# 添付資料-2

# 動力ポンプ適用に関する検討

# 動力ポンプ適用に関する検討

## 1. 動力ポンプ概要

### (1) 設置状況

計画対象地域では都市部を除いて未だ電化がなされていないため、井戸用動力ポンプはディーゼル発電機により稼動されているのが一般的である。現在、最も幅広く使用されているのはディーゼルエンジン、発電機および水中モーターポンプの組み合わせである。このほか、動力ポンプとしてディーゼルエンジンと回転軸をベルトで直結する型式もみられるが、これらは古く既に稼動していないものが多い。また、ケニア国で販売されている水中モーターポンプが静水位深さ最大 200m 程度まで適用可能であるのに対し、ベルト掛けポンプの適用静水位は最大30m程度までである。太陽電池を電源とした動力ポンプも設置されているが、施設自体が高値なため普及していない。(バリンゴ県北部とサンブル県北部に数台設置されているのみ)

### (2) 調達状況

動力ポンプはいずれも輸入品であり、代理店を通じて調達している。代理店は主要地方都市(キスム、エルドレット、モンバサ等)に販売店を持ち、それぞれ周辺地域にサービスのための出先を置いており、修理や交換部品の注文に迅速に応じることのできる体制になっている。

## 2. 動力ポンプ適用条件

動力ポンプの設置については維持管理が充分に行われるかどうかがポイントとなる。しかしながら、施設・機材を提供したケニア政府側では維持管理の予算が恒常的に不足しており、一方ユーザー側の村落住民には維持管理の技術的ノウハウがなく、また自らで運転・維持管理していくだけの水代を徴収出来ない場合が多いことが、動力ポンプ導入の際の大きな問題点となっている。

動力ポンプ導入において、受益者住民による維持管理を想定するならば、機械設備である水中モーターポンプとディーゼル発電機の運転・維持修繕、及びそのための費用を捻出するための料金徴収が、住民により確実に行われることが条件となる。

動力ポンプを設置している既存の水利組合として、計画対象地域において数少ない成功例のコミュニティーを訪問してインタビューを実施した結果、住民による維持管理が円滑に行われる要因として以下の点があげられる。

a) 受益者が多い。
b) 水利組合指導者の管理能力が高い。

c) 水料金徴収を確実に行っている。

d) 水料金以外にも副収入があり維持管理費および更新費を銀行預金している。

本計画では施設設置後の住民による維持管理を促すべく、水利組合設立のための啓蒙活動実施を提案している。しかしながら、上述の既存水利組合の運営状況からみて動力ポンプ設置を成功させる条件としては啓蒙活動のみならず、むしろコミュニティーおよび指導者がその能力を備えている必要がある。

3. 対象地域における動力ポンプの適用

(1) 動力ポンプ適用可能地点

井戸計画候補地点の評価において、動力ポンプ適用可能地点は当初協議による要請地点4ヶ所および水理地質条件の評価結果（静水位55m以深）から7ヶ所、計11ヶ所となった（**添付資料－1図－8**）。

(2) 適用方針

これら動力ポンプ適用可能地点11ヶ所のうち、サンブル県ワンバおよびコイバテック県エミニンの2ヶ所を除く9ヶ所については、現地調査で実施したインタビュー調査時にコミュニティーを訪問したが、要請地点付近ではいずれも現状では維持管理を担うべき住民組織となるに至っていない。よって啓蒙活動及びその後の充分なアフターケアがなければ、動力ポンプ井戸の維持管理は困難と判断される。

サンブル県ワンバおよびコイバテック県エミニンには、いずれも水資源省による既存給水施設があり、その水源の増強として動力ポンプ設置井戸を計画すれば維持管理上の問題は少ない。しかし、両者とも具体的な施設計画には至っておらず、その緊急性は低いと判断される。さらに、ワンバは地下水産出量、エミニンは水質の面で必ずしも条件が良いとはいえず、井戸成功率確保の観点から計画地点として選定することは推奨されない。

以上の考察により、動力ポンプ適用可能地点11ヶ所は本計画では取り上げないこととする。

*添付資料-3*

# *風力ポンプ適用に関する検討*

# 風力ポンプ適用に関する検討

## 1. 風力ポンプの概要

### (1) 概要

風力ポンプは風車の回転を垂直方向のロッドに伝達して上下動とし、これによりポンプを稼働させるものである。風車の径は3～7m、風車を設置するためのタワー高さは7～10m、ポンプの揚程は最大200m程度である。

風力ポンプは自然のエネルギーを利用するため、電気あるいは化石燃料を必要とする動力ポンプに比して運転費用が安く、施設の構造も単純であるため維持管理が比較的容易である。古くはケニア独立以前から大農場で使用されていたが、1970 年代後半からはナイロビ郊外にある製作会社が生産・販売を開始し、ケニア国のみならず周辺諸国へも輸出している。同社の生産・販売実績はケニア国内外で285基であり(1979～1998)、カトリック教会等のNGOほか、世銀、UNDPおよび欧州各国のドナー機関により採用された実績がある。

### (2) 調達状況

ナイロビ郊外の風力ポンプ製作会社は従業員約20名と小規模であり、風力ポンプの生産能力は過去の納入実績からみて月間1基程度である。通常、風力ポンプを設置する際には利用者住民に日常の維持管理の訓練を行うとともに、別途ナイロビでも2週間の訓練プログラムを準備している。しかし、地方にはサービス出先を持たず、交換部品や修理は依頼に応じてナイロビから職員を派遣する必要がある。

## 2. 風力ポンプの適用条件

製作会社の資料による揚水量と風速、風車径、揚程の関係を以下に示す。

(単位：m³/日)

| 風車径 | 3.7m | | | 4.9m | | | 6.1m | | | 7.4m | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 風速(m/s) | 2～3 | 3～4 | 4～5 | 2～3 | 3～4 | 4～5 | 2～3 | 3～4 | 4～5 | 2～3 | 3～4 | 4～5 |
| 揚程 10m | 10 | 28 | 59 | 21 | 71 | 150 | 39 | 107 | 227 | 61 | 167 | 354 |
| 20m | 5 | 14 | 29 | 10 | 35 | 75 | 19 | 53 | 113 | 30 | 83 | 177 |
| 40m | | 7 | 15 | 5 | 18 | 37 | 10 | 27 | 57 | 15 | 42 | 89 |
| 80m | | 3 | 7 | 3 | 9 | 19 | 5 | 13 | 28 | 8 | 21 | 44 |
| 120m | | | 5 | | 6 | 12 | 3 | 9 | 19 | 5 | 14 | 29 |
| 160m | | | 4 | | 4 | 9 | | 7 | 14 | 4 | 10 | 22 |
| 200m | | | 3 | | | 7 | | 5 | 11 | | 8 | 17 |
| 240m | | | | | | 6 | | 5 | 9 | | 7 | 14 |

上記資料より、風力ポンプを作動させるには、風速2～3m/s以上必要になるといえる。

またケニア国における風力ポンプの稼働実績については、1980年代に英国ODAとスウェーデンの民間会社が解析・検討した報告書がある。その概要を以下に示す（場所はいずれもナニュキ周辺）。この結果は上記の理論値（製作会社資料）と一致している。

| 風車径 (m) | ポンプ口径 (inches) | 揚程 (m) | 日平均風速 (m/s) | 日平均揚水量 ($m^3$/day) |
|---|---|---|---|---|
| 7.4 | 3.75 | 55 | 3.9 | 30.4 |
| 7.4 | 3.75 | 63 | 4.2 | 32.6 |
| 3.7 | 3.75 | 28 | 3.4 | 12.1 |

ここで風速（約2.5～3.5m/s）に対する風力ポンプの揚水量を対比させると以下のとおりとなる。

（揚程60m）

| 風速 | 風車径/揚水量 | | | |
|---|---|---|---|---|
| | 3.7m | 4.9m | 6.1m | 7.4m |
| 2.5m/s | 0$m^3$/日 | 4$m^3$/日 | 8$m^3$/日 | 12$m^3$/日 |
| 3.0m/s | 2$m^3$/日 | 8$m^3$/日 | 12$m^3$/日 | 20$m^3$/日 |
| 3.5m/s | 4$m^3$/日 | 12$m^3$/日 | 20$m^3$/日 | 32$m^3$/日 |

ケニア国「給水のための設計マニュアル」に記載されている平均風速図より、本計画対象地域は周辺山岳地域の近傍（ナニュキ付近、ニャフルル付近、バリンゴ/コイバテック県の南西縁）を除くとほとんどの地域で平均風速は3m/s以下である。一方、上表よりハンドポンプ揚水量の範囲（8時間稼働として2.64～5.28$m^3$/日）は、平均風速が3m/s以下であっても風車口径4.9m以上であれば同等の揚水量が得られる。しかし、風車径4.9mでは費用が上述のインディアマークII型（エクストラディープ）の約5倍であることから、ハンドポンプに対する代替案としては推奨されない。よって風力ポンプは動力ポンプの代替案として検討すべきである。

動力ポンプとの単位水量当たりコストの比較では揚程60mおよび平均風速3m/sの場合、日需要量4m3/dayに対し3.7m風車径を適用すれば、単位水量当たりコストは動力ポンプの約60%である。一方、日需要量14$m^3$/日に対して7.4m風車径だと、単位水量当たりコストは動力ポンプの約80%となる。

しかし、過去の調査データによれば平均風速が3m/s以下になると、動力ポンプに比べて単位揚水量当たりのコスト効率が悪くなることが指摘されている。つまり風速の強度が単位揚水

量当たりのコストに大きく影響を及ぼす要因となる。このことから風力ポンプの適用には、風速に関する正確な資料が必要となる。

3. 対象地域における風力ポンプの適用

(1) 風速

気象資料によれば、風向は4月～10月に南東風、11月～3月に北東風が卓越する。調査対象地域の年平均風速は3～4m/sである。月別では3月が最も強く8月が最も弱い。ルムルティ（ライキピア県）で2.6～3.6m/sである。

風速(m/s)

| 県名 | 観測所 | 1月 | 2月 | 3月 | 4月 | 5月 | 6月 | 7月 | 8月 | 9月 | 10月 | 11月 | 12月 | 年間 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ライキピア | Rumuruti | 3.1 | 3.3 | 3.6 | 3.4 | 3.2 | 2.9 | 2.8 | 2.6 | 2.8 | 3.1 | 3.1 | 3.1 | 3.1 |

ライキピア県のヌジョグイニ（Njoguini）では、風力ポンプを設置しているものの、1～3月は風力が弱く殆ど利用できないと報告されている。一方、ライキピア県のルムルティ（Rumuruti）での風速データから判断すると、同時期においては風力ポンプが作動する2～3m/s以上の風速があり、上述の報告と一致していない。よって調査対象地域内における風速の強度は、地域によって格差があり、多分に局所的なものであると判断される。

(2)適用方針

風力ポンプ設置に関して、その設計諸元（風車径、揚水量、揚程）を決定するためには局所的な風速のモニタリングを行ったうえで、検討しなければならない。しかし、現時点では要請地点近傍で風速データの観測は行われていないため、検討を行うことはできない。したがって本計画において風力ポンプを適用するためには資料不十分であると判断し、適用は行わないこととする。

# 添付資料-4

# 既存井戸のデータ

# 既存井戸データ（1／8）

| No. | | ID | District | Location | Longitude | Latitude | Altitude (m) | Completion date | USE | Type of aquifer | Total depth (m) | Main water struck level (m) | Other water struck level (m) | Other water struck level (m) | Water rest level (m) | Screen length & placing | Screen length & placing | Screen length & placing | Yield (m³/h) | Drawdown (m) | Transmissivity (m²/min) | Storage coefficient | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-1 | C | 284 | Baringo | KISANA-KAMASIA | 36.050 | 0.033 | 1600 | 5-Oct-43 | | 1 | 65 | | | | | | | | | | | | ABANDONED |
| B-2 | C | 285 | Baringo | KISANA-KAMASIA | 36.050 | 0.033 | 1600 | 3-Dec-44 | | 1 | 111 | 66 | | | 53 | | | | 5.5 | | | | ABANDONED |
| B-3 | C | 478 | Baringo | KOMOI | 35.900 | 0.033 | 1645 | 26-Oct-46 | O | 1 | 123 | 111 | | | 78 | | | | 7.7 | | | | |
| B-4 | C | 525 | Baringo | | | | | 47 | | | 183 | | | | | | | | | | | | |
| B-5 | C | 526 | Baringo | | | | | 46 | | 1 | 162 | 107 | | | 93 | | | | 0.9 | | | | |
| B-6 | C | 583 | Baringo | KAMASIA N/ RESERVE | 36.067 | 0.083 | 1600 | 27-Sep-47 | | 1 | 183 | | | | | | | | | | | | DRY BORE-HOLE |
| B-7 | C | 616 | Baringo | SAGASAGIK | 36.867 | 0.083 | 1630 | 5-Dec-47 | P | 2 | 96 | 81 | 77 | | 46 | | | | 10.1 | | | | |
| B-8 | C | 626 | Baringo | ELDAMA RAVINE | 35.783 | 0.083 | 2155 | 21-Apr-48 | | 1 | 152 | 140 | 123 | | 121 | | | | 4.5 | | | | |
| B-9 | C | 708 | Baringo | ELDAMA RAVINE | 35.733 | 0.033 | 2155 | 19-Aug-48 | P | 1 | 177 | 116 | 125 | | 113 | | | | 1.4 | | | | |
| B-10 | C | 711 | Baringo | | | | | 48 | | 1 | 142 | 139 | 59 | 116 | 47 | | | | 5.4 | | | | |
| B-11 | C | 722 | Baringo | | | | | 48 | D | 1 | 140 | 129 | | | 50 | | | | 8.6 | | | | |
| B-12 | C | 981 | Baringo | | | | | 49 | | 1 | 169 | 160 | | | 154 | | | | 3.8 | | | | |
| B-13 | C | 1280 | Baringo | | 35.817 | 0.017 | 1737 | 1-Oct-50 | I | 1 | 112 | 94 | | | 69 | | | | 1.5 | | | | |
| B-14 | C | 1406 | Baringo | | | | | 50 | D | 1 | 143 | 136 | 114 | | 67 | | | | 9.0 | | | | |
| B-15 | C | 2928 | Baringo | ESANGERI | 35.850 | 0.067 | 1670 | 26-Oct-59 | I | 1 | 164 | 110 | | | | | | | | | | | GAS EMMISION AT162M |
| B-16 | C | 3433 | Baringo | | | | | 57 | D | 1 | 128 | 116 | 43 | | | | | | 10.8 | | | | |
| B-17 | C | 3437 | Baringo | TANGULBEI | 36.283 | 0.800 | 1219 | 29-May-67 | P | 1 | 183 | 171 | 106 | 148 | 93 | | | | 9.1 | | | | |
| B-18 | C | 3461 | Baringo | LOSIKIRIAMOI | 36.250 | 1.033 | 915 | 5-Oct-67 | P | 1 | 134 | 108 | | | 101 | | | | 4.4 | 27.1 | | | |
| B-19 | C | 3466 | Baringo | NYAU NYAU | 36.100 | 1.183 | 914 | 9-Nov-67 | P | 1 | 76 | 40 | | | 36 | 3@40 | | | 12.7 | | | | |
| B-20 | C | 3470 | Baringo | CHEMOLINGOT | 35.967 | 1.067 | 1036 | 10-Jul-67 | P | 1 | 122 | 117 | 36 | | 30 | 12@110 | | | 9.1 | 62.4 | | | |
| B-21 | C | 3506 | Baringo | KABARNET W SUPPLY | 35.733 | 0.500 | 1400 | 27-Jul-68 | P | 1 | 152 | 103 | | | 13 | | | | 13.6 | 41.1 | | | |
| B-22 | C | 3526 | Baringo | KABARTONJO | 35.783 | 0.700 | 2134 | 16-Oct-68 | P | 1 | 166 | 64 | | | 55 | | | | 0.9 | | | | |
| B-23 | C | 3868 | Baringo | NGINYANG | 36.017 | 0.950 | 915 | 11-Oct-72 | P | 1 | 122 | 91 | 40 | 13 | 9.3 | 6@36 | | | 9.8 | 18.8 | | | |
| B-24 | C | 3935 | Baringo | CHEMONGOCH | 35.917 | 0.033 | 1585 | 11-Aug-73 | L | 2 | 152 | 128 | | | | | | | 0.0 | | | | DRY WELL |
| B-25 | C | 4722 | Baringo | KABARNET W SUPPLY | 35.733 | 0.483 | | 18-Mar-80 | P | 1 | 155 | 132 | 30 | 64 | 15 | 12@29 | 24@69 | 48@95 | 17.2 | 16 | 0.00592 | 0.0259 | |
| B-26 | C | 4777 | Baringo | | | | | | P | 1 | 164 | 142 | 102 | | 105 | | | | 11.9 | 140 | | | |
| B-27 | C | 4780 | Baringo | | | | | 61 | P | 1 | 150 | 66 | 12 | 24 | 5 | | | | 13.5 | | | | |
| B-28 | C | 4787 | Baringo | | | | | | D | | 200 | | | | | | | | | | | | |
| B-29 | C | 4838 | Baringo | | | | | 61 | P | 1 | 143 | 96 | 5 | 82 | 4 | | | | 7.0 | | | | |
| B-30 | C | 4915 | Baringo | | | | | 61 | D | 1 | 214 | 200 | 192 | | 181 | | | | 7.6 | 181 | | | |
| B-31 | C | 4916 | Baringo | | | | | 61 | D | 1 | 100 | 83 | | | 79 | | | | 19.3 | | | | |
| B-32 | C | 5170 | Baringo | | | | | 62 | P | 1 | 120 | 60 | 30 | | 19 | | | | 9.4 | 26 | | | |
| B-33 | C | 5333 | Baringo | | | | | 63 | P | 3 | 75 | 10 | | | 10 | | | | 1.0 | | | | |
| B-34 | C | 5356 | Baringo | | 36.700 | 1.367 | 1790 | 1-May-90 | OL | 1 | 120 | 80 | | | 32 | | | | 10.8 | 2 | | | |
| B-35 | C | 5370 | Baringo | | | | | 63 | P | 3 | 56 | 44 | 37 | 42 | 28 | | | | 2.4 | 43 | | | |
| B-36 | C | 5396 | Baringo | | | | | 64 | O | 1 | 200 | 142 | | | 120 | | | | 6.8 | 139 | | | |
| B-37 | C | 5487 | Baringo | | | | | 63 | P | 1 | 55 | 26 | | | 8 | | | | 5.9 | 13 | | | |
| B-38 | C | 5883 | Baringo | | | | | | D | 1 | 226 | 200 | 180 | | 169 | | | | 9.0 | 169 | | | |
| B-39 | C | 6089 | Baringo | | | | | 65 | P | 1 | 84 | 56 | 35 | | 7 | | | | 4.8 | 21 | | | |
| B-40 | C | 6362 | Baringo | | 36.050 | 0.550 | 1000 | 1-Jun-65 | | 3 | 60 | 50 | | | 12 | | | | 0.7 | 17 | 0.000278 | 0.0014 | |
| B-41 | C | 6363 | Baringo | | 35.883 | 1.083 | 1000 | 1-Jun-65 | P | 1 | 107 | 97 | | | 21 | | | | 30.0 | 13 | | | |
| B-42 | C | 6364 | Baringo | CHESIRIMION | 36.083 | 0.800 | 1000 | 27-Jul-65 | P | 1 | 120 | 102 | | | 32 | | | | 2.5 | 13 | 0.000924 | 0.00222 | |
| B-43 | C | 6365 | Baringo | NGAMBO | 36.067 | 0.467 | 1000 | 20-Jul-65 | P | 3 | 60 | 42 | | | 20.3 | 16@42 | | | 1.5 | 34.7 | 0.00114 | 0.00656 | |
| B-44 | C | 6652 | Baringo | | | | | 66 | D | 1 | 36 | 18 | 12 | | 8 | | | | 1.4 | 33 | | | |
| B-45 | C | 6691 | Baringo | | | | | 67 | P | 1 | 244 | 200 | | | | | | | | | | | |
| B-46 | C | 6970 | Baringo | | | | | 66 | D | 1 | 138 | 106 | | | 35 | | | | | 111 | | | |
| B-47 | C | 7123 | Baringo | | | | | 86 | D | 3 | 42 | 24 | | | 24 | | | | 1.8 | 25 | | | |
| B-48 | C | 7149 | Baringo | | | | | 87 | D | 3 | 46 | 23 | | | 23 | | | | 4.2 | 29 | | | |
| B-49 | C | 7351 | Baringo | SALAWA | 35.833 | 0.500 | 1130 | 11-Jun-67 | I | 1 | 150 | 84 | 46 | | 91 | | | | 3.6 | 11 | | | |
| B-50 | C | 7456 | Baringo | | | | | 67 | P | 1 | 102 | 90 | 78 | | 31 | | | | 9.0 | 67 | | | |
| B-51 | C | 7960 | Baringo | | | | | 88 | A | 1 | 180 | 168 | | | | | | | | | | | |
| B-52 | C | 8466 | Baringo | | 35.933 | 0.033 | 1524 | 1-Oct-89 | A | 9 | 135 | 132 | | | 99 | | | | | | | | |

# 既存井戸データ（2/8）

| No. | | ID | District | Location | Longitude | Latitude | Altitude (m) | Completion date | USE | Type of aquifer | Total depth (m) | Main water struck level (m) | Other water struck level (m) | Other water struck level (m) | Water rest level (m) | Screen length & piesing | Screen length & piesing | Screen length & piesing | Yield (m³/h) | Drawdown (m) | Transmissivity (m²/min) | Storage coefficient | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-53 | C | 8749 | Baringo | | | | | 89 | P | 1 | 142 | 112 | | | | | | | | | | | |
| B-54 | C | 8670 | Baringo | KABARNET TOWN | 35.738 | 0.490 | | 13-Sep-89 | P | 1 | 108 | 83 | 52 | 71 | 93 | 6@52 | 6@70 | 12@82 | | | | | |
| B-55 | C | 8987 | Baringo | | | | | 90 | P | 1 | 124 | 100 | 70 | | | | | | | | | | |
| B-56 | C | 9077 | Baringo | | | | | | P | 1 | 118 | 96 | 76 | | | | | | | | | | |
| B-57 | C | 9365 | Baringo | ELDAMA RAVINE | 35.717 | 0.050 | 2115 | 28-Jan-93 | D | 1 | 200 | 172 | 150 | | 128 | 9@152 | 12@173 | 6@191 | 2.7 | 39 | | | WATER MILKY |
| B-58 | C | 9751 | Baringo | | | | | 91 | | 1 | 170 | 166 | 158 | 162 | | | | | | | | | |
| B-59 | C | 10595 | Baringo | TIMBOROA | 35.525 | 0.069 | | 3-Mar-94 | P | 1 | 100 | 87 | | | 47.9 | 20@58 | 10@80 | 2@98 | 2.0 | 39.6 | | | |
| B-60 | C | 10987 | Baringo | MARIGAT TOWNSHIP | 35.994 | 0.474 | 1022 | 13-Dec-95 | D | 1 | 73 | | | | | | | | 0.0 | | | | DRY BH |
| B-61 | C | 11196 | Baringo | KABARNET | 35.687 | 0.500 | 1965 | 30-Oct-95 | P | 1 | 194.8 | 190 | 90 | 100 | 74.6 | 21@65 | 15@123 | 12@182 | 24.0 | 7.2 | | | OTHER AQ.=125,136 |
| B-62 | C | 11261 | Baringo | KABARNET | 35.083 | 0.500 | 1850 | 10-Jan-96 | P | 1 | 195 | 107 | 13 | 125 | 18.3 | 18@106 | 30@161 | | 11.1 | 77.9 | | | |
| B-63 | C | 11516 | Baringo | | | | | 96 | P | 1 | 100 | 75 | | | | | | | | | | | |
| B-64 | C | 11648 | Baringo | | | | | 98 | P | 1 | 154 | 132 | 42 | 78 | 114 | | | | | | | | |
| B-65 | C | 11836 | Baringo | | | | | 97 | I | 1 | 96 | 30 | 12 | 30 | | | | | | | | | DRY BORE-HOLE |
| B-66 | C | 525 | Koibatek | KIPTUIM | 35.867 | -0.033 | 1690 | 12-Apr-47 | P | 1 | 182 | | | | 93 | | | | 22.0 | | | | GAS AT 150M AND 160M |
| B-67 | C | 526 | Koibatek | KIPTUIM | 35.850 | 0.067 | 1690 | 16-Dec-47 | P | 1 | 182 | 107 | | | | | | | | | | | DRY BORE-HOLE |
| B-68 | C | 576 | Koibatek | KIPTUIM | 35.883 | 0.000 | 1630 | 16-Aug-47 | | 1 | 123 | | | | | | | | | | | | |
| B-69 | C | 711 | Koibatek | KELEWA | 35.917 | -0.033 | 1646 | 1-Jul-48 | P | 1 | 141 | 139 | 60 | 110 | 47 | | | | 5.5 | | | | |
| B-70 | C | 722 | Koibatek | ELDAMA RAVINE | 35.733 | 0.050 | 2134 | 15-Sep-48 | P | 1 | 140 | 130 | | | 90 | | | | 6.6 | | | | |
| B-71 | C | 2484 | Koibatek | KISANANA | 36.083 | 0.017 | 1830 | 17-Mar-56 | P | 1 | 122 | 111 | | | 102 | | | | 4.0 | 10.7 | | | |
| B-72 | C | 3433 | Koibatek | ELDAMA RAVINE W S | 35.733 | 0.050 | 2134 | 28-Apr-67 | P | 1 | 128 | 115 | 42 | | 33 | 42@42 | | | 10.9 | 45.7 | | | |
| B-73 | C | 4916 | Koibatek | POKORKEBEN | 36.100 | 0.000 | | 1-Sep-61 | D | 1 | 100 | 83 | | | 78.9 | | | | 19.3 | 0 | | | NO DRAWDOWN |
| B-74 | C | 4961 | Koibatek | KABARAK | | | | 11-Sep-61 | D | 1 | 288 | 264 | 165 | | 204 | | | | 2.4 | | | | |
| B-75 | C | 5396 | Koibatek | ELDAMA RAVINE TOWN | 35.733 | 0.050 | 2100 | 20-Mar-64 | O | 1 | 200 | 142 | | | 119 | 12@119 | 12@146 | | 6.6 | 191 | 0.00124 | 0.00793 | |
| B-76 | P | 84 | Koibatek | | | | | 30 | D | 1 | 62 | 58 | | | 43 | | | | 9.4 | | | | |
| B-77 | P | 120 | Koibatek | | | | | 30 | D | | 31 | 20 | | | 13 | | | | 6.8 | | | | |
| B-78 | P | 148 | Koibatek | | | | | 31 | D | | 95 | 85 | | | 79 | | | | 4.5 | | | | |
| B-79 | C | 22 | Laikipia | LORDAIGA FARM | 37.117 | 0.217 | 2042 | 16-Mar-37 | D | 3 | 52 | | | | | | | | 0.4 | | | | DRIED UP |
| B-80 | C | 23 | Laikipia | LORDAIGA FARM | 37.117 | 0.217 | 1995 | 23-Mar-37 | D | 3 | 32 | | | | | | | | | | | | DRY B/H |
| B-81 | C | 24 | Laikipia | LORDAIGA FARM | 37.117 | 0.217 | 2103 | 3-Apr-37 | D | 3 | 51 | | | | | | | | | | | | DRY B/H |
| B-82 | C | 25 | Laikipia | LOLDAIGA HILL | 37.133 | 0.200 | 2073 | 1-Apr-37 | | 2 | 22 | | | | | | | | | | | | |
| B-83 | C | 26 | Laikipia | LORDIGA FARM | 37.150 | 0.167 | 2073 | 3-May-37 | | 2 | 37 | | | | | | | | | | | | |
| B-84 | C | 27 | Laikipia | LORDIGA FARM | 37.133 | 0.167 | 2073 | 27-May-37 | | 2 | 54 | | | | | | | | 3.6 | | | | |
| B-85 | C | 28 | Laikipia | LORDAIGA FARM | 37.133 | 0.183 | 2073 | 28-May-37 | | 2 | 69 | | | | | | | | 6.8 | | | | |
| B-86 | C | 37 | Laikipia | LORDAIGA FARM | 36.467 | 0.317 | 1905 | 10-Sep-38 | | 1 | 158 | 66 | | | 46 | | | | 2.7 | | | | |
| B-87 | C | 38 | Laikipia | RUMURUTI | 36.533 | 0.400 | 1890 | 15-Oct-38 | | 1 | 188 | 165 | | | 23 | | | | 5.9 | 114 | | | |
| B-88 | C | 39 | Laikipia | MUTARA | 36.650 | 0.200 | 1859 | 26-Oct-38 | | 1 | 69 | 56 | | | 56 | | | | 6.6 | | | | |
| B-89 | C | 40 | Laikipia | SOSIAN | 36.633 | 0.217 | 1859 | 2-Nov-38 | | 1 | 152 | 63 | | | 57 | | | | 3.3 | | | | |
| B-90 | C | 42 | Laikipia | MUTARA ESTATE | 36.583 | 0.067 | 1920 | 19-Sep-38 | | 1 | 85 | 75 | | | 34 | | | | 4.9 | | | | |
| B-91 | C | 101 | Laikipia | RUMURUTI | 36.517 | 0.183 | 1935 | 26-Jun-40 | A | 1 | 112 | 111 | | | 55 | | | | 9.0 | | | | |
| B-92 | C | 149 | Laikipia | TOWNSHIP | 37.067 | 0.000 | 1951 | 1-Feb-41 | I | 1 | 122 | 101 | | | 55 | | | | 3.2 | | | | |
| B-93 | C | 154 | Laikipia | BORANA FARM | 37.300 | 0.267 | 1951 | 13-May-41 | A | 1 | 43 | 35 | | | 19 | | | | 0.8 | | | | |
| B-94 | C | 156 | Laikipia | BORANA FARM | 37.267 | 0.250 | 1981 | 22-Jul-41 | | 2 | 60 | | | | | | | | | | | | |
| B-95 | C | 159 | Laikipia | KAMWAKI FARM | 37.200 | 0.233 | 1830 | 17-Sep-41 | | 2 | 74 | 49 | | | 26 | | | | 0.1 | | | | |
| B-96 | C | 160 | Laikipia | KAMWAKI FARM | 37.200 | 0.217 | 1830 | 29-Oct-41 | | 2 | 67 | 64 | | | 23 | | | | 10.9 | | | | |
| B-97 | C | 187 | Laikipia | LORDAIGA | 37.083 | 0.167 | 1830 | | | 2 | 70 | | | | 30 | | | | 0.4 | | | | |
| B-98 | C | 193 | Laikipia | LORDAIGA FARM | 37.117 | 0.283 | 2073 | 16-May-42 | D | 2 | 85 | 69 | | | 34 | | | | 0.5 | | | | |
| B-99 | C | 195 | Laikipia | LORDAIGA FARM | 37.117 | 0.283 | 2012 | 26-Jul-42 | D | 2 | 73 | 69 | | | 31 | | | | 0.5 | | | | |
| B-100 | C | 207 | Laikipia | KAMWAKI FA | 37.167 | 0.200 | 1951 | 23-Jan-43 | D | 2 | 110 | 60 | | | 27 | | | | 0.8 | | | | |
| B-101 | C | 221 | Laikipia | KAMWAKI FARM | 37.233 | 0.233 | 1981 | 16-Oct-43 | D | 2 | 122 | 85 | | | 52 | | | | 6.5 | | | | |
| B-102 | C | 228 | Laikipia | LORDAIGA FARM | 37.150 | 0.317 | 2185 | 4-Nov-42 | | 2 | 95 | 88 | | | 34 | | | | 1.6 | | | | |
| B-103 | C | 233 | Laikipia | TIMAU | 37.200 | 0.150 | 2118 | 17-Aug-43 | D | 3 | 91 | 79 | | | 27 | | | | 5.1 | | | | |
| B-104 | C | 235 | Laikipia | TIMAU | 37.217 | 0.150 | 2103 | 26-Jun-43 | D | 3 | 66 | | | | | | | | | | | | NOT TESTED |

