

THE NATIONAL WATER RESOURCES DATA

DATA BOOK
(DB.4)

TOPOGRAPHIC SURVEY DATA

JULY 1992

JAPAN INTERNATIONAL COOPERATION AGENCY

SSS

JR

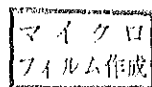
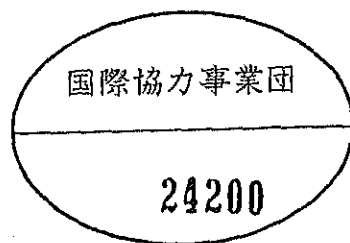
92-069-25/27

JICA LIBRARY



1100384[5]

24200





REPUBLIC OF KENYA

MINISTRY OF WATER DEVELOPMENT

**THE STUDY
ON
THE NATIONAL WATER MASTER PLAN**

**DATA BOOK
(DB.4)**

TOPOGRAPHIC SURVEY DATA

JULY 1992

JAPAN INTERNATIONAL COOPERATION AGENCY

LIST OF REPORTS

EXECUTIVE SUMMARY

MAIN REPORT

1. Vol.1 Water Resources Development and Use Plan towards 2010
2. Vol.2 Master Action Plan towards 2000
Part 1 : National Water Master Action Plan
3. Vol.3 Master Action Plan towards 2000
Part 2 : Action Plan by Province/District

SECTORAL REPORT

1. A Socio-economy
2. B Hydrology
3. C Groundwater Resources
4. D Domestic and Industrial Water Supply
5. E Agriculture and Irrigation
6. F Livestock, Wildlife and Fishery
7. G Flood Control Plan
8. H Dam Development Plan
9. J Dam Geology
10. K Topographic Survey of 11 Damsites
11. L Power Development Plan
12. M Integrated Water Resources Development Planning
13. N Environmental Conservation
14. P Laws and Institutions
15. Q Database
16. R Remote Sensing Analysis
17. S GIS-based Analysis

DATABOOK

1. DB.1 Hydrological Data (Study Supporting Data)
2. DB.2 Groundwater Data (Aquifer Test and Well Survey)
3. DB.3 Groundwater Data (Study Supporting Data)
4. DB.4 Topographic Survey Data
5. DB.5 Inventory of Irrigation/Drainage Schemes
6. DB.6 Project Sheet for Urban Water Supply

PREFACE

Administrative Division of Districts

In this Study, the original 41 districts were considered and various statistical data, particularly socio-economic information, were collected for these districts. During the progress of the Study, six districts were detached from the original ones and established as new districts. In the report, the data on these new districts are grouped together with the corresponding original districts as shown below.

	<u>Original Districts</u>	<u>New Districts</u>	<u>Data included in:</u>
1.	Machakos	Makueni	Machakos/Makueni
2.	Kisii	Nyamira	Kisii/Nyamira
3.	Kakamega	Vihiga	Kakamega/Vihiga
4.	Meru	Tharaka-Nithi	Meru/Tharaka-Nithi
5.	Kericho	Bomet	Kericho/Bomet
6.	South Nyanza	Migori	South Nyanza/Migori

(Note: The last three Districts were established very recently.
The report refers only to the names of the original 41 districts.)

The administrative boundary map used in this Study is the latest complete map set covering the whole country (41 Districts, 233 Divisions and 976 Locations), prepared in 1986 by the Survey of Kenya, Ministry of Land and Housing.

Data and Information

The data and information contained in the report represent those collected in the 1990-1991 period from various documents and reports made available mostly from central government offices in Nairobi and/or those analyzed in this Study based on the collected data. Some of them may be different from those kept in files at some agencies and regional offices. Such discrepancies if any should be collated and adjusted as required in further detailed studies of the relevant development projects.

THE STUDY ON THE NATIONAL WATER MASTER PLAN

**DATABOOK : DB.4
HYDROLOGICAL DATA (SUPPORTING DATA)**

TABLE OF CONTENTS

	Page
I. SURVEY MARK DESCRIPTION OF PROPOSED 11 DAMSITES.....	1-1
II. SURVEY MARK DESCRIPTION OF HEIGHT POINTS.....	2-1
III. PHOTO OF SUVEY WORKS.....	3-1

**PART I : SURVEY MARK DESCRIPTION
OF PROPOSED 11 DAMSITES**

RUMURUTI DAMSITE

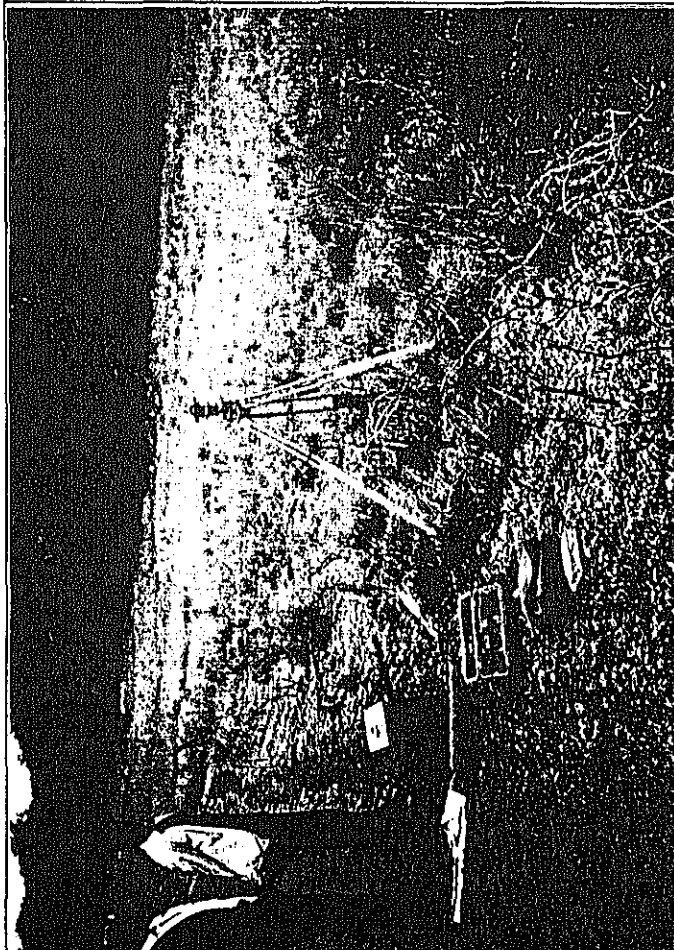
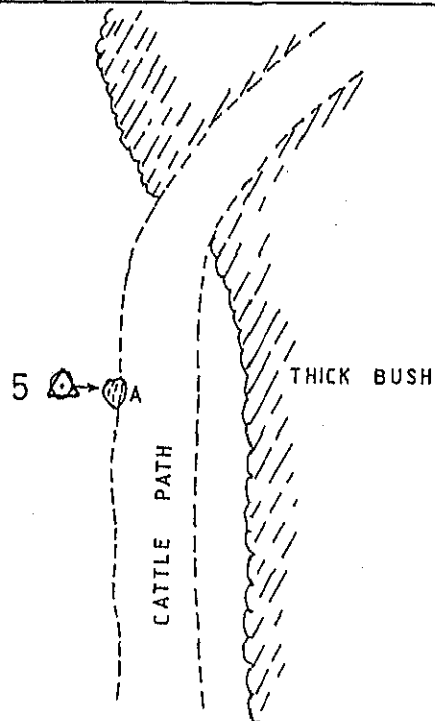
SURVEY MARK DESCRIPTION

RUMURUTI DAMSITE.

