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FORT BLISS WATER DISTRIBUTION SYSTEM

Fort Bliss
El Paso, Texas

ENERGY ENGINEERING ANALYSIS PROGRAM (EEAP)

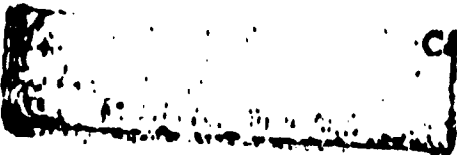
FINAL SUBMITTAL

August, 1994

Prepared by:

CARTER & BURGESS, INC.
Engineers • Planners • Surveyors
3880 Helen Street
Fort Worth, Texas 76133

19971016 242



C&B No. 94127601F

DTIC QUALITY INSPECTED 8.



DEPARTMENT OF THE ARMY
CONSTRUCTION ENGINEERING RESEARCH LABORATORY
7000 DEER CREEK ROAD
CHAMPAIGN, ILLINOIS 61820

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17 Sep 1997

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M. Wakefield
Marie Wakefield,
Librarian/Engineer

24

TABLE OF CONTENTS

	<u>Page</u>
I. NARRATIVE	1
A. Purpose	1
B. System Description	1
C. Analysis Of Present Energy Consumption	2
D. Analysis of Present Water Consumption	2
E. Analysis Of Previous Studies	6
F. Analysis Of Energy Conservation Opportunities (ECO's)	7
G. Life Cycle Cost Calculations	8
H. Conclusions	10
I. Recommendations	10
J. Criteria	11

APPENDICES

	<u>Section</u>
A - Utility Rate Schedules	1
B - Fort Bliss Base Utility Bills	2
C - Peak Demand Profiles	3
D - Example Energy Calculations	4
E - Pump Run Time Data	5
F - Water Distribution and Well Pumping Records	6
G - Storage Tank and Pressure Plane Balance Sheets	7
H - Computer Model Printout	8
I - Existing Storage Capacities	9
J - Probable Cost Estimates	10
K - Miscellaneous Calculations	11
L - Life Cycle Cost Calculations	12
M - Scope of Work	13
N - Map	14
O - Symbols, Abbreviations and Conversion Factors	15
P - DD Form 1391	16

**ENERGY ENGINEERING
ANALYSIS PROGRAM
(EEAP)
for
FORT BLISS WATER DISTRIBUTION
SYSTEM
EEAP**

I. NARRATIVE

A. Purpose

The purpose of this study is to analyze the existing system and an alternate method of peak electrical demand shaving for the water distribution system at Fort Bliss, Texas. The existing system will be referred to as Alternative #1 throughout the report. Alternative #2 includes the addition of water storage capacity in order to allow the well and booster pumps to operate only during non-peak electrical periods.

This report is prepared in accordance with the scope of work for Contract No. DACA63-93-M-1259, Purchase Request No. FED-MO-0093-0101 (Refer to Appendix M for complete scope of work) and is a continuation of a report conducted in February, 1993 by Carter & Burgess. All pertinent data from the previous report is represented in this report. With the addition of the detailed KY Pipe Analysis. The blast Life Cycle Cost In Design (LCCID) program with the ECIP option was used to determine the Life Cycle Cost (LCC) and Savings to Investment Ratio (SIR) for the analyzed retrofit for a 20 year study life.

B. System Description

The existing water distribution system consists of 17 well pumps and 5 booster pumping stations. The desert field well and booster pumps were not included in this study due to their remote location. The well and booster pumps provide water supply to several ground elevated storage tanks located across the reservation (Refer to Appendix N for map indicating general locations). These storage tanks are located to provide three pressure zones. The upper

pressure zone is maintained by a one million gallon tank. The intermediate pressure zone is maintained by a 0.6 million gallon tank. Pressure in the lower zone is maintained by three (3) elevated storage tanks.

C. Analysis Of Present Energy Consumption

In order to establish the energy consumption of the existing water distribution system, El Paso Electric supplied 30-minute measured KW demand values as well as utility bills for the entire base for the period from September 1991 through August 1992 (Refer to Appendix B for this data). This data was used to determine the peak electrical demand day for the entire base which El Paso Electric utilizes for billing purposes each month. Next, the Williams Electric Automated Control System was utilized to download the pump run-time data for each pump, for each of the peak days during the 12-month period previously identified (Refer to Appendix E for this data). Using the run-time data and the KW demand for each pump, the total pumping system electrical demand was calculated and subtracted from the base electrical demand and plotted with the total base demand (Refer to Appendix C for these graphs). These graphs represent the maximum demand savings possible through modification of the water distribution system. These graphs were then used to determine the maximum peak shaving potential, and the most advantageous operating period for the peak shaving methods. Example energy calculations along with a narrative description are included in Appendix D. The total peak shaving potential for the pumping system was determined to be 3,138 KW/YR (Refer to Appendix E for calculations). The most advantageous period for peak shaving is between 10:00 a.m. and 3:00 p.m. daily (Refer to Appendix C).

D. Analysis of Present Water Consumption

1. Purpose

The purpose of the water distribution system modeling was to determine the additional water storage requirements needed to operate the system with distribution and well pumps turned-off during the hours of 10:00 am to 3:00 pm.

2. Proposed Water Demands

Existing pumping records for distribution and well pumps for the periods between March 1993 and February 1994 for the Fort Bliss and William Beaumont Army Medical Center (WBAMC) systems were analyzed. The well pumping data was utilized to represent the average daily demand. The average day well pumpage rate was 3.21 MGD.

The peak day well pumpage occurred on June 16, 1993 and was 6.95 MGD. Hourly pumping records were unavailable for the wells and distribution system pumps.

Tank level information was not available. It is reasonable to assume the average daily and peak day pumpage corresponds to the water demands within the system. Hourly records of pumping or tank levels are not available. Hourly electrical power usage by pump (from Energy Engineering Analysis Program report prepared by Carter and Burgess, dated February 1993) was used to evaluate the diurnal water demands. The peak day pumping records for July 23, 1992 are presented in the table contained in Appendix F. A graph of the diurnal demand for July 23, 1992 is also contained in Appendix F. The maximum hour usage occurred at 10:00 pm.

3. Analysis

The KY pipe computer file for the base model was supplied by Fort Bliss and was developed for a previous study performed by Texas A&M University in March of 1991. The total peak day demand in the modeling was 11.13 MGD. The base file with the 11.13 MGD peak day demand was modified to reflect future growth in the water system. Point source demands for the Van Horn and Logan Heights Additions were added to the model. The peak day water consumption used for Van Horn and Logan Heights are 0.80 MGD and 1.95 MGD respectively. Also, the water demand at the Hospital was increased by 25 percent. The total peak day demand model was 13.89 MGD.

Several different demand conditions were modeled with the Fort Bliss water distribution system model for steady state conditions including:

- Peak Day Demands
- Peak Day Demands with all pumps off
- Maximum Hour Demands (using a 1.7 peak day to maximum hour ratio)
- Tank Filling during Low Demand Periods (using a 0.70 peak day to late evening/early morning demand ratio)

For the demand conditions listed above several scenarios were evaluated to further refine the system. Peak day and maximum hour demands were modeled with existing pumping capabilities and

proposed pumping replacements. Several iterations were performed for the tank filling scenario to evaluate the existing pumps and the ability of the system to fill the tanks and provide supply to the system. From analysis of the computer modeling and calculations it was determined that additional pumping and storage capacity would be necessary to operate the system as proposed. Specific details of the system, pumps and tanks are discussed below.

a. System

The pressure in the system ranged from the low 20's to the upper 80's, in psi. The middle pressure plane consistently had the lowest pressures. The nodes on the suction side of the pump stations had pressures between 3 and 8 psi for all demand conditions. Since no services are connected near these areas, this condition is acceptable. Logan Heights and Van Horn Additions were modeled as point source loads on the system. The model indicated very low pressures at these points. It is assumed these areas will have booster pumps and possibly multiple taps to the system to adequately boost pressures.

Head losses varied across the system. One line was identified for replacement due to high head losses. The 10 inch line from Tank 7090 parallel to Fred Wilson Road, then following Sternberg to Tank 7241 needs to be increased to a minimum of 12 inches.

b. Pumping

With the system changes of additional storage tanks and pumping occurring outside the hours of 10:00 am and 3:00 pm the ability of the system to refill the storage tanks becomes critical. The amount of pumping required for the tank filling consists of supply for the pressure plane, the supply demand for the next pressure plane, and supply to replenish the storage tanks. The tank filling pumping rate was determined for each pressure plane and compared to flowrate into each tank determined in the computer model. The middle and lower pressure plans are deficient in pumping capacity.

Computer models including the proposed new, larger pumps were made to evaluate the system for peak day, maximum hour and tank filling. The proposed pump replacements result in

adequate pressures and flows, and the tanks can be refilled in a reasonable amount of time.

The flowrates determined in each of the modeling scenarios were used with projected demands to analyze the system hourly for a 24 hour period. This data is presented in the Tank balance tables contained in Appendix G. The flowrates into the tanks were used in the Tank balance sheets and the hourly pumping rate was used for the outgoing storage. The outgoing storage flowrates exceeded the demand requirements in the model. Therefore the pumping from the tanks is adequate for all conditions modeled.

c. Tanks

The tank balances discussed in the previous section were also used to determine the amount of storage capacity required. It has been assumed that the tanks are to maintain one-half capacity or greater, as directed by Fort Bliss Public Works. From the water storage balance prepared for Tank 7241, 1.1 MG of capacity is required to operate between full and its projected lowest point of 554,667 gallons. The storage balance prepared for the Tank 7090/7088 operates between full (2.5 MG) and its projected lowest point of 1.7 MG. A storage balance for the lower pressure plane indicates elevated storage of 4.5 MG is required, and 4.6 MG is currently available. Therefore, additional elevated storage is not necessary in the lower pressure plane. A storage balance was also performed for the upper pressure plane indicating the 1.0 MG of storage was adequate.

A storage balance was performed for the storage tanks fed by the wells. It is contained in Appendix G. The storage does not balance at the end of 24 hours. Therefore, on a peak day condition the tanks will have a loss of capacity of 203,000 gallons at the end of the day. An analysis of the well pumping and well storage was not a part of this contract. However, this condition may be acceptable to the Public Works Department or replacement of a well pump may be possible.

4. Results

Additional water storage capacity of 0.75 MG is recommended in the vicinity of Tanks 7241, to supply the upper pressure plane with ground

storage and provide elevated storage to the middle pressure plane. Additional water storage capacity is recommended in the vicinity of Tanks 7090/7088, to provide ground water supply to the middle pressure plane in the event supply from the lower pressure plane is interrupted. Interruption of the supply could include a broken pipeline, inoperative pumps, or if supply to the lower pressure plane was temporarily interrupted.

Additional pumping of 1200 gpm is needed to refill the proposed tank near Tank 7241. Since no pumping will occur during the hours of 10:00 am to 3:00 pm, the meeting of the domestic demands as well as filling of storage tanks is required in the remaining hours. In order to refill all the elevated storage in the lower pressure plane and Tanks 7090/7088 and the proposed .25 MG tank and additional pumping of 3500 gpm is required at the Pike Pump Station.

A summary of the recommended water system capital improvements required for electrical peak shaving is listed in the table below.

Summary of Capital Improvements for Water Distribution System	
Improvement	Location
New 0.75 MG Storage Tank	Middle Pressure Plane (near tank 7241)
Replacement of pump #2 with 2800 gpm pump	WBAMC Station #7242
Replacement of 10" line with 12" line (approx 3300 LF)	Service line from 7090 to 7241
New .25 MG Storage Tank	Middle Pressure Plane (near tanks 7088/7090)
Replacement of pump #2 with 5800 gpm pump	Pike Station #1318

E. Analysis Of Previous Studies

The previous studies below, as well as the Carter & Burgess study conducted February 1993, were referenced and evaluated in the preparation of this report.

-
- Reference No. 1. Fort Bliss Water Distribution System Analysis and System Operations, prepared by Wesley P. James and Veronica Morgan, Department of Civil Engineering, Texas A&M University, College Station, TX 77843.
- Reference No. 2. Energy Savings Opportunity Survey, Fort Bliss, Texas, Water Distribution Study, prepared by Williams E. Evers, Jr., P.E., EDM Engineering, St. Louis, MO 63101.

Reference No. 1 was conducted to ensure that the existing water distribution system is adequate to maintain acceptable pressures during peak hour operation plus fire demand. The report concluded that a minimum pressure of 27 psi would occur during the peak day plus fire demand.

Reference No. 2, which is similar to this study. Analyzed methods of peak shaving as follows;

- 1) Addition of diesel pump sets to be utilized during on-peak periods.
- 2) Addition of 7-8 million gallons of storage capacity to allow for off-peak pumping only.

This report concluded that neither option was feasible and both resulted in savings to investment ratios of less than 1.0. However, this study used demand charges of \$16.03 per kilowatt (KW) for the first 10,000 KW and \$15.72/KW thereafter. The current electrical demand charge for Fort Bliss (ECO'S) is \$21.50/KW for all KW.

F. Analysis Of Energy Conservation Opportunities (ECO's)

1. Increase Storage Capacity (Alternative #2)

The addition of 1.0 million gallons of storage tank capacity was analyzed. The existing storage capacities for all of the tanks at Fort Bliss are listed in Appendix F. The size and location of the new storage tanks were based on the results of the KY pipe analysis discussed and are as follows;

wBAMC:	Middle	.75 MG
	Lower	<u>.25 MG</u>
Total		1.0 MG

This additional storage capacity will allow the well and booster pumps to be shut-off during on-peak utility periods. The existing Williams Electric Control system would be utilized to disable the pumps during specified peak periods. Software changes only would be required to accomplish the added functions using the existing control system.

G. Life Cycle Cost Calculations

The Life Cycle economic feasibility of the existing system in comparison with the peak shaving method described above was calculated using the Blast, Life Cycle Cost In Design (LCCID) program. This program with the ECIP option utilized the energy consumption calculated and included in Appendix C and E. Data for the LCCID Feasibility study are as follows:

1. Construction Cost Estimate

The probable construction cost estimates for the two ECO alternatives are as follows:

Alternative	Investment
1 - Existing System	-0-
2 - Additional Storage	\$558,932

Refer to Appendix J for the detailed probable cost estimate.

2. Maintenance Cost Estimate

The Maintenance Cost difference with Alternative #1 as the baseline for the two ECO alternatives are as follows:

Alternative	Annual Maintenance Cost
1 - Existing System	-0-
2 - Additional Storage	\$1,178

Refer to Appendix K for Maintenance Cost Calculations.

3. Replacement Cost Estimate

The Replacement Cost Estimate assumes the concurrent salvage value is zero (\$0.00).

a. Tank Replacement Costs

Tank life is expected to be a minimum of 40 years based on numerous existing steel tanks which were constructed between 1910-1954 which are still in use; therefore, the replacement cost for the additional tanks is assumed to be zero dollars (\$0.00).

4. Final Salvage Value

The Final Salvage Value for all systems is assumed to be zero dollars (\$0.00).

5. Utility Rates

Utility Type	Utility Cost	Site Cost
Electricity Usage	\$0.00764/KWH	\$2.24/MBTU
Electrical Demand	\$21.50/KW	-
Natural Gas	\$2.58/KCF	\$2.50/MBTU

The utility costs were furnished by El Paso Electric and Southern Union Gas. The site cost was obtained using a Conversion Factor of .003413 MBTU/KWH and 1.031 MBTU/KCF.

6. Refer to Appendix E for the ECIP Life Cycle Cost Analysis Summary Sheets for Alternative 2.

H. Conclusions

The results of this study indicate that increased storage capacity for the Fort Bliss Water Distribution System will result in an SIR of 1.45, a simple payback of 9.3 years and an negative Adjusted Internal Rate of Return (AIRR) of 6.0%.

I. Recommendations

The recommendation resulting from this study is for Fort Bliss to install the storage capacity, pumping capacity and increased piping recommendd herein. Also, Fort Bliss should make the necessary changes to the Williams Electric Controls System to ensure that air pumps are scheduled "off" between the hours of 10:00 am and 3:00 pm.

Carter & Burgess' assessment was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by professional consultants. The findings of this study are based on the information available at the time. The results and recommendations presented in this report could be affected by items such as those listed below.

- Availability of more detailed historical water use records, particularly tank level records.
- Major changes in the water demands in Fort Bliss and William Beaumont Army Medical Center systems
- Changes in the location or intensity of growth and development within Fort Bliss
- Regulatory changes enacted after publication of this report

2. Criteria

1. OCE Architectural and Engineering
Instructions Design Criteria
November 20, 1990
2. Memorandum CEHSC-FC-M
Energy Conservation Investment Program (ECIP)
Guidance
November 4, 1992
3. TM 5-802-1
Economic Studies for Military construction Design Applications
December 1986



APPENDIX A - Utility Rate Schedules



EL PASO ELECTRIC COMPANY

SCHEDULE NO. 31
MILITARY RESERVATION SERVICE RATEAPPLICABILITY

Available to United States Army for Fort Bliss Main Post Area for a minimum contract capacity of 10,000 kilowatts. All service will be taken at the point of delivery designated by the Company.

TERRITORY

El Paso County, Texas

TYPE OF SERVICE

Service will be alternating current 60 hertz, three phase at the transmission voltage of 115,000 volts.

MONTHLY RATEDemand Charge

\$21.50 per kilowatt for the first 10,000 kilowatts or less of Demand (1)

\$21.50 per kilowatt for all additional kilowatts of Demand (1)

Energy Charge

\$0.00764 per kilowatt-hour for all kilowatt-hours (1)

MONTHLY MINIMUM

Demand charge for the Minimum Contract Capacity of 10,000 kilowatts or the applicable minimum demand charge, whichever is greater.

DETERMINATION OF DEMAND

Maximum demand will be defined as the highest measured thirty (30) minute average kilowatt load determined by measurement. The measured demand will be adjusted for billing when the metering adjustment clause is applicable. (1)

The demand used for billing shall never be less than 75% of the highest measured on-peak demand (adjusted for metering adjustment) established during billing months May through October in the twelve (12) month period ending with the current month, nor less than the minimum contract capacity, whichever is greater. The exception to this will occur when the 1/2 on-peak - 1 1/2 off-peak provision is invoked. At that time, the measured billing demand shall be used for the purpose of this paragraph.

When the demand established during the on-peak period exceeds the demand established during the off-peak period, the demand used for billing will be 1 1/2 the on-peak period demand plus 1 1/2 the off-peak period demand.

On-peak period shall be from 10:00 A.M. to 8:00 P.M. Mountain Standard Time for weekdays of Monday through Friday. Off-peak period shall be all other hours of the week not covered in the on-peak period.

EL PASO ELECTRIC COMPANY**SCHEDULE NO. 31
MILITARY RESERVATION SERVICE RATE****BILLING PERIOD SELECTION OPTION**

Upon written request by the customer and approval by the Company a customer may shift his 10-hour peak period for billing purposes by two (2) hours around the normally defined on-peak period. The customer may exercise this option twice during a twelve (12) month billing period.

METERED ADJUSTMENT

- A. El Paso Electric Company metering equipment is installed on the low voltage (14.4 KV) side of substation transformation. Therefore, for billing purposes, (1) the metered kilowatt demands shall be increased by 1.033% and (2) the metered kilowatt-hour usages shall be increased by 0.823%. For purpose of this adjustment, the Ben Milam School kilowatt demand and kilowatt-hour usage shall be subtracted from the Fort Bliss kilowatt demand and kilowatt-hour usage before the adjustment.
- B. Ben Milam School. Ben Milam School is located within the Fort Bliss Military Reservation but is a school of the El Paso Independent School District. Presently Ben Milam School is serviced through Fort Bliss facilities. To compensate Fort Bliss for this usage, El Paso Electric Company shall deduct from Fort Bliss' demand billing Ben Milam's actual measured demand and energy each month.

POWER FACTOR ADJUSTMENT

If the power factor at the time of the highest measured thirty (30) minute interval kilowatt demand for the entire plant is below 90% lagging, a charge of \$0.0700 per KVAR will be made for each KVAR by which customer's computed KVAR demand exceeds 48.432% of the measured kilowatt demand. If the power factor is greater than or equal to 90%, then no power factor adjustment will be made. (7)

FIXED FUEL FACTOR

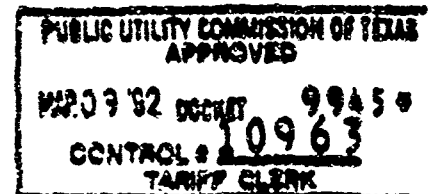
The above rates are subject to the provisions of Company's Tariff Schedule No. 92 entitled Fixed Fuel Factor.

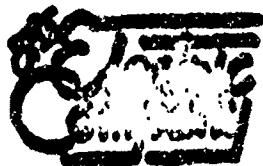
TERMS OF PAYMENT

The due date of the bill for utility service shall not be less than sixteen (16) days after issuance. A bill becomes delinquent if not received at the Company by the due date.

TERMS AND CONDITIONS

The Company's Rules and Regulations apply to service under this schedule. The Term of Contract under this schedule shall not be less than ten (10) years.





El Paso Electric Company
P.O. Box 903
El Paso, Texas 79965
(915) 843-8771

January 20, 1993

Mr. Scott Clark
Carter & Burgess Engineering
1100 Macon St.
Ft. Worth, Texas 76102

Dear Scott:

As of the present time, El Paso Electric Company does not have any firm rebate programs in place with the exception of Thermal Energy Storage.

Presently, there are incentive (rebate) programs being developed by El Paso Electric Company and we should have more specifics on those around April, 1993. These rebates may be customized towards energy efficient lighting and energy efficient motors for example.

As soon as more details and specifics are known I will be happy to pass them on to you. But for now, T.E.S. is the only incentive program being offered by El Paso Electric Company.

I hope that the enclosed materials will satisfy your needs. If you should have any further questions please feel free to call us at (915) 843-5609.

Sincerely,

A handwritten signature in cursive script that reads "John D. Armstrong".

John D. Armstrong
Commercial Utilization Specialist



Southern Union Gas

Requested Transmittal Time: _____
Transmitted by: _____

Date: Aug 14 1992

GASFAX

To: Scott Clark

Company/Region: _____

FAX No. 817-877-5646 Phone No. _____

From: Paul Davis

Message: Rate schedule is. Cost of gas adj
is expected to increase by 21 cent
month. a 10¢/MCF.

This facsimile consists of 4 pages including this form letter.
 If you do not receive all the pages of this transmission, PLEASE
 CONTACT OUR TELECOPIER OPERATOR IMMEDIATELY.

Southern Union Gas
 West Texas Region - El Paso
 P. O. Box 2040
 El Paso, TX 79976-2040
 (915) 544-6300
 FAX: (915) 531-4560

SOUTHERN UNION GAS COMPANY
Rate Sheet
EL PASO, TEXAS

Texas Tariff - West Texas
Section 3
Rate Schedule No. E5

D SERVICE AREA _____

8000 702-701 6-70

FORT BLISS RATE

APPLICABILITY

Applicable to the United States Government for all purposes at Fort Bliss, William Beaumont General Hospital, Biggs Field, Logan Heights, The First Cavalry Brigade Area, the Station Hospital, Permanent Troop Housing and Supporting Facilities and AFF Board No. 4 and Guided Missile Group and Training Facilities located east of Job Stuart Road.

RATE

During each monthly billing period the sum of items 1 and 2 below:

1. Cost of Service Charge:

All Gas @ \$.0258 per Ccf @ 14.9 PSIA.

2. Cost of Gas Charge: In addition to the Cost of Service set forth above, Ft. Bliss billing shall include an amount equal to the Cost of Gas per billing month as determined in accordance with Rate Schedule No. 1-1. Cost per Ccf will be determined at 14.9 PSIA and multiplied by total Ccf consumed during the billing month.

CONDITIONS

1. In case of shortage of natural gas supply, or any other emergency not due to fault of the contractor, deliveries of gas hereunder may be curtailed in accordance with contractor's program of curtailment applicable to its consumers in the City of El Paso and Environs.
2. Volume of gas shown by meter readings will be corrected to 14.9 pounds per square inch absolute. Atmospheric pressure is agreed to be 12.8 pounds.
3. Subject to existing contract.

Supersedes same sheet dated 08/01/90

SOUTHERN UNION GAS COMPANY
Rate Sheet

Texas Tariff - West Texas
Section 3
Rate Schedule No. 1A

SERVICE AREA El Paso

0000000000

ADJUSTMENTS TO BASIC RATE
City of El Paso, Texas and El Paso Environs

The following adjustments shall be applied to the price for each Ccf delivered to customers served by the West Texas Region in the El Paso County rate area (including the towns of Anthony, Winton and Clint, Texas), under the basic rate schedules indicated below:

Basic Rate Schedules	Basic Rate Effective Date	Customer Class	Previous Adjustment	Change In Adjustment	Total Present Adjustment
10	01/15/92	Residential Service Rate	\$.1362	\$.0000	\$.1362
20	01/15/92	Commercial Service Rate	\$.1362	\$.0000	\$.1362
21	01/15/92	Commercial Air Conditioning Service	\$.1362	\$.0000	\$.1362
25	01/15/92	Public Authority Rate	\$.1362	\$.0000	\$.1362
26	01/15/92	Public Authority Air Conditioning Service	\$.1362	\$.0000	\$.1362
27	01/15/92	Municipal Water Pumping Rate	\$.1362	\$.0000	\$.1362
30	01/15/92	Irrigation Rate	\$.1362	\$.0000	\$.1362
40	01/15/92	Industrial Service Rate	\$.1362	\$.0000	\$.1362
41	01/15/92	Industrial Air Conditioning Service	\$.1362	\$.0000	\$.1362
1E	04/01/91	Residential Service - El Paso Environs	\$.1362	\$.0000	\$.1362
2E	04/01/91	Commercial Service Rate El Paso Environs	\$.1362	\$.0000	\$.1362
2A	04/01/91	Commercial Air Conditioning Environs	\$.1362	\$.0000	\$.1362

Supersedes Same Sheet Dated 04/29/92

Meters Read On and After

AUG-14-92 FRI 15:37

SOUTHERN UNION GAS CO.

FAX NO. 9155214560

P. 04

SOUTHERN UNION GAS COMPANY
Rate Sheet

Texas Tariff - West Texas
Section 3
Rate Schedule No. 1A

SERVICE AREA El Paso
SOUTHERN UNION

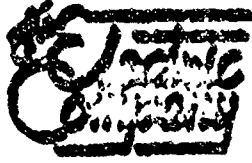
ADJUSTMENTS TO BASIC RATE
City of El Paso, Texas and El Paso Environs
(Continued)

2E	04/01/91	Public Authority Rate El Paso Environs	\$.1362	\$.0000	\$.1362
2F	04/01/91	Public Authority Air Conditioning Environs	\$.1362	\$.0000	\$.1362
2G	04/01/91	Municipal Water Pumping Rate-El Paso Environs	\$.1362	\$.0000	\$.1362
3Z	04/01/91	Irrigation Rate El Paso Environs	\$.1362	\$.0000	\$.1362
4Z	04/01/91	Industrial Service Rate-El Paso Environs	\$.1362	\$.0000	\$.1362
4A	04/01/91	Industrial Air Conditioning Environs	\$.1362	\$.0000	\$.1362
C1	08/07/86	Electrical Cogeneration Energy Conservation	\$.1362	\$.0000	\$.1362
E5	08/01/90	Fort Bliss	\$.1493	\$.0000	\$.1493

Supersedes same sheet dated 04/29/92

Water Read On and After

APPENDIX B - Fort Bliss Base Utility Bills



El Paso Electric Company
P.O. Box 982
El Paso, Texas 79962
(915) 543-5711

September 18, 1992

RECEIVED
SEP 22 1992

Mr. Scott Clark
Carter & Burgett Engineering
1100 Macou St.
Ft. Worth, Texas 76102

Dear Scott:

Enclosed are the materials that you had requested regarding Ft. Bliss. I have provided you 20 months of billing information and 18 months of load data.

The load data are provided in four separate files. These files are named Bliss1, Bliss2, Bliss3 and Bliss4 with the .WK3 extension and are described by the following:

1. Bliss1.WK3 - March 1, 1991 to June 30, 1991 on 30 minute intervals.
2. Bliss2.WK3 - July 1, 1991 to December 31, 1991 on 30 minute intervals.
3. Bliss3.WK3 - January 1, 1992 to April 30, 1992 on 30 minute intervals.
4. Bliss4.WK3 - May 1, 1992 to August 31, 1992 on 30 minute intervals.

Also, there is an accompanying sheet providing the times and dates of system peak information. Demands occurring at these times for Ft. Bliss would be the facility's coincident peak demands.

I hope that the enclosed materials will satisfy your needs. If you should have any further questions please feel free to call me at (915) 543-5809.

Sincerely,

John D. Armstrong
Commercial Utilization Specialist



11/10/92 09:43 5/11

DEBIT: 14,980.478 KWH @ 90.00764/1000
RATED KW = (14,858,000 - 10,100) x 1.00825

DEMAND: 28,386 KW @ \$21.50/KW
FACTOR ADJUSTMENT BASED ON 19,128 KW/KV

ADJUSTMENT: 14,980.478 KWH @ \$0.01441/KWH

DEPARTMENT OF THE ARMY
DIR OF INSTAL SUPPORT
ATZC-15E-W BLDG 1208
FORT BLISS TX 79916

\$114,450.85

6/10/77/10
\$567,299.80
\$382.98

\$215,868.69

746,174.50
\$914,001.52

DATE	POSTAL FAC	METER NO	METER	PERIOD		TOTAL	METER NO	METER	TOTAL	METER NO	METER	TOTAL	METER NO	METER	TOTAL	
				FROM	TO											
01	03	28198	28366	7-31-92	8-31-92											
08-31	04387			7-31	8-31	474										
08-31	03566			0313	0315	411										
08-31	00352			0032	0032	0										
08-31	00113			0002	0002	101										
28198				PEAK KW	27950											

DIR OF THE ARMY
INSTAL SUPPORT
E-W BLDG 1208
ISS TX 79916

CHRGMT ELECTRIC SERVICE
DOCKET NO 7460 RATE CASE EMERGE
DOCKET NO 9945 RATE CASE FUTURE

\$941,001.52
\$31,822.00
\$9,448.00

\$941,001.52
\$31,822.00
\$9,448.00

TOTAL AMOUNT DUE

\$981,471.52

TOTAL AMT DUE

\$981,471.52

PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO

CHARGES OF \$981,471.52 ARE DUE BY 9/23/92.

IF TEXAS UTILITY GRASS RECEIPTS ASSESSMENT EQUALS 1/6 OF 10.

EL PASO ELECTRIC COMPANY
ATTN: INVEAL PROCESSING
PO BOX 70082
EL PASO, TEXAS 79968



227042, 15, 403, 778
PHONE (915) 543 5711

VOICE: 15,325,077 RMR @ \$0.00764
ESTED RMR = 1,00825 x (15,204,000 - 4320)

1 DEMAND: 28559 RMR @ \$21.50/RMR
FACTOR ADJUSTMENT BASED ON 19-075 KVAR

INSTALLMENT: 15,325,077 RMR @ \$0.01441/RMR

DEPARTMENT OF THE ARMY
DIR OF INSTAL SUPPORT
ATZC 15E H BLDG 1288
FORT BLISS TX 79916

\$117,083.59
\$614,010.50
\$399.25
\$270,474.36

DATE	PERIOD	START	END	FROM	TO	TOTAL	ACCOUNT	NUMBER
7-31	03913	28290	28559	6-30-92	7-31-92	9952,335.70	PORT BLISS	7146150071
7-31	03152							
7-31	00352							
7-31	03007							
7-31	00112							
28290								
OFF PEAK RMR = 2.7859								
DEPT OF THE ARMY								
INSTAL SUPPORT								
2-M BLDG 1288								
BLISS TX 79916								
CURRENT SERVICE								
DOCKET NO 7463 RATE CASE EXPENSE						\$952,335.70		
DOCKET NO 9945 RATE CASE EXPENSE						\$31,022.00		
CURRENT SERVICE						\$9,448.00		
DOCKET NO 7463						\$31,022.00		
DOCKET NO 9945						\$9,448.00		
TOTAL AMT DUE						\$992,805.70		

TOTAL AMT DUE \$992,805.70
PLEASE RETURN THIS FORM WITH
YOUR PAYMENT TO
EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20960
EL PASO TEXAS 79960

TOTAL AMOUNT DUE \$992,805.70
AGES OF \$992,805.70 ARE DUE BY 8/24/92. CURRENT CHARGES NOT PAID BY DATE DATE
TO A 5 PERCENT LATE PAYMENT PENALTY.



PHONE (915) 343-5111

DEPARTMENT OF THE ARMY
DIR OF INSTAL SUPPORT
ATTN: ISE-N BLDG 1288
FORT BLISS TX 79916

\$110,222.35
\$593,378.50
\$321.25
\$207,893.20

VICE: 14,427,009 BLDG @ 90.00764/RM
TED RM @ 1.00074 x (14,313,600 - 4,640)
DEMAND: 27,599 RM @ \$21.50/RM
CFOR ADMINSTRATION BASED ON 17851 KVAR
EQUIPMENT: 14,427,009 BLDG @ 90.02441/RM

DATE	POWER METER	METER ID	BLDG	MOM	DIR	NO	TOTAL		ALCOMP	
							PORT BLISS	PORT BLISS		
6-30	03425	27599	27599	5-29-92	6-30-92	455	16800	7,644,000	2146150001	
6-30	02734			5-29		397	18000	6,669,600		
6-30	00352			5-29		0	9600	0		
6-30	03725			5-29		116	40	4,640		
OFF PEAK RM = 26534							COMBINE	EWB		
TOTAL AMT DUE								\$911,815.30		
DIR OF THE ARMY										
INSTAL SUPPORT										
E-N BLDG 1288										
ISS TX 79916										
CURRENT ELECTRIC SERVICE								\$911,815.30		
DOCKET NO 7460 RATE CASE EXPENSE								\$31,022.00		
DOCKET NO 9945 RATE CASE EXPENSE								\$9,446.00		
TOTAL AMT DUE								\$952,285.30		
TOTAL AMT DUE								\$952,285.30		

CHARGES OF \$952,285.30 ARE DUE BY 7/23/92. CURRENT CHARGES NOT PAID BY DUE & SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

TOTAL AMT DUE \$952,285.30
PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO
EL PASO ELECTRIC COMPANY
ATTN: REVENUE PROCESSING
PO BOX 3098
EL PASO, TEXAS 79909



EL PASO ELECTRIC COMPANY
PHONE (915) 543 5711

DEPARTMENT OF THE ARMY
DIR OF INSTAL. SUPPORT
ATTN:AT7C-1SE-W BLDG128C
FT BLISS TX 79916

\$27,641.38
\$532,469.00
\$199.39
\$165,302.66

11,471,365 KWH @ \$0.00750/KWH
11,350,430 - 12,003)
24,766 KW @ \$21.50/KWH
ADJUSTMENT BASED ON 14,755 KVAR
11,471,365 KWH @ \$0.01441/KWH

DATE	POSTAL FAC NO	DEMAND	DEMAND	DEMAND	DATE	NO	TOTAL	OFFICE ADDRESS	ACCOUNT NUMBER	
5-29	06	24584	24766	4-30-92	5-29-97	320	\$785,612.43	FORT BLISS	214615000	
5-29	07972					308				
5-29	02337					6				
5-29	00352					322				
5-29	03613									
OFF PEAK KW = 23936										
CURRENT ELECTRIC SERVICE										
BUCKET NO 7460 RATE CASE EXPENSE								\$785,612.43		
BUCKET NO 9945 RATE CASE EXPENSE								\$31,072.00		
PREVIOUS UNPAID BALANCE								\$9,448.00		
TOTAL AMT DUE								\$827,082.43		

DEPT OF THE ARMY
INSTAL SUPPORT
XC-1SE-W BLDG128C
TX 79916

CURRENT SERVICE \$785,612.43
BUCKET NO 7460 \$31,072.00
BUCKET NO 9945 \$9,448.00
PREV UNPD BALANCE \$1,000.00

TOTAL AMT DUE \$827,082.43

PLEASE RETURN THIS PORTION WITH YOUR PAYMENTS TO

EL PASO ELECTRIC COMPANY
ATTN FLOW MTR PROCESSING
PO BOX 20987
EL PASO TEXAS 79960

DUES OF \$826,082.43 ARE DUE BY 6/23/92.



20 BONE 70002
EL PASO TEXAS 79769
PHONE (915) 463-1111

EL PASO ELECTRIC COMPANY

DEPARTMENT OF THE ARMY
DIR OF INSTAL. SUPPORT
ATTN: ATZC-ISE-N BLCI208
FT M. ISS TX 79916

W SERVICE: 11,436,015 kWh @ \$0.007647/kWh
ADJUSTED kWh - 1,00025 * (11,356,800 - 14,360)
LINC DEMAND: 23,762 kW @ \$21.50/kW
EN FACTOR ADJUSTMENT BASED ON 13837 KW/KV
ADJUSTMENT: 11,436,015 kWh @ \$0.01441/kWh

Handwritten: 587,371.15
510,883.00
\$169.43
\$164,792.98 - 21

DATE	FROM	TO	AMOUNT	DESCRIPTION	ACCOUNT NUMBER
4/30/92	3/31/92	4/30/92	366	366	2146150001
4/30	3/31	4/30	310	310	
4/30	3/31	4/30	0	0	
4/30	3/31	4/30	359	359	
TOTAL				\$763,215.56	

DATE	FROM	TO	AMOUNT	DESCRIPTION	ACCOUNT NUMBER
4/30	3/31	4/30	6,146,800	6,146,800	2146150001
4/30	3/31	4/30	5,208,000	5,208,000	
4/30	3/31	4/30	0	0	
4/30	3/31	4/30	14,360	14,360	
TOTAL				\$763,215.56	

DEPT OF THE ARMY
 INSTAL SUPPORT
 ATZC-ISE-N BLCI208
 SS TX 79916

CURRENT ELECTRIC SERVICE
 DOCKET NO 7460 RATE CASE EXPENSE
 DOCKET NO 9945 RATE CASE EXPENSE

TOTAL AMOUNT DUE \$803,685.56
 PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO
 EL PASO ELECTRIC COMPANY
 ATTN REVENUE PROCESSING
 P.O. BOX 70967
 EL PASO, TEXAS 79969

IF CHARGES OF \$803,685.56 ARE DUE BY 5/22/92.

EL PASO BELLEMEYER WYATT

EL PASO BELLEMEYER WYATT
EL PASO, TEXAS 79960
PHONE (915) 543 5711

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC--ISE-N BLDG1288
FORT BLISS TX 79916

12.195,227 @ \$0.007682187/KWH
UNLSTED KWH = 1.00825 x (12,112,800 - 17,360)

MC DEMAND: 22355 KW @ \$21.50/KW

ADJUSTMENT: 12.195,227 KWH @ \$0.01441/KWH

\$93,646.01

480,632.50

175,733.22

\$750,051.73

TOTAL

NAME AND ADDRESS
FORT BLISS
FORT BLISS TEXAS 79916

ACCOUNT NUMBER
7146150001

NAME AND ADDRESS
FORT BLISS

DATE
3-31-92

MONTH
2-28-92

PERIOD
22355

READING
22182

READING
91

DATE
31

DATE	READING	READING	PERIOD	MONTH	DATE	DIFFERENCE	READING	
03-31	02238	02238	2-28	01869	3-31-92	369	6,199,200	
03-31	01719	01719	2-28	01362	3-31-92	337	5,661,600	
03-31	00352	00352	2-28	02322	3-31-92	30	252,000	
03-31	02932	02932	2-28	02490	3-31-92	434	17,360	
AK KW = 22182							OFF PEAK KW = 21924	

DEPT OF THE ARMY
R OF INSTAL SUPPORT
E-N BLDG1288
ISS TX 79916

CURRENT ELECTRIC SERVICE
DOCKET NO 7460 RATE CASE EXPENSES
DOCKET NO 9945 RATE CASE EXPENSES

CURRENT SERVICE
ACCOUNT NO 7460
DOCKET NO 9945

\$750,051.73
31,022.00
9,448.00

\$750,051.73
31,022.00
9,448.00

TOTAL AMOUNT DUE

\$790,521.73

TOTAL AMT DUE \$790,521.73

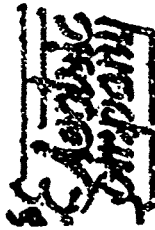
PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

CHARGES OF \$790,521.73 ARE DUE BY 4/23/92. CURRENT CHARGES NOT PAID BY
ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

EL PASO ELECTRIC COMPANY
ATTN: OFFICE PRODUCTION
P.O. BOX 2886
EL PASO, TEXAS 79960

Handwritten:
12.195,227
175,733.22
480,632.50
93,646.01

Handwritten:
480,632.50



EL PASO ELECTRIC COMPANY
 PO BOX 2892
 EL PASO, TEXAS 79909
 PHONE (915) 542-3711

GAIN SERVICE: 11,158,666 kWh @ \$0.00779
 REQUESTED kWh = 1,00825 x (11,068,000 - 20,640)
 BILLING DEMAND: 23054 kWh @ \$21.50
 FUEL ADJUSTMENT: 11,158,666 kWh @ \$0.01441

EL PASO ELECTRIC COMPANY

DEPARTMENT OF THE ARMY
 DIR OF INSTAL SUPPT
 ATTN:AT2C-15E-N BLDG 1288
 FT BLISS TX 79916

986,926.01
 495,661.00
 150,796.38

TOTAL \$743,383.39

ACCOUNT NUMBER	DATE	FROM	TO	AMOUNT	DESCRIPTION	DATE	TO	AMOUNT	DESCRIPTION	ACCOUNT NUMBER
1-1500-01	31	91	22906	23054	1-31-92	2-28-92	PORT BLISS	21461500		
94905	2-28	01669	1-31	16,800	01517	352	16,800	5,913,600		
65215	2-28	01382	1-31	16,800	01074	308	16,800	5,174,400		
02295	2-28	00322	1-31	8,400	00322	-0-	8,400	0		
192746	2-28	02498	1-31	40	01932	516	40	20,640		
					OFF FEAR	22576				

AMOUNT OF THE ARMY OF INSTAL SUPPT: \$743,383.39
 AT2C-15E-N BLDG 1288: DOCKET NO. 7460 RATE CASE EXPENSE: 31,022.00
 BLISS TX 79916: TOTAL DUE: \$774,405.39

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO
 EL PASO ELECTRIC COMPANY
 ATTN: REVENUE PROCESSOR
 150 BOX 2892
 EL PASO, TEXAS 79909

DUPLICATE CHARGES OF \$774,405.39 ARE DUE BY 3/24/92. CURRENT CHARGES NOT PAID
 ON DATE ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.



EL PASO ELECTRIC SERVICE
PHONE (915) 543-5711

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-N BLDG 1288
FORT BLISS, TX 79916

NEW SERVICE: 12,513,996 kWh @ \$0.00779
ADJUSTED kWh = 1,008,275 x (12,432,000 ~ 20,400)

BILLING DEMAND: 2,1744 kWh @ \$21.50/kWh

REL ADJUSTMENT: 12,513,996 kWh @ \$0.01441/kWh

\$ 97,484.03

510,496.00

180,326.68

TOTAL \$788,306.71

DATE	METER	METER NO.	METER	METER	DATE	FROM	TO	SERVICE	ACCOUNT	TOTAL
500-01	31	91	23603	23744	12-31-91	12-31-92	1-31-92	FORT BLISS	FORT BLISS	2146150001
905	1-31	01517			12-31	01160	417	16,800	7,005,600	
215	1-31	01074			12-31	00751	323	16,800	5,426,400	
295	1-31	00322			12-31	00322	0	8,400	0	
746	1-31	01982			12-31	01472	510	40	20,400	
OR PEAK PERIOD 23602										

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
-ISE-N BLDG 1288
BLISS, TX 79916

CURRENT ELECTRIC SERVICE
DOCKET NO. 7460 RATE CASE EXPENSES
DOCKET NO. 8588 FUEL REFUND

TOTAL SERVICE \$788,306.71
DOCKET NO. 7460 31,022.00
DOCKET NO. 8588 42,902.41CR

TOTAL AMOUNT DUE \$776,366.30

TOTAL AMT DUE \$776,366.30

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN: REVENUE PROCESSING
PO BOX 20982
EL PASO, TEXAS 79960

DUPLICATE CHARGES OF \$776,366.30 ARE DUE BY 2/24/92. CURRENT CHARGES NOT PAID BY DUE
AMT SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.



EL PASO TEXAS 79960
PHONE (915) 543-5711

SERVICE: 12,932,823 kWh @ \$0.00546589/kWh
ED kWh - 1,008.25 x (12,943,830 - 16,600)

DEMAND: 23411 kW @ \$20.4418/kW

ADJUSTMENT: 12,932,823 kWh @ \$0.01441/kWh

RATE INCREASE:

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL. SUPPORT
AT7C-1SE-N BLDG 1206
FORT BLISS TX 79916

\$70,689.39

476,508.46

186,361.98

46,358.42

Nov 14 3 39 PM '92

DATE	PAR	POWER FACTOR	DEMAND	STANDBY DEMAND	PERIOD	CHG	SERIAL NO	TOTAL	UNIT ADDRESS	ACCOUNT NUMBER
12-31	31	91	23254	23411	11-27-91	12-31-91	12-31-91	\$781,968.25	FORT BLISS	2146150001
12-31		01100			00682	418		16800		
12-31		00751			00448	303		16810		
12-31		00322			00235	87		16400		
12-31		01472			01057	415		40		
TOTAL ELECTRIC SERVICE \$781,968.25 DCKET NO 7460 RATE CASE EXPENSE 31,022.00 DCKET NO 8548 FUEL REFUND 42,962.41C PREVIOUS CREDIT BALANCE 1.00CR TOTAL AMT DUE \$770,026.84										

DEPT OF THE ARMY
DIR OF INSTAL SUPPORT
E-N BLDG 1206
BLISS TX 79916

* CHARGES OF \$770,026.84 ARE DUE BY 01/24/92.

PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO
EL PASO ELECTRIC COMPANY
ATTN: REVENUE PROCESSING
PO BOX 22062
EL PASO, TEXAS 79960

PHONE (941) 543-5711

DUPLICATE
SERVICES: 12,217,490 NIN @ \$0.00340/NIN
D INR - 1.00825 X (12,129,000 - 12,060)

DEMAND: 24065 IN @ \$19.50/IN
ACTOR ADJUSTMENT BASED ON 13637 NIN

INTEREST: 12,217,490 IN @ \$0.01439/IN

RATE INCREASE:

\$41,539.47

469,267.50
144.73

175,809.68

89,816.53

TOTAL \$776,177.93

DATE	FORM NO	CLASS	BLDG	PERIOD	MO	10-31-91	10-31-91	FOR BLISS	SERVICE ADDRESS	ACCOUNT ADDRESS
10-31	87	23089	24065	9-30-91	10-31-91	302	302	16,800	FOR BLISS	214615000
10-31	8582			9-30-91	9-30-91	130	130	16,800		
10-31	07957			9-30	10-9	201	201	16,800		
10-31	00201			9-30	10-9	69	69	16,800		
10-31	01535			9-30	10-9	0	0	1,495,200		
10-31	00234			9-30	10-31	302	302	8,400		
10-31	00696			9-30	10-31			40		
				TOTAL ELECTRIC SERVICE				\$776,177.93		

DEPT OF THE ARMY
1 OF INSTAL SUPPORT
3-4 BLDG 1288
155 TX 79916

LOCKET NO 7460 RATE CASE EXPENSE
DOCKET NO 9165 RATE CASE EXPENSE
DOCKET NO 8588 FUEL REFUND

TOTAL SERVICE \$776,177.9
DOCKET NO 7460 31,022.00
DOCKET NO 9165 5,802.00
DOCKET NO 8588 42,962.41

TOTAL AMOUNT DUE \$770,039.52

TOTAL AMT DUE \$770,039.52

CHARGES OF \$770,039.52 ARE DUE BY 11/21/91. CURRENT CHARGES NOT PAID BY DUE DATE
LECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ALTA REVENUE PROCESSING
PO BOX 2892
EL PASO, TEXAS 79999

Handwritten: cc 10/25/91

Handwritten: 10/4/91



PHONE (915) 843-8711

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-156-N BLDG1288
FORT BLISS TX 79916

LINE SERVICES: 14,249,557 kWh @ \$0.00340/kWh
ADJUSTED kWh = 1,00625 X (14,145,600 - 12,640)

ILLUMI DEMAND: 29,061 kW @ \$19.50/kW
POWER FACTOR ADJUSTMENT BASED ON 18,549 KWHR

USE ADJUSTMENT: 14,249,557 kWh @ \$0.01439/kWh

ORDER RATE INCREASE:

\$48,449.49

566,689.50
320.82

205,051.13

97,919.49

ACCOUNT NUMBER	LINE	POWER FACTOR	METERED	DYNAMIC BASIC	FROM	TO	TOTAL DATE	TOTAL		SERVICE ADDRESS	METER NO
								9-30-91	9-30-91		
96150001	31	84	28836	2700	8-30-91	9-30-91				FORT BLISS	214614
779505	9-30	07827			8-30	9-30		16,800	8,518,800		
1565215	9-30	01446			8-30	9-30		16,800	5,527,200		
1002295	9-30	00234			8-30	9-30		8,400	0		
1492746	9-30	00394			8-30	9-30		40	12,640		
TOTAL								9918,429.43		FORT BLISS	214614

OFF PEAK kWh = 27,970

TOTAL ELECTRIC SERVICE \$918,479.43

DOCKET NO 9165 RATE CASE EXPENSE 5,802.00
DOCKET NO 8588 FUEL REFUND 42,962.41CR

TOTAL SERVICE \$918,479.43
DOCKET NO 9165 5,802.00
DOCKET NO 8588 42,962.41CR

TOTAL AMT DUE \$881,269.02

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-156-N BLDG1288
FT BLISS TX 79916

AMOUNT DUE \$881,269.02
CURRENT CHARGES NOT PAID BY USER
ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO
EL PASO ELECTRIC COMPANY
ATTN: REVENUE PROCESSING
PO BOX 7088
EL PASO, TEXAS 79909

(560714)
(9318551) E
(155846)
9/15/91
9/15/91

11/13/91
11/13/91
11/13/91
11/13/91



PHONE (714) 943-3711

DEPARTMENT OF THE ARMY
DIRECTOR OF INSAL SUPPORT
ATZC-152-N BLDG 1288
FORT BLISS TX 79916

IN SERVICE: 15,409,649 kWh @ \$0.00340/kWh
FIXED RM - 1.00825 x (15,200,000 - 4,440)

LOAD DEFEND: 29710 kWh @ \$19.50/kWh

GR FACTOR ADJUSTMENT BASED ON 19025 kWh

1. ADJUSTMENT: 15,409,649 kWh @ \$0.01653/kWh

FIXED RATE INCREASE:

\$52,392.81

\$79,345.00

332.71

254,721.50

76,691.52

TOTAL \$963,483.54

CODE	DATE	POWER	REASON	REMARKS	FROM	TO	BASE	UNIT	AMOUNT	REMARKS	UNIT	AMOUNT
150001	31	84	29468	29710	7-31-91	8-30-91						
94905	8-30				BLISS	BLISS			16000		9,240,000	
95215	8-30				BLISS	BLISS			16000		6,048,000	
92775	8-30				BLISS	BLISS			8400		0	
75165	8-12				BLISS	BLISS			40		1,320	
92746	8-27				BLISS	BLISS			40		3,120	
GR. FIRM. IN. = 29468												
TOTAL ELECTRIC SERVICE \$963,483.54												
DIRECTOR OF THE ARMY												
CTOR OF INSTAL SUPPORT												
-152-N-BLDG1288												
BLISS TX 79916												
TOTAL SERVICE \$963,483.54												
DOCKET NO 9165 5,802.00												
DOCKET NO 8588 42,962.41												
ADJUSTMENT * 43,036.00												
TOTAL AMT DUE \$969,359.13												

ENT CHARGES OF \$928,323.13 ARE THE BY-09/23/91: - CURRENT CHARGES NOT PAID BY DUE
ARE SUBJECT OF A 5 PERCENT LATE PAYMENT PENALTY.

BILL MAY-JULY DEFEND WITH CORRECT RATE

0092832313
001175709
0076209
0092832313
001175709
0076209

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 2090
EL PASO, TEXAS 79968

TOTAL AMT DUE \$969,359.13
PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO

11/18/91
 11/18/91
 11/18/91

EL PASO ELECTRIC COMPANY
 PO BOX 7992
 EL PASO, TEXAS 79909
 PHONE (817) 843-3711

EL PASO ELECTRIC COMPANY
 DEPARTMENT OF THE ARMY
 DIRECTOR OF INSTAL. SUPPORT
 ATZC-ISE-N-BLDG1288
 FORT BLISS TX 79916

16,434,757 kWh @ \$0.00340/kWh
 1.00025 x (16,304,400 - 4120)

29,395 kWh @ \$19.00/kWh
 R FACTOR ADJUSTMENT BASED ON 16,228 kWh

ADJUSTMENT: 16,434,757 @ \$0.01653/kWh

\$55,878.17
 558,505.00
 208.72
 271,666.53

DATE	TO	FROM	AMOUNT	ACCOUNT
7-31-91	7-31-91	6-28-91	573	21461501*
7-31-91	7-31-91	6-28-91	397	
7-31-91	7-31-91	6-28-91	103	
7-31-91	7-31-91	6-28-91	5,626,900	
7-31-91	7-31-91	6-28-91	6,659,600	
7-31-91	7-31-91	6-28-91	8,400	
7-31-91	7-31-91	6-28-91	4,120	
TOTAL ELECTRIC SERVICE			16,434,757	
TOTAL ELECTRIC SERVICE AT PEAK RM = 28,970			\$886,338.42	
TOTAL SERVICE:			\$886,338.42	
ACCOUNT NO 9155			5,002.00	
ACCOUNT NO 8586			42,962.41OR	
TOTAL AMT DUE			\$849,178.01	

DEPT OF THE ARMY
 R OF INSTAL SUPPORT
 E-N BLDG1288
 ISS TX 79916

ACCOUNT NO 9155 RATE CASE EXPENSE
 ACCOUNT NO 8586 FUEL REFUND
 TOTAL AMOUNT DUE

PLEASE RETURN THIS PORTION WITH
 YOUR PAYMENT TO
 EL PASO ELECTRIC COMPANY
 ATTN: REVENUE PROFESSIONALS
 PO BOX 7992
 EL PASO TEXAS 79909

CHARGES OF \$849,178.01 ARE DUE BY 08/22/91.



EL PASO ELECTRIC COMPANY
EL PASO, TEXAS 79906
PHONE (915) 843-3771

SERVICE: 13,449,771 kWh @ \$0.00340/kWh
STANDARD RATE = 1,000 kWh (13,347,600 - 7,880)

REG. DEMAND: 29,806 kW @ \$19.00/kW
1 FACTOR ADJUSTMENT BASED ON 1963 KW

ADJUSTMENT: 13,449,771 kWh @ \$0.01653/kWh

\$46,729.23

566,314.00
318.12

222,324.75

TOTAL \$834,686.10

DATE	AMOUNT	REMARKS	DATE	AMOUNT	REMARKS	DATE	AMOUNT	REMARKS
6-28-91	16800	REGULATORY	6-28-91	16800	REGULATORY	6-28-91	16800	REGULATORY
5-31	16800	REGULATORY	5-31	16800	REGULATORY	5-31	16800	REGULATORY
5-31	8400	REGULATORY	5-31	8400	REGULATORY	5-31	8400	REGULATORY
5-31	40	REGULATORY	5-31	40	REGULATORY	5-31	40	REGULATORY
ON YEAR END	29564	REGULATORY	ON YEAR END	29564	REGULATORY	ON YEAR END	29564	REGULATORY
TOTAL ELECTRIC SERVICE			TOTAL ELECTRIC SERVICE			TOTAL ELECTRIC SERVICE		
DOCKET NO 9165 RATE CASE SUPPSE			DOCKET NO 9165 RATE CASE SUPPSE			DOCKET NO 9165 RATE CASE SUPPSE		
DOCKET NO 8508 FUEL REFUND			DOCKET NO 8508 FUEL REFUND			DOCKET NO 8508 FUEL REFUND		
TOTAL			TOTAL			TOTAL		
\$834,686.10			\$834,686.10			\$834,686.10		

TOTAL AMOUNT DUE

\$797,523.69

TOTAL AMT DUE \$797,523.69

AMOUNTS OF \$797,523.69 ARE DUE BY 07/22/91. CURRENT CHARGES NOT PAID BY DUE DATE
ACT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN: REVENUE PROCESSING
PO BOX 79912
EL PASO, TEXAS 79969

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POWER SERVICE COMPANY

MAIN SERVICE: 13,504,944 KWH @ \$0.00340/KWH
 ADJUSTED RATE = (13,406,400 - 11,960) @ 1.00825

BILLING DEMAND: 26,871 KW @ \$19.00/KW
 POWER FACTOR ADJUSTMENT BASED ON 16504 KW/KW

FUEL ADJUSTMENT: 13,504,944 KWH @ \$0.01653/KWH

\$45,916.01

\$10,549.00
256.64

213,236.72

LINE	DATE	POWER FACTOR	REVENUE	PERIOD	PERIOD	DATE	DEPT	NO	STREET ADDRESS	COUNTY	ZIP
150001	31		26672	26671	4-30-91	5-11-91	5-11-91	DIFFERENTIAL	PORT BLISS	CASAS	214615414
150002			05713	4-30	REVENUE			481	16800		8,000,800
150003			00046	4-30	REVENUE			317	16800		5,325,600
150004			00274	4-30	REVENUE			0	8400		0
150005			04519	4-30	REVENUE			299	40		11,960
OFF PEAK MW = 26672									TOTAL ELECTRIC SERVICE		\$779,959.17
DUMMETT MW = 25746									TOTAL SERVICE:		\$779,959.17
DUMMETT NO 9165 RATE CASE EXPENSE										5,802.00	
DUMMETT NO 8588 FUEL REFUND										42,962.41	
TOTAL AMOUNT DUE										\$742,796.76	

DEPARTMENT OF THE ARMY
 DIRECTOR OF INSTAL SUPPORT
 ATZC-152-H BLDG 1288
 FORT BLISS TX 79916

ACCOUNT ADDRESS
 214615414
 PORT BLISS TX 79916

PLEASE RETURN THIS PORTION WITH
 YOUR PAYMENT TO
 EL PASO ELECTRIC COMPANY
 ATTN: REVENUE PROCESSING
 PO BOX 20982
 EL PASO, TEXAS 79808

NO CHARGES OF \$742,796.76 ARE DUE BY 06/21/91. CURRENT CHARGES ARE PAID BY DATE ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

NO 55713
 1005 1005
 1005 1005

PHONE (978) 843-8711



10,351,904 RMI @ \$3,702.20/RMI
 10,351,904 RMI @ \$3,702.20/RMI
 10,351,904 RMI @ \$3,702.20/RMI

2226 RM @ \$19.50/RM

10,351,904 RMI @ \$0.01653/RMI

DEPARTMENT OF THE ARMY
 DIRECTOR OF INSTAL SUPPORT
 ATTC-ISE-U BLDG 1286
 FORT BLISS TX 79916

\$35,196.47

\$13,407.00

\$171,116.97

LINE NO	DATE	QUANTITY	UNIT PRICE	AMOUNT	REMARKS	MATERIAL	LABOR	EQUIPMENT	TOTAL	ACCT NO
701	31	92		21440						
75	3-20		04706							
75	3-20		09432							
75	3-20		00223							
75	3-20		03915							
TOTAL ELECTRIC SERVICE DOCKET NO 9165 RATE CASE EXPENSE DOCKET NO 9581 FINE AFFLWD										
TOTAL AMT DUE \$639,720.44										
TOTAL SERVICE \$5,802.10 \$42,962.41CR										
TOTAL AMT DUE \$602,560.03										

DEPT OF THE ARMY
 2 OF INSTAL SUPPORT
 B-N BLDG 1286
 ISS TX 79916

PLEASE RETURN THIS PORTION WITH
 YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
 ATTN: REVENUE PROCESSING
 PO BOX 2082
 EL PASO, TEXAS 79909

Handwritten notes and stamps, including a date stamp "APR 11 1992" and various illegible markings.

EL PASO ELECTRIC COMPANY

EL PASO ELECTRIC COMPANY
EL PASO, TEXAS 79969
PHONE (915) 543-5711



DEPARTMENT OF THE ARMY
DIRECTOR (Y INSTAL SUPPORT
ATZC - ISE - N DLG 1788
FORT BLISS TX 79916

\$34,047.26
\$333,407.00
\$165,529.75

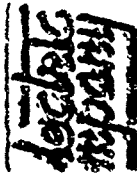
SERVICES: 10,013,699 KWH @ \$0.00340
STED RM - 1,00835 X (9,945,600 - 13,640)
THE DEMAND: 22,226 @ \$19.50/RM
ADMINISTRATIVE: 10,013,699 KWH @ \$0.01653/KWH

DATE	ACCOUNT NO	DEMAND	BLANK	FROM	DATE	AMOUNT	DESCRIPTION	AMOUNT
01	31	93	20,504	22,226	1-31-91	16,800	2-28-91	5,644,800
05	2-28	08481	1-31	04105	01-05	16,800	2-28-91	4,300,800
05	2-28	08919	1-31	09175	01-15	16,800	2-28-91	0
05	2-28	00224	1-31	00224	01-20	8,400	2-28-91	0
05	2-28	03214	1-31	03555	01-31	40	2-28-91	13,640
TOTAL		20,504			01-31	50,040		5,644,800
TOTAL ELECTRIC SERVICE								\$632,984.01
DOCKET NO 9165								\$5,802.00
DOCKET NO 8588								\$42,962.41
TOTAL AMT DUE								\$681,748.42

PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO
EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 70962
EL PASO, TEXAS 79960

CHARGES OF \$595,823.60 ARE DUE BY 03/22/91.

Handwritten notes:
00 0000
RECEIVED
03/22/91



EL PASO ELECTRIC COMPANY
 PO BOX 30962
 EL PASO, TEXAS 79960
 PHONE (915) 543-5711

EL PASO ELECTRIC COMPANY

SERVICE: 11,067,439 kWh @ \$0.00340
 TED kWh = 1,00825 x (10,967,200 - 10,320)

DEPARTMENT OF THE ARMY
 DIRECTOR OF INSTAL SUPPORT
 ATZC-ISE-N BGL1288
 FORT BLISS TX 79916

NG DEMAND: 22,226 kW @ \$19.50/kWh

\$37,629.29
 \$433,407.00
 \$182,944.77

ADJUSTMENT: 11,067,439 kWh @ \$0.01653/kWh

TOTAL \$653,981.06

DATE	TIME	METER	METER NO	DEMAND	MWH	MWH	DATE	TO	TOTAL	SERVICE ADDRESS	ACCOUNT NUMBER
01/31	31	93	20,773	22,226	12/31/90	01/31/91	01/31/91	01/31/91	\$653,981.06	FORT BLISS	2146150
01/31	15	04105	12/31	03734	16,800	16,800	01/31/91	01/31/91	16,800	FORT BLISS	2146150
01/31	15	08919	12/31	08636	16,800	16,800	01/31/91	01/31/91	16,800	FORT BLISS	2146150
01/31	15	00224	12/31	02224	8,400	8,400	01/31/91	01/31/91	8,400	FORT BLISS	2146150
01/31	15	03214	12/31	02255	40	40	01/31/91	01/31/91	40	FORT BLISS	2146150
GR PEAK kWh = 20,772											
TOTAL ELECTRIC SERVICE										\$653,981.06	
TOTAL ELECTRIC SERVICE										\$5,802.00	
DOCKET NO 9165										\$5,802.00	
TOTAL AMOUNT DUE										\$659,783.06	

DEPT OF THE ARMY
 2 OF INSTAL SUPPORT
 2-N BGL1288
 LSS TX 79916

TOTAL SERVICE \$653,981.06
 DOCKET NO 9165 \$5,802.00
 TOTAL AMOUNT DUE \$659,783.06

CHARGES OF \$659,783.06 ARE DUE BY 02/22/91.

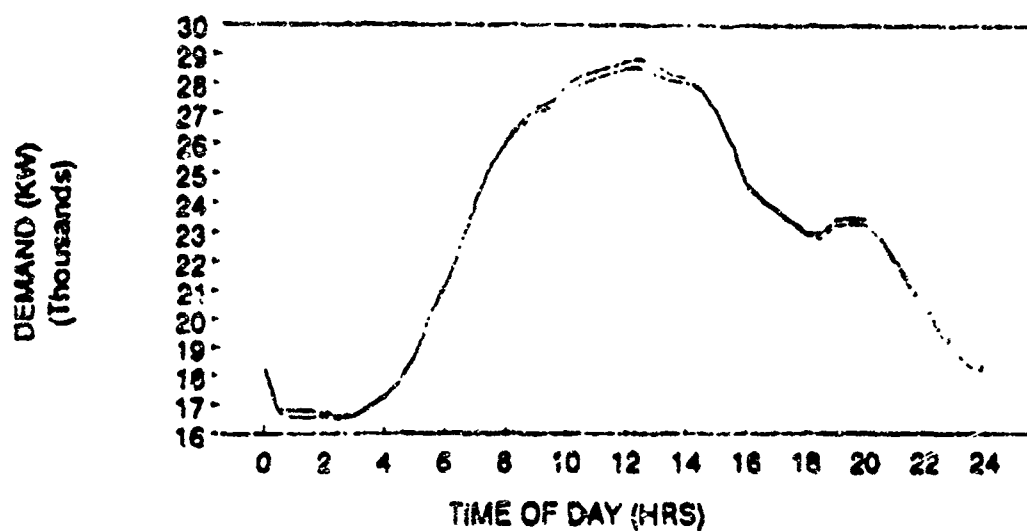
PLEASE RETURN THIS PORTION WITH
 YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
 ATTN REVENUE PROCESSING
 PO BOX 30962
 EL PASO TEXAS 79960

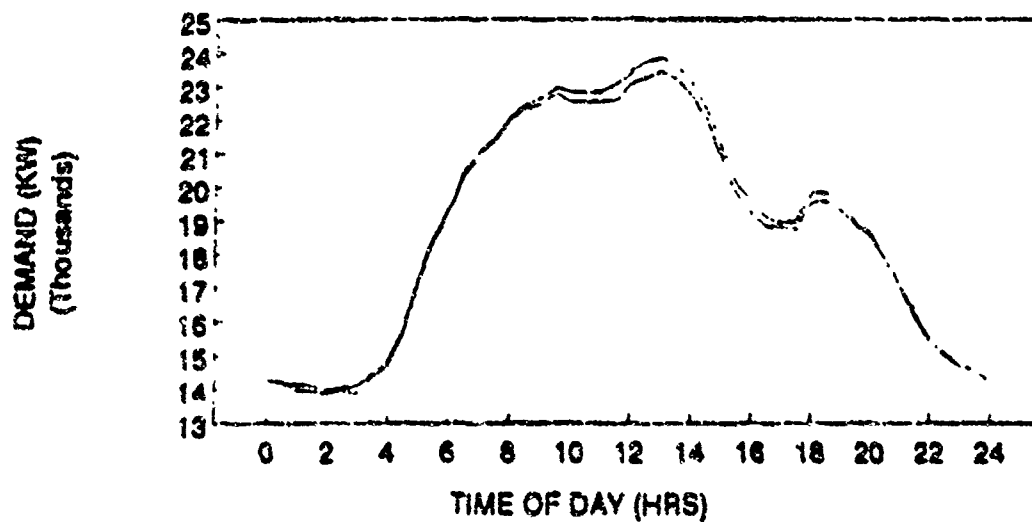
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APPENDIX C - Peak Demand Profiles

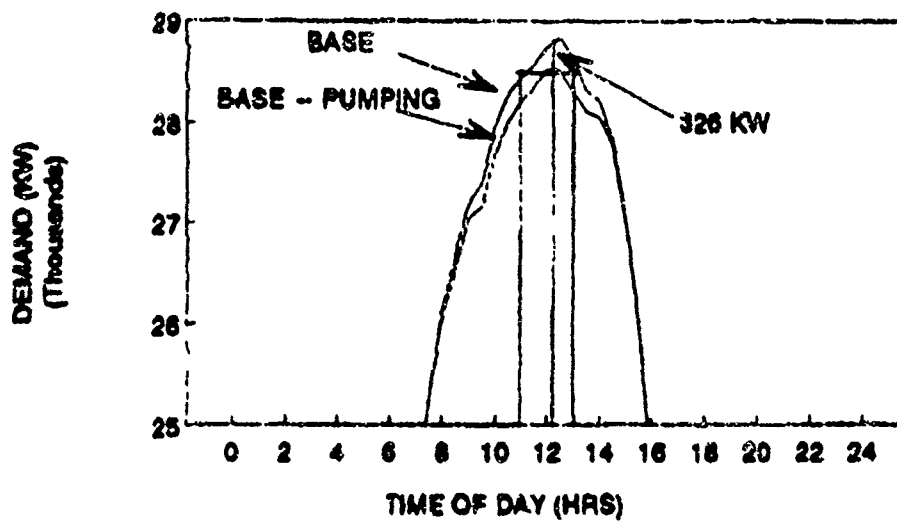
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03-SEP-91



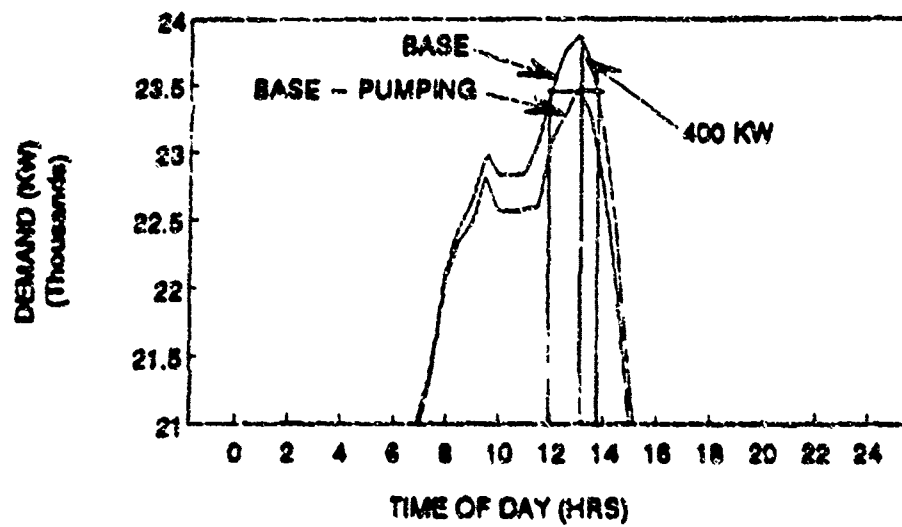
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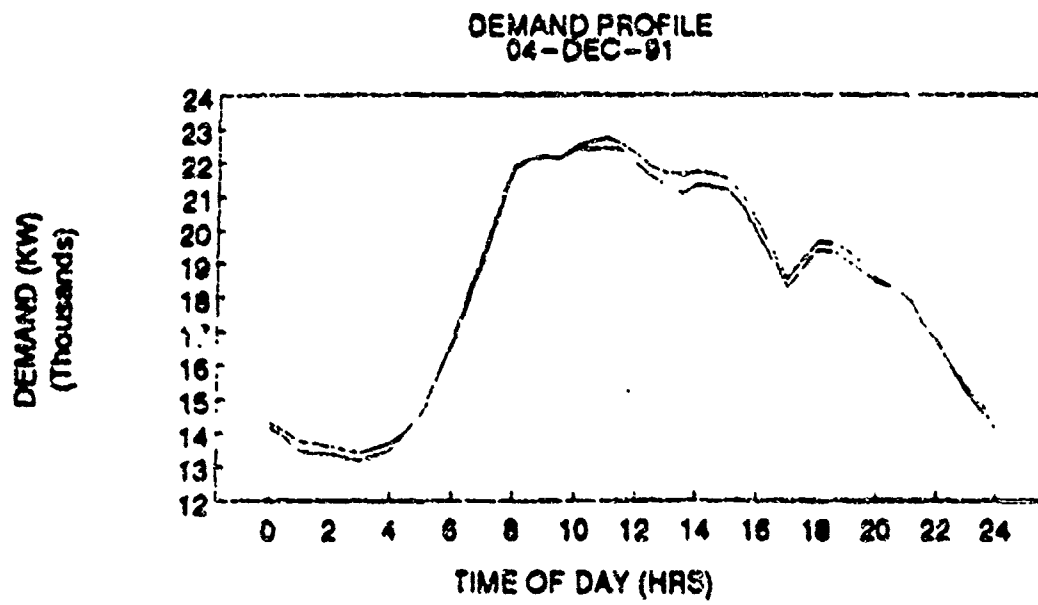
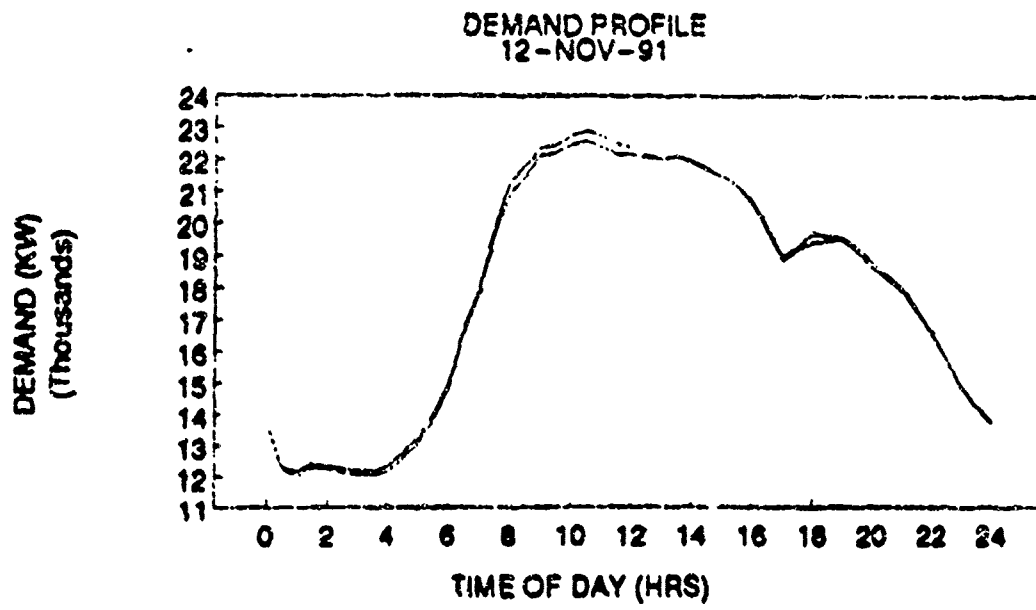


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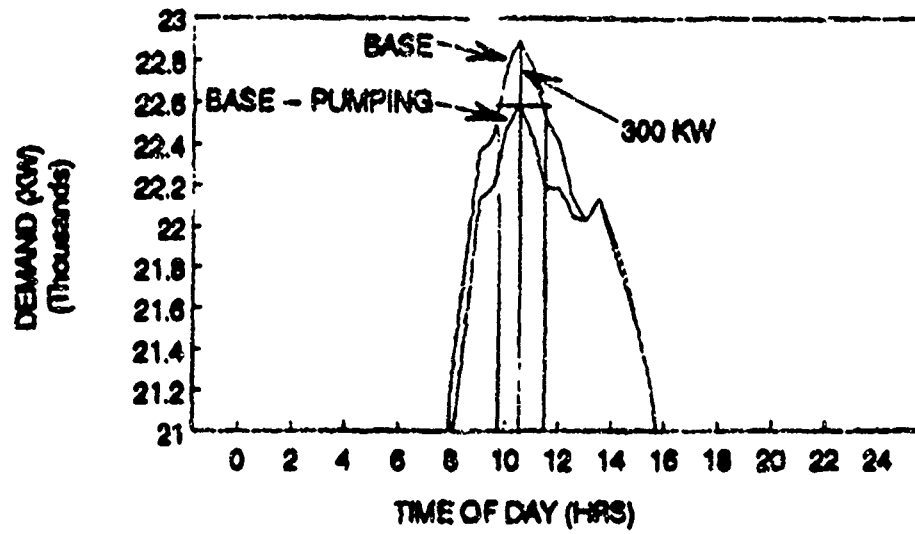


DEMAND PROFILE
02-OCT-91

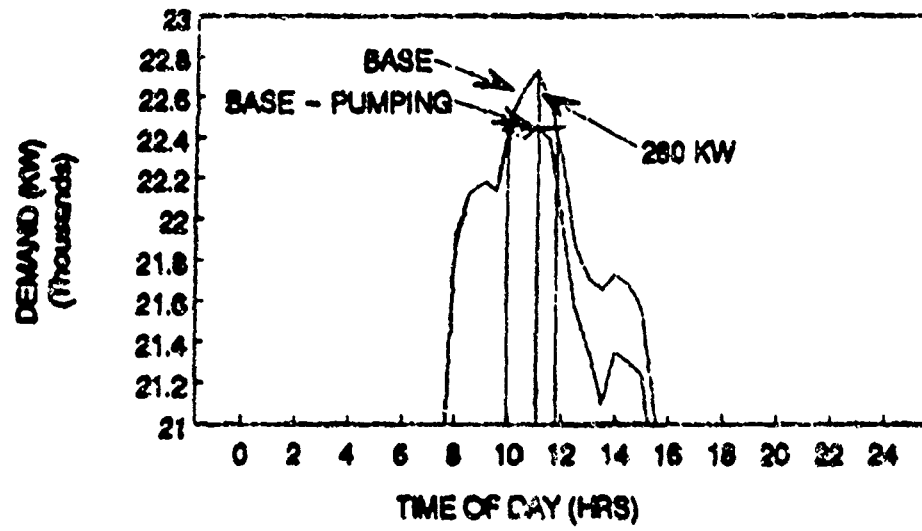




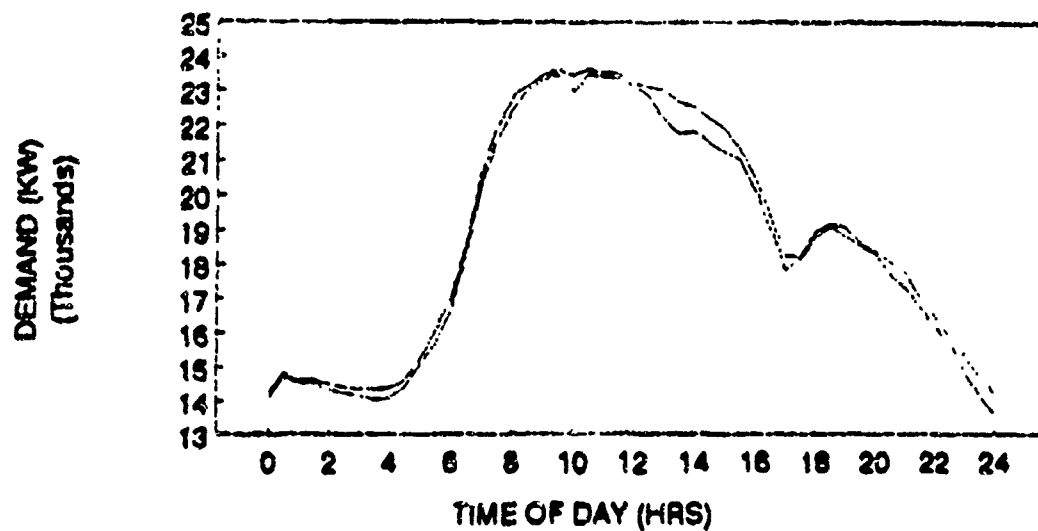
DEMAND PROFILE
12-NOV-91



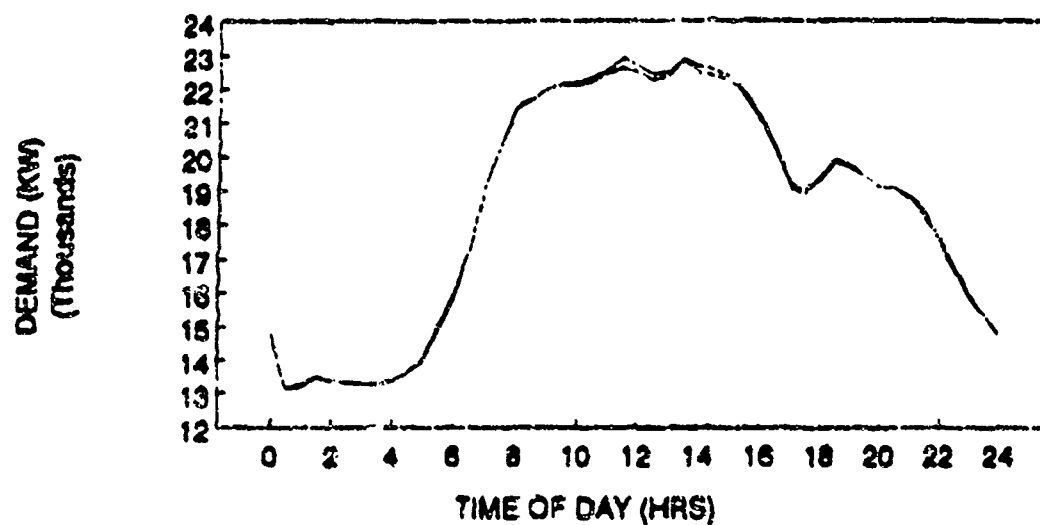
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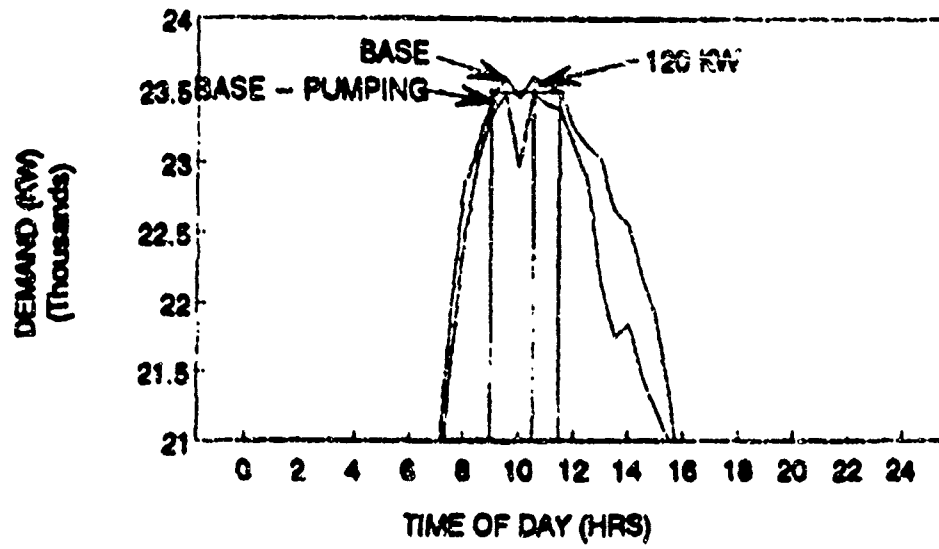
DEMAND PROFILE
16-JAN-92



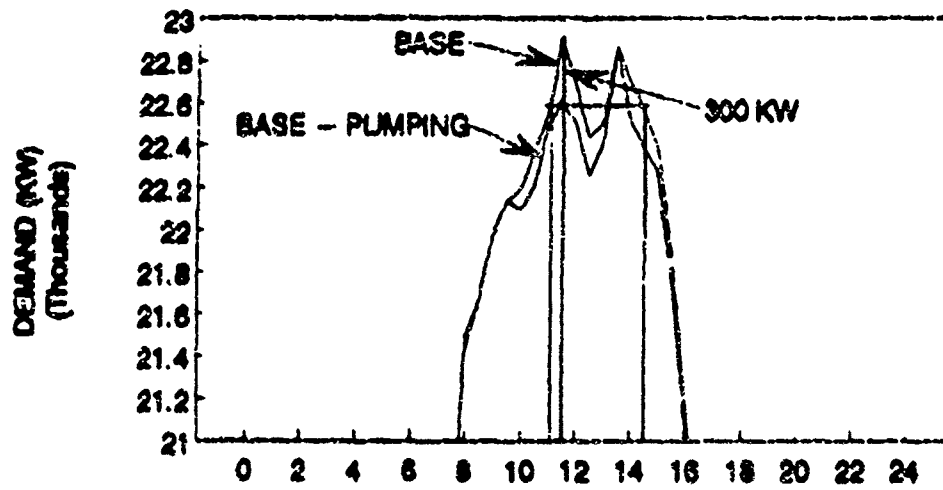
DEMAND PROFILE
03-FEB-92



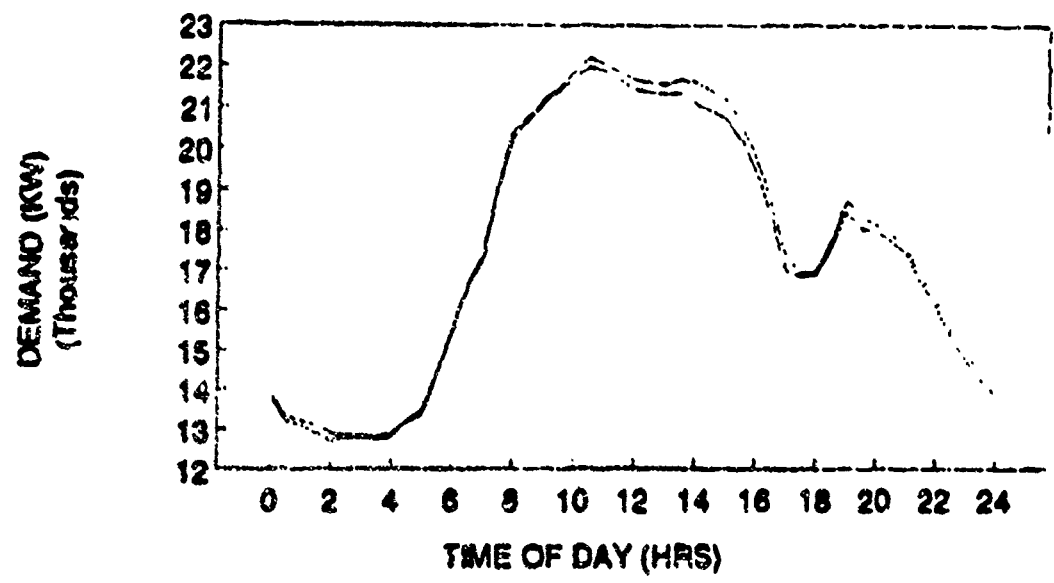
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16-JAN-92



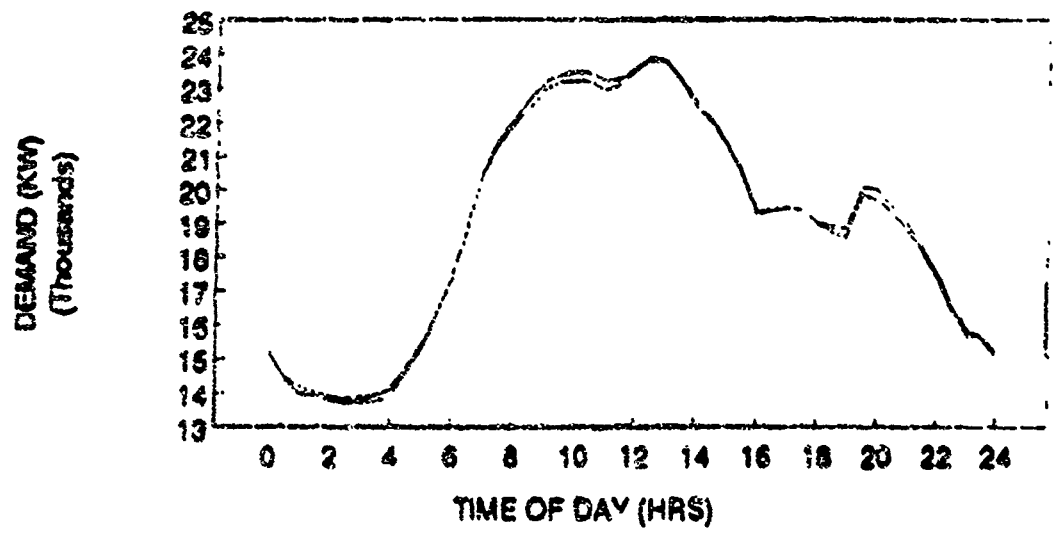
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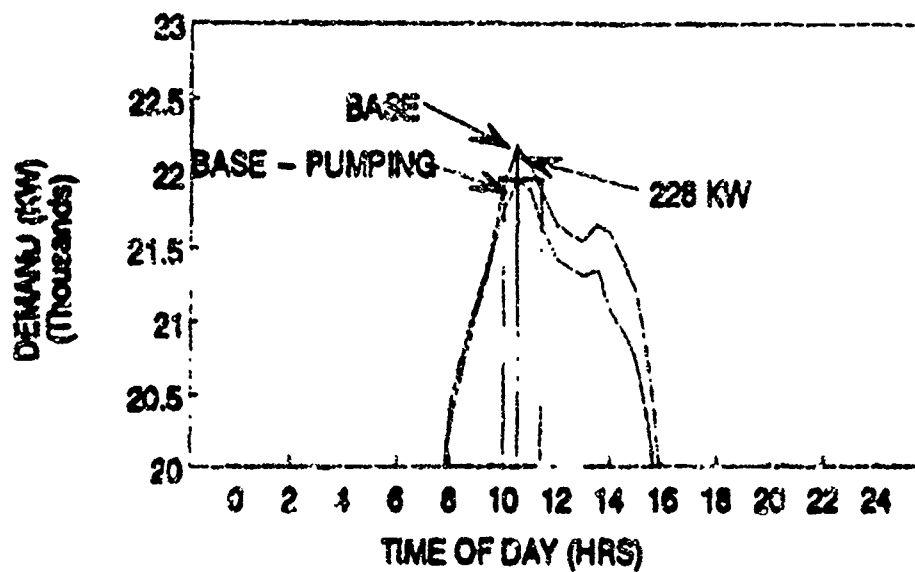
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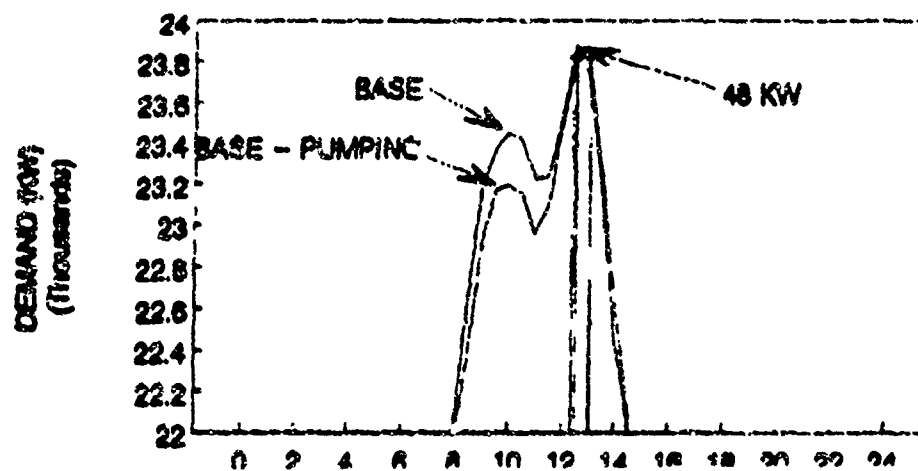
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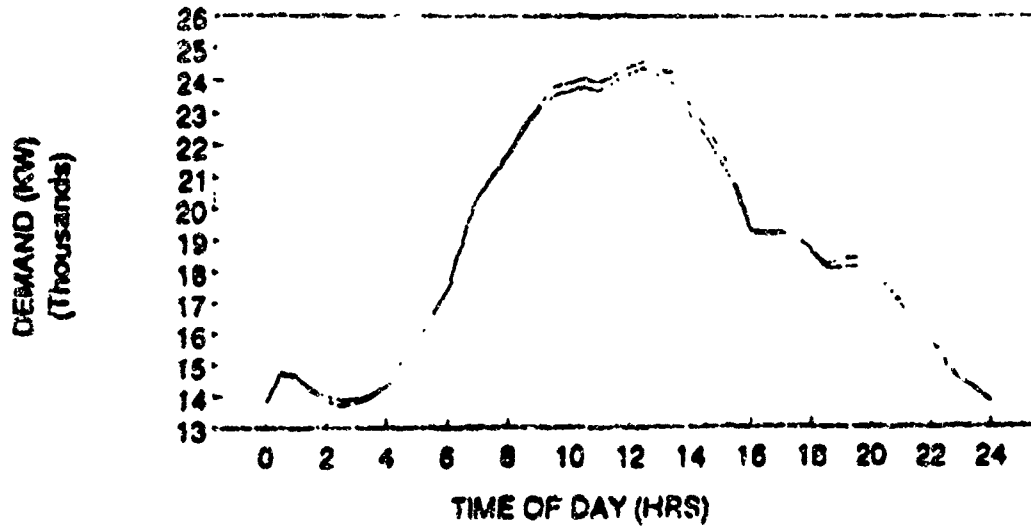
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04-MAR-92



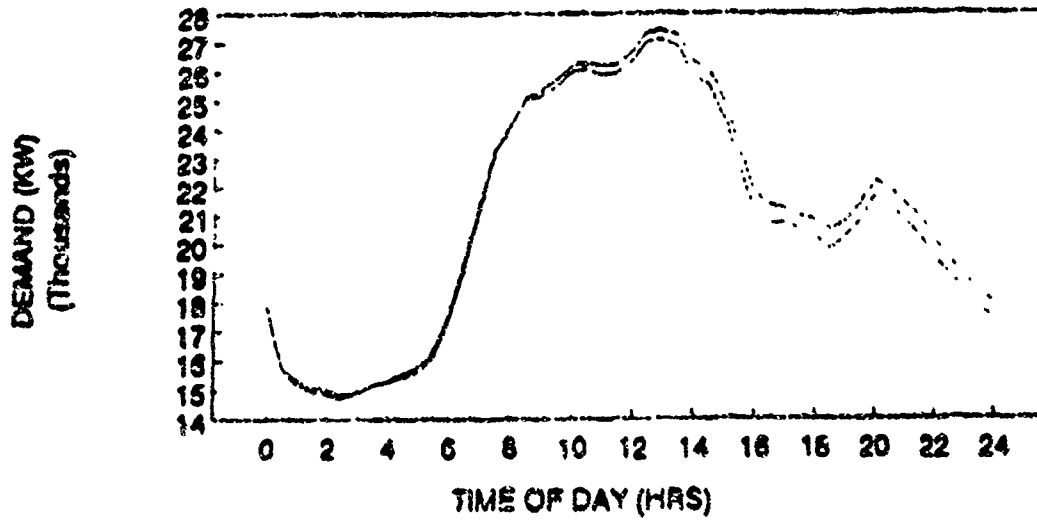
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30-APR-92



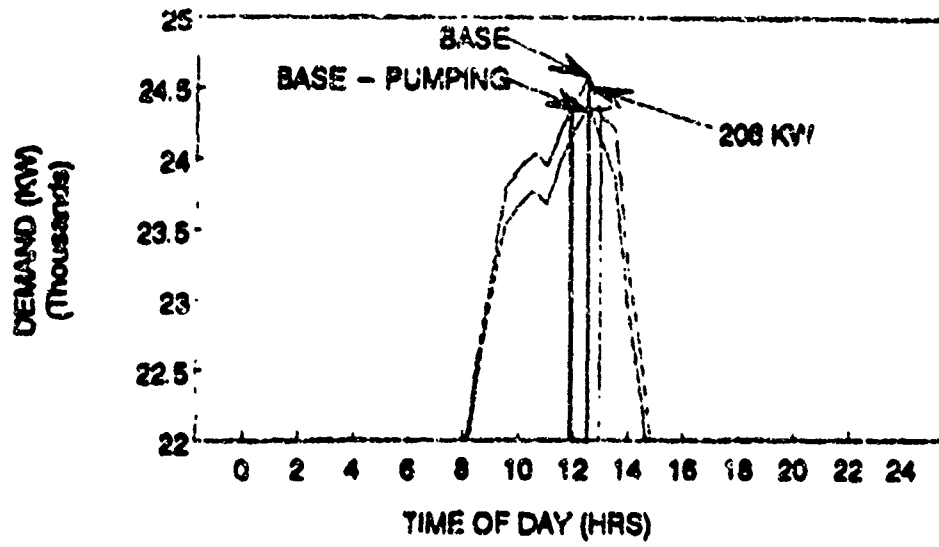
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13-MAY-92