# 既存井戸データ（3/8）

| No. | | ID | District | Location | Longitude | Latitude | Altitude (m) | Completion date | USE | Type of aquifer | Total depth (m) | Main water struck level (m) | Other water struck level (m) | Other water struck level (m) | Water rest level (m) | Screen length & placing | Screen length & placing | Screen length & placing | Yield (m³/h) | Drawdown (m) | Transmissivity (m²/min) | Storage coefficient | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-105 | C | 237 | Laikipia | NGOBIT | 36.667 | -0.017 | 2042 | 17-Sep-43 | | 1 | 107 | 61 | | | 9 | | | | 0.2 | | | | |
| B-106 | C | 241 | Laikipia | TIMAU | 37.267 | 0.133 | 2177 | 1-Oct-43 | D | 1 | 122 | 43 | | | 21 | | | | 1.1 | | | | LITTLE WATER |
| B-107 | C | 244 | Laikipia | NGOBIT | 36.700 | -0.017 | 1998 | 20-Nov-43 | D | 1 | 131 | | | | 7 | | | | 0.5 | | | | LITTLE WATER |
| B-108 | C | 255 | Laikipia | LAIKIPIA | 36.533 | -0.133 | 2545 | 17-Jul-43 | D | 1 | 61 | 48 | | | 49 | | | | 10.9 | | | | |
| B-109 | C | 283 | Laikipia | NGOBIT | 36.717 | -0.033 | 2004 | 10-Dec-55 | D | 1 | 58 | 49 | | | 23 | | | | 12.0 | 7.6 | | | |
| B-110 | C | 289 | Laikipia | KAWAKI ESTATE | 37.167 | 0.233 | 1859 | 1-Nov-43 | | 2 | 76 | 73 | | | 32 | | | | 3.7 | | | | |
| B-111 | C | 290 | Laikipia | LAIKIPIA.LR.2830/4 | 37.033 | -0.050 | 1913 | 18-Dec-43 | D | 1 | 128 | 126 | 50 | | 37 | | | | 4.1 | | | | |
| B-112 | C | 291 | Laikipia | LAIKIPIA.LR.1232 | 37.067 | -0.033 | 1974 | 22-Feb-44 | D | 1 | 109 | 88 | 54 | 32 | 24 | | | | 3.3 | | | | |
| B-113 | C | 296 | Laikipia | RUMURUTI.LR.2539 | 36.750 | 0.100 | 1859 | 8-Apr-44 | D | 1 | 66 | 64 | | | 18 | | | | 5.2 | | | | |
| B-114 | C | 297 | Laikipia | RUMURUTI.LR.2549 | 36.717 | 0.200 | 1830 | 7-Apr-52 | D | 1 | 308 | 307 | | | 50 | | | | 1.1 | | | | |
| B-115 | C | 308 | Laikipia | NORO MORO.LR.3371 | 36.817 | 0.000 | 1874 | 28-Apr-44 | D | 1 | 51 | | | | | | | | | | | | B/H ABANDONED DUE TO CAVING |
| B-116 | C | 309 | Laikipia | NORO MORO.LR.3371 | 36.817 | 0.000 | 1890 | 22-Jul-44 | D | 1 | 40 | 72 | | | 17 | | | | 3.6 | | | | HOLE PLUGGED. |
| B-117 | C | 342 | Laikipia | RUMURUTI | 36.567 | 0.433 | 1890 | 20-Apr-45 | A | 1 | 111 | 110 | 49 | | 37 | | | | 13.6 | | | | |
| B-118 | C | 346 | Laikipia | NANYUKI.LR.7269 | 37.050 | 0.033 | 1830 | 2-Jun-45 | A | 3 | 36 | 7 | | | 7 | | | | 0.2 | | | | |
| B-119 | C | 355 | Laikipia | LAIKIPIA.LR.2489/2 | 36.467 | 0.067 | 2134 | 28-Jun-45 | D | 1 | 125 | 83 | 24 | | 7 | | | | 0.1 | | | | |
| B-120 | C | 371 | Laikipia | DOLDOL | 37.117 | 0.383 | 1768 | 2-Jun-45 | O | 3 | 35 | 30 | 18 | | 12 | | | | 1.8 | | | | |
| B-121 | C | 372 | Laikipia | DOLDOL | 37.083 | 0.383 | 1737 | 30-Aug-45 | O | 3 | 33 | 30 | | | 18 | | | | 0.5 | | | | |
| B-122 | C | 373 | Laikipia | LAIKIPIA.LR.2781 | 36.983 | 0.083 | 1830 | 30-Aug-45 | D | 3 | 59 | 50 | | | 50 | | | | 0.4 | | | | |
| B-123 | C | 382 | Laikipia | SUGUTA.LR.6757 | 36.683 | 0.017 | 1961 | 26-Nov-45 | A | 1 | 152 | 147 | 40 | 97 | 66 | | | | 4.8 | | | | |
| B-124 | C | 395 | Laikipia | LAIKIPIA.LR.2753 | 36.917 | 0.000 | 2088 | 7-Feb-46 | D | 3 | 61 | 42 | | | 32 | | | | 1.5 | | | | |
| B-125 | C | 396 | Laikipia | LAIKIPIA.LR.2754 | 36.833 | 0.000 | 1966 | 25-Feb-46 | D | 1 | 19 | 9 | | | 7 | | | | 0.3 | | | | |
| B-126 | C | 453 | Laikipia | LAIKIPIA.LR.2754 | 36.867 | 0.117 | 1830 | 14-Aug-46 | D | 1 | 26 | 25 | 18 | | 13 | | | | 1.6 | | | | |
| B-127 | C | 490 | Laikipia | LAIKIPIA.LR.3174 | 36.967 | 0.000 | 1801 | 23-Dec-46 | D | 1 | 38 | 32 | | | 30 | | | | 7.6 | | | | |
| B-128 | C | 515 | Laikipia | RUMURUTI | 36.750 | 0.117 | 1830 | 15-Mar-47 | D | 1 | 105 | 98 | 30 | | 34 | | | | 4.3 | | | | |
| B-129 | C | 522 | Laikipia | NORO MORO.LR.3366 | 36.783 | -0.117 | 2027 | 10-Apr-47 | D | 1 | 46 | 38 | | | 25 | | | | 8.6 | | | | |
| B-130 | C | 523 | Laikipia | NANYUKI.LR.2872 | 37.117 | 0.033 | 1965 | 25-Apr-47 | D | 1 | 79 | 70 | 56 | | 40 | | | | 9.1 | | | | |
| B-131 | C | 527 | Laikipia | NANYUKI.LR.2764 | 37.017 | 0.050 | 1860 | 22-Apr-47 | D | 1 | 105 | 54 | | | 50 | | | | 0.7 | | | | B/H DEEPENED |
| B-132 | C | 539 | Laikipia | NANYUKI. | 36.967 | 0.100 | 1830 | 12-May-47 | D | 1 | 48 | 40 | | | 40 | | | | 6.4 | | | | |
| B-133 | C | 565 | Laikipia | NANYUKI.LR.5116 | 36.817 | 0.150 | 1830 | 11-Jun-47 | D | 1 | 76 | 70 | 26 | | 16 | | | | 3.6 | | | | |
| B-134 | C | 571 | Laikipia | TIMAU | 37.317 | 0.283 | 1950 | 28-Feb-53 | D | 1 | 58 | 54 | 29 | | 33 | | | | 4.1 | 24 | | | |
| B-135 | C | 593 | Laikipia | NANYUKI. | 36.867 | -0.133 | 1830 | 30-Jul-47 | D | 1 | 122 | 120 | | | 35 | | | | 2.8 | | | | |
| B-136 | C | 596 | Laikipia | ARIGISHU-TIMAU | 37.267 | 0.267 | 1920 | 16-Oct-47 | D | 1 | 76 | 59 | 21 | 42 | 6 | | | | 2.9 | | | | |
| B-137 | C | 599 | Laikipia | OSTICHDAM-TIMAU | 37.300 | 0.233 | 1904 | 27-Oct-47 | D | 3 | 58 | 45 | 36 | | 15 | | | | 2.3 | | | | |
| B-138 | C | 600 | Laikipia | LOLLAGA-TIMAU | 37.300 | 0.250 | 1950 | 26-Sep-47 | D | 3 | 20 | | | | | | | | | | | | B/H DRY |
| B-139 | C | 611 | Laikipia | N.LAIKIPIA | 36.683 | 0.750 | 1830 | 7-Nov-47 | D | 1 | 72 | 220 | 54 | | 18 | | | | 13.5 | 26 | | | |
| B-140 | C | 674 | Laikipia | NANYUKI | 37.167 | 0.133 | 1951 | 13-May-48 | D | 2 | 69 | 47 | | | 29 | | | | 1.1 | | | | |
| B-141 | C | 690 | Laikipia | LAIKIPIA.LR.2761 | 36.967 | 0.117 | 1830 | 15-Nov-44 | D | 1 | 40 | 37 | | | 32 | | | | 5.6 | | | | |
| B-142 | C | 694 | Laikipia | LAIKIPIA.LR.5109 | 37.083 | 0.067 | 1890 | 11-Jun-48 | D | 1 | 86 | 84 | | | 52 | | | | 8.8 | | | | |
| B-143 | C | 715 | Laikipia | LAIKIPIA.LR.2763 | 36.967 | -0.150 | 1965 | 20-May-48 | D | 2 | 63 | 44 | | | 41 | | | | 0.5 | | | | |
| B-144 | C | 718 | Laikipia | RUMURUTI | 36.933 | -0.133 | 1951 | 30-Jul-48 | D | 3 | 122 | 119 | 88 | | 50 | | | | 0.9 | 49.6 | | | |
| B-145 | C | 876 | Laikipia | RUMURUTI | 36.783 | 0.117 | 1830 | 14-Jun-49 | D | 1 | 177 | 174 | | | 19 | | | | 0.2 | | | | |
| B-146 | C | 913 | Laikipia | RUMURUTI | 36.367 | 0.400 | 2057 | 13-Apr-51 | D | 3 | 172 | 239 | 156 | | 46 | | | | 2.8 | | | | |
| B-147 | C | 922 | Laikipia | NANYUKI LR.2628 | 37.017 | 0.000 | 1927 | 7-Aug-49 | A | 1 | 110 | 95 | | | 48 | | | | 6.0 | | | | |
| B-148 | C | 932 | Laikipia | RUMURUTI.LR.5195 | 36.717 | 0.033 | 1981 | 2-Sep-49 | O | 1 | 163 | 155 | 42 | | 45 | | | | 3.5 | | | | DRY B/H |
| B-149 | C | 951 | Laikipia | RUMURUTI.LR.392 | 36.400 | 0.483 | 989 | 21-Jun-49 | A | 1 | 265 | | | | | | | | | | | | |
| B-150 | C | 954 | Laikipia | NANYUKI.LR.5760 | 36.967 | -0.083 | 1830 | 10-Aug-49 | A | 1 | 102 | 93 | 65 | | 49 | | | | 8.6 | | | | |
| B-151 | C | 957 | Laikipia | NANYUKI.LR.2588 | 36.850 | 0.150 | 1830 | 17-Sep-49 | A | 1 | 156 | 154 | | | 2 | | | | 8.2 | | | | |
| B-152 | C | 1008 | Laikipia | NORU MORO LR.6319 | 36.633 | 0.117 | 1920 | 15-Dec-49 | A | 1 | 203 | 49 | | | 40 | | | | 5.5 | | | | |
| B-153 | C | 1015 | Laikipia | NORU MORO | 36.917 | -0.133 | 1859 | 9-Nov-49 | A | 1 | 140 | 133 | 102 | 80 | 49 | | | | 4.6 | | | | |
| B-154 | C | 1018 | Laikipia | RUMURUTI | 36.300 | 0.567 | 1951 | 28-Nov-49 | A | 1 | 251 | 141 | 247 | 160 | 115 | | | | 4.7 | | | | YELLOOW COLOUR/COLLOIDAL PART. |
| B-155 | C | 1143 | Laikipia | RUMURUTI.LR.6383 | 36.633 | 0.083 | 1981 | 30-Aug-50 | A | 1 | 183 | 137 | | | 48 | | | | 2.9 | | | | |
| B-156 | C | 1230 | Laikipia | NGARE NDIENE.TIMAU | 37.333 | 0.200 | 1652 | 25-Nov-50 | A | 2 | 122 | 58 | | | 49 | | | | 1.2 | | | | |

# 既存井戸データ（4/8）

| No. | | ID | District | Location | Longitude | Latitude | Altitude (m) | Completion date | USE | Type of aquifer | Total depth (m) | Main water struck level (m) | Other water struck level (m) | Other water struck level (m) | Water rest level (m) | Screen length & placing | Screen length & placing | Screen length & placing | Yield (m³/h) | Drawdown (m) | Transmissivity (m²/min) | Storage coefficient | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-157 | C | 1237 | Laikipia | RUMURUTI | 36.483 | 0.750 | 1974 | 6-Dec-50 | D | 1 | 139 | 139 | 128 | 103 | 98 | | | | 2.3 | | | | |
| B-158 | C | 1261 | Laikipia | KISIMA FARM,TIMAU | 37.333 | 0.250 | 2088 | 4-Jan-51 | A | 1 | 30 | | | | | | | | | | | | DRY B/H |
| B-159 | C | 1360 | Laikipia | KISIMA FARM,TIMAU | 37.300 | 0.233 | 1905 | 30-Sep-50 | A | 2 | 81 | | | | | | | | | | | | DRY B/H |
| B-160 | C | 1381 | Laikipia | NANYUKI | 36.500 | 0.133 | 2286 | 9-May-51 | A | 1 | 213 | 85 | 30 | | 30 | | | | 0.5 | | | | |
| B-161 | C | 1397 | Laikipia | RUMURUTI | 36.517 | 0.717 | 1935 | 14-Nov-51 | A | 1 | 259 | 254 | 245 | 216 | 123 | | | | 2.0 | 8 | | | |
| B-162 | C | 1473 | Laikipia | RUMURUTI | 36.533 | 0.750 | 1981 | 24-Jul-51 | A | 1 | 134 | 122 | | | 46 | | | | 2.0 | | | | |
| B-163 | C | 1498 | Laikipia | NANYUKI,LR.7784 | 37.083 | 0.250 | 2042 | 10-Aug-53 | A | 2 | 92 | 77 | | | 49 | | | | 14.2 | | | | |
| B-164 | C | 1561 | Laikipia | NORU MORO | 36.983 | -0.150 | 1951 | 11-Oct-51 | D | 1 | 76 | 61 | | | 24 | | | | 9.1 | | | | |
| B-165 | C | 1562 | Laikipia | NANYUKI,LR.7230 | 36.950 | -0.117 | 1865 | 22-Sep-51 | D | 1 | 121 | 111 | | | 50 | | | | 8.5 | | | | |
| B-166 | C | 1563 | Laikipia | NORU MORO,LR.2830 | 37.000 | -0.050 | 1859 | 26-Oct-51 | D | 1 | 154 | 152 | 114 | | 60 | | | | 3.8 | | | | |
| B-167 | C | 1565 | Laikipia | RUMURUTI | 36.733 | 0.767 | 1830 | 25-Oct-51 | D | 1 | 137 | 82 | | | 64 | | | | 2.0 | | | | |
| B-168 | C | 1600 | Laikipia | RUMURUTI | 36.767 | 0.833 | 1798 | 27-Nov-51 | D | 1 | 84 | 67 | | | 35 | | | | 5.5 | | | | |
| B-169 | C | 1609 | Laikipia | RUMURUTI,LARIAK | 36.517 | 0.583 | 1920 | 8-Nov-51 | A | 1 | 153 | | | | | | | | | | | | DRY B/H |
| B-170 | C | 1619 | Laikipia | NORU MORO,LR.2830 | 37.017 | -0.067 | 1874 | 15-Nov-51 | A | 1 | 159 | 131 | 60 | | 23 | | | | 14.8 | | | | |
| B-171 | C | 1648 | Laikipia | RUMURUTI | 36.617 | 0.550 | 1853 | | O | 1 | 90 | | | | | | | | 17.3 | | | | |
| B-172 | C | 1649 | Laikipia | RUMURUTI,LR.2534 | 36.683 | 0.067 | 1935 | 19-Jan-52 | D | 1 | 116 | | | | | | | | 6.9 | | | | |
| B-173 | C | 1663 | Laikipia | RUMURUTI | 36.600 | 0.550 | 1853 | 12-Feb-52 | A | 1 | 133 | | | | | | | | 11.4 | | | | |
| B-174 | C | 1679 | Laikipia | NANYUKI,LR.5165/13 | 37.150 | -0.100 | 1971 | 17-Feb-52 | D | 1 | 66 | 62 | 59 | | 53 | | | | 6.7 | | | | |
| B-175 | C | 1684 | Laikipia | RUMURUTI,NGURARE | 36.717 | 0.333 | 1795 | 28-Jan-52 | O | 1 | 123 | 112 | 96 | 91 | 35 | | | | 6.8 | | | | |
| B-176 | C | 1696 | Laikipia | LAIKIPIA,LR.7416 | 36.617 | 0.250 | 1766 | 30-Apr-50 | O | 1 | 91 | | | | | | | | | | | | |
| B-177 | C | 1697 | Laikipia | LAIKIPIA,LR.7416 | 36.600 | 0.250 | 1771 | 30-May-50 | O | 1 | 65 | 55 | | | 9 | | | | 13.5 | | | | |
| B-178 | C | 1698 | Laikipia | PESI EST.RUM.LR.2422 | 36.600 | 0.300 | 1830 | 15-Sep-50 | A | 1 | 76 | 52 | | | 6 | | | | 13.5 | | | | |
| B-179 | C | 1699 | Laikipia | PESI EST.RUM.LR.2422 | 36.600 | 0.300 | 1830 | 8-Jan-51 | A | 1 | 85 | | | | | | | | 13.5 | | | | |
| B-180 | C | 1700 | Laikipia | PESI EST.RUM.LR.7415 | 36.717 | 0.217 | 1828 | 28-May-59 | A | 1 | 183 | 177 | | | 54 | | | | 3.7 | | | | |
| B-181 | C | 1701 | Laikipia | SUNGUROI EST.LR.636 | 36.850 | 0.217 | 1824 | 6-May-51 | D | 1 | 172 | | | | | | | | | | | | TOOLS LOST,B/H ABANDONED |
| B-182 | C | 1702 | Laikipia | SUNGUROI EST.LR.636 | 36.817 | 0.250 | 1766 | 30-May-51 | D | 1 | 61 | 55 | | | 67 | | | | 4.6 | | | | |
| B-183 | C | 1703 | Laikipia | LAIKIPIA,LR.7417 | 36.833 | 0.200 | 1798 | 19-Jul-58 | A | 1 | 109 | 97 | 85 | | 39 | | | | 2.3 | 84.7 | | | |
| B-184 | C | 1705 | Laikipia | PESI EST.RUM.LR.6327 | 36.633 | 0.300 | 1830 | 3-Oct-51 | D | 1 | 62 | 49 | | | 39 | | | | 3.9 | | | | |
| B-185 | C | 1706 | Laikipia | RUMURUTI,LR.6301 | 36.750 | 0.067 | 1890 | 17-Jan-52 | D | 1 | 161 | 146 | 85 | | 82 | | | | 8.0 | | | | |
| B-186 | C | 1752 | Laikipia | RUMURUTI,LR.7366 | 36.717 | 0.617 | 1831 | 19-Apr-52 | D | 1 | 119 | 113 | 49 | | 46 | | | | 3.3 | | | | |
| B-187 | C | 1767 | Laikipia | RUMURUTI LR.6319 | 36.633 | 0.150 | 1951 | 5-May-52 | D | 1 | 127 | 107 | | | 24 | | | | 4.9 | | | | |
| B-188 | C | 1785 | Laikipia | RUMURUTI | 36.550 | 0.717 | 1951 | 16-Jun-52 | D | 1 | 179 | 162 | 21 | | 59 | | | | 4.3 | | | | |
| B-189 | C | 1791 | Laikipia | RUMURUTI LR.6301 | 36.767 | 0.083 | 1859 | 5-Jun-52 | D | 1 | 176 | 36 | | | 29 | | | | 2.3 | | | | |
| B-190 | C | 1792 | Laikipia | RUMURUTI LR.6319 | 36.633 | 0.200 | 1913 | 16-Jun-52 | D | 1 | 101 | 63 | 63 | | 56 | | | | 16.4 | | | | |
| B-191 | C | 1813 | Laikipia | MUKOGODO | 37.167 | 0.400 | 1830 | 21-Aug-52 | D | 1 | 53 | 50 | 24 | | 19 | | | | 3.3 | 23 | | | |
| B-192 | C | 1819 | Laikipia | RUMURUTI,LR.2440 | 36.617 | 0.450 | 1905 | 29-Jul-52 | D | 1 | 180 | 174 | 142 | | 76 | | | | 4.1 | 87 | | | |
| B-193 | C | 1832 | Laikipia | RUMURUTI | 36.567 | 0.517 | 1935 | 1-Apr-53 | D | 1 | 250 | 227 | | | 31 | | | | 1.4 | 146 | | | |
| B-194 | C | 1833 | Laikipia | RUMURUTI | 36.450 | 0.767 | 1843 | 18-Sep-52 | D | 1 | 183 | 174 | 108 | | 110 | | | | 2.3 | 70 | | | |
| B-195 | C | 1845 | Laikipia | RUMURUTI,LR.7360 | 36.700 | 0.483 | 1830 | 19-Oct-52 | D | 1 | 177 | 174 | 59 | | 46 | | | | 4.1 | 104 | | | |
| B-196 | C | 1882 | Laikipia | LARIAK ES.RUM.L.8048 | 36.500 | 0.600 | 1920 | 25-Nov-52 | D | 1 | 284 | 263 | 121 | | 94 | | | | 4.3 | 88 | | | |
| B-197 | C | 1884 | Laikipia | LAIKIPIA,LR.8052 | 36.800 | 0.800 | 1753 | 20-Dec-52 | D | 1 | 183 | 155 | 144 | 99 | 85 | | | | 2.5 | 91.4 | | | TURBID WATER |
| B-198 | C | 1895 | Laikipia | SIPIRI ES.RUM.L.8048 | 36.417 | 0.467 | 2042 | 18-Jan-53 | D | 1 | 239 | 76 | | | 63 | | | | 0.9 | 121.9 | | | |
| B-199 | C | 1896 | Laikipia | RUMURUTI LR.8052 | 36.717 | 0.767 | 1830 | 28-Jan-53 | A | 1 | 80 | 99 | | | 60 | | | | 3.0 | 48.8 | | | DEEPENED IN 1990 |
| B-200 | C | 1899 | Laikipia | LAIKIPIA,LR.7748 | 36.367 | 0.233 | 2286 | 28-Jan-53 | D | 1 | 135 | 122 | 64 | | 39 | | | | 3.1 | 83 | | | |
| B-201 | C | 1918 | Laikipia | TIMAU | 37.317 | 0.250 | 1951 | 14-Feb-53 | D | 1 | 168 | 85 | | | 55 | | | | 0.1 | 75 | | | |
| B-202 | C | 1921 | Laikipia | THOMSON FALLS,L.243 | 36.567 | 0.350 | 1844 | 7-Mar-53 | D | 1 | 121 | 98 | 118 | 30 | 28 | | | | 4.5 | 28 | | | |
| B-203 | C | 1953 | Laikipia | LAIKIPIA,LR.7645 | 36.383 | 0.033 | 2292 | 4-May-53 | D | 1 | 78 | 76 | 63 | | 25 | | | | 1.1 | 51 | | | |
| B-204 | C | 1957 | Laikipia | RUMURUTI LR.6331 | 36.717 | 0.367 | 1788 | 20-Jan-53 | D | 1 | 137 | 136 | | | 50 | | | | 3.6 | 27 | | | |
| B-205 | C | 1977 | Laikipia | RUMURUTI LR.2461 | 36.283 | 0.383 | 2133 | 9-Jun-53 | D | 1 | 165 | 158 | 126 | | 79 | | | | 9.5 | 6 | | | |
| B-206 | C | 1980 | Laikipia | TIMAU LR.2789 | 37.267 | 0.250 | 1634 | 13-May-54 | D | 1 | 107 | 69 | | | 57 | | | | 21.6 | 21 | | | |
| B-207 | C | 1984 | Laikipia | NGOBIT LR.2620 | 36.717 | -0.017 | 1998 | 29-Jun-53 | A | 1 | 70 | 63 | 55 | 24 | 12 | | | | 5.9 | 49 | | | |
| B-208 | C | 2003 | Laikipia | NGOBIT LR.2561 | 36.767 | 0.033 | 1920 | 17-Aug-53 | D | 1 | 183 | 156 | 99 | 45 | 53 | | | | 3.2 | 124 | | | |

