

添付資料

1. 調査団氏名、所属
2. 調査日程
3. 相手国関係者リスト
4. 討議議事録 (M/D)
5. ソフトコンポーネント計画書
6. 参考資料/入手資料リスト
7. その他の資料
 - 1) 社会条件調査概要
 - 2) 電気探査結果
 - 3) 試掘、水質結果
8. 討議議事録 (MD) (2011年9月29日)

ケニア国 大バリngo県村落給水計画協力準備調査その2 調査団員名簿

No.	名前	担当	配属先
1	伊藤 富章	総括	独立行政法人国際協力機構 資金協力支援部 参事役
2	白木 秀太郎	計画管理	独立行政法人国際協力機構 地球環境部 水資源第二課
	村上 敏雄	給水計画	独立行政法人国際協力機構 ケニア事務所 広域企画調査員
3	山口 雅弘	業務主任/地下水開発	(株)建設技研インターナショナル 水資源部技師長
4	田中 一朗	物理探査 1/試掘調査 1/水理 地質 1	OYO インターナショナル株式会社 技術部部長
3	伊関 真一	物理探査 2/試掘調査 2/水理 地質 2	OYO インターナショナル株式会社 技術部マネージャー
4	君島 実	副主任/給水施設計画/維持 管理計画 1	(株)建設技研インターナショナル 水資源部副技師長
5	磯野 淳一	施工・資機材調達計画/積算	(株)建設技研インターナショナル
5	望月 誠美	社会調査/維持管理計画 2	(株)国際開発アソシエイツ

調査の全体工程

No.	月日	曜日	伊藤 富章 総括 JICA	白木 秀太郎 計画管理 JICA	村上 敏雄 給水計画 JICA Kenya Office	山口 雅弘 業務主任/地下水開発	田中 一郎 物理探査1/ 試掘調査1/ 水理地質1	伊関 真一 物理探査2/ 試掘調査2/ 水理地質2	君島 実 副主任/ 給水施設計画/ 維持管理計画1	磯野 淳一 施工・資機材調達計画/ 積算	望月 詠美 社会調査/ 維持管理計画2
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89	4月22日	金									
90	4月23日	土									

相手国関係者リスト

添付資料 3

Name	Position	Tel and Cellular phone	E-mail
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Henry Nyamwey	DWO Baringo Central	0722977392	
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Samuel C. Cheboi	Rifered Chief	0725-859600	Site 5
James B. Kamuren	Area Chief	0728-304890	Site 5
Joseph O. Kimielict	The Chairman Water Protect Kasutiei Loc.	0720-249033	Site 5
Reuben Chebon	Lake Kamnorok	0720-388907	Site 6
Julius T. Tibino	Assistant Chief Muchukwd YUB Location	0726-658355	Site 1
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Wilson Lokobwa	Chief	0725-248921	Site 24
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Peter Chelelgo	Assistant CH.EP	0724-113284	Site 78
Andrew Rnmiwya	Kimayel Chief	0725-310271	Site 74 Subikoriema
James K. Yator	Chief Sacho Sol	0723-663035	Site 117
Benson Knetich	Belbon Chief	0721-932100	Site 123, 129
Willy T. Rutto	Assistant Chief Kaptere	0726-621119	Site 43
Esther Cheptumo	Head teacher	0725-554300	Site 42
Elud K. Chesire	Chief Talat	0727-255391	Site 136
Tobole S. Lokorio	Chief	0724-450191	Site 11, 12, 13, 14

Name	Position	Tel and Cellular phone	E-mail
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Micah K. Chesire	A/Chief Kiwananocge	0722-908210	
Jonah Korir	Assistant chief Nyalil-Buch	0723-602564	Site 95
Chebii Kipsang	Assistant Chief	0723-494216	Site 130
Jonah Chebieron	Assistant Chief	0724-509942	Site 45
Symon Cheraste	Assistant Chief Keryo	0714-698833	
Joseph T. CiemiTei	Chief Similo location	0723-098342	Site 29
Agnes J. Chepkithwt	Assistant Chief	0725-726415	Ditto
Mark Rono	Head Teacher	0723-389352	Site 106
Mark Chebon	Kimaso Primary Headteacher	0710-619500	Site 107
David T. Komen	Head Teacher	0723-843487	Site 105
Wilson Chepsrgon	Head Teacher	0723-671810	Site 102
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Michael Komen	DHIT	0715-430237	Baringo North Komen
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**MINUTES OF DISCUSSIONS
ON THE SECOND PREPARATORY SURVEY
ON THE PROJECT FOR
RURAL WATER SUPPLY IN LARGER BARINGO DISTRICT
IN THE REPUBLIC OF KENYA**

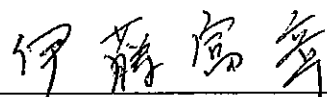
Based on the results of the First Preparatory Survey, the Government of Japan decided to conduct the Second Preparatory Survey on the Project for Rural Water Supply in Larger Baringo District (hereinafter referred to as "the Project") and entrusted the survey to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Kenya the Second Preparatory Survey Team (hereinafter referred to as "the Team") headed by Tomiaki ITO, Senior Advisor to the Director General, Financing Facilitation and Procurement Supervision Department, JICA, and is scheduled to stay in the country from January 25th to April 22nd, 2011.

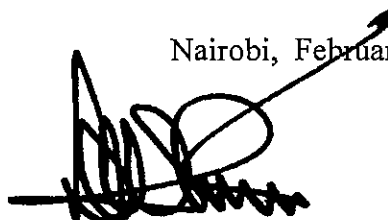
The Team held discussions with the officials concerned of the Government of Kenya and conducted a field survey in Larger Baringo District.

In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Preparatory Survey Report.

Nairobi, February 2nd, 2011



Mr. Tomiaki ITO
Leader
Second Preparatory Survey Team
Japan International Cooperation Agency



Eng. David Stower, CBS, OGW
Permanent Secretary
Ministry of Water and Irrigation
The Republic of Kenya



Eng. Japheth Mutai
Chief Executive Officer
Rift Valley Water Services Board
The Republic of Kenya

1. Objective of the Project

The objective of the project is to improve access to safe water in larger Baringo District in Kenya.

2. Project Area

The Project area is as shown in Annex-1.

3. Responsible and Implementing Agency

3-1. The Responsible Agency is the Ministry of Water and Irrigation (hereinafter referred to as "MoWI").

3-2. The Implementing Agency is the Rift Valley Water Services Board (hereinafter referred to as "RV-WSB").

3-3. The organization chart of the implementing agency is shown as Annex-2.

4. Japan's Grant Aid Scheme

4-1. The Kenyan side understood the Japan's Grant Aid Scheme explained by the Team as described in Annex-3.

4-2. The Kenyan side will take necessary measures as described in Annex-4 for smooth implementation of the Projects, as a condition for the Japan's Grant Aid to be implemented.

4-3. The Team will report to the Kenyan side if there are any other undertakings based on the result of this survey.

4-4. The Team explained that implementation of the Second Preparatory Survey is not a commitment of the approval of the Project.

5. Schedule of the Survey

5-1. The consultants will proceed to undertake further surveys in Kenya until 22nd April, 2011 for the field survey.

5-2. If the Project is found feasible as the result of the Second Preparatory Survey, JICA will prepare the draft report in English and dispatch a mission in order to explain its contents around September 2011.

5-3. In case that the contents of the draft report are accepted in principle by the Kenya side, JICA will complete the final report and send it to the Kenya side around November 2011.

6. Contents of the Project

After a series of discussions, both sides confirmed that the contents of the Project are as follows;

(1) Construction of Water Supply Facility

Construction of 100 boreholes with pumping system, storage facilities, short pipeline leading to communal water point(s) and cattle trough(s).

The Team explained that the components of the water supply facilities (the number of construction and the type of power sources) are subject to change depending on the results of the survey, and the Kenyan side understood it.

(2) Procurement of Equipment

Item	Description	Specifications	Quantity
1	Vehicle	4WD, Pickup, Double cabin	1 Set
2	Motorbikes	175cc	2 Set
3	Computer	Desktop	1 Set

(3) Soft component

Soft Component for operation and maintenance (O&M) of water supply facilities at District Water Office (DWO), community and Water Service Provider (WSP) level.

Finally, both sides confirmed that the appropriate contents of the Project will be examined in accordance with the further surveys and analysis in Japan, and the final contents will be decided by both sides during the explanation of draft final report around September 2011.

7. Other Relevant Issues

7-1. Unit Amount of Water Supply

Both sides agreed that unit amount of water supply in the Project will be uniformly set as 20 liters per capita per day to all target villages on the First Preparatory Survey. However, groundwater resources in the target area is limited. Therefore, both sides agreed that the unit amount of water supply will be examined during further surveys and will be based on the Kenyan water supply practice manual.

7-2. Redefinition of the Population covered by a water supply facility

According to the water service strategy of Kenya, a water supply facility is supposed to cover the population which lives within 2 km around it. However, many people in candidate villages need to carry drinking water for long distances more than five kilometers according to the results of the First Preparatory Survey.

Therefore, both sides agreed that the population covered by a water supply facility will be

redefined for proper design after considering access condition to safe water in each target village through further surveys.

7-3. Selection of Target and Alternative Villages

The list of the candidate villages for the Project is shown as Annex-5.

The Kenyan side explained that 7 villages in Bartabwa division of Baringo north district will be deleted from the list because of overlapping with other donor, and the Team agreed with them.

Both sides agreed that the sites will be examined for selection in term of urgency, necessity and sustainability of water supply facilities based on the following criteria.

- hydro-geological conditions
- number of beneficiaries
- access condition to safe water
- accessibility to the site
- availability of commercial grid
- socioeconomic and environmental conditions
- capacity for operation and maintenance of the facilities
- willingness to pay for operation and maintenance of water supply facilities by the community
- overlap with other projects
- sanitation and hygiene conditions
- others if necessary

Target villages and alternative villages will finally be decided by both sides during the explanation of draft final report around September 2011.

7-4. Criteria for Successful Boreholes and Handling of Test Boreholes

(1) Criteria for Successful Boreholes

Both sides agreed that the criteria of successful borehole will be considered by water yield, water level and water quality. Water quality will be basically applied on the Kenyan water supply practice manual. And detailed criteria will be determined by the results of further surveys.

(2) Handling of Test Boreholes

The handling of test boreholes according to the respective items are as follows;

A) Water Yield

- If the borehole is completely dry, it will be regarded as unsuccessful and will be

backfilled.

- If the water yield is more than 330 liters per hour but less than certain value which will be determined through the further surveys, the borehole will be regarded as unsuccessful but will be kept without backfilling.

B) Water Quality

- If any quality parameter exceeds the Kenyan practice manual (permissible level) for drinking water, the borehole will be regarded as unsuccessful.
- In case the exceeded parameter is Iron or Manganese, the borehole is regarded as successful, depending on the level of concentration and the capacity for operation and maintenance of removal equipment.

C) Successful Borehole

- If the borehole meets the parameters for success determined by the survey, then it shall be regarded as successful and will be kept for equipping during the construction stage.

7-5. Possibility of Groundwater Development in Deep Wells

According to the results of the First Preparatory Survey, groundwater level is considerably deep in some areas. Hence, groundwater development is assumed to need increased cost for construction and maintenance. This issue needs to be carefully analyzed based on three criteria – technical viability, financial viability and sustainability.

The Kenyan side agreed that the implementation of the Project in these areas will be determined after consideration of the analysis.

7-6. Power Sources for Water Supply Facilities

Both sides agreed that the power sources for water supply facilities will be selected from solar power, commercial grid, hand pump, windmill and generator. The most suitable power sources will be determined by comparative analyses on the cost efficiency and sustainability of each.

7-7. O&M of Water Supply Facilities

Both sides reconfirmed that water supply facilities will belong to RV-WSB, who is also responsible for O&M. The Kenyan side promised to take timely necessary measures for O&M of the facilities after completion of the Project.

7-8. Undertakings by the Kenyan side

The Team requested to the Kenyan side to secure necessary counterpart budget and to abide by undertakings listed below for the smooth implementation of the survey and the Project, and in addition to the major understandings described in Annex-4.

- (1) To provide the Team with available relevant data, information and materials necessary for the execution of the survey,
- (2) To prepare answers to the Questionnaire presented by the Team,
- (3) To assign necessary number of counterpart personnel (C/Ps) to the Team during their stay in Kenya to undertake the following roles:
 - To make appointments and set up meetings with relevant authorities wherever the Team intends to visit,
 - To attend and conduct the Team during the site survey and make the necessary arrangement to secure working rooms for the Team,
 - To provide information on available accommodation for the Team during the survey,
 - To advise the Team for their collection of data and information as much as possible,
- (4) To secure any permissions for the Team to take photographs and to enter into private properties and restricted areas for proper execution of the survey,
- (5) To allow the Team to bring back to Japan the necessary data, information, maps and materials related to the survey, in order to prepare the survey reports,
- (6) To protect test boreholes which are to be used as production boreholes until the commencement of the construction,

(END)

Annex:

Annex-1 Project Site

Annex-2 Organization Chart of the Implementation Agency

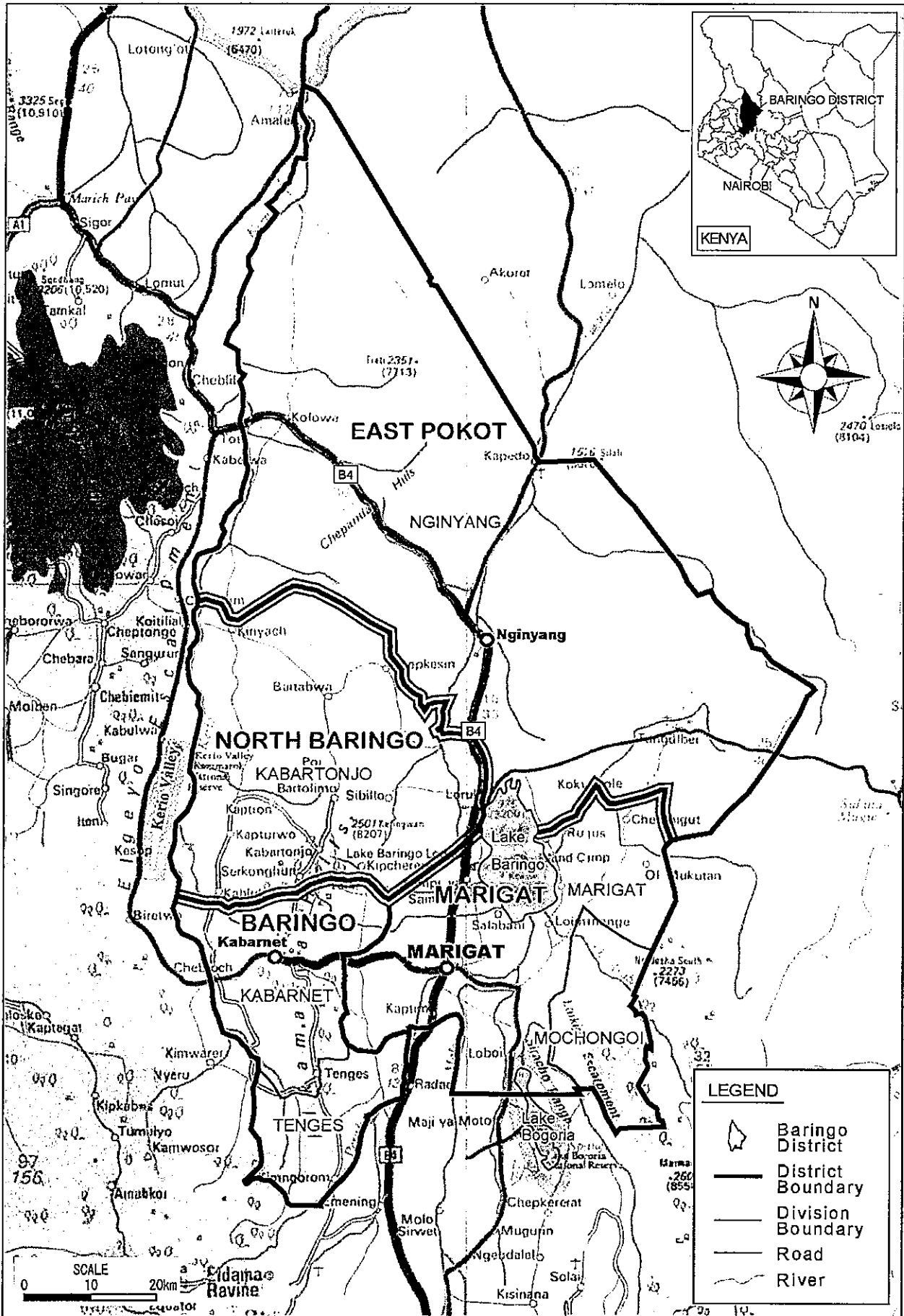
Annex-3 Japan's Grant Aid Scheme

Annex-4 Major Undertakings to be taken by Each Government

Annex-5 List of Candidate Villages



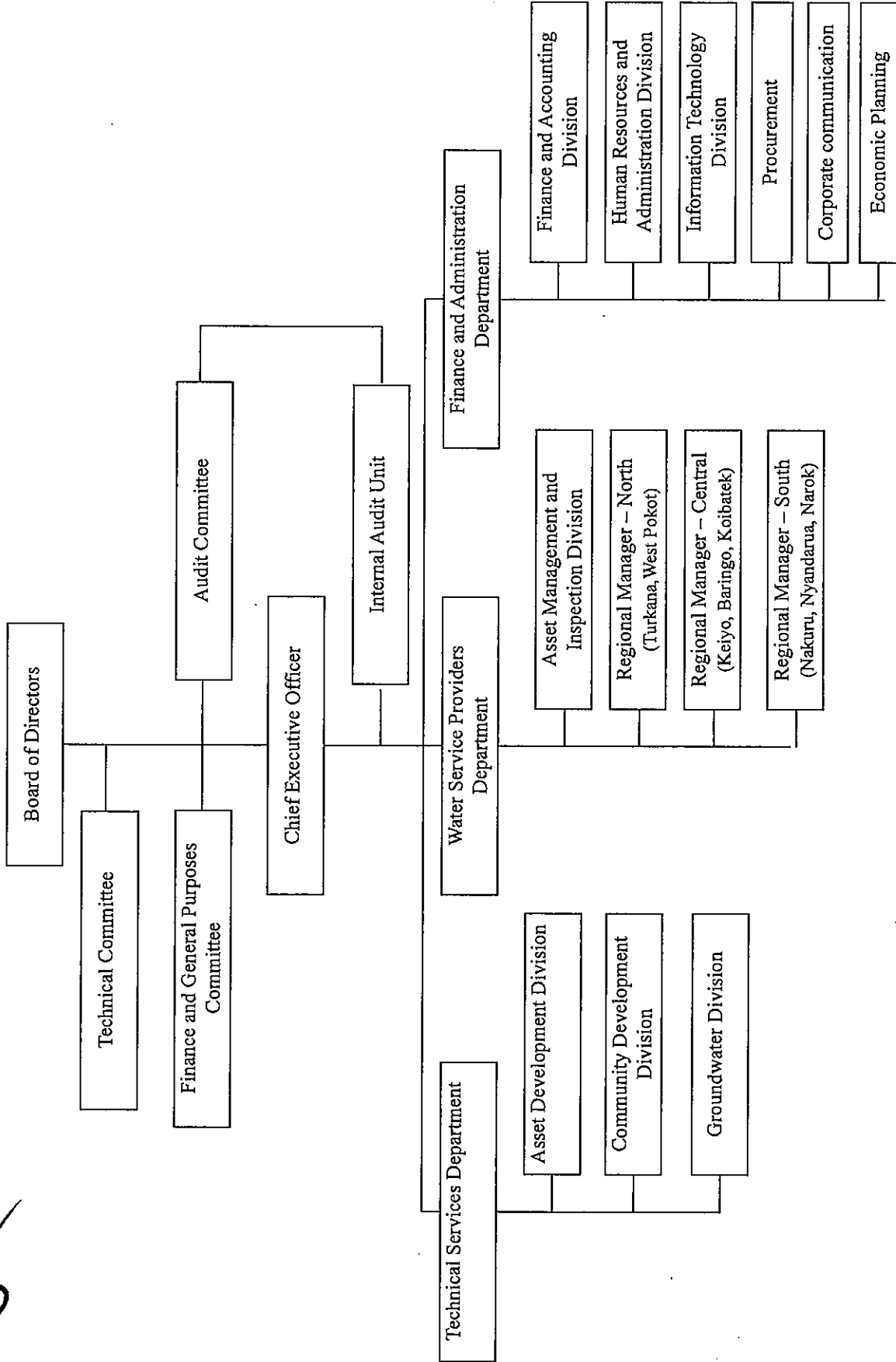
Proposed Project Site



LOCATION MAP

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Annex-2 Organization Chart of Rift Valley Water Services Board (RV-WSB)

Japan's Grant Aid Scheme

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedure

1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Survey	(Outline Design Survey conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a survey on the request. If necessary, JICA send a Preparatory Survey Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the survey (Outline Design Survey), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Outline Design Survey report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Outline Design Survey

1) Contents of the Survey

The aim of the Outline Design Survey (hereinafter referred to as "the Survey"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a outline document necessary for the appraisal of the Project by the Government of Japan. The contents of the Survey are as follows:

- a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
- b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
- c) confirmation of items agreed on by both parties concerning the outline concept of the Project;

- d) preparation of a outline design of the Project; and
- e) estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Outline Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even through they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For the smooth implementation of the Survey, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Survey and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Survey to the recipient country, in order to maintain the technical consistency between the Outline Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

3. Japan's Grant Aid Scheme

1) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

- 2) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

- 3) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability of Japanese taxpayers.

5) Undertakings required to the Government of the recipient country

- a) to secure a lot of land necessary for the construction of the Project and to clear the site;
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
- c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
- d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
- e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
- f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
- g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

6) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those covered by the Grant Aid.

7) "Re-export"

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

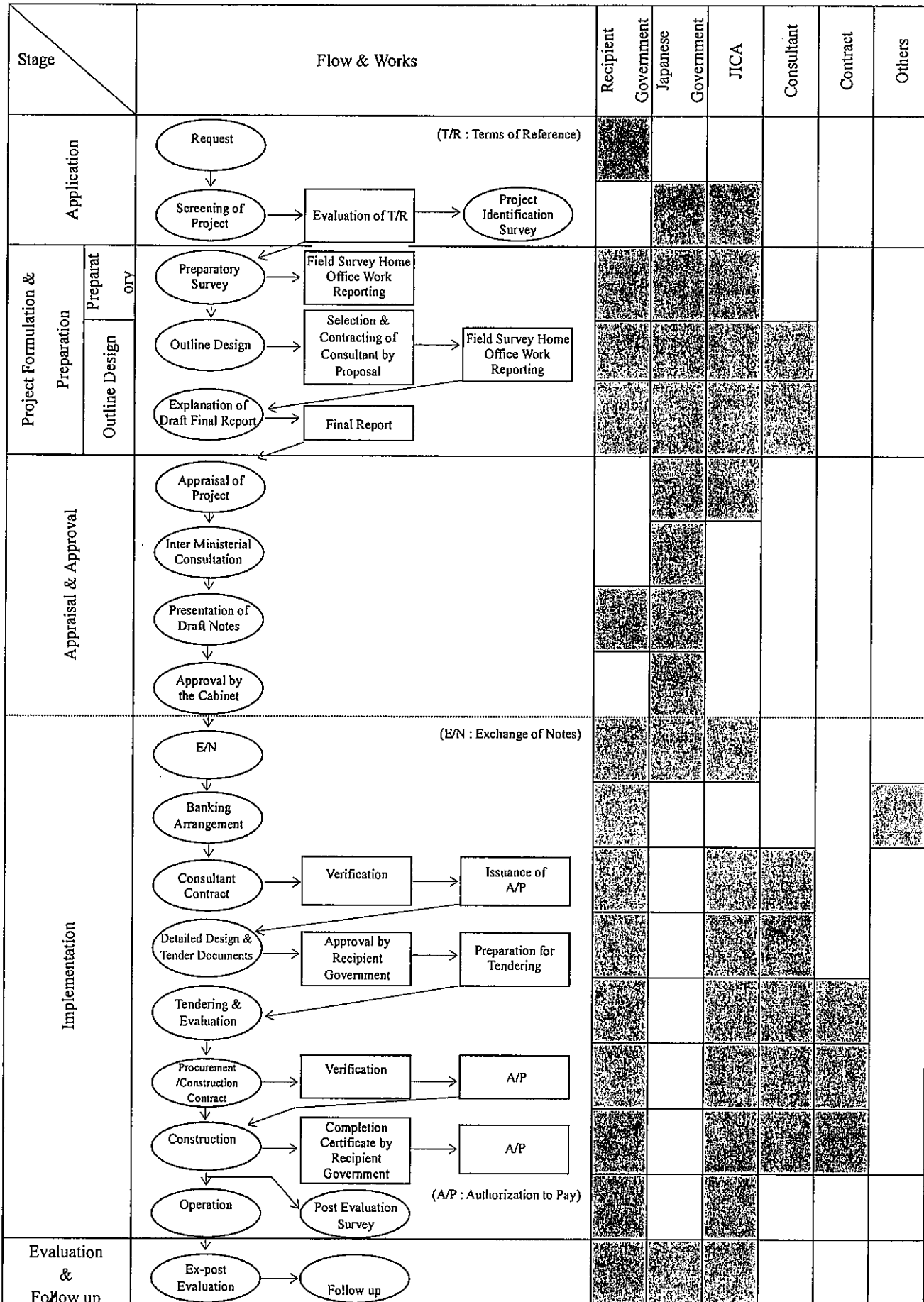
8) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay issued by the Government of recipient country or its designated authority.

9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commission to the Bank.

FLOW CHART OF JAPAN'S GRANT AID PROCEDURES



Major Undertakings to be taken by Each Governments

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	to secure lots of land necessary for the implementation of the Project and to clear the sites;		•
2	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products		
	1) Marine (Air) transportation of the Products from Japan to the recipient country	•	
	2) Tax exemption and custom clearance of the Products at the port of disembarkation		•
	3) Internal transportation from the port of disembarkation to the project site	(•)	(•)
3	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services be exempted		•
4	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
5	To ensure that the Facilities be maintained and used properly and effectively for the implementation of the Project		•
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		•
7	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•

B/A : Banking Arrangement

A/P : Authorization to Pay

List of Candidate Village

Annex-5

NO	Site/Village Name	Pop.Served	Zone	Location	Division	District
1	Katiborok	350	L	Lawan	Barwessa	Baringo North
2	Konoo	450	L	Lawan	Barwessa	Baringo North
3	Kormor	300	L	Lawan	Barwessa	Baringo North
4	Kapkules	280	L	Kabutiei	Barwessa	Baringo North
5	Kibuliak	650	L	Kabutiei	Barwessa	Baringo North
6	Kapnarok	360	L	Kabutiei	Barwessa	Baringo North
7	Chemondoi	280	L	Kaboskei	Kipsaraman	Baringo North
8	Kapkurukwo	300	L	Kaboskei	Kipsaraman	Baringo North
9	Kapiliany	310	L	Kaboskei	Kipsaraman	Baringo North
10	Moigutwo	340	L	Kaboskei	Kipsaraman	Baringo North
11	Katikit	280	L	Kaboskei Kerio	Barwessa	Baringo North
12	Ayatia	340	L	Kaboskei Kerio	Barwessa	Baringo North
13	Marigut	600	L	Kaboskei Kerio	Barwessa	Baringo North
14	Chesangich	350	L	Kaboskei Kerio	Barwessa	Baringo North
15	Kapamin	290	L	Kapteberewo	Kipsaraman	Baringo North
16	Kapkombe	550	H	Kapteberewo	Kipsaraman	Baringo North
17	Chambai Primary	650	M	Kapteberewo	Kipsaraman	Baringo North
18	Kipsaraman Centre	850	H	Kipkata	Kipsaraman	Baringo North
19	Barketieu Primary	390	L	Kipkata	Kipsaraman	Baringo North
20	Kapkomon	295	L	Kipkata	Kipsaraman	Baringo North
21	Poi	470	M	Kipkata	Kipsaraman	Baringo North
22	Rimo	490	M	Kinyach	Bartabwa	Baringo North
23	Barinter	350	L	Kinyach	Bartabwa	Baringo North
24	Toborei	900	L	Kinyach	Bartabwa	Baringo North
25	Lingok	280	L	Bartum	Kabartonjo	Baringo North
26	Barkilach	300	L	Bartum	Kabartonjo	Baringo North
27	Usonin	270	L	Bartum	Kabartonjo	Baringo North
28	Kolongotwo	350	L	Sibilo	Kipsaraman	Baringo North
29	Koibaware	210	L	Sibilo	Kipsaraman	Baringo North
30	Chepkewel	350	L	Sibilo	Kipsaraman	Baringo North
31	Kipchemoi	260	L	Sibilo	Kipsaraman	Baringo North
32	Kapture	460	L	Ng'erora	Bartabwa	Baringo North
33	Chepkessin	360	M	Ng'erora	Bartabwa	Baringo North
34	Baruiya	260	L	Ng'erora	Bartabwa	Baringo North
35	Chemoe	450	L	Ng'erora	Bartabwa	Baringo North
36	Barwessa	800	L	Barwessa	Barwessa	Baringo North
37	Kaptiony	340	L	Barwessa	Barwessa	Baringo North
38	Likwon	450	L	Barwessa	Barwessa	Baringo North
39	Seremwo	400	M	Katorin	Kabartonjo	Baringo North
40	Kapkirwok	600	M	Katorin	Kabartonjo	Baringo North
41	Kapkomol	300	H	Katorin	Kabartonjo	Baringo North
42	Kapchepkor	900	H	Saimo Mosop	Kabartonjo	Baringo North
43	Kaptere	800	H	Saimo Mosop	Kabartonjo	Baringo North
44	Boin	410	H	Saimo Mosop	Kabartonjo	Baringo North
45	Tiriondonin	450	H	Ossen	Kabartonjo	Baringo North
46	Kaptum	900	H	Ossen	Kabartonjo	Baringo North
47	Ossen Forest station	740	H	Ossen	Kabartonjo	Baringo North
48	Kaptumin	600	H	Kelyo	Kabartonjo	Baringo North
49	Kureschun	600	H	Kelyo	Kabartonjo	Baringo North
50	Kipkokom	500	M	Kelyo	Kabartonjo	Baringo North
51	Kamagonge	450	L	Marigat	Marigat	Marigat
52	Kamasula	460	L	Marigat	Marigat	Marigat
53	Kapsamson	450	L	Marigat	Marigat	Marigat
54	Sirinyo	340	L	Marigat	Marigat	Marigat
55	Marigat Primary	350	L	Marigat	Marigat	Marigat

List of Candidate Village

Annex-5

NO	Site/Village Name	Pop.Served	Zone	Location	Division	District
56	Kamimba	450	L	Marigat	Marigat	Marigat
57	Marigat ACK	300	L	Marigat	Marigat	Marigat
58	Catholic	280	L	Marigat	Marigat	Marigat
59	Marigat WS	300	L	Marigat	Marigat	Marigat
60	Ndambul	380	L	Marigat	Marigat	Marigat
61	Abori	370	L	Eldume	Marigat	Marigat
62	Ilchurai	260	L	Eldume	Marigat	Marigat
63	Eldume centre	620	L	Eldume	Marigat	Marigat
64	Longiron	490	L	Salabani	Marigat	Marigat
65	Marti	460	L	Salabani	Marigat	Marigat
66	Kampi ya Samaki	1,300	L	Salabani	Marigat	Marigat
67	Lesuuwa	350	L	Ng'ambo	Marigat	Marigat
68	Kipchemei	380	L	Kimalel	Marigat	Marigat
69	Kapkechii	290	L	Kimalel	Marigat	Marigat
70	Loropil	370	L	Kimalel	Marigat	Marigat
71	Ngemboloisa	280	L	Kimalel	Marigat	Marigat
72	Kimalel Hospital	380	L	Kimalel	Marigat	Marigat
73	Kisamisonchun	300	L	Kimalel	Marigat	Marigat
74	Lokoiwopsonchun	270	L	Kimalel	Marigat	Marigat
75	Kinyach	320	L	Kimalel	Marigat	Marigat
76	Ketipkibet	340	L	Kimalel	Marigat	Marigat
77	Tirng'ongwonin	350	L	Kimondis	Marigat	Marigat
78	Kibingor	450	L	Kimondis	Marigat	Marigat
79	Wokerben	400	L	Kimondis	Marigat	Marigat
80	Ng'enyin	370	L	Kimondis	Marigat	Marigat
81	Kabusa	600	L	Ewalel Soi	Marigat	Marigat
82	Barsemoi	500	L	Ewalel Soi	Marigat	Marigat
83	Kiwanja Ndege	340	L	Loboi	Marigat	Marigat
84	Chelaba	460	L	Loboi	Marigat	Marigat
85	Chepkotoiyan	370	L	Sandai	Marigat	Marigat
86	Samuran	450	L	Sandai	Marigat	Marigat
87	Mosuro	340	L	Kiserian	Mukutani	Marigat
88	Logungum	340	L	Kiserian	Mukutani	Marigat
89	Mochongoi centre	650	H	Mochongoi	Mochongoi	Marigat
90	Kapkechir	600	H	Mochongoi	Mochongoi	Marigat
91	Kamnarok	600	H	Mochongoi	Mochongoi	Marigat
92	Kipkandule	500	H	Mochongoi	Mochongoi	Marigat
93	Sinoni	480	M	Chebinyiny	Mochongoi	Marigat
94	Sambaka	350	M	Chebinyiny	Mochongoi	Marigat
95	Nyalilbuch	280	M	Chebinyiny	Mochongoi	Marigat
96	Sokonin	270	L	Arabal	Mochongoi	Marigat
97	Partalo	480	L	Arabal	Mochongoi	Marigat
98	Menmeno	570	L	Arabal	Mochongoi	Marigat
99	Embosos	340	M	Arabal	Mochongoi	Marigat
100	Loromoru	280	M	Arabal	Mochongoi	Marigat
101	Kaptara	610	L	Lelmen	Salawa	Baringo
102	Kipsoit Primary	890	L	Lelmen	Salawa	Baringo
103	Kakwane	1,300	L	Lelmen	Salawa	Baringo
104	Salawa Hospital	1,200	L	Salawa	Salawa	Baringo
105	Salawa Primary	900	L	Salawa	Salawa	Baringo
106	Eron Primary	870	L	Kabarnet Soi	Salawa	Baringo
107	Kimoso	500	L	Kabarnet Soi	Salawa	Baringo
108	Saonin	560	L	Kabarnet Soi	Salawa	Baringo
109	Oinobmoi centre	1,300	L	Kiboino	Salawa	Baringo
110	Kapsikoryan	950	L	Kiboino	Salawa	Baringo
111	Kurumbopsoo	800	L	Kiboino	Salawa	Baringo

List of Candidate Village

Annex-5

NO	Site/Village Name	Pop.Served	Zone	Location	Division	District
112	Sironoi	500	M	Kiboino	Salawa	Baringo
113	Kasitet	810	L	Kapropita Soi	Salawa	Baringo
114	Sichei	570	L	Kapropita Soi	Salawa	Baringo
115	Kisok	380	L	Kapropita Soi	Salawa	Baringo
116	Katunoi	400	L	Kapkelelwa	Sacho	Baringo
117	Saimet	300	L	Kapkelelwa	Sacho	Baringo
118	Kwamkeiyon	350	L	Chepkero	Sacho	Baringo
119	Chepkero Primary	450	L	Chepkero	Sacho	Baringo
120	Mogorwa	1,200	L	Kisonei	Tenges	Baringo
121	Kisonei Primary	1,100	L	Kisonei	Tenges	Baringo
122	Ochii Primary	600	M	Ochii	Tenges	Baringo
123	Siginwo	800	H	Tenges	Tenges	Baringo
124	Tabarin	660	H	Tenges	Tenges	Baringo
125	Tuluongoi	760	H	Tuluongoi	Tenges	Baringo
126	Tebei	600	L	Tuluongoi	Tenges	Baringo
127	Ilyakat	500	L	Tuluongoi	Tenges	Baringo
128	Katkamuma	400	L	Tuluongoi	Tenges	Baringo
129	Tinomoi	370	L	Bekibon	Tenges	Baringo
130	Timboiywo	1,300	H	Kabasis	Sacho	Baringo
131	Kabasis	1,500	H	Kabasis	Sacho	Baringo
132	Moloi	1,200	H	Orokwo	Sacho	Baringo
133	Kapchomuswo Sec	900	M	Orokwo	Kabarnet	Baringo
134	Kiwanja Ndege	450	M	Orokwo	Kabarnet	Baringo
135	Pemwai centre	800	H	Orokwo	Kabarnet	Baringo
136	Talai	1,400	H	Ewalel	Kabarnet	Baringo
137	Kapkawa	1,200	H	Ewalel	Kabarnet	Baringo
138	Ketindui	600	M	Kabarnet Mosop	Kabarnet	Baringo
139	Serei	1,400	M	Riwo	Kabarnet	Baringo
140	Turupkir	300	H	Kituro	Kabarnet	Baringo
141	Lalwasoyen	280	L	Orus	Tangulbei	East Pokot
142	Monabalei	310	L	Tangulbei	Tangulbei	East Pokot
143	Kiliwok	270	L	Tangulbei	Tangulbei	East Pokot
144	Lomuyek	370	L	Tangulbei	Tangulbei	East Pokot
145	Nakolete	290	L	Korosi	Tangulbei	East Pokot
146	Kalapata	200	L	Tangulbei	Tangulbei	East Pokot
147	Mokongwo	350	L	Tangulbei	Tangulbei	East Pokot
148	Orus	350	L	Orus	Tangulbei	East Pokot
149	Siria	250	L	Orus	Tangulbei	East Pokot
150	Katungura	500	L	Kokwototo	Tangulbei	East Pokot
151	Tuwo	200	L	Loruk	Mondi	East Pokot
152	Lemuyek	250	L	Loruk	Mondi	East Pokot
153	Chebilat	500	L	Loruk	Mondi	East Pokot
154	Riongo	600	L	Naudo	Mondi	East Pokot
155	Naudo	700	L	Naudo	Mondi	East Pokot
156	Akwichatis	1,050	L	Naudo	Mondi	East Pokot
157	Nasorot	980	L	Naudo	Mondi	East Pokot
158	Toplen	460	L	Silale	Mondi	East Pokot
159	Cheptunoyo	260	L	Silale	Mondi	East Pokot
160	Kosiokon	700	L	Loyamorok	Mondi	East Pokot
161	Sukut	200	L	Tirioko	Kolowa	East Pokot
162	Chepunyany	260	L	Tirioko	Kolowa	East Pokot
163	Chepturu	500	L	Kolowa	Kolowa	East Pokot
164	Chepkwarkwarian	400	L	Kolowa	Kolowa	East Pokot
165	Ngoron	900	L	Ng'oron	Kolowa	East Pokot
166	Ngeleiyoy	670	L	Ng'oron	Kolowa	East Pokot
167	Kapeomor	980	L	Lokis	Kolowa	East Pokot

List of Candidate Village

Annex-5

NO	Site/Village Name	Pop.Served	Zone	Location	Division	District
168	Chepelion	240	L	Loiwat	Kolowa	East Pokot
169	Krelion	300	L	Kipnai	Kolowa	East Pokot
170	Pkomo	290	L	Lokis	Kolowa	East Pokot
171	Naminito	520	M	Churo	Churo	East Pokot
172	Kacheptuya	370	M	Churo	Churo	East Pokot
173	Cheptangarmot	390	M	Amaya	Churo	East Pokot
174	Motau	240	M	Amaya	Churo	East Pokot
175	Nasaltuko	250	M	Churo	Churo	East Pokot
176	Komolwo	260	M	Churo	Churo	East Pokot
177	Koitimo	350	M	Kaptuya	Churo	East Pokot
178	Lolkos	260	M	Kaptuya	Churo	East Pokot
179	Lomerimeri	360	M	Kaptuya	Churo	East Pokot
180	Tiyati	290	M	Amaya	Churo	East Pokot
181	Katikit	1,050	L	Kositei	Nginyany	East Pokot
182	Chepanda	460	L	Ribko	Nginyany	East Pokot
183	Donge	250	L	Nginyan West	Nginyany	East Pokot
184	Katukumwo	260	L	Kositei	Nginyany	East Pokot
185	Chesakam	600	L	Ribko	Nginyany	East Pokot
186	Chesitet	400	L	Ribko	Nginyany	East Pokot
187	Kasakaram	560	L	Ribko	Nginyany	East Pokot
188	Kamurio	900	L	Kapau	Nginyany	East Pokot
189	Kulol	450	L	Akoret	Nginyany	East Pokot
190	Maron	960	L	Ribko	Nginyany	East Pokot

ケニア共和国
バリngo地域村落給水計画
ソフトコンポーネント計画書

平成 23 年 10 月
(2011 年)

株式会社 建設技研インターナショナル

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1. ソフトコンポーネントを計画する背景

1-1. 本体プロジェクトの概要

ケニア国バリngo地域村落給水計画では無償資金協力事業として、バリngo地域¹における住民の安全な飲料水へのアクセス状況の改善を図ることを目的として、以下のプロジェクトを実施する。

- ① 施設建設：独立式給水施設（レベル 1.5）90 ヶ所（深井戸掘削、揚水施設、貯水タンク、公共水栓、水栓までの配管、家畜の水桶）
- ② 機材調達：維持管理用機材の車両(4WD)1 台、バイク(175cc)2 台、パソコン 1 台、プリンター1 台
- ③ ソフトコンポーネント：住民及び行政の給水施設の運営・維持管理能力向上
また、責任機関及び実施機関は水・灌漑省及びリフトバレー水サービス委員会 (RV-WSB) である。

1-2. バリngo地域村落給水の状況

(1) 計画対象村落の給水事情等

バリngo地域の 4 県の給水率（安全な水へのアクセス率）はケニア国地方部平均 40%に対してわずか 15～34%であり、水の困窮度は極めて高い地域である。対象村落においては深井戸施設等の給水施設はなく、飲料水源は河川、小川、湖沼・ため池、河床の手掘りピット等である。

計画対象村落の山地部は、降雨量が多いため農業が盛んで人口も多いが住居のある尾根部には水源はない。このため、標高差の大きい谷部の泉まで水汲みが必要で大変な労力を要している。一方、平地部では、降雨量が少ないため農業はあまり行われておらず、放牧を主体とした牧畜が主産業となっている。牧畜は生計の糧であるため、家畜の牧草地の場所を居住地として優先されることが多く、住民の水は遠方の水源から水汲みして運搬している場合が多い。水汲み距離は雨季で 0.2～5km だが、乾季では水源が限られ 5～10km と極めて遠い。

(2) 村落給水施設の運営・維持管理体制の現状

ケニア国における村落給水の運営・維持管理については、従来から住民により構成された水利用者組合が運営・維持管理を行い、水資源省（旧水灌漑省）の県水資源事務所及び郡水資源事務所が住民の指導・支援を行っていた。

その後、新水法（Water Act 2002）における水セクターリフォームによって、給水施設の運営・維持管理は民間経営法に準拠した水サービス事業体（WSP：Water

¹ 旧バリngo県をいい、現在はバリngo県、マリガット県、東ポコット県、北バリngo県の 4 県に分割されている。

Service Provider) (以下「WSP」) が実施することになった。しかし、これまでに WSP が 122 (2009 年度) 設立されているが、特に人口規模の小さい地方村落部においては、その低収益性から自立的な経営ができる状況にない。バリンゴ地域の WSP (バリンゴ上下水道公社) は、カバルネット市及びマリガット市において行政からの財政支援を受けながら都市型給水事業を実施しているが村落給水まで関与できていない。

したがって、バリンゴ地域の村落給水施設の運営・維持管理の現状としては水セクターリフォーム前と変わらず、村民で構成された水利用者組合が実施しており、機関名称は変更されたが RV-WSB の下部組織にあたる 4 つ (中央バリンゴ、北バリンゴ、東ポコット、マリガット県) の県水事務所 (DWO : District Water Office) が必要に応じて水利用者組合を技術的及び財政的に支援している。なお、村落の要請に応じて県等の地域行政も財政的な支援を行う場合もある。

このように現状と制度との不整合から、村落給水施設の運営・維持管理における実施体制及び役割が曖昧となっている。

(3) DWO による住民支援体制

準備調査によると、バリンゴ地域の 4 つの DWO のうち、中央バリンゴ県には十分な人数の職員が配置され、維持管理を担当する技術職員も多い (表 1-1 参照)。一方、北バリンゴ県、マリガット県、東ポコット県は人員が少なく、ほとんどが事務系の一般職員であり維持管理に係るノウハウや経験を有した職員は少ない。また、DWO における年間予算(2009)の 99%を人件費が占め、村落給水のフォローアップ活動に必要な車両燃料費等のロジスティックス予算は殆どない状況である。

表 1-1 大バリンゴ県水事務所の職員数

		北バリンゴ	中央バリンゴ	マリガット	東ポコット
所長		1	1	1	1
技術職員		2	17	2	1
事務職員		-	2	-	-
ドライバー		1	2	1	1
その他 職員	タイピスト	-	1	-	-
	技術職員補佐	3	11	2	-
	電話受付	-	1	-	-
	プラント操作	-	2	-	-
	一般職員	9	21	7	5
計		16	58	13	8

(4) 給水施設の運営・維持管理の状況

準備調査において既存給水施設における運営・維持管理の状況を調査したところ、本無償資金協力事業と同形式であるキオスク (水販売) 式給水施設の場合は、水利用者組合がバケツ 1 杯あたりの単価 (2~3Ksh/20L) を決め、水料金徴収人を雇用し、

キオスクにおいて適切に水が販売されていた。キオスク式給水の場合、住民はお金を払わなければ水が入手できないことから、住民は必ず水代を支払っており、確実に料金徴収がなされている。また、給水施設が故障が生じた場合も、売上金により修理対応がなされていた。

一方、ハンドポンプ付き深井戸給水施設の場合は月当たりの定額制で、料金徴収人が各世帯を回り集金することになっている。しかし、集金されていない場合も多く、一部の村落では資金不足によって故障した施設が放置されたままになっていた。

(5) 計画対象村落の衛生状況

計画対象村落は深井戸などの安全な飲料水源がないため、村民は不衛生なため池、河川水、河床の手掘り井戸等を長年利用している。また、牧畜業が盛んで、家畜も同様に住民と同じ水源を利用するため、水源の多くが家畜の糞尿等の汚染を受けていると考えられる。

社会条件調査によると、下痢やチフスなど水因性疾患が多く、特に下痢の発生率が高いことが確認されている（2010年下痢の罹患数は中央バリンゴ県で7,197人、人口の約4.4%、北バリンゴ県で5,693人、人口の約6%）。なお、調査対象村落150村のうち75村が医療関連施設の無い村落であり、住民は適切な治療を受けることができていない。

1-3. 計画対象村落における運営・維持管理の課題

バリンゴ地域の村落給水状況を踏まえ、本ソフトコンポーネントで対処すべき給水施設の運営・維持管理に関する課題は以下のとおりである。

- ・ 村落給水の運営・維持管理に係る DWO の役割及び責務が不明確である。
- ・ DWO は住民の運営・維持管理を支援するための知識や経験が不足している。
- ・ 対象村落は水利用者組合が整備されていない。
- ・ 対象村落は既存給水施設を有していないため、運営・維持管理のノウハウや経験がない。
- ・ 建設する給水施設の給水範囲は非常に広く、隣接する村落も含めた広域的な給水となる。
- ・ 平地部の村落では生計の糧である牧畜が盛んなため、家畜への給水が必要となるが、揚水量に限りがあるため家畜へ給水した場合は、水不足が生じる。
- ・ 他地域においてソーラーシステムのモジュール(パネル)の盗難が発生している。
- ・ 対象村落の住民は衛生に関する知識が乏しい。

1-4. ソフトコンポーネントの必要性

対象村落には給水施設がなく、住民は給水施設の運営や維持管理に関する経験はも

っていない。このため、建設した給水施設の運営が円滑に開始され、施設運営が持続的に実施されるためには、給水施設の運営・維持管理に関する住民支援は必要不可欠となる。しかしながら、ケニア国側としては広範囲に点在する村落給水施設を包括する住民支援体制の整備及びその活動予算の確保は困難な状況にあり、必要な住民支援が出来ない状況にある。したがって、本ソフトコンポーネントによって、住民への運営・維持管理の指導及び行政の住民支援能力の強化を図る必要がある。

ソフトコンポーネントを実施する上での給水施設建設後の運営・維持管理の枠組みを図 1-1 に示す。

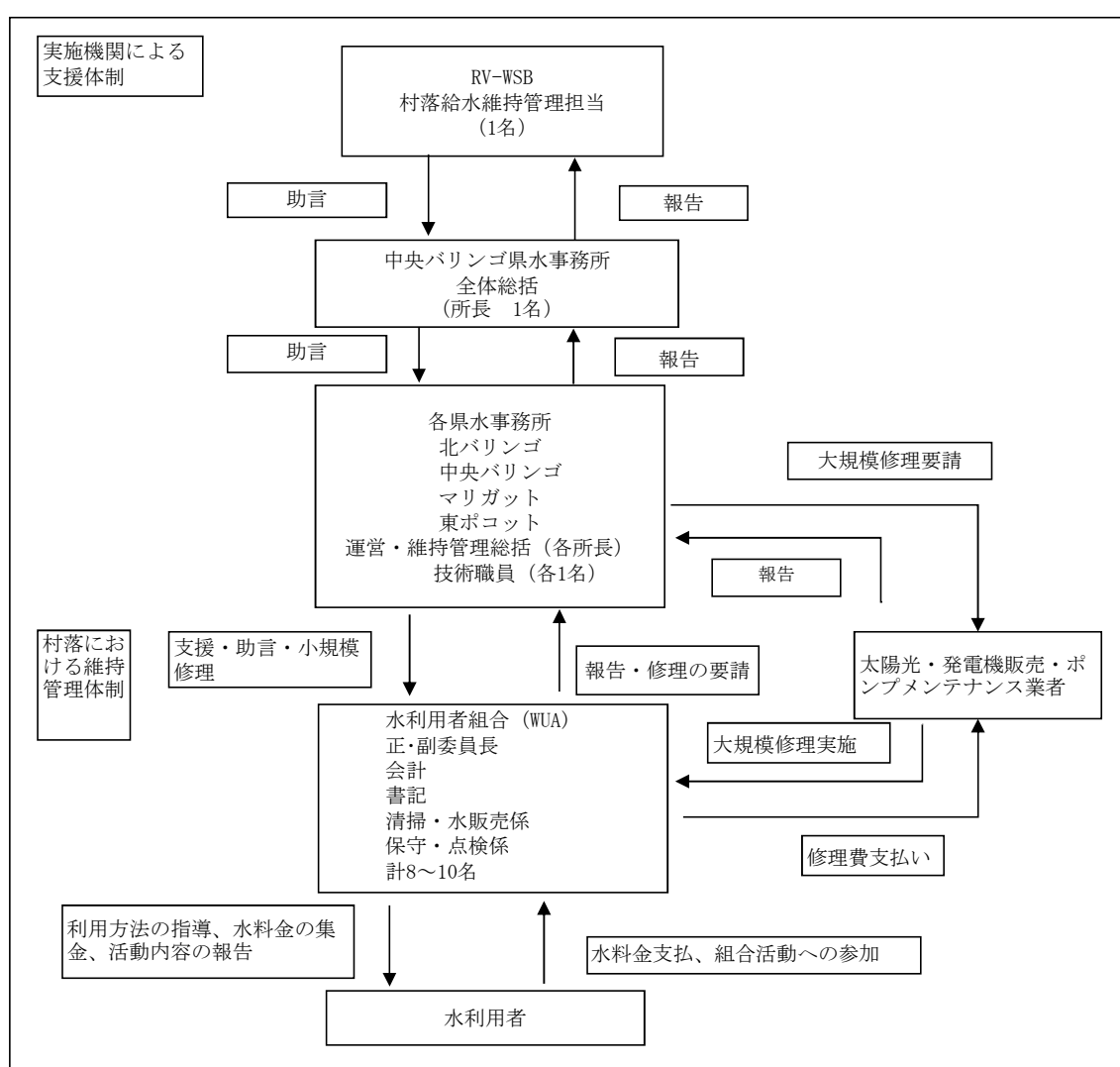


図 1-1 村落給水の運営・維持管理体制

2. ソフトコンポーネントの目標

本ソフトコンポーネントの目標は、「住民が水利用者組合を形成し、村落レベルで給水施設の運営・維持管理を実施し、持続的に給水施設が利用されること」、また、DWOでは住民支援に係る職員の経験が不足しているため、水利用者組合による持続的な給水施設の運営・維持管理を実現するため、「DWOの住民支援能力の強化を図る」ことを目標とする。

3. ソフトコンポーネントの成果

以下の成果に対して達成度を確認する。

成果 1：DWOの住民支援能力が強化する

- ・ 県等の地方行政が住民による給水施設の運営・維持管理の必要性について理解する。
- ・ DWOが住民の給水施設運営・維持管理のための、必要な支援内容や支援体制を理解する。
- ・ DWOによって住民支援のための活動計画及びモニタリング計画が策定される。

成果 2：水利用者組合が設立し、給水施設の運営・維持管理活動が実施される

- ・ 住民が水利用者組合の必要性、役割及び業務内容を理解する。
- ・ 住民によって水利用者組合が設立される。
- ・ 水利用者組合が給水施設の運営・維持管理に係る知識を習得する。
- ・ 水利用者組合によって運営規約が策定される。
- ・ 水利用者組合によって給水施設の持続利用のための住民啓発活動が実施される。
- ・ 水利用者組合によって給水施設の運営・維持管理が実践される。