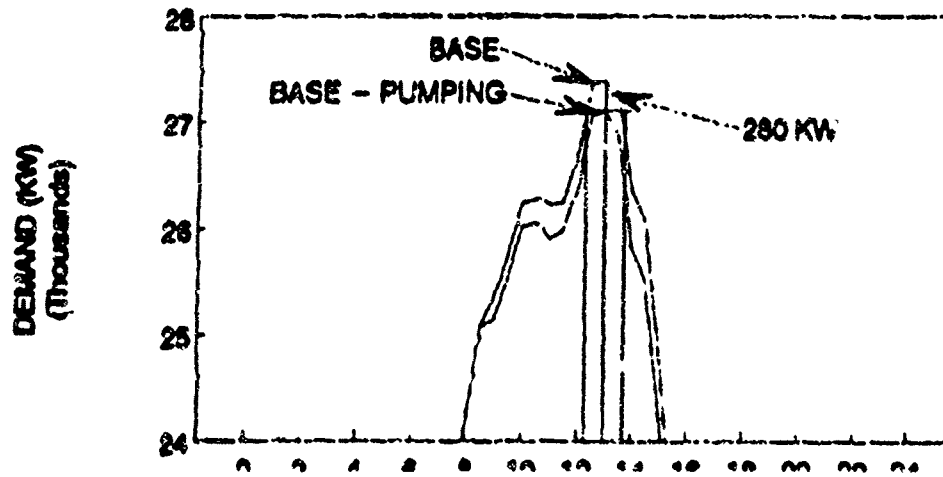
DEMAND PROFILE
18-JUN-92



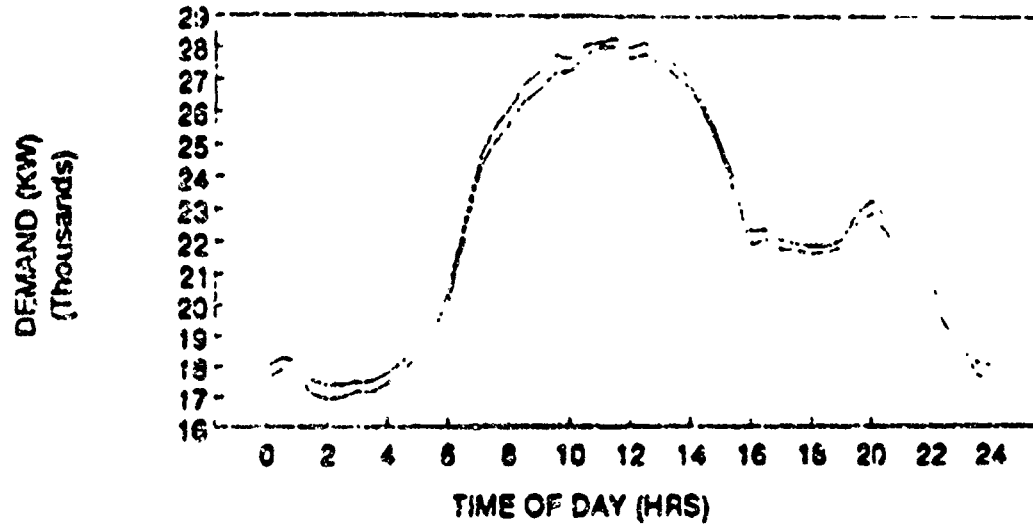
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13-MAY-92



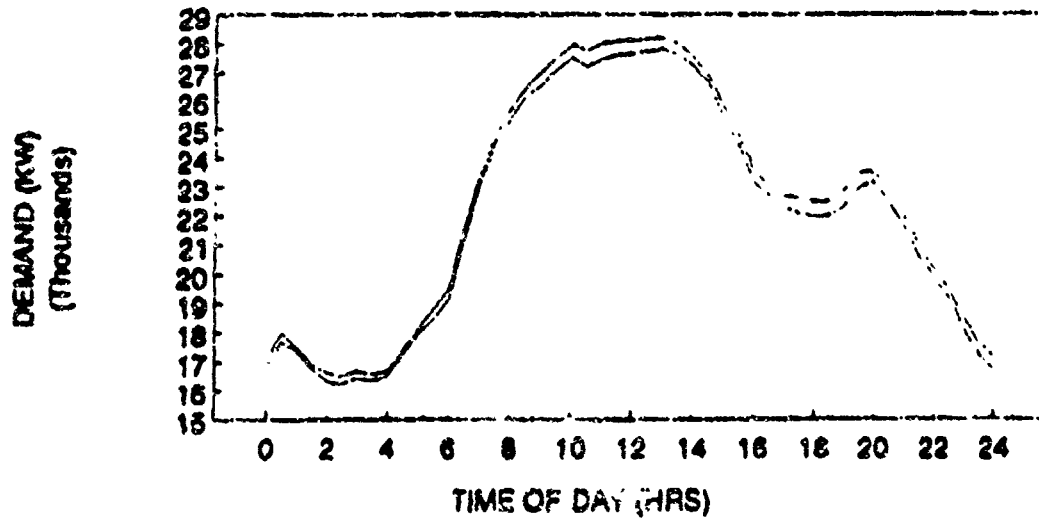
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18-JUN-92



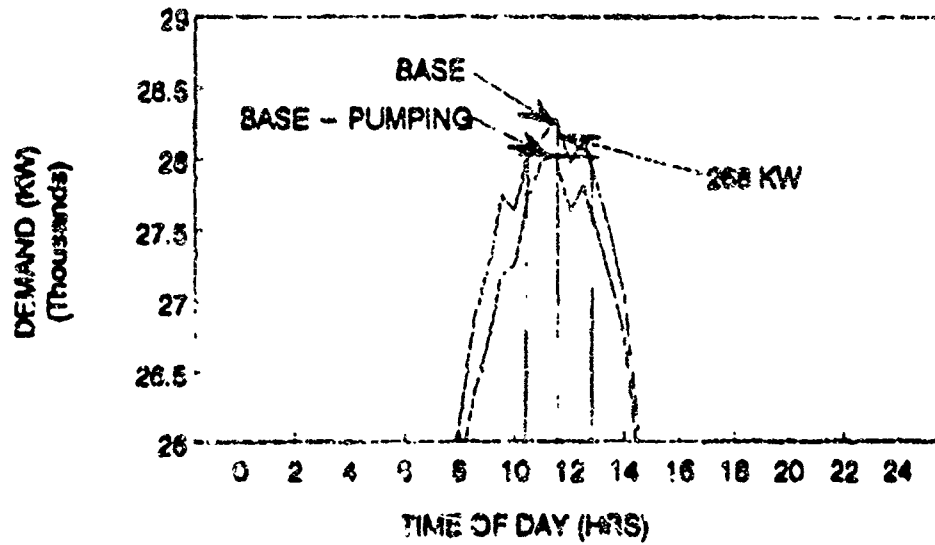
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23-JUL-92



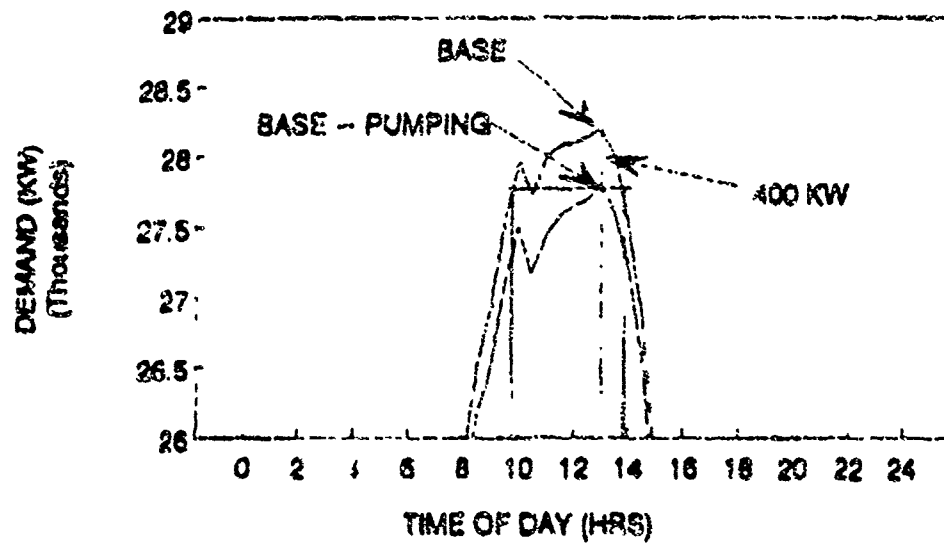
DEMAND PROFILE
06-AUG-92



DEMAND PROFILE
23-JUL-92



DEMAND PROFILE
06-AUG-92



APPENDIX D

Example Energy Calculations

EXAMPLE ENERGY CALCULATIONS

Daily Pump Report Summary

1. Using the Williams Electric Control System data, and the peak demand pump KW listed in Row B, the daily pump report summaries were created for each of the peak days during the 12-month period.
2. The summation of the total pumping KW for each peak day at 30-minute intervals was calculated and is listed in Column A.
3. Next, the daily run-times were calculated (Row C) and multiplied by the pump KW (Row B) to determine the daily KWH consumption (Row D).

Alternative Energy Use Summary

1. The peak pumping KW which occurred between 10:00 am and 3:00 pm was determined in Column A from the Daily Pump Report Summary for each of the peak days during the 12-month period. These values are listed in Column G.
2. Next, the approximately monthly KWH usage was determined by multiplying the total daily usage (Row D) by 30 days per month. These values are listed in Columns H and J.
3. The peak demand for Alternative 2 is zero (Column I) due to the pumps being scheduled off between 10:00 am to 3:00 pm.
4. The annual utility requirements for each alternative (Row F) were calculated by summing the 12 monthly values.

EXAMPLE

**ALTERNATIVE ENERGY USE
SUMMARY**

MONTH	G		H		I		J	
	ALTERNATIVE # 1 PEAK KW	USAGE KWH	ALTERNATIVE # 1 USAGE KWH	ALTERNATIVE # 1 PEAK KW	ALTERNATIVE # 2 USAGE KWH	ALTERNATIVE # 2 PEAK KW	ALTERNATIVE # 2 USAGE KWH	
SEP 91	328	100,320	100,320	0	100,320	0	100,320	
OCT 91	400	189,942	189,942	0	189,942	0	189,942	
NOV 91	300	97,600	97,600	0	97,600	0	97,600	
DEC 91	280	137,020	137,020	0	137,020	0	137,020	
JAN 92	120	164,610	164,610	0	164,610	0	164,610	
FEB 92	300	50,460	50,460	0	50,460	0	50,460	
MAR 92	228	106,764	106,764	0	106,764	0	106,764	
APR 92	48	90,900	90,900	0	90,900	0	90,900	
MAY 92	208	100,008	100,008	0	100,008	0	100,008	
JUN 92	280	248,700	248,700	0	248,700	0	248,700	
JUL 92	256	281,666	281,666	0	281,666	0	281,666	
AUG 92	400	268,770	268,770	0	268,770	0	268,770	
TOTALS	3,160	1,816,958	1,816,958	0	1,816,958	0	1,816,958	

IP

APPENDIX E - Pump Run Time Data

ALTERNATIVE ENERGY USE SUMMARY

MONTH	ALTERNATIVE # 1		ALTERNATIVE # 2	
	PEAK KW	USAGE KWH	PEAK KW	USAGE KWH
SEP 91	328	100,320	0	100,320
OCT 91	400	169,942	0	169,942
NOV 91	300	97,600	0	97,600
DEC 91	280	137,020	0	137,020
JAN 92	120	164,610	0	164,610
FEB 92	300	50,460	0	50,460
MAR 92	228	106,764	0	106,764
APR 92	48	90,900	0	90,900
MAY 92	208	100,006	0	100,006
JUN 92	280	248,000	0	248,000
JUL 92	268	281,666	0	281,666
AUG 92	400	268,770	0	268,770
TOTALS	3,160	1,816,958	0	1,816,958

DAILY PUMP REPORT SUMMARY

MAY 13 1952

	07 1125	08 1140	09 1155	10 1210	11 1225	12 1240	13 1255	14 1310	15 1325	16 1340	17 1355	18 1410	19 1425	20 1440	21 1455	22 1510	23 1525	24 1540	25 1555	26 1610	27 1625	28 1640	29 1655	30 1710	31 1725	32 1740	33 1755	34 1810	35 1825	36 1840	37 1855	38 1910	39 1925	40 1940	41 1955	42 2010	43 2025	44 2040	45 2055	46 2110	47 2125	48 2140	49 2155	50 2210	51 2225	52 2240	53 2255	54 2310	55 2325	56 2340	57 2355	58 2410	59 2425	60 2440	61 2455	62 2510	63 2525	64 2540	65 2555	66 2610	67 2625	68 2640	69 2655	70 2710	71 2725	72 2740	73 2755	74 2810	75 2825	76 2840	77 2855	78 2910	79 2925	80 2940	81 2955	82 3010	83 3025	84 3040	85 3055	86 3110	87 3125	88 3140	89 3155	90 3210	91 3225	92 3240	93 3255	94 3310	95 3325	96 3340	97 3355	98 3410	99 3425	100 3440	101 3455	102 3510	103 3525	104 3540	105 3555	106 3610	107 3625	108 3640	109 3655	110 3710	111 3725	112 3740	113 3755	114 3810	115 3825	116 3840	117 3855	118 3910	119 3925	120 3940	121 3955	122 4010	123 4025	124 4040	125 4055	126 4110	127 4125	128 4140	129 4155	130 4210	131 4225	132 4240	133 4255	134 4310	135 4325	136 4340	137 4355	138 4410	139 4425	140 4440	141 4455	142 4510	143 4525	144 4540	145 4555	146 4610	147 4625	148 4640	149 4655	150 4710	151 4725	152 4740	153 4755	154 4810	155 4825	156 4840	157 4855	158 4910	159 4925	160 4940	161 4955	162 5010	163 5025	164 5040	165 5055	166 5110	167 5125	168 5140	169 5155	170 5210	171 5225	172 5240	173 5255	174 5310	175 5325	176 5340	177 5355	178 5410	179 5425	180 5440	181 5455	182 5510	183 5525	184 5540	185 5555	186 5610	187 5625	188 5640	189 5655	190 5710	191 5725	192 5740	193 5755	194 5810	195 5825	196 5840	197 5855	198 5910	199 5925	200 5940	201 5955	202 6010	203 6025	204 6040	205 6055	206 6110	207 6125	208 6140	209 6155	210 6210	211 6225	212 6240	213 6255	214 6310	215 6325	216 6340	217 6355	218 6410	219 6425	220 6440	221 6455	222 6510	223 6525	224 6540	225 6555	226 6610	227 6625	228 6640	229 6655	230 6710	231 6725	232 6740	233 6755	234 6810	235 6825	236 6840	237 6855	238 6910	239 6925	240 6940	241 6955	242 7010	243 7025	244 7040	245 7055	246 7110	247 7125	248 7140	249 7155	250 7210	251 7225	252 7240	253 7255	254 7310	255 7325	256 7340	257 7355	258 7410	259 7425	260 7440	261 7455	262 7510	263 7525	264 7540	265 7555	266 7610	267 7625	268 7640	269 7655	270 7710	271 7725	272 7740	273 7755	274 7810	275 7825	276 7840	277 7855	278 7910	279 7925	280 7940	281 7955	282 8010	283 8025	284 8040	285 8055	286 8110	287 8125	288 8140	289 8155	290 8210	291 8225	292 8240	293 8255	294 8310	295 8325	296 8340	297 8355	298 8410	299 8425	300 8440	301 8455	302 8510	303 8525	304 8540	305 8555	306 8610	307 8625	308 8640	309 8655	310 8710	311 8725	312 8740	313 8755	314 8810	315 8825	316 8840	317 8855	318 8910	319 8925	320 8940	321 8955	322 9010	323 9025	324 9040	325 9055	326 9110	327 9125	328 9140	329 9155	330 9210	331 9225	332 9240	333 9255	334 9310	335 9325	336 9340	337 9355	338 9410	339 9425	340 9440	341 9455	342 9510	343 9525	344 9540	345 9555	346 9610	347 9625	348 9640	349 9655	350 9710	351 9725	352 9740	353 9755	354 9810	355 9825	356 9840	357 9855	358 9910	359 9925	360 9940	361 9955	362 10010	363 10025	364 10040	365 10055	366 10110	367 10125	368 10140	369 10155	370 10210	371 10225	372 10240	373 10255	374 10310	375 10325	376 10340	377 10355	378 10410	379 10425	380 10440	381 10455	382 10510	383 10525	384 10540	385 10555	386 10610	387 10625	388 10640	389 10655	390 10710	391 10725	392 10740	393 10755	394 10810	395 10825	396 10840	397 10855	398 10910	399 10925	400 10940	401 10955	402 11010	403 11025	404 11040	405 11055	406 11110	407 11125	408 11140	409 11155	410 11210	411 11225	412 11240	413 11255	414 11310	415 11325	416 11340	417 11355	418 11410	419 11425	420 11440	421 11455	422 11510	423 11525	424 11540	425 11555	426 11610	427 11625	428 11640	429 11655	430 11710	431 11725	432 11740	433 11755	434 11810	435 11825	436 11840	437 11855	438 11910	439 11925	440 11940	441 11955	442 12010	443 12025	444 12040	445 12055	446 12110	447 12125	448 12140	449 12155	450 12210	451 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17225	652 17240	653 17255	654 17310	655 17325	656 17340	657 17355	658 17410	659 17425	660 17440	661 17455	662 17510	663 17525	664 17540	665 17555	666 17610	667 17625	668 17640	669 17655	670 17710	671 17725	672 17740	673 17755	674 17810	675 17825	676 17840	677 17855	678 17910	679 17925	680 17940	681 17955	682 18010	683 18025	684 18040	685 18055	686 18110	687 18125	688 18140	689 18155	690 18210	691 18225	692 18240	693 18255	694 18310	695 18325	696 18340	697 18355	698 18410	699 18425	700 18440	701 18455	702 18510	703 18525	704 18540	705 18555	706 18610	707 18625	708 18640	709 18655	710 18710	711 18725	712 18740	713 18755	714 18810	715 18825	716 18840	717 18855	718 18910	719 18925	720 18940	721 18955	722 19010	723 19025	724 19040	725 19055	726 19110	727 19125	728 19140	729 19155	730 19210	731 19225	732 19240	733 19255	734 19310	735 19325	736 19340	737 19355	738 19410	739 19425	740 19440	741 19455	742 19510	743 19525	744 19540	745 19555	746 19610	747 19625	748 19640	749 19655	750 19710	751 19725	752 19740	753 19755	754 19810	755 19825	756 19840	757 19855	758 19910	759 19925	760 19940	761 19955	762 20010	763 20025	764 20040	765 20055	766 20110	767 20125	768 20140	769 20155	770 20210	771 20225	772 20240	773 20255	774 20310	775 20325	776 20340	777 20355	778 20410	779 20425	780 20440	781 20455	782 20510	783 20525	784 20540	785 20555	786 20610	787 20625	788 20640	789 20655	790 20710	791 20725	792 20740	793 20755	794 20810	795 20825	796 20840	797 20855	798 20910	799 20925	80
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APPENDIX F

**Water Distribution and
Well Pumping Records**

FCRT BLISS

WELL PUMPING 1993

For Fort Bliss and WBAMC Systems only

MONTH	PIKE	DESERT	TOTAL
MARCH 93	14,274,018	68,418,400	82,692,418
APRIL 93	37,566,248	73,899,048	111,465,296
MAY 93	47,479,192	95,669,128	143,148,320
JUNE 93	45,590,328	107,206,632	152,796,960
JULY 93	59,446,984	112,948,112	172,395,096
AUGUST 93	19,120,382	105,582,576	124,702,958
SEPTEMBER 93	4,957,536	96,970,784	101,928,320
OCTOBER 93	7,691,019	76,832,008	84,523,027
NOVEMBER 93	1,050,848	61,551,956	62,602,804
DECEMBER 93	6,220,852	41,909,896	48,130,748
JANUARY 94	34,183,844	15,508,847	49,692,691
FEBRUARY 94	59,097,344	947,201	60,044,545
TOTAL (MG)	316,648,695	856,145,288	1,172,793,983
AVERAGE (MGD)	0.87	2.35	3.21

FORT BLISS WELL PUMPING

JUNE 1993

For Fort Bliss and WBAMC Systems only

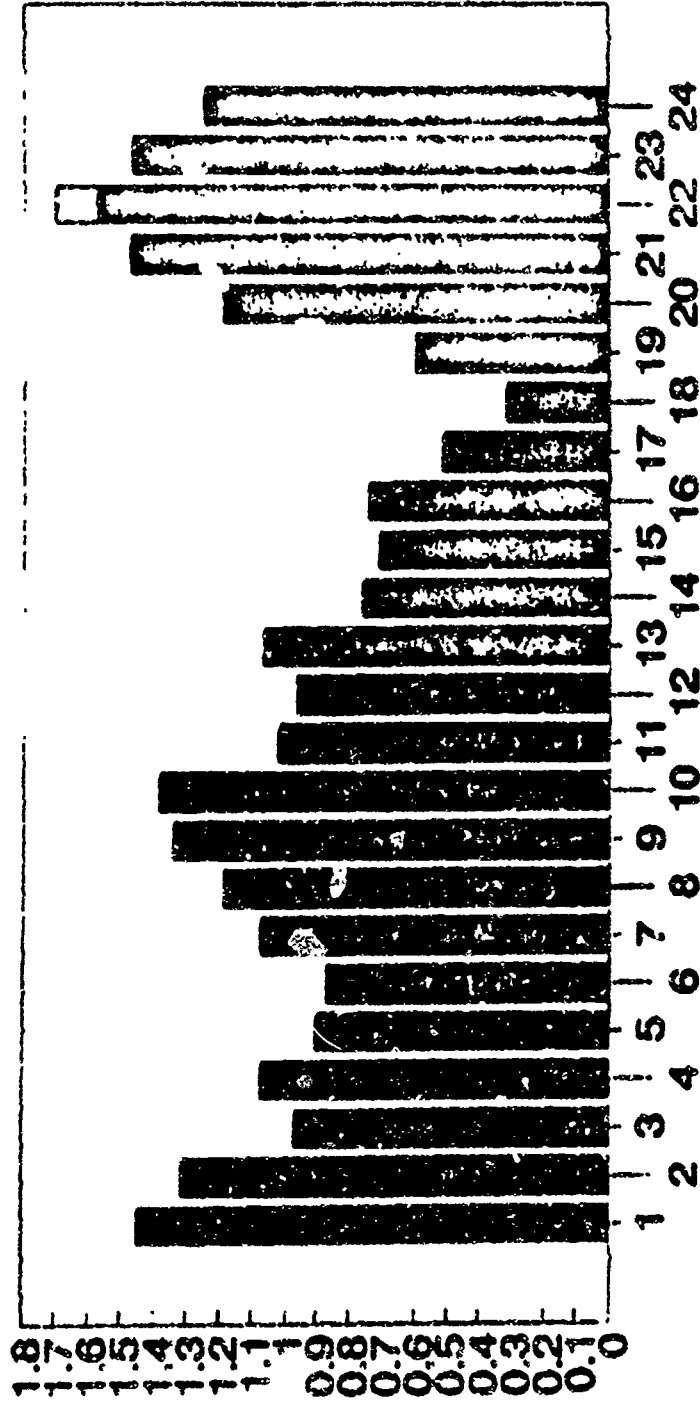
DAY	PIKE	DESERT	TOTAL
1	2,160,616	3,706,302	5,866,918
2	1,819,218	3,702,650	5,521,868
3	1,703,090	3,840,404	5,543,484
4	1,458,360	4,069,582	5,527,942
5	1,248,746	3,103,959	4,352,705
6	677,282	2,031,141	3,608,423
7	1,424,878	4,711,847	6,219,725
8	1,995,373	3,931,272	5,927,145
9	1,874,318	3,441,080	5,315,396
10	1,486,271	3,817,143	5,303,414
11	1,405,768	3,283,215	4,688,983
12	892,598	3,422,702	4,315,300
13	1,189,543	3,028,084	4,197,627
14	1,580,334	4,588,719	6,271,053
15	971,975	3,167,808	4,139,583
16	2,538,471	4,408,534	6,948,005
17	1,712,158	2,247,379	3,959,537
18	2,138,528	2,789,799	4,908,325
19	2,208,702	1,880,886	4,089,401
20	2,880,909	2,011,851	4,892,760
21	1,583,396	3,018,485	4,601,881
22	2,036,504	2,288,213	4,304,717
23	2,187,470	4,008,010	6,195,480
24	2,147,444	2,640,577	4,788,021
25	2,578,128	3,788,391	6,347,517
26	421,428	3,488,350	3,909,778
27	0	4,079,102	4,079,102
28	896,524	4,904,919	5,501,443
29	634,095	5,516,442	6,200,537
30	0	5,377,156	5,377,156
MG	46,863,823	107,206,615	152,797,238
MGD	1.82	3.46	4.93

FORT BLISS PEAK DAY PUMPING RECORDS

for JULY 23, 1992

Hour	PIKE	DESERT	HAWK	LOGAN	WBACM-L	WBACM-U	TOTAL	Hourly to Peak day Ratio
1	112,063	250,915	0	112,666	67,186	0	542,852	1.45
2	111,415	249,540	0	123,956	7,402	0	492,313	1.32
3	111,020	248,550	0	2,817	0	0	362,387	0.97
4	109,772	245,608	0	0	46,084	0	401,464	1.07
5	104,356	229,163	0	0	6,876	0	339,397	0.91
6	55,617	235,373	0	0	19,612	15,904	326,596	0.87
7	0	246,523	0	0	68,783	86,367	401,663	1.07
8	0	232,138	0	0	195,590	86,494	444,212	1.19
9	0	253,743	0	14,086	149,232	86,445	502,555	1.24
10	92,026	241,913	0	0	134,057	49,763	518,384	1.39
11	108,501	239,780	0	0	33,746	0	382,027	1.02
12	105,035	237,205	17,491	0	0	0	359,731	0.96
13	106,546	243,613	23,399	0	25,954	0	399,714	1.07
14	3,529	231,968	22,224	11,269	16,199	0	285,189	0.76
15	0	93,845	14,642	94,186	20,881	41,794	265,346	0.71
16	0	91,063	0	24,419	77,049	85,081	277,612	0.74
17	0	91,723	0	0	83,521	16,891	192,135	0.51
18	0	93,263	0	0	25,928	0	119,111	0.32
19	19,052	155,765	0	0	48,658	0	223,485	0.60
20	114,364	253,020	0	0	60,890	16,234	444,498	1.16
21	114,903	259,270	0	0	96,268	87,163	551,322	1.17
22	114,111	252,260	0	0	135,860	86,135	588,166	1.17
23	111,789	325,335	0	0	96,615	15,726	549,467	1.47
24	110,192	355,673	0	0	0	0	465,865	1.25
MG	304,597	5,370,469	77,756	393,421	1,324,129	674,141	8,968,648	
MGD	1.60	5.37	0.08	0.36	1.32	0.67	8.97	

Diurnal Water Demands July 23, 1992



100

APPENDIX G

**Storage Tank and Pressure
Plane Balance Sheets**

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

William Beaumont Army Med Center (WBAMC)

Balance for Tank 7241
HYDRO3TB.WK1

Time	Ratio of Hourly Demand to Peak Day	Hourly Demand (gal)	Hourly Pumping Rate (gph) *1	Hourly Storage ingoin (gal)	Hourly Storage Outgoinn (gal)	Cummulative Storage *2 (gal)
						700,000
1:00	1.45	40,716	24,996	0	24,996	675,004
2:00	1.32	37,066	21,346	0	21,346	653,658
3:00	0.97	27,238	16,658	0	16,658	637,000
4:00	1.07	30,046	18,466	94,080	18,466	712,614
5:00	0.91	25,553	13,973	94,080	13,973	782,721
6:00	0.87	24,430	12,850	94,080	12,850	873,951
7:00	1.07	30,046	18,466	94,080	18,466	949,565
8:00	1.19	33,415	17,695	86,010	17,695	1,017,880
9:00	1.34	37,627	21,907	86,010	21,907	1,051,683
10:00	1.39	39,031	0		87,886	994,097
11:00	1.02	26,642	0		87,886	1,062,211
12:00	0.96	26,957	0		87,886	818,325
13:00	1.07	30,046	0		87,886	730,439
14:00	0.76	21,341	0		87,886	642,553
15:00	0.71	19,937	0		87,886	554,667
16:00	0.74	20,779	72,779	85,140	72,779	567,026
17:00	0.51	14,321	69,321	85,140	69,321	582,647
18:00	0.32	8,986	63,986	85,140	63,986	604,001
19:00	0.60	16,848	71,848	85,140	71,848	617,293
20:00	1.19	33,415	73,635	94,080	73,635	637,738
21:00	1.48	41,558	25,833	77,940	25,833	689,645
22:00	1.57	44,066	24,286	77,940	24,286	743,499
23:00	1.47	41,278	25,558	1,439	25,558	719,360
24:00	1.25	35,100	19,380	0	19,380	700,000
	Totals	708,458	612,863	1,140,299	1,140,299	

*1 - Out of Tank 7241

*2 - Tank 7241

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

William Beaumont Army Medical Center (WBAMC)

Balance for Tank 7090/7088
HYDROST.WK1

Time	Ratio of Hourly Demand to Peak Day	Hourly Demand (gal)	Demand to Upper PP (gal)	Total Hourly Demand (gal)	Hourly Pumping Rate (gph) *1	Hourly Storage Ingoing (gal)	Hourly Storage outgoing (gal)	Cummulative Storage *2 (gal)
								1,750,000
1:00	1.45	84,042	24988	109,038	134,034	101,183	134,034	1,717,149
2:00	1.32	76,507	21346	97,853	119,199	136,350	119,199	1,734,300
3:00	0.97	56,221	16658	72,879	89,537	232,560	89,537	1,877,323
4:00	1.07	62,017	18466	80,483	98,949	232,560	98,949	2,010,933
5:00	0.91	62,744	13973	66,717	80,690	232,560	80,690	2,162,804
6:00	0.87	50,425	12850	63,275	76,125	232,560	76,125	2,319,239
7:00	1.07	62,017	18466	80,483	98,949	232,560	98,949	2,452,849
8:00	1.19	68,972	17895	86,667	104,362	136,350	104,362	2,484,837
9:00	1.34	77,665	21907	99,573	121,480	136,350	121,480	2,499,707
10:00	1.39	80,564	0	80,564	0		87,900	2,411,807
11:00	1.02	59,119	0	59,119	0		87,900	2,323,907
12:00	0.96	55,642	0	55,642	0		87,900	2,236,007
13:00	1.07	62,017	0	62,017	0		87,900	2,148,107
14:00	0.76	44,050	0	44,050	0		87,900	2,060,207
15:00	0.71	41,152	0	41,152	0		87,900	1,972,307
16:00	0.74	42,890	72779	115,669	168,448	221,820	168,448	2,005,678
17:00	0.51	29,580	69321	98,681	168,202	221,820	168,202	2,059,297
18:00	0.32	18,547	63968	82,533	146,519	221,820	146,519	2,134,697
19:00	0.60	34,776	71848	106,624	178,472	221,820	178,472	2,177,945
20:00	1.19	68,972	73635	142,607	216,242	136,350	216,242	2,098,053
21:00	1.48	85,781	25833	111,614	137,447	136,350	137,447	2,068,958
22:00	1.57	90,967	24288	115,283	139,569	40,140	139,569	1,997,527
23:00	1.47	88,201	25158	110,759	136,317	0	136,317	1,861,210
24:00	1.28	72,450	18380	91,830	111,210	0	111,210	1,750,000
		1,482,331	612,983	2,075,314	2,345,753	2,873,153	2,873,153	

1 - Out of 7088/7090

2 - Tank 7090/7088

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

William Beaumont Army Med Center (WBAMC)

Upper Pressure Plane
HYDRO3T.WK1

Time	Ratio of Hourly Demand to Peak Day	Hourly Demand (gal)	Hourly Pumping Rate (gph) *1	Hourly Storage Ingoing (gal)	Hourly Storage Outgoing (gal)	Cumulative Storage *2 (gal)
						925,000
1:00	1.45	40,716	24,996		(15,720)	909,280
2:00	1.32	37,066	21,346		(15,720)	893,560
3:00	0.97	27,238	15,658		(11,580)	881,980
4:00	1.07	30,046	18,466		(11,580)	870,400
5:00	0.91	25,553	13,973		(11,580)	858,820
6:00	0.87	24,430	12,850		(11,580)	847,240
7:00	1.07	30,046	18,466		(11,580)	835,660
8:00	1.19	33,415	17,695		(15,720)	819,940
9:00	1.34	37,627	21,907		(15,720)	804,220
10:00	1.39	39,031	0		(11,580)	792,640
11:00	1.02	28,642	0		(11,580)	781,060
12:00	0.98	26,957	0		(11,580)	769,480
13:00	1.07	30,046	0		(11,580)	757,900
14:00	0.76	21,341	0		(11,580)	746,320
15:00	0.71	19,937	0		(11,580)	734,740
16:00	0.74	20,779	72,779	62,000		723,160
17:00	0.51	14,321	69,321	55,000		841,740
18:00	0.32	8,986	63,986	55,000		896,740
19:00	0.60	18,846	71,846	55,000		851,740
20:00	1.19	33,415	73,635	40,220		991,960
21:00	1.18	41,558	25,838		(15,720)	976,240
22:00	1.57	44,386	24,286		(19,800)	956,440
23:00	1.47	41,278	25,558		(15,720)	940,720
24:00	1.25	35,100	19,380		(15,720)	925,000
	Totals		611,986	257,220	(207,220)	

1 - Out of Tank 7241

2 - Tank 7775

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

Fort Bliss Pressure Plane -- Lower

Time	Ratio of Hourly Demand to Peak Day	Hourly Demand (gal)	Demand to Middle PP (gal)	Total Hourly Demand (gal)	Hourly Pumping Rate (gph) *1	Hourly Storage Ingoing (gal)	Hourly Storage outgoing (gal)	HYDRO5B.WK
								Cummulative Storage *2 (gal)
								3,300,000
1:00	1.45	587,685	123,000	710,685	660,000		(50,685)	3,350,685
2:00	1.32	534,996	123,000	657,996	660,000	2,004		3,352,689
3:00	0.97	393,141	123,000	516,141	660,000	143,859		3,496,548
4:00	1.07	433,671	123,000	556,671	665,508	109,837		3,606,385
5:00	0.91	369,823	123,000	491,823	762,000	270,177		3,876,562
6:00	0.87	352,611	123,000	475,611	762,000	286,389		4,162,951
7:00	1.07	433,671	123,000	556,671	732,000	205,329		4,368,280
8:00	1.19	482,307	123,000	605,307	762,000	166,693		4,524,973
9:00	1.34	543,102	123,000	666,102	732,000	65,898		4,620,871
10:00	1.39	563,367	0	563,367	0		(503,367)	4,057,504
11:00	1.02	413,406	0	413,406	0		(413,406)	3,644,098
12:00	0.96	369,086	0	369,086	0		(369,086)	3,255,010
13:00	1.07	433,671	0	433,671	0		(433,671)	2,821,339
14:00	0.78	308,028	0	308,028	0		(308,028)	2,513,311
15:00	0.71	287,763	0	287,763	0		(287,763)	2,225,548
16:00	0.74	239,922	123,000	422,922	660,000	237,078		2,462,626
17:00	0.51	206,703	123,000	329,703	660,000	330,297		2,792,923
18:00	0.32	129,696	123,000	252,696	660,000	407,304		3,200,227
19:00	0.60	243,180	123,000	366,180	660,000	293,820		3,494,047
20:00	1.19	482,307	123,000	605,307	660,000	64,693		3,548,740
21:00	1.48	559,844	123,000	722,844	660,000		(67,844)	3,480,896
22:00	1.57	635,321	123,000	759,321	640,000		(59,321)	3,381,575
23:00	1.47	585,791	102,000	697,791	660,000		(37,791)	3,343,784
24:00	1.25	506,625	100,769	607,414	670,000	62,586		3,401,370
		10,225,719	2,170,759		12,396,508	(2,645,964)	(2,645,934)	

*1 - Out of Tanks 131d, 1318, 369C, 3691, 3692

*2 - Tanks 7088, 7090, 5300, 129, 493

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

Time	Balance for Water Well Pumping				Demand to Lower PP (gpd)	Hourly Pumping Rate (gph) *1	Well Pumping Rate (gph) Desert	Well Pumping Rate (gph) Pike	Total Well Rate (gph)	Hourly Storage ingoing (gal)	Hourly Storage outgoing (gal)	HYDROB.WRK Cumulative Storage *2 (gal)
	Ratio of Hourly Demand to Peak Day	Hourly Demand (gpd)	Demand to Lower PP (gpd)	Hourly Demand (gpd)								
1:00	1.45	597,065	123,000	710,065	0	440,400	237,000	677,400	677,400	677,400	1,595,200	
2:00	1.32	534,936	123,000	657,936	0	440,400	237,000	677,400	677,400	677,400	2,272,600	
3:00	0.97	393,141	123,000	516,141	767,400	440,400	237,000	677,400	677,400	(90,000)	2,950,000	
4:00	1.07	433,571	123,000	556,571	767,400	440,400	237,000	677,400	677,400	(90,000)	2,960,000	
5:00	0.51	259,623	123,000	491,623	767,400	440,400	237,000	677,400	677,400	(90,000)	2,770,000	
6:00	0.67	352,611	123,000	475,611	767,400	440,400	237,000	677,400	677,400	(90,000)	2,680,000	
7:00	1.07	433,571	123,000	556,571	767,400	440,400	237,000	677,400	677,400	(90,000)	2,590,000	
8:00	1.19	482,307	123,000	605,307	638,950	440,400	237,000	677,400	677,400	(161,550)	2,500,000	
9:00	1.34	543,102	123,000	666,102	638,950	440,400	237,000	677,400	677,400	(161,550)	2,338,450	
10:00	1.39	563,367	0	563,367	0	0	0	0	0	0	2,176,900	
11:00	1.02	413,406	0	413,406	0	0	0	0	0	0	2,176,900	
12:00	0.96	389,068	0	389,068	0	0	0	0	0	0	2,176,900	
13:00	1	433,571	0	433,571	0	0	0	0	0	0	2,176,900	
14:00	0.76	308,028	0	308,028	0	0	0	0	0	0	2,176,900	
15:00	0.71	287,763	0	287,763	0	0	0	0	0	0	2,176,900	
16:00	0.74	299,922	123,000	422,922	845,580	440,400	237,000	677,400	677,400	(168,180)	2,006,720	
17:00	0.51	206,703	123,000	329,703	845,580	440,400	237,000	677,400	677,400	(168,180)	1,840,540	
18:00	0.32	129,696	123,000	252,696	845,580	440,400	237,000	677,400	677,400	(168,180)	1,672,360	
19:00	0.60	243,180	123,000	366,180	845,580	440,400	237,000	677,400	677,400	(168,180)	1,504,180	
20:00	1.19	482,307	123,000	605,307	838,950	440,400	237,000	677,400	677,400	(161,550)	1,342,630	
21:00	1.40	569,644	123,000	722,644	838,950	440,400	237,000	677,400	677,400	(161,550)	1,181,080	
22:00	1.57	636,321	123,000	759,321	910,500	440,400	237,000	677,400	677,400	(233,100)	947,980	
23:00	1.47	565,731	102,000	697,731	838,950	440,400	237,000	677,400	677,400	(161,550)	786,430	
24:00	1.25	506,625	100,789	607,414	71,938	440,400	237,000	677,400	906,462	0	1,391,892	
		10,225,719	2,170,788	12,396,508	12,396,508	12,396,508	12,396,508	12,193,200	1,967,308	163,570		

*1 - Out of Tanks 1518, 1319, 3680, 3691, 3692

*2 - Tanks 1316, 1319, 3680, 3691, 3692

APPENDIX H - Computer Model Printout

* * * * * K Y P I P E 2 * * * * *
 * University of Kentucky Hydraulic Analysis Program *
 * Distribution of Pressure and Flow in Pipins Network *
 * 1010 PIPE VERSION - 1.00 (01/01/80) *
 * * * * *

DATE 07/13/84
 TIME 16 48 39.23

INPUT DATA FILENAME D:\NT2PLUS\BPBPC03.DAT
 TABULATED OUTPUT FILENAME D:\NT2PLUS\BPBPC03.OUT
 POSTPROCESSOR RESULTS FILENAME ... D:\NT2PLUS\BPBPC03.RES

.....
 SUMMARY OF ORIGINAL DATA

UNITS SPECIFIED

FLOWRATE gal/min
 HEAD (HGL) feet
 PRESSURE psig

REGULATING VALVE DATA

RV LABEL	VALVE TYPE	POSITION JUNCTION	CONTROLLED SIZE	VALVE SETTING (% OF SPN)
R.	RV-1	366	467	4310.40

PIPELINE DATA

PIPE NUMBER	HOLE NO. 01	HOLE NO. 02	LENGTH (ft)	DIAMETER (in)	SURFACES COEFF	PUMP LABEL	MINOR LOSS COEFF	GEN. HGL (ft)
1	1	2	1022.0	6.0	125.00		0.00	
2	2	3	1980.0	3.0	125.00		0.00	
3	3	4	640.0	6.0	125.00		0.00	
4	4	5	782.0	6.0	125.00		0.00	
5	5	6	1640.0	6.0	125.00		0.00	
6	6	7	710.0	6.0	125.00		0.00	
7	7	8	344.0	6.0	125.00		0.00	
8	8	9	320.0	6.0	125.00		0.00	
9	9	10	450.0	6.0	125.00		0.00	
10	10	11	300.0	6.0	125.00		0.00	
11	11	12	300.0	6.0	125.00		0.00	
12	12	13	1010.0	6.0	125.00		0.00	
13	13	14	1980.0	6.0	125.00		0.00	
14	14	15	360.0	6.0	125.00		0.00	
15	15	16	900.0	6.0	125.00		0.00	
16	16	17	970.0	6.0	125.00		0.00	
17	17	18	1060.0	6.0	125.00		0.00	
18	18	19	630.0	6.0	125.00		0.00	
19	19	20	360.0	6.0	125.00		0.00	
20	20	21	440.0	6.0	125.00		0.00	
21	21	22	210.0	6.0	125.00		0.00	
22	22	23	230.0	6.0	125.00		0.00	
23	23	24	250.0	6.0	125.00		0.00	
24	24	25	420.0	6.0	125.00		0.00	
25	25	26	300.0	6.0	125.00		0.00	
26	26	27	130.0	6.0	125.00		0.00	
27	27	28	70.0	12.0	170.00		0.00	
28	28	29	70.0	6.0	125.00		0.00	
29	29	30	30.0	6.0	125.00		0.00	
30	30	31	1300.0	6.0	125.00		0.00	
31	31	32	330.0	6.0	125.00		0.00	
32	32	33	130.0	6.0	125.00		0.00	
33	33	34	1020.0	6.0	125.00		0.00	
34	34	35	440.0	6.0	125.00		0.00	
35	35	36	60.0	6.0	125.00		0.00	
36	36	37	260.0	6.0	125.00		0.00	
37	37	38	1980.0	6.0	125.00		0.00	
38	38	39	180.0	6.0	125.00		0.00	
39	39	40	70.0	6.0	125.00		0.00	
40	40	41	290.0	12.0	170.00		0.00	
41	41	42	70.0	6.0	125.00		0.00	
42	PC	43	200.0	14.0	130.00		1992.00	
43		44	340.0	12.0	130.00		0.00	
44		45	860.0	6.0	125.00		0.00	
45		46	230.0	10.0	120.00		0.00	
46		47	180.0	10.0	120.00		0.00	
47		48	850.0	10.0	120.00		0.00	
48		49	430.0	6.0	125.00		0.00	
49		50	810.0	6.0	125.00		0.00	
50		51	600.0	6.0	125.00		0.00	
51		52	950.0	7.0	125.00		0.00	

52	23	02	350 0	10 0	100 00	0 00
53	23	01	1040 0	0 0	120 00	0 00
54	41	24	340 0	0 0	120 00	0 00
55	31	39	900 0	10 0	120 00	0 00
56	42	01	360 0	0 0	120 00	0 00
57	05	02	350 0	10 0	100 00	0 00
58	02	03	070 0	0 0	120 00	0 00
59	22	03	100 0	0 0	120 00	0 00
60	00	03	070 0	0 0	120 00	0 00
61	00	03	100 0	0 0	120 00	0 00
62	00	03	100 0	0 0	120 00	0 00
63	00	10	1150 0	0 0	120 00	0 00
64	39	10	100 0	0 0	120 00	0 00
65	30	37	040 0	0 0	120 00	0 00
66	30	37	040 0	0 0	120 00	0 00
67	30	34	1740 0	0 0	120 00	0 00
68	30	34	1900 0	0 0	120 00	0 00
69	30	34	010 0	0 0	120 00	0 00
70	01	39	010 0	10 0	120 00	0 00
71	02	02	010 0	0 0	120 00	0 00
72	02	02	1300 0	0 0	120 00	0 00
73	02	02	1700 0	10 0	120 00	0 00
74	02	02	370 0	0 0	120 00	0 00
75	02	02	1150 0	0 0	120 00	0 00
76	02	02	2340 0	0 0	120 00	0 00
77	02	02	1620 0	0 0	120 00	0 00
78	02	02	3970 0	0 0	120 00	0 00
79	02	02	1110 0	0 0	120 00	0 00
80	02	02	200 0	0 0	120 00	0 00
81	02	02	060 0	0 0	120 00	0 00
82	02	02	710 0	0 0	120 00	0 00
83	02	02	1200 0	0 0	120 00	0 00
84	02	02	1200 0	10 0	120 00	0 00
85	02	02	340 0	10 0	120 00	0 00
86	02	02	200 0	10 0	120 00	0 00
87	02	02	1100 0	0 0	120 00	0 00
88	02	02	30 0	0 0	120 00	0 00
89	02	02	370 0	0 0	120 00	0 00
90	02	02	110 0	0 0	120 00	0 00
91	02	02	1800 0	0 0	120 00	0 00
92	02	02	050 0	0 0	120 00	0 00
93	02	02	1200 0	0 0	120 00	0 00
94	02	02	1200 0	0 0	120 00	0 00
95	02	02	1200 0	0 0	120 00	0 00
96	02	02	1200 0	0 0	120 00	0 00
97	02	02	1200 0	0 0	120 00	0 00
98	02	02	1200 0	0 0	120 00	0 00
99	02	02	1200 0	0 0	120 00	0 00
100	02	02	1200 0	0 0	120 00	0 00
101	02	02	1200 0	0 0	120 00	0 00
102	02	02	1200 0	0 0	120 00	0 00
103	02	02	1100 0	0 0	120 00	0 00
104	02	02	300 0	10 0	120 00	0 00
105	02	02	420 0	0 0	120 00	0 00
106	02	02	700 0	10 0	120 00	0 00
107	02	02	400 0	10 0	120 00	0 00
108	02	02	020 0	0 0	120 00	0 00
109	02	02	200 0	10 0	120 00	0 00
110	02	02	460 0	0 0	120 00	0 00
111	02	02	460 0	0 0	120 00	0 00
112	02	02	200 0	0 0	120 00	0 00
113	02	02	1200 0	0 0	120 00	0 00
114	02	02	700 0	0 0	120 00	0 00
115	02	02	700 0	0 0	120 00	0 00
116	02	02	3000 0	10 0	120 00	0 00
117	02	02	700 0	0 0	120 00	0 00
118	02	02	1000 0	0 0	120 00	0 00
119	02	02	700 0	0 0	120 00	0 00
120	02	02	420 0	0 0	120 00	0 00
121	02	02	020 0	0 0	120 00	0 00
122	02	02	020 0	0 0	120 00	0 00
123	02	02	1300 0	0 0	120 00	0 00
124	02	02	1100 0	10 0	120 00	0 00
125	02	02	1000 0	0 0	120 00	0 00
126	02	02	460 0	0 0	120 00	0 00
127	02	02	460 0	0 0	120 00	0 00
128	02	02	200 0	0 0	120 00	0 00
129	02	02	200 0	0 0	120 00	0 00
130	02	02	100 0	10 0	120 00	0 00
131	02	02	040 0	10 0	120 00	0 00
132	02	02	040 0	0 0	120 00	0 00
133	02	02	1000 0	0 0	120 00	0 00
134	02	02	1000 0	0 0	120 00	0 00
135	02	02	1000 0	0 0	120 00	0 00
136	02	02	1000 0	0 0	120 00	0 00
137	02	02	1000 0	0 0	120 00	0 00
138	02	02	1000 0	0 0	120 00	0 00
139	02	02	1000 0	0 0	120 00	0 00
140	02	02	1000 0	0 0	120 00	0 00
141	02	02	1000 0	0 0	120 00	0 00
142	02	02	1000 0	0 0	120 00	0 00
143	02	02	1000 0	0 0	120 00	0 00
144	02	02	1000 0	0 0	120 00	0 00
145	02	02	1000 0	0 0	120 00	0 00
146	02	02	1000 0	0 0	120 00	0 00
147	02	02	1000 0	0 0	120 00	0 00
148	02	02	1000 0	0 0	120 00	0 00
149	02	02	1000 0	0 0	120 00	0 00
150	02	02	1000 0	0 0	120 00	0 00
151	02	02	1000 0	0 0	120 00	0 00
152	02	02	1000 0	0 0	120 00	0 00
153	02	02	1000 0	0 0	120 00	0 00
154	02	02	1000 0	0 0	120 00	0 00
155	02	02	1000 0	0 0	120 00	0 00
156	02	02	1000 0	0 0	120 00	0 00
157	02	02	1000 0	0 0	120 00	0 00
158	02	02	1000 0	0 0	120 00	0 00
159	02	02	1000 0	0 0	120 00	0 00
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151	84	82	380	3	0	123	00	0	00
152	84	82	230	3	0	125	00	0	00
153	84	82	380	3	0	121	00	0	00
154	107	94	310	3	0	122	00	0	00
155	100	81	400	3	0	123	00	0	00
156	100	81	740	3	0	122	00	0	00
157	80	81	140	0	0	121	00	0	00
158	80	80	40	0	0	121	00	0	00
159	87	104	400	0	10	110	00	0	00
160	86	83	100	0	0	121	00	0	00
161	88	90	80	0	0	121	00	0	00
162	89	90	90	0	0	121	00	0	00
163	89	91	140	0	0	121	00	0	00
164	96	91	100	0	0	121	00	0	00
165	87	100	240	0	10	121	00	0	00
166	91	93	100	0	0	121	00	0	00
167	90	92	100	0	0	121	00	0	00
168	91	92	100	0	0	121	00	0	00
169	91	94	100	0	0	121	00	0	00
170	97	100	400	0	0	121	00	0	00
171	94	100	400	0	0	121	00	0	00
172	94	100	400	0	0	121	00	0	00
173	94	95	100	0	0	121	00	0	00
174	96	100	100	0	0	121	00	0	00
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176	97	98	40	0	0	121	00	0	00
177	96	100	100	0	0	121	00	0	00
178	98	99	100	0	0	121	00	0	00
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180	99	104	400	0	0	121	00	0	00
181	99	100	100	0	0	121	00	0	00
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191	100	100	100	0	0	121	00	0	00
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248	100	100	100	0	0	121	00	0	00
249	100	100	100	0	0	121	00	0	00
250	100	100	100	0	0	121	00	0	00