# 既存井戸データ（5/8）

| No. | | ID | District | Location | Longitude | Latitude | Altitude (m) | Completion date | USE | Type of aquifer | Total depth (m) | Main water struck level (m) | Other water struck level (m) | Other water struck level (m) | Water rest level (m) | Screen length & placing | Screen length & placing | Screen length & placing | Yield (m³/h) | Drawdown (m) | Transmissivity (m²/min) | Storage coefficient | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-209 | C | 2014 | Laikipia | LAIKIPIA LR.7754 | 37.067 | 0.250 | 1890 | 4-Aug-53 | D | 1 | 70 | 65 | | | 34 | | | | 13.6 | | | | |
| B-210 | C | 2023 | Laikipia | NGOBIT LR.2624 | 36.850 | -0.067 | 2126 | 13-Sep-53 | A | 1 | 55 | 50 | | | 43 | | | | 6.5 | 3 | | | CAVING FORMATION. |
| B-211 | C | 2027 | Laikipia | WAMURA ES.NGO L.63 | 36.583 | -0.017 | 2027 | 30-Mar-53 | A | 1 | 167 | 56 | | | 24.3 | | | | 0.4 | 174 | | | |
| B-212 | C | 2036 | Laikipia | SUNGURA EST.NGOBIT | 36.683 | -0.067 | 2081 | 20-Mar-53 | D | 1 | 122 | 116 | | | 19 | | | | 5.9 | 72.5 | | | SLIGHT CAVING |
| B-213 | C | 2135 | Laikipia | NANYUKI.LR.7367 | 37.083 | 0.350 | 1707 | 27-Aug-53 | D | 1 | 71 | 63 | 243 | | 26 | | | | 4.1 | | | | |
| B-214 | C | 2144 | Laikipia | LAIKIPIA.LR.8046 | 36.283 | 0.433 | 2301 | 28-Jan-54 | D | 1 | 244 | 233 | 119 | 30 | 44 | | | | 0.9 | 197 | | | |
| B-215 | C | 2151 | Laikipia | KIBOROCK ES.L.7093 | 36.283 | -0.050 | 2545 | 25-Feb-54 | D | 1 | 182 | | | | | | | | | 82 | | | TESTED YIELD. NIL |
| B-216 | C | 2188 | Laikipia | LAIKIPIA LR.3447 | 37.017 | 0.400 | 1768 | 10-Mar-54 | D | 1 | 153 | 142 | 108 | | 43 | | | | 3.2 | 81 | | | |
| B-217 | C | 2189 | Laikipia | LAIKIPIA.LR.2753 | 36.983 | 0.200 | 1783 | 12-Apr-54 | | 1 | 96 | 76 | | | | | | | 0.4 | 15 | | | |
| B-218 | C | 2190 | Laikipia | LAIKIPIA.LR.8047 | 36.317 | 0.417 | 2347 | 25-Apr-54 | | 1 | 244 | 156 | 92 | | | | | | | | | | DRY B/H. |
| B-219 | C | 2218 | Laikipia | T.FALLS | 36.267 | 0.050 | 2271 | 1-May-54 | A | 1 | 213 | 204 | | | 35 | | | | 2.0 | 86.61 | | | |
| B-220 | C | 2249 | Laikipia | NANYUKI.LR.2578 | 36.900 | 0.000 | 1830 | 20-Aug-54 | A | 1 | 212 | 211 | 152 | | 43 | | | | 13.6 | 80.21 | | | |
| B-221 | C | 2259 | Laikipia | RUMURUTI.LR.8033 | 36.800 | 0.617 | 1830 | 11-Aug-54 | A | 1 | 110 | 110 | 89 | | 73 | | | | 2.7 | 27.41 | | | |
| B-222 | C | 2277 | Laikipia | NANYUKI.LR.2782 | 37.250 | 0.417 | 1981 | 6-Oct-54 | | 1 | 148 | 148 | 99 | 88 | 63 | | | | 5.9 | 63.7 | | | CAVING DIFFICULTIES |
| B-223 | C | 2280 | Laikipia | RUMURUTI.LR.8038 | 36.600 | 0.517 | 1856 | 8-Oct-54 | | 1 | 110 | 98 | | | 49 | | | | 13.1 | | | | |
| B-224 | C | 2314 | Laikipia | TIMAU.LR.2889 | 37.250 | 0.117 | 2027 | 10-Nov-54 | | 1 | 92 | 65 | 31 | | 27 | | | | 1.4 | 58.8 | | | CAVING DIFFICULTIES |
| B-225 | C | 2315 | Laikipia | TIMAU.LR.2886/1 | 37.217 | 0.083 | 2134 | 17-Nov-54 | | 1 | 73 | 65 | 45 | | 32 | | | | 10.9 | | | | |
| B-226 | C | 2316 | Laikipia | TIMAU.LR.2289/ | 37.250 | 0.117 | 2255 | 1-Dec-54 | | 1 | 46 | 24 | | | 14 | | | | 14.5 | 2.7 | | | CAVING DIFFICULTIES |
| B-227 | C | 2318 | Laikipia | BANYI ES.LAI.LR.8048 | 36.433 | 0.517 | 1981 | 8-Jan-55 | | 1 | 162 | 137 | 109 | | 70 | | | | 13.2 | | | | CAVING DIFFICULTIES |
| B-228 | C | 2354 | Laikipia | LARIAK ES.LAI.L.8048 | 36.500 | 0.667 | 1920 | 28-Mar-55 | | 1 | 158 | 137 | 79 | | 61 | | | | 6.8 | 95.7 | | | CAVING IN.TOOLS LOST |
| B-229 | C | 2363 | Laikipia | NANYUKI LR.2564 | 36.833 | 0.017 | 1830 | 28-Feb-55 | | 1 | 164 | 128 | 67 | | 64 | | | | 0.8 | 77.7 | | | B/H CROOKED AT 142M |
| B-230 | C | 2375 | Laikipia | NANYUKI | 36.950 | 0.150 | 1219 | 24-Apr-55 | | 3 | 128 | 72 | | | 61 | | | | 1.7 | 58.2 | | | |
| B-231 | C | 2400 | Laikipia | PINGUAN | 36.683 | 0.650 | 1830 | 16-Jun-55 | | 1 | 155 | 143 | 57 | | 50 | | | | 5.5 | 96 | | | |
| B-232 | C | 2414 | Laikipia | ALERAI | 36.850 | 0.033 | 1830 | 25-Aug-55 | A | 1 | 217 | 79 | | | 72 | | | | 0.1 | | | | |
| B-233 | C | 2446 | Laikipia | THE VENTURE EST. | 36.917 | 0.133 | 1783 | 9-Nov-55 | | 1 | 144 | | | | | | | | | | | | |
| B-234 | C | 2463 | Laikipia | KIRIMUN | 36.833 | 0.750 | 1753 | 31-Oct-55 | P | 1 | 107 | 99 | 67 | | 46 | | | | 5.9 | 60.6 | | | |
| B-235 | C | 2479 | Laikipia | NGOBIT | 37.000 | 0.500 | 2286 | 14-Feb-56 | | 1 | 142 | 55 | | | 23 | | | | 0.5 | 114.3 | | | |
| B-236 | C | 2509 | Laikipia | NARO MORU | 36.800 | 0.033 | 1981 | 23-Mar-56 | A | 1 | 119 | 70 | 24 | | 17 | | | | 14.0 | | | | |
| B-237 | C | 2561 | Laikipia | ELANDDOWNS EST NO | 36.767 | 0.167 | 1830 | 26-Jun-56 | A | 1 | 92 | 81 | 37 | | 37 | | | | 9.1 | | | | |
| B-238 | C | 2582 | Laikipia | ELANDDOWNS EST NO | 36.800 | 0.183 | 1829 | 8-Sep-56 | A | 1 | 213 | 204 | 51 | 146 | 62 | | | | 13.6 | 11.6 | | | |
| B-239 | C | 2574 | Laikipia | NDURUMO ESTATE | 36.450 | 0.400 | 1966 | 14-Oct-56 | L | 1 | 279 | 266 | | | 73 | | | | 2.8 | 109.7 | | | |
| B-240 | C | 2576 | Laikipia | NANYUKI | 37.033 | 0.033 | 1890 | 5-Nov-56 | | 1 | 146 | 128 | 62 | 74 | 40 | | | | 13.6 | 22.9 | | | |
| B-241 | C | 2594 | Laikipia | NANYUKI | 36.850 | 0.100 | 1829 | 12-Oct-56 | | 1 | 84 | 78 | 50 | 61 | 41 | | | | 9.1 | 13.7 | | | |
| B-242 | C | 2595 | Laikipia | OL PAJETA RANCH | 36.750 | 0.033 | 1981 | 23-Nov-56 | | 1 | 172 | 163 | 27 | 38 | 44 | | | | 10.9 | 55.8 | | | |
| B-243 | C | 2597 | Laikipia | HICKSONS FARM | 37.200 | 0.167 | 2134 | 5-Nov-56 | | 3 | 107 | 59 | 51 | | 44 | | | | 0.6 | 61 | | | |
| B-244 | C | 2633 | Laikipia | MUKOGONDO FARM | 36.933 | 0.433 | 1890 | 25-Nov-56 | A | 3 | 61 | 55 | | | 26 | | | | 1.1 | 29.3 | | | |
| B-245 | C | 2634 | Laikipia | MUTARA | 36.783 | 0.100 | 1829 | 26-Feb-57 | | 1 | 283 | 277 | 44 | | 51 | | | | 1.4 | 204.2 | | | |
| B-246 | C | 2638 | Laikipia | NANYUKI | 37.050 | 0.067 | 1915 | 24-Jan-57 | | 1 | 69 | 60 | 19 | | 14 | | | | 1.0 | 51 | | | |
| B-247 | C | 2676 | Laikipia | SOSIAN FARM | 36.667 | 0.667 | 1707 | 13-May-57 | A | 1 | 125 | 115 | 28 | | 23 | | | | 2.4 | 98.1 | | | |
| B-248 | C | 2682 | Laikipia | NARO MORU | 37.050 | -0.150 | 2073 | 8-Apr-57 | | 1 | 105 | 94 | 46 | | 41 | | | | 9.1 | 26.2 | | | |
| B-249 | C | 2706 | Laikipia | T/FALLS | 36.417 | 0.017 | 2423 | 22-Aug-57 | A | 1 | 82 | 74 | | | 49 | | | | 0.9 | 24 | | | |
| B-250 | C | 2727 | Laikipia | TWO RIVERS RANCH | 36.517 | 0.350 | 2118 | 1-Nov-57 | A | 1 | 179 | 176 | 73 | 103 | 60 | | | | 3.8 | 111 | | | |
| B-251 | C | 2750 | Laikipia | KIRIMUN RANCH | 36.667 | 0.683 | 1737 | 1-May-58 | P | 1 | 160 | 115 | 72 | 132 | 46 | | | | 3.0 | 82.3 | | | |
| B-252 | C | 2787 | Laikipia | DOLDOL MINE | 36.133 | -0.117 | 1554 | 30-Apr-58 | I | 3 | 183 | 101 | | | 79 | | | | 0.1 | 64.6 | | | |
| B-253 | C | 2803 | Laikipia | NANYUKI | 36.983 | 0.117 | 1829 | 30-May-58 | | 3 | 92 | 58 | 34 | | 32 | | | | 1.3 | 53 | | | |
| B-254 | C | 2805 | Laikipia | RUMURUTI | 36.583 | 0.483 | 1890 | 12-Jul-58 | A | 1 | 194 | 172 | 57 | 140 | 55 | | | | 11.9 | 96 | | | |
| B-255 | C | 2833 | Laikipia | RUMURUTI | 36.500 | 0.400 | 1920 | 29-Oct-58 | | 1 | 182 | 75 | | | 21 | | | | 0.5 | 129 | | | |
| B-256 | C | 2844 | Laikipia | LARIAK FARM | 36.483 | 0.217 | 1920 | 2-Dec-58 | | 1 | 286 | 278 | 152 | 200 | 141 | | | | 6.7 | | | | |
| B-257 | C | 2858 | Laikipia | T/FALLS | 36.400 | 0.133 | 2133 | 4-Feb-59 | | 1 | 107 | 105 | 16 | 40 | 12 | | | | 8.0 | 24 | | | |
| B-258 | C | 2889 | Laikipia | KUFUKU FARM | 36.567 | 0.217 | 1829 | 3-Mar-59 | | 1 | 238 | 214 | 123 | | 69 | | | | 11.0 | | | | |
| B-259 | C | 2895 | Laikipia | RUMURUTI | 36.600 | 0.400 | 1829 | 21-Apr-59 | | 1 | 122 | 105 | 36 | | 49 | | | | 5.6 | 67 | | | |
| B-260 | C | 2898 | Laikipia | NANYUKI | 36.817 | -0.183 | 1829 | 20-Mar-59 | | 1 | 162 | 37 | | | 36 | | | | 0.8 | | | | |

# 既存井戸データ（6/8）

| No. | | ID | District | Location | Longitude | Latitude | Altitude (m) | Completion date | USE | Type of aquifer | Total depth (m) | Main water struck level (m) | Other water struck level (m) | Other water struck level (m) | Water rest level (m) | Screen length & placing | Screen length & placing | Screen length & placing | Yield (m³/h) | Drawdown (m) | Transmissivity (m²/min) | Storage coefficient | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-261 | C | 2904 | Laikipia | T/FALLS | 36.467 | 0.483 | 1981 | 23-Apr-59 | A | 1 | 118 | 24 | | | 12 | | | | 0.1 | | | | |
| B-262 | C | 2972 | Laikipia | Kibiri Hill | 36.600 | 0.650 | 1981 | 15-Nov-59 | L | 1 | 259 | 174 | 46 | | 49 | | | | 1.2 | 127.4 | | | |
| B-263 | C | 2986 | Laikipia | TIMAU | 37.250 | 0.183 | 2134 | 14-Dec-59 | | 1 | 166 | 56 | | | 56 | | | | 0.2 | | | | |
| B-264 | C | 2998 | Laikipia | MUKOGONDO | 36.950 | 0.450 | 1753 | 15-Feb-60 | | 3 | 123 | | | | | | | | 0.1 | | | | |
| B-265 | C | 3014 | Laikipia | MUKOGONDO | 36.933 | 0.433 | 1682 | 26-Feb-60 | | 3 | 43 | 34 | 57 | | 33 | | | | 5.4 | | | | |
| B-266 | C | 3022 | Laikipia | KINGARI | 37.250 | 0.267 | 1954 | 21-Apr-60 | A | 3 | 98 | 86 | 35 | | 74.7 | | | | 1.2 | 31.7 | | | |
| B-267 | C | 3023 | Laikipia | KINGARI | 37.350 | 0.267 | 1676 | 1-Apr-60 | A | 3 | 78 | 52 | 18 | | 27 | | | | 4.5 | 38 | | | |
| B-268 | C | 3054 | Laikipia | MRARAKIRA ESTATE | 36.400 | 0.200 | 570 | 27-Aug-60 | | 1 | 92 | 85 | 31 | | 21 | | | | 2.9 | 55 | | | |
| B-269 | C | 3055 | Laikipia | MUUGIE FARM | 36.600 | 0.783 | 1920 | 6-Aug-60 | | 1 | 92 | 79 | 99 | | 27.4 | | | | 14.2 | 2 | | | |
| B-270 | C | 3057 | Laikipia | IL PINGUIN | 36.583 | 0.583 | 1860 | 9-Aug-60 | I | 1 | 195 | 194 | 76 | | 64 | | | | 5.9 | 49 | | | |
| B-271 | C | 3068 | Laikipia | AIYAM FARM | 36.517 | 0.433 | 1951 | 10-Nov-60 | O | 1 | 244 | 238 | | | 101 | | | | 11.3 | | | | |
| B-272 | C | 3115 | Laikipia | LARIAK ESTATE | 36.400 | 0.433 | 2088 | 26-Mar-61 | A | 1 | 305 | 183 | | | 122 | | | | 0.2 | 73.2 | | | |
| B-273 | C | 3119 | Laikipia | IGIAMA | 36.483 | 0.550 | 1981 | 29-Apr-61 | A | 1 | 235 | 196 | 76 | 152 | 57.9 | | | | 5.5 | 94.5 | | | |
| B-274 | C | 3122 | Laikipia | IGIAMA | 36.550 | 0.583 | 1890 | 15-May-61 | A | 1 | 155 | 149 | 67 | | 15 | | | | 11.7 | 97.5 | | | |
| B-275 | C | 3200 | Laikipia | KISIMA ESTATE | 36.667 | 0.667 | 1853 | 21-Jul-62 | A | 1 | 138 | 122 | 59 | | 35 | | | | 12.6 | 17.1 | | | |
| B-276 | C | 3201 | Laikipia | KISIMA ESTATE | 36.750 | 0.533 | 1831 | 8-Oct-62 | | 1 | 159 | 150 | 91 | 121 | 46 | | | | 2.6 | 88.1 | | | |
| B-277 | C | 3215 | Laikipia | KISIMA | 36.717 | 0.483 | 1829 | 4-Dec-62 | O | 1 | 198 | 182 | 69 | | 9 | | | | 2.3 | 149.3 | | | |
| B-278 | C | 3310 | Laikipia | TIMAU | 37.233 | 0.217 | 2103 | 1-Sep-64 | | 2 | 152 | 110 | 79 | 94 | 69 | | | | 0.8 | 78.6 | | | |
| B-279 | C | 3316 | Laikipia | TIMAU | 37.200 | 0.200 | 1951 | 8-Oct-64 | | 2 | 64 | 27 | | | | | | | 0.1 | | | | |
| B-280 | C | 3413 | Laikipia | RUMURUTI | 36.750 | 0.700 | 1830 | 31-Oct-66 | A | 1 | 177 | 79 | | | 37 | | | | 4.5 | 121.9 | | | |
| B-281 | C | 3420 | Laikipia | KITABE | 37.017 | 0.483 | 1951 | | P | 1 | 119 | 100 | 150 | | 23 | | | | 4.3 | 81 | | | |
| B-282 | C | 3430 | Laikipia | LOBOSOIT | 36.983 | 0.533 | 1676 | 10-Mar-67 | P | 2 | 168 | 45 | 150 | | 30 | | | | 0.4 | 121.9 | | | |
| B-283 | C | 3434 | Laikipia | LOBOSOIT | 36.967 | 0.500 | 1676 | 8-Apr-67 | P | 2 | 91 | 45 | 150 | | 39 | | | | 3.7 | 46.3 | | | |
| B-284 | C | 3450 | Laikipia | KIPSING | 37.200 | 0.483 | 1219 | 19-Jun-67 | P | 2 | 100 | 82 | 70 | 89 | 47 | | | | 8.2 | 14 | | | |
| B-285 | C | 3533 | Laikipia | SUGUTA MUGIE | 36.583 | 0.717 | 1830 | 4-Dec-68 | | 1 | 125 | 119 | 57 | | 12 | | | | 8.2 | | | | |
| B-286 | C | 3555 | Laikipia | OL JOGI/NANYUKI | 37.067 | 0.300 | 1830 | 3-Mar-69 | | 2 | 148 | 140 | 20 | | 22 | | | | 4.8 | 88 | | | |
| B-287 | C | 3563 | Laikipia | MUKENYA | 36.800 | 0.300 | 1836 | 10-Apr-69 | L | 1 | 66 | 67 | 60 | 139 | 34 | | | | 9.1 | 15.5 | | | |
| B-288 | C | 3672 | Laikipia | NGARUA | 36.283 | 0.283 | 1951 | 10-Jun-70 | A | 1 | 104 | 43 | 41 | 63 | 4 | | | | | | | | |
| B-289 | C | 3761 | Laikipia | NGARUA | 36.500 | 0.433 | 1981 | 6-Jul-71 | O | 1 | 247 | 128 | | | 115 | | | | 5.2 | 66.1 | 0.000055 | 0.000374 | |
| B-290 | C | 3857 | Laikipia | NANYUKI | 37.000 | 0.017 | 1856 | 10-Aug-72 | A | 1 | 152 | 121 | 128 | | 59 | 26@118 | 24@64 | | 4.7 | 62.3 | 0.00209 | 0.00845 | |
| B-291 | C | 3916 | Laikipia | NGARACHI | 36.283 | 0.333 | 1981 | 31-Aug-70 | | 1 | 132 | 130 | 61 | | 50 | | | | 0.4 | 71.9 | | | |
| B-292 | C | 4222 | Laikipia | MUKANYA | 36.850 | 0.250 | 1320 | 15-May-76 | L | 1 | 117 | 42 | 26 | 70 | 36 | | | | | | | | |
| B-293 | C | 4683 | Laikipia | SIRIMA TREE | | | | 25-Sep-79 | | 1 | 213 | 199 | | | 37 | 6@70 | 6@51 | | 5.4 | 41 | | | |
| B-294 | C | 4684 | Laikipia | IRELAND DAM | | | | 28-Sep-79 | | 1 | 165 | 165 | 47 | | 97 | 19_77 | | | 10.9 | | | | |
| B-295 | C | 4724 | Laikipia | KAMBI YA SIMBA | | | | 18-Jan-80 | | 1 | 250 | 110 | 70 | | 74 | 12@90 | | | 8.6 | 74 | | | |
| B-296 | C | 4725 | Laikipia | OLERAINDOGO | | | | 20-Jan-80 | | 1 | 286 | 266 | 50 | | 91 | | | | 3.8 | 18 | | | |
| B-297 | C | 4726 | Laikipia | RWAI | | | | 7-Feb-80 | D | 1 | 90 | 80 | 110 | | 44 | 13@64 | | | 13.6 | | | | |
| B-298 | C | 4737 | Laikipia | LODURO | | | | 3-Jun-80 | D | 1 | 230 | 184 | 58 | | 87 | | | | 3.6 | 100 | 0.000222 | 0.0013 | |
| B-299 | C | 5019 | Laikipia | NANYUKI BASE | | | | 11-Nov-81 | D | 1 | 180 | 100 | 74 | | 40 | 8@40 | 12@100 | 6@150 | 4.3 | 74 | 0.00026 | 0.00199 | |
| B-300 | C | 5069 | Laikipia | NGARUA | | | | 30-Apr-82 | P | 1 | 154 | 128 | 40 | | 2 | | | | 8.2 | 80 | | | |
| B-301 | C | 5139 | Laikipia | ANANDAGURU | 37.300 | 0.350 | 1790 | 17-Nov-82 | P | 2 | 100 | 85 | 20 | | | | | | 0.6 | 85 | | | |
| B-302 | C | 5236 | Laikipia | OLPAJETA RANCH | 36.867 | 0.033 | 1650 | 28-Aug-82 | D | 1 | 206 | 174 | | | 24 | | | | 5.4 | 144 | | | |
| B-303 | C | 5360 | Laikipia | DOLDOL | 37.150 | 0.400 | | 28-Jun-83 | D | 2 | 62 | 20 | | | 5 | | | | 5.9 | 50 | | | |
| B-304 | C | 7605 | Laikipia | MUGIE | 36.683 | 0.767 | 1970 | 26-Apr-88 | L | 1 | 146 | 65 | | | 75 | | | | 4.8 | 29 | 0.000209 | 0.00149 | |
| B-305 | C | 8029 | Laikipia | RUMURUTI | 36.750 | 0.333 | 1800 | 20-Jan-88 | | 3 | 146 | 136 | | | 40 | | | | 5.3 | 25.5 | | | |
| B-306 | C | 8462 | Laikipia | NANYUKI | | | 2100 | 12-Jul-89 | P | 1 | 45 | 37 | | | 18 | | | | 1.2 | | 0.000275 | 0.00145 | |
| B-307 | C | 8988 | Laikipia | KIRIMUN | 36.833 | 0.750 | 1690 | 3-Jan-90 | A | 1 | 103 | 69 | | | 57 | | | | 7.2 | 12 | 0.00226 | 0.0105 | |
| B-308 | C | 8990 | Laikipia | KIRIMUN | 36.750 | 0.833 | 1750 | 11-Jan-90 | O | 1 | 75 | 73 | | | 34 | | | | 2.0 | 28 | 0.00152 | 0.00274 | |
| B-309 | C | 8993 | Laikipia | NANYUKI | 37.017 | 0.000 | 1520 | 22-Feb-90 | O | 1 | 63 | 26 | | | 15 | | | | 0.8 | 2 | 0.000195 | 0.00144 | |
| B-310 | C | 9000 | Laikipia | SUGUTA MAR MAR | 36.700 | 0.500 | 1900 | 3-Dec-90 | D | | 100 | 83 | 16 | 28 | 3.8 | 30@25 | 6@52 | 21@94 | 3.4 | 49.5 | | | |
| B-311 | C | 9001 | Laikipia | KIRIMUN | 36.633 | 0.500 | 1760 | 27-Dec-90 | S | 9 | 122 | 103 | 74 | 116 | 46.9 | 47@56 | | | 8.0 | 11.9 | | | |
| B-312 | C | 9306 | Laikipia | NGORARE RANCH | 41.467 | 0.550 | 1850 | 27-Jun-90 | D | 9 | 103 | 85 | 18 | 36 | 19 | | | | 4.0 | 58.5 | | | S/W CASED 203MM UP TO 30M |

