 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40 21.40	-00000-			9502590 9502590 9502856 9493719 9493799	9500765 9502590 9493719 94937799 9492600	9500765 9502590 9502856 9493719 94937799 9492600	703334 9500765 701631 9502590 703577 9502856 706425 9493799 707296 9492498 707194 9492498
10.55	24.60 23.30 23.30 25.30 25.30 25.30 25.30 25.30 25.30 25.30 21.80	<u></u>			9502590 9502856 9493719 9493799 9493799	9502590 9502856 9493719 9493799 9492600	9502590 9502856 9493719 9493799 9492600	701631 9502590 703577 9502856 706425 9493719 706439 9493799 707296 9492600 707194 9492498
10.77	23.30 25.20 19.80 19.80 25.30 25.30 25.30 25.30 23.90 23.90 21.80	0000-		000	9502856 9493719 9493799 9492600	9502856 9493719 9493799 9492600	9502856 9493719 9493799 9492600	703577 9502856 706425 9493719 706439 9493799 707296 9492600 707194 9492498 705385 9493968
10.66 142.20	25.20 21.40 20.20 20.20 20.20 23.90 21.80	0000-		0 0	9493719 9493799 9492600	9493719 9493799 9492600	9493719 9493799 9492600	706425 9493719 706439 9493799 707296 9492600 707194 9492498 705385 9493968
9.20 34.70	21.40 19.80 20.20 25.30 23.90 23.90 21.80	-000		0 <del></del> -	9493799 9492600	9493799 9492600 9492600	9493799 9492600 9492800	706439 9493799 707296 9492600 707194 9492498 705385 9493968
9.95 34.70	19.80 20.20 25.30 20.80 23.90 21.80	-00			9492600	9492600	9492600	707296 9492600 707194 9492498 705385 9493968
9.03 46.50	20.20 25.30 20.80 23.90 21.80	- 0	_		1.1.1.1		04074040	707194 9492498
9.36 47.00	25.30 20.80 23.90 21.80		ļ		9492498	9492498	7477470	705385 9493968
9.94 44.40	20.80 23.90 21.80	•				9493968	9493968	
9.98 50.70	23.90	0				9493959	9493959	d 705223 9493959
10.20 242.00 5.0	10.17	0 <		0 0	9496061 0	<u>.</u>	9496061	700087 9496061
6.95 24.70	L	26			0404173	PC10047	0404173	0404173
6.81	2 19.30	103						697520
9.71 66.20	0 21.10			<b>-</b> -4	9499887 1		9499887	713790 9499887
9.65 75.10	19.20	~		1	9500174			
10.12 88.40		0		•	:	9503772	9503772	718021 9503772
10.22 91.00	18.20	٥	_	0		9504427	9504427	717857 9504427
10.50 215.00		0		•	:	9506508	9506508	707241 9506508
11.18 86.80 5	26.10	0		0 .	 	9506301	9506301	9506301
10.88 2.54	22.60	0		•	:	9505334	9505334	ld 706836 9505334
10.17 257.00	23.10	•	<u> </u>	0		9505488	9505488	9505488
9.23 11.05	20.60		_	-4		9497581	9497581	707884 9497581
9.85 15.31	22.30	0	_		9497853	9497853	9497853	708585 9497853
0.52 115.10 - 5.0	0 21.00 1	00		00	9499882 0600048		9499882 0600048	d 711377 9499882
× 02 12.87	_		_			0400000	040000	040000

Ĩ

Remarks																															Model Vil				
Colon Bacillus No.	Water Sp.				T		T					T	•																T		x	0	80		
Colon Bacillus	Paper V	3	N 7		5	23	8 "	<u>,</u> v	99	¢	00	200	28	rt (	00		- C	< 00	57	0	33	<u>Ş</u>		4 %	Э	200	~	H (	> t	1 00				3	3
		0.5	¢	5	-†		-	>	0.5		<del>.</del>	6	0.5	5.0	v	c. C			-	0.5	┦	0.5	5 C	0 0 0					+		┢			╁	
NO3 NO2 NH4	ppm F	0		5		0.0	3	55	0.2		<del>0</del> -	10	0. S	<u>7</u>	00	₅	Ċ	>	1.0	0	-		01	<u>c.</u> 0	1				╉		+			┫	
NO3 1		2		0	Ť	•	<u></u>	2	45	45	24	1	1 (1	07	\$ ;	4	Ŷ	2	14	45	¥	Ś	4 <u>5</u>	64	t				T		T				
<u></u> ц.	ppm	0.5	5.0	2.0	50	0,0	2	n v	20	5.0	0 0 0 0		5.0 10 10	5.0	5.0	0.0		5.0	0.0	0.4	ŝ	5.0	0.0	5 0 0 6	50	5.0	1.0	0.0		2010				4	2
Э	(mS/m)	14.21	24.00	45.90	92.40	95.30	105.80	2.07 2.07	168.10	173.80	195.70	22.017	132.10	84.90	121.40	123.10	04.80	232.00	13.67	158.00	159.10	96.90	183.50	214.00	137.70	140.00	20.50	99.50	101.30	20.02	8.8	19.80	34.70	0000	74.41
Hd		9,46	10.08	10.20	10.82	10.86	10.57	10.30	0.27	10.40	9.92	200	7.66	7.64	7.55	9.0	60.7	7.43	6.35	6.75	7.68	8.00	6.81	7.11	8.51	8.78	7.42	8,13	\$?; }	10.7	7.33	7.33	6.43	6.70	3.
Temper ature	υ	21.10				18.60	17.40 1	00.07	24.70	22.00		100	21.00	21.00	20.80	25.60	21.40	20.80	18.70	26.40	20.00	28.20	26.40	22.60	25.20	20.40	25.80	23.50	24.40	0/ 07	53.80	26.00	22.60	20.00	24.47
Smell		ö	0	0	0	0	0	0 0	5	-	0 (	2	10	13	0	0	00	00	64	0	0	0	0	00	0	0	0	0	2	01.0	1			¢	5
Muddi _S		0	0	0	0	0		5 0	5	-	0 0	5	10	H	0	0	5 6	00	11	0	0	1	0	0 <	50	0	0	0	5	N C	1			'	-
Color		5	+-1		0	0	-	0 0	┓	-	00	5	10	R	ò	0	0 0	00		0	0	-	0	0,	10	0	0	0		-4 #				ľ	-
	7	9497288	9497413	9497413	9497477	9493265	9493455	9500637	9492510	9492524	9492481	9492457	9490020	9497214	9495716	9495602	9487013	9487410 9487403	9491946	9492020	9492161	9485318	9494832	9494362	0483142	9483166	9482163	9481124	9481218	9478720	9482541		9485019		94603350
Gride	×	275	710483	710502	710186	709749	709549	712960	20021/	690895		212069		692339	692581	692553	695077	694487	680882	681114			686816	687029 705752	200902	706339	709687	710444	710573	706144	707317	5	707815		100001
	erce Surce	<b>.</b>			_							Ť		Ĩ		Ť						Ĥ	_		ſ	-	ŀ				0 <u>5</u>	- 8		63	
be	ŝ								+	╀		4		-					-										-		28/	3			
Sample	Point	House hold	Dug well	Water hole	House hold	House hold	Water hole	Dug Well	House hold	House hold	Borchole	House hold	Mater hole	Water hole	House hold	Borchole	Water bole	Borchole House hold	Water hole	Borchole	House hold	Water hole	Borchole	Water hole	Water note	House hold	Water hole	House hold	Dug Well	House hold	Water note Borehole	House hold	Water hole	House hold	Water hole
Village	Name	Matumbo	Matumbo	Matumbo	Matumbo	Mkenge	Mkenge	Migugu	Migugu	Uchandi B'	Ughandi B'	Ughandi B'	Newac	Lachanida	Laghanida	Laghanida	Misinko	Misinko Misinko	Ntondo	Ntondo	Ntondo	Msisi	Senene Mturu	Senene Mhuru	Madamigha	Madamicha	Mrama	Mrama	Mrama	Mwahango	Mwanango Dongero	Dongero	llongero	llongero	Mwakiti
		1				1	_							1	·	68 La						T	1				T		-1		2/ 2 2/ 2	• • • •			77 <u>M</u>
°Z Z		63	63	63	63	64	64	65	8	3,8	vo	Ľ	5	10	- v	Ŷ	¢	vo v	<u> </u>			Γ	Ľ				ľ	<u> </u>	•		T	- <b>r</b>			
Ward										ugnanur														1	llongero										
Division						-		-															-	-	llongero										
:	,															1	-14	<b>1</b> 0																	

Ĵ

Ţ

and and a	Kemarks																																								-
Colon	No.	Water Sp.																				-														:					
Colon Bacitue	DACTION	Paper	0	ο γ		> c	0	12	10	0	S	-4	1	÷	8	24	0	15	39	30	13	80	30	50	36	ν,	'n	0	٦	m	0	61	17	52	19	2	0	39	2	41 0	,
VELN CV	NO2 NO2 NH4	ppm ppm ppm														_												-													-
3	<u>2</u> 3	pm p		<u> </u>	╀									_											:	_		;	-	:		:	┝-		┞		┢─				-
<b>ر</b> با		ppm [5	5.0	0,0		20	5.0	1.0	1.0	5.0	0.5	0.5	0.5	5.0 20	5.0	5.0	1.0	0.1	1.0	0.1	<u>ੇ</u>	2.0	2.0	0. 0	5.0	0.1	0.5	50	5.0	<u> </u>	2.0	5.0 5	2.0	5.0	0.5	5.0	0.1	2.0	1.0	1.0	2
 ب	ן ק	(mS/m)	32.80	37.60	101 60	102.10	170.00	8.45	31.60	40.60	16.70	17.92	28.40	19.37	42.10	42.60	14.48	15.59	40.80	35.30	36.70	37.70	23.80					25.70	31.60	39.70	94.90	171.30	8.94	98.30	174.20	175.70	· .	19.16	21.00	12.05	_
þ	Ed		8.03	8,19	5.98			6.55	7.12	7.52	5.95	6.98	6.30	6.78	8.00	8.15	6.71	7.13	6.71	7.57	7.81	8.20	8.02			6.29	5.48	5.31	10.97	10.46	9.01	8.87	7.69	9.24	10.10		7.84	8.22	7.86	7.16 8.01	1
Temper	aime	c	20.40	22.00	22.80	24.50	21.30	17.70	22.60	19.20	24.20	21.00	22.20	19.70	24.00	22.30	24.50	20.60	23.60	21.60	22.40	18.70	22.70				_	22.70	21.50 1		23.10	24.00	22.90		28.90 1	19.70		19.30	21.30	20.70	
	Smell		Э	00		0	ō		0	0	ы	1	0	0	0	0	13	2	1	0	0	0	0	0	0	7	0	0	1	0	0	0	~	0	0	0	0	0	0	<b>~</b> 0	<u>,</u>
Muddi	o ness		0	00		> c	0	5	0	0			0		0	0	1		1	0	0	0	ö	0	0	1	0	0	0	1	0	0	3	ò		0	0	ò	0	-10	<u>,</u>
				00	50	òc	0	-1	0	0	0	0	0	1	0	0	I	-	T	0	0	0	1	7	0		0	0	2	ы	0	0	64	Q	╡	0	7	1	1		7
	2	Y	9480139	9479530	0486850	0486701	9487290	9475020	9474107	9474075	9470920	9470815	9469829	9474092	9475589	9475444	9472538	9472491	9471992	9481935	9480496	9480398	9480121	9480160	9481175	9469314	9465919	9466108	9478819	9478517	9478263	9478302	9487770	9487758	9480796	9481027	9477790	9478256	9477257	9476182 9474929	
Č		x	707526	707577	700175	700564	707512	703104	703352	703579	706981	706964	706789	702233	701674	701814	707452	707929	710207	698270	\$01669	698958	699942	700570	701798	714035	711144	711295	717532	717858	716445	718444	717829	717190	712682	712103	713419	715597	713621	712959	
	6	Source												-								-	-														:	:			-
0	Sample	Point	Water hole	House hold	House hold	Due Well	House hold	Water hole	Dug Well	House hold	Dug Well	House hold	Water hole	Water hole	Dug Well	House hold	Dug Well	House hold	Water hole	Water hole	Dug Well	House hold	Dug Well	House hold	Water hole	Water hole	House hold	Dug Well	Charco Dam	House hold	Borcholc	Dug Well	Water hole	House hold	Water hole	House hold	Water hole	House hold	Dug Well	Water hole Dur Well	
	Village	Name	liamuka	Itamuka	Sekontre	Sekonture	Sekouture	Kinyeto	Kinyeto	Kinyeto	Nunduu	Nruaduu	Ntundut	Mkimbii	Mkimbii	Mkimbii	minya.	Minyaa	Minyaa	Igauri	Igauri	Igauri	Ntonge	Ntonge	Ntonge	Mghamo	Mghamo	Mghamo	Merya	Mcrya	Merya	Mcrya	Mvae	Mvac	Makhandi	Makhandi	Kinyagigi	Kinyagigi	Kinyagigi	Mwanyonye Mwanyonye	- frank manual
5	VO		28	4 <u>7</u> 8	2 2	2	5	Γ	80		81	81	81	82						-	2		85					86							68			8		16 17 17	-
	Ward				_1			Kinyeto			L						1			<u>,                                    </u>			!		1	L		;	L				L		<u> </u>		<u>I.</u>		1		<b>-</b> '
	Division							£																	·										•						-