250	181	182	670	0	0	00.00	0.00
251	183	184	670	0	0	00.00	0.00
252	184	185	640	0	0	00.00	0.00
253	185	186	310	0	0	00.00	0.00
254	186	187	670	0	0	00.00	0.00
255	187	188	670	0	0	00.00	0.00
256	188	189	670	0	0	00.00	0.00
257	189	190	670	0	0	00.00	0.00
258	190	191	670	0	0	00.00	0.00
259	191	192	40	0	0	00.00	0.00
260	192	193	670	0	0	00.00	0.00
261	193	194	140	0	0	00.00	0.00
262	194	195	670	0	0	00.00	0.00
263	195	196	670	0	0	00.00	0.00
264	196	197	670	0	0	00.00	0.00
265	197	198	120	0	0	00.00	0.00
266	198	199	190	0	0	00.00	0.00
267	199	200	220	0	0	00.00	0.00
268	200	201	300	0	0	00.00	0.00
269	201	202	300	0	0	00.00	0.00
270	202	203	670	0	0	00.00	0.00
271	203	204	670	0	0	00.00	0.00
272	204	205	670	0	0	00.00	0.00
273	205	206	670	0	0	00.00	0.00
274	206	207	670	0	0	00.00	0.00
275	207	208	670	0	0	00.00	0.00
276	208	209	670	0	0	00.00	0.00
277	209	210	670	0	0	00.00	0.00
278	210	211	670	0	0	00.00	0.00
279	211	212	670	0	0	00.00	0.00
280	212	213	670	0	0	00.00	0.00
281	213	214	670	0	0	00.00	0.00
282	214	215	670	0	0	00.00	0.00
283	215	216	670	0	0	00.00	0.00
284	216	217	670	0	0	00.00	0.00
285	217	218	670	0	0	00.00	0.00
286	218	219	670	0	0	00.00	0.00
287	219	220	670	0	0	00.00	0.00
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289	221	222	670	0	0	00.00	0.00
290	222	223	670	0	0	00.00	0.00
291	223	224	670	0	0	00.00	0.00
292	224	225	670	0	0	00.00	0.00
293	225	226	670	0	0	00.00	0.00
294	226	227	670	0	0	00.00	0.00
295	227	228	670	0	0	00.00	0.00
296	228	229	670	0	0	00.00	0.00
297	229	230	670	0	0	00.00	0.00
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312	244	245	670	0	0	00.00	0.00
313	245	246	670	0	0	00.00	0.00
314	246	247	670	0	0	00.00	0.00
315	247	248	670	0	0	00.00	0.00
316	248	249	670	0	0	00.00	0.00
317	249	250	670	0	0	00.00	0.00
318	250	251	670	0	0	00.00	0.00
319	251	252	670	0	0	00.00	0.00
320	252	253	670	0	0	00.00	0.00
321	253	254	670	0	0	00.00	0.00
322	254	255	670	0	0	00.00	0.00
323	255	256	670	0	0	00.00	0.00
324	256	257	670	0	0	00.00	0.00
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335	267	268	670	0	0	00.00	0.00
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337	269	270	670	0	0	00.00	0.00
338	270	271	670	0	0	00.00	0.00
339	271	272	670	0	0	00.00	0.00
340	272	273	670	0	0	00.00	0.00
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347	279	280	670	0	0	00.00	0.00
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349	281	282	670	0	0	00.00	0.00
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351	283	284	670	0	0	00.00	0.00
352	284	285	670	0	0	00.00	0.00
353	285	286	670	0	0	00.00	0.00
354	286	287	670	0	0	00.00	0.00
355	287	288	670	0	0	00.00	0.00
356	288	289	670	0	0	00.00	0.00
357	289	290	670	0	0	00.00	0.00
358	290	291	670	0	0	00.00	0.00
359	291	292	670	0	0	00.00	0.00
360	292	293	670	0	0	00.00	0.00
361	293	294	670	0	0	00.00	0.00
362	294	295	670	0	0	00.00	0.00
363	295	296	670	0	0	00.00	0.00
364	296	297	670	0	0	00.00	0.00
365	297	298	670	0	0	00.00	0.00
366	298	299	670	0	0	00.00	0.00
367	299	300	670	0	0	00.00	0.00
368	300	301	670	0	0	00.00	0.00
369	301	302	670	0	0	00.00	0.00
370	302	303	670	0	0	00.00	0.00
371	303	304	670	0	0	00.00	0.00
372	304	305	670	0	0	00.00	0.00
373	305	306	670	0	0	00.00	0.00
374	306	307	670	0	0	00.00	0.00
375	307	308	670	0	0	00.00	0.00
376	308	309	670	0	0	00.00	0.00
377	309	310	670	0	0	00.00	0.00
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381	313	314	670	0	0	00.00	0.00
382	314	315	670	0	0	00.00	0.00
383	315	316	670	0	0	00.00	0.00
384	316	317	670	0	0	00.00	0.00
385	317	318	670	0	0	00.00	0.00
386	318	319	670	0	0	00.00	0.00
387	319	320	670	0	0	00.00	0.00
388	320	321	670	0	0	00.00	0.00
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390	322	323	670	0	0	00.00	0.00
391	323	324	670	0	0	00.00	0.00
392	324	325	670	0	0	00.00	0.00
393	325	326	670	0	0	00.00	0.00
394	326	327	670	0	0	00.00	0.00
395	327	328	670	0	0	00.00	0.00
396	328	329	670	0	0	00.00	0.00
397	329	330	670	0	0	00.00	0.00
398	330	331	670	0	0	00.00	0.00
399	331	332	670	0	0	00.00	0.00
400	332	333	670	0	0	00.00	0.00
401	333	334	670	0	0	00.00	0.00
402	334	335	670	0	0	00.00	0.00
403	335	336	670	0	0	00.00	0.00
404	336	337	670	0	0	00.00	0.00
405	337	338	670	0	0	00.00	0.00
406	338	339	670	0	0	00.00	0.00
407	339	340	670	0	0	00.00	0.00
408	340	341	670	0	0	00.00	0.00
409	341	342	670	0	0	00.00	0.00
410	342	343	670	0	0	00.00	0.00
411	343	344	670	0	0	00.00	0.00
412	344	345	670	0	0	00.00	0.00
413	345	346	670	0	0	00.00	0.00
414	346	347	670	0	0	00.00	0.00
415	347	348	670	0	0	00.00	0.00
416	348	349	670	0	0	00.00	0.00
417	349	350	670	0	0	00.00	0.00
418	350	351	670	0	0	00.00	0.00
419	351	352	670	0	0	00.00	0.00
420	352	353	670	0	0	00.00	0.00
421	353	354	670	0	0	00.00	0.00
422	354	355	670	0	0	00.00	0.00
423	355	356	670	0	0	00.00	0.00
424	356	357	670	0	0	00.00	0.00
425	357	358	670	0	0	00.00	0.00
426	358	359	670	0	0	00.00	0.00
427	359	360	670	0	0	00.00	0.00
428	360	361	670	0	0	00.00	0.00
429	361	362	670	0	0	00.00	0.00
430	362	363	670	0	0	00.00	0.00
431	363	364	670	0	0	00.00	0.00
432	364	365	670	0	0	00.00	0.00
433	365	366	670	0	0	00.00	0.00
434	366	367					

249	185	184	400	0	0	121	00	C 00
250	187	183	790	0	0	125	00	C 00
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252	187	183	1620	0	14	125	00	C 00
253	184	185	400	0	0	129	00	C 00
254	181	184	740	0	0	127	00	C 00
255	181	182	410	0	0	90	00	C 00
256	185	186	1180	0	0	90	00	C 00
257	186	187	410	0	0	121	00	C 00
258	188	187	1110	0	0	121	00	C 00
259	187	188	2030	0	0	121	00	C 00
260	189	189	620	0	0	90	00	C 00
261	189	190	780	0	0	90	00	C 00
262	180	192	700	0	0	90	00	C 00
263	193	190	320	0	0	121	00	C 00
264	192	193	700	0	14	121	00	C 00
265	195	194	420	0	0	125	00	C 00
266	196	199	700	0	14	125	00	C 00
267	196	193	120	0	14	125	00	C 00
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273	197	196	320	0	14	125	00	C 00
274	197	196	1160	0	14	125	00	C 00
275	198	197	40	0	16	125	00	C 00
276	194	197	12230	0	20	125	00	C 00
277	196	196	1160	0	0	125	00	C 00
278	196	197	1370	0	14	129	00	C 00
279	198	193	40	0	14	126	00	C 00
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345	198	193	40	0	14	125	00	C 00
346	198	193	40	0	14	125	00	C 00
347	198	193	40	0	14	125	00	C 00
348	198	193	40	0	14	125	00	C 00
349	198	193	40	0	14	125	00	C 00
350	198	193	40	0	14	125	00	C 00

270	320	308	380 0	6 0	121 9C	2 0C
270	333	308	350 0	18 0	100 0C	2 0C
280	356	304	400 0	6 0	120 0C	1 0C
281	356	294	500 0	6 0	125 0C	1 0C
282	359	298	700 0	6 0	128 0C	1 0C
283	351	325	100 0	6 0	124 0C	1 0C
284	351	300	400 0	3 0	125 0C	1 0C
285	351	300	900 0	3 0	125 0C	1 0C
286	352	311	1000 0	3 0	125 0C	1 0C
287	331	310	1100 0	8 0	125 0C	1 0C
288	320	321	1350 0	6 0	129 0C	1 0C
289	320	330	200 0	6 0	121 0C	1 0C
290	330	320	300 0	6 0	121 0C	1 0C
291	353	320	400 0	6 0	122 0C	1 0C
292	320	350	300 0	6 0	121 0C	1 0C
293	320	298	400 0	6 0	122 0C	1 0C
294	331	312	200 0	6 0	128 0C	1 0C
295	331	331	200 0	6 0	128 0C	1 0C
296	331	334	300 0	6 0	121 0C	1 0C
297	PD	310	80 0	14 0	128 0C	1 0C
298	PD	311	20 0	12 0	121 0C	1 0C
299	PD	311	20 0	12 0	121 0C	1 0C
300	XX	327	340	100 0	122 0C	1 0C
301		332	330	10 0	122 0C	1 0C
302		332	297	700 0	10 0	129 0C
303		337	336	400 0	6 0	92 0C
304		334	335	250 0	6 0	320 0C
305		334	337	200 0	6 0	90 0C
306		338	336	120 0	6 0	90 0C
307		338	340	510 0	6 0	90 0C
308		337	339	160 0	6 0	90 0C
309	XX	338	347	140 0	10 0	120 0C
310		340	339	130 0	6 0	90 0C
311		339	342	200 0	6 0	90 0C
312		340	341	200 0	6 0	90 0C
313		341	342	100 0	6 0	90 0C
314		341	342	100 0	6 0	90 0C
315		343	340	200 0	6 0	90 0C
316	XX	344	343	90 0	6 0	90 0C
317		344	345	100 0	6 0	90 0C
318		345	346	1200 0	10 0	120 0C
319		344	348	600 0	6 0	90 0C
320		344	347	100 0	6 0	90 0C
321		342	349	100 0	6 0	90 0C
322		347	349	100 0	6 0	90 0C
323		348	348	400 0	6 0	90 0C
324		340	350	400 0	10 0	100 0C
325		348	351	400 0	6 0	90 0C
326		341	352	100 0	6 0	90 0C
327		341	353	400 0	6 0	90 0C
328		343	353	100 0	6 0	90 0C
329		343	354	100 0	6 0	90 0C
330		346	354	400 0	6 0	90 0C
331		348	358	200 0	6 0	90 0C
332		348	357	400 0	6 0	90 0C
333		347	352	200 0	6 0	90 0C
334		342	352	100 0	6 0	90 0C
335		349	352	400 0	10 0	100 0C
336		340	352	100 0	6 0	90 0C
337		340	351	400 0	6 0	90 0C
338		341	352	200 0	6 0	90 0C
339	XX	341	353	400 0	6 0	90 0C
340		349	352	100 0	6 0	90 0C
341		339	350	400 0	6 0	90 0C
342		340	351	600 0	10 0	100 0C
343	PD	304	350	600 0	10 0	100 0C
344	PD	363	350	30 0	10 0	100 0C
345		363	352	200 0	10 0	100 0C
346		363	353	70 0	10 0	100 0C
347	XX	344	355	30 0	10 0	100 0C
348		364	359	2000 0	10 0	100 0C
349		365	359	300 0	10 0	100 0C
350		366	360	200 0	10 0	100 0C
351		366	367	1100 0	6 0	120 0C
352		368	367	200 0	6 0	90 0C
353		369	368	1100 0	6 0	120 0C
354		369	369	200 0	6 0	90 0C
355		370	371	1200 0	6 0	120 0C
356		370	370	200 0	6 0	90 0C
357		370	370	200 0	6 0	90 0C
358		370	370	200 0	6 0	90 0C
359		370	370	200 0	6 0	90 0C
360		370	370	200 0	6 0	90 0C
361		370	370	200 0	6 0	90 0C
362		370	370	200 0	6 0	90 0C
363		370	370	200 0	6 0	90 0C
364		370	370	200 0	6 0	90 0C
365		370	370	200 0	6 0	90 0C
366		370	370	200 0	6 0	90 0C
367		370	370	200 0	6 0	90 0C
368	PD	370	370	200 0	6 0	90 0C
369		370	370	200 0	6 0	90 0C
370	PD	370	370	200 0	6 0	90 0C
371	PD	370	370	200 0	6 0	90 0C
372	PD	370	370	200 0	6 0	90 0C
373	PD	370	370	200 0	6 0	90 0C
374	PD	370	370	200 0	6 0	90 0C
375	PD	370	370	200 0	6 0	90 0C
376	PD	370	370	200 0	6 0	90 0C
377	PD	370	370	200 0	6 0	90 0C
378	PD	370	370	200 0	6 0	90 0C
379	PD	370	370	200 0	6 0	90 0C
380	PD	370	370	200 0	6 0	90 0C
381	PD	370	370	200 0	6 0	90 0C
382	PD	370	370	200 0	6 0	90 0C
383	PD	370	370	200 0	6 0	90 0C
384	PD	370	370	200 0	6 0	90 0C
385	PD	370	370	200 0	6 0	90 0C
386	PD	370	370	200 0	6 0	90 0C
387	PD	370	370	200 0	6 0	90 0C
388	PD	370	370	200 0	6 0	90 0C
389	PD	370	370	200 0	6 0	90 0C
390	PD	370	370	200 0	6 0	90 0C
391	PD	370	370	200 0	6 0	90 0C
392	PD	370	370	200 0	6 0	90 0C
393	PD	370	370	200 0	6 0	90 0C
394	PD	370	370	200 0	6 0	90 0C
395	PD	370	370	200 0	6 0	90 0C
396	PD	370	370	200 0	6 0	90 0C
397	PD	370	370	200 0	6 0	90 0C
398	PD	370	370	200 0	6 0	90 0C
399	PD	370	370	200 0	6 0	90 0C
400	PD	370	370	200 0	6 0	90 0C

822-KRPU	823	824	78 0	14.0	125.00	P7	C 00	
823-WP	821	824	78 0	14.0	125.70	P4	C 00	
824-KRPU	821	864	78 0	12.0	130.00	P8	C 00	
825-KRPU	824	864	78 0	12.0	130.00	P6	C 00	
825-PG	KK	824	180 0	22.0	130.00		C 00	3910.00
827-KRPU	824	829	100 0	22.0	128.00	P1	C 01	
828-KRPU	826	829	100 0	22.0	128.00	P8	C 01	
829-KRPU	829	829	100 0	22.0	128.00	P1	C 01	
830-KRPU	826	829	100.0	22.0	128.00	P1	C 01	
831	427	428	100.0	22.0	128.00		C 01	
832	427	700	100.0	22.0	128.00		C 01	
833-WG	700	82	22.0	14.0	100.00		C 01	3870.00
833-XA	829	829	22.0	13.0	100.00		C 01	
834	700	829	22.0	13.0	100.00		C 01	
835-KK	700	829	22.0	13.0	100.00		C 01	
914-WG	700	MM	22.0	14.0	100.00	J 00	C 01	7107.00

P U M P D A T A

THERE IS A PUMP ID NO 1 IN THE FOLLOWING PIPES:

DESCRIBED BY THE FOLLOWING DATA:

HEAD	FLOWRATE
100	0.00
115.00	140.00
116.00	1740.00

THERE IS A PUMP ID NO 2 IN THE FOLLOWING PIPES:

DESCRIBED BY THE FOLLOWING DATA:

HEAD	FLOWRATE
100	0.00
175.00	1670.00
177.00	2910.00

THERE IS A PUMP ID NO 3 IN THE FOLLOWING PIPES:

DESCRIBED BY THE FOLLOWING DATA:

HEAD	FLOWRATE
100	0.00
174.00	800.00
179.00	1400.00

THERE IS A PUMP ID NO 4 IN THE FOLLOWING PIPES:

DESCRIBED BY THE FOLLOWING DATA:

HEAD	FLOWRATE
100	0.00
173.00	400.00
178.00	1200.00

THERE IS A PUMP ID NO 5 IN THE FOLLOWING PIPES:

DESCRIBED BY THE FOLLOWING DATA:

HEAD	FLOWRATE
100	0.00
163.00	1100.00
167.00	2200.00

THERE IS A PUMP ID NO 6 IN THE FOLLOWING PIPES:

DESCRIBED BY THE FOLLOWING DATA:

HEAD	FLOWRATE
100	0.00
169.00	1000.00
170.00	1800.00

THERE IS A PUMP ID NO 7 IN THE FOLLOWING PIPES:

DESCRIBED BY THE FOLLOWING DATA:

HEAD	FLOWRATE
100	0.00
110.00	1200.00
112.00	1800.00

030

DESCRIBED BY THE FOLLOWING DATA

HEAD (FT)	FLOW-RATE (GPM)
106.00	100
132.00	2000
160.00	10000

THREE IS A PUMP ID NO. 3 IN THE FOLLOWING PIPES

DESCRIBED BY THE FOLLOWING DATA

HEAD (FT)	FLOW-RATE (GPM)
105.00	100
144.00	2000
126.00	10000

THREE IS A PUMP ID NO. 10 IN THE FOLLOWING PIPES

DESCRIBED BY THE FOLLOWING DATA

HEAD (FT)	FLOW-RATE (GPM)
118.00	100
156.00	2000
172.00	10000

JUNCTION NODE DATA

JUNCTION NO.	JUNCTION TITLE	INTERNAL HEAD (FT)	JUNCTION ELEVATION (FT)	SCHEMATIC SIZE
1		1.20	3020.00	1 13
2		1.00	3022.00	1 3 10
3		20.00	3020.00	2 4 0
4		02.20	3020.00	3 4 0
5		50.72	3027.00	4 4 0
6		41.36	3020.00	5 4 7
7		9.00	3027.00	7 16 14 10
8		11.44	3020.00	8 14 14 10
9		7.00	3020.00	9 14 14 20 10
10		6.20	3020.00	10 12 15 10 10
11		6.00	3027.00	11 17 21 10
12		5.00	3027.00	12 11 14 10
13		3.00	3020.00	13 11 14 10 10
14		2.40	3020.00	14 14 14 10 10
15		1.20	3020.00	15 14 14 10 10
16		1.00	3020.00	16 14 14 10 10
17		1.20	3027.00	17 14 14 10 10
18		2.00	3027.00	18 14 14 10 10
19		7.00	3020.00	19 14 14 10 10
20		7.32	3020.00	20 14 14 10 10
21		10.04	3020.00	21 14 14 10 10
22		11.30	3020.00	22 14 14 10 10
23		03.20	3020.00	23 14 14 10 10
24		03.20	3020.00	24 14 14 10 10
25		1.00	3020.00	25 14 14 10 10
26		2.00	3020.00	26 14 14 10 10
27		2.00	3020.00	27 14 14 10 10
28		2.00	3020.00	28 14 14 10 10
29		2.00	3020.00	29 14 14 10 10
30		2.00	3020.00	30 14 14 10 10
31		2.00	3020.00	31 14 14 10 10
32		2.00	3020.00	32 14 14 10 10
33		2.00	3020.00	33 14 14 10 10
34		2.00	3020.00	34 14 14 10 10
35		2.00	3020.00	35 14 14 10 10
36		2.00	3020.00	36 14 14 10 10
37		2.00	3020.00	37 14 14 10 10
38		2.00	3020.00	38 14 14 10 10
39		2.00	3020.00	39 14 14 10 10
40		2.00	3020.00	40 14 14 10 10
41		2.00	3020.00	41 14 14 10 10
42		2.00	3020.00	42 14 14 10 10
43		2.00	3020.00	43 14 14 10 10
44		2.00	3020.00	44 14 14 10 10
45		2.00	3020.00	45 14 14 10 10
46		2.00	3020.00	46 14 14 10 10
47		2.00	3020.00	47 14 14 10 10
48		2.00	3020.00	48 14 14 10 10
49		2.00	3020.00	49 14 14 10 10
50		2.00	3020.00	50 14 14 10 10
51		2.00	3020.00	51 14 14 10 10
52		2.00	3020.00	52 14 14 10 10
53		2.00	3020.00	53 14 14 10 10
54		2.00	3020.00	54 14 14 10 10
55		2.00	3020.00	55 14 14 10 10
56		2.00	3020.00	56 14 14 10 10
57		2.00	3020.00	57 14 14 10 10
58		2.00	3020.00	58 14 14 10 10
59		2.00	3020.00	59 14 14 10 10
60		2.00	3020.00	60 14 14 10 10

87	7 00	3897 00	133	108	112	158
88	26.10	3898 00	134	109	113	159
89	48.30	3899 00	135	110	114	160
90	0 00	3900 00	01	01	01	01
91	27.90	3895 00	137	112	116	162
92	17.10	3894 00	62	06	117	163
93	18.90	3895 00	70	07	118	164
94	6 00	3896 00	03	03	119	165
95	12.18	3897 00	09	09	120	166
96	13.00	3898 00	10	10	121	167
97	4 00	3899 00	102	101	122	168
98	4 00	3898 00	133	101	123	169
99	0 00	3894 00	119	101	124	170
100	0 00	3895 00	110	101	125	171
101	160 00	3897 00	07	06	126	172
102	0 00	3898 00	78	73	127	173
103	0 00	3899 00	00	00	128	174
104	2.00	3898 00	78	01	129	175
105	0 00	3899 00	01	01	130	176
106	0 00	3899 00	97	96	131	177
107	0 00	3899 00	128	127	132	178
108	1 00	3898 00	127	126	133	179
109	2 00	3898 00	146	145	134	180
110	1 00	3898 00	126	125	135	181
111	2 00	3898 00	149	148	136	182
112	06.00	3898 00	151	150	137	183
113	2 00	3898 00	151	150	138	184
114	6.00	3898 00	137	136	139	185
115	02.00	3898 00	153	152	140	186
116	2.00	3898 00	132	131	141	187
117	3.00	3898 00	157	156	142	188
118	1.20	3898 00	240	239	143	189
119	1 00	3897 00	221	220	144	190
120	43 00	3898 00	243	242	145	191
121	236.34	3897 00	147	146	146	192
122	21.10	3898 00	140	139	147	193
123	0 00	3898 00	163	162	148	194
124	410 00	3898 00	146	145	149	195
125	42.20	3898 00	166	165	150	196
126	21.70	3898 00	168	167	151	197
127	0 00	3898 00	176	175	152	198
128	6.20	3898 00	170	169	153	199
129	0 00	3898 00	161	160	154	200
130	0 00	3898 00	163	162	155	201
131	0 00	3898 00	179	178	156	202
132	0 00	3898 00	142	141	157	203
133	0 00	3898 00	159	158	158	204
134	42.20	3898 00	146	145	159	205
135	46 00	3898 00	155	154	160	206
136	44 20	3898 00	154	153	161	207
137	43 20	3898 00	153	152	162	208
138	1 20	3897 00	191	190	163	209
139	1 20	3897 00	223	222	164	210
140	1 20	3898 00	223	222	165	211
141	1 20	3898 00	223	222	166	212
142	1 20	3898 00	223	222	167	213
143	1 20	3898 00	223	222	168	214
144	1 20	3898 00	223	222	169	215
145	1 20	3898 00	223	222	170	216
146	1 20	3898 00	223	222	171	217
147	1 20	3898 00	223	222	172	218
148	1 20	3898 00	223	222	173	219
149	1 20	3898 00	223	222	174	220
150	1 20	3898 00	223	222	175	221
151	1 20	3898 00	223	222	176	222
152	1 20	3898 00	223	222	177	223
153	1 20	3898 00	223	222	178	224
154	1 20	3898 00	223	222	179	225
155	1 20	3898 00	223	222	180	226
156	1 20	3898 00	223	222	181	227
157	1 20	3898 00	223	222	182	228
158	1 20	3898 00	223	222	183	229
159	1 20	3898 00	223	222	184	230
160	1 20	3898 00	223	222	185	231
161	1 20	3898 00	223	222	186	232
162	1 20	3898 00	223	222	187	233
163	1 20	3898 00	223	222	188	234
164	1 20	3898 00	223	222	189	235
165	1 20	3898 00	223	222	190	236
166	1 20	3898 00	223	222	191	237
167	1 20	3898 00	223	222	192	238
168	1 20	3898 00	223	222	193	239
169	1 20	3898 00	223	222	194	240
170	1 20	3898 00	223	222	195	241
171	1 20	3898 00	223	222	196	242
172	1 20	3898 00	223	222	197	243
173	1 20	3898 00	223	222	198	244
174	1 20	3898 00	223	222	199	245
175	1 20	3898 00	223	222	200	246
176	1 20	3898 00	223	222	201	247
177	1 20	3898 00	223	222	202	248
178	1 20	3898 00	223	222	203	249
179	1 20	3898 00	223	222	204	250
180	1 20	3898 00	223	222	205	251
181	1 20	3898 00	223	222	206	252
182	1 20	3898 00	223	222	207	253
183	1 20	3898 00	223	222	208	254
184	1 20	3898 00	223	222	209	255
185	1 20	3898 00	223	222	210	256

250		3884	03	173	385	386	344
251	5 41	3887	03	173	386	387	343
252	0 11	3890	03	169	389	351	
253	6 11	3893	03	177	389	355	
254	4 11	3896	03	177	389	359	
255	4 11	3899	03	177	389	363	
256	6 11	3902	03	201	382	367	
257	0 11	3905	03	203	386	371	
258	4 11	3908	03	192	382	375	343
259	2 11	3911	03	191	386	379	342
260	2 20	3914	03	197	387	383	341
261	0 11	3917	03	193	381	387	340
262	10 10	3920	03	194	381	391	
263	10 10	3923	03	194	381	395	
264	4 00	3926	03	200	384	399	347
265	6 00	3929	03	205	387	403	346
266	0 45	3932	03	204	381	407	345
267	0 45	3935	03	201	381	411	
268	2 01	3938	03	207	381	415	
269	2 01	3941	03	207	381	419	
270	2 01	3944	03	207	381	423	
271	2 01	3947	03	207	381	427	
272	2 01	3950	03	207	381	431	
273	2 01	3953	03	207	381	435	
274	2 01	3956	03	207	381	439	
275	2 01	3959	03	207	381	443	
276	2 01	3962	03	207	381	447	
277	2 01	3965	03	207	381	451	
278	2 01	3968	03	207	381	455	
279	2 01	3971	03	207	381	459	
280	2 01	3974	03	207	381	463	
281	2 01	3977	03	207	381	467	
282	2 01	3980	03	207	381	471	
283	2 01	3983	03	207	381	475	
284	2 01	3986	03	207	381	479	
285	2 01	3989	03	207	381	483	
286	2 01	3992	03	207	381	487	
287	2 01	3995	03	207	381	491	
288	2 01	3998	03	207	381	495	
289	2 01	4001	03	207	381	499	
290	2 01	4004	03	207	381	503	
291	2 01	4007	03	207	381	507	
292	2 01	4010	03	207	381	511	
293	2 01	4013	03	207	381	515	
294	2 01	4016	03	207	381	519	
295	2 01	4019	03	207	381	523	
296	2 01	4022	03	207	381	527	
297	2 01	4025	03	207	381	531	
298	2 01	4028	03	207	381	535	
299	2 01	4031	03	207	381	539	
300	2 01	4034	03	207	381	543	
301	2 01	4037	03	207	381	547	
302	2 01	4040	03	207	381	551	
303	2 01	4043	03	207	381	555	
304	2 01	4046	03	207	381	559	
305	2 01	4049	03	207	381	563	
306	2 01	4052	03	207	381	567	
307	2 01	4055	03	207	381	571	
308	2 01	4058	03	207	381	575	
309	2 01	4061	03	207	381	579	
310	2 01	4064	03	207	381	583	
311	2 01	4067	03	207	381	587	
312	2 01	4070	03	207	381	591	
313	2 01	4073	03	207	381	595	
314	2 01	4076	03	207	381	599	
315	2 01	4079	03	207	381	603	
316	2 01	4082	03	207	381	607	
317	2 01	4085	03	207	381	611	
318	2 01	4088	03	207	381	615	
319	2 01	4091	03	207	381	619	
320	2 01	4094	03	207	381	623	
321	2 01	4097	03	207	381	627	
322	2 01	4100	03	207	381	631	
323	2 01	4103	03	207	381	635	
324	2 01	4106	03	207	381	639	
325	2 01	4109	03	207	381	643	
326	2 01	4112	03	207	381	647	
327	2 01	4115	03	207	381	651	
328	2 01	4118	03	207	381	655	
329	2 01	4121	03	207	381	659	
330	2 01	4124	03	207	381	663	
331	2 01	4127	03	207	381	667	
332	2 01	4130	03	207	381	671	
333	2 01	4133	03	207	381	675	
334	2 01	4136	03	207	381	679	
335	2 01	4139	03	207	381	683	
336	2 01	4142	03	207	381	687	
337	2 01	4145	03	207	381	691	
338	2 01	4148	03	207	381	695	
339	2 01	4151	03	207	381	699	
340	2 01	4154	03	207	381	703	
341	2 01	4157	03	207	381	707	
342	2 01	4160	03	207	381	711	
343	2 01	4163	03	207	381	715	
344	2 01	4166	03	207	381	719	
345	2 01	4169	03	207	381	723	
346	2 01	4172	03	207	381	727	
347	2 01	4175	03	207	381	731	
348	2 01	4178	03	207	381	735	
349	2 01	4181	03	207	381	739	
350	2 01	4184	03	207	381	743	

Job 6430 Fiche : 02/04/99 06.00AM

Main Table DTICNEW MPT

Break Table Offset 0

257	3.00	3075 00	334	385	393	
258	177 50	3070 00	193	194	407	
259	0.00	3071 00	378	386	381	
260	1.00	3074 00	378	393	383	
261	0.00	3075 00	383	386	388	
262	0.00	3076 00	385	385		
263	0.00	3076 00	337	378	375	
264	0.00	3079 00	341	377	367	
265	0.00	3076 00	372	377	379	
266	1.00	3075 00	378	367	389	
267	2.00	3085 00	372	375	374	
268	0.00	3097 00	407	413	419	
269	0.00	3093 00	413	413	413	417
270	0.00	3097 00	410	412	418	420
271	0.00	3085 00	400	409	412	421
272	6.00	3082 00	403	406	422	
273	0.00	3082 00	388	404	407	
274	0.00	3080 00	389	399	408	
275	0.00	3079 00	339	384		
276	1.00	3076 00	384	392	391	
277	1.00	3073 00	382	391	392	394
278	0.00	3076 00	395	401		
279	1.00	3074 00	386	394	400	402
280	1.00	3071 00	395	394	397	
281	1.00	3076 00	390	397	398	399
282	0.00	3076 00	402	404	403	
283	0.00	3075 00	400	401	402	440
284	0.00	3076 00	401	401		
285	0.00	3073 00	381	400	401	
286	177 50	3070 00	394	402	403	454
287	1.00	3071 00	408	409		
288	1.00	3075 00	409	404	408	
289	1.00	3076 00	405	405		
290	1.00	3070 00	404	407	408	439
291	10 20	3076 00	421	422	423	
292	10 34	3080 00	420	421	422	
293	22 00	3079 00	422	448	449	490
294	1.00	3071 00	421	449	450	
295	1.00	3084 00	423	460	469	
296	12 16	3083 00	447	464	461	
297	1.00	3068 00	467	470	472	
298	17.00	3078 00	467	464	463	
299	7.00	3073 00	467	463	463	
300	12.16	3070 00	465	461	462	
301	12 16	3040 00	463	464	468	494
302	12 16	3044 00	466	464	466	
303	13.00	3019 00	466	468	471	
304	22.00	3010 00	462	460	461	
305	15.00	3058 00	468	470	471	
306	0.12	3010 00	472	470	469	
307	0.00	3000 00	471	472	470	
308	0.00	3000 00	473	474	472	
309	4.00	3000 00	474	467	468	
310	1.00	3007 00	477	466	467	
311	0.00	3001 00	478	469	460	
312	11.00	3074 00	478	473	474	
313	0.00	3074 00	477	474	473	
314	0.00	3074 00	476	478	479	
315	0.00	3064 00	478	469	469	
316	0.00	3064 00	478	464	469	
317	0.00	3074 00	477	464	467	
318	0.00	3074 00	474	467	468	
319	0.00	3085 00	474	462	463	
320	0.12	3086 00	473	462	463	
321	1.00	3075 00	477	465	468	433
322	17.00	3071 00	477	469	460	
323	12.16	3001 00	477	461	463	
324	14.32	3006 00	470	461	461	
325	23 56	3071 00	470	461	460	
326	0.00	3005 00	474	472	477	
327	12 16	3010 00	475	470		
328	0.00	3010 00	474	477	478	
329	14 00	3011 00	480	489		
330	15 20	3011 00	487	486	480	
331	21.32	3044 00	487	489	485	496
332	0.00	3041 00	487	490	482	491
333	0.00	3010 00	470	489	481	492
334	0.00	3074 00	486	480	482	
335	0.00	3043 00	481	484	484	
336	0.00	3073 00	481	480	487	
337	707 37	3091 00	482	480	480	
338	0.00	3074 00	481	482	480	
339	0.00	3078 00	480	480	481	
340	0.00	3078 00	482	482		
341	0.00	3097 00	482	481	484	
342	0.00	3080 00	481	480		
343	0.00	3080 00	483	483	481	
344	0.16	3080 00	483	483	483	
345	7.00	3080 00	484	487	488	
346	1.00	4300 00	489	489	480	
347	0.00	4004 00	489	489	481	
348	21 17	4007 00	485	482	483	487
349	61.00	3990 00	487	487	484	484
350	0.00	3991 00	486	486	488	

256	1.00	4040.00	618	642	
257	1.00	4030.00	612	633	634
258	1.20	4060.00	641	642	643
259	722.00	4050.00	633	635	640
260	1.00	4035.00	635	634	637
261	1.00	4022.00	637	637	639
262	1.00	4018.00	638	642	645
263	1.00	4059.00	644	642	646
264	1.00	4100.00	647	648	626
265	1.00	4100.00	649	647	649
266	4.00	4100.00	649	650	651
267	15.20	4125.00	651	652	
268	0.50	4112.00	652	653	647
269	15.20	4117.00	653	653	654
270	10.18	4130.00	654	655	654
271	15.00	4120.00	655	656	657
272	20.10	4138.00	655	655	658
273	15.20	4100.00	657	664	659
274	21.10	4100.00	657	664	
275	4.50	4100.00	661	662	663
276	9.20	4100.00	661	665	661
277	3.00	4100.00	660	667	666
278	10.24	4141.00	654	667	658
279	17.30	4100.00	648	666	
280	17.38	4192.00	648	659	
281	17.30	4071.00	671	654	655
282	0.20	4072.00	654	657	
283	0.20	4071.00	652	654	656
284	0.20	4073.00	643	649	
285	0.20	4075.00	639	640	657
286	0.20	4074.00	642	641	643
287	0.20	4076.00	642	647	
288	0.20	4077.00	646	647	
289	0.20	4079.00	641	645	648
290	0.20	4078.00	648	646	650
291	0.20	4075.00	644	647	
292	0.20	4080.00	636	639	
293	0.20	4080.00	634	639	636
294	0.20	4080.00	633	637	638
295	0.20	4080.00	632	633	634
296	0.20	4080.00	621	623	624
297	1.00	4080.00	619	627	625
298	1.00	4080.00	618	630	626
299	1.00	4080.00	619	624	627
300	1.00	4080.00	630	621	628
301	1.00	4080.00	628	629	629
302	1.00	4080.00	617	621	629
303	1.00	4080.00	627	628	
304	1.00	4080.00	615	626	627
305	1.00	4080.00	613	621	628
306	1.00	4080.00	614	621	
307	1.00	4080.00	614	621	
308	1.00	4080.00	614	621	
309	1.00	4080.00	614	621	
310	1.00	4080.00	614	621	
311	1.00	4080.00	614	621	
312	1.00	4080.00	614	621	
313	1.00	4080.00	614	621	
314	1.00	4080.00	614	621	
315	1.00	4080.00	614	621	
316	1.00	4080.00	614	621	
317	1.00	4080.00	614	621	
318	1.00	4080.00	614	621	
319	1.00	4080.00	614	621	
320	1.00	4080.00	614	621	
321	1.00	4080.00	614	621	
322	1.00	4080.00	614	621	
323	1.00	4080.00	614	621	
324	1.00	4080.00	614	621	
325	1.00	4080.00	614	621	
326	1.00	4080.00	614	621	
327	1.00	4080.00	614	621	
328	1.00	4080.00	614	621	
329	1.00	4080.00	614	621	
330	1.00	4080.00	614	621	
331	1.00	4080.00	614	621	
332	1.00	4080.00	614	621	

OUTPUT OPTION DATA

OUTPUT SELECTION ALL RESULTS ARE INCLUDED IN THE TABULATED OUTPUT
 MAXIMUM AND MINIMUM PRESSURES
 MAXIMUM AND MINIMUM HEAD LOSSES/1000

SYSTEM CONFIGURATION

NUMBER OF PIPES 48
 NUMBER OF JUNCTION NODES 43
 NUMBER OF PRIMARY LOOPS 21
 NUMBER OF FIXED ORACLE NODES 10
 NUMBER OF SUPPLY ZONES 1

SIMULATION RESULTS

THE RESULTS ARE OBTAINED AFTER 1 TRIALS WITH AN ACCURACY = 0.0001

PIPELINE RESULTS

STATUS CODE: KI - CLOSED PIPE FD - FIXED GRADE NODE PU - PUMP LINE
CF - CHECK VALVE BV - REGULATING VALVE SN - STORAGE TANK

PIPF NUMBER	NODE NOS		FLOWRATE (GPM)	HEAD LOSS (FT)	PUMP HEAD (FT)	PUMP LABEL	MINOR LOSS (FT)	LINK YIELD (GPM)	HL (FT)
	SI	SJ							
1	1	1	16.00	0.00	0.00		0.00	0.00	
2	2	1	16.00	0.00	0.00		0.00	0.00	
3	3	1	16.00	0.00	0.00		0.00	0.00	
4	4	1	16.00	0.00	0.00		0.00	0.00	
5	5	1	16.00	0.00	0.00		0.00	0.00	
6	6	1	16.00	0.00	0.00		0.00	0.00	
7	7	1	16.00	0.00	0.00		0.00	0.00	
8	8	1	16.00	0.00	0.00		0.00	0.00	
9	9	1	16.00	0.00	0.00		0.00	0.00	
10	10	2	16.00	0.00	0.00		0.00	0.00	
11	11	1	16.00	0.00	0.00		0.00	0.00	
12	12	11	16.00	0.00	0.00		0.00	0.00	
13	13	9	16.00	0.00	0.00		0.00	0.00	
14	14	8	16.00	0.00	0.00		0.00	0.00	
15	15	7	16.00	0.00	0.00		0.00	0.00	
16	16	6	16.00	0.00	0.00		0.00	0.00	
17	17	5	16.00	0.00	0.00		0.00	0.00	
18	18	4	16.00	0.00	0.00		0.00	0.00	
19	19	3	16.00	0.00	0.00		0.00	0.00	
20	20	2	16.00	0.00	0.00		0.00	0.00	
21	21	1	16.00	0.00	0.00		0.00	0.00	
22	22	1	16.00	0.00	0.00		0.00	0.00	
23	23	1	16.00	0.00	0.00		0.00	0.00	
24	24	1	16.00	0.00	0.00		0.00	0.00	
25	25	2	16.00	0.00	0.00		0.00	0.00	
26	26	3	16.00	0.00	0.00		0.00	0.00	
27	27	4	16.00	0.00	0.00		0.00	0.00	
28	28	5	16.00	0.00	0.00		0.00	0.00	
29	29	6	16.00	0.00	0.00		0.00	0.00	
30	30	7	16.00	0.00	0.00		0.00	0.00	
31	31	8	16.00	0.00	0.00		0.00	0.00	
32	32	9	16.00	0.00	0.00		0.00	0.00	
33	33	10	16.00	0.00	0.00		0.00	0.00	
34	34	11	16.00	0.00	0.00		0.00	0.00	
35	35	12	16.00	0.00	0.00		0.00	0.00	
36	36	13	16.00	0.00	0.00		0.00	0.00	
37	37	14	16.00	0.00	0.00		0.00	0.00	
38	38	15	16.00	0.00	0.00		0.00	0.00	
39	39	16	16.00	0.00	0.00		0.00	0.00	
40	40	17	16.00	0.00	0.00		0.00	0.00	
41	41	18	16.00	0.00	0.00		0.00	0.00	
42	42	19	16.00	0.00	0.00		0.00	0.00	
43	43	20	16.00	0.00	0.00		0.00	0.00	
44	44	21	16.00	0.00	0.00		0.00	0.00	
45	45	22	16.00	0.00	0.00		0.00	0.00	
46	46	23	16.00	0.00	0.00		0.00	0.00	
47	47	24	16.00	0.00	0.00		0.00	0.00	
48	48	25	16.00	0.00	0.00		0.00	0.00	
49	49	26	16.00	0.00	0.00		0.00	0.00	
50	50	27	16.00	0.00	0.00		0.00	0.00	
51	51	28	16.00	0.00	0.00		0.00	0.00	
52	52	29	16.00	0.00	0.00		0.00	0.00	
53	53	30	16.00	0.00	0.00		0.00	0.00	
54	54	31	16.00	0.00	0.00		0.00	0.00	
55	55	32	16.00	0.00	0.00		0.00	0.00	
56	56	33	16.00	0.00	0.00		0.00	0.00	
57	57	34	16.00	0.00	0.00		0.00	0.00	
58	58	35	16.00	0.00	0.00		0.00	0.00	
59	59	36	16.00	0.00	0.00		0.00	0.00	
60	60	37	16.00	0.00	0.00		0.00	0.00	
61	61	38	16.00	0.00	0.00		0.00	0.00	
62	62	39	16.00	0.00	0.00		0.00	0.00	
63	63	40	16.00	0.00	0.00		0.00	0.00	
64	64	41	16.00	0.00	0.00		0.00	0.00	
65	65	42	16.00	0.00	0.00		0.00	0.00	
66	66	43	16.00	0.00	0.00		0.00	0.00	
67	67	44	16.00	0.00	0.00		0.00	0.00	
68	68	45	16.00	0.00	0.00		0.00	0.00	
69	69	46	16.00	0.00	0.00		0.00	0.00	
70	70	47	16.00	0.00	0.00		0.00	0.00	
71	71	48	16.00	0.00	0.00		0.00	0.00	
72	72	49	16.00	0.00	0.00		0.00	0.00	
73	73	50	16.00	0.00	0.00		0.00	0.00	
74	74	51	16.00	0.00	0.00		0.00	0.00	
75	75	52	16.00	0.00	0.00		0.00	0.00	
76	76	53	16.00	0.00	0.00		0.00	0.00	
77	77	54	16.00	0.00	0.00		0.00	0.00	
78	78	55	16.00	0.00	0.00		0.00	0.00	
79	79	56	16.00	0.00	0.00		0.00	0.00	
80	80	57	16.00	0.00	0.00		0.00	0.00	
81	81	58	16.00	0.00	0.00		0.00	0.00	
82	82	59	16.00	0.00	0.00		0.00	0.00	
83	83	60	16.00	0.00	0.00		0.00	0.00	
84	84	61	16.00	0.00	0.00		0.00	0.00	
85	85	62	16.00	0.00	0.00		0.00	0.00	
86	86	63	16.00	0.00	0.00		0.00	0.00	
87	87	64	16.00	0.00	0.00		0.00	0.00	