# 既存井戸データ（7／8）

| No. | | ID | District | Location | Longitude | Latitude | Altitude (m) | Completion date | USE | Type of aquifer | Total depth (m) | Main water struck level (m) | Other water struck level (m) | Other water struck level (m) | Water rest level (m) | Screen length & placing | Screen length & placing | Screen length & placing | Yield ($m^3/h$) | Drawdown (m) | Transmissivity ($m^2/min$) | Storage coefficient | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-313 | C | 9370 | Laikipia | RUMURUTI 1 | 40.333 | 0.090 | 1960 | 25-Jun-93 | D | 1 | 200 | 180 | 145 | | 49 | | | | 2.0 | 95 | | | WATER MILKY |
| B-314 | C | 9372 | Laikipia | RUMURUTI 2 | 40.666 | 0.358 | 2020 | 27-Jul-93 | D | 1 | 195 | 110 | 40 | | 44 | 12@42 | 9@111 | 3@189 | 7.7 | 16 | | | WATER MILKY |
| B-315 | C | 9373 | Laikipia | RUMURUTI 3 | 40.333 | 0.033 | 2021 | 5-Aug-93 | D | 1 | 139 | 80 | 40 | | 49 | 6@50 | 9@80 | 6@136 | 1.6 | 32 | | | WATER MILKY |
| B-316 | C | 10073 | Laikipia | DOL DOL | 40.367 | 0.033 | 1850 | 7-Jun-92 | P | 2 | 50 | 10 | | | 8.7 | 3@11 | | | 48.0 | 36.5 | | | |
| B-317 | C | 10074 | Laikipia | DOL DOL | 40.310 | -0.183 | 1865 | 20-Aug-92 | P | 2 | 65.4 | 24 | | | 24.3 | 6@24 | | | 1.3 | 33.7 | | | |
| B-318 | C | 10311 | Laikipia | RUMURUTI TOWN | 40.310 | 0.166 | 2030 | 26-Oct-92 | D | 9 | 30 | | | | | | | | | | | | DRY BORE-HOLE |
| B-319 | C | 10312 | Laikipia | RUMURUTI | 40.323 | 0.167 | 2030 | 4-Nov-92 | D | 9 | 27 | | | | | | | | | | | | DRY BORE-HOLE |
| B-320 | C | 10330 | Laikipia | KIMANJO/DOLDOL | 40.333 | 0.053 | 1758 | 27-Mar-92 | D | 2 | 100 | 0 | | | 0 | | | | | | | | S.CASINGe6M |
| B-321 | C | 10621 | Laikipia | NGARUA | 40.336 | 0.407 | | 29-Aug-93 | D | 1 | 126 | 98 | 42 | | 8 | 24@96 | | | 5.6 | 46.9 | | | |
| B-322 | C | 10623 | Laikipia | DOL DOL W/S NO4 | 40.311 | 0.403 | | 16-Sep-93 | P | | 50 | | 8 | | 6 | 6@10 | | | 1.3 | 23.7 | | | |
| B-323 | C | 10630 | Laikipia | DOL DOL | 39.750 | 0.342 | | 30-Sep-93 | P | 1 | 51 | 34 | 19 | | 11.3 | 6@18 | 6@29 | | | | | | |
| B-324 | C | 10811 | Laikipia | AIYAM | 39.750 | 0.500 | 2030 | 18-Mar-95 | P | 1 | 170 | 140 | 110 | | 56.5 | 6@110 | 12@150 | | 7.7 | 25.3 | | | |
| B-325 | C | 11325 | Laikipia | LOLLDAIGA/TIMAU | 39.750 | 0.500 | 2005 | 4-May-96 | I | 1 | 84.3 | 102 | 116 | | 31 | 11@44 | 17@58 | 3@78 | 16.1 | 21.7 | | | VERY GOOD WELL |
| B-326 | P | 124 | Laikipia | LOLDAIKA HILLS | | | | 7-Oct-30 | D | 2 | 42 | | | | | | | | 0.0 | | | | DRY BORE-HOLE |
| B-327 | P | 125 | Laikipia | NANYUKI | | | | 20-Jan-31 | D | 1 | 70 | 25 | | | 18 | | | | 1.8 | | | | PERFORATED@18.0M |
| B-328 | P | 126 | Laikipia | LOLDAIKA HILLS | | | | 16-Jan-31 | D | 2 | 90 | 60 | | | 42 | | | | 0.1 | | | | VERY LOW YIELDING |
| B-329 | P | 137 | Laikipia | LAIKIPIA | | | | 27-Jun-31 | D | 1 | 80 | 28 | | | 25 | | | | 16.2 | | | | |
| B-330 | P | 139 | Laikipia | NANYUKI | | | | 1-Mar-31 | D | 2 | 55 | 35 | | | 30 | 12@34 | | | 13.0 | | | | |
| B-331 | P | 141 | Laikipia | NANYUKI | | | | 16-May-31 | D | 1 | 70 | 66 | | | 14 | | | | 11.3 | | | | OPEN HOLE |
| B-332 | P | 152 | Laikipia | NANYUKI | | | | 18-Jul-31 | D | 1 | 70 | 60 | 45 | | 30 | | | | 5.4 | | | | |
| B-333 | P | 163 | Laikipia | NANYUKI | | | | 18-Sep-31 | D | 2 | 35 | 18 | | | 15 | | | | 5.6 | | | | |
| B-334 | P | 171 | Laikipia | L.R.NO 2354 | | | | 11-Jun-32 | P | 1 | 130 | 95 | | | 67 | | | | 0.5 | | | | TOOLS LOST IN HOLE |
| B-335 | P | 172 | Laikipia | L.R.NO2366 | | | | 3-Mar-32 | P | 2 | 88 | 53 | | | 46 | | | | 4.1 | | | | |
| B-336 | P | 175 | Laikipia | LAND NO2396 | | | | 19-Apr-32 | P | 2 | 70 | 40 | | | 30 | | | | 6.2 | | | | OPEN HOLE |
| B-337 | C | 444 | Samburu | | 36.700 | 1.083 | 2134 | 1-Jul-48 | P | 2 | 122 | 91 | | | 28 | | | | 0.4 | | | | |
| B-338 | C | 479 | Samburu | | 36.683 | 1.067 | 2134 | 1-Oct-48 | O | 2 | 90 | 69 | | | 11 | | | | 0.4 | | | | |
| B-339 | C | 1388 | Samburu | | 37.667 | 1.250 | 1524 | 1-Apr-51 | | 2 | 107 | 88 | | | | | | | 1.2 | | | | |
| B-340 | C | 1450 | Samburu | | 37.583 | 1.167 | 1859 | 1-Jun-51 | P | 2 | 84 | 18 | | | 12 | | | | 3.7 | | | | |
| B-341 | C | 1500 | Samburu | SEROLEVI | 37.550 | 1.200 | 1832 | 12-Jul-51 | O | 3 | 45 | 19 | | | 16 | | | | 3.4 | | | | |
| B-342 | C | 1501 | Samburu | NGURIE D 34 | 37.550 | 0.917 | 926 | 31-Jul-51 | P | 2 | 85 | | | | | | | | 0.0 | | | | DRY WELL |
| B-343 | C | 1505 | Samburu | | 36.700 | 1.100 | 2134 | 1-Aug-51 | P | 2 | 105 | 26 | | | 23 | | | | 1.8 | | | | |
| B-344 | C | 1519 | Samburu | NGURIE D 15 | 37.483 | 0.800 | 1036 | 26-Jul-51 | P | 3 | 152 | 84 | | | 75 | | | | 0.3 | | | | LOW YIELD |
| B-345 | C | 1520 | Samburu | | 37.533 | 0.783 | 914 | 1-Aug-51 | P | 2 | 106 | | | | | | | | | | | | |
| B-346 | C | 1533 | Samburu | OLMOTI | 37.550 | 0.767 | 907 | 19-Sep-51 | | 1 | 118 | | | | | | | | 0.0 | | | | DRY WELL |
| B-347 | C | 1552 | Samburu | | 37.550 | 0.767 | 908 | 1-Sep-51 | P | 2 | 49 | | | | | | | | | | | | |
| B-348 | C | 1553 | Samburu | | 36.717 | 1.600 | 1830 | 1-Oct-51 | P | 2 | 136 | 70 | | | 59 | | | | 0.7 | | | | |
| B-349 | C | 1627 | Samburu | | 36.983 | 1.083 | 920 | 1-Dec-51 | P | 2 | 116 | 91 | | | 20 | | | | 4.7 | | | | |
| B-350 | C | 1639 | Samburu | | 36.717 | 1.483 | 1372 | 1-Feb-52 | P | 2 | 102 | 69 | | | 60 | | | | 4.3 | | | | |
| B-351 | C | 1645 | Samburu | | 37.583 | 0.833 | 1936 | | | 2 | 87 | | | | | | | | | | | | |
| B-352 | C | 1776 | Samburu | | 37.100 | 0.900 | 1204 | 1-Apr-52 | P | 3 | 107 | 101 | | | 46 | | | | 4.0 | | | | |
| B-353 | C | 1784 | Samburu | | 37.150 | 0.567 | 1372 | | P | 2 | 84 | | | | | | | | | | | | |
| B-354 | C | 1806 | Samburu | | 36.767 | 0.950 | 1768 | 1-Mar-52 | | 1 | 76 | 38 | | | 14 | | | | 0.9 | | | | |
| B-355 | C | 2434 | Samburu | | 36.550 | 0.867 | 1981 | 1-Sep-55 | P | 1 | 183 | 169 | | | 146 | | | | 2.5 | 30.4 | | | |
| B-356 | C | 2846 | Samburu | BARAGOI | 36.617 | 1.417 | 1524 | 26-Nov-58 | P | 3 | 125 | 88 | | | | | | | 0.0 | | | | DRY WELL |
| B-357 | C | 2847 | Samburu | LOROGHI | 36.550 | 0.917 | 1981 | 6-Nov-58 | P | 3 | 180 | 110 | | | 90 | | | | 2.1 | 24 | | | |
| B-358 | C | 3114 | Samburu | HAJ | 36.917 | 1.250 | 366 | 19-Mar-61 | P | 3 | 122 | 63 | 45 | 28 | 25 | | | | 4.0 | 93 | | | |
| B-359 | C | 3456 | Samburu | BARAGOI T.CENTRE | 36.783 | 1.783 | 1219 | 28-Aug-67 | P | 3 | 152 | 97 | 42 | 72 | 14 | | | | 3.5 | 129.2 | | | |
| B-360 | C | 3556 | Samburu | LERATA | 37.550 | 0.767 | 914 | 17-Mar-69 | P | 3 | 43 | | | | 15 | | | | 0.7 | 24.3 | | | |
| B-361 | C | 3557 | Samburu | LERATA | 37.550 | 0.767 | 914 | 26-Mar-69 | P | 6 | 22 | | | | | | | | 0.0 | | | | DRY WELL |
| B-362 | C | 3558 | Samburu | | 37.550 | 0.767 | 914 | 1-Apr-69 | | 6 | 34 | | | | | | | | | | | | |
| B-363 | C | 3560 | Samburu | | 37.567 | 0.783 | 914 | 1-Apr-69 | | 2 | 44 | | | | | | | | | | | | |
| B-364 | C | 3565 | Samburu | SEROLEVI NO 1 | 37.617 | 1.133 | 730 | 23-Jul-71 | P | 3 | 18 | | | | | | | | 10.0 | 1.2 | | | |

# 既存井戸データ（8／8）

| No. | | ID | District | Location | Longitude | Latitude | Altitude (m) | Completion date | USE | Type of aquifer | Total depth (m) | Main water struck level (m) | Other water struck level (m) | Other water struck level (m) | Water rest level (m) | Screen length & placing | Screen length & placing | Screen length & placing | Yield (m³/h) | Drawdown (m) | Transmissivity (m²/min) | Storage coefficient | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-365 | C | 3575 | Samburu | SEROLEVI NO 2 | 37.617 | 1.133 | 730 | 27-Jul-71 | P | 3 | 13 | | | | | | | | 3.5 | | | | |
| B-366 | C | 3585 | Samburu | LOLOKWI | 37.500 | 0.750 | 976 | 10-May-69 | P | 3 | 24 | | | | | | | | 0.0 | | | | DRY WELL |
| B-367 | C | 3586 | Samburu | LAJOK NO 1 | 37.367 | 0.767 | 1036 | 16-Aug-69 | P | 3 | 92 | 82 | 66 | | 38.1 | | | | 4.0 | 50.5 | | | |
| B-368 | C | 3599 | Samburu | SEROLEPI | 37.617 | 1.133 | 731 | 27-May-69 | P | 3 | 24 | 15 | 5 | | 10.7 | 18@0 | | | 21.8 | | | | |
| B-369 | C | 3600 | Samburu | SEROLEPI | 37.617 | 1.133 | 731 | 29-Jul-71 | P | 3 | 14 | 4 | | | 9 | | | | 6.0 | | | | |
| B-370 | C | 3604 | Samburu | LAJOK NO 2 | 37.367 | 0.767 | 1080 | 2-Aug-69 | P | 3 | 124 | 67 | 40 | 52 | 36 | | | | 2.5 | 76.8 | | | |
| B-371 | C | 3609 | Samburu | MARALAL | 36.700 | 1.083 | 2134 | 26-Aug-69 | | 3 | 71 | 42 | | | 35 | 18@10 | | | 6.1 | | | | |
| B-372 | C | 3613 | Samburu | MERILLE | 37.717 | 1.417 | 610 | 19-Aug-69 | P | 2 | 20 | | | | | | | | 0.0 | | | | DRY WELL |
| B-373 | C | 3614 | Samburu | MERILLE | 37.717 | 1.417 | 610 | 23-Aug-69 | P | 2 | 25 | 4 | | | 10 | | | | 12.6 | | | | |
| B-374 | C | 3651 | Samburu | LESIRIKAN | 36.983 | 1.767 | 1524 | 15-Dec-69 | P | 2 | 64 | 55 | | | 45 | 64@9 | | | 5.5 | | | | |
| B-375 | C | 3692 | Samburu | MARALAL | 36.700 | 1.067 | 229 | 8-Jul-70 | O | 2 | 49 | 43 | | | 40 | | | | 0.3 | | | | LOW YIELDING WELL |
| B-376 | C | 3810 | Samburu | ACHIERS POST | 37.667 | 0.633 | 853 | 12-Feb-72 | | 3 | 198 | 158 | 71 | | 9 | | | | 1.6 | | | | |
| B-377 | C | 3827 | Samburu | WAMBA | 37.317 | 0.983 | 1311 | 13-May-72 | O | 1 | 73 | 55 | 18 | | 14.3 | | | | 2.3 | 24.6 | | | |
| B-378 | C | 3832 | Samburu | LONDUNGOKWE | 37.000 | 0.900 | 1219 | 25-Apr-72 | L | 5 | 128 | 17 | | | 8.4 | | | | 4.1 | 66.3 | 0.000226 | 0.00138 | |
| B-379 | C | 3833 | Samburu | OIROSI | 36.667 | 1.050 | 2134 | 3-Jun-72 | P | 1 | 123 | 38 | | | 12.2 | | | | 2.6 | 108.3 | 0.000052 | 0.000476 | |
| B-380 | C | 3855 | Samburu | BARAGOI TOWNSHIP | 36.800 | 1.767 | 1370 | 28-Jul-72 | P | 8 | 183 | 22 | | | 11 | | | | 1.9 | | 0.000052 | 0.000371 | |
| B-381 | C | 3869 | Samburu | BARAGOI | 36.783 | 1.783 | 1525 | 28-Sep-72 | O | 1 | 94 | 40 | | | 36 | | | | 1.4 | 18 | | | |
| B-382 | C | 4254 | Samburu | WAMBA | 37.317 | 0.983 | 1341 | 12-Jul-76 | O | 1 | 206 | 34 | | | 26 | | | | 0.5 | | | | |
| B-383 | C | 4296 | Samburu | WAMBA SEC SCHOOL | 37.317 | 0.983 | 1260 | 11-Sep-76 | O | 2 | 129 | 58 | | | 29 | | | | 0.0 | | | | DRY WELL |
| B-384 | C | 4297 | Samburu | D.E.B PRI.WAMBA | 37.317 | 0.967 | 1220 | 9-Nov-76 | O | 2 | 104 | 35 | | | 23 | | | | 0.0 | 79 | | | DRY WELL |
| B-385 | C | 4315 | Samburu | NURSES SCH WAMBA | 37.333 | 0.900 | 1524 | 28-Feb-77 | O | 2 | 95 | 82 | 40 | | 21 | | | | 4.8 | 28 | | | GOOD WELL |
| B-386 | C | 4448 | Samburu | | 36.750 | 1.983 | | | A | 1 | 83 | | | | | | | | | | | | |
| B-387 | C | 4449 | Samburu | KOWOP | 36.750 | 1.983 | | 3-Jan-78 | P | 2 | 83 | | | | | | | | 0.0 | | | | DRY WELL |
| B-388 | C | 7909 | Samburu | WAMBA TOWN | 37.333 | 0.967 | 1300 | 12-Apr-88 | P | 2 | 93 | 14 | | | 9.6 | | | | 1.0 | | | | LOW YIELDING |
| B-389 | C | 7910 | Samburu | WAMBA TOWN | 37.333 | 0.967 | 1300 | 21-Apr-88 | P | 2 | 120 | 68 | 25 | | 25 | 17@28 | 12@68 | 12@98 | | | | | NOT TESTED |
| B-390 | C | 7911 | Samburu | WAMBA TOWN | 37.350 | 0.983 | 1320 | 28-May-88 | P | 2 | 80 | 52 | | | 27.3 | 17@47 | | | | | | | NOT TESTED |
| B-391 | C | 7912 | Samburu | NAMANYARABOO | 37.300 | 0.833 | 1115 | 2-Jun-88 | P | 2 | 100 | | | | | | | | 0.0 | | | | DRY WELL |
| B-392 | C | 7913 | Samburu | KIMANIKI | 37.433 | 0.867 | 1090 | 12-Jun-88 | P | 2 | 92 | | | | | | | | 0.0 | | | | DRY WELL |
| B-393 | C | 7914 | Samburu | LENGUSUKA | 37.300 | 0.867 | 1140 | 17-Jun-88 | P | 2 | 70 | 18 | | | 3 | 34@14 | | | | | | | NOT TESTED |
| B-394 | C | 7915 | Samburu | LENGEI | 36.983 | 0.817 | 1360 | 25-Jun-88 | P | 2 | 100 | 63 | 54 | | 39.2 | 23@48 | 6@88 | | | | | | NOT TESTED |
| B-395 | C | 7916 | Samburu | SWUARI | 37.067 | 1.100 | 1120 | 20-Jul-88 | P | 2 | 130 | 70 | | | 63 | 20@65 | 4@93 | 4@118 | | | | | NOT TESTED |
| B-396 | C | 7917 | Samburu | KOWOP | 36.767 | 1.983 | 1330 | 14-Dec-88 | P | 2 | 150 | 123 | | | 56 | 20@120 | | | | | | | NOT TESTED |
| B-397 | C | 7918 | Samburu | BARSALOI TOWN | 36.867 | 1.333 | 1110 | 2-Feb-89 | P | 2 | 40 | 16 | | | 9 | 20@14 | | | | | | | NOT TESTED |
| B-398 | C | 7919 | Samburu | MASIKETA | 36.933 | 1.600 | 1160 | 28-Jan-89 | P | 2 | 100 | 70 | 16 | | 5.5 | 9@14 | 27@61 | | | | | | DRY &HOLE |
| B-399 | C | 8989 | Samburu | NGTOTO ELERAI | 37.833 | 1.833 | 750 | 20-Dec-89 | D | | 50 | | | | | | | | | | | | DRY &HOLE |
| B-400 | C | 8991 | Samburu | METUMI | 37.833 | 1.833 | 750 | 6-Jan-90 | D | | 38 | | | | | | | | | | | | |
| B-401 | C | 9068 | Samburu | MALALAL | 36.694 | 1.113 | | 3-Jan-90 | | | 21 | 14 | 8 | | 5.9 | | | | 1.7 | | | | |
| B-402 | C | 9753 | Samburu | KISIMA | 36.833 | 0.917 | 1850 | 8-Nov-91 | D | 3 | 105 | 103 | 100 | | 29.3 | 3@100 | | | 6.0 | 32.6 | | | |
| B-403 | C | 10579 | Samburu | ARCHERS POST | 37.666 | 0.633 | 800 | 30-Jul-93 | D | 2 | 76.2 | 13 | | | | 12.2@24 | 30.5@34 | 51.8@61 | | | | | |
| B-404 | C | 10822 | Samburu | WAMBA MISSION | 37.317 | 0.650 | 1250 | 30-Jun-94 | D | | 61 | 45 | 15 | 41 | 14 | | | | 0.6 | 55.5 | | | |