COUNTRY: KENYA JOB No. J1061 POINT No. 5

TYPE: TRAVERSE	DESCRIPTION: HOLE IN ROCK	PHOTO NO. 1021
MAP SHEET No. 1:50,000 105/4	DATE: 26-10-1990	SURVEYOR: MATTSSON
NORTHING: 16681.71	EASTING: 216 507.18	HEIGHT: 2001.43

LOCATION DIAGRAM



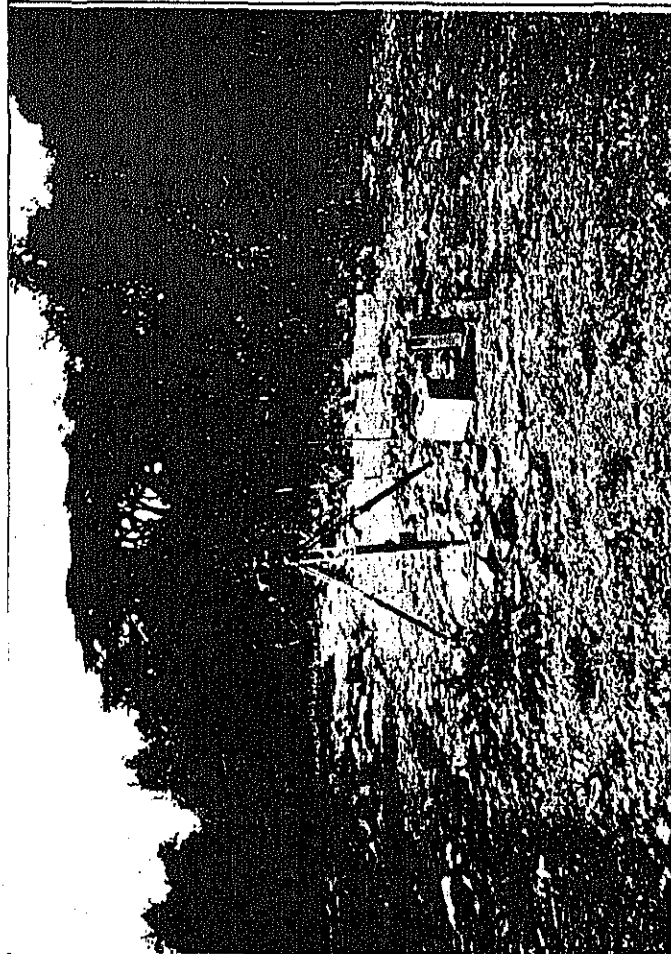
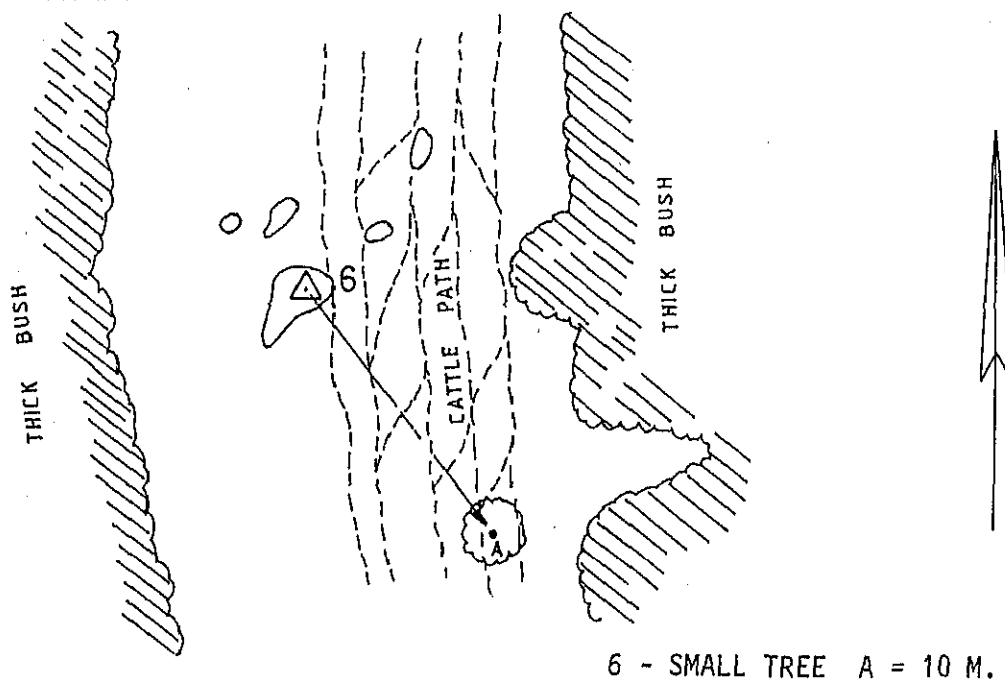
SURVEY MARK DESCRIPTION

RUMURUTI DAMSITE

COUNTRY: KENYA JOB No. J1061 POINT No. 6

TYPE: TRAVERSE	DESCRIPTION: HOLE IN ROCK	PHOTO NO. 1021
MAP SHEET No. 1:50,000 105/4	DATE: 26-10-1990	SURVEYOR: MATTSSON
NORTHING: 16565.68	EASTING: 216 480.04	HEIGHT: 2001.76

LOCATION DIAGRAM

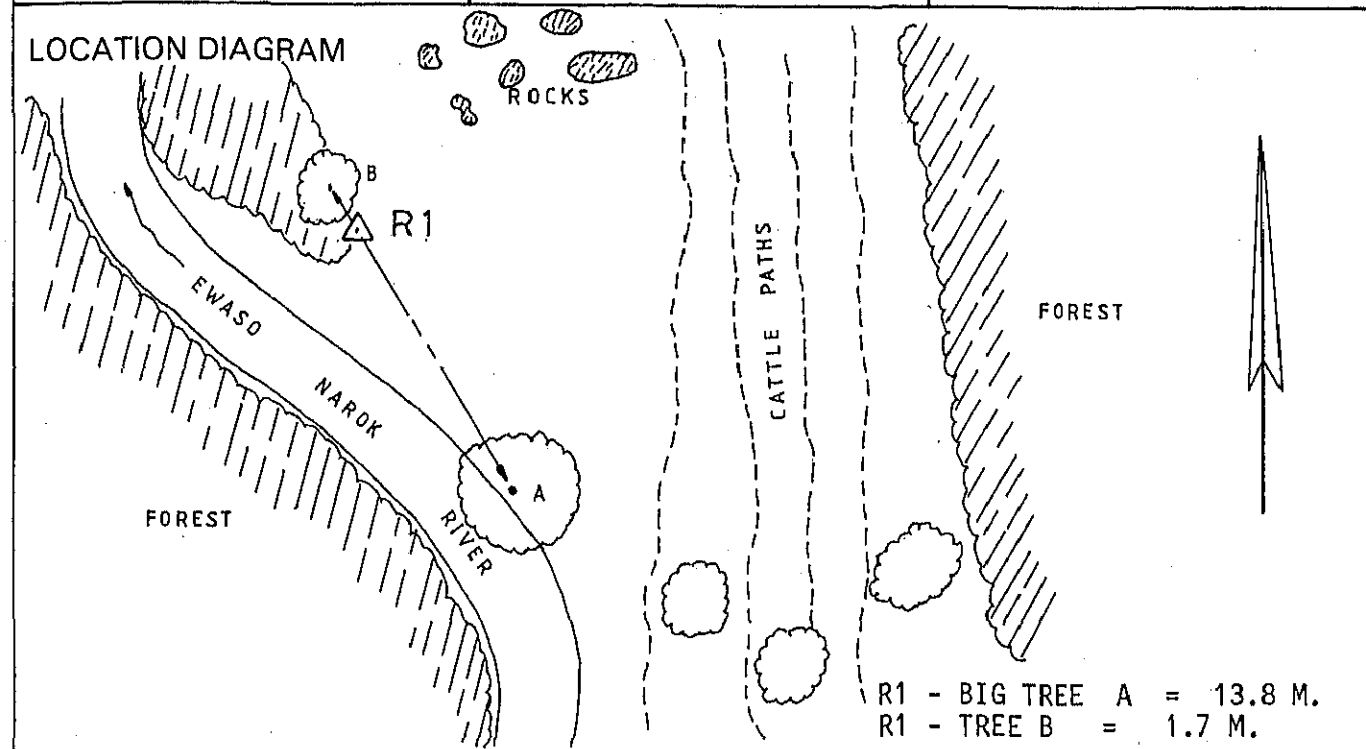


SURVEY MARK DESCRIPTION

RUMURUTI DAMSITE

COUNTRY: KENYA JOB No. J1061 POINT No. R.1

TYPE: PROFILE POINT	DESCRIPTION: I.P.C.	PHOTO NO. 1021
MAP SHEET No. 1:50,000 105/4	DATE: 26-10-1990	SURVEYOR: MATTSSON
NORTHING: 16527.11	EASTING: 216 471.05	HEIGHT: 2002.06