成果 3：住民が水を衛生的に利用する

- ・ 住民が水衛生に係る知識を習得する。
- ・ 住民によって給水施設周辺が清潔に保たれる。

4. 成果達成度の確認方法

(1) 成果 1 に対する成果達成度の確認項目と方法

達成度の確認項目	確認方法
(県及び村) <ul style="list-style-type: none"> ・ 各県及び各村長が給水施設の運営・維持管理体制、内容及び行政による支援体制について理解したか ・ 各村長が水利用者組合の役割を理解し、設立を支援したか 	各種説明会へ参加する。また、説明会の議事録を確認する。
(DWO) <ul style="list-style-type: none"> ・ 給水施設の運営・維持管理体制を理解したか ・ 水利用者組合の役割と責任を理解したか ・ 運営・維持管理活動支援の活動計画が策定されたか ・ 住民及び水利用者組合への研修計画が策定されたか ・ 水利用者組合研修が実施できたか ・ 住民研修が実施できたか 	DWOへのインタビュー聞き取り及び下記書類等の確認 <ul style="list-style-type: none"> ・ 活動計画 ・ 協議議事録 ・ モニタリング計画表 ・ モニタリング結果表

<ul style="list-style-type: none"> ● モニタリング計画が策定されたか ● モニタリング計画に基づき実施されたか 	
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(2) 成果2に対する成果達成度の確認項目と方法

成果達成度の確認項目	確認方法
<ul style="list-style-type: none"> ● 各委員の役割と責任内容が理解されたか ● 水利用者組合が設立されたか ● 水利用者組合の運営規約が策定されたか 	水利用者組合へのインタビュー及び下記書類等を確認する <ul style="list-style-type: none"> ● 組合員名簿 ● 運営規約
<ul style="list-style-type: none"> ● 水利用者組合が研修に参加したか ● 研修受講者が運営・維持管理及び衛生教育について理解したか ● 水利用者組合のオペレータが施設概要や維持管理内容について理解したか ● 住民への啓発活動計画が策定されたか 	水利用者組合へのインタビュー及びアンケート
<ul style="list-style-type: none"> ● 水利用者組合により、施設運営及び水衛生に関する住民啓発活動が実施されたか 	水利用者組合へのインタビュー及びアンケート
<ul style="list-style-type: none"> ● 給水施設が水利用者組合の規約に沿って運営されているか ● 水利用者組合が定期的に会合を持ち、運営を主体的に行っているか ● 水料金の徴収、経理業務が行われているか ● 水販売所（キオスク）が管理及び整理整頓されているか ● 住民が水料金を支払っているか 	水利用者、組合役員に対するインタビュー及び利用状況の確認 出納帳 キオスク運営記録

(3) 成果3に対する成果達成度の確認項目と方法

成果達成度の確認項目	確認方法
<ul style="list-style-type: none"> ● 水利用者組合の役割とその業務を理解したか ● 施設の運営・維持管理内容について理解したか 	住民へのインタビュー
<ul style="list-style-type: none"> ● 水衛生研修に参加したか ● 参加者が手洗いや衛生的な水や食物の保管を実践しているか 	住民へのインタビュー
<ul style="list-style-type: none"> ● 施設周辺が清潔に保たれているか ● 住民が衛生的に水を保管しているか 	現地訪問により確認

5. ソフトコンポーネントの活動(投入計画)

投入計画の一覧を下記の表に示す。

また活動の詳細な投入を次ページ以降にまとめる。

成果	活動	必要期間	活動内容	活動主体	実施時期	成果品
				対象者		
成果 1	1-1 住民支援体制についてのワークショップ	1 日	<ul style="list-style-type: none"> ◇ 維持管理・水利用者組合の支援内容協議 ◇ 住民支援体制の協議 ◇ 水利用者組合研修の内容の協議 	DWO 職員 現地コンサル 邦人コンサル	工事開始前	研修報告書 研修修了書
	1-2 水利用者組合ハンドブック・衛生教育教材作成ワークショップ	2 日	<ul style="list-style-type: none"> ◇ 衛生教育教材の内容を検討・作成 ◇ 水利用者組合のハンドブックの内容を検討・作成 	DWO 職員 邦人コンサル 現地コンサル	工事開始前	研修報告書 研修修了書
成果 2	2-1 県行政に対する維持管理体制活動への協力依頼	各県 1 日=4 日	<ul style="list-style-type: none"> ◇ 維持管理体制の説明 ◇ 水利用者組合設立の説明 ◇ 維持管理体制支援活動への協力依頼 	DWO 職員 邦人コンサル 県関係者	工事開始前	説明会議事録
	2-2 村長に対する運営維持管理の説明と協力依頼	10 日	<ul style="list-style-type: none"> ◇ 維持管理体制の説明・WUA の役割の確認 ◇ 水利用者組合による運営維持管理体制の説明・協議 ◇ 水利用者組合の設立書作成依頼 ◇ 委員選定の協力依頼 	DWO 職員、現地コンサル、邦人コンサル 村長、村関係者	工事開始時	説明会議事録
	2-3 水利用者組合委員に対する研修	毎月 1 回各 4 日間 x 20 回 =80 日	<ul style="list-style-type: none"> ◇ 維持管理体制、水利用者組合の役割、業務の確認 ◇ 水利用者組合の規約作成 (任期、給水時間、出納帳、給水施設使用上の注意、掃除、お金の保管方法など) ◇ 水料金の設定 (村民用及び村民以外用、家畜用の料金設定) ◇ 家畜給水のルール策定 (給水方法、取水量の制限) ◇ 施設の盗難、防犯対策 ◇ 住民への施設運営維持及び衛生教育の啓発活動内容の検討 ◇ ソーラー及び発電機施設等の日常の操業、点検、修理手続内容 ◇ 給水施設周辺の整備・管理方法 	現地コンサル 邦人コンサル DWO 職員 機材メーカ 水利用者組合	工事開始時～工事中	研修プログラム 議事録 村落活動実施計画 水利用者組合の規約 参加者アンケート
	2-4 水利用者組合による住民研修の実施	90 サイト x 1 日=90 日	<ul style="list-style-type: none"> ◇ 水利用者組合の紹介、活動説明 ◇ 給水施設の運営・維持管理方法及び使用上の注意事項の説明 ◇ 集金の必要性、料金及び集金方法の周知 ◇ 故障時の対応 	DWO 職員 現地コンサル 邦人コンサル 水利用者組合 村落住民	施設利用開始時	衛生教育実施記録 村人のアンケート
	2-5 運営維持管理状況モニタリング	90 サイト ÷ 3 サイト/日 =30 日	<ul style="list-style-type: none"> ◇ 施設利用・維持管理状況モニタリング ◇ 各種活動成果のインタビュー調査 ◇ 再啓発 	DWO 職員 現地コンサル 村落住民 水利用者組合	工事終了後	モニタリングシート
成果 3	3-1 衛生教育の実施	2-4 実施時	<ul style="list-style-type: none"> ◇ 村落で衛生教育研修の準備 ◇ 衛生教育研修の実施 ◇ 家畜の給水桶周辺の清掃指導 	水利用者組合 現地コンサル 村落住民	工事終了時	衛生教育の活動計画 実施報告

活動 1-1	住民支援体制に関するワークショップ
内容	<ul style="list-style-type: none"> ● ソフトコンポーネントの必要性及び活動の説明 ● 維持管理・水利用者組合の設立に必要な事項（水料金の設定、水利用者組合の役割と業務、故障時の対応、会計の方法など）についての方針を参加者で協議し、話し合い、村人に伝えるべき内容を決定 ● 水利用者組合に対する研修内容の決定 ● 水利用者組合の規約の雛形を検討し策定 ● オペレータおよび水販売係に対する報酬の決定 ● 活動の実施体制、方法、スケジュール等の活動計画の策定
活動者	現地コンサルタントコミュニティ開発（3名） DWO 職員（維持管理担当）（1名） 邦人コンサルタント（1名）
対象者	活動者に同じ
期間	2日
実施時期	工事開始前（活動 1-2 と同時期に合計 4 日間のワークショップとして実施）

活動 1-2	水利用者組合ハンドブック・衛生教育教材作成ワークショップ
内容	<ul style="list-style-type: none"> ● 村落に配布する施設利用のハンドブック内容の協議 ● ハンドブックを活用した水利用者組合研修プログラム案の策定 ● 衛生教育教材内容の協議
活動者	現地コンサルタントコミュニティ開発(3名) DWO 職員（維持管理担当 1-2名） 邦人コンサルタント(1名)
対象者	活動主体に同じ
期間	2日
実施時期	工事開始前（活動 1-1 と同時期に合計 4 日間のワークショップとして実施）

表5-1 ワークショップ概要案

ワークショップ項目（案）	参加者
1. 組織管理	現地コンサルタント DWO 職員 邦人コンサルタント
1-1 村落給水維持管理の概略	
1-2 水利用者組合の形成手続き	
1-3 各組合員の役割と業務	
2. 水利用者組合ハンドブックに含む内容の検討と理解	
2-1 給水施設の概略構造、機能、動力ポンプ	
2-2 日常の保守点検、修理	
2-3 故障時の対応について	
2-4 組織の運営規約	
2-5 水料金の集金及び保管、使用	
3. 衛生教育	
3-1 水因性疾患と衛生の基礎知識	
3-2 水の汚染原因と防止法	
3-3 給水施設利用の衛生面での意義	

活動 2-1	県行政関係者に対する維持管理体制活動への協力依頼
内容	<ul style="list-style-type: none"> 北バリngo、バリngo、マリガット、東ポコット県の各県庁で県の行政関係者に対し、給水施設の運営・維持管理体制の説明と協力依頼ソフトコンポーネント活動の説明と協力依頼
活動者	DWO 職員(1名) 邦人コンサルタント(1名)
対象者	北バリngo、バリngo、マリガット、東ポコット県の各県庁
期間	4日間
実施時期	工事開始前

活動 2-2	村長等（村長、校長、村の長老）に対する運営・維持管理の説明と協力依頼
内容	<ul style="list-style-type: none"> 村長等へ給水施設の運営・維持管理体制及びソフトコンポーネント活動の説明と協力依頼 給水施設建設に必要な村落側の作業（村落内のリグのアクセス路整備、施設用地の確保整備）の協力要請 水利用者組合の設立要請 研修実施の各種調整の要請
活動者	DWO 職員(1名) 現地コンサルタントコミュニティ開発（1名） 邦人コンサルタント(1名)
対象者	プロジェクト対象村落村長、責任者（学校の場合） （10-20 村落ずつ近接する村落から集めて実施）
期間	10日間
実施時期	工事開始時

活動 2-3	2-3 水利用者組合に対する研修
内容	<p>（成功井として確定した村落が対象）</p> <ul style="list-style-type: none"> 水利用者組合の研修実施 <ul style="list-style-type: none"> 維持管理体制、水利用者組合の役割、業務の確認 水利用者組合の規約作成（任期、給水時間、出納帳、給水施設使用上の注意、掃除、お金の保管方法など） 水料金の設定（村民用及び村民以外用、家畜用の料金設定） 家畜給水のルール策定（給水方法、取水量の制限） 施設の盗難、防犯対策、住民への啓蒙方法 住民への施設運営維持及び衛生教育の啓発活動内容の検討 機材メーカーからソーラー及び発電機施設等の日常の操業及び点検等の基礎的な技術講習、故障時の対処方法など 給水施設周辺の整備・管理方法 施設使用開始時の住民研修プログラムの検討 研修に参加した組合役員は、村落に戻り他の水利用者組合委員に研修内容を共有
活動者	現地コンサルタントコミュニティ開発（3名） DWO 職員(1名) 邦人コンサルタント(1名) 機材メーカーの技術者
対象者	事業対象村落の水利用者組合役員 3名（委員長、会計、オペレータ） 4～5 村落ずつカバルネットまたはマリガット市に集めて実施
期間	各回 4日間（全 20回）
実施時期	工事開始時～工事期間中

活動 2-4	水利用者組合による住民研修の実施
内容	<ul style="list-style-type: none"> 住民研修の実施 <ul style="list-style-type: none"> 水利用者組合の紹介、役割、活動内容 水利用者組合の運営規約 給水施設の運営・維持管理方法（施設利用方法、料金、水収入の用途、故障時の対応、施設の清掃、家畜給水の留意点等） 料金徴収の必要性、維持管理計画
活動者	水利用者組合役員 DWO 職員(1名) 現地コンサルタントコミュニティ開発（1名） 邦人コンサルタント(1名)
対象者	計画対象村落の住民（90 サイト）
期間	各村落 0.5 日間
実施時期	工事後

活動 2-5	運営維持管理状況のモニタリング
内容	<ul style="list-style-type: none"> 施設利用開始後、水利用者組合の活動状況、施設の稼働状況についてモニタリングを実施（チェック用紙を用い、水利用者組合の活動状況、給水施設の利用状況を確認、村落における情報の収集及び必要に応じた指導）
活動者	現地コンサルタントコミュニティ開発(1名) DWO 職員(1名) 邦人コンサルタント(1名)
対象者	プロジェクト対象村落の住民（90 サイト）
期間	1 日/3 サイト
実施時期	施設使用開始後

表2-5 モニタリング項目（例）

村名	規約有無	清掃記録	キオスク 業務記録	出納帳 記録	整備故障 記録	周辺整 備	住民啓発活動 実施・未実施
村落 A							
村落 B							
村落 C							

活動 3-1	水利用者組合による住民への衛生教育の実施
内容	<ul style="list-style-type: none"> 住民衛生研修内容の検討及び準備 住民衛生研修の実施 <ul style="list-style-type: none"> 家庭における水利用の衛生 水因性疾患の原因 家畜の影響 水場の清掃内容 住民による衛生活動計画の策定 水利用者組合による住民の衛生環境のモニタリング、指導
活動者	水利用者組合役員 現地コンサルタントコミュニティ開発(1名) DWO 職員(1名)
対象者	プロジェクト対象村落の住民（90 サイト）
期間	2-4 のプログラム時に実施
実施時期	工事中～工事後

6. ソフトコンポーネントの実施リソースの調達方法

本事業の実施主体のDWOのカウンターパートは人的、予算的に限られているため、本ソフトコンポーネントの実施リソースは、邦人コンサルタントの監理のもと現地カウンターパート担当1名と現地の文化、言語に精通し、村落開発や水・衛生分野の知識及び啓発活動の経験を有した現地コンサルタントをコミュニティ開発員として現地再委託により3名動員する。プログラムの進捗監理はコミュニティ開発員（現地コンサルタント）が実施するが、邦人コンサルタントの専門家がスポットで現地に赴き、実施状況を確認し、必要に応じて行政及び住民に対して指導を行う。

(1) 実施リソース

1) 邦人コンサルタント要員 1名 4.0M/M（運営・維持管理計画/衛生教育担当）

ソフトコンポーネント活動全体の計画立案及び実施監理を行う。また、現地コンサルタント、カウンターパート及び住民に対して専門的な指導を行う。また、ワークショップ講師及び現地コンサルタントの選定、TORの作成、契約業務等の事務業務も担当する。

業務日数算出根拠を下表のとおり。

表 2-6 邦人業務日数算出根拠

		月	火	水	木	金	土	日	月	火	水	木	金	土	日	月	火	水	木	金	土	日	月	火	水	木	金	土	日	月	火	水	木	金	土	日	日数	M		
ソフトコン1回目	出国・調整準備、再委託契約	■																																						
	移動、RVWSB表敬/DWO協議・調整等																																							
	施設行政への説明会/準備 (9日)																																							
	維持管理開始(1日)																																							
	衛生教育研修/研修等・取りまとめ (9日)																																							
	村長に対する研修/準備 (11日)																																							
	水利用者組合手引作成準備(2日)																																							
	水利用者組合研修・準備 (9日)																																							
	ソフトウツ、教材作成協議																																							
	DWO/RVWSB協議・移動 再委託監理・帰国																																						37	1.9
ソフトコン2回目	出国・調整・調整準備	■																																						
	ソフトウツ、教材協議、衛生教育研修協議																																							
	移動、RVWSB協議、研修準備																																							
	水利用者組合研修・準備・取りまとめ																																							
	住民研修準備・衛生教育																																							
	フォローアップ発表																																							
	DWO・RVWSB協議・移動																																							
	再委託監理・帰国																																							
	ソフトコン3回目	出国・調整準備・移動	■																																					
		移動、RVWSB協議/調整等																																						
村長研修・衛生教育																																								
フォローアップ発表																																								
DWO協議・移動																																								
再委託監理帰国																																								

1回目 37日、2回目 21日、3回目 22日、計 80日/20日=4.0MM

2) 現地コンサルタント 3名 18.4M/M（コミュニティ開発/教材作成担当）

参加型の村落給水維持管理体制の構築のため、村落給水、コミュニティ開発の実績と経験を有する現地コンサルタントを配置する。なお、邦人コンサルタント監理のもと、カウンターパート職員と共同でワークショップの開催、水利用者組合の研修、住民啓発活動及びモニタリングの調整等を担当する。また、各種活動を通して、水利用者組合ハンドブック及び衛生教育教材を作成する。

業務日数 368 日。368/20=18.4M/M

活動	人数	日数	計 (日数)
1-1、1-2	3	4	12
教材作成	2		21
2-2	1	10	10
2-3	3	80	240
2-4	1	45	45
3-1	1	30	30
その他打合せ及び事前調整			10
計			368

3) 実施機関カウンターパート要員 1名 6.2M/M (運営・維持管理主担当)

各活動の業務調整、現地コンサルタント及び邦人コンサルタントの活動を支援する。また、施設建設後及び水利用者組合の設立後、運営・維持管理のフォローアップ及びモニタリングを行う。なお、担当者は中央バリンゴ県水事務所のスタッフを想定している。

業務日数 124 日。124/20=6.2M/M

7. ソフトコンポーネントの実施工程

項目	会計年度																																																																					
	1年目			2年目			3年目			4年目																																																												
11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3																																										
契約	交換公文締結(E/N) 無償資金拠出金額結(G/A) コンサルタント契約																																																																					
実施	現地調査 国内解析 入札図書作成 入札図書承認 P/Q公示 入札 入札評価 業者契約・認証 着工準備 掘削機械の現地搬入・整備 さく井工事 揚水試験 給水施設工事 ポンプ取付工・試運転 検査引渡・撤去																																																																					
工事工程	ソフトコンポーネント活動																																																																					
ソフトコンポーネント	<table border="1"> <thead> <tr> <th>活動数</th> <th>邦入</th> <th>DWO</th> </tr> </thead> <tbody> <tr> <td>1-1 村落支援体制についてのワークショップ</td> <td>2</td> <td>1</td> </tr> <tr> <td>1-2 水利用者組合ハンドブック・衛生教育教材作成ワークショップ</td> <td>2</td> <td>2</td> </tr> <tr> <td>2-1 地域行政に対する維持管理体間活動への協力依頼</td> <td>4</td> <td>4</td> </tr> <tr> <td>2-2 村長に対する維持管理体制の研修</td> <td>10</td> <td>10</td> </tr> <tr> <td>2-3 水利用者組合委員に対する研修</td> <td>20</td> <td>32</td> </tr> <tr> <td>2-4 住民啓発活動の実施</td> <td>12</td> <td>45</td> </tr> <tr> <td>2-5 運営維持管理状況モニタリング</td> <td>6</td> <td>30</td> </tr> <tr> <td>3-1 衛生教育の実施</td> <td>12</td> <td>45</td> </tr> <tr> <td>その他移動・報告(渡船3回分)</td> <td>12</td> <td>12</td> </tr> <tr> <td>MMI</td> <td>80</td> <td>124</td> </tr> <tr> <td>MM計</td> <td></td> <td></td> </tr> <tr> <td>実施</td> <td>4.0</td> <td>4.0</td> </tr> <tr> <td>回数計</td> <td>18.4</td> <td>3</td> </tr> </tbody> </table>																												活動数	邦入	DWO	1-1 村落支援体制についてのワークショップ	2	1	1-2 水利用者組合ハンドブック・衛生教育教材作成ワークショップ	2	2	2-1 地域行政に対する維持管理体間活動への協力依頼	4	4	2-2 村長に対する維持管理体制の研修	10	10	2-3 水利用者組合委員に対する研修	20	32	2-4 住民啓発活動の実施	12	45	2-5 運営維持管理状況モニタリング	6	30	3-1 衛生教育の実施	12	45	その他移動・報告(渡船3回分)	12	12	MMI	80	124	MM計			実施	4.0	4.0	回数計	18.4	3
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要員計画	邦人コンサルタンツ(運営・維持管理計画/衛生教育) 現地コンサルタンツ(計3名) カウンターパート(運営・維持管理)																																																																					
	*20日≒1.0M/M																																																																					

揚水試験、水質試験の結果を待って施設工事開始。運転引渡し 2.0ヶ月程度

ソフトコンポーネント業務着手証明

進捗報告

完了報告

8. ソフトコンポーネントの成果品

成果品は以下を予定している。

- 1) 水利用者組合ハンドブック
- 2) 水利用者組合の設立に関する資料（組合員名簿、運営規約、出納帳）
- 3) 衛生教育教材
- 4) 運営・維持管理のモニタリング結果表
- 5) ソフトコンポーネント完了報告書

9. ソフトコンポーネントの概略事業費

日本側負担経費： 18,889 千円

先方側負担経費： 586 千円（558,000Ksh）（日当・給与・交通費）

日本側負担経費の内訳

直接経費： 13,180 千円

そのうち、現地再委託費：8,274 千円

直接人件費：2,504 千円

間接費：3,205 千円

合計額：18,889 千円

10. 相手国実施機関の責務

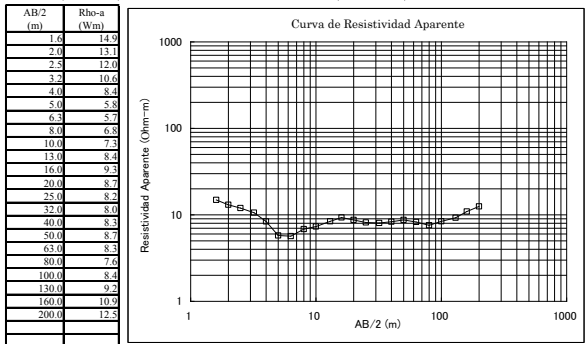
本ソフトコンポーネントを実施し、また、プロジェクト成果を持続させるために必要な責務は、下記のとおりである。

- ① 本ソフトコンポーネントの実施に必要な職員を確保し、配置する（各県で運営維持管理主担当 1 名以上）
- ② ①の活動に必要な経費（交通費、日当等）を負担する。
- ③ 会議や研修に必要とする会議室及び事務所を提供する。
- ④ 計画の実施に必要な情報や資料を提供する。
- ⑤ 計画の実施に必要な関係機関、組織、行政及び村落との連絡調整を行う。
- ⑥ 水利用者組合の設立を支援する。
- ⑦ 住民に対して運営・維持管理及び衛生教育に関する指導を実施する
- ⑧ 施設建設後、給水施設及び水利用者組合のモニタリングを定期的を実施し、住民の運営・維持管理状況を把握する。また、必要に応じて指導を実施する。

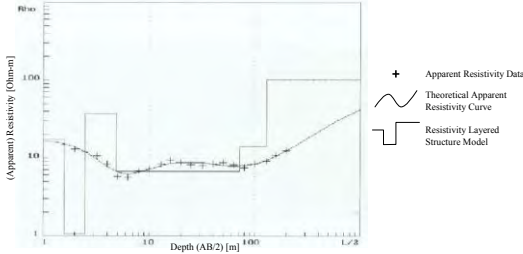
番号	名称	形態 図書・ビ デオ・地 図・写真 等	オリジ ナル/ コピー	発行機関	発刊年
1	The National Water Services Strategy (NWSS) (2007-2015)	書類	コピー	Ministry Of Water and Irrigation	2007/9
2	National Development Plan 2002-2008	書類	コピー	Ministry of Planning	2004
3	Baringo District Development Plan 2002-2008	書類	コピー	Ministry of Finance and Planning	2004
4	East Pokot District Development Plan 2008-2012	書類	コピー	Ministry of State for Planning National Development and Vision 2030	2010/6
5	The Kenya gazette	図書	オリジ ナル	Authority of the Republic of Kenya	2010
6	Baringo District Development Plan 2005-2010	書類	コピー	National Coordination Agency for Population and Development	2005
7	Practical Manual For Water Supply Services In Kenya	ファイル	コピー	Ministry of Water and Irrigation	2005/10
8	The National Water Resources Management Strategy 1 st Ed. (NWRMS) (2007-2009)	書類	オリジ ナル	Ministry of Water and Irrigation	2007/1
9	2009 Kenya Population and Housing Census Volume IB (Population Distribution by Political Unites)	書類	オリジ ナル	Kenya National Bureau of Statistics	2010/8
10	2009 Kenya Population and Housing Census Volume II (Population and Household Distribution by Socio-Economic Characteristics)	書類	オリジ ナル	Kenya National Bureau of Statistics	2010/8
11	2009 Kenya Population and Housing Census Volume IC (Population Distribution by Age, Sex and Administrative Unites)	書類	オリジ ナル	Kenya National Bureau of Statistics	2010/8
12	Demographic and Health Survey	書類	オリジ ナル	Kenya National Bureau of Statistics	2008/9
13	2009 Kenya Population and Housing Census Volume IA (Population Distribution by Administrative Unites)	書類	オリジ ナル	Kenya National Bureau of Statistics	2010/8
14	A Socio-Economic Profile (WELL-BEING IN KENYA)	書類	オリジ ナル	Kenya National Bureau of Statistics	2008/6
15	Basic Report (Kenya Integrated Household Budget Survey 2005/06)	書類	オリジ ナル	Kenya National Bureau of Statistics	2007/8
16	Map of Kenya 76/1~4、77/1・3、90/1~4、91/1~4、104/1~4、105/1~4、118/1・2	地図	オリジ ナル	Government of United Kingdom	1982
17	Kenya Administrative Boundary Map	地図	オリジ ナル	Survey of Kenya	1998
18	The project for groundwater development in rural districts under Japanese grant aid, A Trainer's Manual	図書	オリジ ナル	Ministry of Environment and Natural Resources	1999

Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Barwessa
Location	Lawan	Site No.	V-2
Site Name	KONOO PRIMARY SCHOOL	Elevation	1112
36N UTM-E	798705	UTM-N	75677
Latitude	0.683944	Longitude	35.683556

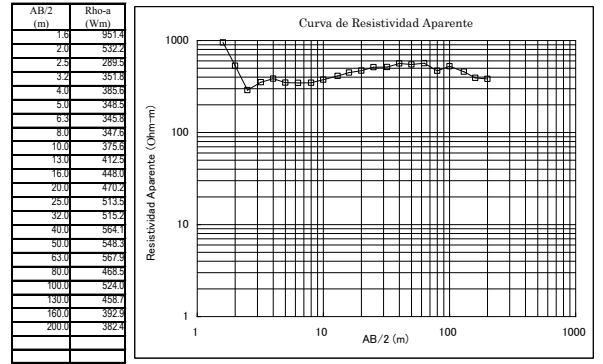


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
17.0	2.0	Dry top superficial layer	Dry. No aquifers
1.0	3.0	Slightly weathered trachytic phonolites.	Moist.
37.0	5.0	Slightly weathered and fractured trachytic phonolites	No significant aquifers
7.0	73.0	Weathered and fractured trachytic phonolites rocks.	Aquiferous layer
14.0	130.0	Fractured and weathered basalts and old surface layer.	Aquiferous. Deep aquifers expected
101.0	>130	Slightly weathered trachytes	Dry

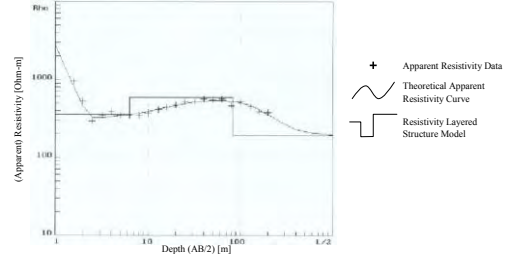


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Barwessa
Location	Lawan	Site No.	V-3
Site Name	KORMOR	Elevation	1194
36N UTM-E	798705	UTM-N	75677
Latitude	0.634389	Longitude	35.683556

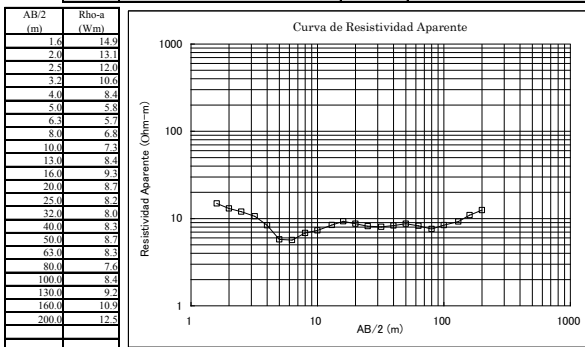


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
9000	0.4	Dry top compact layer	Dry. No aquifers
20	2.0	Slightly weathered trachytic phonolites.	Moist.
358	6.3	Slightly weathered and fractured trachytic phonolites	No significant aquifers
589	82	High resistivity fractured trachytes intercalated with fractured pyroclastics	Dry
193	>82	Fractured and weathered trachytic phonolites and old land surface layer.	Aquiferous.

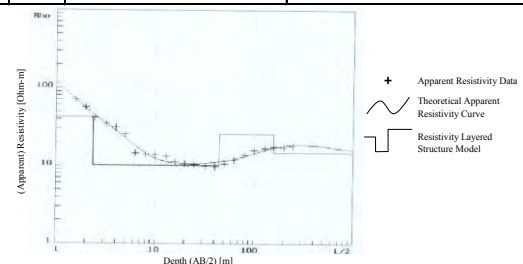


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Barwessa
Location	Kabutei	Site No.	V-5
Site Name	KABULIAK	Elevation	1091
36N UTM-E	796982	UTM-N	69736
Latitude	0.63025	Longitude	35.668111

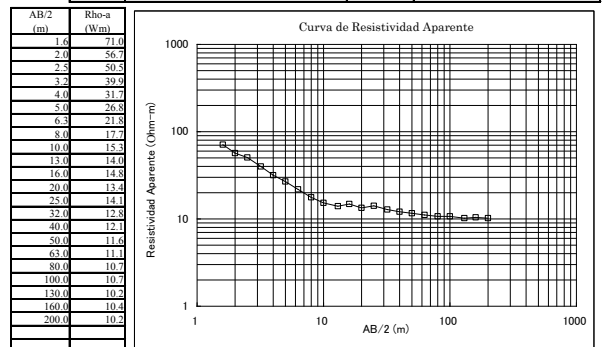


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
214.0	0.5	Dry top superficial layer	Dry. No aquifers
43.0	2.4	Slightly weathered phonolites.	Moist. Not potential for groundwater exploitation
10.0	44.0	Slightly weathered and fractured trachytic phonolites	No significant aquifers
26.0	159.0	Weathered and fractured trachytic phonolites.	Aquiferous layer
15.0	>159	Highly Fractured and weathered basalts and old surface layer.	Aquiferous. Deep aquifers expected

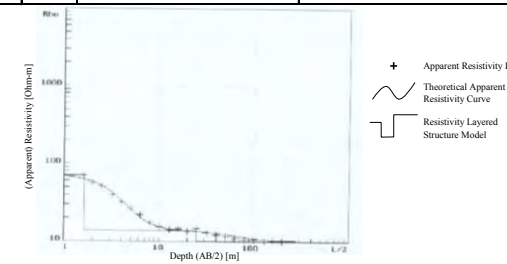


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Barwessa
Location	Kabutei	Site No.	V-6
Site Name	KAMNOROCK	Elevation	1066
36N UTM-E	793300	UTM-N	69768
Latitude	0.630556	Longitude	35.635028

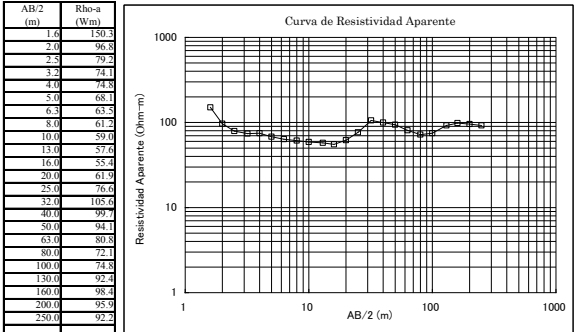


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
71.0	2.0	Dry top superficial layer	Dry. No aquifers
14.0	25.0	Slightly weathered phonolites.	Moist. Very thin aquifer layer. No potential for groundwater exploitation
10.0	>25	Highly weathered and fractured phonolites	Significant aquifers expected below this layer

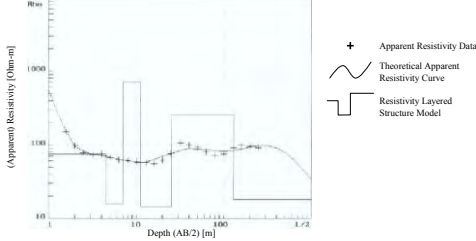


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kipsaraman
Location	Kaboskei	Site No.	V-7
Site Name	CHIMODOI	Elevation	1693
36N UTM-E	810450	UTM-N	88345
Latitude	0.798333	Longitude	35.789111

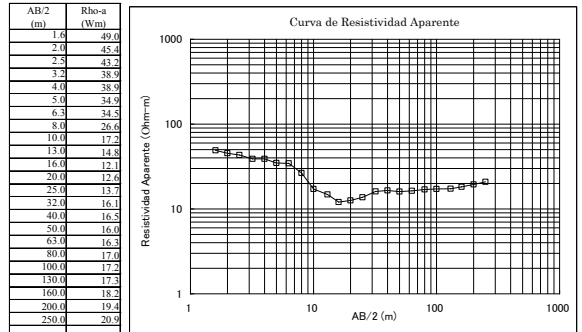


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
2835.0	0.3	Dry and compacted top superficial layer	Dry. No aquifers
75.0	4.5	Slightly weathered phonolites.	Moist.
16.0	7.0	Slightly weathered and fractured phonolites	No significant aquifers
7.174	11.4	Fresh phonolites rocks	Dry. No aquifers
15.0	25.0	Fractured and weathered phonolites and old land surface layer	Aquiferous. Shallow aquifers expected
257.0	130.0	Fresh phonolite rocks	Dry. No aquifers
18.0	>130	Highly weathered and fractured basaltic rocks.	Aquiferous layer. Water strikes expected in this layer.

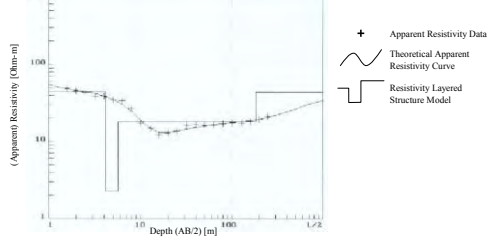


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kipsaraman
Location	Kaboskei	Site No.	V-10
Site Name	MOIGUTWA	Elevation	1713
36N UTM-E	811929	UTM-N	86084
Latitude	0.777917	Longitude	35.802361

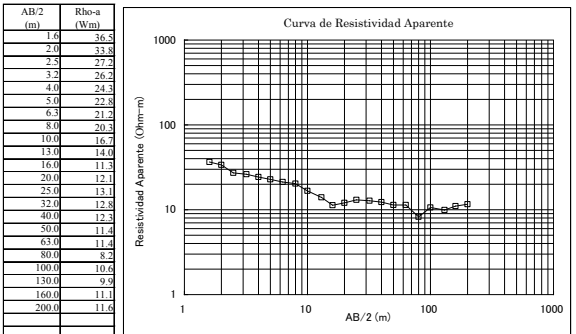


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
93	0.3	Dry top superficial layer	Dry. No aquifers
44	4	Slightly weathered pyroclastics mainly tuffs.	Moist. Very thin aquifer layer.
2.5	6	Slightly weathered and fractured phonolites	No significant aquifers
18	85	Highly weathered and fractured phonolites	Aquiferous layer
43-85		Fractured and weathered phonolites and old surface layer.	Aquiferous. Deep aquifers expected

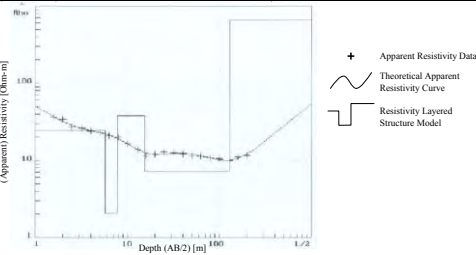


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Barwessa
Location	Kaboskei Kerio	Site No.	V-11
Site Name	KAPTIGIT	Elevation	1035
36N UTM-E	796072	UTM-N	93193
Latitude	0.842222	Longitude	35.660028

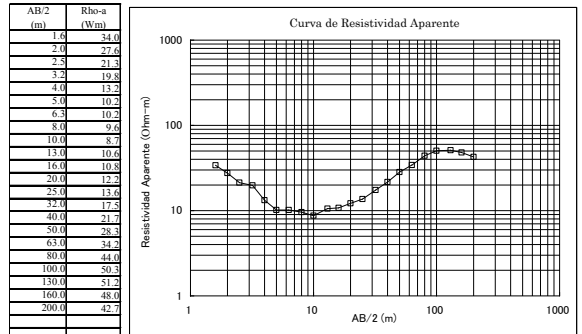


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
70	0.5	Dry top superficial layer	Dry. No aquifers
25	6	Slightly weathered pyroclastic mainly the tuffs	Moist. No potential for groundwater exploitation.
2	8	Clay layers	No significant aquifers
38	15	Slightly weathered and fractured phonolites	No significant aquifers
7	130	Fractured and weathered basalts and old surface layer.	Aquiferous.
658	>130	Fresh compact basalts	Dry.

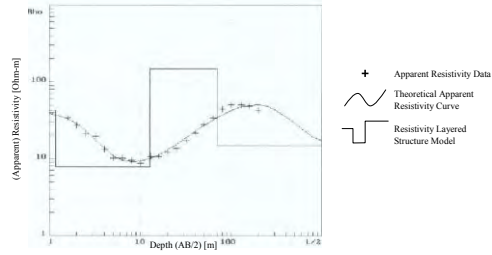


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Barwessa
Location	Kaboskei Kerio	Site No.	V-12
Site Name	AYATIA PRIMARY SCHOOL	Elevation	1044
36N UTM-E	795847	UTM-N	98470
Latitude	0.889917	Longitude	35.658056

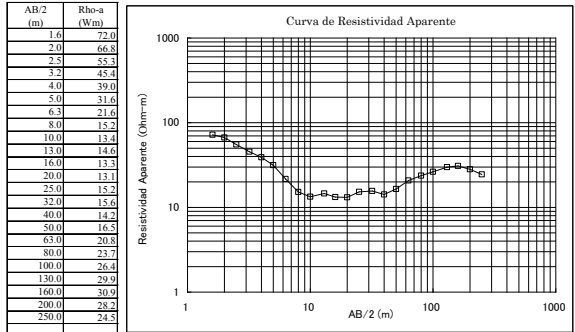


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
42	1.2	Dry top superficial layer	Dry. No aquifers
8	13	Slightly weathered tuffs.	Moist.
150	70	Compact basalts	Shallow aquifer expected in this zone
15	>70	Highly weathered basaltic rocks.	Aquiferous layer

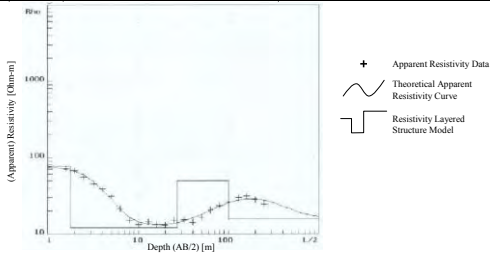


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Barwessa
Location	Kaboskei Kerio	Site No.	V-13
Site Name	MAREGUT PRIMARY	Elevation	1069
36N UTM-E	799959	UTM-N	95748
Latitude	0.865278	Longitude	35.694972

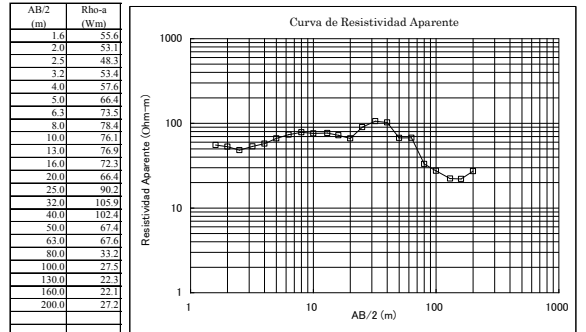


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
78	2	Dry top superficial layer	Dry. No aquifers
12	27	Slightly weathered trachytes and phonolitic trachytes	Moist. Very thin aquifer layer. Not potential for groundwater exploitation.
50	100	Slightly weathered and fractured phonolites	Shallow aquifer expected in this zone
16	>100	Highly weathered and fractured phonolites.	Aquiferous layer

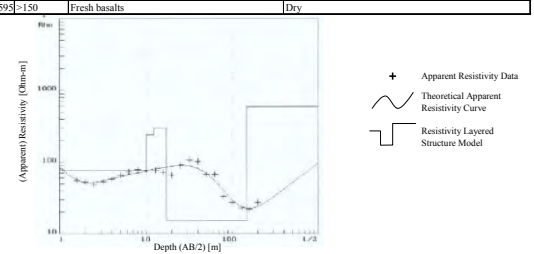


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kipsaraman
Location	Kapiteberewo	Site No.	V-15
Site Name	KAPAMIN	Elevation	2217
36N UTM-E	815264	UTM-N	79507
Latitude	0.718444	Longitude	35.832278

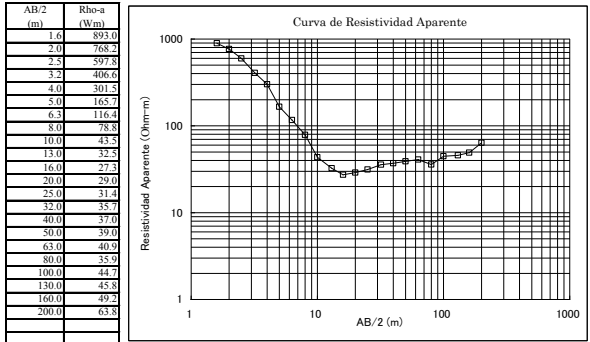


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
159	0.3	Dry top superficial layer	Dry. No aquifers
22	1	Slightly weathered tuffaceous material	Moist. Very thin aquifer layer. Not potential for groundwater exploitation.
76	10	Slightly weathered and fractured pyroclastics	No aquifer expected in this zone
238	12	Dry slightly fractured trachytes	Dry
300	17	Fresh volcanic rocks	Dry
15	150	Highly weathered and fractured trachytes	Aquiferous layer
595	>150	Fresh basalts	Dry

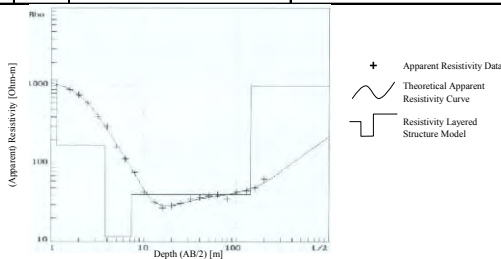


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kipsaraman
Location	Kapiteberewo	Site No.	V-17
Site Name	CHAMBAL PRIMARY	Elevation	2046
36N UTM-E	813363	UTM-N	76213
Latitude	0.688667	Longitude	35.815167

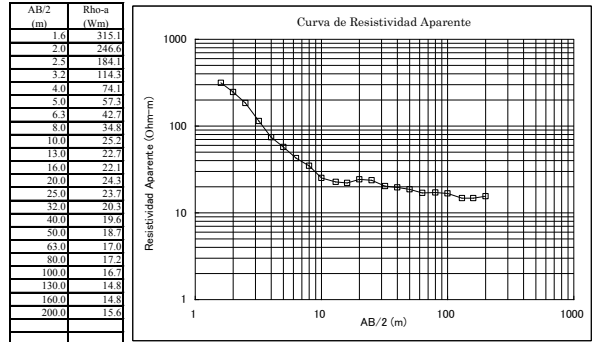


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
1197	1.3	Dry top superficial layer	Dry. No aquifers
174	4	Dry volcanic soils	Dry
12	7	Slightly weathered and fractured pyroclastics	No aquifer expected in this zone
41	14	Highly weathered and fractured phonolites.	Aquiferous layer
1000	>14	Compact and crystalline basalts	Dry

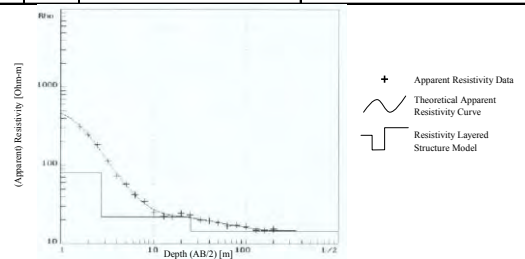


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kipsaraman
Location	Kipkata	Site No.	V-19
Site Name	BARKETIEN PRIMARY	Elevation	1253
36N UTM-E	817864	UTM-N	87293
Latitude	0.788778	Longitude	35.855611

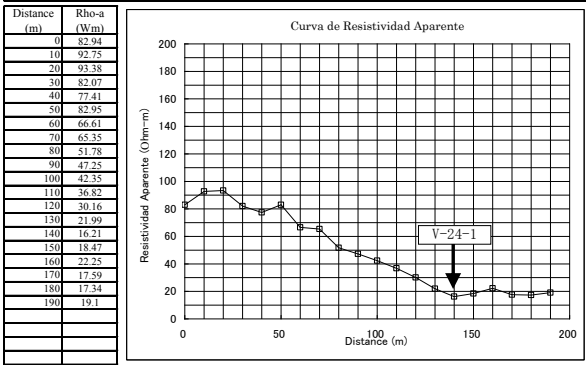


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
576	0.8	Dry top superficial layer	Dry. No aquifers
80	3	Slightly weathered phonolites.	Moist
23	25	Slightly weathered and fractured phonolites	Shallow aquifer expected in this zone
14	>25	Highly weathered and fractured phonolites.	Aquifers expected below these layers.