188	125	132	-77.20	0.02	0.00	0.00	0.16	0.01
189	104	130	93.09	0.52	0.00	0.00	0.37	0.27
190	139	162	137.86	0.44	0.00	0.00	0.99	0.63
191	127	136	20.05	0.01	0.00	0.00	0.13	0.33
192	133	138	-109.66	0.30	0.00	0.00	0.76	0.60
193	130	107	-31.64	0.32	0.00	0.00	0.16	0.24
194	133	137	-77.02	0.09	0.00	0.00	0.60	0.17
195	133	137	17.42	0.01	0.00	0.00	0.13	0.22
196	137	100	-28.32	0.16	0.00	0.00	0.29	0.16
197	129	130	12.17	0.00	0.00	0.00	0.00	0.01
198	134	137	56.49	0.02	0.00	0.00	0.26	0.10
199	134	139	-73.42	0.13	0.00	0.00	0.57	0.16
200	129	110	-26.70	0.00	0.00	0.00	0.22	0.00
201	135	138	33.00	0.01	0.00	0.00	0.21	0.04
202	135	110	-24.35	0.14	0.00	0.00	0.20	0.15
203	139	131	-42.33	0.05	0.00	0.00	0.00	0.21
204	134	139	9.33	0.00	0.00	0.00	0.04	0.00
205	134	139	-123.05	0.10	0.00	0.00	0.90	0.23
206	112	112	221.31	0.05	0.00	0.00	0.94	0.67
207	113	110	-86.07	0.01	0.00	0.00	0.13	0.00
208	111	113	42.00	0.04	0.00	0.00	0.27	0.11
209	134	111	123.56	0.37	0.00	0.00	0.46	0.16
210	133	113	-31.17	0.22	0.00	0.00	0.16	0.24
211	133	114	9.32	0.00	0.00	0.00	0.04	0.01
212	134	132	74.30	0.26	0.00	0.00	0.47	0.29
213	133	133	-106.42	0.01	0.00	0.00	0.40	0.17
214	132	149	100.32	0.66	0.00	0.00	1.15	1.53
215	131	131	37.39	0.02	0.00	0.00	0.24	0.00
216	135	114	64.00	0.02	0.00	0.00	0.41	0.23
217	131	139	-39.25	0.29	0.00	0.00	0.41	0.37
218	130	131	-72.56	0.15	0.00	0.00	0.46	0.20
219	130	116	-40.70	0.32	0.00	0.00	0.58	0.50
220	114	115	100.03	0.00	0.00	0.00	0.59	0.59
221	130	140	111.34	0.31	0.00	0.00	0.71	0.62
222	110	117	-178.35	0.19	0.00	0.00	0.62	0.51
223	110	110	19.69	0.02	0.00	0.00	0.13	0.23
224	110	147	219.54	0.19	0.00	0.00	0.86	0.11
225	110	146	14.47	0.23	0.00	0.00	0.28	0.16
226	119	110	300.00	0.30	0.00	0.00	1.95	4.22
227	120	145	1200.17	0.27	0.00	0.00	3.64	6.55
228	110	129	1073.01	0.40	0.00	0.00	5.40	14.51
229-73	120	00	-2493.21	0.42	0.00	0.00	0.90	21.72
230	120	127	140.04	1.40	0.00	0.00	1.41	1.40
231	127	141	120.74	0.24	0.00	0.00	2.20	7.69
232	140	141	-207.80	1.39	0.00	0.00	1.33	7.06
233	140	123	-110.70	0.20	0.00	0.00	1.47	0.10
234	123	124	-127.90	0.10	0.00	0.00	0.40	0.19
235	124	122	-143.47	0.11	0.00	0.00	0.30	0.73
236	122	121	-283.21	0.12	0.00	0.00	1.03	0.70
237	121	141	-288.33	0.32	0.00	0.00	1.04	0.42
238	122	121	0.77	0.00	0.00	0.00	0.03	0.30
239	141	141	-271.10	0.14	0.00	0.00	1.12	0.80
240	143	144	-43.17	0.13	0.00	0.00	0.20	0.11
241	144	143	-138.49	0.21	0.00	0.00	0.00	0.77
242	144	146	233.00	0.07	0.00	0.00	1.49	0.43
243	144	147	147.46	0.20	0.00	0.00	1.07	0.89
244	147	146	182.11	0.05	0.00	0.00	1.23	0.70
245	149	170	203.10	0.23	0.00	0.00	1.16	0.97
246	148	149	11.00	0.01	0.00	0.00	0.00	0.01
247	159	149	-119.24	0.13	0.00	0.00	0.74	0.60
248	149	150	72.40	0.16	0.00	0.00	0.48	0.20
249	150	151	15.00	0.11	0.00	0.00	0.10	0.01
250	151	152	44.00	0.07	0.00	0.00	0.20	0.11
251	151	154	27.70	0.11	0.00	0.00	0.10	0.01
252	150	150	-23.19	0.11	0.00	0.00	0.28	0.07
253	151	152	109.63	0.11	0.00	0.00	0.70	0.35
254	156	157	130.10	0.29	0.00	0.00	0.21	0.01
255	157	159	203.70	0.32	0.00	0.00	1.10	1.03
256	158	159	143.45	1.30	0.00	0.00	1.43	2.10
257	150	161	-525.20	0.42	0.00	0.00	3.42	6.10
258	161	161	-931.00	0.77	0.00	0.00	6.13	14.35
259	161	162	303.19	0.29	0.00	0.00	0.91	1.09
260	162	163	-106.12	0.17	0.00	0.00	1.21	1.36
261	163	164	-149.92	0.47	0.00	0.00	1.70	2.37
262	144	159	102.34	0.07	0.00	0.00	0.97	0.60
263	164	164	-121.72	1.19	0.00	0.00	0.10	1.61
264	165	163	26.25	0.11	0.00	0.00	0.17	0.02
265	167	167	36.48	0.12	0.00	0.00	0.16	0.10
266	167	154	-40.00	0.10	0.00	0.00	0.16	0.01
267	163	169	41.09	0.12	0.00	0.00	0.27	0.00
268	164	166	110.07	0.18	0.00	0.00	0.71	0.61
269	168	191	148.26	0.31	0.00	0.00	0.93	1.02
270	164	167	-26.29	0.05	0.00	0.00	0.21	0.00
271	180	181	92.74	0.30	0.00	0.00	0.99	0.44
272	183	167	-62.00	0.06	0.00	0.00	0.40	0.21
273	167	160	-42.41	0.02	0.00	0.00	0.17	0.03
274	170	170	32.00	0.04	0.00	0.00	0.21	0.04
275	170	170	-10.29	0.04	0.00	0.00	0.22	0.10
276	160	180	-23.62	0.05	0.00	0.00	0.25	0.17
277	160	169	-19.77	0.01	0.00	0.00	0.16	0.03
278	170	170	-14.71	0.01	0.00	0.00	0.09	0.01
279	170	169	-49.21	0.07	0.00	0.00	0.44	0.36
280	169	170	8.27	0.00	0.00	0.00	0.02	0.00
281	177	170	-41.51	0.10	0.00	0.00	0.43	0.34
282	177	170	-744.55	0.25	0.00	0.00	1.10	1.00

287	161	172	238 87	0 99	0 00	0 00	2 31	1 53
288	174	175	-38 76	0 09	0 00	0 00	0 44	0 56
289	173	176	38 43	0 17	0 00	0 00	0 63	0 49
290	172	173	-94 89	0 20	0 00	0 00	0 61	0 28
291	172	171	3 87	0 00	0 00	0 00	0 02	0 00
292	172	226	75 83	0 58	0 00	0 00	0 86	0 57
293	121	187	54 76	0 06	0 00	0 00	0 30	0 19
294	221	221	210 02	0 10	0 00	0 00	0 87	0 50
295	221	220	-204 26	0 23	0 00	0 00	0 54	0 22
296	174	227	131 96	0 41	0 00	0 00	0 84	0 05
297	174	220	44 50	0 44	0 00	0 00	0 73	0 01
298	174	220	340 22	0 30	0 00	0 00	1 79	0 94
299	176	218	830 70	0 34	0 00	0 00	1 10	0 42
300	220	218	-195 92	0 25	0 00	0 00	0 56	0 20
301	224	224	-177 63	0 01	0 00	0 00	0 50	0 17
302	224	226	-246 37	0 30	0 00	0 00	0 70	0 31
303	224	227	-170 63	0 25	0 00	0 00	0 51	0 17
304	227	228	-197 27	0 04	0 00	0 00	0 09	0 27
305	228	228	-137 28	0 03	0 00	0 00	0 39	0 10
306	229	220	-328 04	0 12	0 00	0 00	1 34	0 70
307	227	220	-170 54	0 03	0 00	0 00	0 40	0 16
308	220	210	-333 80	0 05	0 00	0 00	0 95	0 34
309	220	211	241 83	0 01	0 00	0 00	0 46	0 14
310	211	217	-10 01	0 00	0 00	0 00	0 11	0 02
311	210	217	378 82	0 07	0 00	0 00	1 55	1 07
312	210	210	-713 70	0 08	0 00	0 00	2 49	1 04
313	210	211	-270 94	0 01	0 00	0 00	0 62	0 18
314	216	221	-1827 76	0 84	0 00	0 00	3 18	2 02
315	211	197	-344 80	0 21	0 00	0 00	0 76	0 28
316	249	224	-1041 51	3 27	0 00	0 00	7 02	3 19
317	214	217	-141 81	1 01	0 00	0 00	2 40	1 02
318	211	224	170 80	1 01	0 00	0 00	3 11	1 06
319	210	214	-30 41	0 00	0 00	0 00	0 12	0 07
320	224	213	48 74	0 01	0 00	0 00	0 20	0 04
321	213	222	0 60	0 00	0 00	0 00	0 00	0 00
322	212	221	0 00	0 00	0 00	0 00	0 00	0 00
323	181	200	231 70	1 74	0 00	0 00	1 30	2 40
324	214	210	262 64	1 04	0 00	0 00	1 23	0 94
325	210	200	120 06	0 58	0 00	0 00	0 83	0 60
326	210	209	151 89	0 84	0 00	0 00	0 98	1 22
327	210	208	34 50	0 02	0 00	0 00	0 22	0 07
328	200	204	141 80	0 02	0 00	0 00	1 03	1 20
329	210	207	117 81	0 24	0 00	0 00	0 56	0 69
330	217	206	157 17	0 30	0 00	0 00	1 07	1 32
331	214	204	328 62	0 31	0 00	0 00	2 09	4 28
332	217	205	-07 76	0 04	0 00	0 00	0 32	0 34
333	208	204	162 74	0 47	0 00	0 00	1 17	1 87
334	214	207	10 18	1 00	0 00	0 00	1 03	1 74
335	213	200	64 87	0 08	0 00	0 00	0 72	0 92
336	213	203	-30 88	0 01	0 00	0 00	0 20	0 03
337	212	201	-126 50	0 03	0 00	0 00	0 80	0 31
338	212	201	112 18	0 29	0 00	0 00	0 73	0 38
339	212	201	00 12	0 01	0 00	0 00	0 13	0 03
340	212	200	112 87	0 02	0 00	0 00	0 54	0 24
341	210	204	-144 16	0 07	0 00	0 00	1 05	0 45
342	210	199	142 10	0 31	0 00	0 00	0 74	0 34
343	210	198	72 81	0 17	0 00	0 00	0 46	0 18
344	195	190	137 77	2 14	0 00	0 00	1 76	0 29
345	199	195	0 00	0 00	0 00	0 00	0 00	0 00
346	190	181	74 51	0 21	0 00	0 00	0 40	0 10
347	189	181	44 78	0 22	0 00	0 00	0 75	0 28
348	183	184	43 00	0 14	0 00	0 00	0 49	0 21
349	184	184	121 20	0 27	0 00	0 00	0 77	0 79
350	183	183	98 88	0 20	0 00	0 00	0 61	0 25
351	184	184	246 77	1 17	0 00	0 00	1 87	1 07
352	180	182	-249 89	0 29	0 00	0 00	0 72	0 18
353	184	185	-44 63	0 09	0 00	0 00	0 44	0 20
354	185	186	-46 00	0 03	0 00	0 00	0 20	0 04
355	191	185	42 81	0 19	0 00	0 00	0 68	0 42
356	185	185	18 70	0 00	0 00	0 00	0 10	0 07
357	184	187	-32 30	0 01	0 00	0 00	0 21	0 03
358	188	187	24 72	0 02	0 00	0 00	0 14	0 02
359	187	188	-18 88	0 03	0 00	0 00	0 10	0 01
360	188	189	-40 22	0 04	0 00	0 00	0 24	0 00
361	189	190	-94 00	0 13	0 00	0 00	0 38	0 17
362	190	191	10 46	0 04	0 00	0 00	0 21	0 09
363	191	192	-27 12	0 01	0 00	0 00	0 17	0 02
364	188	192	-172 50	0 15	0 00	0 00	0 79	0 20
365	194	190	-119 68	0 14	0 00	0 00	0 74	0 29
366	194	199	-20 22	0 07	0 00	0 00	0 04	0 00
367	194	191	114 44	0 00	0 00	0 00	0 33	0 04
368	194	191	210 34	0 01	0 00	0 00	0 45	0 08
369	194	190	74 80	0 09	0 00	0 00	0 49	0 29
370	197	186	349 46	0 01	0 00	0 00	0 81	0 09
371	197	186	122 80	0 01	0 00	0 00	0 36	0 03
372	197	201	-463 40	0 19	0 00	0 00	1 74	0 16
373	194	187	-216 74	0 09	0 00	0 00	0 35	0 04
374	190	427	0 00	0 00	0 00	0 00	0 00	0 00
375	207	206	-16 87	0 10	0 00	0 00	0 39	0 18
376	217	209	-92 83	0 02	0 00	0 00	0 16	0 01
377	204	204	-188 29	0 03	0 00	0 00	0 08	0 03
378	204	203	-659 20	0 25	0 00	0 00	1 97	0 41
379	203	200	-746 11	0 26	0 00	0 00	1 72	0 41
380	200	200	-1013 42	0 27	0 00	0 00	1 62	0 60
381	200	200	247 21	0 14	0 00	0 00	0 52	0 09

385	376	362	-18.88	0.01	0.00	0.00	0.22	0.02
387	384	384	-21.24	0.00	0.00	0.00	0.12	0.01
388	375	373	-20.92	0.03	0.00	0.00	0.13	0.01
389	374	369	0.01	0.00	0.00	0.00	0.12	0.00
390	381	376	-24.20	0.03	0.00	0.00	0.12	0.00
391	377	376	7.21	0.00	0.00	0.00	0.09	0.00
392	377	397	37.48	0.28	0.00	0.00	0.41	0.23
393	387	399	128.64	1.03	0.00	0.00	0.48	0.26
394	388	386	148.20	2.00	0.00	0.00	0.49	0.21
395	377	380	0.32	0.01	0.00	0.00	0.10	0.02
396	389	379	-20.64	0.00	0.00	0.00	0.12	0.00
397	383	381	18.50	0.01	0.00	0.00	0.15	0.00
398	381	378	-12.31	0.01	0.00	0.00	0.13	0.00
399	381	374	-18.39	0.00	0.00	0.00	0.14	0.00
400	379	383	-24.50	0.10	0.00	0.00	0.19	0.01
401	383	384	-48.89	0.11	0.00	0.00	0.14	0.00
402	383	382	96.21	0.14	0.00	0.00	0.11	0.00
403	378	379	-32.31	0.00	0.00	0.00	0.13	0.00
404	382	381	17.92	0.02	0.00	0.00	0.11	0.00
405	382	375	24.09	0.01	0.00	0.00	0.11	0.00
406	374	373	182.90	0.01	0.00	0.00	0.12	0.00
407	373	397	81.60	0.14	0.00	0.00	0.13	0.00
408	372	371	16.93	0.05	0.00	0.00	0.13	0.00
409	371	368	0.77	0.01	0.00	0.00	0.07	0.01
410	371	370	4.06	0.01	0.00	0.00	0.08	0.01
411	368	383	4.04	0.00	0.00	0.00	0.00	0.00
412	370	369	1.28	0.00	0.00	0.00	0.00	0.00
413	369	405	2.73	0.00	0.00	0.00	0.03	0.00
414	404	401	2.98	0.00	0.00	0.00	0.03	0.00
415	402	399	0.71	0.00	0.00	0.00	0.02	0.00
416	401	369	1.42	0.00	0.00	0.00	0.02	0.00
417	401	377	-7.41	0.00	0.00	0.00	0.04	0.00
418	398	399	-3.08	0.00	0.00	0.00	0.03	0.00
419	397	399	-12.19	0.00	0.00	0.00	0.05	0.00
420	396	371	-10.20	0.00	0.00	0.00	0.05	0.00
421	394	394	10.50	0.04	0.00	0.00	0.02	0.00
422	394	390	7.26	0.01	0.00	0.00	0.03	0.00
423	394	399	0.58	0.01	0.00	0.00	0.06	0.01
424	399	402	1.89	0.00	0.00	0.00	0.02	0.00
425	402	404	1.51	0.00	0.00	0.00	0.02	0.00
426	403	404	1.47	0.00	0.00	0.00	0.01	0.00
427	401	403	1.47	0.00	0.00	0.00	0.01	0.00
428	401	403	1.04	0.00	0.00	0.00	0.01	0.00
429	402	402	1.71	0.00	0.00	0.00	0.02	0.00
430	400	401	1.00	0.00	0.00	0.00	0.01	0.00
431	400	399	-0.43	0.00	0.00	0.00	0.01	0.00
432	400	395	-0.90	0.00	0.00	0.00	0.01	0.00
433	395	396	-0.96	0.00	0.00	0.00	0.01	0.00
434	399	399	7.46	0.00	0.00	0.00	0.03	0.00
435	393	394	-11.20	0.02	0.00	0.00	0.03	0.00
436	393	392	14.10	0.01	0.00	0.00	0.03	0.00
437	389	390	-2.10	0.00	0.00	0.00	0.01	0.00
438	389	390	-14.20	0.01	0.00	0.00	0.01	0.00
439	388	386	-113.62	0.23	0.00	0.00	0.04	0.00
440	384	389	-89.13	0.00	0.00	0.00	0.01	0.00
441	384	389	-7.08	0.00	0.00	0.00	0.01	0.00
442	384	387	21.71	0.07	0.00	0.00	0.02	0.00
443	384	386	-23.23	0.07	0.00	0.00	0.02	0.00
444	381	389	-22.23	0.06	0.00	0.00	0.02	0.00
445	389	388	-0.05	0.00	0.00	0.00	0.01	0.00
446	387	388	-7.06	0.07	0.00	0.00	0.01	0.00
447	389	388	-110.62	0.17	0.00	0.00	0.01	0.00
448	389	383	61.71	0.03	0.00	0.00	0.01	0.00
449	383	389	177.23	0.04	0.00	0.00	0.01	0.00
450	384	388	-60.40	0.03	0.00	0.00	0.01	0.00
451	382	386	73.42	1.57	0.00	0.00	0.01	0.00
452	381	386	-48.73	0.00	0.00	0.00	0.01	0.00
453	381	386	-18.27	0.00	0.00	0.00	0.01	0.00
454	381	383	-84.20	0.00	0.00	0.00	0.01	0.00
455	383	382	-129.72	1.37	0.00	0.00	0.01	0.00
456	382	381	-129.72	0.07	0.00	0.00	0.01	0.00
457	380	386	-186.16	4.13	0.00	0.00	0.01	0.00
458	384	384	-181.00	0.23	0.00	0.00	0.01	0.00
459	384	387	-46.68	0.19	0.00	0.00	0.01	0.00
460	382	387	-32.23	0.30	0.00	0.00	0.01	0.00
461	380	387	-9.26	0.01	0.00	0.00	0.01	0.00
462	387	387	-82.17	0.01	0.00	0.00	0.01	0.00
463	389	388	61.67	0.02	0.00	0.00	0.01	0.00
464	388	381	93.43	0.11	0.00	0.00	0.01	0.00
465	381	382	22.43	0.19	0.00	0.00	0.01	0.00
466	387	384	24.97	0.10	0.00	0.00	0.01	0.00
467	388	386	52.16	0.20	0.00	0.00	0.01	0.00
468	387	388	0.27	0.01	0.00	0.00	0.01	0.00
469	387	388	-0.87	0.00	0.00	0.00	0.01	0.00
470	388	383	-44.70	0.03	0.00	0.00	0.01	0.00
471	388	383	-79.65	0.10	0.00	0.00	0.01	0.00
472	387	381	-86.31	0.31	0.00	0.00	0.01	0.00
473	381	380	-156.24	0.30	0.00	0.00	0.01	0.00
474	380	386	287.93	0.42	0.00	0.00	0.01	0.00
475	388	389	189.06	1.07	0.00	0.00	0.01	0.00
476	389	390	189.06	0.40	0.00	0.00	0.01	0.00
477	389	381	-142.89	0.13	0.00	0.00	0.01	0.00
478	380	380	1310.89	1.32	0.00	0.00	0.01	0.00
479	380	389	-879.39	1.02	0.00	0.00	0.01	0.00
480	385	384	-0.83	0.01	0.00	0.00	0.01	0.00
481	385	384	-6.48	0.01	0.00	0.00	0.01	0.00
482	389	383	-17.03	0.00	0.00	0.00	0.01	0.00

816	314	318	8 29	0 09	0 00	6.00	C 00	C 00
817	313	315	-2.09	0 09	0 00	0 00	0 00	0 00
818	312	311	-32 82	0 16	0 00	0 00	0 00	0 00
819	313	309	17 83	0 24	0 00	0 00	0 00	0 00
820	311	302	-46 62	0 31	0 00	0 00	0 00	0 00
821	301	302	-4.08	0 27	0 00	0 00	0 00	0 00
822	302	303	-48 31	0 06	0 00	0 00	0 00	0 00
823	303	304	-417 76	0 15	0 00	0 00	0 00	0 00
824	266	267	57 09	0 18	0 00	0 00	0 00	0 00
825	246	245	-44 41	0 23	0 00	0 00	0 00	0 00
826	220	220	222 00	1 00	0 00	0 00	0 00	0 00
827	229	231	-67 72	0 00	0 00	0 00	0 00	0 00
828	230	211	-197 11	0 12	0 00	0 00	0 00	0 00
829	239	234	-270 70	0 74	0 00	0 00	0 00	0 00
830	230	240	161 09	0 13	0 00	0 00	0 00	0 00
831	240	247	61 25	0 02	0 00	0 00	0 00	0 00
832	239	247	-119 09	0 08	0 00	0 00	0 00	0 00
833	212	231	-107 96	0 47	0 00	0 00	0 00	0 00
834	213	212	-119 93	0 82	0 00	0 00	0 00	0 00
835	214	213	-121 00	0 80	0 00	0 00	0 00	0 00
836	217	214	-121 69	0 86	0 00	0 00	0 00	0 00
837	219	217	-126 88	0 81	0 00	0 00	0 00	0 00
838	221	210	-124 77	0 80	0 00	0 00	0 00	0 00
839	222	221	-21 00	0 01	0 00	0 00	0 00	0 00
840	229	222	-21 36	0 01	0 00	0 00	0 00	0 00
841	224	223	-10 92	0 01	0 00	0 00	0 00	0 00
842	223	220	-66 93	0 10	0 00	0 00	0 00	0 00
843	220	219	-110 00	0 19	0 00	0 00	0 00	0 00
844	216	219	120 99	0 60	0 00	0 00	0 00	0 00
845	216	215	-111 74	0 88	0 00	0 00	0 00	0 00
846	215	210	-113 40	0 80	0 00	0 00	0 00	0 00
847	210	209	-125 50	0 82	0 00	0 00	0 00	0 00
848	209	203	-162 14	0 83	0 00	0 00	0 00	0 00
849	202	204	114 46	0 00	0 00	0 00	0 00	0 00
850	204	224	103 10	0 76	0 00	0 00	0 00	0 00
851	203	202	-100 91	0 17	0 00	0 00	0 00	0 00
852	206	204	-207 44	0 83	0 00	0 00	0 00	0 00
853	204	203	-188 19	0 10	0 00	0 00	0 00	0 00
854	203	202	-100 07	0 00	0 00	0 00	0 00	0 00
855	202	201	35 44	0 01	0 00	0 00	0 00	0 00
856	201	200	65 00	0 04	0 00	0 00	0 00	0 00
857	200	200	-140 00	0 00	0 00	0 00	0 00	0 00
858	215	209	-210 22	0 21	0 00	0 00	0 00	0 00
859	211	204	-63 20	0 25	0 00	0 00	0 00	0 00
860	214	209	-67 20	0 09	0 00	0 00	0 00	0 00
861	220	223	23 10	0 02	0 00	0 00	0 00	0 00
862	202	227	-146 70	0 85	0 00	0 00	0 00	0 00
863	202	202	-66 10	0 12	0 00	0 00	0 00	0 00
864	200	200	-48 00	0 00	0 00	0 00	0 00	0 00
865	200	200	-200 00	0 00	0 00	0 00	0 00	0 00
866	212	221	204 04	0 00	0 00	0 00	0 00	0 00
867	207	200	-172 12	0 72	0 00	0 00	0 00	0 00
868	206	205	-212 49	0 29	0 00	0 00	0 00	0 00
869	205	205	205 17	0 24	0 00	0 00	0 00	0 00
870	204	205	-32 10	0 10	0 00	0 00	0 00	0 00
871	207	205	-161 00	0 10	0 00	0 00	0 00	0 00
872	206	207	0 74	0 22	0 00	0 00	0 00	0 00
873	208	207	-147 00	0 30	0 00	0 00	0 00	0 00
874	206	208	33 62	0 30	0 00	0 00	0 00	0 00
875	207	206	0 70	0 30	0 00	0 00	0 00	0 00
876	207	208	-10 01	0 32	0 00	0 00	0 00	0 00
877	208	206	20 74	0 31	0 00	0 00	0 00	0 00
878	209	206	-17 74	0 00	0 00	0 00	0 00	0 00
879	213	208	-160 62	0 66	0 00	0 00	0 00	0 00
880	204	204	-10 00	0 30	0 00	0 00	0 00	0 00
881	204	204	-10 01	0 00	0 00	0 00	0 00	0 00
882	209	209	-4 00	0 00	0 00	0 00	0 00	0 00
883	201	201	-90 41	0 23	0 00	0 00	0 00	0 00
884	201	200	27 00	0 00	0 00	0 00	0 00	0 00
885	201	201	21 47	0 04	0 00	0 00	0 00	0 00
886	201	201	11 06	0 07	0 00	0 00	0 00	0 00
887	211	200	20 71	0 02	0 00	0 00	0 00	0 00
888	209	211	-9 98	0 00	0 00	0 00	0 00	0 00
889	209	207	-3 20	0 30	0 00	0 00	0 00	0 00
890	200	200	0 74	0 01	0 00	0 00	0 00	0 00
891	203	200	-11 44	0 01	0 00	0 00	0 00	0 00
892	200	209	-1 86	0 30	0 00	0 00	0 00	0 00
893	209	209	0 45	0 00	0 00	0 00	0 00	0 00
894	201	200	20 10	0 09	0 00	0 00	0 00	0 00
895	202	201	10 60	0 01	0 00	0 00	0 00	0 00
896	211	204	-10 00	0 00	0 00	0 00	0 00	0 00
897-PC	200	CC	-1101 01	0 30	0 00	0 00	0 00	0 00
898	201	202	143 07	0 30	0 00	0 00	0 00	0 00
899-PT	203	00	202 26	0 31	0 00	0 00	0 00	0 00
900-RX	207	249						
901	203	209	-178 22	0 33	0 00	0 00	0 00	0 00
902	210	207	-170 22	0 29	0 00	0 00	0 00	0 00
903	207	204	-207 00	0 30	0 00	0 00	0 00	0 00
904	210	208	-87 70	0 33	0 00	0 00	0 00	0 00
905	210	207	58 78	0 19	0 00	0 00	0 00	0 00
906	218	216	-106 41	1 40	0 00	0 00	0 00	0 00
907	210	209	-194 16	1 00	0 00	0 00	0 00	0 00
908	217	207	-442 40	1 10	0 00	0 00	0 00	0 00
909-DR	210	207						
910	207	209	201 46	1 17	0 00	0 00	0 00	0 00
911	219	243	-202 40	2 45	0 00	0 00	0 00	0 00

613	343	344	-161.48	1.48	0.02	0.00	1.03	1.00	
614-KX	344	345							
617	324	348	1235.48	6.24	0.00	0.00	1.20	1.20	
618	345	344	1347.88	13.22	0.00	0.00	1.26	1.26	
619	346	344	-149.84	1.84	0.00	0.00	1.93	1.93	
620	346	347	57.83	0.83	0.00	0.00	1.97	1.97	
621	343	348	-281.42	4.92	0.00	0.00	2.19	2.19	
622	347	348	67.83	0.83	0.00	0.00	2.27	2.27	
623	348	349	4.37	0.02	0.00	0.00	2.30	2.30	
624	349	349	-435.47	1.97	0.00	0.00	2.36	2.36	
625	348	351	-344.82	1.88	0.00	0.00	2.46	2.46	
626	351	350	109.34	0.34	0.00	0.00	2.50	2.50	
627	351	352	-138.89	0.89	0.00	0.00	2.59	2.59	
628	352	353	102.50	0.50	0.00	0.00	2.62	2.62	
629	353	354	98.10	0.10	0.00	0.00	2.63	2.63	
630	344	354	-232.47	1.17	0.00	0.00	2.67	2.67	
631	354	355	-195.87	0.46	0.00	0.00	2.68	2.68	
632	355	357	-201.47	0.76	0.00	0.00	2.70	2.70	
633	357	358	-444.86	2.18	0.00	0.00	2.85	2.85	
634	358	357	-344.98	0.40	0.00	0.00	2.86	2.86	
635	359	360	410.77	1.24	0.00	0.00	2.91	2.91	
636	360	351	685.11	1.74	0.00	0.00	3.00	3.00	
637	360	361	-366.74	1.07	0.00	0.00	3.00	3.00	
638	361	362	-347.34	0.72	0.00	0.00	3.01	3.01	
639-KX	361	365							
640	359	362	-688.97	1.86	0.00	0.00	3.01	3.01	
641	359	368	-438.86	0.80	0.00	0.00	3.06	3.06	
642	368	366	-1226.40	6.07	0.00	0.00	3.20	3.20	
643-F3	358	366	786.42	3.07	0.00	0.00	3.21	3.21	
644-F3	361	367	-935.90	0.20	0.00	0.00	3.21	3.21	
645	361	362	955.90	4.00	0.00	0.00	3.21	3.21	
646	361	365	8.30	0.00	0.00	0.00	3.21	3.21	
647-KV	364	365	159.24	0.00	0.00	0.00	3.21	3.21	
648	364	374	-159.24	0.00	0.00	0.00	3.21	3.21	
649	365	366	159.24	0.00	0.00	0.00	3.21	3.21	
650	366	368	127.22	0.00	0.00	0.00	3.21	3.21	
651	366	367	21.94	0.00	0.00	0.00	3.21	3.21	
652	367	369	21.74	0.00	0.00	0.00	3.21	3.21	
653	369	368	-25.41	0.00	0.00	0.00	3.21	3.21	
654	369	370	12.92	0.00	0.00	0.00	3.21	3.21	
655	370	371	-11.76	0.00	0.00	0.00	3.21	3.21	
656	370	378	12.92	0.00	0.00	0.00	3.21	3.21	
657	378	374	-6.41	0.00	0.00	0.00	3.21	3.21	
658	378	379	6.72	0.00	0.00	0.00	3.21	3.21	
659	379	374	-4.22	0.00	0.00	0.00	3.21	3.21	
660	379	373	1.88	0.00	0.00	0.00	3.21	3.21	
661	374	378	-18.73	0.00	0.00	0.00	3.21	3.21	
662	375	374	86.56	0.00	0.00	0.00	3.21	3.21	
663	375	372	-89.85	0.00	0.00	0.00	3.21	3.21	
664	374	373	5.46	0.00	0.00	0.00	3.21	3.21	
665	373	378	-7.46	0.00	0.00	0.00	3.21	3.21	
666	372	371	-78.81	0.00	0.00	0.00	3.21	3.21	
667	371	368	-104.95	0.00	0.00	0.00	3.21	3.21	
668	379	368	-176.59	0.00	0.00	0.00	3.21	3.21	
669-F3	368	363	-193.94	0.00	0.00	0.00	3.21	3.21	
670	428	419	1.00	0.00	0.00	0.00	3.21	3.21	
671-F3	41	404	-1471.00	0.00	0.00	0.00	3.21	3.21	
CHK. PUMP IN LINE	817	28	OPERATING	OUT OF RANGE					
617-FC	822	821	1899.45	9.21	97.43	P1	1.50	1.03	1.33
618-KKPC	822	821							
619-FC	822	81	-648.57	0.00	0.00		0.00	0.00	0.00
620-FC	822	81	-242.08	0.00	0.00		0.00	0.00	0.00
621	332	331	1245.40	4.21	2.81		2.70	2.00	2.00
622-KKPC	822	824							
CHK. PUMP IN LINE	823	28	OPERATING	OUT OF RANGE					
623-F3	823	824	1244.40	0.15	158.14	P4	0.00	2.70	2.00
624-KKPC	823	824							
625-KKPC	823	824							
626-F3	823	824							
627-KKPC	826	814	1.00	0.00	0.00		0.00	0.00	0.00
628-KKPC	826	814							
629-KKPC	826	814							
630-KKPC	826	814							
631	427	423	0.00	0.00	0.00		0.00	0.00	0.00
632	488	798	-677.81	0.17	0.00		0.13	1.41	1.43
633-F3	798	12	-846.00	0.00	0.00		0.13	1.14	0.66
634-KX	352	359							
635	352	353	-158.45	0.00	0.00		0.15	0.00	0.00
636-KX	791	393							
637-F3	791	394	-142.87	0.00	0.00		0.00	0.00	0.00

JUNCTION HOOR RESULTS

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL ELEVATION (ft)	HYDRAULIC GRADE (ft)	JUNCTION ELEVATION (ft)	INVERT ELEVATION (ft)	JUNCTION PRESSURE (psi)
1		1.00	100.00	100.00	04.99	16.76
2		1.00	100.00	100.00	07.88	16.84
3		18.46	100.00	100.00	09.69	19.94
4		62.10	100.00	100.00	08.84	16.84
5		64.71	100.00	100.00	06.84	16.84
6		42.14	100.00	100.00	08.84	16.84
7		9.08	100.00	100.00	01.96	19.84
8		22.44	100.00	100.00	01.13	19.84

7 1 0

12	4.00	3990 02	3997 00	02 02	35 03
13	3.00	3990 03	3997 01	02 03	35 06
14	2.40	3990 04	3997 02	02 04	35 09
15	1.80	3990 05	3997 03	02 05	35 12
16	1.20	3990 06	3997 04	02 06	35 15
17	0.60	3990 07	3997 05	02 07	35 18
18	0.00	3990 08	3997 06	02 08	35 21
19	0.00	3990 09	3997 07	02 09	35 24
20	0.00	3990 10	3997 08	02 10	35 27
21	0.00	3990 11	3997 09	02 11	35 30
22	0.00	3990 12	3997 10	02 12	35 33
23	0.00	3990 13	3997 11	02 13	35 36
24	0.00	3990 14	3997 12	02 14	35 39
25	0.00	3990 15	3997 13	02 15	35 42
26	0.00	3990 16	3997 14	02 16	35 45
27	0.00	3990 17	3997 15	02 17	35 48
28	0.00	3990 18	3997 16	02 18	35 51
29	0.00	3990 19	3997 17	02 19	35 54
30	0.00	3990 20	3997 18	02 20	35 57
31	0.00	3990 21	3997 19	02 21	36 00
32	0.00	3990 22	3997 20	02 22	36 03
33	0.00	3990 23	3997 21	02 23	36 06
34	0.00	3990 24	3997 22	02 24	36 09
35	0.00	3990 25	3997 23	02 25	36 12
36	0.00	3990 26	3997 24	02 26	36 15
37	0.00	3990 27	3997 25	02 27	36 18
38	0.00	3990 28	3997 26	02 28	36 21
39	0.00	3990 29	3997 27	02 29	36 24
40	0.00	3990 30	3997 28	02 30	36 27
41	0.00	3990 31	3997 29	02 31	36 30
42	0.00	3990 32	3997 30	02 32	36 33
43	0.00	3990 33	3997 31	02 33	36 36
44	0.00	3990 34	3997 32	02 34	36 39
45	0.00	3990 35	3997 33	02 35	36 42
46	0.00	3990 36	3997 34	02 36	36 45
47	0.00	3990 37	3997 35	02 37	36 48
48	0.00	3990 38	3997 36	02 38	36 51
49	0.00	3990 39	3997 37	02 39	36 54
50	0.00	3990 40	3997 38	02 40	36 57
51	0.00	3990 41	3997 39	02 41	37 00
52	0.00	3990 42	3997 40	02 42	37 03
53	0.00	3990 43	3997 41	02 43	37 06
54	0.00	3990 44	3997 42	02 44	37 09
55	0.00	3990 45	3997 43	02 45	37 12
56	0.00	3990 46	3997 44	02 46	37 15
57	0.00	3990 47	3997 45	02 47	37 18
58	0.00	3990 48	3997 46	02 48	37 21
59	0.00	3990 49	3997 47	02 49	37 24
60	0.00	3990 50	3997 48	02 50	37 27
61	0.00	3990 51	3997 49	02 51	37 30
62	0.00	3990 52	3997 50	02 52	37 33
63	0.00	3990 53	3997 51	02 53	37 36
64	0.00	3990 54	3997 52	02 54	37 39
65	0.00	3990 55	3997 53	02 55	37 42
66	0.00	3990 56	3997 54	02 56	37 45
67	0.00	3990 57	3997 55	02 57	37 48
68	0.00	3990 58	3997 56	02 58	37 51
69	0.00	3990 59	3997 57	02 59	37 54
70	0.00	3990 60	3997 58	03 00	37 57
71	0.00	3990 61	3997 59	03 01	38 00
72	0.00	3990 62	3997 60	03 02	38 03
73	0.00	3990 63	3997 61	03 03	38 06
74	0.00	3990 64	3997 62	03 04	38 09
75	0.00	3990 65	3997 63	03 05	38 12
76	0.00	3990 66	3997 64	03 06	38 15
77	0.00	3990 67	3997 65	03 07	38 18
78	0.00	3990 68	3997 66	03 08	38 21
79	0.00	3990 69	3997 67	03 09	38 24
80	0.00	3990 70	3997 68	03 10	38 27
81	0.00	3990 71	3997 69	03 11	38 30
82	0.00	3990 72	3997 70	03 12	38 33
83	0.00	3990 73	3997 71	03 13	38 36
84	0.00	3990 74	3997 72	03 14	38 39
85	0.00	3990 75	3997 73	03 15	38 42
86	0.00	3990 76	3997 74	03 16	38 45
87	0.00	3990 77	3997 75	03 17	38 48
88	0.00	3990 78	3997 76	03 18	38 51
89	0.00	3990 79	3997 77	03 19	38 54
90	0.00	3990 80	3997 78	03 20	38 57
91	0.00	3990 81	3997 79	03 21	39 00
92	0.00	3990 82	3997 80	03 22	39 03
93	0.00	3990 83	3997 81	03 23	39 06
94	0.00	3990 84	3997 82	03 24	39 09
95	0.00	3990 85	3997 83	03 25	39 12
96	0.00	3990 86	3997 84	03 26	39 15
97	0.00	3990 87	3997 85	03 27	39 18
98	0.00	3990 88	3997 86	03 28	39 21
99	0.00	3990 89	3997 87	03 29	39 24
100	0.00	3990 90	3997 88	03 30	39 27
101	0.00	3990 91	3997 89	03 31	39 30
102	0.00	3990 92	3997 90	03 32	39 33
103	0.00	3990 93	3997 91	03 33	39 36
104	0.00	3990 94	3997 92	03 34	39 39
105	0.00	3990 95	3997 93	03 35	39 42
106	0.00	3990 96	3997 94	03 36	39 45
107	0.00	3990 97	3997 95	03 37	39 48

110	1 50	3003 39	3077 00	106.20	46 04
111	3 00	3003 35	3070 30	105 35	45 75
112	2 10	3003 45	3070 00	105 40	45 67
113	2 30	3003 33	3000 00	107 37	46 77
114	0 00	3003 31	3000 30	107 31	46 77
115	7 00	3003 34	3000 00	107 34	46 79
116	1 00	3003 43	3001 30	107 43	46 83
117	6 00	3003 52	3070 30	108 52	47 57
118	6 00	3003 41	3001 30	108 41	47 51
119	0 00	3003 74	3001 30	107 74	47 03
120	0 00	3003 47	3001 30	107 47	47 06
121	3 50	3003 72	3001 30	107 52	47 09
122	3 10	3003 42	3001 30	107 42	47 06
123	6 00	3003 60	3001 30	107 60	47 10
124	6 00	3003 55	3001 30	107 55	47 10
125	41 75	3003 26	3001 30	107 75	47 19
126	1 30	3003 47	3001 30	107 30	47 12
127	10 00	3003 06	3001 30	107 06	47 18
128	1 00	3003 10	3001 30	107 10	47 18
129	1 00	3003 75	3001 30	107 75	47 20
130	10 00	3003 21	3001 30	107 21	47 27
131	1 00	3003 07	3001 30	107 07	47 23
132	0 10	3003 42	3077 00	107 42	47 24
133	0 10	3003 30	3077 00	107 30	47 24
134	1 10	3003 14	3070 00	107 14	47 27
135	0 10	3003 16	3070 00	107 16	47 27
136	0 00	3003 13	3070 30	107 13	47 26
137	4 00	3003 17	3070 30	107 17	47 26
138	4 20	3003 04	3070 30	107 20	47 28
139	4 00	3003 74	3070 30	107 74	47 28
140	33 20	3003 30	3002 00	107 20	47 32
141	5 10	3003 71	3002 00	107 10	47 31
142	03 75	3003 45	3002 00	107 75	47 31
143	14 25	3003 24	3002 00	107 25	47 31
144	7 40	3003 27	3002 00	107 40	47 31
145	1 30	3003 40	3002 00	107 30	47 31
146	2 50	3003 31	3002 00	107 50	47 31
147	0 00	3003 24	3002 00	107 00	47 31
148	0 30	3003 41	3002 00	107 30	47 31
149	4 20	3003 40	3077 00	107 20	47 31
150	1 30	3003 24	3070 00	107 30	47 31
151	1 30	3003 23	3070 00	107 30	47 31
152	1 30	3003 36	3070 00	107 30	47 31
153	10 20	3077 20	3077 00	107 20	47 31
154	10 20	3077 19	3077 00	107 20	47 31
155	7 20	3077 21	3077 00	107 20	47 31
156	0 00	3077 11	3002 00	107 11	47 31
157	04 70	3077 72	3002 00	107 72	47 31
158	02 00	3077 11	3002 00	107 11	47 31
159	04 40	3077 03	3002 00	107 40	47 31
160	1 00	3077 22	3002 00	107 22	47 31
161	03 10	3077 44	3002 00	107 44	47 31
162	4 00	3077 06	3002 00	107 06	47 31
163	03 40	3077 43	3002 00	107 43	47 31
164	44 10	3077 10	3002 00	107 10	47 31
165	2 00	3077 20	3002 00	107 20	47 31
166	1 20	3077 11	3070 00	107 11	47 31
167	2 40	3077 17	3077 00	107 17	47 31
168	3 40	3077 19	3077 00	107 19	47 31
169	1 20	3077 00	3077 00	107 20	47 31
170	5 00	3077 22	3002 00	107 22	47 31
171	15 10	3077 30	3077 00	107 30	47 31
172	8 70	3077 20	3077 00	107 20	47 31
173	12 10	3077 42	3077 00	107 42	47 31
174	5 10	3077 20	3077 00	107 20	47 31
175	0 00	3077 30	3077 00	107 30	47 31
176	4 10	3077 47	3077 00	107 47	47 31
177	41 10	3077 09	3077 00	107 10	47 31
178	2 10	3077 14	3077 00	107 14	47 31
179	3 10	3077 15	3077 00	107 15	47 31
180	2 10	3077 11	3077 00	107 11	47 31
181	2 10	3077 02	3077 00	107 10	47 31
182	03 10	3077 03	3077 00	107 10	47 31
183	2 20	3077 23	3077 00	107 23	47 31
184	2 00	3077 22	3077 00	107 22	47 31
185	4 00	3077 14	3077 00	107 14	47 31
186	0 00	3077 37	3077 00	107 37	47 31
187	0 00	3077 39	3077 00	107 39	47 31
188	0 00	3077 43	3077 00	107 43	47 31
189	1 00	3077 37	3077 00	107 37	47 31
190	1 00	3077 20	3077 00	107 20	47 31
191	0 00	3077 01	3077 00	107 01	47 31
192	0 00	3077 06	3077 00	107 06	47 31
193	0 00	3077 07	3077 00	107 07	47 31
194	0 00	3077 02	3077 00	107 02	47 31
195	42 00	3077 04	3077 00	107 04	47 31
196	42 00	3077 07	3077 00	107 07	47 31
197	1 00	3077 50	3077 00	107 50	47 31
198	45 20	3077 48	3077 00	107 48	47 31
199	45 20	3077 77	3077 00	107 77	47 31
200	5 00	3077 79	3077 00	107 79	47 31
201	7 00	3077 08	3077 00	107 08	47 31
202	0 00	3077 00	3077 00	107 00	47 31
203	42 10	3077 10	3077 00	107 10	47 31
204	1 20	3077 07	3077 00	107 07	47 31
205	4 00	3077 70	3077 00	107 70	47 31
206	1 00	3077 00	3077 00	107 00	47 31

628	0 00	3976 67	3690 00	86 67	37 66
619	0 00	3976 67	3690 00	85 67	37 25
620	0 00	3982 14	3690 00	200 14	43 40
622	0 00	3989 07	3690 00	6 07	3 02
621	0 00	3991 73	3666 10	25 61	11 10
624	0 00	4109 74	3666 10	183 64	78 80
625	0 00	4110 72	4094 02	14 20	8 31
626	0 00	3910 60	3695 75	2 00	12 00
600	1893 04	3874 32	3655 00	2 32	1 24
700	0 00	3875 69	3655 00	14 49	0 74
701	0 00	3992 00	3950 00	24 00	12 40

MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURE (PSI)	JUNCTION NUMBER	MINIMUM PRESSURE (PSI)
624	79 80	625	1 02
604	77 20	621	4 88
623	72 66	620	8 13
610	71 84	700	6 28
629	71 54	90	7 10

HEAD LOSS

PIPE NUMBER	MAXIMUM HEAD LOSS (FT/100)	PIPE NUMBER	MINIMUM HEAD LOSS (FT/100)
107	88 00	629	0 20
164	68 38	610	0 00
600	31 42	70	5 28
601	26 16	625	0 20
602	23 00	616	0 20

OPERATING VALVE REPORT

VALVE POSITION	CONTROLLED VALVE	VALVE STATUS	UPSTREAM HEAD (PSI)	DOWNSTREAM HEAD (PSI)	THROUGH FLOW (GPM)
107	600	THROTTLED	678 16	626 40	189 24

SUMMARY OF INFLOWS AND OUTFLOWS

1- INFLOWS INTO THE SYSTEM FROM FIXED GRADE NODES
 2- OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

NODE LABEL	PIPE NUMBER	FLOWRATE (GPM)	NODE TITLE
AA	61	2741 86	TANK 5100
BB	229	2533 21	TANK 129
CC	607	1240 00	TANK 7000
DD	609	207 24	TANK 7008
EE	601	1760 02	TANK 7001
FF	444	546 00	TANK 7003
GG	649	191 04	TANK 7078
HH	616	471 80	TANK 402
II	610	946 67	TANK 1110
JJ	620	950 08	TANK 1410
KK	620	1 40	TANK 1400, 01, 02
LL	610	64 00	TANK 7000
MM	610	163 57	TANK 7000

NET SYSTEM INFLOW = 13551.42
 NET SYSTEM OUTFLOW = 1089.84
 NET SYSTEM CHANGE = 12461.58

CHANGES FOR NEXT SIMULATION

COMMAND CHANGES

DEFAULT TYPE = 1, GDF = 1.000

PIPE PARAMETER CHANGES

STATUS CODE	EX - CLOSED PIPE	FC - FIRST BRANCH NODE	31 - 31" PIPE LINE				
CC	CHECK VALVE	SV - STOPPING VALVE					
PIPE NUMBER	NODE NO. 01	NODE NO. 02	LENGTH (FT.)	DIAMETER (IN.)	ROUGHNESS COEFF.	MINOR LOSS (PSI)	PER-MIL (PSI)
621-626	624	610	100 0	20 0	120 00	0 20	0 50
THE ABOVE IDENTIFYING NUMBER IS 0 7							

020-MXP	220	519	100.0	20	125.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 0							
025-MXP	226	519	100.0	20.0	125.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 0							
030-MXP	234	519	100.0	20.0	125.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 11							
035-MXP	222	521	70.0	16.0	101.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 1							
040-MXP	220	521	70.0	16.0	101.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 2							
045-MXP	222	524	70.0	16.0	101.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 3							
050-MXP	223	524	70.0	16.0	101.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 4							
055-MXP	221	504	70.0	16.0	101.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 5							
060-MXP	225	504	70.0	16.0	101.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 6							
065-MX	201	503	100.0	16.0	101.00	0.00	0.00

 S I M U L A T I O N R E S U L T S

THE RESULTS ARE OBTAINED AFTER 6 TRIALS WITH AN ACCURACY = 0.10353

S I M U L A T I O N D E S C R I P T I O N L A B E L
 HOURS OF 10.00 ON 10.00.00

P I P E L I N E R E S U L T S

PIPE NUMBER	CODE		FLOWRATE (GPM)	HEAD LOSS (FT)	PUMP HEAD (FT)	PUMP LABEL	MINOR LOSS (FT)	LINE VELOCITY (FT/SEC)	HL/ 1000 (FT/FT)
	HE - CLOSED PIPE CV - CHECK VALVE	FR - FRICTION LOSS CODE RV - REGULATING VALVE							
1	1	1	10.40	0.23	0.00		0.00	0.00	
2	2	1	20.80	0.21	0.00		0.00	0.00	
3	3	0	31.20	0.20	0.00		0.00	0.00	
4	4	1	41.60	0.20	0.00		0.00	0.00	
5	5	0	52.00	0.20	0.00		0.00	0.00	
6	6	1	62.40	0.20	0.00		0.00	0.00	
7	7	0	72.80	0.20	0.00		0.00	0.00	
8	8	1	83.20	0.20	0.00		0.00	0.00	
9	9	0	93.60	0.20	0.00		0.00	0.00	
10	10	1	104.00	0.20	0.00		0.00	0.00	
11	11	0	114.40	0.20	0.00		0.00	0.00	
12	12	1	124.80	0.20	0.00		0.00	0.00	
13	13	0	135.20	0.20	0.00		0.00	0.00	
14	14	1	145.60	0.20	0.00		0.00	0.00	
15	15	0	156.00	0.20	0.00		0.00	0.00	
16	16	1	166.40	0.20	0.00		0.00	0.00	
17	17	0	176.80	0.20	0.00		0.00	0.00	
18	18	1	187.20	0.20	0.00		0.00	0.00	
19	19	0	197.60	0.20	0.00		0.00	0.00	
20	20	1	208.00	0.20	0.00		0.00	0.00	
21	21	0	218.40	0.20	0.00		0.00	0.00	
22	22	1	228.80	0.20	0.00		0.00	0.00	
23	23	0	239.20	0.20	0.00		0.00	0.00	
24	24	1	249.60	0.20	0.00		0.00	0.00	
25	25	0	260.00	0.20	0.00		0.00	0.00	
26	26	1	270.40	0.20	0.00		0.00	0.00	
27	27	0	280.80	0.20	0.00		0.00	0.00	
28	28	1	291.20	0.20	0.00		0.00	0.00	
29	29	0	301.60	0.20	0.00		0.00	0.00	
30	30	1	312.00	0.20	0.00		0.00	0.00	
31	31	0	322.40	0.20	0.00		0.00	0.00	
32	32	1	332.80	0.20	0.00		0.00	0.00	
33	33	0	343.20	0.20	0.00		0.00	0.00	
34	34	1	353.60	0.20	0.00		0.00	0.00	
35	35	0	364.00	0.20	0.00		0.00	0.00	
36	36	1	374.40	0.20	0.00		0.00	0.00	
37	37	0	384.80	0.20	0.00		0.00	0.00	
38	38	1	395.20	0.20	0.00		0.00	0.00	
39	39	0	405.60	0.20	0.00		0.00	0.00	
40	40	1	416.00	0.20	0.00		0.00	0.00	