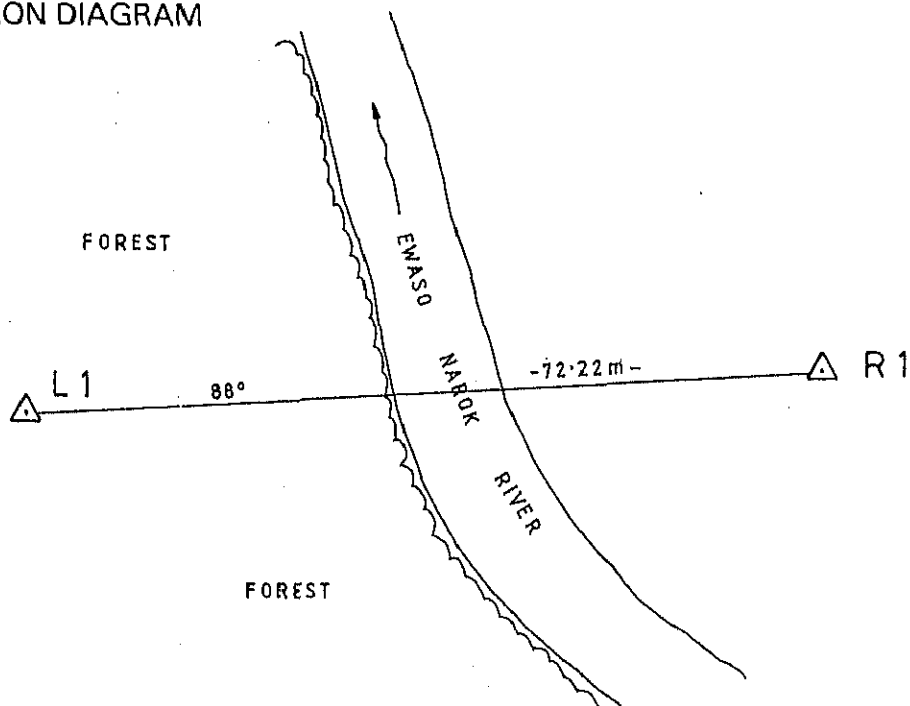
SURVEY MARK DESCRIPTION

RUMURUTI DAMSITE

COUNTRY: KENYA JOB No. J1061 POINT No. L1

TYPE: PROFILE POINT	DESCRIPTION: I.P.C.	PHOTO NO. 1021
MAP SHEET No. 1:50,000 105/4	DATE: 26-10-1990	SURVEYOR: MATTSSON
NORTHING: 16 524.83	EASTING: 216 398.87	HEIGHT: 2001.30

LOCATION DIAGRAM



MORUN DAMSITE

SURVEY MARK DESCRIPTION

MORUN DAMSITE

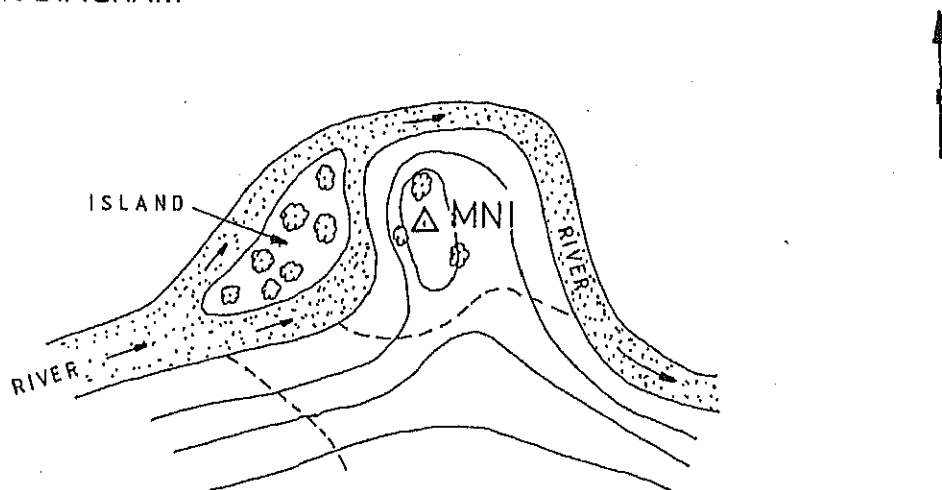
COUNTRY: KENYA

JOB No. J1061

POINT No. MN1

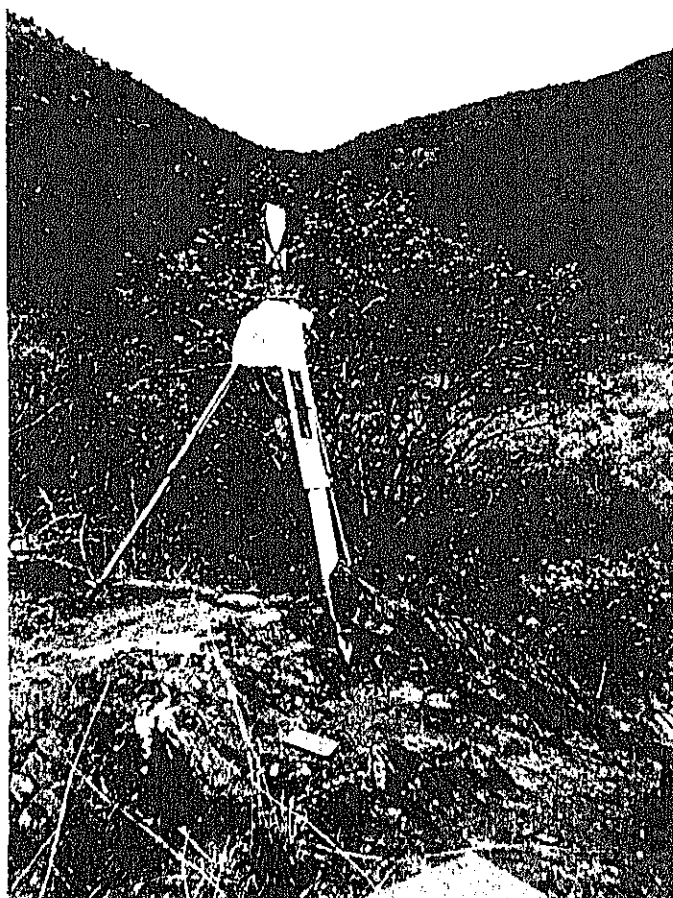
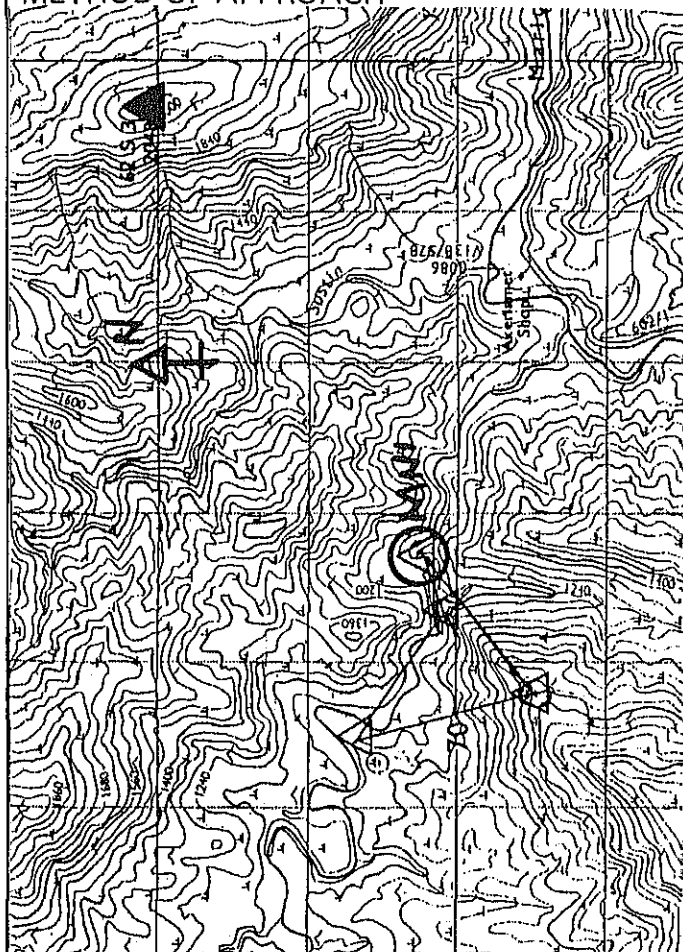
TYPE: TRAVERSE	DESCRIPTION: I.P.C.	PHOTO NO. 9980
MAP SHEET No. Y731-62/4	DATE: NOV. 1990	SURVEYOR: KARIOKI
NORTHING: 170 225.00	EASTING: 766 750.00	HEIGHT: 1120.00