Remarks															<del></del>	<del></del>				<u> </u>						. <u></u>																	
Colon Bacillus	öŻ	Water Sp.				-														-			ľ																				
Colon Bacillus		Paper	1	0	0	T	16	67	0	15	69	10	26	18	55	17		83	0	27	40	3 0	2 5	10	a '	S.	51	200	6	23	8	\$0	24	33	0	65	8	13	88	35	53	∞	38
		bpm		6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-			ſ		1		4	3		1																	
NO2		ppm		0	0	5.0	0.2	0	0	0.1	 0	45	0.2	0.1	0.2	-	0		T		T		Ś	3					1			_											
NO3 NO2 NH4		mdd		0	ŝ	: 45	20	20	10	20	10	H	45	45	20	45	0		t		Ť		•	3			•																
 بد			2.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	s.0	1.0	50	v.	2		3	2 A	2.0	<u>ہ</u>	5.0	5.0	ŝ	<u>s</u>	5.0	5.0	1.0	9. <del>1</del>	2.0	1.0		0.1	1.0	1.0	<u>.</u>	5.0	2.0
SC		(mS/m)	32.60	167.70	116.40	120.60	164.80	99.20	100.10	107.90	103.30	121.40	96.60	98.00	165.10	202.00	509.00	10.63	117.30	124.40	100 10	00.63	20.7 41	127.20	12.52	12.70	41.70	42.30	120.90	80.20	80.70	84.10	27.60	47.30	86.10	31.80	33.40	9.67	10.88	11.60	12.58	7.91	47.90
Ha		_	8.36	8.21	7.73	8.12	7.90	8.02	7.90				7.88	7.92	7.59		9.43		1			2.0	0. / 2	7.92	7.38	2.60	9.36	8.19	9.13	9.90	9.50	9.45	8.14	9.36	9.06	8.56	8.85	7.77	8.15	7.80	8.12	8.01	9.03
Temper ature		υ	23.30		23.90	19.60		20.80	22.50				Į.	23.60	<b>i</b>	22.70	22.00			21.90	00.01	00.00	21.30	23.10	21.90	26.40	18.70	19.50	25.00	20.90	24.20	21.50	24.10	22.40	26.40	24.80	22.50	25.20	22.10	23.70	22.20	22.30	18.60
Smell			Э	0	0	0	0	0	0	õ	F		0	0	0	0	0		ic	0			5	-	٦	1	c <b>ł</b>	2	0	0	0	0	٦	0	0	~	•1			~		1	0
Muddi _{Sr}	ness		0	0	0	0	1	ö	0	1			0	0	0	0	1	. –	i c	> c	- -	-1 0	5	9	т	3	3	ю	0	0	0	0	1	0	0		1			-	1	1	0
Color			-	0	ō	0	0	0	0				0	0	0	0	0	<b>,</b> (	• -		Ť		╕		-4	1	2	()	0	0	0	0	H	0	0	-		1	7	-	1	T	0
		Y	9475159	9493869	9496481	9496587	9495291	9488909	0488033	9488930	9493007	9493005	9494128	9493871	9497744	9497697	9500380	0481654	8330800	10000046	1001046	9484121	9483716	9487299	9485005	9484905	9485959	9485921	9486443	9463831	9464024	9463806	9465107	9465645	9465492	9461181	9460545	9459102	9459637	9457719	9457448	9450104	9473679
Gride	5	×	712779	717730	721595	721629	717385	716487	716605	714281	773348	727166	720286	720523	724039	723960	722206	703846	000004	107071	12/27/	731078	732369	734225	719602	719645	727009	726985	725010	719080	719042	718756	718166	718010	718030	715947	715567	728721	728860	732154	731650	746110	730565
		Source						Ī	_																		Suke Da																
Samola	ייקעוואט	Point	House hold	House hold	Due Well	House hold	Water hole	House hold	Due Well	Water hole	Water hole	Have hold	Water hole	House hold	Water hole	House hold	Correction Dam	Cuarco Dau	Water note	Porcaole	House hold	House hold	Borchole	Water hole	Water hole	House hold	Charco Dam	House hold	Borchole	House hold	Dug Well	Water hole	Water hole	House hold	Due Well	Water hole	House hold	Water hole	House hold	Water hole	House hold	House hold	House hold
1511-22	VIIIage	Name	Mwanvonve.	Irhanoda	Minchilds	Minchuda	Minchuda	Meimihi	Mariant	MENDINE	VISITIALI		Mundanun	Muncanya	Manan	Meanu	Manu	Mgamu	ondrw	Mupuo	Mipilo	Mangida	Mangida	Sefunga	Ghata	Ghata	Msange	Msange	Msange	Mroni	Mron	Meori	Mkhola	Mkhola	Mkhola	Suchana	Suchana	Vubuata Tinvamoanda	Unvannanda	Mughunga	Muchunga	Nduamuchanga	Ngimu
<b></b>	ò2		6	Т	T				t 2		1	<u>s</u> z	Т	8 8	26			-				66	8	81		101	102				103	103	104	104	10	101	201	- 10Y	3 2	101	107	108	1
	Ward		Ī	Theorem						<u>.</u>			<u> </u>						Magnojoa									_		Meori													Ngimu
	Division			- <b>4</b>																										Menni													

ľ

Remarks							-1										 								r		1				-44	1		-1							
Colon Bacillus	°Z	Water Sp																												•											
Colon Bacillus		Paper	ส	500	g I	7	104	45	36	16	3	28	33	30	M	20	31	0		5	¢	0	200	200	200	200	200	27	11	<b>3</b> 3	0	-4	202	200	51	34	0	£1	200	200	200
NO3 NO2 NH4		ppm   ppm   ppm   ppm	_																														<b></b>	;					-		_
NO3		End	-				-																			-				: .											
щ			2.0				5.0	2.0	2.0	L				1.0		0.5	1.0		1.0		1.0					:	1	0.1.0	_			75.0				1.0		2.0	1.0		0.4 7
ដ្ឋ		(mS/m)	48.10	24.10	103./U	38	33.90	90.06	9.24	7.82	16.85	13.53	45.90	46.50	4.19	8.65	21.90	36,80	38,40	79.40	36.30	36.30	10.92	21.00	69.70	69.70	26.70	27.50	13.70	27.20	425.00	208.00	31.20	35.20	16.54	16.64	11.45	11.89	15.56	13.01	15.25
Hq		~~~	8.27	8.55	\$	10.10	9.08	8.98	8.88	7.72	8.89	7.49	8.80	8.51	8.43	8.47	9.54	9.14	8.6	11.42	9.51	9.51	8.96	8.96	9.58	9.47	8.61	8.51	8.48	9.32		1	8.59	8.82	7.52	7.85	7.64	7.90	8.03	8.60	8.93 8.93
Temper ature		U	22.50	21.40			21.10	24.20	23.00	22.90	23.80	22.20	21.40	23.10	17.40	20.30	21.50	23.40	23.20		24.50	23.80	22.50	27.90	21.20	25.90	22.10	24.50	24.50	25.10	26.70	27.70	24.20	22.20	23.00	21.40	24.60	23.60	23.80	25.00	20.80
Smell 7		~-	Э	•1	-	0	0	***	۲	0	0	~	0	0	0	0	0	0	0	1	ō	0	-		-		7	1	0	0	0	0	63	2	0	0	0	0	1		-
	UCXN		0	ю (	<u>.</u>	r-I	-1	n	б		-1	-1	0	0	1	0	ò	0	0	• •~	ō	0	- 		-	• ••		-1	7	ਜ	0	0	٦	1	Ţ	1		***	н	1	7
Color 1			0	7		-	F	۲,	٦				0	0	Ţ	0	0	0	0	1	0	0	7	( =-			-			<del>-1</del> :	0	0	1	1	1	1	, , , , , , , , , , , , , , , , , , ,		F.	FT .	-
		۲	9473270	9471810	9472077	9482622	9479403	9473661	9474045	9447268	9450093	9451904	9451123	9451131	9451396	9451724	9452161	9446508	9446536	9443626	9450683	9450700	9441178	9440595	9434573	9434601	9442152	9442095	9446602	9447086	9445792	9446977	9445060	9444955	9457701	9458191	9459652	9459468	9459870	9449608	9449018
Gride		×	730654	727610	727654	733634	732109	735928	735200	709377	708425	702345	702481	702429	710418	710260	710315	704578	704504	705524	706268	706346	724521	724299	726822	727004	723481	723375	721915	722964	722980	722911	722774	722843	101101	707743	709848	709889	708973	720990	721139
		Source						ſ				Ī									ĺ		ļ		T		Ť	ſ													
Sample		Point	Water hole	House hold	Dug Well	Charco Dam	House hold	Charco Dam	House hold	Water hole	House hold	Water hole	House hold	Dug Well	Water hole	House hold	Dug Well	Dug Well	House hold	Charce Dam	Rorehole	House hold	House hold	Water hole	House hold	Water hole	House hold	Water hole	Water hole	House hold	Dug Well	Dug Well	Water hole	House hold	Water hole	House hold	Dug Well	House hold	Water hole	Water hole	House hold
Village	>	Name	Ngimu	Mwighanji	<b>Mwighanji</b>	Itaja	Itaja	Pohama	Pohama	Munzaa	Mungaa	Minvinga	Minvinga	Minvinga	Kinku	Kinku	Kinku	Kimbwi	Kimbwi	Kimbwi	llavamichumhi	Unvamiehumbi	Misuchaa	Misuohaa	Mente	Msule	Sakaa	Sakaa	Mnanc	Mnane .	Muane	Mnane	Nkundi	Nkundi	Siuyu	Siuyu	Unyankanya	Unvankanva	Unvankanya	Mkunguakihendo	Mkunguakihendo
, Xo			109	1	110	111		1		1		2			115			1			1	117	1-				T				121		122		123	÷	1	124			125
Ward				-		•		•		Muncaa	6													Misuchas	BOILGUETAN				•				<b>*</b>		Siuvu					<b>-</b>	
Division										Mineaa														_1_											L		-	-	•		1

.

Sino',

T

No.	Village	Sample		G	Gride	Color	Muddi	Smell	Temper ature	Hq	Sa	щ	NO3	- CO2	NO3 NO2 NH4 Bacilius		Colon Bacillus Remarks No.
	Name	Point	Source	×	Y				U		(mS/m) ppm ppm ppm ppm	bpm	ppm	epm p		Paper Wat	Water Sp.
126	Nuntu	Water hole		719496	0432S31	ત્ર	1	0	22.70	9.25	30.00	0.5				49	
22	126 Numtu	Borehole		718319	9431015	0	0	0	23.50	9.14	93.40	2.0				0	
5	Ntcwa	Dug Well		718383	9430724	ĩ	0	0	23.40	8.19	7.83	0.5				0	
5	Ntewa	House hold		718322	9430702	1	0	0	22.60	8.24	8.02	1.0				0	
127	127 Ntewa	Water hole		718460	9431030	1	1	0	23.30	8.75	21.40	0.1			_	0	
8	Mampando	House hold		217975	9435582	1		0	19.20	8.71	28.80	1.0				200	
128	128 Mampando	Borchole		717636	9436006	0	0	0	25.90	8.77	221.00	<u>5</u>				0	
129	Lighwa	Water hole		710914	9439417	1	1	0	22.00		9.58	1.0				12	
81	Lighwa	House hold		710642	9439380	-	<del>, 1</del>	0	23.60		21.00	0.1				\$	
129	Lighwa	Dug Well		710731	9439550	1	1	0	25.30	8.39	21.50	0.5				-	
130	130 Mwisi	Dug Well		986604	9441771	0	0	0	24.80	8.17	32.40	0.1				0	
130	130 Mwisi	House hold		710043	9441973	0	0	0	23.00	8.36	33.00	0.5				0	
130	130 Mwisi	Water hole		709354	9442093	-1	Э	7	23.50	8.43	42.20	2.0				29	
Total													_		_		

T

1

	Remarks																										,		r.—									
	Colon Bacillus No.	Water Sp.																																				
	Colon Bacillus	Paper	35	8	22	14	13	°	0	25	16			11	0	7	0	26	57	ю	14	14		36	्रेव्	25,0	17	10	23	0	22	<b>W</b>	<del>с</del> э	0	5	0	<del>ເດ</del> (	
	7H4	ppm					0.5	0.5	0.5	52				0		0.4	0.4		<u>0</u>		0			-	• •	0.4 4	0	0	0	0	0.00	0.40	0.40	0.00				
	NO2	bpm	0					0.02	0.1					0			0.05		0.05		1.0			20.0			0	. 0	0	0.03		0.00	0.01		0	0	00	2
	NO3	ppm	0.02					_,	20						10	20	20		20		45			-	2 6		0	0	50	10		0.0 0	2.30					
	<b>і</b> ц	bpm	5.0	0.5	<u>0.5</u>	0.5	1	ŝ	\$	ĩ		-		0.5	1	ĭ	1	0.5	<u>٥.5</u>	1	0.5	-		ľ	• • •	0.5		-	7	1	0.50	0.50	0.50	0.50	0.5	-4		
	SC	(mS/m)	62.00	195.20	81.60	83.90	14.38	387.00	0.40	63.50	65.50			7.80	12.41	88.20	96.20	41.60	52.50	50.80	43.20	41.30	-	1261	66 10 86 10	65.50	11.92	12.24	56.20	56.90	49.70	20.90	22.60	52.20	14.75	327.00	0.32	00.42
ſ	Hq		7.06	6.82	7.13	7.70	7.41	7.00	7.90	6.23	6.23			6.25	6.67	2.06	7.38	6.00	26.7	6.95	7.82	6.56		25 2	201	4.86	5.02	4.65	6.40	6.67	8.44	5.94	6.60	9.92	5.00	6.87	6.13	01.0 27.0
Repion	Temper ature	c	20.40	18.80	25.40	22.21	25.50	26.40	24.30	24.20	23.10			19.90	19.50	27.10	20.50	22.70	24.10	24.70	22.30	22.90		105 20	2.22	22.40	22.10	22.50	21.70	22.40	24.30	23.60	24.40	21.30	23.30	25.20	21.20	00130
ngida J	Smell	******	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0		c	00	0	0	0	0	0	0	0	0	0	0	0	0 0	5
nia, Si	Muddi		0	0	0	0	0	0	0	0	0			5	2	0	0	0	0	0	0	0		4	00	0	ō	0	0	0	ò	0	0	0	0	0	00	
ni Dist	Color		0	0	0	0	۲	0	0	٦	T			1	1	0	0	ō	0	0	0	ò				0	0	0	0	0	0	0	<b>o</b> :.	0	0	0	00	╡
s in Manyc		۲	9383393	9365657	9365671	9359839	9363735	9362735	9362704	5615926	9365201	,		9370513	9362341	9370418	9370367	9378547	9359821	9378513	9377733	1668769		VAVEYED	0363210	9363350	9363329	9363291	9372532	9362594	9369767	9369765	9369871	9369006	9343011	9343627	9343641	20000000
: Village	Gride	×	678611	702495	702473	708549	703930	703705	703739	704306	704293			702418	713415	702341	702363	700071	708584	700025	699004	699775		6001007	X87026	688203	688141	688141	687971	126269	693522	693523	688010	693971	694948	695480	695975	
of Target		Source		~	<u>е</u>		-							-			-	-	~		<u>o</u>	6		4	<u> </u>		° ·	•	° 	0	×	0	<u>و</u>	6	9	×	<u> </u>	
Water Quality of Target Villages in Manyoni District. Singida Region	Sample	Point		Borchole	Borchole	House hold	Dug Well	Borehole	House hold	Water hole	House hold	-		Water hole	House hold	Borehole	House hold	Water hole	Dug Well	Borehole	House hold	House hold		Wesser Lala	Waki nuic Boobolo	House hold	Water hole	House hold	Water hole	House hold	Water bole	Dug Well	House hold	House hold	Water hole	Borchole	House hold	House noid
	Village	Name	Manyoni	Manyoni	Manyoni	Manyoni	Ja				Mwanzi	Muhalala	Muhalala	2	Mdunundu	Mitoo	Mitoo	8	Mkwese		Mkwese	Mkwese	1		Agnonal	:	a	Mabondeni		Njirii	nyanga		:	-	· · ·	Idodyandole	:	Idoqvandolo
	No.		_	-			1				3	4	4	s I			0	r-	7	4	7	7	8	T	× 0		2		Ξ	Ħ	2	12		12			<u> </u>	
4 (3)	Ward		Manvoni	1			L,			<u>L_</u>		L		1		i		<b>I</b>		••••			L	1	thuouar		1_		<b>I</b>		Ł				Idodyando			⊥
Table-1.6.6-4 (3)	Division		Manyoni	•	·																			_4											:			