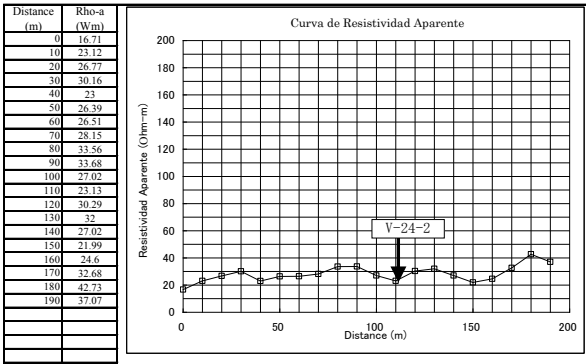


Horizontal Electric Profiling Datasheet (Wenner)

District	Baringo North	Division	Bartabwa	
Location	Kinyach	Site No.	HEP-24-1	
Site Name	TOBOROI	Elevation	1453	
Start Point	Latitude	0.882611	Longitude	35.794083
End Point	Latitude	0.882611	Longitude	35.794083

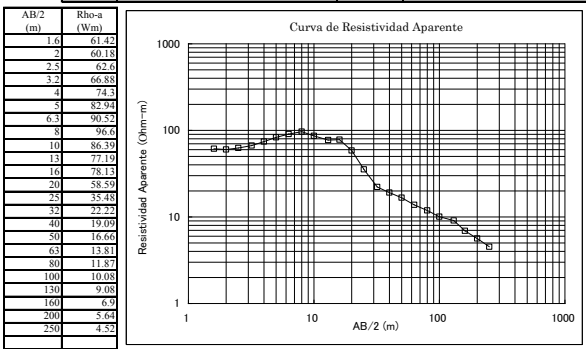


Location	Kinyach	Site No.	HEP-24-2	
Site Name	TOBOROI	Elevation	1453	
Start Point	Latitude	0.876778	Longitude	35.800861
End Point	Latitude	0.877750	Longitude	35.799417

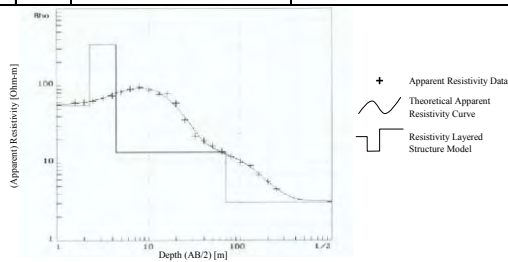


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Bartabwa	
Location	Kinyach	Site No.	V-24-2	
Site Name	TOBOROI	Elevation	1453	
36N	UTM-E	811662	UTM-N	97097
Latitude	0.877417	Longitude	35.800028	

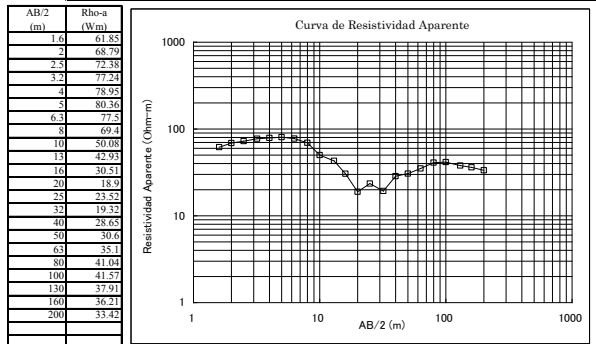


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
56	2.3	Thin dry top superficial layer	Dry
340	4.4	Slightly weathered and fractured trachyphonolites	Moist
14	69	Weathered/fractured trachyphonolites and basalts	Shallow aquiferous layer
3	>69	Clays/highly decomposed trachyphonolites / pyroclastics	Aquiferous

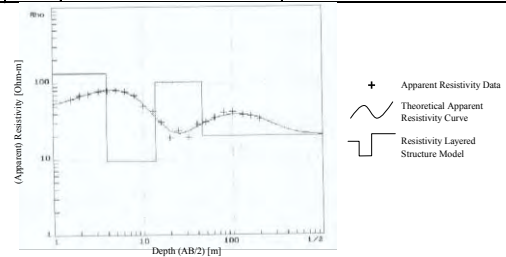


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Bartabwa	
Location	Kinyach	Site No.	V-24-1	
Site Name	TOBOROI	Elevation	1457	
36N	UTM-E	810957	UTM-N	97805
Latitude	0.884083	Longitude	35.793639	

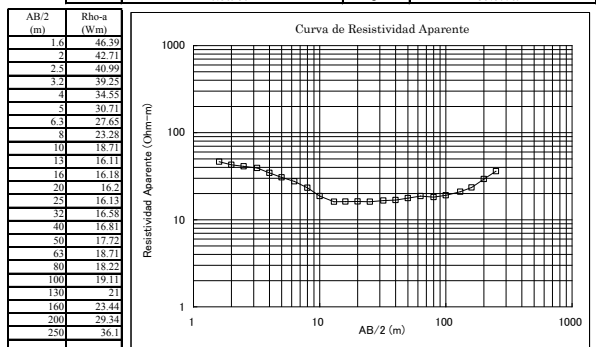


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
49	0.9	Dry top superficial layer	Dry. No aquifers
132	4	Slightly weathered and fractured trachyphonolites	Dry
9	14	Highly weathered and fractured trachyphonolites and basalts rocks	Dry
102	46	Slightly weathered / fractured trachyphonolites	No aquifers
20	>46	Highly weathered/fractured trachyphonolites	Aquiferous

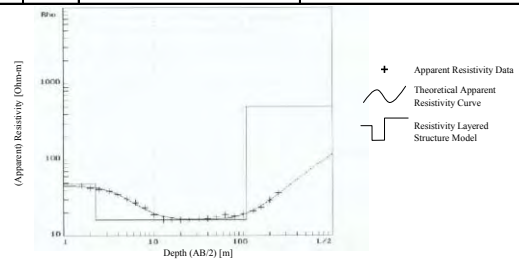


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Bartabwa	
Location	Kinyach	Site No.	V-24-3	
Site Name	TOBOROI	Elevation	1457	
36N	UTM-E	812516	UTM-N	96262
Latitude	0.869861	Longitude	35.807694	

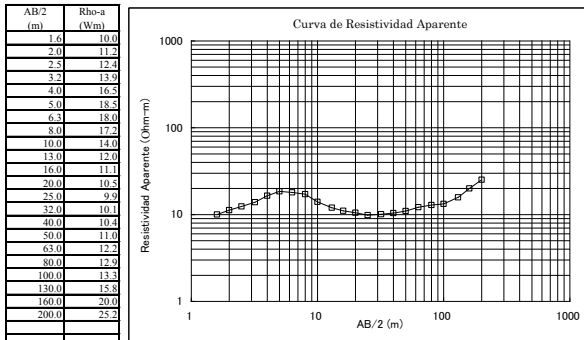


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
46	0.9	Dry top superficial layer	Dry. No aquifers
48	2.3	Volcanic soils	No aquifer
16	108	Highly weathered and fractured trachyphonolites	Aquiferous
500	>108	Compact trachyphonolites/pyroclastics	No aquifer expected

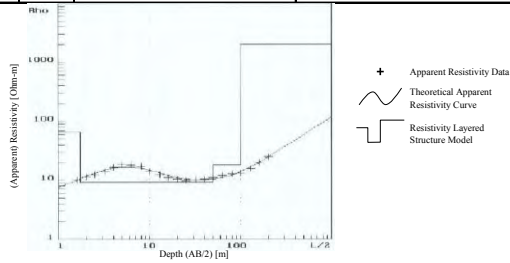


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo	
Location	Bartum	Site No.	V-25	
Site Name	LINGOK	Elevation	1168	
36N	UTM-E	827152	UTM-N	64086
	Latitude	0.579028	Longitude	35.938889

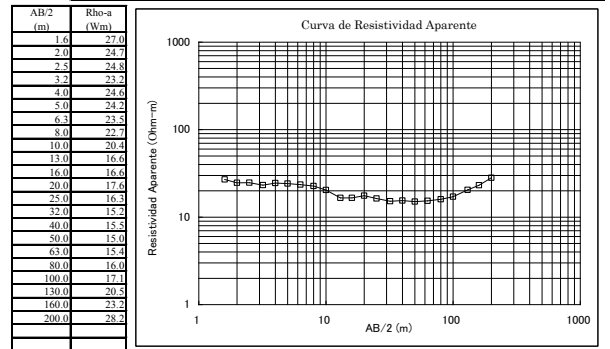


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
4	0.8	Dry top superficial layer	Dry. No aquifers
65	5	Slightly weathered phonolites.	Moist.
9	50	Highly weathered and fractured phonolites	Shallow aquifer expected in this zone
18	100	Slightly weathered and fractured phonolites	Aquiferous layer
2000	>100	Fresh compact basalts	Dry

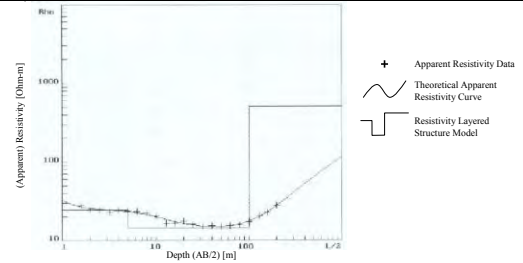


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo	
Location	Bartum	Site No.	V-26	
Site Name	BARKILACH	Elevation	1323	
36N	UTM-E	824472	UTM-N	71328
	Latitude	0.644500	Longitude	35.914861

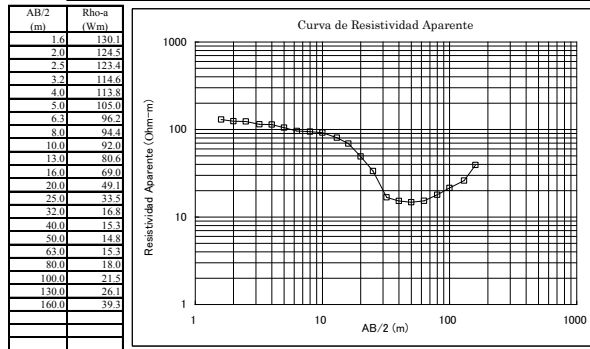


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
72	0.3	Dry top soil. Superficial alluvial material	Dry. No aquifers
24	5	Dry soils with layer fractured vesicular basalts intercalated with the pyroclastics.	Dry
14	102	Fractured, slightly weathered to highly weathered basaltic layer	Aquiferous
507	>102	Fresh compact basalts	Dry

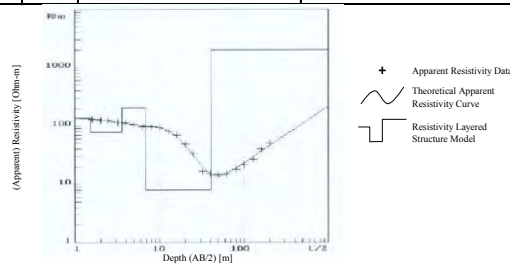


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo	
Location	Bartum	Site No.	V-27	
Site Name	USWONIN	Elevation	1357	
36N	UTM-E	820157	UTM-N	67533
	Latitude	0.610250	Longitude	35.876111

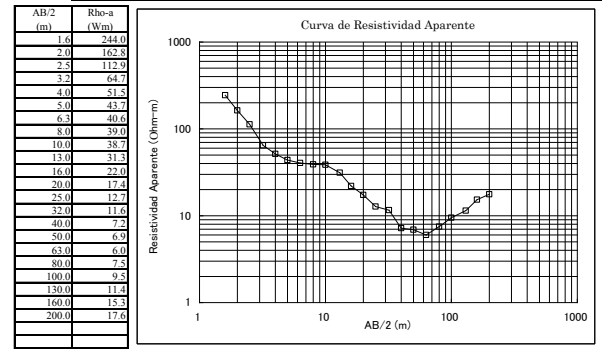


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
137	2	Dry top soil. Superficial alluvial material	Dry. No aquifers
77	4	Dry soils with layered fractured vesicular trachytes intercalated with tufts.	Dry.
204	7	Compact trachytic layer	Moist no significant aquifers
8	40	Highly fractured and weathered trachytes intercalated with fractured pyroclastics.	Shallow aquifers expected
2000	>40	Fresh compact Volcanic rocks	Dry

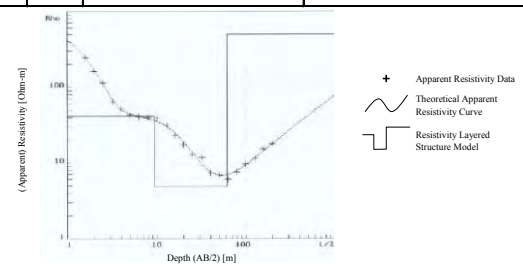


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kipsaraman	
Location	Sibilo	Site No.	V-28	
Site Name	KOLONGOTWO	Elevation	1068	
36N	UTM-E	822177	UTM-N	80801
	Latitude	0.730083	Longitude	35.894306

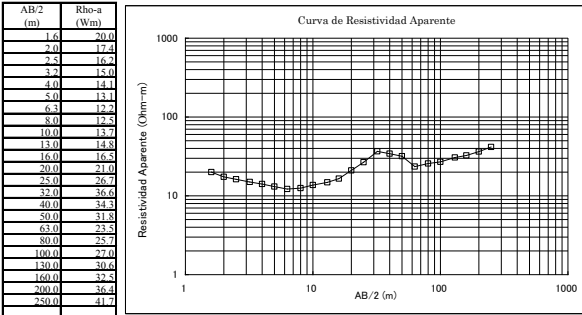


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
569	0.8	Dry top soil. Superficial compact material	Dry. No aquifers
20	1.9	Dry soils with layer fractured pyroclastics	Dry
42	9	Fractured, slightly weathered phonolitic layer	Moist no significant aquifers
5	62	Fractured phonolites intercalated with fractured pyroclastics.	Shallow expected aquifers
500	>500	Fresh compact Volcanic rocks	Dry

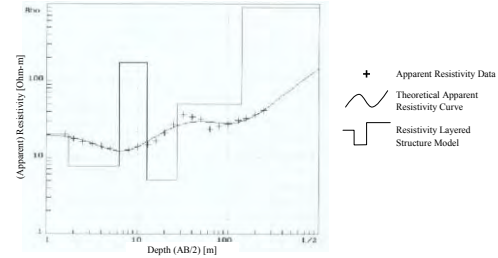


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kipsaraman
Location	Sibilo	Site No.	V-29
Site Name	KOIBOWALE	Elevation	1113
36N	UTM-E	822908	UTM-N
		0.690333	Longitude
			35.900861

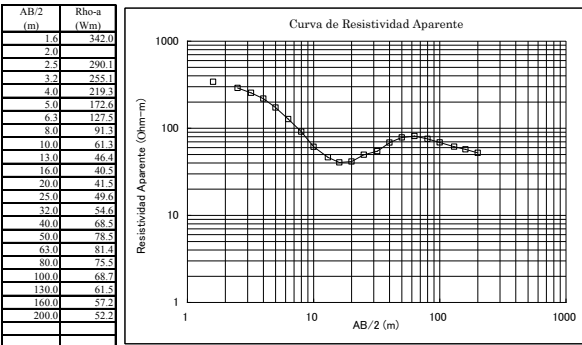


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
20	2	Dry top soil. Superficial alluvial material	Dry. No aquifers
8	4	Dry soils with layer fractured trachytes basalts	Dry
175	13	Fractured, slightly weathered basaltic layer	Moist. No significant aquifers
5	27	Fractured basalt intercalated with fractured microclastics	No significant aquifers expected in this layer
50	140	Highly weathered pyroclastics and old land	Aquiferous
900	>140	Fresh compact Basalts rocks	Dry

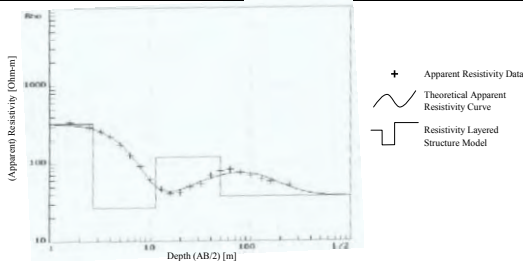


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Bartabwa
Location	Ng'orora	Site No.	V-32
Site Name	KAPTUREO	Elevation	1364
36N	UTM-E	814718	UTM-N
		0.908444	Longitude
			35.827500

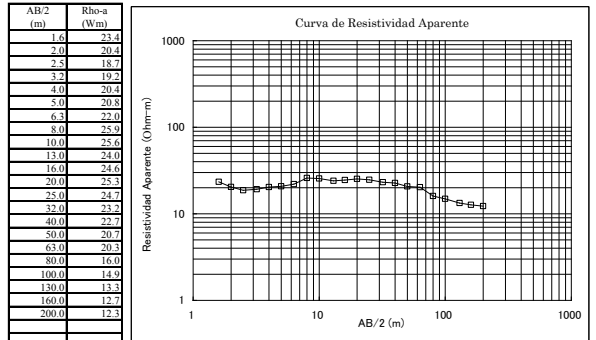


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
327	3	Dry top superficial layer	Dry. No aquifers
27	11	Slightly weathered tufts	Moist. Very thin aquifer layer. Not potential for groundwater exploitation
120	50	Slightly weathered and fractured trachyte	Shallow aquifer expected in this zone
37	>50	Highly weathered and fractured trachytes rocks.	Aquiferous layer

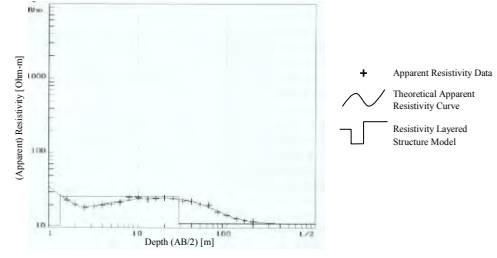


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kipsaraman
Location	Sibilo	Site No.	V-31
Site Name	KIPCHEMOI	Elevation	1009
36N	UTM-E	825531	UTM-N
		0.739250	Longitude
			35.924417

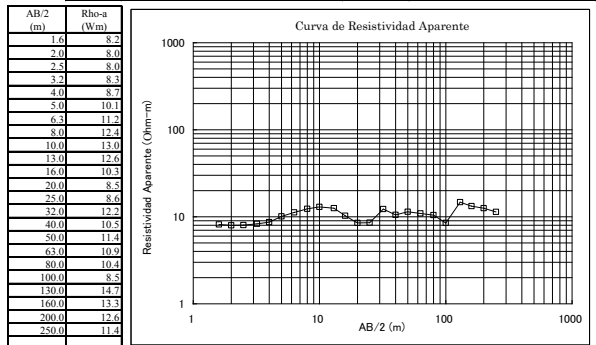


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
53	0.5	Dry top soil. Superficial alluvial material	Dry. No aquifers
11	13	Dry soils with layer fractured vesicular phonolites	Dry
26	29	Fractured, slightly weathered basaltic layer	Moist
11	>29	Highly weathered basalts.	Aquiferous

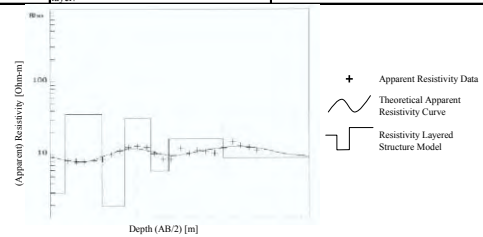


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Bartabwa
Location	Ng'orora	Site No.	V-33
Site Name	RONDININ (Chepesin)	Elevation	1132
36N	UTM-E	819659	UTM-N
		0.741417	Longitude
			35.871722

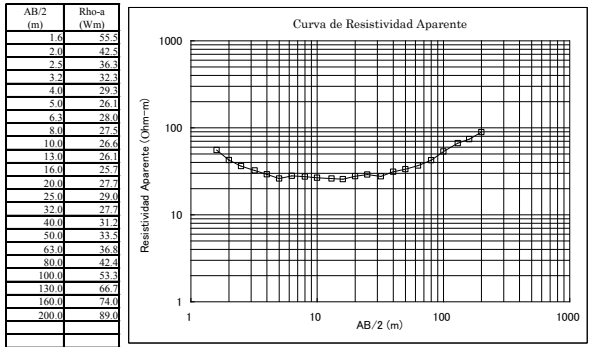


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
11	0.8	Dry top superficial layer	Dry. No aquifers
3	2	Moist to dry volcanic soils	Moist. No aquifers are expected
36	4	Volcanic ashes and sediments	Dry. No aquifers are expected
2	7.5	Highly weathered volcanic ashes	Moist. Not potential for groundwater exploitation
31	15	Slightly weathered trachytes	Moist. Very thin aquifer layer
6	23	Slightly weathered and fractured phonolites	Shallow aquifer expected in this zone
16	100	Highly weathered and fractured phonolites.	Aquiferous layer
9	>100	Fractured and weathered basalts and old surface layer.	Aquiferous. Deep aquifers expected

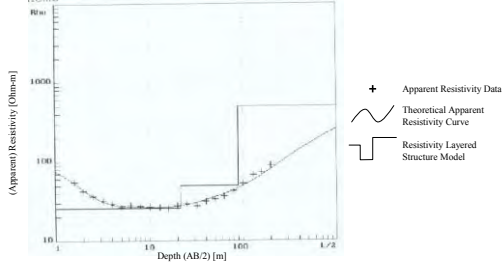


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Bartabwa
Location	Ng'orora	Site No.	V-35
Site Name	CHEMOE	Elevation	1080
36N UTM-E	822312	UTM-N	89874
Latitude	0.812056	Longitude	35.895583

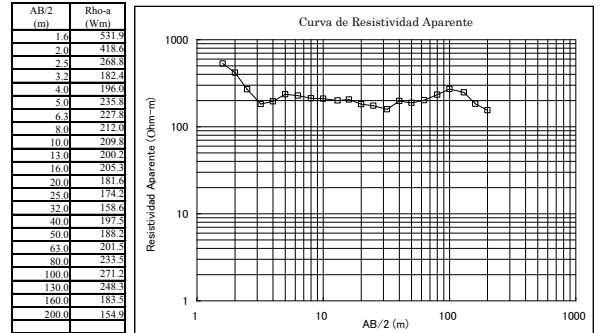


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
100	0.7	Dry top superficial layer	Dry. No aquifers
26	2.0	Moist to dry pyroclastics especially the igneous tuffs	Moist. No aquifers are expected
50	90	Highly weathered and fractured trachytes and phonolites	Aquiferous layer
500	>90	Fresh compact Volcanic rocks	Dry

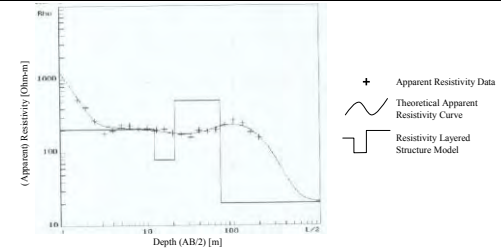


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Barwessa
Location	Barwessa	Site No.	V-36
Site Name	BARWESSA PRIMARY SCHOOL	Elevation	1135
36N UTM-E	800348	UTM-N	78917
Latitude	0.713194	Longitude	35.698389

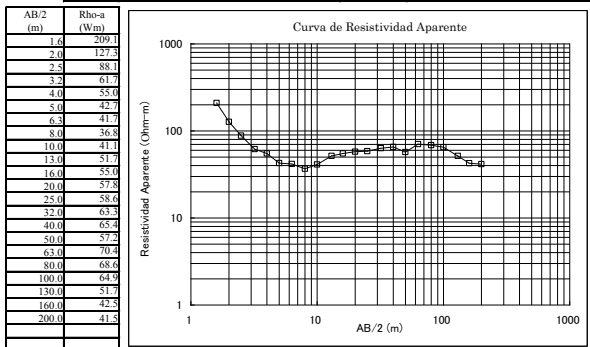


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
2740	0.5	Dry and compact top superficial layer	Dry. No aquifers
208	12	Moist to dry volcanic ash and sediments	Moist. No aquifers are expected
79	21	Slightly weathered trachytes	Dry. No aquifers are expected
502	70	Fresh and compact trachytes	Dry and non aquiferous
20	>70	Highly weathered trachytes and trachytic phonolites	Aquiferous going deeper.

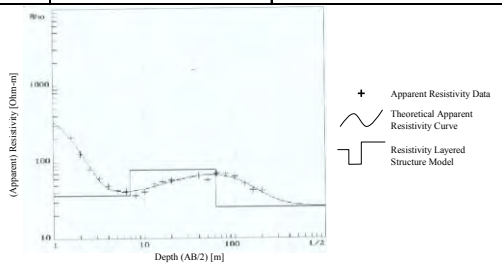


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo
Location	Katorin	Site No.	V-39
Site Name	SEREMWO	Elevation	1654
36N UTM-E	801519	UTM-N	62708
Latitude	0.566694	Longitude	35.708806

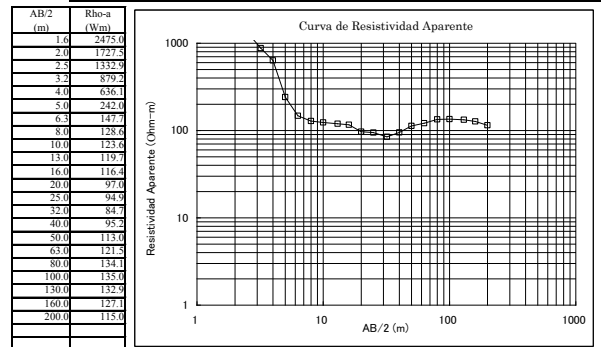


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
457	0.7	Dry top superficial layer	Dry. No aquifers
37	2.0	Moist to dry volcanic soils	Moist. No aquifers are expected
78	62	Slightly weathered and fractured trachytic phonolites	Shallow aquifer expected in this zone
26	>62	Highly weathered and fractured phonolites.	Main aquiferous layer

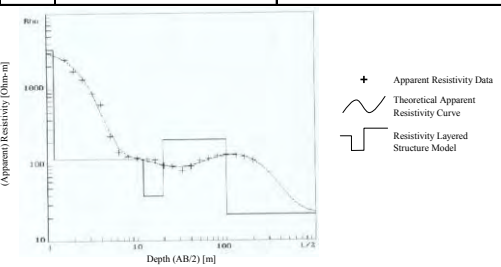


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo
Location	Katorin	Site No.	V-40
Site Name	KAPKIRWOK	Elevation	1958
36N UTM-E	804981	UTM-N	64678
Latitude	0.584500	Longitude	35.739861

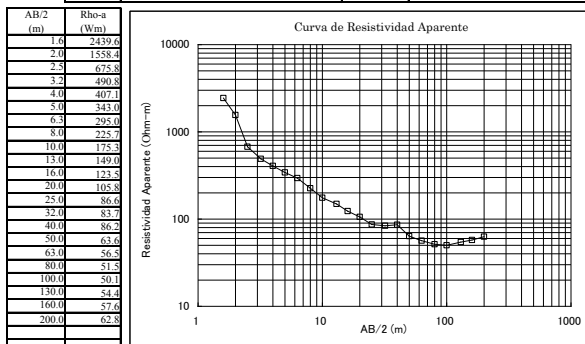


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
3309	1.2	Dry top superficial deposits	Dry. No aquifers
120	12	Moist to dry ashes and sediments	Moist. No aquifers are expected
39	20	Slightly weathered tuffaceous layer.	Dry. No aquifers are expected
217	100	Slightly weathered phonolites	Moist. This aquifer layer. Not potential for groundwater exploitation
22	>100	Highly weathered phonolites.	Aquiferous.

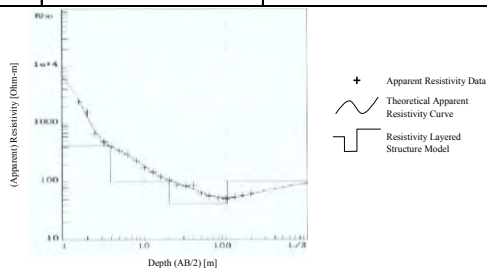


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo
Location	Saimo Mosop	Site No.	V-42
Site Name	KAPCHEPKOR	Elevation	2163
36N UTM-E	813844	UTM-N	70018
Latitude	0.632694	Longitude	35.819472

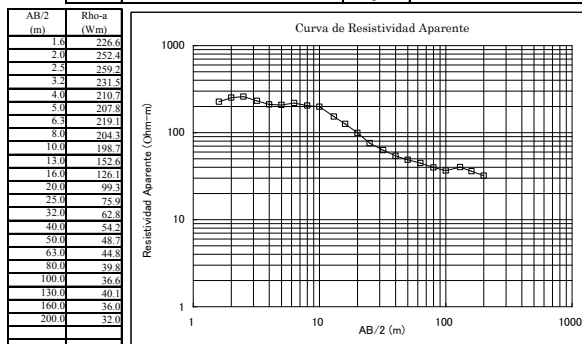


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
1359	0.5	Dry top superficial deposits	Dry. No aquifers
420	4	Dry to moist Volcanic ashes and sediments	Moist. No aquifers are expected
101	20	Slightly weathered pyroclastics	Dry. No aquifers are expected
42	108	Highly weathered trachytes	Shallow aquifer layer expected in this layer.
100	>108	Slightly weathered trachytes and phonolites	Aquiferous.

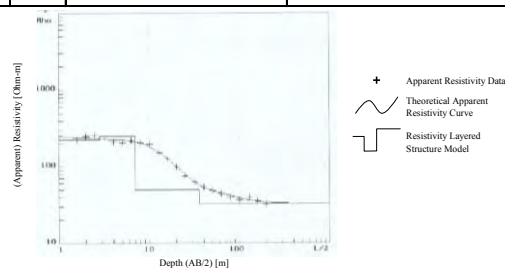


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo
Location	Saimo Mosop	Site No.	V-43
Site Name	KAPTERE	Elevation	2247
36N UTM-E	812038	UTM-N	68531
Latitude	0.619306	Longitude	35.803250

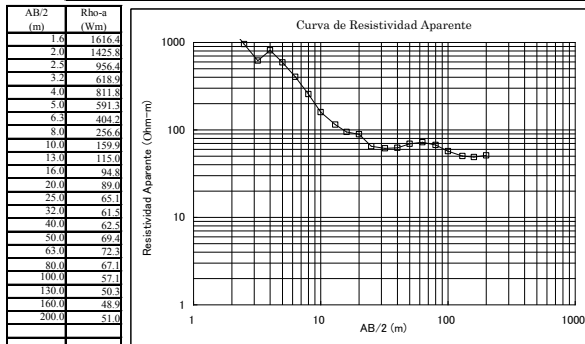


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
266	0.6	Dry top superficial deposits	Dry.
226	3	Compact Volcanic ashes and sediments	Moist. No aquifers are expected
250	7	Compact pyroclastics	Dry.
49	30	Highly weathered trachytes	Moist. Thin aquifer layer.
33	>30	Slightly weathered trachytes and phonolites	Aquiferous

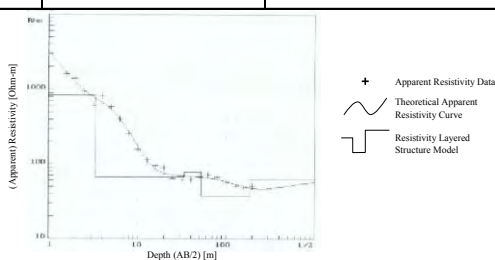


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo
Location	Saimo Mosop	Site No.	V-44
Site Name	BOINO	Elevation	2138
36N UTM-E	813237	UTM-N	71271
Latitude	0.644000	Longitude	35.814000

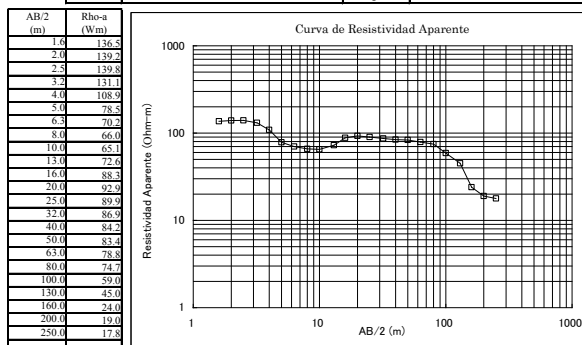


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
6322	0.3	Dry top superficial deposits	Dry. No aquifers
845	4	Dry to moist Volcanic ashes and sediments	Moist. No aquifers are expected
68	34	Slightly weathered pyroclastics	Dry. No aquifers are expected
78	53	Highly weathered trachytes	Moist. Thin aquifer layer. Not potential for groundwater exploitation
37	87	Slightly weathered trachytes and phonolites	Shallow aquifer layer.
63	>87	Fractured and weathered phonolites	Deep aquifers expected in this zone

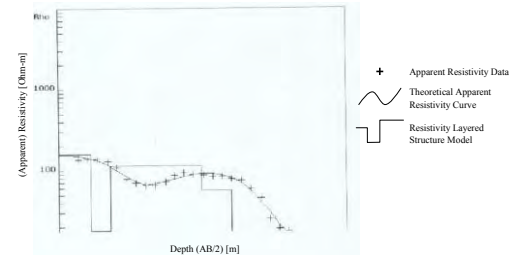


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo
Location	Ossen	Site No.	V-45
Site Name	TIRIONDONIN	Elevation	2005
36N UTM-E	807874	UTM-N	71212
Latitude	0.643528	Longitude	35.765889

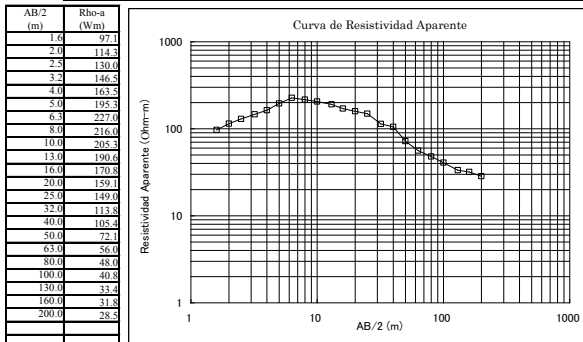


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
159	2	Dry top superficial deposits	Dry.
18	3	Moist Volcanic soils and sediments	Moist. No aquifers are expected
114	31	Slightly weathered phonolites	Dry.
56	63	Fractured and weathered phonolites	Shallow aquifer layer expected in this layer.
11	>63	Highly weathered phonolites	Aquiferous

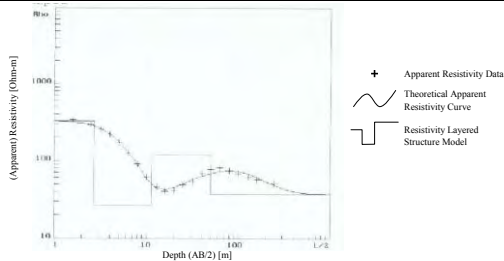


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo	
Location	Ossen	Site No.	V-46	
Site Name	KAPTUM-OSSEN	Elevation	2180	
36N	UTM-E	808396	UTM-N	66638
	Latitude	0.602167	Longitude	35.770528

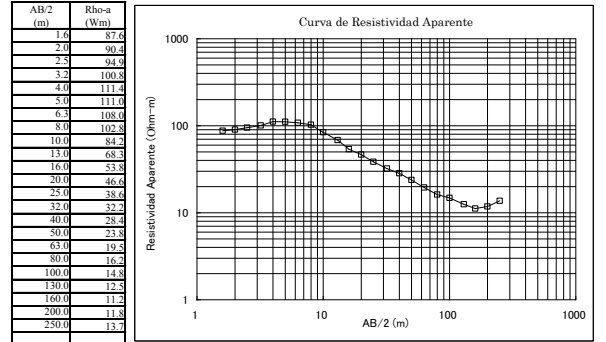


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
69	1	Dry top superficial layer	Dry. No aquifers
811	3	Dry fractured pyroclastics rocks	Dry
125	23	Slightly fractured tuff and trachytes	Dry. No aquifers are expected
29	>100	Highly weathered trachytes	Aquiferous

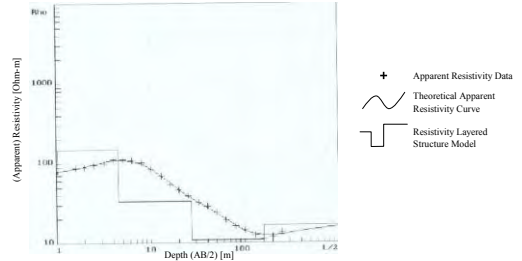


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo	
Location	Keljo	Site No.	V-49	
Site Name	KURESCHUN	Elevation	2188	
36N	UTM-E	811704	UTM-N	71405
	Latitude	0.645194	Longitude	35.800250

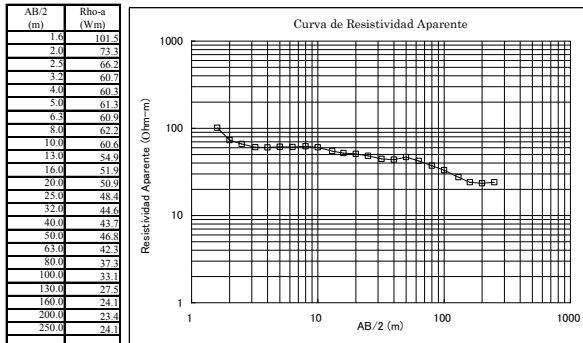


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
74	1	Dry top superficial layer	Dry. No aquifers
150	5	Dry volcanic ashes and sediments.	No aquifers are expected
34	27	Slightly fractured tuffaceous layer	Dry. No aquifers are expected
11	160	Highly weathered and fractured tuffs	Aquiferous
17	>160	Slightly weathered trachytes and phonolites	Deep aquifer expected in this layer

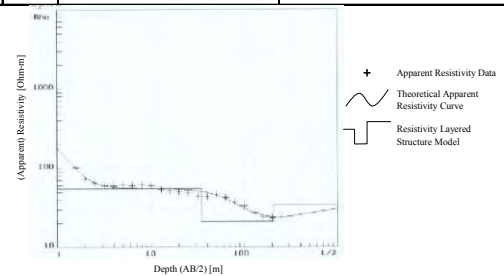


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo North	Division	Kabartonjo	
Location	Keljo	Site No.	V-50	
Site Name	KIPKOROM	Elevation	2213	
36N	UTM-E	810655	UTM-N	71176
	Latitude	0.643194	Longitude	35.790833

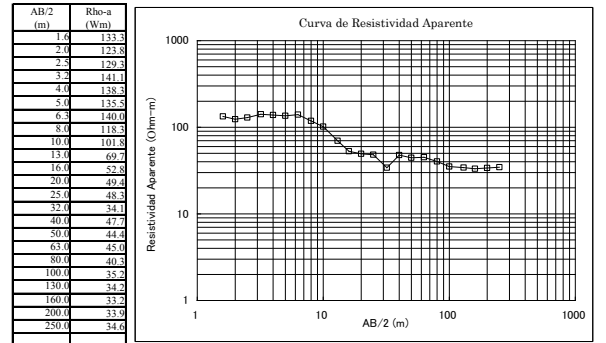


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
350	1	Dry top superficial layer	Dry. No aquifers
55	35	Moist to dry volcanic soils	Moist. No aquifers are expected
21	206	Highly weathered and fractured trachytes and	Aquifers expected in this layer
34	>206	Slightly weathered phonolitic layer.	Low water strikes expected in this layer

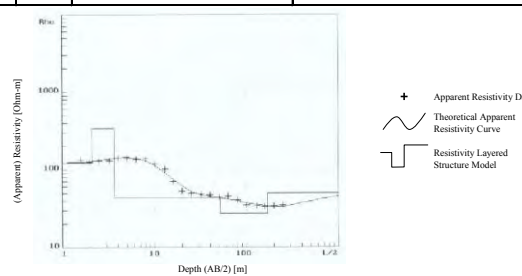


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat	
Location	Marigat	Site No.	V-51	
Site Name	KAMAGONGE	Elevation	51802	
36N	UTM-E	830979	UTM-N	71176
	Latitude	0.468028	Longitude	35.973167

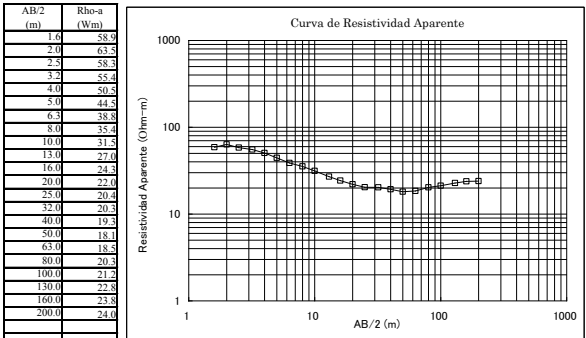


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
121	2	Dry top superficial layer	Dry. No aquifers
338	4	Dry silts	Dry. No aquifers are expected
27	52	Slightly weathered tuffs	Moist. Thin aquifer layer.
54	>170	Highly weathered volcanic tuffs	Deep aquifer expected in this layer

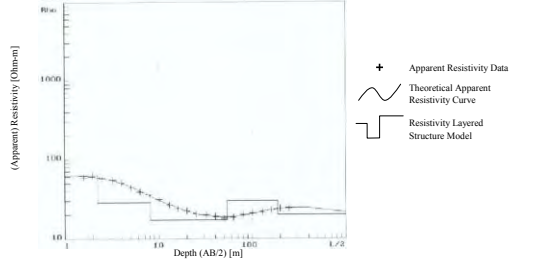


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Marigat	Site No.	V-54
Site Name	SIRINYO	Elevation	1104
UTM-E	830313	UTM-N	55590
Latitude	0.502278	Longitude	35.967222

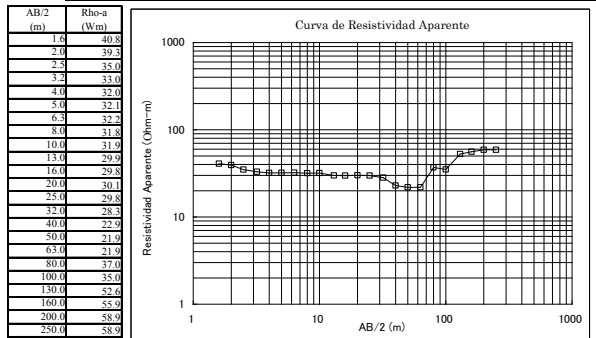


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
64	2.2	Dry top superficial layer	Dry. No aquifers
29	4	Moist to dry volcanic soils	Moist. No aquifers are expected
17	53	Fractured and weathered tuffs	Moist. Thin aquifer layer
30	180	Highly weathered volcanic tuffs	Aquifers expected in this layer
20	>180	Highly weathered and fractured tuffaceous	Deep aquifer expected in this layer

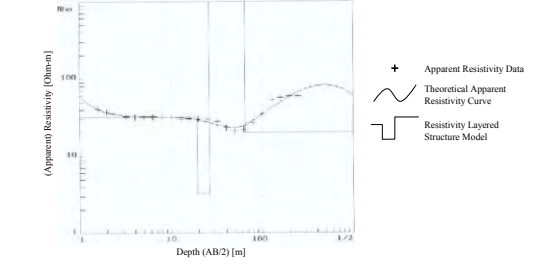


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Marigat	Site No.	V-56
Site Name	KIMIMBA-KIBOWEN	Elevation	1226
UTM-E	824421	UTM-N	47557
Latitude	0.429694	Longitude	35.914306

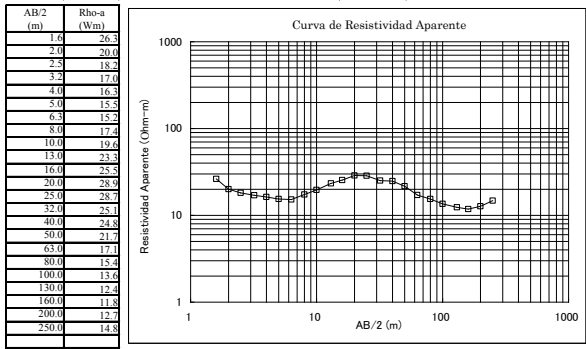


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
123	0.4	Dry top superficial layer	Dry. No aquifers
32	19	Moist to dry volcanic soils	Moist. No aquifers are expected
20	20	Slightly weathered tuffaceous materials	Moist. Thin aquifer layer
992	65	Compact tuffs	Dry
20	>65	Highly weathered and fractured tuffaceous	Deep aquifer expected in this layer

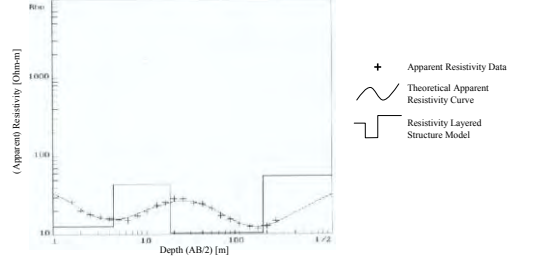


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Marigat	Site No.	V-58
Site Name	CATHOLIC	Elevation	1023
UTM-E	832090	UTM-N	51809
Latitude	0.468111	Longitude	35.983167

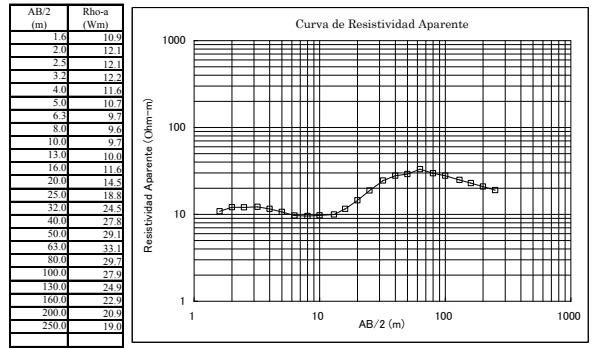


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
42	0.7	Dry top superficial layer	Dry. No aquifers
13	4.3	Moist to dry volcanic soils	Moist. No aquifers are expected
43	18	Slightly weathered tuffaceous materials	Moist.
11	180	Highly weathered and fractured tuffs and trachytes	Aquifers expected in this layer
56	>180	Slightly weathered trachytes	Deep aquifer expected in this layer

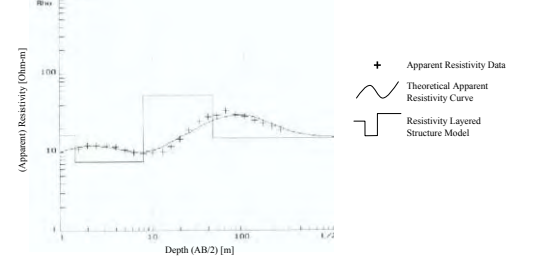


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Marigat	Site No.	V-60
Site Name	NDAMBUL	Elevation	1009
UTM-E	833584	UTM-N	52915
Latitude	0.478083	Longitude	35.966556

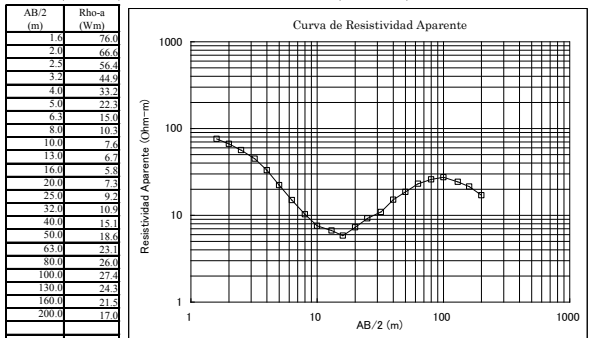


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
5.5	1	Dry top superficial layer	Dry.
17	2	Moist to dry volcanic soils	Moist. No aquifers are expected
8	8	Weathered tuffaceous materials	Moist.
53	43	Highly weathered and fractured tuffs and trachytes	Aquifers expected in this layer
15	>43	Weathered trachytes and O.L.S	Deep aquifer expected in this layer

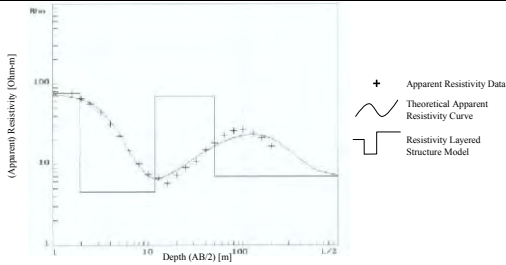


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Eldume	Site No.	V-61
Site Name	ABORI	Elevation	1113
37N UTM-E	174752	UTM-N	45703
Latitude	0.412944	Longitude	36.078278

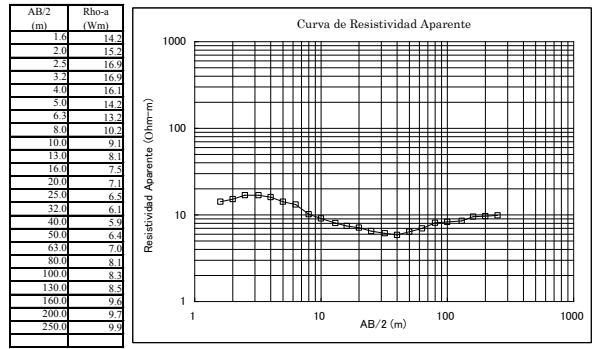


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
76	2	Dry top superficial layer	Dry
5	12	Moist volcanic soils	Moist. No aquifers are expected
71	54	Slightly weathered tuffaceous materials	Moist. Shallow aquifers may be present
7	>50	Highly weathered and fractured tuffs and trachytes	Aquifers expected in this layer

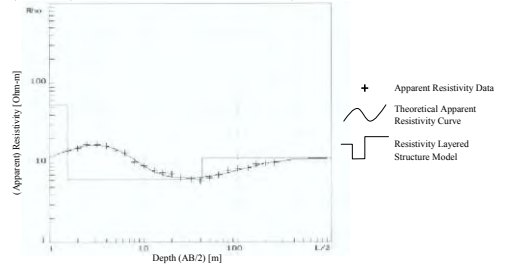


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Eldume	Site No.	V-63
Site Name	ELDUME CENTRE	Elevation	1009
37N UTM-E	168954	UTM-N	45251
Latitude	0.408889	Longitude	36.026250

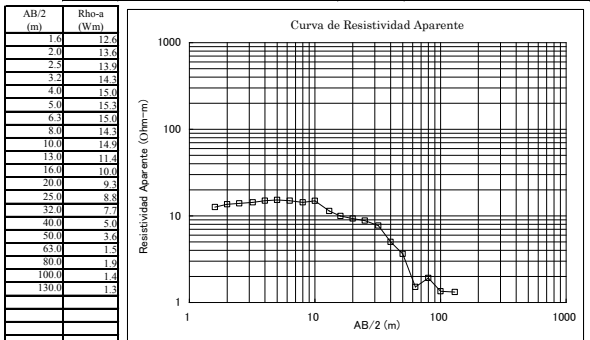


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
10	1	Dry top superficial layer	Dry
53	2	Moist to dry volcanic soils	Moist. No aquifers are expected
6	42	Slightly weathered tuffaceous materials	Moist. Shallow aquifers may be present
12	>42	Highly weathered and fractured tuffs and trachytes	Aquifers expected in this layer

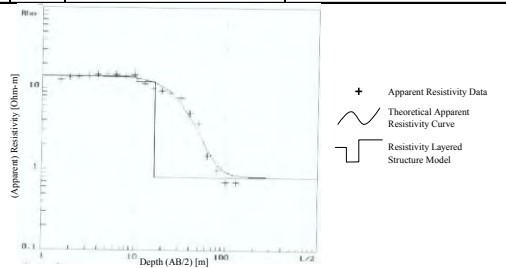


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Salabani	Site No.	V-64
Site Name	LONGORON	Elevation	1364
37N UTM-E	169064	UTM-N	62450
Latitude	0.564250	Longitude	36.027167

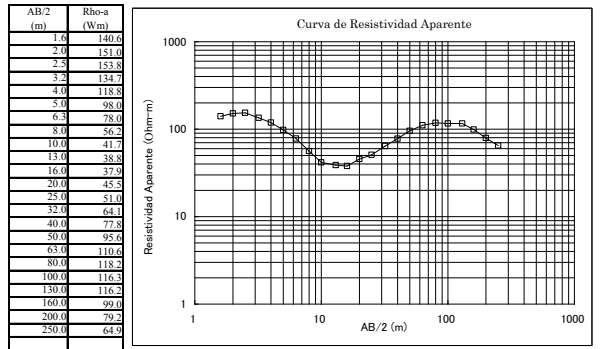


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
14	1	Dry top superficial layer	Dry
12	12	Moist to dry volcanic soils	Moist. No aquifers are expected
0.8	>17	Highly weathered and fractured tuffaceous	Aquifers expected in this layer

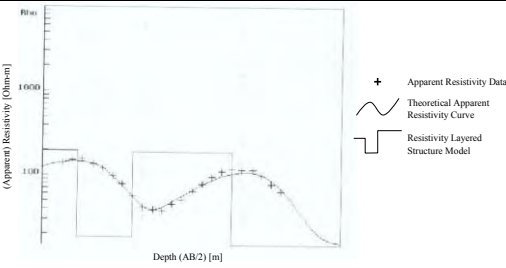


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Salabani	Site No.	V-66
Site Name	KAMBI YA SAMAKI	Elevation	1008
37N UTM-E	167779	UTM-N	68905
Latitude	0.622556	Longitude	36.015611

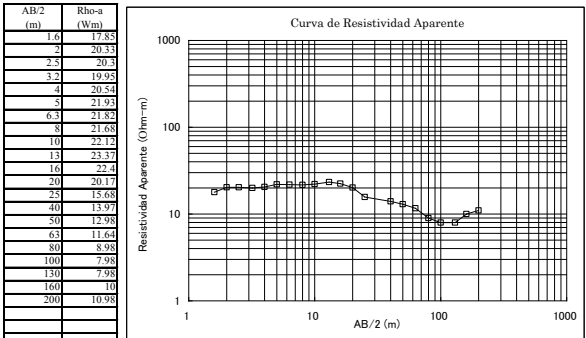


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
64	0.3	Dry top superficial layer	Dry
198	2.2	Compact dry volcanic soils	Dry
18	8	Slightly weathered tuffaceous materials	Moist
188	80	Slightly weathered tuffs	Very low water amounts may be present
18	>80	Highly weathered and fractured tuffaceous	Aquifers expected in this layer

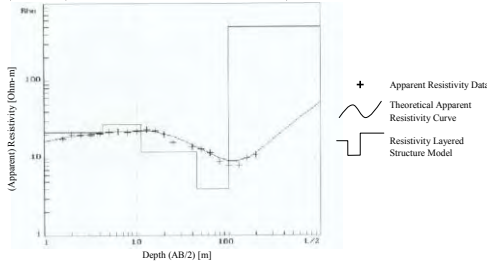


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat	
Location	Ng'ambo	Site No.	V-67-1	
Site Name	LESUUWA	Elevation	991	
37N	UTM-E	174145	UTM-N	52638
Latitude	0.475611	Longitude	36.072806	

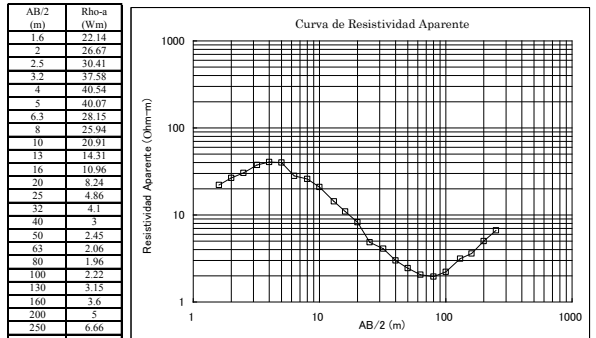


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
113	0-0.3	Dry top superficial layer fractured tuff.	Dry. No aquifers
22	0.3-1.3	Weathered and fractured basaltic rocks.	Dry.
28	1.3-11	Slightly weathered and fractured basalt.	Moist
12	11-45	Weathered and fractured basaltic rocks.	Aquiferous
4	45-100	Highly weathered basalts/pyroclastics/clays	Aquiferous
500	>100	Slightly weathered basalt	Aquiferous

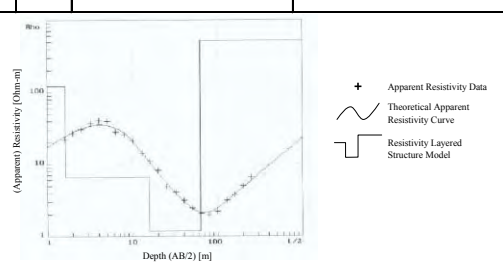


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat	
Location	Ng'ambo	Site No.	V-67-2	
Site Name	LESUUWA	Elevation	985	
37N	UTM-E	174327	UTM-N	52841
Latitude	0.477444	Longitude	36.074444	

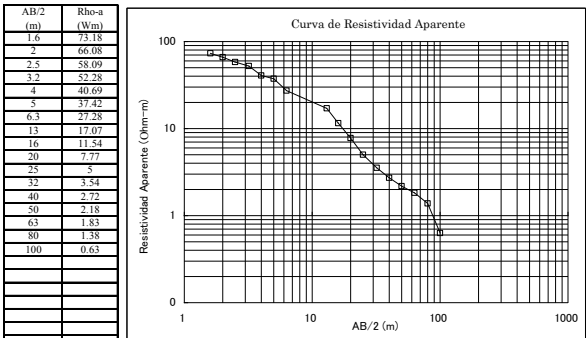


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
8	0-0.4	Thin dry top superficial layer	Dry.
12	0.4-2	Slightly weathered and fractured basalt	Dry. No aquifers
7	16-2	Weathered and fractured basaltic rocks	Moist
1.2	16-63	Highly weathered basalts/pyroclastics/clays	Aquiferous
523	>63	Slightly weathered basalt	Aquiferous

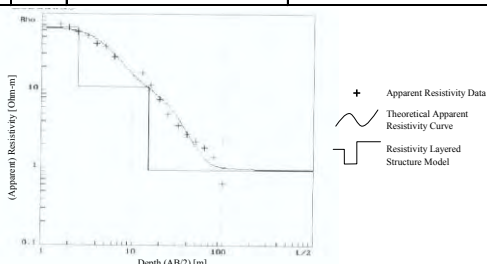


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat	
Location	Ng'ambo	Site No.	V-67-3	
Site Name	LESUUWA	Elevation	982	
37N	UTM-E	174489	UTM-N	52789
Latitude	0.476972	Longitude	36.075889	

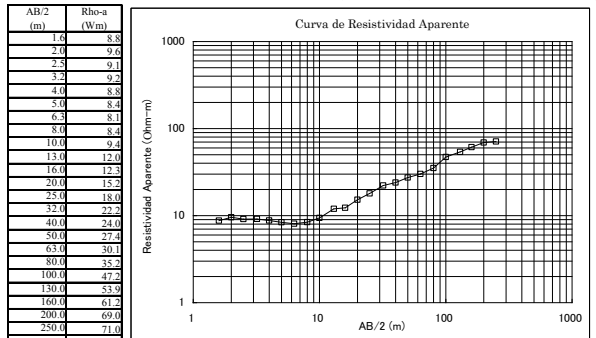


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
59	0 - 0.1	Dry top superficial layer/topsoil	Dry. No aquifers
66	0.1-2.5	Alluvial sediments/soils	Dry. No aquifers
11	2.5-15	Fine to medium grained sediments	Moist
1	>15	Clays/ lacustrine sediments	Aquiferous. Clays/ saline water saturated

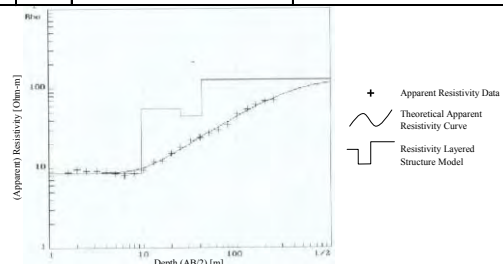


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat	
Location	Kimalel	Site No.	V-69	
Site Name	KAPKECHII	Elevation	1365	
36N	UTM-E	818701	UTM-N	46467
Latitude	0.419861	Longitude	35.862972	

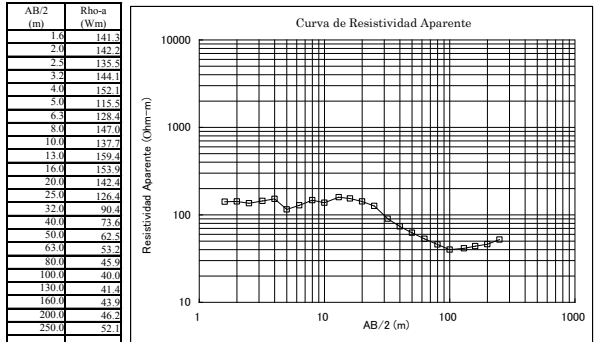


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
9	10	Dry top superficial layer	Dry.
56	25	Compact dry volcanic soils	Dry
44	42	Slightly weathered tuffs	Moist.
128	>42	Highly weathered and fractured tuffs	Aquifers expected in this layer

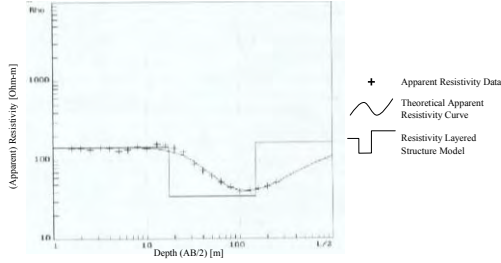


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Kimalel	Site No.	V-70
Site Name	NGEMBOWARE (Loropli)	Elevation	1346
36N UTM-E	822506	UTM-N	51622
Latitude	0.466444	Longitude	35.897139