# 添付資料-5

# 既存の井戸水質試験結果データ

# 既存水質分析データ（1/3）

| No. | | ID | DISTRICT | SAMPLING DATE | Longitude | Latitude | Type of aquifer | Depth of well(m) | Water rest level(m) | EC (μS/cm) | PH | COLOR | TURBIDITY | $CO_3$ (mg/l) | $HCO_3$ (mg/l) | Mn (mg/l) | Mg (mg/l) | Fe (mg/l) | K (mg/l) | Na (mg/l) | Ca (mg/l) | TDS (mg/l) | F (mg/l) | $NO_3$ (mg/l) | $SO_4$ (mg/l) | Cl (mg/l) | CaCO3 (mg/l) | TOTAL ALKALINITY | $O_2$ (mg/l) | $PO_4$ (mg/l) | FREE $CO_2$ (mg/l) | $NO_2$ (mg/l) | $SiO_2$ (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q-1 | C | 616 | Baringo | 02-JUL-92 | 35.867 | 0.083 | Basement | 96 | 46 | 770 | 8.4 | 5 | 5 | | | | 42 | | 17 | 97 | 39 | 462 | 0.8 | | 0.25 | 12 | 272 | 524 | 1.6 | 0 | | 0 | |
| Q-2 | C | 626 | Baringo | 29-MAY-51 | 35.783 | 0.083 | Volcanics | 152 | 121 | | 7 | 0 | 0 | 0 | 170 | | | 0.15 | | | | 300 | 2.1 | 0.01 | 0.3 | 15 | 45 | 170 | | | | 0 | 80 |
| Q-3 | C | 3437 | Baringo | 13-JUN-92 | 36.283 | 0.800 | Volcanics | 183 | 93 | 760 | 8.7 | 5 | 1 | | | | 21 | | 3.3 | 158 | 21 | 456 | 0.2 | | 14 | 31 | 140 | 426 | 2.4 | 0.01 | | 0 | |
| Q-4 | C | 3470 | Baringo | 11-JUN-92 | 35.967 | 1.067 | Volcanics | 122 | 30 | 960 | 8.3 | 5 | 2 | | | | 1.5 | | 5 | 273 | 3 | 576 | 2.5 | | 25 | 22 | 14 | 510 | 0.8 | 0 | | 0.01 | |
| Q-5 | C | 3506 | Baringo | 18-JUL-89 | 35.733 | 0.500 | Volcanics | 152 | 13 | 126 | 7.8 | 5 | 5.8 | | | 0.05 | 3.4 | 0.2 | 6.9 | 7.4 | 5.6 | 75 | 1 | | 3.4 | 9 | 28 | 28 | 3.2 | 0.01 | 20 | 0 | |
| Q-6 | C | 3868 | Baringo | 03-NOV-72 | 36.017 | 0.950 | Volcanics | 122 | 9 | 7000 | 7.6 | 5 | 0 | 0 | 3708 | | 22 | 0.3 | 16 | 1304 | 12 | 4500 | 18 | | 4531 | 670 | 122 | 3708 | | | 48 | 0.01 | 60 |
| Q-6 | C | 3868 | Baringo | 03-NOV-72 | 36.017 | 0.950 | Volcanics | 122 | 9 | 200 | 7.6 | 5 | 1 | | | | 1 | | 7.6 | 23 | 12 | 120 | 1.4 | | 2 | 6 | 34 | 102 | 0.04 | 0.01 | 44 | 0.01 | |
| Q-7 | C | 4722 | Baringo | 08-MAR-94 | 35.733 | 0.483 | Volcanics | 155 | 15 | 200 | 7.6 | 5 | 1 | | | | 1 | | | | | 212 | 0.1 | 0.08 | 28 | | | | | | | | |
| Q-8 | C | 4915 | Baringo | 25-SEP-86 | | | Volcanics | 214 | 181 | 460 | 7.2 | 5 | 0.9 | | | 0.03 | 2.3 | 0.1 | 17 | | 4.5 | 276 | 3 | 0.01 | 7 | 12 | 42 | 212 | 0.1 | 0.05 | 28 | | |
| Q-9 | C | 5072 | Baringo | 25-SEP-86 | | | | | | 845 | 7.9 | 5 | 0.7 | | | 0.02 | 7 | 0.1 | 11 | | 19 | 507 | 6.87 | 0.38 | 13 | 67 | 108 | 338 | 0.1 | 0.05 | 12 | 0.01 | |
| Q-10 | C | 5170 | Baringo | 07-SEP-82 | | | Volcanics | 120 | 19 | 170 | 7.7 | 100 | 40 | | | 0.7 | 2 | 3.5 | | | 4 | 113 | 0.6 | | 0.5 | 8 | 48 | 100 | 1.6 | 0.02 | | | |
| Q-11 | C | 5349 | Baringo | 28-JUL-83 | | | | | | 485 | 8.3 | | 3.7 | | | 0.01 | 4.6 | | | | 12 | 291 | 4.8 | | 4.7 | 3.9 | 46 | 190 | 0.6 | 0.04 | | | |
| Q-12 | C | 5487 | Baringo | 09-JUN-92 | | | Volcanics | 55 | 8 | 520 | 7.7 | 5 | 3 | | | | 5 | | 6 | 168 | 10 | 312 | 7 | | 7 | 8 | 48 | 278 | 0.8 | 0 | 8 | 0 | |
| Q-13 | C | 5754 | Baringo | 28-JUN-84 | | | | | | 290 | 7.8 | 70 | 57 | | | | 0.5 | 1.59 | | | 1.6 | 124 | 1.7 | | | 12 | 6 | 142 | 1.5 | | | | |
| Q-14 | C | 5755 | Baringo | 08-JUN-92 | | | | | | 330 | 7.8 | 5 | 4 | | | | 3.4 | | 33 | 77 | 17 | 196 | 1.5 | | 2.9 | 6 | 36 | 180 | 0.8 | 0 | 12 | 0.01 | |
| Q-15 | C | 5883 | Baringo | 05-DEC-84 | | | Volcanics | 226 | 169 | 400 | 8.4 | 5 | 5 | | | 0.1 | 0.4 | 0.6 | 13 | 110 | 3.5 | 240 | | | 6.5 | 13 | 26 | 246 | 1.6 | 0.04 | | | |
| Q-16 | C | 6362 | Baringo | 16-JUL-85 | 36.050 | 0.550 | Sedimentary | 60 | 12 | 15000 | 10 | 200 | 41 | | | 0.2 | 2.3 | 8 | | | 2.6 | 9000 | 30 | | 3240 | 2190 | 12 | 4338 | 46 | 0.3 | | | |
| Q-17 | C | 6363 | Baringo | 16-JUL-85 | 35.883 | 1.083 | Volcanics | 107 | 21 | 920 | 9 | 1000 | 340 | | | 1.7 | 8.4 | 97 | | | 2.5 | 552 | 10 | | 72 | 18 | 50 | 410 | 45 | 0.24 | | | |
| Q-18 | C | 6364 | Baringo | 11-JUN-92 | 36.083 | 0.800 | Volcanics | 120 | 32 | 430 | 8.1 | 550 | 105 | | | | 1 | | 8 | 270 | 4 | 258 | 2.8 | | 0.25 | 30 | 8 | 200 | 3.2 | 0 | | 0 | |
| Q-19 | C | 6365 | Baringo | 16-JUL-85 | 36.067 | 0.467 | Sedimentary | 60 | 20 | 5600 | 8.6 | 200 | 38 | | | 0.3 | 2.9 | 11.8 | | | 2 | 3360 | 35 | | 309 | 904 | 6 | 2954 | 38 | 0.24 | | | |
| Q-20 | C | 8870 | Baringo | 24-AUG-90 | 35.738 | 0.490 | Volcanics | 108 | 93 | 180 | 7.3 | 50 | 19 | | | 0.1 | 1.9 | 1.5 | 8.6 | 15 | 9.6 | 108 | 0.7 | | 0.3 | 3 | 32 | 66 | 2.8 | 0.01 | 4 | 0.01 | |
| Q-21 | C | 8987 | Baringo | 04-DEC-90 | | | Volcanics | 124 | | 190 | 7.4 | 20 | 7 | | | 0.8 | 3.9 | 1.4 | 6.3 | 33 | 4.8 | 114 | 1 | | 1.4 | 1 | 28 | 112 | 0.4 | 0.01 | 40 | 0.01 | |
| Q-22 | C | 9152 | Baringo | 24-AUG-90 | | | | | | 750 | 7.3 | 5 | 14 | | | 0.2 | 5.3 | 0.1 | 27 | 137 | 14 | 450 | 1.7 | | 20 | 20 | 58 | 362 | 1.2 | 0.01 | 60 | 0.01 | |
| Q-23 | C | 10846 | Baringo | 23-MAY-94 | | | | | | 440 | 8 | 5 | 4 | | | | 2.4 | | 7.2 | 76 | 2.4 | 264 | 2.8 | | 22 | 13 | 16 | 216 | 3.2 | 0.01 | 8 | 0.01 | |
| Q-24 | P | 84 | Baringo | 15-JUL-92 | | | Volcanics | 62 | 43 | 470 | 7.7 | 5 | 10 | | | | 2 | | 9.6 | 95 | 4 | 282 | 1.7 | | 21 | 15 | 18 | 206 | 0.79 | 0.04 | 8 | 0.01 | |
| Q-25 | C | 576 | Kilibatek | 06-AUG-48 | 35.883 | 0.000 | Volcanics | 123 | | | 7.2 | | | 0 | 244 | | | | | | | 403 | | | 0.3 | 20 | 30 | 244 | | | | 0.01 | |
| Q-26 | C | 711 | Kilibatek | 25-SEP-86 | 35.917 | 0.033 | Volcanics | 141 | 47 | 130 | 6.9 | 200 | 72 | | | 0.12 | 0.9 | 5.9 | 10 | | 1.2 | 77 | 0.46 | 1.3 | 1.3 | 12 | 18 | 40 | 1.1 | 0.05 | 8 | 0.01 | |
| Q-27 | C | 722 | Kilibatek | 21-SEP-48 | 35.733 | 0.050 | Volcanics | 140 | 50 | | 6.7 | | | 0 | 140 | | | | | | | 258 | | 0 | 0.3 | 6 | 70 | 140 | | | | 0 | |
| Q-28 | C | 2484 | Kilibatek | 16-MAY-60 | 36.083 | 0.017 | Volcanics | 122 | 102 | | 7 | 0 | 0 | | | | | 0.1 | | | 3 | 355 | 3 | 0 | 8 | 11 | 10 | | | | | 0 | 90 |
| Q-29 | C | 4916 | Kilibatek | 11-SEP-81 | 36.100 | 0.000 | Volcanics | 100 | 79 | 310 | 7.1 | 5 | 10 | | | 0.1 | 0.1 | 0.6 | | | 0.6 | 186 | 3.6 | | 3.8 | 11.8 | 4.6 | | 14.2 | | | | |
| Q-30 | C | 5396 | Kilibatek | 16-JUL-92 | 35.733 | 0.050 | Volcanics | 200 | 119 | 245 | 7.6 | 5 | 2 | | | | 4.9 | | 0.6 | 38 | 4 | 147 | 1.3 | | 2.5 | 8 | 30 | 152 | 1.6 | 0.06 | 8 | 0 | |
| Q-31 | C | 26 | Laikipia | 13-MAR-87 | 37.150 | 0.167 | Basement | 37 | | 470 | 8 | 5 | 2.4 | | | 0.01 | 5.1 | 0.7 | 4 | 57 | 15 | 282 | 1 | 1.51 | 12.5 | 10 | 86 | 170 | 0.55 | 0.04 | 1 | 0.01 | 23 |
| Q-32 | C | 28 | Laikipia | 16-NOV-83 | 37.133 | 0.183 | Basement | 69 | | 1100 | 8.4 | | 1 | | | 0.1 | 39 | 1.2 | | | 39 | 660 | 3.1 | | 10.4 | 34 | 260 | 722 | 3.5 | 0.1 | | | |
| Q-33 | C | 37 | Laikipia | 20-NOV-54 | 36.467 | 0.317 | Volcanics | 153 | 46 | | 8 | 0 | 0 | 0 | 365 | | | 0.4 | | | | 571 | 3 | 0.01 | 15 | 65 | 30 | 365 | | | | 0.01 | 18 |
| Q-34 | C | 149 | Laikipia | 01-MAR-51 | 37.067 | 0.000 | Volcanics | 122 | 55 | | 7.3 | 0 | 0 | 0 | 234 | | | 0.15 | | | | 330 | 3.3 | | 21 | 13 | 40 | 234 | | | | 0 | 38 |
| Q-35 | C | 290 | Laikipia | 22-MAR-79 | 37.033 | 0.050 | Volcanics | 128 | 37 | 60 | 7.2 | 300 | 62 | | | 0.2 | 2.7 | 0.4 | | | 3.8 | | 0.1 | | | 4.6 | 37 | 27 | 34 | | | | 19 |
| Q-36 | C | 291 | Laikipia | 16-APR-52 | 37.067 | 0.033 | Volcanics | 109 | 24 | | 7.4 | 0 | 0 | 0 | 230 | | | 0.45 | | | | 615 | 2.65 | | 48 | 113 | 110 | 230 | | | | | |
| Q-37 | C | 296 | Laikipia | 01-NOV-85 | 36.750 | 0.100 | Volcanics | 66 | 18 | 860 | 7.9 | 5 | 1 | | | 0.01 | 22 | 0.1 | | | 28 | 516 | 1.2 | | 37 | 76 | 160 | 380 | 7.6 | 0.01 | | | |
| Q-38 | C | 297 | Laikipia | 01-NOV-85 | 36.717 | 0.200 | Volcanics | 308 | 50 | 700 | 8.3 | 5 | 26 | | | 0.01 | 15 | 0.49 | | | 28 | 420 | 1.4 | | 15.7 | 48 | 130 | 374 | 7.9 | 0.01 | | | |
| Q-39 | C | 309 | Laikipia | 22-OCT-85 | 36.817 | 0.000 | Volcanics | 40 | 17 | 1300 | 8.9 | 5 | 1 | | | 0.01 | 9.7 | 0.1 | | | 6.4 | 780 | 1 | | 22 | 49 | 56 | 424 | 1.6 | 0.01 | | | |
| Q-40 | C | 342 | Laikipia | 25-MAR-86 | 36.567 | 0.433 | Volcanics | 111 | 37 | 799 | 8.3 | 5 | 2.2 | | | 0.02 | 1.7 | 0.3 | 13 | 160 | | 479 | 2.1 | 0.07 | 19 | 38 | 34 | 326 | 0.08 | 0.01 | 5 | 0.01 | |
| Q-41 | C | 372 | Laikipia | 18-OCT-85 | 37.083 | 0.383 | Sedimentary | 33 | 16 | 650 | 7.9 | 5 | 1 | | | 0.01 | 36 | 0.1 | | | 75 | 390 | 2 | | 60 | 33 | 336 | 306 | 0.8 | 0.01 | | | |
| Q-42 | C | 373 | Laikipia | 30-OCT-95 | 36.983 | 0.083 | Sedimentary | 59 | 50 | 630 | 8.2 | 5 | 2.5 | | | 0.01 | 15 | 0.13 | | | 42 | 378 | 1.7 | | 12 | 24 | 164 | 350 | 0.08 | 0.01 | | | |
| Q-43 | C | 396 | Laikipia | 20-MAR-84 | 36.833 | 0.000 | Volcanics | 19 | 7 | 340 | 8.2 | 15 | 5.4 | | | 0.07 | 4.9 | 0.04 | | | 8 | 204 | 1.1 | | 4.7 | 13 | 40 | 134 | 17 | | | 0.27 | |
| Q-44 | C | 523 | Laikipia | 02-NOV-85 | 37.117 | 0.033 | Volcanics | 79 | 40 | 550 | 8.6 | 5 | 1.5 | | | 0.01 | 18 | 0.1 | | | 22 | 330 | 1.1 | | 11 | 42 | 126 | 294 | 2.3 | 0.01 | | | |
| Q-45 | C | 555 | Laikipia | 22-AUG-86 | 36.817 | 0.150 | Volcanics | 76 | 16 | 1560 | 8.1 | 5 | 0.9 | | | 0.01 | 22 | 0.1 | 20 | 356 | 36 | 937 | 2.1 | 0.08 | 4.7 | 175 | 231 | 550 | 0.88 | 0.04 | 48 | | 42 |

Guideline Value

( in accordance with "Design Manual for Water Supply in Kenya" )

・Permissible aesthetic quality

| Parameter | Guideline Value |
|---|---|
| pH | 6.5-9.2 |
| Color(TCU) | 50 |
| Turbidity(NTU) | 25 |
| Mn(mg/l) | 0.5 |
| Fe(mg/l) | 1.0 |
| Na(mg/l) | 200 |
| TDS(mg/l) | 1,500 |
| $SO_4$(mg/l) | 400 |
| Cl(mg/l) | 600 |
| Hardness as $CaCO_3$(mg/l) | 500 |

・Constituents of health significance

| Parameter | Guideline Value |
|---|---|
| F(mg/l) | 1.5 *(3.0) |
| $NO_3$(mg/l) | 10 |

* ( ): accepted in Kenya in exceptional cases

: Value exceeding guideline for constituents of health significance

: Value exceeding guideline for permissible aesthetic quality

# 既存水質分析データ（2/3）

| No. | | ID | DISTRICT | SAMPLING DATE | Longitude | Latitude | Type of aquifer | Depth of well(m) | Water rest level(m) | EC (μS/cm) | PH | COLOR | TURBIDITY | $CO_3$ (mg/l) | $HCO_3$ (mg/l) | Mn (mg/l) | Mg (mg/l) | Fe (mg/l) | K (mg/l) | Na (mg/l) | Ca (mg/l) | TDS (mg/l) | F (mg/l) | $NO_3$ (mg/l) | $SO_4$ (mg/l) | Cl (mg/l) | CaCO3 (mg/l) | TOTAL ALKALINITY | $O_2$ (mg/l) | $PO_4$ (mg/l) | FREE $CO_2$ (mg/l) | $NO_3$ (mg/l) | $SiO_2$ (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q-46 | C | 571 | Laikipia | 17-OCT-85 | 37.317 | 0.283 | Volcanics | 58 | 33 | 460 | 8.3 | 5 | 2.5 | | | 0.01 | 24 | 0.13 | | | 24 | 276 | 0.35 | | 4.1 | 30 | 156 | 252 | 1.6 | | | | |
| Q-47 | C | 611 | Laikipia | 20-JAN-86 | 36.683 | 0.750 | Volcanics | 72 | 18 | 600 | 8.3 | 15 | 1.8 | | | 0.1 | 2.2 | 1.2 | 6 | 140 | 5.4 | 360 | 0.8 | 2.7 | 22 | 74 | 34 | 222 | 1.8 | 0.01 | | 0.01 | |
| Q-48 | C | 674 | Laikipia | 18-OCT-85 | 37.167 | 0.133 | Basement | 69 | 29 | 540 | 7 | 5 | 3 | | | 0.01 | 21 | 0.24 | | | 42 | 324 | 0.41 | | 51 | 54 | 190 | 178 | 0.47 | 0.01 | | | |
| Q-49 | C | 690 | Laikipia | 30-OCT-85 | 36.967 | 0.117 | Volcanics | 40 | 32 | 640 | 8.3 | 5 | 3 | | | 0.01 | 17 | 0.11 | | | 36 | 384 | 1.3 | | 14 | 29 | 160 | 344 | 0.63 | 0.01 | | | |
| Q-50 | C | 913 | Laikipia | 25-NOV-80 | 36.367 | 0.400 | Sedimentary | 172 | 46 | 650 | 8.1 | | 0.3 | | | 0.1 | 1.1 | 0.1 | | | 4.6 | 397 | | | | 1 | 16 | 120 | | | | | |
| Q-51 | C | 932 | Laikipia | 22-OCT-85 | 36.717 | 0.033 | Volcanics | 183 | 45 | 670 | 8.9 | 5 | 7 | | | 0.01 | 14.8 | 0.18 | | | 21 | 402 | 1.3 | | 20 | 33 | 114 | 304 | 2.5 | 0.01 | | | |
| Q-52 | C | 951 | Laikipia | 04-DEC-70 | 36.400 | 0.483 | Volcanics | 285 | | 650 | 8.7 | 5 | 4 | 36 | 366 | | 4 | 0.2 | 6 | 158 | 10 | 356 | 0.9 | 0.6 | 20 | 13 | 42 | 404 | | | | 0 | 25 |
| Q-53 | C | 1018 | Laikipia | 08-AUG-96 | 36.300 | 0.567 | Volcanics | 251 | 115 | 621 | 7.7 | 5 | 3 | | | 0.2 | | 0.5 | 10 | 103 | | 453 | 1.1 | | 3.5 | 33 | 60 | 236 | 1.6 | | 14 | | |
| Q-54 | C | 1230 | Laikipia | 13-OCT-85 | 37.333 | 0.200 | Basement | 122 | 49 | 600 | 7.8 | 5 | 1 | | | 0.01 | 27 | 0.1 | | | 71 | 360 | 0.41 | | 40 | 55 | 286 | 280 | 0.47 | 0.01 | | | |
| Q-55 | C | 1381 | Laikipia | 24-OCT-85 | 36.500 | 0.133 | Volcanics | 213 | 30 | 640 | 8.5 | 10 | 2 | | | 0.01 | 12 | 0.12 | | | 22 | 384 | 0.7 | | 21 | 46 | 102 | 316 | 0.79 | 0.01 | | | |
| Q-56 | C | 1498 | Laikipia | 18-OCT-85 | 37.083 | 0.250 | Basement | 92 | 49 | 860 | 8.4 | 5 | 2 | | | 0.01 | 31 | 0.04 | | | 66 | 516 | 0.55 | | 324 | 53 | 290 | 82 | 1.3 | 0.01 | | | |
| Q-57 | C | 1600 | Laikipia | 13-DEC-61 | 36.767 | 0.833 | Volcanics | 84 | 35 | | 8.5 | | | 8 | 294 | | | 0.45 | | | | 690 | 2.8 | | 128 | 98 | 15 | 302 | | | | | 13 |
| Q-58 | C | 1646 | Laikipia | 11-JAN-86 | 36.617 | 0.550 | Volcanics | 90 | | 560 | 8 | 15 | 0.5 | | | 0.1 | 2.5 | 0.1 | 17 | 130 | 5.9 | 336 | 0.4 | 0.63 | 11 | 35 | 38 | 192 | 1 | 0.01 | | 0.02 | |
| Q-59 | C | 1767 | Laikipia | 01-NOV-85 | 36.633 | 0.150 | Volcanics | 127 | 24 | 880 | 9 | 5 | 0.9 | | | 0.01 | 16 | 0.1 | | | 17.6 | 528 | 1.3 | | 40 | 8 | 110 | 376 | 0.08 | 0.01 | | | |
| Q-60 | C | 1785 | Laikipia | 04-NOV-68 | 36.550 | 0.717 | Volcanics | 179 | 69 | | 8.8 | | | 0 | 244 | | | 0.01 | | | 1 | | | 0.1 | 0.3 | 21 | 9 | 244 | | | | | 2 |
| Q-61 | C | 1813 | Laikipia | 01-SEP-52 | 37.167 | 0.400 | Volcanics | 53 | 19 | | 7.4 | 0 | 0 | 0 | 468 | | 49 | 0.01 | | | 116 | | 0.9 | 0.01 | 85 | 156 | 492 | 468 | | | | 0.01 | 20 |
| Q-62 | C | 1819 | Laikipia | 25-MAR-86 | 36.617 | 0.450 | Volcanics | 180 | 76 | 1960 | 9 | 5 | 0.4 | | | 0.01 | 0.1 | 0.3 | 13 | 370 | 1.1 | 1176 | 3.8 | 0.07 | 166 | 324 | 5 | 200 | 2.1 | 0.04 | | 0.19 | |
| Q-63 | C | 1896 | Laikipia | 26-MAR-86 | 36.717 | 0.767 | Volcanics | 80 | 60 | 1295 | 8.4 | 5 | 1.4 | | | 0.02 | 0.3 | 0.3 | 7.4 | 260 | 0.9 | 777 | 3.4 | 0.06 | 118 | 118 | 10 | 210 | 2 | 0.07 | | 0.01 | |
| Q-64 | C | 2023 | Laikipia | 30-OCT-85 | 36.650 | 0.067 | Volcanics | 55 | 43 | 300 | 8.4 | 5 | 7.5 | | | 0.01 | 18 | 0.3 | | | 23 | 180 | 0.6 | | 1.6 | 14 | 134 | 190 | 0.79 | 0.01 | | | |
| Q-65 | C | 2135 | Laikipia | 18-OCT-85 | 37.083 | 0.350 | Volcanics | 71 | 26 | 980 | 7.9 | 5 | 10 | | | 0.01 | 37 | 0.39 | | | 120 | 588 | 0.54 | | 319 | 66 | 454 | 302 | 0.15 | 0.01 | | | |
| Q-66 | C | 2188 | Laikipia | 03-MAY-55 | 37.017 | 0.400 | Volcanics | 153 | 43 | | 7.5 | 0 | | | 378 | | 8.8 | 1.6 | | | 15 | 140 | 1 | | 40 | 316 | 498 | 378 | | | | | 3 |
| Q-67 | C | 2259 | Laikipia | 26-MAR-86 | 36.800 | 0.617 | Volcanics | 110 | 73 | 747 | 8.6 | 5 | 5.3 | | | 0.05 | 0.2 | 1 | 2.2 | 159 | 0.5 | 448 | 1.6 | 0.02 | 20 | 59 | 3 | 258 | 3 | 0.19 | | 0.01 | |
| Q-68 | C | 2318 | Laikipia | 27-MAR-86 | 36.433 | 0.517 | Volcanics | 152 | 70 | 462 | 8 | 5 | 2.4 | | | 0.01 | 1.9 | 0.5 | 11 | 89 | 2.5 | 277 | 0.85 | 0.03 | 7.2 | 24 | 30 | 222 | 1.2 | 0.05 | 7 | 0.01 | |
| Q-69 | C | 2375 | Laikipia | 20-FEB-57 | 36.950 | 0.150 | Sedimentary | 128 | 61 | | 7.8 | 0 | 0 | | 536 | | | 0.5 | | | | 770 | 2.1 | 0 | 35 | 67 | 120 | 536 | | | | 0 | 19 |
| Q-70 | C | 2400 | Laikipia | 13-JAN-86 | 36.683 | 0.650 | Volcanics | 155 | 50 | 550 | 7.6 | 5 | 1.5 | | | 0.1 | 1.4 | 0.1 | 21 | 170 | 5 | 330 | 0.32 | 0.87 | 11 | 34 | 26 | 296 | 7 | 0.01 | | 1.1 | |
| Q-71 | C | 2561 | Laikipia | 26-JUL-56 | 36.767 | 0.167 | Volcanics | 92 | 37 | | 7.1 | 0 | 0 | 0 | 389 | | | 0.6 | | | | 710 | 2.2 | 0 | 62 | 88 | 80 | 389 | | | | 0 | 38 |
| Q-72 | C | 2562 | Laikipia | 28-MAR-86 | 36.800 | 0.183 | Volcanics | 213 | 62 | 1660 | 8.2 | 5 | 4.1 | | | 0.06 | 18 | 1.2 | 43 | 250 | 68 | 996 | 3.5 | 0.01 | 85 | 200 | 264 | 442 | 2.1 | 0.03 | | 0.01 | |
| Q-73 | C | 2576 | Laikipia | 21-APR-72 | 37.033 | 0.033 | Volcanics | 146 | 40 | 650 | 8.3 | 5 | | 36 | 403 | | 3 | 0.3 | 13 | 150 | 8 | 390 | 3.5 | 1.8 | 12 | 22 | 32 | 439 | | | | 0.01 | 40 |
| Q-74 | C | 2594 | Laikipia | 02-NOV-85 | 36.850 | 0.100 | Volcanics | 84 | 41 | 690 | 9 | 10 | 5 | | | 0.01 | 11 | 0.04 | | | 30 | 414 | 1.2 | | 32 | 61 | 74 | 360 | 5 | 0.01 | | | |
| Q-75 | C | 2638 | Laikipia | 13-FEB-57 | 37.050 | 0.067 | Volcanics | 69 | 14 | | 7.7 | 0 | 0 | 0 | 45.2 | | | 0.04 | | | | 61 | 5.2 | 0 | 2 | 2.8 | 2 | 45.2 | | | | 0 | 5.2 |
| Q-76 | C | 2676 | Laikipia | 26-MAR-86 | 36.867 | 0.667 | Volcanics | 125 | 23 | 1220 | 7.6 | 5 | 1 | | | 0.01 | 8.3 | 0.4 | 24 | 170 | 14 | 732 | 0.85 | 0.1 | 69 | 95 | 108 | 216 | 1.6 | 0.01 | 16 | 0.02 | |
| Q-77 | C | 2727 | Laikipia | 11-JAN-86 | 36.517 | 0.350 | Volcanics | 179 | 60 | 650 | 9 | 10 | 5.4 | | | 0.4 | 0.1 | 0.3 | 8 | 180 | 1.5 | 390 | 1.1 | 0.01 | 19.6 | 48 | 2 | 346 | 2.5 | 0.01 | | 0.01 | |
| Q-78 | C | 2803 | Laikipia | 03-JUN-58 | 36.983 | 0.117 | Sedimentary | 92 | 32 | | 7.8 | 0 | 0 | 0 | 329 | | 24 | 0.7 | 17 | 108 | 40 | 555 | 1.3 | 0.01 | 32 | 39 | 199 | 329 | | | | 0.01 | 52 |
| Q-79 | C | 2805 | Laikipia | 25-MAR-86 | 36.583 | 0.483 | Volcanics | 194 | 55 | 890 | 8.9 | 5 | 0.6 | | | 0.01 | 0.2 | 0.2 | 5 | 180 | 0.9 | 534 | 0.55 | 0.08 | 32 | 79 | 9 | 290 | 0.24 | 0.04 | | 0.01 | |
| Q-80 | C | 2858 | Laikipia | 16-AUG-86 | 36.400 | 0.133 | Volcanics | 107 | 12 | 235 | 7.9 | 5 | 1.1 | | | 0.01 | 1.4 | 0.5 | 8.4 | 59 | 2.6 | 200 | 0.27 | 0.03 | 1.7 | 12 | 26 | 154 | 0.1 | 0.02 | 30 | 0.01 | 31 |
| Q-81 | C | 2889 | Laikipia | 14-SEP-59 | 36.567 | 0.217 | Volcanics | 238 | 69 | | 7.5 | | | 0 | 365 | | | 1.5 | | | | 615 | 2.5 | | 28 | 58 | 45 | 365 | | | | | 26 |
| Q-82 | C | 2895 | Laikipia | 20-JUL-86 | 36.600 | 0.400 | Volcanics | 122 | 49 | 1355 | 7.4 | 5 | 1.7 | | | 0.02 | 2.5 | 0.6 | 15 | 200 | 4.3 | 813 | 1.2 | 0.9 | 25 | 27 | 42 | 414 | 0.95 | 0.03 | 16 | 0.16 | 40 |
| Q-83 | C | 2898 | Laikipia | 25-MAR-86 | 36.817 | 0.183 | Volcanics | 182 | 36 | 860 | 8.3 | 5 | 2.4 | | | 0.01 | 1.9 | 0.4 | 15.6 | 190 | 4.4 | 516 | 2.6 | 0.08 | 23 | 53 | 36 | 368 | 0.47 | 0.04 | 6 | 0.1 | |
| Q-84 | C | 3022 | Laikipia | 05-AUG-60 | 37.250 | 0.267 | Sedimentary | 98 | 75 | | 7.3 | 0 | 0 | | | | | | | | | 640 | 0.6 | | 62 | 77 | 400 | | | | | | 45 |
| Q-85 | C | 3119 | Laikipia | 09-AUG-96 | 36.483 | 0.550 | Volcanics | 235 | 58 | 747 | 8.8 | 5 | 3 | | | 0.2 | | 0.2 | 8.4 | 165 | | 625 | 0.58 | | 2.9 | 17 | 28 | 352 | 0.8 | | 0 | 0.05 | |
| Q-86 | C | 3122 | Laikipia | 08-AUG-96 | 36.550 | 0.583 | Volcanics | 155 | 15 | 1085 | 8.6 | 10 | 7 | | | 0.2 | | 0.4 | 7.8 | 195 | | 768 | 0.4 | | 40 | 129 | 94 | 302 | 0.8 | | | 0.01 | |
| Q-87 | C | 3420 | Laikipia | 24-OCT-85 | 37.017 | 0.483 | Volcanics | 119 | 23 | 1060 | 8.8 | 5 | 2.5 | | | 0.01 | 59 | 0.08 | | | 89 | 636 | 0.75 | | 171 | 109 | 452 | 250 | 0.79 | 0.01 | | | |
| Q-88 | C | 3434 | Laikipia | 29-JAN-87 | 36.967 | 0.500 | Basement | 91 | 39 | 1300 | 6 | 5 | 1.2 | | | 0.11 | 48 | 0.2 | 11.1 | 130 | 52 | 780 | 0.54 | | 303 | 109 | 352 | 226 | 0.16 | 0.02 | 8 | 0.01 | 37.8 |
| Q-89 | C | 3533 | Laikipia | 08-JAN-69 | 36.683 | 0.717 | Volcanics | 125 | 12 | 166 | 8.6 | | 0 | | 346 | | | | | | | 100 | 0.5 | | | 7 | 6 | 346 | | | | | |
| Q-90 | C | 3563 | Laikipia | 05-JUN-69 | 36.800 | 0.300 | Volcanics | 68 | 34 | 583 | 7.9 | | | | 410 | | | | | | 20 | 350 | 1.4 | | | 117 | 48 | 410 | | | | | 25 |
| Q-91 | C | 3761 | Laikipia | 08-AUG-96 | 36.500 | 0.433 | Volcanics | 247 | 115 | 458 | 8.4 | 5 | 45 | | | 0.2 | | 0.2 | 5.4 | 83 | | 311 | 1.45 | | 2.7 | 5 | 10 | 174 | 1.6 | | | 0.01 | |
| Q-92 | C | 4180 | Laikipia | 30-OCT-85 | | | | | | 200 | 8.4 | 5 | 1 | | | 0.01 | 5.8 | 0.1 | | | 11.2 | 120 | 0.21 | | 2.3 | 18 | 52 | 82 | 0.55 | 0.01 | | | |
| Q-93 | C | 4222 | Laikipia | 15-MAY-76 | 36.850 | 0.250 | Volcanics | 117 | 36 | 1925 | 8.8 | 5 | 50 | | | | | | | | | 1153 | 1.3 | | | 277 | 88 | 540 | 0.6 | | | | |
| Q-94 | C | 5019 | Laikipia | 27-MAY-96 | | | Volcanics | 180 | 40 | 1034 | 8.1 | | 0 | | | 0 | | | | | | 620 | 1.4 | 0.3 | 0 | | 250 | 248 | | | 24 | | |
| Q-95 | C | 5069 | Laikipia | 28-OCT-85 | | | Volcanics | 154 | 2 | 250 | 8 | 5 | 5 | | | 0.01 | 5.3 | 0.07 | | | 4.8 | 150 | 0.33 | | 1 | 45 | 78 | 76 | 3.9 | 0.01 | | | |
| Q-96 | C | 5139 | Laikipia | 15-FEB-85 | 37.300 | 0.350 | Basement | 100 | | 700 | 7.4 | 5 | 11 | | | 0.2 | 16 | 0.1 | | 140 | 58 | 420 | 0.6 | | 50 | 56 | 270 | 250 | 1.9 | 0.01 | | | |
| Q-97 | C | 5140 | Laikipia | 10-MAR-88 | | | | | | 1320 | 7.6 | 5 | 18 | | | 0.13 | 62 | 3.2 | 14 | 66 | 126 | 792 | 1.1 | | 75 | 168 | 628 | 456 | 0.24 | 0.1 | | 0.01 | 36 |
| Q-98 | C | 5197 | Laikipia | 06-APR-86 | | | | | | 980 | 8.4 | 5 | 1.6 | | | 0.07 | 39 | 0.2 | 14 | 118 | 69 | 588 | 1.4 | 0.06 | 70 | 151 | 392 | 254 | 0.4 | 0.08 | | 0.01 | 32 |
| Q-99 | C | 5199 | Laikipia | 25-MAY-82 | | | | | | 185 | 6.6 | 20 | | | | | | 0.05 | | | | | 0.6 | | | 8 | 82 | | | | | | |
| Q-100 | C | 5236 | Laikipia | 09-FEB-83 | 36.867 | 0.033 | Volcanics | 206 | 24 | 1550 | 8.3 | 10 | 20 | | | 1.2 | 6.7 | 0.8 | 17 | 5.6 | 5.6 | 1200 | 158 | | 72 | 158 | 42 | 676 | 0.4 | | | | 10 |
| Q-101 | C | 7805 | Laikipia | 22-NOV-90 | 36.683 | 0.767 | Volcanics | 146 | 75 | 1280 | 7.7 | 20 | 95 | | 510 | 0.1 | 51 | 2 | 3 | 287 | 54 | 768 | 1.5 | | 96 | 218 | 342 | 510 | 1.2 | 0.01 | 20 | 0.01 | |
| Q-102 | C | 8029 | Laikipia | 29-MAR-89 | 36.750 | 0.333 | Sedimentary | 146 | 40 | 1400 | 9.2 | 5 | | | | | 0.5 | 0.4 | 14 | 343 | 4.8 | 900 | 12.5 | 2.2 | 70 | 50 | 14 | 590 | | | | | 20 |
| Q-103 | C | 9001 | Laikipia | 27-DEC-90 | 39.633 | 0.500 | | 122 | 47 | 1200 | 8.3 | 5 | 2.3 | | | 0.1 | 1 | 0.1 | 5.1 | 154 | 3.2 | 720 | 1.8 | | 89 | 133 | 12 | 322 | 0.8 | 0.01 | 4 | 0.01 | |
| Q-104 | C | 10621 | Laikipia | 02-SEP-93 | 40.336 | 0.407 | Volcanics | 126 | 8 | 640 | 7.9 | 5 | 1 | | | | 11 | | 21 | 78 | 20 | 384 | 0.4 | | 0.3 | 10 | 94 | 292 | 1.6 | 0.01 | 30 | 0.01 | |
| Q-105 | C | 10623 | Laikipia | 04-OCT-93 | 40.311 | 0.403 | | 50 | 6 | 860 | 7.7 | 10 | 23 | | | | 34 | | 3.4 | 168 | 32 | 516 | 1 | | 0.3 | 64 | 226 | 440 | 1.6 | 0.01 | 54 | 0.01 | |
| Q-106 | C | 10630 | Laikipia | 06-OCT-93 | 39.750 | 0.342 | Volcanics | 51 | 11 | 1400 | 7.4 | 5 | 8 | | | | 70 | | 46 | 88 | 130 | 840 | 2.3 | | 80 | 22 | 678 | 322 | 1.6 | 0.01 | 22 | 0.01 | |
| Q-107 | P | 124 | Laikipia | 29-MAR-90 | | | Basement | 42 | | 664 | 7.4 | 15 | 16 | | | 0.1 | 3.4 | 1 | 13 | 36 | 3.2 | 399 | 2 | | 15 | 24 | 22 | 218 | 3.6 | 0.01 | 6 | 0.01 | |
| Q-108 | P | 152 | Laikipia | 24-MAR-86 | | | Volcanics | 70 | 30 | 700 | 8 | 5 | 1.5 | | | 0.01 | 7.2 | 0.4 | 24 | 113 | 13.8 | 420 | 2.7 | 0.01 | 11 | 34 | 107 | 340 | 1 | 0.02 | 6 | 0.01 | |
| Q-109 | P | 167 | Laikipia | 02-DEC-96 | | | | | | 1340 | 8.2 | 5 | 14 | | | 0.07 | 15 | 3.1 | 32 | 180 | 17 | 805 | 2.2 | | 84 | 101 | 200 | 478 | 0.1 | 0.04 | 1 | 0.01 | |