Ť

Remarks				Model Vi							Filot Villa															Model Vi								
Colon Bacillus No.	Water Sp.			12	0	0	ς.	m	11	4		0	52	0	N,											0	0	<del>\$</del> 4	0	36				
Colon Bacillus	Paper	0	7				·		•	13				•	-	00	50	26	0	11	7	ิล	31	31	4					×		1	EI EI	- 4
NH4	mdd															4.0	Š	╞				1	0. 4.	4 0				,		+	c	0	 >	0
NO2	mdd	0									ľ				ľ	1.0	1.		0				~ <b>-</b>	-	•						C	00	,	.20.0
NO3	ppm	<b></b>														88			0					4		<b>_</b>						18		45
jı,	bpm	٤	1														4 4						Ċ											(1)
EC	(mS/m)	0.21	165.20	180.00	22.80	01.6	175.80	203.00	5.57		224.00	146.60				0.21	07-0 V 60 Y	106.40	91.10	291.00	0.32	0.29	Π.	160.70				218.00	20.20	1711	139.30	141.50	11.71	<u> </u>
Hq		5.61	5.70	7.84	7.20	7.78	6.65	6.14	5.07		7.21	6.70				7.05	6 V	200	2.53	6.37	6.37	7.38	6.78	702 9	6.48	6.50	6.59	723	8.10	6 27			5.92	5.76
Temper ature	υ	23.80	24.30	20.70	22.70	19.50	24.80	27.40	23.60		26.30	27.20				22,40	20402	24.00	26.30	25.40	25.40	22.90	27.80	25.20	21.00	25.00	27.00	23.50	26.70	01 AN	22.40	20.30	19.50	0.00
Smell		0	0													00	5 0		00	0	0	0	00	5 0	0					C	) C	ò	0	00
Muddi ness		ō	0											-		00	-	5	0	0	0	0	00	5 C	0					-	00	0	0	00
Color		0	0													0 0			0	0	0	0	0.	≺ C	> 0					-	• •			00
	T-X	9354331	9346040	9369193	9369193		0360241	9369026	9368960		2364165	9363373			1	9375816	1232750	0275787	9374973	9374901	9375280	9380011	9379996	9384053	9383404	9366305	9367692	9366964	9368700	0458205	9358974	9358509	9358491	9350445 0250008
Gride	×	689270	703779	664678	664678		665301	669426	667834		651602	652710		Vater		651008	/10100	XAD105	668138	668859	669092	666827	665918	677758	678644	674879	674932	675163	673507	674606	673703	674569	674675	675310
	Source						N -			<u> 0</u>	42/724	0.196	1Dug well	2Rain W												<del>5</del> 4	15/73			HH				
Sample	Point	House hold	Borchole	Dug Well	Dug Well	Charce Dam	Charco Dam Due Weit	Borchole	Water hole	House hold House hold	Borehole	Borchole	House hold	House hold	House hold	Water hole	Mouse hold	Moter hole	Borchole	Borchole	House hold	House hold	Dug Well	Water hole House hold	House hold	Borchole	Borchole	Dug well	Charco Dam	House hold	Rorehole	House hold	House hold	Borchole
Village	Name	Mbugani	Kashangu	Itigi	light -	Taga Taga		Logi Logi Logi Logi Logi Logi Logi Logi	Ioci	laigi Trici	Doroto	Doroto	Doroto	Doroto	Doroto	Kitaraka	Kutaraka	Sominando Cominando	Sanjaranda Sanjaranda	Sanjaranda	Sanjaranda	Sanjaranda	Gurungu	Guragu	Gurungu	Kitopeni	Kitopeni	Kitopeni	Kitopeni	Kitopeni	Inande	Inande	Ipande	Muhanga
ÖZ		14	15	16	16	2	16	2 2	16	16	-	11	17	17	1	81	2 °	⊥	2 2	19	19	61	ខ្ល	3 8	3 2	5	51	5	5	ដ	; ;	18	18	23
Ward				ltigi														C	Sanjaranua											Innada	Apartmente			
Division			;	Itipi														-																

I-140 I-140 International In

	Kemarks															-																								
Colon	No.	Water Sp.		Ī																													Ī			T		T		-
Colon	Bacillus	Paper	0	-	0	151	0	0	S	01	5		C)	4	2	ē.	0	0	1	0	5	13	0	T	7	5	6	16	11	0	0		-		> \	•	-	0	07 F	
	2HV	mqq	00	0.4	0.4			:		4.0	7. 0		ō	0			0	0																						
	NO2	ppm	0	0.1	0.1		0	0		0			0	0			0	0		0	0	0	0	0	0	0														
	Soz	bpm	10	45	20		-		_	20	2	_	2	101			8	2																						
	ţr,	ppm	(* 1	4 0.5 0	0.5	-4	-	0.5	-	0.5	0.5	-	0.5	0.5	0.5		0.5	7	1	0.5	0.5	7	1	ľ	- 1	٦	1	1	٦	1	1		ſ		• -	Ì	( )	-	0.5	-
	ບສ	(mS/m)	0.45	92.90	93.10	34.40	142.30	142.90	35.30	11.37	13.30	11.85	41.60	42.40	13.19	44.80	66.50	65.60	45.70	18.93	19.19	8.09	10.23	8.63	16.03	15.7	9.92	10.80	11.80	22.80	20.80		03 361	00.561		1.20.12	107.00	0.10	38.20	107.70
	Hd	_	5.41	5.13	4.78	5.56	5.10	5.07	5.30	4.38	4.20	4.41	5.31	5.02	4.03	4.81	5.20	5.15	4.58	5.12	4.37	4.88	4.83	4.41	4.50	5.98	5.52	7.70	6.90	6.90	6.60		03 f			37	7.80	1.60	0.9	00.00
Temper	ature	c	21.00	26.80	23.50	22.60	24.70	22.40	20.50	22.20	21.60	21.20	22.30	19.40	20.50	25.40	25.00	21.00	20.90	23.50	21.10	25.70	23.20	24.60	23.50	19.80	19.90	27.90	26.80	25.00	26.00		0, L0	01.00	20016	0, 0,	27.70	24.40	23.80	00.67
	Smell		0	5 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	I	1	0	0	0	0	0	0	0	0		(	20	> <		0	0	Ô	2
Maddi			0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	2	0	0	0	0	0	0	0	0		4	<b>o</b> c	5 0	5	0	0	0 0	5
	Color		0	0	0	0	0	0	0	Ţ	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	2	0	0	0	0		Ś	<u> </u>	> < :	5	•	0	<del>-</del> -1 (	5
		Y	0920356	9351592	9362055	9333604	9335167	9335184	9334220	9327241	9327770	9346769	9346973	9346945	9346325	9339453	9341845	9340493	9339490	9338993	9339474	9230876	9232599	9285690	9284930	9261358	9261669	9349062	9349554	9346009	9345696			9350304		0600556	9358165	9358309	9355652	9353733
	Gride	×	675045	678081 678081	674979	617816	617034	617997	617703	606251	606222	632366	632893	632080	632228	621950	624885	624107	622234	617343	617240	557642	557593	585028	585793	574836	575241	737224	735310	736650	736537			729484	07767	129244	726223	726428	728600	728622
		Source	L		20		<u>×</u>	v	0	°	6	9	<u>v</u>	~~~	¢	× -	×	0	v	<u>ہ</u>	•	S	<u>v</u>	S	<u></u>	5	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		7	-	-			- C	~ (			-		_
	Sample	Point		House hold Bosehole	House hold	Water hole	Borchole	House hold	House hold	Water bole	House hold	Water hole	Dug Well	House hold	House hold	Borchole	Borcholc	House hold	House hold	Dug Well	House hold	Charco Dam	House hold	Water hole	House hold	Water hole	House hold	Water hole	House hold	Dug Well	House hold			Dug Well	Borchoic	House hold	Borchole	House hold	Water bole	Dug Well
	Village	Name	Muhanga	Muhanga	Danwedu	Meandu	Mrandu	Mganou			Kalangali	ltagata	liacata	Itagata	Itagata	Kavui	Kavui	Kavui	Kavui	Makale	Makale		Rungwa	gembe		Kitanula	Kitanula	Maweni	Maweni	Mvumi	Mvumi		Ngait	Cukuya	Catkuyu			Mbwasa		Mwiboo
	No.		ដ	ន្ល	- 77 7 7	ង	25	2	22	26	26	27	27	27	27	32	38	18	32	29	5		30	31	31	32	32	33	33	34	34	35	35	ස දි	ę,	36	37	37	38	38
	Ward			-		Meandu	0			-									_	-		Rungwa	)	-				Mawcni		-				Chikuya						_
	Division					_1																•						Kintinku												

T

Pemarke					-		-																		31 Pilot Villag																
Colon	No.	Water Sp.			T																				31	9E															
Colon		Paper	13	4	5	<u>v.</u> (	8			0	4	8	13	101	94	Ka j	8	0	ω	0	0	0	<del>م</del>	0			4	m	4	0	0 '		10	2	-	=	6	61		1	
		ppm																											_												
		ppm																						_											-						
	2	mqq				<u> </u>		<u> </u>					_				10		ļ			16	11					<u></u>	17		0				11	Ā	1		-1		<u>8</u>
<u>،</u>	L.	bpm			0.5					o 	-			0			0.5	_				0.5	I					്					,								7 0.5
Ç	2	(mS/m)	32.70	6.43	7.05	39.00	43.30	20.70	38.50	24,20	24.40	21.00	18.63	15.87	13.35	16.89	16.70	181.90	0.21	21.80	104.80	19.47	180.30	122.70			21.70	17.68	82.50	80.80	16.41	309.00			433.00	0.43	11.50	11.65	16.97	11.76	11.07
;	Hd		05.0	7.80	7.20	6.80	7.30	6.80	7.40	7.30	6.90	6.80	7.40	6.50	6.20	8.57	8.58	5.48	5.57	5.35	6.20	4.95	5.44	4.72			6.15	5.76	5.41	5.53	5.36	5.96	4.51	5.80	5.91	5.95	4.24	4.13	6.23	6.04	5.71
Temper	aure	υ	24.80	27.20	26.40	25.20	23.20	19.70	21.00	25.50	24.10	27.40	26.00	28.20	25.60	27.30	26.30	28.00	24.80	24.40	24.40	21.80	24.00	24.60		_	23.50	22.00	24.10	23.20	25.70	25.60	23.70	26.00	27.00	23.50	23.10	24.90	20.90	24.40	27.60
	Smell		0	ò	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ō	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muddi			Э	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	61
_	Color				1	0	0	7	1	0	0	0	0	0	0	0	0	0	0	-	0	7	1	0			0	0	0	0	0	0	ō	0	0	0	0	0	0	0	5
	Gride	7	9353662	9360784	9360709	9371458	9370773	9375308	9375596	9354645	9354577	9349158	9348908	9346809	9346887	9353283	9353027	9297020	9297718	9309677	9311502	9309698	9305635	9366620			9326525	9326480	9326005	9326058	9320077	9321826	9308582	9308905	9317954	9317921	9288916	9288700	9265228	9264006	9291260
	ይ	×	728303	734004	733965	759692	757714	750097	750178	741893	742437	747605	745476	746234	746601	748308	748219	717745	717567	715161	712534	715172	729171	729006		1	703445	703823	708260	707583	707136	706956	702239	701786	711300	711536	723075	723640	722000	722274	733020
	•	Source		ĺ					-						_	-						-																		l l	
	Sample	Point	House hold	Water hole	House hold	Water hole	House hold	Water hole	House hold	Water hole	House hold	Dug Well	House hold	Dug Well	House hold	Dur Well	House hold	Borehole	House hold	Water hole	Borchole	House hold	Water hole	House hold	House hold	House hold	Water hole	House hold	Water hole	House hold	Charco Dam	Borchole	Water hole	House hold	Borchole	House hold	Water hole	House hold	Water hole	House hold	Water hole
	Village	Name	Maihoo	Makutupora	Makutupora	Makanda	Makanda	Mangasai	Maneasai	Kitalalo	Kitalalo	Kintinku	Kintinku	Lusilie	Lusilie	Udimaa	Lklimaa	Nkonko	Nkonko	Mpola	Mnola	Moola	Nambi	Numbi	Chikola	Chikola	Chidamsulu	Chidamsulu	Winamila	Winamila	Heka	Heka	Sasilo	Sasilo	Chikombo	Chikombo	Isseke	Isseke	Simbanguru	Simbanguru	Igwamadete
	°Z		Т	: : : : : : : :		1		1-				1-		Γ-	4	Г		T		1	47	_	Г		1		T	50	5		3		53		Г	54	55	33	8	56	
	Ward		Ī			Makanda		.I		<u>q</u>		Kintinku		-		÷		Nkonko		<u> </u>	•		•		Chikola		-		-		<u></u>		<u> </u>				Isseke				
	Division					1						1.					-	Nconko											_									-		-	