64	29	24	37 17	1.68	0.00	0.00	1.14	1.93
65	26	25	382 09	9.09	0.00	0.00	1.74	2.43
66	25	24	385 01	9.20	0.00	0.00	1.14	1.98
67	24	23	391 13	9.22	0.00	0.00	1.41	2.14
68	22	21	3 07	0.03	0.00	0.00	0.01	0.01
69	27	21	1 47	0.02	0.00	0.00	0.01	0.01
70	22	21	-13 20	0.02	0.00	0.00	0.17	0.01
71	22	21	-23 48	0.02	0.00	0.00	0.16	0.01
72	23	22	72 17	0.03	0.00	0.00	0.30	0.01
73	23	21	-14 05	0.03	0.00	0.00	0.17	0.01
74	41	24	-34 63	0.09	0.00	0.00	1.41	0.21
75	31	29	2472 04	1.67	0.00	0.00	2.99	1.34
76	40	40	23 71	0.01	0.00	0.00	0.16	0.01
77	43	42	-53 51	0.02	0.00	0.00	0.23	0.01
78	42	41	12 26	0.02	0.00	0.00	0.14	0.01
79	32	43	23 70	0.03	0.00	0.00	0.24	0.01
80	44	43	-21 03	0.05	0.00	0.00	0.35	0.01
81	44	43	-24 21	0.06	0.00	0.00	0.27	0.01
82	48	49	-33 95	0.09	0.00	0.00	0.36	0.01
83	40	38	-144 38	0.79	0.00	0.00	1.03	0.69
84	39	26	274 76	0.50	0.00	0.00	2.71	2.05
85	38	27	117 69	0.20	0.00	0.00	0.71	0.32
86	14	37	-128 88	0.28	0.00	0.00	0.46	0.15
87	18	24	-43 56	0.77	0.00	0.00	0.67	0.44
88	14	25	-32 84	0.16	0.00	0.00	0.36	0.01
89	12	26	-24 41	0.91	0.00	0.00	1.00	0.43
90	11	29	-238 29	2.85	0.00	0.00	2.51	2.69
91	12	31	140 81	0.37	0.00	0.00	0.95	0.50
92	10	49	-745 01	1.09	0.00	0.00	1.59	1.43
93	47	45	-99 83	0.02	0.00	0.00	0.24	0.01
94	44	44	-12 16	0.02	0.00	0.00	0.19	0.01
95	44	47	-49 47	0.15	0.00	0.00	0.22	0.10
96	44	51	28 14	0.14	0.00	0.00	0.23	0.06
97	65	44	-35 04	0.12	0.00	0.00	0.23	0.01
98	74	74	24 80	0.41	0.00	0.00	0.33	0.25
99	74	49	-38 80	0.24	0.00	0.00	0.21	0.02
100	40	49	121 19	0.12	0.00	0.00	0.79	0.41
101	62	45	-61 92	0.18	0.00	0.00	0.33	0.18
102	44	62	-102 43	1.10	0.00	0.00	1.13	1.55
103	46	67	24 97	0.09	0.00	0.00	0.48	0.07
104	44	67	228 07	0.40	0.00	0.00	1.10	0.68
105	45	68	-79 70	0.04	0.00	0.00	0.23	0.01
106	66	67	-64 53	0.02	0.00	0.00	0.20	0.01
107	69	73	130 12	0.41	0.00	0.00	1.16	0.89
108	73	78	-106 27	0.13	0.00	0.00	0.71	0.30
109	75	124	-95 47	0.06	0.00	0.00	1.72	1.91
110	76	124	-78 41	0.03	0.00	0.00	0.45	0.21
111	127	124	146 16	0.24	0.00	0.00	1.68	0.57
112	123	124	38 60	0.11	0.00	0.00	0.32	0.21
113	126	74	-76 14	1.77	0.00	0.00	0.89	1.32
114	75	74	-71 98	0.12	0.00	0.00	0.42	0.22
115	74	77	-123 13	1.19	0.00	0.00	1.40	1.64
116	77	97	-418 19	1.89	0.00	0.00	1.71	1.99
117	77	78	-225 19	2.07	0.00	0.00	2.18	4.51
118	78	68	-233 08	0.22	0.00	0.00	0.44	0.27
119	67	68	-221 40	0.30	0.00	0.00	0.91	0.67
120	64	62	-128 79	1.27	0.00	0.00	1.19	2.01
121	66	63	-700 27	1.06	0.00	0.00	2.24	2.44
122	64	69	334 02	0.64	0.00	0.00	1.29	1.10
123	69	59	93 21	1.89	0.00	0.00	0.02	1.03
124	67	61	-624 73	1.27	0.00	0.00	2.49	3.40
125	61	62	130 42	1.05	0.00	0.00	1.40	1.27
126	61	62	877 25	1.04	0.00	0.00	1.66	1.44
127	40	40	224 69	0.13	0.00	0.00	0.22	0.14
128	39	40	-201 19	4.33	0.00	0.00	2.19	4.67
129	40	41	127 48	0.02	0.00	0.00	0.38	0.10
130	57	69	67 01	0.16	0.00	0.00	0.71	0.88
131	47	47	63 01	1.42	0.00	0.00	0.71	0.88
132	58	58	245 19	0.75	0.00	0.00	1.43	1.18
133	58	51	-69 14	1.10	0.00	0.00	0.44	0.14
134	58	52	-549 74	2.22	0.00	0.00	2.22	1.10
135	55	30	-744 98	2.01	0.00	0.00	2.05	1.44
136	51	54	2198 49	2.85	0.00	0.00	3.51	2.49
137	53	54	-194 46	1.78	0.00	0.00	1.27	0.89
138	51	72	199 44	1.64	0.00	0.00	1.27	0.89
139	54	71	1898 41	2.61	0.00	0.00	2.19	1.25
140	71	72	107 21	0.14	0.00	0.00	0.72	0.37
141	72	80	209 47	1.28	0.00	0.00	0.84	0.27
142	71	81	1089 22	1.81	0.00	0.00	1.21	0.82
143	66	68	-243 49	1.94	0.00	0.00	1.28	1.44
144	62	58	-314 72	1.78	0.00	0.00	1.29	1.19
145	70	59	-24 41	0.23	0.00	0.00	0.22	0.29
146	70	69	-128 94	1.30	0.00	0.00	1.47	1.23
147	69	67	67 28	1.12	0.00	0.00	0.90	1.00
148	78	79	181 49	1.27	0.00	0.00	1.21	1.23
149	78	127	-262 44	1.19	0.00	0.00	0.78	0.30
150	77	122	630 02	1.62	0.00	0.00	1.71	1.85
151	122	123	-123 98	1.83	0.00	0.00	1.27	1.19
152	123	120	-147 40	1.94	0.00	0.00	1.47	0.23
153	125	122	91 74	2.71	0.00	0.00	1.04	1.05
154	126	128	-169 16	0.23	0.00	0.00	0.72	1.48
155	124	127	689 14	2.12	0.00	0.00	1.72	1.61
156	127	124	749 88	1.12	0.00	0.00	1.24	2.26

143	117	80	-179.82	1.01	0.00	0.00	2.03	1.39
144	117	81	-42.26	1.23	1.00	0.00	0.46	0.26
145	81	81	107.58	1.49	1.00	0.00	1.23	0.30
146	81	70	-182.17	1.41	1.00	0.00	0.57	0.60
147	81	82	217.48	1.06	1.00	0.00	1.47	0.60
148	112	82	-232.92	1.39	1.00	0.00	1.39	1.30
149	82	83	101.16	1.43	1.00	0.00	1.33	0.84
150	100	83	-94.09	1.80	1.00	0.00	1.59	1.04
151	84	83	-12.77	1.00	1.00	0.00	0.08	0.01
152	84	84	-81.76	1.00	1.00	0.00	0.95	0.21
153	84	84	84.27	1.00	1.00	0.00	0.35	0.09
154	107	84	-85.92	1.00	1.00	0.00	1.59	1.04
155	100	85	-96.25	1.90	1.00	0.00	1.09	1.04
156	100	86	-178.89	1.61	1.00	0.00	1.14	0.81
157	86	88	-144.82	1.11	1.00	0.00	1.06	0.71
158	87	88	376.42	1.19	1.00	0.00	2.60	1.22
159	87	104	1512.80	1.90	1.00	0.00	2.61	1.34
160	89	89	250.40	1.32	1.00	0.00	1.30	1.09
161	89	90	-10.19	1.01	1.00	0.00	0.44	0.19
162	103	90	-299.27	1.22	1.00	0.00	1.72	1.73
163	88	91	246.99	1.11	1.00	0.00	2.00	0.90
164	86	91	364.84	1.58	1.00	0.00	3.31	3.63
165	87	100	663.48	1.42	1.00	0.00	1.39	0.61
166	91	95	867.72	1.94	1.00	0.00	3.62	0.99
167	98	22	844.47	14.01	1.00	0.00	6.78	80.92
168	93	93	771.87	43.37	1.00	0.00	8.76	48.27
169	93	94	-237.12	4.76	1.00	0.00	3.38	0.46
170	93	102	-435.17	9.12	1.00	0.00	8.62	21.70
171	94	109	-744.26	2.12	1.00	0.00	4.75	11.37
172	94	95	444.84	1.22	1.00	0.00	0.85	0.61
173	96	108	42.83	1.38	1.00	0.00	0.52	0.19
174	95	98	-488.97	2.53	1.00	0.00	3.18	0.21
175	97	107	227.11	1.11	1.00	0.00	1.69	1.29
176	97	98	-914.25	0.67	1.00	0.00	8.00	16.84
177	98	101	-1729.08	4.44	1.00	0.00	1.60	3.18
178	98	99	318.24	0.86	1.00	0.00	3.08	2.87
179	102	94	-92.12	0.21	1.00	0.00	0.95	0.39
180	99	104	47.36	0.82	1.00	0.00	1.99	0.47
181	95	100	142.16	0.21	1.00	0.00	0.56	0.84
182	100	105	144.04	0.21	1.00	0.00	0.03	0.36
183	101	100	-10.01	0.20	1.00	0.00	0.41	0.17
184	101	102	-13.72	0.20	1.00	0.00	0.31	0.09
185	101	103	67.43	0.17	1.00	0.00	0.54	0.32
186	103	100	-1449.01	0.80	1.00	0.00	3.04	2.99
187	105	104	-43.46	0.20	1.00	0.00	0.11	0.01
188	105	112	149.00	0.11	1.00	0.00	0.39	0.04
189	104	109	83.97	0.21	1.00	0.00	0.73	0.90
190	109	102	193.94	0.60	1.00	0.00	1.24	0.94
191	107	108	14.62	0.20	1.00	0.00	3.00	0.01
192	109	100	-113.54	0.43	1.00	0.00	8.06	0.67
193	108	107	-42.12	0.30	1.00	0.00	0.48	0.48
194	108	107	-93.27	0.12	1.00	0.00	3.58	2.27
195	108	107	5.37	0.20	1.00	0.00	3.03	0.00
196	107	108	-34.39	0.27	1.00	0.00	3.23	2.29
197	109	108	-43.22	0.23	1.00	0.00	3.88	3.01
198	109	107	68.67	0.23	1.00	0.00	0.30	0.21
199	108	105	-32.51	0.24	1.00	0.00	3.37	0.26
200	109	110	-30.70	0.21	1.00	0.00	8.13	0.03
201	109	106	70.24	0.21	1.00	0.00	0.18	0.03
202	109	106	-12.89	0.20	1.00	0.00	3.37	0.30
203	110	111	-94.16	0.24	1.00	0.00	1.31	0.16
204	110	111	-2.93	0.23	1.00	0.00	8.02	2.21
205	114	111	-141.86	0.28	1.00	0.00	0.61	0.12
206	112	111	277.48	0.27	1.00	0.00	1.13	0.93
207	112	110	210.12	0.14	1.00	0.00	0.48	0.08
208	111	110	48.84	0.13	1.00	0.00	0.84	0.28
209	114	111	133.89	0.13	1.00	0.00	0.63	0.31
210	111	111	-37.14	0.21	1.00	0.00	0.43	0.24
211	113	109	39.13	0.23	1.00	0.00	0.19	0.23
212	114	100	89.78	0.17	1.00	0.00	3.87	0.62
213	113	111	-119.43	0.16	1.00	0.00	0.89	0.04
214	113	109	230.59	1.51	1.00	0.00	1.44	2.79
215	113	111	-23.22	0.24	1.00	0.00	3.31	0.12
216	118	114	40.88	0.24	1.00	0.00	0.74	0.20
217	101	115	-42.45	0.19	1.00	0.00	3.48	0.43
218	110	111	-92.67	0.24	1.00	0.00	0.60	0.08
219	110	114	-87.84	0.71	1.00	0.00	1.60	0.71
220	116	115	119.49	0.49	1.00	0.00	1.71	0.61
221	110	108	141.51	0.79	1.00	0.00	0.90	0.87
222	116	117	-2.12	4.44	1.00	0.00	2.60	0.18
223	116	110	41.70	0.28	1.00	0.00	1.78	0.23
224	110	107	872.62	0.72	1.00	0.00	1.38	0.50
225	119	104	101.26	0.72	1.00	0.00	2.61	0.53
226	119	110	320.22	0.19	1.00	0.00	0.10	4.89
227	120	105	1649.97	1.19	1.00	0.00	4.37	9.18
228	120	121	222.02	2.53	1.00	0.00	0.68	0.04
229-73	120	08	-2011.23	0.88	1.00	0.00	0.07	20.13
230	120	127	194.41	1.81	1.00	0.00	1.40	1.81
231	127	141	216.88	11.37	1.00	0.00	2.71	10.11
232	141	141	-219.48	1.83	1.00	0.00	3.80	0.14
233	141	141	-74.94	0.21	1.00	0.00	1.20	0.11
234	141	141	-46.74	1.21	1.00	0.00	0.60	0.11
235	141	141	-145.13	1.00	1.00	0.00	0.51	0.31
236	141	141	94.00	1.00	1.00	0.00	1.28	0.18

202	145	146	242 88	1 83	0 02	0 00	1 54	1 54
203	146	147	242 81	0 35	0 02	0 01	1 10	4 84
204	147	148	176 24	0 72	0 02	0 01	1 32	1 45
205	148	149	323 23	0 86	0 02	0 01	1 32	1 24
206	149	150	-14 34	0 21	0 02	0 01	1 04	1 01
207	150	151	-122 46	0 26	0 02	0 01	1 04	1 04
208	151	152	7 72	0 10	0 02	0 01	1 04	0 30
209	152	153	7 17	0 22	0 02	0 01	1 04	0 01
210	153	154	-43 29	0 29	0 02	0 01	1 04	0 26
211	154	155	27 72	0 11	0 02	0 01	1 10	0 01
212	155	156	-32 61	0 06	0 02	0 01	1 17	0 14
213	156	157	126 25	0 12	0 02	0 01	1 40	0 12
214	157	158	189 61	0 29	0 02	0 01	1 21	0 00
215	158	159	323 24	0 21	0 02	0 01	1 30	1 01
216	159	160	144 25	1 20	0 02	0 01	1 44	2 21
217	160	161	-124 29	0 42	0 02	0 01	2 42	6 12
218	161	162	-88 23	0 77	0 02	0 01	6 12	18 29
219	162	163	282 84	2 20	0 02	0 01	2 21	3 48
220	163	164	-186 33	0 57	0 02	0 01	1 21	1 26
221	164	165	-149 73	2 46	0 02	0 01	1 72	2 37
222	165	166	159 20	0 28	0 02	0 01	0 26	0 29
223	166	167	-123 42	1 21	0 02	0 01	1 29	1 01
224	167	168	-28 13	0 22	0 02	0 01	2 22	0 24
225	168	169	47 29	0 32	0 02	0 01	0 41	0 12
226	169	170	87 33	0 15	0 02	0 01	0 12	0 08
227	170	171	49 10	0 17	0 02	0 01	0 22	0 29
228	171	172	229 79	0 25	0 02	0 01	0 22	0 22
229	172	173	182 26	0 33	0 02	0 01	0 17	1 21
230	173	174	-22 77	0 22	0 02	0 01	0 15	0 24
231	174	175	90 61	0 28	0 02	0 01	0 19	0 42
232	175	176	-61 19	0 07	0 02	0 01	0 43	0 16
233	176	177	-23 92	0 01	0 02	0 01	0 20	0 11
234	177	178	23 87	0 02	0 02	0 01	0 16	0 24
235	178	179	-67 29	0 09	0 02	0 01	0 16	0 10
236	179	180	-69 02	2 07	0 02	0 01	0 44	0 28
237	180	181	-14 71	0 02	0 02	0 01	0 24	0 02
238	181	182	-28 17	0 01	0 02	0 01	0 18	0 08
239	182	183	-82 45	0 09	0 02	0 01	0 21	0 24
240	183	184	26 48	0 21	0 02	0 01	0 18	0 22
241	184	185	-188 20	0 21	0 02	0 01	0 48	0 57
242	185	186	-229 29	0 28	0 02	0 01	1 29	1 21
243	186	187	48 54	0 02	0 02	0 01	1 20	0 04
244	187	188	2250 64	1 64	0 02	0 01	2 29	2 72
245	188	189	-6 54	0 20	0 02	0 01	1 07	1 01
246	189	190	-28 81	1 01	0 02	0 01	1 12	2 02
247	190	191	227 29	1 20	0 02	0 01	1 64	2 92
248	191	192	-18 79	0 02	0 02	0 01	0 21	0 09
249	192	193	144 01	0 14	0 02	0 01	2 22	1 00
250	193	194	-181 12	0 08	0 02	0 01	1 41	1 28
251	194	195	-8 28	0 04	0 02	0 01	1 01	0 02
252	195	196	23 27	0 02	0 02	0 01	1 07	1 02
253	196	197	69 44	0 08	0 02	0 01	0 44	0 26
254	197	198	123 20	0 24	0 02	0 01	2 52	0 21
255	198	199	41 20	0 21	0 02	0 01	0 11	0 02
256	199	200	157 48	0 16	0 02	0 01	1 11	1 18
257	200	201	72 20	0 20	0 02	0 01	0 04	1 24
258	201	202	448 29	0 20	0 02	0 01	2 71	2 42
259	202	203	721 21	0 66	0 02	0 01	1 61	1 22
260	203	204	246 11	0 08	0 02	0 01	0 72	0 21
261	204	205	-18 42	0 00	0 02	0 01	0 11	0 01
262	205	206	-89 62	0 01	0 02	0 01	0 21	0 08
263	206	207	-1 71	0 20	0 02	0 01	0 02	0 02
264	207	208	74 73	0 01	0 02	0 01	0 21	0 23
265	208	209	144 17	0 02	0 02	0 01	0 42	0 22
266	209	210	-77 22	0 06	0 02	0 01	0 04	0 24
267	210	211	178 77	0 34	0 02	0 01	0 51	0 17
268	211	212	22 26	0 00	0 02	0 01	0 12	0 19
269	212	213	158 05	0 21	0 02	0 01	0 44	0 12
270	213	214	19 91	0 01	0 02	0 01	0 12	0 10
271	214	215	192 71	0 02	0 02	0 01	0 73	0 47
272	215	216	-178 45	0 01	0 02	0 01	0 14	0 07
273	216	217	647 27	0 00	0 02	0 01	1 45	0 05
274	217	218	-647 27	0 02	0 02	0 01	1 77	0 05
275	218	219	-749 22	0 01	0 02	0 01	1 47	0 72
276	219	220	-1418 40	0 26	0 02	0 01	2 12	1 07
277	220	221	-211 61	0 44	0 02	0 01	0 97	0 67
278	221	222	114 24	0 42	0 02	0 01	0 79	0 58
279	222	223	-7 21	0 02	0 02	0 01	0 02	0 02
280	223	224	-47 44	0 01	0 02	0 01	0 29	0 24
281	224	225	0 22	0 02	0 02	0 01	0 27	0 02
282	225	226	0 02	0 02	0 02	0 01	0 28	0 22
283	226	227	0 02	0 02	0 02	0 01	0 28	0 22
284	227	228	219 97	1 02	0 02	0 01	1 13	0 17
285	228	229	271 82	0 29	0 02	0 01	1 11	0 98
286	229	230	122 09	0 21	0 02	0 01	0 74	0 72
287	230	231	147 25	0 20	0 02	0 01	0 94	1 04
288	231	232	34 79	0 02	0 02	0 01	0 22	0 07
289	232	233	156 09	0 20	0 02	0 01	1 07	1 14
290	233	234	111 24	0 21	0 02	0 01	0 71	0 27
291	234	235	166 98	0 29	0 02	0 01	1 07	1 11
292	235	236	122 09	1 11	0 02	0 01	2 04	4 48
293	236	237	-94 74	0 29	0 02	0 01	0 16	0 18
294	237	238	182 01	1 48	0 02	0 01	1 15	1 54
295	238	239	84 22	1 44	0 02	0 01	0 98	1 13
296	239	240	40 48	0 09	0 02	0 01	0 79	0 07

241	202	244	-155.42	0.06	1.00	0.00	0.00	0.00
242	203	245	170.84	0.11	1.00	1.00	0.72	0.25
243	204	246	34.16	0.13	1.00	0.00	0.41	0.12
244	205	247	114.97	1.15	1.00	0.00	0.73	0.16
245	206	248	1.17	1.00	0.00	0.00	0.04	0.00
246	207	249	46.20	1.09	1.00	0.00	0.64	0.14
247	208	250	60.06	0.21	1.00	0.00	0.73	0.20
248	209	251	46.24	0.17	1.00	0.00	0.50	0.25
249	210	252	114.71	0.24	1.00	0.00	0.76	0.18
250	211	253	87.40	0.17	1.00	0.00	0.56	0.22
251	212	254	263.01	1.11	1.00	1.00	1.56	1.44
252	213	255	-320.00	0.24	0.00	0.00	0.68	0.16
253	214	256	-42.05	0.08	1.00	1.00	0.81	0.20
254	215	257	-42.04	0.04	1.00	0.00	0.37	0.06
255	216	258	42.22	0.19	0.00	1.00	1.48	1.42
256	217	259	16.27	0.07	0.00	1.00	1.17	1.24
257	218	260	-31.27	0.01	0.00	1.00	0.30	0.03
258	219	261	24.44	0.02	0.00	0.00	0.14	0.02
259	220	262	-16.03	0.02	0.00	0.00	0.09	0.01
260	221	263	-23.27	0.04	0.00	0.00	0.28	0.09
261	222	264	-34.04	0.13	0.00	0.00	0.28	0.17
262	223	265	17.19	0.06	0.00	0.00	0.21	0.08
263	224	266	-20.02	0.01	0.00	0.00	0.14	0.03
264	225	267	-292.91	0.13	0.00	1.00	2.74	2.19
265	226	268	-119.22	0.15	0.00	0.00	2.74	2.26
266	227	269	-18.77	0.06	0.00	0.00	0.04	0.02
267	228	270	144.42	0.08	0.00	0.00	0.30	0.03
268	229	271	290.40	0.01	0.00	0.00	0.43	0.07
269	230	272	71.03	0.04	1.00	0.00	0.66	0.27
270	231	273	217.61	0.01	1.00	1.00	0.50	0.08
271	232	274	117.30	0.00	1.00	0.00	0.24	0.02
272	233	275	-446.03	0.17	1.00	0.00	1.71	1.15
273	234	276	-200.49	0.00	1.00	0.00	0.33	0.04
274	235	277	0.00	0.00	1.00	0.00	0.00	0.00
275	236	278	-12.00	0.01	1.00	0.00	0.37	0.14
276	237	279	-60.20	0.02	1.00	0.00	0.10	0.01
277	238	280	-107.09	0.01	1.00	0.00	0.77	0.28
278	239	281	-614.04	0.20	1.00	0.00	1.61	0.29
279	240	282	-722.17	1.23	1.00	0.00	1.15	0.37
280	241	283	-088.76	1.04	1.00	0.00	1.83	0.62
281	242	284	217.60	0.13	1.00	0.00	0.50	0.00
282	243	285	-20.04	0.00	1.00	0.00	0.27	0.09
283	244	286	7.20	0.01	1.00	0.00	0.00	0.02
284	245	287	11.41	0.03	0.00	0.00	0.13	0.04
285	246	288	10.00	0.03	0.00	0.00	0.21	0.09
286	247	289	-10.00	0.01	0.00	0.00	0.12	0.02
287	248	290	-22.02	0.00	0.00	0.00	0.13	0.01
288	249	291	-10.40	0.02	0.00	0.00	0.10	0.03
289	250	292	2.27	0.00	0.00	0.00	0.01	0.00
290	251	293	-22.27	0.02	1.00	0.00	0.14	0.03
291	252	294	0.00	0.00	1.00	0.00	0.00	0.00
292	253	295	41.22	0.00	1.00	0.00	0.47	0.40
293	254	296	120.00	1.00	1.00	0.00	1.42	1.14
294	255	297	140.13	2.79	1.00	0.00	1.68	0.82
295	256	298	7.00	0.01	1.00	0.00	0.09	0.02
296	257	299	-22.20	0.00	1.00	0.00	0.17	0.21
297	258	300	22.20	0.01	1.00	0.00	0.10	0.02
298	259	301	-10.70	0.01	1.00	0.00	0.25	0.21
299	260	302	101.72	0.05	0.00	0.00	0.42	0.15
300	261	303	-72.00	0.08	0.00	0.00	0.47	0.20
301	262	304	-60.00	0.11	0.00	0.00	1.42	0.23
302	263	305	21.01	0.14	0.00	0.00	0.50	0.67
303	264	306	-10.70	0.08	0.00	1.00	0.22	0.23
304	265	307	16.00	0.07	0.00	1.00	0.19	0.08
305	266	308	10.00	0.01	0.00	0.00	0.10	0.20
306	267	309	10.45	0.01	0.00	0.00	0.40	0.14
307	268	310	70.00	0.13	1.00	0.00	0.12	0.09
308	269	311	16.14	0.08	1.00	0.00	0.10	0.07
309	270	312	0.00	0.01	1.00	0.00	0.00	0.01
310	271	313	6.44	0.01	1.00	0.00	0.07	0.01
311	272	314	-0.00	0.00	1.00	0.00	0.01	0.01
312	273	315	1.20	0.00	1.00	0.00	0.01	0.02
313	274	316	0.79	0.00	1.00	0.00	0.01	0.02
314	275	317	0.06	0.00	1.00	0.00	0.01	0.02
315	276	318	1.78	0.00	1.00	0.00	0.01	0.02
316	277	319	-0.02	0.00	1.00	0.00	0.01	0.02
317	278	320	-3.98	0.00	1.00	0.00	0.01	0.02
318	279	321	-3.48	0.00	1.00	0.00	0.01	0.02
319	280	322	-7.13	0.00	1.00	0.00	0.01	0.02
320	281	323	-4.30	0.00	1.00	0.00	0.01	0.02
321	282	324	17.00	0.04	1.00	0.00	0.20	0.08
322	283	325	6.60	0.01	1.00	0.00	0.07	0.02
323	284	326	4.24	0.00	1.00	0.00	0.04	0.01
324	285	327	1.13	0.00	1.00	0.00	0.01	0.02
325	286	328	0.00	0.00	1.00	0.00	0.01	0.02
326	287	329	0.00	0.00	1.00	0.00	0.01	0.02
327	288	330	0.00	0.00	1.00	0.00	0.01	0.02
328	289	331	0.00	0.00	1.00	0.00	0.01	0.02
329	290	332	0.00	0.00	1.00	0.00	0.01	0.02
330	291	333	1.00	0.00	1.00	0.00	0.01	0.02
331	292	334	0.00	0.00	1.00	0.00	0.01	0.02
332	293	335	0.00	0.00	1.00	0.00	0.01	0.02
333	294	336	0.00	0.00	1.00	0.00	0.01	0.02
334	295	337	0.00	0.00	1.00	0.00	0.01	0.02
335	296	338	0.00	0.00	1.00	0.00	0.01	0.02
336	297	339	0.00	0.00	1.00	0.00	0.01	0.02
337	298	340	0.00	0.00	1.00	0.00	0.01	0.02
338	299	341	0.00	0.00	1.00	0.00	0.01	0.02
339	300	342	0.00	0.00	1.00	0.00	0.01	0.02
340	301	343	0.00	0.00	1.00	0.00	0.01	0.02
341	302	344	0.00	0.00	1.00	0.00	0.01	0.02

442	306	307	-6.05	0.02	0.00	0.00	0.00	0.00
443	308	308	22.88	0.02	0.00	0.00	0.00	0.00
444	309	309	-22.88	0.02	0.00	0.00	0.00	0.00
445	310	310	0.00	0.00	0.00	0.00	0.00	0.00
446	311	311	-6.05	0.02	0.00	0.00	0.00	0.00
447	312	312	-112.20	0.16	0.00	0.00	0.00	0.00
448	313	313	00.58	0.07	0.00	0.00	0.00	0.00
449	314	314	170.79	0.34	0.00	0.00	0.00	0.00
450	315	315	-69.88	0.00	0.00	0.00	0.00	0.00
451	316	316	72.83	0.07	0.00	0.00	0.00	0.00
452	317	317	-61.00	0.00	0.00	0.00	0.00	0.00
453	318	318	-11.31	0.00	0.00	0.00	0.00	0.00
454	319	319	-61.34	0.00	0.00	0.00	0.00	0.00
455	320	320	-129.07	0.00	0.00	0.00	0.00	0.00
456	321	321	-129.07	0.00	0.00	0.00	0.00	0.00
457	322	322	-196.97	0.27	0.00	0.00	0.00	0.00
458	323	323	-102.74	0.24	0.00	0.00	0.00	0.00
459	324	324	-66.04	0.17	0.00	0.00	0.00	0.00
460	325	325	-32.01	0.00	0.00	0.00	0.00	0.00
461	326	326	-7.14	0.00	0.00	0.00	0.00	0.00
462	327	327	-40.00	0.00	0.00	0.00	0.00	0.00
463	328	328	89.12	0.54	0.00	0.00	0.00	0.00
464	329	329	81.27	0.00	0.00	0.00	0.00	0.00
465	330	330	33.00	0.00	0.00	0.00	0.00	0.00
466	331	331	16.00	0.00	0.00	0.00	0.00	0.00
467	332	332	94.23	0.41	0.00	0.00	0.00	0.00
468	333	333	16.30	0.00	0.00	0.00	0.00	0.00
469	334	334	-16.00	0.00	0.00	0.00	0.00	0.00
470	335	335	30.00	0.00	0.00	0.00	0.00	0.00
471	336	336	-78.30	0.17	0.00	0.00	0.00	0.00
472	337	337	-80.13	0.21	0.00	0.00	0.00	0.00
473	338	338	-289.27	0.37	0.00	0.00	0.00	0.00
474	339	339	130.36	0.29	0.00	0.00	0.00	0.00
475	340	340	101.77	0.61	0.00	0.00	0.00	0.00
476	341	341	103.77	0.60	0.00	0.00	0.00	0.00
477	342	342	-127.08	0.12	0.00	0.00	0.00	0.00
478	343	343	077.88	0.64	0.00	0.00	0.00	0.00
479	344	344	-485.00	1.28	0.00	0.00	0.00	0.00
480	345	345	-8.26	0.00	0.00	0.00	0.00	0.00
481	346	346	-6.40	0.00	0.00	0.00	0.00	0.00
482	347	347	-17.93	0.00	0.00	0.00	0.00	0.00
483	348	348	-33.96	0.00	0.00	0.00	0.00	0.00
484	349	349	1.36	0.00	0.00	0.00	0.00	0.00
485	350	350	-8.21	0.00	0.00	0.00	0.00	0.00
486	351	351	-1.02	0.00	0.00	0.00	0.00	0.00
487	352	352	-0.00	0.00	0.00	0.00	0.00	0.00
488	353	353	-31.08	0.22	0.00	0.00	0.00	0.00
489	354	354	-8.07	0.00	0.00	0.00	0.00	0.00
490	355	355	-17.80	0.21	0.00	0.00	0.00	0.00
491	356	356	-126.33	0.50	0.00	0.00	0.00	0.00
492	357	357	-309.40	0.47	0.00	0.00	0.00	0.00
493	358	358	227.79	0.06	0.00	0.00	0.00	0.00
494	359	359	71.93	0.24	0.00	0.00	0.00	0.00
495	360	360	-08.37	0.02	0.00	0.00	0.00	0.00
496	361	361	247.74	0.69	0.00	0.00	0.00	0.00
497	362	362	-62.32	0.40	0.00	0.00	0.00	0.00
498	363	363	-531.48	0.04	0.00	0.00	0.00	0.00
499	364	364	-509.49	0.39	0.00	0.00	0.00	0.00
500	365	365	103.64	0.09	0.00	0.00	0.00	0.00
501	366	366	-78.61	0.02	0.00	0.00	0.00	0.00
502	367	367	20.96	0.00	0.00	0.00	0.00	0.00
503	368	368	-40.17	0.33	0.00	0.00	0.00	0.00
504	369	369	-179.41	0.44	0.00	0.00	0.00	0.00
505	370	370	-110.20	0.66	0.00	0.00	0.00	0.00
506	371	371	-180.22	0.58	0.00	0.00	0.00	0.00
507	372	372	-132.43	0.60	0.00	0.00	0.00	0.00
508	373	373	-123.27	0.39	0.00	0.00	0.00	0.00
509	374	374	-31.67	0.00	0.00	0.00	0.00	0.00
510	375	375	-21.73	0.00	0.00	0.00	0.00	0.00
511	376	376	-16.16	0.08	0.00	0.00	0.00	0.00
512	377	377	-60.05	0.16	0.00	0.00	0.00	0.00
513	378	378	-100.02	0.10	0.00	0.00	0.00	0.00
514	379	379	167.26	0.60	0.00	0.00	0.00	0.00
515	380	380	-112.00	0.54	0.00	0.00	0.00	0.00
516	381	381	-124.90	0.00	0.00	0.00	0.00	0.00
517	382	382	-130.20	0.70	0.00	0.00	0.00	0.00
518	383	383	-120.02	0.44	0.00	0.00	0.00	0.00
519	384	384	-282.30	0.02	0.00	0.00	0.00	0.00
520	385	385	-81.40	0.19	0.00	0.00	0.00	0.00
521	386	386	-11.00	0.00	0.00	0.00	0.00	0.00
522	387	387	-120.00	0.00	0.00	0.00	0.00	0.00
523	388	388	-12.33	0.00	0.00	0.00	0.00	0.00
524	389	389	0.00	0.00	0.00	0.00	0.00	0.00
525	390	390	60.00	0.00	0.00	0.00	0.00	0.00
526	391	391	70.00	0.00	0.00	0.00	0.00	0.00
527	392	392	-03.00	0.00	0.00	0.00	0.00	0.00
528	393	393	-172.00	0.00	0.00	0.00	0.00	0.00
529	394	394	-26.00	0.00	0.00	0.00	0.00	0.00
530	395	395	-3.00	0.00	0.00	0.00	0.00	0.00
531	396	396	-16.43	0.00	0.00	0.00	0.00	0.00
532	397	397	-77.00	0.10	0.00	0.00	0.00	0.00
533	398	398	-26.75	0.00	0.00	0.00	0.00	0.00
534	399	399	-70.30	0.00	0.00	0.00	0.00	0.00
535	400	400	-60.33	0.10	0.00	0.00	0.00	0.00

570	304	305	18.28	0.03	0.00	0.00	0.10	0.00
571	307	305	85.01	0.06	0.00	0.00	0.02	0.28
572	304	307	-9.02	0.01	0.00	0.00	0.11	0.03
573	308	307	122.74	0.05	0.00	0.00	1.71	0.38
574	324	308	-46.14	0.01	0.00	0.00	0.29	0.07
575	327	324	-17.37	0.03	0.00	0.00	0.21	0.04
576	327	328	8.21	0.00	0.00	0.00	0.06	0.00
577	328	326	-22.72	0.03	0.00	0.00	0.20	0.07
578	328	306	21.02	0.03	0.00	0.00	0.23	0.07
579	333	308	157.02	0.02	0.00	0.00	0.64	0.33
580	324	301	22.32	0.03	0.00	0.00	0.20	0.07
581	304	294	-14.05	0.02	0.00	0.00	0.19	0.04
582	323	290	-4.01	0.00	0.00	0.00	0.05	0.00
583	321	323	-89.11	0.03	0.00	0.00	0.11	0.30
584	301	298	27.02	0.05	0.00	0.00	0.09	0.10
585	301	290	21.67	0.06	0.00	0.00	0.21	0.07
586	302	297	11.25	0.03	0.00	0.00	0.14	0.03
587	322	320	19.71	0.02	0.00	0.00	0.13	0.02
588	329	321	-9.05	0.02	0.00	0.00	0.11	0.02
589	329	320	-8.25	0.00	0.00	0.00	0.06	0.00
590	330	301	-9.74	0.01	0.00	0.00	0.11	0.02
591	307	300	-12.49	0.01	0.00	0.00	0.13	0.02
592	308	299	-1.04	0.00	0.00	0.00	0.02	0.00
593	229	290	-0.32	0.00	0.00	0.00	0.07	0.01
594	301	302	20.54	0.02	0.00	0.00	0.04	0.10
595	302	321	10.43	0.01	0.00	0.00	0.16	0.03
596	311	324	-30.85	0.02	0.00	0.00	0.35	0.13
597-PC	322	CC	-1.09	0.00	0.00	0.00	0.01	0.00
598	301	322	-1.09	0.00	0.00	0.00	0.01	0.00
599-PB	323	DD	-114.91	0.02	0.00	0.00	1.29	1.10
600-NK	307	309						
601	323	320	157.24	0.03	0.00	0.00	0.64	0.33
602	328	297	157.24	0.03	0.00	0.00	0.64	0.33
603	327	326	-207.78	0.03	0.00	0.00	2.36	7.00
604	324	325	-8.26	0.01	0.00	0.00	0.09	0.04
605	326	327	14.43	0.01	0.00	0.00	0.04	0.02
606	325	326	-105.41	0.01	0.00	0.00	0.12	0.04
607	326	309	-304.38	0.02	0.00	0.00	0.47	0.15
608	327	329	-442.92	0.01	0.00	0.00	0.03	0.02
609-NK	320	307						
610	343	329	221.45	1.27	0.00	0.00	2.01	0.00
611	329	342	-221.45	1.26	0.00	0.00	2.01	0.00
612	340	341	-221.40	1.00	0.00	0.00	2.01	0.00
613	341	341	-442.90	0.00	0.00	0.00	2.01	0.00
614	341	342	221.45	1.27	0.00	0.00	2.01	0.00
615	342	344	-101.47	1.49	0.00	0.00	1.03	0.00
616-NK	344	340						
617	324	345	0.30	0.00	0.00	0.00	0.00	0.00
618	343	345	-7.45	0.00	0.00	0.00	0.03	0.00
619	344	346	-169.03	0.02	0.00	0.00	1.93	0.49
620	344	347	17.28	0.00	0.00	0.00	0.27	0.10
621	343	348	-201.43	0.00	0.00	0.00	2.19	10.00
622	347	348	17.28	0.00	0.00	0.00	0.27	0.10
623	346	349	-9.57	0.00	0.00	0.00	0.08	0.00
624	349	349	-488.37	1.27	0.00	0.00	1.00	0.24
625	340	351	-244.41	1.00	0.00	0.00	1.58	2.44
626	351	352	-110.30	0.20	0.00	0.00	0.71	0.61
627	351	352	-137.42	0.20	0.00	0.00	0.00	0.22
628	352	353	188.44	0.72	0.00	0.00	1.22	2.27
629	353	354	88.04	0.29	0.00	0.00	0.62	0.49
630	346	354	-220.20	1.14	0.00	0.00	1.47	2.29
631	354	355	-190.44	0.66	0.00	0.00	1.28	1.76
632	355	357	-201.20	0.76	0.00	0.00	1.28	1.89
633	357	359	-444.02	2.27	0.00	0.00	2.64	0.01
634	358	357	-243.68	0.60	0.00	0.00	1.94	2.44
635	359	355	410.28	1.00	0.00	0.00	1.60	1.92
636	360	355	607.27	1.75	0.00	0.00	2.81	0.05
637	360	361	-277.01	2.51	0.00	0.00	1.77	2.28
638	361	362	-277.42	0.77	0.00	0.00	1.77	2.28
639-NK	361	362						
640	360	363	-741.04	1.78	0.00	0.00	3.23	1.76
641	360	364	-436.12	0.66	0.00	0.00	4.98	17.18
642	360	364	6.00	0.00	0.00	0.00	0.04	0.00
643-PC	368	37	-445.18	0.73	0.00	0.00	1.02	1.49
644-PC	363	37	-2018.44	0.31	0.00	0.00	0.16	10.37
645	363	372	1018.44	0.49	0.00	0.00	0.16	10.37
646	363	375	0.00	0.00	0.00	0.00	0.30	0.00
647-NK	364	375						
648	364	376	189.24	0.01	0.00	0.00	0.48	0.00
649	365	376	-189.24	0.17	0.00	0.00	0.48	0.00
650	366	376	189.24	0.03	0.00	0.00	0.48	0.00
651	366	377	127.28	0.04	0.00	0.00	0.52	0.21
652	367	377	25.74	0.10	0.00	0.00	0.49	0.00
653	367	378	10.74	0.01	0.00	0.00	0.12	0.00
654	369	380	-18.41	0.00	0.00	0.00	0.21	0.00
655	369	372	-18.41	0.00	0.00	0.00	0.16	0.00
656	370	371	-11.75	0.01	0.00	0.00	0.13	0.00
657	370	371	12.04	0.01	0.00	0.00	0.13	0.00
658	370	376	-5.10	0.00	0.00	0.00	0.03	0.00
659	370	377	5.44	0.00	0.00	0.00	0.03	0.00
660	377	376	-4.10	0.00	0.00	0.00	0.03	0.00
661	377	373	1.01	0.00	0.00	0.00	0.03	0.00
662	375	375	-10.47	0.00	0.00	0.00	0.12	0.00
663	378	374	24.41	0.00	0.00	0.00	0.11	0.00
664	378	372	-40.04	0.00	0.00	0.00	0.26	0.04
665	37	373	1.51	0.00	0.00	0.00	0.04	0.00
666	371	372	-7.08	0.01	0.00	0.00	0.04	0.00

880-PC	300	60	-192.94	3.12	0.00	0.00	0.00	0.12
881	420	610	1.00	1.00	1.00	1.00	1.00	1.00
814-PC	61	120	-171.74	3.70	0.00	0.00	0.00	1.14
817-KHP	822	831						
818-KHP	822	831						
819-72	822	71	334.11	3.00	3.00	0.00	0.34	1.00
820-72	822	77	-134.11	3.00	3.00	0.00	0.14	1.00
821	822	823	1.00	3.00	3.00	0.00	0.30	1.00
822-KHP	821	824						
823-KHP	823	824						
824-KHP	828	864						
825-KHP	823	844						
826-PC	828	826	0.00	0.00	0.00	0.00	0.00	0.00
827-KHP	826	819						
828-KHP	826	819						
829-KHP	824	819						
830-KHP	826	819						
831	827	720	0.00	3.00	0.00	0.00	0.00	0.00
832	820	700	-91.00	0.00	0.00	0.00	1.00	1.00
833-PC	700	LL	-91.00	0.00	0.00	0.00	1.00	1.00
834-PC	700	LL						
835-PC	701	333						
836-PC	701	MM	3.00	0.00	0.00	0.00	0.00	0.00

JUNCTION NODE RESULTS

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEMAND (GPM)	HYDRAULIC HEAD (FT)	JUNCTION ELEVATION (FT)	PRESSURE HEAD (PSI)	JUNCTION PRESSURE (PSI)
1		1.00	3000.45	3025.00	66.66	36.00
2		1.00	3000.41	3022.00	67.63	37.00
3		20.00	3000.21	3025.00	69.22	38.00
4		62.00	3000.77	3023.00	68.37	38.00
5		64.73	3000.37	3007.00	61.37	38.00
6		42.00	3000.34	3020.00	66.34	38.00
7		7.00	3000.30	3017.00	61.30	38.00
8		32.00	3000.40	3000.00	60.00	38.00
9		7.00	3000.40	3000.00	61.00	38.00
10		4.25	3000.44	3020.00	69.46	38.00
11		4.00	3000.45	3027.00	62.46	38.00
12		3.00	3000.40	3007.00	61.00	38.00
13		3.00	3000.57	3000.00	69.00	38.00
14		2.00	3000.22	3000.00	59.00	38.00
15		6.00	3000.34	3000.00	62.00	38.00
16		3.00	3000.74	3000.00	61.00	38.00
17		0.00	3000.70	3000.00	61.00	38.00
18		12.00	3000.30	3007.00	61.00	38.00
19		3.00	3000.30	3007.00	61.00	38.00
20		7.00	3000.37	3000.00	61.00	38.00
21		0.22	3000.37	3000.00	61.00	38.00
22		10.00	3000.34	3000.00	61.00	38.00
23		11.00	3000.34	3000.00	61.00	38.00
24		23.00	3000.47	3000.00	61.00	38.00
25		21.13	3000.62	3000.00	61.00	38.00
26		0.00	3000.60	3000.00	61.00	38.00
27		0.00	3000.20	3000.00	61.00	38.00
28		2.00	3000.10	3000.00	61.00	38.00
29		0.00	3000.37	3000.00	61.00	38.00
30		2.00	3000.01	3000.00	61.00	38.00
31		0.00	3000.04	3000.00	100.00	42.00
32		0.00	3000.31	3000.00	61.00	38.00
33		3.00	3000.04	3000.00	61.00	38.00
34		0.00	3000.00	3000.00	61.00	38.00
35		0.00	3000.00	3000.00	61.00	38.00
36		0.00	3000.00	3000.00	61.00	38.00
37		1.00	3000.04	3000.00	61.00	38.00
38		0.00	3000.11	3000.00	61.00	38.00
39		0.00	3000.20	3000.00	61.00	38.00
40		0.00	3000.37	3000.00	61.00	38.00
41		200.00	3000.31	3000.00	61.00	38.00
42		4.40	3000.25	3000.00	61.00	38.00
43		3.00	3000.31	3000.00	61.00	38.00
44		21.00	3000.00	3000.00	61.00	38.00
45		27.00	3000.22	3000.00	61.00	38.00
46		11.00	3000.04	3000.00	101.00	42.00
47		50.16	3000.21	3000.00	61.00	38.00
48		22.00	3000.07	3000.00	102.00	44.00
49		1.00	3000.00	3000.00	102.00	44.00
50		20.00	3000.04	3000.00	100.00	42.00
51		0.00	3000.70	3000.00	61.00	38.00
52		7.00	3000.07	3000.00	101.00	42.00
53		0.00	3000.20	3000.00	61.00	38.00
54		0.00	3000.00	3000.00	100.00	42.00
55		26.00	3000.21	3000.00	61.00	38.00
56		10.00	3000.00	3000.00	100.00	42.00
57		0.00	3000.00	3000.00	100.00	42.00
58		1.00	3000.00	3000.00	102.00	44.00
59		7.00	3000.00	3000.00	100.00	42.00
60		10.10	3000.00	3000.00	100.00	42.00
61		60.00	3000.00	3000.00	100.00	42.00
62		0.00	3000.00	3000.00	100.00	42.00
63		27.00	3000.00	3000.00	100.00	42.00