LOCATION DIAGRAM



MN1 IS AN IRON PIN IN CONCRETE
ON SMALL HILL ACROSS THE RIVER
FROM SMALL ISLAND

METHOD OF APPROACH

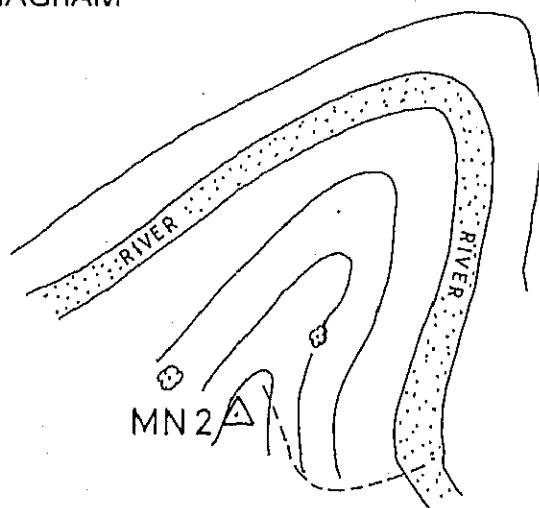


SURVEY MARK DESCRIPTION MORUN DAMSITE

COUNTRY: KENYA JOB No. J1061 POINT No. MN 2

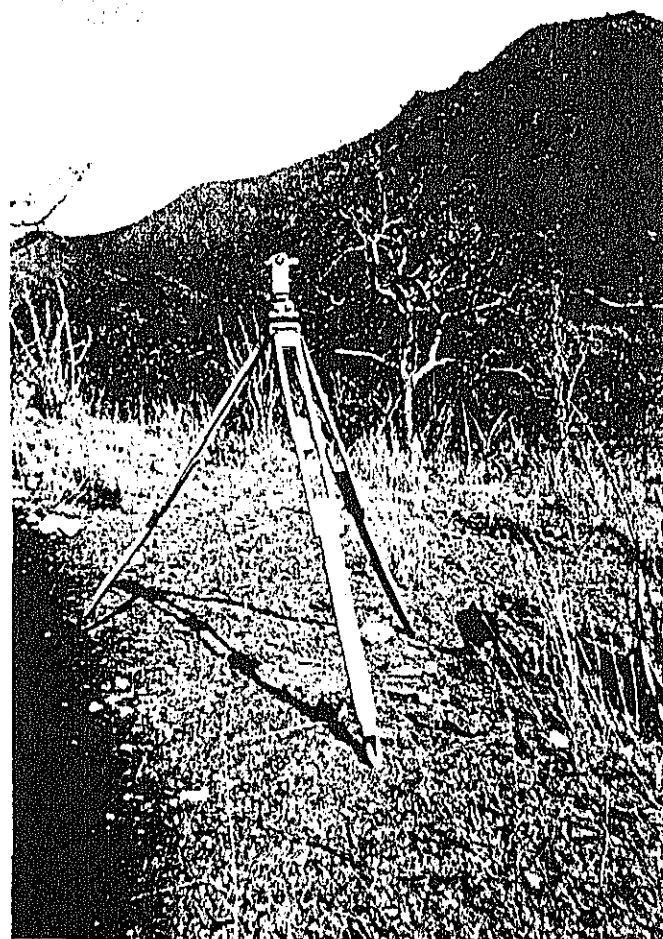
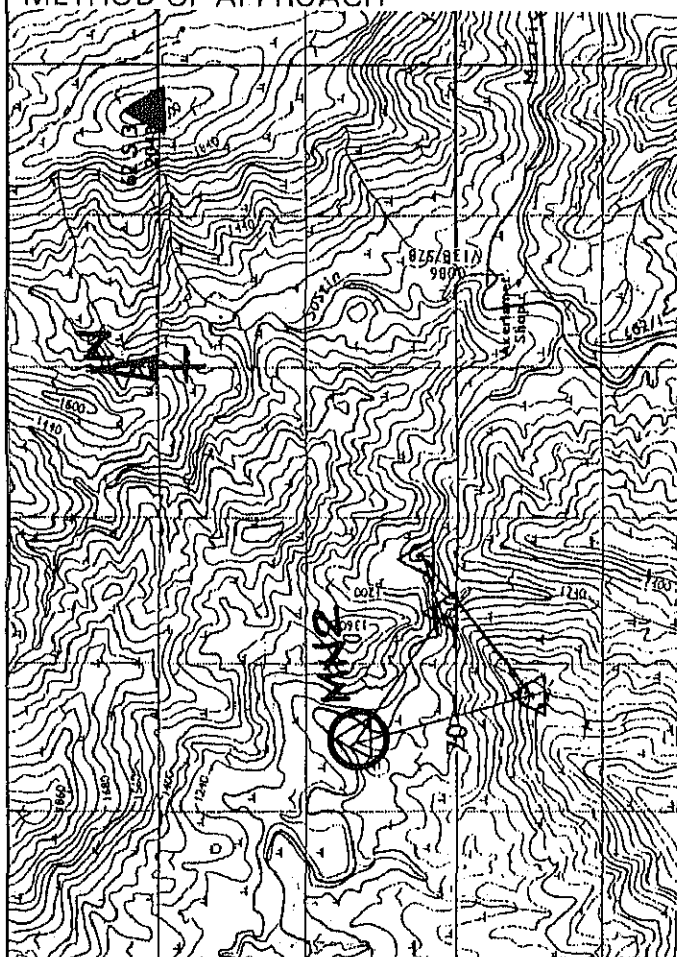
TYPE: TRAVERSE	DESCRIPTION: I.P.C.	PHOTO No. 9980
MAP SHEET No. Y731-62/4	DATE: NOV. 1990	SURVEYOR: KARIOKI
NORTHING: 170 554.42	EASTING: 765 360.65	HEIGHT: 1175.77

LOCATION DIAGRAM



MN2 IS AN IRON PIN IN CONCRETE
BUT IS NOT ON HIGHEST GROUND.