Remarks		Ī		Filot Villa		<u> </u>																																			٦
Colon Bacillus		Water Sp.		51							-			Ī				T		T		Ī				T															
Colon Pacillus	~	-	-			0	0		4	0	5		0	o ;	2	0	21		<u> </u>	o i	2.0	2 i	0		(1)	8	90	71	70	67	5	97 °	\$ <del>4</del>			õ	¥Γ Ι	0	18	27	
NH4		mdd			- • •																																				
ι CN		mqq																														,			<b></b>		•				
E C N	Source and the second s	mdd			<u></u>						<u></u>				~		17	-1	<b>v</b> ,	2	<u></u>	2	<b>w</b>	5	10	1		11	N .		0	N (				-		S.	2	5	
<u>ب</u>	ц 	ä	0.5		.,		(1					_				Ö						Ö						-			o	:			~		1		5 0.5		_
ر پ	с A	(mS/m)	11.95	57.50	147.20	244.00	0.25	145.60	50.10	120.70	115.90	38.10	29.30	30.00	323.00	20.91	215.00	0.22	57.20	56.40			53.30	S0.80	90.80	92.30	20.60	08.06					169.80	38.30	_	·				18.31	
;	Hd		4.55	6.95	5.58	5.64	5.59	5.56	5.52	6.41	6.07	5.62	4.91	5.12	5.48	4.42	6.20	6.26	6.90	7.10	5.94	6.56	7.50	7.20	5.31	5.36	4.93	5.31	5.32	4.85	5.21	6.19	6.13	2.2	6.60	7.10	. 8.50	7.80	6.50	6.20	
Temper	ature	υ	21.40	23.60	24.40	29.00	30.00	27.50	28.60	23.60	25.30	22.40	25.30	23.70	27.90	28.20	25.50	26.00	21.50	20.90	27.50	27.30	26.90	20.30	24.90	23.60	24.30	24.90	22.00	23.00	23.30	23.50	21.80	21.70	24.50	24.00	23.90	25.80	22.50	34.30	
-	Smell		0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ੱ	0	0	0	0	0	0	
Muddi	DCSS		2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,	0	0	0	
	Color		2		ō	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	۲	0	0	-	61	0 :	0	0	0	- 0	0	0	0	0	
		Y	9291097		9296918	9296389	9296931	9297077	9295766	9296502	9294360	9294852	9304436	9304648	9303982	9304862	0520686	9389435	9368277	9368060	9410945	9410931	9378871	9378581	9354736	9354947	9355613	9354736	9354719	9355213	9361401	9357348	9359343	9361529	9328596	9330563	9343880	9343051	9335048	9335968	
	Cride	×	732980		744763	744558	745178	745306	743325	742863	743421	743260	745990	744657	744875	744268	717450	717424	718906	718390	730456	730774	720308	720020	715742	717993	717121	715742	717348	716887	721443	720995	720880	721376	723104	723009	713782	714886	711135	714060	
	<u>.</u>	Source	<b>.</b>			1-														•									<u> </u>	_		•		_							
	Sample	Point	House hold	Dug Well	Water hole	Borchole	House hold	House hold	Water bole	Water hole	House hold	House hold	Water hole	House hold	Borchoic	House hold	Borchole	House hold	Water hole	House hold	Borchole	House hold	Water hole	House hold	Borchole	House hold	Water hole	Borchole	House hold	House hold	Water hole	Borchole	House hold	House hold	Charco Dam	House hold	Water hole	House hold	Water hole	House hold	
	Village	Name	adete				Sanza	Sanza	Ntone	Ntone	Ntone	Ntone	Chicheho	Chicheho	Dcasi	Ikasi	Msemembo	Msemembo	Saranda	Saranda	Londoni	Londoni	Hika	Hika	Kilimatinde	Kilimatinde	Solva	Solya	Solya	Solva	Sukamahela	Sukamahela	Sukamahcla	Sukamahela	Majiri	Maiiri	Sasarila	Sasaiila	Makasuku	Makasuku	
	Š.		57	Τ-	T				Т	3 9			33	5 19				5	64	\$	3	65	66		67		68	<u> </u>	68	8	60	69	69	\$	20	2	12	5	12	2	Total
	Ward			-	Carries.												Makum							-	Kilimatind						_				Maiiri		Sasaiila	, .			Ţ
	Division	_			_4												Kilimatind																				:				

Ţ.

Remarks		]		[							1			
Colon Baciltus	°Z Z	Water Sp.			-									
NO3 NO2 NH4 Bacilius		Paper   Water Sp.		0	0	4	7	0	0	0	ō			
NH4		udd												
X02		mqq mqq mqq												
NO3		udd												
<u>بر</u>		ppm		-	Ч	ĭ	П	64	Ħ	н	2			
ູຊ		(mS/m)		156.80	166.40		47.90			-	110.1			
Hq	•			6.80	7.20	6.70	7.20	6.80	7.30	7.50	6.50			
Temper ature		υ		25.50	24.40	25.40	27.60	31.00	34.10	22.60	27.9			
Smell				0	0	ò	0	0	0	0	0			
	ncss			0	0	0	0	0	0	0	0			
Color				0	0	0	0	0	0	0	0			
		Y		9334491	719839 9335184	9343302	722395 9342862	716799 9350163	9351004	717722 9351460	9349807			
Gnide		X		720384 9334491	719839	722374	722395	716799	717467	717722	718150			
	2	Source										ļ		
Samole		Point		Water hole	Water hole	Water bolc	Water hole	Water hole	Borchoic	House hold	House hold			
No. Vollane	1111160	Name		73 Kinangali	73 Kinangali	Ľ	74 Moandagani	1			75 Chibumarwa			
ž	Ż		1	73	5	42	74	75	75	75	75			
				Maliri				3				ĺ		
	TINISINIO													

ľ

I

Table-1.6.6-4 (4)	4 (4)			Water Quality of Target Villages in Igunga District. Tabora Region	/ of Targe	t Villages	s in Igunga	District	. Tabora	1 Repo	ç							ł		
Divísion	Ward			Sample	0	Gride	qe	Coler	Muddi Sm ness	Smell at	ire	Hq	Sa	<u>и</u>	NO3	EN ZON	NH4 Bac	Colon Colon Bacillus Ba	Colon Bacilius Wsp	Remarks
		ÓZ	Village	Point	Source	×	Y				د د	±)	(mS/m)	ppm	bpm F	ppm pp	ppm			
Mangonga	Mwashinku		Matinje	Charce Dam		251.57	9554.186	24.5	0.05 2	20.3			<u> </u>	. <u> </u>	••				5 <u>5</u>	Model Village
		-	Matinje	Charoo Dam	71	000013	0567970	┿			12 20	6 30	25.00	90	+	╀		17		
		<b>(3</b> (6)	Buchenjegele Buchenjegele	Charco Dam House hold		546055	9553342		10		23.80	6.05	24.50	1.8				0		
		1 00	Mondo	Charco Dam		545506	9562113	0	0	0 0	26.90	6.37	25.70	1.00				14		-
			Mondo	Dug Well		545258	9566981	0	0		25.40	6.51	57.30	5.8				20		
			Mondo	House hold		545507	9562266	0	0	0	22.30	6.33	35.20	1.00		-		0	1	
		4	Mwamashiku	Charco Dam		552611	9560913	1			30.90	6.58	45.30	0.50				<u>(1</u> )		
		4	Mwamashiku	Water hole		550745	9558993	<b>→</b>	0	0	26.20	6.50	35.10	1.8				18		
		৸	Mwamashiku	House hold		550950	9559119	0	0		23.80	6.37	40.60	1.00		-	-		T	
	Ngulu	S	Ngutu	Dug Well		550876	9538471	0	0		30.40	6.66	77.40	2.00			<b></b>			
	 >	Ś	Ngulu	Water hole		549822	9538211	0		0	25.70	6.54	59.70	1.00				5		
		5	Ngulu	House hold		549980	9538343	0	0		25.60	6,65	62.20	1.00				Ě		
		V.	Ngulu	House hold		550864	9538542	0	0		27.10	6.90	63.00	8-1	-		-	38	T	
		ø	Imalilo	Charco Dam		552554	9543019	0	0	0	29.80	6.27	25.70	1.00				11		
		ø	Imaliko	Charco Dam		554113	9546987	0	0		30.30	6.32	29.20	1.8				8		
		0	Imaliko	House hold		552832	9543049	0	0	0	23.70	6.16	26.00	1.00				0		
		Ŷ	Imalilo			554178	9546949	0	0		23.20	6.03	27.50	1.00			-	15	T	
		1	Mwansugho	Charco Dam		558172	9549485	0	0		26.00	5.84	16.00	0.50	•••			10	••	
_		~	Mwansugho	Charco Dam		559490	9552221		0		25.20	6.29	17.44	0.50				~		
		٢	Mwansugho	House bold		\$56559	9549586	0	0	0	24.00	5.79	16.80	0.50				<u>הי</u>		
		٢	Mwansugho	House hold		558667	9552860	0	0	-	23.60		17.49	ç. O	-		┥	•		
	Chomachank	×	Chomachankola	Borchole		538620	9554857	0	0		27.80		170.30	1.00				0		
			Chomachankola	Water hole	-	538442	9554506	ö	0		27.60	7.00	67.30	1.00			• •	5		
		×	Chomachankola	House hold		539234	9555023	0	0		26.40		69.60	1.00				S I		
		80	Chomachankola	House hold		540138	9555423	0	0	0	28.10		186.20	5.00 100	-	_		ร		
		٥	Chibiso	Charce Dam		541205	9562782		1		28,40	6.65	30.10	1.00			<u></u>	17		
		¢.	Onibiso	Water hole		537138	9568501	0	0		31.20	7.02	71.10	1.00				n i		
		\$	Chibiso	House bold		\$41235	9562852	0	0		21.60	6.38	29.70	1.00						
		Q	Chibiso	House hold		537434	9568197	0	0	0	25.70	6.77	58.70	1.00				0	Ι	
		10	Bulangamilwa	Charco Dam		546038	9543512	0	0		22.20	6.24	25.30	1.00			-	18	•	
		20	Bulangamitwa	Water hole.		542192	9545689	0	0		24.40	6.47	28.70	1.00	•		,	<del>oo</del>	-	
		10	Bulangamilwa	House hold		545881	9543398	0	0	0	22.70	6.24	25.00	1.00				5		
		10	Bulangamilwa	House hold		542138	9545251	0	0	0	25.70	6.36	26.20	1.00			_	7		
	Ziba	11	Ziba	Dug Well		545036	9529331	1	0		26.40	6.82	31.80	2.00		<b>.</b>		58		
		11	Ziba	Water hole		544286	9530576	0	0		26.70	6.38	24.30	1.00				80		
		11	Ziba	Water hole		546003	9531638	0	0		26.60	6.70	34.30	1.00	:			8		
		11	Ziba	House hold		544240	1650656	0	<u> </u>	0	25.00	6.50	25.00	1.00				41		

Remarks		Ī														-	1	Pilot Village	-																								
Colon Bacillus	wsp	Ì															_	21	0	200	200	0	20																				
Colon Bacillus	<u>م</u>			<u>, w</u>	~	7	7	10	3 4	22	8	× ×	<u>, v</u>	60	38	8	28					_		60	3 7		;		, oc	200			8	02		) (* 	. <		<u>-</u>	5.4	>		
NH4		Шd				-																	_																				
NO2	. 1	udd																																							_		
EON		E					:			. :																																	
ы		_	2.00	202	50	2.00	8	5	33	3	<u>8</u>	1.0	1.00	1.8	1.0	1.00	1.00					•		ء 20 00	1 00	3 8		3 2	3.6	3 8	3 8	3 9	00.1	8		200	3 8	2.00	2.00		2.00		
BC			34.90	175.10	145 00	08.80	102.40		102.70	147.30	102.20	27.40	27.60	32.80	129.50	128.70	33.50	12.89	21.30	16.90	58.80	21.50	48.40	105 801	100.071	104.20	21.72	1-00	00.01	46.90	00.71	00.022	00.4/4	80.80	00.00		0/-0/1	92.20	38.40	139.90	173.40		
Hq			6.70		-		1 02		25.0 0	7.20	7.15	6.30	6.70	6.55	7.02	6.77	6.69	8.53	6.65	6.89	8.23	7 20	7.58	106	171	2.5	30 8	0.70		0.07		*								7.36			
Temper ature		J	26.70	24.00 04.00	26.00	22.22	21.20	00.10	20.00	25.00	26.00	24.30	22.20	23.40	24.90	21.90	25.70	29.40	25.00	23.40	23.30	00 00	21.00								00.77				_			~			25.20		
Smell		Ţ	0 0	20		<b>&gt;</b> c		2	0	¢	0	0	0	0	0	0	0							¢	> <	> <	5 0	Ĩ	50	50	٦	D o	5 <	> <		5 <	) S	Ó ·	0	0	0		
	2000 1		0 (	<b>)</b> (		5 0			0		0	0	0	0											5 <		> <					5 <				5 0					0		
Coler			0	00		5 <		<b>→</b> <	õ	<u> </u>	0	1	-	0	0	0	••••							ſ	$\rightarrow$	2 0	⊃ <	ľ	~	- •		2 1	э «	> •		0 0	р, ,	0	1	0	•		
		Y	9531029	9529160	0606706	900106	0077656	1617506	9532374	0531760	9532083	9540211	9539995	9539968	9539737	9539529	9540023	0577433	9522076		9522426			000000	66/7766	2281246	1007766	6221226	9159483	9520848	9519431	9520649	0786106	4000706	0600706	0202106	6090106	9510556	9513385	9510745	9510700	9512020	
Gride		x	545105	545537	CKOCHC	252143	C/ 6620	551533	554108	551860	552018	545281	545275	545180	544984	545028	545384	545071	546230		547605			10000	552094	554686	690766	-54750	550810	548960	550885	559538	1400000	64CT02	100100	549661	249252	548283	549682	548753	549306	548263	
		Source																Terrow		W C	• • • • •		24 MO 0																				
Sample	•	Point	Charce Dam	Borchole	House hold	Borchole	Dug Well	House hold	House hold	House hold	Water hole	Charco Dam	House hold	House hold	Due Well	House hold	Water hole	Due Well	Dug wei	Howe hold	Due Well		House hold	LIQUES DOID	Dug Well	House bold	House hold	Water hole	House hold	Charco Dam	Water hole	Borcholc	Charco Dam	House hold	Water hole	House hold	Dug Well	House hold	Water hole	House hold	House hold	Borchole	
		Village	Ziba	Ziba	Ziba	Ibologero	Ibologero	Ibologero	Ibologero	Ibologero	Ibologero	Bulumbela	Bulumbela	Bulumbela	Bulmmhela	Bulumbela	Bulumbela		Nomberi	Nuclined	Nacmocz	Indemocal Party of the	Ndembezi	Ndemoca	Nagu	Ntigu	Nagu	Ntigu	Kitanguli	Kitangili	Kitangili	Moyofuke	Moyofuke	Moyofuke	Movofuke	Nkinga	Nkinga	Nkinga	Nkinga	Nkinga	Nkinga	Nkinga	
		, Z	<b>I</b>		- 1		12	22	12	12	12	13	5		) <u>e</u>	4 F	5 F		दी ह 	<b>t</b>	4		4	4	15	15	ŝ	51	16	16	16	17	17	17	17	8	18	18	18	18	18	38	
Ward	2181				<b>I</b>							.#					-		Ndembezz				-													Nkinga							_
Division	HOLEAN																																										•