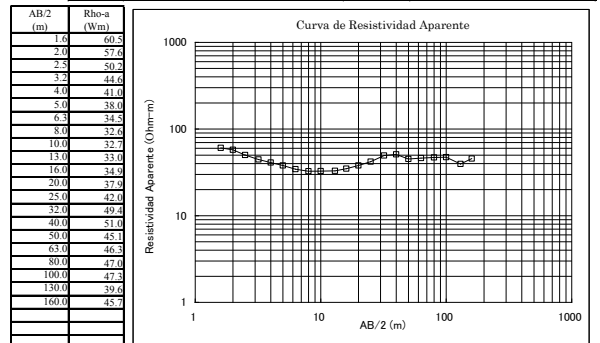


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
146	12.4	Dry top superficial layer	Dry
35	150	Highly weathered and fractured tuffaceous	Aquifers expected in this layer
165	>150	Compact trachytic-phonolites	Dry

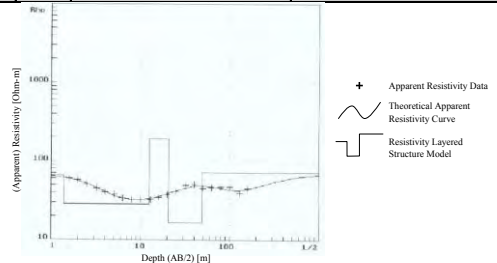


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Kimalel	Site No.	V-73
Site Name	BARSIBET-KISAMISONCHUN	Elevation	2247
36N UTM-E	821256	UTM-N	45144
Latitude	0.407917	Longitude	35.885889

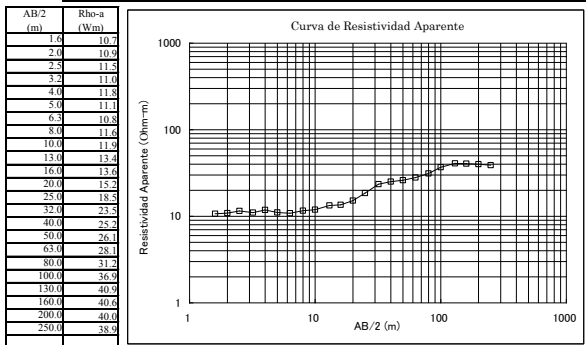


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
66	1.4	Dry top superficial layer	Dry
29	13	Moist to dry volcanic soils	Moist
193	21	Compact tuffaceous materials	Moist
17	49	Slightly weathered tuffs	Shallow aquifer may be present
71	>49	Highly weathered and fractured tuffs and trachytes	Aquifers expected in this layer

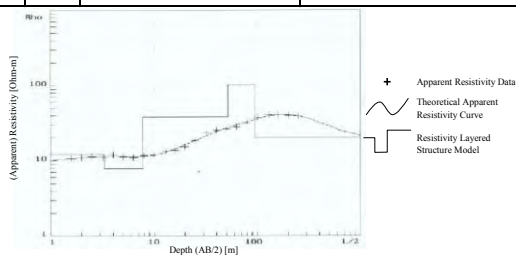


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Kimalel	Site No.	V-74
Site Name	LOKOIWOPSONCHUN	Elevation	1336
36N UTM-E	818662	UTM-N	51184
Latitude	0.462528	Longitude	35.862639

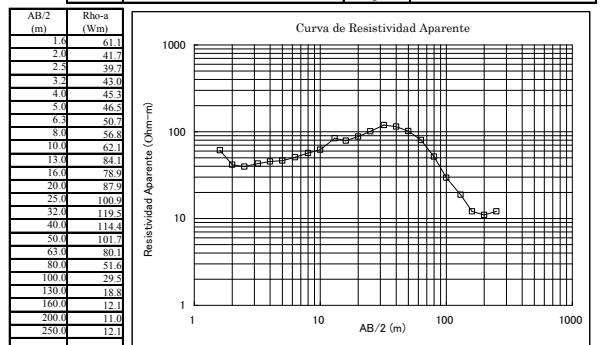


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
9.3	0.6	Dry top superficial layer	Dry
12	3.3	Moist to dry volcanic soils	Moist
8	8	Slightly weathered tuffaceous materials	Moist
38	52	Slightly weathered trachytic phonolites	Shallow aquifer may be present
101	93	Slightly weathered and fractured tuffs and	Shallow aquifers expected in this layer
20	>93	Highly weathered and fractured tuffs and trachytes	Aquifers expected in this layer

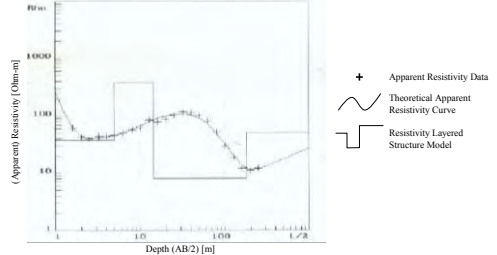


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Kimalel	Site No.	V-75
Site Name	KINYOCH	Elevation	1339
36N UTM-E	823214	UTM-N	50298
Latitude	0.454472	Longitude	35.903472

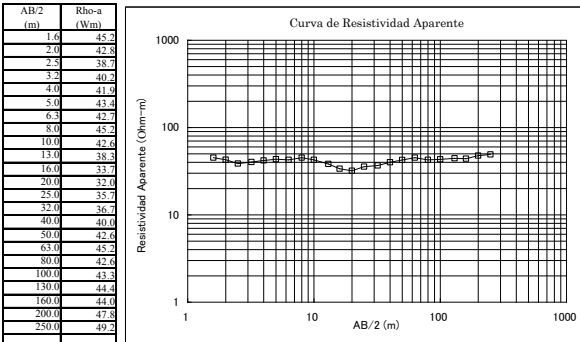


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
276.7	0.2	Exposed tuffaceous outcrops	Dry
38	5	Moist to dry volcanic soils	Moist
380	14	Slightly weathered phonolitic materials	Moist
8	180	Highly weathered and fractured tuffs and trachytes	Aquifers present in this layer
50	>180	Slightly weathered and fractured and trachytes	Deep aquifers expected

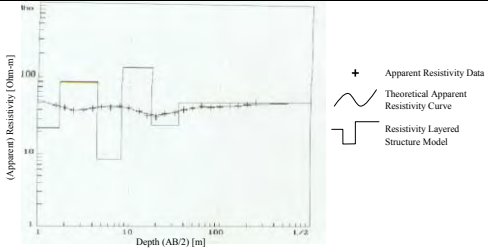


Vertical Electric Sounding Datasheet (Schlumberger)

	District	Marigat	Division	Marigat
	Location	Kimondis	Site No.	V-78
	Site Name	KIBINGGOR	Elevation	1281
36N	UTM-E	819346	UTM-N	56478
	Latitude	0.510333	Longitude	35.868806

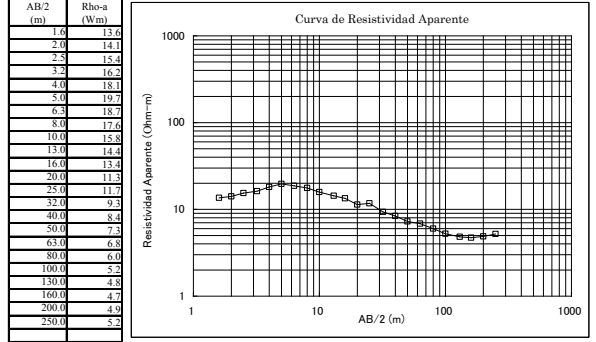


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
63	0.7	Dry top superficial layer	Dry
22	2	Moist to dry volcanic soils	Moist
89	3	Slightly weathered tuffaceous materials	Moist
8	8	Slightly weathered trachytes	Dry
132	18	Compact trachytes	No aquifer expected
24	35	Highly weathered tuffs	Shallow aquifer expected in this layer
50	>35	Highly weathered and fractured trachytes	Aquifers expected in this layer

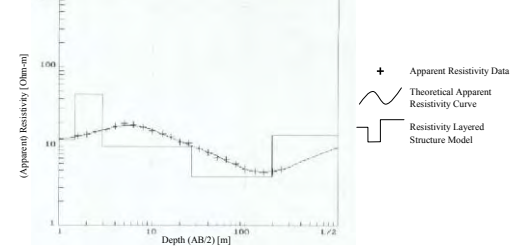


Vertical Electric Sounding Datasheet (Schlumberger)

	District	Marigat	Division	Marigat
	Location	Kimondis	Site No.	V-79
	Site Name	WOMBERENCHUN	Elevation	1222
36N	UTM-E	822128	UTM-N	55306
	Latitude	0.499722	Longitude	35.893722

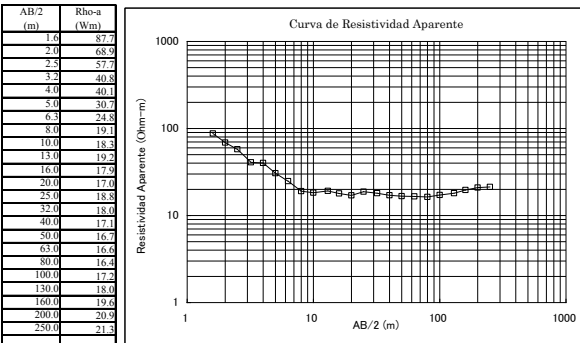


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
12	1.5	Dry top superficial layer	Dry
35	3	Moist to dry volcanic soils	Moist
10	27	Slightly weathered tuffaceous materials	Moist
4	194	Highly weathered and fractured tuffs and trachytes	Aquifers expected in this layer
14	>194	Slightly weathered and fractured tuffs and	Deep aquifer may be present

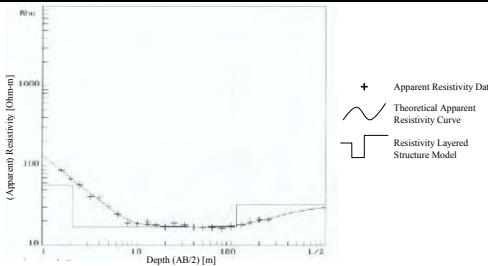


Vertical Electric Sounding Datasheet (Schlumberger)

	District	Marigat	Division	Marigat
	Location	Ewalel Soi	Site No.	V-81
	Site Name	KABUSA	Elevation	1190
36N	UTM-E	824132	UTM-N	59489
	Latitude	0.537500	Longitude	35.911750

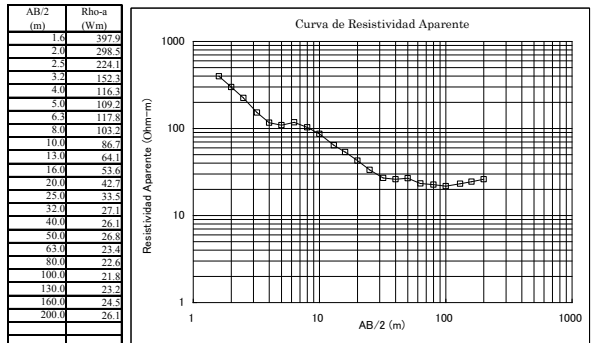


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
218	0.5	Dry top superficial layer	Dry
56	2	Moist to dry volcanic soils	Moist
17	115	Slightly weathered tuffs	Shallow aquifers expected in this layer.
33	>115	Highly weathered and fractured tuffs and trachytes	Deep aquifers expected in this layer

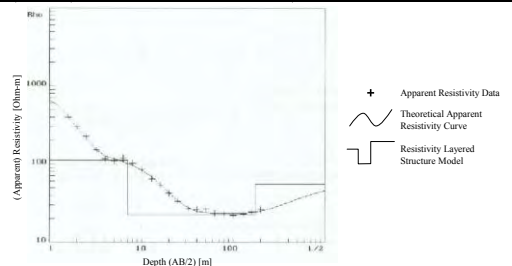


Vertical Electric Sounding Datasheet (Schlumberger)

	District	Marigat	Division	Marigat
	Location	Ewalel Soi	Site No.	V-82
	Site Name	BARSEMOMI	Elevation	1262
36N	UTM-E	822239	UTM-N	62888
	Latitude	0.568250	Longitude	35.894778

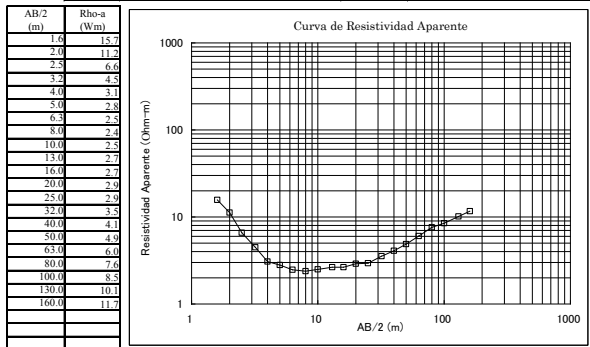


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
905	0.7	Dry top superficial layer	Dry
113	7	Moist to dry volcanic soils	Moist
22	176	Slightly weathered tuffs	Shallow aquifers expected in this layer.
56	>176	Highly weathered and fractured tuffs and trachytes	Deep aquifers expected in this layer

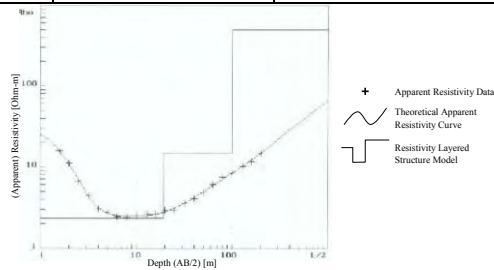


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Loboi	Site No.	V-83
Site Name	KIWANJA NDEGE	Elevation	1002
UTM-E	173809	UTM-N	39106
Latitude	0.353333	Longitude	36.069833

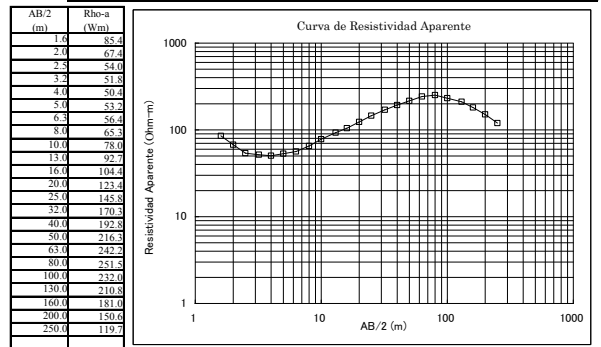


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
34	0.8	Dry top superficial layer	Dry
24	1.9	Moist to dry volcanic soils	Moist
15	10.0	Slightly weathered tuffs	Shallow aquifers expected in this layer.
500	>100	Compact tuffs and trachytes	No aquifers expected in this layer

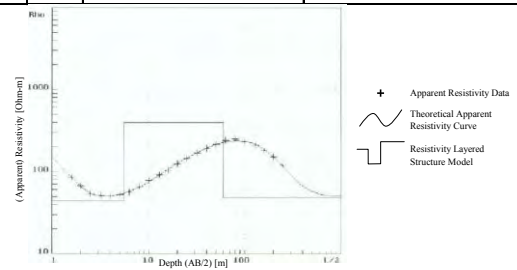


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Loboi	Site No.	V-84
Site Name	CHELABA	Elevation	1226
UTM-E	170797	UTM-N	37054
Latitude	0.334806	Longitude	36.042806

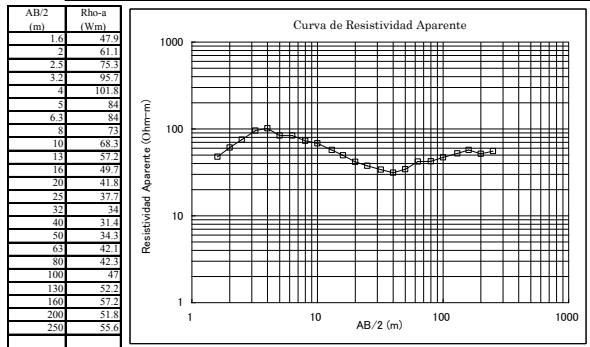


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
27.0	0.5	Dry top superficial layer	Dry
44	6	Moist to dry volcanic soils	Moist
39.5	60	Compact trachytes	No aquifers expected in this layer.
49	>60	Highly weathered and fractured tuffs and trachytes	Deep aquifers expected in this layer

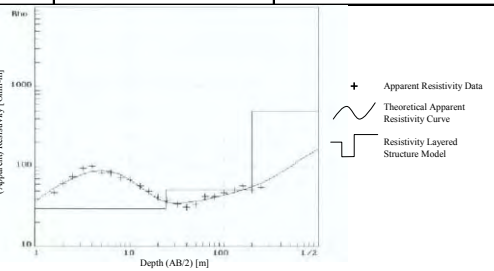


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Sandai	Site No.	V-86-1
Site Name	SAMURAN	Elevation	1125
UTM-E	178956	UTM-N	40952
Latitude	0.370028	Longitude	36.116028

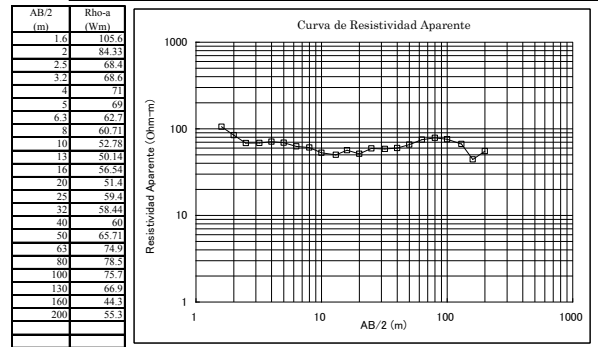


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
14	0-0.4	Dry top superficial layer and fractured tuff	Dry. No aquifers
1275	0.4-0.7	Slightly weathered and fractured tuff	No potential aquifers
30	0.7-2.4	Highly weathered and fractured basaltic rocks.	Aquiferous
52	2.4-20.0	Highly weathered and fractured basaltic rocks.	Aquiferous
500	>200	Slightly weathered / compact basalt	Not aquiferous

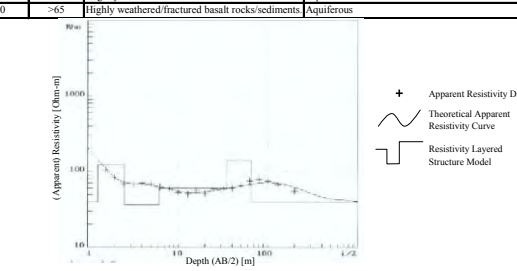


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat
Location	Sandai	Site No.	V-86-2
Site Name	SAMURAN	Elevation	1151
UTM-E	178222	UTM-N	40875
Latitude	0.369333	Longitude	36.109556

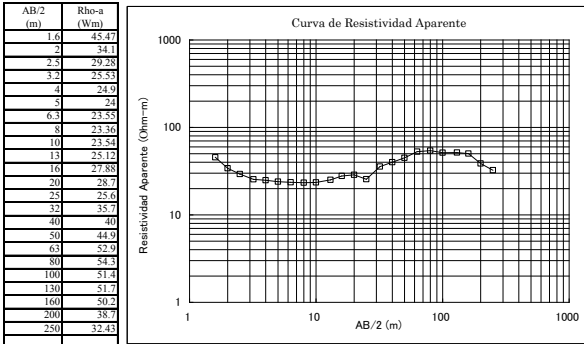


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
378	0-0.5	Thin dry top superficial layer	Dry.
40	0.5-1.3	Slightly weathered/fractured tuffs and phonolites	Dry. No aquifers
123	1.3-3	Slightly weathered & fractured tuffs and	Dry. No aquifers
36	0.6-3	Slightly weathered and fractured tuff	Moist
40	6-35	Weathered and fractured tuff	Shallow aquifer
139	35-65	Slightly weathered and fractured basalt	Aquiferous
40	>65	Highly weathered fractured basalt rocks/sediments	Aquiferous

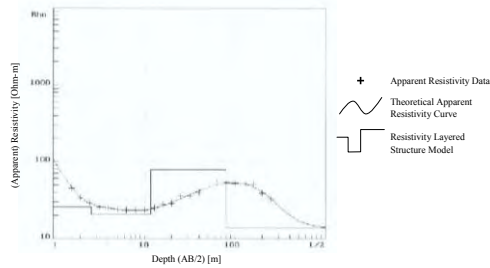


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Marigat	
Location	Sandai	Site No.	V-86-3	
Site Name	SAMURAN	Elevation	1165	
37N	UTM-E	177783	UTM-N	40653
	Latitude	0.367333	Longitude	36.105500

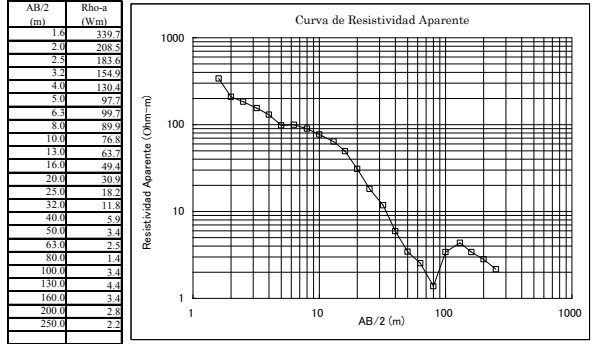


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
299	0 - 0.4	Dry superficial layer and fractured trachytes	Dry. No aquifers
25	0.4-2.6	Slightly weathered and fractured trachyte and tuff	Moist.
21	2.6-12	Weathered and fractured trachytes	Moist
78	12-80	Slightly weathered/fractured trachytes and basalts	Aquiferous
14	>80	Highly weathered/ fractured basalt and sediments	Deep aquifers expected

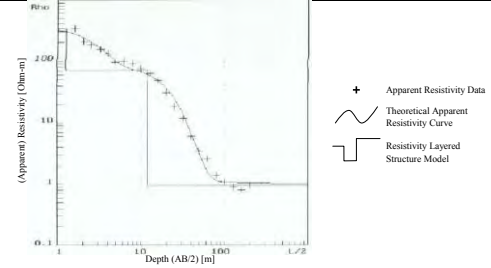


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Mukutani	
Location	Kiserian	Site No.	V-87	
Site Name	MOSURO	Elevation	1006	
37N	UTM-E	178543	UTM-N	58152
	Latitude	0.525472	Longitude	36.112278

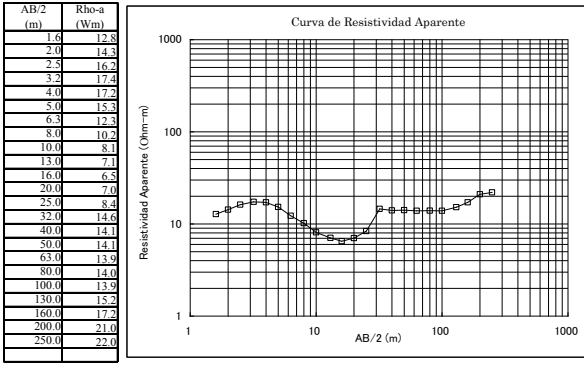


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
357	1.3	Dry top superficial layer	Dry.
72	1.3	Moist to dry volcanic soils	Moist
1	>12	Highly weathered and fractured tuffs and trachytes	Aquifers expected in this layer

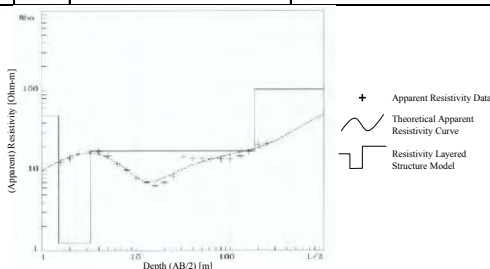


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Mukutani	
Location	Kiserian	Site No.	V-88	
Site Name	LOGUMGUM	Elevation	983	
37N	UTM-E	175393	UTM-N	49602
	Latitude	0.448167	Longitude	36.084028

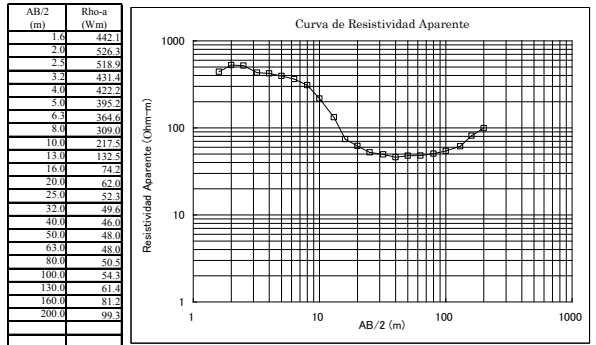


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
50	1.3	Dry top superficial layer	Dry.
1.2	3.3	Moist to dry volcanic soils	Moist
18	180	Compact tuffs	No aquifers expected in this layer.
100	>180	Highly weathered and fractured tuffs and trachytes	Deep aquifers expected in this layer

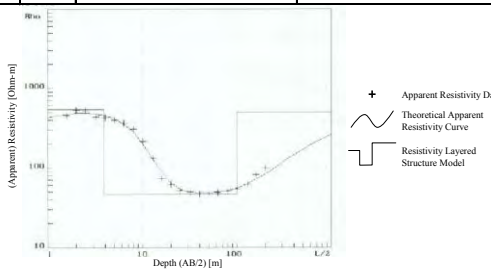


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Mochongoi	
Location	Mochongoi	Site No.	V-89	
Site Name	MCHONGOI CENTRE	Elevation	2219	
37N	UTM-E	187629	UTM-N	33681
	Latitude	0.304333	Longitude	36.193889

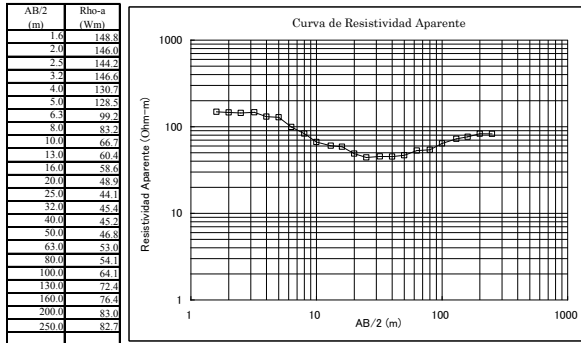


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
332	0.4	Dry top superficial layer	Dry.
544	4	Dry volcanic soils	Dry
46	100	Highly weathered and fractured trachytes	Aquifers expected in this layer
500	>100	Compact basalts	Deep aquifers expected in this layer

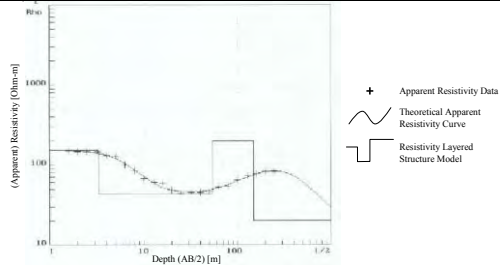


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Mochongoi	
Location	Mochongoi	Site No.	V-92	
Site Name	KIPKANDULE	Elevation	2251	
37N	UTM-E	189380	UTM-N	31397
	Latitude	0.283639	Longitude	36.209611

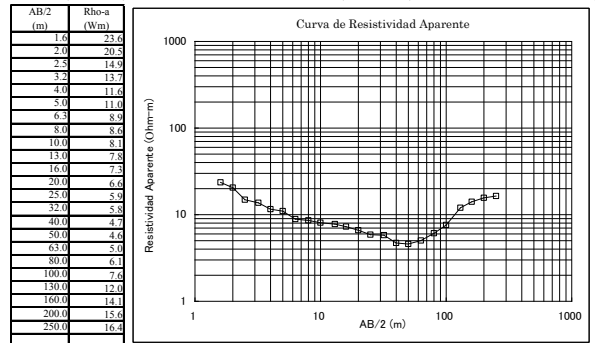


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
152	3.3	Dry top superficial layer	Dry
43	5.4	Moist to dry volcanic soils	Moist
200	150	Compact tuffs	No aquifers expected in this layer
20	>150	Highly weathered and fractured tuffs and trachytes	Deep aquifers expected in this layer

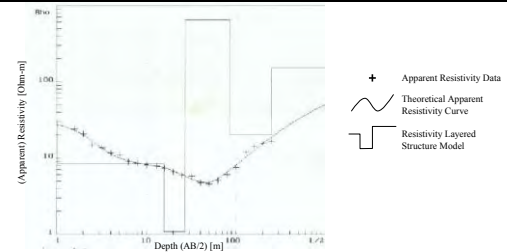


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Mochongoi	
Location	Chebinyiny	Site No.	V-94	
Site Name	SAMBAKA	Elevation	985	
37N	UTM-E	183733	UTM-N	33303
	Latitude	0.300917	Longitude	36.158944

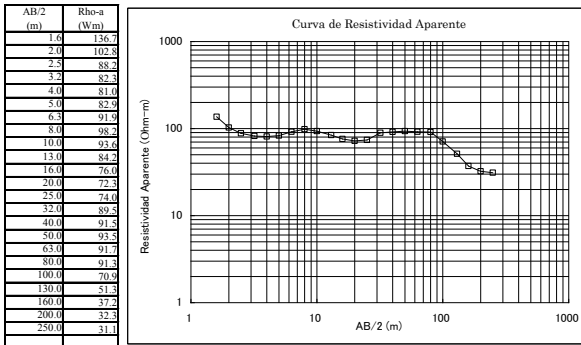


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
30	0	Dry top superficial layer	Dry
14	1.6	Dry volcanic soils	Dry
3	2.7	Loose volcanic soils	No aquifers expected in this layer
640	85	Compact trachytes and tuffs	No aquifers expected in this layer
20	250	Highly weathered and fractured tuffs and trachytes	Aquiferous
152	>250	Slightly weathered and fractured trachytes	Not aquiferous

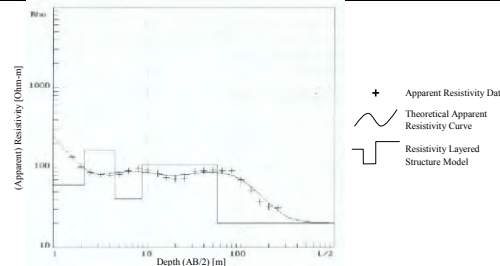


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Mochongoi	
Location	Arabal	Site No.	V-96	
Site Name	SOKONIN	Elevation	982	
37N	UTM-E	191702	UTM-N	59303
	Latitude	0.535917	Longitude	36.230361

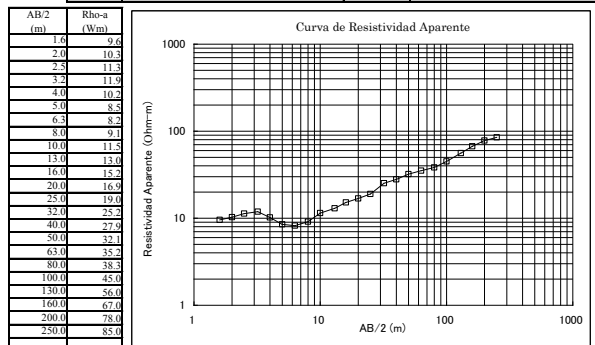


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
444	0.3	Exposed trachytes	Dry
60	2.2	Loose volcanic soils	Dry
165	4.3	Dry volcanic soils	Dry
41	9	Slightly weathered and fractured tuffs	Shallow aquifer expected
109	54	Compact trachytes and tuffs	Dry
20	>54	Highly weathered trachytes	Aquiferous

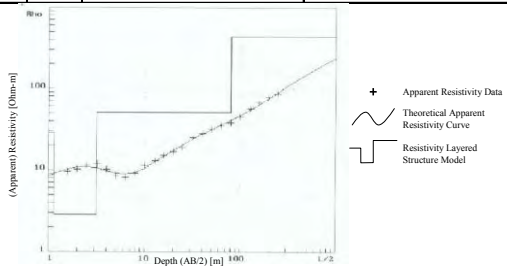


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Mochongoi	
Location	Arabal	Site No.	V-97	
Site Name	PARTALO	Elevation	1110	
37N	UTM-E	182477	UTM-N	59043
	Latitude	0.533500	Longitude	36.147556

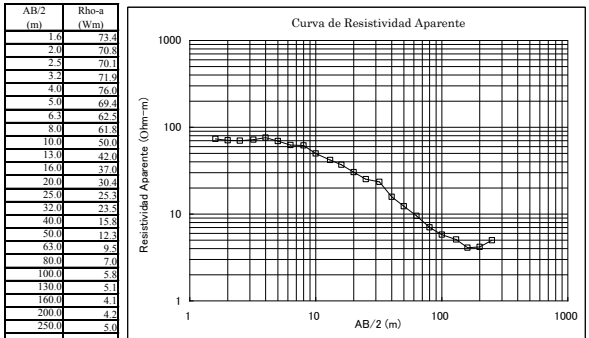


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
4.8	0.4	Dry top superficial layer	Dry
29	1.2	Dry volcanic soils	Dry
3	3.2	Loose volcanic soils	Dry
511	80	Highly weathered and fractured trachytes	Shallow aquifer expected
434	>80	Compact trachytes	Deep aquifer expected

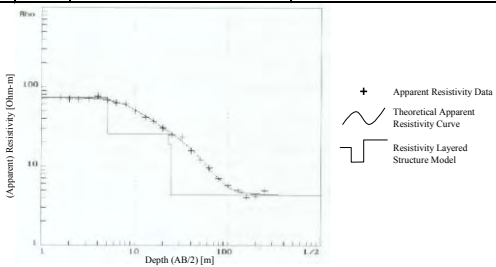


Vertical Electric Sounding Datasheet (Schlumberger)

District	Marigat	Division	Mochongoi	
Location	Arabal	Site No.	V-98	
Site Name	MENMENO	Elevation	1333	
37N	UTM-E	189076	UTM-N	51048
Latitude	0.461306	Longitude	36.206833	

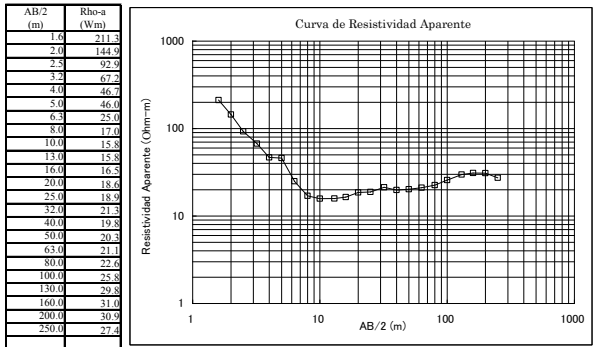


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
73	5.7	Dry top superficial layer	Dry
23	23	Moist to dry volcanic soils	Moist
3.5	200	Highly weathered and fractured tuffs	Major aquifers expected in this layer
50	>200	Slightly weathered and fractured tuffs and	Deep aquifers expected in this layer

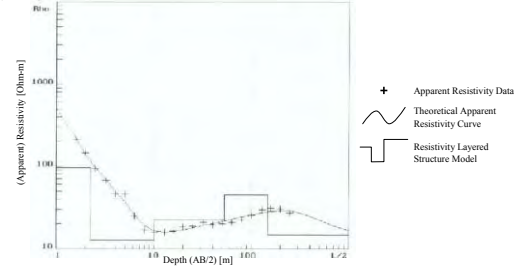


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Lelmen	Site No.	V-101	
Site Name	KAPTARA	Elevation	1093	
36N	UTM-E	794804	UTM-N	60861
Latitude	0.550028	Longitude	35.648500	

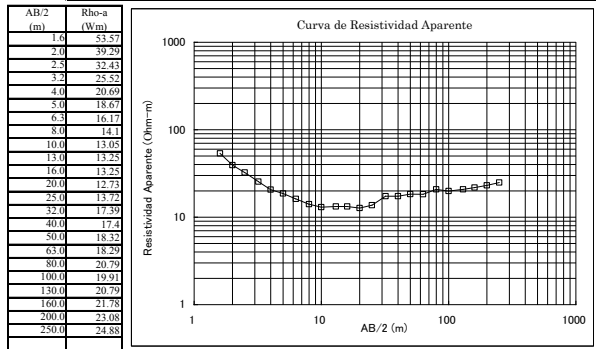


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
1138	0.3	Exposed trachytes	Dry
95	2	Dry volcanic soils	Dry
13	10	Moist to dry volcanic soils	Moist
23	53	Slightly weathered and fractured phonolites	Aquiferous layer
45	150	Fractured and weathered basalts	Aquiferous
15-150		Highly fractured and weathered basalts and old surface layer	Deep aquifer expected in this layer

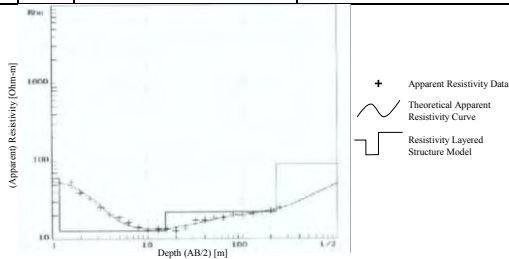


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Lelmen	Site No.	V-103-1	
Site Name	KAKWANE	Elevation	1104	
36N	UTM-E	791863	UTM-N	57313
Latitude	0.517972	Longitude	35.622083	

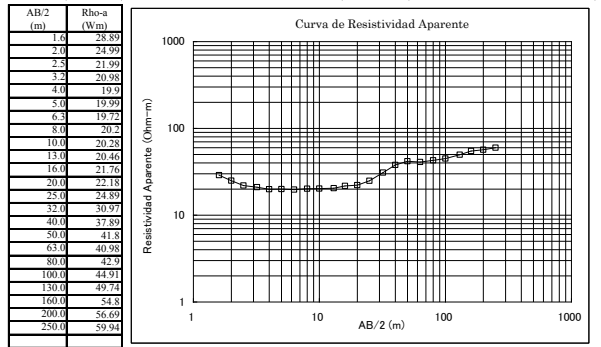


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
60	0-1.1	Dry top superficial layer and fractured trachytes.	Dry. No aquifers
13	1.1-16	Slightly weathered and fractured trachyphonolites	No aquifers
22	16-231	Medium to coarse grained sediments, pyroclastics & basalts	Aquiferous layer
90	>231	Highly weathered and fractured basalts rocks.	Aquiferous

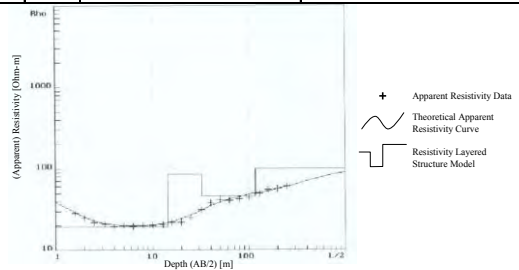


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Lelmen	Site No.	V-103-2	
Site Name	KAKWANE	Elevation	1117	
36N	UTM-E	792561	UTM-N	57498
Latitude	0.519639	Longitude	35.628361	

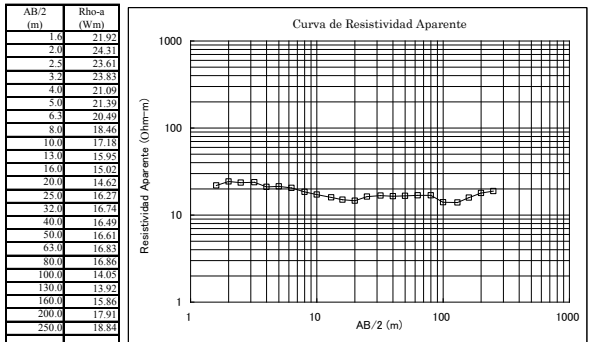


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
54	0-0.54	Thin dry top superficial layer	Dry. No aquifers
19	0.54-15	Slightly weathered and fractured trachyphonolites	Moist
85	15-32	Dry sediments, pyroclastics	No aquifers layer
46	32-118	Coarse sediments/highly weathered pyroclastics/ basalts	Aquiferous
100	>118	Weathered basalt	Aquiferous

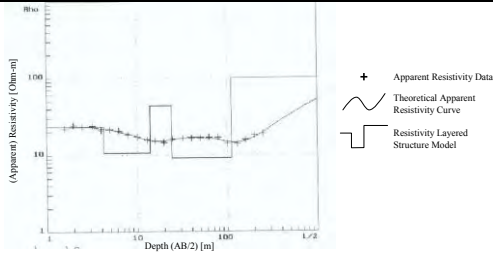


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Lelmen	Site No.	V-103-3	
Site Name	KAKWANE	Elevation	1111	
36N	UTM-E	792945	UTM-N	57550
	Latitude	0.520111	Longitude	35.631806

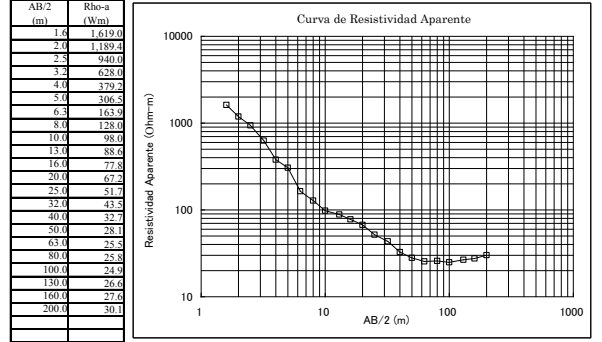


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
23	0 - 4.3	Dry top superficial layer and fractured trachytes.	Dry. No aquifers
11	4.3 - 14	Slightly weathered and fractured trachyphonolites.	Moist
44	14-24	Coarse sediments.	No aquifers
9	24-111	Clay silty sediments. Decomposed pyroclastics/basalts.	Aquiferous
100	>111	Slightly weathered to compact trachyphonolites	No aquifers expected

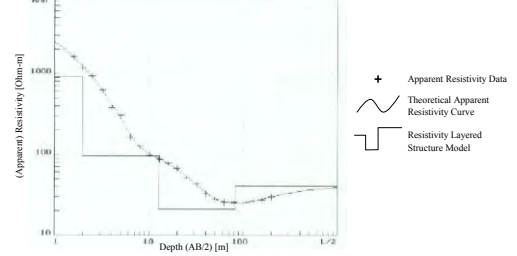


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Salawa	Site No.	V-104	
Site Name	SALAWA HOSPITAL	Elevation	1161	
36N	UTM-E	796226	UTM-N	54974
	Latitude	0.496833	Longitude	35.661250

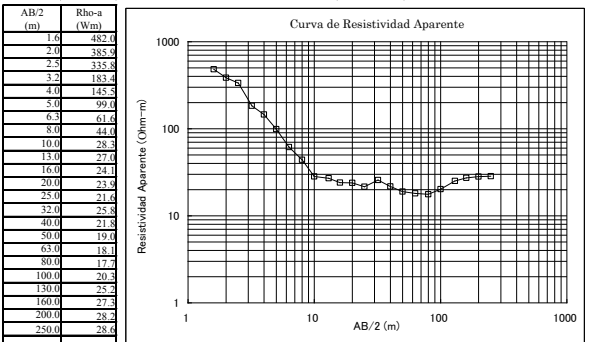


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
3500	0.6	Exposed compact trachytes	Dry.
914	2	Dry compact volcanic soils	Dry
65	17	Moist to dry volcanic soils	Moist
21	83	Slightly weathered and fractured phonolites.	Shallow aquiferous layer
40	>83	Fractured and weathered basalts and old surface	Aquiferous.

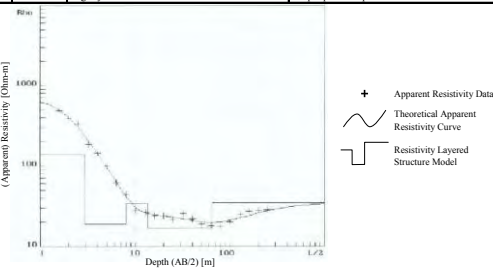


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Kabarnet Soi	Site No.	V-106	
Site Name	ERON PRIMARY	Elevation	1195	
36N	UTM-E	797910	UTM-N	53352
	Latitude	0.482167	Longitude	35.676361

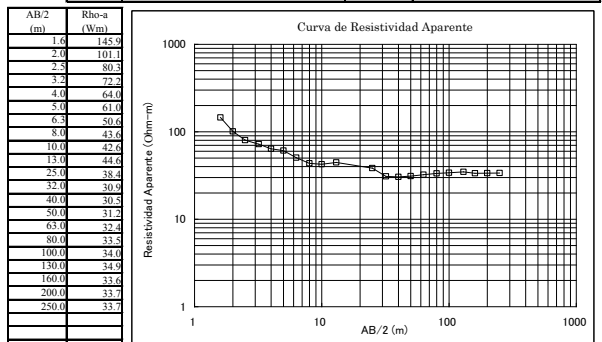


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
177	1	Exposed trachytes	Dry.
139	3	Dry volcanic soils	Dry
19	8	Moist to dry volcanic soils	Moist
34	14	Slightly weathered and fractured phonolites.	Shallow aquiferous layer
17	65	Highly fractured and weathered phonolites and old surface layer.	Aquiferous.
35	>65	Slightly weathered and fractured basalts.	Deep aquifers expected

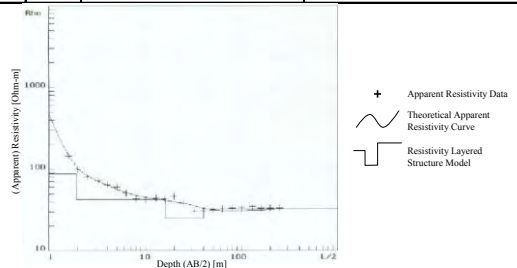


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Kabarnet Soi	Site No.	V-107	
Site Name	KIMOSO	Elevation	1301	
36N	UTM-E	800899	UTM-N	55032
	Latitude	0.497306	Longitude	35.703167

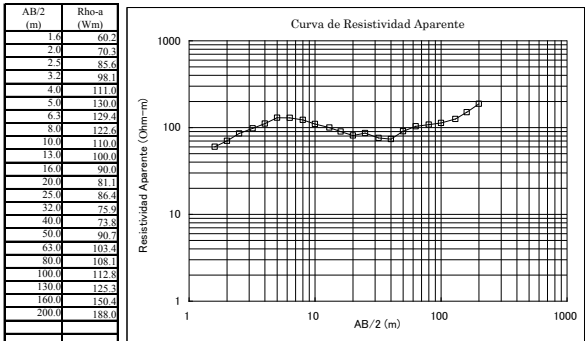


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
2169	0.3	Exposed trachytes	Dry.
87	2	Dry volcanic soils	Dry
42	16	Moist to dry volcanic soils	Moist
23	40	Slightly weathered and fractured phonolites.	Shallow aquiferous layer
33	>40	Highly fractured and weathered basalts and old land surface layer.	Aquiferous.

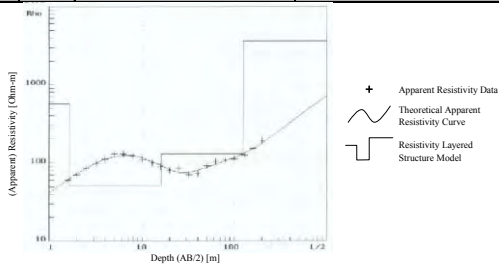


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Kiboino	Site No.	V-109	
Site Name	OINOBOI	Elevation	1257	
36N	UTM-E	796835	UTM-N	51058
	Latitude	0.461417	Longitude	35.666694

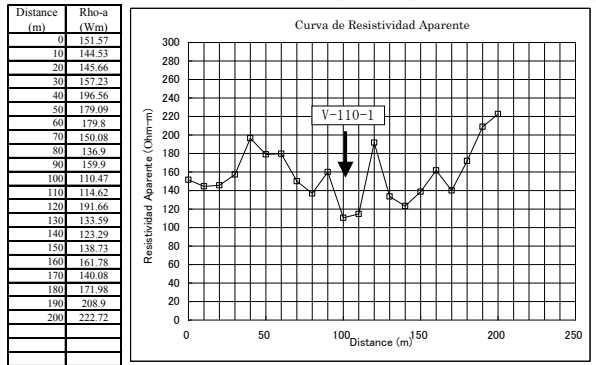


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
21	0-3	Dry top superficial layer	Dry
566	3-14	Dry volcanic soils	Dry
51	16	Slightly weathered trachytes	Dry
131	125	Highly weathered and fractured tufts and trachytes	Shallow aquifer expected
3676	>125	Fresh compact trachytes	No aquifers expected

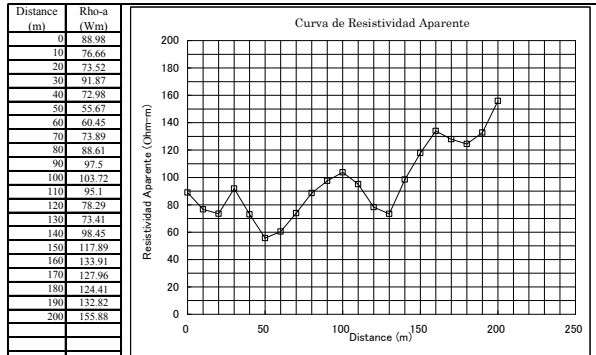


Horizontal Electric Profiling Datasheet (Wenner)

District	Baringo	Division	Salawa	
Location	Kiboino	Site No.	HEP-110-1	
Site Name	KAPSIKORYAN	Elevation	1676	
Start Point	Latitude	0.486917	Longitude	35.706639
End Point	Latitude	0.486778	Longitude	35.708111

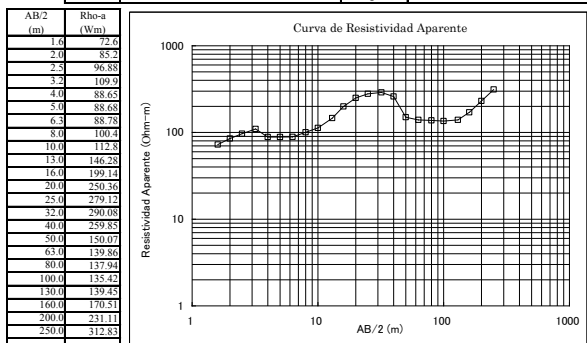


Location	Kiboino	Site No.	HEP-110-1	
Site Name	KAPSIKORYAN	Elevation	1678	
Start Point	Latitude	0.486306	Longitude	35.7108333
End Point	Latitude	0.485972	Longitude	35.712139

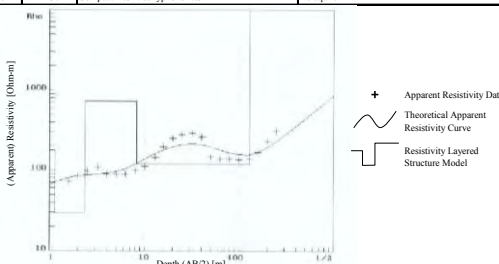


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Kiboino	Site No.	V-110-1	
Site Name	KAPSIKORYAN	Elevation	1682	
36N	UTM-E	801371	UTM-N	53867
	Latitude	0.486806	Longitude	35.707417

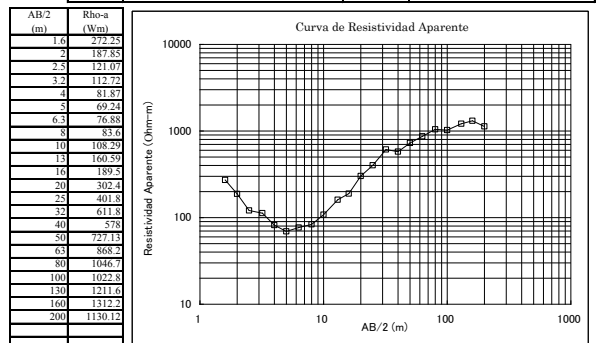


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
32	0-0.3	Dry top superficial layer	Dry. No aquifers
177	0.3-1.1	Slightly weathered trachyphonolites	Dry. No aquifer
30	1.1 - 2.4	Highly weathered trachyphonolites	No aquifer
729	2.4 - 8.3	Compact hard trachyphonolites	No aquifer
120	8.3 - 130	Slightly weathered/ fractured trachyphonolites	Aquifer
10000	>130	Compact fresh trachyphonolites	No aquifer

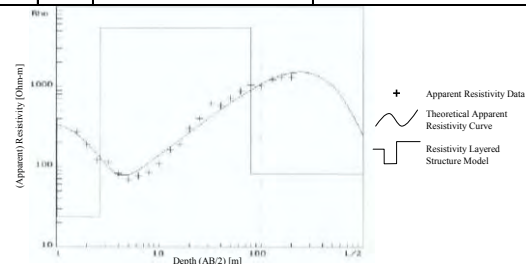


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa	
Location	Kiboino	Site No.	V-110-2	
Site Name	KAPSIKORYAN	Elevation		
36N	UTM-E	801822	UTM-N	53783
	Latitude	0.486056	Longitude	35.711472

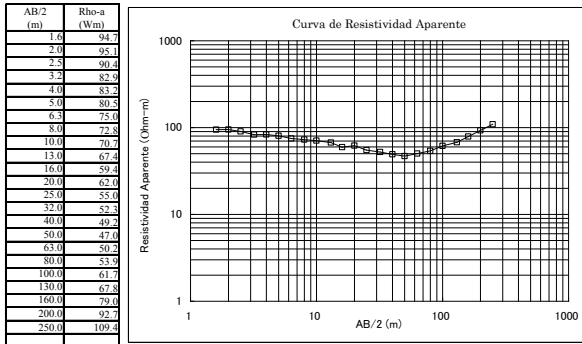


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
392	0 - 1	Dry top superficial layer	Dry. No aquifers
24	1 - 2.7	Slightly weathered trachyphonolites	Moist
5437	2.7 - 80	Compact hard trachyphonolites	No aquifer
79	>80	Highly weathered/fractured trachyphonolites	Aquiferous layer

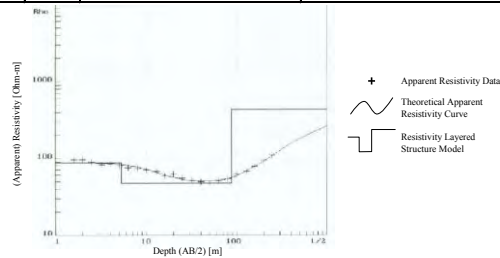


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa
Location	Kiboimo	Site No.	V-111
Site Name	KOROMBOPSOO	Elevation	1258
36N UTM-E	799674	UTM-N	46946
Latitude	0.424250	Longitude	35.692167

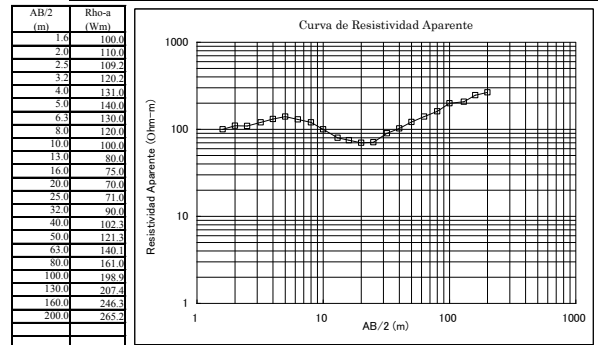


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
88	5.3	Dry top superficial layer	Dry
47	88	Slightly weathered phonolites	Shallow aquiferous layer
431	>88	Compact basalts	No aquifers expected in this layer.