METHOD OF APPROACH



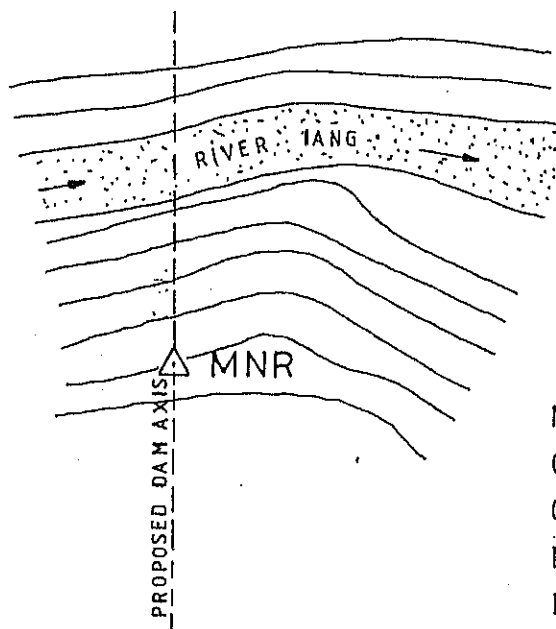
SURVEY MARK DESCRIPTION

MORUN DAMSITE

COUNTRY: KENYA JOB No. K1061 POINT No. MNR

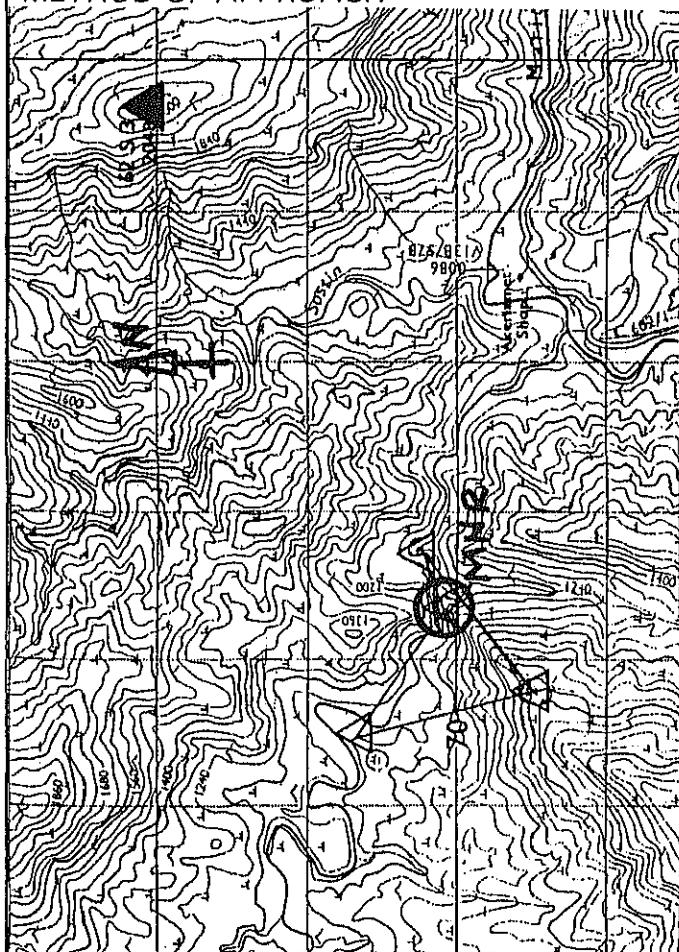
TYPE: TRAVERSE	DESCRIPTION: I.P.C.	PHOTO NO. 9980
MAP SHEET No. Y731-62/4	DATE: NOV. 1990	SURVEYOR: KARIOKI
NORTHING: 170 087.69	EASTING: 766 334.53	HEIGHT: 1146.67

LOCATION DIAGRAM



MNR IS AN IRON PIN IN CONCRETE ON STEEP SLOPE TO THE RIGHT OF RIVER IANG WHEN FACING DOWNSTREAM. IT IS ON THE LINE OF PROPOSED DAM AXIS.

METHOD OF APPROACH



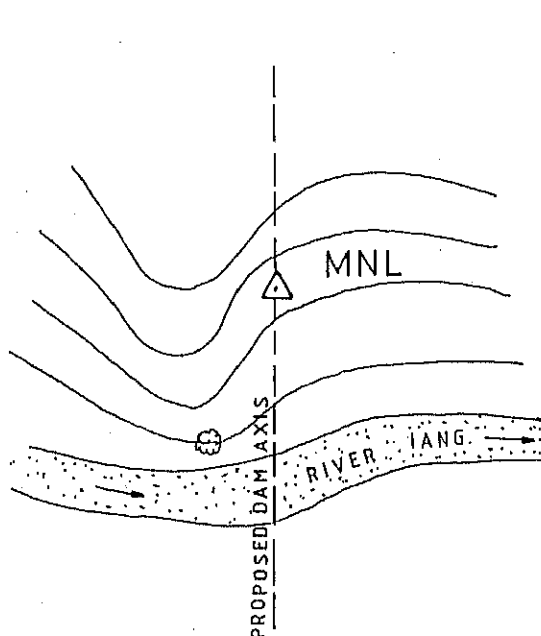
SURVEY MARK DESCRIPTION

MORUN DAMSITE

COUNTRY: KENYA JOB No. J1061 POINT No. MNL

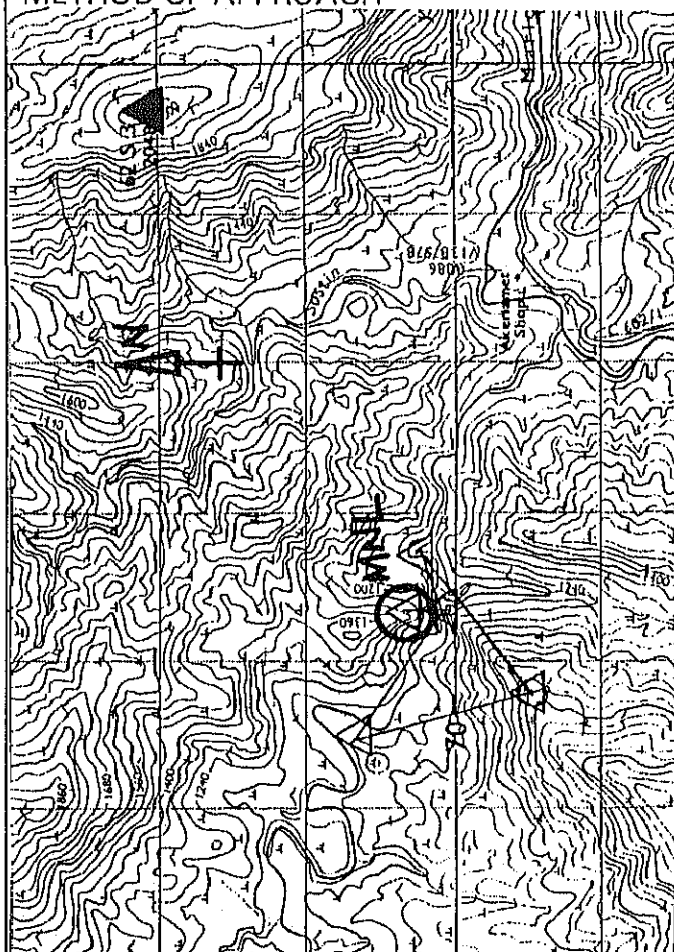
TYPE: TRAVERSE	DESCRIPTION: I.P.C.	PHOTO NO.
MAP SHEET No. Y731-62/4	DATE: NOV. 1990	SURVEYOR: KARIOKI
NORTHING: 170 189.01	EASTING: 766 315.96	HEIGHT: 1155.48

LOCATION DIAGRAM



MNL IS AN IRON PIN IN CONCRETE ON STEEP SLOPE ALONG THE LINE OF PROPOSED DAM AXIS AND TO THE LEFT WHEN FACING DOWNSTREAM.