ſ

**T** 

Ĵ

Demarks	VOID										_		• • • •			*******	200 Pilot Village	÷						<u> </u>						•						-		;				
Colon Bacillus	Wsp	<b>L</b>													13	0	200	200													:											1
Colon Bacillus	2	<b></b>	ľ	3	10	4	0	0	8	13	ŝ	0	8	0	-				0	4	10	23	11	0	15	4	10	H	15	18	10	8	τŋ	4	ŝ	0	\$	F	10	H	4	1
		and a		Į																																						1
NO N	702	Ē		1																																						
i de la compañía de la	ŝ		i												-												:					:			· .		:				:	
μ	ų	and a		7.00	1.00	1.00	2.00	2.8	2.00	2.00	1.00	8.1	8.1	1.00					2.00 2	2.00	2.00	2.00	1.00	1.00	1.00	8	8	2 [.] 8	1.00	1.00	1.00	1.00	2.00	2.8	0.50	0.50	8	1.00	2.00	2.00	001	1.00
U F	ر ۴	(m/S/m)		140.70	15.65	16.83	101.90	101.40	269.00	263.00	14.22	18.69	25.60	21.50	24.50	25.80	24.20	32.70	66.20	77.90	65.30	76.30	60.10	58.50	86.30	56.40	45.80	44.50	86.30	38.60	61.00	69.40	109.00	93.60	54.40	50.30	16.03	16.96	19.17	18.97	33.10	32.50
	Нd		_	7.49	6.70	6.54	7.73	7.59	8.13	7.44	6.40	6.69	6.82	6.79	8.08	8.80	7.68	8.08	5.93	6.03	5.68	5.84	6.41	6.42	6,63	6.32	6.49	6.32	6.63	6.44	6.20	6.54	6.70	6.66	6.02	6.23	5.55	5.43	5.92	5.62	6.20	6.13
Temper	ature	Ċ	,	25.70	23.50	22.10	25.30	22.60	23.90	25.80	26.30	22.40	25.40	25.20	25.20	22.70	22.90	25.00	20.10	21.20	21.30	21.60	29.00	23.60	25.80	24.80	24.20	21.80	25.80	24.90	23.60	25.30	24.70	24.40	27.80	24.60	27.40	24.20	24.00	23.20	25.70	22.00
_	Smell		Î	0	ò	0	0	0	0	0	ō	0	0	0					-1	0	+	0	0	0	0	0	0	0	0	Ö	0	0	0	0	ö	0	0	0	0	0	0	
Muddi				5	11	ō	0	0	0	6	0	0	0	0					17	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
	<u>Coler</u>			0	-1	0	0	o	0	1	7	. 1	-	0					10	0	(1	0	0	0	ľ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b></b>	FT I
	 8	>	-1	9510915	9514726	9514726	9516906	9516803	9516922	9516832	9515118	9515478	9508901	9509005			9558416	9558416	9547942	9549485	9547877	9549348	9560735	9561573	9560867	9560835	9559383	1559476	9560867	9559124	9559278	95601:59	9567623	9567431	9536887	9536570	9239076	9539459	9549207	9549340	9548121	9547887
	Gride	ļ	~	548824	547441	547306	555617	555614	556295	S56494	565722	566065	539724	539704			578561	578561	574863	576526	574612	576572	571235	571945	560868	561052	567036	567172	560868	557285	557098	560073	570683	\$72593	579352	579398	556746	556672	561656	561744	564110	564041
			Source													l Rain V	(Dam In	1 (Puma				:																				
1	Sample		Point	Water hole	Water hole	House hold	Dug Well	House hold	House hold	Water hole	Water hole	House hold	Water hole	House hold	House hold	House hold	Water hole	Water hole	House hold	House hold	Water hole	Water hole	Water hole	House hold	Water bole	House hold	Charco Dam	House hold	Water hole	Charco Dam	Charco Dam	House hold	House hold	Water hole	Water hole	House hold	Charco Dam	House hold	Charco Dam	House hold	Charco Dam	House hold
			Village	Nkinga	-Ulaya	Ulava	Usaka	Úcaka	Uraka	Uraka	Mwakabuta	Mwakabuta	Ikunguipina	Deunguipina	Igurubi	Ieurubi	Icurubi	Isurubi	Mwagala	Mwacala	Mwagala	Mwacala	Kalangale	Kalangale	Kinungu	Kinungu	Mwandihimiji	Mwandihimiji	Mwamapuli	Mwamapuli	Mwamapuli	Mwamapuli	Mwajilunga	Mwajilunga	Migongwa	Migongwa	Ntobo	Ntobo	Ntobo	Mwamloli	Mwamloli	Mwamloli
	_	ļ	°.	18	19	19	20				Г	51	52	22				12	T	54			1	25		1	27	27	8	28	28		29	59	30	30	<b>—</b>	31		32	32	32
	Ward				s								A		leurubi	Ģ							•		Kinungu	,	<b>4</b>		<b>.</b>				4		Mwamashiga	>	Ntobo			<b>4</b>		<b></b>
	Division														leurubi	0									<u> </u>										£		L					

Ì

1

Demorie	VCHALAS									-			6 Model Village							<u></u>							<u>.</u>								Model Village				<u></u> .		
Colon Racittus	Wsp											-	6										0											0				••••••			•
NO3 NO2 NH4 Bacillus Bacillus	d		×.		27	8	12	1	ډي	1	0	0		12	26	6	13	40	42	22	24	81	0	4	1	0	5	m	47	10	98	13	11	-		24	4	31	36	150	32
NHA	+1741	mdd																																							
CON	701	ppm																																							
τŪΝ N	Ş	ppm																				:												,			•				
μ	4	ppm	1.00	1.0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00	2.00	0.50	5.00	5.00	0.50	5.00	5.00	1.00	1.00	1.0	5.0	5.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	7.00	1.8	1.00	1.00	1.00
ر u	2	(mS/m)	19.72	14.29	31.40	32.50	56.30	59.40	19.86	8.45	11.05	20.70	28.50	104.20	103.80	104.00	103.80	30.10	101.90	96.10	33.60	96.50	104.30	21.80	94.30	21.30	67.40	65.30	90.40	59.10	22.00	21.10	30.60	52.10	• • •	22.20	26.30	22.00	22.00	22.20	37.20
'n			5.93	5.95	5.58	5.57	5.80	5.88	5.61	5.74	5.58	5.52	9.02	6.89	7.14	7.10	7.02	6.80	6.93	7.13	6.72	7.00	6.96	6.92	7.28	6.85	7.09	7.22	7.14	6.35	6.15	5.85	5.71	6.63		6.04	6.12	5.74	6.15	6.61	5.91
Temper		с С	30.10	25.60	26.20	26.90	24.10	20.80	22.60	24.30	19.00	21.50	26.10	25.80	24.40	25.20	24.80	27.30	28.10	27.10	23.80	25.30	25.90	26.80	28.80	26.10	27.60	24.70	25.60	29.00	24.20	25.10	24.00	21.70		26.40	29.40	23.90	24.20	26.30	25.20
L Ioms			٦	-		0	0	0	1	0	0	۲		0	-	0	1	0	0	0	0	0	0	0	ö	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muddi	ness	_	63	-	0	0	0	0	63	0	0	(1)		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	 5 00		H	•	0	0	0	0	1	0	0	T		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
	Allac	Υ	9539055	9539233	9542043	9542317	9550988	9551055	9537887	9539740	9538812	9537851	9525520	9531008	9530682	9530816	9530683	9525571	9524987	9524361	9524348	9524348	9524814	9224916	9522508	9524893	9525252	955432	9523249	9529793	9525342	9528605	9528605	9520394	9520348	9527790	9527766	9527783	9525342	9525083	9515726
Ċ	5	X	565337	565358	572010	572110	573347	573188	572064	570339	570431	572363	597852	956572	556871	556975	556877	554611	553790	553166	554143	553119	554212	558765	556074	558805	558918	558935	556309	568964	587400	566833	566833	568777	566869	573119	572745	573101	587400	587370	581063
	•	Source									•																				-		•	·	_				Bulenya		_
Comel	Sample	Point	Charco Dam	House hold	Charce Dam	House hold	Water hole	House hold	Water hole	Charco Dam	House hold	House hold		Dug Well	House hold	House hold	Water hole	Water hole	Borcholc	Dug Well	House hold	House hold	House hold	Water hole	Borchole	House hold	Charco Dam	House hold	House hold	Water hole	Charco Dam	House hold	House hold	House bold	Dug Well	Water hole	Water hole	House hold	Charco Dam	House hold	Water hole
		Village	Mwabubele	Mwabubele	Itunduru	Imnduru	Kagongwa	Kagongwa	Mwabaraturu	Mwabaraturu	Mwabaraturu	Mwabaraturu	Mwayunge	Nyandekuwa	Nyandekuwa	Nyandekuwa	Nyandekuwa	Ussongo	Ussongo	Ussongo	Ussongo	Ussongo	Ussongo	Itale	Itale	Itale	Itale	Itale	Itale	Nanga	Nanga	Nanga	Nanga	Kaumbu	Kaumbu	Bulyangombe	Bulyangombe	Bulvangombe	Igogo	Igogo	Bukoko
		, Š			\$		35	35	36	36			37	38	38	38	38						39	40	9				40	41	4			42	42	43	64				45
1-11	ward				Itunduru				#				lgunga	Nyandekuwa				•	<b>4</b>	<b>-</b>										Nanga				L		•			<b>.</b>		Bukoko
	Division												Igunga	<u>,</u>							,												-								

٢

**T** 

: 1-154

Coler         Muddi ness         Temper         PH         EC         F         NO3         NO2         NH4         Bacillus         Remarks           P         ness         pH         EC         F         NO3         NO2         NH4         Bacillus         Remarks	C C C C C C C C C C C C C C C C C C C	<u>9515750</u> 000000000000000000000000000000000	<u>9516972</u> 1 0 1 27.70 5.39 8.46 1.00 1 25	9516974 1 0 1 25.20 5.32 8.30 1.00 30	9492674 24.80 7.63 18.10 12		9494983 1 0 0 25.10 6.16 28.30 2.00 0		6.47 16.52 1	_	9507907 0 0 0 22.80 5.90 16.66 1.00 22	7.06 13.70	22.90 6.30 24.10 200	5.98	6.89 32.70	12	9507781 23.90 8.95 64.30 0	
Sample	Point Source X		Water hole 588499	House hold 588741	Dug Well 594027	Water hole 595112	House hold 594994	Water hole 557722	Dug Well 557213	House hold 557129	House hold 557729	Water hole 1 592839	House hold DW 2	Water hole 2 562926	Water hole 564055	House hold	Water hole (Dam) 565730	
	Village	Bukoko	Ipumbulya		Itumba	Lugubu	Lugubu	Sungwizi	Sungwizi	Sungwizi	Sungwizi	Nguriti	Nguriti	Nguna	Ngund	Ngunu	Ngurin	
Ward	ÖZ	45	\$	46	Itumba 47	Lugubu 48	48	Sungwizi 49	49	49	49	8	50	50	50	50	50	
Division					1	ŧ		J										

**APPENDIX-2** 

.

Ŧ

I.

# JICA ENVIRONMENTAL GUIDELINES (1992) SECTOR VIII: GROUNDWATER DEVELOPMENT (SUMMARY)

Preface	(Abridgement)
Terminology	(Abridgement)
Abbreviation	(Abridgement)

#### i. Background

T

Japan International Cooperation Agency (JICA) started to prepare the environmental guidelines for the development survey in 1988. The guidelines consists of "Dam Construction" and the following 13 sectors:

- [I] Port and Harbour
- [II] Air-port
- [III] Road
- [IV] Railway
- [V] River and Sabo
- [VI] Solid Waste Treatment
- [VII] Sewerage
- [VIII] Groundwater Development
- [IX] Water Supply
- [X] Integrated Regional Development
- [XI] Tourism
- [XII] General Transportation
- [XIII] Urban Transportation

### ii. Objective of Guidelines

This guidelines aim to forecast environmental issues which may practically arise along with any development, to sufficiently pay environmental considerations, and to be used for screening and scoping of environmental issues in any JICA's preliminary study in the plan formulation on socio-economical infrastructure development schemes.

(The present guideline)

#### iii. Use of Guidelines

The guidelines are to be used by staff who are engaged in any preparatory or preliminary study of JICA for the preparation of report or instruction for environmental

considerations. In case that the EIA guidelines of target country are sufficiently available, the study is to follow them. In case that the guidelines of target country are insufficiently or not available, this guideline is to be supplementary used.

## Chapter 1: Outline of Environmental Considerations

#### 1.1. Basic Concept

The environmental considerations are defined as "to investigate whether or not major environmental impacts may be generated through a development project, evaluate the outcomes, and formulate counter-measures to avoid or mitigate from the impacts as necessary". The preposition of definition is based on the concept that the development aid is to be not tentative but sustainable. The environmental considerations are an indispensable component to secure the sustainability of any development. In the implementation of any development project in any developing nation under Japan's cooperation, the environmental examination is to be made as in an earlier stage as possible to promote a balancing development in a long-term view.