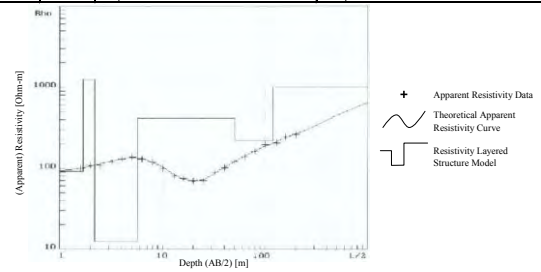


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa
Location	Kiboimo	Site No.	V-112
Site Name	SIRUNDI PRIMARY SCHOOL	Elevation	51958
36N UTM-E	801275	UTM-N	51958
Latitude	0.469556	Longitude	35.706556

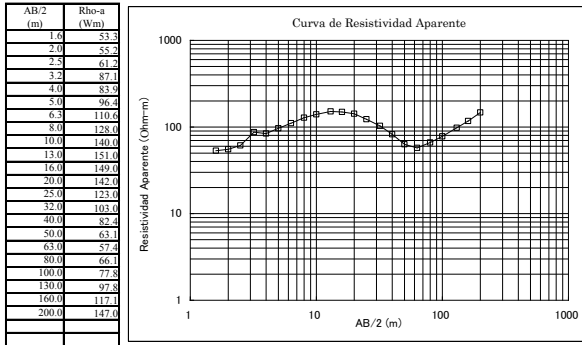


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
91	1.7	Dry top superficial layer	Dry
1244	2.2	Compact phonolitic rocks	Dry
12	6	Moist loose volcanic soils	Dry
418	50	Slightly weathered trachytes	Shallow aquifer expected
218	120	Highly weathered and fractured tufts and trachytes	Deep aquifer expected
1000 >120		Compact basalts	Not aquiferous

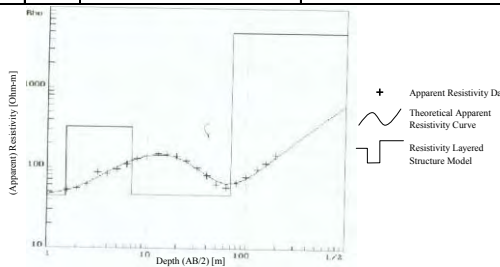


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa
Location	Kapropita Soi	Site No.	V-114
Site Name	SICHET PRIMARY	Elevation	1217
36N UTM-E	803658	UTM-N	45280
Latitude	0.402889	Longitude	35.727917

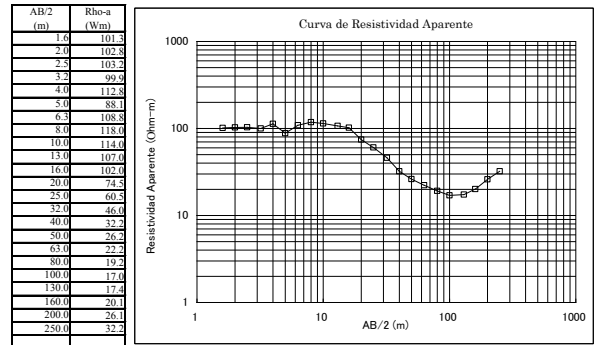


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
45	1.6	Dry top superficial layer	Dry
326	7	Dry volcanic soils	Dry
46	70	Highly weathered and fractured tufts and trachytes	Shallow aquifer expected
5000	>70	Compact trachytes	Not aquiferous

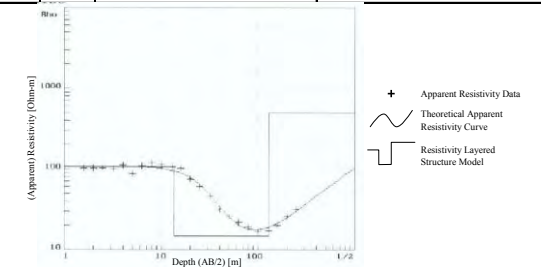


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Salawa
Location	Kapropita Soi	Site No.	V-115
Site Name	KIKOK SOSPEI CHURCH	Elevation	44592
36N UTM-E	801291	UTM-N	44592
Latitude	0.402972	Longitude	35.706639

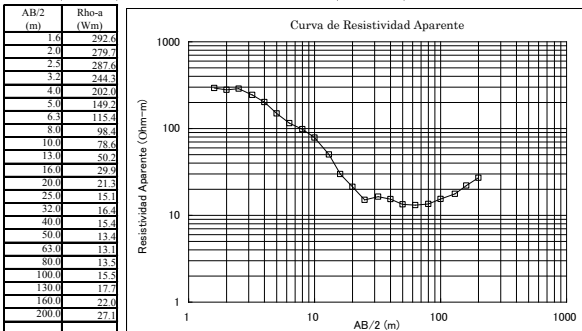


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
107	1.3	Dry top superficial layer	Dry
15	15	Highly weathered and fractured tufts and trachytes	Aquifer expected in this layer
500	>129	Compact trachytes	Not aquiferous

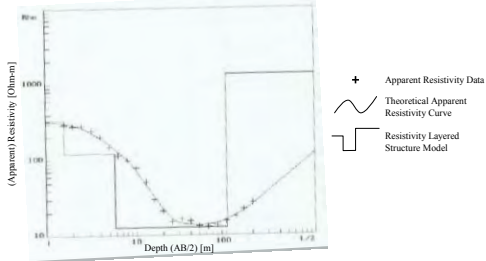


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Sacho
Location	Kapkelelwa	Site No.	V-116
Site Name	KATUNDI	Elevation	1252
36N UTM-E	800135	UTM-N	42077
Latitude	0.380250	Longitude	35.696278

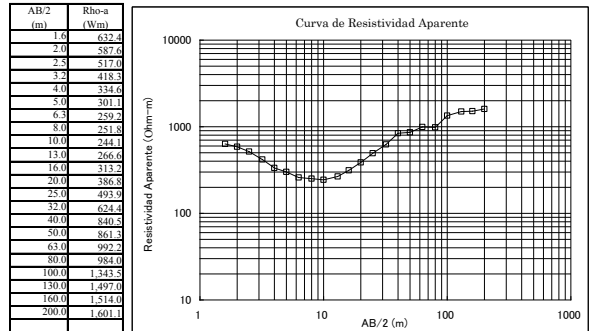


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
335	1.0	Dry top superficial layer	Dry.
120	1.0	Dry volcanic soils	Dry.
13	10	Highly weathered and fractured tuffs and trachytes	Aquifer expected in this layer
1327>103	>103	Compact basalts	Not aquiferous

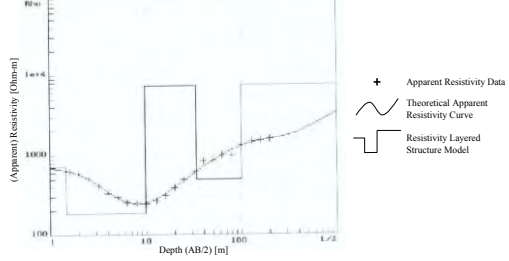


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Sacho
Location	Kapkelelwa	Site No.	V-117
Site Name	SAIMET	Elevation	1420
36N UTM-E	804410	UTM-N	42635
Latitude	0.385306	Longitude	35.734667

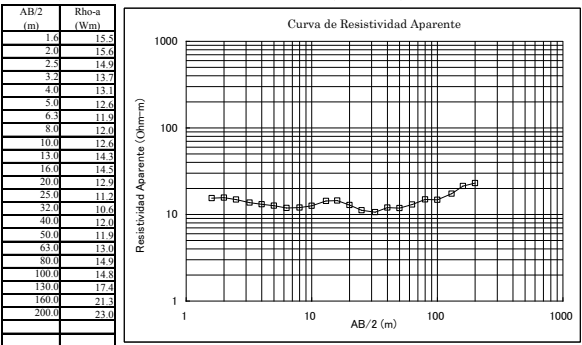


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
714	1.5	Dry top superficial layer	Dry.
184	10	Most loose volcanic soils	Dry.
7552	34	Compact trachytes rocks	Dry.
500	100	Slightly weathered trachytes	Shallow aquifer expected
7483	>100	Compact basalts	No aquifer expected

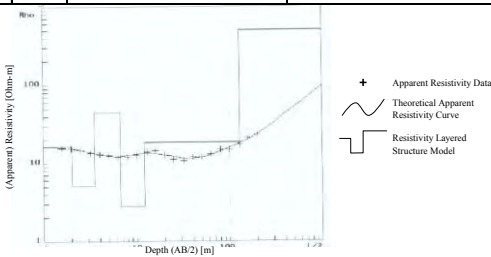


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Sacho
Location	Chepkero	Site No.	V-119
Site Name	LELGUT PRIMARY CHEPKERO	Elevation	985
36N UTM-E	805539	UTM-N	35933
Latitude	0.324722	Longitude	35.744778

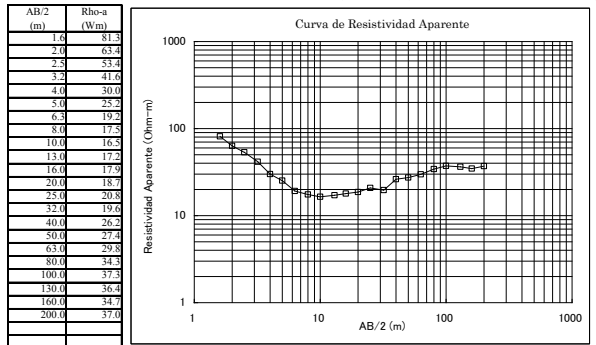


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
17	2	Dry top superficial layer	Dry.
5	4	Loose volcanic soils	Dry.
44	7	Slightly weathered tuffs	Moist
3	12	Slightly weathered trachytes	Moist. No aquifers.
19	130	Highly weathered and fractured tuffs and trachytes	Aquifer expected
500	>130	porphyritic olivine basalts	Not aquiferous

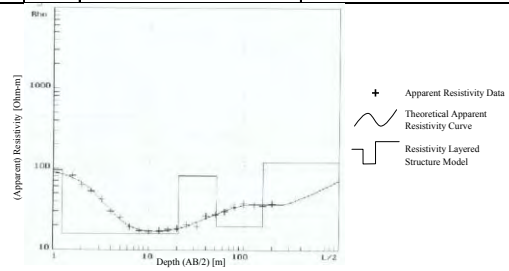


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Tenges
Location	Kisoneti	Site No.	V-120
Site Name	MOGORRWA	Elevation	982
36N UTM-E	804499	UTM-N	33220
Latitude	0.300222	Longitude	35.735194

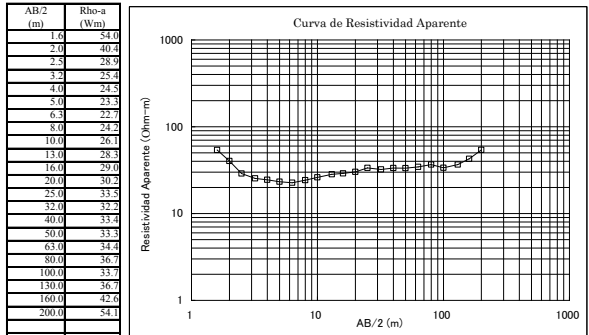


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
96	1.3	Dry top superficial layer	Dry.
16	20	Loose volcanic soils	Dry.
82	52	Slightly weathered tuffs	Moist
20	160	Highly weathered and fractured tuffs and trachytes	Aquifer expected.
121	>160	Slightly weathered porphyritic olivine basalts	Deep aquifer expected

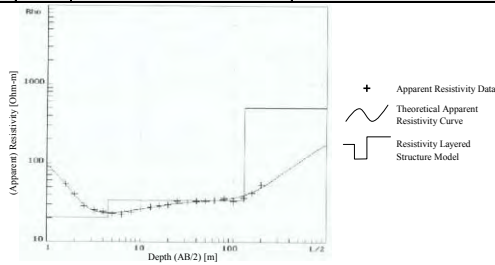


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Tenges
Location	Kisonel	Site No.	V-121
Site Name	KISONEL PRIMARY	Elevation	1597
36N UTM-E	802659	UTM-N	28270
Latitude	0.255472	Longitude	35.718972

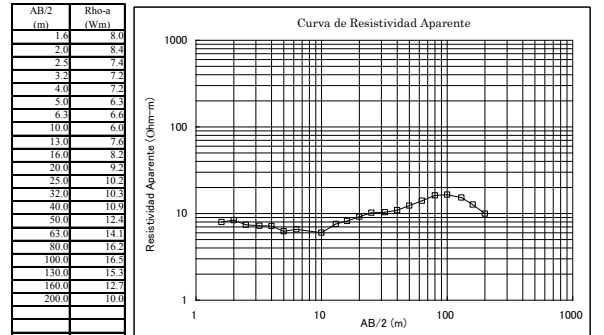


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
150	0.6	Dry top superficial layer	Dry
21	5	Loose volcanic soils	Dry
34	132	Highly weathered and fractured tuffs and trachytes	Aquifer expected
509	>132	porphyritic olivine basalts	No aquifers

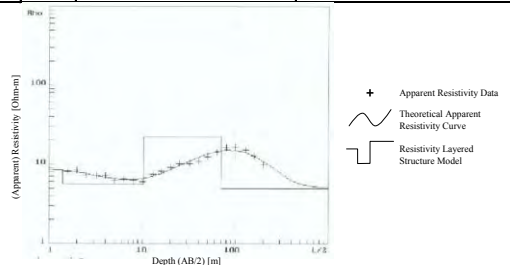


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Tenges
Location	Ochil	Site No.	V-122
Site Name	OCHIL PRIMARY	Elevation	1657
36N UTM-E	808651	UTM-N	33305
Latitude	0.300944	Longitude	35.772694

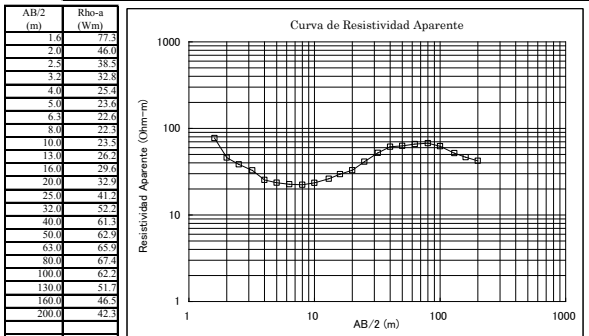


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
30	1.4	Dry top superficial layer	Dry
6	10.3	Loose volcanic soils	Dry
22	70	Slightly weathered tuffs	Shallow aquifer may be present
5	>70	Highly weathered and fractured tuffs and trachytes	Aquifer expected

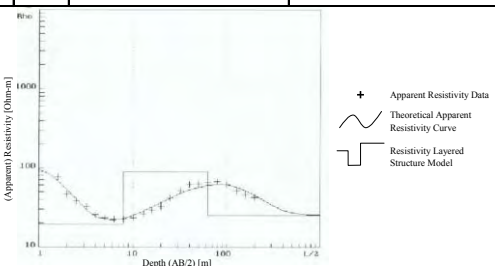


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Tenges
Location	Tenges	Site No.	V-123
Site Name	SIGINWO	Elevation	1943
36N UTM-E	813555	UTM-N	34611
Latitude	0.312778	Longitude	35.816750

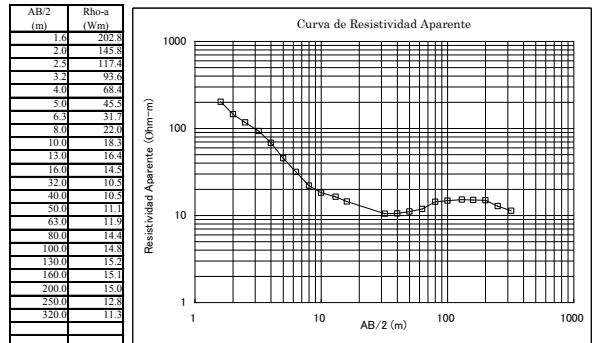


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
118	0.8	Dry top superficial layer	Dry
19	8	Loose volcanic soils	Dry
89	63	Slightly weathered tuffs	Shallow aquifer may be present
25-63		Highly weathered and fractured tuffs and trachytes	Aquifer expected

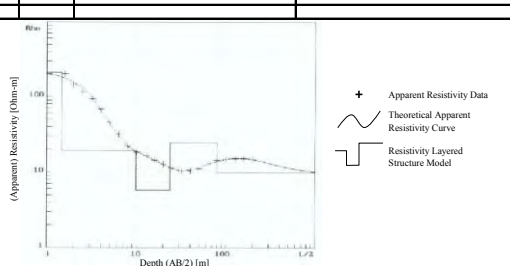


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Tenges
Location	Tenges	Site No.	V-124
Site Name	TABARIN	Elevation	1849
36N UTM-E	813133	UTM-N	37460
Latitude	0.324778	Longitude	35.802250

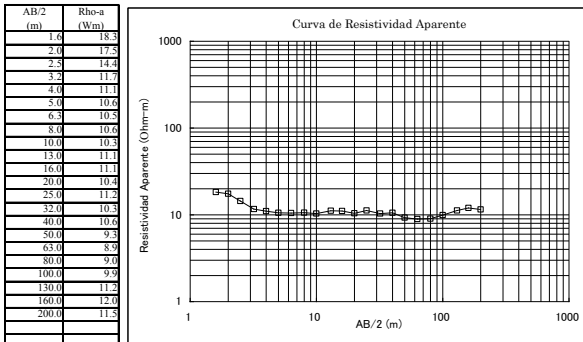


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
20	1.2	Dry top superficial layer	Dry
15	24	Loose volcanic soils	Dry
447	>24	Highly weathered and fractured tuffs and trachytes	Shallow aquifer may be present

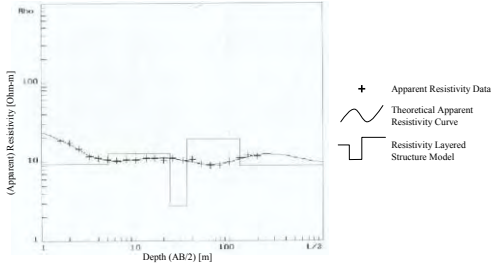


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Tenges	
Location	Tuluongoi	Site No.	V-125	
Site Name	TULUONGOI- SANGARAU PRIMARY	Elevation	1702	
36N	UTM-E	809176	UTM-N	30779
Latitude	0.278139	Longitude	35.777444	

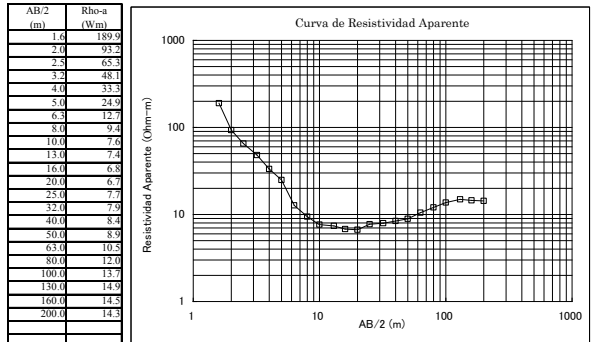


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
0.8	0.8	Dry top superficial layer	Dry
9.3	2.0	Loose volcanic soils	Dry
13	2.5	Compact volcanic soils	Moist
3	3.2	Slightly weathered tuffs	Very low water content
19	4.0	Slightly weathered trachytes	Aquifer expected
9 >130	5.0	Highly weathered and fractured trachytes	Deep aquifer expected

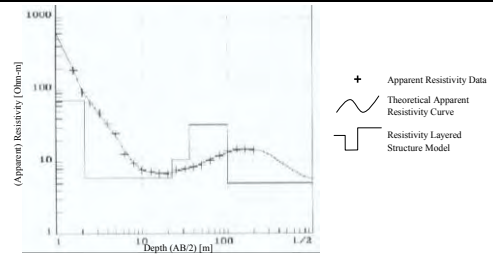


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Tenges	
Location	Tuluongoi	Site No.	V-126	
Site Name	TEBEI	Elevation	1548	
36N	UTM-E	815810	UTM-N	30388
Latitude	0.274611	Longitude	35.837000	

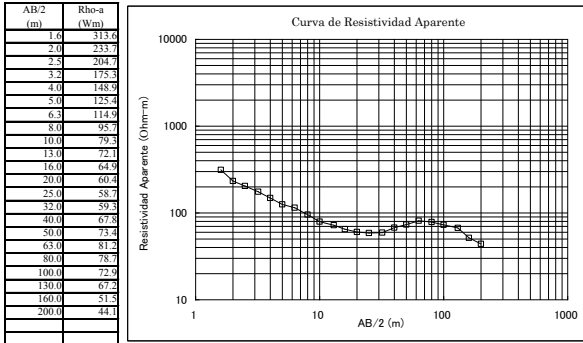


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
137.3	0.4	Dry top superficial layer	Dry
71	2	Compact volcanic soils	Dry
6	2.2	Loose volcanic soils	Moist
33	3.2	Slightly weathered tuffs	Very low water content
5	100	Highly weathered tuffs and trachytes	Aquifer expected
9	>130	Highly weathered trachytes	Deep aquifer expected

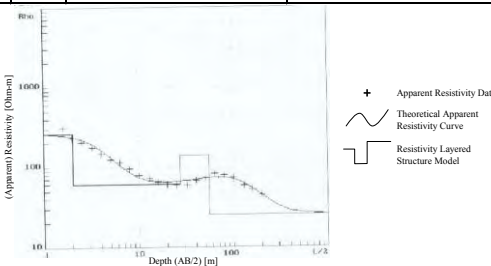


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Tenges	
Location	Bekibon	Site No.	V-129	
Site Name	TINOMOI	Elevation	1793	
36N	UTM-E	815707	UTM-N	36036
Latitude	0.325639	Longitude	35.836056	

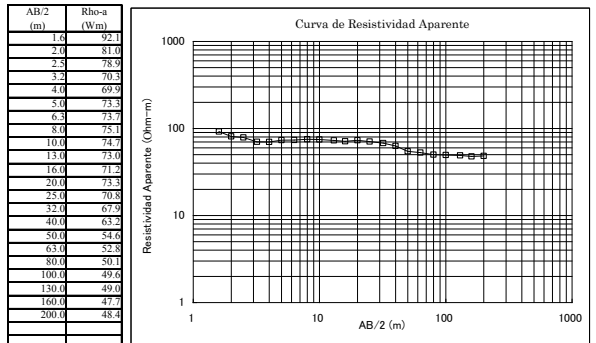


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
265	2	Dry top superficial layer	Dry
61	2.7	Loose volcanic soils	Dry
140	5.8	Slightly weathered tuffs and trachytes	May have a shallow aquifer
25	>5.8	Highly weathered and fractured tuffs and trachytes	Aquiferous

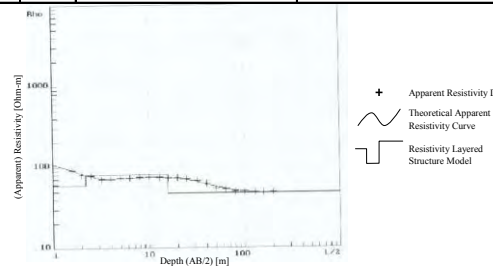


Vertical Electric Sounding Datasheet (Schlumberger)

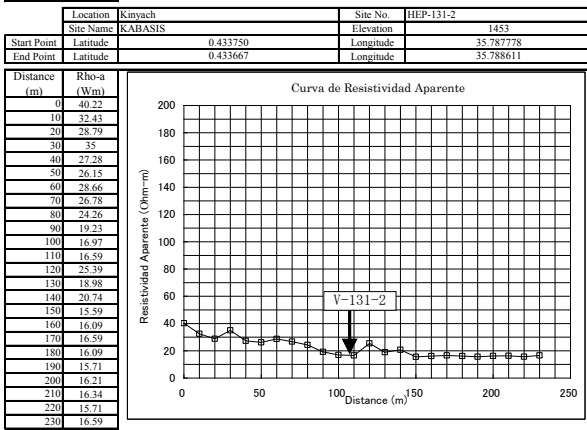
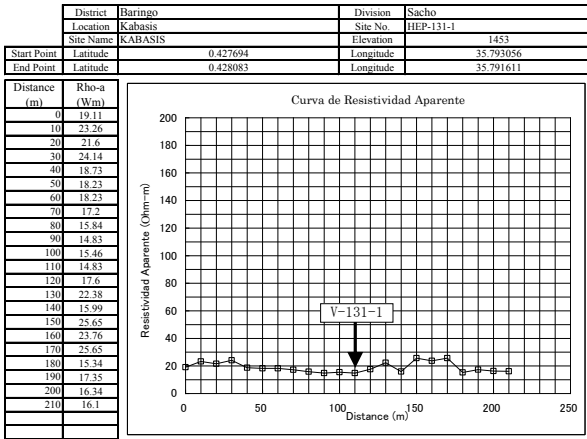
District	Baringo	Division	Sacho	
Location	Kabasis	Site No.	V-130	
Site Name	TOMBOIYWO	Elevation	2159	
36N	UTM-E	811394	UTM-N	46771
Latitude	0.422639	Longitude	35.797361	



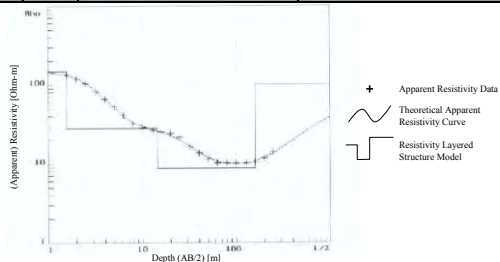
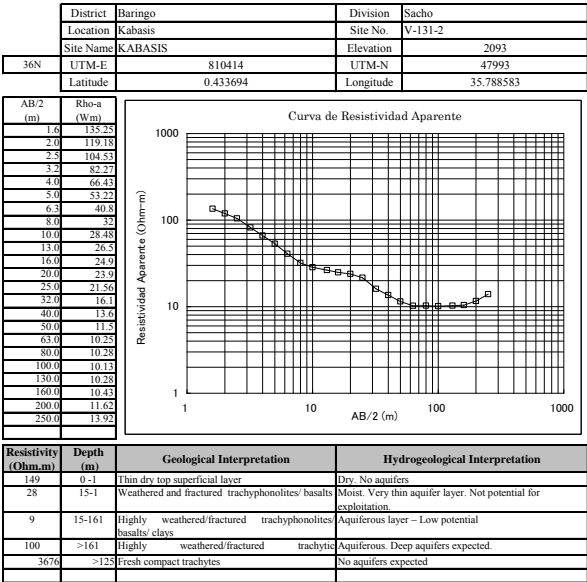
Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
126	0.7	Dry top superficial layer	Dry
59	2.2	Loose volcanic soils	Dry
80	16	Slightly weathered tuffs	Shallow aquifer may be present
47	>16	Highly weathered and fractured tuffs and trachytes	Aquifer expected.



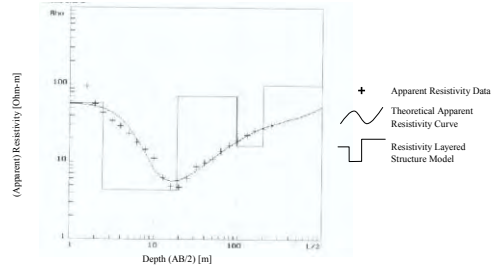
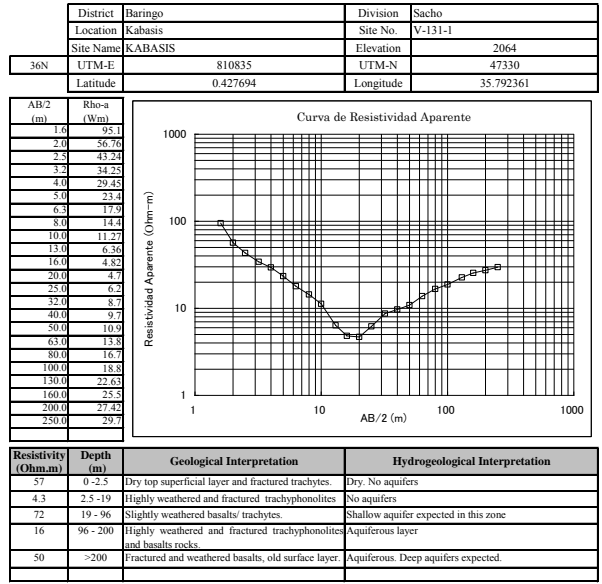
Horizontal Electric Profiling Datasheet (Wenner)



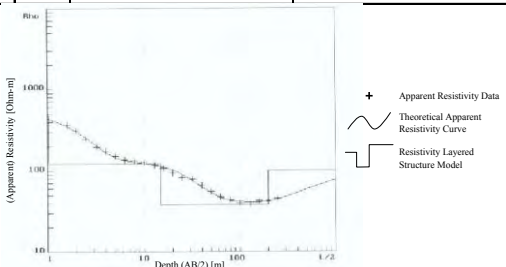
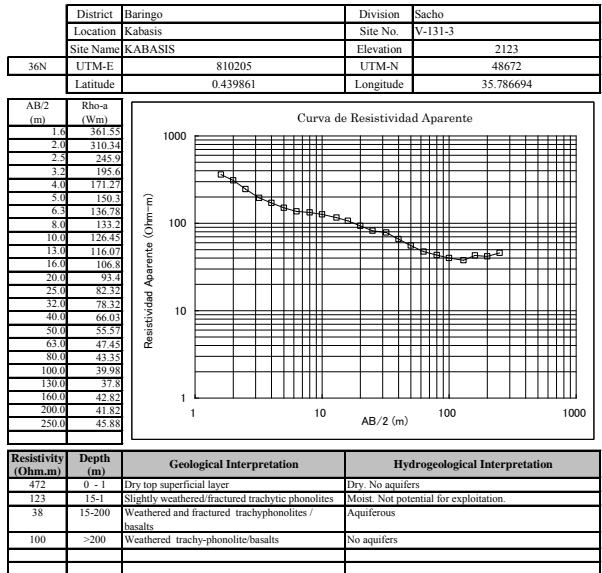
Vertical Electric Sounding Datasheet (Schlumberger)



Vertical Electric Sounding Datasheet (Schlumberger)

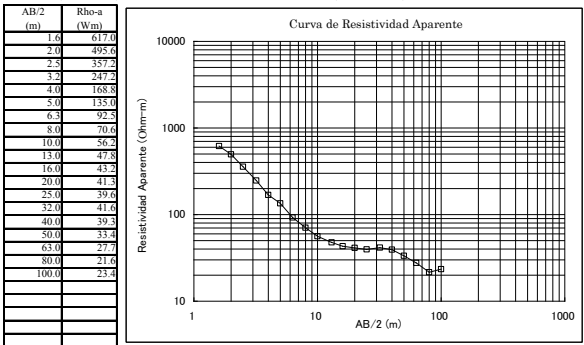


Vertical Electric Sounding Datasheet (Schlumberger)

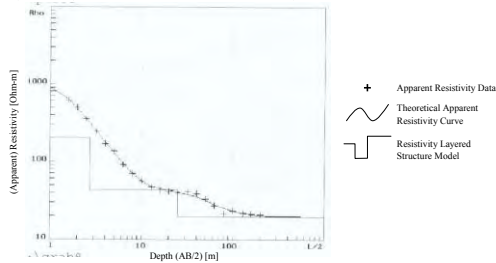


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Kabarnet
Location	Orokwo	Site No.	V-133
Site Name	KAPCHOMUSWO	Elevation	1999
36N UTM-E	805378	UTM-N	59489
Latitude	0.537611	Longitude	35.743444

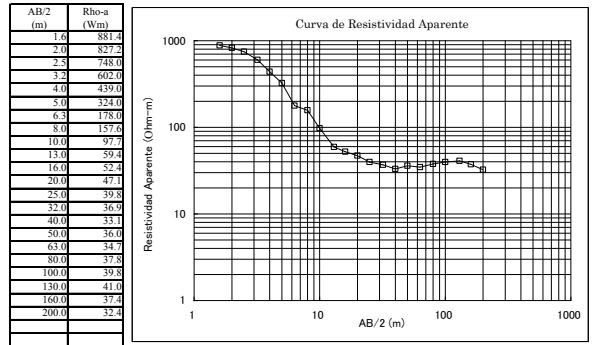


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
1092	0.8	Exposed trachytic outcrops	Dry
201	3	Compact volcanic soils	Dry
43	25	Slightly weathered tuffs	Shallow aquifer may be present
20	>25	Highly weathered and fractured tuffs and trachytes	Aquifer expected.

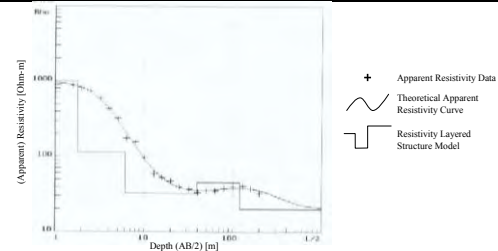


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Kabarnet
Location	Orokwo	Site No.	V-134
Site Name	KIWANJA NDEGE KABARNET	Elevation	1882
36N UTM-E	803592	UTM-N	59000
Latitude	0.533222	Longitude	35.727389

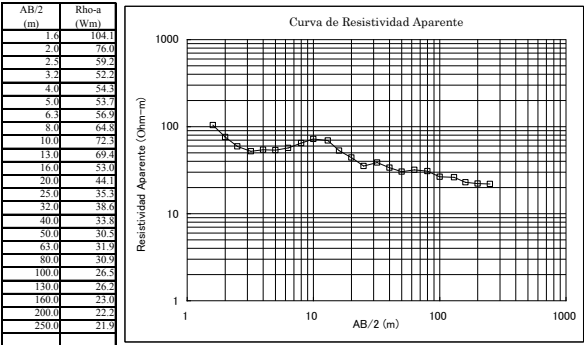


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
990	1.8	Dry top superficial layer	Dry
114	6	Compact volcanic soils	Dry
33	39	Loose volcanic soils	Moist
46	120	Slightly weathered tuffs and trachytes	Very low water content
20	>120	Highly weathered and fractured trachytes	Aquifer expected.

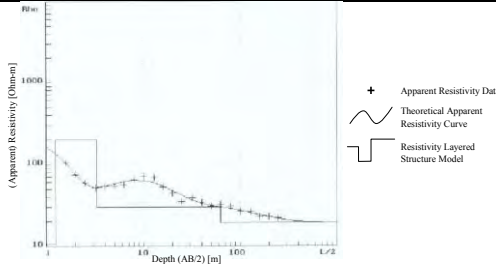


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Kabarnet
Location	Orokwo	Site No.	V-135
Site Name	PEMWAI CENTRE	Elevation	2231
36N UTM-E	808480	UTM-N	63186
Latitude	0.571000	Longitude	35.771278

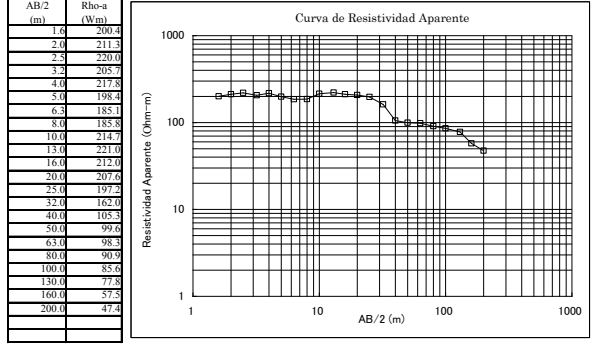


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
228	0.7	Dry top superficial deposits	Dry. No aquifers
11	1.3	Loose volcanic soils	Moist. No aquifers are expected
201	3	Dry Volcanic ashes and sediments	Dry. No aquifers are expected
30	63	Slightly weathered volcanic ashes	Shallow aquifer layer expected in this layer.
19	>105	Highly weathered trachytic phonolites.	Aquiferous.

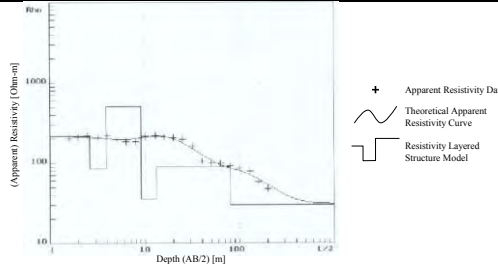


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Kabarnet
Location	Ewalel	Site No.	V-136
Site Name	TULEI PRIMARY SCHOOL	Elevation	2240
36N UTM-E	813093	UTM-N	64689
Latitude	0.584556	Longitude	35.812694

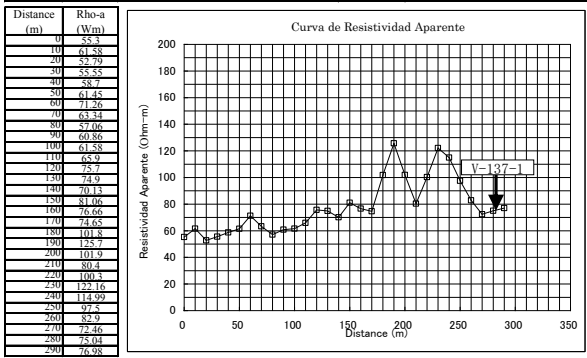


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
217	3	Dry top superficial deposits	Dry. No aquifers
86	4	Loose volcanic soils	Moist. No aquifers are expected
512	9	Dry Volcanic ashes and sediments	Dry. No aquifers are expected
36	13	Slightly weathered volcanic ashes	Moist
91	80	Highly weathered trachytes and trachyphonolites.	Shallow aquiferous
30	>80	Highly weathered and fractured phonolites	Deep aquifer expected

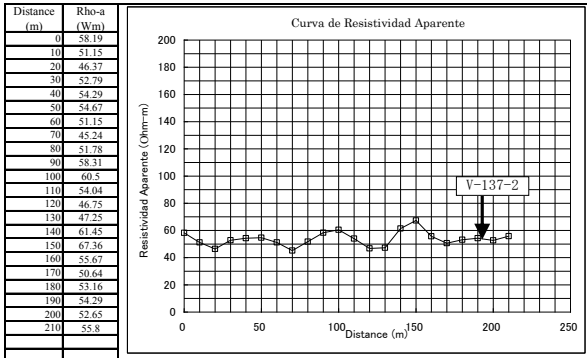


Horizontal Electric Profiling Datasheet (Wenner)

District	Baringo	Division	Kabarnet	
Location	Ewalel	Site No.	HEP-137-1	
Site Name	KAPKAWA	Elevation	2124	
Start Point	Latitude	0.568444	Longitude	35.778722
End Point	Latitude	0.567667	Longitude	35.781750

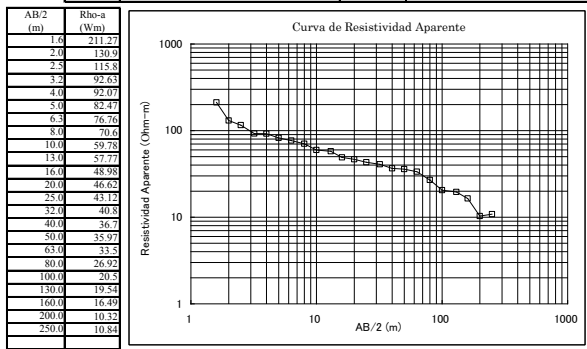


District	Baringo	Division	Kabarnet	
Location	Ewalel	Site No.	HEP-137-2	
Site Name	KAPKAWA	Elevation	2099	
Start Point	Latitude	0.563444	Longitude	35.778472
End Point	Latitude	0.563306	Longitude	35.779750

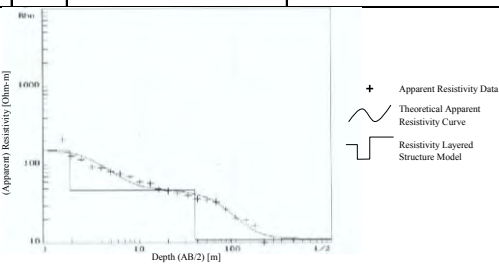


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Kabarnet	
Location	Ewalel	Site No.	V-137-2	
Site Name	KAPKAWA	Elevation	2091	
36N	UTM-E	809345	UTM-N	62472
Latitude	0.564528	Longitude	35.779056	

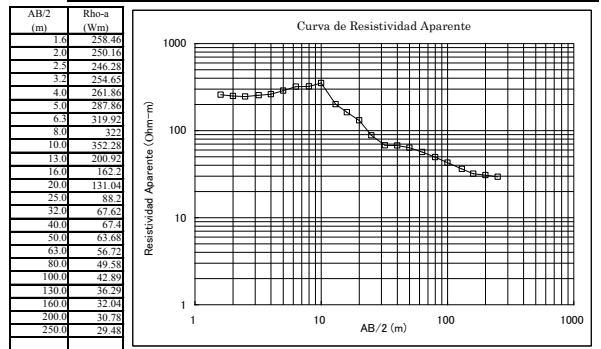


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
156	0-1.9	Thin dry top superficial layer	Dry. No aquifers
48	1.9-38	Slightly weathered and fractured trachyphonolites	Moist
11	>38	Highly weathered/fractured trachyphonolites	Aquiferous layer/Clayey

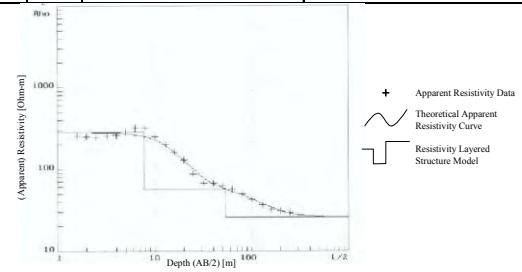


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Kabarnet	
Location	Ewalel	Site No.	V-137-1	
Site Name	KAPKAWA	Elevation	2237	
36N	UTM-E	809609	UTM-N	62840
Latitude	0.567861	Longitude	35.781417	

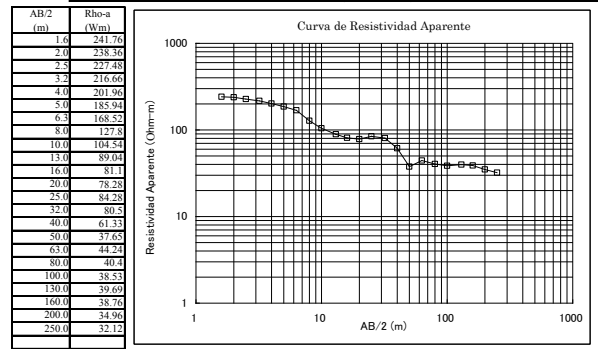


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
284	0-7.7	Dry top superficial layer and fractured trachytes	Dry. No aquifers
57	7.7-54	Slightly weathered and fractured trachyphonolites	No aquifers
26	>54	Highly weathered/fractured trachyphonolites &	Aquiferous layer

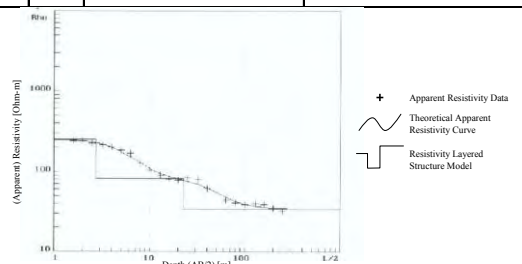


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Kabarnet	
Location	Ewalel	Site No.	V-137-3	
Site Name	KAPKAWA	Elevation	2094	
36N	UTM-E	810343	UTM-N	61279
Latitude	0.553750	Longitude	35.788000	

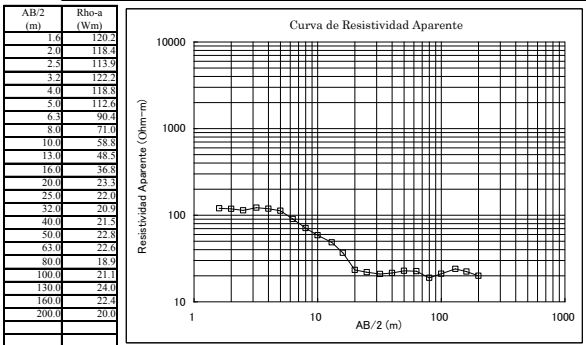


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
250	0-2.7	Dry top superficial layer and fractured trachytes	Dry. No aquifers
82	2.7-23	Slightly weathered and fractured trachyphonolites	Moist. No aquifers
34	>23	Weathered & ratured trachyphonolites	Aquiferous

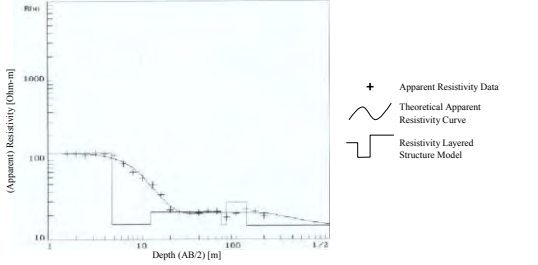


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Kabarnet
Location	Riwo	Site No.	V-139
Site Name	SEREI	Elevation	1909
36N	UTM-E 808588	UTM-N	60270
Latitude	0.544639	Longitude	35.772250

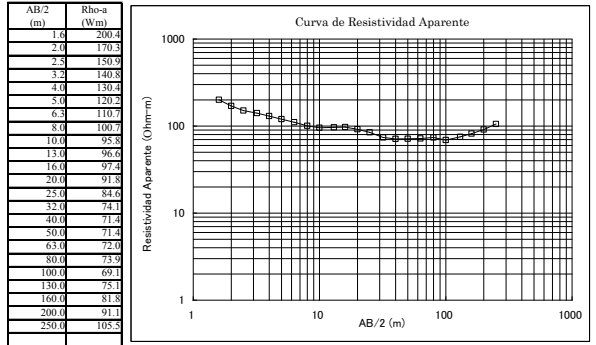


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
122	3	Dry top superficial deposits	Dry. No aquifers
16	12	Loose volcanic soils	Moist. No aquifers are expected
22	69	Dry Volcanic ashes and sediments	Dry. No aquifers are expected
15	79	Slightly weathered volcanic ashes	Moist
29	128	Highly weathered and trachytic phonolites	Shallow aquiferous
15	>128	Highly weathered and fractured phonolites	Deep aquifer expected

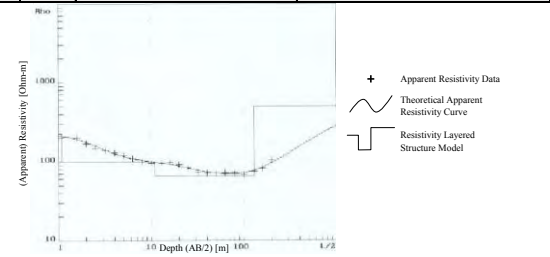


Vertical Electric Sounding Datasheet (Schlumberger)

District	Baringo	Division	Kabarnet
Location	Kifuro	Site No.	V-140
Site Name	TURUPKIR	Elevation	1714
36N	UTM-E 814118	UTM-N	55558
Latitude	0.502028	Longitude	35.821833

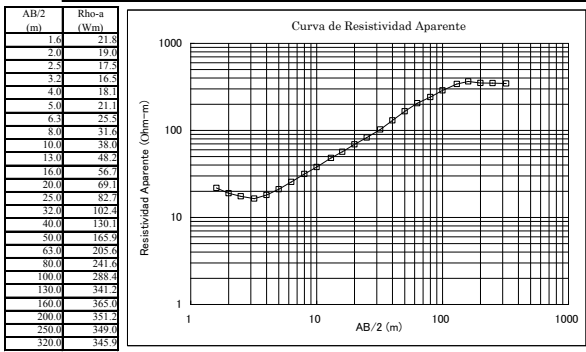


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
224	1	Dry top superficial deposits	Dry. No aquifers
101	11	Dry Volcanic ashes	Moist. No aquifers are expected
66	130	Slightly weathered trachytes and trachy phonolites	Shallow aquifers are expected in this zone
	500	>130 Compact phonolites	Low amounts expected in this zone

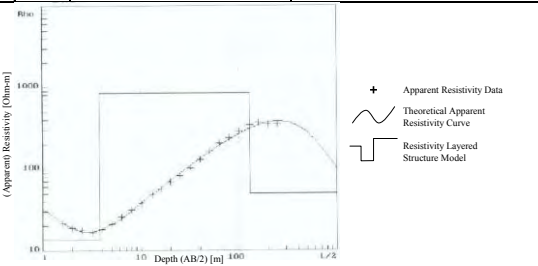


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Tangulbei
Location	Orus	Site No.	V-141
Site Name	LALWASOYEN	Elevation	982
37N	UTM-E 188755	UTM-N	112900
Latitude	1.020222	Longitude	36.203583

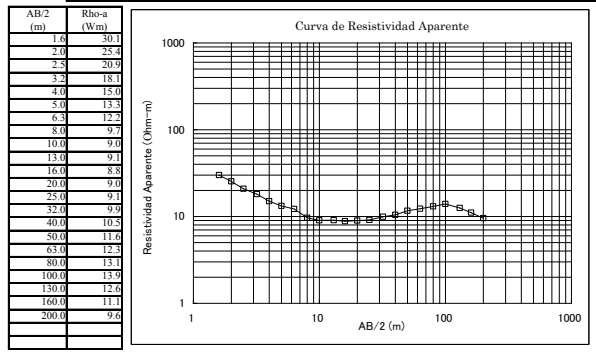


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
53	0.5	Dry top superficial layer	Dry.
14	4	Loose volcanic soils	Dry
838	130	Compact basalts	Dry
50	>130	Highly weathered and fractured basalts	Aquifer expected.

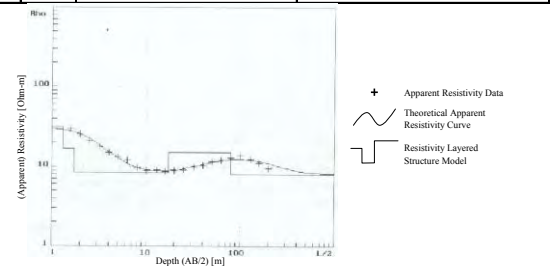


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Tangulbei
Location	Tangulbei	Site No.	V-143
Site Name	KILIWOK (CHEPONYORIO)	Elevation	1021
37N	UTM-E 175391	UTM-N	79258
Latitude	0.716139	Longitude	36.083917

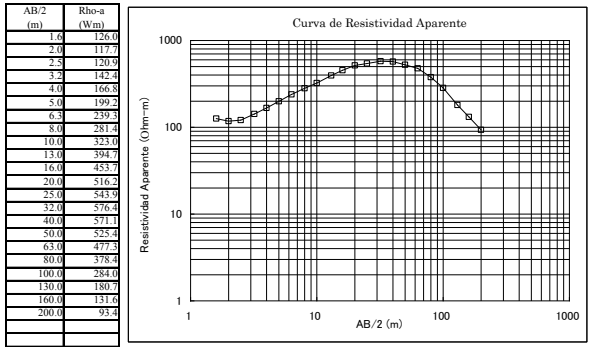


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
31	1.3	Dry top superficial layer	Dry.
17	2	Loose volcanic soils	Dry
8.4	17	Clay layer	Moist
15	80	Slightly weathered and fractured trachytes	Shallow aquifer expected.
8	>80	Highly weathered and fractured trachytes	Deep aquifer expected.

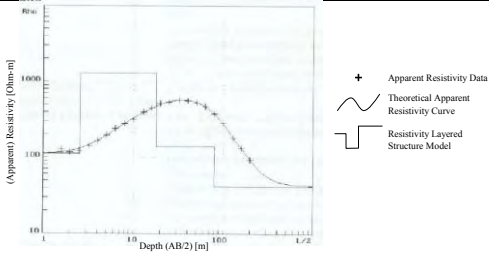


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Tangulbei	
Location	Korosi	Site No.	V-145	
Site Name	NAKOLETE	Elevation	1030	
37N	UTM-E	184344	UTM-N	86003
	Latitude	0.777139	Longitude	36.164194

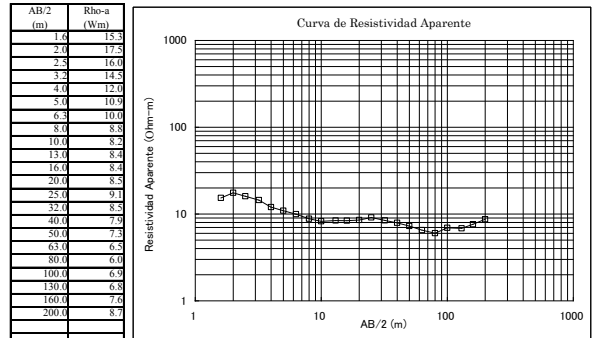


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
111	2.0	Dry top superficial layer	Dry
1297	18	Compact and fresh basalts	Dry
140	80	Slightly weathered and fractured trachytes	Shallow aquifer expected.
42	>80	Highly weathered and fractured trachytes	Aquifer expected in this layer.