METHOD OF APPROACH



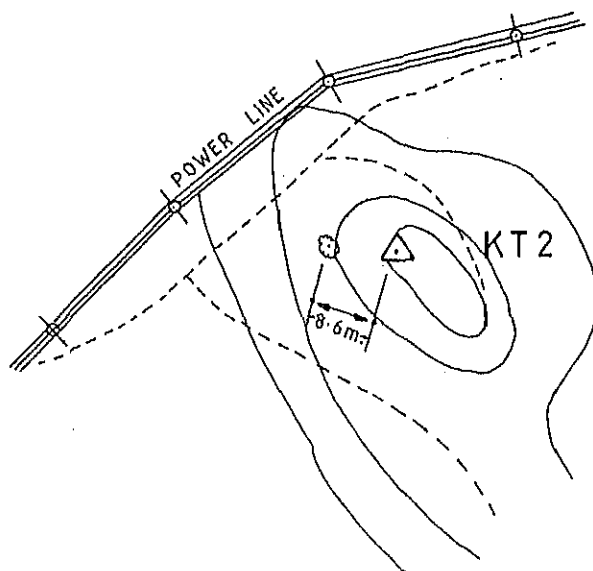
KATIENO DAMSITE

SURVEY MARK DESCRIPTION KATIENO DAMSITE

COUNTRY: KENYA JOB No. J1061 POINT No. KT 2

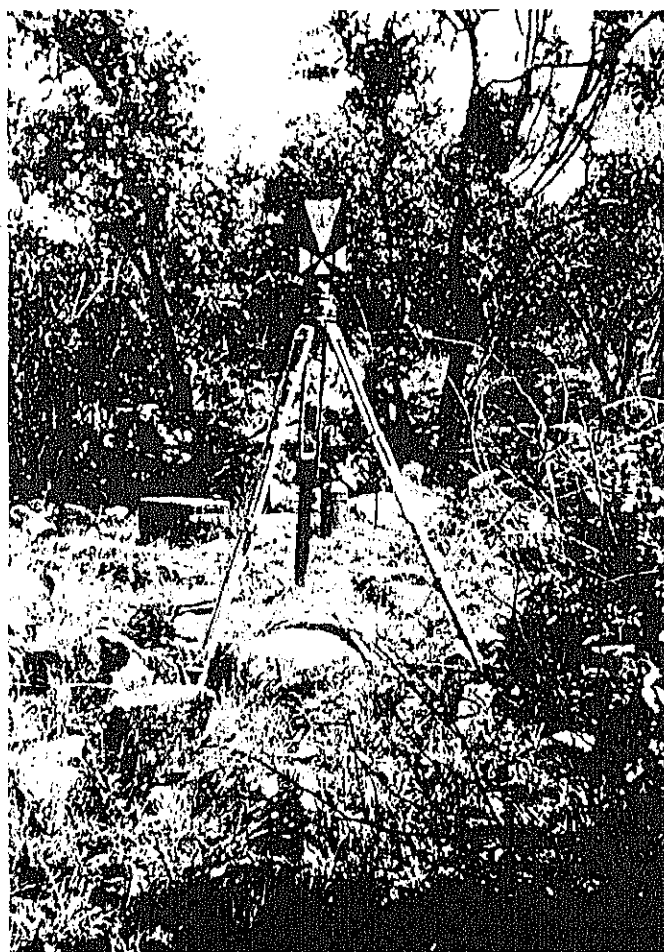
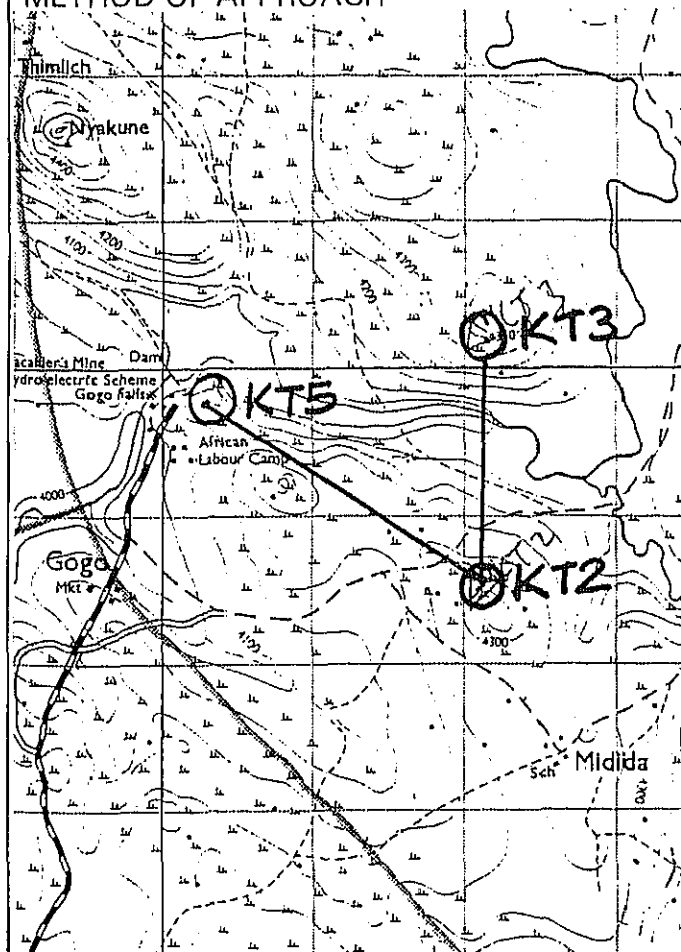
TYPE: TRAVERSE	DESCRIPTION: HOLE IN ROCK	PHOTO NO.
MAP SHEET No.	DATE: NOV. 1990	SURVEYOR: J. KARIOKI
NORTHING: 9 898 424.44	EASTING: 652 120.435	HEIGHT: 1321.99

LOCATION DIAGRAM



KT2 IS A HOLE IN ROCK ABOUT 1.5 CM. DEEP AND A WHITE CIRCLE PAINTED AROUND IT IN GLOSS PAINT

METHOD OF APPROACH



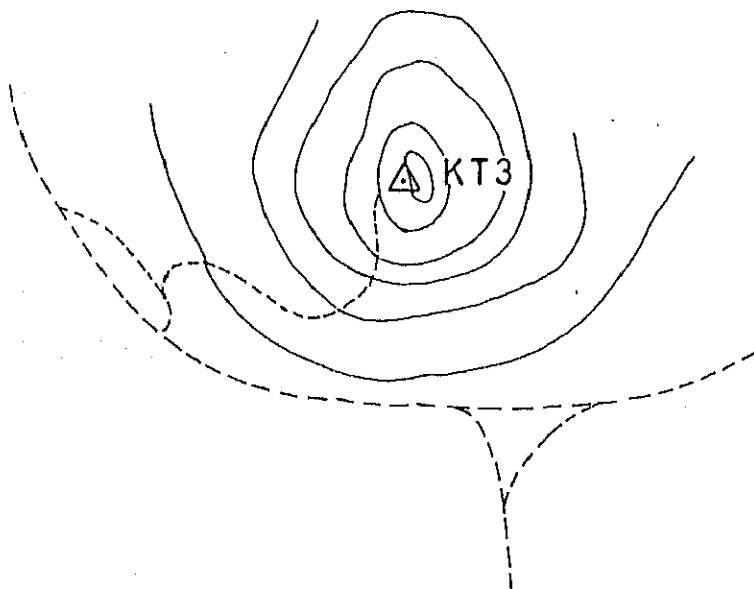
SURVEY MARK DESCRIPTION

KATIENO DAMSITE

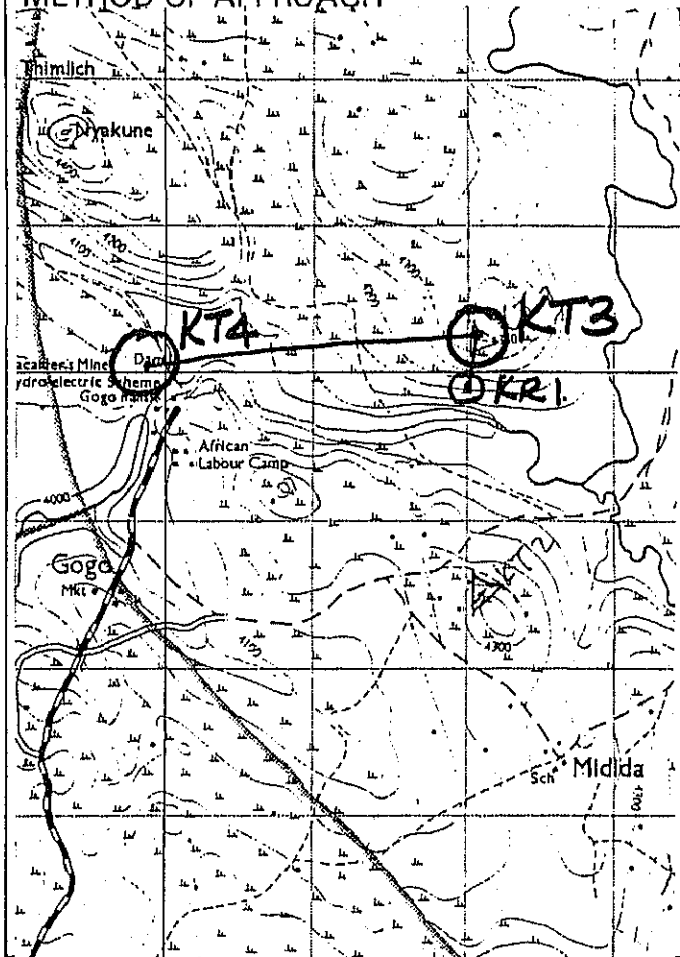
COUNTRY: KENYA JOB No. J1061 POINT No. K T 3

TYPE: TRAVERSE	DESCRIPTION: IRON PIN IN CONCRETE	PHOTO NO.
MAP SHEET No.	DATE: NOV. 1990	SURVEYOR: J. KARIOKI
NORTHING: 9 900 285.98	EASTING: 652 014.29	HEIGHT: 1330.28