Since any project in a developing nation is conducted by the decision of its government and in the nation's land, the environmental considerations are to be made through the observation of law, regulation, guideline and measures of the government of nation. JICA's basic strategy in the environmental considerations is set forth at the promotion of sustainable development, basing upon the intention of counterpart government, to up-grade the living standard in a harmony with the appropriate environment.

The present guidelines describe the screening and scoping in the preliminary study on possible negative impacts to the environment in the project area and surroundings to be triggered by the target project. Tables 1.1 and 1.2 show the correlation of project and environmental considerations in each stage.

# Table 1.1.Correlation of Project and Environmental Considerationsin Each Stage

Stage in Project l	mplementation	Stage in Environmental Considerations
By JICA		
Preliminary Study		Preliminary Environmental Survey
Project Study		
Master Plan Study	Feasibility Study	Initial Environmental Examination (IEE
Feasibility Study		Environmental Impact Assessment (EIA
By Implementing	Agency	
Formulation of Im (inclusive of De		Examination of Environmental Preservation Measures
Project Imp	ementation	Implementation of Environmental
(Const	ruction)	Preservation Measures
Project	Operation	Environmental Monitoring

I

۲.

Notes: (1) The correlation in each stage is not so strict.

(2) IEE or EIA is not limited always necessary by project.

(3) The detailed design of Environmental Preservation Measures is to be included in the Formulation of Implementation Plan.

(4) The shadowed column shows the major extent of the present guideline.

# Table 1.2. JICA's Frame Work of Development Survey and Environmental Considerations

.

1

Flow of Study Work	Examination/Timing	Examination Items
Project Finding		
Project Finding	Provisional Screening (Judgement whether or not TEB or EIA is Necessary)	Not to accept such project which may involve important impacts.
Preliminary Study		a se atractica a
Preliminary Study Agreement of S/W Preparation of Preliminary Study Report	Screening (Confirmation of Provisional Screening) Scoping (Decision of major sectors	Stipulation on S/W, M/M and Preliminary Study Report.
Selection of Consultant	for IEE or EIA)	I
Preparation of TOR for Environ'l Considerations 4		Extent of works by the Consultant.
Selection of Consultant		Evaluation of consultant's Proposal.
Project Study		
Preparation/Discussion of IC/R		Decision of items for EIA.
Implement'n of IEE orEIA ↓ Discussion of DF/R		Supervision of consultant? works and report.
↓ Preparation of F/R		

Notes: (1) TOR: Terms of Reference; S/W: Scope of Work; IC/R: Inception Report; DF/R: Draft Final Report; F/R: Final Report.

(2) The shadowed column shows the major extent of the present guideline.

#### 1.2. Outline of Environmental Consideration in Groundwater Development

#### 1.2.1. Coverage of Guideline

This guideline is to cover the plan of groundwater development by means of borehole, tubewell or dug-well for domestic, industrial, agricultural and similar uses, and to not cover such a large-scale plan for groundwater recharge or underground dam scheme.

## 1.2.2. Typical Impact and Environmental Consideration in the Groundwater Development

The groundwater development is to be implemented for the improvement of hygicne and sanitation conditions and living standard, and is expected to bring positive impacts for living environment.

The following typical negative impacts for environment may be taken place in case that an improper groundwater draft has been made:

#### Groundwater:

T.

An over-draft of groundwater may cause the drawdown of head and/or exhaust of resource, dries up springs and wells in around, and threaten the daily lives of inhabitants. In case of a coastal area, an over-draft may cause the groundwater pollution by the sea-water intrusion into coastal aquifers.

Thus, the evaluation of both groundwater resource and designed draft is to be carefully evaluated in the environmental considerations.

#### Land-subsidence:

An over-draft of groundwater may cause the consolidation and shrinkage of cohesive soil layers nearby the aquifers, and a land-subsidence. A land-subsidence may decrease the drainage function on the ground, increase flood damage areas, deform the function of various structures, obstacle the socio-economic activities and increase the cost for urban development cost. In the environmental considerations, a careful examination is to be made on the existing situation of land-subsidence, the present land-use and so forth.

### Chapter 2: Project and Site Descriptions

#### 2.1. Basic Concept

The identification of outline of project and environment of project areae in an carlier stage is indispensable for the screening and scoping of environmental impacts. The project description is hereby defined to be the project dimensions related items, those are, the background, objectives, location, implementing agency, beneficial population, size, design,

construction method, operation, maintenance and so forth.

The site description means the natural and social environments and the existing pollution in/around the project area. The most attention is to be paid in the following areas;

- an area where the soil conservation measures are required,

- an area where is facing the desertification,

- an area where in the tropical forest or in water source,

- an area where is precious for the protection, conservation and sustainable use of wild lives,

- an area where is precious in the history, archaeology, land-scape and science,

- an area where the population and industries are concentrated to the extreme extent to generate an environmental issues; and

- an area where is deemed to be specific social value for specific minority group.

#### 2.2. Project and Site Descriptions in the Groundwater Development

The project and site descriptions in the groundwater development plan are to be provided by the formats shown in Tables 2.1 and 2.2.

 Table 2.1.
 Format for Project Description (Groundwater Development)

Items	Description	
Project Title		
Background		
Objectives		
Location		
Implementing Agency		
<b>Beneficial Population</b>		
Project Dimensions		
Саtедоту	New construction/Rehabilitation	
Purpose	Domestic: Agriculture: Industry/Storage Pond/Women's	Activity
Water Depth/Quality	Water-source Depth: m, Water Quality:	· · · · · · · · · · · · · · · · · · ·
Major Components	Borehole Dritting: Nos., Delivery/Distribution Pip	e: km
Water Storage	No. Of Tanks: , Storage Capacity:	m3
Water Treatment Plant	Methodology: , Capacity:	m3/day
Appurtenant Facilities	Power Transmission/O&M Facility	
Other Specific Items		

Note: Description may be in an extent within available data and information.

## Table 2.2. Format for Site Description (Groundwater Development)

1

Ţ,

Items	Description
Project Title	n
Social Environment	
Regional Inhabitants:	
(Resident/Indigenous people/Awareness of	
project/others)	
Livelihood Related Facilities:	
(Borchole/storage-pond/water-supply/	
electricity-supplies/others)	
Health and Sanitation:	
(Epidemic-diseases/Hospital/customs/	
others)	
Natural Environment	
Geomorphology and Geology:	
(Steep-slope/soft-foundation/marsh/faults/	
others)	
Groundwater, Lakes, Streams, Climate:	
(Water quality/quantity/rainfall/others)	
Precious Flora and Fauna; Their Habitats:	
(National park/habitat for specific species/	
others)	
Public Pollution	
Cause of Claims:	
(Interested pollution/others)	
Counter measures:	
(Institutional	
measure/compensation/others)	
Other Specific Items	

Note: Description may be in an extent within available data and information.

#### Chapter 3: Screening

#### 3.1. Basic Concept

The screening is defined to be "to judge whether or not the project is required any examination on environmental impacts". The screening of any project is examined based on the above definition in the present guideline. The judgement whether or not IEE or EIA is necessary is, however, to be based on a concept that not to provide a certain quantitave standard, but to secure a harmony between the sustainable development within the described project and site; and, the daily life of inhabitant and surrounding environment.

#### 3.2. Methodology of Screening

#### 3.2.1. Introduction

JICA's methodology of screening is based on the following intersectional views in addition to the recommendation of OECD (1985):

- Is it anticipated to affect negative impacts to the sustainable productive activities depending mainly on the natural resources ?

- Is it anticipated to affect any remarkable impact to human health ?
- Is it anticipated to introduce any deterioration and/or loss of precious wild lives and their habitat ?

- Is it anticipated to generate unfair impacts to the life and survival of the related population ?

The screening is to be conducted by the sufficient discussion with the counterpart government referring to the present guideline and observing the legislative set-up of the target nation if any.

#### 3.2.2. Screening in Groundwater Development

The screening in the preliminary environmental survey is to be conducted basing on the following concept:

- To not affect negative impact to life and survival of related population, and to secure sustainable regional development and sufficient benefit to socio-economic lives.

- to not give remarkable harm on the existing natural environment, to preserve precious environment and natural resources, and to maintain harmonised environment in future.

The screening is to be conducted through the format shown in Table 3.1.

# Table 3.1. Format for Screening (Groundwater Development)

	Environmental Items	Description	Evaluat- ion	Remarks (Basis of evaluation)
			100	or evaluation)
<u>A.</u>	Social Environment			1
1	Resettlement	Due to land acquisition (resident	Ycs/No/	
		right/transfer of land ownership)	Unclear	······································
2	Economic Activities	Loss of productive opportunity,	Yes/No/	
	· · · · · · · · · · · · · · · · · · ·	change of economic structure.	Unclear	
3	Transportation and	Impacts to access to hospital or	Yes/No/	
	Life Facilities	school by traffic jam or accident	Unclear	
4	Split of Area	Split of area by interfering of	Ycs/No/	
		transportation	Unctear	
5	Historical/Cultural	Loss and damage of heritage	Ycs/No/	
	Heritage		Unctear	
6	Water Right/Right	Interfere on fishery right,	Yes/No/	
	of Common	irrigation water right and others	Unclear	
7	Health/Sanitation	deterioration due to waste gene-	Yes/No/	
		ration or unfavourable insects.	Unclear	
8	Solid Waste	Construction waste, excavated	Yes/No/	
		soil, used mud, solid waste, etc.	Unclear	
9	Disaster (Risk)	Increase risks for land-creep,	Ycs/No/	
Ì		subsidence, accident, others.	Unclear	
B.	Natural Environme	e nt		
10	Topography/	Deformation of precious land-	Yes/No/	
	Geology	scape or geological site, others.	Unclear	
11	Soil Erosion	Due to site preparation	Ycs/No/	
1			Unclear	
12	Groundwater	Drawdown of head and related	Yes/No/	
		pollution due to overdraft.	Unclear	
13	Hydrologic Regime	Change of flow rate/water quality	Ycs/No/	
	of Lake/River	by reclamation or waste water.	Unclear	
14	Sea Coast	Erosion or sedimentation in coast	Ycs/No/	
ľ.		by reclamation/others.	Unclear	

1

	Environmental Items	Description	Evaluat- ion	Remarks (Basis of evaluation)		
<u>B.</u>	Natural Environme	ent (continued)				
15	Pauna/Flora	Impacts to ecosystem due to envi- ronmental change of habitat.	Yes/No/ Unclear			
16	Climate	change in temperature, rainfall, wind blow due to new structure.	Yes/No/ Unclear			
17	Landscape	Change of topography by constru- ction, harmony with new structure.	Yes/No/ Unclear			
C.	Public Pollution					
18	Air Pollution	Due with exhausted poisoned gas from vehicles or workshop.	Yes/No/ Unclear			
19	Water Pollution	Due to contamination of drilling waste, oil, tubricants, others.	Yes/No/ Unclear			
20	Soil Pollution	Due to runoff and dispersion of waste water, pollutants, others.	Yes/No/ Unctear			
21	Noise/Vibration	Generated by drilling and water pumping, others.	Yes/No/ Unclear	·····		
22	Land Subsidence	Deformation of ground surface due to groundwater overdraft.	Yes/No/ Unclear			
23	Offensive Odour	Due to exhaust gas, use of odourful material, others.	Yes/No/ Unclear			
	Synthetic Evaluation:	Is IEE or EIA required for the project?	Yes/No			

Ť

2-10

•

#### Chapter 4: Scoping

#### 4.1. Basic Concept

P

Ť

The scoping is to identify important environmental impacts in a development project, and to clarify strategic sectors and items to be covered by environmental impact survey.

#### 4.2. Methodology of Scoping

#### 4.2.1. Introduction

Several methods are taken into the scoping and EIA such as "Check-list", "Matrix", "Overlay", "Network" and so forth. The "Check-list" and "Matrix" methods are to be used in the scoping in this Guidelines.

The synthetic matrix for 13 sectors of JICA Guidelines is shown in Table 4.1 for reference.

#### 4.2.2. Scoping in Groundwater Development

A check-list for the scoping in Groundwater Development and a matrix to identify the relation between development activities and environmental items are shown in Tables 4.2 and 4.4 respectively.

In the application of check-list in the scoping, the following conditions and processes are to be taken:

(1) Conditions for examination:

- The period of examination is to be both before and after the operation of project.

- The spatial extent is to be not only around borcholes/wells site but also the

groundwater basin where the boreholes/wells are.

- Target environmental impacts are, in principle, to be those negative impacts which may reflect to the existing environment.

(2) Evaluation of major item and sector:

The evaluation is to be made in the following four categories:

A: The item which is anticipated a major impact.

B: The item which is anticipated a some impact.

- C: The item on which any impact is unclear at present, and a further examination is required.
- D: The item on which any impact is not anticipated and further IEE and EIA are not required.

The major item and sector which require the IEE and EIA are to be judged by

referring to the "Explanatory Note by Environmental Item" shown in Table 4.7.

#### (3) Synthetic Evaluation

The synthetic evaluation is to be made through the results of evaluation made by each environmental item in the check-list and the description of basis of evaluation in Table 4.2. Referring to the concept of scoping (refer to Table 4.4) with and a judgement whether or not the IEE or EIA is required, the outline of further survey is to be described by the items in the categories A to C in the format shown in Table 4.5.

Environmen'l Items	So	ci	1 E	nv	іго	n	m	ʻt	N	tur	al	E	nv	iro	n	m	'1	Pu	bli	c	Ро	llu	t'n
Sectors	1	a 2	3	4	5	6	7	8	a 9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Individual Pro	Individual Pro jcc t																						
1.Port &	0	0	0		0	0		0	0	0			0	0	0		0	0	0	0	0		0
Harbour																							L
2.Airport	0	0	0	0	0	0		Ő	0	0	0		0	0	٢		Ö	Ő	0		$\odot$		
3.Road	0	0	0	0	0	0		0	0	0	0	0	0	Ö	0		0	0	0	0	0		
4.Railway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0		0		$\odot$		
5.River & Sabo	0		0	0	0	0		0		0			0	0	0		0		0		0		
6.Solid Waste	0		0				0	0		ĺ		0	0	0	0		0	0	0	0	0		0
7.Sewerage	0							0							0		0	0	0		0		0
8.Groundwater						0						0							0		0	0	
9.Water Supply	0					0							0		0		0		0		0		
Integrated Dev	Integrated Dev el op m en t																						
10.Reg'l Develop'i	0	Ó	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0		0
11.Tourism	0	0	0	0	0	0	0	0	0	0	0		0	0	0		0		0		0		
12.Gen'l Transpot	0	0	0	0	Ó	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0		0
13. Urban Transport	0	0	0	0	0			0	0				0		0		0	0		0	0		

 Table 4.1.
 Synthetic Matrix for 13 Sectors of JICA Guidelines

Notes: @: Environmental item which may relate to the realisation of project in accordance with potential magnitude of impact and counter-measure; and specific attention is to be paid.

