PN-ACE 770
101075

Ministry of Water
and Irrigation
Amman, Jordan

United States Agency
For
International Development

WATER QUALITY IMPROVEMENT
AND CONSERVATION PROJECT

FINAL REPORT
STUDY ON USE OF WATER - SAVING DEVICES IN JORDAN

CONTRACT No AID-278-0288-00-C-4026-00
RFP No 005

SUBMITTED BY
UNIVERSAL ENGINEERING CONSULTING
P O Box 1146, Amman 11821 Jordan
Telefax 926-6-863857

June 30, 1996

MINISTRY OF WATER AND IRRIGATION

U.S.AID
WATER QUALITY IMPROVEMENT AND CONSERVATION PROJECT
WQIC

STUDY ON USE OF WATER-SAVING DEVICES IN JORDAN

CONTRACT No. AID-278-0288-00C-4026-00
RFP No. 005

FINAL REPORT

SUBMITTED BY
UNIVERSAL ENGINEERING CONSULTING
Amman-Jordan

June 30, 1996

RFP5A/DOC

2

بسم الله الرحمن الرحيم

UNIVERSAL ENGINEERING CONSULTING

Tel 863857 Fax 962 6-863857
P O Box 1146
Amman 11821 Jordan

العاطية للاستشارات الهندسية

هاتف ٨٦٣٨٥٧ - فاكس ٨٦٣٨٥٧
ص ب ١١٤٦
عمان ١١٨٢١ الاردن

The Chief of Party
DAI/WQIC Project
Room No 215/MWI
Shmeisani, Amman

Ref No WSD/28/96
Date August 14 , 1996

Subject Study on The Use of Water Saving Devices in Jordan
Contract No AID 278-078-00-C-4026-00

FINAL REPORT

Dear Chief of Party,

Reference is made to Sub-Section F4 "Final Report" of Section F "Deliverables" of the above subject contract The referenced sub-section states "the contractor shall prepare a final report on all activities as per point 5 of Section C "Statement of Work" within fifteen (15) weeks of the contract start date This final report should include lessons learned and issues encountered"

Point 4 of Section C requires the sub-contractor to submit five (5) copies of a final draft report to the WQIC Project for comments which (i) describes the method of survey, (ii) tabulates, analyzes, and summarizes the results of the tests, (iii) develops recommendations which show the most effective water saving devices which can be used by the WQIC Project in demonstration sites to present information and develop campaigns to influence attitudes and behavioural changes in regards to water use conservation, and (iv) contains informational materials ready for use and kits on selected devices to be used in demonstration sites

Point 5 of Section C requires the sub-contractor to submit ten copies of the final report after receipt of comments on the draft final report from the WQIC Project

Attached herewith you will find ten (10) copies of the final report and we hope to serve you in future projects

Sincerely yours,

Ali M Mas'ad
General Manager

UNIVERSAL
ENGINEERING CONSULTING
العاطية
للاستشارات الهندسية

RFP5A/DOC

B

ABBREVIATIONS

CC	: Cartelle Corporation For Marketing Consultations
CFM's	: Conventional Flow Meters
DAI	Development alternatives, Inc
JES	: Jordan Environment Society
MSR	Market Survey Report
MWI	: Ministry of Water and Irrigation
RFP	. Request for Proposal
UEC	· Universal Engineering Consulting
UFM's	: Ultrasonic Flow Meters
U.S AID	. United States Agency for International Development
WAJ	. Water Authority of Jordan
WSD's	: Water Saving Devices
WQICP	: Water Quality Improvement and Conservation Project

CONTENTS

	PAGE
PREFACE	i
EXECUTIVE SUMMARY	ii
I INTRODUCTION	1
II METHODS AND RESULTS OF THE MARKET SURVEY of WSD's	3
II 1 The U S Market Survey	
II 2 Local Market survey	
II 2 1 The Chamber of Commerce /Amman	
II 2 2 The Chamber of Industry /Amman	
II 2 3 The Questionnaire	
II 3 General Assessment of Data Collected by the Questionnaire	
III SITE SELECTION FOR TESTING WSD's	7
III 1 Site Investigation and Evaluation	
III 2 Selected Sites List	
III 2 1 Preliminary Selected Sites List	
III 2 2 Additional Sites List	
III 2 3 The Final List of Selected Sites	
IV MONITORING OF WATER CONSUMPTION	8
IV 1 Installation of Flow Meters	
IV 2 Data Collection and Monitoring Period	
V DATA TABULATION AND ANALYSIS	10
V 1 Data Tabulation	
V 2 Data Analysis	
V 3 Results of Analysis	
V 4 Cost of WSD's Versus Cost of Water Saved	
VI PROBLEMS ENCOUNTERED	16
VII RECOMMENDATIONS	19
VIII INFORMATIONAL MATERIALS and KITS	22

CONTENTS

PAGE

TABLES

TABLE 1 Final Results of the Study 13
TABLE 2 Summary of the Final Data Analysis 14
TABLE 3 Cost of WSD's Versus Cost of Water Saved 15

APPENDICES

APPENDIX A Description of the Selected Sites and Points of Installation of WSD's A1

APPENDIX B List of the Installed WSD's at the Nine Sites B1-B4

APPENDIX C Description of Water Flow Meters, Locations of Installation and Remarks C1-C3

APPENDIX D Monitoring Period D1

APPENDIX E Tabulated Data Output E0-E40
Eo Summary of the Sub-Appendices of the Tabulated Data Output E0

E1 Philadelphia Hotel E1-E2
E1 1 Cold Water Supply-FUJI-Type UFM E1
E1 2 Hot Water Supply-FUJI-Type UFM E2

E2 Al-Zeitounah University E3-E7
E2 1 Main Line of Water Supply/FUJI-Type UFM E3
E2 2 Girl Student's Wing Distribution Line-CFM E4-E5
E2 3 Counselor's Residence Distribution Line-CFM E6-E7

E3 Akkad Luxurious Villa-Deir Ghabar/Dynasonic-Type UFM E8-E9

E4 King Hussein Medical Center E10-E14
E4 1 1 Station (1) Cold Water Supply-FUJI UFM E10
E4 1 2 Station (1) Hot Water Supply-FUJI UFM E11
E4 1 3 Station (1) Hot Water Return-Dynasonic UFM E12
E4 2 1 Station (2) Cold Water Supply-FUJI UFM E13
E4 2 2 Station (2) Hot Water Supply-FUJI UFM E14

CONTENTS **PAGE**

E5 Water Directorate of Amman Municipality	E15-E21
E5 1 CFM No 1-Basement Line-Apt 1	E15-E16
E5 2 CFM No 2-First Floor-Line-Apt 1	E17-E18
E5 3 CFM No 3-Basement Line-Apt 2	E19-E20
E5 4 CFM No 4-First Floor Line-Apt 2	E21-E22
E6 Al-Husseini Mosque	E23-E34
E6 1 CFM No 1/ Main Distribution Line	E23-E24
E6 2 CFM No 2/ Imams W C Distribution Line	E25-E26
E6 3 CFM No 3/ Imams W C Distribution Line	E27-E28
E6 4 CFM No 4/ Imams W C Distribution Line	E29-E30
E6 5 CFM No 5/ Main Supply Line	E31-E32
E6 6 CFM No 6/ Emergency Tank Distribution Line	E33-E34
E7 Apartment East Amman-CFM	E35-E36
E8 Al-Salt Girls Secondary School-CFM	E37-E38
E9 Al-Hussein General Depots-CFM	E39-E40
APPENDIX F DATA ANALYSIS	F1-F15
F1 Philadelphia Hotel	F1-F2
F2 Al-Zeitounah University	F3-F4
F3 Akkad Luxurious Villa	F5-F6
F4 King Hussein Medical Center	F7-F8
F5 Water Directorate of Amman Municipality	F9
F6 Al-Hussieni Mosque	F10-F11
F7 Apartment East Amman	F12
F8 Al-Salt Girls Secondary School	F13-F14
F9 Al-Hussein General Depots	F15
APPENDIX G LIST OF WSD's PURCHASED FROM THE LOCAL MARKET	G1-G5
G1 Rami Est for Sanitary Works	G1
G2 Izzat Hashem Est	G2
G3 Kussad Trading Co	G3
G4 Pivot Trading Co	G4
G5 List of WSD's Manufactured at Local Workshops	G5
APPENDIX H List of People Contributed to the study	H1-H3
APPENDIX I Ultrasonic Flow Meters /FUJI Electric Portaflow Raw Data	I1-I37

PREFACE

At the request of DAI/MWI, UFC implemented the U S AID funded "Study on Use of Water-Saving Devices in Jordan, Project No AID-278-0288-00-C-4026-00" in response to DAI/MWI Request For Proposal No 005 This project called for UEC to provide a professional study team to carry out a "Market Survey" of available WSD'S in the U S A market and in Jordan and to assess and test their suitability for use in selected sites in Jordan The "Market Survey" was submitted to DAI/MWI in a separate report Nine Sites were selected for testing the WSD'S purchased from the U S A and the local market The water consumptions at the selected sites were monitored before and after installation of the WSD'S by CFM'S and UFM'S The collected water consumption data were tabulated and analysed to derive and evaluate the percentages of water saved by installing WSD'S Problems encountered during the study and recommendations including informational materials and kits are also presented in this Final Report

Like any tool, this study can be used or it can rest somewhere on a shelf, the choice of the beholder However, the results of the study show that installation of WSD'S in highly water consuming facilities such as hotels, hospitals, businesses, industries, slaughter houses, refrigeration stores, schools, and luxurious villas/palaces can reduce/save 16-33% of the water consumption Also, the used water should be turbidity/silt free and the water pressure must be greater than one bar and less than 6 bars In case of a highly pressurized water system (greater than 6 bars) a pressure regulator/reducer shall be required

UEC is indebted to all officials and individuals who provided support and valuable information In particular, Mr Edwin Stains (DAI Chief of Party) and Mrs Coleen Brown (DAI Public Awareness Specialist) were very cooperative and provided valuable advice Mr Khalid Hindawi (WQICP Coordinator) reviewed this Final Report and provided valuable comments and Mr Sami Abbasi (MWI/Study Coordinator) was extremely helpful in reviewing the report and commenting on it and a source of expertise that greatly enriched UEC efforts Mr Mohammad Ayesh (JES) reviewed the report and his comments were of particular relevance and importance to the subject study The assistance provided by Mr Mohammad Awamleh in arranging for obtaining the water flow meters is greatly appreciated The efforts and input provided by CC in the market survey are greatly appreciated

UEC is very grateful to the owners/managers of the nine sites selected for monitoring water consumption and testing the WSD's in their facilities Great help and cooperation were received from very many people listed in Appendix H "list of Persons Contributed to the Study"

EXECUTIVE SUMMARY

Chapter I deals with the objectives of the study and the general scope of work and lists the names and titles of UEC study team

Chapter II deals with the market survey of WSD's available in the U S A and in Jordan Lists of manufacturers abroad and local dealers /importers in Jordan are given in the Appendices of the report The criteria used for determining the suitability of a WSD is defined and explained A questionnaire which was prepared to gather information concerning knowledge, use, availability, and suitability of WSD's for domestic and light industrial uses in Jordan is attached in a separate Market Survey report General assessment of data collected by the questionnaire is detailed in this chapter

Chapter III deals with site selection for testing WSD's The basic criteria used to investigate and determine selected sites for monitoring daily water consumption and testing WSD's and their names are listed

Chapter IV deals with monitoring of daily water consumptions at the selected sites by CFM's and UFM's before and after installation of WSD's The dates of the monitoring periods, the recording forms and the tabulated raw data are shown in the appendices

Chapter V deals with the tabulation of the processed data and their analysis including statistical parameters (mean, median, mode, and standard deviation) which were determined for each group of observations (daily water consumptions) These statistical parameters measure the central tendency and the variation of observations The statistical analysis of the processed data showed the range of percentages of water saving 16-33% at the nine selected sites

Chapter VI deals with proplems encountered during the study These problems as related to site selection, water flow measuring meters (CFM's and UFM's), water saving devices, water consumption monitoring, observation data analysis, and other problems of special nature are listed and discussed

Chapter VII deals with recommendations and **Chapter VIII** deals with informational materials and kits related to water saving, and installation and use of WSD's

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

1. INTRODUCTION

Universal Engineering Consulting (UEC) of Jordan entered into an agreement with Development Alternatives Incorporated of the U S A to carry out the subject study for the Ministry of Water and Irrigation (MWI) in Jordan The Objectives of the study were to (i) survey the local Jordanian market in order to identify available water-saving devices for domestic and industrial water uses, (ii) install, test, and evaluate selected water saving devices in selected sites, and (iii) develop informational materials and kits on tested devices which prove to be suitable for local use

The scope of work of the study as detailed in the contract and as completed by UEC can be summarized as follows

1 Preparation of a list of water saving devices available in the U S A which rates each device according to the suitability of use in Jordan
2 Preparation of a list of the water saving devices available in Jordan which rates the suitability of the devices for water conservation in Jordan

A survey of the local Jordanian market was completed to determine which water saving devices are available The market survey report submitted by UEC as a partial fulfilment of the subject study described available water saving devices in Jordan as well as those which might be suitable and purchased in the U S A The report contained a recommended list of those devices which should be purchased, installed, tested, and evaluated in selected sites such as (i) elementary and secondary schools (Al-Salt Girls Secondary School), (ii) universities (Al-Zeitouneh University), (iii) domestic house holds (Luxurious villa in West Amman and small apartment in East Amman), (iv) hotel (Philadelphia Hotel), hospital (King Hussein Medical Center), and businesses (Al-Husseini Mosque) which use large amounts of water, and (v) governmental building (Water Directorate of Amman Municipality), and military sector building (Al-Hussein General Depots in Zerqa Area)

The market survey report contained an estimated timeline and description of where the devices can be installed, an outline of how the device can be tested, and method of evaluation to determine the effects of the devices

3 The selected water saving devices which have been approved and purchased were installed and tested A list of appropriate sites with an estimated timeline for testing the water saving devices was prepared and submitted to DAI/MWI for approval before installation

4 This Final Report which includes lessons learned and issues encountered during the study (i) describes the method of survey, (ii) tabulates, analyzes, and summarizes the results of the tests, (iii) develops recommendations which show the most effective water saving devices which can be used by the WQIC Project in demonstration sites to present information and develop campaigns to influence attitudes and behavioural changes in regards to water use conservation, and (iv) contains informational materials ready for use and kits on selected devices to be sued in demonstration sites

The UEC team which conducted the study consisted of the following personnel

(1)	Ali M Mas'ad	General Manager and Water Supply Engineer/UEC
(2)	Ali M Al-Labadi	Project Coordinator
(3)	Abdus Salam Kamal	Team Leader /UEC
(4)	Hasan Abdoh	Market Survey Consultant/CC
(5)	Ali Qaffaf	Mechanical Engineer/UEC
(6)	Nidaa' Samarah	Market Researcher and Analyst/CC
(7)	Nidhal Polos	Market Researcher/CC

(8) A crew of Specialists in UFM's/Installation, Operation, Data collection, and Processing

(9) A crew of Professional Technical Assistants and plumbers

II METHOD AND RESULTS OF THE MARKET SURVEY OF WSD's

II 1 The U S.A. Market Survey

A standard letter, a copy of which is shown in Appendix A of the Market Survey Report (MSR) was sent out by fax or phone and air mail to 71 manufacturers of sanitary ware/Plumbing fixtures in the U S A (see Appendix B of MSR) It was assumed that these manufacturers are either producers or users of WSD's and relevant information concerning availability of and suitability for use of WSD's could be obtained from them Various registers, such as Thomas Register of American Manufacturers obtained from Amman World Trade Center, and Commercial Guide Books obtained from the Commercial Section of the American Embassy in Amman were searched to record the names and addresses of these manufacturers or distributors of WSD's before they were contacted Catalogues and abundant information were received from 20 U S firms (see Appendix C of MSR) in response to UEC inquiry as explained in the above referenced standard letter

These catalogues were carefully studied to see if they contained WSD's and (if found) their suitability for use in Jordan was assessed including availability of sufficient technical specifications, information for methods of installation (tools, points, manuals) and the description of field kit needed by the technician for installation, operation, and maintenance

The criteria used for determining the suitability of a WSD has been defined by UEC as follows

Saves water and relatively inexpensive

Easy to install in the main sanitary ware univ and difficult to dismantle by vandals

The local plumbing and electrical codes, water spply networks, and systems are suitable for making the WSD operational

Sufficient water flow pressure (greater than one bar) in existing water lines is available and use of booster pumps has to be considered for installation of WSD's in households In hotels, major businesses, and industries which use large quantities of water, booster pumps were available and the water pressure was sufficient All manufacturers of WSD's specify a minimum water flow pressure of one bar for the WSD's to become operational In case of high water flow pressure (greater than 6 bars) the manufacturers specify that pressure reducing valves shall be needed for the WSD's to become operational

The UEC study team found 5 firms (out of the 20 firms listed in Appendix C of the MSR) which have been producing WSD's These firms are listed in Appendix D of the MSR and they were further contacted to obtain -

WSD's suitable for use in Jordan
Information related to methods of installation
Prices and delivery time
Catalogues for technical specifications, points of use, and methods of operation and maintenance

The WSD's produced by each of the above mentioned 5 companies were listed in appendices D1, D2, D3, D4 and D5 of the MSR, and a list of the recommended WSD's to be ordered from the U S A and their unit and total costs is shown in table 1 of the MSR

II.2 LOCAL MARKET SURVEY

II.2.1 The Chamber of Commerce/Amman

A list of 392 registered local companies specialized in sanitaryware or plumbing equipment and fixtures as dealers, distributors, wholesalers, retailers, or agents of foreign companies specialized in producing sanitary ware/plumbing equipment and fixtures was obtained from the Official Register of the Chamber of Commerce/Amman

Careful study of this list and personal contact with the managers of these companies enabled the study team to prepare a short list of 25 companies (Appendix F of the MSR) which UEC thought they were either aware of WSD's or actually deal with these devices and have them in stock or can arrange for their import The study team found 8 companies (Appendix G and its sub appendices G1, G2, G3, G4, G5, and G6 of the MSR) have WSD's in stock and can arrange for their import and delivery within about one week from the time they are ordered

II.2.2 The Chamber of Industry/Amman

A list of 12 local companies registered as manufacturers of sanitaryware related products was obtained from the Chamber of Industry/Amman

All these companies were contacted and only one company out of these, Kiyyali Sanitary Ware Industrial Company, agreed to modify their lines of production which are mainly water flow mixers and taps in order to produce or

fit in WSD's Kiyyali Company informed the study team that they can and have the potential to produce a water flow mixer which can save 50% of the water flow

Summary of WSD's available in the local market is shown in table 3A of the MSR and a list of recommended WSD's to be purchased from the local market is shown in table 3B of the MSR

II.2.3 The Questionnaire

A questionnaire (Appendices E1, E2, E3, of the MSR) was prepared by the study team to gather information concerning knowledge, use, availability and suitability of WSD's for domestic and light industrial uses in Jordan For this purpose the questionnaire forms shown in Appendices E1, E2, and E3 of the MSR were distributed respectively to selling outlets, consulting engineering offices, and consumers

Table 2 of the MSR showed the institutes, consulting engineering firms, and sites visited/contacted and methods of contact for the local market survey

The number of sites visited by the study team members during the conduction of the local market survey were as follows (more detailes are shown on PP4 and PP5 of the MSR)

(a) Households Thirty (30) luxurious households in Amman
(b) Hospitals Four (4) Major Hospitals
(c) Hotels Eight (8) Hotels
(d) Businesses Five Major Businesses
(e) Governmental Premises/Public Premises Sixteen (16) sites
(f) Selling Outlets/Suppliers/Manufacturers See Appendices F and G of the MSR
(g) Consulting Engineering Firms Ten (10) Firms

II.3 General Assessment of Data Collected by the Questionnaire

General analysis and assessment of data collected by the questionnaire which was distributed to institutes, consulting engineering firms, consumers of large quantities of water, selling outlets, suppliers, and local manufacturers contacted for the local market survey as shown in table 1 of the MSR has revealed the following

(1) All local consulting engineering firms, with the exception of one, are not aware of the existence of WSD's

(2) None of the local consulting engineering firms contacted, with the exception of one has a documented record of WSD's use in any of their designed or executed projects

(3) Most of the local selling outlets/suppliers are unaware of WSD's They could not tell if their main suppliers or the producing companies they represent or agents of, are producing these devices or aware of them

(4) All the consumers contacted, with the exception of some 5-star hotels, never heard of WSD's However, some managers of these 5-star hotels expressed their dissatisfaction with the information provided by others on the feasibility of using these devices and their high prices The managers of these hotels are not convinced of the benefits of these devices, therefore, they are either reluctant to install them in their hotels or not convinced of the benefits of these devices, thus, they are reluctant to install them in their hotels

(5) Lack of sufficient water flow pressure in the water supply distribution system makes the use of WSD's in households unuseful Most of the time the water flow pressure is less than one (1) bar while all manufacturers of WSD's specify a minimum water flow pressure of one bar for the WSD's to become operational

(6) Local selling outlets/suppliers of WSD's are quite few in number and usually do not keep a stock of such devices They import them only when they receive confirmed orders from the customers

(7) The water supply networks in Jordan retain a high rate of silt or sand which cause clogging of WSD's and reduces their efficiency

(8) Some hotels discovered that the water flow becomes much less than expected when installing the WSD's , therefore, they were forced to dismantle them

(9) Some consumers have either high water pressure or low water pressure in their water supply networks, therefore , when installing WSD's they have to install also pressure reducing valves (if the pressure is greater than 6 bars) or booster pumps (if the pressure is less than one bar)

(10) Some hotels, schools, and other public premises which installed WSD's claim that those devices were dismantled or stolen by their visitors Therefore, only difficult to dismantle WSD's can be considered suitable for use in places which lack proper surveillance

(11) Jordan Customs Department has been charging about 67% of the purchase cost of WSD's for custom's duty and sales tax Therefore, reducing or eliminating such duties and taxes is highly recommended in order to encourage more use of WSD's in Jordan, particularly when these devices are used in households and light industrial plants

III SITE SELECTION FOR TESTING WSD's

III 1 Site Investigation and Evaluation

During the local market survey, the study team visited, investigated, and evaluated a wide range of proposed sites out of which nine sites were selected for testing WSD's This investigation and evaluation covered the following categories of sites -
Households, Hospitals, Hotels, Businesses, Governmental Premises, Universities, Schools, Mosques, and Military facilities
The basic criteria used to determine the selected sites are outlined here below

1 Suitability of the installation of the available WSD's
2 Piping networks (hot water, cold water) and suitability for zoning the network
3 Suitability of the installation of the available Ultrasonic water flow meters (UFM's) and conventional flow meters (CFM's)
4 Accessibility of the site, zone, or location
5 Availability of sufficient water pressure in the water distribution system
6 Water quality, the availability of filtered water, or treated water
7 The tendency of the site owner/ manager to cooperate with the study team

Using such criteria, beside the site descriptive record, enabled the study team to maintain proper site evaluation and assessment The site descriptive record included preliminary information about the components of the site such as the location, the description of the premises (number of floors, rooms, kitchens, bathroom etc) and where the "flow meters and WSD's" are to be installed

III.2 Selected Sites List

III.2.1 Preliminary List of Selected Sites

The following sites were selected and approved prior to the submittal of the market survey report

1 Philadelphia Hotel
2 Marriott Hotel
3 King Hussein Medical Center
4 Al-Zeitounah University
5 Baccalorate School
6 Ministry of Water and Irrigation
7 Zerqa Military Camp

8 Luxurious Villa in Deir Ghabar
9 Dhuleil Slaughter House

III.2.2 Additional Sites List

Due to the unavailability of the UFM's at that point in time of the study, and the high cost for purchasing such measuring devices, the change to CFM's was the only possible alternative UEC was instructed to re-explore the previously approved sites as well as the following additional sites for the installation of CFM's

1 Al-Salt Girls Secondary School
2 Amman Municipality Water Directorate
3 Al-Hussieni Mosque
4 Apartment East Amman

III 2.3 The Final List of Selected Sites

The following sites were finally selected and approved
1 Philadelphia Hotel
2 Al-Zeitouneh University
3 Akkad Luxurious Villa-Deir-Ghabar
4 King Hussein Medical Center
5 Water Directorate of Amman Municipality
6 Al-Hussieni Mosque /Downtown Amman
7 Apartment East Amman
8 Al-Salt Girls Secondary School
9 Al-Hussein General Depots-Zerqa

The Final Sites' List-as selected and approved, description of selected sites and points of installation of the WSD's are shown in APPENDIX A APPENDIX B lists the WSD's installed at the sanitary fixtures of each of the selected sites

IV MONITORING OF WATER CONSUMPTION

Water Consumption at the selected sites (zones or separate entities within the site) was monitored by the use of water flow meters The decision concerning the types of flow meters to be used (UFM's or CFM's) for monitoring was subjected to a delay which lasted about five months, after which (DAI) was able to provide five UFM's , four of which were on loan basis and for a short

period of time The criteria used to determine at which selected sites the UFM's are to be installed was as follows -

- Permission of the owner (s)
- The time needed for installation of the flow meter (s)
- Simplicity of installation
- Degree of damage on the existing water supply networks and buildings
- Degree of damage on the surrounding fixtures such as decorations, furniture and other interior design items
- Provided working space and the accessibility
- Degree of accuracy of the readings needed
- Degree of tolerance of human errors

IV 1 Installation of Flow Meters

Using the criteria described above for selecting the suitable type of flow meters, UFM's and CFM's were installed at the selected sites as shown in Appendix C which describes the following Site name, type and size of the installed flow meter, pipe information (Size, function and location) type of data chart, date of installation, and remarks on special characteristics of the type of flow meter

IV.2 Monitoring Period and Data Collected

Following flow meters installation, the study team conducted the Monitoring Phase which was categorized by two stages

- Site Monitoring Before WSD's Installation
- Site Monitoring After WSD's Installation

Appendix D shows the dates of the monitoring periods of these two above mentioned monitoring stages, the data recording forms, the data recording intervals and other remarks

Appendices E1-E9 show the "Tabulated Data Output" of the monitored flow meters installed at the nine sites Appendix I is a photostatic copy of the UFM's Raw Data

V DATA TABULATION AND ANALYSIS

V 1 Data Tabulation:

At the end of the monitoring phase, UEC study team collected the raw data from the monitored sites either in the form of printed (plotted) role from the UFM's data output, or in the Form WSD-1 for CFM's The collected raw data was processed and tabulated as shown in Appendix E Sub-Appendix Eo summarizes and lists the Sub-Appendices of the tabulated data output of each site, zone, and meter

V 2 Data Analysis

The general target of the subject study including the tests carried out and the analysis is to compare the water consumption at each selected site (or zone or a separate entity within the site) before the installation of the WSD's with the consumption after the installation of the WSD's The instruments to be used for this purpose are the tabulated data sheets Each of the sites has its distinctive characteristics which should be considered as decisive factors prior to any analysis performed Appendices F1-F9 summarizes these factors as well as the analysed data for each site separately

The method of analysis, after taking these factors into consideration, is carried out by calculating the average daily consumption at the selected site (zone or entity within the site) before and after the installation of WSD's , comparing these two figures, and concluding the percentage of water saving as shown in table (1) Table 1A shows the statistical summary of confidence levels and it indicates that there are water savings in most of the sites due to use of WSD's but with different confidence levels

<u>Statistical Measures of Central Tendency or Variation of Observations</u>

Mean The most common and most useful single description measure of central tendency is the mean or arithmetic average of the daily water consumptions

Median The middle observation as a measure of central tendency when the numbers (daily water consumptions) are arranged in order of magnitude

Mode The observation (daily water consumption) of maximum frequency which is a measure of central tendency

Table (1)
Final Results of The Study

No	Site	Saving % with the Use of WSD's	Remarks
1	Philadelphia Hotel	22 6	
2	Al-Zeitounah University	20 6	
3	Akkad Luxurious Villa Deir Ghbar	27 6	
4	King Hussein Medical Center	33	
5	Water Directorate of Amman Municipality	16 1	
6	Al-Husseini Mosque	17 5	
7	Apartmen East Amman	20 1	
8	Al-Salt Girls Secondary School	No SAVING	SEE APPENDIX-F8
9	Al-Hussein General Depots	27 7	

STUDY ON THE USE OF WATER SAVING DEVICES

Table 1A

Statistical Summary of Confidence Limits

Sample Site	Location	No of Readings		Average of Readings		Standard Deviation		Standard	Normal	NORMSDIST	Confidence
		n1 (Before)	n2 (After)	x1 (Before)	x2 (After)	s1 (Before)	s2 (After)	Difference (s12)	Dist (Z)	(Z)	Levels %
Philadelphia Hotel	Cold Supply Pipe Line	10	10	0.529	0.447	0.116	0.085	0.045	1.803	0.964	96.432
	Hot Supply Pipe Line	10	10	1.005	0.706	0.191	0.284	0.108	2.763	0.997	99.713
Al Zeitounah University	Pipe Line Dia 34mm	8	8	10.394	9.139	3.204	3.024	1.558	0.806	0.790	78.979
	Girls Student Housing	23	11	6.521	5.236	0.977	1.132	0.397	3.233	0.999	99.939
	Women Dormitory	11	11	6.594	5.236	1.008	1.132	0.457	2.971	0.999	99.852
Al Akkad Luxurious Villa	Main Building	23	12	2.23	1.97	0.971	0.937	0.338	0.770	0.779	77.921
		12	12	2.72	1.97	0.51	0.937	0.308	2.435	0.993	99.256
Al Hussein Medical Center	Cold Supply Pipe Line Dia 60.5mm	10	10	3.047	1.698	0.764	0.384	0.270	4.989	1.000	100.000
	Hot Supply Pipe Line Dia 54.9mm	10	10	2.36	2.082	0.368	1.054	0.353	0.787	0.784	78.449
	Cold Supply Pipe Line Dia 60.7 mm	10	10	2.86	1.49	0.579	0.632	0.271	5.128	1.000	100.000
	Hot Supply Pipe Line Dia 54.3 mm	10	10	427	1.164	0.313	0.229	0.123	2.144	0.984	98.400
Water Directorate of Amman Mun	CFM No(1)	10	10	0.6455	0.7030	0.276	0.287	0.126	1.125	0.870	86.961
	CFM No(2)	10	10	1.002	0.8827	0.073	0.216	0.072	1.655	0.951	95.100
	Basement Pipe Line Apartment 2 CFM No(3)	10	10	0.364	0.302	0.025	0.025	0.011	5.545	1.000	100.000
	First Floor Pipe Line Apt No (2) CFM No(4)	10	10	0.2639	0.1877	0.021	0.127	0.041	1.872	0.969	96.939
Al Hussein Mosque	Main Distribution Pipe Line	23	16	3.673	2.596	1.961	1.318	0.525	2.051	0.980	97.986
	CFM No (1)	16	16	3.166	2.596	1.534	1.318	0.506	1.127	0.870	87.020
	IMAM S W C / Right Next To Minaret	23	16	0.557	0.49	0.232	0.267	0.087	0.774	0.781	78.061
	CFM No (2)	16	16	0.578	0.49	0.265	0.267	0.098	0.901	0.816	81.623
	IMAM S W C / Middle Next To Minaret	23	16	0.0242	0.02393	0.0142	0.0158	0.005	0.055	0.522	52.181
	CFM No (3)	16	16	0.02587	0.02393	0.0163	0.0158	0.006	0.342	0.634	63.376
	IMAM S W C / Right Next To Minaret	23	16	0.223	0.23	0.062	0.067	0.021	-0.331	0.370	37.039
	CFM No (4)	16	16	0.224	0.23	0.071	0.067	0.024	-0.246	0.403	40.290
Appartment East Amman	CFM 3/4	23	17	0.4352	0.338	0.039	0.017	0.009	10.661	1.000	100.000
		17	17	0.427	0.338	0.033	0.017	0.009	9.885	1.000	100.000
Al-Salt Girls Secondary School	W C Main Unit Pipe Line	12	10	0.3225	0.5809	0.296	0.509	0.182	1.418	0.078	7.810
Al Hussein General Depots	Officers Club Pipe Line	10	10	19.24	13.92	1.86	2.18	0.906	5.871	1.000	100.000

n_1 Number of daily water consumption observations before installation o WSDs

n_2 Number of daily water consumption observations after installation of WSDs

x_1 Average daily water consumption before installation of WSDs

x_2 Average daily water consumption after installation of WSDs

$s_{12} = \sqrt{s_1^2/n1 + s_2^2/n2}$

$Z = (X_1 \quad X_2) / S_{12}$

Standard Deviation (s) The standard deviation is defined as the square root of the average squared deviation from the mean i e measure of variation Small values of 'S" are associated with high concentration of the observations (daily water consumptions) around the mean and that this is, strictly speaking, valid only for reasonably symmetric bell-shaped histograms The square root of the variance (σ) is called the standard deviation (s)

The above mentioned statistical parameters (mean, median, mode, and standard deviation) were determined for each group of observations (daily water consumptions) collected from the selected sites by CFM's and UFM's during the monitoring periods before and after installation of the WSD's

V 3 Results of the Analysis

Table (2) shows the final results as calculated from the analysed data sheets It is important to notice in this table that the number of monitoring days before WSD's installation are identical with those after However, in some sites the monitoring days before WSD's installation are much more than these after A parallel analysis, in this respect, had been carried out by the study team as detailed in Appendix F

V 4 Cost of Devices Versus Cost of Water Saved

The feasibility of the use of WSD's in the selected sites could be obtained by comparing the cost of WSD's installed at each site with the cost of the water saved The following assumptions were made in order to reach to a reasonable comparison of these costs -

A The Water Saving Devices are assumed to have two years life-time
B The adopted costs of WSD's have been based on the local market prices of 1996 where customs, taxes, and other fees are included
C The estimated yearly water saving of each site had been based on the assumption that the average water saving of the monitoring period is applicable for the whole year
D The cost of the water saved has been based on the upper price range of the water tariff at sites of high water consumption, middle range at sites of medium water consumption, and lower price range at sites of low water consumption

Table (2)
SUMMARY OF THE FINAL DATA ANALYSIS

NO	SITE	BEFORE THE INSTALLATION OF WSD'S			AFTER INSTALLATION OF WSD'S			Saving %	Remarks
		Total Water Cons/M^3	No of Days	Av Daily Con M^3/Day	Total Water Cons/ M^3	No of Days	Av Daily Con M^3/Day		
1	Philadelphia Hotel	66 687	10	1 05	58 385	10	0 813	22 6	The average daily consumptions per room here (for room occupancy see Appendix F1)
2	Al Zeitouna University	72 534	11	6 594	57 596	11	5 236	20 6	
3	Akkad Luxurious Villa Deir-Ghabar	32 645	11	2 72	23 646	11	1 97	27 6	Actual Saving 36 % (see Appendix F3)
4	King Hussein Medical Center	97 13	10	9 713	64 32	10	6 432	33	
5	Water Directorate of Amman Municipality	24 756	10	2 4756	20 76	10	2 076	16 1	
6	Al-Husseini Mosque	60 31792	16	3 76987	49 7588	16	3 1099	17 5	
7	Apartment East Amman	7 266	17	0 427	5 755	17	0 338	20 1	Actual Saving 26 % (see Appendix F7)
8	Al-Salt Girls Secondary School	3 299	10	0 3229	5 8	10	0 58	—	No Saving (see Appendix F8)
9	Al Hussein General Depots-Zerqa	192 4	10	19 24	139 2	10	13 92	27 7	Actual Saving 36 % (see Appendix F9)

REPSAT.XL

E The water saved is assumed to be silt/turbidity free for which no further treatment or filtration is needed, i e the cost of treatment or filtration systems has been excluded

Based on the above mentioned assumptions and the related formula (The yearly water saving multiplied by the selected price range of water tariff) Table (3) shows the cost of WSD's versus the cost of the water saved It is important to point out that the use of WSD's based on the U S market prices and the proposed exemption of customs and taxes, as detailed in section VII, will make the cost recoverable within the first month of use at sites of high water consumption where the upper price range of water tariffs is applicable

Table (3)
Cost of WSD's Versus Cost of Water Saved*

NO	SITE	Cost of the Installed WSD's J D	Qty of the Water Saved during the monitoring period / M3	Cost of the water saved during the monitoring period J D	Qty of water saved per year M^3	Cost of water saved per year J D	Remarks
1	Philadelphia Hotel	228 5	8 301	8 55	303	312 09	Upper Price Range of water Tarrift (wastewater tarrift included)
2	Al Zeitouna University	121 4	14 938	10 905	495 67	361 84	Upper Price Range of water Tarrift
3	Akkad Luxurious Villa Deir-Ghabar	138 4	8 999	9 27	298 6	307 51	Upper Price Range of water Tarrift (wastewater tarrift included)
4	King Hussein Medical Center	471 7	32 81	33 79	1197 492	1233 42	Upper Price Range of water Tarrift (wastewater tarrift included)
5	Water Directorate of Amman Municipality	77 65	3 994	4 115	145 781	150 155	Upper Price Range of water Tarrift (wastewater tarrift included)
6	Al-Husseini Mosque	122 85	10 559	10 875	240 877	248 105	Upper Price Range of water Tarrift (wastewater tarrift included)
7	Apartment East Amman	32 55	1 491	0 835	32 012	17 93	Lower Price Range of water Tarrift (wastewater tarrift included)
8	Al-Salt Girls Secondary School	100 1	———	———	———	———	No Saving
9	Al-Hussein General Depots-Zerqa	257 95	53 2	38 835	1941 8	1417 515	Upper Price Range of water Tarrift (wastewater tarrift are not included)
	Total	**18661**	**134 231**	**117 14**	**4653 703**	**3897 555**	

* This Table shows the cost of WSD's installed at the selected zone of each selected site versus the cost of water saved at the same selected zone More details on these selected zones are shown in Appendix A

VI PROBLEMS ENCOUNTERED

1 Site Selection

In the methodology of the RFP, UEC Technical Proposal and the Contract, it was stated explicitly that WSD's will be installed, tested and evaluated in selected sites which use large amounts of water However, this was not the only criteria used for site selection Three proposed sites which use large amounts of water have been changed to sites of less water use, example Al-Salt Girls Secondary School instead of The Baccalaureate School The reason behind this change was that Al-Salt School is a more representative sample of the schools in Jordan than the Baccalaureate School although the latest uses larger amounts of water and projects more indicative results Also, Dhuleil slaughter House and Marriot Hotel were discarded because of the high cost and the unavailability of suitable of WSD's in the local market, respectively

2. Measuring Meters

A The provided Fuji UFM's needed reprogramming every 99 working hours Moreover, these UFM's are too sensitive to vibrations and power interruptions which caused these UFM's to be subjected to continuous reprogramming The UFM's sensors need wider working space and could be easily affected by any surrounding flow (s) These UFM's sensors were also subject to continuous position adjustments The Dynasonic UFM was not affected by vibrations, power interruption, working space, or surrounding flows because of the availability of a clamp type sensor and built-in auxiliary power supply (chargeable) However, it is preferable to use dynasonic UFM with a plotter printer

B Two CFM's were reported to be of inaccurate readings and were changed However, it was found that the CM's in general do not produce the same accurate results as the UFM's

3 Water Saving Devices

A Unavailability of some selected WSD's at local agents' stocks This was a result of the long period which separated the UEC market survey and the subject study resumption (about five months) which forced the local agents to sell the WSD's to other clients

B Some of the installed WSD's proved to be unsuitable because they did not accommodate the working pressure as rated and others were below the specifications as described by the manufacturer such as some of the WSD's installed at the Al- Salt Girls Secondary School

C WSD's clogging occurred at sites with no water filters or no water treatment such as Al-Zeitounah University, Philadelphia Hotel, Apartment East Amman

D. WSD's operated in partial efficiency at sites of low water pressure (less than 1 bar)

E. WSD's installed at Toilet Flushes such as WC-water stop were almost inefficient

4 Monitoring

A The water supply networks in some sites were different from the As-built Drawings As a result, a generation of a turbulent flow was found to occur in the monitored pipelines which lead to inaccurate readings of the flow meters A destincitive example to such a situation was found in the hot water return pipelines in Philadelphia hotel which lead to inaccurate readings of the flow meters

B Difficult Monitoring conditions as in the services tunnel of King Hussein Medical Center where the temperature is high and uneasy working atmosphere

5 Analysis

A The unidentical weather conditions during the monitoring period should have affected the results, for instance, April is a spring month in Jordan while May is of sumurish weather However, the long Al-Adha Aid holiday was a distinctive separator between these two weather conditions The analysis of the collected data was considered as of the period after the Aid holiday and this applies also at sites were there is no water consumption during the holidays such as governmental buildings and schools

6 Problems of Special Nature

A The constant water consumption rate of the laundry washing machines, and dish washers, was included in the water saving results of some sites such as Akkad Luxurious villa, Al-Zeitounah university, Al-Hussein General Depots Officers Club, Apt East Amman and the Sterilizing unit of King Hussein Medical Center The consumption of these machines, which is approximately estimated to be about 25% of the site's total consumption, should be carefully evaluated within a reasonable formula in order to calculate the total saving accurately

B The Water consumption of Al-Zeitouneh University and Al-Husseini Mosque was used partially for cleaning and irrigation purposes This factor was not subject to a real control and was only revealed after a long and thorrow investigations

C The dismounting of WSD's-out of curiosity-and not re-installing them properly affected the water saving calculations results This occurred at sites such as, Akkad Luxurious Villa, Apartment East Amman, Al-Hussein General Depots, Al-Zeitouneh University

D Some sites need continuous monitoring of the leakage in the water network, tap, toilets etc such as Al-Husseini Mosque for example

E The monitoring period at Al-Salt Secondary School, coincided with the final examination period therefore the water consumption of the school during this period was much less than the class attendance period

F At the Water Directorate of Amman Municipality, a new water fountain for public use was installed during the monitoring period The water consumption of this fountain depends on the number of users which undoubtedly affected the results of the subject study

G Re-piping the water networks at Al-Husseini Mosque and Al-Salt Girls Secondary School were needed before installation of the flow meters in order to identify the distribution lines which supply the facilities for which WSD's were installed

VII. RECOMMENDATIONS ·

1 The outcome of the "study on the use of water saving devices in Jordan" has revealed that the use of these devices will effectively contribute in solving the water crisis in Jordan The results of the analysed data has shown that the water saving, with the use of these device, ranges from 16-33 % of the total water consumption of the selected site (s) for the duration of the monitoring period with an average rate of about 25 % of the total water consumption

2 The water saving percentages could be raised by improving the operational conditions under which WSD's can operate more efficiently These improvements has to be carried out at the sites of installation of WSD's by maintaining the following

A Continuous working pressure of minimum 1 bar either with assistance of a small booster pump or by connecting the water network of the site with an elevated distribution tank (around 10 meters high)

B Clean and filtered water supply

C Introducing Jordan's public to the built in water saving devices in washing machines, dish washers, and other in door water consuming machines

D Other standard water saving procedures such as periodical checks and continuous maintenance of the water networks

According to the literature provided by the manufacturers of WSD's these improvements shall raise the total water saving when using WSD's to about 35-40% of the total water consumption

3 The public use of WSD's on a large scale in Jordan, provided that the operational conditions mentioned earlier are met and improvements are maintained, will be reflected in the total amount of water saving which might reach up to 40 % of the total domestic water consumption of Jordan This large amount of water saved by the use of WSD's in Jordan will enable the authorities concerned to carry out proper water management to meet the increasing demand of water in the coming few years

4 Thirty one water saving devices available in the local market were listed in the Market Survey Report (see Appendix J of MSR) The eighteen selected WSD's were purchased, installed, and tested at the selected sites out of which five proved to operate efficiently (see section VIII) and of which four almost were of the same function but of different manufacturers These WSD's which operate

efficiently were used at the points of the highest water consumption, i e mixers, washing basins, tap sinks, showers, and bedits (more details on these device are shown in section VIII)

5 Beside its importance to conserve water resources to meet the country's future demands, the use of water saving devices, will affect the quarterly and yearly payments of the consumers specially at locations which use large amounts of water Forte' Grand-Five Star Hotel- where WSD's were installed at the residents' bathrooms fixtures only, the total quarterly saving during the summer season - as given in WAJ bills was around 5000 JD An efficient use of WSD's by maintaining (1)bar pressure and filtration will result in about 15-30% water saving and will reduce the water cost at the same rate Regarding the consumers of low rate of consumption, the use of WSD's might not reflect on the quarterly payment at the same cost rate as the large consumers

6 Recommended Measures to be taken to encourage the public in Jordan on the use of water saving devices are as follows

1) Newly Established buildings :

A A legislation should be issued by the Ministry Of Public Works and Housing, the Ministry of Urban and Rural affairs and Environment, the Jordan Engineering Association, the Municipalities, and the engineering design offices, engineering consultants, and the contractors concerning the obligatory use of water saving devices at the newly constructed buildings The legislation should state clearly that no new building permit will be issued unless the new building designs, and constructed facilities include the use of WSD's in addition to water pressurizing and filtration systems

B New regulations should be issued by the Ministry of water and Irrigation forbidding any new house connections without the use of WSD's and the additional systems needed to operate these WSD's efficiently

2) Existing Buildings.

A Develop campaigns in regard to the findings of the study on the use of water saving devices in order to influence attitude and behavioural changes

B Eliminate or reduce the customs and taxes on the import of water saving devices

C Encourage the already established local industries specialized in plumbing fixtures ,or new investments, in manufacturing water saving devices

D Increase the water tariff on high water consumption within a reasonable formula

E Affiliate campaigns to enhance peoples awareness of the values and effects of water saving on both the individual and public levels and to encourage people to react to these campaigns and to become attracted The following proposed steps will attract the Jordan's public -

a) The Motto·

- Save Water, Save Jordan
- 100 Million Cubic Meter for our children to survive
- Etc

b) Contest

- Best water saving household
- Best water saving hotel
- Best water saving hospital

The contest will be carried out as follows installing the WSD's devices free, monitoring the site and get the results of the water consumption and saving A prise or Medals should be awarded (if possible) to the best water saving householder or institution

3) Prices of WSD's

If the proposed regulations to exempt the WSD's and water pressure systems and filters from customs and tax are issued, the prices will be relatively reasonable as the case in the U S markets prices Then, the user of small water consumption will be encouraged either to install WSD's with the additional pressurized system or just the WSD's and the filter only where at the latest case the WSD's will operate with partial efficiency but it will be acceptable to operate as a water restrictor for such an inexpensive item

7 Other Important Remarks

a) Amman Slaughter House was investigated and studied and UEC recommended redesigning the water system but it was deleted from the selected sites because the works required were outside the scope of work of the subject study

b) Saving water at the household level will lead to extra costs in the treatment of waste water/sewerage because of the increase in the B O D However, the theme of the subject study was to divert water to the water needy users from the water over users i e save unnecessary consumed water

c) The study demonstrated to the owners/managers of the selected sites and the decision makers in general that the use of WSD's is effective in increasing available water supply and in reducing the water bill

VIII INFORMATIONAL MATERIALS AND KITS

- WHAT IS WATER SAVING?

Water saving is to restrict the extravagant use of water, to reduce the water consumption to reasonable rates, and to eliminate unnecessary water losses

- WHY WATER SAVING IS TURNING TO BE A CRUCIAL ISSUE IN JORDAN ?

Jordan is facing a water shortage crisis The available water resources no longer meet the increasing demand on water The water balance (supply versus demand) is concurrently subjected to an acute defficiency which hinders the authorities concerned to satisfy the required needs This phenomena is quite obvious in the domestic uses where water is turning to be a scarce commodity

- HOW TO CONTRIBUTE IN SOLVING THE WATER CRISIS ?

On the domestic level, the use of water saving devices in the households, hospitals, hotels, schools, businesses, and others will contribute much in solving the water problem in Jordan, besides the other possible solutions such as water re-use, water treatment, water recycling, etc

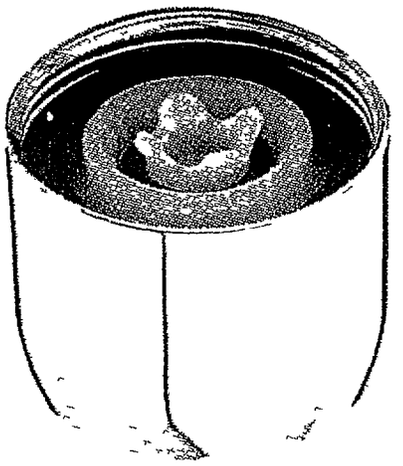
- WHAT ARE WATER SAVING DEVICES ?

Water saving devices are those devices which are installed in the facility at the points where there is water consumption such as, mixers, faucets, washing basins, sink taps, shower heads', toilet flushes etc In the study on the use of water saving devices in Jordan, these water saving devices were installed at the above mentioned fixtures in different sites, (households, hospitals, hotels, schools, universities, businesses) and it was found out that the total water savings of these sites varies from 16-33 % depending on the operational conditions in each site These results should be utilized by the individuals and institutions in Jordan to motivate the use of water saving devices in the premises which they own or manage This water saving will reflect, besides contribution to partially solving the water crisis in Jordan, in saving the consumers money either for the cost of water, or the rate of waste water, and indirectly in saving energy as a result of hot water saving

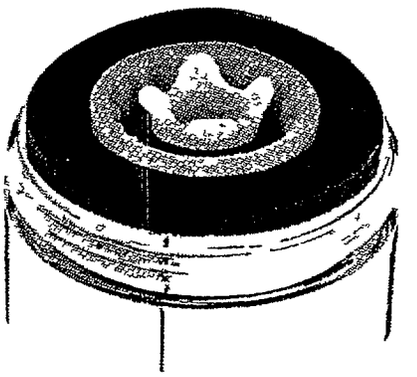
- **WHAT ARE THE TESTED WATER SAVING DEVICES WHICH PROVED TO BE SUITABLE IN JORDAN ?**

1 Aerator with M+K Flow Regulator, Female Thread or Male Thread

A Used for taps and mixers (see Fig 1A and 1B)



Female Thread
Fig 1A



Male thread
Fig 1B

B Water Saving Percentage- (as the manufacturers' catalogue)-(see Fig 2)

TAPS & MIXERS

احواض المغاسل والخلاطات

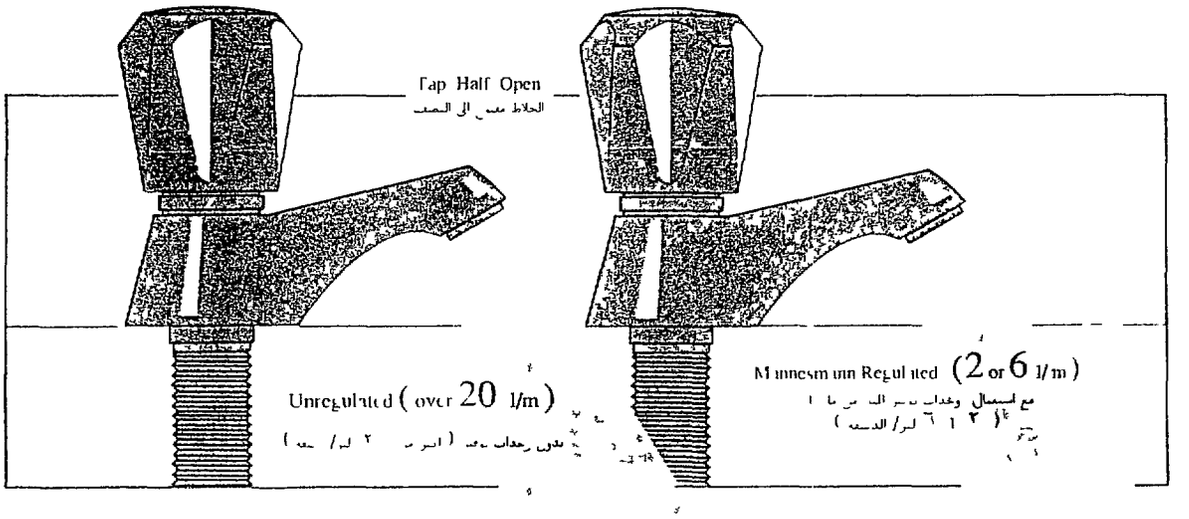
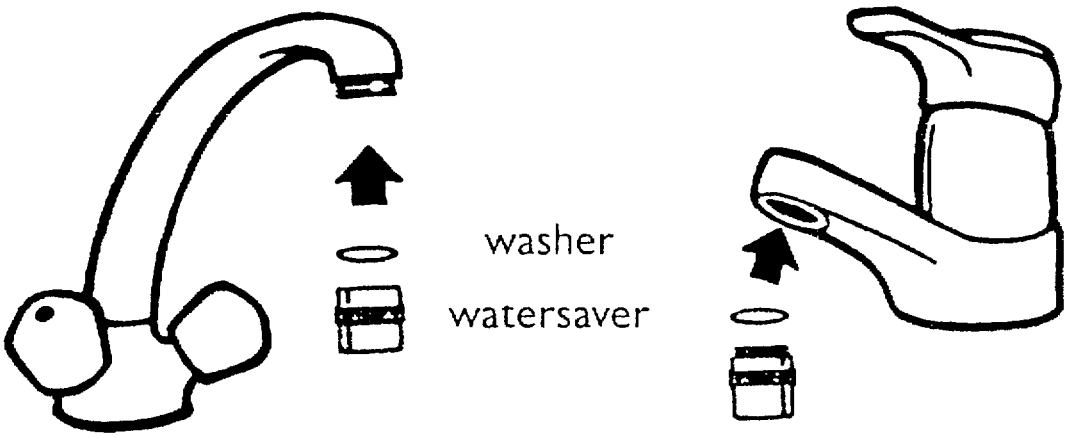


Fig 2

C Application Example



Female Thread

Male Thread

Fig 3

D Special Tool for this WSD shown in Figure 1 and Figure3

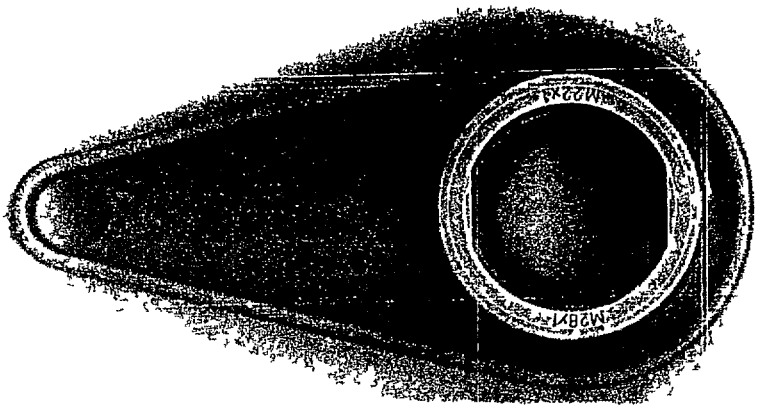
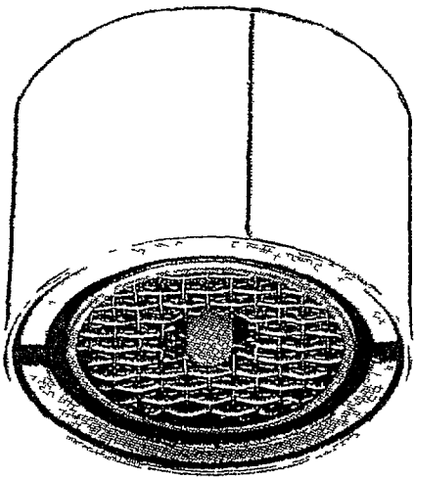


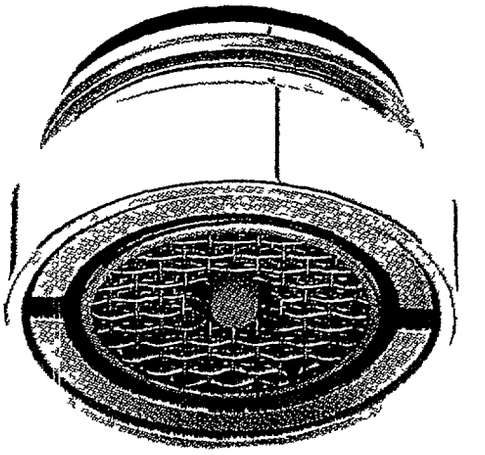
Fig 4

2) Vandal Proof Aerator with M+K Flow Regulator Endless Turning Housing

Female Thread (Fig 5A) and Male Thread (Fig 5B)



Female Thread
Fig 5A



Male Thread
Fig 5B

- Special Tool for Vandal Proof Aerators (Fig 6)

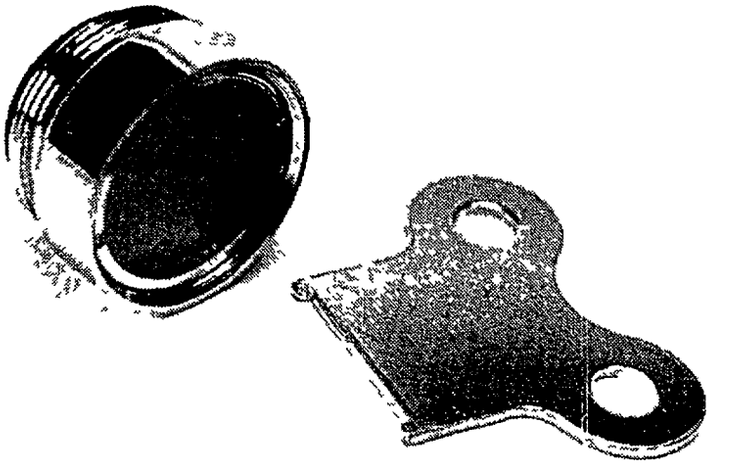


Fig 6

3 Aerator Fitting 1/2" with M+K Flow Regulator Housing for Installtion to Shower Head (Fig 7)

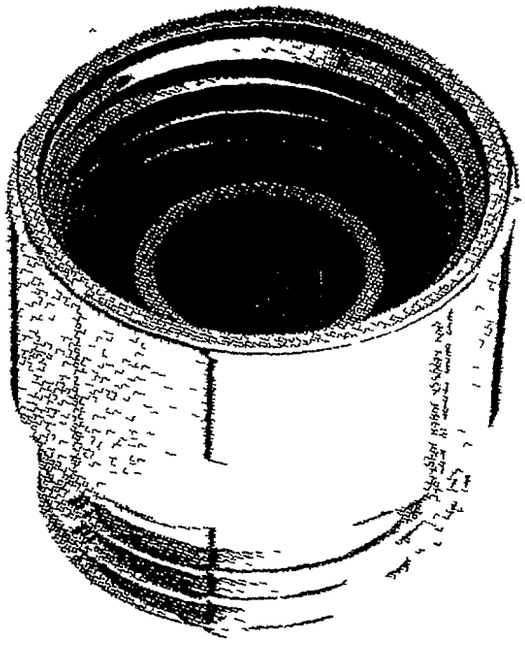


Fig 7

A Water Saving Percentage (see Fig 8)

SHOWERS

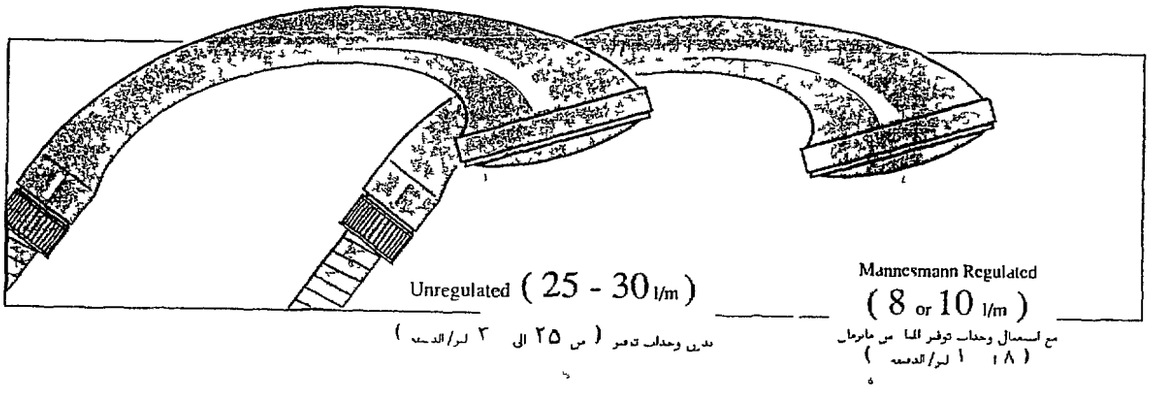


Fig 8

REP12V DOC

36

B Application example (see Fig 7 and Fig 9)

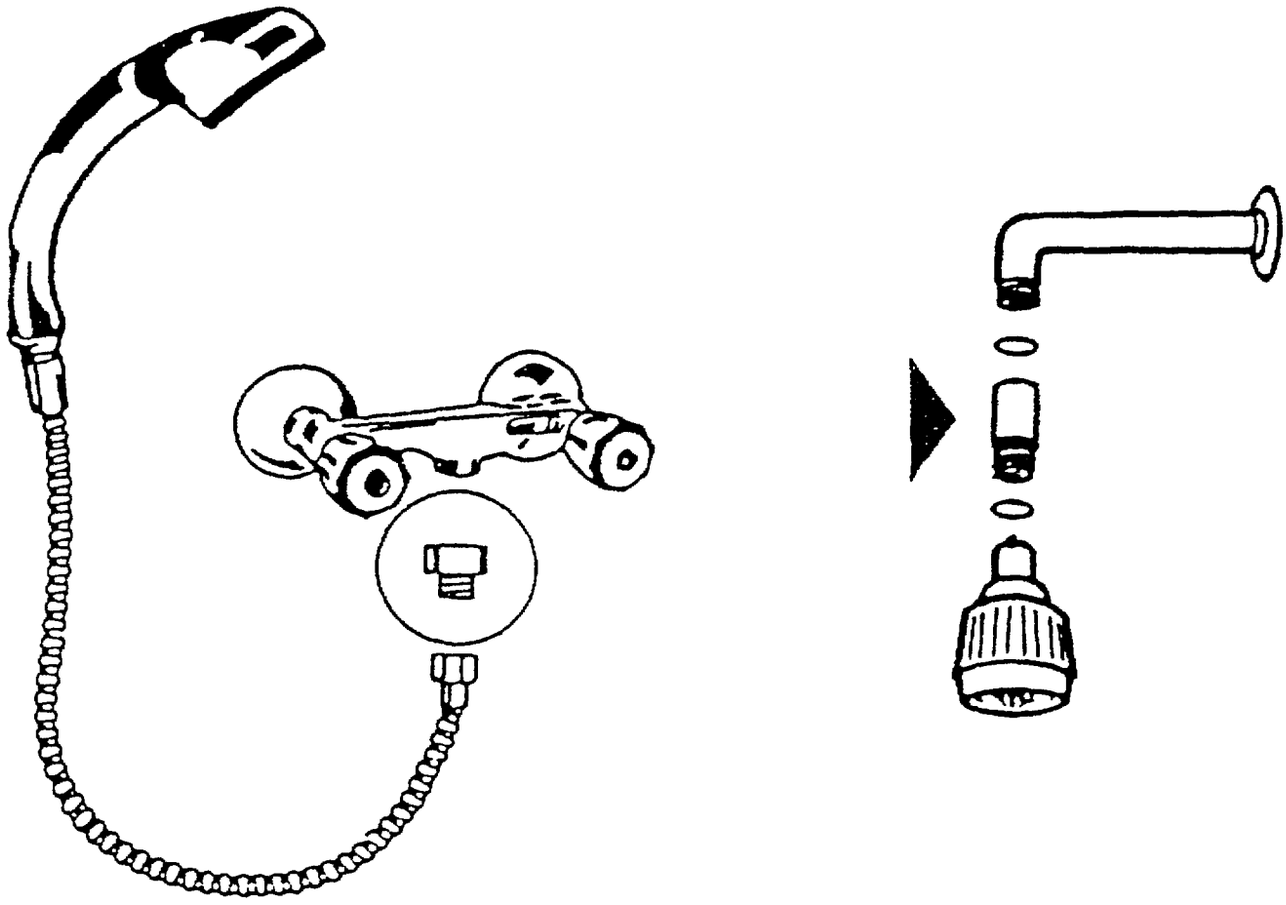


Fig 9

C- Special Application

For threadless taps the same application as for shower head (Fig 9)

4 WC- water- stop

A For Ceramic Flushing Cap

(Fig 10)

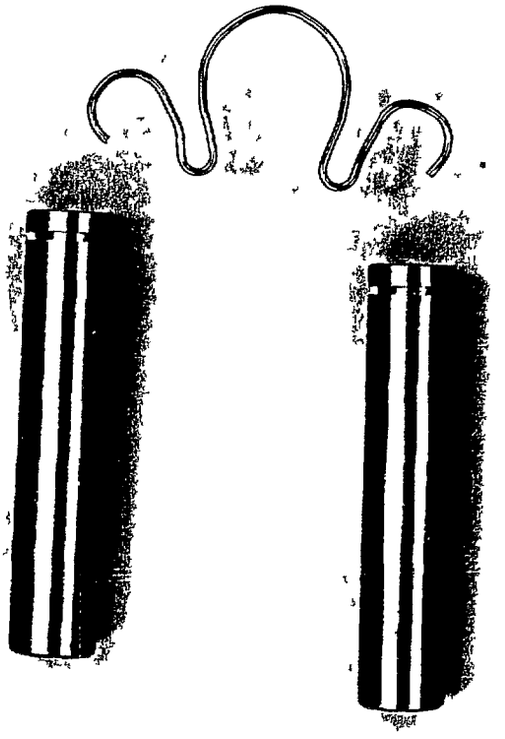


Fig 10

B For Stainless SteelFlush /2 parts

(Fig 11)