# 既存水質分析データ（3/3）

| No. | ID | DISTRICT | SAMPLING DATE | Longitude | Latitude | Type of aquifer | Depth of well(m) | Water rest level(m) | EC (μS/cm) | PH | COLOR | TURBIDITY | $CO_3$ (mg/l) | $HCO_3$ (mg/l) | Mn (mg/l) | Mg (mg/l) | Fe (mg/l) | K (mg/l) | Na (mg/l) | Ca (mg/l) | TDS (mg/l) | F (mg/l) | $NO_3$ (mg/l) | $SO_4$ (mg/l) | Cl (mg/l) | CaCO3 (mg/l) | TOTAL ALKALINITY | $O_2$ (mg/l) | $PO_4$ (mg/l) | FREE $CO_2$ (mg/l) | $NO_2$ (mg/l) | $SiO_2$ (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q-110C | 1505 | Samburu | 20-FEB-51 | 36.700 | 1.100 | Basement | 105 | 23 | | 7 | 0 | 0 | 0 | 336 | | 30 | 0.01 | | | 103 | 750 | | 1 | 0.01 | 128 | 180 | 381 | 336 | | | | | 44 |
| Q-111C | 1627 | Samburu | 23-AUG-51 | 36.983 | 1.083 | Basement | 116 | 20 | | 7.9 | 0 | 0 | 0 | 771 | | | 0.16 | | | | 3500 | | 0.01 | 1517 | 2020 | 7429 | 771 | | | | 0 | 54 |
| Q-112C | 1639 | Samburu | 05-JAN-52 | 36.717 | 1.483 | Basement | 102 | 60 | | 7.3 | 0 | 0 | 0 | 346 | | | 0.2 | | | | 630 | 1.3 | 0.01 | 72 | 70 | 278 | 346 | | | | 0 | 10 |
| Q-113C | 3456 | Samburu | 20-SEP-71 | 36.783 | 1.783 | Sedimentary | 152 | 14 | 3450 | 8 | 5 | | | 195 | | 380 | 0 | 38 | 440 | 130 | 2875 | 0.66 | 0 | 533 | 244 | 1275 | 195 | | | | | 50 |
| Q-114C | 3565 | Samburu | 05-JUN-69 | 37.617 | 1.133 | Sedimentary | 18 | | | 8.1 | 5 | | | | | | | | | | 1200 | 2.1 | | 0.3 | 539 | 118 | 402 | | | | 0 | 0.7 | 80 |
| Q-115C | 3575 | Samburu | 24-SEP-71 | 37.617 | 1.133 | Sedimentary | 13 | | 7500 | 8.1 | 5 | 0 | 41 | 503 | | 56 | 1.16 | 1540 | 3162 | 1.3 | 4500 | 1.2 | 13.3 | 933 | 1670 | 624 | 544 | | | | 0 | 18 |
| Q-116C | 3586 | Samburu | 25-JUL-69 | 37.367 | 0.767 | Sedimentary | 92 | 38 | | 7.8 | 5 | | | | | 0.1 | 0.01 | | | 75 | 450 | 1.7 | | 0.3 | 227 | 300 | 266 | | | | 10 | | |
| Q-117C | 3599 | Samburu | 24-SEP-71 | 37.617 | 1.133 | Sedimentary | 24 | 11 | 20500 | 7.4 | 5 | 0 | 0 | 311 | | 1014 | 0 | 16 | 3920 | 796 | 12300 | | 1 | 79.7 | 1761 | 7430 | 5020 | 311 | | | 3 | 0.4 | 80 |
| Q-118C | 3608 | Samburu | 12-OCT-71 | | | | | | 2600 | 7.2 | 5 | 0 | 0 | 549 | | 60 | 0.6 | 14 | 318 | 156 | 1560 | | 1 | 0.6 | 53 | 405 | 640 | 549 | | | 12 | 0.1 | 30 |
| Q-119C | 3810 | Samburu | 12-FEB-72 | 37.667 | 0.633 | Sedimentary | 198 | 9 | 3200 | 7.5 | 5 | 0 | 0 | 445 | | | 0.2 | 26 | 230 | | 1920 | 0.9 | 266 | 347 | 500 | 1150 | 445 | | | | 4 | 2.6 | |
| Q-120C | 3827 | Samburu | 13-MAY-72 | 37.317 | 0.983 | Volcanics | 73 | 14 | 830 | 8.3 | 5 | 0 | 41 | 288 | | 44 | 0.1 | 12 | 88 | 64 | 570 | 1.4 | 6.1 | 32 | 28 | 246 | 329 | | | | 0 | 0.04 | 50 |
| Q-121C | 3832 | Samburu | 25-MAY-79 | 37.000 | 0.900 | Sedimentary | 128 | 8 | 9000 | 7.8 | 5 | 3.2 | | | 0.3 | 60 | 0.2 | | 147 | 69.9 | 5400 | 1.9 | | | 1605 | | 471 | 4.11 | | | | |
| Q-122C | 3833 | Samburu | 23-MAY-79 | 36.667 | 1.050 | Volcanics | 123 | 12 | 700 | 7.6 | 5 | 1.2 | | | 0.1 | 12 | 0.5 | | | 56 | 420 | | | 8.18 | | | 310 | 6.35 | | | | | |
| Q-123C | 4254 | Samburu | 12-JUL-76 | 37.317 | 0.983 | Volcanics | 206 | 26 | 2600 | 7.5 | 5 | 31 | | | | | | | | | 1560 | 1.07 | | | 426 | 606 | 464 | 104 | | | | | |
| Q-124C | 4315 | Samburu | 02-FEB-77 | 37.333 | 0.900 | Basement | 95 | 21 | 710 | 7.6 | 5 | 26 | | | 0.02 | 61 | 0.08 | 18 | 49 | 7 | 426 | 0.17 | | | 51.5 | 419 | 174 | 11 | | | | | |
| Q-125C | 4417 | Samburu | 19-DEC-77 | | | | | | 2448 | 7.9 | 5 | 7.8 | | | 0.2 | | 0.11 | | | | | 0.26 | | | 1092 | | 57 | 20 | | | | | |
| Q-126C | 4449 | Samburu | 12-FEB-78 | 36.750 | 1.983 | Basement | 83 | | 1000 | 8.1 | 5 | 3.5 | | | 0.24 | | 2.35 | | | | 600 | 0.5 | | 35 | 159 | 171 | 402 | 10 | | | | | |
| Q-127C | 4457 | Samburu | 07-MAR-78 | | | | | | 460 | 7.4 | 100 | 150 | | | 2.4 | | | | | | 266 | 0.47 | | | 43 | 305 | 220 | 42 | | | | | |
| Q-128C | 4513 | Samburu | 03-JUN-78 | | | | | | 1100 | 6.4 | 120 | 30 | | | 7.78 | 43 | 22 | | | 45 | 660 | 0.18 | | | 124 | 420 | 170 | 2 | | | | | |
| Q-129C | 4530 | Samburu | 11-AUG-78 | | | | | | 450 | 7.6 | 5 | 1 | | | 0 | 32 | 0.38 | | | | 270 | 1.3 | | 14 | 37 | | 262 | 3.2 | | | | 0.02 | |
| Q-130C | 4557 | Samburu | 04-MAR-79 | | | | | | 180 | 7.4 | 20 | 12 | | | 0.1 | 3.3 | 0 | | | 11.6 | 108 | 0.32 | | 5 | 16 | 48.8 | 55 | | | | | | |
| Q-131C | 7908 | Samburu | 21-OCT-88 | | | | | | 648 | 7 | 5 | 1.1 | | | 0.06 | 15 | 0.1 | 4.7 | 56 | 42 | 389 | 0.7 | | 17 | 73 | 38 | 192 | 3.8 | 0.06 | 94 | | | |
| Q-132C | 7910 | Samburu | 21-JUN-88 | 37.333 | 0.967 | Basement | 120 | 25 | 1330 | 6.9 | 4 | 9 | | | 0.5 | 47 | 0.1 | 10 | 92 | 118 | 798 | 0.7 | | 306 | 113 | 486 | 168 | 0.2 | 0.01 | 20 | 0.01 | | |
| Q-133C | 7911 | Samburu | 10-JUN-88 | 37.350 | 0.983 | Basement | 80 | 27 | 3500 | 6.9 | 3 | 9 | | | 7 | 133 | 0.1 | 21 | 294 | 244 | 2100 | 2 | | 950 | 311 | 1156 | 246 | 0.6 | 0.02 | 120 | 0.04 | | |
| Q-134C | 7914 | Samburu | 16-JUL-88 | 37.300 | 0.867 | Basement | 70 | 3 | 2900 | 7.3 | 5 | 0.3 | | | 0.5 | 124 | 0.2 | 40 | 325 | 108 | 1240 | 2.5 | | 374 | 516 | 778 | 198 | 9.5 | 0.06 | 54 | 0 | | |
| Q-135C | 7915 | Samburu | 21-JUL-88 | 36.983 | 0.817 | Basement | 100 | 39 | 2000 | 7.1 | 5 | 1.7 | | | 0.04 | 139 | 0.1 | 19 | 100 | 9.1 | 1200 | 0.05 | | 268 | 220 | 800 | 326 | 3.6 | 0.2 | 80 | 0.09 | | |
| Q-136C | 7916 | Samburu | 16-OCT-88 | 37.667 | 1.100 | Basement | 130 | 63 | 8640 | 7.1 | 5 | 1.2 | | | 0.03 | 1050 | 0.04 | 52 | 378 | 14.4 | 5184 | 0.8 | | 58 | 37 | 4360 | 534 | 11 | 0.1 | 158 | | | |
| Q-137C | 7917 | Samburu | 17-APR-89 | 36.767 | 1.983 | Basement | 150 | 56 | 3650 | 7.2 | 5 | 1.1 | | | 0.2 | 390 | 0.04 | 36 | 221 | 87 | 2120 | 3 | | 1322 | 285 | 1820 | 216 | 4.7 | 0 | 38 | 0 | | |
| Q-138C | 7918 | Samburu | 24-APR-89 | 36.867 | 1.333 | Basement | 40 | 9 | 594 | 7.2 | 15 | 2.5 | | | 0.2 | 17 | 0.05 | 8.3 | 27 | 78 | 356 | 1.1 | | 26 | 25 | 260 | 230 | 6.3 | 0.04 | 18 | 0.01 | | |
| Q-139C | 7919 | Samburu | 21-APR-89 | 36.933 | 1.600 | Basement | 100 | 6 | 1554 | 7.2 | 15 | 6 | | | 0.05 | 67 | 0.05 | 32 | 154 | 75 | 933 | 1.8 | | 210 | 115 | 460 | 346 | 4.7 | 0 | 36 | 0.01 | | |
| Q-140C | 7921 | Samburu | 27-MAY-89 | | | | | | 720 | 7 | 5 | 1.8 | | | 0.1 | 12 | 0.04 | 17 | 63 | 55 | 432 | 1 | | 11 | 21 | 186 | 278 | 6.3 | 0.02 | 14 | 0 | | |
| Q-141C | 7922 | Samburu | 29-MAY-89 | | | | | | 1020 | 7.3 | 5 | 2 | | | 0.04 | 4.9 | 0.05 | 5.7 | 176 | 18 | 612 | 7 | | 74 | 101 | 64 | 200 | 2.4 | 0.01 | 12 | 0 | | |
| Q-142C | 8963 | Samburu | 09-NOV-89 | | | | | | 1102 | 7.3 | | 150 | | | 0.3 | 42 | 16 | 4.2 | 126 | 34 | 660 | 1 | | 49 | 87 | 260 | 264 | 2.4 | 0.06 | 28 | 0 | | |
| Q-143C | 9068 | Samburu | 16-JAN-90 | 36.894 | 1.113 | | 21 | 6 | 367 | 7.3 | 250 | 310 | | | 0.2 | 7.7 | 24 | 11 | 38 | 26 | 220 | 0.6 | | 22 | 20 | 96 | 138 | 4.7 | 0.05 | 66 | 0 | | |
| Q-144C | 9119 | Samburu | 24-APR-90 | | | | | | 848 | 7.7 | 250 | 170 | | | 0.1 | 33 | 11 | 5 | 80 | 48 | 509 | 1.2 | | 10 | 40 | 256 | 22 | 10 | 0.01 | 40 | 0.01 | | |
| Q-145C | 9528 | Samburu | 10-FEB-91 | | | | | | 670 | 7.9 | 5 | 1 | | | 0.1 | 9.2 | 0.1 | 13 | 137 | 26 | 402 | 0.5 | | 5.4 | 55 | 102 | 278 | 1.1 | 0.01 | 38 | 0.01 | | |
| Q-146C | 9529 | Samburu | 13-FEB-91 | | | | | | 720 | 8.6 | 5 | 6.7 | | | 0.1 | 0.24 | 0.5 | 2.4 | 273 | 0.4 | 432 | 4.2 | | 15 | 30 | 2 | 294 | 0.8 | 0.1 | | 0.01 | | |
| Q-147C | 9530 | Samburu | 15-FEB-91 | | | | | | 740 | 8.3 | 5 | 0.7 | | | 0.1 | 2.4 | 0.11 | 2.4 | 179 | 7.2 | 444 | 2.1 | | 61 | 85 | 28 | 222 | 0.4 | 0.01 | 6 | 0.01 | | |

# 添付資料-6

## *WATER QUALITY ANALYSIS FINAL REPORT*

# FINAL REPORT

The Study on Project for Groundwater development in Laikipia and the Surrounding Areas of Samburu, Koibatek and Baringo Districts In The Republic of Kenya

## WATER QUALITY ANALYSIS

August 1998

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY (JKUAT)**

***Civil Engineering Department***

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## EXECUTIVE SUMMARY

The study of water quality for boreholes from Baringo, Koibatek, Laikipia, and Samburu districts was carried out from 10/8/98 to 20/8/98. Analysis was done at the JKUAT laboratories. Sampling was done within this period with samples from Baringo and Samburu districts being received on 11/8/98 and from Koibatek and Laikipia districts on 18/8/98.

The maximum Temperature recorded was for sample from Molo river in Koibatek district. The temperature varied between 20° C and 20.4° C for all the samples.

The maximum pH recorded was 9.2 from Samburu district.. The range in pH was between 9.2 and 6.8.

The turbidity varied between 17 NTU and 1 NTU units. The highest recorded turbidity in Baringo district was 14 NTU , 2NTU from Laikipia district , 17 NTU from Samburu district and 5 NTU from Koibatek district.

The fluoride levels were generally low , with a range of 0.2 to 3.5mg/l.The highest recorded fluoride content was from Baringo and Samburu districts. The minimum recorded fluoride content was obtained from Koibatek district.

The colour levels were varying between 4 and over 30. The highest recorded colour level content was from Koibatek district.

The carbonate levels were varying between 11 and 239 mg/l. The highest recorded carbonate content was from Baringo district.

The highest recorded hydrogencarbonate content was 465mg/l from Baringo district. The minimum recorded hydrogencarbonate content was obtained from Koibatek district. The range in hydrogencarbonate was between 48 and 465mg/l.

The Hardness levels were generally high , with a range of 47 to 503 mg/l. The highest recorded Hardness content was from Samburu district. The minimum recorded Hardness content was obtained from Laikipia district.

Calcium levels varied between 0.8 to 307.5 mg/l. The highest recorded Calcium content was from Samburu district. The minimum recorded Calcium content was obtained from Koibatek district.

Magnessium levels were varying between 2.3 to 325mg/l. The highest recorded Magnessium content was from Samburu district. The minimum recorded Magnessium content was obtained from Baringo district.

Manganese levels were generally low , with a range of 0 to 4.1mg/l. The highest recorded Manganese content was from Samburu district. The minimum recorded Manganese content was obtained from Baringo district.

The Chloride levels were generally low , with a range of 17.5 to 750 mg/l. The highest recorded Chloride content was from Samburu district. The minimum recorded Chloride content was obtained from Koibatek district.

Conductivity levels were generally high , with a range of 98 to 3760µs. The highest recorded Conductivity levels was from Samburu district. The minimum recorded Conductivity level was obtained from Koibatek district.

The Total Dissolved Solid levels varied between 10 to 1445 mg/l. The highest recorded Total Dissolved Solid levels was from Samburu district. The minimum recorded Total Dissolved Solid levels was obtained from Laikipia district.

The Iron levels were generally low , with a range of 0.1 to 8.8 mg/l. The highest recorded Iron content was from Baringo district. The minimum recorded Iron content was obtained from Laikipia district.

Potassium levels were generally low , with a range of 3.65 to 25 mg/l. The highest recorded Potassium content was from Laikipia district. The minimum recorded Potassium content was obtained from Samburu district.

The Sodium levels varied between 12.5 to 430mg/l. The highest recorded Sodium content was from Baringo district. The minimum recorded Sodium content was obtained from Koibatek district.

The Nitrates level varied between 0.1 to 19.36 mg/l. The highest recorded Nitrate content was from Samburu district. The minimum recorded Nitrite content was obtained from Samburu.

The Sulphate levels varied between 62 to 782 mg/l. The highest recorded Sulphate content was from Samburu district. The minimum recorded Sulphate content was obtained from Laikipia district.

The water from the four districts is expected to be hard. This is due to the presence of ions of magnesium , calcium carbonates, and hydrogencarbonates.

# CHAPTER ONE

# INTRODUCTION

## 1.1 GENERAL INTRODUCTION

The main objective of this monitoring exercise was to evaluate the quality of borehole water from the four districts so as to assess its general quality. The executive summary gives an overview of the accomplished consultancy work and the recommendations. This is followed in chapter one (1) with a general introduction of the scope and nature of the exercise, the outcome of the monitoring work and finally the contents of the report.

Chapter 2 gives details of both laboratory method and on-site measurements which were taken to determine the quality of the wastewater and the clean water.

The results and discussion are then presented in chapter 4.

Tables of the sampling points and their results and a list of the participants who concluded the study, and compiled the report are given in an Appendix A and B.

## 1.2 Terms of Reference

The department of Civil Engineering at Jomo Kenyatta of Agriculture and Technology(JKUAT) was sub-contracted by JICA Study Team to analyze ground water from Koibatek, Samburu, Baringo and Laikipia districts. The terms and conditions are contained in the main contract for consultancy provided by the JICA Study Team. The terms of reference are briefly reproduced below:-

The items to be analysed and monitored are water temperatures, pH, electrical conductivity, turbidity, hardness, colour, Sulphate, Nitrates, Total dissolved solids, Sodium, Potassium, Iron, Manganese, Hardness, Hydrogencarbonate, Carbonate, Calcium, Magnessium and fluoride.

## CHAPTER TWO

## METHODOLOGY

### 2.1 Sampling and Handling of the Samples

Sampling was done by the Engineer in-charge of the JICA study team water section.

### 2.2 Laboratory Tests

Laboratory analysis of the various parameters was carried out as explained .

Temperature:

This was measured in the laboratory using Celsius thermometer.

pH:

pH was determined on site using microcomputer pH meter, Palintest instruments.

Color:

This was determined in the Laboratory with Colimeter cylinders with plane -parallel base and sample observed in diffused light against a white background.

Turbidity:

Turbidity was determined by nephelometric turbidity meter in NTU

Electrical Conductivity:

Electrical conductivity was determined and measured by means of a conductivity meter, model, PT115 Palintest instruments.

Hardness:

Hardness was determined using titrametric method by EDTA titrant, prepared and standardized based on standard methods manual.

Total Dissolved Solids(TDS):

This was determined by filtration and oven-drying of the filtrate at $180^0C \pm 2$ to a constant weight.

Metals:

All the metals were analysed by means of atomic absorption spectrophotometer

Flouride:

Fluoride concentration was determined using the palintest with a direct- reading photometer at 570nm wavelength and a calibration chart.

Nitrates:

Nitrates concentration was determined using the palintest with a direct-reading photometer at 570nm wavelength and a calibration chart

Chloride:

Chloride analysis was based on Argentometric method described in the Standard Methods Manual, 1989.

Sulphate:

Sulphate ions were determined by Gravimetric method as outlined in the Standard Methods Manual, 1989.

Carbonate ions and Hydrogen carbonate ions:

These were determined by titrimetric methods as per standard methods manual, 1989.

## CHAPTER THREE

## RESULTS AND DISCUSSION

3.1 Result ands Analysis

The tabulated results of the analysis are presented in appendix A in the following order


1) Samburu - Page 12 - 16

2) Baringo - Page 17 - 21

3) Koibatek - Page 22

4) Laikipia - Page 23 - 27


3.2 Discussion of Results.

**i) Samburu District**

pH

pH range was between 7.7 to 9.2. The pH of 9.2 was recorded at Kisima, Lorroki, while the pH of 7.7 was obtained from an existing well at Kiroriti, Baawa.