- O: Environmental item which may involve a possible large impact in accordance with project size and the situation of project area.
- Blank: Environmental item which is deemed to generate minor impact and detailed examination may not required.

Ta	ble	4.2. Check-I.	ist For	Scoping (Groundwater Development)
	En	vironmental Items	Eva'n	Basis of Evaluation
		Social Environmen	t	
	1	Resettlement		
	2	Economic Activities		
	3	Transport/Life		
		Facilities		
	4	Split of Area		
	5	Historical/Cultural Heritage		
	6	Water/Common Right		
	7_	Health/Sanitation		
	8	Solid Waste		
	9	Disaster (Risk)		
		Natural Environm	ent	
	10	Topography/Geology		
	11	Soil Erosion		
	12	Groundwater		
	13	Regime of Lake/River		
	14	Sea Coast		
	15	Fauna/Flora		
	16	Climate		
	17	Landscape		
		Public Pollution		
	18	Air Pollution		
	19	Water Pollution		
	20	Soil Pollution		
	21	Noise/Vibration		
	22	Land Subsidence		
	23	Offensive Odour		

Notes:

Ľ

- (1) Evaluation Category: A: The item which is anticipated a major impact; B: The item which is anticipated a some impact; C: The item on which any impact is unclear at present, and a further examination is required; D: The item on which any impact is not anticipated and further IEE and EIA are not required.
- (2) The related "Explanatory Notes by Environmental Item" shown in Table 4.7 are to be referred in the evaluation.

Major	Environ't	So	cia	1	En	vir	on	m	en	t	Na	tur	al	En	vir	on	m	1	Pu	bli	c	Po	llu	ť'n
Activi-	Items	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
tics	Synthetic						0						0							0		0	0	
	Before O	pe	rat	io	n																			
Pump-	Topography																			Ó				
ing	Change																							
Facili-	Site-machine																					0		
ty	Operation								<b>.</b>	l														
	After Ope	rat	io	n			•		<u>.                                    </u>	•	•	<b>.</b>	<b></b>						<u>.</u>					
	Spatial																							
	Occupation																							
	Facility			İ			0						Ø							0		0	0	
	Operation																			ł				

Table 4.4. Matrix to be used for Preliminary Study (Groundwater Development)

Notes: O: Environmental item which may relate to the realisation of project in accordance with potential magnitude of impact and counter-measure; and specific attention is to be paid.

O: Environmental item which may involve a possible large impact in accordance with project size and the situation of project area.

Blank: Environmental item which is deemed to generate minor impact and detailed examination may not required.

Table 4.5.	Synthetic Evaluation (Groundwater Development)
------------	------------------------------------------------

Environmental Items	Evalua- tion	Outline of Further Survey	Remarks
· · · · · · · · · · · · · · · · · · ·			

Notes:

I

T

(1) Evaluation Category:

A: The item which is anticipated a major impact;

B: The item which is anticipated a some impact;

- C: The item on which any impact is unclear at present, and a further examination is required;
- D: The item on which any impact is not anticipated and further IEE and EIA are not required.

## Table 4.7. (1) Explanatory Notes (Groundwater Development)

Item	6. Water Right/Right of Common
Description	Interfering to vested water right and others
Component of Cause	1. Drawdown of groundwater head by the over-draft.
Possible Environme.	<ol> <li>Decrease of yield of the existing borehole/well nearby new borehole/well.</li> <li>Possible drying-up of the existing private dug-well.</li> </ol>
ntal Impact	2. Tossible drying-up of the existing private dug-weat
	(Note)
	In case of a large scheme such as the groundwater recharge and underground dam, the impact may be more larger.
Components	1. The existing borcholes/wells are densely installed around the project area.
usable in	2. The present groundwater head in the project area is already drawing down.
Evaluation	3. A large amount of groundwater is used for irrigation purpose.
	4. A tribal group forming specific community resides in the project area.
Counter- measures,	1. Opening the project information to public and implementation of public relations.
others	2. Compensation of alternative water.
	3. Control of irrigation water use.
	4. Formulation of groundwater use plan; prioritisation of domestic use.
Related Further	<ol> <li>Inventory survey on the existing groundwater use focusing in women participation.</li> </ol>
Survey	2. Identification of groundwater resources.
· ·	3. Inventory survey on the regional sociology.

Î

1

# Table 4.7. (2) Explanatory Notes (Groundwater Development)

Item	12. Groundwater
-	Drawdown of groundwater head by the over-draft and associated groundwater pollution.
Component of Cause	1. Over-draft of groundwater in the project operation.
	(Note) In case of groundwater recharge and underground dam, groundwater flow regime may be largely changed, but a great merit in the groundwater development could be expected.
Possible Environme- ntal Impact	
Components usable in Evaluation	<ol> <li>Shallow well receives more impact.</li> <li>The present groundwater head in the project area is already drawing down.</li> <li>A large amount of groundwater is used for irrigation purpose.</li> <li>A more attention is required in case that the project area is nearby the sea coast.</li> </ol>
Counter- measures, others Related Further Survey	<ol> <li>Control of irrigation use.</li> <li>Formulation of groundwater use plan.</li> <li>Compensation of alternative water.</li> <li>Hydrogeological study (identification of groundwater resources).</li> <li>Pumping test.</li> <li>Examination of project in another nature.</li> <li>Inventory survey of the existing groundwater use.</li> </ol>

1

## Table 4.7. (3) Explanatory Notes (Groundwater Development)

1

Item	19. Water Pollution
Description	Contamination of drilling mud or oil/lubricants with river and groundwater
Component of Cause	1. Mixing of underground layers and use of mudwater, oil and lubricants during drilling of borehole/well.
	2. Drawdown of groundwater head by over-draft.
	(Note)
	1. In case of recharge project: pollution of surface runoff due to soil erosion.
	2. In case of underground dam project: groundwater pollution by mud, cement
	or chemicals.
Possible	1. Impact to the existing groundwater use due to groundwater pollution during
Environme-	the construction.
ntal Impact	2. Groundwater pollution due to drawdown of groundwater head by over-draft
	in the project operation.
	3. Groundwater pollution in the coastal area due to the sea-water intrusion.
Components	1. Shallow well receives more impact.
usable in	2. The present groundwater head in the project area is already drawing down.
Evaluation	3. A large amount of groundwater is used for irrigation purpose.
	<ol> <li>A more attention is required in case that the project area is nearby the sea coast.</li> </ol>
	5. A more attention is required in case that the factories, solid waste plant, no
	sewerage plant are in the project area.
Counter-	1. Prevention of over-draft of groundwater.
measures,	2. Formulation of groundwater use plan.
others	3. Provision of sewerage plant.
Related	1. Hydrogcological study (identification of groundwater resources).
Further	2. Hydrochemical analysis on sca-water, surface water and groundwater.
Survey	3. Inventory survey of the existing land use.
	4. Inventory survey of the existing groundwater use.

 Table 4.7. (4)
 Explanatory Notes (Groundwater Development)

Ţ

÷.

L

Item	21. Noise/Vibration				
Description	Generation of noise/vibration by drilling and other on-site machines and vehicles.				
Component of Cause	<ol> <li>On-site machines and vehicles in drilling and other construction works during several month to one year period.</li> <li>Water pumping during the project operation.</li> </ol>				
Possible Environme-	1. Impacts to human daily life, escape of wild animals, growing and propagation of livestock.				
ntal Impact	(Note) In case of a large scheme such as the groundwater recharge and underground dam, the impact may be more larger.				
Components usable in	<ol> <li>The project area where is nearby a densely populated area and/or public premises such as hospital, school, etc.</li> </ol>				
Evaluation	<ol> <li>An area where is nearby the livestock breeding and/or habitat of precious wild life.</li> <li>An area where is made of soft foundation.</li> </ol>				
Counter- measures, others	<ol> <li>Use of low-noise and low-vibration machines.</li> <li>Management of working hour.</li> <li>Revision of project area.</li> </ol>				
Rclated Further Survey	<ol> <li>Inventory survey on the present land use.</li> <li>Geological investigation.</li> <li>Survey on live behaviour of precious wild life.</li> </ol>				

Table 4.7. (5)	Explanatory Notes (Groundwater Development)

Item	22. Land Subsidence
Description	Land deformation due to drawdown of groundwater head by the over-draft.
Component of Cause	1. Over-draft of groundwater.
Possible Environme- ntal Impact	<ol> <li>Consolidation and shrinkage of cohesive soil layers due to drawdown of groundwater head.</li> <li>Expansion of flood damage area due to malfunction of drainage system; obstacle on the socio-economic activities and increase of urban development cost due with deformation and malfunction of infrastructure.</li> </ol>
usable in	<ol> <li>The present groundwater head in the project area is already drawing down.</li> <li>An area where cohesive soil layer is thickly deposited.</li> <li>An area where the existing borehole/well is drying up or malfunctioned.</li> <li>An area where the land subsidence is already taken place.</li> </ol>
Counter- measures, others	<ol> <li>Formulation of groundwater use plan.</li> <li>Control of over-draft of groundwater.</li> </ol>
Related Further Survey	<ol> <li>Hydrogeological investigation and study.</li> <li>Inventory survey on the existing water use.</li> <li>Survey on the existing institutional and legislative set-ups.</li> <li>Geological investigation and study.</li> </ol>

Ŧ

I

2.20

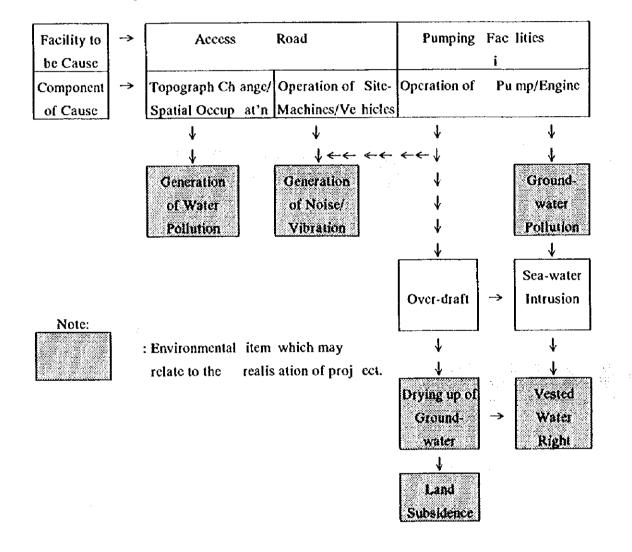
. ۲۰۰۰ - ۲۰۰۰ ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰

#### 4.3. Extension of Environmental Impacts

1

In the implementation of socio-economic development project, direct environmental impacts may initially be taken place, and hence, indirect impact may be extended as well. The extending flow of environmental impacts in the groundwater development sector is shown in Figure 4.1 below:

# Table 4.8. Extending Flow of Environmental Impacts in Groundwater Development



#### Chapter 5. Collection of Information Related to PES, IEE and EIA

# 5.1. Items to be discussed with the Counterpart Government in Screening and Scoping

The items to be discussed with the recipient government on the screening and scoping in the stage of preliminary study are to be the environmental items in the check-list shown in Chapter 4 (Scoping).

In order to smoothly make the discussion, it is recommended to require to the related personnel of the counterpart government to collect necessary information in advance. Out of environmental items, those items which involve a possibility to generate major issues in future, such as security, resettlement, health/sanitation, economy, culture, etc. are to be discussed in priority.

#### 5.2. Existence of Legislative Set-up on EIA and Its Counter-measure

In case that any legislative set-up on EIA is existing in the counterpart government, a sufficient discussion is to be made on the application of existing tegislative(s) and supplemental use of this guidelines. In case that any legislative set-up on EIA is not available in the counterpart government or not suitable for the specific project, the discussion is to be carefully made to clarify the major issues in consideration of various situation of the country and this guidelines.

5.3. Collection of Related Information in Preliminary Study		dy (Abridgement)
Chapter 6.	Preparation of Report	(Abridgement)
Chapter 7.	Content of Terms of Reference	(Abridgement)
[Appendices]		
Appendix 1:	References for Screening and Scoping	(Abridgement)
Appendix 2:	Example and Explanation on Environmental	Issues in Groundwater
Devel	opment	(Abridgement)
Appendix 3:	Example of Counter-measures on Environme	ental Impact in

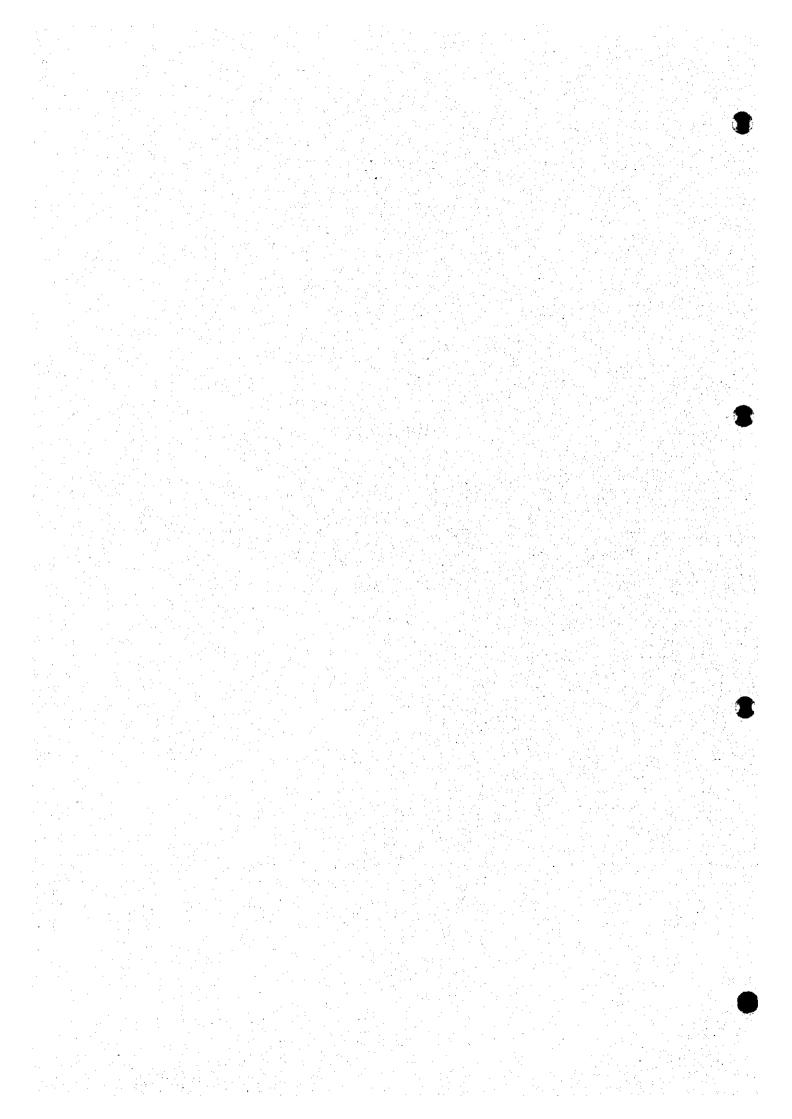
Groundwater Development (Abridgement)

**APPENDIX-3** 

-

. . .