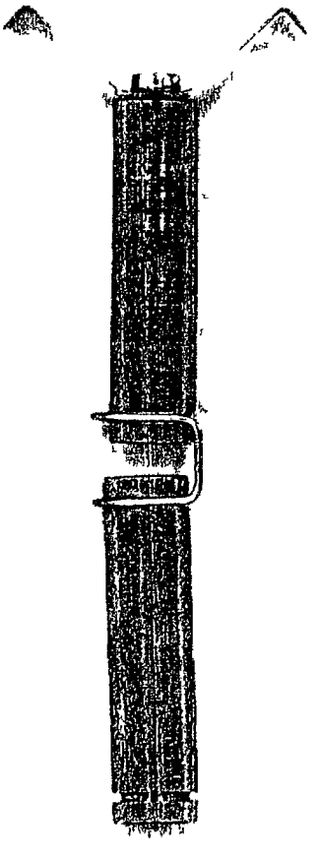


Fig 11

APPENDICES

APPENDIX A
APPENDIX B
APPENDIX C
APPENDIX D
APPENDIX E
APPENDIX F
APPENDIX G
APPENDIX H
APPENDIX I

APPENDIX A

STUDY ON THE USE OF WSD's IN JORDAN

APPENDIX A

Description of The Selected Sites and Points of Installation of WSD's

No	Sites List	Description of the Selected Sites	Points of Installation of WSD's	WSD's
1	Philadelphia Hotel	A zone of single bedrooms in 10 floors (one single bedroom in each floor) and a public toilet room in the tenth floor	Mixers, Showers, urinals	See Appendix B
2	Al-Zeitounah University	A zone of a complete wing of the Women's Dormitory composed of a basement and three floors two of which were occupied Each floor consists of student rooms counselor's residence and a public toilet (5 W C 's, 4 basins, 4 showers) and a kitchen, the basement included the laundry	Mixers of washing basins, sink taps, shower heads, and Toilet Flushes	See Appendix B
3	Akkad Luxurious Villa Deir Ghabar	Four story luxurious villa-connected by interior stairs-out of which 3 floors were occupied by the owner's family and basement by the maids, cook, Gardeners etc	Mixers of washing basins and sinks, showerhead, and Toilet Flushes	See Appendix B
4	King Hussein Medial Center	Complete Maternity Dept 10 patient rooms (with private bath rooms), 4 words with public toilet rooms, and ten other rooms for Labs kitchens, theater etc	Mixers of washing basins and sinks, shawerheads, and toilet flushes	See Appendix B
5	Water Directorate of Amman Municipality	A zone of 2 floors (a basement and 1st floor) out of 4 story building Each floor consist of 2 complete apartments	Mixers of washing basins and sinks, shower heads, and toilet flushes	See Appendix B
6	Al-Husseini Mosque	Complete Facilities of the Mosque	Taps	See Appendix B
7	Apartment East Amman	A Complete ground floor apartment of a 3 story building in Kuwaismah, the apartment composed of 3 beds rooms a kitchenette, and a bathroom	Mixers of washing basins and sinks shawerheads, toilet flushes	See Appendix B
8	Al-Salt Girls Secondary School	A zone of a separate W C s units building 10 W C 's 4 Washing basins and 10 drinking taps	Taps	See Appendix B
9	Al-Hussein General Depots-Zerqa	Complete Facilities of The Officer s Club (a 2 story building consist of Large Kitchen a Hall 3 public Toilet rooms (4 washing basin, 4 W C s and 4 shower heads in each) and bedrooms	Mixers of washing basins and sinks, showerheads, toilet flushes	See Appendix B

APPENDIX B

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX B

LIST OF THE INSTALLED WSD's AT THE NINE SITES

No	WSD	CATALOGUE NO	MANUFACTURER	LOCAL AGENT	QUANTITY
Site No 1 PHILADELPHIA HOTEL		**DATE OF WSD's INSTALLATION APRIL 12th, 1996**			
1	FITTING 1/2" WITH M+K FLOW REGULATOR TO SHOWER HEAD	DW 1/2	MANNESMANN (GERMANY)	RAMI EST	10
2	VANDAL AROOF AERATOR WITH M+K FLOW REGULATOR, ENDLESS TURNING HOUSING WITH MALE THREAD	ADG24	MANNESMANN	RAMI EST	12
3	EXPOSED URINAL FLUSH VALVE SELF-CLOSING	9500	MAMOLI (ITALY)	PIVOT TRADE	2
Site No 2 AL-ZEITOUNAH UNIVERSITY		**DATE OF WSD's INSTALLATION APRIL 13th, 1996**			
1	AERATOR 1/2" FLOWFIX AIR JET 22X1 mm FEMALE 6 L/M	19900-003	BROEN (DENMARK)	KUSSAD TRADE	18
2	FITTING 1/2" WITH M+K FLOW REGULATOR TO SHOWER HEAD	DW 1/2	MANNESMANN	RAMI EST	8
3	WC-WATER STOP STAINLESS STEEL TWO PARTS	1715	RST (GERMANY)	IZZAT HASHEM EST	10

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX B

LIST OF THE INSTALLED WSD's AT THE NINE SITES

No	WSD	CATALOGUE NO	MANUFACTURER	LOCAL AGENT	QUANTITY
Site No 3 LUXURIOUS VILLA IN DEIR GHABAR - AMMAN			**DATE OF WSD's INSTALLATION APRIL 14th, 1996**		
1	AERATOR 1/2" FLOWFIX AIR JET FEMALE 6 L/M	19900-003	BROEN	KUSSAD TRADE	5
2	FITTING 1/2" WITH M+K FLOW REGULATOR TO SHOWER HEAD	DW 1/2	MANNESMANN	RAMI EST	8
3	WC-WATER STOP STAINLESS STEEL TWO PARTS	1715	RST	IZZAT HASHEM EST	1
4	AERATOR WITH M+K FLOW REGULATOR HOUSING OF TWO PIECES WITH MALE THREAD	MK24	MANNESMANN	RAMI EST	10
Site No 4 KING HUSSEIN MEDICAL CENTER			**DATE OF WSD's INSTALLATION MAY 14th+20th, 1996**		
1	FITTING 1/2" WITH M+K FLOW REGULATOR TO SHOWER HEAD	DW 1/2	MANNESMANN	RAMI EST	14
2	VANDAL AROOF FERATOR WITH M+K FLOW REGULATOR, ENDLESS TURNING HOUSING WITH MALE THREAD	ADG 22	MANNESMANN	RAMI EST	48

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX B

LIST OF THE INSTALLED WSD's AT THE NINE SITES

No	WSD	CATALOGUE NO	MANUFACTURER	LOCAL AGENT	QUANTITY
Site No 5 AMMAN MUNICIPALITY WATER DIRECTORATE		**DATE OF WSD's INSTALLATION MAY 16th+20th, 1996**			
1	VANDAL AROOF FERATOR WITH M+K FLOW REGULATOR, ENDLESS TURNING HOUSING	ADG 22	MANNESMANN	RAMI EST	1
2	FITTING 1/2" WITH M+K FLOW REGULATOR TO SHOWER HEAD	DW 1/2	MANNESMANN	RAMI EST	13
3	WC-WATER STOP STAINLESS STEEL TWO PARTS	1715	RST	IZZAT HASHEM EST	2
Site No 6 AL-HUSSEINI MOSQUE		**DATE OF WSD's INSTALLATION MAY 16th+18th, 1996**			
1	FITTING 1/2" WITH M+K FLOW REGULATOR TO SHOWER HEAD	DW 1/2	MANNESMANN	RAMI EST	27
Site No 7 APARTEMENT EAST AMMAN		**DATE OF WSD's INSTALLATION MAY 16th, 1996**			
1	FITTING 1/2" WITH M+K FLOW REGULATOR TO SHOWER HEAD	DW 1/2	MANNESMANN	RAMI EST	1
2	AERATOR 1/2" FLOWFIX AIR JET FEMALE 6 L/M	19900-003	BROEN	KUSSAD TRADE	3
3	AERATOR LONG LIFE WITH METAL HOZE	1110	RST	IZZAT HASHEM EST	1
4	VASA SHOWER WITH 1/2" FLOWFIX 6 L/M	2908-3003	BROEN	KUSSAD TRADE	1

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX B

LIST OF THE INSTALLED WSD's AT THE NINE SITES

No	WSD	CATALOGUE NO	MANUFACTURER	LOCAL AGENT	QUANTITY
Site No 8 SALT GIRLS SECONDARY SCHOOL		**DATE OF WSD's INSTALLATION MAY 13th, 1996**			
1	FITTING 1/2" WITH M+K FLOW REGULATOR TO SHOWER HEAD	DW 1/2	MANNESMANN	RAMI EST	22
Site No 9 ZARQA MILITARY CAMP		**DATE OF WSD's INSTALLATION MAY 15th, 1996**			
1	AERATOR 1/2" FLOWFIX AIR JET FEMALE 6 L/M	19900-003	BROEN	KUSSAD TRADE	19
2	FITTING 1/2" WITH M+K FLOW REGULATOR TO SHOWER HEAD	DW 1/2	MANNESMANN	RAMI EST	9
3	WC-WATER STOP STAINLESS STEEL TWO PARTS	1715	RST	IZZAT HASHEM EST	3
4	AERATOR WITH M+K FLOW REGULATOR HOUSING OF TWO PIECES WITH MALE THREAD	MK24	MANNESMANN	RAMI EST	10

APPENDIX C

STUDY ON THE USE OF WATER SAVING DEVICE IN JORDAN
APPENDIX C
Description of Water Flow Meters , Location of Installation and Remarks

No	Site / Zone	Flow Meter			Pipe			Date of Installation	Type of Data chart	Remarks on special characteristics of Flow Meter
		No	Type	Size	Function	Size	Location			
1	Philadelphia Hotel / Monitoring Zone	1	UFM FUJI - Electric	Porta-flow Standard Sensors	Cold Water Supply	2'	Under 10th floor false ceiling	March 20th 1996	Plotter Role Printer	Hourly Data Aut, Recording Need Reprograming every 99 Hrs
		2			Hot Water Supply	1/2	Under 10th floor false ceiling	March 20th 1996	WSD-1 Form	Printer is out of order Manual Daily Recording Need Reprograming Every 99 Hrs
		3			Hot Water Return	1"	Mechanical Plant Room	March 20th 1996	Plotter Role Printer	Hourly Data Aut. Recording Need Reprograming Every 99 Hrs
2	Al-Zeitounah University / Women's Dormitory	1	UFM FUJ1 Electric	Porta flow standard sensors	Wing Main Water Supply	1'	Women s Dormitory Roof	March 21st,1996	Plotter Role Printer	Hourly Data Aut Recording Need Reprograming Every 99 Hrs
		2	CFM	3/4'	Girl Students rooms' distribution line	3/4"	Women's Dormitory Roof	March 21st 1996	WSD-1 Form	Manual Daily Recording
		3	CFM	3/4	Counsellor's Residence distribution line	3/4	Women s Dormitory Roof	March 21st,1996	WSD-1 Form	Manual Daily Recording
3	Akkad Luxurions Vill-Deir-Ghabar	1	UFM Dynasonic	Clamp sensor	Main Water Supply	3/4'	Water Treatment plant	March 22nd 1996	WSD-1 Form	Manual Daily Recording Need Reprograming every 10 000 U S Gallon Reading
4	KING Hussein Medical Centre / Maternity Dept	1	UFM FUJ1 Electric	Porta flow standard sensors	Cold Water Supply	2'	Tunnel station 1	April 27th 1996	Plotter Role Printer	Hourly Data Aut Recording Need Reprograming Every 99 Hrs
		2			Hot Water Supply	1'	Tunnel station 1	April 27th 1996	Plotter Role Printer	Hourly Data Aut Recording Need Reprograming Every 99 Hrs
		3	UFM Dynasonic	Clamp sensor	Hot Water Return	3/4	Tunnel station 1	April 27th 1996	WSD-1 Form	Manual Daily Recording Need Reprograming every 10 000 U S Gallon Reading

STUDY ON THE USE OF WATER SAVING DEVICE IN JORDAN
APPENDIX C
Description of Water Flow Meters , Location of Installation and Remarks

No	Site / Zone	Flow Meter			Pipe			Date of Installation	Type of Data chart	Remarks on special characteristics of Flow Meter
		No	Type	Size	Function	Size	Location			
4	KING HUSSEIN Medical Center Maternity Dept	4	UFM FUJI	portaflow standard	Cold Water Supply	2'	Tunnel Station 2	April 27th 1996	Plotter Role Printer	Hourly Data Aut Recording Need Reprograming Every 99 Hrs
		5	Electric	sensors	Hot Water Supply	1	Tunnel Station 2	April 27th 1996	WSD-I Form	Printer out of order Manual Daily Recording Need Reprograming Every 99 Hrs
5	Water Directorate of Amman Municipality	1	CFM	3/4	Basement Distribution line APT 1	3/4	Roof	April 21st 1996	WSD-I Form	Manual Daily Recording
		2	CFM	3/4	First Floor Distribution line APT 1	3/4"	Roof	April 21st 1996	WSD-I Form	Manual Daily Recording
		3	CFM	3/4	Basement Distribution line APT 2	3/4'	Roof	April 21st 1996	WSD-I Form	Manual Daily Recording
		4	CFM	3/4	First Floor Distribution line APT 2	3/4'	Roof	April 21st 1996	WSD-I Form	Manual Daily Recording
6	AL-Husseini Mosque	1	CFM	1	Main Distribution line	1'	Roof	April 23rd 1996	WSD-I Form	Manual Daily Recording
		2	CFM	1/2'	Imams W C 'S Distribution line	1/2"	Roof / Right Next to Minaret	April 23rd 1996	WSD-I Form	Manual Daily Recording
		3	CFM	1/2'	Imams W C 'S Distribution line	1/2"	Roof / Middle Next to Minaret	April 23rd 1996	WSD-I Form	Manual Daily Recording
		4	CFM	1/2'	Imams W C 'S Distribution line	1/2'	Roof / Left Next to Minaret	April 23rd 1996	WSD-I Form	Manual Daily Recording

STUDY ON THE USE OF WATER SAVING DEVICE IN JORDAN
APPENDIX C
Description of Water Flow Meters , Location of Installation and Remarks

No	Site / Zone	Flow Meter			Pipe			Date of Installation	Type of Data chart	Remarks on special characteristics of Flow Meter
		No	Type	Size	Function	Size	Location			
6	AL-Husseini Mosque	5	CFM	3/4"	Main Supply line	3/4	Roof	April 23rd 1996	WSD-I Form	Manual Daily Recording
		6	CFM	1 1/2'	Additional Tank Distribution line	1 1/2"	Roof	April 23rd, 1996	WSD-I Form	Manual Daily Recording
7	Apartment East Amman	1	CFM	3/4	Main Distribution line	3/4	Roof	April 23rd 1996	WSD-I Form	Manual Daily Recording
8	AL-Salt Girl Sacondary School	1	CFM	1/2"	School's Main Supply line	1/2	Roof	April 25th 1996	WSD-I Form	Manual Daily Recording
		1A*	CFM	1/2"	Main W C'S Unit Supply line	1/2"	Ground yard	May 13th, 1996	WSD-I Form	Manual Daily Recording
9	AL-Hussein General Depots	1**	CFM	3/4"	Officer Club Main Distribution line	3/4"	Roof	May 5th 1996	WSD-I Form	Manual Daily Recording
		2	CFM	1/2"	Officer Club Main Distribution line	3/4"	Roof	May 16th 1996	WSD-I Form	Manual Daily Recording

* WSD'S were designed to be installed at all the facilities of the school later instructions were to install WSD'S at the main W C 'S units building only Location of Flow meter have changed

** Flow meter have changed because of inaccurate reading report

APPENDIX D

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN
APPENDIX D
MONITORING PERIOD

No	Site	Before WSD S Installation			After WSD'S Installation			Data Form	Data recording Interval	Collected Data	Remarks
		From	To	No of Days	From	To	No Of Days				
1	Philadelphia Hotel	29 3 96	12 4 96	10	12 4 96	24 4 96	10	Plotter Role Printer & WSD-I	Hourly Daily	E1 1 - E1 2 + E10	Data of UFM installed on Hot Water return are Negligible
2	Al-Zertounah University	30 3 96	13 4 96	10	13 4 96	24 4 96	10	Plotter Role Printer & WSD-I	Hourly	Appendix	one UFM
		21 3 96	13 4 96	23	13 4 96	24 4 96	11		Daily	E2 1 - E2 3 + E10	Two CFM
3	Akkad Luxurious Villa Deir Ghabar	22 3 96	14 4 96	23	14 4 96	26 4 96	12	WSD-I Form	Daily	Appendix E3	Dynosonic UFM
4	King Hussein Medical Center	5 5 96	16 5 96	10	20 5 96	30 5 96	10	Plotter Role Printer & WSD-I	Hourly Daily	Appendix E4 1 1 - E4 2 2 + E10	Additiona WSD's Installed
5	Water Directorate of Amman Municipality	21 4 96	16 5 96	10	20 5 96	2 6 96	10	WSD-I Form	Daily	Appendix E5 1 - E5 4	Additiona WSD's Installed
6	Al-Husseini Mosque	23 4 96	16 5 96	23	18 5 96	3 6 96	16	WSD-I Form	Daily	Appendix E6 1 - E6 6	Additiona WSD's Installed
7	Apartment East Amman	23 4 96	16 5 96	23	16 5 96	2 6 96	17	WSD-I Form	Daily	Appendix E7	
8	Al-Salt Girls Secondary School	23 5 96	4 6 96	12	13 5 96	23 5 96	10	WSD-I Form	Daily	Appendix E8	Monitoring with WSD's first
9	Al-Hussein General Depots	26 5 96	5 6 96	10	16 5 96	26 5 96	10	WSD-I Form	Daily	Appendix E9	Monitoring with WSD s first

APPENDIX E

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN
APPENDIX E_O
SUMMARY OF THE SUB-APPENDICES OF THE TABULATED DATA

No	Site	FLOW METER No (1)			FLOW METER No (2)			FLOW METER No (3)			FLOW METER No (4)			FLOW METER No (5)			FLOW METER No (6)			REMARKS
		Type	Size	Sub Append	Type	Size	Sub Append	Type	Size	Sub Append	Type	Size	Sub Append	Type	Size	Sub-Append	Type	Size	Sub Append	
1	Philadelphia Hotel	UFM	SS 2"	E1 1	UFM	SS 1 1/2	E1 2													
2	Al Zeitounah University	UFM	SS 1	E2 1	CFM	3/4"	E2 2	CFM	1/2	E2 3										
3	Akkad Luxurious Villa	UFM	Clamp 3/4"	E3																
4	King Hussein Medical Center	UFM	SS 2	E4 1 1	UFM	SS 2	E4 1 2	UFM	Clamp 3/4	E4 1 3	UFM	SS 2	E4.2 1	UFM	SS 1 1/2	E4 2 2				
5	Water Directorate of Amman Municipality	CFM	3/4"	E5 1	CFM	3/4"	E5 2	CFM	3/4	E5 3	CFM	3/4	E5 4							
6	Al Husseini Mosque	CFM	1	E6 1	CFM	1/2	E6 2	CFM	1/2	E6 3	CFM	1/2	E6 4	CFM	3/4	E6 5	CFM	1 1/2	E6 6	
7	Apartment East Amman	CFM	3/4	E7																
8	Al Salt Girls Secondary School	CFM	1/2	E8																
9	Al Hussein General□C Depots	CFM	1/2	E9																

PHILADELPHIA HOTEL								
Cold Supply Pipe , Dia =60 8mm Thickness=3 4667mm , Steel								
Before								
Date	Reading (*10Lit.)		Time	Consumption	Consumption	Occupancy	Consumption	Average
	+			Cum (m^3)	m^3	room	m^3/Room	m^3/Room/Day
Reprograming of the Ultra-Sonic Meter								
29/03/96	0	0	13 14	0 00				
30/03/96	310	0	13 14	3 10	3 10	7 00	0 443	0 529
31/03/96	675	0	13 14	6 75	3 65	5 00	0 730	
1/04/96	1002	0	13 14	10 02	3 27	6 00	0 545	
2/04/96	1361	0	13 14	13 61	3 59	7 00	0 513	
Reprograming of the Ultra-Sonic Meter								
2/04/96	0	0	13 47	0 00				
3/04/96	343	0	13 47	3 43	3 43	8 00	0 429	
4/04/96	704	0	13 47	7 04	3 61	5 00	0 722	
5/04/96	1004	0	13 22	10 04	3 00	6 00	0 500	
Reprograming of the Ultra-Sonic Meter								
5/04/96	0	0	13 24	0 00				
6/04/96	305	0	13 24	3 05	3 05	6 00	0 508	
Reprograming of the Ultra-Sonic Meter								
7/04/96	0	0	20 53	0 00				
8/04/96	327	0	20 53	3 27	3 27	5 00	0 654	
9/04/96	662	0	20 53	6 62	3 35	8 00	0 419	
10/04/96	1020	0	20 53	10 20	3 58	6 00	0 597	
11/04/96	1304	0	18 25	13 04	2 84	8 00	0 355	
Reprograming of the Ultra-Sonic Meter								
11/04/96	0	0	18 28	0 00				
After								
12/04/96	414	0	18 28	4 14				
13/04/96	708	0	18 28	7 08	2 94	5 00	0 588	0 447
14/04/96	1007	0	18 28	10 07	2 99	8 00	0 374	
15/04/96	1343	0	18 28	13 43	3 36	6 00	0 560	
Reprograming of the Ultra-Sonic Meter								
16/04/96	0	0	19 37	0 00				
17/04/96	270	0	19 37	2 70	2 70	5 00	0 540	
18/04/96	525	0	19 37	5 25	2 55	6 00	0 425	
19/04/96	780	0	19 18	7 80	2 55	8 00	0 319	
20/04/96	1090	0	18 52	10 90	3 10	7 00	0 443	
Reprograming of the Ultra-Sonic Meter								
20/04/96	0	0	18 57	0 00				
21/04/96	319	0	18 42	3 19	3 19	8 00	0 399	
22/04/96	693	2	18 39	6 91	3 72	8 00	0 465	
23/04/96	1113	3	18 39	11 10	4 19	9 00	0 466	

APPENDIX E1 1

Avg Daily Room Cons Before WSD s Installation	0 529 M3/DAY
Avg Daily Room Cons After WSD s Installation	0 447 M3/DAY
STDEV Daily Room Cons Before WSD'S Installation	0 116
STDEV Daily Room Cons After WSD'S Installation	0 085
Median Daily Room Cons Before WSD's Installation	0 511
Median Daily Room Cons After WSD's Installation	0 454
Mode DailyRoom Cons Before WSD's Installation	#N/A
Mode DailyRoom Cons After WSD s Installation	#N/A
Variance Daily Room Cons Before WSD s Installation	0 014
Variance Daily Room Cons After WSD s Installation	0 007
Saving Percentage (Avg Daily Room Consumption) = 15 50%	
Saving Percentage (Median Daily Room Consumption) = 12 20%	

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN
APPENDIX E1 2
UFM DYNASONIC
EDITED RAW DATA

Philadelphia Hotel				
Hot Supply Pipe , Dia =36 84 mm , Thickness=2 8mm ,Steel				
Before				
Date	Consumption	Occupancy	Consumption	Average
	m^3	Room	m^3/Room	m^3/Room/Day
30/03/96	7 33	7	1 047	1 005
31/03/96	5 97	5	1 195	
1/04/96	5 09	6	0 848	
2/04/96	5 79	7	0 827	
3/04/96	7 45	8	0 931	
4/04/96	6 81	5	1 362	
5/04/96	6 97	6	1 162	
6/04/96	5 38	6	0 896	
7/04/96	7 52	9	0 835	
8/04/96	6 06	5	1 212	
After				
14/04/96	3 78	8	0 472	0 706
15/04/96	4 05	6	0 676	
16/04/96	1 57	7	0 225	
17/04/96	6 07	5	1 214	
18/04/96	5 97	6	0 995	
19/04/96	5 18	8	0 647	
21/04/96	8 02	8	1 002	
22/04/96	4 85	8	0 607	
23/04/96	6 25	9	0 694	
24/04/96	6 50	9	0 722	
Avg Daily Room Cons Before WSD's Installation				1 005 M^3/ROOM/DAY
Avg Daily Room Cons After WSD's Installation				0 706 M^3/ROOM/DAY
STDEV Daily Room Cons Before WSD's Installation				0 191
STDEV Daily Room Cons After WSD's Installation				0 284
Median Daily Room Cons Before WSD's Installation				0 989
Median Daily Room Cons After WSD's Installation				0 685
Mode Daily Room Cons Before WSD's Installation				#N/A
Mode Daily Room Cons After WSD's Installation				#N/A
Variance Daily Room Cons Before WSD's Installation				0 036
Variance Daily Room Cons After WSD's Installation				0 081
Saving Percentage (Avg Room/Day) = 29 80%				
Saving Percentage (Median Room/Day) = 30 80%				

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN
APPENDIX E2 1
UFM FUJI ELECTRIC PORTAFLOW (No 1)
EDITED RAW DATA

AL ZAITOUNAH UNIVERSITY						
Pipe Dia =34 mm , Thickness=3 4mm , Steel						
Before						
Date	**Reading**	**Time**	**Consumption**	**Total**		
	Cum m^3		**m^3**	**m^3**		
30/03/96	0	20 05		83 15		
31/03/96	16 03	20 05	16 03			
1/04/96	28 27	20 05	12 24			
2/04/96	38 65	20 05	10 38			
Reprogramming of the Ultra-Sonic Meter						
8/04/96	0	15 04				
9/04/96	9 19	15 04	9 19			
10/04/96	14 18	18 30	4 99			
11/04/96	22 91	18 12	8 73			
12/04/96	34 92	18 12	12 01			
13/04/96	44 5	13 20	9 58			
After						
13/04/96	0	15 30		73 11		
14/04/96	7 71	15 30	7 71			
15/04/96	14 33	15 30	6 62			
16/04/96	22 36	15 30	8 03			
17/04/96	30 91	15 30	8 55			
Reprogramming of the Ultra-Sonic Meter						
20/04/96	0	17 25				
21/04/96	8 92	17 25	8 92			
22/04/96	24 72	17 25	15 8			
23/04/96	35 62	17 25	10 9			
24/04/96	42 2	16 23	6 58			
Avg Daily Cons (8 Days) Before WSD's Installation					10 394	M^3/DAY
Avg Daily Cons (8 Days) After WSD's Installation					9 139	M^3/DAY
STDEV Daily Cons (8 Days) Before WSD's Installation					3 204	
STDEV Daily Cons (8 Days) After WSD's Installation					3 024	
Median Daily Cons (8 Days) Before WSD's Installation					9 98	
Median Daily Cons (8 Days) After WSD's Installation					8 29	
Mode Daily Cons (8 Days) Before WSD's Installation					#N/A	
Mode Daily Cons (8 Days) After WSD's Installation					#N/A	
Variance Daily Cons (8 Days) Before WSD s Installation					10 267	
Variance Daily Cons (8 Days) After WSD's Installation					9 147	
Saving Percentage (Avg 8 Days) = 12 07%						
Saving Percentage (Median 8 Days) = 17 0%						

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E2 2)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name AL-ZEITOUNAH UNIVERSITY ١) اسم الموقع
2) Description of Selected Zone for Water Flow Monitoring ٢) وصف منطقه مراقبه استهلاك المياه
GIRLS STUDENT HOUSING, WOMEN DORMITORY
3) Type, Number, and Size of Flow Meter UFM, No(2), 3/4" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 21/3/1996 من تاريخ
To 21/4/1996 الى تاريخ
5) Name of Observer NASHAT MURAD ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	21/03/96	Thurs	12 00	0 000	0 000	CFM'S INSTALLATION
2	22/03/96	Fri	12 00	4 745	4 745	———
3	23/03/96	Sat	12 00	11 387	6 642	———
4	24/03/96	Sun	12 00	18 319	6 932	———
5	25/03/96	Mon	12 00	25 754	7 435	———
6	26/03/96	Tues	12 00	32 726	6 972	———
7	27/03/96	Wed	12 00	39 957	7 231	———
8	28/03/96	Thurs	12 00	45 746	5 789	———
9	29/03/96	Fri	12 00	50 082	4 336	———
10	30/03/96	Sat	12 00	56 383	6 701	———
11	31/03/96	Sun	12 00	63 496	7 113	———
12	1/04/96	Mon	12 00	70 123	6 627	———
13	2/04/96	Tusd	12 00	77 057	6 934	———
14	3/04/96	Wed	12 00	84 203	7 146	———
15	4/04/96	Thurs	12 00	92 054	7 851	———
16	5/04/96	Fri	12 00	97 511	5 457	———
17	6/04/96	Sat	12 00	103 743	6 232	———
18	7/04/96	Sun	12 00	110 974	7 231	———
19	8/04/96	Mon	12 00	117 885	6 911	———

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E2 2)						
No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
20	9/04/96	Tues	12 00	124 761	6 876	_____
21	10/04/96	Wed	12 00	132 692	7 931	_____
22	11/04/96	Thurs	12 00	138 021	5 329	_____
23	12/04/96	Fri	12 00	142 916	4 897	_____
24	13/04/96	Sat	12 00	149 591	6 673	_____
25	14/04/96	Sun	12 00	154 557	4 966	WSD s INSTALLATION
26	15/04/96	Mon	12 00	159 088	4 531	_____
27	16/04/96	Tues	12 00	164 038	4 975	_____
28	17/04/96	Wed	12 00	169 352	5 314	_____
29	18/04/96	Thurs	16 00	173 549	4 099	WEEK END
30	19/04/96	Fri	16 00	177 165	3 615	WEEK END
31	20/04/96	Sat	16 00	181 635	4 471	_____
32	21/04/96	Sun	16 00	188 848	7 213	_____
33	22/04/96	Mon	16 00	195 279	6 431	_____
34	23/04/96	Tues	16 00	200 431	5 152	_____
35	24/04/96	Wed	16 00	207 192	6 760	_____

RESULTS

Avg Daily Cons (23 Days) Before WSD s Installation	6 521 M^3/DAY
Avg Daily Cons (11 Days) Before WSD s Installation	6 594 M^3/DAY
Avg Daily Cons (11 Days) After WSD s Installation	5 236 M^3/DAY
STDEV Daily Cons (23 Days) Before WSD's Installation	0 977
STDEV Daily Cons (11 Days) Before WSD s Installation	1 008
STDEV Daily Cons (11 Days) After WSD s Installation	1 132
Median Daily Cons (23 Days) Before WSD s Installation	6 876
Median Daily Cons (11 Days) Before WSD s Installation	6 876
Median Daily Cons (11 Days) After WSD s Installation	4 975
Mode Daily Cons (23 Days) Before WSD s Installation	7 231
Mode Daily Cons (11 Days) Before WSD s Installation	#N/A
Mode Daily Cons (11 Days) After WSD s Installation	#N/A
Variance Daily Cons (23 Days) Before WSD s Installation	0 954
Variance Daily Cons (11 Days) Before WSD s Installation	1 017
Variance Daily Cons (11 Days) After WSD s Installation	1 282

Saving Percentage (Average 23 days)	19 70%
Saving Percentage (Average 11 days)	20 60%
Saving Percentage (Median 23 days)	27 70%
Saving Percentage (Median 11 days)	27 70%

*SEE SECTION (V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E2 3)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name AL-ZEITOUNAH UNIVERSITY ١) اسم الموقع
2) Description of Selected Zone for Water Flow Monitoring ٢) وصف منطقه مراقبه استهلاك المياه
COUNSELOR'S RESIDENCE, WOMEN DORMITORY
3) Type, Number, and Size of Flow Meter CFM, No(3), 3/4" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 21/3/1996 من تاريخ
To 24/4/1996 الى تاريخ
5) Name of Observer NASHAT MURAD ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	21/03/96	Thurs	16 00	0 000	0 000	CFM'S INSTALLATION
2	22/03/96	Fri	16 00	0 119	0 119	_____
3	23/03/96	Sat	16 00	0 288	0 169	_____
4	24/03/96	Sun	16 00	0 541	0 253	_____
5	25/03/96	Mon	16 00	0 812	0 271	_____
6	26/03/96	Tues	16 00	1 023	0 211	_____
7	27/03/96	Wed	16 00	1 275	0 252	_____
8	28/03/96	Thurs	16 00	1 384	0 104	_____
9	29/03/96	Fri	16 00	1 507	0 123	_____
10	30/03/96	Sat	16 00	1 650	0 143	_____
11	31/03/96	Sun	16 00	1 911	0 261	_____
12	1/04/96	Mon	16 00	2 122	0 211	_____
13	2/04/96	Tues	16 00	2 367	0 245	_____
14	3/04/96	Wed	16 00	2 629	0 262	_____
15	4/04/96	Thurs	16 00	2 672	0 143	_____
16	5/04/96	Fri	16 00	2 828	0 156	_____
17	6/04/96	Sat	16 00	3 045	0 217	_____
18	7/04/96	Sun	16 00	3 223	0 178	_____
19	8/04/96	Mon	16 00	3 475	0 252	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E2 3)						
No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
20	9/04/96	Tues	16 00	3 696	0 221	———
21	10/04/96	Wed	16 00	3 952	0 256	———
22	11/04/96	Thurs	16 00	4 143	0 191	———
23	12/04/96	Fri	16 00	4 434	0 2911	———
24	13/04/96	Sat	16 00	4 7481	0 314	WSD's INSTALLATION
25	14/04/96	Sun	16 00	5 1827	0 4346	———
26	15/04/96	Mon	16 00	5 5947	0 412	———
27	16/04/96	Tues	16 00	6 0707	0 476	———
28	17/04/96	Wed	16 00	6 582	0 5113	———
29	18/04/96	Thurs	16 00	6 943	0 361	———
30	19/04/96	Fri	16 00	7 2619	0 3189	———
31	20/04/96	Sat	16 00	7 694	0 4321	———
32	21/04/96	Sun	16 00	8 1591	0 4651	———
33	22/04/96	Mon	16 00	8 6359	0 4768	———
34	23/04/96	Tues	16 00	9 1321	0 4962	———
35	24/04/96	Wed	16 00	9 6552	0 5231	———

RESULTS

Average Daily Consumption (23 days) Before installation of WSD's 0 219 M3/Day

Average Daily Consumption (11 days) Before installation of WSD s 0 216 M3/Day

Average Daily Consumption (11 days) After installation of WSD's 0 4576 M3/Day

Saving (%) No SAVING (see section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E3)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name Akkad Luxurious Villa Deir Ghbar ١) اسم الموقع

2) Description of Selected Zone for Water ٢) وصف منطقه مراقبه استهلاك المياه
Flow Monitoring
The Villa Main Building

3) Type, Number, and Size of Flow Meter UFM, 3/4"pipe ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 22/3/1996 من تاريخ
To 26/4/1996 الى تاريخ
5) Name of Observer Talat Mahmoud ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M3)	Water Flow Consumed (M3)	Remarks
1	22/03/96	Fri	19 00	0 000	0 000	UFM INSTALLATION
2	23/03/96	Sat	19 00	1 309	1 309	_____
3	24/03/96	Sun	19 00	2 17	0 861	_____
4	25/03/96	Mon	19 00	2 937	0 767	_____
5	26/03/96	Tues	19 00	3 067	0 129	_____
6	27/03/96	Wed	19 00	3 235	0 168	_____
7	28/03/96	Thurs	19 00	5 643	2 408	_____
8	29/03/96	Fri	19 00	8 301	2 657	_____
9	30/03/96	Sat	19 00	10 813	2 512	_____
10	31/03/96	Sun	19 00	13 907	3 09	_____
11	1/04/96	Mon	19 00	16 734	2 83	_____
12	2/04/96	Tues	19 00	18 854	1 92	_____
13	3/04/96	Wed	19 00	21 371	2 666	_____
14	4/04/96	Thurs	19 00	23 583	2 261	_____
15	5/04/96	Fri	19 00	2 961	3 35	_____
16	6/04/96	Sat	19 00	30 29	3 356	_____
17	7/41996	Sun	19 00	33 362	3 072	_____
18	8/04/96	Mon	19 00	36 267	2 904	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E3)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	9/04/96	Tues	19 00	0 783	2 37	UFM PRE-PROGRAMMING
20	10/04/96	Wed	19 00	2 421	1 638	_____
21	11/04/96	Thurs	19 00	0 481	2 386	_____
22	12/04/96	Fri	19 00	7 58	2 772	_____
23	13/04/96	Sat	19 00	10 208	2 627	_____
24	14/04/96	Sun	19 00	13 448	3 24	WSD s INSTALLATION
25	15/04/96	Mon	19 00	15 737	2 288	_____
26	16/04/96	Tues	19 00	19 367	3 63	_____
27	17/04/96	Wed	19 00	22 161	2 794	_____
28	18/04/96	Thurs	19 00	25 216	3 055	_____
29	19/04/96	Fri	19 00	22 029	1 812	_____
30	20/04/96	Sat	19 00	29 483	2 453	_____
31	21/41996	Sun	19 00	31 891	2 408	_____
32	22/04/96	Mon	19 00	33 51	0 861	_____
33	23/04/96	Tues	19 00	33 708	0 955	_____
34	24/04/96	Wed	19 00	34 678	0 969	_____
35	25/04/96	Thurs	19 00	36 074	1 396	_____
36	26/04/96	Fri	19 00	37 096	1 022	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E3)

RESULTS

Avg Daily Cons (23 Days) Before WSD's Installation	2 230 M^3/DAY
Avg Daily Cons (12 Days) Before WSD's Installation	2 720 M^3/DAY
Avg Daily Cons (12 Days) After WSD's Installation	1 970 M^3/DAY
STDEV Daily Cons (23 Days) Before WSD's Installation	0 971
STDEV Daily Cons (12 Days) Before WSD's Installation	0 510
STDEV Daily Cons (12 Days) After WSD's Installation	0 937
Median Daily Cons (23 Days) Before WSD's Installation	2 512
Median Daily Cons (12 Days) Before WSD's Installation	2 719
Median Daily Cons (12 Days) After WSD's Installation	2 05
Mode Daily Cons (23 Days) Before WSD's Installation	#N/A
Mode Daily Cons (12 Days) Before WSD's Installation	#N/A
Mode Daily Cons (12 Days) After WSD's Installation	#N/A
Variance Daily Cons (23 Days) Before WSD's Installation	0 944
Variance Daily Cons (12 Days) Before WSD's Installation	0 260
Variance Daily Cons (12 Days) After WSD's Installation	0 878

Saving Percentage (average 23 days) = 11 70%

Saving Percentage (Median 23 days) = 18 40%

Saving Percentage (average 12 days) = 27 60

Saving Percentage (median 12 days) = 24 60%

*(see Section V)

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN
APPENDIX E4 1 1
UFM FUJI ELECTRIC PORTAFLOW
EDITED RAW DATA

AL-HUSSEIN MEDICAL CENTRE				**Station 1**			
Cold Supply Pipe , Dia =60 5 , Thickness=3 2mm ,Steel							
Before							
Date	**Reading**	**Time**	**Consumption**	**Total**	**Average**		
	***10Lit**		**m3**	**m3**	**m3/Day**		
5/05/96	0	15 41		30 47	3 047		
6/05/96	405	15 41	4 05				
7/05/96	635	15 91	2 30				
8/05/96	971	15 43	3 36				
9/05/96	1318	15 23	3 47				
Reprograming of the Ultra-Sonic Meter							
9/05/96	19	17 00					
10/05/96	171	16 52	1 52				
11/05/96	430	16 52	2 59				
12/05/96	825	16 40	3 95				
13/05/96	1116	14 24	2 91				
Reprograming of the Ultra-Sonic Meter							
13/05/96	0	14 31					
14/05/96	307	14 31	3 07				
15/05/96	632	14 31	3 25				
After							
Reprograming of the Ultra-Sonic Meter							
20/05/96	0	14 39		16 98	1 698		
21/05/96	196	14 39	1 96				
22/05/96	387	14 51	1 91				
23/05/96	597	14 51	2 10				
24/05/96	700	14 24	1 03				
Reprograming of the Ultra-Sonic Meter							
24/05/96	0	14 35					
25/05/96	153	14 35	1 53				
26/05/96	279	14 35	1 26				
27/05/96	463	14 35	1 84				
28/05/96	606	11 25	1 43				
Reprograming of the Ultra-Sonic Meter							
28/05/96	0	11 33					
29/05/96	224	11 33	2 24				
30/05/96	392	11 33	1 68				
Avg Daily Cons (10 Days) Before WSD's Installation						3 047	M^3/DAY
Avg Daily Cons (10 Days) After WSD's Installation						1 698	M^3/DAY
SYDEV Daily Cons (10 Days) Before WSD's Installation						0 764	
SYDEV Daily Cons (10 Days) After WSD's Installation						0 384	
Median Daily Cons (10 Days) Before WSD's Installation						3 16	
Median Daily Cons (10 Days) After WSD's Installation						1 76	
Mode Daily Cons (10 Days) Before WSD's Installation						#N/A	
Mode Daily Cons (10 Days) After WSD's Installation						#N/A	
Variance Daily Cons (10 Days) Before WSD's Installation						0 584	
Variance Daily Cons (10 Days) After WSD's Installation						0 148	
Saving Percentage (Avg 10 Days) = 44 27%							
Saving Percentage (Median 10 Days) = 44 31%							

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX E4 1 2

UFM FUJI ELECTRIC PORTAFLOW

EDITED RAW DATA

AL-HUSSEIN MEDICAL CENTER					Station #1			
Hot Supply Pipe , Dia =54 9mm , Thickness=2 5mm , Brass								
Before								
Date	Reading (*10Lit.)		Time	Consumption	Consumption	Total In	Total Out	Tota Cons
	+	-		Cum (m3)	m3	m3	m3	
2/05/96	113	0	16 32	1 13	0 00			
3/05/96	291	0	16 32	2 91	1 78	24 10	0 498	23 60
4/05/96	521	0	16 32	5 21	2 30			
5/05/96	791	0	16 45	7 91	2 70			
Reprograming of the Ultra Sonic Meter								
5/05/96	0	0	15 45	0 00				
6/05/96	282	0	15 45	2 82	2 82			
7/05/96	477	0	15 19	4 77	1 95			
8/05/96	737	0	15 44	7 37	2 60			
9/05/96	1004	0	15 44	10 04	2 67			
Reprograming of the Ultra-Sonic Meter								
13/05/96	0	0	14 58	0 00				
14/05/96	245	0	14 58	2 45	2 45			
15/05/96	479	0	14 58	4 79	2 34			
16/05/96	728	0	14 58	7 28	2 49			
After								
20/05/96	0	0	14 38	0 00	0 00	29 36	8 54	20 82
21/05/96	233	0	14 38	2 33	2 33			
22/05/96	531	0	14 51	5 31	2 98			
23/05/96	917	0	14 51	9 17	3 86			
24/05/96	1235	0	14 35	12 35	3 18			
Reprograming of the Ultra Sonic Meter								
24/05/96	0	0	14 35	0 00				
25/05/96	236	0	14 35	2 36	2 36			
26/05/96	652	0	14 35	6 52	4 16			
27/05/96	899	0	14 35	8 99	2 47			
28/05/96	1161	0	11 27	10 16	1 17			
Reprograming of the Ultra-Sonic Meter								
28/05/96	0	0	11 33	0 00				
29/05/96	435	0	11 33	4 35	4 35			
30/05/96	685	0	11 33	6 85	2 50			
Avg Daily Cons (10 Days) Before WSD s Installation					2 360	M^3/DAY		
Avg Daily Cons (10 Days) After WSD s Installation					2 082	M^3/DAY		
SYDEV Daily Cons (10 Days) Before WSD s Installation					0 368			
SYDEV Daily Cons (10 Days) After WSD s Installation					1 054			
Median Daily Cons (10 Days) Before WSD s Installation					2 467			
Median Daily Cons (10 Days) After WSD s Installation					2 345			
Mode Daily Cons (10 Days) Before WSD s Installation					#N/A			
Mode Daily Cons (10 Days) After WSD s Installation					#N/A			
Variance Daily Cons (10 Days) Before WSD s Installation					0 136			
Variance Daily Cons (10 Days) After WSD s Installation					1 111			
Saving Percentage (Avg 10 Days) = 11 79%								
Saving Percentage (Median 10 Days) = 5 0%								

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN
APPENDIX E4 1 3
UFM DYNASONIC
EDITED RAW DATA

AL-HUSSEIN MEDICAL CENTER			Station #1	
Return Hot Pipe , Dia =18 64mm , Thickness=1 24mm , Brass				
Date	Consumption	Consumption	Consumption	
	Cum Gallon	Cum Liters	Actual (m^3)	
27/04/96	0 00	0 00		
28/04/96	383 42	1450 60	1 451	
29/04/96	711 60	2692 21	1 242	
30/04/96	849 82	3215 14	0 523	
1/05/96	863 85	3268 22	0 053	
2/05/96	911 61	3448 91	0 181	
3/05/96	961 48	3637 59	0 189	
4/05/96	970 17	3670 46	0 033	
5/05/96	972 70	3680 04	0 010	
6/05/96	976 10	3692 90	0 013	
7/05/96	980 21	3708 45	0 016	
8/05/96	989 11	3742 12	0 034	
9/05/96	991 20	3750 03	0 008	
10/05/96	993 06	3757 06	0 007	
11/05/96	993 60	3759 11	0 002	
12/05/96	993 91	3760 28	0 001	
13/05/96	994 94	3764 18	0 004	
14/05/96	996 81	3771 25	0 007	
15/05/96	997 50	3773 86	0 003	
17/05/96	1008 93	3817 11	0 043	
18/05/96	1012 96	3832 35	0 015	
19/05/96	1017 74	3850 44	0 018	
20/05/96	1017 79	3850 63	0 000	
21/05/96	1017 72	3850 36	0 000	
22/05/96	1018 82	3854 52	0 004	
23/05/96	1513 09	5724 52	1 870	
24/05/96	2038 03	7710 52	1 986	
25/05/96	2038 91	7713 85	0 003	
26/05/96	2039 87	7717 48	0 004	
27/05/96	2076 43	7855 80	0 138	
28/05/96	2108 15	7975 81	0 120	
29/05/96	2149 20	8131 11	0 155	
30/05/96	2174 16	8225 55	0 094	
Installed for Monitoring The Return Hot Water, Not Water Saving				

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN
APPENDIX E4 2 1
UFM FUJI ELECTEIC PORTAFLOW
EDITED RAW DATA

AL-HUSSEIN MEDICAL CENTER				**Station #2**			
Cold Supply Pipe , Dia =60 7 mm , Thickness=2 8mm ,Steel							
Before							
Date	**Reading (*10Lit)**		**Time**	**Consumption**	**Consumption**	**Average**	
	+	**-**		**Cum (m^3)**	**m^3**	**m^3/Day**	
5/05/96	0	0	15 47	0 00		2 88	
6/05/96	256	0	15 47	2 56	2 56		
7/05/96	583	0	15 21	5 83	3 27		
8/05/96	837	0	15 46	8 37	2 54		
9/05/96	1136	0	15 26	11 36	2 99		
Reprograming of the Ultra-Sonic Meter							
9/05/96	0	0	16 05	0 00			
10/05/96	153	0	16 55	1 53	1 53		
11/05/96	436	0	16 55	4 36	2 83		
12/05/96	781	0	16 43	7 81	3 45		
13/05/96	1070	0	14 33	10 70	2 89		
Reprograming of the Ultra-Sonic Meter							
13/05/96	1	0	14 39	0 01			
14/05/96	345	0	14 39	3 45	3 44		
15/05/96	674	0	14 39	6 74	3 29		
After							
20/05/96	0	0	14 38	0 00			
21/05/96	79	10	14 38	0 69	0 69	1 49	
22/05/96	195	12	14 54	1 83	1 14		
23/05/96	337	13	14 54	3 24	1 41		
24/05/96	502	14	14 33	4 88	1 64		
Reprograming of the Ultra-Sonic Meter							
24/05/96	0	0	14 38	0 00			
25/05/96	85	2	14 38	0 83	0 83		
26/05/96	195	3	14 38	1 92	1 09		
27/05/96	439	3	14 38	4 36	2 44		
28/05/96	589	5	10 38	5 84	1 48		
Reprograming of the Ultra-Sonic Meter							
28/05/96	0	0	11 40	0 00			
29/05/96	263	0	11 40	2 63	2 63		
30/05/96	417	1	11 40	4 16	1 53		
Avg Daily (10 Days) Before WSD's Installation						2 88	M^3/DAY
Avg Daily (10 Days) After WSD's Installation						1 49	M^3/DAY
STDEV Daily Cons (10 Days) Before WSD's Installation						0 579	
STDEV Daily Cons (10 Days) After WSD's Installation						0 632	
Median Daily Cons (10 Days) Before WSD's Installation						2 94	
Median Daily Cons (10 Days) After WSD's Installation						1 45	
Mode Daily Cons (10 Days) Before WSD's Installation						#N/A	
Mode Daily Cons (10 Days) After WSD s Installation						#N/A	
Variance Daily Cons (10 Days) Before WSD's Installation						0 335	
Variance Daily Cons (10 Days) After WSD's Installation						0 399	
Saving Percentage (Avg 10 Days) = 48 32%							
Saving Percentage (Median 10 Days) = 50 70%							

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN
APPENDIX E4 2 2
UFM DYNASONIC
EDITED RAW DATA

AL-HUSSEIN MEDICAL CENTER				**Station #2**		
Hot Supply Pipe , Dia =54 32mm , Thickness=3 01mm , Brass						
Date	**Reading**	**Time**	**Consumption**	**Total**		
	Cum (*10Lit)		**m^3**	**m^3**		
4/05/96	0	21 00		14 27		
5/05/96	135	21 00	1 35			
6/05/96	261	21 00	1 26			
7/05/96	432	21 00	1 71			
8/05/96	621	21 00	1 89			
Reprograming of the Ultra-Sonic Meter						
9/05/96	0	21 00				
10/05/96	85	21 00	0 85			
11/05/96	220	21 00	1 35			
12/05/96	362	21 00	1 42			
13/05/96	543	21 00	1 81			
Reprograming of the Ultra-Sonic Meter						
13/05/96	37	21 00				
14/05/96	183	21 00	1 46			
15/05/96	300	21 00	1 17			
After						
20/05/96	0	21 00		11 64		
21/05/96	102	21 00	1 02			
22/05/96	235	21 00	1 33			
23/05/96	354	21 00	1 19			
Reprograming of the Ultra-Sonic Meter						
23/05/96	0	21 00				
24/05/96	105	21 00	1 05			
25/05/96	206	21 00	1 01			
26/05/96	315	21 00	1 09			
Reprograming of the Ultra-Sonic Meter						
27/05/96	0	21 00				
28/05/96	95	21 00	0 95			
29/05/96	206	21 00	1 11			
30/05/96	321	21 00	1 15			
31/05/96	495	21 00	1 74			
Avg Daily cons (10 Days) Before WSD's Installation					1 427	M^3/Day
Avg Daily Cons (10 Days) After WSD's Installation					1 164	M^3/Day
STDEV Daily Cons (10 Days) Before WSD's Installation					0 313	
STDEV Daily Cons (10 Days) After WSD's Installation					0 229	
Median Daily Cons (10 Days) Before WSD's Installation					1 385	
Median Daily Cons (10 Days) After WSD's Installation					1 100	
Mode Daily Cons (10 Days) Before WSD's Installation					1 350	
Mode Daily Cons (10 Days) After WSD's Installation					#N/A	
Variance Daily Cons (10 Days) Before WSD's Installation					0 098	
Variance Daily Cons (10 Days) Before WSD's Installation					0 052	
Saving Percentage (Avg, 10 Days) = 18 43%						
Saving Percentage (Median 10 Days) = 20 60%						

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 1)
FORM No WSD_1
Monitoring of Water Saving Devices

1) Location Name WATER DIRECTORATE OF AMMAN MUNICIPALITY ١) اسم الموقع
2) Description of Selected Zone for Water Flow Monitoring ٢) وصف منطقه مراقبه استهلاك المياه

3) Type, Number, and Size of Flow Meter CFM, No(1), 4/3" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 21/4/1996 من تاريخ
To 2/6/1996 الى تاريخ
5) Name of Observer IBRAHIM HILMI ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	21/04/96	Sun	8 00	0 000	0 000	CFM s Installation
2	22/04/96	Mon	8 00	0 7321	0 7321	_____
3	24/04/96	Tues	8 00	1 5283	0 7962	_____
4	25/04/96	Wed	8 00	2 3296	0 8013	_____
5	26/04/96	Thurs	8 00	3 1409	0 8113	_____
6	27/04/96	Fri	8 00	_____	_____	ADHA EID*
7	28/04/96	Sat	8 00	_____	_____	HOLIDAY
8	29/04/96	Sun	8 00	_____	_____	HOLIDAY
9	30/04/96	Mon	8 00	_____	_____	HOLIDAY
10	31/4/1996	Tues	8 00	_____	_____	HOLIDAY
11	1/05/96	Wed	8 00	_____	_____	HOLIDAY
12	2/05/96	Thurs	8 00	4 125	0 9841	_____
13	3/05/96	Fri	8 00	_____	_____	WEEK END*
14	4/05/96	Sat	8 00	4 876	0 626	_____
15	5/05/96	Sun	8 00	5 757	0 880	_____
16	6/05/96	Mon	8 00	6 579	0 822	_____
17	7/05/96	Tues	8 00	7 471	0 892	_____
18	8/05/96	Wed	8 00	8 354	0 883	_____

1'

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 1)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	9/05/96	Thurs	8 00	9 267	0 913	_____
20	10/05/96	Fri	8 00	_____	_____	WEEK END
21	11/05/96	Sat	8 00	10 138	0 871	_____
22	12/05/96	Sun	8 00	11 074	0 935	_____
23	13/05/96	Mon	8 00	12 252	1 178	_____
24	14/05/96	Tues	8 00	13 255	1 003	_____
25	15/05/96	Wed	8 00	14 095	0 840	_____
26	16/05/96	Thurs	8 00	14 212	0 117	WSD s** INSTALLATION
27	17/05/96	Fri	8 00	_____	_____	WEEK END
28	18/05/96	Sat	8 00	_____	_____	HOLIDAY
29	19/05/96	Sun	8 00	15 087	0 875	_____
30	20 5/1996	Mon	8 00	15 810	0 722	ADDITIONAL*** WSD s INSTALLATION
31	21/05/96	Tues	8 00	16 131	0 321	_____
32	22/05/96	Wed	8 00	16 552	0 421	_____
33	23/05/96	Thurs	8 00	16 999	0 448	_____
34	24/05/96	Fri	8 00	_____	_____	WEEK END
35	25/05/96	Sat	8 00	_____	_____	HOLIDAY
36	26/05/96	Sun	8 00	17 534	0 535	_____
37	27/05/96	Mon	8 00	18 296	0 762	_____
38	28/05/96	Tues	8 00	19 295	0 999	_____
39	29/05/96	Wed	8 00	19 926	0 631	_____
40	30/05/96	Thurs	8 00	21 143	1 217	_____
41	31/05/96	Fri	8 00	_____	_____	WEEK END
42	1/06/96	Sat	8 00	21 907	0 764	CFM S DISMOUNTING
43	2/06/96	Sun	8 00	22 849	0 942	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 1)

RESULTS

Avg Daily Cons (10 Days) Before WSD's installed	0 8455 M^3/DAY
Avg Daily Cons (10 Days) After WSD's installed	0 7039 M^3/DAY
STDEV Daily Cons (10 Days) without WSD's installed	0 276
STDEV Daily Cons (10 Days) Before WSD's installed	0 287
Median Daily Cons (10 Days) without WSD s installed	0 888
Median Daily Cons (10 Days) After WSD s installed	0 697
Mode Daily Cons (10 Days) without WSD s installed	#N/A
Mode Daily Cons (10 Days) with WSD s installed	#N/A
Variance Daily Cons (10 Days) without WSD s installed	0 076
Variance Daily Cons (10 Days) with WSD s installed	0 082

Saving Percentage (Avg 10 Days) = 16 80%

Saving Percentage (Median 10 Days) = 21 50%

* Holidays and Week-End are Not Counted in the Monitoring Period

** End of Monitoring Period Before WSD s Installation

*** Beginning of Monitoring Period After WSD s Installation

****(see Section V)

STUDY OF THE USE OF WATER SAVING DEVICES

APPENDIX (E5 2)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name WATER DIRECTORATE OF AMMAN MUNICIPALITY ١) اسم الموقع
2) Description of Selected Zone for Water Flow Monitoring ٢) وصف منطقه مراقبه استهلاك المياه

3) Type, Number, and Size of Flow Meter CFM, No(2), 4/3" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتر المراقبه
From 21/4/1996 من تاريخ
To 2/6/1996 الى تاريخ
5) Name of Observer IBRAHIM HILMI ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	21/04/96	Sun	8 00	0 000	0 000	_____
2	22/04/96	Mon	8 00	0 754	0 754	_____
3	24/04/96	Tues	8 00	1 565	0 811	_____
4	25/04/96	Wed	8 00	2 286	0 721	_____
5	26/04/96	Thurs	8 00	3 149	0 863	AL-ADHA EID* HOLIDAY
6	27/04/96	Fri	8 00	_____	_____	HOLIDAY
7	28/04/96	Sat	8 00	_____	_____	HOLIDAY
8	29/04/96	Sun	8 00	_____	_____	HOLIDAY
9	30/04/96	Mon	8 00	_____	_____	HOLIDAY
10	31/4/1996	Tues	8 00	_____	_____	HOLIDAY
11	1/05/96	Wed	8 00	_____	_____	HOLIDAY
12	2/05/96	Thurs	8 00	4 122	0 973	_____
13	3/05/96	Fri	8 00	_____	_____	WEEK END
14	4/05/96	Sat	8 00	5 004	0 882	_____
15	5/05/96	Sun	8 00	5 836	0 832	_____
16	6/05/96	Mon	8 00	6 799	0 963	_____
17	7/05/96	Tues	8 00	7 751	0 952	_____
18	8/05/96	Wed	8 00	8 792	1 041	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 2)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	9/05/96	Thurs	8 00	9 681	0 889	
20	10/05/96	Fri	8 00			WEEK END (NOT COUNTED)
21	11/05/96	Sat	8 00	10 737	1 065	
22	12/05/96	Sun	8 00	11 737	1 000	
23	13/05/96	Mon	8 00	12 702	0 965	
24	14/05/96	Tues	8 00	13 689	0 987	
25	15/05/96	Wed	8 00	14 757	1 068	
26	16/05/96	Thurs	8 00	15 856	1 099	WSD s** INSTALLATION
27	17/05/96	Fri	8 00			WEEK END (NOT COUNTED)
28	18/05/96	Sat	8 00			HOLIDAY (NOT COUNTED)
29	19/05/96	Sun	8 00	16 779	0 923	
30	20 5/1996	Mon	8 00	17 662	0 883	ADDITIONAL*** WSD s INSTALLATION
31	21/05/96	Tues	8 00	18 224	0 562	
32	22/05/96	Wed	8 00	19 015	0 791	
33	23/05/96	Thurs	8 00	19 708	0 693	
34	24/05/96	Fri	8 00			WEEK END (NOT COUNTED)
35	25/05/96	Sat	8 00			HOLIDAY (NOT COUNTED)
36	26/05/96	Sun	8 00	20 432	0 724	
37	27/05/96	Mon	8 00	21 51	1 078	
38	28/05/96	Tues	8 00	22 578	1 068	
39	29/05/96	Wed	8 00	23 529	0 95	
40	30/05/96	Thurs	8 00	24 693	1 164	
41	31/05/96	Fri	8 00			WEEK END (NOT COUNTED)
42	1/06/96	Sat.	8 00	25 379	0 688	
43	2/06/96	Sun	8 00	26 489	1 11	

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 2)

RESULTS

Avg Daily Cons (10 Days) without WSD s installed	1 002 M^3/DAY
Avg Daily Cons (10 Days) with WSD's installed	0 8827 M^3/DAY
STDEV Daily Cons (10 Days) without WSD's installed	0 073
STDEV Daily Cons (10 Days) with WSD's installed	0 216
Median Daily Cons (10 Days) without WSD s installed	1
Median Daily Cons (10 Days) with WSD s installed	0 871
Mode Daily Cons (10 Days) without WSD s installed	#N/A
Mode Daily Cons (10 Days) with WSD s installed	#N/A
Variance Daily Cons (10 Days) without WSD s installed	0 005
Variance Daily Cons (10 Days) with WSD s installed	0 046

Saving Percent (Avg 10 Days) = 12 0%

Saving Percent (Median 10 Days) = 12 0%

* Holidays and Week-End are not Counted in the Monitoring Period

** End of Monitoring Before WSD s Installation

*** Beginning of Monitoring After WSD s Installation

**** (see Section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 3)
FORM No WSD_1
Monitoring of Water Saving Devices

1) Location Name WATER DIRECTORATE OF AMMAN MUNICIPALITY ١) اسم الموقع
2) Description of Selected Zone for Water ٢) وصف منطقه مراقبه استهلاك المياه
Flow Monitoring Basement Line - Apartment 2

3) Type, Number, and Size of Flow Meter CFM, No(3), 4/3" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 21/4/1996 من تاريخ
To 2/6/1996 الى تاريخ
5) Name of Observer IBRAHIM HILMI ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	21/04/96	Sun	8 00	0 000	0 000	CFM's Installation
2	22/04/96	Mon	8 00	0 331	0 331	_____
3	24/04/96	Tues	8 00	0 680	0 349	_____
4	25/04/96	Wed	8 00	1 032	0 352	_____
5	26/04/96	Thurs	8 00	1 355	0 323	_____
6	27/04/96	Fri	8 00	_____	_____	Al-ADHA EID*
7	28/04/96	Sat	8 00	_____	_____	HOLIDAY
8	29/04/96	Sun	8 00	_____	_____	HOLIDAY
9	30/04/96	Mon	8 00	_____	_____	HOLIDAY
10	31/4/1996	Tues	8 00	_____	_____	HOLIDAY
11	1/05/96	Wed	8 00	_____	_____	HOLIDAY
12	2/05/96	Thurs	8 00	1 960	0 605	_____
13	3/05/96	Fri	8 00	_____	_____	WEEK END*
14	4/05/96	Sat	8 00	2 379	0 419	_____
15	5/05/96	Sun	8 00	2 764	0 385	_____
16	6/05/96	Mon	8 00	3 104	0 340	_____
17	7/05/96	Tues	8 00	3 469	0 365	_____
18	8/05/96	Wed	8 00	3 862	0 393	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 3)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	9/05/96	Thurs	8 00	4 233	0 371	_____
20	10/05/96	Fri	8 00	_____	_____	WEEK END
21	11/05/96	Sat.	8 00	4 646	0 413	_____
22	12/05/96	Sun	8 00	5 027	0 381	_____
23	13/05/96	Mon	8 00	5 376	0 349	_____
24	14/05/96	Tues	8 00	5 728	0 352	_____
25	15/05/96	Wed	8 00	6 073	0 346	_____
26	16/05/96	Thurs	8 00	6 407	0 334	WSD s** INSTALLATION
27	17/05/96	Fri	8 00	_____	_____	WEEK END
28	18/05/96	Sat	8 00	_____	_____	HOLIDAY
29	19/05/96	Sun	8 00	6 719	0 311	_____
30	20 5/1996	Mon	8 00	6 995	0 276	ADDITIONAL*** WSD s INSTALLATION
31	21/05/96	Tues	8 00	7 184	0 189	_____
32	22/05/96	Wed	8 00	7 435	0 251	_____
33	23/05/96	Thurs	8 00	7 678	0 243	_____
34	24/05/96	Fri	8 00	_____	_____	WEEK END
35	25/05/96	Sat	8 00	_____	_____	HOLIDAY
36	26/05/96	Sun	8 00	8 000	0 322	_____
37	27/05/96	Mon	8 00	8 599	0 599	_____
38	28/05/96	Tues	8 00	8 849	0 250	_____
39	29/05/96	Wed	8 00	9 060	0 211	_____
40	30/05/96	Thurs	8 00	9 294	0 234	_____
41	31/05/96	Fri	8 00	_____	_____	WEEK END
42	1/06/96	Sat	8 00	9 703	0 409	_____
43	2/06/96	Sun	8 00	10 014	0 311	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 3)

RESULTS

Avg Daily Cons (10 Days) Before WSD's installed	0 364 M^3/DAY
Avg Daily Cons (10 Days) After WSD s installed	0 302 M^3/DAY
STDEV Daily Cons (10 Days) Before WSD s installed	0 025
STDEV Daily Cons (10 Days) After WSD s installed	0 025
Median Daily Cons (10 Days) Before WSD's installed	0 358
Median Daily Cons (10 Days) After WSD's installed	0 251
Mode Daily Cons (10 Days) Before WSD's installed	#N/A
Mode Daily Cons (10 Days) After WSD s installed	#N/A
Variance Daily Cons (10 Days) Before WSD s installed	0 001
Variance Daily Cons (10 Days) After WSD s installed	0 015

Saving Percentage (Avg 10 Days) = 17 20%

Saving Percentage (Median 10 days) = 29 10%

*Holidays and Week-End are Not Counted in the Monitoring Period

**End of Monitoring Period Before WSD s Installation

*** (see Section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 4)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name WATER DIRECTORATE OF AMMAN MUNICIPALITY ١) اسم الموقع
2) Description of Selected Zone for Water ٢) وصف منطقه مراقبه استهلاك المياه
Flow Monitoring
First Floor Line - Apt No (2)
3) Type, Number, and Size of Flow Meter CFM, No(4), 4/3" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 21/4/1996 من تاريخ
To 2/6/1996 الى تاريخ
5) Name of Observer IBRAHIM HILMI ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	21/04/96	Sun	8 00	0 000	0 000	_____
2	22/04/96	Mon	8 00	0 238	0 238	_____
3	24/04/96	Tues	8 00	0 483	0 245	_____
4	25/04/96	Wed	8 00	0 744	0 261	_____
5	26/04/96	Thurs	8 00	0 967	0 284	_____
6	27/04/96	Fri	8 00	_____	_____	AL-ADHA EID*
7	28/04/96	Sat	8 00	_____	_____	HOLIDAY
8	29/04/96	Sun	8 00	_____	_____	HOLIDAY
9	30/04/96	Mon	8 00	_____	_____	HOLIDAY
10	31/4/1996	Tues	8 00	_____	_____	HOLIDAY
11	1/05/96	Wed	8 00	_____	_____	HOLIDAY
12	2/05/96	Thurs	8 00	1 436	0 469	_____
13	3/05/96	Fri	8 00	_____	_____	WEEK END*
14	4/05/96	Sat	8 00	1 734	0 298	_____
15	5/05/96	Sun	8 00	2 028	0 294	_____
16	6/05/96	Mon	8 00	2 317	0 289	_____
17	7/05/96	Tues	8 00	2 549	0 232	_____
18	8/05/96	Wed	8 00	2 82	0 271	_____