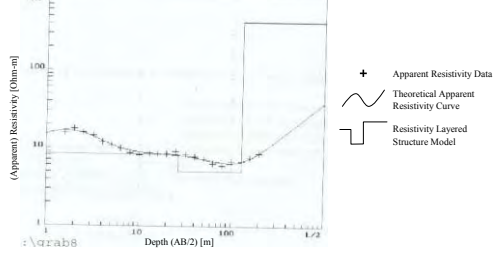


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Tangulbei	
Location	Tangulbei	Site No.	V-146	
Site Name	KALAPATA	Elevation	1197	
37N	UTM-E	195566	UTM-N	80994
	Latitude	0.731944	Longitude	36.265000

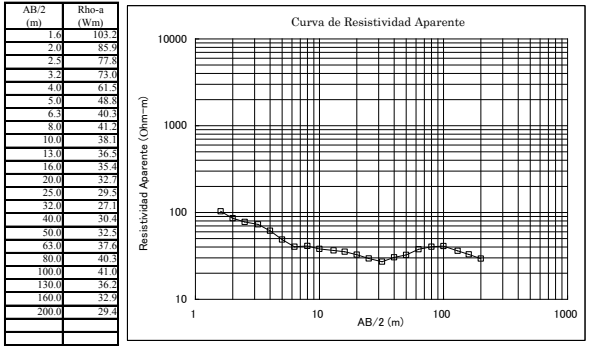


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
4.1	0.2	Dry top superficial layer	Dry
34	0.5	Loose volcanic soils	Dry
8	2	Slightly weathered and fractured trachytes	Moist
5	130	Highly weathered and fractured trachytes	Aquifer expected
427	>130	Compact basalts	No aquifers

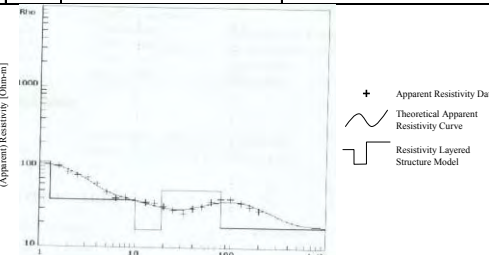


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Tangulbei	
Location	Orus	Site No.	V-148	
Site Name	ORUS	Elevation	1320	
37N	UTM-E	200175	UTM-N	105353
	Latitude	0.952056	Longitude	36.306167

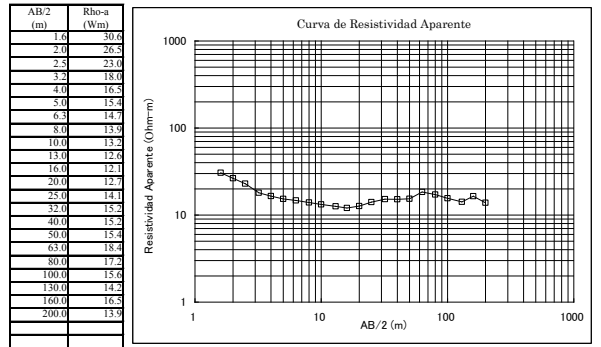


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
115	1.3	Dry top superficial layer	Dry
39	10	Loose volcanic soils	Dry
17	19	Slightly weathered tuffs	Moist
52	80	Weathered and fractured trachytes	Aquifer expected.
18	>80	Highly weathered and trachytes	Deep aquifers expected

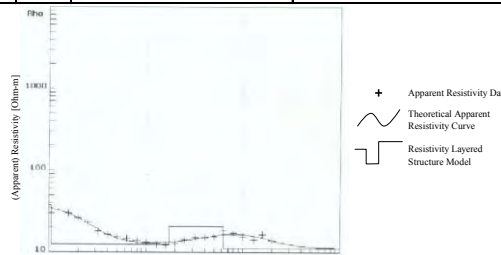


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Tangulbei	
Location	Orus	Site No.	V-149	
Site Name	SIRIA	Elevation	1370	
37N	UTM-E	205733	UTM-N	102233
	Latitude	0.923917	Longitude	36.356083

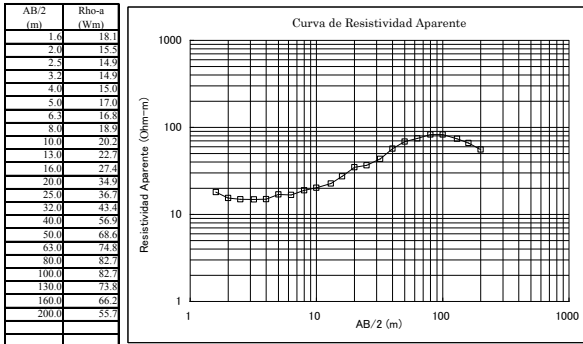


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
37	1	Dry top superficial layer	Dry
13	17	Loose volcanic soils	Dry
21	63	Slightly weathered and fractured trachytes	Aquifer expected.
11	>80	Highly weathered and fractured trachytes	Deep aquifers expected

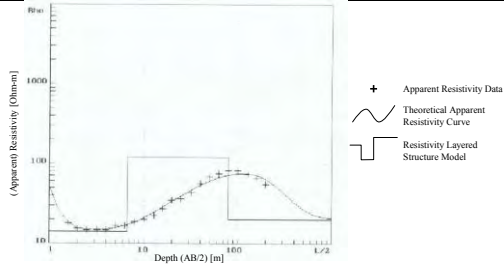


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Tangulbei
	Location	Kokwototo	Site No.	V-150
	Site Name	KAUNGURA	Elevation	1024
37N	UTM-E	195589	UTM-N	99225
	Latitude	0.896667	Longitude	36.265056

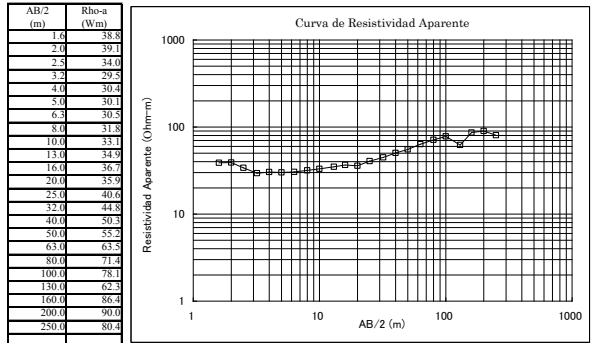


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
564	0.3	Dry top superficial layer	Dry
14	1.4	Loose volcanic soils	Dry
119	80	Slightly weathered and fractured trachytes	Shallow aquifer expected
	20	Weathered and fractured basalts and trachytes	Deep aquifers expected

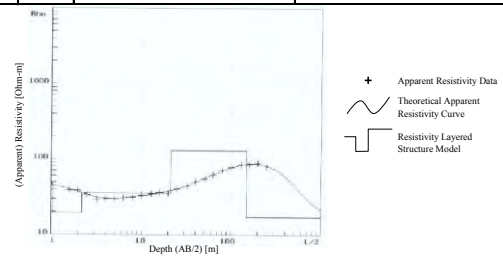


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Loruk	Site No.	V-151
	Site Name	TUWO	Elevation	921
37N	UTM-E	172175	UTM-N	89789
	Latitude	0.811278	Longitude	36.054944

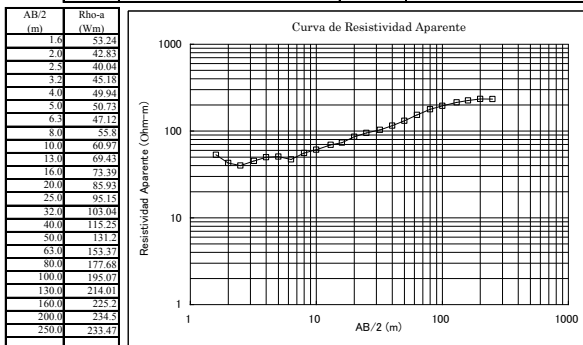


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
48	1.1	Dry top superficial layer	Dry
19	2.2	Loose volcanic soils	Dry
36	21	Slightly weathered and fractured tuffs	moist
131	130	Weathered and fractured trachytes	Shallow aquifer expected
17	>150	Highly weathered and fractured trachytes	Deep aquifer expected

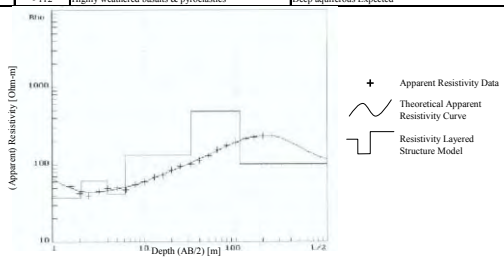


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Loruk	Site No.	V-153-1
	Site Name	CHEBLAT	Elevation	
37N	UTM-E	169611	UTM-N	81365
	Latitude	0.735139	Longitude	36.031972

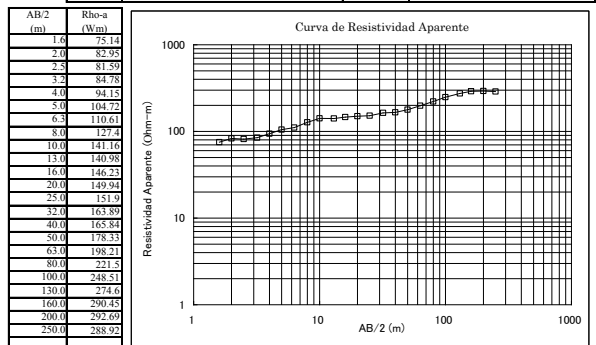


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
106	0-0.4	Dry top superficial layer and fractured tuff	Dry. No aquifers
37	0-4.2	Slightly weathered and fractured tuff	Moist
61	0-4.2	Highly weathered/ fractured basalts rocks.	Moist
42	0-6.4	Highly weathered and fractured basalts	Aquiferous
134	6-33	Weathered/ fractured basalt & trachytes	Aquiferous
480	33-112	Slightly weathered and fractured basalt	Aquiferous
102	>112	Highly weathered basalts & pyroclastics	Deep aquiferous Expected

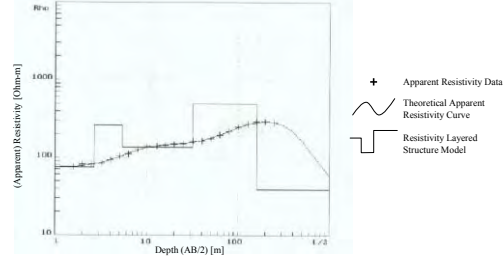


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Loruk	Site No.	V-153-2
	Site Name	CHEBLAT	Elevation	1018
37N	UTM-E	169986	UTM-N	82622
	Latitude	0.746500	Longitude	36.035333

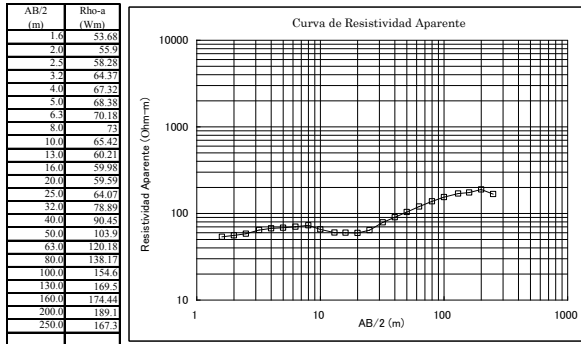


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
75	0-2.6	Dry top superficial layer and fractured tuffs.	Dry. No aquifers
263	2.6-5.4	Slightly weathered and fractured Basalt	Moist
137	5.4-32	Weathered and fractured basalt	Moist
493	32-162	Slightly weathered and fractured Basalt	Aquiferous
39	>162	Highly weathered pyroclastic rock	Deep aquiferous Expected

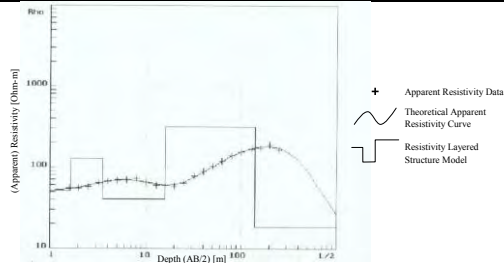


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Loruk	Site No.	V-153-3
	Site Name	CHEBLAT	Elevation	
37N	UTM-E	169628	UTM-N	83329
	Latitude	0.752889	Longitude	36.032111

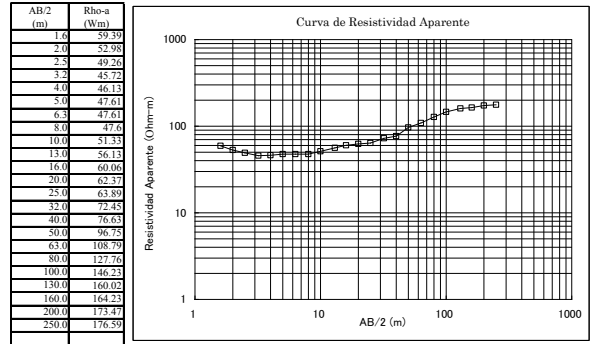


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
51	0-2	Thin dry top superficial layer	Dry
129	04-2	Slightly weathered and fractured Tufts	Dry. No aquifers
41	16-4	Slightly weathered fractured tufts & trachytes	Moist
313	16-140	Slightly weathered and fractured basalt	Aquiferous
18	>140	Highly weathered pyroclastic rock	Deep aquiferous Expected

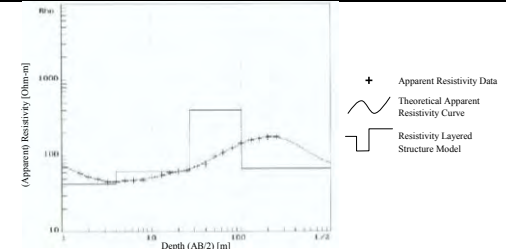


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Loruk	Site No.	V-153-4
	Site Name	CHEBLAT	Elevation	
37N	UTM-E	169877	UTM-N	81315
	Latitude	0.734694	Longitude	36.034361

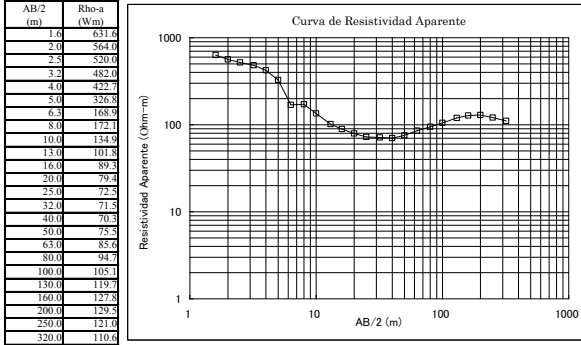


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
107	0-0.5	Dry top superficial layer and fractured tufts	Dry. No aquifers
42	0.5-4	Slightly weathered tufts	Moist.
62	26-4	Weathered Basalt	Moist
400	26-102	Slightly weathered basalt	Aquiferous
68	>102	Highly weathered basalts/pyroclastics rocks.	Deep aquiferous Expected

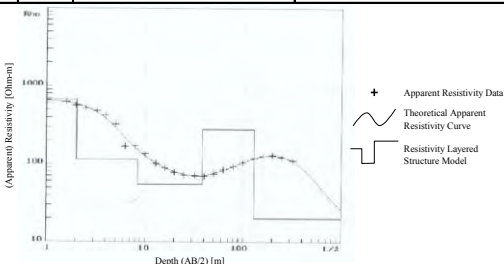


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Naudo	Site No.	V-154
	Site Name	RIONGO	Elevation	895
37N	UTM-E	184914	UTM-N	109302
	Latitude	0.987694	Longitude	36.169139

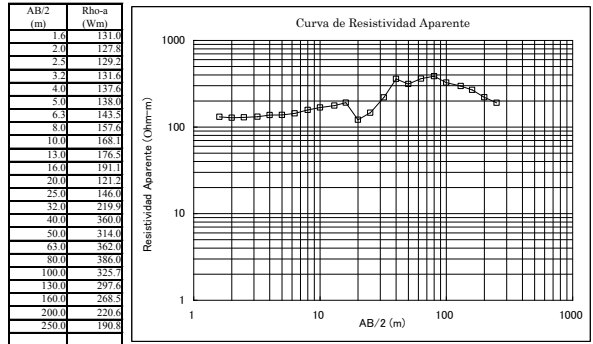


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
667	2	Dry top superficial layer	Dry.
113	8	Loose volcanic soils	Dry
55	33	Slightly weathered and fractured trachytes	moist
278	130	Compact trachytes	No aquifer.
20	>130	Highly weathered and fractured trachytes	Deep aquifer expected.

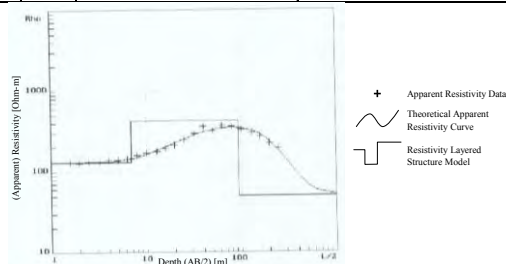


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Naudo	Site No.	V-155
	Site Name	NAUDO	Elevation	869
37N	UTM-E	190458	UTM-N	113834
	Latitude	1.028639	Longitude	36.218861

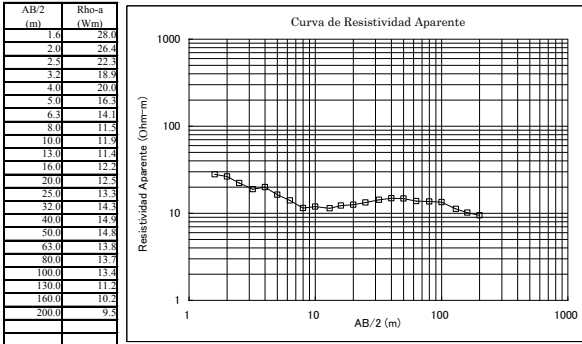


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
131	0-6.2	Dry top superficial layer.	Dry. No aquifers
428	6.9-94	Slightly weathered to compact basalt	No aquifer layer
50	>94	Highly weathered/fractured basalts	Aquiferous layer

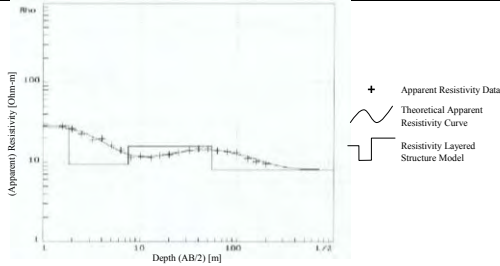


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Naudo	Site No.	V-156
	Site Name	AKWICHATIS	Elevation	997
37N	UTM-E	202141	UTM-N	114568
	Latitude	1.035361	Longitude	36.323778

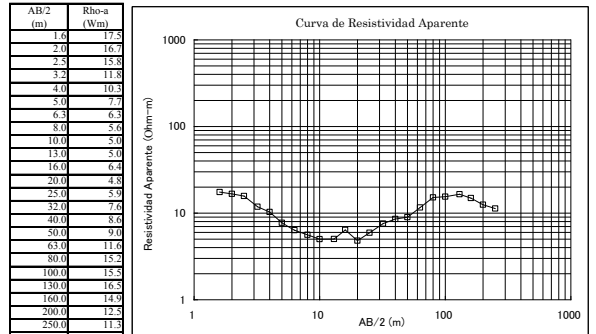


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
28.5	1.8	Dry top superficial layer	Dry
9	8	Loose volcanic soils	Dry
16	55	Slightly weathered and fractured trachytes	Shallow aquifer expected.
8	>55	Highly weathered and fractured trachytes	Deep aquifer expected.

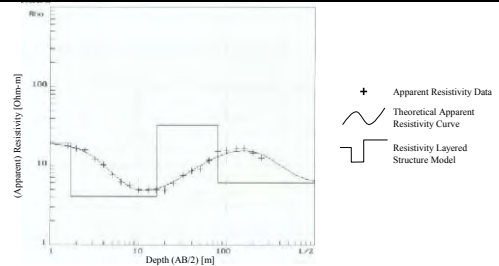


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Naudo	Site No.	V-157
	Site Name	NASOROT	Elevation	930
37N	UTM-E	206484	UTM-N	130447
	Latitude	1.178944	Longitude	36.362639

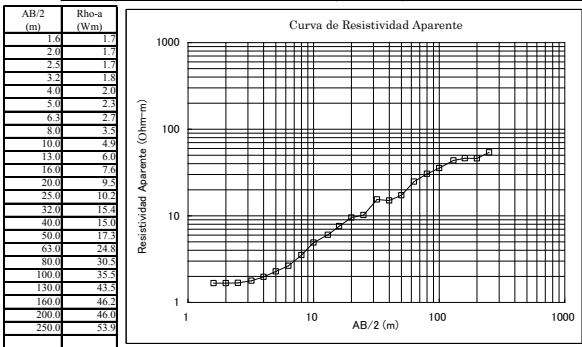


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
19.4	1.7	Dry top superficial layer	Dry
4	16	Slightly weathered and fractured trachytes	moist
33	80	Highly weathered and fractured trachytes	Aquifer expected

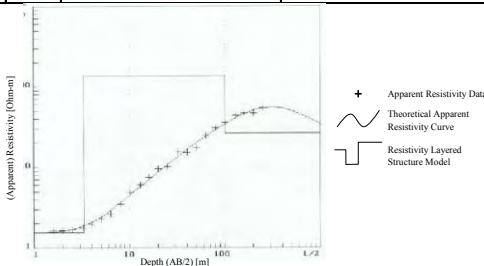


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Silale	Site No.	V-159
	Site Name	CHEPTUNOYO	Elevation	835
37N	UTM-E	167982	UTM-N	107169
	Latitude	0.968278	Longitude	36.017167

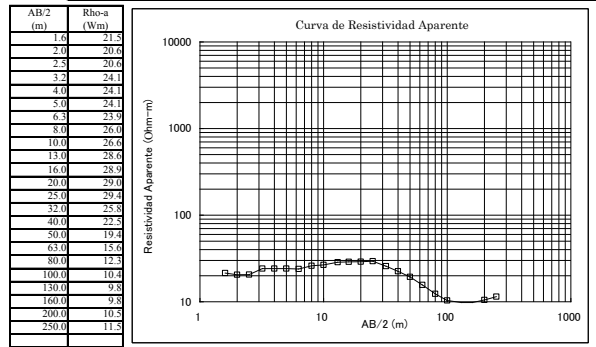


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
1.5	3.3	Dry top superficial layer	Dry
137	100	Slightly weathered and fractured trachytes	moist
260	100	Weathered and fractured trachytes	Aquifer expected in this zone.

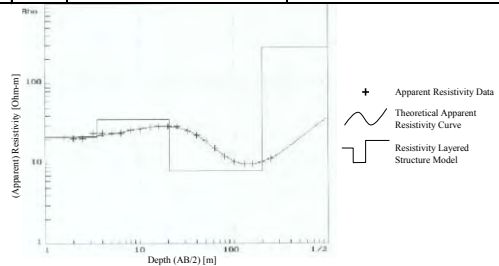


Vertical Electric Sounding Datasheet (Schlumberger)

	District	East Pokot	Division	Mondi
	Location	Loyamorok	Site No.	V-160
	Site Name	KASIOKON	Elevation	875
36N	UTM-E	832265	UTM-N	94457
	Latitude	0.853417	Longitude	35.984944

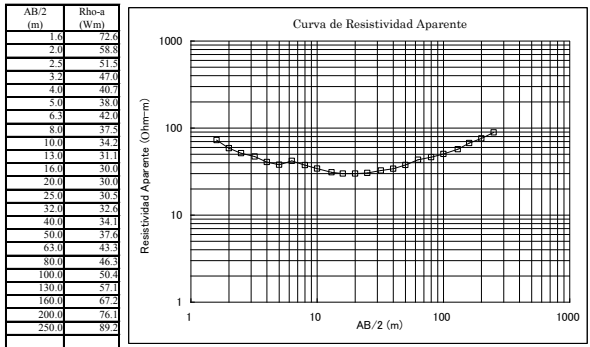


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
21.5	3.5	Dry top superficial layer	Dry
36	21	Loose volcanic soils	Dry
8	200	Slightly weathered and fractured trachytes	Shallow aquifer expected.
282	>200	Compact trachytes	No aquifer expected.

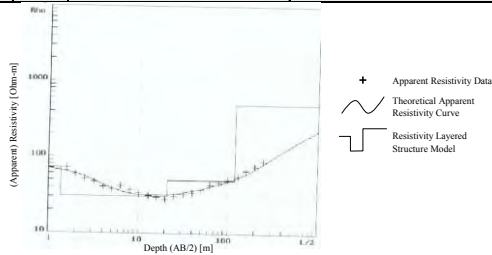


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Kolowa
Location	Kolowa	Site No.	V-163
Site Name	CHEPTURU	Elevation	1040
36N UTM-E	813109	UTM-N	130015
Latitude	1.174861	Longitude	35.813278

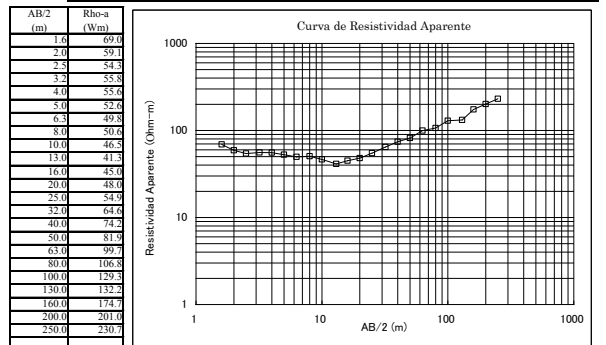


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
71.9	1.4	Dry top superficial layer	Dry
31	21	Loose volcanic soils	Dry
50	120	Slightly weathered and fractured trachytes	Shallow aquifer expected
500	>120	Highly weathered and fractured trachytes	Deep aquifer expected

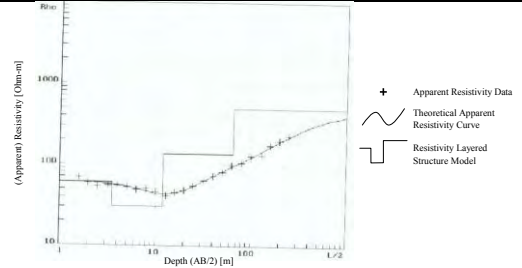


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Kolowa
Location	Ng'oron	Site No.	V-165
Site Name	NGORON	Elevation	992
36N UTM-E	810040	UTM-N	142481
Latitude	1.287528	Longitude	35.785833

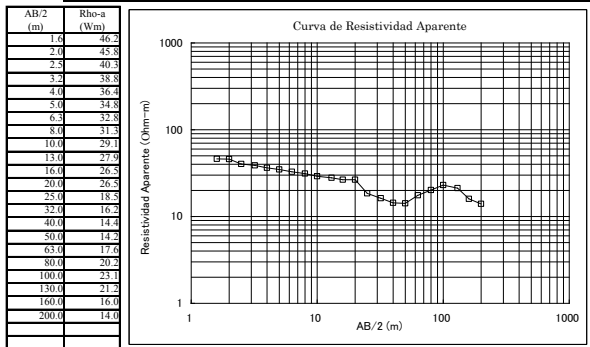


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
60.6	3.6	Dry top superficial layer	Dry
31	12	Loose volcanic soils	Dry
126	65	Slightly weathered and fractured trachytes	Shallow aquifer expected
500	>65	Highly weathered and fractured trachytes	Deep aquifer expected

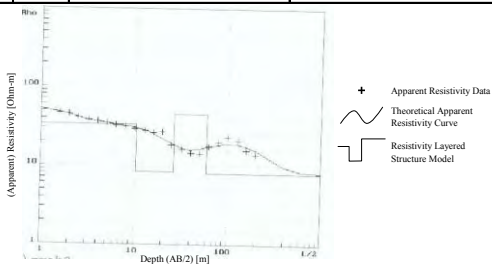


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Kolowa
Location	Loiwait	Site No.	V-168
Site Name	CHEPELION	Elevation	1022
36N UTM-E	804322	UTM-N	117721
Latitude	1.063833	Longitude	35.734278

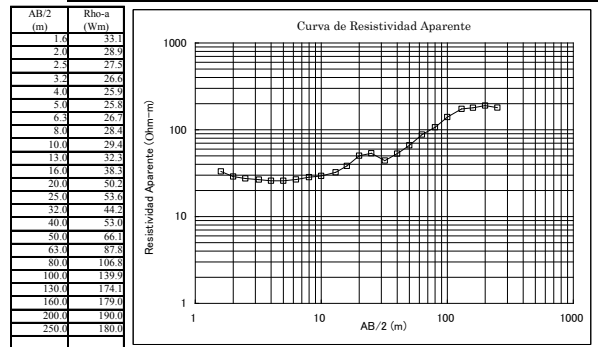


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
55.6	0.8	Dry top superficial layer	Dry
33	10	Loose volcanic soils	Dry
9	24	Slightly weathered and fractured trachytes	moist
46	60	Weathered and fractured trachytes	Shallow aquifer expected
8	>60	Highly weathered and fractured trachytes	Deep aquifer expected

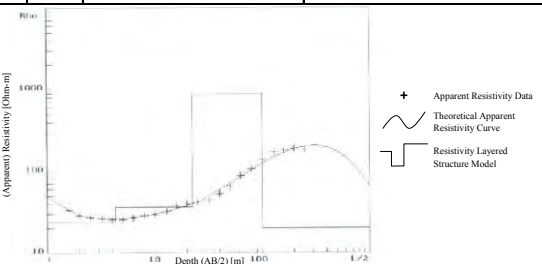


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Kolowa
Location	Kippai	Site No.	V-169
Site Name	KERELON	Elevation	1308
36N UTM-E	816079	UTM-N	115969
Latitude	1.047917	Longitude	35.839833

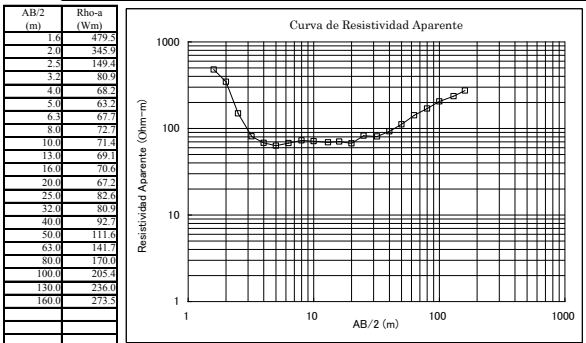


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
94	0.4	Dry top superficial layer	Dry
24	4	Loose volcanic soils	Dry
37	22	Slightly weathered and fractured trachytes	Shallow aquifer expected
874	100	Fresh trachytic formations	No aquifers expected
20	>100	Highly weathered and fractured trachytes	Deep aquifer expected

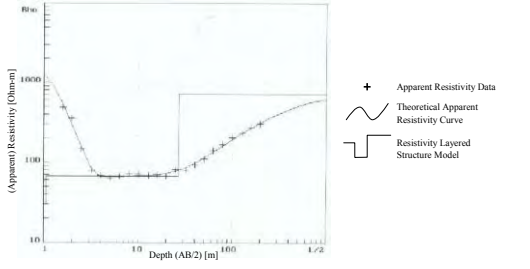


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Churo	
Location	Churo	Site No.	V-171	
Site Name	NAMINITO	Elevation	1849	
37N	UTM-E	215609	UTM-N	89221
Latitude	0.806361	Longitude	36.444833	

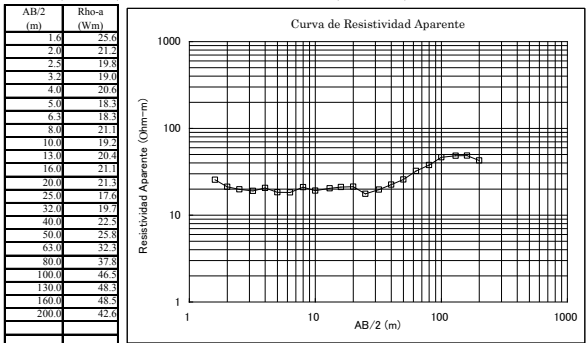


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
2204	0.6	Dry top superficial layer	Dry
30	30	Loose volcanic soils	Dry
68	27	Slightly weathered and fractured trachytes	Shallow aquifer expected.
717	>27	Compact trachytes	No aquifer expected.

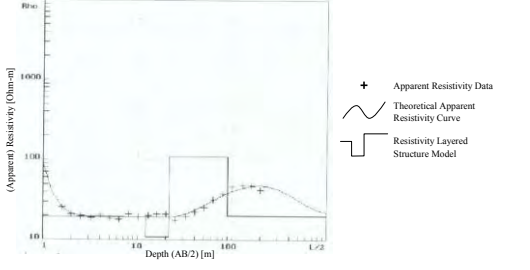


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Churo	
Location	Kaptuya	Site No.	V-179	
Site Name	LOMERIMERI	Elevation	1458	
37N	UTM-E	202526	UTM-N	85734
Latitude	0.775167	Longitude	36.327278	

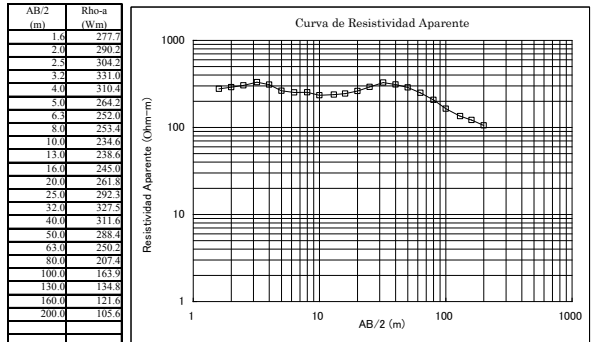


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
1312	0.3	Dry top superficial layer	Dry
19	12	Loose volcanic soils	Dry
11	22	Slightly weathered and fractured trachytes	Dry
109	90	Weathered and fractured trachytes	Shallow aquifer expected.
20	>90	Highly weathered and fractured trachytes	Deep aquifer expected.

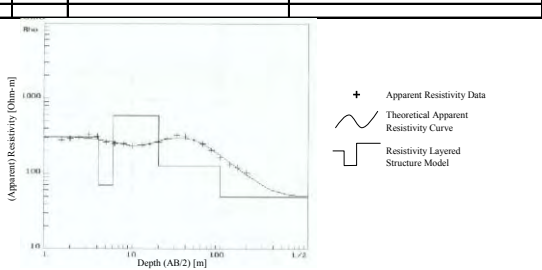


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Churo	
Location	Churo	Site No.	V-176	
Site Name	KOMOLWO	Elevation	1729	
37N	UTM-E	210708	UTM-N	87375
Latitude	0.789694	Longitude	36.400864	

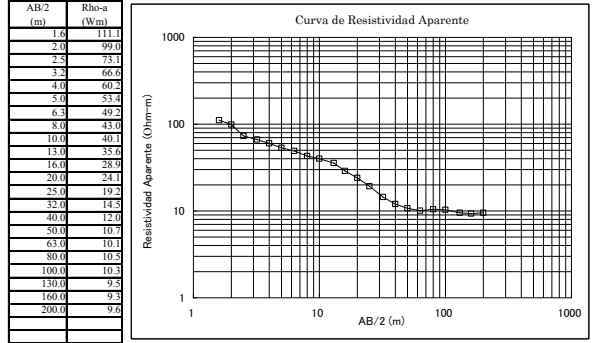


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
307	4.1	Dry top superficial layer	Dry
70	6	Loose volcanic soils	Dry
597	20	Compact trachytes	Dry
127	100	Weathered and fractured trachytes	Shallow aquifer expected.
50	>100	Highly weathered and fractured trachytes	Deep aquifer expected.

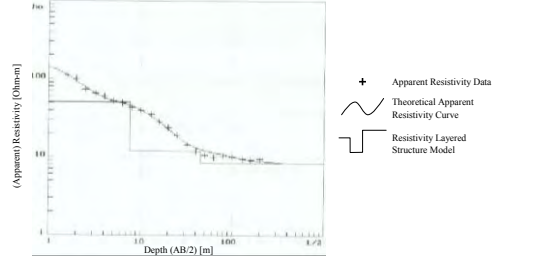


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Ngyany	
Location	Kositet	Site No.	V-181	
Site Name	KATIKIT	Elevation	1122	
36N	UTM-E	820204	UTM-N	104631
Latitude	0.945444	Longitude	35.876667	

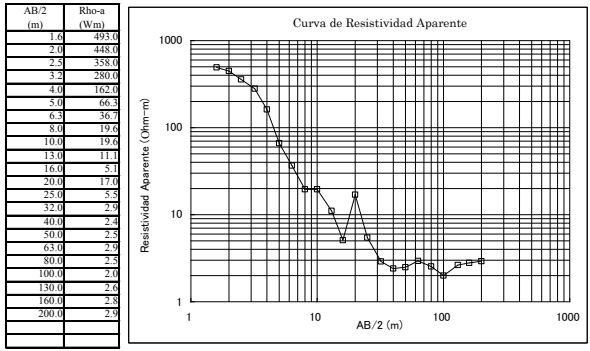


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
164	0.8	Dry top superficial layer	Dry
50	8	Loose volcanic soils	Dry
12	45	Slightly weathered and fractured trachytes	Shallow aquifer expected.
8	>90	Highly weathered and fractured trachytes	Deep aquifer expected.

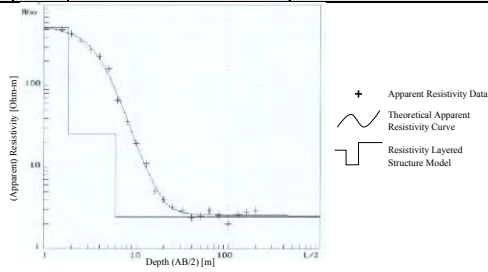


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Nginyany
Location	Ribko	Site No.	V-182
Site Name	CHEPANOA	Elevation	1065
36N UTM-E	820945	UTM-N	118453
Latitude	1.070306	Longitude	35.883528

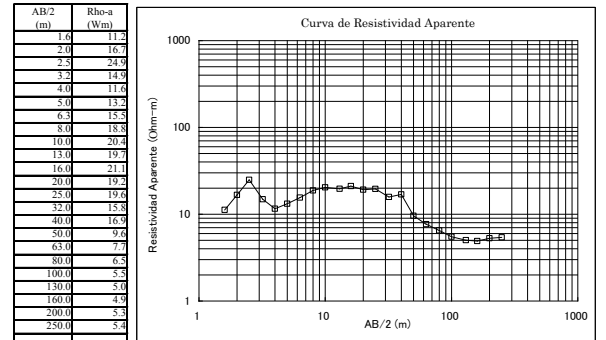


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
533	1.8	Dry top superficial layer	Dry
26	4	Slightly weathered and fractured trachytes	Moist
3	>4	Highly weathered and fractured trachytes	Deep aquifer expected.

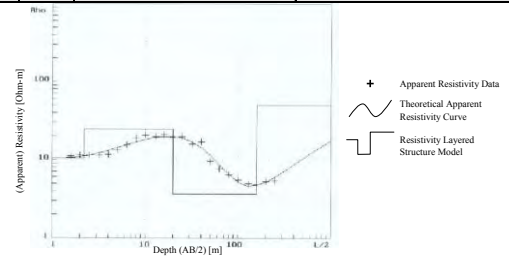


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Nginyany
Location	Kositei	Site No.	V-184
Site Name	KATUKUMWO	Elevation	
36N UTM-E	832502	UTM-N	105087
Latitude	0.949444	Longitude	35.987139

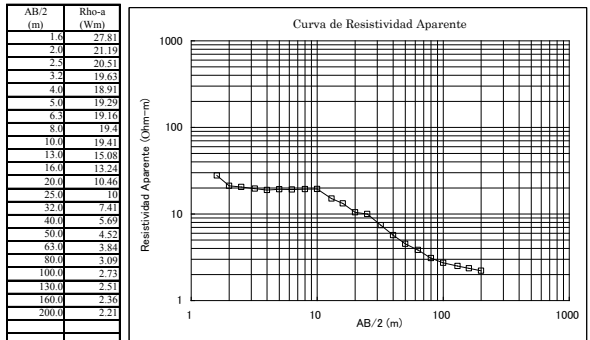


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
	2.2	Dry top superficial layer	Dry
	24	Loose volcanic soils	Dry
	160	Slightly weathered and fractured trachytes	Shallow aquifer expected.
	50	Highly weathered and fractured trachytes	Deep aquifer expected.

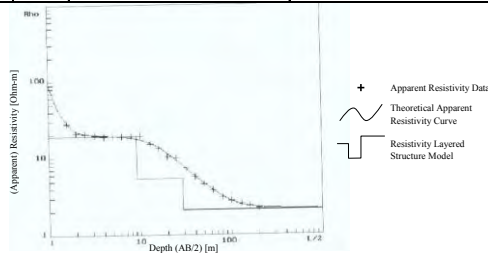


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Nginyany
Location	Ribko	Site No.	V-185-1
Site Name	CHESAKAM	Elevation	816
37N UTM-E	169103	UTM-N	114295
Latitude	1.032667	Longitude	36.027167

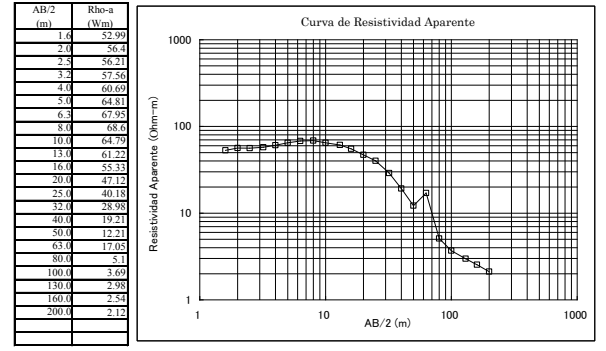


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
844	0-0.3	Dry top superficial layer and fractured tuff.	Dry. No aquifers
20	0.3-9	Slightly weathered and fractured tuff	Moist
5.4	29-9	Highly weathered and fractured basaltic rocks.	Aquiferous layer
2	>29	Clays/silty highly decomposed pyroclastics	Clays/ salty aquifer

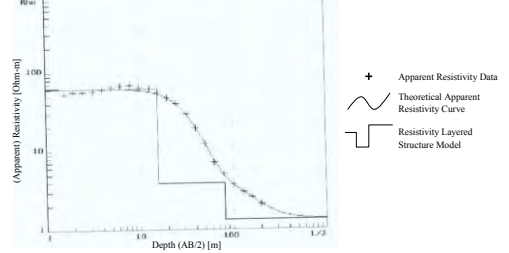


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Nginyany
Location	Ribko	Site No.	V-185-2
Site Name	CHESAKAM	Elevation	811
37N UTM-E	169334	UTM-N	114145
Latitude	1.031306	Longitude	36.029250

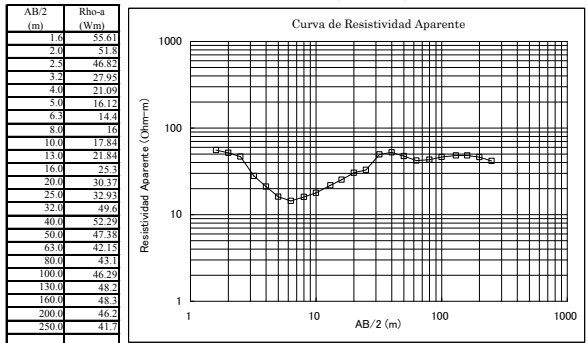


Resistivity (Ohm.m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
683	0-0.1	Thin dry top superficial layer	Dry
62	0.1-16	Slightly weathered and fractured tuff	Moist
4	16-81	Highly weathered and fractured basalt	Aquiferous
1	>81	Highly weathered pyroclastic rock	Clays/ salty aquifer

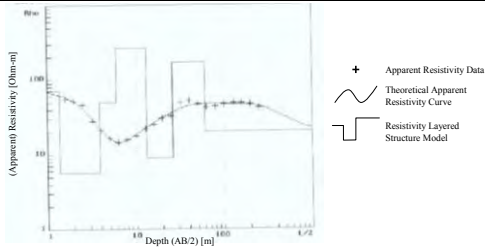


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Nginyany
Location	Ribko	Site No.	V-185-3
Site Name	CHE-SARAM	Elevation	796
37N	UTM-E 169657	UTM-N	113961
Latitude	1.029492	Longitude	36.032056

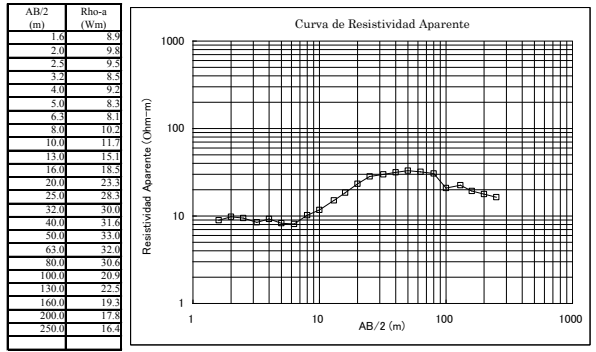


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
73	0-1.4	Dry top superficial layer and fractured tuff	Dry. No aquifers
6	1.4-4	Highly weathered and fractured tuff	Moist
50	06-4	Weathered and fractured basalt	Moist
260	13-6	Slightly weathered and fractured basalt	Moist
9	13-26	Highly weathered and fractured basalt	Aquiferous
169	26-61	Weathered and fractured basalt	Aquiferous
20	>61	Highly weathered pyroclastics/basalt	Deep aquifer

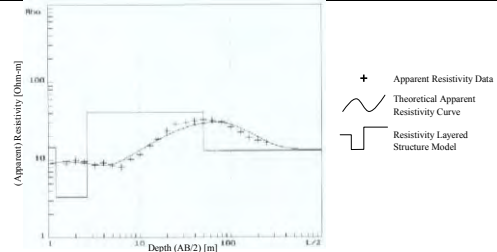


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Nginyany
Location	Ribko	Site No.	V-186
Site Name	CHE-SITET	Elevation	
37N	UTM-E 174743	UTM-N	122326
Latitude	1.105583	Longitude	36.077750

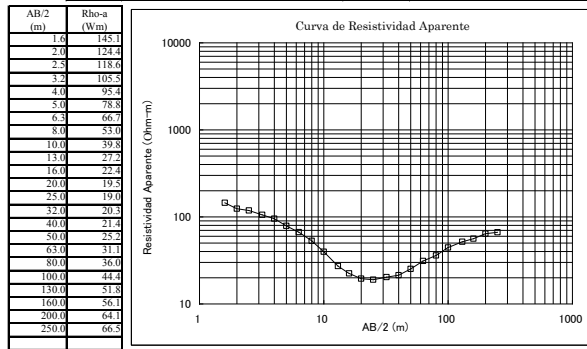


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
7	0-4	Dry top superficial layer	Dry
15	1-2	Compact volcanic soils	Dry
3	3	Loose volcanic soils	Dry
41	50	Slightly weathered and fractured trachytes	Shallow aquifer expected.
13	>50	Highly weathered and fractured trachytes	Deep aquifer expected.

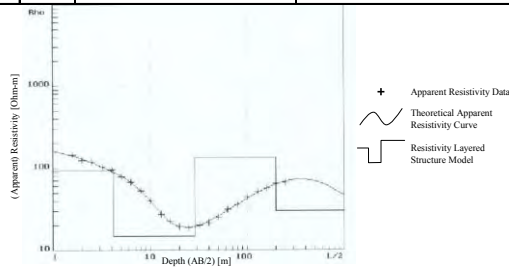


Vertical Electric Sounding Datasheet (Schlumberger)

District	East Pokot	Division	Nginyany
Location	Ribko	Site No.	V-190
Site Name	MARON	Elevation	1386
36N	UTM-E 823540	UTM-N	126552
Latitude	1.143472	Longitude	35.906889

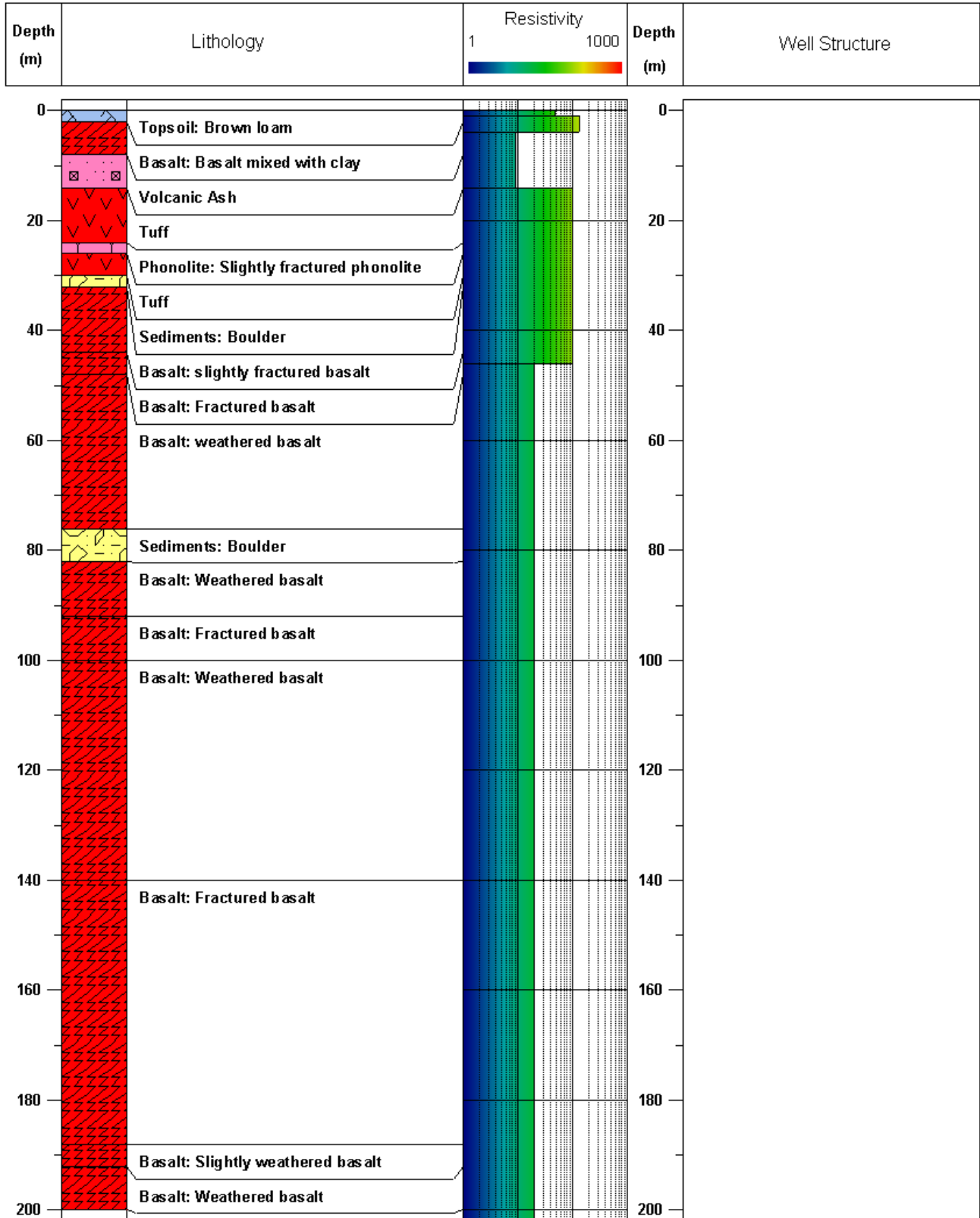


Resistivity (Ohm-m)	Depth (m)	Geological Interpretation	Hydrogeological Interpretation
174	0.8	Dry top superficial layer	Dry.
94	4.1	Compact volcanic soils	Dry
15	29	Loose volcanic soils	Dry
132	200	Slightly weathered and fractured trachytes	Shallow aquifer expected.
30	>200	Highly weathered and fractured trachytes	Deep aquifer expected.