**I** 



# Table 3.1(1) Selected Socio-economic Indexes of Target Villages

District: Hanang

T

District: Hanang				11. 4
Villages	Population	Household Income	Livestock	Water Supplies
Division: Bassotu Ward : Bassotu 1. Mulbadaw 2. Dang'aida	A D	B C	Å	D D
Ward : Laghanga 3. Dajamet 4. Laghanga 5. Gawidu	D C C	C A B	A A A	D D D
Ward : Bassodesh 6. Garwja 7. Bassodesh 8. Gaghata	A C C	C D A	A A A	D D D
Ward : Hirbadaw 9. Hirbadaw 10. Mwange	A A	A D	A C	C D
Ward : Gatanuwas 11. Wandele 12. Gidika	D D	D A	A A	B
Division: Katesh Ward : Mogitu 13. Dumbeta	D	В	A	D
Ward : Nangwa 14. Dirma	с	В	A	D
Ward : Gisambalang 15. Gisambalang 16. Waranga	C D	D D	ç	D D
Ward : Balangdalalu 17. Murero 18. Diloda	D D	B B	A D	D D
Ward : Gehandu 19. Mingenyi 20. Ishponga	B D	C B	D A	D D
Division: Endasak Ward : Measkron 21. Mara	С	D	D	D
Ward : Gidahababieg 22. Gidahababieg 23. Endasaboghechan	B B	Č	B C	B
Ward : Hidet 24. Hidet 25. Bassotughang	C D	D C	B B	D D
Ward : Sirop 26. Sirop 27. Matangarinu	ç	C D	B C	C B
Ward : Simbay 28. Simbay 29. Gidagharabuk	D D	D C	A A	D D
Ward : Masakta 30. Masakta 31. Lambo	ÅB	B C	D C	D D
Ward : Maskaroda 32. Maskaroda 33. Getasum	B D	Č	BB	D D

Table 3.1(2) Selected Socio-economic Indexes of Target Villages

District: Singida Rural

Villages	Population	Household Income	Livestock	Water Supplies
Division: Ikungi Ward : Ikungi 1. Ikungi 2. Ighuka 3. Ulyampiti 4. Matongo 5. Muungano 6. Matare 7. Mahambe	B B D A D	C C C A A C B	BITCSCOCK B A A B B B B	C A A B A C A
Ward : Issuna 8. Issuna 9. Choda 10. Mkiwa 11. Nkuhi	A D C C	A A A A	B A A A	D D B D
Ward : Dung'unyi 12. Samaka 13. Ujaire 14. Kipumbuiko 15. Mkinya	A C C C	B C D D	B B C B	A A A A
Ward : Mang'onyi 16. Mang'onyi 17. Tupendane 18. Mwau 19. Sambaru	C D A D	C B A D	B B B B B	D D C A
Division: Ihanja ward : Ihanja 20. Ihanja 21. Isseke 22. Nkoiree 23. Unyangwe 24. Chungu	A C A C B	B C C C D	C C B B B B B	C A A A A
Ward : Minyughe 25. Minyughe 26. Misake	С В	A C	B B	ĉ
Ward : Muhintiri 27. Muhintiri 28. Mnyange 29. Mpetu	B C D	B A D	A A A	D D C
Ward : Puma 30. Matyuku 31. Utaho 32. Isalanda 33. Kituntu 34. Msambu 35. Nkuninkana 36. Wibia	CBDBCCCC	A B D C B D C	B C C D B B C	B B B A A A
Division: Sepuka Ward : Sepuka 37. Msimi 38. Msungu 39. Kintandaa 40. Mang'ana 41. Mtunduru	A A B A	A A B A A	D C B C C	C B B A A
Ward : Mwaru 42. Mwaru 43. Mlandala 44. Igombwe 45. Msosa	B B C D	C A A A	A A A A	B D D D
Ward : Mgungira 46. Mgungira 47. Ufana 48. Iyumbu	C D B	B D A	A A A	D D D

3-2

Villages	Population	Household Income	Livestock	Water Supplies
Ward : Irisya 49. Irisya 50. Mwasutianga	B D	A A	B	B A
Division: Ntinko Ward : Ntinko 51. Ntinko 52. Malolo 53. Munghanga 54. Mpambaa 55. Kijota 56. Nduu 57. Minyonyo 58. Ikiwu	A A A C C A A	C C A D A A	CCCBDCDC	BCDBCDBD
Ward : Makuro 59. Makuro 60. Ghalunyangu 61. Mpipiti 62. Mpoku 63. Matumbo 64. Mkongo 65. Migugu	B B B A A B B B	A C B D B A A		D D C A C C B
Ward : Ughandi 66. Ughandi 'B' 67. Nkwae 68. Laghanida 69. Misinko 70. Ntondo 71. Msisi 72. Senene Mfuru	B C B A D A D D	B A B B B B B B	C D A C B B B B B B	BDBCABC
Division: Ilongero Ward : Ilongero 73. Madamigha 74. Mrama 75. Mwahango 76. Mwakiti 77. Itamuka 78. Sekoutuure	A A C B C B C B	B B D B A	D D C D D D D	CCDCAC
Ward : Kinyeto 79. Kinyeto 80. Ntunduu 81. Mkimbii 82. Minyaa 83. Igauri 84. Ntonge 85. Mughamo	B A C C C B A	B C B A C C A		A A A A B
Ward : Merya 86. Merya 87. Mvae 88. Makhandi 89. Kinyagigi 90. Mwanyonye	A A B A	A A B B B B	D C D C D C D	C D D C B
Ward : Ikhanoda 91. Ikhanoda 92. Mjughuda 93. Msimihi 94. Mdilu 95. Mwasauya 96. Ngamu	B A A B A A A	B C A B A	בססטבינים	C C B D D D D
Ward : Maghojoa 97. Mipilo 98. Mangida 99. Sefunga 100. Ghata 101. Msange	A A B A A	A A B A	C C C D D	
	3-3		(to b	e contin

Villages	Population	Household Income	Livestock	Water Supplies
Division: Mgori Ward : Mgori 102. Mgori 103. Mkhola 104. Sughana 105. Unyampanda 106. Mughunga 107. Nduamughanga	CBBDDDD		A D D B B B B B B B B B B B B B B B B B	BBDDDD
Ward : Ngimu 108. Ngimu 109. Mwighanji 110. Itaja 111. Pohama	A B A A	C A B B	C D C C	D B C B
Division: Mungaa Ward : Mungaa 112. Mungaa 113. Minyinga 114. Kintu 115. Kimbwi 116. Unyamighumbi	BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB	סטטפפ	CBDBD	D A B B C
Ward : Misughaa 117. Misughaa 118. Msule 119. Sakaa 120. Mnane 121. Nkundi		C D B B A	C B D B D B D	D D B C
Ward : Siuyu 122. Siuyu 123. Unyankanya 124. Mkunguakihendo	B B B	D D C	D D B	C A D
Ward : Ntuntu 125. Ntuntu 126. Ntewa 127. Mampando 128. Lighwa 129. Mwisi	C A B C C	ABBCC	C A B A D	B A A A A

Ĵ,

Table 3.1(3)	Selected Socio-economic Indexes of Target Villages
--------------	----------------------------------------------------

District: Manyoni

i.

Villages	Population	Household Income	Livestock	Water Supplies
Division: Manyoni Ward : Manyoni 1. Manyoni 2. Kipondoda 3. Mwanzi 4. Muhalala 5. Mdunundu 6. Mitoo 7. Mkwese 8. Kinangali	A ADCCDBB		DDBCDCCC	B C A B D C B D C B D
Ward : Aghondi 9. Aghondi 10. Mabondeni 11. Majiri 12. Kamenyanga	D D D D	D D C B	D A C B	B D A
Ward : Idodyandole 13. Idondyandole 14. Mbungani 15. Kashangu	C C D	B C A	B B D	C C D
Division: Itigi Ward : Itigi 16. Itigi 17. Doroto 18. Kitaraka	A D D	D D D	D A A	CCC
Ward : Sanjaranda 19. Sanjaranda 20. Gurungu 21. Kitopeni	C D C	C C A	A A B	C C C
Ward : Ipande 22. Ipande 23. Muhanga	B C D	D C D	A A A	B B C
Ward : Mgandu 25. Mgandu 26. Kalangali 27. Itagata 28. Kayui 29. Makale	A D D C B	A C B A A	D D A C C	B D A A A
Ward : Rungwa 30. Rungwa 31. Mwamagembe 32. Kitanula	C C D	D A B	D D D	D D D
Division: Kintinku Ward : Maweni 33. Maweni 34. Mvumi 35. Ngaiti	B D C	D D C	A A A	D A A
Ward : Chikuyu 36. Chikuyu 37. Mbwasa 38. Mwiboo 39. Makutupora	B C B D	D D D D D	C A D B	A B C D
Ward : Makanda 40. Makanda 41. Mangasai 42. Kitalalo	D D D	D C D	A A A	D D D
Ward : Kintinku 43. Kintinku 44. Lusilile 45. Udimaa	D A C	A A D	C B A	A B A continue

( to be continued )

Villages	Population	Household Income	Livestock	Water Supplies
Division: Nkonko Ward : Nkonko 46. Nkonko 47. Mpola 48. Ntunbi	B D C	B D D	D A A	B A D
Ward : Chikola 49. Chikola 50. Chidamsulu 51. Winamila	C D D	B B B	A A B	D D D
Ward : Heka 52. Heka 53. Sasilo 54. Chikombo	A B B	D D C	B A D	C C C
Ward : Isseke 55. Isseke 56. Simbanguru 57. Igwamadete 58. Mpapa	D D C C	D A B C	B C D D	C D D D
Ward : Sanza 59. Sanza 60. Ntope 61. Chicheho 62. Ikasi	B B D D	D B A A	C C A A	C D D D
Division: Kilimatinde Ward : Makuru 63. Msemembo 64. Saranda 65. Londoni 66. Hika	B B D D	C D D D		C D A C
Ward : Kilimatinde 67. kilimatinde 68. Solya 69. Sukamahela	D C A	D D D	D D D	D A A
Ward : Majiri 70. Majiri	В	С	A	С
Ward : Sasajila 71. Sasajila 72. Makasuku	D D	A D	A B	D D

3-6

.

Table 3.1(4)	Selected Socio-economic Indexes of Target Villages
Taulo Sert ( )	Deletered boold coolidate indeness of the

District: Igunga

1

1

Villages	Population	Household Income	Livestock	Water Supplies
Division: Mangonga Ward : Mwashinku 1. Matinje 2. Buchenjegele 3. Mondo 4. Mwashiku	A A B C	A A C B	D D C D	A B B C
Ward : Ngulu 5. Ngulu 6. Imalilo 7. Mwansugho	C B D	C B C	B B A	B B C
Ward : Chamachankola 8. Chamachankola 9. Chibiso 10. Bulangamilwa	A B A	С А В	D B C	B C C
Ward : Ziba 11. Ziba 12. Iborogelo 13. Bulumbela	A A B	C C B	C A	B B B
Ward : Ndembezi 14. Ndembezi 15. Ntigu 16. Kitangili 17. Moyofuke	A D A C	B D B C	C C C C	C C B B B
Ward : Nkinga 18. Nkinga 19. Ulaya 20. Ugaka 21. Mwakabuta 22. Tkunguioina	A B B C D	C C D B B B	A B B A B	B B C B C C
Division: Igurubi Ward : Igurubi 23. Igurubi 24. Mwagala 25. Kalangale	A C C	A A B	C C C	B C C
Ward : Kinungu 26. Kinungu 27. Mwandihimiji 28. Mwamapuli 29. Mwajilunga	B B B D	A B D C	C B B A	C B A C
Ward : Mwamashiga 30. Migongwa	С	В	В	В
Ward : Ntobo 31. Ntobo 32. Mwamloli 33. Mwabubele	B C C	C C A	B A B	B B B
Ward : Itunduru 34. Itunduru 35. Kagongwa 36. Mwabaraturu	A D A	B C B	B B D	B C A
Division: Igunga Ward : Igunga 37. Igunga	Å	с	D	8
Ward : Nyandekuwa 38. Nyandekuwa 39. Ussongo 40. Itale	A B C	C C B	D C C	continued

(to be continued)

Villages	Population	Household Income	Livestock	Water Supplies
Ward : Nanga 41. Nanga 42. Kaumbu 43. Bulyangombe 44. Igogo	B A C	A A B B B	B B B B B	C B C A
Ward : Bukoko 45. Bukoko 46. Ipumbulya	B B	B C	Å C	ç
Ward : Itumbu 47. Itumbu	D	D	A	A
Ward : Lugubu 48. Lugubu	D	D	A	В
Ward : Sungwizi 49. Sungwizi 50. Nguriti	B A	D D	B C	B B