RFP5A1/XLS

80

SYUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 4)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	9/05/96	Thurs	8 00	3 069	0 249	———
20	10/05/96	Fri	8 00	———	———	WEEK END
21	11/05/96	Sat	8 00	3 36	0 291	———
22	12/05/96	Sun	8 00	3 643	0 283	HOLIDAY
23	13/05/96	Mon	8 00	3 917	0 274	HOLIDAY
24	14/05/96	Tues	8 00	4 155	0 238	HOLIDAY
25	15/05/96	Wed	8 00	4 422	0 267	HOLIDAY
26	16/05/96	Thurs	8 00	4 66	0 245	WSD s INSTALLATION**
27	17/05/96	Fri	8 00	———	———	WEEK END
28	18/05/96	Sat	8 00	———	———	HOLIDAY
29	19/05/96	Sun	8 00	4 896	0 229	———
30	20 5/1996	Mon	8 00	5 089	0 193	ADDITIONAL*** WSD s INSTALLATION
31	21/05/96	Tues	8 00	5 206	0 117	———
32	22/05/96	Wed	8 00	5 357	0 151	———
33	23/05/96	Thurs	8 00	5 499	0 142	———
34	24/05/96	Fri	8 00	———	———	WEEK END
35	25/05/96	Sat	8 00	———	———	HOLIDAY
36	26/05/96	Sun	8 00	5 68	0 181	———
37	27/05/96	Mon	8 00	5 84	0 160	———
38	28/05/96	Tues	8 00	6 347	0 507	———
39	29/05/96	Wed	8 00	6 651	0 304	———
40	30/05/96	Thurs	8 00	6 769	0 118	———
41	31/05/96	Fri	8 00	———	———	WEEK END
42	1/06/96	Sat	8 00	6 863	0 094	
43	2/06/96	Sun	8 00	6 96	0 103	———

SYUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E5 4)

RESULTS

Avg Daily Cons (10 Days) Before WSD s Installation	0 2639 M^3/DAY
Avg Daily Cons (10 Days) After WSD s Installation	0 1877 M^3/DAY
STDEV Daily Cons (10 Days) Before WSD s Installation	0 021
STDEV Daily Cons (10 Days) After WSD s Installation	0 127
Median Daily Cons (10 Days) Before WSD s Installation	0 269
Median Daily Cons (10 Days) After WSD s Installation	0 147
Mode Daily Cons (10 Days) Before WSD s Installation	#N/A
Mode Daily Cons (10 Days) After WSD s Installation	#N/A
Variance Daily Cons (10 Days) Before WSD s Installation	0 0005
Variance Daily Cons (10 Days) After WSD s Installation	0 016

Saving Percentage (Average 10 Days) = 28 87%

Saving Percentage (Median 10 Days) = 43 50%

*Holiday and Week-Ends are not Counted In The Monitoring Period

**End of Monitoring Before WSD s Installation

***Beginning of Monitoring After WSD s Installation

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 1)
FORM No WSD 1
Monitoring of Water Saving Devices

1) Location Name AL-HUSSEINI MOSQUE — ١) اسم الموقع
2) Description of Selected Zone for Water Flow Monitoring Main Distribution Line — ٢) وصف منطقه مراقبه استهلاك الدبا
3) Type Number and Size of Flow Meter CFM No (1) 1 — ٣) نوع و قياس العداد

4) Period of Monitoring — ٤) فترة المراقبه
From 23/4/1996 — من تاريخ
To 3/6/1996 — الى تاريخ
5) Name of Observer SAMIH FAHMI —) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	23/04/96	Tues	12 00	0 000	0 000	CFM INSTALLATION
2	24/04/96	Wed	12 00	8 43	8 43	—
3	25/04/96	Thurs	12 00	16 47	8 04	—
4	26/04/96	Fri	12 00	18 75	2 28	—
5	27/04/96	Sat	12 00	22 11	3 36	—
6	28/04/96	Sun	12 00	25 79	3 68	—
7	29/04/96	Mon	12 00	29 24	3 45	—
8	30/04/96	Tues	12 00	33 84	4 6	—
9	1/05/96	Wed	12 00	36 86	3 02	—
10	2/05/96	Thurs	12 00	43 66	6 8	—
11	3/05/96	Fri	12 00	45 89	2 23	—
12	4/05/96	Sat	12 00	48 91	3 02	—
13	5/05/96	Sun	12 00	52 12	3 09	—
14	6/05/96	Mon	12 00	57 21	5 09	—
15	7/05/96	Tues	12 00	62 22	5 01	—
16	8/05/96	Wed	12 00	66 46	4 24	—
17	9/05/96	Thurs	12 00	69 03	2 57	—
18	10/05/96	Fri	12 00	71 32	2 29	—
19	11/05/96	Sat	12 00	75 76	4 44	—
20	12/05/96	Sun	12 00	77 54	1 78	—
21	13/05/96	Mon	12 00	79 21	1 67	—
22	14/05/96	Tues	12 00	80 41	1 2	—
23	15/05/96	Wed	12 00	82 32	1 91	—
24	16/05/96	Thurs	12 00	84 495	2 175	WSD s* INSTALLATION
25	17/05/96	Fri	12 00	86 44	1 945	—
26	18/05/96	Sat	12 00	87 95	1 51	ADDITIONAL WSD s INTALLATION**
27	19/05/96	Sun	12 00	89 68	1 72	—
28	20/05/96	Mon	12 00	94 02	4 34	—

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 1)

No	Date	Day	Time (hr)	Flow Meter Reading (M3)	Water Flow Consumed(M3)	Remarks
29	21/05/96	Tues	12 00	95 94	1 92	_____
30	22/05/96	Wed	12 00	98 43	2 49	_____
31	23/05/96	Thurs	12 00	100 46	2 03	_____
32	24/05/96	Fri	12 00	104 03	3 57	_____
33	25/05/96	Sat	12 00	109 04	5 01	_____
34	26/05/96	Sun	12 00	113 791	4 751	_____
35	27/05/96	Mon	12 00	115 441	1 75	_____
36	28/05/96	Tues	12 00	118 071	2 63	_____
37	29/05/96	Wed	12 00	119 301	1 23	_____
38	30/05/96	Thurs	12 00	120 641	1 34	_____
39	31/05/96	Fri	12 00	122 241	1 6	_____
40	1/06/96	Sat	12 00	123 791	1 55	_____
41	2/06/96	Sun	12 00	124 63	0 84	_____
42	3/06/96	Mon	12 00	126 037	1 407	_____

RESULTS

Avg Daily Cons (23 Days) Before WSD's Installation	3 673 M3/DAY
Avg Daily Cons (16 Days) Before WSD's Installation	3 166 M3/DAY
Avg Daily Cons (16 Days) After WSD's installed	2 596 M3/DAY
STDEV Daily Cons (23 Days) Before WSD's Installation	1 961
STDEV Daily Cons (16 Days) Before WSD's Installation	1 534
STDEV Daily Cons (16 Days) After WSD's Installation	1 318
Median Daily Cons (23 Days) Before WSD's Installation	3 09
Median Daily Cons (16 Days) Before WSD's Installation	3 02
Median Daily Cons (16 Days) After WSD s Installation	1 835
Mode Daily Cons (23 Days) Before WSD's Installation	3 02
Mode Daily Cons (16 Days) Before WSD's Installation	3 02
Mode Daily Cons (16 Days) After WSD's Installation	#N/A
Variance Daily Cons (23 Days) Before WSD's Installation	3 845
Variance Daily Cons (16 Days) Before WSD's Installation	2 354
Variance Daily Cons (16 Days) After WSD's Installation	1 737

Saving Percentage (Average 23 days)	29 4%
Saving Percentage (Average 16 days)	18 01%
Saving Percentage (Median 23 days)	40 06%
Saving Percentage (Median 16 days)	39 02%

* End of Monitoring Before WSD's Installation
** Beginning of Monitoring After WSD's Installation
*** (see Section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 2)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name AL-HUSSEINI MOSQUE ١) اسم الموقع
2) Description of Selected Zone for Water Flow Monitoring ٢) وصف منطقه مراقبه استهلاك الماء
IMAM'S W C / RIGHT NEXT TO MINARET
3) Type, Number, and Size of Flow Meter CFM, No (2), 1/2' ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 23/4/1996 من تاريخ
To 3/6/1996 الى تاريخ
5) Name of Observer SAMIH FAHMI ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	23/04/96	Tues	12 00	0 000	0 000	CFM'S INSTALLATION
2	24/04/96	Wed	12 00	0 536	0 536	———
3	25/04/96	Thurs	12 00	1 122	0 586	———
4	26/04/96	Fri	12 00	1 488	0 366	———
5	27/04/96	Sat	12 00	1 974	0 486	———
6	28/04/96	Sun	12 00	2 42	0 446	———
7	29/04/96	Mon	12 00	2 973	0 553	———
8	30/04/96	Tues	12 00	3 573	0 6	———
9	1/05/96	Wed	12 00	4 095	0 522	———
10	2/05/96	Thurs	12 00	4 681	0 586	———
11	3/05/96	Fri	12 00	5 063	0 382	———
12	4/05/96	Sat	12 00	5 475	0 412	———
13	5/05/96	Sun	12 00	5 8954	0 42	———
14	6/05/96	Mon	12 00	6 562	0 66	———
15	7/05/96	Tues	12 00	7 12	0 558	———
16	8/05/96	Wed	12 00	7 82	0 7	———
17	9/05/96	Thurs	12 00	8 13	0 31	———
18	10/05/96	Fri	12 00	8 67	0 54	———

85

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 2)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	11/05/96	Sat	12 00	9 23	0 56	_____
20	12/05/96	Sun	12 00	10 66	1 42	_____
21	13/05/96	Mon	12 00	11	0 34	_____
22	14/05/96	Tues	12 00	11 86	0 86	_____
23	15/05/96	Wed	12 00	12 16	0 3	_____
24	16/05/96	Thurs	12 00	12 824	0 664	WSD s INSTALLATION
25	17/05/96	Fri	12 00	13 327	0 503	_____
26	18/05/96	Sat	12 00	13 897	0 57	ADDITIONAL WSD'S INSTALLATION
27	19/05/96	Sun	12 00	14 22	0 323	_____
28	20/05/96	Mon	12 00	14 517	0 297	_____
29	21/05/96	Tues	12 00	14 98	0 4623	_____
30	22/05/96	Wed	12 00	15 53	0 55	_____
31	23/05/96	Thurs	12 00	15 937	0 407	_____
32	24/05/96	Fri	12 00	16 68	0 743	_____
33	25/05/96	Sat	12 00	17 38	0 700	_____
34	26/05/96	Sun	12 00	18 796	1 416	_____
35	27/05/96	Mon	12 00	19 217	0 421	_____
36	28/05/96	Tues	12 00	19 607	0 39	_____
37	29/05/96	Wed	12 00	19 943	0 336	_____
38	30/05/96	Thurs	12 00	20 37	0 43	_____
39	31/05/96	Fri	12 00	20 91	0 538	_____
40	1/06/96	Sat	12 00	21 27	0 36	_____
41	2/06/96	Sun	12 00	21 571	0 300	_____
42	3/06/96	Mon	12 00	21 745	0 174	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 2)

RESULTS

Avg Daily Cons (23 Days) Before WSD's Installation	0 557 M^3/DAY
Avg Daily Cons (16 Days) Before WSD s Installation	0 578 M^3/DAY
Avg Daily Cons (16 Days) After WSD's installed	0 490 M^3/DAY
STDEV Daily Cons (23 Days) Before WSD's Installation	0 232
STDEV Daily Cons (16 Days) Before WSD's Installation	0 265
STDEV Daily Cons (16 Days) After WSD's Installation	0 287
Median Daily Cons (23 Days) Before WSD's Installation	0 54
Median Daily Cons (16 Days) Before WSD's Installation	0 558
Median Daily Cons (16 Days) After WSD's Installation	0 414
Mode Daily Cons (23 Days) Before WSD's Installation	0 586
Mode Daily Cons (16 Days) Before WSD's Installation	#N/A
Mode Daily Cons (16 Days) After WSD's Installation	#N/A
Variance Daily Cons (23 Days) Before WSD's Installation	0 054
Variance Daily Cons (16 Days) Before WSD's Installation	0 070
Variance Daily Cons (16 Days) After WSD's Installation	0 083

Saving Percentage (Average 23 days)	12 03%
Saving Percentage (Average 16 days)	15 14%
Saving Percentage (Median 23 days)	23 40%
Saving Percentage (Median 16 days)	25 81%

*(See Section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 3)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name AL-HUSSEINI MOSQUE ١) اسم الموقع
2) Description of Selected Zone for Water Flow Monitoring ٢) وصف منطقه مراقبه استهلاك الماء
IMMAM'S W C - MIDDLE-NEXT TO MINARET
3) Type, Number, and Size of Flow Meter CFM, No (3), 1/2" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فترة المراقبه
From 23/4/1996 من تاريخ
To 3/6/1996 الى تاريخ
5) Name of Observer SAMIH FAHMI ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading(M^3)	Water Flow Consumed (M^3)	Remarks
1	23/04/96	Tues	12 00	0 000	0 000	CFM'S INSTALLATION
2	24/04/96	Wed	12 00	0 024	0 024	_____
3	25/04/96	Thurs	12 00	0 046	0 022	_____
4	26/04/96	Fri	12 00	0 068	0 022	_____
5	27/04/96	Sat	12 00	0 089	0 021	_____
6	28/04/96	Sun	12 00	0 102	0 013	_____
7	29/04/96	Mon	12 00	0 122	0 02	_____
8	30/04/96	Tues	12 00	0 143	0 021	_____
9	1/05/96	Wed	12 00	0 188	0 045	_____
10	2/05/96	Thurs	12 00	0 238	0 05	_____
11	3/05/96	Fri	12 00	0 29	0 052	_____
12	4/05/96	Sat	12 00	0 302	0 012	_____
13	5/05/96	Sun	12 00	0 329	0 027	_____
14	6/05/96	Mon	12 00	0 353	0 0233	_____
15	7/05/96	Tues	12 00	0 402	0 049	_____
16	8/05/96	Wed	12 00	0 425	0 023	_____
17	9/05/96	Thurs	12 00	0 43	0 005	_____
18	10/05/96	Fri	12 00	0 437	0 007	_____
19	11/05/96	Sat	12 00	0 442	0 005	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 3)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
20	12/05/96	Sun	12 00	0 482	0 04	_____
21	13/05/96	Mon	12 00	0 492	0 01	_____
22	14/05/96	Tues	12 00	0 52	0 028	_____
23	15/05/96	Wed	12 00	0 544	0 024	_____
24	16/05/96	Thurs	12 00	0 557	0 013	WSD s INSTALLATION
25	17/05/96	Fri	12 00	0 562	0 005	_____
26	18/05/96	Sat	12 00	0 569	0 007	ADDITIONAL WSD s INSTALLATION
27	19/05/96	Sun	12 00	0 589	0 02	_____
28	20/05/96	Mon	12 00	0 647	0 058	_____
29	21/05/96	Tues	12 00	0 661	0 014	_____
30	22/05/96	Wed	12 00	0 694	0 033	_____
31	23/05/96	Thurs	12 00	0 722	0 028	_____
32	24/05/96	Fri	12 00	0 728	0 006	_____
33	25/05/96	Sat	12 00	0 73	0 002	_____
34	26/05/96	Sun	12 00	0 773	0 043	_____
35	27/05/96	Mon	12 00	0 816	0 021	_____
36	28/05/96	Tues	12 00	0 822	0 006	_____
37	29/05/96	Wed	12 00	0 83	0 008	_____
38	30/05/96	Thurs	12 00	0 86	0 03	_____
39	31/05/96	Fri	12 00	0 865	0 005	_____
40	1/06/96	Sat	12 00	0 887	0 022	_____
41	2/06/96	Sun	12 00	0 927	0 04	_____
42	3/06/96	Mon	12 00	0 952	0 025	CFM S DISMOUNTING

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 3)

RESULTS

Avg Daily Cons (23 Days) Before WSD s Installation	0 0242 M^3/DAY
Avg Daily Cons (16 Days) Before WSD s Installation	0 02587 M^3/DAY
Avg Daily Cons (16 Days) After WSD's Installation	0 02393 M^3/DAY
STDEV Daily Cons (23 Days) Before WSD s Installation	0 0142
STDEV Daily Cons (16 Days) Before WSD s Installation	0 0163
STDEV Daily Cons (16 Days) After WSD's Installation	0 0158
Median Daily Cons (23 Days) Before WSD's Installation	0 0220
Median Daily Cons (16 Days) Before WSD's Installation	0 0233
Median Daily Cons (16 Days) After WSD s Installation	0 0215
Mode Daily Cons (23 Days) Before WSD s Installation	0 0240
Mode Daily Cons (16 Days) Before WSD s Installation	0 0050
Mode Daily Cons (16 Days) After WSD s Installation	0 0060
Variance Daily Cons (23 Days) Before WSD s installation	0 0002
Variance Daily Cons (16 Days) Before WSD s installation	0 0003
Variance Daily Cons (16 Days) After WSD s installation	0 0003

Saving Percentage (average 23 days)	1 12%
Saving Percentage (median 23 days)	2 30%
Saving Percentage (average 16 days)	7 50%
Saving Percentage (median 16 days)	7 80%

*(see section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 4)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name AL-HUSSEINI MOSQUE ١) اسم الموقع
2) Description of Selected Zone for Water Flow Monitoring ٢) وصف منطقه مراقبه استهلاك المياه
IMAM'S W C./ RIGHT NEXT TO MINARET
3) Type, Number, and Size of Flow Meter CFM, No (4), 1/2" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 23/4/1996 من تاريخ
To 3/6/1996 الى تاريخ
5) Name of Observer SAMIH FAHMI ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	23/04/96	Tues	12 00	0 000	0 000	CFM'S INSTALLATION
2	24/04/96	Wed	12 00	0 222	0 222	_____
3	25/04/96	Thurs	12 00	0 453	0 231	_____
4	26/04/96	Fri	12 00	0 625	0 176	_____
5	27/04/96	Sat	12 00	0 871	0 242	_____
6	28/04/96	Sun	12 00	1 094	0 223	_____
7	29/04/96	Mon	12 00	1 320	0 226	_____
8	30/04/96	Tues	12 00	1 51	0 190	_____
9	1/05/96	Wed	12 00	1 698	0 188	_____
10	2/05/96	Thurs	12 00	1 896	0 200	_____
11	3/05/96	Fri	12 00	2 066	0 168	_____
12	4/05/96	Sat	12 00	2 267	0 201	_____
13	5/05/96	Sun	12 00	2 4456	0 179	_____
14	6/05/96	Mon	12 00	2 660	0 2144	_____
15	7/05/96	Tues	12 00	2 910	0 250	_____
16	8/05/96	Wed	12 00	3 710	0 200	_____
17	9/05/96	Thurs	12 00	3 230	0 120	_____
18	10/05/96	Fri	12 00	3 440	0 210	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 4)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	11/05/96	Sat	12 00	3 860	0 420	
20	12/05/96	Sun	12 00	4 121	0 261	
21	13/05/96	Mon	12 00	4 364	0 243	
22	14/05/96	Tues	12 00	4 678	0 314	
23	15/05/96	Wed	12 00	4 980	0 302	
24	16/05/96	Thurs	12 00	5 131	0 151	WSD s* INSTALLATION
25	17/05/96	Fri	12 00	5 400	0 265	
26	18/05/96	Sat	12 00	5 679	0 350	WSD s** INSTALLATION
27	19/05/96	Sun	12 00	5 906	0 227	
28	20/05/96	Mon	12 00	6 199	0 293	
29	21/05/96	Tues	12 00	6 478	0 280	
30	22/05/96	Wed	12 00	6 606	0 128	
31	23/05/96	Thurs	12 00	6 773	0 167	
32	24/05/96	Fri	12 00	6 890	0 117	
33	25/05/96	Sat	12 00	7 180	0 290	
34	26/05/96	Sun	12 00	7 379	0 199	
35	27/05/96	Mon	12 00	7 578	0 199	
36	28/05/96	Tues	12 00	7 762	0 184	
37	29/05/96	Wed	12 00	8 023	0 261	
38	30/05/96	Thurs	12 00	8 273	0 250	
39	31/05/96	Fri	12 00	8 441	0 168	
40	1/06/96	Sat	12 00	8 723	0 282	
41	2/06/96	Sun	12 00	9 002	0 279	
42	3/06/96	Mon	12 00	9 356	0 354	

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 4)

RESULTS

Avg Daily Cons (23 Days) Before WSD s Installation	0 223 M^3/DAY
Avg Daily Cons (16 Days) Before WSD's Installation	0 224 M^3/DAY
Avg Daily Cons (16 Days) After WSD s installed	0 230 M^3/DAY
STDEV Daily Cons (23 Days) Before WSD's Installation	0 062
STDEV Daily Cons (16 Days) Before WSD's Installation	0 071
STDEV Daily Cons (16 Days) After WSD's Installation	0 067
Median Daily Cons (23 Days) Before WSD's Installation	0 214
Median Daily Cons (16 Days) Before WSD s Installation	0 201
Median Daily Cons (16 Days) After WSD s Installation	0 239
Mode Daily Cons (23 Days) Before WSD's Installation	0 200
Mode Daily Cons (16 Days) Before WSD s Installation	0 200
Mode Daily Cons (16 Days) After WSD s Installation	0 199
Variance Daily Cons (23 Days) Before WSD s Installation	0 004
Variance Daily Cons (16 Days) Before WSD s Installation	0 005
Variance Daily Cons (16 Days) After WSD's Installation	0 004

Saving Percentage (Average 23 days)	NO SAVING***
Saving Percentage (Average 16 days)	NO SAVING
Saving Percentage (Median 23 days)	NO SAVING
Saving Percentage (Median 16 days)	NO SAVING

* Ending of Monitoring Before WSD s Installation

** Beginning of Monitoring After WSD s Installation

*** (See Section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 5)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name AL-HUSSEINI MOSQUE ١) اسم الموقع
2) Description of Selected Zone for Water ٢) وصف منطقه مراقبه استهلاك المياه
Flow Monitoring
Main Water Supply Line
3) Type, Number, and Size of Flow Meter CFM, No (5), 3/4" * ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 23/4/1996 من تاريخ
To 3/6/1996 الى تاريخ
5) Name of Observer SAMIH FAHMI ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	23/04/96	Tues	12 00	0 000	0 000	CFM'S INSTALLATION
2	24/04/96	Wed	12 00	5 660	5 660	_____
3	25/04/96	Thurs	12 00	12 890	7 230	_____
4	26/04/96	Fri	12 00	17 140	4 250	_____
5	27/04/96	Sat	12 00	22 970	5 830	_____
6	28/04/96	Sun	12 00	28 770	5 800	_____
7	29/04/96	Mon	12 00	31 970	3 200	_____
8	30/04/96	Tues	12 00	36 350	4 380	_____
9	1/05/96	Wed	12 00	43 550	7 200	_____
10	2/05/96	Thurs	12 00	50 190	6 640	_____
11	3/05/96	Fri	12 00	56 150	5 960	_____
12	4/05/96	Sat	12 00	62 200	6 050	_____
13	5/05/96	Sun	12 00	98 185	5 985	_____
14	6/05/96	Mon	12 00	72 210	4 023	_____
15	7/05/96	Tues	12 00	77 300	5 090	_____
16	8/05/96	Wed	12 00	83 123	5 823	_____
17	9/05/96	Thurs	12 00	87 450	4 327	_____
18	10/05/96	Fri	12 00	89 920	2 470	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 5)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	11/05/96	Sat	12 00	98 650	8 730	_____
20	12/05/96	Sun	12 00	106 491	7 841	_____
21	13/05/96	Mon	12 00	112 592	6 101	_____
22	14/05/96	Tues	12 00	119 431	6 835	_____
23	15/05/96	Wed	12 00	126 722	7 291	INSTALLATION * OF WSD's
24	16/05/96	Thurs	12 00	134 498	7 760	_____
25	17/05/96	Fri	12 00	139 332	4 834	INSTALLATION** OF ADDITIONAL WSD's
26	18/05/96	Sat	12 00	146 123	6 791	_____
27	19/05/96	Sun	12 00	154 136	8 013	_____
28	20/05/96	Mon	12 00	163 266	9 130	_____
29	21/05/96	Tues	12 00	172 431	9 165	_____
30	22/05/96	Wed	12 00	179 152	9 721	_____
31	23/05/96	Thurs	12 00	187 978	8 826	_____
32	24/05/96	Fri	12 00	194 422	6 444	_____
33	25/05/96	Sat	12 00	200 240	5 818	_____
34	26/05/96	Sun	12 00	205 774	5 534	_____
35	27/05/96	Mon	12 00	211 308	6 231	_____
36	28/05/96	Tues	12 00	217 539	7 123	_____
37	29/05/96	Wed	12 00	224 662	5 624	_____
38	30/05/96	Thurs	12 00	230 286	6 432	_____
39	31/05/96	Fri	12 00	236 718	4 145	_____
40	1/06/96	Sat	12 00	240 863	6 835	_____
41	2/06/96	Sun	12 00	247 698	5 482	_____
42	3/06/96	Mon	12 00	253 180	5 021	_____

RESULTS

Installed for Monitoring Water Supply, Not Water Saving

**End of Monitoring Period Before WSD's Installation

*** Beginning of Monitoring Period After WSD's Installation

***(See Section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 6)
FORM No WSD_1
Monitoring of Water Saving Devices

1) Location Name AL-HUSSEINI MOSQUE ١) اسم الموقع
2) Description of Selected Zone for Water Flow Monitoring ٢) وصف منطقه مراقبه استهلاك المياه
Stand by Tank Distribution Line* ٤) فتره المراقبه
3) Type, Number, and Size of Flow Meter CFM, No (6), 1 1/2" ٣) نوع و قياس العداد

4) Period of Monitoring
From 23/4/1996 من تاريخ
To 2/6/1996 الى تاريخ
5) Name of Observer NASHAT MURAD ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	23/04/96	Tus	12 00	0 000	0 000	CFM'S INSTALLATION
2	24/04/96	Wed	12 00	0 472	0 472	_____
3	25/04/96	Thurs	12 00	0 986	0 514	_____
4	26/04/96	Fri	12 00	1 372	0 386	_____
5	27/04/96	Sat	12 00	1 865	0 493	_____
6	28/04/96	Sun	12 00	2 390	0 525	_____
7	29/04/96	Mon	12 00	2 820	0 430	_____
8	30/04/96	Tus	12 00	3 290	0 470	_____
9	1/05/96	Wed	12 00	3 676	0 386	_____
10	2/05/96	Thurs	12 00	4 100	0 424	_____
11	3/05/96	Fri	12 00	4 450	0 350	_____
12	4/05/96	Sat	12 00	4 870	0 420	_____
13	5/05/96	Sun	12 00	5 238	0 368	_____
14	6/05/96	Mon	12 00	7 020	1 782	_____
15	7/05/96	Tus	12 00	7 320	0 300	_____
16	8/05/96	Wed	12 00	8 670	1 350	_____
17	9/05/96	Thurs	12 00	11 250	2 580	_____
18	10/05/96	Fri	12 00	12 510	1 260	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E6 6)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	11/05/96	Sat	12 00	14 820	2 310	_____
20	12/05/96	Sun	12 00	18 910	4 090	_____
21	13/05/96	Mon	12 00	22 830	3 920	_____
22	14/05/66	Tus	12 00	30 240	7 410	_____
23	15/05/96	Wed	12 00	31 750	1 510	_____
24	16/05/96	Thurs	12 00	38 620	6 870	WSD'S** INSTALLATION
25	17/05/96	Fri	12 00	40 220	1 600	_____
26	18/05/96	Sat	12 00	45 100	4 880	ADDITIONAL*** WSD'S INSTALLATION
27	19/05/96	Sun	12 00	50 110	5 010	_____
28	20/05/96	Mon	12 00	53 000	2 890	_____
29	21/05/96	Tus	12 00	54 880	1 880	_____
30	22/05/96	Wed	12 00	55 950	1 070	_____
31	23/05/96	Thurs	12 00	56 720	0 770	_____
32	24/05/96	Fri	12 00	58 800	2 080	_____
33	25/05/96	Sat	12 00	62 200	3 400	_____
34	26/05/96	Sun	12 00	66 300	4 100	_____
35	27/05/96	Mon	12 00	70 850	4 500	_____
36	28/05/96	Tus	12 00	75 310	4 460	_____
37	29/05/96	Wed	12 00	80 531	5 221	_____
38	30/05/96	Thurs	12 00	58 131	4 600	_____
39	31/05/96	Fri	12 00	87 411	2 280	_____
40	1/06/96	Sat	12 00	92 091	4 680	_____
41	2/03/96	Sun	12 00	95 330	3 240	_____
42	3/06/96	Mon	12 00	98 200	2 870	_____

RESULTS

* Installed for monitoring water supply, Not Water Saving

** End of monitoring period before WSD's Installation

*** Beginning of monitoring period after WSD's Installation

**** (see Section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E7)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name APARTMENT EAST AMMAN ١) اسم الموقع
Mr JAWAD NASERUDDIN RES
2) Description of Selected Zone for Water ٢) وصف منطقه مراقبه استهلاك المياه
Flow Monitoring

3) Type, Number, and Size of Flow Meter CFM, 3/4" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 23/4/1996 من تاريخ
To 2/6/1996 الى تاريخ
5) Name of Observer NASHAT MURAD ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	23/04/96	Tues	16 00	0 000	0 000	CFM'S INSTALLATION
2	24/04/96	Wed	16 00	0 477	0 477	_____
3	25/04/96	Thurs	16 00	0 984	0 507	_____
4	26/04/96	Fri	16 00	1 499	0 515	_____
5	27/04/96	Sat	16 00	1 895	0 396	_____
6	28/04/96	Sun	16 00	2 313	0 418	_____
7	29/04/96	Mon	16 00	2 744	0 431	_____
8	30/04/96	Tues	16 00	3 166	0 422	_____
9	1/05/96	Wed	16 00	3 588	0 417	_____
10	2/05/96	Thurs	16 00	4 005	0 495	_____
11	3/05/96	Fri	16 00	4 488	0 483	_____
12	4/05/96	Sat	16 00	4 913	0 425	_____
13	5/05/96	Sun	16 00	5 324	0 411	_____
14	6/05/96	Mon	16 00	5 769	0 445	_____
15	7/05/96	Tues	16 00	6 176	0 407	_____
16	8/05/96	Wed	16 00	6 611	0 435	_____
17	9/05/96	Thurs	16 00	7 104	0 493	_____
18	10/05/96	Fri	16 00	7 566	0 462	_____

98

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E7)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	11/05/96	Sat	16 00	7 955	0 389	———
20	12/05/96	Sun	16 00	8 370	0 415	———
21	13/05/96	Mon	16 00	8 805	0 435	———
22	14/05/96	Tues	16 00	9 200	0 395	———
23	15/05/96	Wed	16 00	9 625	0 425	———
24	16/05/96	Thurs	16 00	10 010	0 385	**WSD s INSTALLATION**
25	17/05/96	Fri	16 00	10 362	0 352	———
26	18/05/96	Sat	16 00	10 703	0 341	———
27	19/05/96	Sun	16 00	11 032	0 329	———
28	20/05/96	Mon	16 00	11 361	0 338	———
29	21/05/96	Tues	16 00	11 688	0 327	———
30	22/05/96	Wed	16 00	12 022	0 334	———
31	23/05/96	Thurs	16 00	12 365	0 343	———
32	24/05/96	Fri	16 00	12 734	0 369	———
33	25/05/96	Sat	16 00	13 090	0 356	———
34	26/05/96	Sun	16 00	13 418	0 328	———
35	27/05/96	Mon	16 00	3 799	0 361	———
36	28/05/96	Tues	16 00	14 127	0 348	———
37	29/05/96	Wed	16 00	14 475	0 335	———
38	30/05/96	Thurs	16 00	14 826	0 351	———
39	31/05/96	Fri	16 00	15 151	0 325	———
40	1/06/96	Sat	16 00	15 464	0 313	———
41	2/06/96	Sun	16 00	15 765	0 301	———

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E7)

RESULTS

Avg Daily Cons (23 Days) Before WSD s Installation	0 4352	M^3/DAY
Avg Daily Cons (17 Days) Before WSD s Installation	0 427	M^3/DAY
Avg Daily Cons (17 Days) After WSD s Installation	0 338	M^3/DAY
STDEV Daily Cons (23 Days) Before WSD's Installation	0 039	
STDEV Daily Cons (17 Days) Before WSD's Installation	0 033	
STDEV Daily Cons (17 Days) After WSD's Installation	0 017	
Median Daily Cons (23 Days) Before WSD s Installation	0 425	
Median Daily Cons (17 Days) Before WSD's Installation	0 425	
Median Daily Cons (17 Days) After WSD s Installation	0 338	
Mode Daily Cons (23 Days) Before WSD's Installation	0 425	
Mode Daily Cons (17 Days) Before WSD s Installation	0 425	
Mode Daily Cons (17 Days) After WSD's Installation	#N/A	
Variance Daily Cons (23 Days) Before WSD s Installation	0 002	
Variance Daily Cons (17 Days) Before WSD's Installation	0 001	
Variance Daily Cons (17 Days) After WSD s Installation	0 0003	

Saving Percentage (Average 23 days)	22 40%
Saving Percentage (Average 17 days)	20 09%
Saving Percentage (Median 23 days)	20 50%
Saving Percentage (Median 17 days)	20 50%

*(See Section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E8)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name AL-SALT GIRLS SECONDARY SCHOOL ١) اسم الموقع
2) Description of Selected Zone for Water ٢) وصف منطقه مراقبه استهلاك الماء
Flow Monitoring
W C MAIN UNIT
3) Type, Number, and Size of Flow Meter· CFM, 1/2" ٣) نوع و قياس العداد

4) Period of Monitoring ٤) فتره المراقبه
From 13/5/1996 من تاريخ
To 6/4/1996 الى تاريخ
5) Name of Observer W AMAYRA ٥) اسم المراقب

No	Date	Day	Time (Hr)	Flow Meter Reading (M3)	Water Flow Consumed (M3)	Remarks
1	13/05/96	Mon	14 00	73 112	0 000	WSD's INSTALLATION
2	14/05/96	Tues	14 00	73 465	0 353	_____
3	15/05/96	Wed	14 00	74 854	1 389	_____
4	16/05/96	Thurs	14 00	75 951	1 097	WEEK END E C ACTIVITY
5	17/05/96	Fri	14 00	75 951	0 000	WEEK END
6	18/05/96	Sat	14 00	75 951	0 000	HOLIDAY
7	19/05/96	Sun	14 00	76 895	0 944	_____
8	20/05/96	Mon	14 00	77 957	1 062	_____
9	21/05/96	Tues	14 00	78 483	0 526	_____
10	22/05/96	Wed	14 00	78 876	0 393	_____
11	23/05/96	Thurs	14 00	78 921	0 045	WSD's DISMOUNTING
12	24/05/96	Fri	14 00	78 921	0 000	WEEK END
13	25/05/96	Sat	14 00	79 17	0 249	HOLIDAY
14	26/05/96	Sun	14 00	80 205	1 035	_____
15	27/05/96	Mon	14 00	80 46	0 255	_____
16	28/05/96	Tues	14 00	80 972	0 512	_____
17	29/05/96	Wed	14 00	81 23	0 258	_____
18	30/05/96	Thurs	14 00	81 278	0 048	WEEK END

١٥١

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E8)

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
19	31/05/96	Fri	14 00	81 282	0 004	WEEK END
20	1/06/96	Sat	14 00	81 943	0 661	———
21	2/06/96	Sun	14 00	82 22	0 277	———
22	3/06/96	Mon	14 00	82 46	0 24	———
23	4/06/96	Tues	14 00	82 791	0 331	WSD's REINSTALLATION

RESULTS

Avg Daily Cons (12 Days) without WSD's installed	0 3225 M^3/DAY
Avg Daily Cons (10 Days) with WSD's installed	0 5809 M^3/DAY
STDEV Daily Cons (12 Days) without WSD's installed	0 296
STDEV Daily Cons (10 Days) with WSD's installed	0 509
Median Daily Cons (12 Days) without WSD's installed	0 2565
Median Daily Cons (10 Days) with WSD's installed	0 4595
Mode Daily Cons (12 Days) without WSD's installed	#N/A
Mode Daily Cons (10 Days) with WSD's installed	0
Variance Daily Cons (12 Days) without WSD's installed	0 087
Variance Daily Cons (10 Days) with WSD's installed	0 259

Saving Percentage NO SAVING*

*(See Section V)

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E9)
FORM No WSD-1
Monitoring of Water Saving Devices

1) Location Name AL-HUSSEIN GENERAL DEPOTS — ١) اسم الموقع
2) Description of Selected Zone for Water — ٢) وصف منطقه مراقبه استهلاك المياه
Flow Monitoring
OFFICERS CLUB
3) Type, Number, and Size of Flow Meter CFM, 1/2" — ٣) نوع و قياس العداد

4) Period of Monitoring — ٤) فتره المراقبه
From 16/5/1996 — من تاريخ
To 5/6/1996 — الى تاريخ
5) Name of Observer M WAKFI — ٥) اسم المراقب

No	Date	Day	Time (hr)	Flow Meter Reading (M^3)	Water Flow Consumed (M^3)	Remarks
1	16/05/96	Thurs	15 00	0 000	0 000	NEW CFM's * INSTALLATION
2	17/05/96	Fri	15 00	10 289	10 289	_____
3	18/05/96	Sat	15 00	23 614	13 325	_____
4	19/05/96	Sun	15 00	38 96	15 346	_____
5	20/05/96	Mon	15 00	53 39	14 43	_____
6	21/05/96	Tues	15 00	68 99	15 6	_____
7	22/05/96	Wed	15 00	82 9	13 91	_____
8	23/05/96	Thurs	15 00	94 89	11 99	_____
9	24/05/96	Fri	15 00	107 11	12 22	_____
10	25/05/96	Sat	15 00	121 1	13 99	_____
11	26/05/96	Sun	15 00	139 2	18 1	DISMOUNTING OF WSD's
12	27/05/96	Mon	15 00	157 58	18 38	_____
13	28/05/96	Tues	15 00	175 21	17 63	_____
14	29/05/96	Wed	15 00	194 35	19 14	_____
15	30/05/96	Thurs	15 00	212 77	18 41	_____
16	31/05/96	Fri	15 00	229 3	16 53	_____
17	1/06/96	Sat	15 00	247 6	18 3	
18	2/06/96	Sun	15 00	267 52	19 92	_____

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX (E9)

No	Date	Day	Time(hr)	Flow Meter Reading (M3)	Water Flow Consumed (M3)	Remarks
19	3/06/96	Mon	15 00	287 94	20 42	
20	4/06/96	Tues	15 00	310 03	22 11	
21	5/06/96	Wed	15 00	331 609	21 559	RE-INSTALLATION OF WSD's

RESULTS**

Avg Daily Cons (10 Days) without WSD's installed	19 24 M^3/DAY
Avg Daily Cons (10 Days) with WSD's installed	13 92 M^3/DAY
STDEV Daily Cons (10 Days) without WSD's installed	1 86
STDEV Daily Cons (10 Days) with WSD's installed	2 18
Median Daily Cons (10 Days) without WSD's installed	18 41
Median Daily Cons (10 Days) with WSD's installed	13 95
Mode Daily Cons (10 Days) without WSD's installed	#N/A
Mode Daily Cons (10 Days) with WSD's installed	#N/A
Variance Daily Cons (10 Days) without WSD's installed	3 46
Variance Daily Cons (10 Days) with WSD's installed	4 75

Saving Percentage (Avg 10 Days) = 27 70%
Saving Percentage (Median 10 Days) = 24 23%

* WSD's were installed on May 15 Th , 1996, the old CFM's were changed because of the inaccurate readings (see Section V)
**See Section V

APPENDIX F

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F1

1. Philadelphia Hotel

A. Issues:-

1) Water flow of the adjacent non-monitored-pipes reflects additional Ultrasonic waves on the installed UFM sensors which in turn affects the data output by producing negative readings if the direction of flow is opposite in direction to that of the monitored flow or added positive readings if the direction of flow is the same It took a number of trials to adjust the sensors' location to minimize this effect The affected recorded readings of the cold water supply and hot water supply pipelines for the days prior to the final sensors' adjustment were abandoned
2) Water flow turbulence which the crew faced while monitoring the return hot water, was the result of faulty interconnections of the pipes of the water network (not as shown in the as-built drawings) Therefore, it was impossible to adjust the sensors of the UFM locations, thus, the collected data was deleted from the analysis
3) Room occupancy of the selected zone Appendices E1 1 and E 1 2 show the room occupancy during the monitoring period This factor was considered in the final analysis which was based on average room consumption during the monitoring period

B. Data Analysis:-

Rooms Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Rooms Consumption M^3/Day	No of Rooms	Av Room consumption M^3/Day	Total Rooms Consumption M^3/Day	No of Rooms	Av Room Consumption M^3/Day	
Cold Water	33 32	63	0 529	31 29	70	0 447	15 5
Hot Water	64 37	64	1 005	52 24	74	0 706	29 8

1) The percentage of cold water saving, based on "the Average daily room cold water consumption" before WSD's installation and after was 15 5% of the average daily room consumption of the occupied rooms of the selected zone
2) The percentage of hot water saving based on the average daily room hot water, monitored, metered, recorded as well as consumed represents 29 8%

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F1

3) The average percentage of the cold and hot water saving, based on the average daily room consumption of cold and hot water, was calculated by the arithmetical average means The average water saving of this site was 22 6%

C. Results

The average daily room consumption of cold and hot water, the total cold and hot water consumption, as well as the saving percentages and results are shown in the following tabulated results -

Rooms Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Rooms Consumption M^3/Day	No of Rooms	Av Room Consumption M^3/Day	Total Rooms Consumption M^3/Day	No of Rooms	Av Room Consumption M^3/Day	
Cold Water	33 32	63	0 529	31 29	70	0 447	15 5
Hot Water	33 367	64	0 521	27 095	74	0 366	29 8
Total	**66.687**	**-**	**1.05**	**58 385**	**-**	**0 813**	**22 6**

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F2

2. Al.Zeitounah university.-

A. Data Calculation

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
UFM (No 1)	83 15	8	10 394	73 11	8	9 139	12 07
CFM (No 2)	149 591	23	6 521				19 7
Student's wing	72 534	11	6 594	57 596	11	5 236	20 6
CFM(No 3) Counsellors	4 7481	23	0 219				
Residence	2 376	11	0 216	5 033	11	0 4576	No SAVING

B Analysis

1) Analysis of the data output of the UFM installed at this site, with respect to the water saving of the selected wing, showed reasonable results inspite of continuous power interruption at the site (about 12 days during the monitoring period) However, after analysing the data recorded on WSD's Form for the installed CFM's, it was found out that the CFM installed for the counsellors apartment are not representative due to the fact that the taps in the apartment were used for cleaning all of the dormitory with use of a hose The other CFM data output-installed at the students wing showed reasonable and representative results Moreover, the students occupancy was not counted during the monitoring period, because of the constant number of residents (32 girl students) The net water saving is calculated for identical number of monitoring days i e , 11 days
2) Considering the above mentioned issues lead to abandoning the results of the UFM and CFM installed at the main water supply line and the counsellors residence distribution line respectively and to adopt the results of CFM installed at the students wing distribution line which indicated a 20 % total water saving
3) The constant rate of the water consumption of the washing machines in the laundry hall which, if not counted as part of the total consumption, will increase the saving percentage up to 26 6%
4) The minor use of the main supply line for irrigation which affected the UFM results by raising the consumption and reducing the saving

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F2

C. RESULTS

The total consumption and the average daily consumption, of 11 monitoring day before WSD's installation and 11 days after, as well as the saving percentage and results are shown in the following tabulated results -

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
CFM1 Student's wing	72 534	11	6 594	57 596	11	5 236	20 6

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F3

3. Akkad Luxurious Villa Deir-Ghabar:-

A. Data Output was recorded on WSD's form (see Appendix E3)

B. Data Calculations

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
UFM	51 302	23	2 23				11 7
Main Building	32 645	12	2 72	23 646	12	1 97	27 6

C. Data Analysis:

1) The monitoring period of the water consumption at this site was twenty three (23) days before WSD's installation and twelve (12) days after The average daily consumption during the 23 days period (2 23 M^3/day) compared to the average daily consumption of a twelve days period just prior to the WSD's installation (2 72 M^3/day) is relatively low when computing the percentage of water saving, i e, 11 7% to 27 6% This is a result of the residents leave directly after the installation of the UFM and the starting of the monitoring period Thus the comparison of water consumption of 12 day before WSD's installation and after is more representative and will be adopted The net water saving percentage of this site for identical number of monitoring days 12 days before WSD's installation and 12 days after, was 27 6%

2) Washing Machines, dish washers, and laundry's constant water consumption are counted in the total water consumption but do not add to the water saving These machines' consumption rate about 25% minimum of the residence' consumption If this ratio is Calculated, the actual water saving with use of WSD's will be around 36%

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F3

D. Results:

The total consumption, the average daily consumption, and the total saving percentage, of 12 monitoring days before WSD's installation and 12 days after, are shown in the following tabulated results -

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
CFM Main Building	32 645	12	2 72	23 646	12	1 97	27 6

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F4

4. KING HUSSEIN MEDICAL CENTER

A Data Calculations

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
STATION 1 UFM FUJI Cold Water Supply	30 47	10	3 047	16 98	10	1 698	44 27
STATION 1 UFM FUJI Hot Water Supply	23 6	10	2 36	20 82	10	2 082	11 79
STATION 2 Cold Water Supply	28 79	10	2 879	14 88	10	1 488	48 32
STATION 2 UFM FUJI Hot Water Supply	14 27	10	1 427	11 64	10	1 164	18 43
Total	**97 13**	**10**	**9 713**	**64 32**	**10**	**6 432**	**33%**

B. Data Analysis

1) Station 1

A) The data output of the UFM installed on the cold water supply of the station 1 revealed that there was turbulent flow surrounding this station which affected the positive flow reading However, the effect was so constant, that all flow reading were coherent either on the positive or the negative side which was more functional The location of installation of sensors was so restricted that it was impossible to adjust the position of the sensors as already applied in Philadelphia Hotel

B) The relation between the hot water supply flow and return flow was calculated by subtraction the out flow from the in flow

2) Station 2

The location of this station had the flexibility to adjust the sensors to avoid turbulent flow and opposite flow readings The data output of UFM's installed on the cold water was ideal and very representative The hot water supply was as comparison of total ratios of consumption of hot water which was representative and acceptable as well

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F4

3) Room Occupancy·

The Maternity Department is restricted to delivery cases where the majority of patients of natural delivery cases remains for few hours only after giving birth while the cesarean cases , of which their percentage is negligible, remains for few days Thus room occupancy is not encountered in the analysis

4) Results:

Final Results

a) Comparison of the total water saving of the cold water and the hot water is shown in the following table -

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
Cold Water	59.26	10	5 926	31.86	10	3 186	46.24
Hot Water	37 87	10	3 787	32 46	10	3.246	14 29
Total	97 13	10	9 713	64 32	10	6 432	33

b) The total water consumption, the total average daily water consumption and the total water saving percentage of 10 days, monitoring period before WSD's installation and 10 days after, are shown in the following tabulated results

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
Total	97.13	10	9 713	64 32	10	6 432	33

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F5

5. Directorate of Amman Municipality:-

A. Calculations

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
CFM No 1	8 455	10	0 8455	7 039	10	0 7039	16 8
CFM No2	10 02	10	1 002	8 827	10	0 8827	12 0
CFM No3	3 6427	10	0 364	3 0192	10	0 30192	17 2
CFM No4	2 639	10	0 2639	1 877	10	0 1877	29 9
Total	**24 756**	**10**	**2 4756**	**20 7622**	**10**	**2 076**	**16 1**

B. Analysis

1) The water consumption during the holidays and week ends was negligible and thus counted out of the analytical calculations
2) The comparison of water consumption (of the selected zone) between the total consumption recorded of the four CFM's before the installation of WSD's and after will give the total saving percentage as indicated

C. Results

The total water consumption, the total average water consumption, and the total water saving, of 10 days monitoring before WSD's installation and 10 days after, are shown in the following tabulated results

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Day	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Day	Av Daily Consumption M^3/Day	
Total	**24 756**	**10**	**2.4756**	**20 7622**	**10**	**2 076**	**16 1**

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F6

6. Al-Husseini Mosque
A. Data Calculations

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
CFM 1" No (1) Main Distribution	84 495	23	3 673	41 536	16	2 596	29 4
	50 656	16	3 166				18
CFM 1/2" No(2) Imams W C 's right Next to Minaret	12 824	23	0 55756	7 848	16	0 490	12 03
	9 248	16	0 578				15 14
CFM 1/2" No (3) Imams W C 's Middle Next to Minaret	0 557	23	0 0242	0 383	16	0 02393	1 12
	0 414	16	0 02587				7 5
Total	**97.876**	**23**	**4 2542**	**49 759**	**16**	**3 10993**	**27**
	60 318	**16**	**3 76987**				**17 505**

B. Data Analysis

The comparison of water consumption (before the installation of WSD's and after) was made between the readings of the total water consumption of only three CFM's, installed on the distribution lines, before and after the installation of WSD's The results of the fourth CFM's indicated that no saving occurred The reason was that a hose for cleaning the mosque was connected on this distribution line The other two CFM's (the fifth and the sixth) were installed on the main supply lines for merely monitoring the supply lines without being related to the monitoring of water saving The net result of this site water saving percentage was 17 6% for identical number of monitoring days i e 16 monitoring days before WSD's installation and 16 days after which applies for the adopted three CFM's The results are shown in section C of this Appendix (F6)

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F6

C. Results

The total water consumption, the total average daily consumption, and the total water saving percentage, of 16 days monitoring period before WSD's installation and 16 days after, are shown in the following tabulated results

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
CFM 1" No (1) Main Distribution	50 656	16	3 166	41 536	16	2 596	18
CFM 1/2" No(2) Imams W C 's right Next to Minaret	9 248	16	0 578	7 84	16	0 49	15 14
CFM 1/2" No (3) Imams W C 's Middle Next to Minaret	0 414	16	0 02587	0 383	16	0 02393	7 5
Total	**60 318**	**16**	**3 76987**	**49 759**	**16**	**3 10993**	**17 505**

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F7

7 Apartment East Amman

A. Data Calculation

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
CFM 3/4"	10 01	23	0 4352	5 755	17	0 338	22 4
Distribution	7 266	17	0 427	5 755	17	0 338	20 1
Result	**7 266**	**17**	**0 427**	**5 755**	**17**	**0.338**	**20 1**

B. Data Analysis

Analysis of the Data, recorded on WSD's Form, indicated that the total saving for 17 days of monitoring before the installation of WSD's and 17 days after was 20 6% However this saving percentage does not cover the consumption of the washing machines which is approximately equivalent to 20% of the house consumption and was included in the total consumption quantity In this regard, counting this factor in the calculations will increase the saving percentage to reach about 26%

C. Results

The total water consumption, the average daily consumption and the saving percentage, of 17 days monitoring period before WSD's installation and 17 days after, are shown in the following tabulated results

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
Result	**7 266**	**17**	**0.427**	**5 775**	**17**	**0 338**	**20 1**

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F8

8. AL-Salt Girls Secondary School .

A. Issues

1) The school examination period coincided with the monitoring period of the WSD's and affected the water consumption Thus, the results of calculations were not representative
2) Monitoring of water consumption with WSD's installed preceded the monitoring without The school was relatively more active during the monitoring with WSD's installed
3) While the monitoring of the water consumption of all facilities , without the installation of WSD's had been carried out, for 17 days (actually for 10 days excluding Al-Adha Aid Holiday), a change was made concerning the location of installation of WSD's to be the W C units build instead of all the school premises building Monitoring of this zone, without WSD's installed, had to be carried out again and a shifting of the time line had followed which coincided with final exams period Thus, the water saving result concluded was No saving However, tolerating the partial efficiency of WSD's which were designed to be installed at the second floor of the school main premises, the study results of this site would have been partially successful if was carried out as already planned , i e monitoring the whole site
4) Holidays and week-ends were counted out of monitored days and the calculations

B. Data Analysis

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
CFM 1/2" W C Units Building	3 87	12	0 3225	5 8	10	0 58	No SAVING
Total	3 87	12	0 3225	5 8	10	0 58	**No SAVING**

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F8

C. Results

The total water consumption, the average daily comsumption and the water saving percentage, of 12 days monitoring with WSD's installed and 12 days without, are shown in B above (Data Analysis) where there were no water saving at this site

STUDY ON THE USE OF WATER SAVING DEVICES IN JORDAN

APPENDIX F9

Al-Hussein General Depots
A. Data Calculation

Consumption / Function	Before WSD's Installation			After WSD's Installation			Saving %
	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	Total Consumption M^3	No of Days	Av Daily Consumption M^3/Day	
CFM 1/2" Officers Club	192 409	10	19 24	139 20	10	13 92	27 7
Total	192 409	10	19 24	139 20	10	13 92	**27 7**

B. Data Analysis

1) The CFM's installed on May 5th were reported to be of inaccurate readings, therefore a new CFM was installed and gave representative results
2) Almost all other factors were identical during the monitoring period either with WSD's installed or without
3) The constant water consumption of the dish washers was counted with the total water consumption of this site However, if the dish washers consumption was deducted from the total consumption then net water saving will reach about 36%

C. Results

The total water consumption, the average daily comsumption and the water saving percentage, of 10 days monitoring with WSD's installed and 10 days without, are shown in B above (Data Analysis) where the net water saving percentage at this site represents 27 7% of the total consumption

APPENDIX G

STUDY ON THE USE OF WATER SAVING DEVICE IN JORDAN
APPENDIX G1
LIST OF WSD'S PURCHASED FROM THE LOCAL MARKET

A RAMI EST FOR SANITAEY WORKS : TEL / FAX 690323 /662906

No	ITEM	GATALOGE MODEL No.	MANUFACTURER	LOCAL AGENT	QTY.	UNIT PRICE		TOTAL RPICE	
						J D	FILS	J.D	FILS
1	FITING 1/2" WITH M+K FLOW REGULATOR FOR INSTALLATION TO SHOWERHEAD	DW 1/ 2	MANNESMANN (GERMANY)	RAMI EST FOR SANITARY WORKS	108	4	550	491	400
2	VANDAL PROOF AERATOR WITH M+K FLOW REGULATOR, ENDLESS TURNING HOUSING WITHMALE THREAD	ADG 22	MANNESMANN (GERMANY)	RAMI EST FOR SANITARY WORKS	26	8	50	221	000
3	AERATOR WITH M+K FLOW REGULATOR HOUSING OF TWO PIECES WITH FAMALE THREAD	MK 22	MANNESMANN (GERMANY)	RAMI EST FOR SANITARY WORKS	3	5	950	17	850
4	VANDAL PROOF AERATOR WITH M+K FLOW REGULATOR, ENDLESS TURNING HOUSING WITHMALE THREAD	AD 24	MANNESMANN (GERMANY)	RAMI EST FOR SANITARY WORKS	12	8	500	102	000
	TOTAL							**832 250**	

STUDY ON THE USE OF WATER SAVING DEVICE IN JORDAN
APPENDIX G2
LIST OF WSD'S PURCHASED FROM THE LOCAL MARKET
Cont'd B. IZZAL HASHEM EST. C/O Mr. Ziad Salah Tel 891480

No	ITEM	GATALOGE MODEL No	MANUFACTURER	LOCAL AGENT	QTY	UNIT PRICE		TOTAL RPICE	
						J D	FILS	J.D	FILS
1	AERATOR LONG LIFE WITH METAL HOZE	1110	RST (GERMANY)	IZZAT HASHEM EST	4	6		24	000
2	WC WATER STOP STAINLESS STEEL TWO PARTS	1710	RST (GERMANY)	IZZAT HASHEM EST	20	5		100	000
3	WC WATER STOP FOR CERAMIC FLUSHING CAP	1715	RST (GERMANY)	IZZAT HASHEM EST	20	5		100	000
4	AERATOR LONG LIFE VANDAL PROOF FEMALE	2211	RST (GERMANY)	IZZAT HASHEM EST	50	6	500	325	000
5	FITTING 1/2 WATER SAVOR FOR INSTALLATION TO SHOWER HEAD	R 1/2^{h}	ACTIVE (GERMANY)	IZZAT HASHEM EST	10	5	00	50	
6	AERATOR LONG LIFE FEMALE	2210	RST (GERMANY)	IZZAT HASHEM EST	10	6	00	60	000
7	AERATOR LONG LIFE VANDAL PROOF MALE	2411	RST (GERMANY)	IZZAT HASHEM EST	10	6	50	65	00
8	AERATOR LONG LIFE METAL BALL SOCKET JOINT	1111	RST (GERMANY)	IZZAT HASHEM EST	5	6	500	42	500
	TOTAL							**766**	**500**

STUDY ON THE USE OF WATER SAVING DEVICE IN JORDAN

APPENDIX G3

LIST OF WSD'S PURCHASED FROM THE LOCAL MARKET

Cont'd C.KUSSAD TRADING CO Mr Omar Kussad Tel 683195/079-3054

No	ITEM	GATALOGE MODEL No	MANUFACTURER	LOCAL AGENT	QTY	UNIT PRICE		TOTAL RPICE	
						J D	FILS	J.D	FILS
1	VASA SHOWER WITH 1/2" FLOWFIX VANDAL PROOF AND BALL JOINT	2908-5003	BROEN (DENMARK)	KUSSAD TRADING COMPANY	1	14	500	14	500
2	AERATOR VANDAL PROOF, ENVIRONMANTALLY COMPATIBLE, 1/2" FLOWFIX AIR JET FEMALE 6 L/M	1990-6003	BROEN (DENMARK)	KUSSAD TRADING COMPANY	105	7	500	787	500
3	VASA SHOWER WITH 1/2" FLOWFIX 6 L/M	2908-3003	BROEN (DENMARK)	KUSSAD TRADING COMPANY	1	11	500	11	500
	TOTAL							**813**	**500**

STUDY ON THE USE OF WATER SAVING DEVICE IN JORDAN

APPENDIX G4

LIST OF WSD'S PURCHASED FROM THE LOCAL MARKET

TABLE 3B Cont'd D-Pivot Trading Co. Tel 823898 Fax 685075 Mecca Str.