87	12.16	3887.99	3885 84	182 88	44.43
88	10 88	3888 29	3882 81	181 28	41 82
89	4 80	3887.44	3880 82	180 84	48 84
90	1 80	3885 84	3878 83	180 84	48 84
91	2.00	3882.26	3884 86	98 34	42 82
92	1 80	3882 22	3884 86	97 22	42 13
93	145 46	3884 82	3881 87	94 82	41 13
94	2 80	3883 81	3887 80	94 41	42 87
95	1 80	3884 85	3882 80	93 89	43 18
96	2 40	3884 86	3882 80	93 86	43 29
97	13 28	3885 89	3882 80	100 89	43 76
98	8 48	3888 87	3882 80	108 87	46 82
99	3 88	3887 78	3889 80	104 78	47 10
100	3 80	3886 82	3889 80	104 82	47 82
101	2 80	3888 83	3889 80	107 83	46 18
102	1 80	3881 47	3886 80	101 47	49 71
103	84 42	3881 84	3886 80	101 84	49 82
104	1 42	3881 84	3888 80	101 84	49 79
105	4 22	3881 89	3881 80	107 89	49 19
106	42 21	3881 84	3882 80	99 84	49 82
107	3 82	3881 38	3882 80	94 38	49 85
108	3 82	3881 16	3882 80	98 16	49 97
109	1 28	3886 83	3882 80	87 83	49 39
110	1 80	3888 84	3881 80	87 84	49 42
111	41 83	3882 82	3880 80	81 82	50 37
112	1146 34	3888 27	3887 83	13 27	5 78
113	21 12	3883 83	3885 80	84 83	78 81
114	8 82	3886 80	3880 80	76 80	38 11
115	419 86	3885 87	3880 80	76 87	78 82
116	48 27	3883 16	3886 80	85 16	37 77
117	21 72	3884 83	3883 80	82 83	38 86
118	8 82	3885 18	3882 80	87 18	38 85
119	4 22	3884 30	3882 80	82 30	40 81
120	6 22	3884 12	3883 80	80 12	40 39
121	8 62	3884 83	3888 80	86 83	41 81
122	8 82	3884 86	3888 80	84 86	40 76
123	8 82	3889 83	3887 80	84 83	43 17
124	3 48	3888 83	3881 80	84 83	43 88
125	42 28	3888 81	3881 80	84 83	43 88
126	46 88	3888 88	3882 80	84 88	43 88
127	46 28	3888 88	3882 80	84 88	43 88
128	43 28	3888 88	3882 80	84 88	43 88
129	2 28	3888 88	3887 80	102 88	44 28
130	1 28	3888 88	3887 80	101 88	44 72
131	2 28	3888 88	3887 80	101 88	44 72
132	2 28	3888 88	3887 80	101 88	44 72
133	21 18	3888 32	3887 80	102 32	44 31
134	2 28	3888 14	3888 80	102 14	44 34
135	8 80	3888 14	3888 80	102 14	44 34
136	7 48	3888 14	3888 80	101 14	44 34
137	2 80	3888 24	3888 80	99 24	44 34
138	8 80	3888 72	3888 80	101 72	44 34
139	2 80	3888 16	3888 80	97 16	42 11
140	2 40	3888 88	3888 80	97 88	42 27
141	8 80	3887 87	3888 80	104 87	48 34
142	1 80	3888 36	3888 80	101 36	48 81
143	2 40	3888 28	3888 80	98 28	42 88
144	4 84	3888 20	3888 80	97 20	42 10
145	8 80	3888 89	3887 80	98 89	42 88
146	93 78	3888 83	3888 80	94 83	41 18
147	1 28	3888 28	3888 80	91 28	41 28
148	11 86	3888 34	3887 80	101 34	43 88
149	2 40	3888 18	3888 80	107 18	48 81
150	2 40	3888 84	3888 80	104 84	48 86
151	10 80	3889 88	3888 80	98 88	43 14
152	1 80	3889 80	3888 80	101 80	44 11
153	8 40	3889 78	3887 80	102 78	44 84
154	2 80	3889 83	3887 80	102 83	44 86
155	8 40	3889 87	3888 80	104 87	45 89
156	8 80	3889 86	3888 80	101 86	41 82
157	4 80	3889 86	3888 80	104 86	48 88
158	4 80	3889 83	3889 80	104 83	48 47
159	8 80	3889 82	3888 80	103 82	44 89
160	8 80	3889 38	3888 80	102 38	44 88
161	123 28	3889 26	3888 80	84 26	38 25
162	8 14	3889 88	3888 80	81 88	38 88
163	83 78	3888 27	3888 80	87 27	38 14
164	14 82	3888 74	3888 80	81 74	40 18
165	7 42	3888 74	3887 80	87 74	40 82
166	3 84	3888 86	3888 80	84 86	41 11
167	8 80	3889 83	3888 80	84 83	41 88
168	8 80	3889 48	3888 80	84 48	40 84
169	8 80	3888 78	3888 80	81 78	41 80
170	4 28	3888 77	3887 80	101 77	44 18
171	1 28	3888 84	3888 80	101 84	46 88
172	1 28	3888 84	3888 80	102 84	46 88
173	8 40	3888 71	3888 80	103 71	46 88
174	10 80	3887 86	3888 80	89 86	42 84
175	10 80	3887 88	3887 80	84 88	41 87
176	7 28	3887 81	3888 80	84 81	41 12
177	4 80	3887 81	3888 80	84 81	40 85
178	4 80	3887 81	3888 80	84 81	39 18
179	140 78	3887 42	3888 80	87 42	38 83
180	105 94	3887 81	3888 80	84 81	38 82
181	84 46	3887 81	3887 80	81 81	37 88
182	8 80	3887 89	3887 80	85 89	36 88
183	8 80	3887 74	3887 80	77 74	35 88
184	8 80	3887 71	3887 80	78 71	35 84

266	0.00	3973.40	3979.00	24.00	40.00
267	1.00	3973.46	3979.00	24.00	40.00
268	2.00	3973.50	3979.00	24.00	40.00
269	3.00	3973.52	3979.00	24.00	40.00
270	4.00	3973.53	3979.00	24.00	40.00
271	5.00	3973.54	3979.00	24.00	40.00
272	6.00	3973.55	3979.00	24.00	40.00
273	7.00	3973.56	3979.00	24.00	40.00
274	8.00	3973.57	3979.00	24.00	40.00
275	9.00	3973.58	3979.00	24.00	40.00
276	1.00	3973.59	3979.00	24.00	40.00
277	2.00	3973.60	3979.00	24.00	40.00
278	3.00	3973.61	3979.00	24.00	40.00
279	4.00	3973.62	3979.00	24.00	40.00
280	5.00	3973.63	3979.00	24.00	40.00
281	6.00	3973.64	3979.00	24.00	40.00
282	7.00	3973.65	3979.00	24.00	40.00
283	8.00	3973.66	3979.00	24.00	40.00
284	9.00	3973.67	3979.00	24.00	40.00
285	1.00	3973.68	3979.00	24.00	40.00
286	2.00	3973.69	3979.00	24.00	40.00
287	3.00	3973.70	3979.00	24.00	40.00
288	4.00	3973.71	3979.00	24.00	40.00
289	5.00	3973.72	3979.00	24.00	40.00
290	6.00	3973.73	3979.00	24.00	40.00
291	7.00	3973.74	3979.00	24.00	40.00
292	8.00	3973.75	3979.00	24.00	40.00
293	9.00	3973.76	3979.00	24.00	40.00
294	1.00	3973.77	3979.00	24.00	40.00
295	2.00	3973.78	3979.00	24.00	40.00
296	3.00	3973.79	3979.00	24.00	40.00
297	4.00	3973.80	3979.00	24.00	40.00
298	5.00	3973.81	3979.00	24.00	40.00
299	6.00	3973.82	3979.00	24.00	40.00
300	7.00	3973.83	3979.00	24.00	40.00
301	8.00	3973.84	3979.00	24.00	40.00
302	9.00	3973.85	3979.00	24.00	40.00
303	1.00	3973.86	3979.00	24.00	40.00
304	2.00	3973.87	3979.00	24.00	40.00
305	3.00	3973.88	3979.00	24.00	40.00
306	4.00	3973.89	3979.00	24.00	40.00
307	5.00	3973.90	3979.00	24.00	40.00
308	6.00	3973.91	3979.00	24.00	40.00
309	7.00	3973.92	3979.00	24.00	40.00
310	8.00	3973.93	3979.00	24.00	40.00
311	9.00	3973.94	3979.00	24.00	40.00
312	1.00	3973.95	3979.00	24.00	40.00
313	2.00	3973.96	3979.00	24.00	40.00
314	3.00	3973.97	3979.00	24.00	40.00
315	4.00	3973.98	3979.00	24.00	40.00
316	5.00	3973.99	3979.00	24.00	40.00
317	6.00	3974.00	3979.00	24.00	40.00
318	7.00	3974.01	3979.00	24.00	40.00
319	8.00	3974.02	3979.00	24.00	40.00
320	9.00	3974.03	3979.00	24.00	40.00
321	1.00	3974.04	3979.00	24.00	40.00
322	2.00	3974.05	3979.00	24.00	40.00
323	3.00	3974.06	3979.00	24.00	40.00
324	4.00	3974.07	3979.00	24.00	40.00
325	5.00	3974.08	3979.00	24.00	40.00
326	6.00	3974.09	3979.00	24.00	40.00
327	7.00	3974.10	3979.00	24.00	40.00
328	8.00	3974.11	3979.00	24.00	40.00
329	9.00	3974.12	3979.00	24.00	40.00
330	1.00	3974.13	3979.00	24.00	40.00
331	2.00	3974.14	3979.00	24.00	40.00
332	3.00	3974.15	3979.00	24.00	40.00
333	4.00	3974.16	3979.00	24.00	40.00
334	5.00	3974.17	3979.00	24.00	40.00
335	6.00	3974.18	3979.00	24.00	40.00
336	7.00	3974.19	3979.00	24.00	40.00
337	8.00	3974.20	3979.00	24.00	40.00
338	9.00	3974.21	3979.00	24.00	40.00
339	1.00	3974.22	3979.00	24.00	40.00
340	2.00	3974.23	3979.00	24.00	40.00
341	3.00	3974.24	3979.00	24.00	40.00
342	4.00	3974.25	3979.00	24.00	40.00
343	5.00	3974.26	3979.00	24.00	40.00
344	6.00	3974.27	3979.00	24.00	40.00
345	7.00	3974.28	3979.00	24.00	40.00
346	8.00	3974.29	3979.00	24.00	40.00
347	9.00	3974.30	3979.00	24.00	40.00
348	1.00	3974.31	3979.00	24.00	40.00
349	2.00	3974.32	3979.00	24.00	40.00
350	3.00	3974.33	3979.00	24.00	40.00
351	4.00	3974.34	3979.00	24.00	40.00
352	5.00	3974.35	3979.00	24.00	40.00
353	6.00	3974.36	3979.00	24.00	40.00
354	7.00	3974.37	3979.00	24.00	40.00
355	8.00	3974.38	3979.00	24.00	40.00
356	9.00	3974.39	3979.00	24.00	40.00
357	1.00	3974.40	3979.00	24.00	40.00
358	2.00	3974.41	3979.00	24.00	40.00
359	3.00	3974.42	3979.00	24.00	40.00
360	4.00	3974.43	3979.00	24.00	40.00
361	5.00	3974.44	3979.00	24.00	40.00
362	6.00	3974.45	3979.00	24.00	40.00

364	0.00	4276.16	4167.02	279.16	77.20
365	0.00	4211.40	4101.02	110.38	47.88
366	0.00	4211.27	4101.01	110.26	47.66
367	1.00	4211.27	4101.02	110.27	47.61
368	1.00	4211.23	4101.02	110.24	47.37
369	1.00	4211.23	4101.02	110.24	47.37
370	1.00	4211.23	4101.02	110.24	47.37
371	1.00	4211.23	4101.02	110.24	47.37
372	1.00	4211.23	4101.02	110.24	47.37
373	1.00	4211.23	4101.02	110.24	47.37
374	1.00	4211.23	4101.02	110.24	47.37
375	1.00	4211.23	4101.02	110.24	47.37
376	1.00	4211.23	4101.02	110.24	47.37
377	1.00	4211.23	4101.02	110.24	47.37
378	1.00	4211.23	4101.02	110.24	47.37
379	1.00	4211.23	4101.02	110.24	47.37
380	1.00	4211.23	4101.02	110.24	47.37
381	1.00	4211.23	4101.02	110.24	47.37
382	1.00	4211.23	4101.02	110.24	47.37
383	1.00	4211.23	4101.02	110.24	47.37
384	1.00	4211.23	4101.02	110.24	47.37
385	1.00	4211.23	4101.02	110.24	47.37
386	1.00	4211.23	4101.02	110.24	47.37
387	1.00	4211.23	4101.02	110.24	47.37
388	1.00	4211.23	4101.02	110.24	47.37
389	1.00	4211.23	4101.02	110.24	47.37
390	1.00	4211.23	4101.02	110.24	47.37
391	1.00	4211.23	4101.02	110.24	47.37
392	1.00	4211.23	4101.02	110.24	47.37
393	1.00	4211.23	4101.02	110.24	47.37
394	1.00	4211.23	4101.02	110.24	47.37
395	1.00	4211.23	4101.02	110.24	47.37
396	1.00	4211.23	4101.02	110.24	47.37
397	1.00	4211.23	4101.02	110.24	47.37
398	1.00	4211.23	4101.02	110.24	47.37
399	1.00	4211.23	4101.02	110.24	47.37
400	1.00	4211.23	4101.02	110.24	47.37
401	1.00	4211.23	4101.02	110.24	47.37
402	1.00	4211.23	4101.02	110.24	47.37
403	1.00	4211.23	4101.02	110.24	47.37
404	1.00	4211.23	4101.02	110.24	47.37
405	1.00	4211.23	4101.02	110.24	47.37
406	1.00	4211.23	4101.02	110.24	47.37
407	1.00	4211.23	4101.02	110.24	47.37
408	1.00	4211.23	4101.02	110.24	47.37
409	1.00	4211.23	4101.02	110.24	47.37
410	1.00	4211.23	4101.02	110.24	47.37
411	1.00	4211.23	4101.02	110.24	47.37
412	1.00	4211.23	4101.02	110.24	47.37
413	1.00	4211.23	4101.02	110.24	47.37
414	1.00	4211.23	4101.02	110.24	47.37
415	1.00	4211.23	4101.02	110.24	47.37
416	1.00	4211.23	4101.02	110.24	47.37
417	1.00	4211.23	4101.02	110.24	47.37
418	1.00	4211.23	4101.02	110.24	47.37
419	1.00	4211.23	4101.02	110.24	47.37
420	1.00	4211.23	4101.02	110.24	47.37
421	1.00	4211.23	4101.02	110.24	47.37
422	1.00	4211.23	4101.02	110.24	47.37
423	1.00	4211.23	4101.02	110.24	47.37
424	1.00	4211.23	4101.02	110.24	47.37
425	1.00	4211.23	4101.02	110.24	47.37
426	1.00	4211.23	4101.02	110.24	47.37
427	1.00	4211.23	4101.02	110.24	47.37
428	1.00	4211.23	4101.02	110.24	47.37
429	1.00	4211.23	4101.02	110.24	47.37
430	1.00	4211.23	4101.02	110.24	47.37
431	1.00	4211.23	4101.02	110.24	47.37
432	1.00	4211.23	4101.02	110.24	47.37
433	1.00	4211.23	4101.02	110.24	47.37
434	1.00	4211.23	4101.02	110.24	47.37
435	1.00	4211.23	4101.02	110.24	47.37
436	1.00	4211.23	4101.02	110.24	47.37
437	1.00	4211.23	4101.02	110.24	47.37
438	1.00	4211.23	4101.02	110.24	47.37
439	1.00	4211.23	4101.02	110.24	47.37
440	1.00	4211.23	4101.02	110.24	47.37
441	1.00	4211.23	4101.02	110.24	47.37
442	1.00	4211.23	4101.02	110.24	47.37
443	1.00	4211.23	4101.02	110.24	47.37
444	1.00	4211.23	4101.02	110.24	47.37
445	1.00	4211.23	4101.02	110.24	47.37
446	1.00	4211.23	4101.02	110.24	47.37
447	1.00	4211.23	4101.02	110.24	47.37
448	1.00	4211.23	4101.02	110.24	47.37
449	1.00	4211.23	4101.02	110.24	47.37
450	1.00	4211.23	4101.02	110.24	47.37
451	1.00	4211.23	4101.02	110.24	47.37
452	1.00	4211.23	4101.02	110.24	47.37
453	1.00	4211.23	4101.02	110.24	47.37
454	1.00	4211.23	4101.02	110.24	47.37
455	1.00	4211.23	4101.02	110.24	47.37
456	1.00	4211.23	4101.02	110.24	47.37
457	1.00	4211.23	4101.02	110.24	47.37
458	1.00	4211.23	4101.02	110.24	47.37
459	1.00	4211.23	4101.02	110.24	47.37
460	1.00	4211.23	4101.02	110.24	47.37
461	1.00	4211.23	4101.02	110.24	47.37
462	1.00	4211.23	4101.02	110.24	47.37
463	1.00	4211.23	4101.02	110.24	47.37
464	1.00	4211.23	4101.02	110.24	47.37
465	1.00	4211.23	4101.02	110.24	47.37
466	1.00	4211.23	4101.02	110.24	47.37
467	1.00	4211.23	4101.02	110.24	47.37
468	1.00	4211.23	4101.02	110.24	47.37
469	1.00	4211.23	4101.02	110.24	47.37
470	1.00	4211.23	4101.02	110.24	47.37
471	1.00	4211.23	4101.02	110.24	47.37
472	1.00	4211.23	4101.02	110.24	47.37
473	1.00	4211.23	4101.02	110.24	47.37
474	1.00	4211.23	4101.02	110.24	47.37
475	1.00	4211.23	4101.02	110.24	47.37
476	1.00	4211.23	4101.02	110.24	47.37
477	1.00	4211.23	4101.02	110.24	47.37
478	1.00	4211.23	4101.02	110.24	47.37
479	1.00	4211.23	4101.02	110.24	47.37
480	1.00	4211.23	4101.02	110.24	47.37
481	1.00	4211.23	4101.02	110.24	47.37
482	1.00	4211.23	4101.02	110.24	47.37
483	1.00	4211.23	4101.02	110.24	47.37
484	1.00	4211.23	4101.02	110.24	47.37
485	1.00	4211.23	4101.02	110.24	47.37
486	1.00	4211.23	4101.02	110.24	47.37
487	1.00	4211.23	4101.02	110.24	47.37
488	1.00	4211.23	4101.02	110.24	47.37
489	1.00	4211.23	4101.02	110.24	47.37
490	1.00	4211.23	4101.02	110.24	47.37
491	1.00	4211.23	4101.02	110.24	47.37
492	1.00	4211.23	4101.02	110.24	47.37
493	1.00	4211.23	4101.02	110.24	47.37
494	1.00	4211.23	4101.02	110.24	47.37
495	1.00	4211.23	4101.02	110.24	47.37
496	1.00	4211.23	4101.02	110.24	47.37
497	1.00	4211.23	4101.02	110.24	47.37
498	1.00	4211.23	4101.02	110.24	47.37
499	1.00	4211.23	4101.02	110.24	47.37
500	1.00	4211.23	4101.02	110.24	47.37

MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURES (PSI)	JUNCTION NUMBER	MINIMUM PRESSURES (PSI)
364	77.20	622	1.01
365	71.10	330	0.91
366	71.10	330	0.91
367	71.10	92	1.71
368	60.21	713	6.21

HL / 1000

PISC NUMBER	MAXIMUM HL/1000 (FT/1000)	PISC NUMBER	MINIMUM HL/1000 (FT/1000)
367	25.92	427	0.02
368	25.92	310	0.00
369	25.92	260	3.00
370	25.92	420	3.02
371	25.92	422	0.02

REGULATING VALVE REPORT

VALVE	POSITION	CONTROLLED VALVE	VALVE SETTING (FT or PSI)	VALVE STATUS	UPSTREAM GRADE (FT)	DOWNSTREAM GRADE (FT)	THROTTLE FLOW (GPM)
R1	REV-1	204	647	4211.02 THROTTLED	4279.16	4257.02	109.20

SUMMARY OF INFLOWS AND OUTFLOWS

OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE WOODS

NODE LABEL	PIPE NUMBER	FLOWRATE 1990	WEEK TITLE
AA	43	1100.00	Tank 530C
BB	229	1051.00	Tank 539
CC	337	3.00	Tank 739C
DD	339	310.00	Tank 739B
EE	443	444.00	Tank 734
FF	634	334.00	Tank 734
GG	660	300.00	Tank 777A
HH	814	1710.00	Tank 493
II	910	134.00	Tank 1210
JJ	323	334.00	Tank 1210
KK	426	1.00	Tank 1692
LL	210	910.00	Tank 1692
MM	314	1.00	Tank 7000

NET SYSTEM INFLCN = 10713.00
 NET SYSTEM OUTFLOW = 1159.00
 NET SYSTEM DEMAND = 10473.00

CHANGES FOR NEXT SIMULATION

DEMAND CHANGE

PERIOD TYPE = 1 CIV = 0.704

PIPE PARAMETER CHANGE

STATUS CODE	PI - CLOSED PIPE PV - CHECK VALVE	FD - FIXED GRADE NODE FV - REGULATING VALVE	PD - PUMP LINE			
PIPE NUMBER	NODE NO 01 02	LENGTH (FT)	DIAMETER (IN)	ROUGHNESS C1000	MINOR LOSS C0000	PUM-REL (1/1)
026-PC	023 006	70.0	12.0	130.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 0						
023-PC	023 025	70.0	10.0	130.00	0.00	0.00
THERE IS A PUMP IN LINE 023 DESCRIBED BY THE FOLLOWING DATA.						
	HEAD	FLOWRATE				
	(FEET)	(GPM)				
	170.00	0.00				
	100.00	2100.00				
	130.00	5000.00				
THE PUMP IDENTIFYING NUMBER (ID) = 10						
017-PC	023 021	70.0	10.0	130.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 1						
016-PC	023 021	70.0	10.0	130.00	0.00	0.00
THERE IS A PUMP IN LINE 016 DESCRIBED BY THE FOLLOWING DATA.						
	HEAD	FLOWRATE				
	(FEET)	(GPM)				
	130.00	0.00				
	100.00	2000.00				
	120.00	7000.00				
THE PUMP IDENTIFYING NUMBER (ID) = 11						
001	023 020	70.0	10.0	130.00	0.00	0.00
020-BU	020 020	100.0	20.0	130.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 0						
017	026 006	770.0	12.0	130.00	0.00	0.00
010	042 024	1000.0	12.0	130.00	0.00	0.00
042	020 024	610.0	10.0	130.00	0.00	0.00
041-PC	020 006	690.0	12.0	130.00	0.00	0.10
016-PC	026 020	100.0	20.0	130.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 10						

SIMULATION RESULTS

THE RESULTS ARE OBTAINED AFTER 10 TRIALS WITH AN ACCURACY OF 0.0010

SIMULATION DESCRIPTION LABEL

Simulation of Tank Selling

90	71	124	-43	90	2 10	0 00	0 00	0 00
91	127	124	27	58	1 38	0 00	0 00	0 00
92	123	124	97	32	1 01	0 00	0 00	0 00
93	121	74	84	47	2 21	0 00	0 00	0 00
94	71	74	-126	63	0 63	0 00	0 00	0 00
95	71	77	-42	33	0 67	0 00	0 00	0 00
96	77	77	15	20	1 46	0 00	0 00	0 00
97	77	78	12	26	0 26	0 00	0 00	0 00
98	76	68	131	17	1 88	0 00	0 00	0 00
99	67	68	-12	04	1 12	0 00	0 00	0 00
100	64	67	83	75	0 67	0 00	0 00	0 00
101	64	67	71	63	1 22	0 00	0 00	0 00
102	64	64	-24	66	0 26	0 00	0 00	0 00
103	64	64	-74	62	1 62	0 00	0 00	0 00
104	67	67	72	99	0 99	0 00	0 00	0 00
105	67	67	-33	76	0 76	0 00	0 00	0 00
106	67	68	-121	98	0 51	0 00	0 00	0 00
107	67	68	-133	62	0 18	0 00	0 00	0 00
108	67	69	-14	72	0 69	0 00	0 00	0 00
109	67	69	-81	46	0 46	0 00	0 00	0 00
110	67	69	-44	23	0 23	0 00	0 00	0 00
111	67	69	-44	23	0 23	0 00	0 00	0 00
112	69	64	-216	15	2 16	0 00	0 00	0 00
113	69	64	-119	22	0 43	0 00	0 00	0 00
114	69	64	72	10	2 10	0 00	0 00	0 00
115	69	64	72	10	2 10	0 00	0 00	0 00
116	69	64	72	10	2 10	0 00	0 00	0 00
117	69	64	-194	44	2 24	0 00	0 00	0 00
118	69	64	-170	62	0 62	0 00	0 00	0 00
119	69	64	-74	42	0 42	0 00	0 00	0 00
120	69	64	-181	41	1 41	0 00	0 00	0 00
121	71	72	-79	97	0 97	0 00	0 00	0 00
122	72	67	-288	19	1 19	0 00	0 00	0 00
123	71	67	-124	14	0 14	0 00	0 00	0 00
124	69	64	-124	14	0 14	0 00	0 00	0 00
125	69	64	-124	14	0 14	0 00	0 00	0 00
126	69	64	-124	14	0 14	0 00	0 00	0 00
127	69	64	-124	14	0 14	0 00	0 00	0 00
128	69	64	-124	14	0 14	0 00	0 00	0 00
129	69	64	-124	14	0 14	0 00	0 00	0 00
130	69	64	-124	14	0 14	0 00	0 00	0 00
131	69	64	-124	14	0 14	0 00	0 00	0 00
132	69	64	-124	14	0 14	0 00	0 00	0 00
133	69	64	-124	14	0 14	0 00	0 00	0 00
134	69	64	-124	14	0 14	0 00	0 00	0 00
135	69	64	-124	14	0 14	0 00	0 00	0 00
136	69	64	-124	14	0 14	0 00	0 00	0 00
137	69	64	-124	14	0 14	0 00	0 00	0 00
138	69	64	-124	14	0 14	0 00	0 00	0 00
139	69	64	-124	14	0 14	0 00	0 00	0 00
140	69	64	-124	14	0 14	0 00	0 00	0 00
141	69	64	-124	14	0 14	0 00	0 00	0 00
142	69	64	-124	14	0 14	0 00	0 00	0 00
143	69	64	-124	14	0 14	0 00	0 00	0 00
144	69	64	-124	14	0 14	0 00	0 00	0 00
145	69	64	-124	14	0 14	0 00	0 00	0 00
146	69	64	-124	14	0 14	0 00	0 00	0 00
147	69	64	-124	14	0 14	0 00	0 00	0 00
148	69	64	-124	14	0 14	0 00	0 00	0 00
149	69	64	-124	14	0 14	0 00	0 00	0 00
150	69	64	-124	14	0 14	0 00	0 00	0 00
151	69	64	-124	14	0 14	0 00	0 00	0 00
152	69	64	-124	14	0 14	0 00	0 00	0 00
153	69	64	-124	14	0 14	0 00	0 00	0 00
154	69	64	-124	14	0 14	0 00	0 00	0 00
155	69	64	-124	14	0 14	0 00	0 00	0 00
156	69	64	-124	14	0 14	0 00	0 00	0 00
157	69	64	-124	14	0 14	0 00	0 00	0 00
158	69	64	-124	14	0 14	0 00	0 00	0 00
159	69	64	-124	14	0 14	0 00	0 00	0 00
160	69	64	-124	14	0 14	0 00	0 00	0 00
161	69	64	-124	14	0 14	0 00	0 00	0 00
162	69	64	-124	14	0 14	0 00	0 00	0 00
163	69	64	-124	14	0 14	0 00	0 00	0 00
164	69	64	-124	14	0 14	0 00	0 00	0 00
165	69	64	-124	14	0 14	0 00	0 00	0 00
166	69	64	-124	14	0 14	0 00	0 00	0 00
167	69	64	-124	14	0 14	0 00	0 00	0 00
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172	69	64	-124	14	0 14	0 00	0 00	0 00
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184	69	64	-124	14	0 14	0 00	0 00	0 00

100	104	139	-07 20	1 90	0 95	0 00	1 01	1 67
101	105	140	-216 17	0 01	0 30	0 00	1 20	1 19
102	106	141	43 57	0 03	0 30	0 00	0 27	0 26
103	107	142	224 10	0 20	0 20	0 00	0 70	0 70
104	108	143	74 70	1 29	0 00	0 00	0 04	1 20
105	109	144	19 48	0 24	0 20	0 00	0 22	0 00
106	110	145	130 11	1 27	0 20	0 00	0 64	0 51
107	111	146	41 32	0 70	0 20	0 00	0 70	0 00
108	112	147	203 10	0 20	0 00	0 00	1 18	1 39
109	113	148	15 24	0 20	0 00	0 00	0 10	0 00
110	114	149	47 63	0 40	0 00	0 00	0 14	0 52
111	115	150	-134 44	0 21	0 00	0 00	0 09	0 03
112	116	151	42 07	0 23	0 00	0 00	0 07	0 12
113	117	152	30 00	0 10	0 00	0 00	0 43	0 20
114	118	153	99 37	0 04	0 00	0 00	0 06	0 20
115	119	154	312 74	0 22	0 00	0 00	0 41	0 24
116	120	155	-166 43	0 03	0 00	0 00	0 07	0 10
117	121	156	-007 20	1 73	0 00	0 00	1 00	1 16
118	122	157	-134 46	0 24	0 00	0 00	0 07	0 10
119	123	158	-213 04	0 20	0 00	0 00	0 05	0 00
120	124	159	24 22	0 16	0 00	0 00	0 20	0 17
121	125	160	-111 77	0 02	0 00	0 00	0 01	0 03
122	126	161	-64 03	0 00	0 00	0 00	0 01	0 03
123	127	162	171 07	0 00	0 00	0 00	1 11	1 03
124	128	163	-219 45	0 09	0 00	0 00	0 03	0 34
125	129	164	-02 70	0 10	0 00	0 00	0 00	0 20
126	130	165	47 70	0 07	0 00	0 00	0 20	0 13
127	131	166	14 00	0 10	0 00	0 00	0 10	0 20
128	132	167	114 57	0 23	0 00	0 00	0 20	0 40
129	133	168	14 20	0 03	0 00	0 00	0 20	0 04
130	134	169	24 00	0 01	0 00	0 00	0 00	0 04
131	135	170	-171 04	1 12	0 00	0 00	0 20	1 27
132	136	171	238 01	0 13	0 00	0 00	0 00	0 00
133	137	172	-132 01	0 20	0 00	0 00	0 00	1 70
134	138	173	-121 23	0 20	0 00	0 00	0 00	1 16
135	139	174	-211 02	0 10	0 00	0 00	0 00	0 03
136	140	175	-120 22	0 10	0 00	0 00	0 00	0 20
137	141	176	-114 01	0 10	0 00	0 00	0 00	0 10
138	142	177	-114 01	0 10	0 00	0 00	0 00	0 10
139	143	178	-114 01	0 10	0 00	0 00	0 00	0 10
140	144	179	-114 01	0 10	0 00	0 00	0 00	0 10
141	145	180	-114 01	0 10	0 00	0 00	0 00	0 10
142	146	181	-114 01	0 10	0 00	0 00	0 00	0 10
143	147	182	-114 01	0 10	0 00	0 00	0 00	0 10
144	148	183	-114 01	0 10	0 00	0 00	0 00	0 10
145	149	184	-114 01	0 10	0 00	0 00	0 00	0 10
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147	151	186	-114 01	0 10	0 00	0 00	0 00	0 10
148	152	187	-114 01	0 10	0 00	0 00	0 00	0 10
149	153	188	-114 01	0 10	0 00	0 00	0 00	0 10
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154	158	193	-114 01	0 10	0 00	0 00	0 00	0 10
155	159	194	-114 01	0 10	0 00	0 00	0 00	0 10
156	160	195	-114 01	0 10	0 00	0 00	0 00	0 10
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158	162	197	-114 01	0 10	0 00	0 00	0 00	0 10
159	163	198	-114 01	0 10	0 00	0 00	0 00	0 10
160	164	199	-114 01	0 10	0 00	0 00	0 00	0 10
161	165	200	-114 01	0 10	0 00	0 00	0 00	0 10
162	166	201	-114 01	0 10	0 00	0 00	0 00	0 10
163	167	202	-114 01	0 10	0 00	0 00	0 00	0 10
164	168	203	-114 01	0 10	0 00	0 00	0 00	0 10
165	169	204	-114 01	0 10	0 00	0 00	0 00	0 10
166	170	205	-114 01	0 10	0 00	0 00	0 00	0 10
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170	174	209	-114 01	0 10	0 00	0 00	0 00	0 10
171	175	210	-114 01	0 10	0 00	0 00	0 00	0 10
172	176	211	-114 01	0 10	0 00	0 00	0 00	0 10
173	177	212	-114 01	0 10	0 00	0 00	0 00	0 10
174	178	213	-114 01	0 10	0 00	0 00	0 00	0 10
175	179	214	-114 01	0 10	0 00	0 00	0 00	0 10
176	180	215	-114 01	0 10	0 00	0 00	0 00	0 10
177	181	216	-114 01	0 10	0 00	0 00	0 00	0 10

200	174	175	-140 34	0 06	F 20	2 01	1 59	3.00
201	173	174	-205 17	1.20	0 07	2 01	1 02	3.53
202	172	173	10 01	0 00	0 00	2 01	1 08	0 00
203	171	172	98 16	6 07	0 03	0 01	0 00	0 25
204	170	171	-119 50	1 19	1 00	0 01	1 31	1 00
205	169	170	-82 21	0 25	1 20	0 01	1 39	1 31
206	168	169	375 07	0 22	1 20	0 01	1 31	0 00
207	167	168	-843 60	1 16	1 20	1 01	2 19	1 01
208	166	167	-148 59	0 81	1 20	0 01	2 43	1 00
209	165	166	-74 14	0 19	1 20	0 01	2 46	1 21
210	164	165	-187 09	0 13	1 00	0 01	2 77	2 20
211	163	164	-1697 59	2 05	1 20	0 01	2 54	1 35
212	162	163	-1620 17	2 70	1 00	0 01	4 00	10.28
213	161	162	-167 00	0 10	1 20	0 01	1 41	1 01
214	160	161	-607 73	0 20	1 00	0 01	1 40	1 17
215	159	160	-626 76	0 52	1 00	0 01	1 70	1 74
216	158	159	948 23	1 05	1 00	0 01	2 40	1 74
217	157	158	-1324 96	1 00	1 00	0 01	2 01	4 23
218	156	157	-965 49	0 14	1 00	0 01	2 19	2 20
219	155	156	-1301 01	1 40	1 00	0 01	2 40	0 70
220	154	155	-1300 20	1 76	1 00	0 01	3 02	7 49
221	153	154	71 17	0 00	1 00	0 01	0 20	0 04
222	152	153	-301 49	1 27	1 00	0 01	1 72	3 03
223	151	152	-1100 06	1 00	1 00	0 01	4 40	11.85
224	150	151	-2400 11	1 04	1 00	0 01	5 17	10 47
225	149	150	-6798 28	1 09	1 00	0 01	7 72	29.70
226	148	149	-3498 26	1 63	1 00	0 01	7 20	13.87
227	147	148	3020 80	0 01	1 00	0 01	4 41	4 74
228	146	147	-1474 46	2 25	1 00	0 01	2 25	1 30
229	145	146	-776 51	4 14	0 01	0 01	2 26	6 00
230	144	145	170 74	4 09	0 01	0 01	2 00	1 92
231	143	144	13 54	0 01	0 01	0 01	1 04	0 00
232	142	143	333 29	1 03	0 01	0 01	2 11	2 01
233	141	142	2 42	0 01	0 01	0 01	0 00	0 00
234	140	141	3 03	3 03	0 01	0 01	1 00	2 00
235	139	140	-40 53	3 10	0 01	0 01	1 40	0 20
236	138	139	289 82	1 11	0 01	0 01	1 10	1 01
237	137	138	130 50	3 07	0 01	0 01	1 01	0 01
238	136	137	100 40	0 37	0 01	0 01	1 01	1 10
239	135	136	14 10	0 01	0 01	0 01	0 00	0 00
240	134	135	143 42	0 90	0 01	0 01	1 02	1 00
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242	132	133	21 10	0 21	0 01	0 01	1 00	0 01
243	131	132	140 09	0 12	0 01	0 01	1 01	1 00
244	130	131	130 55	0 10	0 01	0 01	0 77	0 72
245	129	130	51 14	0 10	0 01	0 01	0 33	0 16
246	128	129	-77 77	1 41	1 00	0 01	0 00	1 28
247	127	128	17 52	0 01	1 00	0 01	0 00	0 00
248	126	127	-344 57	1 16	1 00	0 01	1 44	1 16
249	125	126	-321 64	1 19	1 00	0 01	2 00	2 43
250	124	125	-243 75	1 06	1 00	0 01	1 30	1 13
251	123	124	10 36	1 01	1 00	0 01	0 13	0 30
252	122	123	-104 79	1 04	1 00	0 01	0 75	0 44
253	121	122	-117 67	1 04	1 00	0 01	0 75	0 19
254	120	121	-412 70	1 04	1 00	0 01	1 77	1 11
255	119	120	118 13	2 07	1 00	0 01	2 10	2 41
256	118	119	119 76	1 12	1 00	0 01	2 17	0 44
257	117	118	-97 07	1 25	1 00	0 01	0 68	0 41
258	116	117	367 25	2 06	1 00	0 01	2 26	2 29
259	115	116	-70 70	1 21	1 00	0 01	0 97	0 39
260	114	115	-83 60	1 67	1 00	0 01	1 24	0 95
261	113	114	114 09	1 67	1 00	0 01	2 29	2 45
262	112	113	309 21	3 42	1 00	0 01	1 40	3 42
263	111	112	490 20	3 45	1 00	0 01	2 29	4 40
264	110	111	-1011 12	4 70	1 00	0 01	2 23	2 50
265	109	110	-220 50	1 44	1 00	0 01	1 41	2 13
266	108	109	-143 23	1 41	1 00	0 01	1 91	0 94
267	107	108	78 01	1 39	1 00	0 01	1 00	1 31
268	106	107	43 76	1 03	1 00	0 01	0 50	0 45
269	105	106	-302 29	1 12	1 00	0 01	0 64	0 39
270	104	105	67 11	1 11	1 00	0 01	0 61	0 13
271	103	104	-40 78	1 11	1 00	0 01	0 24	0 25
272	102	103	-107 00	0 21	1 00	0 01	0 00	0 00
273	101	102	-137 60	0 03	1 00	0 01	0 97	1 10
274	100	101	00 07	1 16	1 00	0 01	1 01	1 14
275	99	100	0 01	1 00	1 00	0 01	0 00	0 00
276	98	99	-144 61	2 00	1 00	0 01	1 21	1 07
277	97	98	-142 78	1 18	1 00	0 01	2 44	1 10
278	96	97	0 00 00	0 00	1 00	0 01	1 07	0 00
279	95	96	-243 00	0 02	1 00	0 01	0 72	0 17
280	94	95	1044 01	1 00	1 00	0 01	1 33	4 17
281	93	94	342 72	1 01	1 00	0 01	1 54	2 10
282	92	93	1534 00	1 23	1 00	0 01	1 33	2 06
283	91	92	-464 07	1 00	1 00	0 01	1 01	0 31
284	90	91	1319 59	1 10	1 00	0 01	2 11	1 10
285	89	90	3919 59	3 29	1 00	0 01	0 00	0 00
286	88	89	-4001 47	0 17	1 00	0 01	0 00	0 14
287	87	88	07 16	1 03	1 00	0 01	0 00	0 00
288	86	87	394 08	0 29	1 00	0 01	0 00	0 21
289	85	86	-138 72	1 01	1 00	0 01	0 00	0 16
290	84	85	1100 04	1 75	1 00	0 01	1 00	0 01
291	83	84	943 20	0 13	1 00	0 01	1 37	0 01
292	82	83	918 15	1 76	1 00	0 01	1 40	0 10

267	264	264	-21.06	0.00	1.00	0.00	0.00	0.00
268	274	273	-19.00	0.02	1.00	0.00	0.00	0.00
269	274	266	-106.41	0.00	1.00	0.00	0.00	0.00
270	281	276	133.40	0.40	1.00	0.00	0.00	0.00
271	277	276	-92.52	0.26	1.00	0.00	0.00	0.00
272	277	257	223.07	0.81	1.00	0.00	0.00	0.00
273	257	258	141.70	1.35	1.00	0.00	0.00	0.00
274	259	284	3.41	0.07	1.00	0.00	0.00	0.00
275	277	281	-64.71	0.11	1.00	0.00	0.00	0.00
276	281	279	41.03	0.10	1.00	0.00	0.00	0.00
277	280	281	-106.36	0.11	1.00	0.00	0.00	0.00
278	281	278	83.47	0.61	1.00	0.00	0.00	0.00
279	281	274	-131.02	0.56	1.00	0.00	0.00	0.00
280	279	283	11.04	0.06	1.00	0.00	0.00	0.00
281	283	284	64.07	0.18	1.00	0.00	0.00	0.00
282	283	282	-74.91	0.20	1.00	0.00	0.00	0.00
283	278	279	33.40	0.21	1.00	0.00	0.00	0.00
284	282	281	-22.43	0.01	1.00	0.00	0.00	0.00
285	282	272	-61.50	0.36	1.00	0.00	0.00	0.00
286	274	273	-183.41	0.64	1.00	0.00	0.00	0.00
287	273	297	-228.01	0.77	1.00	0.00	0.00	0.00
288	272	271	-47.93	0.30	1.00	0.00	0.00	0.00
289	271	268	-24.17	0.18	1.00	0.00	0.00	0.00
290	271	270	-19.55	0.21	1.00	0.00	0.00	0.00
291	248	269	-12.18	0.04	1.00	0.00	0.00	0.00
292	270	269	-2.11	0.10	1.00	0.00	0.00	0.00
293	249	405	-26.11	0.07	1.00	0.00	0.00	0.00
294	404	401	-48.15	0.07	1.00	0.00	0.00	0.00
295	425	391	-71.20	0.09	1.00	0.00	0.00	0.00
296	432	265	-12.13	0.02	1.00	0.00	0.00	0.00
297	318	271	39.40	0.17	1.00	0.00	0.00	0.00
298	348	299	60.58	0.21	1.00	0.00	0.00	0.00
299	357	298	122.17	0.29	1.00	0.00	0.00	0.00
300	366	271	-20.43	0.09	1.00	0.00	0.00	0.00
301	372	294	-13.49	0.03	1.00	0.00	0.00	0.00
302	384	291	-41.41	0.27	1.00	0.00	0.00	0.00
303	390	299	-41.17	0.23	1.00	0.00	0.00	0.00
304	399	402	-10.10	0.02	1.00	0.00	0.00	0.00
305	402	404	-17.70	0.03	1.00	0.00	0.00	0.00
306	402	404	-37.39	0.04	1.00	0.00	0.00	0.00
307	401	401	-37.39	0.03	1.00	0.00	0.00	0.00
308	401	402	-19.03	0.04	1.00	0.00	0.00	0.00
309	401	402	-46.18	0.07	1.00	0.00	0.00	0.00
310	409	401	-10.14	0.10	1.00	0.00	0.00	0.00
311	409	399	74.14	0.17	1.00	0.00	0.00	0.00
312	389	395	-19.04	0.06	1.00	0.00	0.00	0.00
313	395	393	96.09	0.21	1.00	0.00	0.00	0.00
314	392	394	-27.52	0.08	1.00	0.00	0.00	0.00
315	393	392	123.82	0.29	1.00	0.00	0.00	0.00
316	390	271	-22.11	0.04	1.00	0.00	0.00	0.00
317	385	392	-121.82	0.09	1.00	0.00	0.00	0.00
318	389	396	-68.07	0.07	1.00	0.00	0.00	0.00
319	386	389	-48.02	0.07	1.00	0.00	0.00	0.00
320	384	287	-2.87	0.01	1.00	0.00	0.00	0.00
321	384	386	12.00	0.02	1.00	0.00	0.00	0.00
322	384	391	-13.08	0.03	1.00	0.00	0.00	0.00
323	381	389	-13.00	0.02	1.00	0.00	0.00	0.00
324	384	383	3.07	0.02	1.00	0.00	0.00	0.00
325	387	382	-3.07	0.03	1.00	0.00	0.00	0.00
326	389	390	-62.07	0.01	1.00	0.00	0.00	0.00
327	381	381	-71.06	0.10	1.00	0.00	0.00	0.00
328	387	390	-6.79	0.02	1.00	0.00	0.00	0.00
329	384	204	64.47	0.02	1.00	0.00	0.00	0.00
330	383	286	110.07	0.20	1.00	0.00	0.00	0.00
331	381	384	-20.43	0.11	1.00	0.00	0.00	0.00
332	381	386	-4.02	0.11	1.00	0.00	0.00	0.00
333	381	381	-72.02	0.02	1.00	0.00	0.00	0.00
334	383	382	-180.09	0.24	1.00	0.00	0.00	0.00
335	382	385	-108.89	0.21	1.00	0.00	0.00	0.00
336	380	284	48.44	0.03	1.00	0.00	0.00	0.00
337	384	284	10.44	0.01	1.00	0.00	0.00	0.00
338	384	282	-1.29	0.02	1.00	0.00	0.00	0.00
339	383	287	-18.72	0.08	1.00	0.00	0.00	0.00
340	380	287	-18.22	0.02	1.00	0.00	0.00	0.00
341	387	289	-10.70	0.28	1.00	0.00	0.00	0.00
342	389	280	42.12	0.17	1.00	0.00	0.00	0.00
343	388	281	59.49	0.08	1.00	0.00	0.00	0.00
344	381	282	-14.17	0.04	1.00	0.00	0.00	0.00
345	381	282	-59.16	0.01	1.00	0.00	0.00	0.00
346	381	284	-28.70	0.11	1.00	0.00	0.00	0.00
347	383	286	-78.17	0.11	1.00	0.00	0.00	0.00
348	387	288	72.09	0.04	1.00	0.00	0.00	0.00
349	388	288	-69.07	0.04	1.00	0.00	0.00	0.00
350	388	288	-38.79	0.03	1.00	0.00	0.00	0.00
351	381	281	10.04	0.10	1.00	0.00	0.00	0.00
352	381	280	-144.04	0.12	1.00	0.00	0.00	0.00
353	380	280	162.17	0.17	1.00	0.00	0.00	0.00
354	380	289	217.02	0.27	1.00	0.00	0.00	0.00
355	380	289	217.02	0.27	1.00	0.00	0.00	0.00
356	385	281	-128.25	0.10	1.00	0.00	0.00	0.00
357	385	280	2767.08	0.03	1.00	0.00	0.00	0.00
358	380	289	-2400.61	0.10	1.00	0.00	0.00	0.00
359	380	284	-8.74	0.01	1.00	0.00	0.00	0.00
360	381	284	-8.91	0.01	1.00	0.00	0.00	0.00