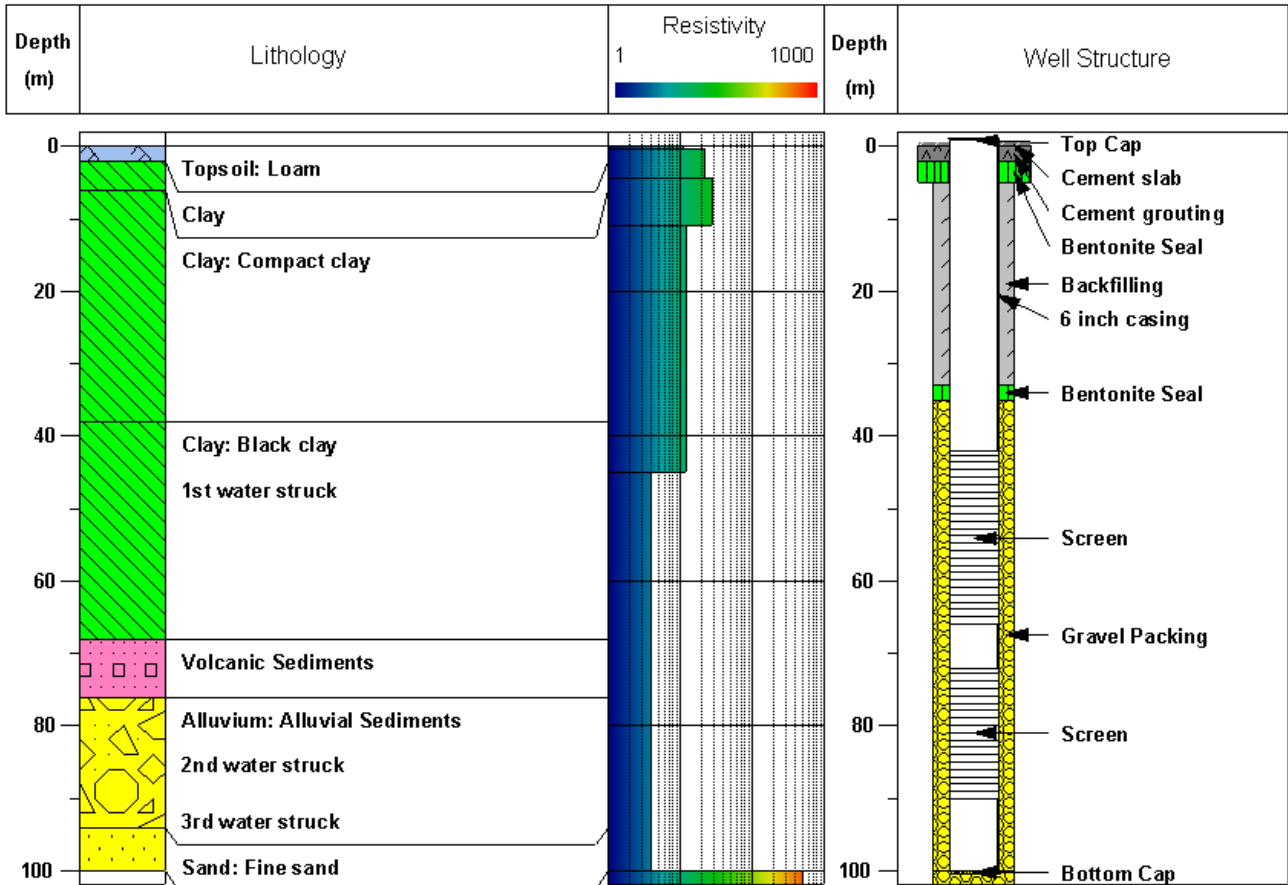
Borehole Drilling Log

Site No.: **24** Site Name: **Toboroi**
 District: Baringo North Division: Bartabwa Location: Kinyach Drilled Depth: 204 m
 Latitude: 0° 53' 9.24" N Static Water Level: - m
 Longitude: 35° 47' 35.32" E Altitude: 1469 m Pumping Rate: - m³/hour
 UTM 36N X: 810894 m Y: 98036 m (Datum: Arc60) Dynamic Water Level: - m



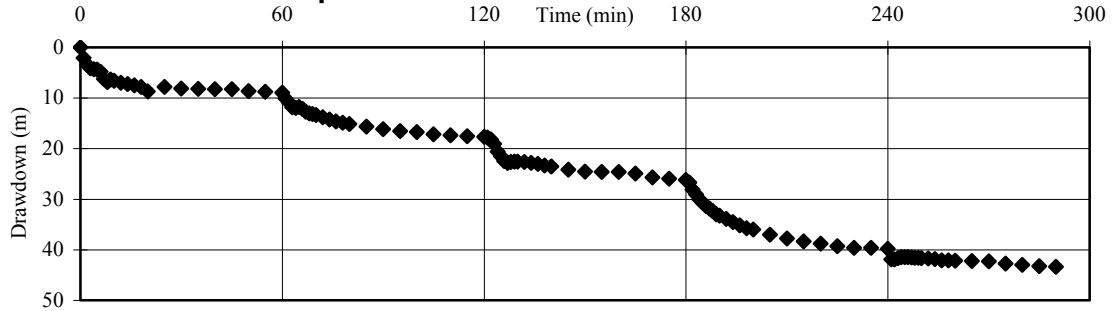
Borehole Drilling Log

Site No.: **67** Site Name: **Lesuuwa**
 District: Marigat Division: Marigat Location: Ng'ambo Drilled Depth: 100 m
 Latitude: 0° 28' 41.91" N Static Water Level: 18.3 m
 Longitude: 36° 4' 19.03" E Altitude: 993 m Pumping Rate: 3 m³/hour
 UTM 37N X: 174050 m Y: 52937 m (Datum: Arc60) Dynamic Water Level: 27.75 m

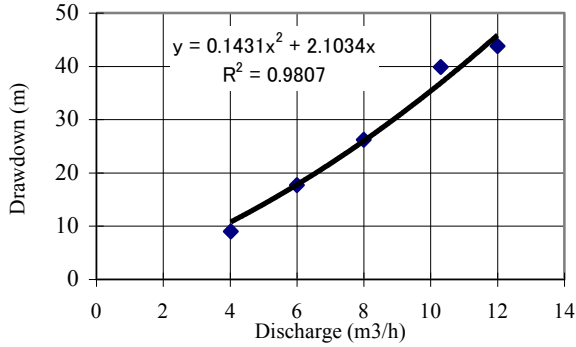


Pumping Test Analysis for Lesuuwa (67) Borehole

Drawdown Curve of Step Test



Step Test Analysis

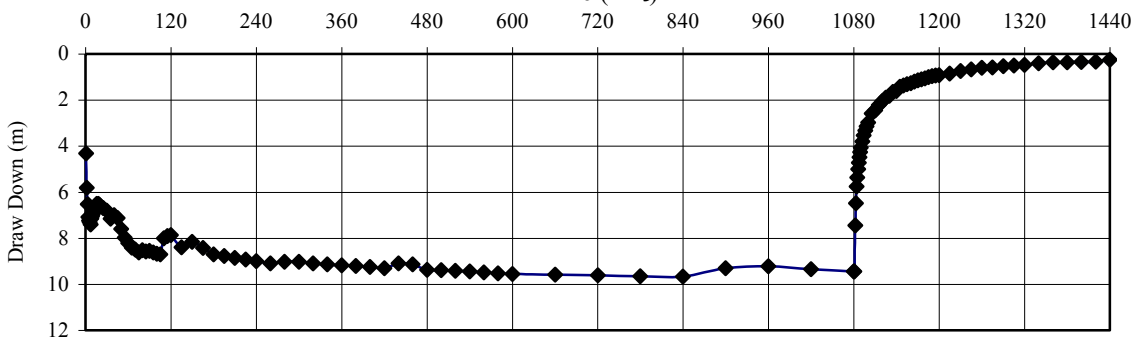


Critical Yield 4.00 m³/h
 Safe Yield 3.20 m³/h

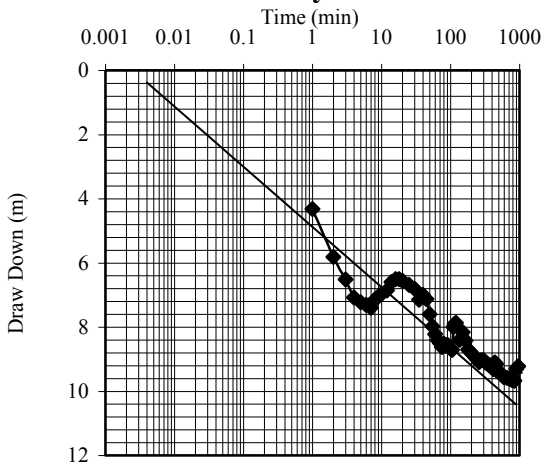
$$s = BQ + CQ^2$$

B = 2.1034
 C = 0.1431

Drawdown Curve of Constant Rate & Recovery Test



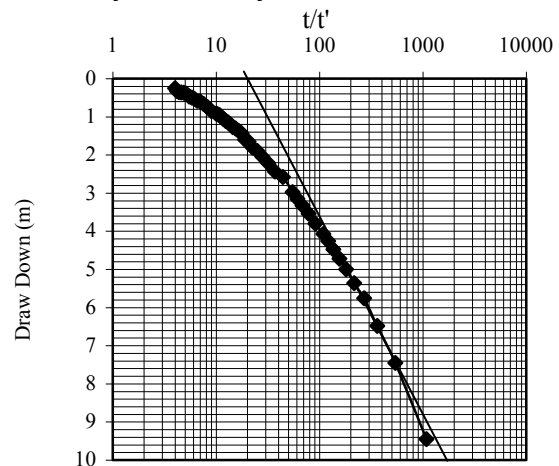
Constant Rate Test Analysis



Q: 3.02 m³/h
 Δs 1.8 m
 t_0 0.0023 min

Transmissivity = 0.307081 m²/h
 Storage Coefficient = 0.002649

Recovery Test Analysis



Q: 3.02 m³/h
 Δs 5.0 m

Transmissivity = 0.110549 m²/h



RIFT VALLEY WATER SERVICES BOARD

Telephone : (051) 2213557

MAJI PLAZA
PRISONS ROAD ROAD
P.O. Box 2451
NAKURU

PHYSICAL/CHEMICAL WATER ANALYSIS REPORT

Sample No. 47/011

Date of Sampling: 18/4/011

Source LESUYA B/H

Date received: 19/4/011

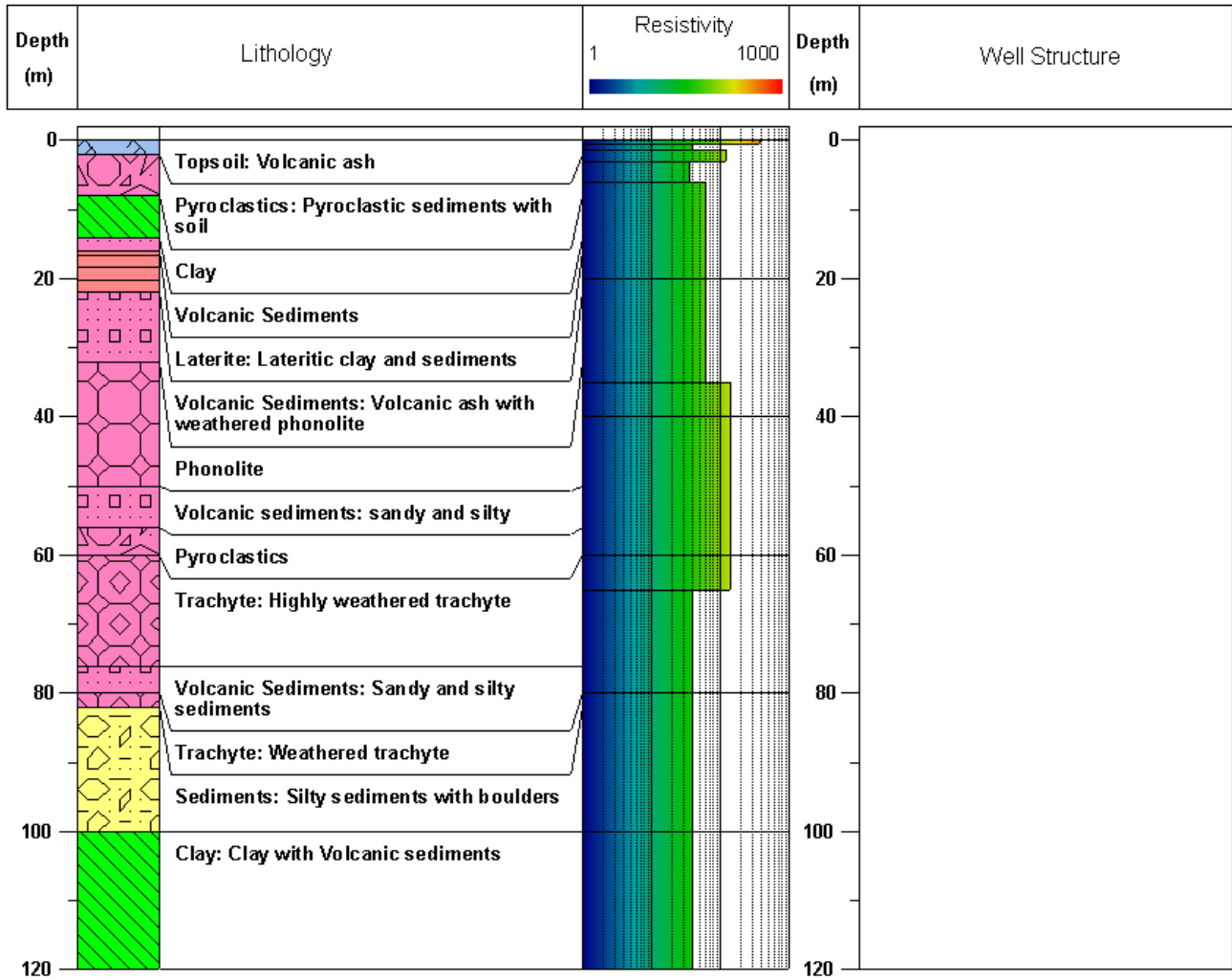
Purpose of sampling DOMESTIC

Submitted by: JIKA
Address: MARIGATI

PARAMETERS	UNIT	RESULTS	REMARKS
pH	pH Scale	8.02	
Turbidity	N.T.U	5.48	
Colour	mgPt/l	Yellow-black	
Permanganate value (20 min boiling)	mgO ₂ /l	4.8	
Conductivity	µS/cm	5460.0	
Iron	mgFe/l	0.28	
Manganese	mgMn/l	NIL	
Arsenic	mgAs/l	0.004	
Calcium	mgCa/l	8.0	
Magnesium	mgMg/l	NIL	
Total Hardness	mgCaCO ₃ /l	NIL	
Total Alkalinity	mgCaCO ₃ /l	1876.0	
Bicarbonate	MgHCO ₃ /l	2287.0	
Chloride	mgCl/l	290.0	
Fluoride	mgF/l	17.1	
Nitrite	mgN/l	0.007	
Nitrate	mgN/l	0.2	
Ammonia	mgN/l	7.75	
Sulphate(filtered)	mgSO ₄ /l	245.0	
Orthophosphate	mgP/l	6.85	
Total Suspended Solids	mg/l	>5	
Free Carbon Dioxide	mgCO ₂ /l	16.0	
Total Dissolved Solids	mg/l	2730.0	
Chlorine Concentration	mgCl/l	NIL	
Zinc	mgZn/l	NIL	
BOD	mg/l	5.0	
COD	mg/l	157.0	
Copper	mgCu/l	NIL	
Chromium	mgCr/l	NIL	
Aluminium	mgAl/l	NIL	

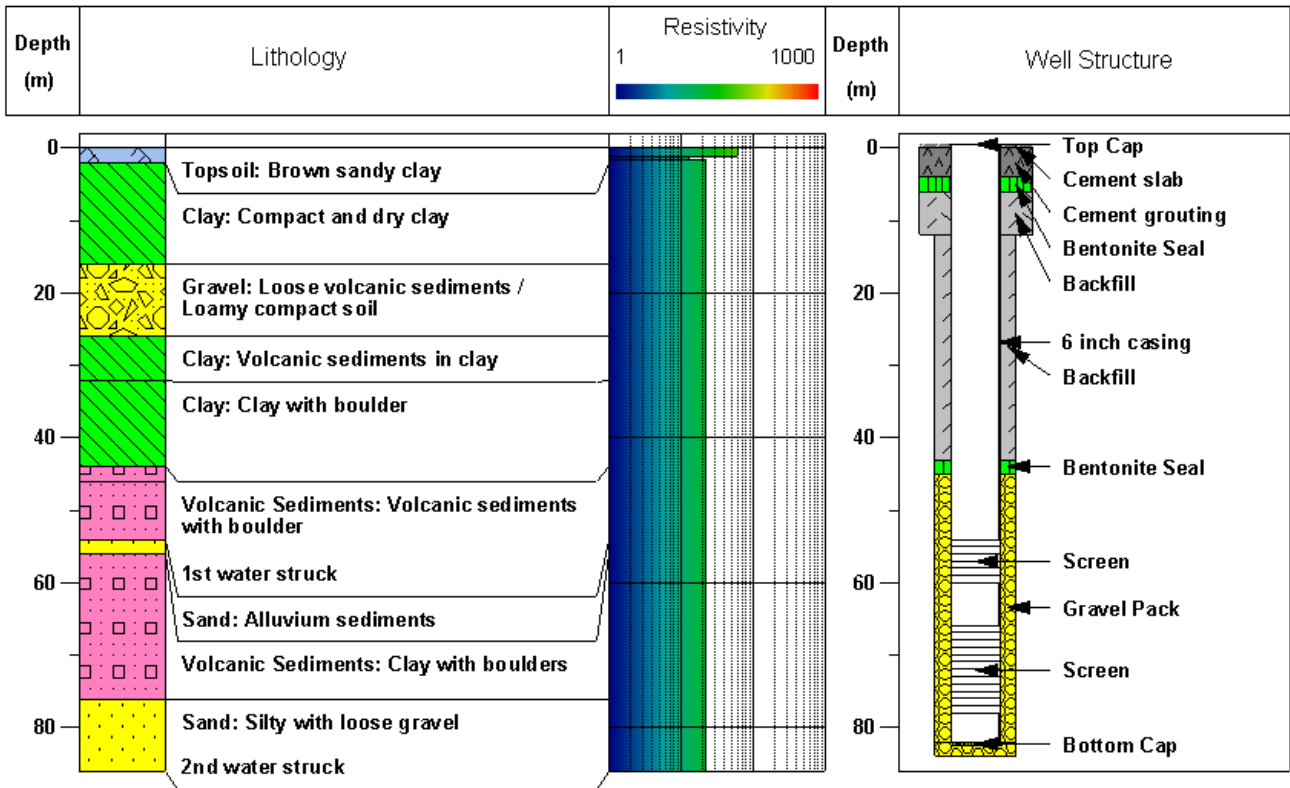
Borehole Drilling Log

Site No.: **86** Site Name: **Samuran**
 District: Marigat Division: Marigat Location: Sandai Drilled Depth: 120 m
 Latitude: 0° 22' 20.05" N Static Water Level: - m
 Longitude: 36° 6' 30.45" E Altitude: 1153 m Pumping Rate: - m³/hour
 UTM 37N X: 178113 m Y: 41196 m (Datum: Arc60) Dynamic Water Level: - m



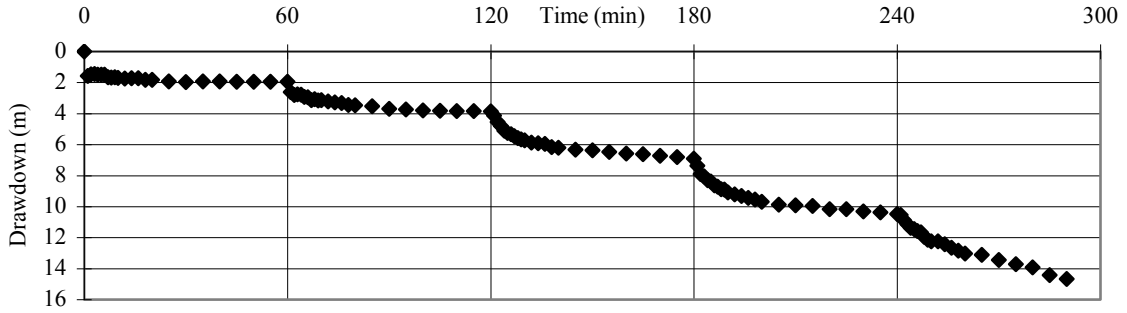
Borehole Drilling Log

Site No.: **103** Site Name: **Kakwane**
 District: Baringo Division: Salawa Location: Lelmen Drilled Depth: 86 m
 Latitude: 0° 31' 14.46" N Static Water Level: 39.55 m
 Longitude: 35° 37' 16.47" E Altitude: 1110 m Pumping Rate: 5.6 m³/hour
 UTM 36N X: 791769 m Y: 57612 m (Datum: Arc60) Dynamic Water Level: 47.94 m

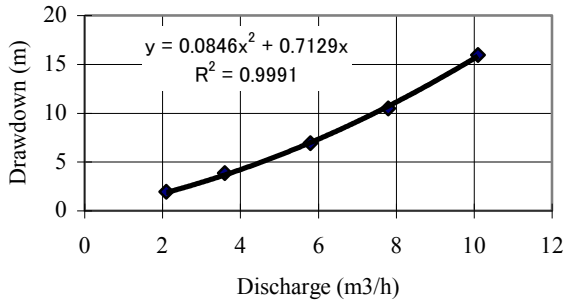


Pumping Test Analysis for Kakwane (103) Borehole

Drawdown Curve of Step Test



Step Test Analysis

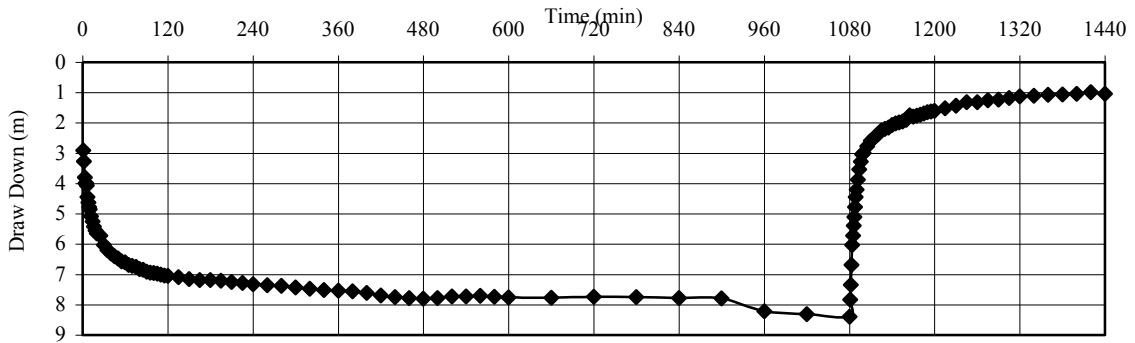


Critical Yield 6.8 m³/h
 Safe Yield 5.4 m³/h

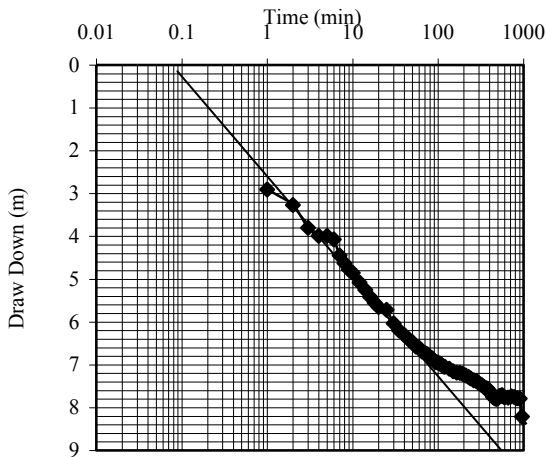
$$s = BQ + CQ^2$$

B = 0.7129
 C = 0.0846

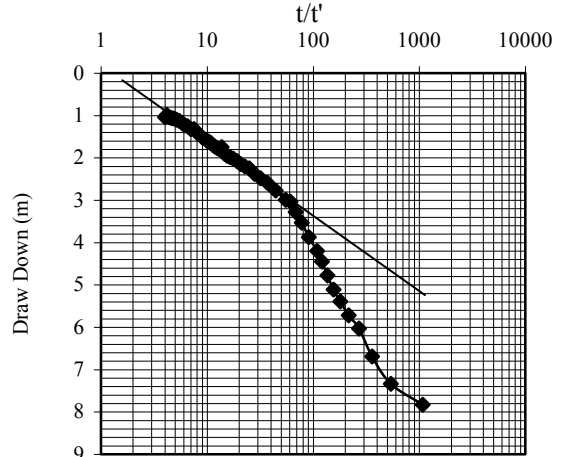
Drawdown Curve of Constant Rate & Recovery Test



Constant Rate Test Analysis



Recovery Test Analysis



Q: 5.45 m³/h
 Δs : 2.23 m
 t₀: 0.07 min

Q: 5.45 m³/h
 Δs : 1.9 m

Transmissivity = 0.4466 m²/h
 Storage Coefficient = 0.1172

Transmissivity = 0.5344 m²/h



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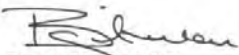
MAJI PLAZA
PRISONS ROAD ROAD
P.O. Box 2451
NAKURU

PHYSICAL/CHEMICAL WATER ANALYSIS REPORT

Sample No. <u>35/0.11</u>	Date of Sampling: <u>4/4/0.11.</u>
Source <u>KAKWENE B/H</u>	Date received: <u>6/4/0.11.</u>
Purpose of sampling <u>DOMESTIC</u>	Submitted by: <u>JICA</u>
	Address: <u>NAKURU</u>

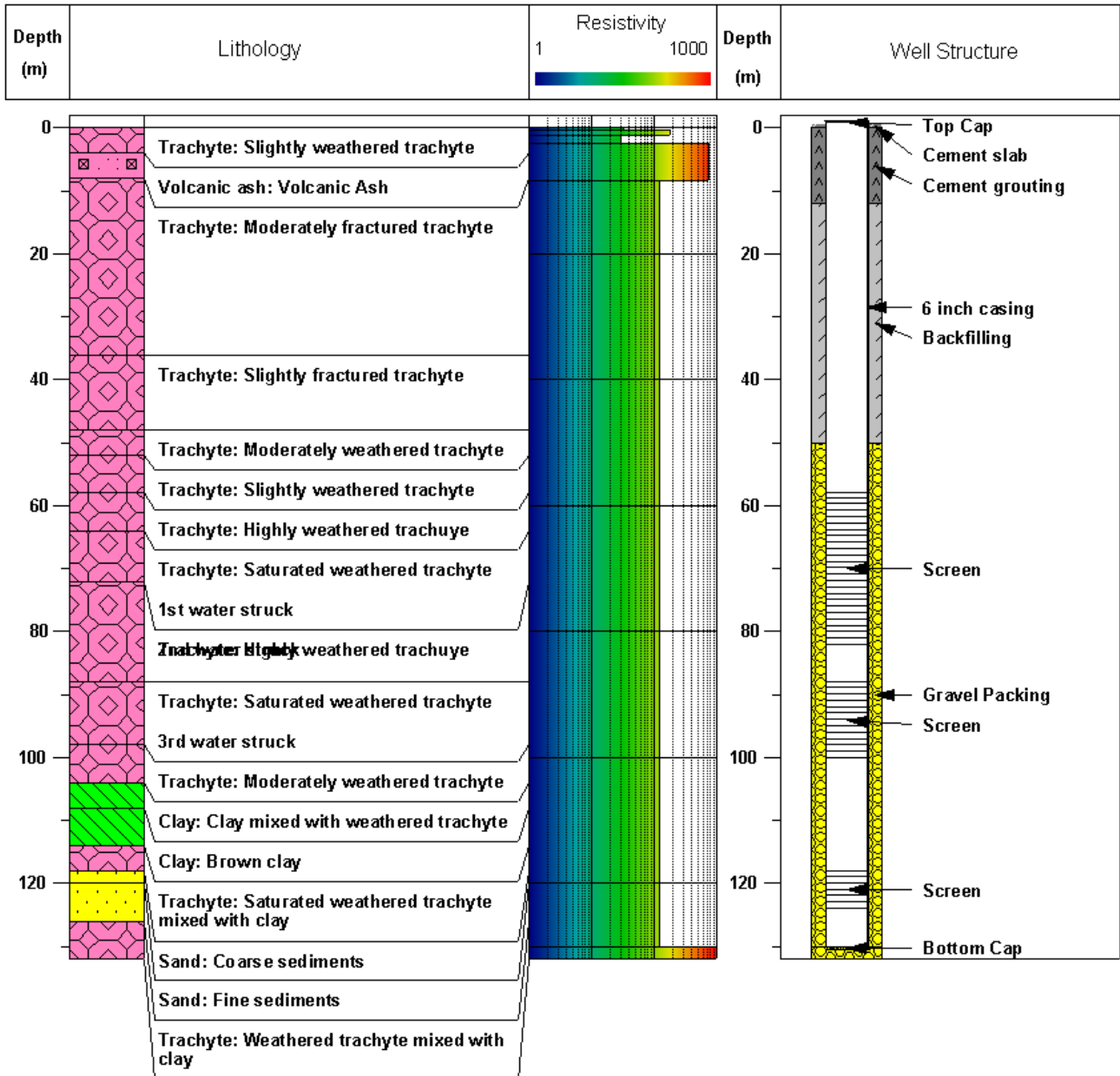
PARAMETERS	UNIT	RESULTS	REMARKS
pH	pH Scale	7.86	
Turbidity	N.T.U	8.1	
Permanganate value (20 min boiling)	mgO ₂ /l	3.16	
Conductivity	μS/cm	570.0	
Iron	mgFe/l	0.6	
Manganese	mgMn/l	0.1	
Arsenic	mgAs/l	NIL	
Calcium	mgCa/l	44.0	
Magnesium	mgMg/l	32.6	
Total Hardness	mgCaCO ₃ /l	180.0	
Total Alkalinity	mgCaCO ₃ /l	186.0	
Bicarbonate	MgHCO ₃ /l	227.0	
Chloride	mgCl/l	12.0	
Fluoride	mgF/l	0.72	
Nitrite	mgN/l	0.011	
Nitrate	mgN/l	0.1	
Ammonia	mgN/l	0.18	
Sulphate	mgSO ₄ /l	14.0	
Orthophosphate	mgP/l	0.8	
Total Suspended Solids	mg/l	4.0	
Free Carbon Dioxide	mgCO ₂ /l	70.0	
Total Dissolved Solids	mg/l	270.0	
Chlorine Concentration	mgCl/l	NIL	
Zinc	mgZn/l	0.16	
Copper	mgCu/l	NIL	
Chromium	mgCr/l	0.0	
Aluminium	mgAl/l	NIL	

COMMENTS: Good source of water but with slightly high Iron, and Turbidity level. Aeration will be the possible treatment to achieve the acceptable level.


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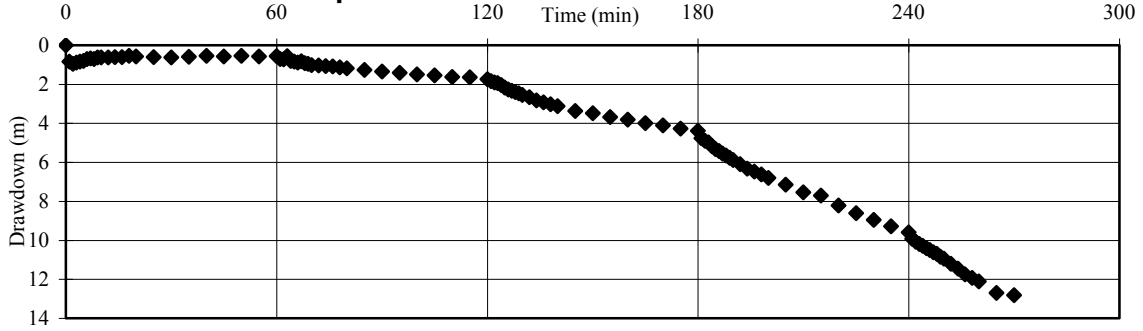
Borehole Drilling Log

Site No.: **110** Site Name: **Kapsikoryan**
 District: Baringo Division: Salawa Location: Kiboino Drilled Depth: 132 m
 Latitude: 0° 29' 22.58" N Static Water Level: 56.8 m
 Longitude: 35° 42' 24.03" E Altitude: 1681 m Pumping Rate: 4.16 m³/hour
 UTM 36N X: 801287 m Y: 54177 m (Datum: Arc60) Dynamic Water Level: 69.33 m

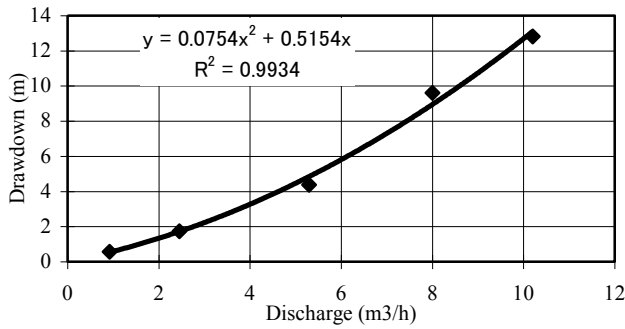


Pumping Test Analysis for Kapsikoryan (110) Borehole

Drawdown Curve of Step Test



Step Test Analysis

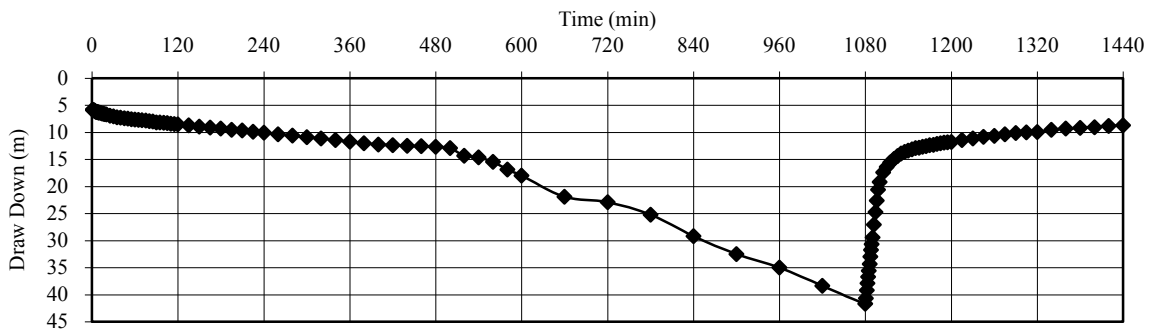


Critical Yield: 5.20 m³/h
Safe Yield: 4.16 m³/h

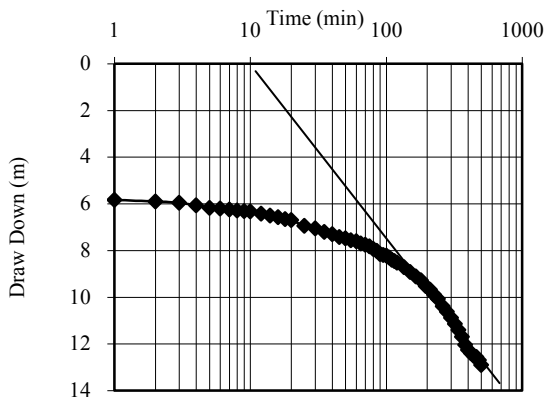
$$s = BQ + CQ^2$$

B = 0.515
C = 0.0754

Drawdown Curve of Constant Rate & Recovery Test



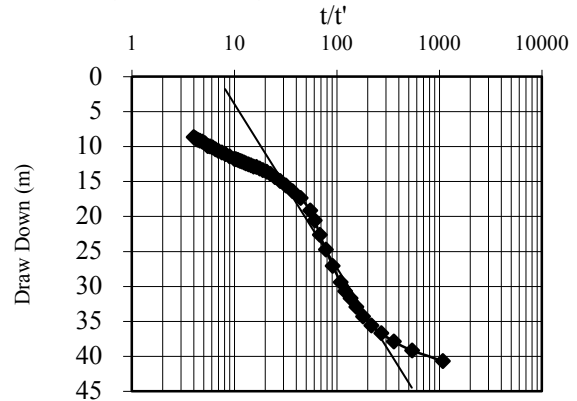
Constant Rate Test Analysis



Q: 3.6 m³/h
 Δs : 7.5 m
 t_0 : 9 min

Transmissivity = 0.0879 m²/h
Storage Coefficient = 2.9651

Recovery Test Analysis



Q: 3.6 m³/h
 Δs : 21.25 m

Transmissivity = 0.0310 m²/h



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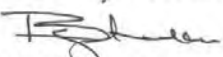
MAJI PLAZA
PRISONS ROAD ROAD
P.O. Box 2451
NAKURU

PHYSICAL/CHEMICAL WATER ANALYSIS REPORT

Sample No. 28/011 Date of Sampling: 22/3/011.
Source KAPSIKORYAN B/H Date received: 23/3/011.
Purpose of sampling DOMESTIC Submitted by: WQ
Address: NAKURU.

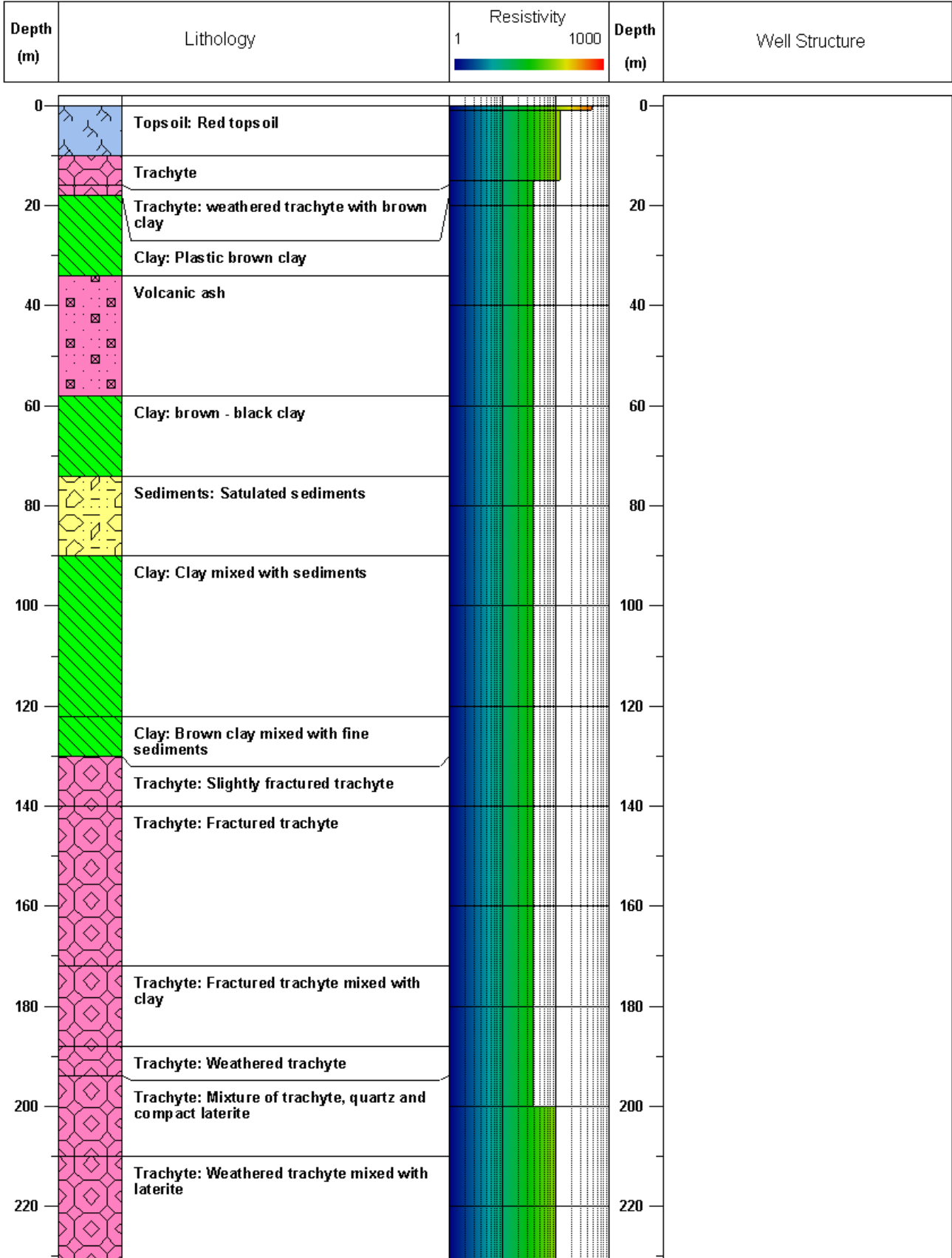
PARAMETERS	UNIT	RESULTS	REMARKS
pH	pH Scale	7.95	
Turbidity	N.T.U	9.63	
Permanganate value (20 min boiling)	mgO ₂ /l	3.16	
Conductivity	μS/cm	260.0	
Iron	mgFe/l	0.42	
Manganese	mgMn/l	0.9	
Arsenic	mgAs/l	NIL	
Calcium	mgCa/l	22.4	
Magnesium	mgMg/l	0.4	
Total Hardness	mgCaCO ₃ /l	54.0	
Total Alkalinity	mgCaCO ₃ /l	86.0	
Bicarbonate	MgHCO ₃ /l	104.9	
Chloride	mgCl/l	17.0	
Fluoride	mgF/l	0.47	
Nitrite	mgN/l	0.008	
Nitrate	mgN/l	0.0	
Ammonia	mgN/l	0.11	
Sulphate	mgSO ₄ /l	NIL	
Orthophosphate	mgP/l	0.52	
Total Suspended Solids	mg/l	2.0	
Free Carbon Dioxide	mgCO ₂ /l	50.0	
Total Dissolved Solids	mg/l	130.0	
Chlorine Concentration	mgCl/l	NIL	
Zinc	mgZn/l	0.53	
Copper	mgCu/l	0.05	
Chromium	mgCr/l	0.0	
Aluminium	mgAl/l	NIL	

COMMENTS: Good source of water but with slightly high Iron, Manganese and Turbidity level.
Aeration will be the possible treatment to achieve the acceptable level.


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Borehole Drilling Log

Site No.: **131** Site Name: **Kabasis**
 District: Baringo Division: Sacho Location: Kabasis Drilled Depth: 231 m
 Latitude: 0° 26' 32.1" N Static Water Level: - m
 Longitude: 35° 47' 9.05" E Altitude: 2116 m Pumping Rate: - m³/hour
 UTM 36N X: 810109 m Y: 48940 m (Datum: Arc60) Dynamic Water Level: - m



Borehole Drilling Log

Site No.: **137**

Site Name: **Kapkawa**

District: Baringo

Division: Kabarnet

Location: Ewalel

Drilled Depth: 204.0 m

Latitude: 0° 34' 14.18" N

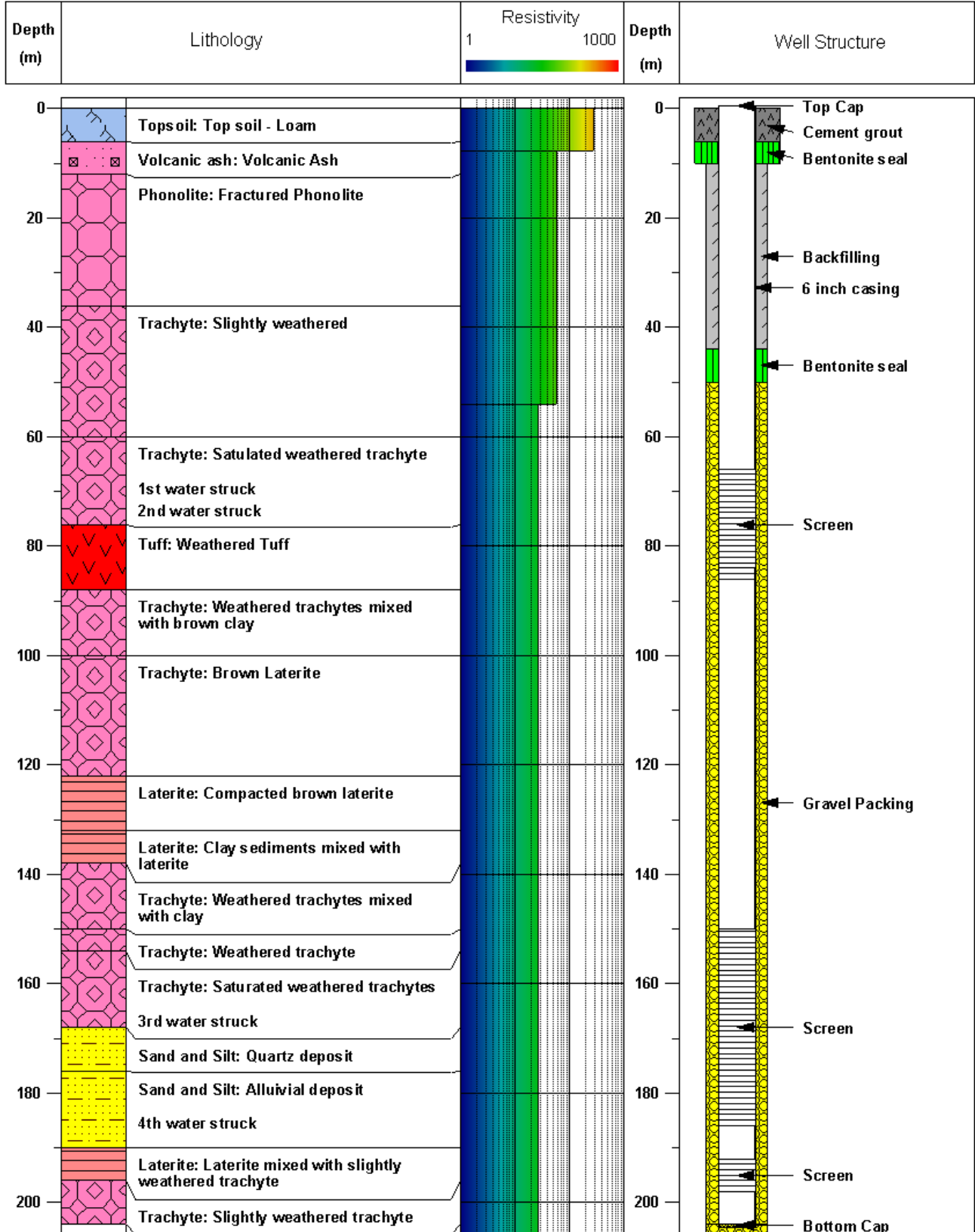
Static Water Level: 47.9 m

Longitude: 35° 46' 50.44" E Altitude: 2142 m

Pumping Rate: 70.66 m³/hour

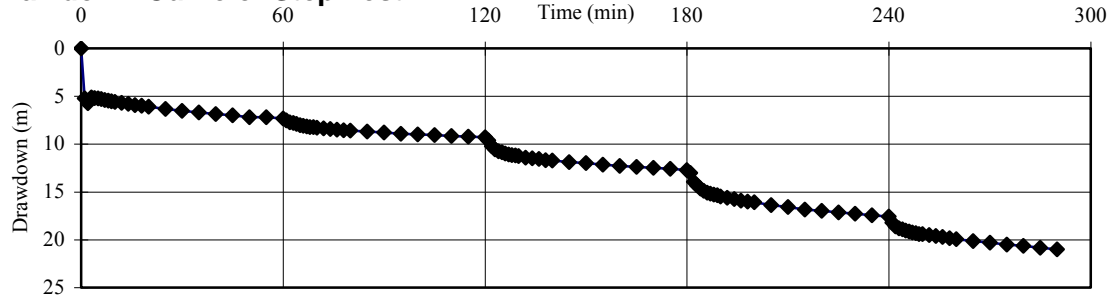
UTM 36N X: 809527 m Y: 63144 m (Datum: Arc60)

Dynamic Water Level: 19.39 m

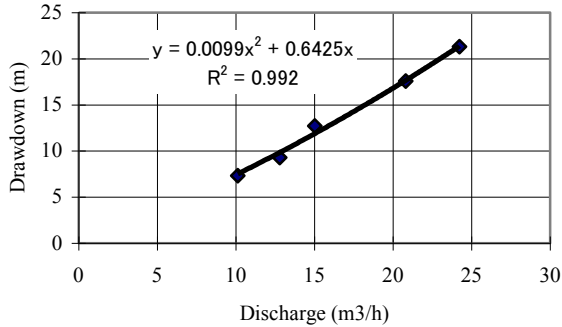


Pumping Test Analysis for Kapkawa (137) Borehole

Drawdown Curve of Step Test



Step Test Analysis



Critical Yield 24.2 m³/h

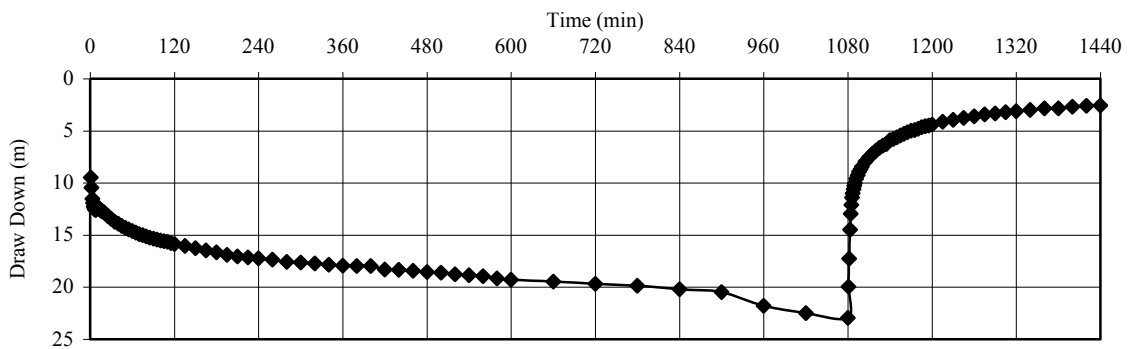
Safe Yield 19.4 m³/h

$$s = BQ + CQ^2$$

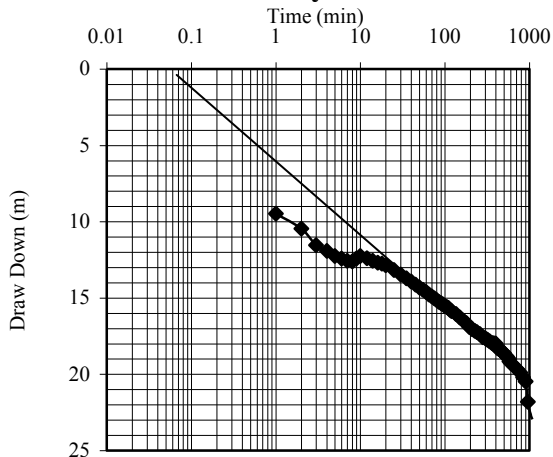
B = 0.6425

C = 0.0099

Drawdown Curve of Constant Rate & Recovery Test



Constant Rate Test Analysis



Q: 20.2 m³/h

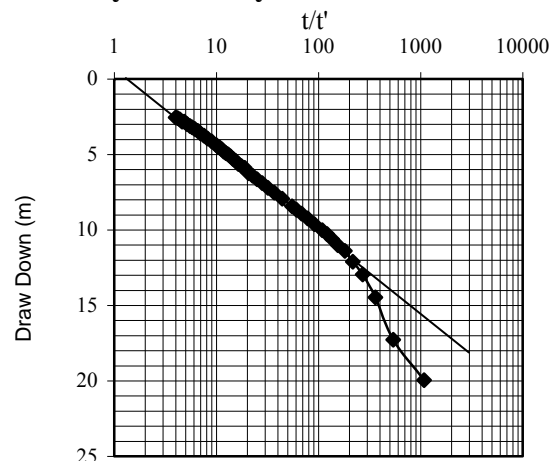
Δs 4.8 m

t₀ 0.05 min

Transmissivity = 0.7756 m²/h

Storage Coefficient = 0.1454

Recovery Test Analysis



Q: 20.2 m³/h

Δs 5.5 m

Transmissivity = 0.6722 m²/h



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PHYSICAL/CHEMICAL WATER ANALYSIS REPORT

Sample No. 34/011 Date of Sampling: 3/4/011
Source KAPKAWA B/H Date received: 6/4/011
Purpose of sampling DOMESTIC Submitted by: JICA
Address: NAKURU

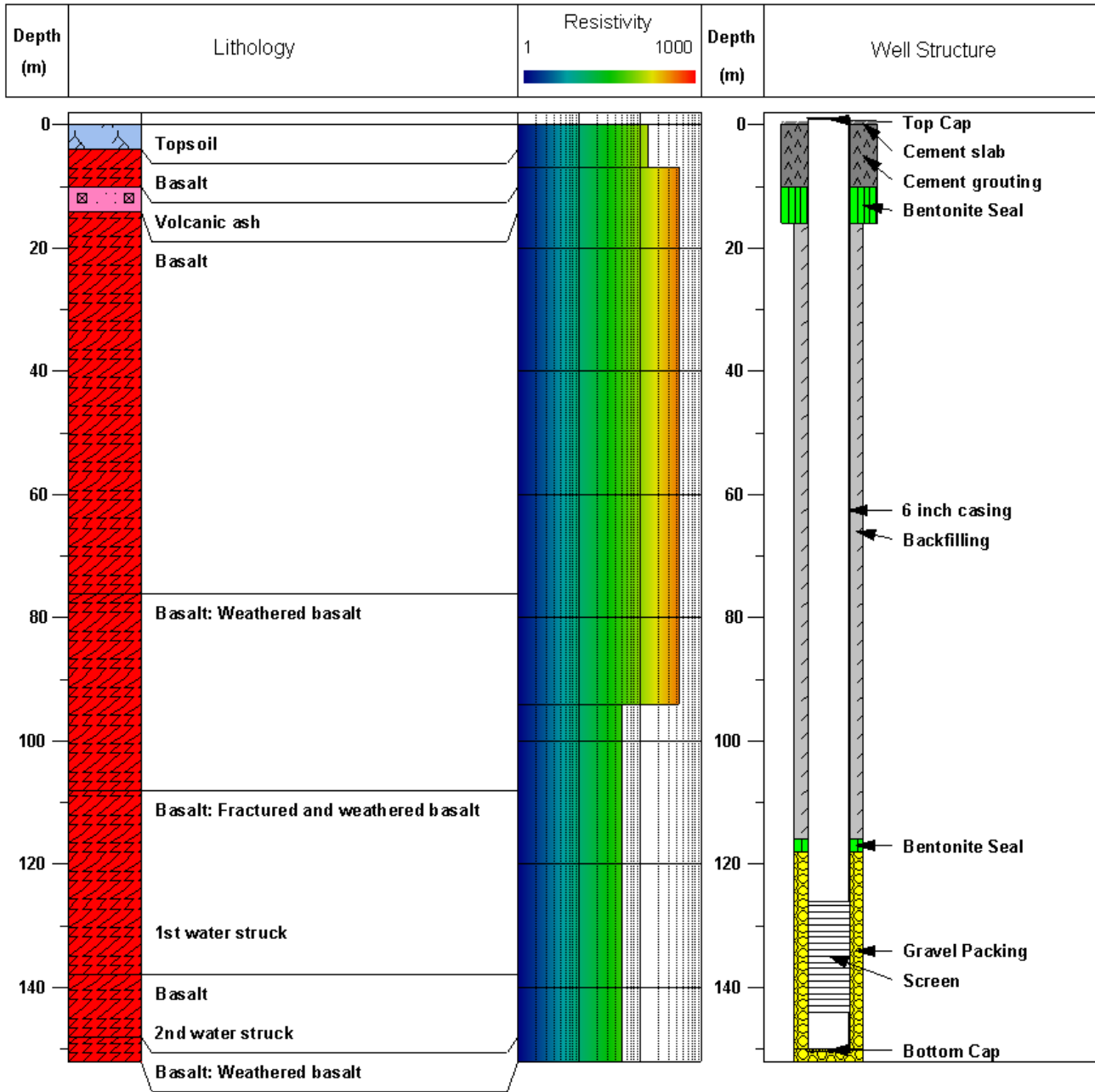
PARAMETERS	UNIT	RESULTS	REMARKS
pH	pH Scale	7.95	
Turbidity	N.T.U	10.2	
Permanganate value (20 min boiling)	mgO ₂ /l	3.16	
Conductivity	µS/cm	200.0	
Iron	mgFe/l	0.74	
Manganese	mgMn/l	0.0	
Arsenic	mgAs/l	NIL	
Calcium	mgCa/l	12.8	
Magnesium	mgMg/l	6.5	
Total Hardness	mgCaCO ₃ /l	40.0	
Total Alkalinity	mgCaCO ₃ /l	66.0	
Bicarbonate	MgHCO ₃ /l	80.5	
Chloride	mgCl/l	10.0	
Fluoride	mgF/l	0.0	
Nitrite	mgN/l	0.007	
Nitrate	mgN/l	0.1	
Ammonia	mgN/l	0.15	
Sulphate	mgSO ₄ /l	6.0	
Orthophosphate	mgP/l	1.46	
Total Suspended Solids	mg/l	4.0	
Free Carbon Dioxide	mgCO ₂ /l	50.0	
Total Dissolved Solids	mg/l	100.0	
Chlorine Concentration	mgCl/l	NIL	
Zinc	mgZn/l	1.75	
Copper	mgCu/l	0.05	
Chromium	mgCr/l	0.0	
Aluminium	mgAl/l	NIL	

COMMENTS: Good source of water but with slightly high Iron, and turbidity level. Aeration will be the possible treatment to achieve the acceptable level.