No	ITEM	GATALOGE MODEL No.	MANUFACTURER	LOCAL AGENT	QTY	UNIT PRICE		TOTAL RPICE	
						J D	FILS	J D	FILS
1	EXPOSED URINAL FLUSH VALVE	#6500	MAMOLI (ITALY)	PIVOT TRADING & SERVICES CO	4	39	0	156	0
2	EXPOSED URINAL FLUSH VALVE-SELF CLOSING	9500	MAMOLI (ITALY)	PIVOT TRADING & SERVICES CO	2	39	0	78	0
	TOTAL							234	

STUDY ON THE USE OF WATER SAVING DEVICE IN JORDAN
APPENDIX G5
LIST OF WSD'S MANUFACTURED AT THE LOCAL WORKSHOPS

WORKSHOPS

1 Palestine Workshop Ash-Sharq Al-Awsat Circle

Manufacturing of rods for	Qty	Unit price	Total
WC Water Stop Cast Iron	130	1 00	130

2. Deironeih Workshop Ash-Sharq Al-Awsat Circle

A) Manufacturing of springs for WC water stop	45	0 350	15 750
B) Manufacturing of springs for WC water stop	15	0 600	9 00
Total			**154.750 JD**

APPENDIX H

STUDY ON THE USE OF WATER SAVING DEVICES

APPENDIX H

LIST OF PERSONS CONTRIBUTED TO THE STUDY

1 Mr Samir Kawar, Minister of Water and Irrigation
2 Dr Salih Rusheidat, Minister of Tourism and Antiquities
3 Dr Abdul Salam Al-Abbadi, Minister of Awqaf and Islamic Affairs
4 Dr Munther Al-Masri, Minister of Education
5 Field Marshal Abdul Hafiz Mara'i Al-Ka'bnah, Chairman of the Joint Chiefs of Staff, Jordan Armed Forces
6 Mr Qusai Quteishat, Secretary General, Ministry of Water and Irrigation
7 Dr Mohammad Bani Hani, Ex-Secretary General, Ministry of Water and Irrigation
8 Major General Mahmoud Fahhad, Assistant Chief of Staff for Logistics, Jordan Armed Forces
9 Mr Khaldoun Abu Hassan, President/Amman Chamber of industry
10 Mr Haider Murad, President, Amman Chamber of Commerce
11 Major General Yousof Al-Kusus, Director, Royal Medical Services
12 Major General Imad Saliba, Director, Royal Engineering Corps
13 Brigadier Riadh Dalabeih, Director, Royal Maintenance Corps
14 President of Al-zeitounah University
15 Brigadier Khalid Jamouqah, Commander, Al-Hussein General Depots
16 Brigadier Yaseen Al-Zubi/Al-Hussin General Depots
17 Mr Ali Qudhat, Director, Water Directorate of Amman Municipality
18 Lt Colonel Ihsan Abbadi, Head of the Engineering Dept, Royal Medical Services
19 Mr Khaldoun Khoshman, Director, Water Directorate of Zerqa Governarate
20 Mr Hisham Atrash, Director, Engineering Directorate, Ministry of Education
21 Director of the Engineering Directorate, Ministry of Awqaf and Islamic Affairs
22 Director of the Education Directorate of Al-Balqa Governorate
23 Mr Tawfiq Habashneh, Director, Water Directorate of Al-Balqa Governorate
24 Mr Toni Nazzal, General Manager, Philadelphia Hotel
25 Mr Wahbi Dahdah, Assistant General Manager, Philadelphia Hotel
26 Mrs Mai Abu Al-Samn, Principal, Al-Salt Girls Secondary School
27 Mr Abbas Akkad, The Owner of a Luxurious Villa, Deir Ghabar
28 Mr Jawad Naseruddin, Householder, Apartment East Amman
29 Mr Ghasi Qaryoutti, Owner, Apartment East Amman
30 Mr Basim Zawaideh, Water Directorate of Amman Municipality
31 Mr Sa'd Bakri, Water Directorate of Amman Municipality

32 Mr Maher Ashoor, Water Directorate of Amman Municipality
33 Mr Ala' Ashab, Water Directorate of Amman Municipality
34 Mr Sami Khoury, Water Directorate of Al-Balqa Governorate
35 Mr Sufian Mara'i, Head of the Engineering Dept , Al-Zeitounah University
36 Mr Raed Shweihat, Head of the Maintenance Dept , Philadelphia Hotel
37 Al-Husseini Mosque Imam
38 Lt Col Basim Sail, Head of King Hussein Medical Center Maintenance Workshop
39 Major Moh'd Waqfi, Al-Hussein General Depots
40 Major Ayman Al-Nssur, Al-Hussein General Depots
41 Lt Kalid Yousof, Al-Hussein General Depots
42 Major Ayman Karadsheh, King Hussein Medical Center Maintenance Workshop
43 Captain Ali Rakkad, King Hussein Medical Center Maintenance Workshop
44 Lt Mohammad Falih, King Hussein Medical Center Maintenance Workshop
45 Walid Janakat, King Hussein Medical Center Maintenance Workshop
46 Sheikh Mousa Banna, Al-Husseini Mosque
47 Khalid Allan, Maintenance Dept Philadelphia Hotel
48 Yakoub Sousa, Maintenance Dept Philadelphia Hotel
49 Mr M Hanbali, Manager, JES
50 Miss Kholoud Fiaddh, JES
51 Mr Zeid Kassab, MWI
52 Mr Kamal Halawa, Jouzi & Partners
53 Mr Zuheir Sa'adah, Jouze & Partners
54 Mr Mod'd Rial, WAJ
55 Mr Sami Nabulsi, WAJ
56 Mr Numan Shawahin, WAJ
57 Mr Abdurrazak Al-Fa'ouri, WAJ
58 Dr Shawn Niaki, DAI
59 Mr Ross Hagan, DAI
60 Mrs Mette Bankroft, DAI
61 Mrs Ruba Hattar, DAI
62 Mrs Sophia Khalifa, DAI
63 Mr Tahseen Kharauf, DAI
64 Mr Raed Ammari, Water Directorate of Al-Zerqa Governerate
65 Mr Sahel Dodein-Maintenance Manager, Jordan Inter-continental Hotel
66 Mr Ammar Kanan, Forte Grand Hotel
67 Mr Rafiq salah, Maintenance Manager, Amra Hotel
68 Mr Nabil Farah, Maintenance Manager, Palestine Hospital
69 Mr Ahmad Ali, Khalidy Hospital
70 Mr Farid Masarweh, Farah Hospital
71 Mr Ali Hattar, Ali Hatter Engineering Consulting Co
72 Mr JafarToukan, Jafor Toukan Engineering Co

73 Mr Ameen Zureiqi, Hussein Attyiah Engineering Contractors
74 Mr Said Abu-Jabir, G M, CC
75 Dr Adnan Kilani, Director, Amman Municipality Slaughter House
76 Mr Samir Hiasat, Maintenance Dept, Amman Municipality slaughter House
77 Mr Sami Swalhah, G M , Regency Palace Hotel
78 Mr Hana Hosh, G M , Shepherd Hotel
79 Mr M Audeh, Marriott Hotel
80 The General Manager, Jerusalem Melia Hotel
81 Mr Omar Al-Jamal, General Manager, Islamic Center, Late King Abdulla Bin Al-Hussein Mosque
82 Mr Nabil Ghawi, Dar Al-Handasah
83 Mr Yousef Al-Haik, Consolidated Contractors Company, CCC
84 Mr Ibrahim Abu-Ayyash, Arabtech Jerdaneh
85 Mr Rukni Sweiss, Rukn Al-Handasah
86 Miss Ala'a Al-Naif, F L C
87 Mr Jawdat Yaghmour, G M , ACE
88 Mr Yonous Dwaik, Jordan Engineering Consulting
89 Mr Tawfiq Sabbarini, Mi'mar Engineering Consulting
90 The General Manager, Dhuleil Slaughter House Co
91 The Principal, The Baccalaureate School
92 The President, Al-Isra'a University
93 The President, Amman National University
94 Mr Subhi Jabri, Jabri Restaurants Co
95 The General Manager, Ata Ali Restaurants Co
96 The General Manager, Kiyyali Factory for Sanitarywaie
97 The General Manager, Aman Factory for Sanitaryware
98 The General Manager, Khalifah Factory for Sanitaryware
99 The General Manager, Firas Wing Hotel
100 Mr Mobadda Al- Labadi, Montana State University, Research Assistant
101 Mr Hakam Kheir, Householder, West Amman
102 Mr Tariq Na'Na, Householder, West Amman
103 Abdullah Al-Ahmad, U S AID

APPENDIX I

ULTRASONIC FLOW METERS
FUJI ELECTRIC PORTAFLOW

RAW DATA

KING HUSSEIN MEDICAL CENTER

```
OUTER DIAMETER
60 5      MM

PIPE MATERIAL
?         CS SS

WALL THICKNESS
3 20      MM

INNER LINING
?         NO LING

KIND OF FLUID
?         WATER

SENSOR MOUNTING
?         U

TYPE OF SENSOR
?         SMALL

DATA CHANGE
?         NO

SPACING
25 18     MM M

00-00 00 3000 +H
+  0 00UE 1M3 H

MM-DD HH MM
04-27 21 14

INTEG UNIT
          *10L

INTEG START
          AUTO

START TIME
04-27 21 16

OPERATION TIME
99        HOP

PRT PERIOD
60        MIN

PRT UNIT M3/H
          YES

PRT UNIT M3 M
          NO

PRT UNIT M3/S
          NO
PRT UNIT M/S
          NO

PRT UNIT INTEG
          ES
PRT UNIT AI1
          NO
PRT UNIT AI2
          NO

START TIME
04-27 21 18

OPERATION TIME
99        HOR

21 13+  0 02RE 1M3/H 00R
      +00001 *10L     00P
      -00000 *10L     00R

04-27 21 2800 *R
+00006  *10L

22 18+  0 019E 1M3/H 00R
      +00033 *10L     00R
      -00002 *10L     00P

23 18-  0 020E 1M3/H 00R
      +00010 *10L     00R
      -00025 *10L     00R

00 18-  0 014E 1M3/H 00R
      +00043 *10L     00R
      -00050 *10L     00R

01 18-  0 023E 1M3/H 00R
      +00047 *10L     00R
      -00072 *10L     00R

02 18-  0 049E 1M3 H 00R
      +00049 *10L     00P
      -00049 *10L     00R

03 18+  0 000E 1M3/H 00R
      +00051 *10L     00R
      -00129 *10L     00R

04 18-  0 014E 1M3 H 00R
      +00052 *10L     00R
      -00166 *10L     00R

05 18-  0 019E 1M3/H 00R
      +00055 *10L     00R
      -00209 *10L     00R

06 18-  0 037E 1M3/H 00R
      +00058 *10L     00R
      -00255 *10L     00R

07 18-  0 019E 1M3/H 00R
```

```
08 18-  0 026E 1M3/H
      +00078 *10L     00
      -00297 *10L     00R

09 18+  0 000E 1M3/H 00R
      +00089 *10L     00R
      -00313 *10L     00R

10 18+  0 016E 1M3/H 00R
      +00106 *10L     00R
      -00330 *10L     00R

11 18-  0 048E 1M3/H 00P
      +00116 *10L     00R
      -00358 *10L     00R

12 18-  0 091E 1M3/H 00R
      +00120 *10L     00R
      -00385 *10L     00R

13:18+  0 063E 1M3/H 00R
      +00174 *10L     00R
      -00411 *10L     00R

14 18+  0 000E 1M3/H 00H
      +00268 *10L     00H
      -00426 *10L     00H

15 18-  0 271E 1M3/H 00R
      +00282 *10L     00P
      -00586 *10L     00R

16 18-  0 052E 1M3/H 00H
      +00419 *10L     00H
      -00611 *10L     00H

17:18+  0 281E 1M3 H 00H
      +00654 *10L     00H
      -00748 *10L     00H

18 18-  0 204E 1M3/H 00H
      +00793 *10L     00H
      -00863 *10L     00H

19 18-  0 017E 1M3/H 00H
      +00873 *10L     00H
      -01328 *10L     00H

20:18+  0 014E 1M3/H 00H
      +00883 *10L     00H
      -01348 *10L     00H

21 18+  0 251E 1M3/H 00R
      +01171 *10L     00R
      -01356 *10L     00P

22 18+  0 156E 1M3 H 00H
      +01219 *10L     00H
      -01400 *10L     00H

23 18+  0 000E 1M3/H 00R
      +01299 *10L     00R
      -01466 *10L     00R

00 19-  0 946E 1M3 H 00P
      +01381 *10L     00R
      -01525 *10L     00R

01 18+  0 200E 1M3/H 00R
      +01667 *10L     00R
      -01681 *10L     00R

02 18+  0 009E 1M3 H 00R
      +01805 *10L     00P
      -01700 *10L     00R

03 18+  0 255E 1M3 H 00H
      +02045 *10L     00H
      -01700 *10L     00H

04 18-  0 593E 1M3 H 00H
      +02100 *10L     00H
      -02107 *10L     00H

05 18+  0 149E 1M3/H 00H
      +02481 *10L     00H
      -02239 *10L     00H

06 18+  0 112E 1M3/H 00H
      +02567 *10L     00H
      -02444 *10L     00H

07 18+  0 112E 1M3/H 00H
      +02679 *10L     00H
      -02444 *10L     00H

03/18+  0 112E 1M3/H 00H
      +02792 *10L     00H
      -02444 *10L     00H

09 18+  0 067E 1M3/H 00H
      +02904 *10L     00H
      -02617 *10L     00H

10 18-  0 094E 1M3/H 00H
      +02905 *10L     00H
      -02741 *10L     00H

11:19-  0 094E 1M3/H 00H
      +02905 *10L     00H
      -02835 *10L     00H

12 18-  0 091E 1M3/H 00H
      +02905 *10L     00H
      -02929 *10L     00H
```

```
14 1o-  0 787E 1M3/H 00H
      +02905 *10L     00H
      -03323 *10L     00H

15 18-  0 787E 1M3/H 00H
      +02905 *10L     00H
      -04111 *10L     00H

16 18-  0 787E 1M3/H 00H
      +02905 *10L     00H
      -04898 *10L     00H

17 18+  0 253E 1M3/H 00R
      +02936 *10L     00R
      -05597 *10L     00P

18 18+  0 071E 1M3/H 00H
      +03031 *10L     00H
      -05602 *10L     00H

19 18-  0 839E 1M3/H 00H
      +03079 *10L     00H
      -05779 *10L     00H

20 18-  0 104E 1M3/H 00R
      +03171 *10L     00P
      -06495 *10L     00P

21 18-  0 103E 1M3 H 00P
      +03228 *10L     00R
      -06514 *10L     00P

22 18+  0 135E 1M3/H 00R
      +03291 *10L     00P
      -06530 *10L     00R

23 18-  0 124E 1M3/H 00R
      +03351 *10L     00R
      -06571 *10L     00R

00 18+  0 972E 1M3/H 00R
      +03607 *10L     00R
      -06706 *10L     00R

01 18-  0 058E 1M3/H 00P
      +03802 *10L     00R
      -06718 *10L     00R

02 18+  0 057E 1M3/H 00P
      +03877 *10L     00P
      -06740 *10L     00R

03 18-  0 015E 1M3/H 00R
      +03925 *10L     00P
      -06773 *10L     00P

04 18-  0 291E 1M3 H 00H
      +03942 *10L     00H
      -06888 *10L     00H

05:18+  0 150E 1M3/H 00P
      +04071 *10L     00P
      -06958 *10L     00P

06 18+  0 139E 1M3 H 00H
      +04201 *10L     00H
      -06967 *10L     00H

07 18+  0 139E 1M3/H 00H
      +04343 *10L     00H
      -06967 *10L     00H

08 18+  0 139E 1M3/H 00H
      +04483 *10L     00H
      -06967 *10L     00H

09:18+  0 139E 1M3/H 00H
      +04623 *10L     00H
      -06967 *10L     00H

10 18+  0 139E 1M3 H 00H
      +04762 *10L     00H
      -06967 *10L     00H

11 1o+  0 139E 1M3/H 00H
      +04902 *10L     00H
      -06967 *10L     00H

12 18+  0 139E 1M3/H 00H
      +05042 *10L     00H
      -06967 *10L     00H

13 18+  0 139E 1M3/H 00H
      +05181 *10L     00H
      -06967 *10L     00H

14 18+  0 139E 1M3 H 00H
      +05321 *10L     00H
      -06967 *10L     00H

15 18+  0 139E 1M3/H 00H
      +05461 *10L     00H
      -06967 *10L     00H

16 18+  0 139E 1M3/H 00H
      +05600 *10L     00H
      -06967 *10L     00H

17 18+  0 139E 1M3/H 00H
      +05740 *10L     00H
      -06967 *10L     00H

18 18+  0 139E 1M3 H 00H
      +05880 *10L     00H
      -06967 *10L     00H
```

```
20 18+  0 139E 1M3 H 00H
      +06159 *10L     00H
      -06967 *10L     00H

21 18+  0 139E 1M3/H 00H
      +06299 *10L     00H
      -06967 *10L     00H

22 18+  0 139E 1M3/H 00H
      +06438 *10L     00H
      -06967 *10L     00H

23 18+  0 139E 1M3/H 00H
      +06578 *10L     00H
      -06967 *10L     00H

00 18+  0 139E 1M3/H 00H
      +06718 *10L     00H
      -06967 *10L     00H

01 18+  0 139E 1M3/H 00H
      +06857 *10L     00H
      -06967 *10L     00H

02 18+  0 139E 1M3/H 00H
      +06997 *10L     00H
      -06967 *10L     00H

03 18+  0 139E 1M3 H 00H
      +07137 *10L     00H
      -06967 *10L     00H

04 18+  0 139E 1M3/H 00H
      +07276 *10L     00H
      -06967 *10L     00H

05 18+  0 028E 1M3/H 00R
      +07367 *10L     00R
      -07111 *10L     00R

06 18-  0 066E 1M3/H 00H
      +07370 *10L     00H
      -07170 *10L     00H

07 18-  0 066E 1M3/H 00H
      +07370 *10L     00H
      -07237 *10L     00H

08 18-  0 066E 1M3/H 00H
      +07370 *10L     00H
      -07304 *10L     00H

09 18-  0 066E 1M3/H 00H
      +07370 *10L     00H
      -07371 *10L     00H

10 18+  0 017E 1M3/H 00P
      +07412 *10L     00P
      -07424 *10L     00R

11 18+  0 192E 1M3/H 00H
      +07508 *10L     00H
      -07440 *10L     00H

12 18- 10 357E 1M3/H 00H
      +07684 *10L     00H
      -08283 *10L     00H

13 18+  0 014E 1M3/H 00R
      +07746 *10L     00R
      -00299 *10L     00R

14 18+  0 048E 1M3/H 00R
      +07766 *10L     00R
      -00326 *10L     00R

15 18-  0 037E 1M3/H 00R
      +07784 *10L     00P
       00345 *10L     00P

16 18+  0 000E 1M3/H 00P
      +07793 *10L     00P
      -00373 *10L     00P

INTEG UNIT
          *10L

INTEG START
          AUTO

START TIME
05-01 16 30

OPERATION TIME
99        HOP

05-01 16 2700 *P
+07795  *10L

PRT PERIOD
60        MIN

PRT UNIT M3/H
          YES

PRT UNIT M3/M
          NO
PRT UNIT M3/S
          NO
PRT UNIT M/S
          NO
PRT UNIT INTEG
          YES
PRT UNIT AI1
          NO
PRT UNIT AI2
          NO
```

المدينة الطبية موقع رقم 0 قبل التركيب الأجهزة

KING HUSSEIN MEDICAL CENTER STATION 1 COLD WATER SUPPLY (CWS) BEFORE WSD'S INSTALL

BEST AVAILABLE COPY

132

BEST AVAILABLE COPY

133

KING HUSSEIN MEDICAL CENTER (STATION 1)
COLD WATER SUPPLY

```
17 19+  0 038E 1113/H 00P
      +01196 *10L    00P
      -00648 *10L    00R

18 19+  0 019E 1113/H 00R
      +01215 *10L    00P
      -00656 *10L    00R

19 19-  0 026E 1113/H 00R
      +01227 *10L    00R
      -00668 *10L    00R

20 19+  0 000E 1113/H 00R
      +01247 *10L    00R
      -00675 *10L    00P

21 19+  0 017E 1113/H 00R
      +01275 *10L    00R
      -00684 *10L    00R

22 19+  0 028E 1113/H 00R
      +01306 *10L    00R
      -00692 *10L    00R

23 19+  0 01FE 1113 H 00R
      +01318 *10L    00R
      -00701 *10L    00R

00 19-  0 018E 1113/H 00R
      +01348 *10L    00R
      -00714 *10L    00R

01 19+  0 023E 1113 H 00R
      +01382 *10L    00R
      -00720 *10L    00P

02 19+  0 000E 1113/H 00R
      +01414 *10L    00R
      -00726 *10L    00R

03 19+  0 016E 1113 H 00R
      +01460 *10L    00R
      -00728 *10L    00P

04 19+  0 022E 1N7 H 00R
      +01493 *10L    00R
      -00734 *10L    00R

05 19-  0 096E 1113 H 00R
      +01541 *10L    00P
      -00768 *10L    00R

06 19-  0 115E 1113/H 00R
      +01585 *10L    00R
      -00819 *10L    00R

07 19-  0 085E 1113 H 00P
      +01518 *10L    00R
      -00851 *10L    00R

08 19+  0 016E 1113 H 00P
      +01579 *10L    00R
      -00871 *10L    00R

09 19+  0 014E 1113 H 00R
      +01566 *10L    00R
      -00878 *10L    00R

10 19+  0 014E 1113/H 00R
      +01597 *10L    00P
      -00892 *10L    00R

11 19+  0 023E 1113/H 00R
      +01618 *10L    00R
      -00908 *10L    00R

12 19+  0 124E 1113/H 00R
      +01610 *10L    00R
      -00919 *10L    00R

12 56+  0 078E 1113 H 00R
      +01651 *10L    00R
      -00928 *10L    00R

13 09+  0 000E 1113/H 00R
      +01655 *10L    00R
      -00930 *10L    00R

13 43+  0 012E 1113/H 00R
      +01660 *10L    00R
      -00943 *10L    00R

14 43+  0 051E 1113/H 00R
      +01676 *10L    00R
      -00953 *10L    00R

15:43+  0 017E 1113/H 00R
      +01691 *10L    00R
      -00971 *10L    00R

16 43+  0 059E 1113/H 00R
      +01703 *10L    00R
      -00982 *10L    00R

17 43-  0 069E 1113/H 00R
      +01719 *10L    00R
      -00992 *10L    00R

18 43-  0 052E 1113/H 00R
      +01726 *10L    00R
      -01004 *10L    00R

19 43-  0 139E 1113/H 00R
      +01732 *10L    00R
      -01010 *10L    00R

20 17+  0 000E 1113 H 00R
```

```
21 43+  0 000E 1113/H 00R
      +01757 *10L    00R
      -01066 *10L    00R

22 43-  0 009E 1113 H 00R
      +01764 *10L    00R
      -01080 *10L    00R

23:43+  0 060E 1113/H 00R
      +01771 *10L    00R
      -01092 *10L    00R

00 43+  0 024E 1113/H 00R
      +01785 *10L    00P
      -01101 *10L    00R

01 43-  0 016E 1113/H 00R
      +01794 *10L    00R
      -01118 *10L    00R

02 43+  0 021E 1113 H 00R
      +01808 *10L    00R
      -01129 *10L    00P

03 43+  0 013E 1113/H 00R
      +01827 *10L    00R
      -01138 *10L    00R

04 43   0 030E 1113/H 00R
      +01844 *10L    00R
      -01146 *10L    00P

05 43+  0 022E 1113/H 00R
      +01862 *10L    00R
      -01156 *10L    00P

06 43+  0 000E 1113/H 00R
      +01876 *10L    00R
      -01177 *10L    00R

07 43   0 028E 1113/H 00R
      +01893 *10L    00R
      -01188 *10L    00R

07 58+  0 019E 1N3/H 00P
      +01895 *10L    00P
      -01190 *10L    00R

08 58+  0 027E 1113/H 00R
      +01903 *10L    00R
      -01209 *10L    00R

09 23+  0 038E 1113/H 00R
      +01910 *10L    00R
      -01217 *10L    00R

10 23+  0 033E 1113/H 00P
      +01918 *10L    00R
      -01229 *10L    00R

11 23+  0 024E 1113/H 00R
      +01933 *10L    00R
      -01238 *10L    00R

12 23   0 035E 1113/H 00R
      +01942 *10L    00R
      -01265 *10L    00R

13 23   0 101E 1113/H 00R
      +01952 *10L    00R
      -01284 *10L    00R

14 23+  0 016E 1113/H 00R
      +01964 *10L    00R
      -01303 *10L    00R

15 23   0 019E 1113/H 00R
      +01973 *10L    00R
      -01318 *10L    00R
```

BEST AVAILABLE COPY

BEST AVAILABLE COPY

135

KING HUSSEIN MEDICAL CENTER (STATION 1) [illegible]

12 31- 0 063E 1113/H 00R
+00401 *10L 00R
-00265 *10L 00R

13 31+ 0 02AE 1M3/H 00R
+00422 *10L 00R
-00294 *10L 00R

14 31- 0 012E 1113/H 00R
+00440 *10L 00P
-00307 *10L 00P

15 31+ 0 000E 1113 H 00R
+00452 *10L 00R
-00322 *10L 00R

16 31- 0 056E 1113/H 00P
+00467 *10L 00P
-00333 *10L 00R

17 31+ 0 077E 1113 H 00P
+00479 *10L 00R
-00351 *10L 00R

18 31+ 0 000E 1113 H 00R
+00490 *10L 00R
-00354 *10L 00R

19 31+ 0 017E 1113/H 00R
+00498 *10L 00R
00371 *10L 00R

20 31- 0 047E 1113/H 00P
+00509 *10L 00P
-00390 *10L 00P

21 31- 0 025E 1113/H 00P
+00526 *10L 00R
-00399 *10L 00P

22 31+ 0 000E 1113 H 00R
+00553 *10L 00P
-00401 *10L 00R

23 31+ 0 119E 1113 H 00P
+00563 *10L 00P
-00404 *10L 00P

00 31+ 0 013E 1113/H 00P
+00510 *10L 00P
0/10 -00411 *10L 00P

01 31+ 0 012E 1113 H 00P
+00527 *10L 00P
-00427 *10L 00R

02 31- 0 017E 1113/H 00R
+00674 *10L 00P
-00454 *10L 00R

03 31+ 0 045E 1113/H 00R
+00657 *10L 00R
-00465 *10L 00R

04 31+ 0 016E 1113/H 00P
+00680 *10L 00P
-00470 *10L 00P

05 31+ 0 061E 1113/H 00R
+00691 *10L 00R
-00491 *10L 00R

06:31+ 0 010E 1113 H 00R
+00717 *10L 00R
-00497 *10L 00P

07 31+ 0 027E 1113 H 00R
+00738 *10L 00R
-00512 *10L 00R

08 31+ 0 073E 1113 H 00P
+00753 *10L 00R
-00536 *10L 00R

09 31+ 0 000E 1113/H 00R
+00763 *10L 00R
-00559 *10L 00R

10 31- 0 064E 1113/H 00P
+00776 *10L 00P
-00573 *10L 00R

11 31+ 0 000E 1113 H 00R
+00788 *10L 00R
-00585 *10L 00R

12:31+ 0 000E 1M3/H 00R
+00902 *10L 00R
-00598 *10L 00R

13 31+ 0 016E 1113/H 00R
+00818 *10L 00R
-00614 *10L 00R

14 31+ 0 000E 1113/H 00R
+00829 *10L 00R
-00632 *10L 00R

15:31+ 0 037E 1113/H 00R
+00842 *10L 00P
-00651 *10L 00R

16 31+ 0 036E 1113 H 00R
+00855 *10L 00P
-00663 *10L 00R

17 31- 0 111E 1113 H 00P

18 31 0 012E 1113/H 00R
+00888 *10L 00R
-00696 *10L 00R

19 31+ 0 045E 1113/H 00R
+00893 *10L 00P
-00724 *10L 00R

20 31 0 011E 1113/H 00R
+00905 *10L 00R
-00737 *10L 00R

21 31+ 0 029E 1113/H 00R
+00922 *10L 00P
-00746 *10L 00P

22 31+ 0 030E 1113/H 00P
+00943 *10L 00R
-00751 *10L 00P

23 31+ 0 029E 1113/H 00P
+00964 *10L 00P
-00757 *10L 00P

00 31+ 0 000E 1113/H 00R
+00989 *10L 00P
0/17 -00765 *10L 00P

01 31 0 011E 1113/H 00P
+01011 *10L 00P
-00771 *10L 00R

02 31+ 0 027E 1113/H 00R
+01027 *10L 00R
-00779 *10L 00P

03 31 0 024E 1113 H 00R
+01043 *10L 00R
-00788 *10L 00P

04 31+ 0 000E 1113/H 00P
+01063 *10L 00P
-00794 *10L 00R

05 31+ 0 055E 1113/H 00R
+01087 *10L 00R
-00797 *10L 00R

06 31+ 0 000E 1113/H 00P
+01108 *10L 00P
-00810 *10L 00R

07 31+ 0 020E 1113 H 00R
+01119 *10L 00P
-00829 *10L 00R

08 31+ 0 000E 1113/H 00R
+01133 *10L 00R
-00842 *10L 00R

09 31+ 0 068E 1113 H 00R
+01146 *10L 00P
-00858 *10L 00R

10 31+ 0 000E 1113/H 00P
+01161 *10L 00R
-00870 *10L 00R

11 31+ 0 000E 1113/H 00R
+01172 *10L 00R
-00882 *10L 00R

12 31- 0 028E 1113/H 00R
+01185 *10L 00R
-00891 *10L 00R

17 31- 0 013E 1113/H 00P
+01191 *10L 00R
-00915 *10L 00R

14 31+ 0 039E 1113 H 00P
+01212 *10L 00R
-00926 *10L 00P

START TIME
05-16 18:20
OPERATION TIME
99 HOP

18 20+ 0 000E 1M3/H 00R
+00000 *10L 00R
-00000 *10L 00P

19:20+ 0 030E 1113/H 00R
+00019 *10L 00R
-00005 *10L 00R

20 20- 0 012E 1M3/H 00P
+00032 *10L 00R
-00016 *10L 00R

21:20+ 0 000E 1M3/H 00P
+00053 *10L 00P
-00021 *10L 00R

22 20+ 0 020E 1113/H 00R
+00071 *10L 00P
-00031 *10L 00R

23 20+ 0 020L 1113/H 00R
+00086 *10L 00R
-00039 *10L 00R

00 20- 0 013E 1113 H 00R
+00098 *10L 00P
0/12 -00048 *10L 00P

01 20+ 0 025E 1113/H 00R
+00110 *10L 00P
-00056 *10L 00R

02 20+ 0 086E 1113/H 00P
+00122 *10L 00P
-00067 *10L 00R

03 20+ 0 018E 1M3/H 00P
+00141 *10L 00P
-00071 *10L 00R

04 20+ 0 000E 1113/H 00P
+00163 *10L 00R
-00078 *10L 00P

05 20- 0 016E 1M3/H 00P
+00180 *10L 00P
-00085 *10L 00P

06 20- 0 057E 1113 H 00R
+00194 *10L 00R
-00098 *10L 00P

07 20+ 0 023E 1M3/H 00P
+00211 *10L 00P
-00106 *10L 00P

08:20- 0 023E 1113/H 00R
+00272 *10L 00R
-00113 *10L 00R

09 20+ 0 035E 1M3 H 00R
+00247 *10L 00P
-00123 *10L 00P

10 20- 0 073E 1M3/H 00P
+00259 *10L 00P
-00138 *10L 00P

11 20- 0 014E 1M3/H 00P
+00280 *10L 00R
-00147 *10L 00P

12 20- 0 057E 1113/H 00R
+00299 *10L 00R
-00157 *10L 00P

13 20- 0 011E 1113 H 00P
+00312 *10L 00R
-00166 *10L 00P

14 20- 0 015E 1113 H 00P
+00326 *10L 00P
-00176 *10L 00P

15 20+ 0 035E 1113/H 00R
+00312 *10L 00R
-00184 *10L 00P

16 20+ 0 065E 1113/H 00P
+00365 *10L 00P
-00189 *10L 00P

17:20+ 0 000E 1113/H 00P
+00792 *10L 00R
-00192 *10L 00P

18 20+ 0 018L 1113/H 00R
+00410 *10L 00P
-00199 *10L 00R

19 20+ 0 014E 1113/H 00R
+00427 *10L 00R
-00210 *10L 00R

20 20+ 0 076E 1M3/H 00R
+00113 *10L 00P
-00217 *10L 00R

21 20+ 0 069E 1113/H 00R
+00463 *10L 00P
-00224 *10L 00R

22 20- 0 009E 1113/H 00P
+00491 *10L 00P
-00226 *10L 00P

23 20+ 0 073E 1113/H 00P
+00514 *10L 00P
-00229 *10L 00P

00 20+ 0 000E 1113/H 00R
+00536 *10L 00P
0/14 -00235 *10L 00R

01 20+ 0 000E 1113/H 00P
+00556 *10L 00R
-00240 *10L 00R

02 20+ 0 000E 1M3/H 00P
+00592 *10L 00R
-00243 *10L 00P

03 20+ 0 031E 1113 H 00P
+00615 *10L 00R
-00216 *10L 00R

04 20+ 0 016E 1113 H 00R
+00659 *10L 00P
-00247 *10L 00P

05 20+ 0 023E 1113 H 00P

06 20+ 0 000E 1113 H 00P
+00736 *10L 00P
-00250 *10L 00P

07 20+ 0 070E 1113/H 00P
+00754 *10L 00R
-00256 *10L 00P

08 20+ 0 032E 1113 H 00P
+00770 *10L 00P
-00264 *10L 00P

09 20+ 0 011E 1113 H 00P
+00790 *10L 00P
-00273 *10L 00P

10 20+ 0 079E 1113 H 00P
+00818 *10L 00P
-00281 *10L 00P

11 20- 0 017E 1113/H 00P
+00847 *10L 00P
-00226 *10L 00P

12 20+ 0 000E 1113 H 00P
+00872 *10L 00R
-00292 *10L 00P

13 20+ 0 000E 1113 H 00R
+00900 *10L 00P
-00295 *10L 00P

14 20- 0 058E 1113/H 00P
+00921 *10L 00P
-00305 *10L 00P

15 20+ 0 009E 1113/H 00P
+00933 *10L 00P
-00324 *10L 00P

16 20+ 0 000E 1113 H 00P
+00947 *10L 00P
-00339 *10L 00P

17 20+ 0 000E 1113/H 00P
+00960 *10L 00P
-00351 *10L 00P

18 20+ 0 000E 1113/H 00P
+00981 *10L 00P
-00361 *10L 00P

19 20+ 0 037E 1113 H 00P
+00995 *10L 00P
-00372 *10L 00P

20 20+ 0 000E 1M3/H 00P
+01011 *10L 00P
-00379 *10L 00P

21 20+ 0 021E 1M3/H 00P
+01039 *10L 00P
-00382 *10L 00P

22 20+ 0 018E 1113/H 00P
+01066 *10L 00P
-00387 *10L 00P

23 20+ 0 023E 1M3 H 00R
+01087 *10L 00P
-00397 *10L 00R

00 20+ 0 000E 1M3 H 00P
+01110 *10L 00P
0/19 -00401 *10L 00P

01 20+ 0 019E 1113 H 00R
+01123 *10L 00P
-00412 *10L 00P

02 20+ 0 000E 1M3/H 00P
+01147 *10L 00P
-00415 *10L 00P

03 20+ 0 041E 1113/H 00R
+01173 *10L 00P
-00421 *10L 00R

04 20- 0 055E 1113/H 00P
+01196 *10L 00P
-00431 *10L 00R

05 20- 0 019E 1M3/H 00P
+01204 *10L 00P
-00419 *10L 00P

06 20- 0 114E 1113/H 00P
+01229 *10L 00P
-00460 *10L 00P

07 20+ 0 014E 1M3 H 00R
+01249 *10L 00P
-00475 *10L 00P

08 20+ 0 000E 1113/H 00P
+01268 *10L 00P
-00484 *10L 00P

09 20- 0 077E 1113 H 00P
+01285 *10L 00P
-00499 *10L 00P

10 20+ 0 000E 1113/H 00P
+01308 *10L 00P
-00512 *10L 00P

11 20+ 0 0 1E 1M3 H 00P
+01 1 *10L 00P

BEST AVAILABLE COPY

136

```
START TIME
05-20 14 39
OPERATION TIME
99      HOR

14 39+  0 048E 1113/H 00P
      +00000 *10L    00R
      -00000 *10L    00R

15 39+  0 043E 1113 H 00R
      +00031 *10L    00R
      -00006 *10L    00R

16 39-  0 028E 1112 H 00R
      +00058 *10L    00R
      -00014 *10L    00R

17 39-  0 073E 1113/H 00P
      +00081 *10L    00P
      -00026 *10L    00R

18 39-  0 009E 1113/H 00R
      +00107 *10L    00R
      -00031 *10L    00R

19:39+  0 081E 1113/H 00P
      +00132 *10L    00R
      -00038 *10L    00R

20 39+  0 038E 1113/H 00R
      +00163 *10L    00R
      -00011 *10L    00R

21 39+  0 043E 1113 H 00R
      +00197 *10L    00R
      -00050 *10L    00R

22 39+  0 000E 1113 H 00R
      +00221 *10L    00R
      -00051 *10L    00R

23 39-  0 036E 1113/H 00R
      +00250 *10L    00R
      -00060 *10L    00R

00 39+  0 033E 1113/H 00P
      +00280 *10L    00R
      -00061 *10L    00R

01 39+  0 000E 1113/H 00R
      +00315 *10L    00R
      -00070 *10L    00P

02 39+  0 009E 1113 H 00P
      +00327 *10L    00R
      -00080 *10L    00R

03 39+  0 000E 1113/H 00P
      +00349 *10L    00R
      -00083 *10L    00R

04 39+  0 023E 1113/H 00R
      +00373 *10L    00R
      -00089 *10L    00R

05 39+  0 011E 1113/H 00R
      +00386 *10L    00P
      -00105 *10L    00P

06 39-  0 010E 1113/H 00R
      +00396 *10L    00R
      -00128 *10L    00R

07 39+  0 012E 1113/H 00R
      +00421 *10L    00R
      -00134 *10L    00R

08 39+  0 048E 1113/H 00P
      +00447 *10L    00P
      -00140 *10L    00R

09:39+  0 110E 1113/H 00P
      +00464 *10L    00R
      -00155 *10L    00R

10 39+  0 000E 1113/H 00R
      +00491 *10L    00P
      -00162 *10L    00P

11:39+  0 029E 1113/H 00R
      +00518 *10L    00R
      -00170 *10L    00R

12 39+  0 000E 1113/H 00P
      +00547 *10L    00R
      -00176 *10L    00R

13 39+  0 023E 1113/H 00P
      +00571 *10L    00R
      -00189 *10L    00R

14 39+  0 124E 1113/H 00R
      +00592 *10L    00R
      -00196 *10L    00R

15 39+  0 085E 1113/H 00R
      +00621 *10L    00R
      -00201 *10L    00R

16 39+  0 028E 1113 H 00R
      +00659 *10L    00R
      -00207 *10L    00P

17 39+  0 031E 1113/H 00R
      +00698 *10L    00R
      -00213 *10L    00P

18 39+  0 000E 1117 H 00R
```

BEST AVAILABLE COPY

```
14 39-  0 014E 1117 H 00P
      +00058 *10L    00P
      -00233 *10L    00R

20 39+  0 019E 1113 H 00P
      +00782 *10L    00P
      -00239 *10L    00P

21 39+  0 084E 1113/H 00P
      +00816 *10L    00P
      -00241 *10L    00P

22 39-  0 012E 1113/H 00R
      +00873 *10L    00R
      -00251 *10L    00P

23 39+  0 027E 1113 H 00P
      +00861 *10L    00R
      -00259 *10L    00P

00 39+  0 027E 1113 H 00R
      +00886 *10L    00P
      -00264 *10L    00R

01 39+  0 022E 1113/H 00P
      +00914 *10L    00P
      -00267 *10L    00P

02 39+  0 039E 1112/H 00P
      +00970 *10L    00P
      -00278 *10L    00P

03 39+  0 000E 1113/H 00P
      +00954 *10L    00P
      -00284 *10L    00R

04 39+  0 000E 1113 H 00P
      +00990 *10L    00R
      -00289 *10L    00R

05 39+  0 000E 1113 H 00P
      +00996 *10L    00P
      -00299 *10L    00P

06 39+  0 105E 1113/H 00R
      +01024 *10L    00R
      -00307 *10L    00R

07 39+  0 022E 1113/H 00P
      +01049 *10L    00P
      -00323 *10L    00P

08 39-  0 009E 1113/H 00P
      +01088 *10L    00P
      -00333 *10L    00P

09 39+  0 042E 1117 H 00R
      +01101 *10L    00P
      -00346 *10L    00R

10 39+  0 074E 1113/H 00P
      +01133 *10L    00P
      -00352 *10L    00P

11 39+  0 022E 1113/H 00R
      +01155 *10L    00P
      -00361 *10L    00R

11 41+  0 021E 1113/H 00P
      +01155 *10L    00P
      -00361 *10L    00R

11 51+  0 000E 1113/H 00R
      +01160 *10L    00R
      -00362 *10L    00R

12 51+  0 037E 1113/H 00R
      +01182 *10L    00R
      -00373 *10L    00R

13 51+  0 059E 1113/H 00R
      +01199 *10L    00R
      -00380 *10L    00P

14 51+  0 000E 1113/H 00P
      +01222 *10L    00P
      -00387 *10L    00R

15 51+  0 000E 111  H 00R
      +01254 *10L    00R
      -00396 *10L    00P

16 51+  0 073E 1113 H 00R
      +01276 *10L    00R
      -00404 *10L    00R

17 51+  0 000E 1113/H 00R
      +01298 *10L    00R
      -00411 *10L    00R

18 51+  0 000E 1117/H 00R
      +01326 *10L    00R
      -00418 *10L    00P

19 51+  0 007E 1113/H 00R
      +01350 *10L    00R
      -00425 *10L    00P

20 51+  0 012E 1117/H 00R
      +01363 *10L    00R
      -00411 *10L    00P

21 51+  0 073E 1113/H 00P
      +01383 *10L    00P
      -00149 *10L    00P

22 51+  0 057E 1113 H 00P
      +01410 *10L    00R
```

```
23 51+  0 000E 1117 H 00R
      +01442 *10L    00P
      -00462 *10L    00R

00 51+  0 015E 1117/H 00P
      +01472 *10L    00P
      -00467 *10L    00R

01 51+  0 042E 1113 H 00P
      +01470 *10L    00P
      -00473 *10L    00P

02 51+  0 014E 1113 H 00R
      +01194 *10L    00R
      -00477 *10L    00P

03 51-  0 028E 1117/H 00P
      +01523 *10L    00R
      -00482 *10L    00R

04 51+  0 019E 1113 H 00P
      +01543 *10L    00P
      -00490 *10L    00P

05 51-  0 036E 1113 H 00P
      +01561 *10L    00P
      -00508 *10L    00P

06 51-  0 125E 1117 H 00P
      +01588 *10L    00P
      -00527 *10L    00R

07 51+  0 014E 1113 H 00P
      +01601 *10L    00P
      -00537 *10L    00P

08 51+  0 075E 1113 H 00P
      +01625 *10L    00R
      -00547 *10L    00P

09 51+  0 063E 1113/H 00R
      +01644 *10L    00P
      -00561 *10L    00P

10 51+  0 017E 1113 H 00P
      +01665 *10L    00P
      -00566 *10L    00R

11 51+  0 000E 1117/H 00P
      +01693 *10L    00R
      -00574 *10L    00P

12 51+  0 043E 1117/H 00P
      +01721 *10L    00R
      -00579 *10L    00R

13 51+  0 000E 1117/H 00P
      +01748 *10L    00R
      -00588 *10L    00R

14 51+  0 033E 1117 H 00R
      +01773 *10L    00P
      -00597 *10L    00P

15 51-  0 039E 1113/H 00P
      +01791 *10L    00P
      -00606 *10L    00P

16:51+  0 027E 1113/H 00P
      +01813 *10L    00P
      -00619 *10L    00R

17 51+  0 016E 1117 H 00R
      +01832 *10L    00P
      -00626 *10L    00P

18 51+  0 017E 1113/H 00P
      +01850 *10L    00R
      -00631 *10L    00P

19 51+  0 045E 1113/H 00P
      +01875 *10L    00P
      -00639 *10L    00R

20 51+  0 028E 1113/H 00P
      +01904 *10L    00P
      -00642 *10L    00R

21 51+  0 000E 1113/H 00P
      +01915 *10L    00P
      -00652 *10L    00P

22 51+  0 031E 1113/H 00R
      +01941 *10L    00P
      -00655 *10L    00R

23 51+  0 000E 1113/H 00R
      +01964 *10L    00P
      -00661 *10L    00R

00 51+  0 019E 1113/H 00R
      +01986 *10L    00R
      -00666 *10L    00R

01:51-  0 027E 1113/H 00R
      +01996 *10L    00R
      -00675 *10L    00P

02:51+  0 000E 1113 H 00R
      +02007 *10L    00R
      -00680 *10L    00P

03 51-  0 019E 1113/H 00R
      +02015 *10L    00P
      -00688 *10L    00P

04 51+  0 020E 1117 H 00P
```

```
05-24 14 2100 +R
+02346  *10L

INTEG UNIT
        *10L
INTEG START
        AUTO

START TIME
05-24 14 35
OPERATION TIME
99      0 HOR

PRT PERIOD
60      MIN
PRT UNIT N3/H
        ES
PRT UNIT N3/H
        NO
PRT UNIT N3 S
        NO
PRT UNIT N S
        NO
PRT UNIT INTEG
        ES

PRT UNIT AI1
        NO
PRT UNIT AI2
        NO

START TIME
05-24 14 39

START TIME
05-24 14 35
OPERATION TIME
99      HOR

05-24 14 3100 +R
+02318  *10L

14 35+  0 034E 1N3 H 00R
        +00000 *10L     00R
        -00000 *10L     00R

15 35+  0 011E 1N3 H 00R
        +00037 *10L     00R
        -00000 *10L     00R

16 35+  0 000E 1N7 H 00F
        +00007 *10L     00F
        -00001 *10L     00F

17 35+  0 002E 1N7 H 00P
        +00034 *10L     00P
        -00015 *10L     00P

18 35+  0 052E 1N3/H 00P
        +00150 *10L     00R
        -00017 *10L     00R

19 35+  0 004E 1N3/H 00R
        +00179 *10L     00R
        -00000 *10L     00R

20 35+  0 011E 1N3/H 00R
        +00127 *10L     00R
        -00070 *10L     00R

21 35+  0 016E 1N3 H 00P
        +00195 *10L     00P
        -00012 *10L     00R

22 35+  0 000E 1N7 H 00R
        +00016 *10L     00F
        -00000 *10L     00R

23 35+  0 015E 1N3 H 00P
        +00217 *10L     00P
        -00055 *10L     00P

00 35+  0 025E 1N3 H 00P
        +00127 *10L     00R
        -00001 *10L     00R

01 35+  0 011E 1N3 H 00R
        +00239 *10L     00F
        -00070 *10L     00R

02 35-  0 009E 1N7 H 00R
        +00001 *10L     00R
        -00027 *10L     00F

03 35-  0 017E 1N3 H 00P
        +00178 *10L     00F
        -00078 *10L     00R

04 35-  0 014E 1N3 H 00R
        +00019 *10L     00P
        -00000 *10L     00P

05 35+  0 01E 1N7 H 00F
        +00001 *10L     00R
        -00001 *10L     00R

06 35+  0 000E 1N3 H 00P
        +00019 *10L     00R
        -00007 *10L     00R

07 35+  0 034E 1N3 H 00R
        +00379 *10L     00R
        -00113 *10L     00R

08 35+  0 011E 1N7 H 00R
```

```
09 35+  0 066E 1N7 H 00R
        +00031 *10L     00R
        -00118 *10L     00R

10 35+  0 038E 1N3 H 00R
        +00405 *10L     00R
        -00125 *10L     00F

11 35-  0 045E 1N3/H 00P
        +00426 *10L     00R
        -00133 *10L     00R

12 35+  0 014E 1N3/H 00R
        +00156 *10L     00P
        -00137 *10L     00R

13 35+  0 028E 1N3/H 00R
        +00181 *10L     00R
        -00150 *10L     00F

14 35+  0 053E 1N3/H 00R
        +00517 *10L     00P
        -00153 *10L     00R

15 35+  0 050E 1N3 H 00R
        +00557 *10L     00R
        -00157 *10L     00P

16 35+  0 000E 1N3/H 00P
        +00596 *10L     00R
        -00159 *10L     00R

17 35+  0 012E 1N3/H 00R
        +00645 *10L     00R
        -00163 *10L     00R

18 35+  0 061E 1N7/H 00F
        +00691 *10L     00R
        -00165 *10L     00R

19 35+  0 012E 1N3/H 00R
        +00738 *10L     00P
        -00169 *10L     00P

20 35-  0 011E 1N3/H 00P
        +00772 *10L     00F
        -00172 *10L     00R

21 35-  0 038E 1N3/H 00P
        +00793 *10L     00F
        -00177 *10L     00F

22 35+  0 018E 1N3/H 00P
        +00830 *10L     00P
        -00179 *10L     00F

23 35+  0 051E 1N3/H 00F
        +00851 *10L     00P
        -00186 *10L     00R

00 35+  0 050E 1N3/H 00F
        +00889 *10L     00F
        -00188 *10L     00R

01 35+  0 000E 1N3/H 00R
        +00915 *10L     00F
        -00192 *10L     00R

02:35+  0 037E 1N3 H 00F
        +00940 *10L     00P
        -00196 *10L     00F

03 35+  0 000E 1N3/H 00F
        +00970 *10L     00P
        -00200 *10L     00P

04 35+  0 072E 1N3 H 00F
        +01010 *10L     00R
        -00202 *10L     00F

05 35-  0 033E 1N3/H 00F
        +01031 *10L     00R
        -00211 *10L     00R

06 35-  0 036E 1N3/H 00F
        +01051 *10L     00R
        -00219 *10L     00P

07 35+  0 031E 1N3/H 00R
        +01071 *10L     00F
        -00225 *10L     00R

08 35+  0 071F 1N3/H 00F
        +01115 *10L     00P
        -00229 *10L     00F

09 35+  0 102E 1N3/H 00F
        +01141 *10L     00P
        -00242 *10L     00P

10 35+  0 133E 1N3 H 00R
        +01163 *10L     00R
        -00250 *10L     00P

11 35+  0 012E 1N3 H 00P
        +01218 *10L     00F
        -00255 *10L     00P

12 35+  0 011F 1N7 H 00P
        +01241 *10L     00F
        -00262 *10L     00R

13 35+  0 071E 1N3/H 00R
        +01273 *10L     00F
        -00269 *10L     00R
```

```
15 35-  0 050E 1N3 H 00F
        +01325 *10L     00F
        -00286 *10L     00R

16 35+  0 013E 1N3 H 00P
        +01357 *10L     00F
        -00295 *10L     00R

17 35+  0 000E 1N3 H 00F
        +01385 *10L     00P
        -00302 *10L     00R

18 35+  0 000E 1N3/H 00F
        +01410 *10L     00P
        -00307 *10L     00R

19 35+  0 014E 1N3/H 00R
        +01432 *10L     00F
        -00312 *10L     00R

20 35-  0 017E 1N7/H 00P
        +01443 *10L     00P
        -00326 *10L     00R

21 35+  0 052E 1N3 H 00P
        +01169 *10L     00R
        -00333 *10L     00P

22 35+  0 000E 1N3/H 00P
        +01496 *10L     00P
        -00342 *10L     00P

23 35+  0 016E 1N3/H 00P
        +01506 *10L     00P
        -00316 *10L     00P

00 35-  0 025E 1N7 H 00P
        +01530 *10L     00R
        -00356 *10L     00P

01 35+  0 000E 1N3/H 00P
        +01544 *10L     00P
        -00362 *10L     00P

02 35+  0 000E 1N3 H 00P
        +01560 *10L     00P
        -00370 *10L     00P

03 35+  0 000E 1N3 H 00P
        +01572 *10L     00P
        -00371 *10L     00P

04 35+  0 027E 1N3/H 00P
        +01617 *10L     00P
        -00392 *10L     00P

05 35-  0 060E 1N7 H 00P
        +01633 *10L     00F
        -00392 *10L     00F

06 35+  0 011E 1N3/H 00P
        +01660 *10L     00P
        -00399 *10L     00P

07 35-  0 186E 1N3 H 00R
        +01693 *10L     00R
        -00410 *10L     00P

08 35-  0 010E 1N3 H 00F
        +01739 *10L     00P
        -00413 *10L     00P

09 35+  0 000E 1N3 H 00R
        +01775 *10L     00P
        -00419 *10L     00P

10 35+  0 02 E 1N3/H 00P
        +01807 *10L     00F
        -00427 *10L     00R

11 35-  0 012E 1N3 H 00F
        +01832 *10L     00F
        -00443 *10L     00F

12 35+  0 126E 1N3/H 00R
        +01761 *10L     00R
        -00451 *10L     00P

13 35-  0 053E 1N3/H 00P
        +01849 *10L     00R
        -00456 *10L     00P

14 35+  0 04 E 1N3 H 00P
        +01976 *10L     00P
        -00463 *10L     00P

15 35-  0 051E 1N3 H 00P
        +01971 *10L     00R
        -00471 *10L     00P

16 35+  0 01 E 1N3 H 00P
        +02002 *10L     00R
        -00483 *10L     00P

17 35+  0 066E 1N3 H 00F
        +02031 *10L     00R
        -00442 *10L     00P

18 35+  0 000E 1N3/H 00F
        +02063 *10L     00P
        -00498 *10L     00R

19 35+  0 067E 1N3 H 00P
        +02090 *10L     00R
        -00506 *10L     00P
```

```
21 35+  0 14 E 1N3 H 00F
        +01 1 *10L      00F
        -00 14 *10L     00F

22 35+  0 040E 1N3 H 00P
        +02100 *10L     00P
        -00518 *10L     00F

23 35+  0 010E 1N3 H 00P
        +02228 *10L     00P
        -00520 *10L     00F

00:35+  0 012E 1N3 H 00P
        +02247 *10L     00F
        -00526 *10L     00F

01 35+  0 000E 1N3 H 00F
        +01 79 *10L     00F
        -00529 *10L     00F

02 35+  0 105E 1N3 H 00F
        +02239 *10L     00F
        -00579 *10L     00F

03 35+  0 057E 1N3/H 00F
        +02329 *10L     00P
        -00511 *10L     00P

04 35-  0 028E 1N7 H 00F
        +02751 *10L     00F
        -00550 *10L     00F

05 35+  0 046E 1N3 H 00P
        +02369 *10L     00R
        -00561 *10L     00F

06 35-  0 024E 1N7 H 00F
        +02399 *10L     00P
        -00572 *10L     00P

07 35-  0 020E 1N3/H 00P
        +02438 *10L     00P
        -00576 *10L     00P

08 35+  0 106E 1N3 H 00F
        +02470 *10L     00P
        -00597 *10L     00F

09 35-  0 0 E 1N7 H 00F
        +02501 *10L     00F
        -00593 *10L     00F

10 35+  0 084E 1N3 H 00F
        +02536 *10L     00F
        -00601 *10L     00F

05-26 11 2500 +R
+02563  *10L

05-28 11 2500 +R
-00606  *10L

START TIME
05-28 11 33
OPERATION TIME
99      HOR

11 33+  0 000E 1N3 H 00P
        +00000 *10L     00P
        -00000 *10L     00F

12 33-  0 052E 1N3 H 00P
        +00026 *10L     00P
        -00009 *10L     00F

13 33-  0 051E 1N3 H 00P
        +00051 *10L     00P
        -00028 *10L     00P

14 33+  0 066E 1N3 H 00P
        +00073 *10L     00P
        -00078 *10L     00P

15 33+  0 056E 1N3 H 00P
        +00111 *10L     00P
        -00041 *10L     00P

16 33+  0 012E 1N3 H 00P
        +00133 *10L     00P
        -00052 *10L     00P

17 33+  0 09 E 1N3 H 00P
        +00120 *10L     00P
        -00053 *10L     00P

18 33+  0 094E 1N7 H 00F
        +00222 *10L     00P
        -00067 *10L     00R

19 33+  0 017E 1N7/H 00P
        +00256 *10L     00P
        -00075 *10L     00P

20 33+  0 093E 1N7 H 00P
        +00299 *10L     00P
        -00072 *10L     00P

21 33+  0 060E 1N3 H 00P
        +00333 *10L     00P
        -00084 *10L     00P

22 33-  0 081E 1N3 H 00P
        +00370 *10L     00P
        -00 9 *10L      00 P
```


BEST AVAILABLE COPY

KING HUSSEIN MEDICAL CENTER
(STATION 1)
COLD WATER SUPPLY

```
00 33-  0 01E 1113 H 00F
        +01334 *10L    00P
        -01114 *10L    00F

01 33+  0 010F 1113 H 00P
        +00415 *10L    00R
        -01340 *10L    00R

02 33-  0 00AE 1113 H 00F
        +00476 *10L    00P
        -00114 *10L    00P

03 33+  0 000E 1117 H 00F
        +00165 *10L    00P
         01111 *10L    00R

04 33-  0 017E 1113/H 00P
        +00165 *10L    00R
        -00150 *10L    00F

05 33+  0 000E 1113 H 00P
        +00513 *10L    00P
         00156 *10L    00P

06 33+  0 000E 1113 H 00F
        +00550 *10L    00P
        -00161 *10L    00P

07 33-  0 067E 1117 H 00P
        +00571 *10L    00R
         00175 *10L    00P

08 33-  0 014F 1117 H 00P
        +00[illegible] *10L    00P
        -00165 *10L    00R

09 33+  0 001 1 1117 H 00P
        +00674 *10L    00P
        -00206 *10L    00R

10 33+  0 014E 1117 H 00F
        +00[illegible] *10L    00P
        -00216 *10L    00F

11 33+  0 019E 1117 H 00P
        +00703 *10L    00R
        -00221 *10L    00R

12 33-  0 02F 1113 H 00F
        +00[illegible] *10L    00F
        -00[illegible] *10L    00P

13 33+  0 05E 1117 H 00P
        +00[illegible] *10L    00R
         00[illegible] *10L    00P

14 33+  0 0[illegible]E 1117 H 00P
        +00[illegible] *10L    00P
        -00[illegible] *10L    00R

15 33+  0 00E 1113 H 00P
        +00[illegible] *10L    00R
        -00[illegible] *10L    00R

16 33+  0 00E 1113 H 00P
        +00[illegible] *10L    00R
        -00[illegible] *10L    00R

17 33+  0 00E 1113/H 00R
        +00[illegible] *10L    00P
        -00261 *10L    00R

18 33+  0 00E 1113/H 00R
        +00[illegible] *10L    00R
        -00[illegible] *10L    00R

19 33+  0 00E 1113/H 00R
        +01043 *10L    00P
        -00[illegible] *10L    00R

20 33+  0 00E 1117 H 00P
        +01067 *10L    00P
         00[illegible] *10L    00R

21 33+  0 00E 1117 H 00P
        +01[illegible] *10L    00P
         00[illegible] *10L    00R

22 33+  0 01E 1117 H 00P
        +01[illegible] *10L    00P
         00288 *10L    00F

23 33+  0 01E 1113 H 00P
        +01176 *10L    00R
        -00241 *10L    00R

24 33+  0 021E 1117 H 00R
        +01146 *10L    00R
         00294 *10L    00R

25 33-  0 011E 1113 H 00R
        +01163 *10L    00P
        -00[illegible] *10L    00F

26 33+  0 00E 1117 H 00P
        +00 1 *10L    00P
        -00314 *10L    00P

27 33-  0 029E 1113 H 00P
        +01207 *10L    00P
        -00317 *10L    00R

28 33+  0 021E 1113/H 00R
        +01[illegible] *10L    00P
        -00323 *10L    00R

29 33+  0 01E 1117 H 00P
```

```
30 33+  0 012E 1117 H 00R
        +01268 *10L    00F
        -00271 *10L    00F

31 33+  0 068E 1117 H 00P
        +01293 *10L    00P
        -00348 *10L    00P

32 33+  0 041E 1113 H 00R
        +01316 *10L    00P
        -00365 *10L    00P

33 33   0 012E 1113 H 00P
        +01340 *10L    00P
        -00377 *10L    00R

34 33+  0 014E 1113 H 00R
        +01366 *10L    00R
        -00385 *10L    00P

35 33+  0 052E 1113 H 00R
        +01398 *10L    00F
         00392 *10L    00R

36 33+  0 060E 1113/H 00R
        +01420 *10L    00P
        -00345 *10L    00P

37 33+  0 062E 1113 H 00F
        +01468 *10L    00R
        -00102 *10L    00R

38 33+  0 072E 1113/H 00P
        +01493 *10L    00P
        -00410 *10L    00P

39 33+  0 051E 1113 H 00R
        +01527 *10L    00R
        -00414 *10L    00P

40 33+  0 014E 1113 H 00P
        +01557 *10L    00P
        -00421 *10L    00R

41 33   0 009E 1113/H 00P
        +01591 *10L    00P
        -00131 *10L    00R

42 33-  0 009E 1117/H 00P
        +01549 *10L    00F
        -00148 *10L    00P

43 33+  0 000E 1113/H 00P
        +01688 *10L    00P
         00453 *10L    00F

44 33+  0 03 E 1113 H 00F
        +01631 *10L    00F
        -00466 *10L    00F

45 33+  0 036E 1113 H 00F
        +01660 *10L    00P
        -00471 *10L    00R

46 33-  0 031E 1113/H 00P
        +01681 *10L    00R
        -00475 *10L    00R

47 33+  0 026E 1113/H 00R
        +01703 *10L    00R
        -00483 *10L    00P

48 33+  0 049E 1113 H 00P
        +01736 *10L    00R
        -00485 *10L    00R

49 33+  0 023E 1113/H 00P
        +01767 *10L    00R
        -00495 *10L    00R

50 33+  0 02E 1117 H 00F
        +01786 *10L    00F
        -00501 *10L    00P

51 33+  0 037E 1113 H 00R
        +01817 *10L    00P
        -00504 *10L    00R

52 33+  0 119E 1117/H 00P
        +01842 *10L    00P
        -00518 *10L    00R

53 33+  0 052E 1113 H 00P
        +01873 *10L    00P
        -00523 *10L    00R

54 33+  0 071E 1113 H 00R
        +01905 *10L    00P
        -00530 *10L    00R

55 26+  0 010E 1113 H 00P
        +01945 *10L    00R
        -00532 *10L    00R

56 26-  0 009E 1113/H 00R
        +01966 *10L    00R
        -00536 *10L    00F

57 26+  0 006E 1113 H 00P
        +01991 *10L    00R
        -00549 *10L    00F

58 26+  0 036E 1113/H 00R
        +02032 *10L    00P
        -00552 *10L    00P

59 26+  0 075E 1117/H 00F
```

BEST AVAILABLE COPY

OUTER DIAMETER
54 4 MM

PIPE MATERIAL
? CI CU

WALL THICKNESS
2 50 MM

INNER LINING
? NO LING

KIND OF FLUID
? WATER

SENSOR MOUNTING
? V

TYPE OF SENSOR
? SMALL

DATA CHANGE
? NO

SPACING
14 88 MM V

00-00 01:0500 *R
+ 0 000E 1M3/H

MM-DD HH MM
04-27 21 47

INTEG UNIT
*10L

INTEG START
AUTO

START TIME
04-27 21 49

OPERATION TIME
99 HOR

PRT PERIOD
60 MIN

PRT UNIT M3/H
YES

PRT UNIT M3/M
NO

PRT UNIT M3/S
NO

PRT UNIT M/S
NO

PRT UNIT INTEG
YES

PRT UNIT AI1
NO

PRT UNIT AI2
NO

START TIME
04-27 21 49

OPERATION TIME
99 HOR

21 49+ 0 013E 1M3/H 00R
+00000 *10L 00R
-00000 *10L 00R

22:49+ 0 013E 1M3/H 00R
+00014 *10L 00R
-00000 *10L 00R

23 49+ 0 013E 1M3/H 00R
+00026 *10L 00R
-00000 *10L 00R

00 49+ 0 011E 1M3/H 00R
+00038 *10L 00R
-00000 *10L 00R

01 49+ 0 019E 1M3/H 00R
+00052 *10L 00R
-00000 *10L 00R

02:49+ 0 012E 1M3/H 00R
+00063 *10L 00R
-00000 *10L 00R

03:49+ 0 008E 1M3/H 00R
+00075 *10L 00R
-00000 *10L 00R

04:49+ 0 015E 1M3/H 00R

05 49+ 0 016E 1M3/H 00R
+00098 *10L 00R
-00000 *10L 00R

06 49+ 0 011E 1M3/H 00R
+00115 *10L 00R
-00000 *10L 00R

07 49+ 0 012E 1M3/H 00R
+00129 *10L 00R
-00000 *10L 00R

08 49+ 0 009E 1M3/H 00R
+00146 *10L 00R
-00000 *10L 00R

09 49+ 0 012E 1M3/H 00R
+00157 *10L 00R
-00000 *10L 00R

10 49+ 0 008E 1M3/H 00R
+00163 *10L 00R
-00000 *10L 00R

11 49+ 0 011E 1M3/H 00R
+00167 *10L 00R
-00000 *10L 00R

12:49+ 0 009E 1M3/H 00R
+00173 *10L 00R
-00000 *10L 00R

13 49+ 0 000E 1M3/H 00R
+00178 *10L 00R
-00000 *10L 00R

14 49+ 0 000E 1M3/H 00R
+00181 *10L 00R
-00000 *10L 00R

15 49+ 0 000E 1M3/H 00R
+00184 *10L 00R
-00000 *10L 00R

16 49+ 0 000E 1M3/H 00R
+00191 *10L 00R
-00000 *10L 00R

17:49+ 0 000E 1M3/H 00R
+00196 *10L 00R
-00000 *10L 00R

18 49+ 0 012E 1M3/H 00R
+00204 *10L 00R
-00000 *10L 00R

19 49+ 0 000E 1M3/H 00R
+00208 *10L 00R
-00000 *10L 00R

20 19+ 0 008E 1M3/H 00R
+00212 *10L 00R
-00000 *10L 00R

21 19+ 0 000E 1M3/H 00R
+00223 *10L 00R
-00000 *10L 00R

22 19+ 0 008E 1M3/H 00R
+00230 *10L 00R
-00000 *10L 00R

23:49+ 0 008E 1M3/H 00R
+00237 *10L 00R
-00000 *10L 00R

00 49+ 0 008E 1M3/H 00R
+00244 *10L 00R
-00000 *10L 00R

01 49+ 0 000E 1M3/H 00R
+00251 *10L 00R
-00000 *10L 00R

02:49+ 0 000E 1M3/H 00R
+00255 *10L 00R
-00000 *10L 00R

03:49+ 0 000E 1M3/H 00R
+00262 *10L 00R
-00000 *10L 00R

04:49+ 0 000E 1M3/H 00R
+00267 *10L 00R
-00000 *10L 00R

05:49+ 0 008E 1M3/H 00R
+00275 *10L 00R
-00000 *10L 00R

06:49+ 0 000E 1M3/H 00R
+00292 *10L 00R

07 49+ 0 000E 1M3/H 00R
+00284 *10L 00R
-00000 *10L 00R

08 49+ 0 000E 1M3/H 00R
+00289 *10L 00R
-00000 *10L 00R

09 49+ 0 013E 1M3/H 00R
+00295 *10L 00R
-00000 *10L 00R

10 49+ 0 022E 1M3/H 00R
+00303 *10L 00R
-00000 *10L 00R

11 49+ 0 008E 1M3/H 00R
+00315 *10L 00R
-00000 *10L 00R

12 49+ 0 012E 1M3/H 00R
+00322 *10L 00R
-00000 *10L 00R

13:49+ 0 010E 1M3/H 00R
+00326 *10L 00R
-00000 *10L 00R

14 49+ 0 000E 1M3/H 00R
+00330 *10L 00R
-00000 *10L 00R

15 49+ 0 000E 1M3/H 00R
+00334 *10L 00R
-00000 *10L 00R

16 49+ 0 008E 1M3/H 00R
+00346 *10L 00R
-00000 *10L 00R

17 49+ 0 008E 1M3/H 00R
+00352 *10L 00R
-00000 *10L 00R

18 49+ 0 000E 1M3/H 00R
+00359 *10L 00R
-00000 *10L 00R

19:49+ 0 056E 1M3/H 00R
+00365 *10L 00R
-00000 *10L 00R

20 49+ 0 015E 1M3/H 00R
+00373 *10L 00R
-00000 *10L 00R

21 49+ 0 013E 1M3/H 00R
+00381 *10L 00R
-00000 *10L 00R

22 49+ 0 000E 1M3/H 00R
+00388 *10L 00R
-00000 *10L 00R

23 49+ 0 010E 1M3/H 00R
+00392 *10L 00R
-00000 *10L 00R

00:49+ 0 000E 1M3/H 00R
+00398 *10L 00R
-00000 *10L 00R

01 49+ 0 010E 1M3/H 00R
+00401 *10L 00R
-00000 *10L 00R

02 49+ 0 000E 1M3/H 00R
+00409 *10L 00R
-00000 *10L 00R

03 49+ 0 013E 1M3/H 00R
+00414 *10L 00R
-00000 *10L 00R

04 49+ 0 000E 1M3/H 00R
+00421 *10L 00R
-00000 *10L 00R

05:49+ 0 008E 1M3/H 00R
+00430 *10L 00R
-00000 *10L 00R

06 49+ 0 011E 1M3/H 00R
+00441 *10L 00R
-00000 *10L 00R

07 49+ 0 000E 1M3/H 00R
+00451 *10L 00R
-00000 *10L 00R

08 49+ 0 008E 1M3/H 00R
+00157 *10L 00R

09 49+ 0 008E 1M3/H 00R
+00466 *10L 00R
-00000 *10L 00R

10 49+ 0 013E 1M3/H 00R
+00480 *10L 00R
-00000 *10L 00R

11 49+ 0 011E 1M3/H 00R
+00491 *10L 00R
-00000 *10L 00R

12 49+ 0 008E 1M3/H 00R
+00501 *10L 00R
-00000 *10L 00R

13 49+ 0 013E 1M3/H 00R
+00514 *10L 00R
-00000 *10L 00R

14 49+ 0 013E 1M3/H 00R
+00527 *10L 00R
-00000 *10L 00R

15 49+ 0 008E 1M3/H 00R
+00536 *10L 00R
-00000 *10L 00R

16 49+ 0 013E 1M3/H 00R
+00546 *10L 00R
-00000 *10L 00R

17 49+ 0 015E 1M3/H 00R
+00557 *10L 00R
-00000 *10L 00R

18 49+ 0 000E 1M3/H 00R
+00566 *10L 00R
-00000 *10L 00R

19 49+ 0 017E 1M3/H 00R
+00576 *10L 00R
-00000 *10L 00R

20 49+ 0 008E 1M3/H 00R
+00584 *10L 00R
-00000 *10L 00R

21 49+ 0 000E 1M3/H 00R
+00590 *10L 00R
-00000 *10L 00R

22 49+ 0 000E 1M3/H 00R
+00597 *10L 00R
-00000 *10L 00R

23 49+ 0 000E 1M3/H 00R
+00601 *10L 00R
-00000 *10L 00R

00:49+ 0 000E 1M3/H 00R
+00605 *10L 00R
-00000 *10L 00R

01 49+ 0 008E 1M3/H 00R
+00609 *10L 00R
-00000 *10L 00R

02 49+ 0 008E 1M3/H 00R
+00616 *10L 00R
-00000 *10L 00R

03 49+ 0 008E 1M3/H 00R
+00621 *10L 00R
-00000 *10L 00R

04 49+ 0 000E 1M3/H 00R
+00628 *10L 00R
-00000 *10L 00R

05 49+ 0 007E 1M3/H 00R
+00636 *10L 00R
-00000 *10L 00R

06 49+ 0 000E 1M3/H 00R
+00642 *10L 00R
-00000 *10L 00R

07 49+ 0 000E 1M3/H 00R
+00649 *10L 00R
-00000 *10L 00R

08 49+ 0 022E 1M3/H 00R
+00656 *10L 00R
-00000 *10L 00R

09 49+ 0 000E 1M3/H 00R
+00663 *10L 00R
-00000 *10L 00R

10 49+ 0 000E 1M3/H 00R
+00665 *10L 00R

BEST AVAILABLE COPY

140

```
11 49+  0 000E 1M3/H 00R
      +00672 *10L    00R
      -00000 *10L    00R

12 49+  0 000E 1M3/H 00R
      +00679 *10L    00R
      -00000 *10L    00R

13 49+  0 008E 1M3/H 00R
      +00688 *10L    00R
      -00000 *10L    00R

14 49+  0 021E 1M3/H 00R
      +00696 *10L    00R
      -00000 *10L    00R

15 49+  0 007E 1M3/H 00R
      +00705 *10L    00R
      -00000 *10L    00R

INTEG UNIT
        *10L
INTEG START
        AUTO

START TIME
05-01 16 30
OPERATION TIME
99      HOR

05-01 16 2800 *R
+00713  *10L

START TIME
05-01 16 32
OPERATION TIME
99      HOR

05-01 16 2900 *R
+00713  *10L

05-01 16 3100 *R
+00000  *10L

16:32+  0 015E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

17 32+  0 000E 1M3/H 00R
      +00007 *10L    00R
      -00000 *10L    00R

18 32+  0 008E 1M3/H 00R
      +00010 *10L    00R
      -00000 *10L    00R

19 32+  0 000E 1M3/H 00R
      +00015 *10L    00R
      -00000 *10L    00R

20 32+  0 000E 1M3/H 00R
      +00020 *10L    00R
      -00000 *10L    00R

21 32+  0 008E 1M3/H 00R
      +00025 *10L    00R
      -00000 *10L    00R

22 32+  0 057E 1M3/H 00R
      +00049 *10L    00R
      -00000 *10L    00R

23 32+  0 000E 1M3/H 00R
      +00052 *10L    00R
      -00000 *10L    00R

00 32+  0 007E 1M3/H 00R
      +00053 *10L    00R
      -00000 *10L    00R

01 32+  0 000E 1M3/H 00R
      +00054 *10L    00R
      -00000 *10L    00R

02 32+  0 000E 1M3/H 00R
      +00059 *10L    00R
      -00000 *10L    00R

03 32+  0 000E 1M3/H 00R
      +00064 *10L    00R
      -00000 *10L    00R

04:32+  0 000E 1M3/H 00R
      +00067 *10L    00R
      -00000 *10L    00R

05:32+  0 000E 1M3/H 00R
      +00071 *10L    00R
      -00000 *10L    00R

06 32+  0 000E 1M3/H 00R
      +00077 *10L    00R

07 32+  0 000E 1M3/H 00R
      +00078 *10L    00R
      -00000 *10L    00R

08 32+  0 000E 1M3/H 00R
      +00082 *10L    00R
      -00000 *10L    00R

09:32+  0 042E 1M3/H 00R
      +00086 *10L    00R
      -00000 *10L    00R

10 32+  0 009E 1M3/H 00R
      +00091 *10L    00R
      -00000 *10L    00R

11 32+  0 000E 1M3/H 00R
      +00096 *10L    00R
      -00000 *10L    00R

12 32+  0 000E 1M3/H 00R
      +00098 *10L    00R
      -00000 *10L    00R

13 32+  0 000E 1M3/H 00R
      +00101 *10L    00R
      -00000 *10L    00R

14 32+  0 000E 1M3/H 00R
      +00105 *10L    00R
      -00000 *10L    00R

15 32+  0 007E 1M3/H 00R
      +00110 *10L    00R
      -00000 *10L    00R

16:32+  0 000E 1M3/H 00R
      +00113 *10L    00R
      -00000 *10L    00R

17 32+  0 019E 1M3/H 00R
      +00116 *10L    00R
      -00000 *10L    00R

18 32+  0 009E 1M3/H 00R
      +00119 *10L    00R
      -00000 *10L    00R

19 32+  0 000E 1M3/H 00R
      +00125 *10L    00R
      -00000 *10L    00R

20 32+  0 000E 1M3/H 00R
      +00130 *10L    00R
      -00000 *10L    00R

21 32+  0 015E 1M3/H 00R
      +00141 *10L    00R
      -00000 *10L    00R

22 32+  0 000E 1M3/H 00R
      +00144 *10L    00R
      -00000 *10L    00R

23 32+  0 000E 1M3/H 00R
      +00147 *10L    00R
      -00000 *10L    00R

00 32+  0 000E 1M3/H 00R
      +00150 *10L    00R
      -00000 *10L    00R

01 32+  0 008E 1M3/H 00R
      +00154 *10L    00R
      -00000 *10L    00R

02 32+  0 010E 1M3/H 00R
      +00157 *10L    00R
      -00000 *10L    00R

03:32+  0 016E 1M3/H 00R
      +00164 *10L    00R
      -00000 *10L    00R

04 32+  0 009E 1M3/H 00R
      +00169 *10L    00R
      -00000 *10L    00R

05 32+  0 037E 1M3/H 00R
      +00177 *10L    00R
      -00000 *10L    00R

06 32+  0 027E 1M3/H 00R
      +00185 *10L    00R
      -00000 *10L    00R

07 32+  0 010E 1M3/H 00R
      +00192 *10L    00R
      -00000 *10L    00R

08 32+  0 009E 1M3/H 00R

09 32+  0 000E 1M3/H 00R
      +00210 *10L    00R
      -00000 *10L    00R

10 32+  0 011E 1M3/H 00R
      +00220 *10L    00R
      -00000 *10L    00R

11 32+  0 017E 1M3/H 00R
      +00232 *10L    00R
      -00000 *10L    00R

12 32+  0 011E 1M3/H 00R
      +00246 *10L    00R
      -00000 *10L    00R

13 32+  0 013E 1M3/H 00R
      +00259 *10L    00R
      -00000 *10L    00R

14 32+  0 033E 1M3/H 00R
      +00270 *10L    00R
      -00000 *10L    00R

15 32+  0 011E 1M3/H 00R
      +00282 *10L    00R
      -00000 *10L    00R

16 32+  0 008E 1M3/H 00R
      +00291 *10L    00R
      -00000 *10L    00R

17 32+  0 009E 1M3/H 00R
      +00300 *10L    00R
      -00000 *10L    00R

18 32+  0 011E 1M3/H 00R
      +00310 *10L    00R
      -00000 *10L    00R

19 32+  0 011E 1M3/H 00R
      +00319 *10L    00R
      -00000 *10L    00R

20 32+  0 013E 1M3/H 00R
      +00327 *10L    00R
      -00000 *10L    00R

21 32+  0 011E 1M3/H 00R
      +00338 *10L    00R
      -00000 *10L    00R

22 32+  0 000E 1M3/H 00R
      +00344 *10L    00R
      -00000 *10L    00R

23 32+  0 000E 1M3/H 00R
      +00350 *10L    00R
      -00000 *10L    00R

00 32+  0 000E 1M3/H 00R
      +00357 *10L    00R
      -00000 *10L    00R

01 32+  0 010E 1M3/H 00R
      +00366 *10L    00R
      -00000 *10L    00R

02 32+  0 013E 1M3/H 00R
      +00370 *10L    00R
      -00000 *10L    00R

03 32+  0 011E 1M3/H 00R
      +00385 *10L    00R
      -00000 *10L    00R

04 32+  0 015E 1M3/H 00R
      +00395 *10L    00R
      -00000 *10L    00R

05 32+  0 007E 1M3/H 00R
      +00402 *10L    00R
      -00000 *10L    00R

06 32+  0 013E 1M3/H 00R
      +00412 *10L    00R
      -00000 *10L    00R

07 32+  0 000E 1M3/H 00R
      +00423 *10L    00R
      -00000 *10L    00R

08 32+  0 014E 1M3/H 00R
      +00435 *10L    00R
      -00000 *10L    00R

09 32+  0 011E 1M3/H 00R
      +00441 *10L    00R
      -00000 *10L    00R

10 32+  0 011E 1M3/H 00R
      +00450 *10L    00R

11 45+  0 017E 1M3/H 00R
      +00453 *10L    00R
      -00000 *10L    00R

12 45+  0 011E 1M3/H 00R
      +00466 *10L    00R
      -00000 *10L    00R

13 45+  0 007E 1M3/H 00R
      +00491 *10L    00R
      -00000 *10L    00R

14 45+  0 011E 1M3/H 00R
      +00501 *10L    00R
      -00000 *10L    00R

15 45+  0 027E 1M3/H 00R
      +00509 *10L    00R
      -00000 *10L    00R

16 45+  0 015E 1M3/H 00R
      +00521 *10L    00R
      -00000 *10L    00R

17 45+  0 011E 1M3/H 00R
      +00530 *10L    00R
      -00000 *10L    00R

18 45+  0 010E 1M3/H 00R
      +00542 *10L    00R
      -00000 *10L    00R

19 45+  0 010E 1M3/H 00R
      +00553 *10L    00R
      -00000 *10L    00R

20 45+  0 000E 1M3/H 00R
      +00563 *10L    00R
      -00000 *10L    00R

21 45+  0 013E 1M3/H 00R
      +00575 *10L    00R
      -00000 *10L    00R

22 45+  0 011E 1M3/H 00R
      +00586 *10L    00R
      -00000 *10L    00R

23 45+  0 011E 1M3/H 00R
      +00596 *10L    00R
      -00000 *10L    00R

00 45+  0 015E 1M3/H 00R
      +00609 *10L    00R
      -00000 *10L    00R

01 45+  0 008E 1M3/H 00R
      +00619 *10L    00R
      -00000 *10L    00R

02 45+  0 017E 1M3/H 00R
      +00629 *10L    00R
      -00000 *10L    00R

03 45+  0 008E 1M3/H 00R
      +00638 *10L    00R
      -00000 *10L    00R

04 45+  0 000E 1M3/H 00R
      +00645 *10L    00R
      -00000 *10L    00R

05 45+  0 013E 1M3/H 00R
      +00655 *10L    00R
      -00000 *10L    00R

06 45+  0 022E 1M3/H 00R
      +00669 *10L    00R
      -00000 *10L    00R

07 45+  0 015E 1M3/H 00R
      +00689 *10L    00R
      -00000 *10L    00R

08 45+  0 027E 1M3/H 00R
      +00700 *10L    00R
      -00000 *10L    00R

09 45+  0 015E 1M3/H 00R
      +00713 *10L    00R
      -00000 *10L    00R

10 45+  0 012E 1M3/H 00R
      +00726 *10L    00R
      -00000 *10L    00R

11 45+  0 011E 1M3/H 00R
      +00737 *10L    00R
      -00000 *10L    00R

12 45+  0 011E 1M3/H 00R
```