LOCATION DIAGRAM



METHOD OF APPROACH



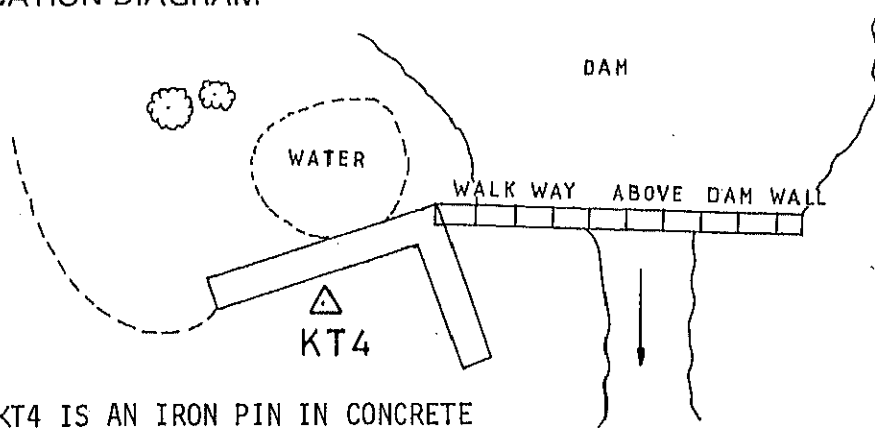
SURVEY MARK DESCRIPTION

KATIENO DAMSITE

COUNTRY: KENYA JOB No. J1061 POINT No. KT 4

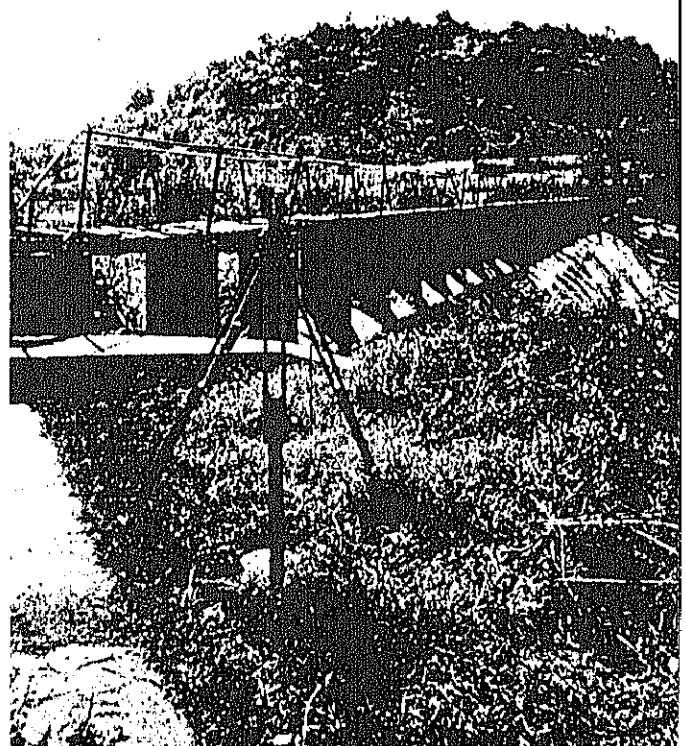
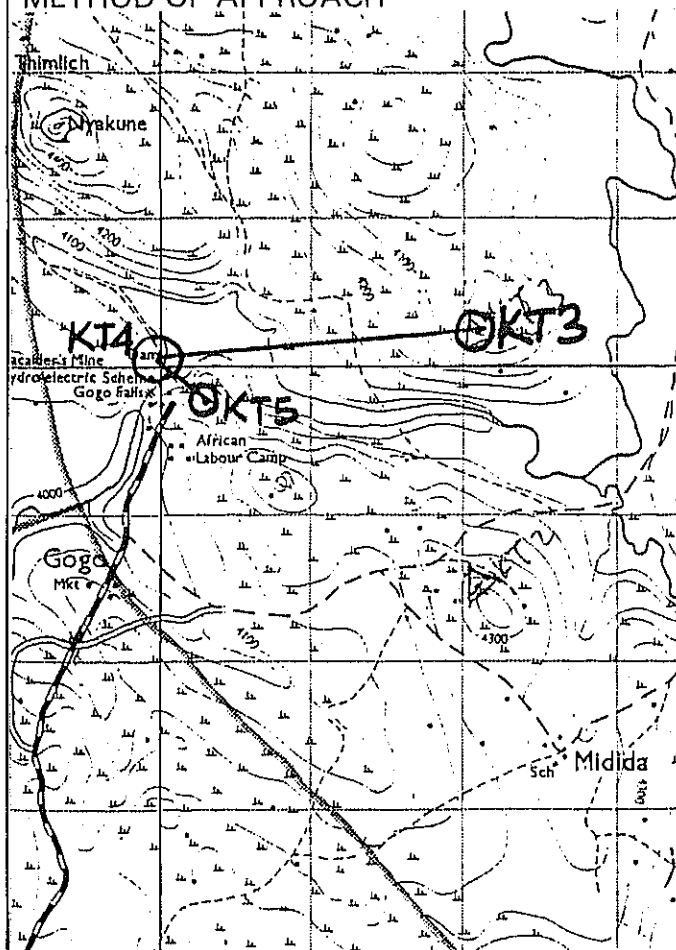
TYPE: TRAVERSE	DESCRIPTION: IPC	PHOTO NO.
MAP SHEET No.	DATE: NOV. 1990	SURVEYOR: J. KARIOKI
NORTHING: 9 900 050.00	EASTING: 650 000.00	HEIGHT: 1234.44

LOCATION DIAGRAM



KT4 IS AN IRON PIN IN CONCRETE ON THE WESTERN SIDE OF THE DAM WALL

METHOD OF APPROACH



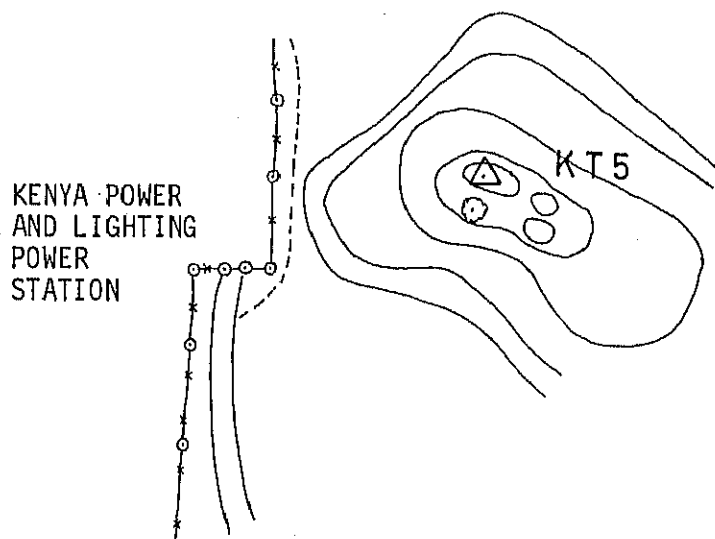
SURVEY MARK DESCRIPTION

KATIENO DAMSITE

COUNTRY: KENYA JOB No. J1061 POINT No. KT 5

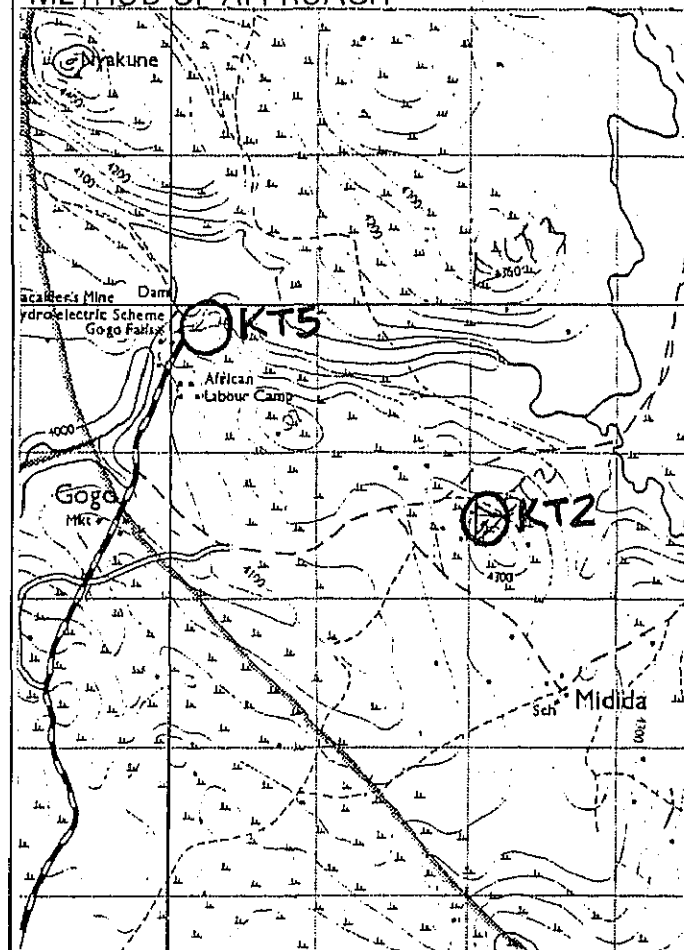
TYPE: TRAVERSE	DESCRIPTION: HOLE IN ROCK	PHOTO NO.
MAP SHEET No.	DATE: NOV. 1990	SURVEYOR: J. KARIOKI
NORTHING: 9 899 791.10	EASTING: 650 282.55	HEIGHT: 1298.23