Conductivity

Conductivity range was from 1419 to 3760 µs. The conductivity of 1419µs was recorded at Tomiyoi, Maralal, while the one of 3760µs was recorded from an existing well at Wanba location.

Total Hardness

Total Hardness range was between 0 and 503 mg/l, $CaCO_3$ . The value of 503 mg/l, $CaCO_3$ was recorded at Kiroriti, Baawa.

Chlorides

Chlorides range was between 750 to 130mg/l. The value of 750 was obtained from an existing well at Wanba location, while the value of 130 was obtained from an existing well (AIC) at Wanba location.

Total Dissolved solids

Total Dissolved solids range was between 1445 and 590mg/l. The value of 1445 was obtained from Wanba location. While the value of 590 was from an existing well at Kiroriti location.

Sulphates

Sulphates range was between 0 and 782mg/l. The value of 782mg/l was obtained from Wanba location. While an existing well at Kiroriti location had no sulphate content.

Carbonates

Carbonates range was between 34.5 and 11 mg/l. The value of 34.5mg/l was obtained from an existing well at Kiroriti location. While the 11mg/l was obatined from Existing well at Tomiyoi village, Maralal location.

Hydrogencarbonate

Hydrogencarbonate range was between 238 and 144mg/l. The value of 238mg/l was recorded from a well at Wanba location. While the value of 144mg/l was obtained from a existing well at Wanba location.

Turbidity and colour

The highest colour level was sampling point No. 4 , Wanba location and that was 8 and turbidity was 17NTU. The lowest was sampling point No. 1 at an existing well, Kiloriti location.

Fluorides

The highest value was 3.5mg/l and was recorded from an existing well at Kisima location. While the lowest value was 0.7mg/l at an existing well at Wanba location sampling point 4.

Nitrates

Generally was of high range between 0.07 and 19.36 mg/l, $NO_3$.

Metals

Sodium and magnesium were the most dominant ion in most of the well waters ranging from 370mg/l to 45.5mg/l for sodium and 325 to 6.375mg/l for magnesium. Manganese and iron were the least dominant metal ions. The highest recorded iron content was 2.0mg/l at Wanba sampling point 4. While for manganese the highest was 4.05mg/l recorded from the same point as that of iron.

**ii) Baringo**

pH

pH range was between 7.4 to 9.1. The pH of 9.1 was recorded at Makutano river while the pH of 7.4 was obtained from an existing well at Chepturu village, Koloa location.

Conductivity

Conductivity range was from 1517 to 525 µs. The conductivity of 1517 was recorded at Mukutani river, Mukutani location, while the one of 525µs was recorded from an existing well at Chepturu village, Koloa location.

Total Hardness

Total Hardness range was between 301 and 41mg/l. The value of 301 was recorded at Chemoligot village, Kositet location, while the one of 41 was recorded at Makutani location.

Chlorides

Chlorides range was between 140 to 40mg/l. The value of 140 was obtained from an existing well (CDN) at Tangulubei location, while the value of 40 was obtained from an existing well (AIC) at Chepturu, Koloa location.

Total Dissolved solids

Total Dissolved solids range was between 1060 and 340mg/l. The value of 1060 was obtained from Makutani seasonal river, Makutani location. While the value of 340 was from an existing well (AIC) Chepturu village, Koloa location.

Sulphates

Sulphates range was between 350 and 137 mg/l. The value of 350mg/l was obtained from Makutani seasonal river, Makutani village. While the value of 137mg/l was obtained from an existing well(AIC) Chepturu village, Koloa location.

Carbonates

Carbonates range was between 62 and 6 mg/l. The value of 62mg/l was obatined from Makutani river. While the 6mg/l was obatined from Existing well(AIC), Chepturu village, Koloa location.

Hydrogencarbonate

Hydrogencarbonate range was between 465 and 99mg/l. The value of 465mg/l was recorded at Makutani river. While the value of 99mg/l was obrtained from a dug well (CDN) at Sibiro location.

Turbidity and colour

The highest colour level was sampling point No. 6 Makutani river and that was 11 and turbidity was 14NTU. The lowest was 1 at Chemolingot village, Kositei location.

Fluorides

The highest value was 2.40mg/l and was recorded at Chemolingot village, Kositei location. While the lowest value was 1.20mg/l at a dug well in Sibilo village, Sibilo location.

Nitrites

Generally was of low range between 1.1 and 0.05mg/lN

Metals

Sodium and magnessium were the most dorminant ion in most of the well waters ranging from 430mg/l to 20mg/l for sodium and 14.875 to 2.265mg/l for magnessium. Manganesse and iron were the least dorminant metal ions. The highest recorded iron content was 3.25mg/l at Makutani. While for mangansse was 0.35mg/l and recorded at Chepturu village, Koloa.

**iii) Koibatek District**

Compared with water from the other three districts the values obtained were relatively low.

**iv) Laikipia District**

pH

pH range was between 7.7 to 8.2. The pH of 8.2 was recorded from an existing well at Kinamba location. While the pH of 7.7 was obtained from an existing well at Ilindigiri location.

Conductivity

Conductivity range was from 1048 to 486 µs. The conductivity of 1048 was recorded from an existing well at Ilindigiri location., while the one of 486µs was recorded from an existing well at Kinamba location.

Total Hardness

Total Hardness range was between 0 and 434mg/l, $CaCO_3$. The value of 434mg/l, $CaCO_3$ was recorded from an existing well at Ilindigiri location.

Chlorides

Chlorides range was between 75 to 17.5mg/l. The value of 75 was obtained from an existing well at Ilindigiri location, while the value of 17.5 was obtained from an existing well at Kinamba location.

Total Dissolved solids

Total Dissolved solids range was between 700 and 10mg/l. The value of 700 was obtained from an existing well at Ilindigiri location. While the value of 10 was from a spring at Segera, Sirima location.

Sulphates

Sulphates range was between 308.7 and 61.74 mg/l. The value of 308.7mg/l was obtained from an existing well at Ilindigiri location, while the value of 61.74mg/l was obtained from an existing well at Kinamba location.

Carbonates

Carbonates range was between 171 and 26 mg/l. The value 171mg/l was obtained from a spring at Segera, Sirima location, while 26mg/l was obtained from Existing well at Kinamba location.

Hydrogencarbonate

Hydrogencarbonate range was between 208 and 170mg/l. The value of 208mg/l was recorded from a spring at Segera, Sirima location. While the value of 170mg/l was obtained from an existing well at Kinamba location.

Fluorides

The highest value was 1.50mg/l recorded from a spring at Segera, Sirima location. While the lowest value was 0.3mg/l at an existing well at Rugutu Sirima location.

Nitrates

Generally was of low range between 1.19 and 0.09mg/lN

Metals

Sodium and magnesium were the most dominant ion in most of the well waters ranging from 62.5mg/l to 55mg/l for sodium and 115 to 30mg/l for magnesium. Manganese and iron were the least dominant metal ions. The highest recorded iron content was 0.30mg/l from a spring at Segera, Sirima location. While for manganese it was not traced.

## APPENDIX A : RESULTS

Date samples were received *11/8/98* Date of Analysis *11-14/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor: *Dr. G. Thumbi*

Name of sampling site:*Kiroriti, Baawa, Samburu District* Sample No. 1

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.1 |
| 2 | Conductivity(µs) | 848 |
| 3 | PH | 7.7 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 1 |
| 6 | Carbonate (mg/l , $CO_3$)) | 34.5 |
| 7 | Hydrógen carbonate (mg/l, $HCO_3$) | 189 |
| 8 | Manganese(mg/l, Mn) | No trace |
| 9 | Magnesium(mg/l, Mg) | 110 |
| 10 | Iron (mg/l, Fe) | 0.8 |
| 11 | Potassium (mg/l, K) | 9.5 |
| 12 | Sodium (mg/l, Na) | 45.5 |
| 13 | Calcium (mg/l, Ca) | 39.8 |
| 14 | Total Dissolved solids (mg/l,TDS) | 590 |
| 15 | Fluorides(mg/l, F) | 1.1 |
| 16 | Nitrates(mg/l, $NO_3$) | 19.4 |
| 17 | Sulphates(mg/l, $SO_4$) | No trace |
| 18 | Chlorides(mg/l,Cl) | 180 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 503 |

Date samples were received: *11/8/98* Date of Analysis: *11-14/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor *Dr. G. M. Thumbi*

Name of sampling site: *Kisima, Lorroki, Samburu District* Sample No. *2*

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.1 |
| 2 | Conductivity(µs) | 919 |
| 3 | pH | 9.2 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 2 |
| 6 | Carbonate (mg/l , $CO_3$) | 24 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 147 |
| 8 | Manganese(mg/l, Mn) | No Trace |
| 9 | Magnesium(mg/l, Mg) | 0.5 |
| 10 | Iron (mg/l, Fe) | No Trace |
| 11 | Potassium (mg/l, K) | 3.7 |
| 12 | Sodium (mg/l, Na) | 141 |
| 13 | Calcium (mg/l, Ca) | 1.3 |
| 14 | Total Dissolved solids (mg/l,TDS) | 645 |
| 15 | Fluorides(mg/l, F) | 3.5 |
| 16 | Nitrates(mg/l, $NO_3$) | 0.2 |
| 17 | Sulphates(mg/l, $SO_4$) | 262 |
| 18 | Chlorides(mg/l,Cl) | 175 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | No trace |

Date samples were received: *11/8/98* Date of Analysis: *11-14-98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor : *Dr. G. M. Thumbi*

Name of sampling site: *Wamba, Wamba, Samburu District* Sample No. 3

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20 |
| 2 | Conductivity(µs) | 778 |
| 3 | pH | 7.5 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 2 |
| 6 | Carbonate (mg/l , $CO_3$) | 18 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 238 |
| 8 | Manganese(mg/l, Mn) | 1.2 |
| 9 | Magnesium(mg/l, Mg) | 145 |
| 10 | Iron (mg/l, Fe) | No trace |
| 11 | Potassium (mg/l, K) | 6.25 |
| 12 | Sodium (mg/l, Na) | 42.5 |
| 13 | Calcium (mg/l, Ca) | 50 |
| 14 | Total Dissolved solids (mg/l,TDS) | 1380 |
| 15 | Fluorides(mg/l, F) | 1.3 |
| 16 | Nitrates(mg/l, $NO_3$) | 0.2 |
| 17 | Sulphates(mg/l, $SO_4$) | 556 |
| 18 | Chlorides(mg/l,Cl) | 130 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 376 |

Date samples were received: *11/8/98* Date of Analysis: *11-14/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor: *Dr. G. M. Thumbi*

Name of sampling site: *Wanba, Wanba, Samburu District* *Sample No.* 4

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20 |
| 2 | Conductivity(µs) | 3760 |
| 3 | pH | 6.9 |
| 4 | Color | 8 |
| 5 | Turbidity(NTU) | 17 |
| 6 | Carbonate (mg/l , $CO_3$) | 32 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 144 |
| 8 | Manganese(mg/l, Mn) | 4.1 |
| 9 | Magnesium(mg/l, Mg) | 325 |
| 10 | Iron (mg/l, Fe) | 2 |
| 11 | Potassium (mg/l, K) | 10.8 |
| 12 | Sodium (mg/l, Na) | 370 |
| 13 | Calcium (mg/l, Ca) | 307.5 |
| 14 | Total Dissolved solids (mg/l,TDS) | 1445 |
| 15 | Fluorides(mg/l, F) | 0.7 |
| 16 | Nitrates(mg/l, $NO_3$) | 0.1 |
| 17 | Sulphates(mg/l, $SO_4$) | 782 |
| 18 | Chlorides(mg/l,Cl) | 750 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 434 |

Date samples were received: *11/8/98* Date of Analysis: *11--14/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor: *Dr. G. M. Thumbi*

Name of sampling site: *Tomiyoi, Mararal, Kirisia, Samburu District* Sample No. 5

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.1 |
| 2 | Conductivity(µs) | 1419 |
| 3 | PH | 6.8 |
| 4 | Color | 16 |
| 5 | Turbidity(NTU) | 12 |
| 6 | Carbonate (mg/l , $CO_3$) | 11 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 162 |
| 8 | Manganese(mg/l, Mn) | 0.5 |
| 9 | Magnesium(mg/l, Mg) | 140 |
| 10 | Iron (mg/l, Fe) | 1.8 |
| 11 | Potassium (mg/l, K) | 10.5 |
| 12 | Sodium (mg/l, Na) | 135 |
| 13 | Calcium (mg/l, Ca) | 122.5 |
| 14 | Total Dissolved solids (mg/l,TDS) | 1130 |
| 15 | Fluorides(mg/l, F) | 0.9 |
| 16 | Nitrates(mg/l, $NO_3$) | 0.1 |
| 17 | Sulphates(mg/l, $SO_4$) | 247 |
| 18 | Chlorides(mg/l,Cl) | 160 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 214 |

Date samples were received: *11/8/98* Date of Analysis: *11-14/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor : *Dr. G. M. Thumbi*

Name of sampling site: *Mukutan, Mukutan, Baringo District* Sample No. 6

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.1 |
| 2 | Conductivity(µs) | 1517 |
| 3 | pH | 9.1 |
| 4 | Color | 11 |
| 5 | Turbidity(NTU) | 14 |
| 6 | Carbonate (mg/l , $CO_3$) | 62 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 466 |
| 8 | Manganese(mg/l, Mn) | 0.1 |
| 9 | Magnesium(mg/l, Mg) | 6.4 |
| 10 | Iron (mg/l, Fe) | 3.3 |
| 11 | Potassium (mg/l, K) | 20 |
| 12 | Sodium (mg/l, Na) | 430 |
| 13 | Calcium (mg/l, Ca) | 7.5 |
| 14 | Total Dissolved solids (mg/l,TDS) | 1060 |
| 15 | Fluorides(mg/l, F) | 1.5 |
| 16 | Nitrates(mg/l, $NO_3$) | 0.1 |
| 17 | Sulphates(mg/l, $SO_4$) | 350 |
| 18 | Chlorides(mg/l,Cl) | 100 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | No trace |

Date samples were received: *11/8/98* Date of Analysis: *11-14/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor : *Dr. G. M. Thumbi*

Name of sampling site: *Chemolingot, Kositei, Nginyang, Baringo District* Sample No. *7*

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.3 |
| 2 | Conductivity(µs) | 1032 |
| 3 | pH | 8.1 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 1 |
| 6 | Carbonate (mg/l , $CO_3$) | 33 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 278 |
| 8 | Manganese(mg/l, Mn) | No trace |
| 9 | Magnesium(mg/l, Mg) | 2.3 |
| 10 | Iron (mg/l, Fe) | No trace |
| 11 | Potassium (mg/l, K) | 9.3 |
| 12 | Sodium (mg/l, Na) | 95 |
| 13 | Calcium (mg/l, Ca) | 6.5 |
| 14 | Total Dissolved solids (mg/l,TDS) | 835 |
| 15 | Fluorides(mg/l, F) | 2.4 |
| 16 | Nitrates(mg/l, $NO_3$) | 1.1 |
| 17 | Sulphates(mg/l, $SO_4$) | 165 |
| 18 | Chlorides(mg/l,Cl) | 90 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | No trace |

Date samples were received: *11/8/98* Date of Analysis: *11-14/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor: *Dr. G. M. Thumbi*

Name of sampling site: *Chepturu, Koloa, Koloa, Baringo District* Sample No. 8

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.2 |
| 2 | Conductivity(µs) | 525 |
| 3 | pH | 7.4 |
| 4 | Color | 27 |
| 5 | Turbidity(NTU) | 5 |
| 6 | Carbonate (mg/l , $CO_3$) | 15 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 161 |
| 8 | Manganese(mg/l, Mn) | 0.4 |
| 9 | Magnesium(mg/l, Mg) | No trace |
| 10 | Iron (mg/l, Fe) | 1.8 |
| 11 | Potassium (mg/l, K) | 8.7 |
| 12 | Sodium (mg/l, Na) | 27.5 |
| 13 | Calcium (mg/l, Ca) | 31.8 |
| 14 | Total Dissolved solids (mg/l,TDS) | 340 |
| 15 | Fluorides(mg/l, F) | 1.5 |
| 16 | Nitrates(mg/l, $NO_3$) | 0.1 |
| 17 | Sulphates(mg/l, $SO_4$) | 1379 |
| 18 | Chlorides(mg/l,Cl) | 40 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 209 |

Date samples were received: *11/8/98* Date of Analysis: *11-14/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor: *Dr. G. M. Thumbi*

Name of sampling site: *Sibilo, Sibilo, Kipsaraman, Baringo District* Sample No. 9

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.3 |
| 2 | Conductivity(µs) | 573 |
| 3 | pH | 8.7 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 3 |
| 6 | Carbonate (mg/l , $CO_3$) | 15 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 99 |
| 8 | Manganese(mg/l, Mn) | No trace |
| 9 | Magnesium(mg/l,Mg) | 14.9 |
| 10 | Iron (mg/l, Fe) | 0.8 |
| 11 | Potassium (mg/l, K) | 4.1 |
| 12 | Sodium (mg/l, Na) | 27.5 |
| 13 | Calcium (mg/l, Ca) | 29.5 |
| 14 | Total Dissolved solids (mg/l,TDS) | 420 |
| 15 | Fluorides(mg/l, F) | 1.2 |
| 16 | Nitrates(mg/l, $NO_3$) | 0.8 |
| 17 | Sulphates(mg/l, $SO_4$) | 144 |
| 18 | Chlorides(mg/l,Cl) | 60 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 156 |

Date samples were received: *11/8/98* Date of Analysis *:11-14/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor : *Dr. G. M. Thumbi*

Name of sampling site: *Tangulubei, Tangulubei, Tangulubei, Baringo District*

Sample No. 10

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20 |
| 2 | Conductivity(µs) | 839 |
| 3 | pH | 7.9 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 1 |
| 6 | Carbonate (mg/l , $CO_3$) | 24 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 191 |
| 8 | Manganese(mg/l, Mn) | No trace |
| 9 | Magnesium(mg/l, Mg) | 13.4 |
| 10 | Iron (mg/l, Fe) | No trace |
| 11 | Potassium (mg/l, K) | 8.5 |
| 12 | Sodium (mg/l, Na) | 31 |
| 13 | Calcium (mg/l, Ca) | 24.5 |
| 14 | Total Dissolved solids (mg/l,TDS) | 400 |
| 15 | Fluorides(mg/l, F) | 1.4 |
| 16 | Nitrite(mg/l, $NO_3$) | 0.4 |
| 17 | Sulphates (mg/l, $SO_4$) | 62 |
| 18 | Chlorides(mg/l,Cl) | 140 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 491 |

Date samples were received: *18/8/98* Date of Analysis: *18-20/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor: *Dr. G. M. Thumbi*

Name of sampling site: *Gubereti, Mogotio, Mogotio, Koibatek District* Sample No. 11

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.4 |
| 2 | Conductivity(µs) | 98 |
| 3 | pH | 7.9 |
| 4 | Color | 4 |
| 5 | Turbidity(NTU) | 5 |
| 6 | Carbonate (mg/l , $CO_3$) | 128 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 48 |
| 8 | Manganese(mg/l,Mn) | 0.1 |
| 9 | Magnesium(mg/l, Mg) | 5 |
| 10 | Iron (mg/l, Fe) | 8.8 |
| 11 | Potassium (mg/l, K) | 7.5 |
| 12 | Sodium (mg/l, Na) | 12.5 |
| 13 | Calcium (mg/l, Ca) | 0.8 |
| 14 | Total Dissolved solids (mg/l,TDS) | 285 |
| 15 | Fluorides(mg/l, F) | 0.20 |
| 16 | Nitrite(mg/l.,$NO_3$) | No trace |
| 17 | Sulphates(mg/l, $SO_4$) | No trace |
| 18 | Chlorides(mg/l,Cl) | 22.5 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | No trace |

Date samples were received: *18/8/98* Date of Analysis: *18-20/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor: *Dr. G. M. Thumbi*

Name of sampling site: *Ilnoigiri, Mukogodo, Laikipia District* Sample No. 12

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20 |
| 2 | Conductivity(µs) | 1048 |
| 3 | pH | 7.7 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 2 |
| 6 | Carbonate (mg/l , $CO_3$) | 107 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 194 |
| 8 | Manganese(mg/l, Mn) | No trace |
| 9 | Magnesium(mg/l, Mg) | 115 |
| 10 | Iron (mg/l, Fe) | 0.4 |
| 11 | Potassium (mg/l, K) | 15 |
| 12 | Sodium (mg/l, Na) | 62.5 |
| 13 | Calcium (mg/l, Ca) | 37.6 |
| 14 | Total Dissolved solids (mg/l,TDS) | 700 |
| 15 | Fluorides(mg/l, F) | 1.30 |
| 16 | Nitrite(mg/l, $NO_3$) | 1.2 |
| 17 | Sulphates(mg/l, $SO_4$) | 308.7 |
| 18 | Chlorides(mg/l,Cl) | 75 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 434 |

Date samples were received: *18/8/98* Date of Analysis: *18 --20/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor: *Dr. G. M. Thumbi*

Name of sampling site: *Segera, Mohoria, Sirima, Lamuria, Laikipia District*

Sample No. 13

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.3 |
| 2 | Conductivity(µs) | 730 |
| 3 | pH | 7.7 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 1 |
| 6 | Carbonate (mg/l , $CO_3$)) | 171 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 208 |
| 8 | Manganese(mg/l, Mn) | No trace |
| 9 | Magnesium(mg/l, Mg) | 45 |
| 10 | Iron (mg/l, Fe) | 0.3 |
| 11 | Potassium (mg/l, K) | 12.5 |
| 12 | Sodium (mg/l, Na) | 62.5 |
| 13 | Calcium (mg/l, Ca) | 17 |
| 14 | Total Dissolved solids (mg/l,TDS) | 10 |
| 15 | Fluorides(mg/l, F) | 1.5 |
| 16 | Nitrite(mg/l, $NO_3$) | 0.6 |
| 17 | Sulphates(mg/l, $SO_4$) | 144.1 |
| 18 | Chlorides(mg/l,Cl) | 35 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 197 |

Date samples were received: *18/8/98* Date of Analysis: *18 - 20/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor :*Dr. G. M. Thumbi*

Name of sampling site: *Rugutu, Segera, Central, Laikipia District* Sample No. 14

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.1 |
| 2 | Conductivity(µs) | 696 |
| 3 | pH | 7.8 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 2 |
| 6 | Carbonate (mg/l , $CO_3$) | 33 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 187 |
| 8 | Manganese(mg/l, Mn) | No trace |
| 9 | Magnesium(mg/l, Mg) | 45 |
| 10 | Iron (mg/l, Fe) | 0.3 |
| 11 | Potassium (mg/l, K) | 25 |
| 12 | Sodium (mg/l, Na) | 60 |
| 13 | Calcium (mg/l, Ca) | 19.2 |
| 14 | Total Dissolved solids (mg/l,TDS) | 515 |
| 15 | Fluorides(mg/l, F) | 0.3 |
| 16 | Nitrates(mg/l, $NO_3$) | 0.2 |
| 17 | Sulphates(mg/l, $SO_4$) | 82.3 |
| 18 | Chlorides(mg/l,Cl) | 37.5 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | 47 |

Date samples were received: *18/8/98* Date of Analysis: *18-20/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor : *Dr. G. M. Thumbi*

Name of sampling site: *Kinamba, Ngarua, Laikipia District* Sample No. 15

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.2 |
| 2 | Conductivity(µs) | 486 |
| 3 | pH | 8.2 |
| 4 | Color | >30 |
| 5 | Turbidity(NTU) | 1 |
| 6 | Carbonate (mg/l , $CO_3$) | 26 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 170 |
| 8 | Manganese(mg/l, Mn) | No trace |
| 9 | Magnesium(mg/l, Mg) | 30 |
| 10 | Iron (mg/l, Fe) | 0.1 |
| 11 | Potassium (mg/l, K) | 25 |
| 12 | Sodium (mg/l, Na) | 55 |
| 13 | Calcium (mg/l, Ca) | 10.2 |
| 14 | Total Dissolved solids (mg/l,TDS) | 175 |
| 15 | Fluorides(mg/l, F) | 1.4 |
| 16 | Nitrates(mg/l, $NO_3$) | 0.1 |
| 17 | Sulphates(mg/l, $SO_4$) | 61.7 |
| 18 | Chlorides(mg/l,Cl) | 17.5 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | No trace |

Date samples were received: *18/8/98* Date of Analysis: *18-20/8/98*

Name of Testing Technician: *R. Matano & F. Munyi*

Name of Supervisor: *Dr. G. M. Thumbi*

Name of sampling site: *Lake Baringo Lodge, Baringo District* Sample No. 16

| S/No | Parameter tested | Results obtained |
|---|---|---|
| 1 | Temperature( °C) | 20.3 |
| 2 | Conductivity(µs) | 645 |
| 3 | pH | 7.8 |
| 4 | Color | 7 |
| 5 | Turbidity(NTU) | 4 |
| 6 | Carbonate (mg/l , $CO_3$) | 239 |
| 7 | Hydrogen carbonate (mg/l, $HCO_3$) | 161 |
| 8 | Manganese(mg/l, Mn) | 0.1 |
| 9 | Magnesium(mg/l, Mg) | 15 |
| 10 | Iron (mg/l, Fe) | 8.8 |
| 11 | Potassium (mg/l, K) | 15 |
| 12 | Sodium (mg/l, Na) | 6.5 |
| 13 | Calcium (mg/l, Ca) | 5.2 |
| 14 | Total Dissolved solids (mg/l,TDS) | 410 |
| 15 | Fluorides(mg/l, F) | 3.5 |
| 16 | Nitrates(mg/l, $NO_3$) | 4.18 |
| 17 | Sulphates(mg/l, $SO_4$) | 102.9 |
| 18 | Chlorides(mg/l,Cl) | 50 |
| 19 | Total Hardness(mg/l ,$CaCO_3$) | No trace |