BEST AVAILABLE COPY

KHMC - St 1 - HWS

```
13 45+  0 012E 1M3/H 00R
      +00760 *10L    00R
      -00000 *10L    00R

14 45+  0 011E 1M3/H 00R
      +00771 *10L    00R
      -00000 *10L    00R

28-05 15 3500 *R
+00780  *10L

START TIME
05-05 15:45
OPERATION TIME
99      HOR

15 45+  0 012E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

16 45+  0 020E 1M3/H 00R
      +00011 *10L    00R
      -00000 *10L    00R

17 45+  0 013E 1M3/H 00R
      +00042 *10L    00R
      -00000 *10L    00R

18 45+  0 017E 1M3/H 00R
      +00055 *10L    00R
      -00000 *10L    00R

19 45+  0 014E 1M3/H 00R
      +00069 *10L    00R
      -00000 *10L    00R

20:45+  0 013E 1M3/H 00R
      +00082 *10L    00R
      -00000 *10L    00R

21 45+  0 008E 1M3/H 00R
      +00093 *10L    00R
      -00000 *10L    00R

22 45+  0 012E 1M3/H 00R
      +00101 *10L    00R
      -00000 *10L    00R

23 45+  0 007E 1M3/H 00R
      +00107 *10L    00R
      -00000 *10L    00R

00 45+  0 016E 1M3/H 00R
      +00114 *10L    00R
      -00000 *10L    00R

01 45+  0 000E 1M3/H 00R
      +00122 *10L    00R
      -00000 *10L    00R

02 45+  0 000E 1M3/H 00R
      +00130 *10L    00R
      -00000 *10L    00R

03 45+  0 007E 1M3/H 00R
      +00139 *10L    00R
      -00000 *10L    00R

04 45+  0 008E 1M3/H 00R
      +00145 *10L    00R
      -00000 *10L    00R

05 45+  0 015E 1M3/H 00R
      +00151 *10L    00R
      -00000 *10L    00R

06 45+  0 011E 1M3/H 00R
      +00163 *10L    00R
      -00000 *10L    00R

07 45+  0 000E 1M3/H 00R
      +00176 *10L    00R
      -00000 *10L    00R

08 45+  0 009E 1M3/H 00R
      +00185 *10L    00R
      -00000 *10L    00R

09 45+  0 040E 1M3/H 00R
      +00208 *10L    00R
      -00000 *10L    00R

10 45+  0 011E 1M3/H 00R
      +00236 *10L    00R
      -00000 *10L    00R

11 45+  0 017E 1M3/H 00R
      +00246 *10L    00R
      -00000 *10L    00R

12 45+  0 009E 1M3/H 00R
      +00256 *10L    00R

13 15+  0 008E 1M3/H 00R
      +00264 *10L    00R
      -00000 *10L    00R

14 15+  0 011E 1M3/H 00R
      +00273 *10L    00R
      -00000 *10L    00R

15 15+  0 000E 1M3/H 00R
      +00282 *10L    00R
      -00000 *10L    00R

16 45+  0 009E 1M3/H 00R
      +00289 *10L    00R
      -00000 *10L    00R

17 45+  0 011E 1M3/H 00R
      +00295 *10L    00R
      -00000 *10L    00R

18 45+  0 010E 1M3/H 00R
      +00304 *10L    00R
      -00000 *10L    00R

19 15+  0 011E 1M3/H 00R
      +00311 *10L    00R
      -00000 *10L    00R

20:45+  0 008E 1M3/H 00R
      +00320 *10L    00R
      -00000 *10L    00R

21 45+  0 000E 1M3/H 00R
      +00327 *10L    00R
      -00000 *10L    00R

22 45+  0 000E 1M3/H 00R
      +00330 *10L    00R
      -00000 *10L    00R

23:45+  0 010E 1M3/H 00R
      +00332 *10L    00R
      -00000 *10L    00R

00 45+  0 009E 1M3/H 00R
      +00338 *10L    00R
      -00000 *10L    00R

01 45+  0 000E 1M3/H 00R
      +00345 *10L    00R
      -00000 *10L    00R

02 45+  0 009E 1M3/H 00R
      +00352 *10L    00R
      -00000 *10L    00R

03 45+  0 008E 1M3/H 00R
      +00360 *10L    00R
      -00000 *10L    00R

04 45+  0 010E 1M3/H 00R
      +00368 *10L    00R
      -00000 *10L    00R

05 45+  0 011E 1M3/H 00R
      +00378 *10L    00R
      -00000 *10L    00R

06:45+  0 000E 1M3/H 00R
      +00392 *10L    00R
      -00000 *10L    00R

07 45+  0 000E 1M3/H 00R
      +00401 *10L    00R
      -00000 *10L    00R

08 45+  0 015E 1M3/H 00R
      +00410 *10L    00R
      -00000 *10L    00R

09:45+  0 000E 1M3/H 00R
      +00421 *10L    00R
      -00000 *10L    00R

10:45+  0 000E 1M3/H 00R
      +00429 *10L    00R
      -00000 *10L    00R

10 58+  0 010E 1M3/H 00R
      +00431 *10L    00R
      -00000 *10L    00R

11:58+  0 013E 1M3/H 00R
      +00442 *10L    00R
      -00000 *10L    00R

12:58+  0 013E 1M3/H 00R
      +00455 *10L    00R
      -00000 *10L    00R

13 58+  0 010E 1M3/H 00R
      +00464 *10L    00R
      -00000 *10L    00R

14 58+  0 023E 1M3/H 00R
      +00474 *10L    00R
      -00000 *10L    00R

15 19+  0 013E 1M3/H 00R
      +00477 *10L    00R
      -00000 *10L    00R

16 19+  0 007E 1M3/H 00R
      +00487 *10L    00R
      -00000 *10L    00R

17 19+  0 013E 1M3/H 00R
      +00494 *10L    00R
      -00000 *10L    00R

18 19+  0 000E 1M3/H 00R
      +00502 *10L    00R
      -00000 *10L    00R

19 19+  0 009E 1M3/H 00R
      +00510 *10L    00R
      -00000 *10L    00R

20 19+  0 000E 1M3/H 00R
      +00519 *10L    00R
      -00000 *10L    00R

21 19+  0 008E 1M3/H 00R
      +00528 *10L    00R
      -00000 *10L    00R

22 19+  0 000E 1M3/H 00R
      +00532 *10L    00R
      -00000 *10L    00R

23 19+  0 000E 1M3/H 00R
      +00541 *10L    00R
      -00000 *10L    00R

00 19+  0 000E 1M3/H 00R
      +00548 *10L    00R
      -00000 *10L    00R

01:19+  0 012E 1M3/H 00R
      +00557 *10L    00R
      -00000 *10L    00R

02 19+  0 000E 1M3/H 00R
      +00567 *10L    00R
      -00000 *10L    00R

03 19+  0 011E 1M3/H 00R
      +00575 *10L    00R
      -00000 *10L    00R

04 19+  0 009E 1M3/H 00R
      +00583 *10L    00R
      -00000 *10L    00R

05 19+  0 000E 1M3/H 00R
      +00593 *10L    00R
      -00000 *10L    00R

06 19+  0 008E 1M3/H 00R
      +00602 *10L    00R
      -00000 *10L    00R

07:19+  0 015E 1M3/H 00R
      +00615 *10L    00R
      -00000 *10L    00R

08 19+  0 008E 1M3/H 00R
      +00626 *10L    00R
      -00000 *10L    00R

09 19+  0 013E 1M3/H 00R
      +00637 *10L    00R
      -00000 *10L    00R

10 19+  0 014E 1M3/H 00R
      +00648 *10L    00R
      -00000 *10L    00R

11 19+  0 011E 1M3/H 00R
      +00666 *10L    00R
      -00000 *10L    00R

12 19+  0 020E 1M3/H 00R
      +00688 *10L    00R
      -00000 *10L    00R

12 57+  0 028E 1M3/H 00P
      +00701 *10L    00R
      -00000 *10L    00R

13 09+  0 000E 1M3/H 00R
      +00705 *10L    00R
      -00000 *10L    00R

13 44+  0 012E 1M3/H 00R
      +00711 *10L    00R
      -00000 *10L    00R

14 44+  0 015E 1M3/H 00R
      +00721 *10L    00R
      -00000 *10L    00R

15 44+  0 000E 1M3/H 00R
      +00737 *10L    00R
      -00000 *10L    00R

16 44+  0 011E 1M3/H 00R
      +00749 *10L    00R
      -00000 *10L    00R

17 44+  0 010E 1M3/H 00R
      +00760 *10L    00R
      -00000 *10L    00R

18 44+  0 010E 1M3/H 00R
      +00769 *10L    00R
      -00000 *10L    00R

19 44+  0 000E 1M3/H 00R
      +00792 *10L    00R
      -00000 *10L    00R

20 44+  0 000E 1M3/H 00R
      +00804 *10L    00R
      -00000 *10L    00R

21:44+  0 011E 1M3/H 00P
      +00813 *10L    00R
      -00000 *10L    00P

22 44+  0 008E 1M3/H 00P
      +00824 *10L    00R
      -00000 *10L    00R

23 44+  0 007E 1M3/H 00P
      +00834 *10L    00R
      -00000 *10L    00R

00:44+  0 000E 1M3/H 00R
      +00840 *10L    00R
      -00000 *10L    00R

01 44+  0 015E 1M3/H 00R
      +00846 *10L    00R
      -00000 *10L    00R

02 44+  0 012E 1M3/H 00R
      +00855 *10L    00R
      -00000 *10L    00R

03 44+  0 011E 1M3/H 00R
      +00865 *10L    00R
      -00000 *10L    00R

04 44+  0 017E 1M3/H 00R
      +00878 *10L    00R
      -00000 *10L    00R

05 44+  0 015E 1M3/H 00R
      +00892 *10L    00R
      -00000 *10L    00R

06 44+  0 008E 1M3/H 00R
      +00908 *10L    00R
      -00000 *10L    00R

07 44+  0 010E 1M3/H 00R
      +00917 *10L    00R
      -00000 *10L    00R

07 58+  0 000E 1M3/H 00R
      +00919 *10L    00R
      -00000 *10L    00R

08 58+  0 019E 1M3/H 00R
      +00929 *10L    00R
      -00000 *10L    00R
```


BEST AVAILABLE COPY

```
09 23+  0 007E 1M3/H 00R
      +00933 *10L    00R
      -00000 *10L    00R

10 24+  0 008E 1M3/H 00R
      +00944 *10L    00R
      -00000 *10L    00R

11 24+  0 011E 1M3/H 00R
      +00954 *10L    00R
      -00000 *10L    00R

12 24+  0 013E 1M3/H 00R
      +00966 *10L    00R
      -00000 *10L    00R

13 24+  0 033E 1M3/H 00R
      +00977 *10L    00R
      -00000 *10L    00R

14 24+  0 015E 1M3/H 00R
      +00990 *10L    00R
      -00000 *10L    00R

15 24+  0 009E 1M3/H 00R
      +01001 *10L    00R
      -00000 *10L    00R

28-09 15 5700 *P
+01007  *10L
```

```
OUTER DIAMETER
54 4      MM

PIPE MATERIAL
?        CS,SS

WALL,THICKNESS
2 50      MM

START TIME
05-13 14 58

OPERATION TIME
99       HOR

14 58+  0 009E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

15 58+  0 015E 1M3/H 00R
      +00020 *10L    00R
      -00000 *10L    00R

16:58+  0 013E 1M3/H 00R
      +00032 *10L    00R
      -00000 *10L    00R

17 58+  0 008E 1M3/H 00R
      +00042 *10L    00R
      -00000 *10L    00R

18 58+  0 011E 1M3/H 00R
      +00052 *10L    00R
      -00000 *10L    00R

19 58+  0 011E 1M3/H 00R
      +00061 *10L    00R
      -00000 *10L    00R

20 58+  0 013E 1M3/H 00R
      +00075 *10L    00R
      -00000 *10L    00R

21 58+  0 009E 1M3/H 00R
      +00080 *10L    00R
      -00000 *10L    00R

22 58+  0 011E 1M3/H 00R
      +00089 *10L    00R
      -00000 *10L    00R

23 58+  0 000E 1M3/H 00R
      +00095 *10L    00R
      -00000 *10L    00R

00 58+  0 007E 1M3/H 00R
      +00105 *10L    00R
      -00000 *10L    00R

01:58+  0 011E 1M3/H 00R
      +00113 *10L    00R
      -00000 *10L    00R

02 58+  0 009E 1M3/H 00R
      +00121 *10L    00R
      -00000 *10L    00R

03:58+  0 016E 1M3/H 00R
      +00128 *10L    00R
      -00000 *10L    00R

04:58+  0 011E 1M3/H 00R
      +00135 *10L    00R
      -00000 *10L    00R

05 58+  0 000E 1M3/H 00R
      +00145 *10L    00R
      -00000 *10L    00R

06 58+  0 036E 1M3/H 00R
      +00162 *10L    00R
      -00000 *10L    00R

07:58+  0 000E 1M3/H 00R
      +00177 *10L    00R
      -00000 *10L    00R

08:58+  0 010E 1M3/H 00R
      +00190 *10L    00R
      -00000 *10L    00R

09 58+  0 020E 1M3/H 00R
      +00201 *10L    00R
      -00000 *10L    00R

10 58+  0 011E 1M3/H 00R
      +00214 *10L    00R
      -00000 *10L    00R

11 58+  0 008E 1M3/H 00R
      +00228 *10L    00R
```

```
12 58+  0 000E 1M3/H 00R
      +00228 *10L    00R
      -00000 *10L    00R

13 58+  0 010E 1M3/H 00R
      +00237 *10L    00R
      -00000 *10L    00R

14 58+  0 011E 1M3/H 00R
      +00245 *10L    00R
      -00000 *10L    00R

15 58+  0 000E 1M3/H 00R
      +00253 *10L    00R
      -00000 *10L    00R

16 58+  0 000E 1M3/H 00R
      +00258 *10L    00R
      -00000 *10L    00R

17 58+  0 000E 1M3/H 00R
      +00266 *10L    00R
      -00000 *10L    00R

18 58+  0 009E 1M3/H 00R
      +00272 *10L    00R
      -00000 *10L    00R

19 58+  0 015E 1M3/H 00R
      +00285 *10L    00R
      -00000 *10L    00R

20 58+  0 007E 1M3/H 00R
      +00291 *10L    00R
      -00000 *10L    00R

21 58+  0 008E 1M3/H 00R
      +00298 *10L    00R
      -00000 *10L    00R

22 58+  0 014E 1M3/H 00R
      +00305 *10L    00R
      -00000 *10L    00R

23 58+  0 007E 1M3/H 00R
      +00312 *10L    00R
      -00000 *10L    00R

00:58+  0 011E 1M3/H 00R
      +00320 *10L    00R
      -00000 *10L    00R

01 58+  0 008E 1M3/H 00R
      +00327 *10L    00R
      -00000 *10L    00R

02 58+  0 011E 1M3/H 00R
      +00333 *10L    00R
      -00000 *10L    00R

03:58+  0 008E 1M3/H 00R
      +00339 *10L    00R
      -00000 *10L    00R

04 58+  0 012E 1M3/H 00R
      +00344 *10L    00R
      -00000 *10L    00R

05 58+  0 011E 1M3/H 00R
      +00358 *10L    00R
      -00000 *10L    00R

06 58+  0 009E 1M3/H 00R
      +00372 *10L    00R
      -00000 *10L    00R

07 58+  0 010E 1M3/H 00R
      +00382 *10L    00R
      -00000 *10L    00R

08:58+  0 020E 1M3/H 00R
      +00397 *10L    00R
      -00000 *10L    00R

09 58+  0 008E 1M3/H 00R
      +00410 *10L    00R
      -00000 *10L    00R

10 58+  0 007E 1M3/H 00R
      +00424 *10L    00R
      -00000 *10L    00R

11:58+  0 011E 1M3/H 00R
      +00437 *10L    00R
      -00000 *10L    00R

12:58+  0 016E 1M3/H 00R
      +00450 *10L    00R
      -00000 *10L    00R

13 58+  0 015E 1M3/H 00R
      +00465 *10L    00R
```

```
14 58+  0 014E 1M3/H 00R
      +00479 *10L    00R
      -00000 *10L    00R

15 58+  0 018E 1M3/H 00R
      +00492 *10L    00R
      -00000 *10L    00R

16:58+  0 013E 1M3/H 00R
      +00503 *10L    00R
      -00000 *10L    00R

17 58+  0 011E 1M3/H 00R
      +00512 *10L    00R
      -00000 *10L    00R

18 58+  0 008E 1M3/H 00R
      +00526 *10L    00R
      -00000 *10L    00R

19 58+  0 000E 1M3/H 00R
      +00535 *10L    00R
      -00000 *10L    00R

20 58+  0 024E 1M3/H 00R
      +00544 *10L    00R
      -00000 *10L    00R

21 58+  0 000E 1M3/H 00R
      +00554 *10L    00R
      -00000 *10L    00R

22:58+  0 000E 1M3/H 00R
      +00562 *10L    00R
      -00000 *10L    00R

23 58+  0 011E 1M3/H 00R
      +00571 *10L    00R
      -00000 *10L    00R

00:58+  0 007E 1M3/H 00R
      +00577 *10L    00R
      -00000 *10L    00R

01 58+  0 000E 1M3/H 00R
      +00585 *10L    00R
      -00000 *10L    00R

02 58+  0 000E 1M3/H 00R
      +00593 *10L    00R
      -00000 *10L    00R

03 58+  0 011E 1M3/H 00R
      +00604 *10L    00R
      -00000 *10L    00R

04 58+  0 012E 1M3/H 00R
      +00615 *10L    00R
      -00000 *10L    00R

05 58+  0 008E 1M3/H 00R
      +00625 *10L    00R
      -00000 *10L    00R

06 58+  0 000E 1M3/H 00R
      +00639 *10L    00R
      -00000 *10L    00R

07:58+  0 008E 1M3/H 00R
      +00647 *10L    00R
      -00000 *10L    00R

08 58+  0 011E 1M3/H 00R
      +00657 *10L    00R
      -00000 *10L    00R

09 58+  0 010E 1M3/H 00R
      +00672 *10L    00R
      -00000 *10L    00R

10 58+  0 020E 1M3/H 00R
      +00683 *10L    00R
      -00000 *10L    00R

11 58+  0 011E 1M3/H 00R
      +00694 *10L    00R
      -00000 *10L    00R

12 58+  0 010E 1M3/H 00R
      +00705 *10L    00R
      -00000 *10L    00R

13 58+  0 010E 1M3/H 00R
      +00715 *10L    00R
      -00000 *10L    00R

14 58+  0 010E 1M3/H 00R
      +00728 *10L    00R
      -00000 *10L    00R

15 58+  0 017E 1M3/H 00R
      +00741 *10L    00R
```

BEST AVAILABLE COPY

```
16 58+  0 013E 1M3/H 00R
      +00753 *10L    00R
      -00000 *10L    00R

17:58+  0 010E 1M3/H 00R
      +00768 *10L    00R
      -00000 *10L    00R

05-16 18 1500 *R
+00771  *10L

05-16 18 [illegible] *R
+00001  *10L

05-16 18 2700 *R
+00001  *10L

05-16 18 2700 *R
+00001  *10L

19 20+  0 007E 1M3/H 00R
      +00013 *10L    00R
      -00000 *10L    00R

20 20+  0 016E 1M3/H 00R
      +00025 *10L    00R
      -00000 *10L    00R

21 20+  0 017E 1M3/H 00R
      +00036 *10L    00R
      -00000 *10L    00R

22:20+  0 011E 1M3/H 00R
      +00049 *10L    00R
      -00000 *10L    00R

23 20+  0 000E 1M3/H 00R
      +00058 *10L    00R
      -00000 *10L    00R

00 20+  0 000E 1M3/H 00R
      +00067 *10L    00R
      -00000 *16L    00R

01 20+  0 000E 1M3/H 00R
      +00077 *10L    00R
      -00000 *10L    00R

02 20+  0 012E 1M3/H 00R
      +00089 *10L    00R
      -00000 *10L    00R

0  20+  0 000E 1M3/H 00R
      +00097 *10L    00R
      -00000 *10L    00R

04 20+  0 013E 1M3/H 00R
      +00108 *10L    00R
      -00000 *10L    00R

05 20+  0 008E 1M3/H 00R
      +00119 *10L    00R
      -00000 *10L    00R

06 20+  0 045E 1M3/H 00R
      +00129 *10L    00R
      -00000 *10L    00R

07 20+  0 013E 1M3/H 00R
      +00142 *10L    00R
      -00000 *10L    00R

08 20+  0 013E 1M3/H 00R
      +00156 *10L    00R
      -00000 *10L    00R

09 20+  0 011E 1M3/H 00R
      +00168 *10L    00R
      -00000 *10L    00R

10:20+  0 013E 1M3/H 00R
      +00180 *10L    00R
      -00000 *10L    00R

11 20+  0 007E 1M3/H 00R
      +00190 *10L    00R
      -00000 *10L    00R

12 20+  0 000E 1M3/H 00R
      +00201 *10L    00R
      -00000 *10L    00R

13 20+  0 011E 1M3/H 00R
      +00211 *10L    00R
      -00000 *10L    00R

14 20+  0 010E 1M3/H 00R
      +00222 *10L    00R
      -00000 *10L    00R

16 20+  0 012E 1M3/H 00R
      +00241 *10L    00R
      -00000 *10L    00R

17 20+  0 010E 1M3/H 00R
      +00253 *10L    00R
      -00000 *10L    00R

18 20+  0 010E 1M3/H 00R
      +00264 *10L    00R
      -00000 *10L    00R

19 20+  0 010E 1M3/H 00R
      +00275 *10L    00R
      -00000 *10L    00R

20 20+  0 009E 1M3/H 00R
      +00283 *10L    00R
      -00000 *10L    00R

21 20+  0 008E 1M3/H 00R
      +00288 *10L    00R
      -00000 *10L    00R

22 20+  0 013E 1M3/H 00R
      +00297 *10L    00R
      -00000 *10L    00R

23:20+  0 017E 1M3/H 00R
      +00306 *10L    00R
      -00000 *10L    00R

00 20+  0 000E 1M3/H 00R
      +00317 *10L    00R
      -00000 *10L    00R

01 20+  0 000E 1M3/H 00R
      +00323 *10L    00R
      -00000 *10L    00R

02 20+  0 008E 1M3/H 00R
      +00330 *10L    00R
      -00000 *10L    00R

03 20+  0 000E 1M3/H 00R
      +00337 *10L    00R
      -00000 *10L    00R

04:20+  0 000E 1M3/H 00R
      +00345 *10L    00R
      -00000 *10L    00R

05 20+  0 008E 1M3/H 00R
      +00350 *10L    00R
      -00000 *10L    00R

06 20+  0 011E 1M3/H 00R
      +00358 *10L    00R
      -00000 *10L    00R

07:20+  0 000E 1M3/H 00R
      +00371 *10L    00R
      -00000 *10L    00R

08 20+  0 014E 1M3/H 00R
      +00384 *10L    00R
      -00000 *10L    00R

09:20+  0 000E 1M3/H 00R
      +00395 *10L    00R
      -00000 *10L    00R

10 20+  0 020E 1M3/H 00R
      +00405 *10L    00R
      -00000 *10L    00R

11 20+  0 008E 1M3/H 00R
      +00415 *10L    00R
      -00000 *10L    00R

12 20+  0 013E 1M3/H 00R
      +00425 *10L    00R
      -00000 *10L    00R

13 20+  0 011E 1M3/H 00R
      +00433 *10L    00R
      -00000 *10L    00R

14 20+  0 000E 1M3/H 00R
      +00441 *10L    00R
      -00000 *10L    00R

15:20+  0 000E 1M3/H 00R
      +00452 *10L    00R
      -00000 *10L    00R

16 20+  0 022E 1M3/H 00R
      +00466 *10L    00R
      -00000 *10L    00R

17 20+  0 000E 1M3/H 00R
      +00476 *10L    00R
      -00000 *10L    00R

18 20+  0 008E 1M3/H 00R
      +00486 *10L    00R
      -00000 *10L    00R

19 20+  0 000E 1M3/H 00R
      +00492 *10L    00R
      -00000 *10L    00R

20 20+  0 013E 1M3/H 00R
      +00499 *10L    00R
      -00000 *10L    00R

21 20+  0 000E 1M3/H 00R
      +00506 *10L    00R
      -00000 *10L    00R

22 20+  0 000E 1M3/H 00R
      +00514 *10L    00R
      -00000 *10L    00R

23 20+  0 000E 1M3/H 00R
      +00523 *10L    00R
      -00000 *10L    00R

00 20+  0 010E 1M3/H 00R
      +00531 *10L    00R
      -00000 *10L    00R

01 20+  0 015E 1M3/H 00R
      +00537 *10L    00R
      -00000 *10L    00R

02 20+  0 010E 1M3/H 00R
      +00546 *10L    00R
      -00000 *10L    00R

03 20+  0 007E 1M3/H 00R
      +00555 *10L    00R
      -00000 *10L    00R

04 20+  0 000E 1M3/H 00R
      +00562 *10L    00R
      -00000 *10L    00R

05 20+  0 000E 1M3/H 00R
      +00565 *10L    00R
      -00000 *10L    00R

06 20+  0 076E 1M3/H 00R
      +00574 *10L    00R
      -00000 *10L    00R

07 20+  0 017E 1M3/H 00R
      +00596 *10L    00R
      -00000 *10L    00R

08:20+  0 019E 1M3/H 00R
      +00611 *10L    00R
      -00000 *10L    00R

09 20+  0 027E 1M3/H 00R
      +00632 *10L    00R
      -00000 *10L    00R

10 20+  0 026E 1M3/H 00R
      +00650 *10L    00R
      -00000 *10L    00R

11 20+  0 022E 1M3/H 00R
      +00666 *10L    00R
      -00000 *10L    00R

12 20+  0 019E 1M3/H 00R
      +00683 *10L    00R
      -00000 *10L    00R

13:20+  0 026E 1M3/H 00R
      +00702 *10L    00R
      -00000 *10L    00R

14 20+  0 020E 1M3/H 00R
      +00721 *10L    00R
      -00000 *10L    00R

15 20+  0 017E 1M3/H 00R
      +00744 *10L    00R
      -00000 *10L    00R

16 20+  0 018E 1M3/H 00R
      +00763 *10L    00R
      -00000 *10L    00R

17 20+  0 015E 1M3/H 00R
      +00793 *10L    00R
      -00000 *10L    00R

18 0+  0 01E 1M3/H 00R
      +00[illegible]2 *10L    00R
      -00000 *10L    00R

19 20+  0 019E 1M3/H 00R
      +00818 *10L    00R
      -00000 *10L    00R

20 20+  0 028E 1M3/H 00R
      +00840 *10L    00R
      -00000 *10L    00R

21 20+  0 016E 1M3/H 00R
      +00884 *10L    00R
      -00000 *10L    00R

22 20+  0 013E 1M3/H 00R
      +00901 *10L    00R
      -00000 *10L    00R

23 20+  0 007E 1M3/H 00R
      +00913 *10L    00R
      -00000 *10L    00R

00 20+  0 015E 1M3/H 00R
      +00928 *10L    00R
      -00000 *10L    00R

01 20+  0 024E 1M3/H 00R
      +00945 *10L    00R
      -00000 *10L    00R

02 20+  0 014E 1M3/H 00R
      +00965 *10L    00R
      -00000 *10L    00R

03 20+  0 019E 1M3/H 00R
      +00984 *10L    00R
      -00000 *10L    00R

04 20+  0 020E 1M3/H 00R
      +01002 *10L    00R
      -00000 *10L    00R

05 20+  0 017E 1M3/H 00R
      +01019 *10L    00R
      -00000 *10L    00R

06 20+  0 014E 1M3/H 00R
      +01040 *10L    00R
      -00000 *10L    00R

07 20+  0 029E 1M3/H 00R
      +01057 *10L    00R
      -00000 *10L    00R

08 20+  0 014E 1M3/H 00R
      +01070 *10L    00R
      -00000 *10L    00R

09:20+  0 026E 1M3/H 00R
      +01086 *10L    00R
      -00000 *10L    00R

10 20+  0 021E 1M3/H 00R
      +01103 *10L    00R
      -00000 *10L    00R

11 20+  0 015E 1M3/H 00R
      +01128 *10L    00R
      -00000 *10L    00R

12 20+  0 009E 1M3/H 00R
      +01141 *10L    00R
      -00000 *10L    00R

13 20+  0 016E 1M3/H 00R
      +01154 *10L    00R
      -00000 *10L    00R

14 20+  0 020E 1M3/H 00R
      +01163 *10L    00R
      -00000 *10L    00R
```

BEST AVAILABLE COPY

7/8 — KHMC - 5A1 - HWS

START TIME
0 - 0 14
OPERATION TIME
99 HOR

14 38+ 0 011E 1M3/H 00R
+00000 *10L 00R
-00000 *10L 00R

15 38+ 0 008E 1M3/H 00R
+00012 *10L 00R
-00000 *10L 00R

16 38+ 0 000E 1M3/H 00R
+00021 *10L 00R
-00000 *10L 00R

17 38+ 0 009E 1M3/H 00R
+00029 *10L 00R
-00000 *10L 00R

18 38+ 0 010E 1M3/H 00R
+00039 *10L 00R
-00000 *10L 00R

19 38+ 0 008E 1M3/H 00R
+00046 *10L 00R
-00000 *10L 00R

20 38+ 0 009E 1M3/H 00R
+00056 *10L 00R
-00000 *10L 00R

21 38+ 0 000E 1M3/H 00R
+00067 *10L 00R
-00000 *10L 00R

22 38+ 0 008E 1M3/H 00R
+00075 *10L 00R
-00000 *10L 00P

23 38+ 0 011E 1M3/H 00P
+00084 *10L 00R
-00000 *10L 00P

00 38+ 0 008E 1M3/H 00P
+00093 *10L 00R
-00000 *10L 00R

01:38+ 0 011E 1M3/H 00R
+00102 *10L 00R
-00000 *10L 00R

02 38+ 0 007E 1M3/H 00R
+00107 *10L 00R
-00000 *10L 00R

03:38+ 0 008E 1M3/H 00R
+00114 *10L 00R
-00000 *10L 00R

04:38+ 0 013E 1M3/H 00R
+00123 *10L 00R
-00000 *10L 00R

05 38+ 0 000E 1M3/H 00R
+00134 *10L 00R
-00000 *10L 00R

06 38+ 0 018E 1M3/H 00R
+00148 *10L 00R
-00000 *10L 00R

07 38+ 0 012E 1M3/H 00R
+00157 *10L 00R
-00000 *10L 00R

08 38+ 0 011E 1M3/H 00R
+00167 *10L 00R
-00000 *10L 00R

09 38+ 0 019E 1M3/H 00R
+00180 *10L 00R
-00000 *10L 00R

10 38+ 0 000E 1M3/H 00R
+00190 *10L 00R
-00000 *10L 00R

11:38+ 0 011E 1M3/H 00R
+00200 *10L 00R
-00000 *10L 00R

12 38+ 0 008E 1M3/H 00R
+00208 *10L 00R
-00000 *10L 00R

[illegible] 38+ 0 018E 1M3/H 00R
[illegible] *10L 00R

14 38+ 0 009E 1M3/H 00R
+00233 *10L 00R
-00000 *10L 00R

15 38+ 0 000E 1M3/H 00R
+00243 *10L 00R
-00000 *10L 00R

16 38+ 0 017E 1M3/H 00R
+00252 *10L 00R
-00000 *10L 00R

17 38+ 0 008E 1M3/H 00R
+00260 *10L 00R
-00000 *10L 00R

18 38+ 0 022E 1M3/H 00R
+00271 *10L 00R
-00000 *10L 00R

19 38+ 0 013E 1M3/H 00R
+00285 *10L 00R
-00000 *10L 00R

20 38+ 0 013E 1M3/H 00R
+00294 *10L 00R
-00000 *10L 00R

21 38+ 0 013E 1M3/H 00R
+00308 *10L 00R
-00000 *10L 00R

22 38+ 0 008E 1M3/H 00R
+00321 *10L 00R
-00000 *10L 00R

23 38+ 0 015E 1M3/H 00R
+00333 *10L 00R
-00000 *10L 00R

00 38+ 0 011E 1M3/H 00R
+00345 *10L 00R
-00000 *10L 00R

01 38+ 0 015E 1M3/H 00R
+00358 *10L 00R
-00000 *10L 00R

02 38+ 0 008E 1M3/H 00R
+00369 *10L 00R
-00000 *10L 00R

03 38+ 0 019E 1M3/H 00R
+00382 *10L 00R
-00000 *10L 00R

04 38+ 0 009E 1M3/H 00R
+00395 *10L 00R
-00000 *10L 00R

05:38+ 0 013E 1M3/H 00R
+00408 *10L 00R
-00000 *10L 00R

06:38+ 0 018E 1M3/H 00R
+00424 *10L 00R
-00000 *10L 00R

07:38+ 0 014E 1M3/H 00R
+00442 *10L 00R
-00000 *10L 00R

08 38+ 0 000E 1M3/H 00R
+00456 *10L 00R
-00000 *10L 00R

09 38+ 0 011E 1M3/H 00R
+00474 *10L 00R
-00000 *10L 00R

10 38+ 0 008E 1M3/H 00R
+00484 *10L 00R
-00000 *10L 00R

11 38+ 0 016E 1M3/H 00R
+00496 *10L 00R
-00000 *10L 00R

11 41+ 0 008E 1M3/H 00R
+00496 *10L 00R
-00000 *10L 00R

11 51+ 0 01'E 1M3/H 00R
+00499 *10L 00R
-00000 *10L 00R

1 1+ 0 00/E 1M3/H [illegible]
+00503 *10L 00R
-00000 *10L 00R

13 51+ 0 011E 1M3/H 00R
+00521 *10L 00R
-00000 *10L 00R

14 51+ 0 008E 1M3/H 00R
+00531 *10L 00R
-00000 *10L 00R

15 51+ 0 015E 1M3/H 00R
+00549 *10L 00R
-00000 *10L 00R

16:51+ 0 020E 1M3/H 00R
+00559 *10L 00R
-00000 *10L 00R

17 51+ 0 011E 1M3/H 00R
+00571 *10L 00R
-00000 *10L 00R

18 51+ 0 009E 1M3/H 00R
+00584 *10L 00R
-00000 *10L 00R

19 51+ 0 020E 1M3/H 00R
+00596 *10L 00R
-00000 *10L 00R

20 51+ 0 023E 1M3/H 00R
+00620 *10L 00R
-00000 *10L 00R

21 51+ 0 022E 1M3/H 00R
+00644 *10L 00R
-00000 *10L 00R

22 51+ 0 019E 1M3/H 00R
+00669 *10L 00R
-00000 *10L 00R

23 51+ 0 025E 1M3/H 00R
+00693 *10L 00R
-00000 *10L 00R

00 51+ 0 020E 1M3/H 00R
+00716 *10L 00P
-00000 *10L 00P

01 51+ 0 024E 1M3/H 00R
+00736 *10L 00R
-00000 *10L 00R

02 51+ 0 017E 1M3/H 00R
+00760 *10L 00R
-00000 *10L 00R

03 51+ 0 024E 1M3/H 00R
+00783 *10L 00R
-00000 *10L 00R

04 51+ 0 010E 1M3/H 00R
+00800 *10L 00R
-00000 *10L 00R

05 51+ 0 019E 1M3/H 00R
+00815 *10L 00R
-00000 *10L 00R

06 51+ 0 013E 1M3/H 00R
+00833 *10L 00R
-00000 *10L 00R

07 51+ 0 014E 1M3/H 00R
+00844 *10L 00R
-00000 *10L 00R

08 51+ 0 019E 1M3/H 00R
+00855 *10L 00R
-00000 *10L 00R

09:51+ 0 008E 1M3/H 00R
+00867 *10L 00R
-00000 *10L 00R

10 51+ 0 013E 1M3/H 00R
+00878 *10L 00R
-00000 *10L 00R

11 51+ 0 010E 1M3/H 00R
+00888 *10L 00R
-00000 *10L 00R

1 5 + 0 000E 1M3/H 00R
+00897 *10L 00R

13 51+ 0 015E 1M3/H 00R
+00905 *10L 00R
-00000 *10L 00R

14 51+ 0 000E 1M3/H 00R
+00917 *10L 00R
-00000 *10L 00R

15 51+ 0 017E 1M3/H 00R
+00928 *10L 00R
-00000 *10L 00R

16 51+ 0 010E 1M3/H 00R
+00939 *10L 00R
-00000 *10L 00R

17 51+ 0 010E 1M3/H 00R
+00948 *10L 00R
-00000 *10L 00R

18 51+ 0 000E 1M3/H 00R
+00956 *10L 00R
-00000 *10L 00R

19 51+ 0 000E 1M3/H 00R
+00964 *10L 00R
-00000 *10L 00R

20 51+ 0 011E 1M3/H 00R
+00974 *10L 00R
-00000 *10L 00R

21 51+ 0 010E 1M3/H 00R
+00983 *10L 00R
-00000 *10L 00R

22 51+ 0 010E 1M3/H 00R
+00993 *10L 00R
-00000 *10L 00R

23 51+ 0 000E 1M3/H 00R
+01003 *10L 00R
-00000 *10L 00R

00 51+ 0 013E 1M3/H [illegible]
+01012 *10L [illegible]
-00000 *10L [illegible]

01 51+ 0 015E 1M3/H [illegible]
+01021 *10L [illegible]
-00000 *10L

02 51+ 0 011E 1M3/H 00R
+01031 *10L 00R
-00000 *10L 00R

03 51+ 0 014E 1M3/H 00R
+01042 *10L 00R
-00000 *10L 00R

04 51+ 0 016E 1M3/H 00R
+01052 *10L 00R
-00000 *10L 00R

05 51+ 0 020E 1M3/H 00R
+01065 *10L 00R
-00000 *10L 00R

06:51+ 0 025E 1M3/H 00R
+01086 *10L 00R
-00000 *10L 00R

07 51+ 0 015E 1M3/H 00R
+01105 *10L 00R
-00000 *10L 00R

08 51+ 0 049E 1M3/H 00R
+01143 *10L 00R
-00000 *10L 00R

09 51+ 0 013E 1M3/H 00R
+01184 *10L 00R
-00000 *10L 00R

10 51+ 0 014E 1M3/H 00R
+01201 *10L 00R
-00000 *10L 00R

11 51+ 0 020E 1M3/H 00R
+01211 *10L 00R
-00000 *10L 00R

12 51+ 0 011E 1M3/H 00R
+01219 *10L 00R
-00000 *10L 00R

13 51+ 0 008E 1M3/H 00R
+01230 *10L 00R
-00000 *10L 00R

BEST AVAILABLE COPY

V/K

KMMC - St.1 - HWS

```
START TIME
05-24 14 35
OPERATION TIME
99      HOR

28-24 14 3500 *R
+01235  *10L

MM-DD HH MM
05-24 14 35

14 35+  0 016E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

15 35+  0 009E 1M3/H 00R
      +00010 *10L    00R
      -00000 *10L    00R

16 35+  0 013E 1M3/H 00R
      +00018 *10L    00R
      -00000 *10L    00R

17:35+  0 007E 1M3/H 00R
      +00027 *10L    00R
      -00000 *10L    00R

18 35+  0 010E 1M3/H 00R
      +00036 *10L    00R
      -00000 *10L    00R

19 35+  0 011E 1M3/H 00R
      +00044 *10L    00R
      -00000 *10L    00R

 0 35+  0 007E 1M3/H 00R
      +00053 *10L    00R
      -00000 *10L    00R

 1 35+  0 011E 1M3/H 00R
      +00062 *10L    00R
      -00000 *10L    00R

 2 35+  0 011E 1M3/H 00R
      +00069 *10L    00R
      -00000 *10L    00R

 3 35+  0 011E 1M3/H 00R
      +00077 *10L    00R
      -00000 *10L    00R

00 35+  0 000E 1M3/H 00R
      +00086 *10L    00R
      -00000 *10L    00R

01:35+  0 008E 1M3/H 00R
      +00094 *10L    00R
      -00000 *10L    00R

02 35+  0 008E 1M3/H 00R
      +00099 *10L    00R
      -00000 *10L    00R

03 35+  0 000E 1M3/H 00R
      +00107 *10L    00R
      -00000 *10L    00R

04 35+  0 011E 1M3/H 00R
      +00115 *10L    00R
      -00000 *10L    00R

05 35+  0 008E 1M3/H 00R
      +00126 *10L    00R
      -00000 *10L    00R

06 35+  0 000E 1M3/H 00R
      +00137 *10L    00R
      -00000 *10L    00R

07 35+  0 013E 1M3/H 00R
      +00149 *10L    00R
      -00000 *10L    00R

08 35+  0 012E 1M3/H 00R
      +00159 *10L    00R
      -00000 *10L    00R

09 35+  0 011E 1M3/H 00R
      +00169 *10L    00R
      -00000 *10L    00R

10 35+  0 017E 1M3/H 00R
      +00184 *10L    00R
      -00000 *10L    00R

11 35+  0 024E 1M3/H 00R
      +00198 *10L    00R
      -00000 *10L    00R

 5  0 000E 1M3/H 00R

1 35+  0 019E 1M3 H 00R
      +00223 *10L    00R
      -00000 *10L    00R

14 35+  0 009E 1M3/H 00R
      +00236 *10L    00R
      -00000 *10L    00R

15 35+  0 033E 1M3/H 00R
      +00249 *10L    00R
      -00000 *10L    00R

16 35+  0 013E 1M3/H 00R
      +00262 *10L    00R
      -00000 *10L    00R

17 35+  0 008E 1M3/H 00R
      +00274 *10L    00R
      -00000 *10L    00R

18 35+  0 016E 1M3/H 00R
      +00286 *10L    00R
      -00000 *10L    00R

19 35+  0 015E 1M3/H 00R
      +00299 *10L    00R
      -00000 *10L    00R

20 35+  0 017E 1M3/H 00R
      +00313 *10L    00R
      -00000 *10L    00R

21 35+  0 013E 1M3/H 00R
      +00326 *10L    00R
      -00000 *10L    00R

22 35+  0 011E 1M3/H 00R
      +00338 *10L    00R
      -00000 *10L    00R

23 35+  0 015E 1M3/H 00R
      +00350 *10L    00R
      -00000 *10L    00R

00 35+  0 000E 1M3/H 00R
      +00363 *10L    00R
      -00000 *10L    00R

01 35+  0 030E 1M3/H 00R
      +00384 *10L    00R
      -00000 *10L    00R

02 35+  0 028E 1M3/H 00R
      +00413 *10L    00R
      -00000 *10L    00R

03:35+  0 030E 1M3/H 00R
      +00440 *10L    00R
      -00000 *10L    00R

04 35+  0 026E 1M3/H 00R
      +00466 *10L    00R
      -00000 *10L    00R

0 35+  0 022E 1M3/H 00R
      +00492 *10L    00R
      -00000 *10L    00R

06:35+  0 022E 1M3/H 00R
      +00516 *10L    00R
      -00000 *10L    00R

07:35+  0 020E 1M3/H 00R
      +00547 *10L    00R
      -00000 *10L    00R

08:35+  0 024E 1M3/H 00R
      +00567 *10L    00R
      -00000 *10L    00R

09 35+  0 017E 1M3/H 00R
      +00592 *10L    00R
      -00000 *10L    00R

10 35+  0 008E 1M3/H 00R
      +00609 *10L    00R
      -00000 *10L    00R

11 35+  0 009E 1M3/H 00R
      +00617 *10L    00R
      -00000 *10L    00R

12:35+  0 008E 1M3/H 00R
      +00629 *10L    00R
      -00000 *10L    00R

13 35+  0 008E 1M3/H 00R
      +00639 *10L    00R
      -00000 *10L    00R

1 35+  0 024E 1M3 H 00R
      +00643 *10L    00R
      -00000 *10L    00R

16 35+  0 000E 1M3/H 00R
      +00673 *10L    00R
      -00000 *10L    00R

17 35+  0 000E 1M3/H 00R
      +00682 *10L    00R
      -00000 *10L    00R

18 35+  0 016E 1M3/H 00R
      +00692 *10L    00R
      -00000 *10L    00R

19 35+  0 008E 1M3/H 00R
      +00702 *10L    00R
      -00000 *10L    00R

20 35+  0 019E 1M3/H 00R
      +00711 *10L    00R
      -00000 *10L    00R

21 35+  0 008E 1M3/H 00R
      +00720 *10L    00R
      -00000 *10L    00R

22 35+  0 013E 1M3/H 00P
      +00730 *10L    00P
      -00000 *10L    00P

23 35+  0 009E 1M3/H 00R
      +00739 *10L    00R
      -00000 *10L    00R

00 35+  0 008E 1M3/H 00R
      +00750 *10L    00R
      -00000 *10L    00R

01 35+  0 012E 1M3/H 00R
      +00759 *10L    00R
      -00000 *10L    00R

02 35+  0 011E 1M3/H 00R
      +00767 *10L    00R
      -00000 *10L    00R

03 35+  0 016E 1M3/H 00R
      +00779 *10L    00R
      -00000 *10L    00R

04 35+  0 007E 1M3/H 00R
      +00790 *10L    00R
      -00000 *10L    00R

05 35+  0 013E 1M3/H 00R
      +00800 *10L    00R
      -00000 *10L    00R

06 35+  0 009E 1M3/H 00R
      +00813 *10L    00R
      -00000 *10L    00R

07 35+  0 009E 1M3/H 00R
      +00822 *10L    00R
      -00000 *10L    00R

08 35+  0 013E 1M3/H 00R
      +00828 *10L    00R
      -00000 *10L    00R

09 35+  0 017E 1M3/H 00R
      +00837 *10L    00R
      -00000 *10L    00R

10 35+  0 013E 1M3/H 00R
      +00846 *10L    00R
      -00000 *10L    00R

11 35+  0 012E 1M3/H 00R
      +00863 *10L    00R
      -00000 *10L    00R

12 35+  0 014E 1M3/H 00R
      +00876 *10L    00R
      -00000 *10L    00R

13 35+  0 017E 1M3/H 00R
      +00888 *10L    00R
      -00000 *10L    00R

14 35+  0 007E 1M3/H 00R
      +00899 *10L    00R
      -00000 *10L    00R

 5 35+  0 027E 1M3/H 00P
      +00913 *10L    00R

16 35+  0 008E 1M3/H 00R
      +00925 *10L    00R
      -00000 *10L    00R

17:35+  0 011E 1M3/H 00R
      +00936 *10L    00R
      -00000 *10L    00R

18 35+  0 011E 1M3/H 00R
      +00948 *10L    00R
      -00000 *10L    00R

19 35+  0 010E 1M3/H 00R
      +00959 *10L    00R
      -00000 *10L    00R

20 35+  0 010E 1M3/H 00R
      +00971 *10L    00R
      -00000 *10L    00R

21 35+  0 009E 1M3/H 00R
      +00981 *10L    00R
      -00000 *10L    00R

22 35+  0 026E 1M3/H 00R
      +00991 *10L    00R
      -00000 *10L    00R

23 35+  0 008E 1M3/H 00R
      +01002 *10L    00R
      -00000 *10L    00R

00 35+  0 015E 1M3/H 00R
      +01015 *10L    00R
      -00000 *10L    00R

01 35+  0 011E 1M3/H 00R
      +01029 *10L    00R
      -00000 *10L    00R

02 35+  0 011E 1M3/H 0
      +01043 *10L    00R
      -00000 *10L    00R

03:35+  0 007E 1M3/H
      +01056 *10L
      -00000 *10L

04 35+  0 017E 1M3/H
      +01070 *10L
      -00000 *10L    00R

05 35+  0 017E 1M3/H 00R
      +01084 *10L    00R
      -00000 *10L    00R

06 35+  0 014E 1M3/H 00R
      +01098 *10L    00R
      -00000 *10L    00R

07 35+  0 015E 1M3/H 00R
      +01109 *10L    00R
      -00000 *10L    00R

08 35+  0 011E 1M3/H 00R
      +01121 *10L    00R
      -00000 *10L    00R

09:35+  0 048E 1M3/H 00R
      +01134 *10L    00R
      -00000 *10L    00R

10 35+  0 000E 1M3/H 00R
      +01148 *10L    00R
      -00000 *10L    00R

05-28 11 2500 *R
+01160  *10L

05-28 1  600 *P
-00000  *10L
```

BEST AVAILABLE COPY

146

```
START
05-28

OPERATION TIME
99      HOR

11 33+  0 011E 1M3/H 00R
      +00000 *10L    00R
       00000 *10L    00R

1  33+  0 031E 1M3/H 00R
      +00014 *10L    00R
      -00000 *10L    00R

13 33+  0 015E 1M3/H 00R
      +00033 *10L    00R
      -00000 *10L    00R

14 33+  0 008E 1M3/H 00R
      +00048 *10L    00R
      -00000 *10L    00R

15 33+  0 008E 1M3/H 00R
      +00059 *10L    00R
       00000 *10L    00R

16 33+  0 000E 1M3/H 00R
      +00065 *10L    00R
      -00000 *10L    00R

1  33+  0 013E 1M3 H 00R
      +00075 *10L    00R
      -00000 *10L    00R

 33+  0 020E 1M3/H 00R
      +00090 *10L    00R
       00000 *10L    00R

   33+  0 022E 1M3/H 00R
      +00112 *10L    00R
       00000 *10L    00R

   +  0 024E 1M3/H 00R
      +00135 *10L    00R
      -00000 *10L    00R

   3+  0 024E 1M3/H 00R
      +00159 *10L    00R
      -00000 *10L    00R

 3 +  0 01 E 1M3/H 00R
      +00182 *10L    00R
       00000 *10L    00R

   33+  0 024E 1M3/H 00R
      +00205 *10L    00R
      -00000 *10L    00R

00 33+  0 011E 1M3/H 00R
      +00224 *10L    00R
      -00000 *10L    00R

01 33+  0 015E 1M3/H 00R
      +00242 *10L    00R
       00000 *10L    00R

02 33+  0 017E 1M3/H 00R
      +00262 *10L    00R
       00000 *10L    00R

03 33+  0 017E 1M3/H 00R
      +00280 *10L    00R
      -00000 *10L    00R

04 33+  0 020E 1M3/H 00R
      +00299 *10L    00R
       00000 *10L    00R

05 33+  0 026E 1M3/H 00R
      +00325 *10L    00R
      -00000 *10L    00R

06 33+  0 043E 1M3/H 00R
      +00354 *10L    00R
      -00000 *10L    00R

0  33+  0 020E 1M3/H 00R
      +00381 *10L    00R
      -00000 *10L    00R

08 33+  0 043E 1M3/H 00R
      +00391 *10L    00R
      -00000 *10L    00R

   +  0 017E 1M3 H 00R
      +00414 *10L    00R
       00000 *10L    00R

10   +  0 F 1M H 00R
      +00 4 *10L    00R
       00000 *10L    00R

11 33+  0 017E 1M3/H 00R
      +00435 *10L    00R
       00000 *10L    00R

12 33+  0 010E 1M3/H 00R
      +00445 *10L    00R
       00000 *10L    00R

13 33+  0 013F 1M3/H 00R
      +00459 *10L    00R
       00000 *10L    00R

14 33+  0 020E 1M3/H 00R
      +00470 *10L    00R
       00000 *10L    00R

15 33+  0 000E 1M3/H 00R
      +00482 *10L    00R
      -00000 *10L    00R

16 33+  0 015E 1M3/H 00R
      +00492 *10L    00R
      -00000 *10L    00R

17 33+  0 008E 1M3/H 00R
      +00502 *10L    00R
      -00000 *10L    00R

18 33+  0 008E 1M3/H 00R
      +00512 *10L    00R
      -00000 *10L    00R

19 33   0 013E 1M3/H 00R
      +00523 *10L    00R
      -00000 *10L    00R

20 33+  0 000E 1M3/H 00R
      +00533 *10L    00R
      -00000 *10L    00R

21 33+  0 000E 1M3/H 00R
      +00542 *10L    00R
      -00000 *10L    00R

22 33+  0 015E 1M3/H 00R
      +00551 *10L    00R
       00000 *10L    00R

23 3 +  0 000E 1M3/H 00R
      +00560 *10L    00R
       00000 *10L    00R

00 33+  0 008E 1M3/H 00R
      +00568 *10L    00R
      -00000 *10L    00R

01 33+  0 013E 1M3/H 00R
      +00577 *10L    00R
      -00000 *10L    00R

02 33+  0 000E 1M3/H 00R
      +00585 *10L    00R
      -00000 *10L    00R

03  3+  0 015E 1M3/H 00R
      +00596 *10L    00R
      -00000 *10L    00R

04 33+  0 017E 1M3/H 00R
      +00608 *10L    00R
      -00000 *10L    00R

05 33+  0 011E 1M3/H 00R
      +00619 *10L    00R
      -00000 *10L    00R

06 33+  0 010E 1M3/H 00R
      +00630 *10L    00R
      -00000 *10L    00R

07 33+  0 010E 1M3/H 00R
      +00642 *10L    00R
      -00000 *10L    00R

08 33+  0 000E 1M3/H 00R
      +00651 *10L    00R
      -00000 *10L    00R

09 33+  0 033E 1M3/H 00R
      +00665 *10L    00R
      -00000 *10L    00R

10 33+  0 010E 1 /H 00R
      +0067  *10L    00R
      -00000 *10L    00R

11 33   0 009E 1 H 00R
       00    +10L    00R
      -00000 *10L    00R

12 33+  0 042E 1M3/H 00R
      +00693 *10L    00R
      -00000 *10L    00R

13 33+  0 008E 1M3/H 00R
      +00700 *10L    00R
      -00000 *10L    00R

14 33+  0 009E 1M3/H 00R
      +00707 *10L    00R
      -00000 *10L    00R

15 33+  0 022E 1M3/H 00R
      +00717 *10L    00R
      -00000 *10L    00R

16 33+  0 009E 1M3/H 00R
      +00726 *10L    00R
      -00000 *10L    00R

17 33+  0 015E 1M3/H 00R
      +00734 *10L    00R
      -00000 *10L    00R

18 33+  0 015E 1M3/H 00R
      +00742 *10L    00R
      -00000 *10L    00R

19 33+  0 009E 1M3/H 00R
      +00750 *10L    00R
      -00000 *10L    00R

20 33+  0 000E 1M3/H 00R
      +00758 *10L    00R
      -00000 *10L    00R

21 33+  0 011E 1M3/H 00R
      +00767 *10L    00R
      -00000 *10L    00R

22 33+  0 011E 1M3/H
      +00776 *10L
      -00000 *10L

23 33+  0 014E 1M3/H
      +00784 *10L
      -00000 *10L

00 33+  0 009E 1M3/H
      +00792 *10L
      -00000 *10L

01 33+  0 000E 1M3/H 00R
      +00800 *10L    00R
      -00000 *10L    00R

02 33+  0 000E 1M3/H 00R
      +00807 *10L    00R
      -00000 *10L    00R

03 33+  0 000E 1M3/H 00R
      +00813 *10L    00R
      -00000 *10L    00R

04 33+  0 008E 1M3/H 00R
      +00827 *10L    00R
      -00000 *10L    00R

05 33+  0 010E 1M3/H 00R
      +00839 *10L    00R
      -00000 *10L    00R

06 33+  0 016E 1M3/H 00R
      +00856 *10L    00R
      -00000 *10L    00R

07 25+  0 012E 1M3/H 00R
      +00868 *10L    00R
      -00000 *10L    00R

08 25+  0 007E 1M3/H 00R
      +00879 *10L    00R
      -00000 *10L    00R

09 25+  0 008E 1M3/H 00R
      +00890 *10L    00R
      -00000 *10L    00R

10 25+  0 012E 1M3/H 00R
      +00900 *10L    00R
      -00000 *10L    00R

11  +  0 010E 1M3 H
      +00910 *10L
      -00000 *10L
```