LOCATION DIAGRAM



KT5 IS A HOLE IN ROCK ABOUT 3 CM. DEEP WITH A WHITE CIRCLE PAINTED AROUND IT IN GLOSS PAINT

METHOD OF APPROACH



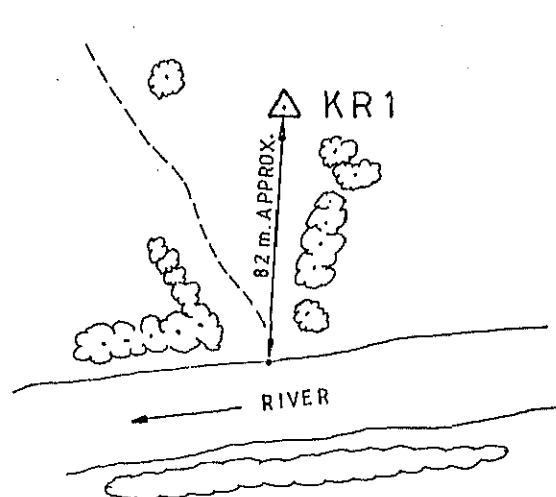
SURVEY MARK DESCRIPTION

KATIENO DAMSITE

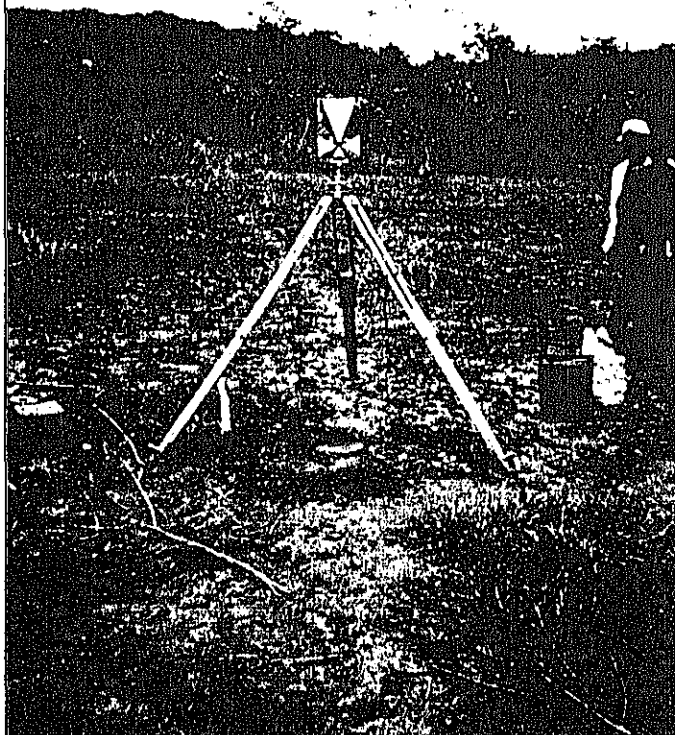
COUNTRY: KENYA JOB No. J1061 POINT No. KR 1

TYPE: TRAVERSE	DESCRIPTION: IPC	PHOTO NO.
MAP SHEET No.	DATE: NOV. 1990	SURVEYOR: J. KARIOKI
NORTHING: 9 899 817.24	EASTING: 651 841.37	HEIGHT: 1241.80

LOCATION DIAGRAM



KR1 IS AN IRON PIN IN CONCRETE NEAR SMALL BUSH ABOUT 82 METERS FROM EDGE OF RIVER ALONG PROFILE LINE OF PROPOSED KATIENO DAM



SURVEY MARK DESCRIPTION

KATIENO

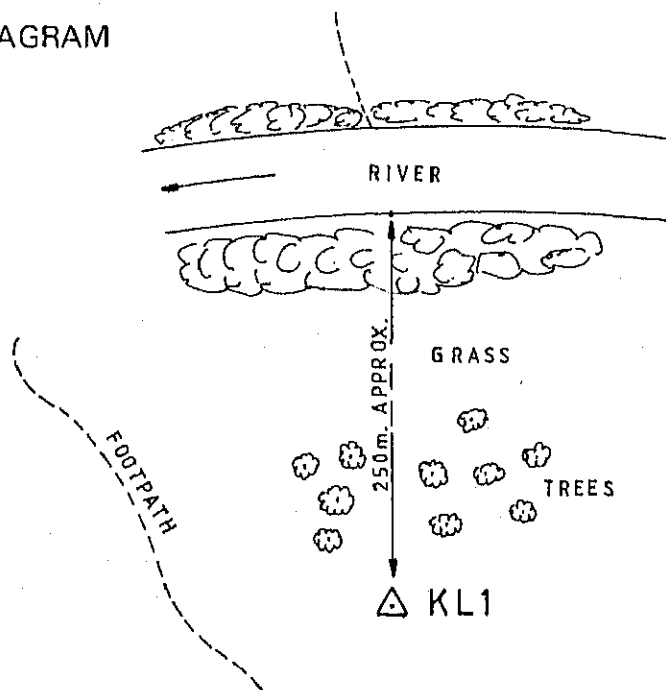
COUNTRY: KENYA

JOB No. J1061

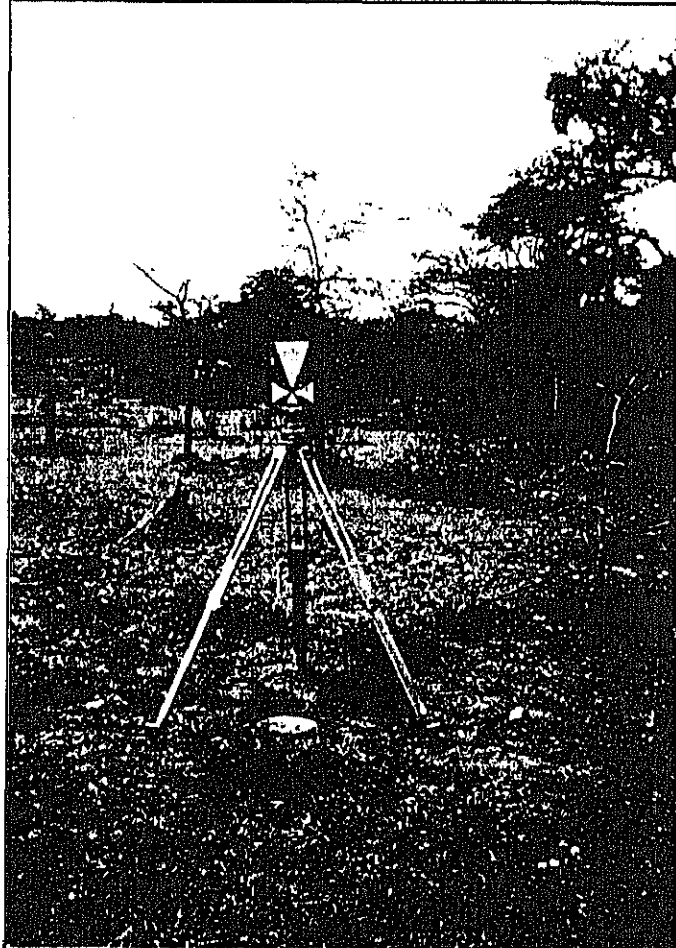
POINT No. KL1

TYPE: TRAVERSE	DESCRIPTION: IPC	PHOTO NO.
MAP SHEET No.	DATE: NOV. 1990	SURVEYOR: J. KARIOKI
NORTHING: 9 899 458.28	EASTING: 651 774.99	HEIGHT: 1240.75

LOCATION DIAGRAM



KL1 IS AN IRON PIN IN CONCRETE ABOUT 250 METERS FROM EDGE OF RIVER ALONG PROFILE LINE OF PROPOSED KATIENO DAM



RAMBULA DAMSITE