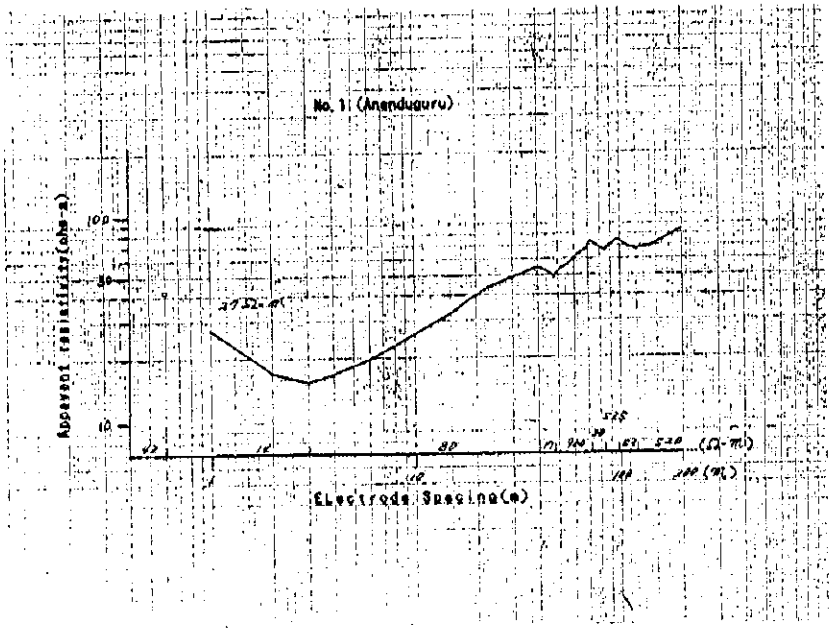
## APPENDIX B: LIST OF PARTICIPANTS

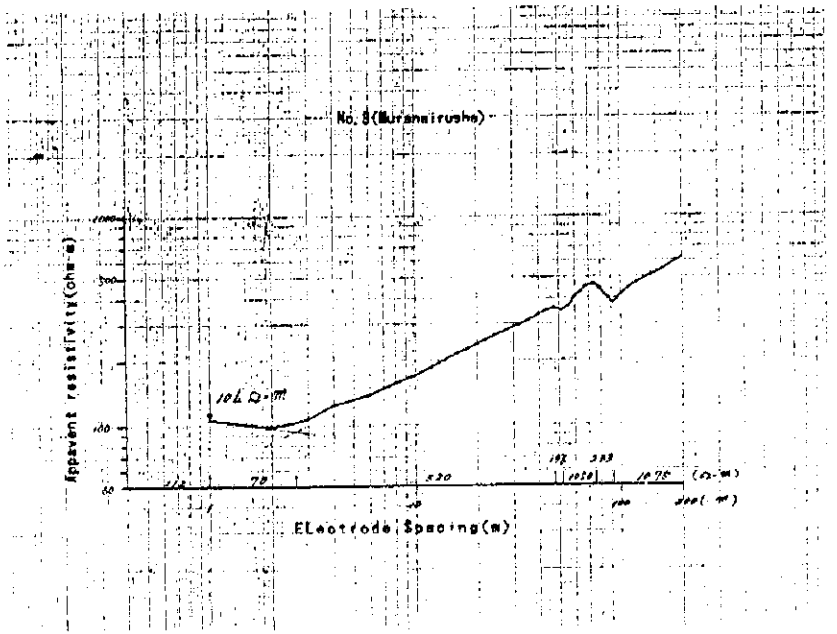
Dr. E. Asano
Dr. G. M. Thumbi
Mr. A. O. Mayabi
Mr. F. Munyi
Mr. R. Matano
All from Department of Civil Engineering

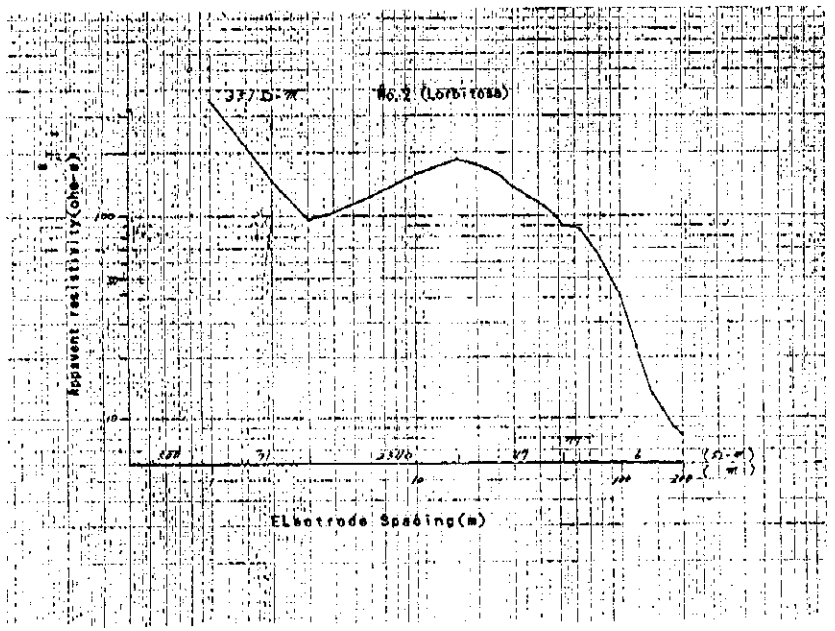
# 添付資料-7

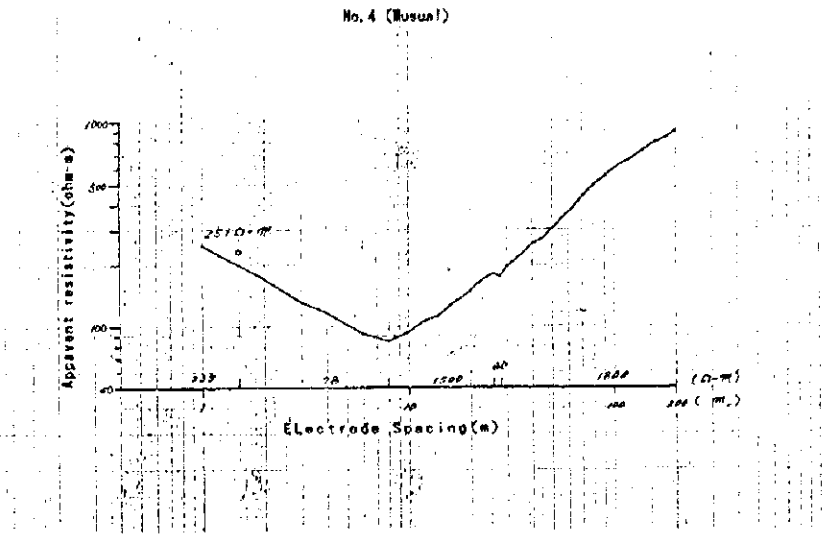
# 電気探査解析図

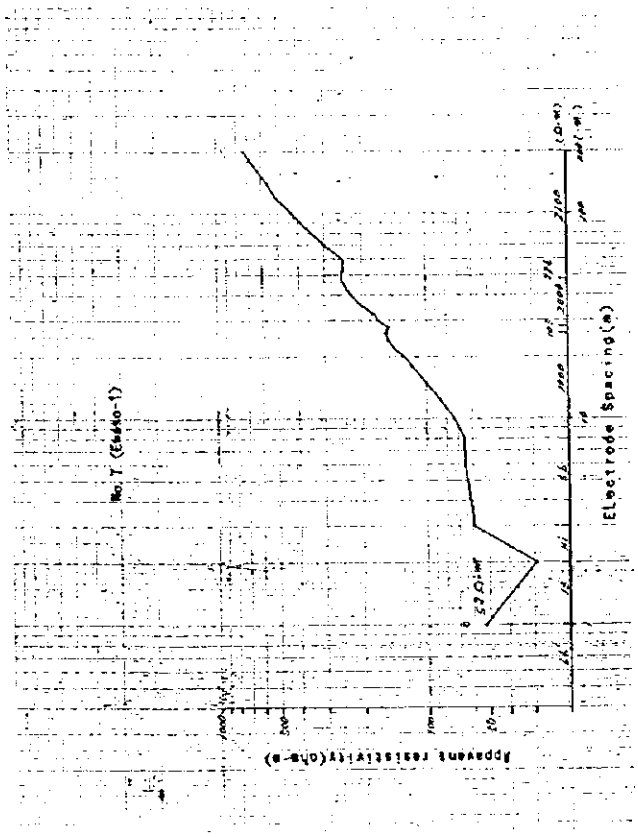
# （ＶＥＳ曲線）

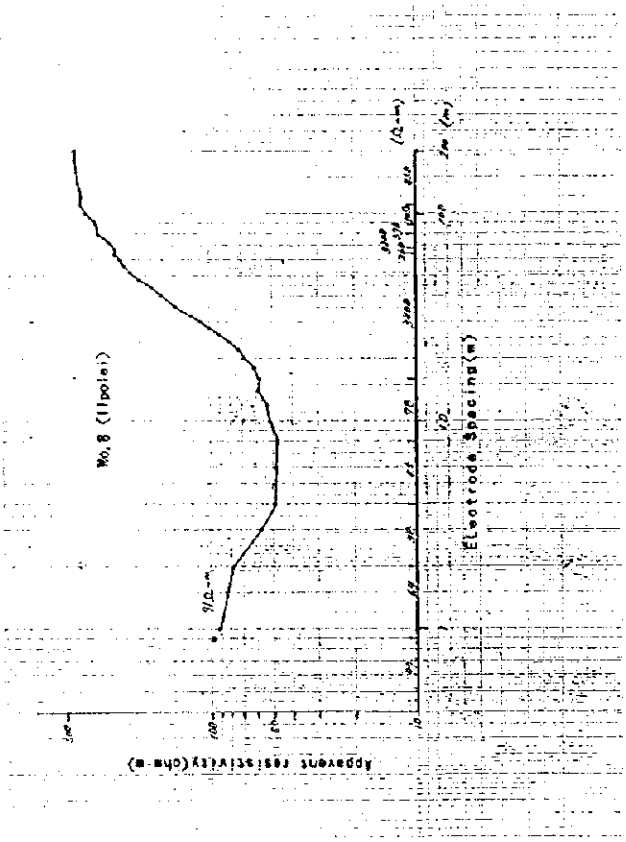

No. 1 (Anandugaru)
Apparent resistivity(ohm-m)
Electrode Spacing(m)

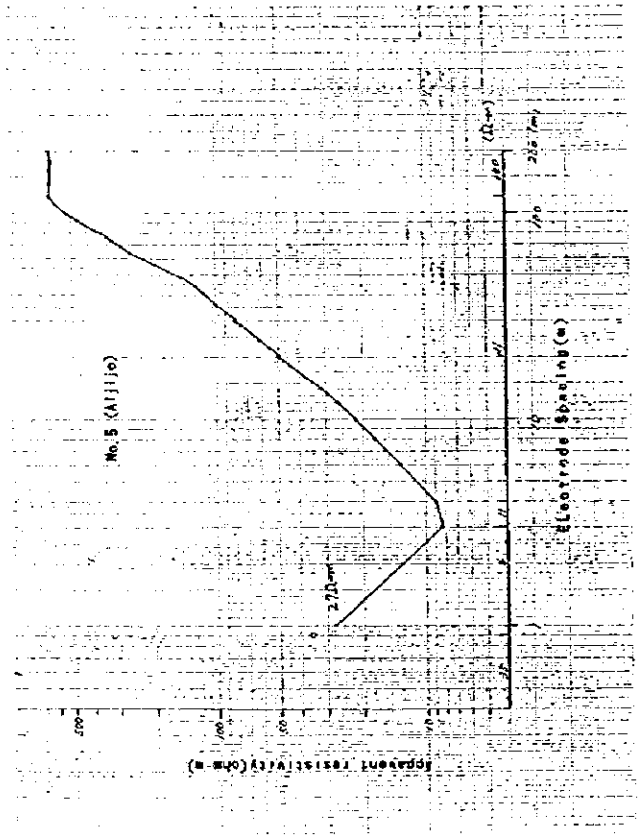

No. 3(Muranmirushe)
Apparent resistivity(ohm-m)
Electrode Spacing(m)

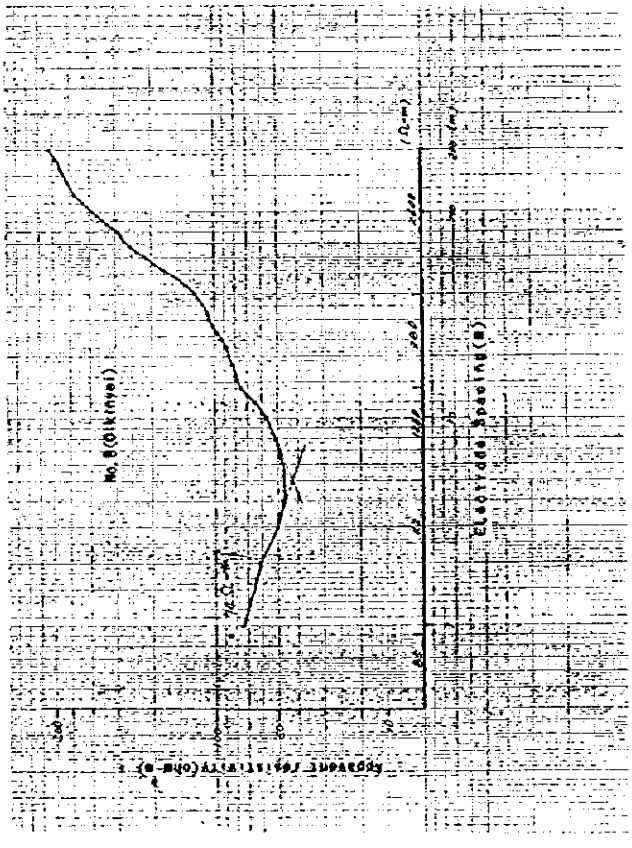

No. 2 (Lorbirosa)
Apparent resistivity(ohm-m)
Electrode Spacing(m)

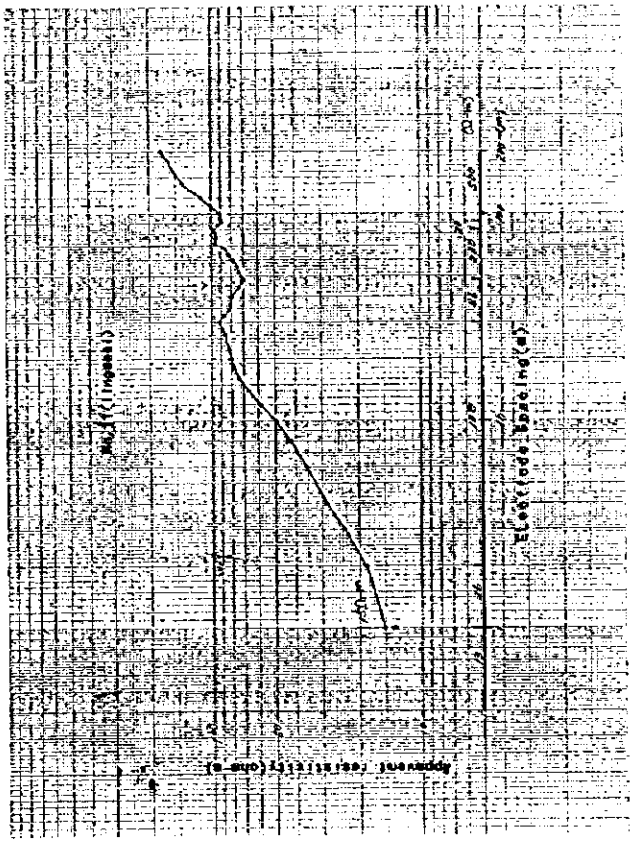

No. 4 (Musual)
Apparent resistivity(ohm-m)
Electrode Spacing(m)

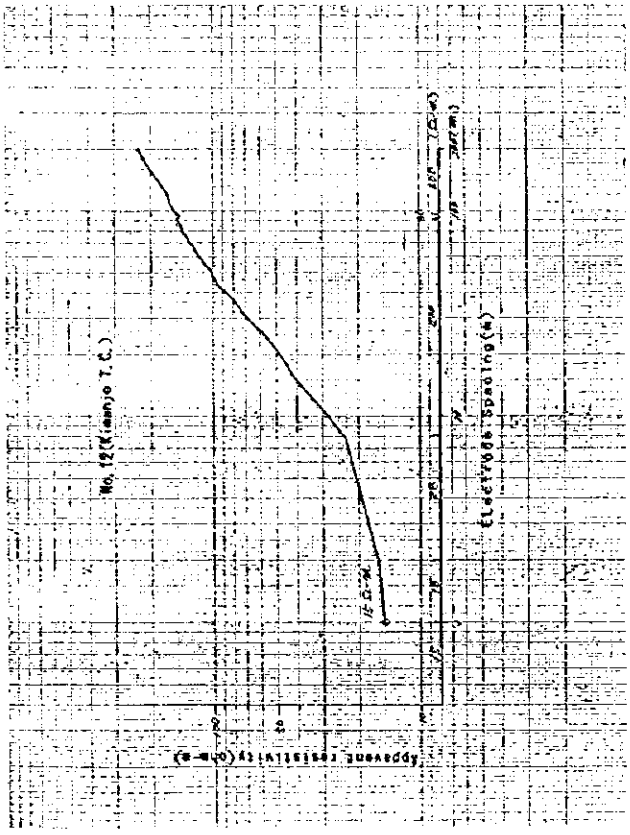

No. 7 (Esso-1)
Apparent resistivity(ohm-m)
Electrode Spacing(m)

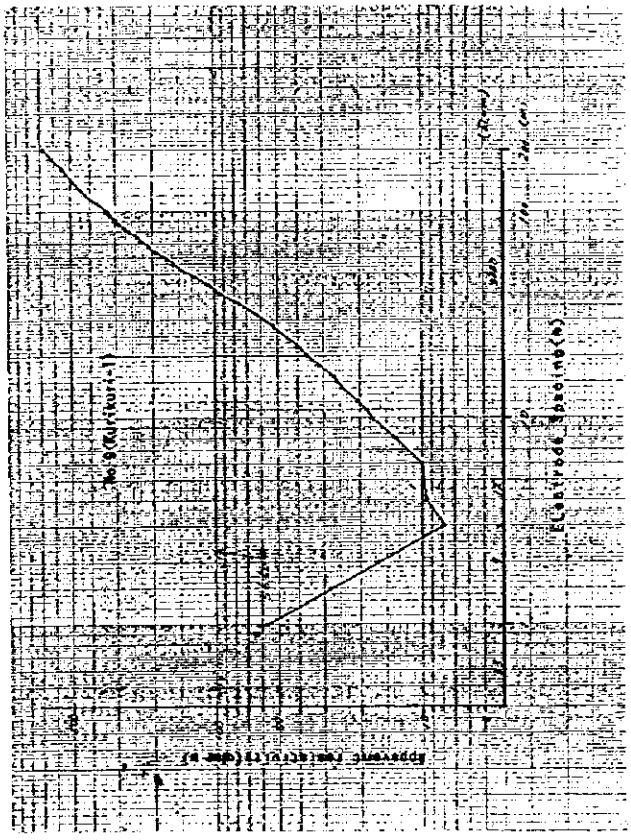

No. 8 (Ilpoi)
Apparent resistivity(ohm-m)
Electrode Spacing(m)

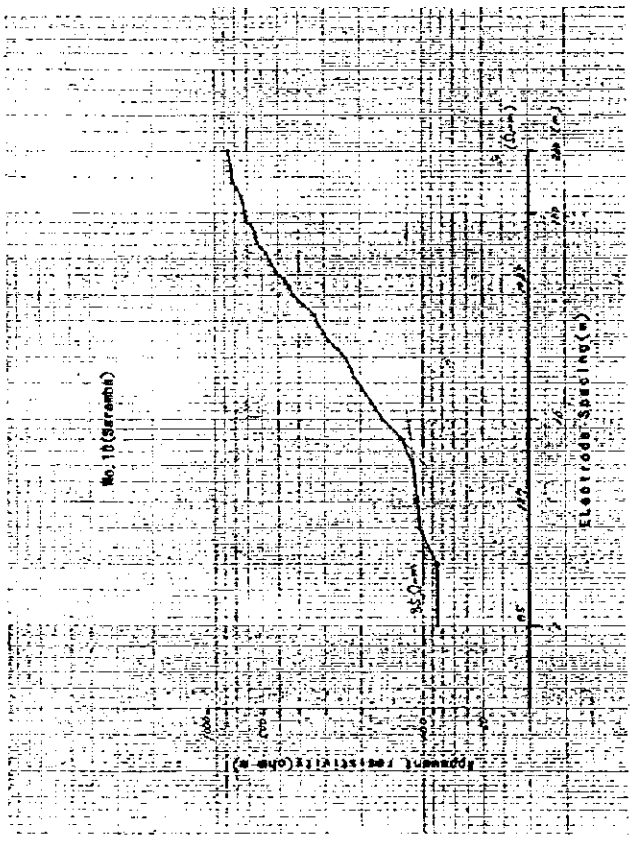

No. 5 (Alijo)
Apparent resistivity(ohm-m)
Electrode Spacing(m)

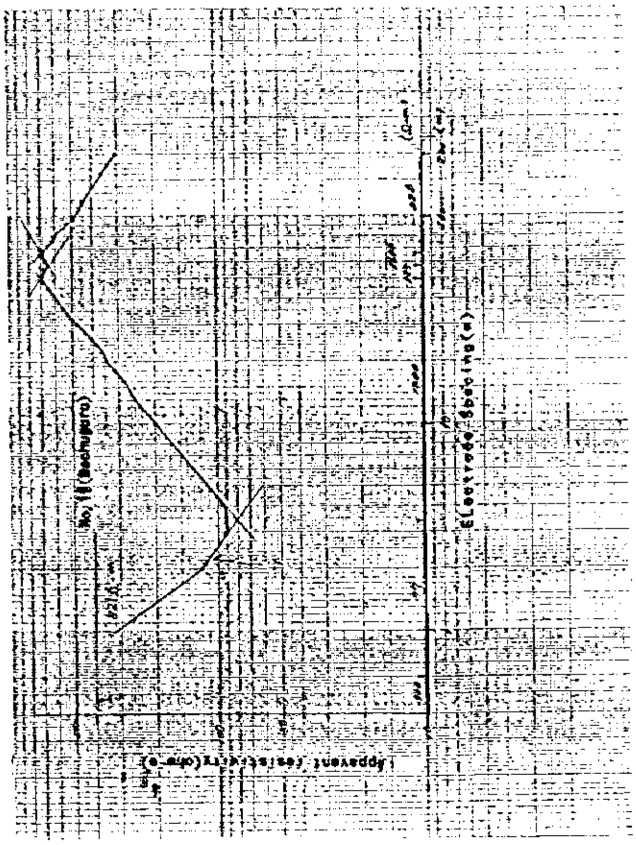

No. 6 (Okinoyu)
Apparent resistivity(ohm-m)
Electrode Spacing(m)

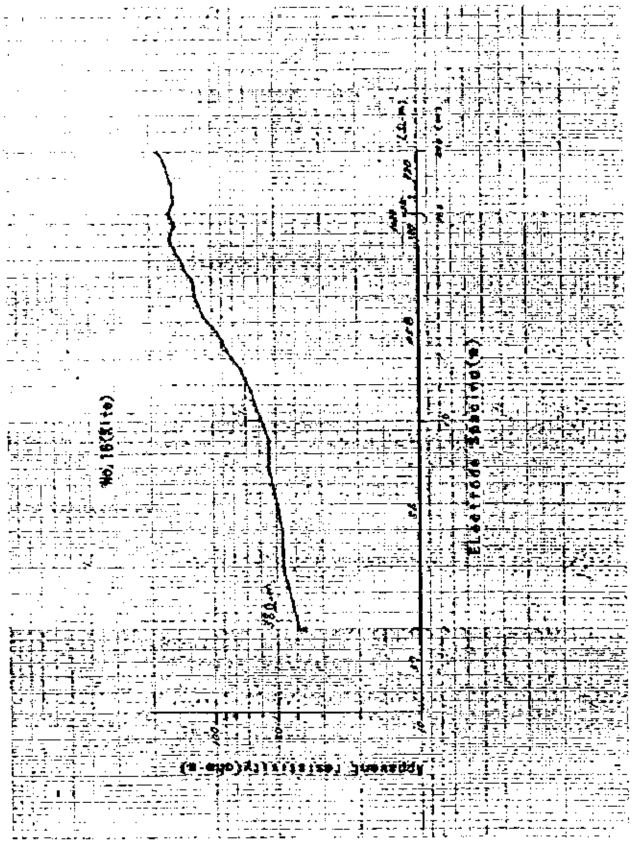


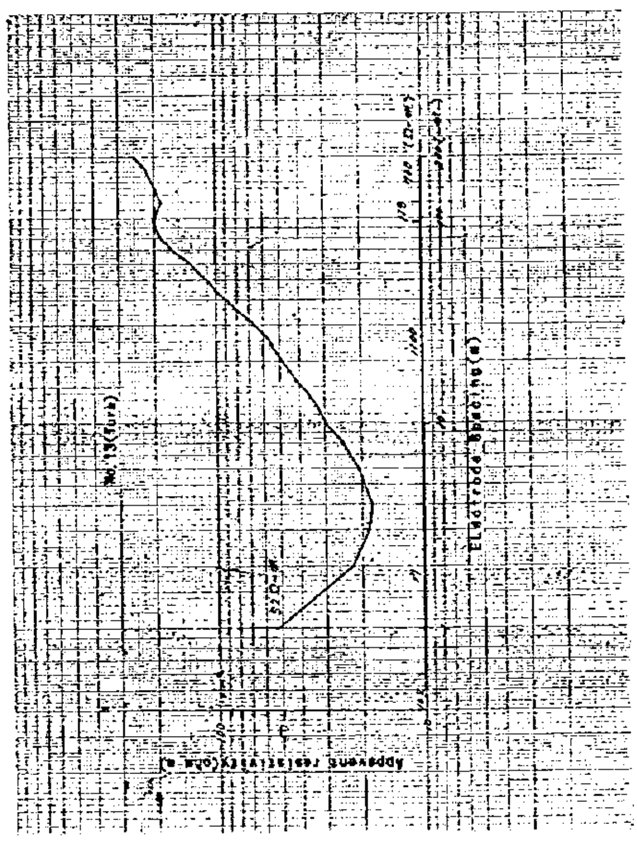


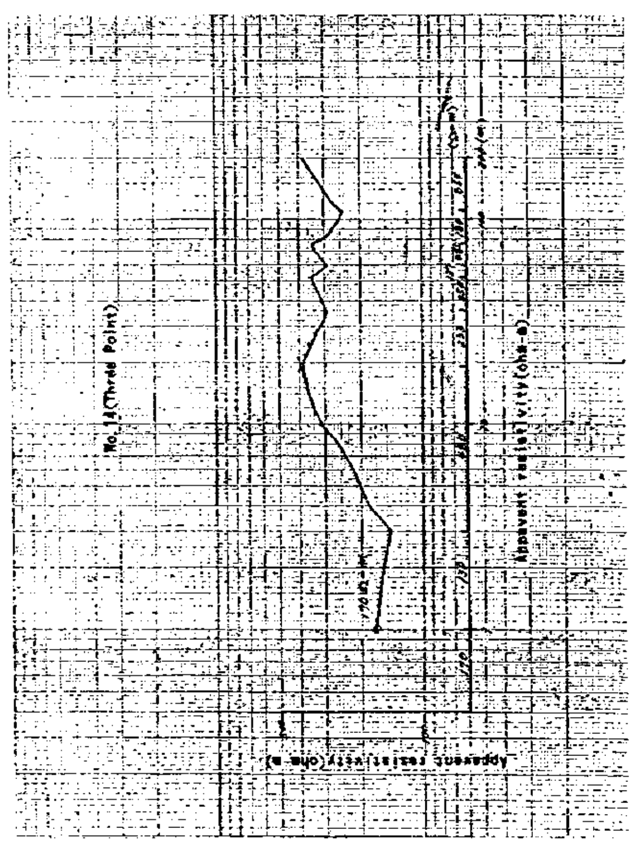





Apparent resistivity(ohm-m)
Electrode Spacing(m)


Apparent resistivity(ohm-m)
Electrode Spacing(m)


Apparent resistivity(ohm-m)
Electrode Spacing(m)


Apparent resistivity(ohm-m)