BEST AVAILABLE COPY

141

NMIL - St.2 - CWS

START TIME
05-05 15 47
OPERATION TIME
99 HOR

```
18 31+  0 094E 1M3/H 00R
      +00001 *10L    00R
      -00000 *10L    00R

19 31+  0 011E 1M3/H 00R
      +00023 *10L    00R
      -00000 *10L    00R

20 31+  0 024E 1M3/H 00R
      +00033 *10L    00R
      -00000 *10L    00R

21 31+  0 000E 1M3/H 00R
      +00034 *10L    00R
      -00002 *10L    00R

22:31+  0 000E 1M3/H 00R
      +00039 *10L    00R
      -00003 *10L    00R

23 31+  0 044E 1M3/H 00R
      +00044 *10L    00R
      -00004 *10L    00R

00 31+  0 000E 1M3/H 00R
      +00052 *10L    00R
      -00005 *10L    00R

01 31+  0 012E 1M3/H 00R
      +00054 *10L    00R
      -00006 *10L    00R

02 31+  0 000E 1M3/H 00R
      +00063 *10L    00R
      -00006 *10L    00R

03 31+  0 000E 1M3/H 00R
      +00064 *10L    00R
      -00007 *10L    00R

04 31+  0 000E 1M3/H 00R
      +00066 *10L    00R
      -00008 *10L    00R

05 31+  0 000E 1M3/H 00R
      +00068 *10L    00R
      -00008 *10L    00R

06 31+  0 000E 1M3/H 00R
      +00071 *10L    00R
      -00008 *10L    00R

07 31+  0 000E 1M3/H 00R
      +00083 *10L    00R
      -00008 *10L    00R

08 31+  0 010E 1M3/H 00R
      +00093 *10L    00R
      -00008 *10L    00R

09 31+  0 000E 1M3/H 00R
      +00115 *10L    00R
      -00008 *10L    00R

10 31+  0 000E 1M3/H 00R
      +00117 *10L    00R
      -00008 *10L    00R

11 31+  0 000E 1M3/H 00R
      +00126 *10L    00R
      -00008 *10L    00R

12 31+  0 000E 1M3/H 00R
      +00132 *10L    00R
      -00008 *10L    00R

13 31+  0 015E 1M3/H 00R
      +00137 *10L    00R
      -00008 *10L    00R

14 31+  0 000E 1M3/H 00R
      +00153 *10L    00R
      -00008 *10L    00R

15 31+  0 015E 1M3/H 00R
      +00157 *10L    00R
      -00008 *10L    00R

16 31+  0 012E 1M3/H 00R
      +00161 *10L    00R
      -00008 *10L    00R

17:31+  0 000E 1M3/H 00R
      +00169 *10L    00R
      -00008 *10L    00R

18 31+  0 000E 1M3/H 00R
      +00176 *10L    00R
      -00008 *10L    00R

19 31+  0 000E 1M3/H 00R
      +00178 *10L    00R
      -00009 *10L    00R

20 31+  0 000E 1M3/H 00R
      +00190 *10L    00R
      -00009 *10L    00R

21 31+  0 000E 1M3/H 00R
      +00202 *10L    00R
      -00009 *10L    00R

22:31+  0 012E 1M3/H 00R
      +00211 *10L    00R
      -00009 *10L    00R

23:31+  0 000E 1M3/H 00R
      +00220 *10L    00R
      -00009 *10L    00R

00 31+  0 050E 1M3/H 00R
      +00227 *10L    00R
      -00009 *10L    00R

01 31+  0 000E 1M3/H 00R
      +00233 *10L    00R
      -00009 *10L    00R

02 31+  0,009E 1M3/H 00R
      +00239 *10L    00R
      -00009 *10L    00R

03 31+  0 000E 1M3/H 00R
      +00244 *10L    00R
      -00009 *10L    00R

04 31+  0 011E 1M3/H 00R
      +00251 *10L    00R
      -00009 *10L    00R

05 31+  0 011E 1M3/H 00R
      +00258 *10L    00R
      -00009 *10L    00R

06 31+  0 009E 1M3/H 00R
      +00273 *10L    00R
      -00009 *10L    00R

07 31+  0 026E 1M3/H 00R
      +00285 *10L    00R
      -00009 *10L    00R

08 31+  0 009E 1M3/H 00R
      +00299 *10L    00R
      -00009 *10L    00R

09 31+  0 000E 1M3/H 00R
      +00312 *10L    00R
      -00009 *10L    00R

10 31+  0 000E 1M3/H 00R
      +00320 *10L    00R
      -00009 *10L    00R

11:45+  0 030E 1M3/H 00R
      +00323 *10L    00R
      -00009 *10L    00R

12 45+  0 009E 1M3/H 00R
      +00331 *10L    00R
      -00009 *10L    00R

13 45+  0 014E 1M3/H 00R
      +00341 *10L    00R
      -00009 *10L    00R

14 45+  0 000E 1M3/H 00R
      +00354 *10L    00R
      -00009 *10L    00R

15 45+  0 000E 1M3/H 00R
      +00365 *10L    00R
      -00009 *10L    00R

16 45+  0 000E 1M3/H 00R
      +00377 *10L    00R
      -00009 *10L    00R

17 45+  0 000E 1M3/H 00R
      +00388 *10L    00R
      -00009 *10L    00R

18 45+  0 013E 1M3/H 00R
      +00397 *10L    00R
      -00009 *10L    00R

20 45+  0 000E 1M3/H 00R
      +00411 *10L    00R
      -00009 *10L    00R

21 45+  0 000E 1M3/H 00R
      +00414 *10L    00R
      -00009 *10L    00R

22 45+  0 011E 1M3/H 00R
      +00416 *10L    00R
      -00009 *10L    00R

23 45+  0 028E 1M3/H 00R
      +00424 *10L    00R
      -00009 *10L    00R

00 45+  0 000E 1M3/H 00R
      +00425 *10L    00R
      -00009 *10L    00R

01:45+  0 000E 1M3/H 00R
      +00427 *10L    00R
      -00010 *10L    00R

02 45+  0 000E 1M3/H 00R
      +00428 *10L    00R
      -00010 *10L    00R

03 45+  0 000E 1M3/H 00R
      +00431 *10L    00R
      -00010 *10L    00R

04 45+  0 000E 1M3/H 00R
      +00435 *10L    00R
      -00010 *10L    00R

05 45+  0 000E 1M3/H 00R
      +00438 *10L    00R
      -00010 *10L    00R

06 45+  0 047E 1M3/H 00R
      +00442 *10L    00R
      -00010 *10L    00R

07 45+  0 009E 1M3/H 00R
      +00469 *10L    00R
      -00010 *10L    00R

08 45+  0 000E 1M3/H 00R
      +00483 *10L    00R
      -00010 *10L    00R

09 45+  0 000E 1M3/H 00R
      +00497 *10L    00R
      -00010 *10L    00R

10 45+  0 000E 1M3/H 00R
      +00506 *10L    00R
      -00010 *10L    00R

11 45+  0 000E 1M3/H 00R
      +00517 *10L    00R
      -00010 *10L    00R

12 45+  0 014E 1M3/H 00R
      +00534 *10L    00R
      -00010 *10L    00R

13 45+  0 000E 1M3/H 00R
      +00545 *10L    00R
      -00010 *10L    00R

14 45+  0 000E 1M3/H 00R
      +00558 *10L    00R
      -00010 *10L    00R

15 45+  0 000E 1M3/H 00R
      +00569 *10L    00R
      -00010 *10L    00R

15 47+  0 011E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

16 47+  0 027E 1M3/H 00R
      +00007 *10L    00R
      -00000 *10L    00R

17 47+  0 000E 1M3/H 00R
      +00017 *10L    00R
      -00000 *10L    00R

18 47+  0 030E 1M3/H 00R
      +00028 *10L    00R
      -00000 *10L    00R

19 47+  0 026E 1M3/H 00R
      +00036 *10L    00R
      -00000 *10L    00R

20 47+  0 000E 1M3/H 00R
      +00043 *10L    00R
      -00000 *10L    00R

21 47+  0 000E 1M3/H 00R
      +00047 *10L    00R
      -00000 *10L    00R

22 47+  0 011E 1M3/H 00R
      +00054 *10L    00R
      -00000 *10L    00R

23 47+  0 000E 1M3/H 00R
      +00064 *10L    00R
      -00000 *10L    00R

00 47+  0 013E 1M3/H 00R
      +00073 *10L    00R
      -00000 *10L    00R

01 47+  0 009E 1M3/H 00R
      +00083 *10L    00R
      -00000 *10L    00R

02 47+  0 013E 1M3/H 00R
      +00091 *10L    00R
      -00000 *10L    00R

03 47+  0 000E 1M3/H 00R
      +00099 *10L    00R
      -00000 *10L    00R

04 47+  0 000E 1M3/H 00R
      +00104 *10L    00R
      -00000 *10L    00R

05 47+  0 000E 1M3/H 00R
      +00114 *10L    00R
      -00000 *10L    00R

06 47+  0 057E 1M3/H 00R
      +00123 *10L    00R
      -00000 *10L    00R

07 47+  0 000E 1M3/H 00R
      +00138 *10L    00R
      -00000 *10L    00R

08 47+  0,037E 1M3/H 00R
      +00155 *10L    00R
      -00000 *10L    00R

09 47+  0 014E 1M3/H 00R
      +00172 *10L    00R
      -00000 *10L    00R

10 47+  0 031E 1M3/H 00R
      +00183 *10L    00R
      -00000 *10L    00R

11 47+  0 000E 1M3/H 00R
      +00197 *10L    00R
      -00000 *10L    00R

12 47+  0 018E 1M3/H 00R
      +00212 *10L    00R
      -00000 *10L    00R

13 47+  0 016E 1M3/H 00R
      +00229 *10L    00R
      -00000 *10L    00R

14 47+  0 000E 1M3/H 00R
      +00241 *10L    00R
      -00000 *10L    00R

15 47+  0 000E 1M3/H 00R
```

START TIME
OPERATION TIME
99 HOR

```
18 31+  0 094E 1M3/H 00R
      +00001 *10L    00R
      -00000 *10L    00R

19 31+  0 011E 1M3/H 00R
      +00023 *10L    00R
      -00000 *10L    00R

20 31+  0 024E 1M3/H 00R
      +00033 *10L    00R
      -00000 *10L    00R

21 31+  0 000E 1M3/H 00R
      +00034 *10L    00R
      -00002 *10L    00R

22:31+  0 000E 1M3/H 00R
      +00039 *10L    00R
      -00003 *10L    00R

23 31+  0 044E 1M3/H 00R
      +00044 *10L    00R
      -00004 *10L    00R

00 31+  0 000E 1M3/H 00R
      +00052 *10L    00R
      -00005 *10L    00R

01 31+  0 012E 1M3/H 00R
      +00054 *10L    00R
      -00006 *10L    00R

02 31+  0 000E 1M3/H 00R
      +00063 *10L    00R
      -00006 *10L    00R

03 31+  0 000E 1M3/H 00R
      +00064 *10L    00R
      -00007 *10L    00R

04 31+  0 000E 1M3/H 00R
      +00066 *10L    00R
      -00008 *10L    00R

05 31+  0 000E 1M3/H 00R
      +00068 *10L    00R
      -00008 *10L    00R

06 31+  0 000E 1M3/H 00R
      +00071 *10L    00R
      -00008 *10L    00R

07 31+  0 000E 1M3/H 00R
      +00083 *10L    00R
      -00008 *10L    00R

08 31+  0 010E 1M3/H 00R
      +00093 *10L    00R
      -00008 *10L    00R

09 31+  0 000E 1M3/H 00R
      +00115 *10L    00R
      -00008 *10L    00R

10 31+  0 000E 1M3/H 00R
      +00117 *10L    00R
      -00008 *10L    00R

11 31+  0 000E 1M3/H 00R
      +00126 *10L    00R
      -00008 *10L    00R

12 31+  0 000E 1M3/H 00R
      +00132 *10L    00R
      -00008 *10L    00R

13 31+  0 015E 1M3/H 00R
      +00137 *10L    00R
      -00008 *10L    00R

14 31+  0 000E 1M3/H 00R
      +00153 *10L    00R
      -00008 *10L    00R

15 31+  0 015E 1M3/H 00R
      +00157 *10L    00R
      -00008 *10L    00R

16 31+  0 012E 1M3/H 00R
      +00161 *10L    00R
      -00008 *10L    00R

17:31+  0 000E 1M3/H 00R
      +00169 *10L    00R
      -00008 *10L    00R
```


BEST AVAILABLE COPY

148

NHMC - St 2 - CWS

```
16 47+  0 042E 1M3/H 00R
        +00[illegible] *10L    00R
        -00000 *10L    00R

17 47+  0 015E 1M3/H 00R
        +00279 *10L    00R
        -00000 *10L    00R

18 47+  0 009E 1M3/H 00R
        +00291 *10L    00R
        -00000 *10L    00R

19 47+  0 000E 1M3/H 00R
        +00308 *10L    00R
        -00000 *10L    00R

20 47+  0 011E 1M3/H 00R
        +00321 *10L    00R
        -00000 *10L    00R

21 47+  0 014E 1M3/H 00R
        +00335 *10L    00R
        -00000 *10L    00R

22 47+  0 041E 1M3/H 00R
        +00351 *10L    00R
        -00000 *10L    00R

23 47+  0 000E 1M3/H 00R
        +00360 *10L    00R
        -00000 *10L    00R

00 47+  0 000E 1M3/H 00R
        +00370 *10L    00R
        -00000 *10L    00R

01 47+  0 000E 1M3/H 00R
        +00377 *10L    00R
        -00000 *10L    00R

02 47+  0 000E 1M3/H 00R
        +00386 *10L    00R
        -00000 *10L    00R

03 47+  0 012E 1M3/H 00R
        +00394 *10L    00R
        -00000 *10L    00R

04 47+  0 015E 1M3/H 00R
        +00403 *10L    00R
        -00000 *10L    00R

05 47+  0 000E 1M3/H 00R
        +00421 *10L    00R
        -00000 *10L    00R

06:47+  0 013E 1M3/H 00R
        +00441 *10L    00R
        -00000 *10L    00R

07 47+  0 000E 1M3/H 00R
        +00465 *10L    00R
        -00000 *10L    00R

08 47+  0 042E 1M3/H 00R
        +00478 *10L    00R
        -00000 *10L    00R

09:47+  0 000E 1M3/H 00R
        +00493 *10L    00R
        -00000 *10L    00R

10 47+  0 000E 1M3/H 00R
        +00504 *10L    00R
        -00000 *10L    00R

11 00+  0 000E 1M3/H 00R
        +00506 *10L    00R
        -00000 *10L    00R

12 00+  0 026E 1M3/H 00R
        +00532 *10L    00R
        -00000 *10L    00R

13 00+  0 014E 1M3/H 00R
        +00550 *10L    00R
        -00000 *10L    00R

14 00+  0 016E 1M3/H 00R
        +00562 *10L    00R
        -00000 *10L    00R

15 00+  0 000E 1M3/H 00R
        +00578 *10L    00R
        -00000 *10L    00R

15 21+  0 018E 1M3/H 00R
        +00587 *10L    00R

16 21+  0 000E 1M3/H 00R
        +00595 *10L    00R
        -00000 *10L    00R

17 21+  0 000E 1M3/H 00R
        +00604 *10L    00R
        -00000 *10L    00R

18 21+  0 000E 1M3/H 00R
        +00609 *10L    00R
        -00000 *10L    00R

19 21+  0 000E 1M3/H 00R
        +00614 *10L    00R
        -00000 *10L    00R

20 21+  0 000E 1M3/H 00R
        +00619 *10L    00R
        -00000 *10L    00R

21 21+  0 000E 1M3/H 00R
        +00626 *10L    00R
        -00000 *10L    00R

22 21+  0 000E 1M3/H 00R
        +00633 *10L    00R
        -00000 *10L    00R

23 21+  0 000E 1M3/H 00R
        +00640 *10L    00R
        -00000 *10L    00R

00 21+  0 000E 1M3/H 00R
        +00649 *10L    00R
        -00000 *10L    00R

01 21+  0 000E 1M3/H 00R
        +00657 *10L    00R
        -00000 *10L    00R

02 21+  0 014E 1M3/H 00R
        +00667 *10L    00R
        -00000 *10L    00R

03 21+  0 012E 1M3/H 00R
        +00678 *10L    00R
        -00000 *10L    00R

04 21+  0 000E 1M3/H 00R
        +00686 *10L    00R
        -00000 *10L    00R

05 21+  0 013E 1M3/H 00R
        +00693 *10L    00R
        -00000 *10L    00R

06 21+  0 036E 1M[illegible]
        +00703 *10L
        -00000 *10L

07:21+  0 000E 1M3/H 00R
        +00726 *10L    00R
        -00000 *10L    00R

08 21+  0 040E 1M3/H 00R
        +00740 *10L    00R
        -00000 *10L    00R

09:21+  0 017E 1M3/H 00R
        +00754 *10L    00R
        -00000 *10L    00R

10 21+  0 013E 1M3/H 00R
        +00768 *10L    00R
        -00000 *10L    00R

11 21+  0 014E 1M3/H 00R
        +00784 *10L    00R
        -00000 *10L    00R

12 21+  0 000E 1M3/H 00R
        +00805 *10L    00R
        -00000 *10L    00R

12 59+  0 000E 1M3/H 00R
        +00815 *10L    00R
        -00000 *10L    00R

13:11+  0 021E 1M3/H 00R
        +00817 *10L    00R
        -00000 *10L    00R

13 46+  0 000E 1M3/H 00R
        +00823 *10L    00R
        -00000 *10L    00R

14 46+  0 000E 1M3/H 00R

15 46+  0 000E 1M3/H 00R
        +00837 *10L    00R
        -00000 *10L    00R

16 46+  0 013E 1M3/H 00R
        +00857 *10L    00R
        -00000 *10L    00R

17 46+  0 000E 1M3/H 00R
        +00872 *10L    00R
        -00000 *10L    00R

18 46+  0 000E 1M3/H 00R
        +00881 *10L    00R
        -00000 *10L    00R

19 46+  0 014E 1M3/H 00R
        +00886 *10L    00R
        -00000 *10L    00R

20 46+  0 011E 1M3/H 00R
        +00894 *10L    00R
        -00000 *10L    00R

21 46+  0 010E 1M3/H 00R
        +00906 *10L    00R
        -00000 *10L    00R

22 46+  0 012E 1M3/H 00R
        +00918 *10L    00R
        -00000 *10L    00R

23 46+  0 000E 1M3/H 00R
        +00927 *10L    00R
        -00000 *10L    00R

00 46+  0 018E 1M3/H 00R
        +00937 *10L    00R
        -00000 *10L    00R

01 46+  0 000E 1M3/H 00R
        +00944 *10L    00R
        -00000 *10L    00R

02 46+  0 000E 1M3/H 00R
        +00953 *10L    00R
        -00000 *10L    00R

03 46+  0 010E 1M3/H 00R
        +00964 *10L    00R
        -00000 *10L    00R

04:46+  0 000E 1M3/H 00R
        +00973 *10L    00R
        -00000 *10L    00R

05 46+  0 013E 1M3/H 00R
        +00982 *10L    00R
        -00000 *10L    00R

06:46+  0 000E 1M3/H 00R
        +00994 *10L    00R
        -00000 *10L    00R

07 46+  0 039E 1M3/H 00R
        +01014 *10L    00R
        -00000 *10L    00R

08 00+  0 021E 1M3/H 00R
        +01020 *10L    00R
        -00000 *10L    00R

09 00+  0 011E 1M3/H 00R
        +01041 *10L    00R
        -00000 *10L    00R

09:26+  0 024F 1M3/H 00R
        +01047 *10L    00R
        -00000 *10L    00R

10:26+  0 032E 1M3/H 00R
        +01069 *10L    00R
        -00000 *10L    00R

11 26+  0 019E 1M3/H 00R
        +01077 *10L    00R
        -00000 *10L    00R

12:26+  0 012E 1M3/H 00R
        +01093 *10L    00R
        -00000 *10L    00R

13 26+  0 041E 1M3/H 00R
        +01109 *10L    00R
        -00000 *10L    00R

15 26+  0 019E 1M3/H 00R
        +01176 *10L    00R
        -00000 *10L    00R

16 05+  0 000E 1M3/H 00R
        +00040 *10L    00R
        -00000 *10L    00R

17 05+  0 000E 1M3/H 00R
        +00003 *10L    00R
        -00000 *10L    00R

18 05+  0 000E 1M3/H 00R
        +00008 *10L    00R
        -00000 *10L    00R

19 05+  0 000E 1M3/H 00R
        +00016 *10L    00R
        -00000 *10L    00R

20:05+  0 012E 1M3/H 00R
        +00020 *10L    00R
        -00000 *10L    00R

21 05+  [illegible] 90E 1M3/H 00R
        +00026 *10L    00R
        -00000 *10L    00R

07 55+  0 000E 1M3/H 00R
        +00031 *10L    00R
        -00000 *10L    00R

08 55+  0 000E 1M3/H 00R
        +00049 *10L    00R
        -00000 *10L    00R

09 55+  0 009E 1M3/H 00R
        +00061 *10L    00R
        -00000 *10L    00R

10 55+  0 051E 1M3/H 00R
        +00071 *10L    00R
        -00000 *10L    00R

11 55+  0 000E 1M3/H 00R
        +00088 *10L    00R
        -00000 *10L    00R

12 55+  0 000E 1M3/H 00R
        +00101 *10L    00R
        -00000 *10L    00R

13 55+  0 011E 1M3/H 00R
        +00110 *10L    00R
        -00000 *10L    00R

14 55+  0 000E 1M3/H 00R
        +00126 *10L    00R
        -00000 *10L    00R

15 55+  0 012E 1M3/H 00R
        +00139 *10L    00R
        -00000 *10L    00R

16:55+  0 000E 1M3/H 00R
        +00153 *10L    00R
        -00000 *10L    00R

17 55+  0 014E 1M3/H 00R
        +00163 *10L    00R
        -00000 *10L    00R

18 55+  0 016E 1M3/H 00R
        +00170 *10L    00R
        -00000 *10L    00R

19 55+  0 014E 1M3/H 00R
        +00178 *10L    00R
        -00000 *10L    00R

20 55+  0 012E 1M3/H 00R
        +00187 *10L    00R
        -00000 *10L    00R

21 55+  0 012E 1M3/H 00R
        +00192 *10L    00R
        -00000 *10L    00R

22 55+  0 012E 1M3/H 00R
        +00200 *10L    00R
        -00000 *10L    00R

23 55+  0 014E 1M3/H 00R
        +00205 *10L    00R
        -00000 *10L    00R
```


BEST AVAILABLE COPY

149

KHMC. St 1 CWS

```
00 55+  0 000E 1M3/H 00R
        +00213 *10L    00R
        -00000 *10L    00R

01 55+  0 011E 1M3/H 00R
        +00221 *10L    00R
        -00000 *10L    00R

02 55+  0 011E 1M3/H 00R
        +00226 *10L    00R
        -00000 *10L    00R

03 55+  0 025E 1M3/H 00R
        +00232 *10L    00R
        -00000 *10L    00R

04 55+  0 010E 1M3/H 00R
        +00252 *10L    00R
        -00000 *10L    00R

05 55+  0 012E 1M3/H 00R
        +00264 *10L    00R
        -00000 *10L    00R

06 55+  0 000E 1M3/H 00R
        +00273 *10L    00R
        -00000 *10L    00R

07 55+  0 013E 1M3/H 00R
        +00289 *10L    00R
        -00000 *10L    00R

08 55+  0 036E 1M3/H 00R
        +00311 *10L    00R
        -00000 *10L    00R

09 55+  0 018E 1M3/H 00R
        +00328 *10L    00R
        -00000 *10L    00R

10 55+  0 000E 1M3/H 00R
        +00349 *10L    00R
        -00000 *10L    00R

11 55+  0 014E 1M3/H 00R
        +00368 *10L    00R
        -00000 *10L    00R

12 55+  0 036E 1M3/H 00R
        +00387 *10L    00R
        -00000 *10L    00R

13 55+  0 016E 1M3/H 00R
        +00396 *10L    00R
        -00000 *10L    00R

14 55+  0 000E 1M3/H 00R
        +00410 *10L    00R
        -00000 *10L    00R

15 55+  0 009E 1M3/H 00R
        +00423 *10L    00R
        -00000 *10L    00R

16 55+  0 000E 1M3/H 00R
        +00436 *10L    00R
        -00000 *10L    00R

17 43+  0 022E 1M3/H 00R
        +00444 *10L    00R
        -00000 *10L    00R

18 43+  0 009E 1M3/H 00R
        +00454 *10L    00R
        -00000 *10L    00R

19 43+  0 011E 1M3/H 00R
        +00461 *10L    00R
        -00000 *10L    00R

20 43+  0 016E 1M3/H 00R
        +00467 *10L    00R
        -00000 *10L    00R

21 43+  0 010E 1M3/H 00R
        +00481 *10L    00R
        -00000 *10L    00R

22 43+  0 000E 1M3/H 00R
        +00496 *10L    00R
        -00000 *10L    00R

23 43+  0 013E 1M3/H 00R
        +00503 *10L    00R
        -00000 *10L    00R

00 43+  0 013E 1M3/H 00R
        +00519 *10L    00R
        -00000 *10L    00R

01 43+  0 017E 1M3/H 00R
        +00534 *10L    00R
        -00000 *10L    00R

02 43+  0 010E 1M3/H 00R
        +00547 *10L    00R
        -00000 *10L    00R

03:43+  0 014E 1M3/H 00R
        +00563 *10L    00R
        -00000 *10L    00R

04:43+  0 016E 1M3/H 00R
        +00579 *10L    00R
        -00000 *10L    00R

05 43+  0 013E 1M3/H 00R
        +00595 *10L    00R
        -00000 *10L    00R

06 43+  0 015E 1M3/H 00R
        +00613 *10L    00R
        -00000 *10L    00R

07 43+  0 009E 1M3/H 00R
        +00633 *10L    00R
        -00000 *10L    00R

08 43+  0 010E 1M3/H 00R
        +00651 *10L    00R
        -00000 *10L    00R

09 43+  0 036E 1M3/H 00R
        +00667 *10L    00R
        -00000 *10L    00R

10 43+  0 000E 1M3/H 00R
        +00677 *10L    00R
        -00000 *10L    00R

11 43+  0 000E 1M3/H 00R
        +00696 *10L    00R
        -00000 *10L    00R

12:43+  0 012E 1M3/H 00R
        +00707 *10L    00R
        -00000 *10L    00R

13 43+  0 009E 1M3/H 00R
        +00720 *10L    00R
        -00000 *10L    00R

14 43+  0 021E 1M3/H 00R
        +00738 *10L    00R
        -00000 *10L    00R

15 43+  0 017E 1M3/H 00R
        +00760 *10L    00R
        -00000 *10L    00R

16 43+  0 024E 1M3/H 00R
        +00781 *10L    00R
        -00000 *10L    00R

17 43+  0 010E 1M3/H 00R
        +00795 *10L    00R
        -00000 *10L    00R

18:43+  0 018E 1M3/H 00R
        +00812 *10L    00R
        -00000 *10L    00R

19 43+  0 000E 1M3/H 00R
        +00832 *10L    00R
        -00000 *10L    00R

20:43+  0 000E 1M3/H 00R
        +00845 *10L    00R
        -00000 *10L    00R

21:43+  0 012E 1M3/H 00R
        +00857 *10L    00R
        -00000 *10L    00R

22 43+  0 000E 1M3/H 00R
        +00870 *10L    00R
        -00000 *10L    00R

23 43+  0 009E 1M3/H 00R
        +00883 *10L    00R
        -00000 *10L    00

00 43+  0 000E 1M3/H 00R
        +00904 *10L    00R
        -00000 *10L    00R

01 43+  0 011E 1M3/H 00R
        +00907 *10L    00R
        -00000 *10L    00R

02 43+  0 012E 1M3/H 00R
        +00911 *10L    00R
        -00000 *10L    00R

03 43+  0 000E 1M3/H 00R
        +00917 *10L    00R
        -00000 *10L    00R

04 43+  0 000E 1M3/H 00R
        +00922 *10L    00R
        -00000 *10L    00R

05 43+  0 000E 1M3/H 00R
        +00926 *10L    00R
        -00000 *10L    00R

06 43+  0 000E 1M3/H 00R
        +00929 *10L    00R
        -00000 *10L    00R

07 43+  0 000E 1M3/H 00R
        +00938 *10L    00R
        -00000 *10L    00R

08 43+  0 014E 1M3/H 00R
        +00954 *10L    00R
        -00000 *10L    00R

09 43+  0 000E 1M3/H 00R
        +00968 *10L    00R
        -00000 *10L    00R

10 43+  0 000E 1M3/H 00R
        +00986 *10L    00R
        -00000 *10L    00R

11 43+  0 048E 1M3/H 00R
        +01015 *10L    00R
        -00000 *10L    00R

12 43+  0 017E 1M3/H 00R
        +01045 *10L    00R
        -00000 *10L    00R

13 43+  0 011E 1M3/H 00R
        +01058 *10L    00R
        -00000 *10L    00R

05-13 14 3300 *R
+01070  *10L

05-13 14 3300 *R
+01070  *10L

05-13 14 3300 *R
-00000  *10L

START TIME
05-13 14 39
OPERATION TIME
99      HOR

14 39+  0 014E 1M3/H 00R
        +00001 *10L    00R
        -00000 *10L    00R

15 39+  0 027E 1M3/H 00R
        +00018 *10L    00R
        -00000 *10L    00R

16 39+  0 000E 1M3/H 00R
        +00028 *10L    00R
        -00000 *10L    00R

17 39+  0 017E 1M3/H 00R
        +00043 *10L    00R
        -00000 *10L    00R

18 39+  0 013E 1M3/H 00R
        +00059 *10L    00R
        -00000 *10L    00R

19 39+  0 011E 1M3/H 00R
        +00070 *10L    00R
        -00000 *10L    00R

20 39+  0 030E 1M3/H 00R
        +00078 *10L    00R
        -00000 *10L    00R

21 39+  0 017E 1M3/H 00R
        +00322 *10L    00R

22 39+  0 000E 1M3/H 00R
        +00103 *10L    00R
        -00000 *10L    00R

23 39+  0 000E 1M3/H 00R
        +00118 *10L    00R
        -00000 *10L    00R

00 39+  0 011E 1M3/H 00R
        +00132 *10L    00R
        -00000 *10L    00R

01 39+  0 010E 1M3/H 00R
        +00144 *10L    00R
        -00000 *10L    00R

02 39+  0 010E 1M3/H 00R
        +00154 *10L    00R
        -00000 *10L    00R

03 39+  0 000E 1M3/H 00R
        +00164 *10L    00R
        -00000 *10L    00R

04 39+  0 010E 1M3/H 00R
        +00173 *10L    00R
        -00000 *10L    00R

05 39+  0 065E 1M3/H 00R
        +00190 *10L    00R
        -00000 *10L    00R

06:39+  0 000E 1M3/H 00R
        +00211 *10L    00R
        -00000 *10L    00R

07 39+  0 019E 1M3/H 00R
        +00225 *10L    00R
        -00000 *10L    00R

08 39+  0 022E 1M3/H 00R
        +00246 *10L    00R
        -00000 *10L    00R

09 39+  0 021E 1M3/H 00R
        +00263 *10L    00R
        -00000 *10L    00R

10 39+  0 000E 1M3/H 00R
        +00280 *10L    00R
        -00000 *10L    00R

11 39+  0 012E 1M3/H 00R
        +00303 *10L    00R
        -00000 *10L    00R

12 39+  0 019E 1M3/H 00R
        +00320 *10L    00R
        -00000 *10L    00R

13 39-  0 018E 1M3/H 00R
        +00335 *10L    00R
        -00000 *10L    00R

14 39+  0 018E 1M3/H 00R
        +00345 *10L    00R
        -00000 *10L    00R

15 39+  0 012E 1M3/H 00R
        +00358 *10L    00R
        -00000 *10L    00R

16 39+  0 012E 1M3/H 00R
        +00367 *10L    00R
        -00000 *10L    00R

17 39+  0 012E 1M3/H 00R
        +00384 *10L    00R
        -00000 *10L    00R

18 39+  0 012E 1M3/H 00R
        +00398 *10L    00R
        -00000 *10L    00R

19 39+  0 000E 1M3/H 00R
        +00406 *10L    00R
        -00000 *10L    00R

20 39+  0 012E 1M3/H 00R
        +00422 *10L    00R
        -00000 *10L    00R

21 39+  0 000E 1M3/H 00R
        +00438 *10L    00R
        -00000 *10L    00R

22 39+  0 000E 1M3/H 00R
        +00445 *10L    00R
        -00000 *10L    00R
```


BEST AVAILABLE COPY

150

KHMC St.2 CWS

```
23 39+  0 014E 1M3/H 00R
      +00454 *10L    00R
      -00000 *10L    00R

00 39+  0 019E 1M3/H 00R
      +00470 *10L    00R
      -00000 *10L    00R

01 39+  0 009E 1M3/H 00R
      +00486 *10L    00R
      -00000 *10L    00R

02 39+  0 021E 1M3/H 00R
      +00500 *10L    00R
      -00000 *10L    00R

03 39+  0 012E 1M3/H 00R
      +00506 *10L    00R
      -00000 *10L    00R

04 39+  0 014E 1M3/H 00R
      +00521 *10L    00R
      -00000 *10L    00R

05 39+  0 013E 1M3/H 00R
      +00534 *10L    00R
      -00000 *10L    00R

06 39+  0 063E 1M3/H 00R
      +00550 *10L    00R
      -00000 *10L    00R

07 39+  0 000E 1M3/H 00R
      +00568 *10L    00R
      -00000 *10L    00R

08 39+  0 016E 1M3/H 00R
      +00588 *10L    00R
      -00000 *10L    00R

09 39+  0 036E 1M3/H 00R
      +00604 *10L    00R
      -00000 *10L    00R

10 39+  0 015E 1M3/H 00R
      +00617 *10L    00R
      -00000 *10L    00R

11 39+  0 012E 1M3/H 00R
      +00632 *10L    00R
      -00000 *10L    00R

12 39+  0 012E 1M3/H 00R
      +00647 *10L    00R
      -00000 *10L    00R

13 39+  0 015E 1M3/H 00R
      +00662 *10L    00R
      -00000 *10L    00R

14 39+  0 009E 1M3/H 00R
      +00674 *10L    00R
      -00000 *10L    00R

15 39+  0 000E 1M3/H 00R
      +00686 *10L    00R
      -00000 *10L    00R

16 39+  0 028E 1M3/H 00R
      +00697 *10L    00R
      -00000 *10L    00R

17 39+  0 034E 1M3/H 00R
      +00711 *10L    00R
      -00000 *10L    00R

18 39+  0 014E 1M3/H 00R
      +00724 *10L    00R
      -00000 *10L    00R

19 39+  0 000E 1M3/H 00R
      +00735 *10L    00R
      -00000 *10L    00R

20 39+  0 000E 1M3/H 00R
      +00744 *10L    00R
      -00000 *10L    00R

21 39+  0 000E 1M3/H 00R
      +00760 *10L    00R
      -00000 *10L    00R

22 39+  0 019E 1M3/H 00R
      +00771 *10L    00R
      -00000 *10L    00R

23 39+  0 009E 1M3/H 00R
      +00776 *10L    00R
      -00000 *10L    00R

00 39+  0 000E 1M3/H 00R
      +00781 *10L    00R
      -00000 *10L    00R

01:39-  0 009E 1M3/H 00R
      +00782 *10L    00R
      -00000 *10L    00R

02 39+  0 000E 1M3/H 00R
      +00783 *10L    00R
      -00000 *10L    00R

03 39+  0 020E 1M3/H 00R
      +00790 *10L    00R
      -00000 *10L    00R

04 39+  0 017E 1M3/H 00R
      +00804 *10L    00R
      -00000 *10L    00R

05 39+  0 000E 1M3/H 00R
      +00812 *10L    00R
      -00000 *10L    00R

06 39+  0 012E 1M3/H 00R
      +00821 *10L    00R
      -00000 *10L    00R

07 39+  0 014E 1M3/H 00R
      +00832 *10L    00R
      -00000 *10L    00R

08 39+  0 000E 1M3/H 00R
      +00849 *10L    00R
      -00000 *10L    00R

09 39+  0 000E 1M3/H 00R
      +00858 *10L    00R
      -00000 *10L    00R

10 39+  0 055E 1M3/H 00R
      +00862 *10L    00R
      -00000 *10L    00R

11 39+  0 000E 1M3/H 00R
      +00868 *10L    00R
      -00000 *10L    00R

12 39+  0 034E 1M3/H 00R
      +00880 *10L    00R
      -00000 *10L    00R

13:39+  0 000E 1M3/H 00R
      +00883 *10L    00R
      -00000 *10L    00R

14 39+  0 000E 1M3/H 00R
      +00888 *10L    00R
      -00000 *10L    00R

15 39+  0 000E 1M3/H 00R
      +00890 *10L    00R
      -00000 *10L    00R

16 39+  0 013E 1M3/H 00R
      +00891 *10L    00R
      -00000 *10L    00R

17:39+  0 000E 1M3/H 00R
      +00900 *10L    00R
      -00000 *10L    00R

START TIME
05-16 18 25
OPERATION TIME
99      HOR

18 25+  0 000E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

05-16 18 2700 *R
+00000  *10L

19 25+  0 000E 1M3/H 00R
      +00001 *10L    00R
      -00000 *10L    00R

20 25+  0 000E 1M3/H 00R
      +00004 *10L    00R
      -00000 *10L    00R

21 25+  0 000E 1M3/H 00R
      +00006 *10L    00R
      -00000 *10L    00R

22 25+  0 000E 1M3/H 00R
      +00010 *10L    00R
      -00001 *10L    00R

23 25+  0 000E 1M3/H 00R
      +00019 *10L    00R
      -00001 *10L    00R

00 25+  0 000E 1M3/H 00R
      +00026 *10L    00R
      -00001 *10L    00R

01 25+  0 000E 1M3/H 00R
      +00028 *10L    00R
      -00001 *10L    00R

02 25+  0 000E 1M3/H 00R
      +00032 *10L    00R
      -00001 *10L    00R

03 25+  0 000E 1M3/H 00R
      +00034 *10L    00R
      -00001 *10L    00R

04 25+  0 000E 1M3/H 00R
      +00038 *10L    00R
      -00001 *10L    00R

05 25+  0 012E 1M3/H 00R
      +00039 *10L    00R
      -00001 *10L    00R

06 25+  0 000E 1M3/H 00R
      +00045 *10L    00R
      -00001 *10L    00R

07 25+  0 000E 1M3/H 00R
      +00056 *10L    00R
      -00001 *10L    00R

08 25+  0 018E 1M3/H 00R
      +00068 *10L    00R
      -00001 *10L    00R

09 25+  0 000E 1M3/H 00R
      +00078 *10L    00R
      -00001 *10L    00R

10 25+  0 000E 1M3/H 00R
      +00090 *10L    00R
      -00001 *10L    00R

11 25+  0 000E 1M3/H 00R
      +00099 *10L    00R
      -00001 *10L    00R

12 25+  0 000E 1M3/H 00R
      +00114 *10L    00R
      -00001 *10L    00R

13 25+  0 000E 1M3/H 00R
      +00123 *10L    00R
      -00001 *10L    00R

14 25+  0 000E 1M3/H 00R
      +00133 *10L    00R
      -00001 *10L    00R

15 25+  0 000E 1M3/H 00R
      +00139 *10L    00R
      -00001 *10L    00R

16 25+  0 000E 1M3/H 00R
      +00145 *10L    00R
      -00001 *10L    00R

17 25+  0 000E 1M3/H 00R
      +00155 *10L    00R
      -00001 *10L    00R

18 25+  0 011E 1M3/H 00R
      +00158 *10L    00R
      -00001 *10L    00R

19 25+  0 000E 1M3/H 00R
      +00164 *10L    00R
      -00001 *10L    00R

20 25+  0 020E 1M3/H 00R
      +00171 *10L    00R
      -00001 *10L    00R

21 25+  0 014E 1M3/H 00R
      +00174 *10L    00R
      -00001 *10L    00R

22 25+  0 026E 1M3/H 00R
      +00177 *10L    00R
      -00001 *10L    00R

23 25+  0 000E 1M3/H 00R
      +00180 *10L    00R
      -00001 *10L    00R

00 25+  0 000E 1M3/H 00R
      +00184 *10L    00R
      -00001 *10L    00R

01 25+  0 000E 1M3/H 00R
      +00187 *10L    00R
      -00001 *10L    00R

02 25+  0 013E 1M3/H 00R
      +00188 *10L    00R
      -00001 *10L    00R

03 25+  0 000E 1M3/H 00R
      +00190 *10L    00R
      -00001 *10L    00R

04 25+  0 010E 1M3/H 00R
      +00194 *10L    00R
      -00001 *10L    00R

05 25+  0 000E 1M3/H 00R
      +00197 *10L    00R
      -00001 *10L    00R

06 25+  0 000E 1M3/H 00R
      +00206 *10L    00R
      -00001 *10L    00R

07 25+  0 000E 1M3/H 00R
      +00209 *10L    00R
      -00001 *10L    00R

08 25+  0 000E 1M3/H 00R
      +00221 *10L    00R
      -00001 *10L    00R

09 25+  0 000E 1M3/H 00R
      +00228 *10L    00R
      -00001 *10L    00R

10 25+  0 000E 1M3/H 00R
      +00230 *10L    00R
      -00002 *10L    00R

11 25+  0 000E 1M3/H 00R
      +00235 *10L    00R
      -00002 *10L    00R

12 25+  0 000E 1M3/H 00R
      +00236 *10L    00R
      -00002 *10L    00R

13 25+  0 019E 1M3/H 00R
      +00239 *10L    00R
      -00002 *10L    00R

14 25+  0 000E 1M3/H 00R
      +00240 *10L    00R
      -00002 *10L    00R

15 25+  0 000E 1M3/H 00R
      +00244 *10L    00R
      -00003 *10L    00R

16 25+  0 000E 1M3/H 00R
      +00245 *10L    00R
      -00003 *10L    00R

17 25+  0 000E 1M3/H 00R
      +00246 *10L    00R
      -00003 *10L    00R

18 25+  0 000E 1M3/H 00R
      +00248 *10L    00R
      -00003 *10L    00R

19 25+  0 000E 1M3/H 00R
      +00249 *10L    00R
      -00004 *10L    00R

20 25+  0 000E 1M3/H 00R
      +00249 *10L    00R
      -00004 *10L    00R

21 25+  0 000E 1M3/H 00R
      +00251 *10L    00R
      -00004 *10L    00R

22 25+  0 000E 1M3/H 00R
      +00255 *10L    00R
      -00004 *10L    00R

23 25+  0 017E 1M3/H 00R
      +00256 *10L    00R
      -00005 *10L    00R
```


BEST AVAILABLE COPY

0/2

NHMC. St.2. LWS

```
00 25+  0 000E 1M3/H 00R
      +00257 *10L    00R
      -00005 *10L    00R

01 25+  0 000E 1M3/H 00R
      +00257 *10L    00R
      -00005 *10L    00R

02 25+  0 000E 1M3/H 00R
      +00259 *10L    00R
      -00005 *10L    00R

03 25+  0 000E 1M3/H 00R
      +00259 *10L    00R
      -00006 *10L    00R

04 25+  0 000E 1M3/H 00R
      +00259 *10L    00R
      -00006 *10L    00R

05 25+  0 000E 1M3/H 00R
      +00260 *10L    00R
      -00006 *10L    00R

06 25+  0 000E 1M3/H 00R
      +00263 *10L    00R
      -00007 *10L    00R

07 25+  0 000E 1M3/H 00R
      +00271 *10L    00R
      -00008 *10L    00R

08 25+  0 000E 1M3/H 00R
      +00279 *10L    00R
      -00009 *10L    00R

09 25+  0 000E 1M3/H 00R
      +00283 *10L    00R
      -00011 *10L    00R

10 25+  0 000E 1M3/H 00R
      +00288 *10L    00R
      -00011 *10L    00R

11 25+  0 018E 1M3/H 00R
      +00294 *10L    00R
      -00012 *10L    00R

12 25+  0 009E 1M3/H 00R
      +00298 *10L    00R
      -00013 *10L    00R

13 25+  0 000E 1M3/H 00R
      +00300 *10L    00R
      -00014 *10L    00R

14 25+  0 000E 1M3/H 00R
      +00309 *10L    00R
      -00015 *10L    00R

15 25+  0 000E 1M3/H 00R
      +00321 *10L    00R
      -00015 *10L    00R

16 25+  0 000E 1M3/H 00R
      +00323 *10L    00R
      -00017 *10L    00R

18 25+  0 000E 1M3/H 00R
      +00324 *10L    00R
      -00018 *10L    00R

19:25+  0 000E 1M3/H 00R
      +00325 *10L    00R
      -00019 *10L    00R

20 25-  0 010E 1M3/H 00R
      +00328 *10L    00R
      -00020 *10L    00R

21 25+  0 000E 1M3/H 00R
      +00334 *10L    00R
      -00022 *10L    00R

22 25+  0 000E 1M3/H 00R
      +00337 *10L    00R
      -00023 *10L    00R

23:25+  0 000E 1M3/H 00R
      +00339 *10L    00R
      -00025 *10L    00R

00 25+  0 019E 1M3/H 00R
      +00340 *10L    00R
      -00026 *10L    00R

01 25+  0 000E 1M3/H 00R
      +00342 *10L    00R
      -00027 *10L    00R

02 25+  0 000E 1M3/H 00R
      +00343 *10L    00R
      -00027 *10L    00R

03 25+  0 000E 1M3/H 00R
      +00343 *10L    00R
      -00028 *10L    00R

04 25+  0 000E 1M3/H 00R
      +00343 *10L    00R
      -00028 *10L    00R

05 25+  0 000E 1M3/H 00R
      +00346 *10L    00R
      -00029 *10L    00R

06 25+  0 000E 1M3/H 00R
      +00347 *10L    00R
      -00029 *10L    00R

07 25+  0 000E 1M3/H 00R
      +00362 *10L    00R
      -00029 *10L    00R

08 25+  0 000E 1M3/H 00R
      +00371 *10L    00R
      -00030 *10L    00R

09 25+  0 016E 1M3/H 00R
      +00376 *10L    00R
      -00030 *10L    00R

10 25+  0 000E 1M3/H 00R
      +00381 *10L    00R
      -00030 *10L    00R

11 25+  0 000E 1M3/H 00R
      +00384 *10L    00R
      -00031 *10L    00R

12 25+  0 000E 1M3/H 00R
      +00387 *10L    00R
      -00031 *10L    00R

13 25+  0 010E 1M3/H 00R
      +00392 *10L    00R
      -00031 *10L    00R

14 25+  0 000E 1M3/H 00R
      +00394 *10L    00R
      -00031 *10L    00R

STAPT TIME
05-20 14 38
OPERATION TIME
99      HOR

14:38+  0 030E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

15 38+  0 000E 1M3/H 00R
      +00007 *10L    00R
      -00000 *10L    00R

16 38+  0 000E 1M3/H 00R
      +00011 *10L    00R
      -00000 *10L    00R

17:38+  0 000E 1M3/H 00R
      +00015 *10L    00R
      -00001 *10L    00R

18 38+  0 000E 1M3/H 00R
      +00015 *10L    00R
      -00001 *10L    00R

19 38+  0 000E 1M3/H 00R
      +00017 *10L    00R
      -00001 *10L    00R

20 38+  0 000E 1M3/H 00R
      +00020 *10L    00R
      -00002 *10L    00R

21 38+  0 000E 1M3/H 00R
      +00021 *10L    00R
      -00002 *10L    00R

22 38+  0 000E 1M3/H 00R
      +00023 *10L    00R
      -00002 *10L    00R

00 38+  0 000E 1M3/H 00R
      +00026 *10L    00R
      -00003 *10L    00R

01 38+  0 000E 1M3/H 00R
      +00026 *10L    00R
      -00005 *10L    00R

02 38+  0 000E 1M3/H 00R
      +00026 *10L    00R
      -00006 *10L    00R

03 38+  0 000E 1M3/H 00R
      +00028 *10L    00R
      -00006 *10L    00R

04 38+  0 000E 1M3/H 00R
      +00029 *10L    00R
      -00007 *10L    00R

05 38+  0 015E 1M3/H 00R
      +00032 *10L    00R
      -00008 *10L    00R

06 38+  0 000E 1M3/H 00R
      +00034 *10L    00R
      -00009 *10L    00R

07 38+  0 000E 1M3/H 00R
      +00040 *10L    00R
      -00009 *10L    00R

08 38+  0 012E 1M3/H 00R
      +00044 *10L    00R
      -00009 *10L    00R

09 38+  0 000E 1M3/H 00R
      +00056 *10L    00R
      -00009 *10L    00R

10 38+  0 009E 1M3/H 00R
      +00064 *10L    00R
      -00009 *10L    00R

11 38-  0 011E 1M3/H 00R
      +00068 *10L    00R
      -00009 *10L    00R

12 38+  0 000E 1M3/H 00R
      +00072 *10L    00R
      -00009 *10L    00R

13 38+  0 000E 1M3/H 00R
      +00074 *10L    00R
      -00010 *10L    00R

14 38+  0 000E 1M3/H 00R
      +00079 *10L    00R
      -00010 *10L    00R

15 38+  0 000E 1M3/H 00R
      +00084 *10L    00R
      -00010 *10L    00R

16 38+  0 012E 1M3/H 00R
      +00088 *10L    00R
      -00010 *10L    00R

17 38+  0 000E 1M3/H 00R
      +00095 *10L    00R
      -00011 *10L    00R

18 38+  0 000E 1M3/H 00R
      +00099 *10L    00R
      -00011 *10L    00R

19 38+  0 000E 1M3/H 00R
      +00103 *10L    00R
      -00011 *10L    00R

20 38+  0 010E 1M3/H 00R
      +00107 *10L    00R
      -00011 *10L    00R

21 38+  0 000E 1M3/H 00R
      +00107 *10L    00R
      -00011 *10L    00R

22 38+  0 000E 1M3/H 00R
      +00109 *10L    00R
      -00011 *10L    00R

23 38+  0 000E 1M3/H 00R
      +00112 *10L    00R
      -00011 *10L    00R

00 38+  0 000E 1M3/H 00R
      +00113 *10L    00R
      -00011 *10L    00R

01 38+  0 000E 1M3/H 00R
      +00118 *10L    00R
      -00011 *10L    00R

02 38+  0 000E 1M3/H 00R
      +00119 *10L    00R
      -00011 *10L    00R

03 38+  0 000E 1M3/H 00R
      +00120 *10L    00R
      -00012 *10L    00R

04 38+  0 009E 1M3/H 00R
      +00121 *10L    00R
      -00012 *10L    00R

05 38+  0 000E 1M3/H 00R
      +00124 *10L    00R
      -00012 *10L    00R

06 38+  0 000E 1M3/H 00R
      +00133 *10L    00R
      -00012 *10L    00R

07 38+  0 000E 1M3/H 00R
      +00149 *10L    00R
      -00012 *10L    00R

08 38+  0 000E 1M3/H 00R
      +00161 *10L    00R
      -00012 *10L    00R

09 38+  0 000E 1M3/H 00R
      +00163 *10L    00R
      -00012 *10L    00R

10 38+  0 000E 1M3/H 00R
      +00165 *10L    00R
      -00012 *10L    00R

11 38+  0 000E 1M3/H 00R
      +00170 *10L    00R
      -00012 *10L    00R

11 44+  0 018E 1M3/H 00R
      +00171 *10L    00R
      -00012 *10L    00R

11 54+  0 000E 1M3/H 00R
      +00174 *10L    00R
      -00012 *10L    00R

12 54+  0 010E 1M3/H 00R
      +00180 *10L    00R
      -00012 *10L    00R

13 54+  0 000E 1M3/H 00R
      +00184 *10L    00R
      -00012 *10L    00R

14 54+  0 000E 1M3/H 00R
      +00195 *10L    00R
      -00012 *10L    00R

15 54+  0 000E 1M3/H 00R
      +00212 *10L    00R
      -00012 *10L    00R

16 54+  0 000E 1M3/H 00R
      +00221 *10L    00R
      -00012 *10L    00R

17 54+  0 000E 1M3/H 00R
      +00223 *10L    00R
      -00012 *10L    00R

18 54+  0 000E 1M3/H 00R
      +00230 *10L    00R
      -00012 *10L    00R

19 54+  0 000E 1M3/H 00R
      +00232 *10L    00R
      -00012 *10L    00R

20 54+  0 000E 1M3/H 00R
      +00236 *10L    00R
      -00012 *10L    00R

21 54+  0 000E 1M3/H 00R
      +00241 *10L    00R
      -00012 *10L    00R

22 54+  0 000E 1M3/H 00R
      +00241 *10L    00R
      -00012 *10L    00R
```


BEST AVAILABLE COPY

152

HMC 1 of 2 CWS

```
00 54+  0 000E 1M3/H 00R
      +00152 *10L    00R
      -00013 *10L    00R

01 54+  0 009E 1M3/H 00R
      +00253 *10L    00R
      -00013 *10L    00R

02 54+  0 000E 1M3/H 00R
      +00257 *10L    00R
      -00013 *10L    00R

03 54+  0 000E 1M3/H 00R
      +00257 *10L    00R
      -00013 *10L    00R

04 54-  0 009E 1M3/H 00R
      +00258 *10L    00R
      -00013 *10L    00R

05:54+  0 000E 1M3/H 00R
      +00258 *10L    00R
       00013 *10L    00R

06 54+  0 014E 1M3/H 00R
      +00260 *10L    00R
      -00013 *10L    00R

07 54+  0 000E 1M3/H 00R
      +00266 *10L    00R
      -00013 *10L    00R

08 54+  0 018E 1M3/H 00R
      +00277 *10L    00R
      -00013 *10L    00R

09 54+  0 000E 1M3/H 00P
      +00291 *10L    00P
      -00013 *10L    00P

10 54+  0 025E 1M3/H 00P
      +00296 *10L    00P
      -00013 *10L    00P

11 54+  0 042E 1M3/H 00R
      +00312 *10L    00R
       00013 *10L    00R

12 54+  0 000E 1M3/H 00R
      +00320 *10L    00R
      -00013 *10L    00R

13 54+  0 032E 1M3/H 00R
      +00330 *10L    00R
      -00013 *10L    00R

14 54+  0 000E 1M3/H 00R
      +00337 *10L    00R
      -00013 *10L    00R

15 54+  0 046E 1M3/H 00R
      +00350 *10L    00R
      -00013 *10L    00R

16 54+  0 000E 1M3/H 00R
      +00375 *10L    00R
      -00013 *10L    00R

17 54+  0 010E 1M3/H 00R
      +00377 *10L    00R
      -00013 *10L    00R

18 54+  0 000E 1M3/H 00R
      +00386 *10L    00R
      -00013 *10L    00R

19 54+  0 000E 1M3/H 00R
      +00388 *10L    00R
      -00013 *10L    00R

20 54+  0 000E 1M3/H 00R
      +00396 *10L    00R
      -00013 *10L    00R

21 54+  0 014E 1M3/H 00R
      +00402 *10L    00R
      -00013 *10L    00R

22 54+  0 062E 1M3/H 00R
      +00413 *10L    00R
      -00013 *10L    00R

23 54+  0 000E 1M3/H 00R
      +00420 *10L    00R
      -00013 *10L    00R

00 54+  0 000E 1M3/H 00P
      +00424 *10L    00R
      -00013 *10L    00R

01 54+  0 013E 1M3/H 00R
      +00428 *10L    00R
      -00013 *10L    00R

02 54+  0 012E 1M3/H 00R
      +00433 *10L    00R
      -00013 *10L    00R

03 54+  0 000E 1M3/H 00R
      +00436 *10L    00R
      -00013 *10L    00R

04:54+  0 030E 1M3/H 00R
      +00441 *10L    00R
      -00013 *10L    00R

05 54+  0 000E 1M3/H 00R
      +00444 *10L    00R
      -00013 *10L    00R

06:54+  0 000E 1M3/H 00R
      +00449 *10L    00R
      -00014 *10L    00R

07 54+  0 000E 1M3/H 00R
      +00454 *10L    00R
      -00014 *10L    00R

08 54+  0 042E 1M3/H 00R
      +00463 *10L    00R
      -00014 *10L    00R

09 54+  0 000E 1M3/H 00R
      +00472 *10L    00R
      -00014 *10L    00R

10 54+  0 000E 1M3/H 00R
      +00475 *10L    00R
      -00014 *10L    00R

11 54+  0 009E 1M3/H 00R
      +00483 *10L    00R
      -00014 *10L    00R

12 54+  0 010E 1M3/H 00R
      +00487 *10L    00R
      -00014 *10L    00R

13 54+  0 012E 1M3/H 00R
      +00496 *10L    00R
      -00014 *10L    00R

05-24 14 3300 *R
+00502  *10L

05-24 14 3300 *P
-00014  *10L

START TIME
05-24 14 38
OPERATION TIME
99      HOR

14 38+  0 029E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

15 38+  0 000E 1M3/H 00R
      +00004 *10L    00R
      -00000 *10L    00R

16 38+  0 000E 1M3/H 00R
      +00007 *10L    00R
      -00000 *10L    00R

17 38+  0 000E 1M3/H 00R
      +00011 *10L    00P
      -00000 *10L    00R

18 38+  0 000E 1M3/H 00R
      +00014 *10L    00R
      -00000 *10L    00R

19 38+  0 000E 1M3/H 00R
      +00021 *10L    00R
      -00000 *10L    00R

20 38+  0 025E 1M3/H 00R
      +00028 *10L    00R
      -00000 *10L    00R

21 38+  0 000E 1M3/H 00R
      +00030 *10L    00R
      -00000 *10L    00R

22 38+  0 000E 1M3/H 00R
      +00031 *10L    00R
      -00000 *10L    00R

23 38+  0 000E 1M3/H 00R
      +00031 *10L    00R
      -00000 *10L    00R

00 38+  0 000E 1M3/H 00R
      +00039 *10L    00R
      -00000 *10L    00R

01 38+  0 000E 1M3/H 00R
      +00040 *10L    00R
      -00001 *10L    00R

02 38+  0 000E 1M3/H 00R
      +00044 *10L    00R
      -00001 *10L    00R

03 38+  0 000E 1M3/H 00R
      +00045 *10L    00R
      -00001 *10L    00R

04 38+  0 000E 1M3/H 00R
      +00047 *10L    00R
      -00002 *10L    00R

05 38+  0 000E 1M3/H 00R
      +00047 *10L    00R
      -00002 *10L    00R

06 38+  0 000E 1M3/H 00R
      +00049 *10L    00R
      -00002 *10L    00R

07 38+  0 010E 1M3/H 00R
      +00052 *10L    00R
      -00002 *10L    00R

08 38+  0 041E 1M3/H 00R
      +00062 *10L    00R
      -00002 *10L    00R

09 38+  0 000E 1M3/H 00R
      +00071 *10L    00R
      -00002 *10L    00R

10 38+  0 000E 1M3/H 00R
      +00074 *10L    00R
      -00002 *10L    00R

11 38+  0 000E 1M3/H 00R
      +00079 *10L    00R
      -00002 *10L    00R

12 38+  0 000E 1M3/H 00R
      +00082 *10L    00R
      -00002 *10L    00R

13 38+  0 000E 1M3/H 00R
      +00083 *10L    00R
      -00002 *10L    00R

14 38+  0 000E 1M3/H 00R
      +00085 *10L    00R
      -00002 *10L    00R

15 38+  0 010E 1M3/H 00R
      +00089 *10L    00R
      -00002 *10L    00R

16 38+  0 000E 1M3/H 00R
      +00094 *10L    00R
      -00002 *10L    00R

17 38+  0 000E 1M3/H 00R
      +00096 *10L    00R
      -00002 *10L    00R

18 38+  0 000E 1M3/H 00R
      +00097 *10L    00R
      -00002 *10L    00R

19 38+  0 000E 1M3/H 00R
      +00098 *10L    00R
      -00002 *10L    00R

20 38+  0 000E 1M3/H 00R
      +00102 *10L    00R
      -00002 *10L    00R

21 38+  0 000E 1M3/H 00R
      +00104 *10L    00R
      -00002 *10L    00R

22 38+  0 000E 1M3/H 00R
      +00106 *10L    00R
      -00002 *10L    00R

23 38+  0 000E 1M3/H 00R
      +00107 *10L    00R
      -00000 *10L    00R

00 38+  0 000E 1M3/H 00R
      +00111 *10L    00R
      -00003 *10L    00R

01 38+  0 000E 1M3/H 00R
      +00113 *10L    00R
      -00003 *10L    00R

02 38+  0 000E 1M3/H 00R
      +00114 *10L    00R
      -00003 *10L    00R

03 38+  0 000E 1M3/H 00R
      +00115 *10L    00R
      -00003 *10L    00R

04 38+  0 000E 1M3/H 00R
      +00122 *10L    00R
      -00003 *10L    00R

05 38+  0 000E 1M3/H 00R
      +00124 *10L    00R
      -00003 *10L    00R

06 38+  0 000E 1M3/H 00R
      +00126 *10L    00R
      -00003 *10L    00R

07 38+  0 015E 1M3/H 00R
      +00133 *10L    00R
      -00003 *10L    00R

08 38+  0 000E 1M3/H 00R
      +00143 *10L    00R
      -00003 *10L    00R

09 38+  0 000E 1M3/H 00R
      +00156 *10L    00P
      -00003 *10L    00P

10 38+  0 000E 1M3/H 00P
      +00164 *10L    00P
      -00003 *10L    00P

11 38+  0 000E 1M3/H 00P
      +00171 *10L    00P
      -00003 *10L    00P

12 38+  0 000E 1M3/H 00P
      +00180 *10L    00P
      -00003 *10L    00P

13 38+  0 000E 1M3/H 00R
      +00187 *10L    00R
      -00003 *10L    00R

14 38+  0 000E 1M3/H 00R
      +00195 *10L    00R
      -00003 *10L    00R

15 38+  0 000E 1M3/H 00R
      +00207 *10L    00R
      -00003 *10L    00R

16 38+  0 000E 1M3/H 00R
      +00211 *10L    00R
      -00003 *10L    00R

17 38+  0 000E 1M3/H 00R
      +00216 *10L    00R
      -00003 *10L    00R

18 38+  0 011E 1M3/H 00R
      +00222 *10L    00R
      -00003 *10L    00R

19 38+  0 017E 1M3/H 00R
      +00237 *10L    00R
      -00003 *10L    00R

20 38+  0 015E 1M3/H 00R
      +00255 *10L    00R
      -00003 *10L    00R

21 38+  0 020E 1M3/H 00R
      +00270 *10L    00R
      -00003 *10L    00R

22 38+  0 000E 1M3/H 00R
      +00281 *10L    00R
      -00003 *10L    00R

23 38+  0 010E 1M3/H 00R
      +00292 *10L    00R
      -00003 *10L    00R
```


BEST AVAILABLE COPY

123

KHMC St 2 CWS

V/2

```
00 38+  0 315E 1M3 H 00R
        +00 03 *10L    00R
        -00003 *10L    00R

01 38+  0 000E 1M3/H 00R
        +00309 *10L    00R
        -00003 *10L    00R

02 38+  0 000E 1M3/H 00R
        +00319 *10L    00R
        -00003 *10L    00R

03 38+  0 011E 1M3/H 00R
        +00325 *10L    00R
        -00003 *10L    00R

04 38+  0 000E 1M3/H 00R
        +00336 *10L    00R
        -00003 *10L    00R

05 38+  0 000E 1M3/H 00R
        +00344 *10L    00R
        -00003 *10L    00R

06 38+  0 000E 1M3/H 00R
        +00356 *10L    00R
        -00003 *10L    00R

07 38+  0 000E 1M3/H 00R
        +00365 *10L    00R
        -00003 *10L    00R

08 38+  0 012E 1M3/H 00R
        +00378 *10L    00R
        -00003 *10L    00R

09 38+  0 000E 1M3/H 00R
        +00389 *10L    00R
        -00003 *10L    00R

10 38+  0 000E 1M3/H 00R
        +00395 *10L    00P
        -00003 *10L    00P

11 38+  0 028E 1M3/H 00R
        +00404 *10L    00R
        -00003 *10L    00P

12 38+  0 000E 1M3/H 00P
        +00415 *10L    00P
        -00003 *10L    00P

13 38+  0 021E 1M3/H 00P
        +00427 *10L    00P
        -00003 *10L    00P

14 38+  0 000E 1M3/H 00R
        +00439 *10L    00R
        -00003 *10L    00R

15 38+  0 024E 1M3/H 00R
        +00450 *10L    00R
        -00003 *10L    00R

16 38+  0 000E 1M3/H 00R
        +00459 *10L    00R
        -00003 *10L    00R

17 38+  0 012E 1M3/H 00R
        +00475 *10L    00R
        -00003 *10L    00R

18 38+  0 012E 1M3/H 00R
        +00478 *10L    00R
        -00003 *10L    00R

19 38+  0 000E 1M3/H 00R
        +00484 *10L    00R
        -00003 *10L    00R

20 38+  0 009E 1M3/H 00R
        +00492 *10L    00R
        -00003 *10L    00R

21 38+  0 012E 1M3/H 00R
        +00499 *10L    00R
        -00003 *10L    00R

22 38+  0 022E 1M3/H 00R
        +00505 *10L    00R
        -00003 *10L    00R

23 38+  0 000E 1M3/H 00R
        +00515 *10L    00R
        -00000 *10L    00R
```

```
00 39+  0 000E 1M3/H 00R
        +00521 *10L    00R
        -00003 *10L    00R

01 38+  0 000E 1M3/H 00R
        +00532 *10L    00R
        -00003 *10L    00R

02 38+  0 000E 1M3/H 00R
        +00534 *10L    00R
        -00003 *10L    00R

03 38+  0 000E 1M3/H 00R
        +00536 *10L    00R
        -00003 *10L    00R

04 38+  0 000E 1M3/H 00R
        +00537 *10L    00R
        -00004 *10L    00R

05 38+  0 000E 1M3/H 00R
        +00539 *10L    00R
        -00004 *10L    00R

06 38+  0 000E 1M3/H 00R
        +00541 *10L    00R
        -00005 *10L    00R

07 38+  0 000E 1M3/H 00R
        +00550 *10L    00R
        -00005 *10L    00R

08 38+  0 012E 1M3/H 00R
        +00560 *10L    00R
        -00005 *10L    00R

09 38+  0 000E 1M3/H 00R
        +00574 *10L    00R
        -00005 *10L    00R

10 39+  0 009E 1M3/H 00R
        +00589 *10L    00R
        -00005 *10L    00R
```