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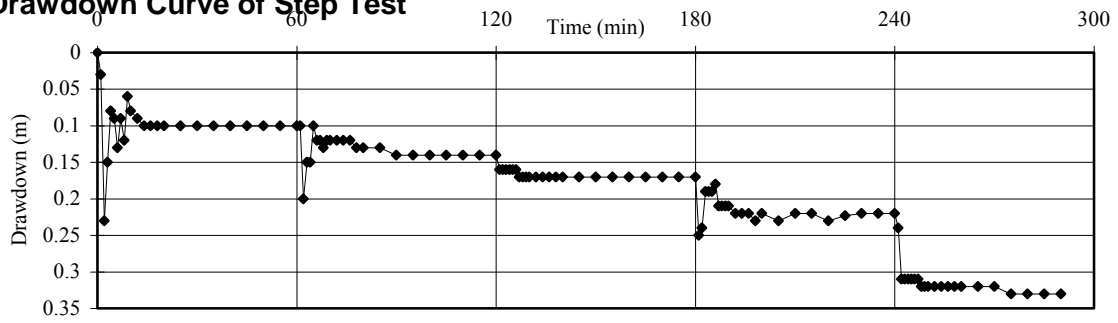
Borehole Drilling Log

Site No.: **155** Site Name: **Naudo**
 District: East Pokot Division: Mondri Location: Naudo Drilled Depth: 154 m
 Latitude: 1° 1' 54.53" N Static Water Level: 112.3 m
 Longitude: 36° 13' 5.66" E Altitude: 879 m Pumping Rate: 7.4 m³/hour
 UTM 37N X: 190387 m Y: 114182 m (Datum: Arc60) Dynamic Water Level: 112.6 m

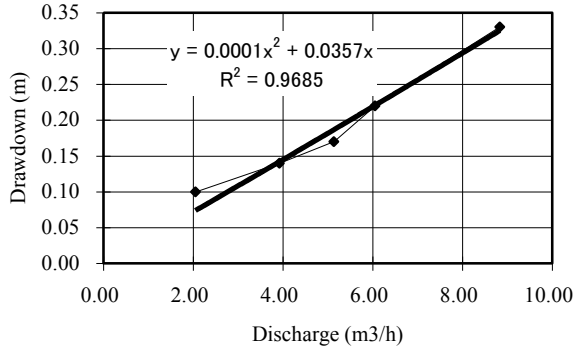


Pumping Test Analysis for Naudo (155) Borehole

Drawdown Curve of Step Test



Step Test Analysis



Critical Yield 8.83 m³/h

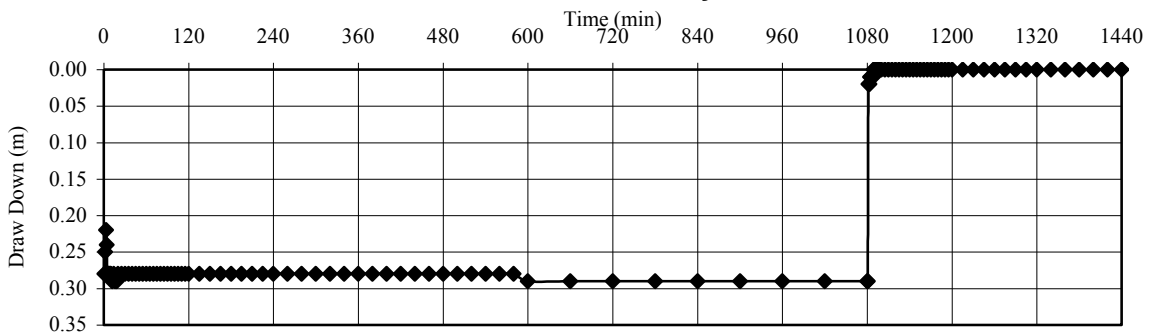
Safe Yield 7.064 m³/h

$$s=BQ+CQ^2$$

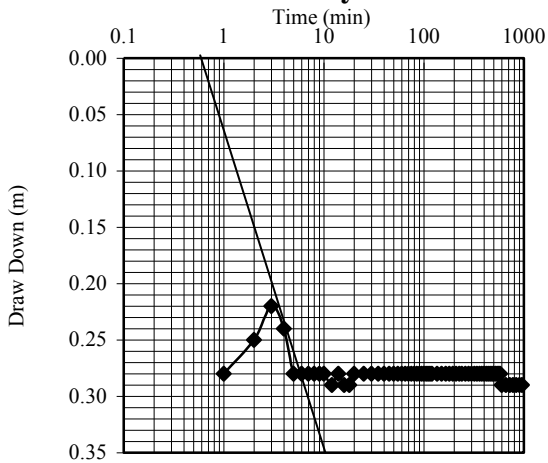
B= 0.0357

C= 0.0001

Drawdown Curve of Constant Rate & Recovery Test



Constant Rate Test Analysis



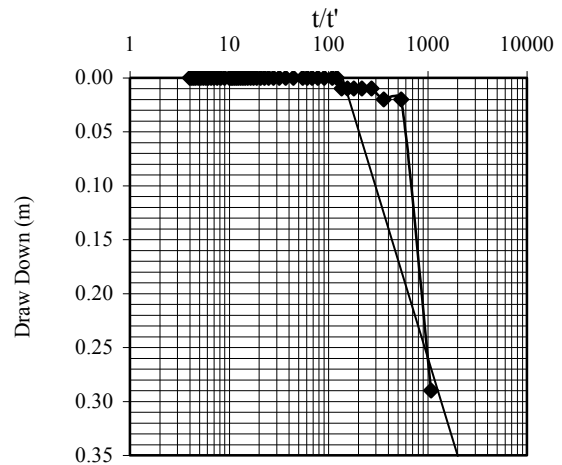
Q: 5.45 m³/h

Δs 0.24 m

t₀ 0.4 min

Transmissivity = 4.156265 m²/h
Storage Coefficient = 6.234398

Recovery Test Analysis



Q: 5.45 m³/h

Δs 0.3 m

Transmissivity = 2.933834 m²/h



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NAKURU

PHYSICAL/CHEMICAL WATER ANALYSIS REPORT

Sample No. 48/Q11 Date of Sampling: 11/4/011
Source NAUDO B/H143M Date received: 19/4/011
Purpose of sampling DOMESTIC Submitted by: JIKA
Address: MARIGATI

PARAMETERS	UNIT	RESULTS	REMARKS
pH	pH Scale	8.05	
Turbidity	N.T.U	3.12	
Permanganate value (20 min boiling)	mgO ₂ /l	3.16	
Conductivity	µS/cm	1560.0	
Iron	mgFe/l	0.12	
Manganese	mgMn/l	0.1	
Arsenic	mgAs/l	0.04	
Calcium	mgCa/l	11.2	
Magnesium	mgMg/l	5.9	
Total Hardness	mgCaCO ₃ /l	36.0	
Total Alkalinity	mgCaCO ₃ /l	424.0	
Bicarbonate	MgHCO ₃ /l	517.3	
Chloride	mgCl/l	186.0	
Fluoride	mgF/l	2.13	
Nitrite	mgN/l	0.0	
Nitrate	mgN/l	7.5	
Ammonia	mgN/l	0.07	
Sulphate	mgSO ₄ /l	18.0	
Orthophosphate	mgP/l	0.27	
Total Suspended Solids	mg/l	107.0	
Free Carbon Dioxide	mgCO ₂ /l	4.0	
Total Dissolved Solids	mg/l	780.0	
Chlorine Concentration	mgCl/l	NIL	
Zinc	mgZn/l		
Copper	mgCu/l	NIL	
Chromium	mgCr/l	NIL	
Aluminium	mgAl/l	NIL	

COMMENTS: Good source of water but with slightly high fluoride.


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Borehole Drilling Log

Site No.: **153**

Site Name: **Chebilat**

District: East Pokot

Division: Mondri

Location: Loruk

Drilled Depth: 180 m

Latitude: 0° 44' 58.59" N

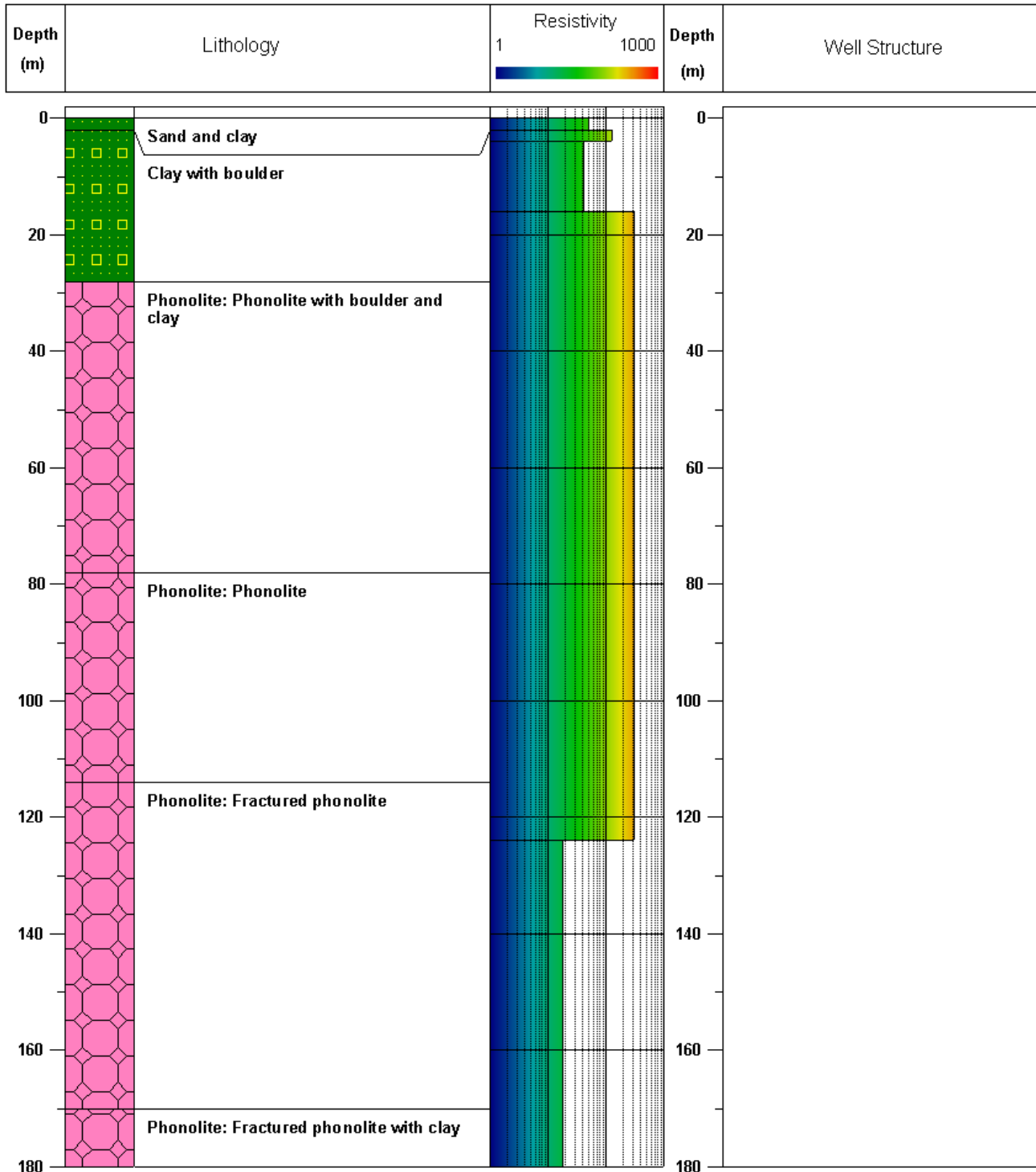
Static Water Level: - m

Longitude: 36° 2' 4.14" E Altitude: 1126 m

Pumping Rate: - m³/hour

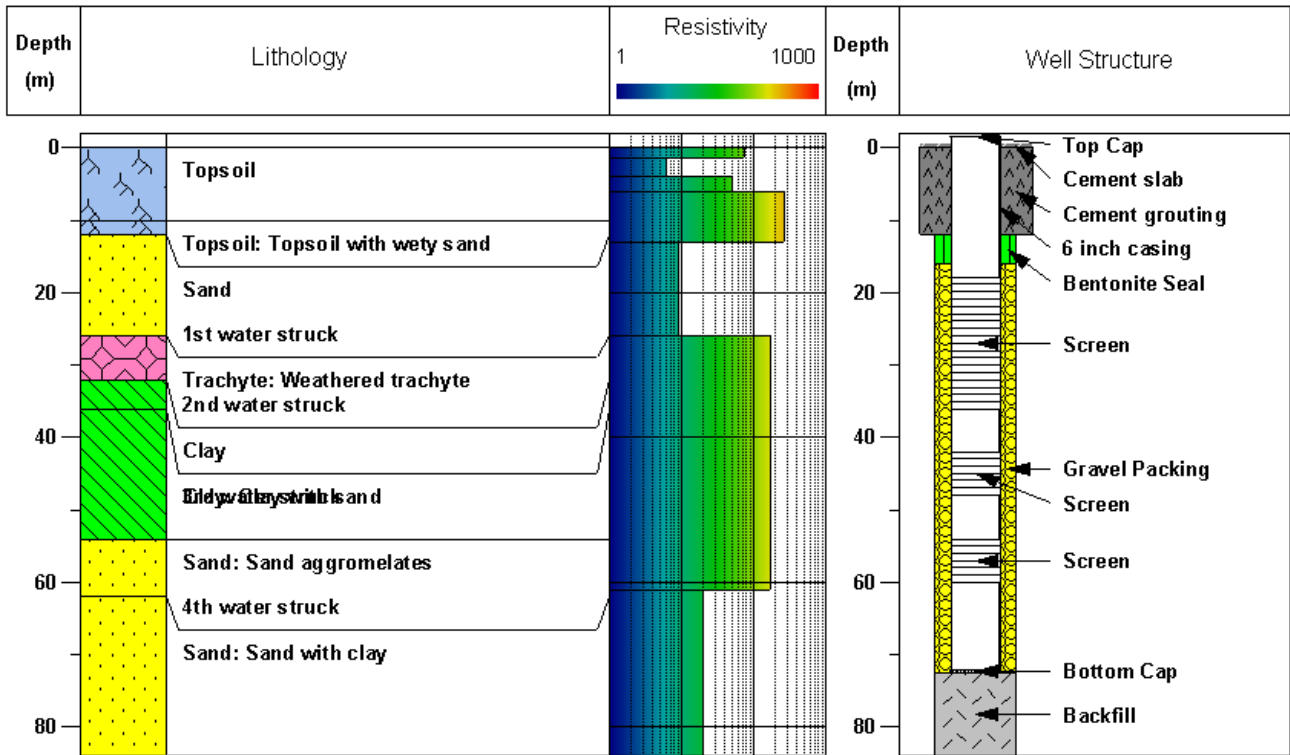
UTM 37N X: 169892 m Y: 82966 m (Datum: Arc60)

Dynamic Water Level: - m



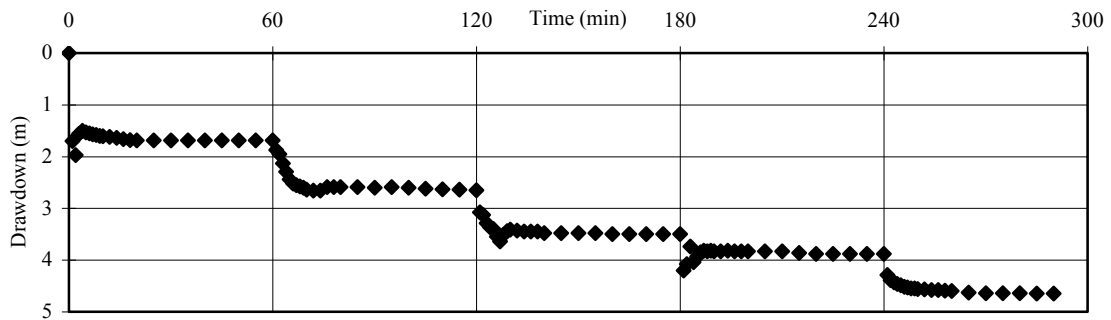
Borehole Drilling Log

Site No.: **185** Site Name: **Chesakam**
 District: East Pokot Division: Nginyany Location: Ribko Drilled Depth: 84 m
 Latitude: 1° 1' 58.21" N Static Water Level: 10.55 m
 Longitude: 36° 1' 52.24" E Altitude: 810 m Pumping Rate: 23.8 m³/hour
 UTM 37N X: 169549 m Y: 114314 m (Datum: Arc60) Dynamic Water Level: 14.66 m

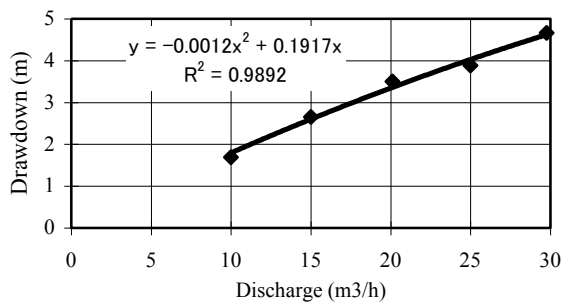


Pumping Test Analysis for Chesakam (185) Borehole

Drawdown Curve of Step Test



Step Test Analysis



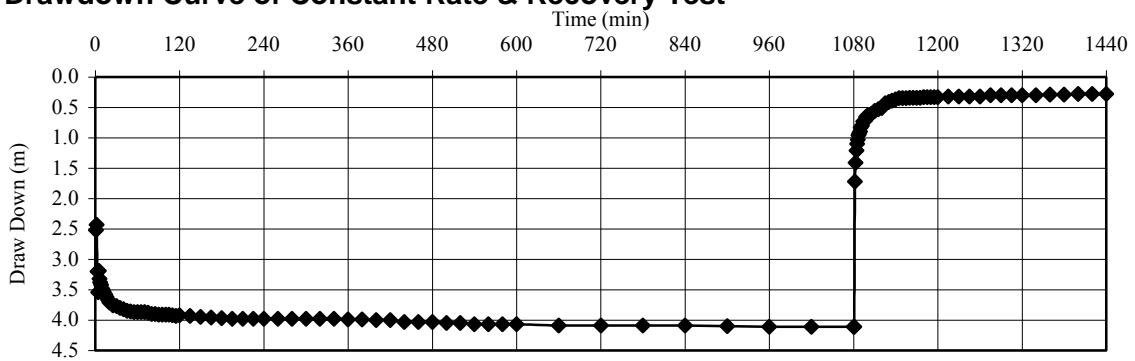
Critical Yield 29.8 m³/h
 Safe Yield 23.8 m³/h

$$s = BQ + CQ^2$$

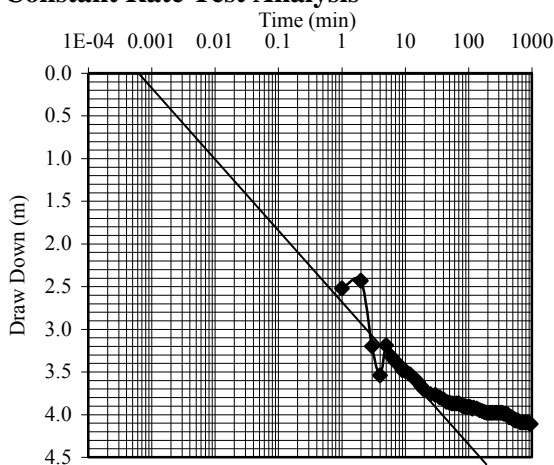
B = 0.1917

C = 0.0012

Drawdown Curve of Constant Rate & Recovery Test



Constant Rate Test Analysis



Q: 24 m³/h

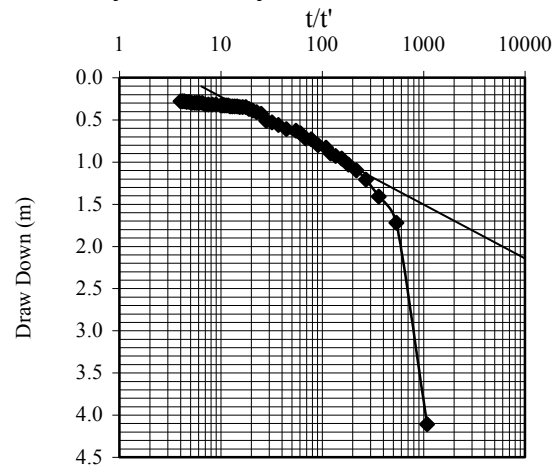
Δs 0.825 m

t₀ 0.0005 min

Transmissivity = 5.324456 m²/h

Storage Coefficient = 0.009983

Recovery Test Analysis



Q: 24 m³/h

Δs 0.7 m

Transmissivity = 6.507669 m²/h



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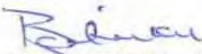
MAJI PLAZA
PRISONS ROAD ROAD
P.O. Box 2451
NAKURU

PHYSICAL/CHEMICAL WATER ANALYSIS REPORT

Sample No. 39/011 Date of Sampling: 8/4/011
Source CHESAKAM B/H Date received: 11/4/011
Purpose of sampling DOMESTIC Submitted by: JICA
Address: NAKURU

PARAMETERS	UNIT	RESULTS	REMARKS
pH	pH Scale	7.8	
Turbidity	N.T.U	0.42	
Permanganate value (20 min boiling)	mgO ₂ /l	3.16	
Conductivity	µS/cm	720.0	
Iron	mgFe/l	0.06	
Manganese	mgMn/l	0.2	
Arsenic	mgAs/l	NIL	
Calcium	mgCa/l	25.6	
Magnesium	mgMg/l	12.6	
Total Hardness	mgCaCO ₃ /l	78.0	
Total Alkalinity	mgCaCO ₃ /l	266.0	
Bicarbonate	MgHCO ₃ /l	324.0	
Chloride	mgCl/l	20.0	
Fluoride	mgF/l	2.2	
Nitrite	mgN/l	0.01	
Nitrate	mgN/l	0.1	
Ammonia	mgN/l	0.08	
Sulphate	mgSO ₄ /l	22.0	
Orthophosphate	mgP/l	0.65	
Total Suspended Solids	mg/l	12.0	
Free Carbon Dioxide	mgCO ₂ /l	28.0	
Total Dissolved Solids	mg/l	360.0	
Chlorine Concentration	mgCl/l	nil	
Zinc	mgZn/l	0.0	
Copper	mgCu/l	0.02	
Chromium	mgCr/l	nil	
Aluminium	mgAl/l	0.01	

COMMENTS: Good source of water but with slightly high fluoride.


BANCY CHEGE
O/C REGIONAL WATER TESTING LABORATORY

**MINUTES OF DISCUSSIONS
ON THE SECOND PREPARATORY SURVEY
ON THE PROJECT FOR
RURAL WATER SUPPLY IN BARINGO COUNTY
IN THE REPUBLIC OF KENYA
(EXPLANATION ON DRAFT REPORT)**

In September 2011, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Teams on the Project for Rural Water Supply in Baringo County (hereinafter referred to as "the Project") to the Government of the Republic of Kenya (hereinafter referred to as "Kenya") and through discussion, field survey and technical evaluation of the results in Japan, JICA prepared a draft report of the study.

In order to explain and consult with the Government of Kenya on the components of the draft report, JICA sent to Kenya the Draft Report Explanation Team (hereinafter referred to as "the Team"), which was headed by Mr. Toshio MURAKAMI, Kenya Office, JICA, from 26th to 30th September 2011.

As a result of discussions, both sides confirmed the main items described in the attached sheets.

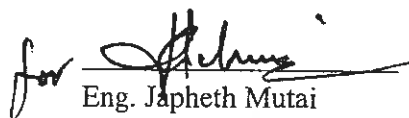
Nairobi, September 29th, 2011



Mr. Toshio MURAKAMI
Leader
Second Preparatory Survey Team
Japan International Cooperation Agency



Eng. David Stower, CBS, OGW
Permanent Secretary
Ministry of Water and Irrigation
The Republic of Kenya



for Eng. Japheth Mutai
Chief Executive Officer
Rift Valley Water Services Board
The Republic of Kenya

ATTACHMENT

1. Component of the Draft Report

The Kenyan side agreed and accepted in principle the components of the Draft Outline Design Report explained by the Team. The project sites are shown in Annex-1.

2. Japan's Grant Aid Scheme

The Kenyan side understood the Japan's Grant Aid Scheme and the necessary measures to be taken by The Kenyan side as explained by the Team and described in Annex-4 and 5.

3. Responsible and Implementing Organization

The responsible and implementing organization are as follows;

- The Responsible Agency is the Ministry of Water and Irrigation (hereinafter referred to as "MoWI").
- The Implementing Agency is the Rift Valley Water Services Board (hereinafter referred to as "RV-WSB").

However, the direction on the Water Sector will be guided by the new Constitution after August 2012, so the Kenyan side explained that water sector is undergoing the process of realignment to the new dispensation according to the new Constitution. The realignment does not adversely affect implementation process of the Project.

In addition, both sides agreed that the Kenyan side should continuously provide information regarding the direction of the Water sector in order to guide the implementation of the Project.

4. Schedule of the Survey

JICA will complete the final report in accordance with the confirmed items and send it to Kenya by December 2011.

5. Other Relevant Issues

5-1. Title of the Project

Both sides agreed that the title of the Project will be changed to "the Project for Rural Water Supply in Baringo County". According to the new Kenyan Constitution, Kenya will do away with the regional/provincial structures of administration and will instead provide two levels of governance, national government and county governments in August 2012. Therefore, administrative area of the title should be consistent with constitutional reform.

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5-2. Components of the Project

Both sides agreed on the components of the Project as follows;

(1) Construction of Water Supply Facility

No.	Item		Quantity
1	Point-source system with submersible pump	borehole, pumping system, elevated water tank, transmission pipes, water kiosk, cattle trough and fence	90 Sets

(2) Procurement of Equipment

No.	Item		Quantity
1	Vehicle	4WD, Pickup, Double cabin	1 Set
2	Motorbikes	175cc	2 Sets
3	Computer	Desktop, Printer(A3)	1 Set

(3) Soft Component

Soft Component Program will be undertaken for operation and maintenance (O&M) of water supply facilities at district and community level.

5-3. Project Cost Estimate

The Team explained to the Kenyan side the Project cost estimate as described in Annex-6. The Kenyan side understood that the cost estimate was provisional and would be examined further by the Government of Japan for its approval as a Grant.

Furthermore, the Team explained to the Kenyan side to understand that the cost estimate should never be duplicated in any form nor disclosed to any other party(s) until the relevant contracts are awarded by the Ministry of Water and Irrigation. This confinement must be abided by for securing the fairness of tender procedure.

The Team also explained the estimated cost to be borne by the Kenyan side as shown in Annex-6. The Team requested the Kenyan side to secure necessary counterpart budget for the implementation of the Project, and Kenyan side accepted it.

5-4. Target sites and Alternative sites

The Team explained that the target sites are 90 sites in 77 Villages and alternative sites are 28 sites in 26 Villages for the Project shown in Annex-2. Alternative sites are reserved for the time when borehole fails in the target site. The Kenyan side understood it.

5-5. Construction of Borehole

Both sides agreed on the construction of borehole for the Project as follows;

(1) Borehole Construction Procedure

- During the outline design, 5 successful boreholes which were already secured will be utilized as production wells for the Project.
- During the detail design stage, 19 boreholes will be drilled in order to secure 10 production wells. Successful rate is estimated 56 %.
- During the construction stage, the remaining 75 production wells will be built.

The final number of production well, however, is subject to change according to the result of the detail design.

(2) Drilling Times per Site

Drilling times per site would be limited to twice. If the boreholes drilled twice will be negative in a certain target site, the site will be removed as the Project site, and the Project site will be changed to an alternative site.

(3) Criteria for Successful Boreholes

a) Water Yield

It will be determined by the discussion of both sides based on the result of the drilling and site condition such as groundwater potential, population and so on. However, it should be at least 1 m³ per hour.

b) Water Quality

Water quality will be basically applied on the Kenyan water supply practice manual.

(4) Handling of Unsuccessful Boreholes

If the borehole is completely dry, it will be backfilled. However, in the case that the borehole does not meet the criteria stated above after the development of borehole and completion of pumping test and water quality analysis, such borehole is handled according to the table below;

Handling of Unsuccessful Boreholes

	Yield	Quality	Handling for Drilled Borehole
Unsuccessful	OK	OUT	It will be handed over to the Kenyan side on condition that the water will not be used for drinking directly without treatment.
	OUT		
	OUT (Completely dry)	-	It will be backfilled.

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5-6. The Power Source of Water Supply Facility

The Team explained that the power source of water supply facility are as shown on the table below based on the result of the survey;

The Number and Type of Power source in each District

District	Target sites				Alternative sites			
	Solar	Grid	Generator	Total	Solar	Grid	Generator	Total
Baring North	12	14	2	28	4	4	1	9
Baringo	14	18	6	38	2	2	0	4
Marigat	9	5	0	14	4	1	3	8
East Pokot	8	0	2	10	4	1	2	7
Total	43	37	10	90	14	8	6	28

The final number of the power source of water supply facility, however, is subject to change according to the result of the detail design, and the Kenyan side agreed.

5-7. Distribution of Power Line

Commercial power supply is available in 37 target sites. So it is necessary for the Project to distribute commercial power line to the facilities.

The Team explained that under the Japan's grant aid scheme, in principle, distribution of power line to the facilities is undertaking by the recipient country. Therefore, the construction cost for distribution of power line is undertaking by the Kenyan side.

In addition, so as not to delay the construction process due to distribute power line, the Kenyan side shall coordinate early with the Kenya Power Company to ensure timely installation of distribution power line, and the Kenyan side agreed it.

5-8. Undertakings of The Kenyan side

The Team requested the Kenyan side, in addition to the major understandings described in Annex-5, to abide by undertakings listed below for the smooth implementation of the Project;

- 1) To secure lots of land (e.g. boreholes, water tanks, water kiosks, transmission pipes, pumping system, cattle troughs, warehouse and stockyards) necessary,
- 2) To provide necessary information and documents,
- 3) To make adequately coordination with related organizations and communities,
- 4) To obtain permission for drilling from the Water Resources Management Authority and to bear the necessary expenses,
- 5) To distribute power line to the facilities which used commercial power without delay,
- 6) To support organization of Water Users Association by communities,
- 7) To assign necessary number of counterpart personnel (C/Ps),
- 8) To bear the allowances and other expenses related to the activities for C/Ps,
- 9) To protect test boreholes which are to be used as production boreholes until the

commencement of the construction,

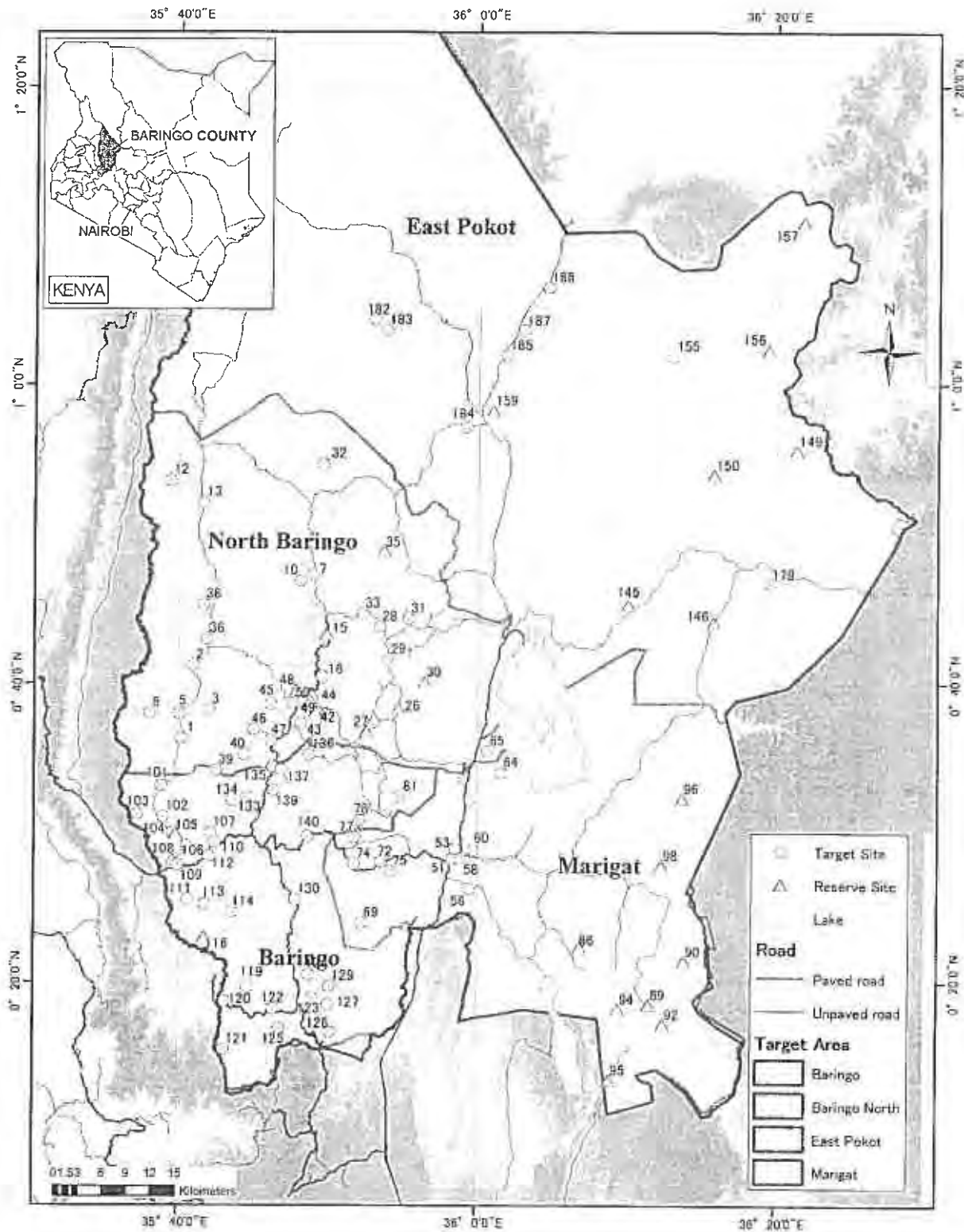
- 10) To carry out environmental impact assessment (EIA) for the Project, if necessary, and to obtain approval from the National Environment Management Authority before the Project commencement and to bear the necessary expenses.
- 11) To take timely necessary measures for operation and maintenance of water supply facilities after completion of the Project.

(END)

Annex:

- Annex-1 Project Site
- Annex-2 List of Target Site and Alternative Site
- Annex-3 Organization Chart of the Implementation Agency
- Annex-4 Japan's Grant Aid Scheme
- Annex-5 Major Undertakings to be taken by Each Government
- Annex-6 Project Cost Estimate

Project Site



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3-1. List of Target Sites

District	NO	Sites	Population 2015	Type of Power System	Remark
Baringo North (28)	1	Katiborok	510	Commercial Grid	
	2	Konoo	480	Commercial Grid	
	5	Kibuliak	760	Commercial Grid	
	13	Marigut	480	Commercial Grid	
	16	Kapkombe	1,070	Commercial Grid	Drilling by Detail Design
	36.1	Barwessa-1	580	Commercial Grid	
	40	Kapkirwok	1,250	Commercial Grid	Drilling by Detail Design
	43.1	Kaptere1	720	Commercial Grid	
	43.2	Kaptere2	680	Commercial Grid	
	46	Kaptum	1,230	Commercial Grid	Drilling by Detail Design
	47.1	Ossen Forest station1	750	Commercial Grid	
	47.2	Ossen Forest station2	810	Commercial Grid	
	49	Kureschun	1,600	Commercial Grid	Drilling by Detail Design
	50	Kipkokom	1,070	Commercial Grid	Drilling by Detail Design
	3	Kormor	350	Solar	
	6	Kapnarok	400	Solar	
	10	Moigutwo	420	Solar	
	12	Ayatia	380	Solar	
	28	Kolongotwo	450	Solar	
	29	Koibaware	430	Solar	
	31	Kipchemoi	370	Solar	
	32	Kapturo	530	Solar	
	33	Chepkessin	450	Solar	
	36.2	Barwessa-2	430	Solar	
	38	Likwon	640	Solar	
	39	Seremwo	430	Solar	
	7	Chemondoi	930	Generator	
	45	Tiriondonin	1,000	Generator	Drilling by Detail Design
Marigat (14)	51	Kamagonge	960	Commercial Grid	
	56	Kamimba	480	Commercial Grid	
	58	Catholic	430	Commercial Grid	
	72	Kimalel Hospital	400	Commercial Grid	
	74	Lokoiwopsonchun	400	Commercial Grid	
	53	Kapsamson	520	Solar	
	60	Ndambul	470	Solar	
	64	Longiron	520	Solar	
	65	Marti	530	Solar	
	69	Kapkechii	360	Solar	
	75	Kinyach	360	Solar	
	77	Tirng'ongwonin	370	Solar	
	78	Kibingor	480	Solar	
	81	Kabusa	640	Solar	
Baringo (38)	101	Kaptara	640	Commercial Grid	
	102	Kipsoit Primary	570	Commercial Grid	
	103.2	Kakwane	800	Commercial Grid	
	104.1	Salawa Hospital1	630	Commercial Grid	
	104.2	Salawa Hospital2	630	Commercial Grid	
	106	Eron Primary	750	Commercial Grid	
	109.1	Oinobmoi centre1	1,430	Commercial Grid	Drilling by Detail Design
	120.1	Mogorwa-1	410	Commercial Grid	

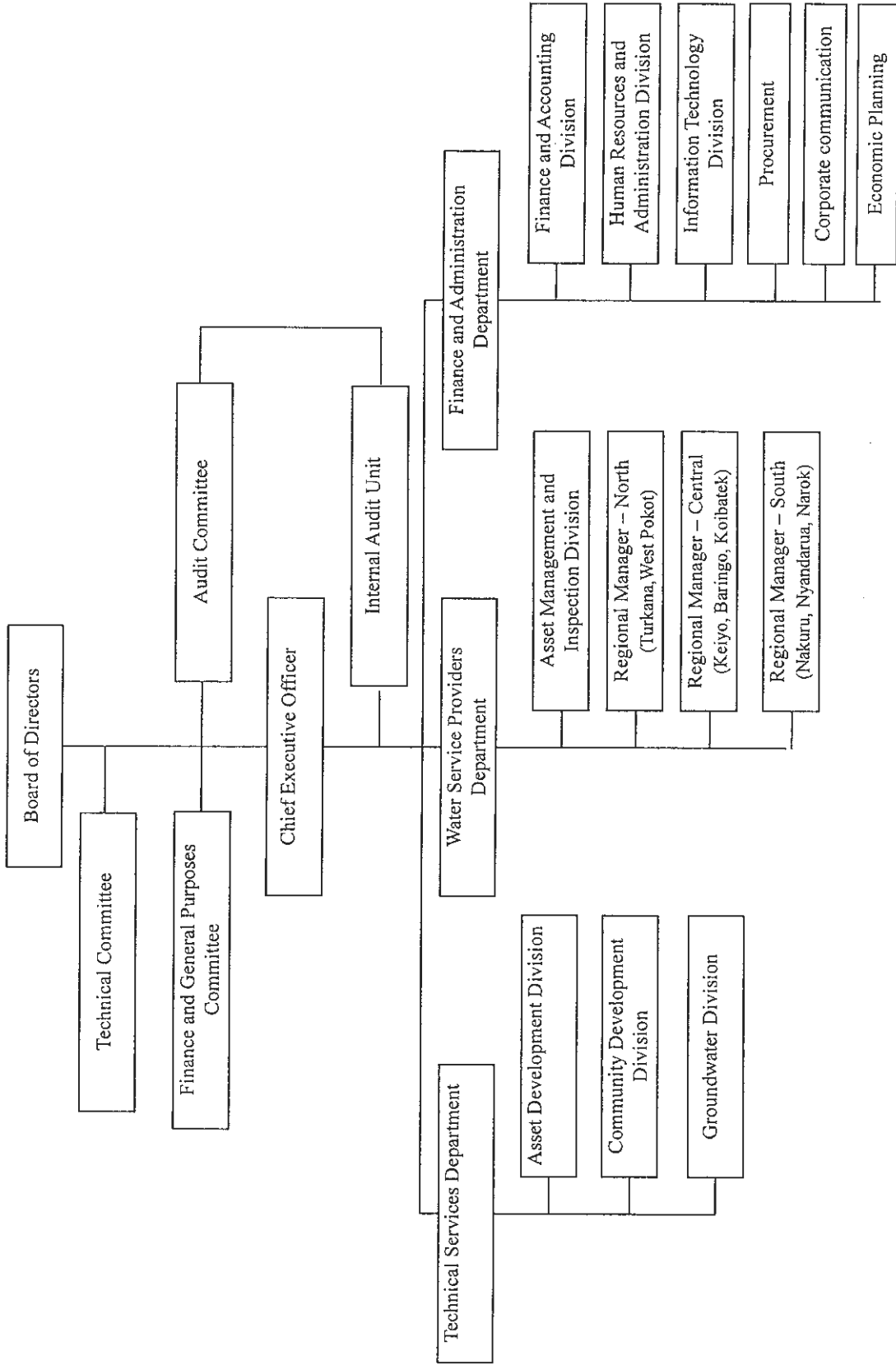
	121	Kisonei Primary	450	Commercial Grid	
	124.1	Tabarin1	740	Commercial Grid	
	125	Tuluongoi	980	Commercial Grid	
	130.1	Timboiywo1	680	Commercial Grid	
	130.2	Timboiywo2	750	Commercial Grid	
	133	Kapchomuswo Sec	590	Commercial Grid	
	135	Pemwai centre	460	Commercial Grid	
	136.1	Talai-1	1,590	Commercial Grid	Drilling by Detail Design
	140	Turupkir	390	Commercial Grid	
	137.1	Kapkawa-1	1,290	Commercial Grid	Drilled by Outline Design
	103.1	Kakwane	630	Solar	Drilled by Outline Design
	107	Kimoso	580	Solar	
	109.2	Oinobmoi centre2	560	Solar	
	111	Kurumbopsoo	850	Solar	
	112	Sironoi	530	Solar	
	113	Kasitet	860	Solar	
	114	Sichei	370	Solar	
	119	Chepkero Primary	480	Solar	
	120.2	Mogorwa-2	410	Solar	
	126	Tebei	880	Solar	
	127	Ilyakat	400	Solar	
	134	Kiwanja Ndege	490	Solar	
	137.2	Kapkawa-2	500	Solar	
	139	Serei	510	Solar	
	110	Kapsikoryan	960	Generator	Drilled by Outline Design
	122	Ochii Primary	690	Generator	
	123	Siginwo	1,050	Generator	Drilling by Detail Design
	124.2	Tabarin2	670	Generator	
	129	Tinomoi	940	Generator	
	136.2	Talai-2	1,390	Generator	Drilling by Detail Design
East Pokot	179	Lomerimeri	380	Solar	
(10)	182	Chepanda	430	Solar	
	183.1	Donge-1	580	Solar	
	184.1	Katukumwo1	670	Solar	
	184.2	Katukumwo2	670	Solar	
	185	Chesakam	560	Solar	Drilled by Outline Design
	186	Chesitet	440	Solar	
	187	Kasakaram	600	Solar	
	155	Naudo	750	Generator	Drilled by Outline Design
	183.2	Donge-2	850	Generator	
	Total	77 Villages 90 Sites	59,580	Solar <input type="checkbox"/> 43 Grid <input type="checkbox"/> 37 Generator <input type="checkbox"/> 10	

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3-2. List of Alternative Sites

District	NO	Sites	Population 2015	Type of Power System	Remark
Marigat (8)	90	Kapkechir	730	Generator	
	92	Kipkandule	550	Generator	
	95	Nyalilbuch	760	Generator	
	98	Menmeno	610	Solar	
	86	Samuran	480	Solar	
	94	Sambaka	490	Solar	
	96	Sokonin	390	Solar	
	89	Mochongoi centre	450	Commercial Grid	
East Pokot (7)	159	Cheptunoyo	390	Commercial Grid	
	145	Nakolete	380	Solar	
	146	Kalapata	350	Solar	
	150	Katungura	530	Solar	
	149	Siria	370	Solar	
	156	Akwichatis	1,000	Generator	
	157	Nasorot	1,000	Generator	
Baringo North (9)	44	Boin	430	Commercial Grid	
	42.1	Kapchepkor1	660	Commercial Grid	
	42.2	Kapchepkor2	790	Commercial Grid	
	48	Kaptumin	1,280	Commercial Grid	
	35	Chemoe	480	Solar	
	26	Barkilach	430	Solar	
	27	Usonin	380	Solar	
	30	Chepkewel	380	Solar	
	15	Kapamin	750	Generator	
Baringo (4)	116	Katunoi	430	Solar	
	108	Saonin	530	Solar	
	105.1	Salawa Primary1	970	Commercial Grid	
	105.2	Salawa Primary2	890	Commercial Grid	
	Total	26 Villages 28 Sites	16,880	Solar <input type="checkbox"/> 13 Grid <input type="checkbox"/> 8 Generator <input type="checkbox"/> 7	



Annex-3 Organization Chart of Rift Valley Water Services Board (RV-WSB)

Japan's Grant Aid Scheme

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedure

1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Survey	(Outline Design Survey conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a survey on the request. If necessary, JICA send a Preparatory Survey Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the survey (Outline Design Survey), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Outline Design Survey report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Outline Design Survey

1) Contents of the Survey

The aim of the Outline Design Survey (hereinafter referred to as "the Survey"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a outline document necessary for the appraisal of the Project by the Government of Japan. The contents of the Survey are as follows:

- a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
- b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
- c) confirmation of items agreed on by both parties concerning the outline concept of the Project;
- d) preparation of a outline design of the Project; and
- e) estimation of costs of the Project.

Government of Japan. This "Verification" is deemed necessary to secure accountability of Japanese taxpayers.

5) Undertakings required to the Government of the recipient country

- a) to secure a lot of land necessary for the construction of the Project and to clear the site;
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
- c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
- d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
- e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
- f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
- g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

6) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those covered by the Grant Aid.

7) "Re-export"

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

8) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay issued by the Government of recipient country or its designated authority.

9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commission to the Bank.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Outline Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even through they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For the smooth implementation of the Survey, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Survey and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Survey to the recipient country, in order to maintain the technical consistency between the Outline Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

3. Japan's Grant Aid Scheme

1) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

2) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

3) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

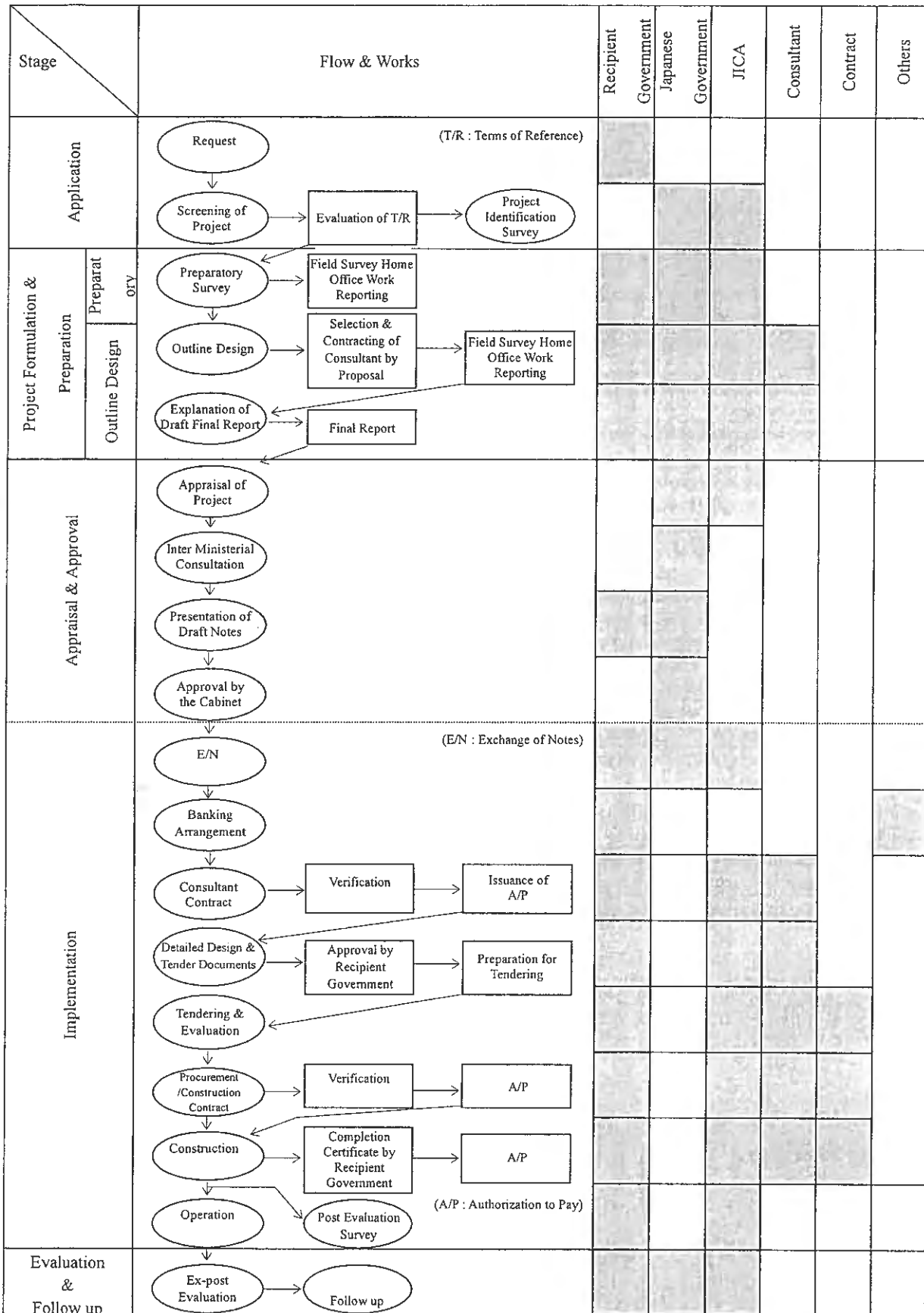
When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the

FLOW CHART OF JAPAN'S GRANT AID PROCEDURES



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Major Undertakings to be taken by Each Government (Construction)

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	to secure [a lot] /[lots] of land necessary for the implementation of the Project and to clear the [site]/[sites];		•
2	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products		
	1) Marine (Air) transportation of the Products from Japan to the recipient country	•	
	2) Tax exemption and custom clearance of the Products at the port of disembarkation		•
	3) Internal transportation from the port of disembarkation to the project site	(•)	(•)
3	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services be exempted		•
4	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
5	To ensure that [the Facilities and the products]/[the Facilities]/ [the products] be maintained and used properly and effectively for the implementation of the Project		•
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		•
7	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
8	To give due environmental and social consideration in the implementation of the Project.		•

(B/A: Banking Arrangement, A/P: Authorization to pay)