START TIME
05-28 11 40
OPERATION TIME
99 HOR

```
11 40+  0 030E 1M3/H 00R
        +00000 *10L    00R
        -00000 *10L    00R

12 40+  0 012E 1M3/H 00R
        +00020 *10L    00R
        -00000 *10L    00R

13 40+  0 000E 1M3/H 00R
        +00033 *10L    00R
        -00000 *10L    00R

14 40+  0 000E 1M3/H 00R
        +00050 *10L    00R
        -00000 *10L    00R

15 40+  0 000E 1M3/H 00R
        +00070 *10L    00R
        -00000 *10L    00R

16 40+  0 000E 1M3/H 00R
        +00080 *10L    00R
        -00000 *10L    00R

17 40+  0 000E 1M3/H 00R
        +00103 *10L    00R
        -00000 *10L    00R

18 40+  0 000E 1M3/H 00R
        +00110 *10L    00R
        -00000 *10L    00R

19 40+  0 038E 1M3/H 00R
        +00119 *10L    00R
        -00000 *10L    00R

20 40+  0 017E 1M3/H 00R
        +00137 *10L    00R
        -00000 *10L    00R

21 40+  0 000E 1M3/H 00R
        +00154 *10L    00R
        -00000 *10L    00R

22 40+  0 019E 1M3/H 00R
        +00161 *10L    00R
        -00000 *10L    00R

23 40+  0 010E 1M3/H 00R
```

```
00 40+  0 009E 1M3/H 00R
        +00173 *10L    00R
        -00000 *10L    00R

01 40+  0 009E 1M3/H 00R
        +00177 *10L    00R
        -00000 *10L    00R

02 40+  0 011E 1M3/H 00R
        +00183 *10L    00R
        -00000 *10L    00R

03 40+  0 015E 1M3/H 00R
        +00195 *10L    00R
        -00000 *10L    00R

04 40+  0 000E 1M3/H 00R
        +00202 *10L    00R
        -00000 *10L    00R

05 40+  0 010F 1M3/H 00R
        +00212 *10L    00R
        -00000 *10L    00R

06 40+  0 000E 1M3/H 00R
        +00215 *10L    00R
        -00000 *10L    00R

07 40+  0 000E 1M3/H 00R
        +00221 *10L    00R
        -00000 *10L    00R

08 40+  0 015E 1M3/H 00R
        +00230 *10L    00R
        -00000 *10L    00R

09 40+  0 016E 1M3/H 00R
        +00242 *10L    00R
        -00000 *10L    00R

10 40+  0 000E 1M3/H 00R
        +00249 *10L    00R
        -00000 *10L    00R

11 40+  0 000E 1M3/H 00R
        +00263 *10L    00R
        -00000 *10L    00R

12 40+  0 000E 1M3/H 00P
        +00270 *10L    00P
        -00000 *10L    00P

13 40+  0 000E 1M3/H 00R
        +00277 *10L    00P
        -00000 *10L    00P

14 40+  0 032E 1M3/H 00R
        +00288 *10L    00R
        -00000 *10L    00R

15 40+  0 000E 1M3/H 00R
        +00298 *10L    00R
        -00000 *10L    00R

16 40+  0 031E 1M3/H 00R
        +00302 *10L    00R
        -00000 *10L    00R

17 40+  0 000E 1M3/H 00R
        +00310 *10L    00R
        -00000 *10L    00R

18 40+  0 000E 1M3/H 00R
        +00317 *10L    00R
        -00000 *10L    00R

19 40+  0 000E 1M3/H 00R
        +00322 *10L    00R
        -00000 *10L    00R

20 40+  0 000E 1M3/H 00R
        +00332 *10L    00R
        -00000 *10L    00R

21 40+  0 000E 1M3/H 00R
        +00337 *10L    00R
        -00000 *10L    00R

22 40+  0 000E 1M3/H 00R
        +00342 *10L    00R
        -00000 *10L    00R

23 40+  0 011E 1M3/H 00R
        +00346 *10L    00R
        -00000 *10L    00R
```

```
00 40+  0 000E 1M3/H 00R
        +00356 *10L    00R
        -00001 *10L    00R

01 40+  0 000E 1M3/H 00R
        +00358 *10L    00R
        -00001 *10L    00R

02 40+  0 000E 1M3/H 00R
        +00362 *10L    00R
        -00001 *10L    00R

03 40+  0 000E 1M3/H 00R
        +00365 *10L    00R
        -00001 *10L    00R

04 40+  0 000E 1M3/H 00R
        +00370 *10L    00R
        -00001 *10L    00R

05 40+  0 000E 1M3/H 00R
        +00372 *10L    00R
        -00001 *10L    00R

06 40+  0 024E 1M3/H 00R
        +00377 *10L    00R
        -00001 *10L    00R

07 40+  0 000E 1M3/H 00R
        +00384 *10L    00R
        -00001 *10L    00R

08 40+  0 012E 1M3/H 00R
        +00393 *10L    00R
        -00001 *10L    00R

09 40+  0 000E 1M3/H 00R
        +00403 *10L    00R
        -00001 *10L    00R

10 40+  0 016E 1M3/H 00R
        +00407 *10L    00R
        -00001 *10L    00R

11 40+  0 012E 1M3/H 00R
        +00417 *10L    00R
        -00001 *10L    00R

12 40+  0 000E 1M3/H 00R
        +00421 *10L    00R
        -00001 *10L    00R

13 40+  0 016E 1M3/H 00R
        +00427 *10L    00R
        -00001 *10L    00R

14 40+  0 000E 1M3/H 00R
        +00432 *10L    00R
        -00001 *10L    00R

15 40+  0 000E 1M3/H 00R
        +00439 *10L    00R
        -00001 *10L    00R

16 40+  0 000E 1M3/H 00R
        +00442 *10L    00R
        -00001 *10L    00R

17 40+  0 031E 1M3/H 00R
        +00451 *10L    00R
        -00001 *10L    00R

18 40+  0 011E 1M3/H 00R
        +00461 *10L    00R
        -00001 *10L    00R

19 40+  0 000E 1M3/H 00R
        +00466 *10L    00R
        -00001 *10L    00R

20 40+  0 016E 1M3/H 00R
        +00478 *10L    00R
        -00001 *10L    00R

21 40+  0 022E 1M3/H 00R
        +00486 *10L    00R
        -00001 *10L    00R

22 40+  0 066E 1M3/H 00R
        +00496 *10L    00R
        -00001 *10L    00R

23 40+  0 000E 1M3/H 00R
        +00504 *10L    00R
        -00001 *10L    00R
```


BEST AVAILABLE COPY

154

A/2

KHMC St.2 CWS

```
00 40+  0 013E 1M3/H 00R
      +00515 *10L    00R
      -00001 *10L    00R

01 40+  0 014E 1M3/H 00R
      +00525 *10L    00R
      -00001 *10L    00R

02:40+  0 013E 1M3/H 00R
      +00535 *10L    00R
      -00001 *10L    00R

03 40+  0 000E 1M3/H 00R
      +00540 *10L    00R
      -00001 *10L    00R

04 40+  0 012E 1M3/H 00R
      +00548 *10L    00R
      -00001 *10L    00R

05 40+  0 011E 1M3/H 00R
      +00555 *10L    00R
      -00001 *10L    00R

06 40+  0 000E 1M3/H 00R
      +00559 *10L    00R
      -00001 *10L    00R

07 28+  0 018E 1M3/H 00R
      +00561 *10L    00R
      -00001 *10L    00R

08 28+  0 000E 1M3/H 00R
      +00569 *10L    00R
      -00001 *10L    00R

09 28+  0 000E 1M3/H 00R
      +00582 *10L    00R
      -00001 *10L    00R

10 28+  0 034E 1M3/H 00R
      +00593 *10L    00R
      -00001 *10L    00R

11:28+  0 010E 1M3/H 00R
      +00601 *10L    00R
      -00001 *10L    00R
```


155

PHILADELPHI HOTEL COLD WATER SUPPLY

```
INTEG UNIT
        *10L

INTEG START
        AUTO

START TIME
03-21 16:40
OPERATION TIME
99      HOR

PRT PERIOD
60      MIN

PRT UNIT M3/H
        NO

PRT UNIT M3/M
        NO

PRT UNIT M3/S
        YES

PRT UNIT M/S
        NO

PRT UNIT INTEG
        YES

PRT UNIT AI1
        NO

PRT UNIT AI2
        NO

START TIME
03-21 16:45

OPERATION TIME
99      HOR

16 45+  0 000E-3M3/S 00R
      +00000 *10L    00R
      -00000 *10L    00R

MODE SELECT
        DATA SET

DATA SET MODE
?       FACTOR

SCALE FACTOR
100 00

MODE SELECT
        DATA SET

DATA SET MODE
?       UNIT

SELECT UNIT
?       METRIC

16 50+  0 061E-3M3/S 00R
      +00001 *10L    00R
      -00000 *10L    00R

PRT PERIOD
60      MIN

PRT UNIT M3/H
        NO

PRT UNIT M3/M
        NO
PRT UNIT M3/S
        YES

PRT UNIT M/S
        NO

PRT UNIT INTEG
        YES

PRT UNIT AI1
        NO

PRT UNIT AI2
        NO

START TIME
03-21 16:55
OPERATION TIME
99      HOR

16 55+  0 000E-3M3/S 00R
      +00001 *10L    00R
      -00000 *10L    00R

03-21 17 16[illegible] *P
+  0 000E 0M/S

17 55+  0 000E-3M3/S 00P
      +00003 *10L    00R
      -00002 *10L    00R

18 55+  0.104E-3M3/S 00R
      +00012 *10L    00R
      -00003 *10L    00R

19:55+  0 000E-3M3/S 00R
      +00015 *10L    00R
      -00005 *10L    00R

20:55-  0 027E-3M3/S 00R
      +00015 *10L    00R
      -00011 *10L    00R

21 55+  0 095E-3M3/S 00R
      +00022 *10L    00R
      -00012 *10L    00R

22 55-  0 068E-3M3/S 00R
      +00027 *10L    00R
      -00013 *10L    00R

23:55+  0 000E-3M3/S 00R
      +00037 *10L    00R
      -00015 *10L    00R

00 55-  0 031E-3M3/S 00R
      +00038 *10L    00R
      -00018 *10L    00R

01 55-  0 040E-3M3/S 00R
      +00038 *10L    00R
      -00026 *10L    00R

02 55-  0 031E-3M3/S 00R
      +00039 *10L    00R
      -00033 *10L    00R

03 55-  0 027E-3M3/S 00R
      +00039 *10L    00R
      -00041 *10L    00R

04:55+  0 000E-3M3/S 00R
      +00041 *10L    00R
      -00049 *10L    00R

05 55+  0 000E-3M3/S 00R
      +00048 *10L    00R
      -00050 *10L    00R

06 55-  0 031E-3M3/S 00R
      +00056 *10L    00R
      -00051 *10L    00R

07 55+  0 000E-3M3/S 00R
      +00061 *10L    00R
      -00054 *10L    00R

08 55-  0 029E-3M3/S 00R
      +00066 *10L    00R
      -00059 *10L    00R

09 55+  0 000E-3M3/S 00R
      +00069 *10L    00R
      -00062 *10L    00R

10 55-  0 054E-3M3/S 00R
      +00071 *10L    00R
      -00067 *10L    00R

11 55+  0 000E-3M3/S 00R
      +00076 *10L    00R
      -00070 *10L    00R

12 55-  0 027E-3M3/S 00R
      +00077 *10L    00R
      -00073 *10L    00R

13 55+  0 000E-3M3/S 00R
      +00078 *10L    00R
      -00078 *10L    00R

14:55+  0 000E-3M3/S 00R
      +00089 *10L    00R
      -00080 *10L    00R

15:55+  0 000E-3M3/S 00R
      +00092 *10L    00R
      -00083 *10L    00R

16:55+  0.000E-3M3/S 00R
      +00092 *10L    00R
      -00086 *10L    00R

17 55+  0 000E-3M3/S 00R
      +00095 *10L    00R
      -00088 *10L    00P

18 55+  0 000E-3M3/S 00P
      +00097 *10L    00P

19 55+  0 000E-3M3/S 00R
      +00109 *10L    00R
      -00090 *10L    00R

20 55-  0 031E-3M3/S 00R
      +00114 *10L    00R
      -00091 *10L    00R

21 55+  0 000E-3M3/S 00R
      +00117 *10L    00R
      -00095 *10L    00R

22 55+  0 000E-3M3/S 00R
      +00122 *10L    00R
      -00095 *10L    00R

23 55+  0 000E-3M3/S 00R
      +00126 *10L    00R
      -00096 *10L    00R

00 55-  0 025E-3M3/S 00R
      +00127 *10L    00R
      -00098 *10L    00R

01 55-  0 027E-3M3/S 00R
      +00127 *10L    00R
      -00104 *10L    00R

02 55-  0 025E-3M3/S 00R
      +00127 *10L    00R
      -00112 *10L    00R

03 55+  0 000E-3M3/S 00R
      +00127 *10L    00R
      -00119 *10L    00R

04:55+  0 000E-3M3/S 00R
      +00127 *10L    00R
      -00127 *10L    00R

05 55+  0 000E-3M3/S 00R
      +00129 *10L    00R
      -00133 *10L    00R

06 55+  0 079E-3M3/S 00R
      +00146 *10L    00R
      -00133 *10L    00R

07 55+  0 045E-3M3/S 00R
      +00154 *10L    00R
      -00134 *10L    00R

08 55+  0 000E-3M3/S 00R
      +00157 *10L    00R
      -00135 *10L    00R

09 55+  0 000E-3M3/S 00R
      +00162 *10L    00R
      -00139 *10L    00R

10 55+  0 000E-3M3/S 00R
      +00165 *10L    00R
      -00142 *10L    00R

03-23 11 4300 *R
+00167  *10L

11 55+  0 000E-3M3/S 00R
      +00167 *10L    00R
      -00145 *10L    00R

12 55+  0 000E-3M3/S 00R
      +00167 *10L    00R
      -00148 *10L    00R

13 55+  0 057E-3M3/S 00R
      +00171 *10L    00R
      -00151 *10L    00R

14 55+  0 000E-3M3/S 00R
      +00173 *10L    00R
      -00153 *10L    00R

15 55+  0 000E-3M3/S 00R
      +00179 *10L    00P
      -00155 *10L    00R

16 55-  0 025E-3M3/S 00R
      +00179 *10L    00R
      -00160 *10L    00R

17 55+  0 025E-3M3/S 00R
      +00183 *10L    00R
      -00162 *10L    00R

18 55+  0 000E-3M3/S 00R
      +00188 *10L    00R
      -00163 *10L    00R

19:55+  0 000E-3M3/S 00R
      +00191 *10L    00R
      -00165 *10L    00R

20 55-  0 031E-3M3/S 00R
      +00192 *10L    00R
      -00167 *10L    00R

21 55+  0 000E-3M3/S 00R
      +00192 *10L    00R
      -00175 *10L    00R

22:55+  0 000E-3M3/S 00R
      +00196 *10L    00R
      -00178 *10L    00R

23 55+  0 000E-3M3/S 00R
      +00206 *10L    00R
      -00178 *10L    00R

00 55+  0 000E-3M3/S 00R
      +00208 *10L    00R
      -00180 *10L    00R

01 55-  0 029E-3M3/S 00R
      +00208 *10L    00R
      -00185 *10L    00R

02 55-  0 027E-3M3/S 00R
      +00208 *10L    00R
      -00192 *10L    00R

03 55-  0 029E-3M3/S 00R
      +00208 *10L    00R
      -00199 *10L    00R

04 55-  0 038E-3M3/S 00R
      +00208 *10L    00R
      -00206 *10L    00R

05 55+  0 000E-3M3/S 00R
      +00208 *10L    00R
      -00212 *10L    00R

06 55+  0 000E-3M3/S 00P
      +00221 *10L    00P
      -00213 *10L    00R

07 55+  0 145E-3M3/S 00P
      +00233 *10L    00P
      -00214 *10L    00P

08 55+  0 000E-3M3/S 00P
      +00247 *10L    00P
      -00214 *10L    00P

09 55+  0 218E-3M3/S 00P
      +00253 *10L    00P
      -00216 *10L    00P

10 55+  0 000E-3M3/S 00P
      +00275 *10L    00P
      -00216 *10L    00P

11 55+  0 000E-3M3/S 00P
      +00279 *10L    00R
      -00216 *10L    00R

12 55+  0 000E-3M3/S 00R
      +00281 *10L    00R
      -00218 *10L    00R

13 55+  0 054E-3M3/S 00R
      +00291 *10L    00R
      -00218 *10L    00R

14 55+  0 000E-3M3/S 00R
      +00293 *10L    00R
      -00218 *10L    00R

15 55+  0 000E-3M3/S 00P
      +00295 *10L    00R
      -00219 *10L    00R

16 55+  0 000E-3M3/S 00R
      +00295 *10L    00R
      -00221 *10L    00R

17 55+  0 000E-3M3/S 00R
      +00301 *10L    00R
      -00221 *10L    00R

18 55+  0 000E-3M3/S 00R
      +00303 *10L    00P
      -00221 *10L    00R

19 55+  0 000E-3M3/S 00R
      +00310 *10L    00R
      -00222 *10L    00R

20 55+  0 000E-3M3/S 00R
      +00317 *10L    00R
      -00222 *10L    00R

21 5[illegible]+  0 000E-3M3/S 00R
      +00322 *10L    00R
```


BEST AVAILABLE COPY

156

```
22 55+  0 000E-3M3/S 00R
      +00325 *10L    00R
      -00222 *10L    00R

23 55+  0 000E-3M3/S 00R
      +00332 *10L    00R
      -00222 *10L    00R

00 55+  0 000E-3M3/S 00R
      +00335 *10L    00R
      -00223 *10L    00R

01 55+  0 000E-3M3/S 00R
      +00335 *10L    00R
      -00223 *10L    00R

02 55+  0 000E-3M3/S 00R
      +00337 *10L    00R
      -00223 *10L    00R

03 55+  0 000E-3M3/S 00R
      +00338 *10L    00R
      -00224 *10L    00R

04 55+  0 000E-3M3/S 00R
      +00342 *10L    00R
      -00224 *10L    00R

05 55+  0 081E-3M3/S 00R
      +00352 *10L    00R
      -00226 *10L    00R

06 55+  0 093E-3M3/S 00R
      +00366 *10L    00R
      -00226 *10L    00R

07 55+  0 000E-3M3/S 00R
      +00384 *10L    00R
      -00226 *10L    00R

08 55+  0 025E-3M3/S 00R
      +00393 *10L    00R
      -00226 *10L    00R

09 55+  0 000E-3M3/S 00R
      +00405 *10L    00R
      -00226 *10L    00R

10 55+  0 136E-3M3/S 00R
      +00412 *10L    00R
      -00226 *10L    00R

11 55+  0 000E-3M3/S 00R
      +00422 *10L    00R
      -00226 *10L    00R

12 55+  0 000E-3M3/S 00R
      +00425 *10L    00R
      -00228 *10L    00R

13 55+  0 079E-3M3/S 00R
      +00431 *10L    00R
      -00229 *10L    00R

14 55+  0 125E-3M3/S 00R
      +00441 *10L    00R
      -00230 *10L    00R

15 55+  0 000E-3M3/S 00R
      +00443 *10L    00R
      -00231 *10L    00R

16 55+  0 000E-3M3/S 00R
      +00445 *10L    00R
      -00232 *10L    00R

17 55+  0 186E-3M3/S 00R
      +00446 *10L    00R
      -00232 *10L    00R

18 55+  0 000E-3M3/S 00R
      +00449 *10L    00R
      -00232 *10L    00R

19 55+  0 000E-3M3/S 00R
      +00450 *10L    00R
      -00232 *10L    00R

17:25+  0.000E-3M3/S 00R
      +00000 *10L    00R
      -00000 *10L    00R

18 25+  0 000E-3M3/S 00R
      +00008 *10L    00R
      -00000 *10L    00R

19 25+  0 000E-3M3/S 00R
      +00010 *10L    00R
      -00000 *10L    00R

20 25+  0 000E-3M3/S 00R
      +00016 *10L    00R
      -00000 *10L    00R

21 25+  0 000E-3M3/S 00R
      +00018 *10L    00R
      -00001 *10L    00R

22 25+  0 000E-3M3/S 00R
      +00020 *10L    00R
      -00001 *10L    00R

23 25+  0 000E-3M3/S 00R
      +00033 *10L    00R
      -00001 *10L    00R

00 25+  0 000E-3M3/S 00R
      +00038 *10L    00R
      -00001 *10L    00R

01 25+  0 000E-3M3/S 00R
      +00039 *10L    00R
      -00001 *10L    00R

02 25+  0 000E-3M3/S 00R
      +00039 *10L    00R
      -00002 *10L    00R

03:25+  0 000E-3M3/S 00R
      +00039 *10L    00R
      -00002 *10L    00R

04 25+  0 000E-3M3/S 00R
      +00039 *10L    00R
      -00002 *10L    00R

05 25+  0 000E-3M3/S 00R
      +00040 *10L    00R
      -00002 *10L    00R

06 25+  0 000E-3M3/S 00R
      +00052 *10L    00R
      -00002 *10L    00R

07:25+  0 027E-3M3/S 00R
      +00071 *10L    00R
      -00002 *10L    00R

08 25+  0 000E-3M3/S 00R
      +00087 *10L    00R
      -00002 *10L    00R

09 25+  0 000E-3M3/S 00R
      +00095 *10L    00R
      -00002 *10L    00R

10 25+  0 000E-3M3/S 00R
      +00099 *10L    00R
      -00004 *10L    00R

11 25+  0 000E-3M3/S 00R
      +00101 *10L    00R
      -00004 *10L    00R

03-27 12:0300 *R
+00115  *10L

12:25+  0 034E-3M3/S 00R
      +00110 *10L    00R
      -00011 *10L    00R

13 25+  0 000E-3M3/S 00R
      +00128 *10L    00R
      -00011 *10L    00R

14:25+  0 097E-3M3/S 00R
      +00139 *10L    00R
      -00011 *10L    00R

15 25+  0 000E-3M3/S 00R
      +00150 *10L    00R
      -00011 *10L    00R

16 25+  0 034E-3M3/S 00R
      +00161 *10L    00R
      -00011 *10L    00R

17 25+  0 000E-3M3/S 00R
      +00175 *10L    00R
      -00011 *10L    00R

18 25+  0 084E-3M3/S 00R
      +00199 *10L    00R
      -00011 *10L    00R

19 25+  0 025E-3M3/S 00R
      +00216 *10L    00R
      -00011 *10L    00R

20 25+  0 027E-3M3/S 00R
      +00228 *10L    00R
      -00011 *10L    00R

21 25+  0 034E-3M3/S 00R
      +00244 *10L    00R
      -00011 *10L    00R

22 25+  0 170E-3M3/S 00R
      +00259 *10L    00R
      -00011 *10L    00R

23 25+  0 034E-3M3/S 00R
      +00278 *10L    00R
      -00011 *10L    00R

00 25+  0 029E-3M3/S 00R
      +00292 *10L    00R
      -00011 *10L    00R

01 25+  0 070E-3M3/S 00R
      +00302 *10L    00R
      -00011 *10L    00R

02:25+  0 109E-3M3/S 00R
      +00313 *10L    00R
      -00011 *10L    00R

03 25+  0 000E-3M3/S 00R
      +00322 *10L    00R
      -00011 *10L    00R

04 25+  0 025E-3M3/S 00R
      +00326 *10L    00R
      -00011 *10L    00R

05 25+  0 100E-3M3/S 00R
      +00336 *10L    00R
      -00011 *10L    00R

06 25+  0 179E-3M3/S 00R
      +00371 *10L    00R
      -00011 *10L    00R

07 25+  0 036E 3M3/S 00R
      +00403 *10L    00R
      -00011 *10L    00R

08 25+  0.000E-3M3/S 00R
      +00425 *10L    00R
      -00011 *10L    00R

09 25+  0 027E-3M3/S 00R
      +00438 *10L    00R
      -00011 *10L    00R

10 25+  0 036E-3M3/S 00R
      +00463 *10L    00R
      -00011 *10L    00R

11:25+  0 045E-3M3/S 00R
      +00477 *10L    00R
      -00011 *10L    00R

12 25+  0 029E-3M3/S 00R
      +00484 *10L    00R
      -00011 *10L    00R

13 25+  0 000E-3M3/S 00R
      +00496 *10L    00R
      -00011 *10L    00R

14 25+  0 038E-3M3/S 00R
      +00503 *10L    00R
      -00011 *10L    00R

15 25+  0 031E-3M3/S 00R
      +00518 *10L    00R
      -00011 *10L    00R

16 25+  0 029E-3M3/S 00R
      +00529 *10L    00R
      -00011 *10L    00R

17 25+  0 040E-3M3/S 00R
      +00537 *10L    00R
      -00011 *10L    00R

18 25+  0 066E-3M3/S 00R
      +00545 *10L    00R
      -00011 *10L    00R

19 25+  0 036E-3M3/S 00R
      +00562 *10L    00R

20 25+  0 025E-3M3/S 00R
      +00571 *10L    00R
      -00011 *10L    00R

21 25+  0 122E-3M3/S 00R
      +00582 *10L    00R
      -00011 *10L    00R

22:25+  0 104E-3M3/S 00R
      +00598 *10L    00R
      -00011 *10L    00R

23 25+  0 040E-3M3/S 00R
      +00615 *10L    00R
      -00011 *10L    00R

00 25+  0 040E-3M3/S 00R
      +00631 *10L    00R
      -00011 *10L    00P

01 25+  0 052E-3M3/S 00R
      +00643 *10L    00R
      -00011 *10L    00R

02 25+  0 027E-3M3/S 00P
      +00654 *10L    00P
      -00011 *10L    00P

03 25+  0 040E-3M3/S 00P
      +00664 *10L    00P
      -00011 *10L    00P

04 25+  0 047E-3M3/S 00P
      +00680 *10L    00P
      -00011 *10L    00P

05 25+  0 047E-3M3/S 00P
      +00701 *10L    00P
      -00011 *10L    00P

06 25+  0 177E-3M3/S 00R
      +00715 *10L    00R
      -00011 *10L    00R

07 25+  0 036E-3M3/S 00R
      +00741 *10L    00R
      -00011 *10L    00R

08 25+  0 084E-3M3/S 00R
      +00761 *10L    00R
      -00011 *10L    00P

09:25+  0 000E-3M3/S 00R
      +00776 *10L    00R
      -00011 *10L    00R

10 25+  0 141E-3M3/S 00R
      +00788 *10L    00R
      -00011 *10L    00R

11 25+  0 000E-3M3/S 00R
      +00806 *10L    00R
      -00011 *10L    00R

12 25+  0 040E-3M3/S 00R
      +00816 *10L    00R
      -00011 *10L    00R

START TIME
03-29 17 14
OPERATION TIME
99      HOR

13:14+  0 040E-3M3/S 00P
      +00000 *10L    00R
      -00000 *10L    00R

03-29 13 1400 *R
+  0 016E IM3/H

14:14+  0 000E-3M3/S 00P
      +00013 *10L    00R
      -00000 *10L    00R

15 14+  0 025E-3M3/S 00R
      +00024 *10L    00R
      -00000 *10L    00R

16 14+  0 113E-3M3/S 00R
      +00035 *10L    00R
      -00000 *10L    00R

17 14+  0 036E-3M3/S 00R
      +00048 *10L    00R
      -00000 *10L    00R

18 14+  0 031E-3M3/S 00R
      +00061 *10L    00R
      -00000 *10L    00R

19 14+  0 043E-3M3    00R
```

```
20 14+  0 000E-3M3/S 00R
      +00482 *10L    00R
      -00000 *10L    00R

21 14+  0 040E-3M3/S 00R
      +00100 *10L    00R
      -00000 *10L    00R

22 14+  0 031E-3M3/S 00R
      +00113 *10L    00R
      -00000 *10L    00R

23 14+  0 000E-3M3/S 00R
      +00124 *10L    00R
      -00000 *10L    00R

00 14+  0 000E-3M3/S 00R
      +00139 *10L    00R
      -00000 *10L    00R

01 14+  0 047E-3M3/S 00R
      +00150 *10L    00R
      -00000 *10L    00R

02 14+  0 000E-3M3/S 00R
      +00158 *10L    00R
      -00000 *10L    00R

03 14+  0 000E-3M3/S 00R
      +00163 *10L    00R
      -00000 *10L    00R

04 14+  0 000E-3M3/S 00R
      +00168 *10L    00R
      -00000 *10L    00R

05 14+  0 029E-3M3/S 00R
      +00174 *10L    00R
      -00000 *10L    00R

06 14+  0 000E-3M3/S 00R
      +00185 *10L    00R
      -00000 *10L    00R

07 14+  0 054E-3M3/S 00P
      +00208 *10L    00P
      -00000 *10L    00P

08 14+  0 143E-3M3/S 00R
      +00234 *10L    00R
      -00000 *10L    00R

09 14+  0 000E-3M3/S 00R
      +00254 *10L    00R
      -00000 *10L    00R

10 14+  0 000E-3M3/S 00R
      +00271 *10L    00R
      -00000 *10L    00R

11 14+  0 079E-3M3/S 00R
      +00286 *10L    00R
      -00000 *10L    00R

12 14+  0 000E-3M3/S 00R
      +00300 *10L    00R
      -00000 *10L    00R

13 14+  0 038E-3M3/S 00R
      +00310 *10L    00R
      -00000 *10L    00R

14 14+  0 034E-3M3/S 00R
      +00329 *10L    00R
      -00000 *10L    00R

15 14+  0 031E-3M3/S 00R
      +00347 *10L    00R
      -00000 *10L    00R

16 14+  0 136E-3M3/S 00R
      +00358 *10L    00R
      -00000 *10L    00R

17 14+  0 038E-3M3/S 00R
      +00374 *10L    00R
      -00000 *10L    00R

18 14+  0 000E-3M3/S 00R
      +00393 *10L    00R
      -00000 *10L    00R

19 14+  0 034E-3M3/S 00R
      +00413 *10L    00R
      -00000 *10L    00R

20 14+  0 040E-3M3/S 00R
      +00426 *10L    00R
      -00000 *10L    00R

21 14+  0 074E- M3/S 00R
      +00447 *10L    00R
```

```
 2 14+  0 038E-3M3/S 00R
      +00462 *10L    00R
      -00000 *10L    00R

23 14+  0 086E-3M3/S 00R
      +00476 *10L    00R
      -00000 *10L    00R

00 14+  0 036E-3M3/S 00R
      +00488 *10L    00R
      -00000 *10L    00R

01 14+  0 038E-3M3/S 00R
      +00497 *10L    00R
      -00000 *10L    00R

02 14+  0 038E-3M3/S 00R
      +00507 *10L    00R
      -00000 *10L    00R

03 14+  0 000E-3M3/S 00R
      +00514 *10L    00R
      -00000 *10L    00R

04 14+  0 031E-3M3/S 00R
      +00526 *10L    00R
      -00000 *10L    00R

05:14+  0 000E-3M3/S 00R
      +00534 *10L    00R
      -00000 *10L    00R

06 14+  0 036E-3M3/S 00R
      +00543 *10L    00R
      -00000 *10L    00R

07 14+  0 159E-3M3/S 00R
      +00572 *10L    00P
      -00000 *10L    00R

09 14+  0 050E-3M3/S 00R
      +00597 *10L    00R
      -00000 *10L    00R

09 14+  0 031E-3M3/S 00P
      +00617 *10L    00R
      -00000 *10L    00R

10:14+  0 034E-3M3/S 00R
      +00638 *10L    00R
      -00000 *10L    00R

11 14+  0 000E-3M3/S 00R
      +00652 *10L    00R
      -00000 *10L    00P

12 14+  0 054E-3M3/S 00R
      +00664 *10L    00R
      -00000 *10L    00R

13:14+  0 038E-3M3/S 00R
      +00675 *10L    00R
      -00000 *10L    00R

14 14+  0 000E-3M3/S 00R
      +00689 *10L    00R
      -00000 *10L    00R

15:14+  0 052E-3M3/S 00R
      +00701 *10L    00R
      -00000 *10L    00R

16:14+  0 031E-3M3/S 00R
      +00712 *10L    00R
      -00000 *10L    00R

17 14+  0 034E-3M3/S 00R
      +00720 *10L    00R
      -00000 *10L    00R

18 14+  0 036E-3M3/S 00R
      +00736 *10L    00R
      -00000 *10L    00R

19:14+  0 000E-3M3/S 00R
      +00750 *10L    00R
      -00000 *10L    00R

20 14+  0 036E-3M3/S 00R
      +00762 *10L    00R
      -00000 *10L    00R

21 14+  0 025E-3M3/S 00R
      +00782 *10L    00R
      -00000 *10L    00R

22 14+  0 000E-3M3/S 00R
      +00800 *10L    00R
      -00000 *10L    00R

23 14+  0 052E-3M3/S 00R
      +00815 *10L    00R
```

```
00 14+  0 036E-3M3/S 00R
      +00826 *10L    00R
      -00000 *10L    00R

01 14+  0 034E-3M3/S 00R
      +00835 *10L    00R
      -00000 *10L    00R

02 14+  0 031E-3M3/S 00R
      +00842 *10L    00R
      -00000 *10L    00R

03 14+  0 029E-3M3/S 00R
      +00849 *10L    00R
      -00000 *10L    00R

04 14+  0 000E-3M3/S 00R
      +00859 *10L    00R
      -00000 *10L    00R

05 14+  0 040E-3M3/S 00R
      +00871 *10L    00R
      -00000 *10L    00R

06 14+  0 050E-3M3/S 00R
      +00885 *10L    00R
      -00000 *10L    00R

07 14+  0 173E-3M3/S 00R
      +00907 *10L    00R
      -00000 *10L    00R

08 14+  0 029E-3M3/S 00R
      +00931 *10L    00R
      -00000 *10L    00R

09 14+  0 148E-3M3/S 00R
      +00943 *10L    00R
      -00000 *10L    00R

10 14+  0 040E-3M3/S 00R
      +00958 *10L    00R
      -00000 *10L    00R

11 14+  0 000E-3M3/S 00R
      +00974 *10L    00R
      -00000 *10L    00R

12 14+  0 000E-3M3/S 00P
      +00991 *10L    00R
      -00000 *10L    00P

13 14+  0 040E-3M3/S 00P
      +01002 *10L    00R
      -00000 *10L    00R

14 14+  0 043E-3M3/S 00R
      +01018 *10L    00R
      -00000 *10L    00R

15 14+  0 000E-3M3/S 00R
      +01031 *10L    00R
      -00000 *10L    00R

16 14+  0 045E-3M3/S 00R
      +01045 *10L    00R
      -00000 *10L    00R

17 14+  0 095E-3M3/S 00R
      +01058 *10L    00R
      -00000 *10L    00R

18 14+  0 000E-3M3/S 00R
      +01073 *10L    00R
      -00000 *10L    00R

19 14+  0 091E-3M3/S 00R
      +01089 *10L    00R
      -00000 *10L    00R

20 14+  0 000E-3M3/S 00R
      +01107 *10L    00R
      -00000 *10L    00R

21:14+  0 029E-3M3/S 00R
      +01118 *10L    00R
      -00000 *10L    00R

22 14+  0 031E-3M3/S 00R
      +01130 *10L    00R
      -00000 *10L    00R

23 14+  0 040E-3M3/S 00R
      +01148 *10L    00R
      -00000 *10L    00R
```

```
00 14+  0 000E-3M3/S 00R
      +01162 *10L    00R
      -00000 *10L    00P

01 14+  0 031E-3M3/S 00R
      +01173 *10L    00R
      -00000 *10L    00R

02 14+  0 038E-3M3/S 00R
      +01184 *10L    00R
      -00000 *10L    00R

03 14+  0 034E-3M3/S 00R
      +01195 *10L    00R
      -00000 *10L    00R

04 14+  0 091E-3M3/S 00R
      +01202 *10L    00R
      -00000 *10L    00R

05:14+  0 353E-3M3/S 00R
      +01219 *10L    00R
      -00000 *10L    00R

06 14+  0 034E-3M3/S 00R
      +01239 *10L    00R
      -00000 *10L    00R

07 14+  0 125E-3M3/S 00P
      +01267 *10L    00P
      -00000 *10L    00P

08 14+  0 189E-3M3/S 00P
      +01289 *10L    00P
      -00000 *10L    00P

09:14+  0 000E-3M3/S 00P
      +01304 *10L    00R
      -00000 *10L    00P

10 14+  0 027E-3M3/S 00R
      +01321 *10L    00R
      -00000 *10L    00R

11 14+  0 031E-3M3/S 00R
      +01339 *10L    00R
      -00000 *10L    00R

12 14+  0 029E-3M3/S 00R
      +01352 *10L    00R
      -00000 *10L    00R

13 14+  0 025E-3M3/S 00R
      +01361 *10L    00R
      -00000 *10L    00R
```

START TIME
04-02 13 47

OPERATION TIME
99 HOR

```
13 47+  0 011E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

14 47+  0 000E 1M3/H 00R
      +00016 *10L    00R
      -00000 *10L    00R

15 47+  0 000E 1M3/H 00R
      +00027 *10L    00R
      -00000 *10L    00R

16 47+  0 010E 1M3/H 00R
      +00040 *10L    00R
      -00000 *10L    00P

17 47+  0 010E 1M3/H 00R
      +00051 *10L    00R
      -00000 *10L    00R

18 47+  0 000E 1M3/H 00R
      +00064 *10L    00R
      -00000 *10L    00R

19 47+  0 009E 1M3/H 00R
      +00094 *10L    00R
      -00000 *10L    00R

20 47+  0 000E 1M3/H 00R
      +00110 *10L    00R
      -00000 *10L    00R

21 47+  0 000E 1M3/H 00R
      +00124 *10L    00R
      -00000 *10L    00R

22 47+  0 000E 1M3/H 00R
      +00144 *10L    00R
      -00000 *10L    00R
```

P H CWS

```
00 47+  0 000E 1M3/H 00R
      +00173 *10L    00R
      -00000 *10L    00R

01 47+  0 000E 1M3/H 00R
      +00181 *10L    00R
      -00000 *10L    00R

02 47+  0 000E 1M3/H 00R
      +00188 *10L    00R
      -00000 *10L    00R

03 47+  0 015E 1M3/H 00R
      +00196 *10L    00R
       00000 *10L    00R

04 47+  0 000E 1M3/H 00R
      +00205 *10L    00R
      -00000 *10L    00R

05 47+  0 009E 1M3/H 00R
      +00217 *10L    00R
      -00000 *10L    00R

06 47+  0 013E 1M3/H 00R
      +00236 *10L    00R
      -00000 *10L    00R

07 47+  0 016E 1M3/H 00R
      +00263 *10L    00R
      -00000 *10L    00R

08 47+  0 000E 1M3/H 00R
      +00280 *10L    00R
      -00000 *10L    00R

09 47+  0 000E 1M3/H 00R
      +00295 *10L    00R
      -00000 *10L    00R

10 47+  0 012E 1M3/H 00R
      +00310 *10L    00R
      -00000 *10L    00R

11 47+  0 000E 1M3/H 00R
      +00322 *10L    00R
      -00000 *10L    00R

1  47+  0 000E 1M3/H 00R
      +00334 *10L    00R
      -00000 *10L    00R

13 47+  0 000E 1M3/H 00R
      +00343 *10L    00R
      -00000 *10L    00R

14 47+  0 000E 1M3/H 00R
      +00358 *10L    00R
      -00000 *10L    00R

15 47+  0 012E 1M3/H 00R
      +00370 *10L    00R
      -00000 *10L    00R

16 47+  0 009E 1M3/H 00R
      +00381 *10L    00R
      -00000 *10L    00R

17 47+  0 032E 1M3/H 00R
      +00403 *10L    00R
      -00000 *10L    00R

18 47+  0 000E 1M3/H 00R
      +00417 *10L    00R
      -00000 *10L    00R

19 47+  0 000E 1M3/H 00R
      +00441 *10L    00R
      -00000 *10L    00R

20 47+  0 013E 1M3/H 00R
      +00453 *10L    00R
      -00000 *10L    00R

21 47+  0 011E 1M3/H 00R
      +00465 *10L    00R
      -00000 *10L    00R

22 47+  0 013E 1M3/H 00R
      +00474 *10L    00R
      -00000 *10L    00R

23 47+  0 012E 1M3/H 00R
      +00499 *10L    00R
      00000 *10L     00R

00 47+  0 000E 1M3/H 00R
      +00511 *10L    00R
      -00000 *10L    00R

01 47+  0 000E 1M3/H 00R
      +00522 *10L    00R
      -00000 *10L    00R

02 47+  0 010E 1M3/H 00R
      +00531 *10L    00R
      -00000 *10L    00R

03 47+  0 012E 1M3/H 00R
      +00539 *10L    00R
      -00000 *10L    00R

04 47+  0 000E 1M3/H 00R
      +00547 *10L    00R
      -00000 *10L    00R

05 47+  0 009E 1M3/H 00R
      +00553 *10L    00R
      -00000 *10L    00R

06 47+  0 021E 1M3/H 00R
      +00590 *10L    00R
      -00000 *10L    00R

07 47+  0 009E 1M3/H 00R
      +00606 *10L    00R
      -00000 *10L    00R

08 47+  0 014E 1M3/H 00R
      +00626 *10L    00R
      -00000 *10L    00R

09 47+  0 014E 1M3/H 00R
      +00643 *10L    00R
      -00000 *10L    00R

10 47+  0 009E 1M3/H 00R
      +00661 *10L    00R
      -00000 *10L    00R

11 47+  0 000E 1M3/H 00R
      +00677 *10L    00R
      -00000 *10L    00R

12 47+  0 012E 1M3/H 00R
      +00691 *10L    00R
      -00000 *10L    00R

13 47+  0 010E 1M3/H 00R
      +00704 *10L    00R
      -00000 *10L    00R

14 47+  0 036E 1M3/H 00P
      +00719 *10L    00R
      -00000 *10L    00R

15 47+  0 019E 1M3/H 00R
      +00731 *10L    00R
      -00000 *10L    00R

16 47+  0 027E 1M3/H 00R
      +00745 *10L    00R
      -00000 *10L    00R

17 47+  0 009E 1M3/H 00R
      +00758 *10L    00R
      -00000 *10L    00R

18:47+  0 044E 1M3/H 00R
      +00770 *10L    00R
      -00000 *10L    00R

19 47+  0 000E 1M3/H 00R
      +00782 *10L    00R
      -00000 *10L    00R

20 47+  0 000E 1M3/H 00R
      +00790 *10L    00R
      -00000 *10L    00R

21 47+  0 009E 1M3/H 00R
      +00798 *10L    00R
      -00000 *10L    00R

22 47+  0 009E 1M3/H 00R
      +00807 *10L    00R
      -00000 *10L    00R

23 47+  0 011E 1M3/H 00R
      +00821 *10L    00R
      -00000 *10L    00R

00 47+  0 013E 1M3/H 00R
      +00838 *10L    00R
      -00000 *10L    00R

01 47+  0 028E 1M3/H 00R
      +00847 *10L    00R
      -00000 *10L    00R

02 47+  0 000E 1M3/H 00R
      +00860 *10L    00R
      -00000 *10L    00R

03 47+  0 013E 1M3/H 00R
      +00868 *10L    00R
      -00000 *10L    00R

04 47+  0 000E 1M3/H 00R
      +00877 *10L    00R
      -00000 *10L    00R

05 47+  0 020E 1M3/H 00R
      +00892 *10L    00R
      -00000 *10L    00R

06 47+  0 044E 1M3/H 00R
      +00910 *10L    00R
      -00000 *10L    00R

07 47+  0 009E 1M3/H 00R
      +00924 *10L    00R
      -00000 *10L    00R

08 47+  0 056E 1M3/H 00R
      +00942 *10L    00R
      -00000 *10L    00P

09 47+  0 009E 1M3/H 00R
      +00965 *10L    00R
      -00000 *10L    00R

10 47+  0 012E 1M3/H 00R
      +00976 *10L    00R
      -00000 *10L    00R

11 47+  0 014E 1M3/H 00R
      +00985 *10L    00R
      -00000 *10L    00R

12 47+  0 009E 1M3/H 00R
      +00991 *10L    00R
      -00000 *10L    00R

04-05 13 2100 *R
+01003  *10L

04-05 13 2200 *R
+  0 000E 1M3/H

04-05 13 2200 *P
+01004  *10L

START TIME
04-05 13 24

OPERATION TIME
99      HOR

13 24+  0 009E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

14:24+  0 009E 1M3/H 00R
      +00025 *10L    00R
      -00000 *10L    00R

15 24+  0 009E 1M3/H 00R
      +00032 *10L    00R
      -00000 *10L    00R

16 24+  0 000E 1M3/H 00R
      +00037 *10L    00R
      -00000 *10L    00R

17 24+  0 013E 1M3/H 00R
      +00044 *10L    00R
      -00000 *10L    00R

18 24+  0 027E 1M3/H 00R
      +00069 *10L    00R
      -00000 *10L    00R

19 24+  0 013E 1M3/H 00R
      +00085 *10L    00R
      -00000 *10L    00R

20 24+  0 009E 1M3/H 00R
      +00092 *10L    00R
      -00000 *10L    00R

21 24+  0 000E 1M3/H 00P

22 24+  0 033E 1M3/H 00R
      +00130 *10L    00R
      -00000 *10L    00R

23 24+  0 015E 1M3/H 00R
      +00140 *10L    00R
      -00000 *10L    00R

00 24+  0 013E 1M3/H 00R
      +00152 *10L    00R
      -00000 *10L    00R

01 24+  0 000E 1M3/H 00R
      +00159 *10L    00R
      -00000 *10L    00R

02 24+  0 000E 1M3/H 00R
      +00166 *10L    00R
      -00000 *10L    00R

03 24+  0 000E 1M3/H 00R
      +00173 *10L    00P
      -00000 *10L    00P

04 24+  0 015E 1M3/H 00R
      +00181 *10L    00R
      -00000 *10L    00R

05 24+  0 000E 1M3/H 00P
      +00192 *10L    00P
      -00000 *10L    00R

06 24+  0 077E 1M3/H 00P
      +00206 *10L    00R
      -00000 *10L    00R

07 24+  0 018E 1M3/H 00R
      +00234 *10L    00R
      -00000 *10L    00R

08 24+  0 000E 1M3/H 00R
      +00252 *10L    00R
      -00000 *10L    00R

09 24+  0 000E 1M3/H 00R
      +00260 *10L    00R
      -00000 *10L    00R

10 24+  0 000E 1M3/H 00R
      +00275 *10L    00R
      -00000 *10L    00R

11 24+  0 000E 1M3/H 00R
      +00289 *10L    00R
      -00000 *10L    00R

12 24+  0 009E 1M3/H 00R
      +00298 *10L    00R
      -00000 *10L    00R

13 24+  0 018E 1M3/H 00R
      +00305 *10L    00R
      -00000 *10L    00R

START TIME
04-07 20 53

OPERATION TIME
99      HOR

20 53+  0 034E 1M3/H 00P
      +00000 *10L    00P
      -00000 *10L    00R

21 53+  0 018E 1M3/H 00P
      +00024 *10L    00P
      -00000 *10L    00P

22 53+  0 000E 1M3/H 00R
      +00035 *10L    00R
      -00000 *10L    00R

23 53+  0 020E 1M3/H 00R
      +00043 *10L    00R
      -00000 *10L    00R
```


159

```
00 53+  0 013E 1M3/H 00R
      +00049 *10L    00R
      -00000 *10L    00R

01 53+  0 009E 1M3/H 00R
      +00055 *10L    00R
      -00000 *10L    00R

02 53+  0 010E 1M3/H 00R
      +00061 *10L    00R
      -00000 *10L    00R

03 53+  0 000E 1M3/H 00R
      +00067 *10L    00R
      -00000 *10L    00R

04 53+  0 039E 1M3/H 00R
      +00079 *10L    00R
      -00000 *10L    00R

05 53+  0 000E 1M3/H 00R
      +00095 *10L    00R
      -00000 *10L    00R

06 53+  0 016E 1M3/H 00R
      +00125 *10L    00R
      -00000 *10L    00R

07 53+  0 009E 1M3/H 00R
      +00143 *10L    00R
      -00000 *10L    00R

08 53+  0 010E 1M3/H 00R
      +00155 *10L    00R
      -00000 *10L    00R

09 53+  0 012E 1M3/H 00R
      +00176 *10L    00R
      -00000 *10L    00R

10 53+  0 009E 1M3/H 00R
      +00185 *10L    00R
      -00000 *10L    00R

11 53+  0 000E 1M3/H 00P
      +00195 *10L    00R
      -00000 *10L    00R

1  53+  0 011E 1M3/H 00R
      +00206 *10L    00R
      -00000 *10L    00R

13 53+  0 000E 1M3/H 00R
      +00225 *10L    00R
      -00000 *10L    00R

14 53+  0 014E 1M3/H 00R
      +00243 *10L    00R
      -00000 *10L    00R

15 53+  0 000E 1M3/H 00R
      +00254 *10L    00R
      -00000 *10L    00R

16 53+  0 011E 1M3/H 00R
      +00268 *10L    00R
      -00000 *10L    00R

17 53+  0 009E 1M3/H 00R
      +00283 *10L    00R
      -00000 *10L    00R

18 53+  0 018E 1M3/H 00R
      +00303 *10L    00R
      -00000 *10L    00R

19 53+  0 000E 1M3/H 00R
      +00313 *10L    00R
      -00000 *10L    00R

20 53+  0 068E 1M3/H 00R
      +00327 *10L    00R
      -00000 *10L    00R

21 53+  0 000E 1M3/H 00R
      +00350 *10L    00R
      -00000 *10L    00R

22 53+  0 000E 1M3/H 00R
      +00367 *10L    00R
      -00000 *10L    00R

23 53+  0 000E 1M3/H 00R
      +00378 *10L    00R
      -00000 *10L    00R
```

```
00 53+  0 000E 1M3/H 00R
      +00389 *10L    00R
      -00000 *10L    00R

01 53+  0 000E 1M3/H 00R
      +00398 *10L    00R
      -00000 *10L    00R

02 53+  0 016E 1M3/H 00R
      +00407 *10L    00R
      -00000 *10L    00R

03 53+  0 016E 1M3/H 00R
      +00417 *10L    00R
      -00000 *10L    00R

04 53+  0 043E 1M3/H 00R
      +00431 *10L    00R
      -00000 *10L    00R

05 53+  0 010E 1M3/H 00R
      +00463 *10L    00R
      -00000 *10L    00R

06 53+  0 022E 1M3/H 00R
      +00481 *10L    00R
      -00000 *10L    00R

07 53+  0 011E 1M3/H 00R
      +00493 *10L    00R
      -00000 *10L    00R

08 53+  0 018E 1M3/H 00R
      +00511 *10L    00R
      -00000 *10L    00R

09 53+  0 000E 1M3/H 00R
      +00520 *10L    00R
      -00000 *10L    00R

10 53+  0 015E 1M3/H 00R
      +00537 *10L    00R
      -00000 *10L    00R

11 53+  0 021E 1M3/H 00R
      +00546 *10L    00R
      -00000 *10L    00R

12:53+  0 013E 1M3/H 00R
      +00561 *10L    00R
      -00000 *10L    00R

13 53+  0 066E 1M3/H 00R
      +00571 *10L    00R
      -00000 *10L    00R

14:53+  0 000E 1M3/H 00R
      +00589 *10L    00R
      -00000 *10L    00R

15 53+  0 028E 1M3/H 00R
      +00600 *10L    00R
      -00000 *10L    00R

16 53+  0 000E 1M3/H 00R
      +00610 *10L    00R
      -00000 *10L    00R

17 53+  0 013E 1M3/H 00R
      +00620 *10L    00R
      -00000 *10L    00R

18 53+  0 000E 1M3/H 00R
      +00639 *10L    00R
      -00000 *10L    00R

19:53+  0 037E 1M3/H 00R
      +00650 *10L    00R
      -00000 *10L    00R

20 53+  0 012E 1M3/H 00R
      +00662 *10L    00R
      -00000 *10L    00R

21 53+  0 009E 1M3/H 00R
      +00673 *10L    00R
      -00000 *10L    00R

22 53+  0 009E 1M3/H 00R
      +00688 *10L    00R
      -00000 *10L    00R

23 53+  0 031E 1M3/H 00R
      +00707 *10L    00R
      -00000 *10L    00R
```

```
00 53+  0 009E 1M3/H 00R
      +00723 *10L    00R
      -00000 *10L    00R

01 53+  0 017E 1M3/H 00R
      +00731 *10L    00R
      -00000 *10L    00R

02 53+  0 009E 1M3/H 00R
      +00740 *10L    00R
      -00000 *10L    00R

03 53+  0 009E 1M3/H 00R
      +00748 *10L    00R
      -00000 *10L    00R

04 53+  0 017E 1M3/H 00R
      +00757 *10L    00R
      -00000 *10L    00R

05 53+  0 011E 1M3/H 00R
      +00775 *10L    00R
      -00000 *10L    00R

06 53+  0 016E 1M3/H 00R
      +00802 *10L    00R
      -00000 *10L    00R

07 53+  0 009E 1M3/H 00R
      +00821 *10L    00R
      -00000 *10L    00R

08 53+  0 012E 1M3/H 00R
      +00843 *10L    00R
      -00000 *10L    00R

09 53+  0 014E 1M3/H 00R
      +00857 *10L    00R
      -00000 *10L    00R

10 53+  0 010E 1M3/H 00R
      +00870 *10L    00R
      -00000 *10L    00R

11 53+  0 010E 1M3/H 00R
      +00883 *10L    00R
      -00000 *10L    00R

12 53+  0 009E 1M3/H 00R
      +00906 *10L    00R
      -00000 *10L    00R

13 53+  0 017E 1M3/H 00R
      +00926 *10L    00R
      -00000 *10L    00R

14 53+  0 000E 1M3/H 00R
      +00938 *10L    00R
      -00000 *10L    00R

15 53+  0 011E 1M3/H 00R
      +00955 *10L    00R
      -00000 *10L    00R

16 53+  0 000E 1M3/H 00R
      +00965 *10L    00R
      -00000 *10L    00R

17:53+  0 011E 1M3/H 00R
      +00977 *10L    00R
      -00000 *10L    00R

18 53+  0 068E 1M3/H 00R
      +00992 *10L    00R
      -00000 *10L    00R

19 53+  0 018E 1M3/H 00R
      +01008 *10L    00R
      -00000 *10L    00R

20 53+  0 000E 1M3/H 00R
      +01020 *10L    00R
      -00000 *10L    00R

21 53+  0 000E 1M3/H 00R
      +01037 *10L    00R
      -00000 *10L    00R

22 53+  0 000E 1M3/H 00R
      +01053 *10L    00P
      -00000 *10L    00R

23 53+  0 009E 1M3/H 00R
      +01065 *10L    00R
      -00000 *10L    00R
```

```
00 53+  0 011E 1M3/H 00R
      +01075 *10L    00R
      -00000 *10L    00R

01 53+  0 015E 1M3/H 00R
      +01087 *10L    00R
      -00000 *10L    00R

02 53+  0 000E 1M3/H 00R
      +01096 *10L    00R
      -00000 *10L    00R

03:53+  0 000E 1M3/H 00P
      +01102 *10L    00R
      -00000 *10L    00R

04 53+  0 000E 1M3/H 00R
      +01108 *10L    00R
      -00000 *10L    00R

05 53+  0 000E 1M3/H 00P
      +01137 *10L    00R
      -00000 *10L    00R

06 53+  0 009E 1M3/H 00P
      +01152 *10L    00R
      -00000 *10L    00P

07 53+  0 000E 1M3/H 00P
      +01170 *10L    00P
      -00000 *10L    00P

08 53+  0 010E 1M3/H 00P
      +01183 *10L    00P
      -00000 *10L    00P

09 53+  0 028E 1M3/H 00P
      +01194 *10L    00P
      -00000 *10L    00P

10 53+  0 013E 1M3/H 00R
      +01211 *10L    00R
      -00000 *10L    00R

11 53+  0 012E 1M3/H 00P
      +01221 *10L    00R
      -00000 *10L    00R

12 53+  0 023E 1M3/H 00R
      +01233 *10L    00R
      -00000 *10L    00R

13 53+  0 058E 1M3/H 00R
      +01251 *10L    00R
      -00000 *10L    00R

14 53+  0 000E 1M3/H 00R
      +01259 *10L    00R
      -00000 *10L    00R

15 53+  0 019E 1M3/H 00R
      +01274 *10L    00R
      -00000 *10L    00R

16 53+  0 000E 1M3/H 00R
      +01289 *10L    00R
      -00000 *10L    00R

17 53+  0 013E 1M3/H 00R
      +01300 *10L    00R
      -00000 *10L    00R

04-11 18 2400 *R
+01304  *10L

04-11 18:2500 *R
+01304  *10L
```

```
04-11 12  8
OPERATION TIME
99          HOR
18 28+  0 012E 1M3/H 00R
        +00000 *10L    00R
        -00000 *10L    00R

19 28+  0 00HE 1M3/H 00R
        +00015 *10L    00R
        -00000 *10L    00R

H  3+  0 A00E 1M3 H 00R
        +00024 *10L    00P
        00000 *10L     00R

21  8+  0 011E 1M3/H 00R
        +00037 *10L    00R
        -00000 *10L    00R

    6+  0 037E 1M3 H 0AR
        +00047 *10L    00R
        00000 *10L     00R

5   +  1 013E 1M3/H 00R
        +00063 *10L    00R
        -00000 *10L    00R

00 28+  0 071E 1M3/H 00R
        +00078 *10L    00R
        -00000 *10L    00R

01  8+  0 011E 1M3/H 00R
        +00096 *10L    00R
        -00000 *10L    00R

02  3+  0 016E 1M3/H 00R
        +00106 *10L    00R
        -00000 *10L    00P

03  8+  0 00HE 1M3/H 00P
        +00111 *10L    00P
        -00000 *10L    00R

04  5+  0 011E 1M3/H 00R
        +00119 *10L    00R
        -00000 *10L    00R

0   8+  0 059E 1M3/H 00R
        +00134 *10L    00R
        -00000 *10L    00R

0   3+  0 015E 1M3 H 00R
        +00145 *10L    00R
        -00000 *10L    00R

0   3+  0 010E 1M3/H 00R
        +00167 *10L    00R
        00000 *10L     00R

08  3+  0 01 E 1M3 H 00R
        +00191 *10L    00R
        00000 *10L     00R

0   8+  0 011E 1M3 H 00R
        +00207 *10L    00R
        00000 *10L     00R

10  3+  0 00 L 1M3 H 00P
        +00 7 *10L     00R
        00000 *10L     00R

11 28+  0 A00E 1M3 H 00R
        +00233 *10L    00P
        00000 *10L     00R

1   8+  0 017E 1M3/H 00R
        +00 45 *10L    00R
        00000 *10L     00R

13  9+  0 11HE 1M /H 00P
        +00264 *10L    00R
        -00000 *10L    00R

14 28+  0 141E 1M3/H 00P
        +00306 *10L    00R
        00000 *10L     00R

15 28+  0 020E 1M3/H 00R
        +00363 *10L    00R
        -00000 *10L    00R

16 28+  0 000E 1M3/H 00R
        +00387 *10L    00R
        -00000 *10L    00R

17 28+  0 010E 1M3/H 00R
        +00404 *10L    00R
        -00000 *10L    00R

18 28+  0 00HE 1M3 H 00R
        +00414 *10L    00R
        -00000 *10L    00R

19 28+  0 01 E 1M3 H 00R
        +00423 *10L    00R
        -00000 *10L    00R

20 28+  0 009E 1M3/H 00R
        +00438 *10L    00R
        -00000 *10L    00R

21 28+  0 009E 1M3/H 00R
        +00419 *10L    00R
        -00000 *10L    00R

22 28+  0 051E 1M3 H 00R
        +00464 *10L    00R
        00000 *10L     00P

23 28+  0 009E 1M3/H 00R
        +00480 *10L    00R
        00000 *10L     00R

00 28+  0 009E 1M3/H 00R
        +00491 *10L    00R
        -00000 *10L    00R

01 28+  0 000E 1M3/H 00R
        +00199 *10L    00R
        00000 *10L     00R

02 28+  0 000E 1M3/H 0UR
        +00506 *10L    00R
        -00000 *10L    00R

03 28+  0 000E 1M3/H 00R
        +00512 *10L    00R
        -00000 *10L    00R

04 28+  0 000E 1M3/H 00R
        +00520 *10L    00R
        -00000 *10L    00R

05 28+  0 009E 1M3/H 00R
        +00535 *10L    00P
        -00000 *10L    00R

06 28+  0 013E 1M3/H 00P
        +00549 *10L    00R
        -00000 *10L    00R

07 28+  0 013E 1M3/H 00R
        +00566 *10L    00R
        -00000 *10L    00R

08 28+  0 019E 1M3/H 00R
        +00581 *10L    00R
        -00000 *10L    00R

09 28+  0 029E 1M3/H 00R
        +00603 *10L    00P
        -00000 *10L    00R

10 28+  0 000E 1M3/H 0AR
        +00618 *10L    00R
        00000 *10L     0AR

11 28+  0 000E 1M3/H 00R
        +00632 *10L    00R
        -00000 *10L    00R

12 28+  0 H11E 1M3/H 00R
        +00641 *10L    00P
        -00000 *10L    00R

13 28+  0 010E 1M3/H 00P
        +00659 *10L    00R
        -00000 *10L    00R

14 28+  0 022E 1M3/H 00R
        +00669 *10L    00R
        -00000 *10L    00R

15 28+  0 000E 1M3/H 00R
        +00681 *10L    00P
        -00000 *10L    00R

16 28+  0 000E 1M3/H 00P
        +00688 *10L    00R
        -00000 *10L    00R

17 28+  0 000E 1M3/H 00R
        +00697 *10L    00R
        -00000 *10L    00P

18 28+  0 009E 1M3/H 00R
        +00708 *10L    00R
        -00000 *10L    00R

19 28+  0 014E 1M3/H 00R
        +00717 *10L    00R
        -00000 *10L    00R

20 28+  0 000E 1M3/H 00R
        +00727 *10L    00R
        -00000 *10L    00R

1  28+  0 014E 1M  H 00R
        +00753 *10L    00R
        00000 *10L     00R

2  28+  0 000E 1M3/H 0UR
        +00742 *10L    0AR
        -00000 *10L    00R

23 23+  0 011E 1M3/H 0UR
        +00757 *10L    00R
        -00000 *10L    00P

00 28+  0 010E 1M3/H 0AP
        +00767 *10L    0AR
        -00000 *10L    00R

01 28+  0 017E 1M3 H 0UR
        +00773 *10L    00R
        -00000 *10L    0UP

02 28+  0 010E 1M3/H 0AP
        +00786 *10L    00P
        -00000 *10L    00P

03 29+  0 009E 1M  H 0UP
        +00793 *10L    00P
        -00000 *10L    00R

04 28+  0 014E 1M3/H 00R
        +00804 *10L    00P
        -00000 *10L    00R

05 28+  0 009E 1M3/H 0AR
        +00810 *10L    00R
        -00000 *10L    00R

06 23+  0 017E 1M3/H 00R
        +00821 *10L    00R
        -00000 *10L    00R

07 23+  0 00HE 1M3/H 00R
        +00835 *10L    00R
        -00000 *10L    00R

08 28+  0 000E 1M3/H 00R
        +00846 *10L    00P
        -00000 *10L    00P

09 28+  0 053E 1M3/H 00R
        +00871 *10L    00P
        00000 *10      00R

10 28+  0 000E 1M3/H 00R
        +00888 *10L    00R
        -00000 *10L    00R

11  8+  0 009E 1M3/H 00R
        +00908 *10L    00R
        -00000 *10L    00R

1  28+  0 009E 1M3 H 00R
        +00918 *10L    00R
        -00000 *10L    00P

13 23+  0 A00E 1M3/H 00R
        +00927 *10L    00R
        -00000 *10L    00R

14 28+  0 013E 1M3/H 00P
        +00951 *10L    00P
        -00000 *10L    00R

15 28+  0 000E 1M3/H 0AR
        +00964 *10L    00R
        -00000 *10L    00R

16  8+  0 000E 1M3/H 00R
        +00974 *10L    00R
        00000 *10L     00R

17 23+  0 00AE 1M3/H 00R
        +00989 *10L    00P
        -00000 *10L    00R

18 23+  0 009E 1M3/H 00R
        +01007 *10L    00R
        -00000 *10L    00R

19 28+  0 010E 1M3/H 00P
        +01019 *10L    00R
        -00000 *10L    00R

20 28+  0 034E 1M3/H 00R
        +01035 *10L    00R
        -00000 *10L    00R

21 28+  0 011E 1M3/H 00P
        +01051 *10L    00R
        -00000 *10L    00R

2   +  0 A09E 1M3/H 00R
        +01065 *10L    00R
        -00000 *10L    00R

        +01 1  *10L    00R
        00000 *10L     00R

00 28+  0 009E 1M  H 00R
        +01094 *10L    00R
        00000 *10L     00R

01 23+  0 012E 1M3/H 00P
        +01094 *10L    00P
        00000 *10L     00P

02  9+  0 052E 1M3 H 00R
        +01103 *10L    00P
        00000 *10L     00R

03  +  0 A00E 1M3 H 00P
        +01120 *10L    00R
        00000 *10L     00R

04 28+  0 000E 1M3/H 00P
        +01138 *10L    00R
        -00000 *10L    00P

05 28+  0 01 E 1M  H 00R
        +01144 *10L    00R
        00000 *10L     00R

    3+  0 009E 1M3 H 00R
        +01168 *10L    00P
        00000 *10L     00R

0   8+  0 010E 1M3 H 00R
        +01207 *10L    00R
        00000 *10L     00P

03  8+  0 000E 1M3 H 00P
        +01223 *10L    00P
        00000 *10L     00P

04 7 +  0 000E 1M3/H   E
        +01 41 *10L    E
        00000 *10L     I

10  3+  0 050E 1M3 H 00R
        +01254 *10L    E
        00000 *10L     00R

11  8+  0 010E 1M3 H   R
        +01265 *10L    E
        00000 *10L     00R

12  8+  0 017E 1M3/H 00R
        +01275 *10L    00R
        00000 *10L     00P

1  28+  0 013E 1M3 H 00R
        +01289 *10L    00P
        00000 *10L     00P

14  8+  0 011E 1M3 H 00P
        +01299 *10L    00P
        00000 *10L     00P

15  8+  0 014E 1M3 H 00P
        +01306 *10L    00R
        00000 *10L     00P

16  9+  0 014E 1M3/H 00P
        +01319 *10L    00P
        00000 *10L     00P

17 28+  0 049E 1M3/H 00P
        +01327 *10L    00P
        00000 *10L     00P

18 28+  0 009E 1M3 H 00P
        +01333 *10L    00P
        00000 *10L     00R
```

```
START TIME
04-16 19 37

OPERATION TIME
99      HOR

19 37+  0 009E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

20 37+  0 000E 1M3/H 00R
      +00007 *10L    00R
      -00000 *10L    00R

21 37+  0 000E 1M3/H 00R
      +00017 *10L    00R
      -00000 *10L    00R

22 37+  0 009E 1M3/H 00R
      +00030 *10L    00R
      -00000 *10L    00R

23 37+  0 009E 1M3/H 00R
      +00040 *10L    00R
      -00000 *10L    00R

00 37+  0 000E 1M3/H 00R
      +00052 *10L    00R
      -00000 *10L    00R

01 37+  0 000E 1M3/H 00R
      +00059 *10L    00R
      -00000 *10L    00R

02 37+  0 013E 1M3/H 00R
      +00063 *10L    00R
      -00000 *10L    00R

03 37+  0 000E 1M3/H 00R
      +00068 *10L    00R
      -00000 *10L    00R

04 37+  0 016E 1M3/H 00R
      +00076 *10L    00R
      -00000 *10L    00R

05 37+  0 036E 1M3/H 00P
      +00089 *10L    00R
      -00000 *10L    00R

06 37+  0 019E 1M3/H 00R
      +00103 *10L    00R
      -00000 *10L    00R

07 37+  0 012E 1M3/H 00R
      +00120 *10L    00R
      -00000 *10L    00R

08 37+  0 010E 1M3/H 00R
      +00131 *10L    00R
      -00000 *10L    00R

09 37+  0 009E 1M3/H 00R
      +00156 *10L    00R
      -00000 *10L    00R

10 37+  0 012E 1M3/H 00R
      +00166 *10L    00R
      -00000 *10L    00R

11 37+  0 015E 1M3/H 00P
      +00176 *10L    00R
      -00000 *10L    00R

12 37+  0 044E 1M3/H 00R
      +00187 *10L    00R
      -00000 *10L    00R

13 37+  0 013E 1M3/H 00R
      +00207 *10L    00R
      -00000 *10L    00R

14 37+  0 010E 1M3/H 00R
      +00217 *10L    00R
      -00000 *10L    00R

15 37+  0 000E 1M3/H 00R
      +00230 *10L    00R
      -00000 *10L    00R

16 37+  0 000E 1M3/H 00R
      +00241 *10L    00R
      -00000 *10L    00R

17 37+  0 012E 1M3/H 00R
      +00254 *10L    00R
      -00000 *10L    00R

18 37+  0 000E 1M3/H 00R
      +00261 *10L    00R
      -00000 *10L    00R

19 37+  0 009E 1M3/H 00R
      +00279 *10L    00R
      -00000 *10L    00R

20 37+  0 014E 1M3/H 00P
      +00283 *10L    00R
      -00000 *10L    00R

21 37+  0 013E 1M3/H 00R
      +00291 *10L    00R
      -00000 *10L    00R

22 37+  0 000E 1M3/H 00R
      +00301 *10L    00R
      -00000 *10L    00R

23 37+  0 011E 1M3/H 00R
      +00310 *10L    00R
      -00000 *10L    00R

00 37+  0 013E 1M3/H 00R
      +00321 *10L    00R
      -00000 *10L    00R

01 37+  0 017E 1M3/H 00R
      +00329 *10L    00R
      -00000 *10L    00R

02 37+  0 013E 1M3/H 00R
      +00337 *10L    00P
      -00000 *10L    00R

03 37+  0 000E 1M3/H 00R
      +00346 *10L    00R
      -00000 *10L    00R

04 37+  0 000E 1M3/H 00R
      +00357 *10L    00R
      -00000 *10L    00R

05 37+  0 011E 1M3/H 00R
      +00368 *10L    00R
      -00000 *10L    00R

06 37+  0 010E 1M3/H 00R
      +00378 *10L    00R
      -00000 *10L    00R

07 37+  0 018E 1M3/H 00R
      +00401 *10L    00R
      -00000 *10L    00R

08 37+  0 109E 1M3/H 00R
      +00417 *10L    00R
      -00000 *10L    00R

09 37+  0 000E 1M3/H 00R
      +00426 *10L    00R
      -00000 *10L    00R

10 37+  0 000E 1M3/H 00R
      +00444 *10L    00R
      -00000 *10L    00R

11 37+  0 000E 1M3/H 00R
      +00451 *10L    00R
      -00000 *10L    00R

12 37+  0 009E 1M3/H 00R
      +00458 *10L    00R
      -00000 *10L    00R

13 37+  0 015E 1M3/H 00R
      +00467 *10L    00R
      -00000 *10L    00R

14 37+  0 009E 1M3/H 00R
      +00479 *10L    00R
      -00000 *10L    00R

15 37+  0 000E 1M3/H 00R
      +00487 *10L    00R
      -00000 *10L    00R

16 37+  0 013E 1M3/H 00R
      +00499 *10L    00R
      -00000 *10L    00R

17 37+  0 014E 1M3/H 00R
      +00506 *10L    00R
      -00000 *10L    00R

18 37+  0 014E 1M3/H 00R
      +00515 *10L    00R
      -00000 *10L    00R

19 37+  0 013E 1M3/H 00R
      +00525 *10L    00R
      -00000 *10L    00R

20 37+  0 015E 1M3/H 00R
      +00537 *10L    00R
      -00000 *10L    00R

21 37+  0 000E 1M3/H 00R
      +00545 *10L    00R
      -00000 *10L    00R

22 37+  0 010E 1M3/H 00R
      +00555 *10L    00R
      -00000 *10L    00R

23 37+  0 012E 1M3/H 00R
      +00566 *10L    00R
      -00000 *10L    00R

00 37+  0 010E 1M3/H 00R
      +00575 *10L    00R
      -00000 *10L    00R

01 37+  0 013E 1M3/H 00R
      +00583 *10L    00P
      -00000 *10L    00R

02 37+  0 010E 1M3/H 00R
      +00591 *10L    00R
      -00000 *10L    00R

03 37+  0 000E 1M3/H 00R
      +00600 *10L    00R
      -00000 *10L    00R

04 37+  0 018E 1M3/H 00P
      +00608 *10L    00R
      -00000 *10L    00R

05 37+  0 012E 1M3/H 00R
      +00618 *10L    00R
      -00000 *10L    00R

06 37+  0 013E 1M3/H 00R
      +00630 *10L    00R
      -00000 *10L    00R

07 37+  0 000E 1M3/H 00P
      +00644 *10L    00R
      -00000 *10L    00R

08 37+  0 017E 1M3/H 00P
      +00656 *10L    00R
      -00000 *10L    00R

09 37+  0 026E 1M3/H 00P
      +00668 *10L    00R
      -00000 *10L    00R

10 37+  0 013E 1M3/H 00P
      +00679 *10L    00R
      -00000 *10L    00R

11 37+  0 018E 1M3/H 00R
      +00693 *10L    00R
      -00000 *10L    00R

12 18+  0 000E 1M3/H 00R
      +00705 *10L    00R
      -00000 *10L    00R

13 18+  0 015E 1M3/H 00R
      +00711 *10L    00R
      -00000 *10L    00R

14 18+  0 009E 1M3/H 00R
      +00721 *10L    00R
      -00000 *10L    00R

15 18+  0 013E 1M3/H 00P
      +00729 *10L    00R
      -00000 *10L    00R

16 18+  0 000E 1M3/H 00R
      +00741 *10L    00R
      -00000 *10L    00R

17 18+  0 000E 1M3/H 00R
      +00756 *10L    00R
      -00000 *10L    00R

18 18+  0 017E 1M3/H 00R
      +00768 *10L    00R
      -00000 *10L    00R

19 18+  0 018E 1M3/H 00R
      +00780 *10L    00R
      -00000 *10L    00R

20 18+  0 050E 1M3/H 00R
      +00798 *10L    00R
      -00000 *10L    00R

21 18+  0 013E 1M3/H 00R
      +00808 *10L    00R
      -00000 *10L    00R

22 18+  0 009E 1M3/H 00R
      +00817 *10L    00R
      -00000 *10L    00R

23 18+  0 000E 1M3/H 00P
      +00829 *10L    00P
      -00000 *10L    00P

00 18+  0 000E 1M3/H 00P
      +00841 *10L    00R
      -00000 *10L    00R

01 18+  0 012E 1M3/H 00R
      +00850 *10L    00P
      -00000 *10L    00R

02 18+  0 009E 1M3/H 00P
      +00860 *10L    00P
      -00000 *10L    00R

03 18+  0 009E 1M3/H 00P
      +00867 *10L    00R
      00000 *10L     00P

04 18+  0 000E 1M3/H 00P
      +00875 *10L    00P
      -00000 *10L    00R

05 18+  0 009E 1M3/H 00P
      +00900 *10L    00P
      -00000 *10L    00P

06 18+  0 014E 1M3/H 00P
      +00926 *10L    00P
      -00000 *10L    00P

07 18+  0 043E 1M3/H 00P
      +00944 *10L    00P
      -00000 *10L    00P

08 18+  0 023E 1M3/H 00P
      +00976 *10L    00P
      -00000 *10L    00P

09 18+  0 012E 1M3/H 00P
      +00992 *10L    00P
      -00000 *10L    00P

10 18+  0 010E 1M3/H 00P
      +01004 *10L    00P
      -00000 *10L    00P

11 18+  0 000E 1M3/H 00P
      +01013 *10L    00P
      -00000 *10L    00P

12 18+  0 000E 1M3/H 00R
      +01021 *10L    00R
      -00000 *10L    00P

13 18+  0 009E 1M3/H 00P
      +01034 *10L    00R
      -00000 *10L    00P

14 18+  0 013E 1M3/H 00R
      +01046 *10L    00P
      -00000 *10L    00R

15 18+  0 011E 1M3/H 00P
      +01055 *10L    00R
      -00000 *10L    00R

16 18+  0 011E 1M3/H 00R
      +01064 *10L    00R
      -00000 *10L    00R

17 18+  0 015E 1M3/H 00P
      +01074 *10L    00R
      -00000 *10L    00R

18 18+  0 000E 1M3/H 00R
      +01084 *10L    00P
      -00000 *10L    00R

28 20 18 5200 *R
+01090  *10L
```

```
START TIME
04-20 18 57

OPERATION TIME
99      HOR

MM-DD HH MM
04-20 18:56

18:57+  0 000E 1M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

19 57+  0 013E 1M3/H 00R
      +00010 *10L    00R
      -00000 *10L    00R

20 57+  0 000E 1M3/H 00R
      +00027 *10L    00R
      -00000 *10L    00R

21 57+  0 031E 1M3/H 00R
      +00043 *10L    00R
      -00000 *10L    00R

22 57+  0 000E 1M3/H 00R
      +00058 *10L    00R
      -00000 *10L    00R

23 57+  0 010E 1M3/H 00R
      +00068 *10L    00R
      -00000 *10L    00R

00 57+  0 009E 1M3/H 00R
      +00076 *10L    00R
      -00000 *10L    00R

01:57+  0 012E 1M3/H 00R
      +00086 *10L    00R
      -00000 *10L    00R

02 57+  0 009E 1M3/H 00R
      +00097 *10L    00R
      -00000 *10L    00R

03 57+  0 009E 1M3/H 00R
      +00108 *10L    00R
      -00000 *10L    00R

04 57+  0 000E 1M3/H 00R
      +00116 *10L    00R
      -00000 *10L    00R

05 57+  0 000E 1M3/H 00R
      +00141 *10L    00R
      -00000 *10L    00R

06 57+  0 044E 1M3/H 00R
      +00166 *10L    00R
      -00000 *10L    00R

07 57+  0 010E 1M3/H 00R
      +00188 *10L    00R
      -00000 *10L    00R

08 57+  0 017E 1M3/H 00R
      +00203 *10L    00R
      -00000 *10L    00R

09 57+  0 014E 1M3/H 00R
      +00222 *10L    00R
      -00000 *10L    00R

10 57+  0 030E 1M3/H 00R
      +00243 *10L    00R
      -00000 *10L    00R

11 57+  0 009E 1M3/H 00R
      +00256 *10L    00R
      -00000 *10L    00R

04-21 14 4100 *R
+00259  *10L

04-21 14 4200 *R
-00000  *10L
```

```
16:42+  0 009E 1M3/H 00R
      +00286 *10L    00R
      -00000 *10L    00R

17:42+  0 017E 1M3/H 00R
      +00302 *10L    00R
      -00000 *10L    00R

18:42+  0 000E 1M3/H 00R
      +00319 *10L    00R
      -00000 *10L    00R

19 42+  0 009E 1M3/H 00R
      +00331 *10L    00R
      -00000 *10L    00R

20:42+  0 030E 1M3/H 00R
      +00343 *10L    00R
      -00000 *10L    00R

21:42+  0 052E 1M3/H 00R
      +00355 *10L    00R
      -00000 *10L    00R

22:42+  0 011E 1M3/H 00R
      +00374 *10L    00R
      -00000 *10L    00R

23:42+  0 013E 1M3/H 00R
      +00390 *10L    00R
      -00000 *10L    00R

00 42+  0 000E 1M3/H 00R
      +00398 *10L    00R
      -00000 *10L    00R

01:42+  0 016E 1M3/H 00R
      +00411 *10L    00R
      -00000 *10L    00R

02 42+  0 000E 1M3/H 00R
      +00421 *10L    00R
      -00000 *10L    00R

03 42+  0 000E 1M3/H 00R
      +00429 *10L    00R
      -00000 *10L    00R

04 42+  0 000E 1M3/H 00R
      +00434 *10L    00R
      -00000 *10L    00R

05 42+  0 030E 1M3/H 00R
      +00447 *10L    00R
      -00000 *10L    00R

06:42+  0 073E 1M3/H 00R
      +00466 *10L    00R
      -00000 *10L    00R

07:42+  0 070E 1M3/H 00R
      +00502 *10L    00R
      -00000 *10L    00R

08 42+  0 018E 1M3/H 00R
      +00528 *10L    00R
      -00000 *10L    00R

08 48+  0 000E 1M3/H 00R
      +00530 *10L    00R
      -00000 *10L    00R

09 22+  0 018E 1M3/H 00R
      +00536 *10L    00R
      -00000 *10L    00R

09 24+  0 011E 1M3/H 00R
      +00536 *10L    00R
      -00000 *10L    00R

09:26+  0 018E 1M3/H 00R
      +00536 *10L    00R
      -00000 *10L    00R

09:39+  0 016E 1M3/H 00R
      +00540 *10L    00R
      -00000 *10L    00R

10 39+  0 020E 1M3/H 00P
      +00559 *10L    00R
      -00000 *10L    00R

11 39+  0 009E 1M3/H 00R
      +00573 *10L    00P
      -00002 *10L    00R
```

```
12 39+  0 000E 1M3/H 00R
      +00586 *10L    00R
      -00002 *10L    00R

13 39+  0 009E 1M3/H 00R
      +00602 *10L    00R
      -00002 *10L    00R

14 39+  0 009E 1M3/H 00R
      +00618 *10L    00R
      -00002 *10L    00R

15 39+  0 000E 1M3/H 00R
      +00630 *10L    00R
      -00002 *10L    00R

16 39+  0 014E 1M3/H 00R
      +00662 *10L    00R
      -00002 *10L    00R

17 39+  0 000E 1M3/H 00R
      +00674 *10L    00R
      -00002 *10L    00R

18 39+  0 009E 1M3/H 00R
      +00693 *10L    00R
      -00002 *10L    00R

19 39+  0 009E 1M3/H 00R
      +00715 *10L    00R
      -00002 *10L    00R

20 39+  0 014E 1M3/H 00R
      +00732 *10L    00R
      -00002 *10L    00R

21:39+  0 016E 1M3/H 00R
      +00753 *10L    00R
      -00002 *10L    00R

22 39+  0 014E 1M3/H 00R
      +00785 *10L    00R
      -00002 *10L    00R

23 39+  0 009E 1M3/H 00P
      +00800 *10L    00R
      -00002 *10L    00R

00 39+  0 011E 1M3/H 00R
      +00814 *10L    00R
      -00002 *10L    00R

01 39+  0 019E 1M3/H 00R
      +00829 *10L    00R
      -00002 *10L    00R

02 39+  0 011E 1M3/H 00R
      +00843 *10L    00R
      -00002 *10L    00R

03:39+  0 000E 1M3/H 00R
      +00860 *10L    00R
      -00002 *10L    00R

04 39+  0 034E 1M3/H 00R
      +00872 *10L    00R
      -00002 *10L    00R

05 39+  0 027E 1M3/H 00R
      +00898 *10L    00R
      -00002 *10L    00R

06 39+  0 012E 1M3/H 00R
      +00919 *10L    00R
      -00002 *10L    00R

07 39+  0 013E 1M3/H 00R
      +00950 *10L    00R
      -00002 *10L    00R

08 39+  0 050E 1M3/H 00R
      +00969 *10L    00R
      -00002 *10L    00R

09 39+  0 012E 1M3/H 00R
      +00986 *10L    00R
      -00002 *10L    00R

10 39+  0 015E 1M3/H 00R
      +01000 *10L    00R
      -00002 *10L    00R

11 39+  0 017E 1M3/H 00R
      +01012 *10L    00R
      -00002 *10L    00R

12 39+  0 046E 1M3/H 00R
      +01020 *10L    00R
      -00002 *10L    00R

13 39+  0 012E 1M3/H 00R
      +01032 *10L    00R
```

```
14 39+  0 000E 1M3/H 00P
      +01049 *10L    00P
      -00003 *10L    00R

15 39+  0 013E 1M3/H 00R
      +01059 *10L    00R
      -00003 *10L    00R

16 39+  0 012E 1M3/H 00R
      +01069 *10L    00R
      -00003 *10L    00R

17 39+  0 013E 1M3/H 00R
      +01084 *10L    00R
      -00003 *10L    00R

18 39+  0 009E 1M3/H 00R
      +01113 *10L    00R
      -00003 *10L    00R

19:39+  0 009E 1M3/H 00R
      +01125 *10L    00R
      -00003 *10L    00R

20 39+  0 025E 1M3/H 00R
      +01136 *10L    00R
      -00003 *10L    00R

21:39+  0 000E 1M3/H 00R
      +01161 *10L    00R
      -00003 *10L    00R

22:39+  0 009E 1M3/H 00R
      +01178 *10L    00R
      -00003 *10L    00R

23 39+  0 000E 1M3/H 00R
      +01187 *10L    00R
      -00003 *10L    00R

00 39+  0 014E 1M3/H 00P
      +01203 *10L    00R
      -00003 *10L    00P

01 39+  0 000E 1M3/H 00R
      +01215 *10L    00P
      -00003 *10L    00P

02 39+  0 050E 1M3/H 00P
      +01227 *10L    00P
      -00003 *10L    00R

03 39+  0 010E 1M3/H 00P
      +01240 *10L    00P
      -00003 *10L    00R

04 39+  0 045E 1M3/H 00R
      +01265 *10L    00R
      -00003 *10L    00R

05 39+  0 016E 1M3/H 00R
      +01281 *10L    00R
      -00003 *10L    00R

06 39+  0 030E 1M3/H 00R
      +01306 *10L    00R
      -00003 *10L    00R

07 39+  0 023E 1M3/H 00R
      +01336 *10L    00R
      -00003 *10L    00R

08 39+  0 000E 1M3/H 00P
      +01357 *10L    00R
      -00003 *10L    00R

09 30+  0 011E 1M3/H 00R
      +01370 *10L    00R
      -00003 *10L    00R

10 30+  0 009E 1M3/H 00R
      +01387 *10L    00R
      -00003 *10L    00R

11 30+  0 018E 1M3/H 00P
      +01400 *10L    00R
      -00003 *10L    00R

12:30+  0 012E 1M3/H 00R
      +01413 *10L    00R
      -00003 *10L    00R

13 30+  0 013E 1M3/H 00R
      +01440 *10L    00R
      -00003 *10L    00R

14 30+  0 000E 1M3/H 00R
      +01454 *10L    00R
      -00003 *10L    00R

28-24 14:5900 *R
+01459  *10L
```

BEST AVAILABLE COPY

MI- ZEITOUNAH UNIVERSITY

```
OUTER DIAMETER
34 0      MM

PIPE MATERIAL
?         CS SS

WALL THICKNESS
3 40      MM

INNER LINING
?         NO LING

KIND OF FLUID
?         WATER

SENSOR MOUNTING
?         V

TYPE OF SENSOR
?         SMALL

DATA CHANGE
?         NO

SPACING
2 69      MM V

MM-DD HH MM
03-30 19 51

ZERO MODE
          AUT ZERO

DAMPING SET
01        SEC

INTEG UNIT
          *10L

INTEG START
          AUTO

START TIME
03-30 20 05

OPERATION TIME
99        HOR

PRT PERIOD
60        MIN

PRT UNIT M3/H
          YES

PRT UNIT M3/M
          NO

PRT UNIT M3/S
          NO

PRT UNIT M/S
          NO

PRT UNIT INTEG
          YES
PRT UNIT AI1
          NO

PRT UNIT AI2
          NO

START TIME
03-30 20 05

OPERATION TIME
99        HOR

20 05+  0 118E 0M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

03-30 20 0500 *R
+  0 106E 0M3/H

03-30 20 0500 *R
+  0 106E 0M3/H

03-30 20 0600 *R
+  0 170E 0M3/H

21 05+  0 584E 0M3/H 00H
      +00032 *10L    00H
      -00003 *10L    00H

22 05+  0 584E 0M3/H 00H
      +00090 *10L    00H
      -00003 *10L    00H

23 05+  0 584E 0M3/H 00H
      +00149 *10L    00H
      -00003 *10L    00H

00 05+  0 584E 0M3/H 00H
```

```
01 05+  0 584E 0M3/H 00H
      +00266 *10L    00H
      -00003 *10L    00H

02 05+  0 584E 0M3/H 00H
      +00324 *10L    00H
      -00003 *10L    00H

03 05+  0 584E 0M3/H 00H
      +00383 *10L    00H
      -00003 *10L    00H

04 05+  0 584E 0M3/H 00H
      +00441 *10L    00H
      -00003 *10L    00H

05 05+  0 584E 0M3/H 00H
      +00500 *10L    00H
      -00003 *10L    00H

06 05+  0 584E 0M3/H 00H
      +00558 *10L    00H
      -00003 *10L    00H

07 05+  4 405E 0M3/H 00R
      +00672 *10L    00R
      -00003 *10L    00R

08 05+  1 508E 0M3/H 00R
      +01013 *10L    00R
      -00003 *10L    00R

09 05+  0 520E 0M3/H 00R
      +01100 *10L    00R
      -00003 *10L    00R

10 05+  0 620E 0M3/H 00R
      +01158 *10L    00R
      -00003 *10L    00R

11 05+  0 576E 0M3/H 00R
      +01209 *10L    00R
      -00003 *10L    00R

12 05+  0 495E 0M3/H 00R
      +01249 *10L    00R
      -00003 *10L    00R

13 05+  0 387E 0M3/H 00R
      +01294 *10L    00R
      -00003 *10L    00R

14 05+  0 285E 0M3/H 00R
      +01326 *10L    00R
      -00003 *10L    00R

15 05+  0 366E 0M3/H 00R
      +01359 *10L    00R
      -00003 *10L    00R

16 05+  0 476E 0M3/H 00R
      +01399 *10L    00R
      -00003 *10L    00R

17 05+  0 145E 0M3/H 00R
      +01457 *10L    00R
      -00003 *10L    00R

18 05+  0 364E 0M3/H 00R
      +01491 *10L    00R
      -00003 *10L    00R

19 05+  0 582E 0M3/H 00R
      +01547 *10L    00R
      -00003 *10L    00R

20 05+  0 630E 0M3/H 00R
      +01603 *10L    00R
      -00003 *10L    00R

21 05+  0 443E 0M3/H 00R
      +01658 *10L    00R
      -00003 *10L    00R

22 05+  0 430E 0M3/H 00R
      +01703 *10L    00R
      -00003 *10L    00R

23 05+  0 663E 0M3/H 00R
      +01750 *10L    00R
      -00003 *10L    00R

00 05+  0 634E 0M3/H 00R
      +01812 *10L    00R
      -00003 *10L    00R

01 05+  0 867E 0M3/H 00R
      +01910 *10L    00R
      -00003 *10L    00R

02 05+  0 339E 0M3/H 00R
      +01965 *10L    00R
```

```
03 05+  0 243E 0M3/H 00R
      +01991 *10L    00R
      -00003 *10L    00R

04 05+  0 233E 0M3/H 00R
      +02014 *10L    00R
      -00003 *10L    00R

05 05+  0 233E 0M3/H 00R
      +02036 *10L    00R
      -00003 *10L    00R

06 05+  0 253E 0M3/H 00R
      +02090 *10L    00R
      -00003 *10L    00R

07 05+  0 330E 0M3/H 00R
      +02115 *10L    00R
      -00003 *10L    00R

08 05+  0 946E 0M3/H 00R
      +02194 *10L    00R
      -00003 *10L    00R

09 05+  0 330E 0M3/H 00R
      +02249 *10L    00R
      -00003 *10L    00R

10 05+  0 378E 0M3/H 00R
      +02282 *10L    00R
      -00003 *10L    00R

11 05+  0 228E 0M3/H 00R
      +02310 *10L    00R
      -00003 *10L    00R

12 05+  0 299E 0M3/H 00R
      +02342 *10L    00R
      -00003 *10L    00R

13 05+  0 330E 0M3/H 00R
      +02383 *10L    00R
      -00003 *10L    00R

14 05+  0 561E 0M3/H 00R
      +02436 *10L    00R
      -00003 *10L    00R

15 05+  0 946E 0M3/H 00R
      +02494 *10L    00R
      -00003 *10L    00R

16 05+  0 751E 0M3/H 00R
      +02571 *10L    00R
      -00003 *10L    00R

17 05+  0 588E 0M3/H 00R
      +02630 *10L    00R
      -00003 *10L    00R

18 05+  0 703E 0M3/H 00R
      +02698 *10L    00R
      -00003 *10L    00R

19 05+  0 632E 0M3/H 00R
      +02768 *10L    00R
      -00003 *10L    00R

20 05+  0 430E 0M3/H 00R
      +02827 *10L    00R
      -00003 *10L    00R

21 05+  0 545E 0M3/H 00R
      +02876 *10L    00R
      -00003 *10L    00R

22 05+  0 697E 0M3/H 00R
      +02943 *10L    00R
      -00003 *10L    00R

23 05+  0 611E 0M3/H 00R
      +03013 *10L    00R
      -00003 *10L    00R

00 05+  0 975E 0M3/H 00R
      +03071 *10L    00R
      -00003 *10L    00R

01 05+  0 520E 0M3/H 00R
      +03143 *10L    00R
      -00003 *10L    00R

02 05+  0 283E 0M3/H 00R
      +03181 *10L    00R
      -00003 *10L    00R

03 05+  0 301E 0M3/H 00R
      +03212 *10L    00R
      -00003 *10L    00R

04 05+  0 241E 0M3/H 00R
      +03238 *10L    00R
```

```
05 05+  0 224E 0M3/H 00R
      +03261 *10L    00R
      -00003 *10L    00R

06 05+  0 181E 0M3/H 00R
      +03281 *10L    00R
      -00003 *10L    00R

07 05+  0 091E 0M3/H 00R
      +03297 *10L    00R
      -00003 *10L    00R

08 05+  0 357E 0M3/H 00R
      +03321 *10L    00R
      -00003 *10L    00R

09 05+  0 297E 0M3/H 00R
      +03350 *10L    00R
      -00003 *10L    00R

10 05+  0 513E 0M3/H 00R
      +03389 *10L    00R
      -00003 *10L    00R

11 05-  4 378E 0M3/H 00R
      +03429 *10L    00R
      -00058 *10L    00R

12 05+  0 449E 0M3/H 00R
      +03494 *10L    00R
      -00064 *10L    00R

13 05+  0 305E 0M3/H 00R
      +03548 *10L    00R
      -00064 *10L    00R

14 05+  0 678E 0M3/H 00R
      +03579 *10L    00R
      -00064 *10L    00R

15 05+  0 911E 0M3/H 00R
      +03660 *10L    00R
      -00064 *10L    00R

16 05+  0 393E 0M3/H 00R
      +03728 *10L    00R
      -00064 *10L    00R

17 05+  0 299E 0M3/H 00R
      +03761 *10L    00R
      -00064 *10L    00R

18 05+  0 439E 0M3/H 00R
      +03805 *10L    00R
      -00064 *10L    00R

19 05+  0 272E 0M3/H 00R
      +03832 *10L    00R
      -00064 *10L    00R

20 05+  0 555E 0M3/H 00R
      +03865 *10L    00R
      -00064 *10L    00R

21 05+  0 853E 0M3/H 00R
      +03970 *10L    00R
      -00064 *10L    00R

22 05+  0 659E 0M3/H 00R
      +04050 *10L    00R
      -00064 *10L    00R

23 05+  0 605E 0M3/H 00R
      +04120 *10L    00R
      -00064 *10L    00R

00 05+  0 420E 0M3/H 00R
      +04168 *10L    00R
      -00064 *10L    00R

01 05+  0 628E 0M3/H 00R
      +04227 *10L    00R
      -00064 *10L    00R

02 05+  0 330E 0M3/H 00R
      +04272 *10L    00R
      -00064 *10L    00R

03 05+  0 272E 0M3/H 00R
      +04303 *10L    00R
      -00064 *10L    00R

04 05+  0 307E 0M3/H 00R
      +04330 *10L    00R
      -00064 *10L    00R

05 05+  0 233E 0M3/H 00R
      +04355 *10L    00R
      -00064 *10L    00R

06 05+  0 206E 0M3/H 00R
      +04379 *10L    00R
```

```
07 05+  0 [illegible]E 0M3/H 00R
        +04440 *10L     00R
        -00064 *10L     00R

08 05+  0 260E 0M3/H 00R
        +04431 *10L     00R
        -00064 *10L     00R

09 05+  0 106E 0M3/H 00R
        +04452 *10L     00R
        -00064 *10L     00R

10 05-  0 043E 0M3/H 00R
        +04464 *10L     00R
        -00065 *10L     00R

11 05-  0 004E 0M3/H 00R
        +04465 *10L     00R
        -00068 *10L     00R

12 05-  0 014E 0M3/H 00R
        +04465 *10L     00R
        -00070 *10L     00R

13 05-  0 018E 0M3/H 00R
        +04466 *10L     00R
        -00073 *10L     00R

14 05-  0 027E 0M3/H 00R
        +04467 *10L     00R
        -00076 *10L     00R

15 05+  0 012E 0M3/H 00R
        +04467 *10L     00R
        -00079 *10L     00R

16 05-  0 031E 0M3/H 00R
        +04468 *10L     00R
        -00081 *10L     00R

17 05+  0 312E 0M3/H 00R
        +04505 *10L     00R
        -00089 *10L     00R

INTEG UNIT
        *10L

INTEG START
        AUTO

START TIME
04-03 17 50
OPERATION TIME
99      HOR

PRT PERIOD
60      MIN

PRT UNIT M3/H
        YES

PRT UNIT M3/M
        NO

PRT UNIT M3/S
        NO

PRT UNIT M/S
        NO

PRT UNIT INTEG
        YES

PRT UNIT AI1
        NO

PRT UNIT AI2
        NO

START TIME
04-03 17 53

OPERATION TIME
99      HOR

ZERO MODE
        AUT ZERO

DAMPING SET
01      SEC

17 53+  0 917E 0M3/H 00R
        +00003 *10L     00R
        -00000 *10L     00R

04-03 17 5500 *R
+00007  *10L

18 53+  0 526E 0M3/H 00R
        +00073 *10L     00R
        -00000 *10L     00R

19 53+  1 991E 0M3/H 00H
        +00150 *10L     00H
        -00000 *10L     00H

20 53+  0 495E 0M3/H 00H
        +00226 *10L     00H
        -00000 *10L     00H

21 53+  0 509E 0M3/H 00R
        +00273 *10L     00R
        -00000 *10L     00R

22 53+  0 316E 0M3/H 00R
        +00316 *10L     00R
        -00000 *10L     00R

23 53+  0 368E 0M3/H 00R
        +00355 *10L     00R
        -00001 *10L     00R

00 53+  0 399E 0M3/H 00R
        +00398 *10L     00R
        -00001 *10L     00R

01 53+  0 372E 0M3/H 00R
        +00436 *10L     00R
        -00003 *10L     00R

02 53+  0 387E 0M3/H 00R
        +00473 *10L     00R
        -00003 *10L     00R

03 53+  0 318E 0M3/H 00R
        +00510 *10L     00R
        -00003 *10L     00R

04 53+  0 314E 0M3/H 00R
        +00544 *10L     00R
        -00003 *10L     00R

05 53+  0 332E 0M3/H 00R
        +00581 *10L     00R
        -00003 *10L     00R

06 53+  0 110E 0M3/H 00R
        +00618 *10L     00R
        -00003 *10L     00R

07 53+  0 201E 0M3/H 00H
        +00651 *10L     00H
        -00003 *10L     00H

08 53+  0 821E 0M3/H 00R
        +00790 *10L     00R
        -00012 *10L     00R

15 21+  0 722E 0M3/H 00R
        +00792 *10L     00R
        -00012 *10L     00R

16 21+  0 555E 0M3/H 00R
        +00843 *10L     00R
        -00012 *10L     00R

17 21+  0 461E 0M3/H 00R
        +00895 *10L     00R
        -00012 *10L     00R

18 21+  0 663E 0M3/H 00R
        +00953 *10L     00R
        -00012 *10L     00R

19 21+  0 561E 0M3/H 00R
        +01012 *10L     00R
        -00012 *10L     00R

20 21+  0 624E 0M3/H 00R
        +01064 *10L     00R
        -00012 *10L     00R

21 21+  0 501E 0M3/H 00R
        +01138 *10L     00R
        -00012 *10L     00R

22 21+  0 503E 0M3/H 00R
        +01207 *10L     00R
        -00012 *10L     00R

23 21+  0 826E 0M3/H 00R
        +01286 *10L     00R
        -00012 *10L     00R

00 21+  0 418E 0M3/H 00R
        +01344 *10L     00R
        -00012 *10L     00R

01 21+  0 330E 0M3/H 00R
        +01383 *10L     00R
        -00012 *10L     00R

02 21+  0 424E 0M3/H 00R
        +01413 *10L     00R

03 21+  0 382E 0M3/H 00R
        +01458 *10L     00R
        -00012 *10L     00R

04 21+  0 320E 0M3/H 00R
        +01493 *10L     00R
        -00012 *10L     00R

05 21+  0 399E 0M3/H 00R
        +01529 *10L     00R
        -00012 *10L     00R

06 21+  0 520E 0M3/H 00R
        +01562 *10L     00R
        -00012 *10L     00R

07 21+  0 476E 0M3/H 00R
        +01609 *10L     00R
        -00012 *10L     00R

08 21+  0 445E 0M3/H 00R
        +01664 *10L     00R
        -00012 *10L     00R

09 21+  0 563E 0M3/H 00R
        +01707 *10L     00R
        -00012 *10L     00R

10 21+  0 547E 0M3/H 00R
        +01754 *10L     00R
        -00012 *10L     00R

11 21+  0 114E 0M3/H 00R
        +01780 *10L     00R
        -00012 *10L     00R

12 21-  0 407E 0M3/H 00R
        +01791 *10L     00R
        -00014 *10L     00R

13 21+  0 464E 0M3/H 00R
        +01806 *10L     00R
        -00030 *10L     00R

14 21-  0 316E 0M3/H 00R
        +01842 *10L     00R
        -00080 *10L     00R

15 21-  0 162E 0M3/H 00R
        +01853 *10L     00R
        -00094 *10L     00R

16 21+  0 052E 0M3/H 00R
        +01867 *10L     00R
        -00105 *10L     00R

17 21+  0 153E 0M3/H 00R
        +01884 *10L     00R
        -00114 *10L     00R

18 21+  0 233E 0M3/H 00R
        +01901 *10L     00R
        -00126 *10L     00R

19 21+  0 000E 0M3/H 00R
        +01913 *10L     00R
        -00138 *10L     00R

20 21-  0 091E 0M3/H 00R
        +01915 *10L     00R
        -00144 *10L     00R

21 21+  0 022E 0M3/H 00R
        +01915 *10L     00R
        -00146 *10L     00R

22 21+  0 640E 0M3/H 00R
        +01917 *10L     00R
        -00147 *10L     00R

23 21-  0 006E 0M3/H 00R
        +01919 *10L     00R
        -00150 *10L     00R

00 21+  0 022E 0M3/H 00R
        +01926 *10L     00R
        -00160 *10L     00R

01 21+  0 037E 0M3/H 00R
        +01928 *10L     00R
        -00161 *10L     00R

02 21-  0 054E 0M3/H 00R
        +01932 *10L     00R
        -00164 *10L     00R

03 21-  2 430E 0M3/H 00R
        +01944 *10L     00R
        -00180 *10L     00R

04 21+  0 293E 0M3/H 00H
        +01986 *10L     00H

05 21+  0 276E 0M3/H 00R
        +02027 *10L     00R
        -00324 *10L     00R

06 21-  0 266E 0M3/H 00R
        +02062 *10L     00R
        -00424 *10L     00R

07 21-  0 012E 0M3/H 00R
        +02064 *10L     00R
        -00426 *10L     00R

08 21+  0 074E 0M3/H 00R
        +02065 *10L     00R
        -00428 *10L     00R

09 21+  0 145E 0M3/H 00R
        +02068 *10L     00R
        -00432 *10L     00R

10 21+  2 725E 0M3/H 00R
        +02259 *10L     00R
        -00436 *10L     00R

11 21+  0 753E 0M3/H 00R
        +02389 *10L     00R
        -00436 *10L     00R

12 21+  0 688E 0M3/H 00R
        +02455 *10L     00R
        -00436 *10L     00R

13 21+  0 826E 0M3/H 00R
        +02532 *10L     00R
        -00436 *10L     00R

14 21+  0 772E 0M3/H 00R
        +02611 *10L     00R
        -00476 *10L     00R

MM-DD HH MM
04-03 15 44

15 51+  0 645E 0M3/H 00R
        +00001 *10L     00R
        -00000 *10L     00R

04-03 15 5300 *R
+00003 *10L

16 51+  0 738E 0M3/H 00R
        +00028 *10L     00R
        -00025 *10L     00R

17 51+  0 000E 0M3/H 00R
        +00074 *10L     00R
        -00096 *10L     00R

18 51+  0 158E 0M3/H 00R
        +00094 *10L     00R
        -00107 *10L     00R

19 51+  0 303E 0M3/H 00R
        +00116 *10L     00R
        -00122 *10L     00R

20 51-  0 185E 0M3/H 00R
        +00128 *10L     00R
        -00136 *10L     00R

21 51+  0 387E 0M3/H 00R
        +00130 *10L     00R
        -00138 *10L     00R

22 51-  0 068E 0M3/H 00H
        +00132 *10L     00H
        -00140 *10L     00H

23 51-  0 068E 0M3/H 00H
        +00132 *10L     00H
        -00147 *10L     00H

00 51-  0 068E 0M3/H 00H
        +00132 *10L     00H
        -00153 *10L     00H

01 51-  0 068E 0M3/H 00H
        +00132 *10L     00H
        -00160 *10L     00H

02 51-  0 068E 0M3/H 00H
        +00132 *10L     00H
        -00167 *10L     00H

03 51+  0 409E 0M3/H 00H
        +00157 *10L     00H
        -00174 *10L     00H
```

```
04 51+  0 578E 0M3/H 00H
      +00175 *10L    00H
      -00174 *10L    00H

05 51+  0 538E 0M3/H 00H
      +00229 *10L    00H
      -00174 *10L    00H

06 51+  0 538E 0M3/H 00H
      +00283 *10L    00H
      -00174 *10L    00H

07:51+  3 483E 0M3/H 00R
      +00353 *10L    00R
      -00174 *10L    00R

08 51+  1 277E 0M3/H 00R
      +00631 *10L    00R
      -00174 *10L    00R

09 51+  0 688E 0M3/H 00R
      +00720 *10L    00R
      -00174 *10L    00R

10 51+  0 734E 0M3/H 00R
      +00792 *10L    00R
      -00174 *10L    00R

11 51+  0 674E 0M3/H 00R
      +00861 *10L    00R
      -00174 *10L    00R

12 51+  0 692E 0M3/H 00R
      +00932 *10L    00R
      -00174 *10L    00R

13 51+  0 713E 0M3/H 00R
      +01007 *10L    00R
      -00174 *10L    00R

14 51+  0 744E 0M3/H 00R
      +01078 *10L    00R
      -00174 *10L    00R

15 04+  0 738E 0M3/H 00R
      +01093 *10L    00R
      -00174 *10L    00R
      919
16 04+  0 757E 0M3/H 00R
      +01167 *10L    00R
      -00174 *10L    00R

17 04+  0 792E 0M3/H 00R
      +01243 *10L    00R
      -00174 *10L    00R

18 04+  0 027E 0M3/H 00R
      +01259 *10L    00R
      -00187 *10L    00R

19 04+  0 114E 0M3/H 00R
      +01291 *10L    00R
      -00205 *10L    00R

20 04+  1 579E 0M3/H 00H
      +01305 *10L    00H
      -00208 *10L    00H

21 04-  0 037E 0M3/H 00R
      +01431 *10L    00R
      -00231 *10L    00R

22 04-  0 297E 0M3/H 00R
      +01436 *10L    00R
      -00245 *10L    00R

23 04-  0 245E 0M3/H 00R
      +01441 *10L    00R
      -00257 *10L    00R

00 04-  0 178E 0M3/H 00R
      +01443 *10L    00R
      -00269 *10L    00R

01 04-  0 122E 0M3/H 00R
      +01444 *10L    00R
      -00278 *10L    00R

02 04-  0 153E 0M3/H 00R
      +01446 *10L    00R
      -00288 *10L    00R

03 04-  0 074E 0M3/H 00R
      +01447 *10L    00R
      -00299 *10L    00R

04 04+  0 081E 0M3/H 00R
      +01448 *10L    00R
      -00310 *10L    00R

05 04   0 [illegible]E 0M3/H 00R
```

```
06 01-  1 421E 0M3/H 00H
      +01451 *10L    00H
      -00327 *10L    00H

07 04+  1 184E 0M3/H 00R
      +01688 *10L    00R
      -00331 *10L    00R

07 45+  0 624E 0M3/H 00R
      +01743 *10L    00R
      -00331 *10L    00R

18 30+  0 337E 0M3/H 00R
      +01749 *10L    00R
      -00331 *10L    00R

19 30+  0 027E 0M3/H 00R
      +01960 *10L    00R
      -00350 *10L    00R

20 30-  0 035E 0M3/H 00R
      +01988 *10L    00R
      -00378 *10L    00R

21 30+  1 868E 0M3/H 00R
      +02130 *10L    00R
      -00390 *10L    00R

22 30+  0 932E 0M3/H 00R
      +02236 *10L    00R
      -00390 *10L    00R

23 30+  0 199E 0M3/H 00R
      +02274 *10L    00R
      -00398 *10L    00R

00 30-  0 099E 0M3/H 00R
      +02289 *10L    00R
      -00408 *10L    00R

01 30+  0 108E 0M3/H 00R
      +02322 *10L    00R
      -00445 *10L    00R

02 30-  0 172E 0M3/H 00R
      +02342 *10L    00R
      -00468 *10L    00R

03 30+  0 836E 0M3/H 00R
      +02352 *10L    00R
      -00478 *10L    00R

04 30+  0 035E 0M3/H 00R
      +02362 *10L    00R
      -00484 *10L    00R

05 30+  0 062E 0M3/H 00R
      +02367 *10L    00R
      -00489 *10L    00R

06 30+  3 364E 0M3/H 00R
      +02393 *10L    00R
      -00496 *10L    00R

07 30+  0 788E 0M3/H 00R
      +02536 *10L    00R
      -00496 *10L    00R

16 12+  0 788E 0M3/H 00R
      +02611 *10L    00R
      -00496 *10L    00R

17 12+  3 772E 0M3/H 00R
      +02642 *10L    00R
      -00541 *10L    00R

18 12+  0 955E 0M3/H 00R
      +02832 *10L    00R
      -00541 *10L    00R
      2910
19 12+  0 776E 0M3/H 00R
      +02916 *10L    00R
      -00541 *10L    00R

20 12+  0 982E 0M3/H 00R
      +02998 *10L    00R
      -00541 *10L    00R

21 12+  0 778E 0M3/H 00R
      +03094 *10L    00R
      -00541 *10L    00R

22 12+  0 692E 0M3/H 00R
      +03168 *10L    00R
      -00541 *10L    00R

23 12+  0 676E 0M3/H 00P
      +03235 *10L    00P
```

```
00 12+  0 563E 0M3/H 00R
      +03300 *10L    00R
      -00541 *10L    00R

01 12+  0 000E 0M3/H 00R
      +03314 *10L    00R
      -00545 *10L    00R

02 12-  0 056E 0M3/H 00R
      +03314 *10L    00R
      -00546 *10L    00R

03 12-  0 074E 0M3/H 00R
      +03315 *10L    00R
      -00548 *10L    00R

04 12+  0 037E 0M3/H 00R
      +03319 *10L    00R
      -00556 *10L    00R

05 12+  0 861E 0M3/H 00H
      +03323 *10L    00H
      -00562 *10L    00H

06 12+  0 314E 0M3/H 00R
      +03347 *10L    00R
      -00563 *10L    00R

07 12+  0 270E 0M3/H 00H
      +03383 *10L    00H
      -00563 *10L    00H

08 12+  0 233E 0M3/H 00H
      +03414 *10L    00H
      -00563 *10L    00H

09 12+  0 131E 0M3/H 00R
      +03452 *10L    00R
      -00564 *10L    00R

10 12+  0 343E 0M3/H 00R
      +03475 *10L    00R
      -00564 *10L    00R

11 12+  0 278E 0M3/H 00R
      +03517 *10L    00R
      -00564 *10L    00R

12 12+  0 478E 0M3/H 00R
      +03553 *10L    00R
      -00564 *10L    00R

13 12+  0 387E 0M3/H 00R
      +03605 *10L    00R
      -00565 *10L    00R

14 12+  0 418E 0M3/H 00R
      +03650 *10L    00R
      -00566 *10L    00R

15 12+  0 343E 0M3/H 00R
      +03691 *10L    00R
      -00569 *10L    00R

16 12+  0 228E 0M3/H 00R
      +03729 *10L    00R
      -00572 *10L    00R

17 12+  2 214E 0M3/H 00R
      +03944 *10L    00R
      -00572 *10L    00R

18 12+  0 871E 0M3/H 00R
      +04064 *10L    00R
      -00572 *10L    00R
      3472
19 12+  0 961E 0M3/H 00R
      +04143 *10L    00R
      -00572 *10L    00R

20 12+  0 826E 0M3/H 00R
      +04226 *10L    00R
      -00572 *10L    00R

21 12+  0 753E 0M3/H 00R
      +04309 *10L    00R
      -00572 *10L    00R

22:12+  0 630E 0M3/H 00R
      +04383 *10L    00R
      -00572 *10L    00R

23 12+  0 703E 0M3/H 00R
      +04450 *10L    00R
      -00572 *10L    00R
```

```
00 12+  0 703E 0M3/H 00R
      +04513 *10L    00R
      -00572 *10L    00R

01 12+  0 674E 0M3/H 00R
      +04586 *10L    00R
      -00572 *10L    00R

02 12+  0 628E 0M3/H 00R
      +04651 *10L    00R
      -00572 *10L    00R

03 12+  0 701E 0M3/H 00R
      +04713 *10L    00R
      -00572 *10L    00R

04 12+  0 000E 0M3/H 00R
      +04740 *10L    00R
      -00576 *10L    00R

05 12-  0 170E 0M3/H 00R
      +04741 *10L    00R
      -00583 *10L    00R

06 12-  0 091E 0M3/H 00P
      +04742 *10L    00P
      -00606 *10L    00P

06 20-  0 316E 0M3/H 00R
      +04742 *10L    00P
      -00607 *10L    00P

07 20-  0 222E 0M3/H 00P
      +04743 *10L    00P
      -00623 *10L    00P

08 20+  0 297E 0M3/H 00R
      +04744 *10L    00R
      -00633 *10L    00R

09 20+  0 726E 0M3/H 00R
      +04832 *10L    00R
      -00633 *10L    00R

10 20+  0 534E 0M3/H 00R
      +04896 *10L    00R
      -00633 *10L    00R

11 20+  0 632E 0M3/H 00R
      +04956 *10L    00R
      -00633 *10L    00R

12 20+  0 634E 0M3/H 00R
      +05019 *10L    00R
      -00633 *10L    00R

13 20+  0 657E 0M3/H 00P
      +05083 *10L    00R
      -00633 *10L    00R
```


166

```
15 30+  1    E 0M3/H 00R
        +00000 *10L    00R
        -00600 *10L    00R

16 30+  0 185E 0M3/H 00R
        +00040 *10L    00R
        -00000 *10L    00R

17 30-  0 110E 0M3/H 00R
        +00042 *10L    00R
        -00003 *10L    00R

18 30-  1 108E 0M3/H 00R
        +00066 *10L    00R
        -00013 *10L    00R

19 30-  0 121E 0M3/H 00R
        +00070 *10L    00R
        -00019 *10L    00R

20 30+  0 070E 0M3/H 00R
        +00073 *10L    00R
        -00021 *10L    00R

21 30+  0 260E 0M3/H 00R
        +00078 *10L    00R
        -00023 *10L    00R

22 30+  0 041E 0M3/H 00R
        +00082 *10L    00R
        -00024 *10L    00R

23 30+  0 089E 0M3/H 00R
        +00087 *10L    00R
        -00025 *10L    00R

00 30+  0 066E 0M3/H 00R
        +00093 *10L    00R
        -00025 *10L    00R

01 30+  0 095E 0M3/H 00R
        +00097 *10L    00R
        -00025 *10L    00R

02 30+  0 000E 0M3/H 00R
        +00099 *10L    00R
        -00026 *10L    00R

03 30+  0 000E 0M3/H 00R
        +00103 *10L    00R
        -00027 *10L    00R

04 30+  0 224E 0M3/H 00R
        +00108 *10L    00R
        -00028 *10L    00R

05 30+  0 085E 0M3/H 00R
        +00118 *10L    00R
        -00028 *10L    00R

06 30+  0 919E 0M3/H 00R
        +00256 *10L    00R
        -00032 *10L    00R

07 30+  0 744E 0M3/H 00R
        +00338 *10L    00R
        -00032 *10L    00R

08 30+  0 659E 0M3/H 00R
        +00408 *10L    00R
        -00032 *10L    00R

09 30+  0 640E 0M3/H 00R
        +00473 *10L    00R
        -00032 *10L    00R

10 30+  0 667E 0M3/H 00R
        +00539 *10L    00R
        -00032 *10L    00R

11 30+  0 667E 0M3/H 00R
        +00604 *10L    00R
        -00032 *10L    00R

12 30+  0 688E 0M3/H 00R
        +00668 *10L    00R
        -00032 *10L    00R

13 30+  0 665E 0M3/H 00R
        +00736 *10L    00R
        -00032 *10L    00R

14 30+  0 247E 0M3/H 00R
        +00781 *10L    00R
        -00032 *10L    00R

15 30+  0 099E 0M3/H 00R
        +00803 *10L    00R
        -00032 *10L    00R

16 30+  0 000E 0M3/H 00R
        +00804 *10L    00R

17 30+  0 000E 0M3/H 00R
        +00805 *10L    00R
        -00037 *10L    00R

18 30+  0 000E 0M3/H 00R
        +00806 *10L    00R
        -00039 *10L    00R

19 30+  0 000E 0M3/H 00R
        +00806 *10L    00R
        -00040 *10L    00R

20 30+  0 836E 0M3/H 00R
        +00807 *10L    00R
        -00042 *10L    00R

21 30+  0 000E 0M3/H 00R
        +00808 *10L    00R
        -00042 *10L    00R

22 30+  0 000E 0M3/H 00R
        +00809 *10L    00R
        -00046 *10L    00R

23 30+  0 000E 0M3/H 00R
        +00811 *10L    00R
        -00047 *10L    00R

00 30+  0 000E 0M3/H 00R
        +00812 *10L    00R
        -00047 *10L    00R

01 30+  0 000E 0M3/H 00R
        +00812 *10L    00R
        -00050 *10L    00R

02 30-  0 031E 0M3/H 00R
        +00812 *10L    00R
        -00052 *10L    00R

03 30-  0 041E 0M3/H 00P
        +00812 *10L    00R
        -00055 *10L    00R

04 30-  0 031E 0M3/H 00R
        +00818 *10L    00R
        -00064 *10L    00R

05 30+  0 274E 0M3/H 00R
        +00824 *10L    00R
        -00069 *10L    00R

06 30+  0 950E 0M3/H 00R
        +00983 *10L    00R
        -00082 *10L    00P

07 30+  0 749E 0M3/H 00R
        +01067 *10L    00R
        -00082 *10L    00R

08 30+  0 707E 0M3/H 00R
        +01143 *10L    00R
        -00082 *10L    00R

09 30+  0 651E 0M3/H 00R
        +01209 *10L    00R
        -00082 *10L    00R

10 30+  0 684E 0M3/H 00R
        +01276 *10L    00R
        -00082 *10L    00R

11 30+  0 622E 0M3/H 00R
        +01340 *10L    00R
        -00082 *10L    00R

12 30+  0 580E 0M3/H 00R
        +01401 *10L    00R
        -00082 *10L    00R

13 30+  0 688E 0M3/H 00R
        +01465 *10L    00R
        -00082 *10L    00R

14 30+  0 056E 0M3/H 00R
        +01503 *10L    00R
        -00082 *10L    00R

15 30+  0 000E 0M3/H 00R
        +01527 *10L    00R
        -00094 *10L    00R

16 30+  0 062E 0M3/H 00R
        +01531 *10L    00R
        -00099 *10L    00R

17 30+  0 000E 0M3/H 00R
        +01538 *10L    00R
        -00103 *10L    00R

18 30-  0 701E 0M3/H 00R
        +01559 *10L    00R

19 30-  0 099E 0M3/H 00P
        +01566 *10L    00R
        -00132 *10L    00R

20 30+  0 108E 0M3/H 00R
        +01575 *10L    00R
        -00132 *10L    00R

21 30+  0 058E 0M3/H 00R
        +01580 *10L    00R
        -00134 *10L    00R

22 30+  0 076E 0M3/H 00R
        +01586 *10L    00R
        -00135 *10L    00R

23 30+  0 022E 0M3/H 00R
        +01589 *10L    00R
        -00136 *10L    00R

00 30+  0 000E 0M3/H 00P
        +01590 *10L    00R
        -00137 *10L    00R

01 30-  0 035E 0M3/H 00R
        +01590 *10L    00R
        -00137 *10L    00R

02 30-  0 033E 0M3/H 00R
        +01592 *10L    00R
        -00138 *10L    00R

03 30+  0 099E 0M3/H 00R
        +01596 *10L    00R
        -00138 *10L    00R

04 30+  0 081E 0M3/H 00R
        +01606 *10L    00R
        -00138 *10L    00R

05 30+  0 000E 0M3/H 00R
        +01615 *10L    00R
        -00138 *10L    00R

06 30+  1 111E 0M3/H 00R
        +01769 *10L    00R
        -00145 *10L    00R

07 30+  0 640E 0M3/H 00R
        +01852 *10L    00R
        -00145 *10L    00R

08 30+  0 630E 0M3/H 00R
        +01914 *10L    00R
        -00145 *10L    00R

09 30+  0 649E 0M3/H 00R
        +01978 *10L    00R
        -00145 *10L    00R

10 30+  0 561E 0M3/H 00R
        +02042 *10L    00R
        -00145 *10L    00R

11 30+  0 713E 0M3/H 00R
        +02106 *10L    00R
        -00145 *10L    00R

12 30+  0 678E 0M3/H 00R
        +02177 *10L    00R
        -00145 *10L    00R

13 30+  0 715E 0M3/H 00R
        +02243 *10L    00R
        -00145 *10L    00R

14 30+  0 665E 0M3/H 00R
        +02311 *10L    00R
        -00145 *10L    00R

15 30+  0 738E 0M3/H 00R
        +02381 *10L    00R
        -00145 *10L    00R

16 30+  0 707E 0M3/H 00R
        +02453 *10L    00R
        -00145 *10L    00R

17 30+  0 000E 0M3/H 00R
        +02489 *10L    00R
        -00148 *10L    00R

18 30+  0 000E 0M3/H 00R
        +02490 *10L    00R
        -00149 *10L    00R

19 30+  0 031E 0M3/H 00R
        +02490 *10L    00R
        -00150 *10L    00R

20 30+  0 000E 0M3/H 00R
        +02491 *10L    00R

21 30+  0 000E 0M3/H 00R
        +02492 *10L    00R
        -00151 *10L    00R

22 30+  0 000E 0M3/H 00R
        +02493 *10L    00R
        -00151 *10L    00R

23 30+  0 000E 0M3/H 00R
        +02496 *10L    00R
        -00151 *10L    00R

00 30+  0 000E 0M3/H 00R
        +02498 *10L    00R
        -00151 *10L    00R

01 30+  0 000E 0M3/H 00R
        +02499 *10L    00R
        -00151 *10L    00R

02 30-  0 022E 0M3/H 00R
        +02500 *10L    00R
        -00151 *10L    00R

03 30+  0 000E 0M3/H 00R
        +02501 *10L    00R
        -00153 *10L    00R

04 30-  0 022E 0M3/H 00P
        +02501 *10L    00R
        -00154 *10L    00R

05 30+  0 000E 0M3/H 00R
        +02502 *10L    00R
        -00155 *10L    00R

06 30+  1 119E 0M3/H 00R
        +02633 *10L    00R
        -00157 *10L    00R

07 30+  0 832E 0M3/H 00P
        +02720 *10L    00P
        -00157 *10L    00P

08 30+  0 759E 0M3/H 00P
        +02803 *10L    00P
        -00157 *10L    00P

09 30+  0 645E 0M3/H 00P
        +02871 *10L    00P
        -00157 *10L    00P

10 30+  0 778E 0M3/H 00R
        +02948 *10L    00R
        -00157 *10L    00R

11 30+  0 640E 0M3/H 00R
        +03020 *10L    00R
        -00157 *10L    00R

12 30+  0 609E 0M3/H 00R
        +03081 *10L    00R
        -00157 *10L    00R

13 30+  0 576E 0M3/H 00R
        +03143 *10L    00R
        -00157 *10L    00R

14 30+  0 607E 0M3/H 00R
        +03203 *10L    00R
        -00157 *10L    00R

15 30+  0 000E 0M3/H 00R
        +03248 *10L    00R
        -00157 *10L    00R

16 30+  0 000E 0M3/H 00R
        +03248 *10L    00R
        -00161 *10L    00R

17 30+  0 041E 0M3/H 00R
        +03249 *10L    00R
        -00162 *10L    00R

18 30+  0 000E 0M3/H 00R
        +03250 *10L    00R
        -00162 *10L    00R
```

H-2 V.

```
04-20 17 1600 *R
+03250  *10L

04-20 17 1700 *R
+000 00 /  AI1

04-20 17 1700
+002 80 /  AI2

04-20 17 1700 *R
+002 80 /  AI2

04-20 17 1700
+  0 339E 0M3/H

04-20 17 1700 *R
+  0 249E-2M3/M

04-20 17 1700
+  0 329E-4M3/S

04-20 17:1700
+  0 057E 0M/S

17 25+  0 280E 0M3/H 00R
      +00000 *10L    00R
      -00000 *10L    00R

18 25+  1 134E 0M3/H 00R
      +00190 *10L    00R
      -00001 *10L    00R

19 25+  0 684E 0M3/H 00R
      +00272 *10L    00R
      -00001 *10L    00R

20 25+  0 534E 0M3/H 00R
      +00338 *10L    00R
      -00001 *10L    00R

21 25+  0 701E 0M3/H 00P
      +00389 *10L    00R
      -00005 *10L    00P

- 25+  1 718E 0M3/H 00R
      +00397 *10L    00P
      -00021 *10L    00R

23 25+  0 000E 0M3/H 00R
      +00398 *10L    00R
      -00026 *10L    00R

00 25+  0 000E 0M3/H 00R
      +00400 *10L    00R
      -00029 *10L    00R

01 25+  0 054E 0M3/H 00R
      +00404 *10L    00R
      -00033 *10L    00R

02 25+  0 000E 0M3/H 00R
      +00405 *10L    00R
      -00033 *10L    00R

03 25+  0 000E 0M3/H 00R
      +00407 *10L    00R
      -00034 *10L    00R

04 25+  0 000E 0M3/H 00R
      +00421 *10L    00R
      -00036 *10L    00R

05 25-  0 024E 0M3/H 00R
      +00435 *10L    00R
      -00046 *10L    00R

06 25+  0 045E 0M3/H 00R
      +00439 *10L    00R
      -00047 *10L    00R

07 25+  0 759E 0M3/H 00R
      +00579 *10L    00R
      -00048 *10L    00R

08 25+  0 264E 0M3/H 00R
      +00653 *10L    00R
      -00048 *10L    00R

09 25+  2 141E 0M3/H 00R
      +00692 *10L    00R
      -00070 *10L    00R

10 25+  0 688E 0M3/H 00R
      +00761 *10L    00R
      -00206 *10L    00R

11 25+  0 674E 0M3/H 00R
      +00829 *10L    00R
      -00206 *10L    00R

12 25+  0 711E 0M3/H 00R
      +00895 *10L    00R
      -00206 *10L    00R

13 25+  0 620E 0M3/H 00R
      +00960 *10L    00R
      -00206 *10L    00R

14 25+  0 676E 0M3/H 00R
      +01021 *10L    00R
      -00206 *10L    00R

15 25+  0.695E 0M3/H 00R
      +01086 *10L    00R
      -00206 *10L    00R

16 25-  0 241E 0M3/H 00R
      +01129 *10L    00R
      -00226 *10L    00R

17 25+  1 181E 0M3/H 00R
      +01163 *10L    00R
      -00271 *10L    00R
      892
18:25+  0 135E 0M3/H 00R
      +01192 *10L    00R
      -00291 *10L    00R

19 25+  0 099E 0M3/H 00R
      +01212 *10L    00R
      -00299 *10L    00R

20 25+  1 489E 0M3/H 00R
      +01230 *10L    00R
      -00310 *10L    00R

21 25+  0 158E 0M3/H 00R
      +01245 *10L    00R
      -00321 *10L    00R

22 25+  0 085E 0M3/H 00R
      +01258 *10L    00R
      -00324 *10L    00R

23 25+  0 081E 0M3/H 00R
      +01265 *10L    00R
      -00324 *10L    00R

00 25-  0 031E 0M3/H 00R
      +01272 *10L    00R
      -00325 *10L    00R

01 25+  0 000E 0M3/H 00R
      +01280 *10L    00R
      -00325 *10L    00R

02 25+  0 183E 0M3/H 00R
      +01289 *10L    00R
      -00326 *10L    00R

03 25+  0 133E 0M3/H 00R
      +01294 *10L    00R
      -00327 *10L    00R

04 25+  0 091E 0M3/H 00R
      +01304 *10L    00R
      -00328 *10L    00R

05 25+  0 120E 0M3/H 00R
      +01312 *10L    00R
      -00329 *10L    00R

06 25+  0 047E 0M3/H 00R
      +01317 *10L    00R
      -00329 *10L    00R

07 25+  0 070E 0M3/H 00R
      +01325 *10L    00R
      -00329 *10L    00R

08 25+  0 089E 0M3/H 00R
      +01333 *10L    00R
      -00330 *10L    00R

09 25+  0 189E 0M3/H 00R
      +01344 *10L    00R
      -00330 *10L    00R

10 25+  1 473E 0M3/H 00H
      +01366 *10L    00H
      -00340 *10L    00H

11 25+  1 473E 0M3/H 00H
      +01513 *10L    00H
      -00340 *10L    00H

12 25+  1 473E 0M3/H 00H
      +01661 *10L    00H
      -00340 *10L    00H

13 25+  1 473E 0M3/H 00H
      +01808 *10L    00H
      -00340 *10L    00H

14 25+  1 473E 0M3/H 00H
      +01955 *10L    00H
      -00340 *10L    00H

15 25+  0 108E 0M3/H 00H
      +02104 *10L    00H
      -00340 *10L    00H

16 25+  3 876E 0M3/H 00R
      +02488 *10L    00R
      -00340 *10L    00R

17 25+  3 052E 0M3/H 00R
      +02812 *10L    00R
      -00340 *10L    00R
      2472
18 25+  1 198E 0M3/H 00R
      +03044 *10L    00R
      -00340 *10L    00R

19 25+  0 844E 0M3/H 00R
      +03129 *10L    00R
      -00340 *10L    00R

20 25-  0 197E 0M3/H 00R
      +03184 *10L    00R
      -00345 *10L    00R

21 25+  0 060E 0M3/H 00H
      +03225 *10L    00H
      -00382 *10L    00H

22 25+  0 060E 0M3/H 00H
      +03231 *10L    00H
      -00382 *10L    00H

23 25+  0 060E 0M3/H 00H
      +03237 *10L    00H
      -00382 *10L    00H

00 25+  0 060E 0M3/H 00H
      +03243 *10L    00H
      -00382 *10L    00H

01 25+  0 060E 0M3/H 00H
      +03249 *10L    00H
      -00382 *10L    00H

02 25-  0 087E 0M3/H 00R
      +03254 *10L    00R
      -00389 *10L    00R

03 25-  0 314E 0M3/H 00H
      +03254 *10L    00H
      -00416 *10L    00H

04 25-  0 191E 0M3/H 00R
      +03255 *10L    00R
      -00444 *10L    00R

05 25+  1 943E 0M3/H 00H
      +03330 *10L    00H
      -00449 *10L    00H

06 25+  4 171E 0M3/H 00R
      +03443 *10L    00R
      -00449 *10L    00R

07 25+  0 087E 0M3/H 00R
      +03643 *10L    00R
      -00455 *10L    00R

08 25+  2 445E 0M3/H 00R
      +03701 *10L    00R
      -00495 *10L    00R

09 25+  0 461E 0M3/H 00R
      +03813 *10L    00R
      -00495 *10L    00R

10 25+  0 534E 0M3/H 00R
      +03872 *10L    00R
      -00495 *10L    00R

11 25+  0 255E 0M3/H 00R
      +03915 *10L    00R
      -00495 *10L    00R

12 25+  0 305E 0M3/H 00R
      +03939 *10L    00R
      -00495 *10L    00R

13 25+  0 524E 0M3/H 00R
      +03983 *10L    00R
      -00495 *10L    00R

14 25+  0 222E 0M3/H 00R
      +04030 *10L    00R
      -00495 *10L    00R

15 25+  0 233E 0M3/H 00R
      +04050 *10L    00R
      -00495 *10L    00R

16 25-  0 160E 0M3/H 00R
      +04061 *10L    00R
      -00446 *10L    00R

17 25+  0 000E 0M3/H 00R
      +04062 *10L    00R
      -00500 *10L    00R
      2562
18 25+  0 000E 0M3/H 00R
      +04062 *10L    00R
      -00501 *10L    00R

19 25-  0 147E 0M3/H 00R
      +04063 *10L    00R
      -00503 *10L    00R

20 25-  0 337E 0M3/H 00R
      +04069 *10L    00R
      -00507 *10L    00R

21 25-  0 066E 0M3/H 00R
      +04076 *10L    00R
      -00518 *10L    00R

22 25+  0 039E 0M3/H 00R
      +04078 *10L    00R
      -00533 *10L    00R

23 25+  0 228E 0M3/H 00R
      +04080 *10L    00R
      -00546 *10L    00R

00 25-  0 041E 0M3/H 00R
      +04083 *10L    00P
      -00559 *10L    00R

01 25-  0 079E 0M3/H 00R
      +04086 *10L    00P
      -00573 *10L    00R

02 25-  0 191E 0M3/H 00R
      +04087 *10L    00R
      -00587 *10L    00R

03 25+  0 497E 0M3/H 00P
      +04093 *10L    00P
      -00606 *10L    00R

04 25-  0 332E 0M3/H 00P
      +04107 *10L    00P
      -00614 *10L    00P

05 25-  0 089E 0M3/H 00P
      +04112 *10L    00P
      -00627 *10L    00P

06 25+  3 701E 0M3/H 00P
      +04266 *10L    00P
      -00634 *10L    00P

07 25+  1 075E 0M3/H 00P
      +04509 *10L    00P
      -00634 *10L    00P

08 25+  0 058E 0M3/H 00P
      +04534 *10L    00R
      -00648 *10L    00R

09 25+  2 517E 0M3/H 00R
      +04618 *10L    00R
      -00662 *10L    00R

10 25+  0 684E 0M3/H 00R
      +04729 *10L    00R
      -00669 *10L    00R

11 25+  0 245E 0M3/H 00R
      +04771 *10L    00R
      -00669 *10L    00R

12 25+  0 166E 0M3/H 00R
      +04791 *10L    00R
      -00669 *10L    00R

13 25+  0 264E 0M3/H 00R
      +04816 *10L    00R
      -00669 *10L    00R

14 25+  0 312E 0M3/H 00R
      +04849 *10L    00R
      -00669 *10L    00R

15 25+  0 314E 0M3/H 00R
      +04881 *10L    00R
      -00669 *10L    00R

04-24 16 2300 *R
+04893  *10L

04-24 16 2300 *R
+04893  *10L

04-24 16 2300
-00673  *10L

04-24 16 2300 *R
+000 00 /  AI1
```

I37

168