317	313	310	20.36	0.23	0.00	0.00	0.23	0.11
318	312	311	20.75	0.14	0.00	0.25	0.24	0.11
319	311	309	20.56	0.22	0.00	0.00	0.24	0.12
320	311	307	-01.02	0.23	0.00	0.00	0.43	0.30
321	301	292	207.68	0.89	0.00	0.00	1.17	0.99
322	292	293	213.79	0.74	0.00	0.00	0.99	0.60
323	285	294	-1514.94	1.42	0.00	0.00	2.42	2.19
324	246	247	-66.59	0.22	0.00	0.00	0.42	0.23
325	244	248	37.49	0.10	0.00	0.00	0.38	0.17
326	240	233	307.24	0.45	0.00	0.00	0.93	0.42
327	236	235	-129.86	1.02	0.00	0.00	1.47	1.02
328	236	238	-354.14	0.37	0.00	0.00	1.48	1.49
329	230	236	-479.02	2.34	0.00	0.00	1.96	1.87
330	239	246	482.11	0.44	0.00	0.00	2.79	0.93
331	240	247	535.84	0.97	0.00	0.00	2.10	3.15
332	232	247	-657.10	0.68	0.00	0.00	1.07	2.31
333	232	251	-180.06	0.90	0.00	0.00	1.82	0.92
334	233	232	-121.22	0.67	0.00	0.00	1.80	1.40
335	236	233	-211.40	0.80	0.00	0.00	1.86	2.92
336	237	234	-121.97	0.41	0.00	0.00	1.16	2.16
337	231	237	-124.40	0.42	0.00	0.00	1.10	2.23
338	231	230	-102.41	0.30	0.00	0.00	1.10	2.18
339	222	221	-3.79	0.60	0.00	0.00	0.91	0.00
340	225	222	-3.85	0.60	0.00	0.00	0.94	0.00
341	224	223	-29.67	0.04	0.00	0.00	0.24	0.12
342	223	220	-53.48	0.31	0.00	0.00	0.61	0.38
343	220	219	-88.80	0.13	0.00	0.00	1.03	0.92
344	218	219	88.13	0.42	0.00	0.00	1.09	1.62
345	218	218	-90.67	0.36	0.00	0.00	1.03	1.72
346	218	218	-81.16	0.32	0.00	0.00	0.92	1.40
347	218	219	-60.81	0.19	0.00	0.00	0.49	0.82
348	209	207	-7.45	0.00	0.00	0.00	0.00	0.00
349	203	204	894.63	1.13	0.00	0.00	1.37	3.63
350	203	204	-754.33	1.40	0.00	0.00	2.20	1.42
351	203	208	-764.26	1.02	0.00	0.00	2.04	0.81
352	205	204	-630.99	2.07	0.00	0.00	2.88	0.18
353	204	202	-394.44	0.71	0.00	0.00	2.26	2.00
354	203	202	-202.14	0.97	0.00	0.00	2.01	1.90
355	202	201	-128.20	0.12	0.00	0.00	0.83	0.44
356	201	200	-40.69	0.01	0.00	0.00	0.26	0.03
357	200	201	-260.48	1.43	0.00	0.00	2.22	2.27
358	201	209	-688.42	1.16	0.00	0.00	2.01	4.64
359	201	204	-92.71	0.70	0.00	0.00	1.05	0.97
360	200	205	-357.24	1.73	0.00	0.00	2.20	3.82
361	200	202	-287.00	2.07	0.00	0.00	1.84	3.59
362	202	207	-171.16	0.89	0.00	0.00	1.09	0.74
363	202	203	-75.79	0.40	0.00	0.00	0.86	0.67
364	202	202	174.92	0.19	0.00	0.00	1.12	0.78
365	204	202	-344.16	1.02	0.00	0.00	1.41	1.39
366	202	201	-172.70	0.63	0.00	0.00	0.71	0.39
367	207	208	-739.46	1.77	0.00	0.00	2.92	0.73
368	206	209	-790.39	2.38	0.00	0.00	3.23	0.87
369	209	208	-718.77	2.83	0.00	0.00	3.94	0.63
370	204	201	-122.02	1.29	0.00	0.00	1.20	1.41
371	207	208	-988.09	1.89	0.00	0.00	3.62	7.58
372	206	207	-4.14	0.22	0.00	0.00	0.29	0.30
373	208	207	-669.48	2.11	0.00	0.00	1.78	7.39
374	206	208	134.25	0.64	0.00	0.00	0.61	0.43
375	207	208	90.04	0.29	0.00	0.00	0.97	0.31
376	207	208	-66.45	0.10	0.00	0.00	0.46	0.42
377	208	220	80.47	0.19	0.00	0.00	0.61	0.76
378	208	204	-102.28	0.76	0.00	0.00	1.43	2.10
379	207	209	-712.91	1.49	0.00	0.00	2.42	1.39
380	206	204	-142.10	0.89	0.00	0.00	1.46	2.23
381	204	204	-40.41	0.13	0.00	0.00	0.44	0.29
382	209	209	-5.81	0.00	0.00	0.00	0.23	0.00
383	201	201	-68.89	0.12	0.00	0.00	0.79	0.62
384	201	204	18.91	0.23	0.00	0.00	0.21	0.45
385	201	200	15.17	0.03	0.00	0.00	0.17	0.03
386	202	203	4.37	0.01	0.00	0.00	0.13	0.03
387	201	200	7.52	0.01	0.00	0.00	0.19	0.01
388	209	201	-6.96	0.01	0.00	0.00	0.08	0.01
389	209	200	-1.68	0.09	0.00	0.00	0.24	0.04
390	210	203	-4.82	0.03	0.00	0.00	0.08	0.01
391	203	200	-4.07	0.00	0.00	0.00	0.29	0.01
392	200	209	-1.14	0.03	0.00	0.00	0.22	0.00
393	209	209	-2.87	0.03	0.00	0.00	0.00	0.00
394	201	202	26.48	0.32	0.00	0.00	0.31	0.30
395	200	201	10.10	0.03	0.00	0.00	0.11	0.00
396	201	204	-21.16	0.03	0.00	0.00	0.26	0.07
397-73	200	00	-184.24	0.20	0.00	0.00	3.50	4.00
398	201	202	232.06	0.20	0.00	0.00	0.96	0.67
399-72	202	00	1495.19	0.40	0.00	0.00	8.94	20.07
400-22	207	209						
401	203	208	-739.46	0.52	0.00	0.00	3.02	5.73
402	208	207	-739.46	4.28	0.00	0.00	3.02	1.71
403	207	204	-245.42	0.90	0.00	0.00	1.65	4.13
404	204	208	-61.94	0.19	0.00	0.00	0.69	0.68
405	206	207	19.49	0.10	0.00	0.00	0.45	0.37
406	205	204	-110.42	1.76	0.00	0.00	1.48	3.20
407	206	202	-876.05	12.27	0.00	0.00	3.13	13.81
408	207	209	-310.03	0.20	0.00	0.00	3.22	16.75
409-22	208	207						
410	205	209	189.01	1.40	0.00	0.00	1.76	4.64
	205	209						

616-RK	344	345										
617	344	345	2992.20	0.24	0.00	0.00	0.93	10.70				
618	344	346	2996.70	11.63	0.00	0.00	0.92	10.61				
619	344	346	310.90	3.82	0.00	0.00	1.35	2.80				
620	346	347	61.36	0.00	0.00	0.00	0.26	0.21				
621	343	349	-106.89	2.83	0.00	0.00	2.22	1.23				
622	347	346	41.16	0.02	0.00	0.00	0.26	0.20				
623	348	349	0.66	0.20	0.00	0.00	0.89	0.01				
624	349	350	-110.22	0.06	0.00	0.00	1.30	1.22				
625	348	341	-171.23	0.07	0.00	0.00	1.09	1.37				
626	351	352	-74.75	0.09	0.00	0.00	0.44	0.21				
627	351	352	-80.98	0.20	0.00	0.00	0.80	1.19				
628	352	353	79.84	0.38	0.00	0.00	0.44	0.21				
629	353	354	60.76	0.25	0.00	0.00	0.44	0.21				
630	346	354	-162.14	0.61	0.00	0.00	2.02	1.20				
631	354	355	-137.72	0.20	0.00	0.00	0.86	0.92				
632	355	357	-141.78	0.46	0.00	0.00	0.91	0.97				
633	357	359	-218.11	2.15	0.00	0.00	2.01	4.28				
634	357	357	-173.34	0.21	0.00	0.00	1.11	2.61				
635	359	360	304.74	0.00	0.00	0.00	1.20	1.11				
636	360	360	477.40	0.00	0.00	0.00	1.95	3.33				
637	362	361	-179.68	0.04	0.00	0.00	1.10	1.60				
638	361	362	-79.20	0.32	0.00	0.00	1.10	1.60				
639-RK	361	363										
640	359	363	-495.24	0.88	0.00	0.00	0.66	1.60				
641	359	358	-444.31	0.97	0.00	0.00	0.99	17.43				
642	358	358	-308.86	0.97	0.00	0.00	2.92	10.64				
643-PC	356	352	1648.89	3.16	0.00	0.00	4.17	6.88				
644-PC	361	357	-2320.43	1.11	0.00	0.00	0.23	30.93				
645	361	362	370.32	0.27	0.00	0.00	2.16	3.63				
646	362	328	1461.11	0.35	0.00	0.00	4.09	5.34				
647-RV	364	368	131.47	0.00	0.00	0.00	0.32	0.94				
648	364	370	1430.64	0.07	0.00	0.00	3.77	0.30				
649	363	366	133.47	0.22	0.00	0.00	0.32	0.94				
650	366	368	89.04	0.00	0.00	0.00	0.16	0.11				
651	366	367	10.10	0.00	0.00	0.00	0.21	0.09				
652	367	369	7.83	0.23	0.00	0.00	0.09	0.02				
653	363	368	-12.89	0.00	0.00	0.00	0.15	1.03				
654	363	370	9.76	0.21	0.00	0.00	0.11	0.03				
655	370	371	-0.27	0.01	0.00	0.00	0.07	0.51				
656	370	371	9.49	0.01	0.00	0.00	0.11	0.03				
657	371	371	-2.61	0.00	0.00	0.00	0.00	0.02				
658	370	377	0.32	0.00	0.00	0.00	0.00	0.00				
659	377	374	-3.67	0.00	0.00	0.00	0.00	0.00				
660	377	371	1.27	0.00	0.00	0.00	0.00	0.00				
661	376	375	-13.87	0.00	0.00	0.00	0.00	0.00				
662	375	376	10.03	0.00	0.00	0.00	0.00	0.00				
663	375	372	-20.89	0.00	0.00	0.00	0.00	0.00				
664	374	373	3.08	0.00	0.00	0.00	0.00	0.00				
665	373	372	-1.82	0.00	0.00	0.00	0.00	0.00				
666	372	371	-85.17	0.00	0.00	0.00	0.00	0.00				
667	371	368	-70.90	0.02	0.00	0.00	0.00	0.00				
668	370	362	1310.82	2.72	0.00	0.00	3.75	4.23				
669-VI	363	360	1384.38	1.37	0.00	0.00	3.10	6.15				
670	424	319	-4802.67	2.67	0.00	0.00	4.90	0.14				
671-PC	61	319	1717.88	0.42	0.00	0.00	3.45	2.94				
672-PC	322	321	1809.53	0.19	124.14	P1	0.00	2.71	2.71			
673-PC	323	321	7653.00	1.04	124.97	P2	0.00	12.10	41.30			
674-PC	323	321	-4048.57	0.00	1.02	0.00	4.74	1.99				
675-PC	322	321	-4048.57	0.00	1.02	0.00	4.74	1.99				
676	322	322	2092.13	0.01	0.00	0.00	4.36	1.09				
677-EXPT	323	324										
678-PC	323	324	2092.13	0.16	101.21	P4	0.00	4.36	1.09			
679-PC	325	314	1442.11	0.36	176.28	P5	0.00	4.69	1.02			
680-EXPT	325	324										
681-PC	325	324	4871.67	0.61	1.00	0.00	4.90	4.14				
682-EXPT	326	319										
683-EXPT	326	319										
684-EXPT	326	319										
685-EXPT	326	319										
THE BUMP IN LINE			330 IF OPERATIONS	OUT OF RANGE								
686-PC	326	319	4031.67	1.41	140.67	P10	0.00	4.90	4.14			
687	427	428	-4031.67	0.01	0.00	0.00	0.30	0.00				
688	660	700	1460.06	11.17	0.00	0.00	3.44	3.45				
689-PC	700	11	1460.06	2.08	0.00	0.00	3.44	3.45				
690-RK	322	710										
691-RK	700	11										
692-RK	701	323										
693-PC	701	323	-211.86	0.00	0.00	0.00	0.40	0.11				

JUNCTION NODE RESULTS

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEMAND (GPM)	HYDRAULIC GRADE (ft)	JUNCTION ELEVATION (ft)	PRESSURE HEAD (ft)	JUNCTION PRESSURE (psi)
1		0.00	3992.33	3991.00	87.11	37.86
2		1.25	3992.32	3991.00	93.17	39.14
3		20.00	3992.31	3991.00	95.23	39.64
4		87.44	3992.04	3990.00	92.14	39.00
5		10.10	3992.00	3991.50	95.01	41.19
6		20.10	3992.00	3990.50	92.01	39.00
7		0.00	3992.13	3991.50	95.10	41.23
8		0.00	3992.11	3990.00	84.11	38.70

122	16.77	4001 95	3070 00	125.95	63 71
123	1.54	4002 32	3081 00	127.32	63 65
124	0.30	4003 37	3082 00	127.67	63 63
125	8.22	4004 39	3083 00	127.99	63 64
126	2.70	4005 40	3084 00	128.69	63 61
127	4.20	4006 01	3070 00	131.89	63 94
128	0.02	4003 67	3083 00	131.67	62.29
129	3.63	4003 68	3083 00	131.68	62.31
130	0.00	4003 68	3083 00	131.68	60.89
131	3.10	4003 65	3083 00	131.65	60.01
132	1.66	4003 61	3083 00	131.61	60.94
133	4.75	4003 58	3083 00	131.58	60.62
134	4.28	4004 53	3087 00	131.53	60.60
135	61.62	4003 24	3080 00	131.24	61.34
136	7.04	4004 04	3080 00	131.04	61.70
137	7.99	4004 01	3085 00	131.01	61.42
138	1.60	4004 40	3086 00	131.40	61.97
139	1.48	4003 94	3085 00	131.94	61.91
140	7.00	4003 97	3076 00	132.97	63.80
141	0.42	4003 94	3077 00	132.94	64.61
142	0.00	4003 98	3077 00	132.98	64.37
143	0.04	4003 19	3078 00	132.19	65.13
144	6.62	4003 14	3076 00	132.14	65.57
145	6.00	4003 11	3075 00	132.11	65.00
146	2.00	4003 11	3075 00	132.11	65.00
147	2.00	4003 14	3076 00	132.14	64.60
148	2.00	4003 61	3076 00	132.61	64.61
149	2.00	4004 31	3080 00	132.61	64.61
150	226.24	4004 01	3080 00	132.61	64.61
151	3.61	4003 04	3080 00	132.64	64.61
152	65.62	4003 01	3080 00	132.61	64.61
153	12.16	4003 01	3080 00	132.61	64.61
154	5.32	4003 01	3080 00	132.61	64.61
155	2.13	4003 01	3080 00	132.61	64.61
156	0.60	4003 01	3080 00	132.61	64.61
157	0.00	4003 01	3080 00	132.61	64.61
158	0.00	4003 01	3080 00	132.61	64.61
159	0.00	4003 01	3080 00	132.61	64.61
160	0.00	4003 01	3080 00	132.61	64.61
161	0.00	4003 01	3080 00	132.61	64.61
162	0.00	4003 01	3080 00	132.61	64.61
163	0.00	4003 01	3080 00	132.61	64.61
164	0.00	4003 01	3080 00	132.61	64.61
165	0.00	4003 01	3080 00	132.61	64.61
166	0.00	4003 01	3080 00	132.61	64.61
167	0.00	4003 01	3080 00	132.61	64.61
168	0.00	4003 01	3080 00	132.61	64.61
169	0.00	4003 01	3080 00	132.61	64.61
170	0.00	4003 01	3080 00	132.61	64.61
171	0.00	4003 01	3080 00	132.61	64.61
172	0.00	4003 01	3080 00	132.61	64.61
173	0.00	4003 01	3080 00	132.61	64.61
174	0.00	4003 01	3080 00	132.61	64.61
175	0.00	4003 01	3080 00	132.61	64.61
176	0.00	4003 01	3080 00	132.61	64.61
177	0.00	4003 01	3080 00	132.61	64.61
178	0.00	4003 01	3080 00	132.61	64.61
179	0.00	4003 01	3080 00	132.61	64.61
180	0.00	4003 01	3080 00	132.61	64.61
181	0.00	4003 01	3080 00	132.61	64.61
182	0.00	4003 01	3080 00	132.61	64.61
183	0.00	4003 01	3080 00	132.61	64.61
184	0.00	4003 01	3080 00	132.61	64.61
185	0.00	4003 01	3080 00	132.61	64.61
186	0.00	4003 01	3080 00	132.61	64.61
187	0.00	4003 01	3080 00	132.61	64.61
188	0.00	4003 01	3080 00	132.61	64.61
189	0.00	4003 01	3080 00	132.61	64.61
190	0.00	4003 01	3080 00	132.61	64.61
191	0.00	4003 01	3080 00	132.61	64.61
192	0.00	4003 01	3080 00	132.61	64.61
193	0.00	4003 01	3080 00	132.61	64.61
194	0.00	4003 01	3080 00	132.61	64.61
195	0.00	4003 01	3080 00	132.61	64.61
196	0.00	4003 01	3080 00	132.61	64.61
197	0.00	4003 01	3080 00	132.61	64.61
198	0.00	4003 01	3080 00	132.61	64.61
199	0.00	4003 01	3080 00	132.61	64.61
200	0.00	4003 01	3080 00	132.61	64.61
201	0.00	4003 01	3080 00	132.61	64.61
202	0.00	4003 01	3080 00	132.61	64.61
203	0.00	4003 01	3080 00	132.61	64.61
204	0.00	4003 01	3080 00	132.61	64.61
205	0.00	4003 01	3080 00	132.61	64.61
206	0.00	4003 01	3080 00	132.61	64.61
207	0.00	4003 01	3080 00	132.61	64.61
208	0.00	4003 01	3080 00	132.61	64.61
209	0.00	4003 01	3080 00	132.61	64.61
210	0.00	4003 01	3080 00	132.61	64.61
211	0.00	4003 01	3080 00	132.61	64.61
212	0.00	4003 01	3080 00	132.61	64.61
213	0.00	4003 01	3080 00	132.61	64.61
214	0.00	4003 01	3080 00	132.61	64.61
215	0.00	4003 01	3080 00	132.61	64.61
216	0.00	4003 01	3080 00	132.61	64.61
217	0.00	4003 01	3080 00	132.61	64.61
218	0.00	4003 01	3080 00	132.61	64.61
219	0.00	4003 01	3080 00	132.61	64.61
220	0.00	4003 01	3080 00	132.61	64.61
221	0.00	4003 01	3080 00	132.61	64.61
222	0.00	4003 01	3080 00	132.61	64.61
223	0.00	4003 01	3080 00	132.61	64.61
224	0.00	4003 01	3080 00	132.61	64.61
225	0.00	4003 01	3080 00	132.61	64.61

211	0.00	4001.30	3074.00	127.00	54.12
212	0.42	4001.60	3075.00	127.00	54.20
213	0.00	4001.60	3082.00	127.00	54.26
214	0.00	4001.20	3081.00	127.00	54.26
215	7.04	4001.20	3081.00	127.00	54.26
216	0.00	4011.71	3082.00	127.71	54.34
217	0.00	4011.00	3083.00	127.00	54.41
218	0.00	4011.74	3081.00	127.00	54.42
219	0.00	4011.00	3083.00	127.00	54.49
220	1.19	4001.13	3080.00	127.13	54.61
221	0.00	4006.00	3091.00	127.00	54.10
222	0.00	4001.00	3091.00	127.00	54.36
223	1.04	4001.30	3091.00	127.30	54.56
224	0.00	4001.70	3091.00	127.70	54.60
225	0.00	4001.00	3091.00	127.00	54.65
226	4.24	4001.16	3092.00	127.16	54.94
227	1.44	4001.60	3091.00	127.60	54.13
228	1.19	4001.71	3091.00	127.71	54.62
229	2.13	4001.01	3091.00	127.01	54.40
230	1.04	4010.20	3084.00	126.20	53.84
231	2.13	4010.20	3084.00	126.20	53.84
232	4.20	4001.07	3081.00	126.07	54.04
233	4.20	4001.04	3081.00	126.04	54.00
234	7.45	4001.93	3081.00	126.93	54.67
235	10.00	4001.03	3081.00	126.03	54.20
236	6.10	4001.83	3081.00	126.83	54.53
237	6.72	4001.62	3075.00	126.62	54.65
238	4.24	4001.00	3075.00	126.00	54.64
239	20.21	4001.70	3074.00	126.70	55.27
240	17.86	4001.23	3081.00	126.23	54.46
241	9.32	4001.21	3084.00	126.21	54.96
242	14.00	4001.03	3084.00	126.03	54.04
243	4.70	4001.06	3091.00	126.06	54.09
244	0.42	4001.04	3091.00	126.04	54.33
245	0.00	4001.30	3091.00	126.30	54.28
246	12.11	4001.04	3091.00	126.04	54.67
247	12.77	4001.70	3091.00	126.70	54.93
248	2.02	4001.23	3091.00	126.23	54.10
249	0.00	4001.66	3091.00	126.66	54.27
250	0.00	4001.21	3091.00	126.21	54.54
251	3.00	4001.21	3091.00	126.21	54.60
252	4.00	4001.10	3091.00	126.10	54.70
253	4.00	4001.20	3091.00	126.20	54.59
254	0.00	4001.10	3091.00	126.10	54.70
255	3.42	4001.25	3091.00	126.25	54.57
256	0.00	4001.26	3091.00	126.26	54.70
257	7.00	4001.11	3091.00	126.11	54.55
258	06.20	4001.70	3091.00	126.70	54.90
259	0.00	4001.03	3091.00	126.03	54.71
260	0.00	4001.00	3091.00	126.00	54.70
261	0.00	4001.10	3091.00	126.10	54.44
262	0.00	4001.20	3091.00	126.20	54.62
263	0.00	4001.05	3091.00	126.05	54.60
264	0.00	4001.20	3091.00	126.20	54.10
265	1.00	4001.20	3091.00	126.20	54.10
266	1.40	4001.01	3091.00	126.01	54.63
267	0.00	4001.71	3091.00	126.71	54.61
268	0.00	4001.72	3091.00	126.72	54.73
269	0.00	4001.76	3091.00	126.76	54.63
270	0.00	4001.04	3091.00	126.04	54.73
271	0.00	4001.10	3091.00	126.10	54.70
272	2.42	4001.10	3091.00	126.10	54.74
273	2.00	4001.20	3091.00	126.20	54.72
274	0.00	4001.20	3091.00	126.20	54.16
275	0.42	4001.22	3091.00	126.22	54.62
276	1.24	4001.21	3091.00	126.21	54.64
277	2.02	4001.03	3091.00	126.03	54.20
278	0.00	4001.00	3091.00	126.00	54.60
279	0.04	4001.00	3091.00	126.04	54.47
280	2.02	4001.04	3091.00	126.04	54.21
281	1.24	4001.01	3091.00	126.01	54.21
282	0.00	4001.03	3091.00	126.03	54.60
283	0.00	4001.70	3091.00	126.70	54.60
284	0.00	4001.24	3091.00	126.24	54.16
285	0.70	4001.26	3091.00	126.26	54.16
286	04.23	4001.70	3091.00	126.70	54.31
287	0.42	4001.04	3091.00	126.04	54.41
288	0.00	4001.00	3091.00	126.00	54.20
289	0.00	3999.07	3091.00	126.07	54.20
290	0.00	3998.70	3091.00	126.70	54.00
291	10.00	4001.00	3091.00	126.00	54.60
292	12.77	4001.10	3091.00	126.10	54.97
293	10.00	4001.00	3091.00	126.00	54.06
294	0.00	4001.21	3091.00	126.21	54.37
295	0.00	3998.00	3091.00	126.00	54.42
296	0.01	3998.04	3091.00	126.04	54.53
297	2.00	3998.77	3091.00	126.77	54.71
298	12.00	4000.76	3091.00	126.76	54.30
299	0.10	4000.76	3091.00	126.76	54.66
300	0.01	4000.76	3091.00	126.76	54.66
301	0.01	4000.79	3091.00	126.79	54.01
302	0.01	4000.74	3091.00	126.74	54.06
303	0.00	4000.70	3091.00	126.70	54.63
304	0.00	4001.20	3091.00	126.20	54.00
305	7.40	4001.20	3091.00	126.20	54.00
306	4.20	3998.40	3091.00	126.40	54.61

821	0.00	4017.30	3043.00	130.36	86.49
822	0.00	3009.41	3001.00	6.41	2.78
823	0.00	3991.29	3964.10	27.19	10.92
824	0.00	4121.25	3964.10	105.25	41.39
825	0.00	4127.00	4099.00	28.00	7.83
826	0.00	3917.00	3891.70	25.30	11.76
827	3327.00	3992.70	3891.00	101.70	10.16
700	0.00	1970.00	1961.00	9.00	0.11
701	0.00	3392.00	3360.00	32.00	10.40

MAXIMUM AND MINIMUM PRES

PRESURES

JUNCTION NUMBER	MAXIMUM PRESSURE (PSI)	JUNCTION NUMBER	MINIMUM PRESSURE (PSI)
820	84.69	822	7.78
821	84.69	823	8.16
822	87.23	824	1.30
823	87.23	700	8.23
824	88.39	825	7.83

ML / 1000

PIPE NUMBER	MAXIMUM ML/1000 (L/S)	PIPE NUMBER	MINIMUM ML/1000 (L/S)
820	42.30	821	1.00
821	38.00	822	1.00
822	29.70	823	1.00
823	28.33	824	8.00
824	26.0	825	8.00

REGULATING VALVE REPORT

PIPE LABEL	TYPE	NODE	PIPE SIZE	VALVE SETTING (PSI OR GPM)	VALVE STATUS	UPSTREAM GRADE (FEET)	DOWNSTREAM GRADE (FEET)	THROUGH FLOW (GPM)
81	RV-1	104	601	4000.00	SHUTTLED	4200.00	4400.00	111.67

SUMMARY OF INFLOWS AND OUTFLOWS

- (-) INFLOWS INTO THE SYSTEM FROM FIXED GRADE NODES
- (+) OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

NODE LABEL	PIPE NUMBER	FLOW RATE (GPM)	NODE TITLE
AA	42	-1037.60	TANK 8100
AB	330	-1000.00	TANK 1000
AC	300	-1000.00	TANK 1000
AD	500	-1000.00	TANK 1000
AE	600	-1000.00	TANK 1000
AF	700	-1000.00	TANK 1000
AG	800	-1000.00	TANK 1000
AH	900	-1000.00	TANK 1000
AI	1000	-1000.00	TANK 1000
AJ	1100	-1000.00	TANK 1000
AK	1200	-1000.00	TANK 1000
AL	1300	-1000.00	TANK 1000
AM	1400	-1000.00	TANK 1000

NET SYSTEM INFLOW = -1000.00
 NET SYSTEM OUTFLOW = -1000.00
 NET SYSTEM DEMAND = 1000.00

CHANGES FOR NEXT SIMULATION

DEMAND TYPE = 1 - GDF - 1.700

PIPE PARAMETER CHANGES

STATUS	CLSD	CK - CLOSED PIPE	CV - CHECK VALVE	FD - FIXED GRADE NODE	RV - REGULATING VALVE	RU - RUMPLE LINE	
PIPE NUMBER	NODE NO.	NODE NO.	LENGTH (FEET)	DIAMETER (IN)	ROUGHNESS COEFF.	MINOR LOSS COEFF.	PER-MIL (FEET)
824-CRUI	824	824	70.0	10.0	130.00	0.00	0.00

THE PUMP IDENTIFYING NUMBER IS :

229-KKFC	129	0	32.0	12 C	129.02	0.00	2894.00
016-KKFC	01	0	72.0	12 C	120.02	0.73	1992.00
033-PH	033	034	72.0	14 C	126.02	0.50	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 15							
010-FU	010	011	72.0	14 C	120.02	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 11							
020-KKFC	020	019	12.0	22 C	126.02	0.20	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 8							

 SIMULATION RESULTS

THE RESULTS ARE OBTAINED AFTER 4 TRIALS WITH AN ACCURACY OF 0.001%

SIMULATION DESCRIPTION (LABEL)

Simulating Late Evening / Early Morning Hours
 Assuming Tank 779 is Full, Pumps 014, 015 are off
 Tanks 129 and 498 are Full

PIPELINE RESULTS

PIPE NUMBER	NODE NO1	NODE NO2	FLOWRATE (gpm)	HEAD LOSS (PSI)	PUMP HEAD (PSI)	PUMP LABEL	MINOR LOSS (PSI)	PIPE VEL (FT/S)	HL (121/121)
1	1	2	27.41	0.04	1.20	0.00	0.23	0.23	0.24
2	2	3	30.43	0.24	1.00	0.00	0.38	0.38	0.10
3	3	4	7.70	0.03	1.00	0.00	0.09	0.09	0.01
4	4	5	-19.42	1.04	1.00	0.00	0.22	0.22	0.02
5	4	6	-32.22	0.30	1.00	0.00	0.24	0.24	0.02
6	5	7	42.18	1.38	1.00	0.00	0.47	0.47	0.02
7	6	7	-102.19	4.29	1.00	0.00	1.20	1.20	1.15
8	8	9	10.41	0.03	1.00	0.00	0.59	0.59	0.04
9	8	9	-2.72	0.00	0.00	0.00	0.02	0.02	0.00
10	10	11	10.37	0.02	0.00	0.00	0.16	0.16	0.00
11	11	12	10.20	0.02	0.00	0.00	0.21	0.21	0.00
12	11	11	-12.90	1.01	1.00	0.00	0.10	0.10	0.00
13	11	9	22.03	0.28	1.00	0.00	0.26	0.26	0.13
14	9	10	-31.26	0.04	1.00	0.00	0.19	0.19	0.13
15	9	7	-71.27	1.00	1.00	0.00	0.41	0.41	0.00
16	7	10	-49.40	1.00	0.00	0.00	0.79	0.79	0.07
17	11	10	101.86	1.23	1.00	0.00	1.15	1.15	1.16
18	10	19	22.21	0.02	1.00	0.00	0.26	0.26	0.07
19	10	7	109.50	0.01	0.00	0.00	1.25	1.25	1.20
20	24	19	89.40	0.70	0.00	0.00	1.41	1.41	1.67
21	17	25	-112.00	0.00	0.00	0.00	0.74	0.74	0.40
22	17	16	119.80	1.00	0.00	0.00	0.76	0.76	0.38
23	26	16	62.90	0.00	0.00	0.00	0.00	0.00	0.00
24	18	15	130.45	1.30	0.00	0.00	1.27	1.27	1.01
25	13	14	-40.10	0.02	0.00	0.00	0.37	0.37	0.20
26	14	9	-61.25	1.00	0.00	0.00	0.23	0.23	0.15
27	27	15	-258.06	0.01	0.00	0.00	0.73	0.73	0.20
28	20	14	-62.00	0.01	0.00	0.00	0.31	0.31	0.10
29	27	28	-46.53	0.02	0.00	0.00	0.42	0.42	0.20
30	14	13	-68.72	0.26	0.00	0.00	0.17	0.17	0.10
31	13	10	16.24	0.04	0.00	0.00	0.11	0.11	0.17
32	10	11	18.70	0.10	0.00	0.00	0.41	0.41	0.32
33	13	12	-19.23	0.13	0.00	0.00	0.11	0.11	0.12
34	14	13	97.06	0.24	0.00	0.00	0.65	0.65	0.73
35	13	14	-107.23	0.19	0.00	0.00	1.11	0.11	0.14
36	23	11	60.48	0.20	0.00	0.00	0.78	0.78	1.02
37	23	22	38.00	0.01	0.00	0.00	0.40	0.40	0.12
38	22	20	10.01	0.02	0.00	0.00	0.11	0.11	0.01
39	22	22	-10.07	0.01	0.00	0.00	0.01	0.01	0.00
40	27	26	227.14	0.00	0.00	0.00	0.72	0.72	0.31
41	20	20	-112.27	0.10	0.00	0.00	1.27	1.27	1.20
42-73	11	AA	2623.37	1.16	0.00	0.00	1.75	0.75	0.71
43	31	30	-435.03	0.19	0.00	0.00	1.24	0.24	0.24
44	23	26	-92.63	1.07	0.00	0.00	1.04	1.04	1.01
45	26	24	-178.52	0.20	0.00	0.00	0.72	0.72	0.40
46	26	24	-107.24	0.24	0.00	0.00	1.11	1.11	0.40
47	24	23	-269.44	0.73	0.00	0.00	1.00	1.00	0.00
48	23	20	61.38	0.04	0.00	0.00	0.24	0.24	0.11
49	20	21	26.03	0.10	0.00	0.00	0.41	0.41	0.17
50	20	21	69.38	0.20	0.00	0.00	0.74	0.74	0.67
51	23	23	31.00	0.00	0.00	0.00	0.16	0.16	0.00
52	23	43	-123.40	1.43	0.00	0.00	1.01	1.01	1.24
53	23	41	63.81	0.66	0.00	0.00	0.40	0.40	0.46
54	41	24	175.41	0.27	0.00	0.00	1.11	0.11	0.70
55	31	30	-147.94	0.64	0.00	0.00	1.00	1.00	0.20
56	40	41	188.46	0.12	0.00	0.00	1.20	1.20	0.00
57	40	42	270.04	0.31	0.00	0.00	1.11	1.11	0.60
58	43	43	-85.69	0.11	0.00	0.00	0.63	0.63	0.30
59	23	41	-150.43	0.66	0.00	0.00	1.00	1.00	1.00
60	44	41	200.77	0.43	0.00	0.00	1.14	1.14	0.01

43	40	38	-48.76	3.58	0.00	C.00	2.31	C.07
44	39	37	-210.63	3.20	0.00	C.00	1.03	1.99
45	38	36	-128.78	2.32	0.00	C.00	2.16	2.04
46	37	35	145.74	2.34	0.00	C.00	2.17	2.04
47	36	34	144.71	4.02	0.00	C.00	1.07	2.03
48	35	33	170.31	1.41	0.00	C.00	1.09	1.76
49	34	32	117.46	4.44	0.00	C.00	1.24	0.72
50	33	31	2077.01	4.23	0.00	C.00	1.54	4.42
51	32	30	-119.10	3.79	0.00	C.00	1.21	0.61
52	31	29	-102.79	2.79	0.00	C.00	1.03	0.15
53	30	28	241.57	0.92	0.00	C.00	1.42	1.27
54	29	27	204.24	1.74	0.00	C.00	1.77	4.71
55	28	26	349.28	1.64	0.00	C.00	2.23	2.14
56	27	25	-154.63	0.30	0.00	C.00	2.23	3.02
57	26	24	358.24	1.03	0.00	C.00	2.11	4.98
58	25	23	-13.01	1.14	0.00	C.00	0.11	1.19
59	24	22	13.01	1.00	0.00	C.00	0.22	0.00
60	23	21	109.91	1.37	0.00	C.00	1.11	0.99
61	22	20	72.01	1.17	0.00	C.00	0.21	0.24
62	21	19	40.77	1.07	0.00	C.00	0.26	0.17
63	20	18	-108.05	0.24	0.00	C.00	0.26	0.44
64	19	17	-23.10	0.01	0.00	C.00	0.19	0.01
65	18	16	-444.17	0.01	0.00	C.00	1.02	2.28
66	17	15	-418.71	1.06	0.00	C.00	2.00	4.23
67	16	14	-89.49	1.09	0.00	C.00	1.23	1.66
68	15	13	-229.00	1.29	0.00	C.00	2.03	0.88
69	14	12	-113.25	0.04	0.00	C.00	1.20	2.57
70	13	11	-90.06	0.87	0.00	C.00	1.23	1.73
71	12	10	107.12	1.81	0.00	C.00	1.18	2.11
72	11	9	121.24	1.23	0.00	C.00	1.22	2.34
73	10	8	61.14	1.23	0.00	C.00	1.18	2.11
74	9	7	-113.10	2.49	0.00	C.00	1.27	1.78
75	8	6	-91.78	0.69	0.00	C.00	2.30	0.04
76	7	5	248.09	1.82	0.00	C.00	2.30	1.84
77	6	4	-60.81	1.16	0.00	C.00	2.31	0.24
78	5	3	205.49	1.22	0.00	C.00	1.26	1.43
79	4	2	-321.40	0.49	0.00	C.00	1.23	1.29
80	3	1	-19.94	0.17	0.00	C.00	0.48	0.20
81	2	0	370.37	0.33	0.00	C.00	0.48	0.20
82	1	0	-73.60	0.00	0.00	C.00	0.34	0.00
83	0	0	10.71	0.22	0.00	C.00	0.42	0.20
84	0	0	291.64	0.16	0.00	C.00	0.21	0.42
85	0	0	29.28	0.09	0.00	C.00	0.21	0.24
86	0	0	2.1.98	0.17	0.00	C.00	0.61	0.24
87	0	0	122.47	0.10	0.00	C.00	0.24	0.21
88	0	0	47.82	0.33	0.00	C.00	0.24	0.21
89	0	0	120.73	0.02	0.00	C.00	0.24	0.04
90	0	0	98.24	0.38	0.00	C.00	0.44	0.74
91	0	0	98.24	0.38	0.00	C.00	0.44	0.74
92	0	0	10.00	0.06	0.00	C.00	0.19	0.21
93	0	0	194.41	1.18	0.00	C.00	1.24	0.04
94	0	0	247.13	1.17	0.00	C.00	1.24	1.07
95	0	0	338.44	1.00	0.00	C.00	2.39	1.00
96	0	0	-1077.01	4.42	0.00	C.00	0.39	4.02
97	0	0	207.04	1.24	0.00	C.00	1.01	1.00
98	0	0	-257.04	1.09	0.00	C.00	1.00	1.02
99	0	0	-1020.07	2.79	0.00	C.00	0.10	0.72
100	0	0	-112.04	0.10	0.00	C.00	0.72	0.34
101	0	0	-370.38	1.04	0.00	C.00	2.34	1.12
102	0	0	-1807.83	1.71	0.00	C.00	0.01	1.43
103	0	0	72.77	0.24	0.00	C.00	0.01	0.10
104	0	0	142.00	0.01	0.00	C.00	0.01	0.01
105	0	0	40.37	0.01	0.00	C.00	0.01	0.01
106	0	0	10.67	0.10	0.00	C.00	0.38	0.23
107	0	0	-82.03	1.22	0.00	C.00	0.04	1.05
108	0	0	-119.22	0.21	0.00	C.00	0.74	0.72
109	0	0	-473.12	0.09	0.00	C.00	1.01	1.10
110	0	0	-344.49	0.09	0.00	C.00	0.36	0.12
111	0	0	20.00	0.37	0.00	C.00	0.04	1.74
112	0	0	-74.16	2.34	0.00	C.00	0.74	0.66
113	0	0	46.62	1.40	0.00	C.00	1.29	1.02
114	0	0	-192.20	1.66	0.00	C.00	1.77	1.02
115	0	0	-409.19	1.63	0.00	C.00	1.10	0.01
116	0	0	-418.97	0.41	0.00	C.00	1.70	1.74
117	0	0	627.62	2.04	0.00	C.00	0.27	0.08
118	0	0	72.20	0.02	0.00	C.00	1.10	1.02
119	0	0	104.00	0.03	0.00	C.00	0.73	0.05
120	0	0	64.93	0.37	0.00	C.00	1.10	1.02
121	0	0	-104.12	1.51	0.00	C.00	0.00	1.11
122	0	0	72.24	0.00	0.00	C.00	0.00	0.00
123	0	0	21.07	0.04	0.00	C.00	0.11	0.07
124	0	0	43.97	0.77	0.00	C.00	0.75	0.00
125	0	0	72.71	1.74	0.00	C.00	0.04	1.17
126	0	0	01.24	0.17	0.00	C.00	0.01	0.01
127	0	0	84.96	0.20	0.00	C.00	0.62	0.00
128	0	0	278.67	0.00	0.00	C.00	1.14	0.24
129	0	0	147.34	0.33	0.00	C.00	1.07	0.72
130	0	0	64.97	0.70	0.00	C.00	0.00	0.00
131	0	0	-198.43	0.03	0.00	C.00	1.25	2.04
132	0	0	370.08	0.05	0.00	C.00	1.06	2.06
133	0	0	124.33	1.33	0.00	C.00	2.00	2.06
134	0	0	97.05	0.07	0.00	C.00	1.11	1.00
135	0	0	118.10	1.22	0.00	C.00	1.34	1.07
136	0	0	148.07	0.05	0.00	C.00	1.00	0.72
137	0	0	425.16	0.70	0.00	C.00	0.07	4.76
138	0	0	-127.84	0.26	0.00	C.00	3.37	4.21
139	0	0	-1979.00	1.21	0.00	C.00	3.10	2.21
140	0	0	-42.10	0.03	0.00	C.00	2.40	0.11

162	161	92	311 33	1 50	0 00	C 00	1 99	7 26
163	89	92	-122 99	2 93	6 05	C 00	1 39	1 66
164	94	92	385 12	1 74	0 00	C 00	3 48	3 48
165	97	141	-794 35	2 26	0 00	C 00	1 64	0 84
166	91	92	224 47	1 27	0 00	C 00	1 50	2 34
167	95	92	401 44	27 47	1 00	C 00	4 65	29 03
168	93	92	847 00	31 09	0 00	C 00	6 31	21 09
169	91	94	-184 05	1 51	0 00	C 00	2 11	3 54
170	93	162	-271 72	1 46	0 00	C 00	4 26	13 01
171	94	149	-624 68	4 03	0 00	C 00	1 18	6 96
172	94	94	448 62	1 45	0 00	C 00	2 39	4 03
173	94	150	-278 14	1 46	0 00	C 00	1 70	1 00
174	94	90	-232 42	1 29	0 00	C 00	0 89	1 91
175	97	117	-289 14	1 42	0 00	C 00	1 45	1 41
176	97	120	1031 45	1 84	0 00	C 00	6 43	21 04
177	98	107	378 16	1 90	0 00	C 00	2 87	5 32
178	98	94	-474 46	1 74	0 00	C 00	3 34	4 98
179	100	99	123 21	1 38	0 00	C 00	1 42	1 70
180	99	154	-84 94	1 52	0 00	C 00	0 39	0 87
181	99	100	-267 35	1 41	0 00	C 00	1 71	1 71
182	100	115	-128 84	1 17	0 00	C 00	0 67	2 65
183	101	170	117 42	1 11	0 00	C 00	1 50	2 02
184	101	102	225 43	0 16	0 00	C 00	0 00	0 02
185	101	103	-283 47	1 28	0 00	C 00	1 68	1 68
186	101	104	1024 08	1 45	0 00	C 00	2 22	1 44
187	101	104	914 16	0 14	0 00	C 00	1 91	1 80
188	101	112	-1114 76	2 00	0 00	C 00	2 12	3 87
189	101	139	-48 16	1 84	0 00	C 00	1 03	1 71
190	101	132	-212 39	1 78	0 00	C 00	1 34	1 11
191	101	105	64 70	1 04	0 00	C 00	0 39	0 23
192	101	110	112 23	1 34	0 00	C 00	0 76	0 70
193	101	107	71 36	1 13	0 00	C 00	0 66	1 26
194	101	117	43 19	1 13	0 00	C 00	0 38	0 36
195	101	107	113 34	1 21	0 00	C 00	0 77	0 64
196	101	100	61 75	1 25	0 00	C 00	0 04	0 02
197	101	100	144 60	1 26	0 00	C 00	1 04	1 85
198	101	117	21 38	1 22	0 00	C 00	0 33	0 01
199	101	109	48 65	0 50	0 00	C 00	0 33	0 54
200	101	110	-121 76	0 17	0 00	C 00	0 70	0 73
201	101	110	48 02	0 03	0 00	C 00	0 40	0 14
202	101	110	41 18	0 17	0 00	C 00	0 37	0 43
203	101	111	-61 43	0 09	0 00	C 00	0 12	0 14
204	101	110	111 44	0 07	0 00	C 00	0 46	0 17
205	101	111	171 41	0 25	0 00	C 00	0 70	0 38
206	101	111	-271 85	0 08	0 00	C 00	1 14	0 95
207	101	110	-1121 18	2 63	0 00	C 00	2 33	1 61
208	101	111	-162 97	0 45	0 00	C 00	1 33	0 71
209	101	111	-281 05	0 40	0 00	C 00	1 15	0 94
210	101	111	91 28	0 10	0 00	C 00	0 23	0 11
211	101	114	-174 28	1 11	0 00	C 00	1 11	1 42
212	101	112	-30 69	0 08	0 00	C 00	0 26	0 09
213	101	112	19 67	0 39	0 00	C 00	1 19	1 02
214	101	112	-219 79	0 94	0 00	C 00	1 40	0 18
215	101	111	-121 46	0 18	0 00	C 00	0 70	0 73
216	101	114	136 58	0 19	0 00	C 00	0 07	0 09
217	101	111	-4 18	0 01	0 00	C 00	0 37	0 01
218	101	110	114 01	0 16	0 00	C 00	0 74	0 01
219	101	114	10 18	0 32	0 00	C 00	0 34	0 33
220	101	115	144 61	0 13	0 00	C 00	0 94	1 04
221	101	110	-193 19	0 97	0 00	C 00	0 96	1 32
222	101	117	98 04	0 90	0 00	C 00	1 02	1 70
223	101	110	-221 41	1 47	0 00	C 00	1 32	1 94
224	101	117	-1307 63	3 99	0 00	C 00	3 72	2 11
225	101	110	-219 20	2 04	0 00	C 00	1 37	2 12
226	101	119	28 74	0 04	0 00	C 00	0 10	0 08
227	101	119	-744 19	2 79	0 00	C 00	2 17	2 81
228	101	119	-135 27	0 01	0 00	C 00	0 30	0 13
229	101	110	67 67	1 34	0 00	C 00	0 33	3 68
230	101	111	-67 65	0 01	0 00	C 00	0 68	0 74
231	101	111	-79 02	0 31	0 00	C 00	0 90	1 38
232	101	111	-144 82	0 45	0 00	C 00	0 61	0 23
233	101	111	-148 14	0 19	0 00	C 00	0 61	0 29
234	101	111	-319 11	1 10	0 00	C 00	1 39	1 34
235	101	111	170 92	0 29	0 00	C 00	0 70	0 39
236	101	111	254 71	1 27	0 00	C 00	1 04	3 01
237	101	111	-219 24	0 07	0 00	C 00	1 02	1 19
238	101	111	113 95	1 11	0 00	C 00	0 67	0 18
239	101	114	-343 07	1 24	0 00	C 00	1 19	4 98
240	101	114	-274 18	1 09	0 00	C 00	1 75	3 21
241	101	114	133 04	1 47	0 00	C 00	0 08	1 13
242	101	114	-47 24	1 07	0 00	C 00	0 46	0 21
243	101	114	396 39	2 05	0 00	C 00	2 51	0 93
244	101	114	127 86	1 03	0 00	C 00	0 44	0 16
245	101	114	229 29	1 03	0 00	C 00	0 82	0 89
246	101	114	89 91	0 15	0 00	C 00	0 54	0 11
247	101	114	6 40	0 01	0 00	C 00	0 04	0 01
248	101	111	48 49	0 07	0 00	C 00	0 31	0 13
249	101	112	82 05	0 30	0 00	C 00	0 92	0 40
250	101	114	-24 73	0 03	0 00	C 00	0 32	0 04
251	101	114	226 17	1 20	0 00	C 00	1 57	0 09
252	101	114	81 99	0 08	0 00	C 00	0 64	0 33
253	101	117	1 74	0 01	0 00	C 00	0 01	0 01
254	101	119	-3 78	0 01	0 00	C 00	0 01	1 02
255	101	119	-18 95	0 01	0 00	C 00	0 12	0 02
256	101	111	-414 27	0 38	0 00	C 00	0 44	1 00
257	101	111	-271 64	0 45	0 00	C 00	4 70	11 16
258	101	111	378 48	1 77	0 00	C 00	1 78	1 68

262	163	160	-122 02	1.01	0 01	0 00	1 00	1 00
262	164	150	322 00	1.21	1 01	0 00	1 00	2 21
261	164	161	-41 54	1.11	0 01	0 00	1 00	1 11
264	165	150	164 15	1.15	0 01	0 00	1 00	2 15
264	167	162	-49 00	3 53	0 01	0 00	1 00	3 54
264	168	154	264 13	1 35	0 01	0 00	1 00	1 36
267	155	163	-114 71	1 51	0 01	0 00	1 00	1 52
269	142	164	113 96	7 21	0 01	0 00	1 00	7 22
269	146	161	64 72	1 55	0 01	0 00	1 00	1 56
271	144	167	14 06	1 22	0 01	0 00	1 00	1 23
271	149	161	16 33	0 33	0 01	0 00	1 00	0 34
272	149	167	4 41	0 20	0 01	0 00	1 00	0 21
271	147	163	-61 64	0 27	0 01	0 00	1 00	0 28
274	179	161	67 43	4 36	0 01	0 00	1 00	4 37
273	179	169	13 16	0 20	0 01	0 00	1 00	0 21
276	160	171	40 74	4 03	0 01	0 00	1 00	4 04
277	160	169	-224 92	0 17	0 01	0 00	1 00	0 18
278	170	176	60 67	6 14	0 01	0 00	1 00	6 15
279	170	168	38 06	4 02	0 01	0 00	1 00	4 03
281	140	171	-102 60	1 25	0 01	0 00	1 00	1 26
281	147	170	47 33	1 26	0 01	0 00	1 00	1 27
281	147	171	04 01	1 03	0 01	0 00	1 00	1 04
281	147	172	-474 91	1 29	0 01	0 00	1 00	1 30
284	148	176	-1194 74	1 62	0 01	0 00	1 00	1 63
284	148	176	-176 45	1 63	0 01	0 00	1 00	1 64
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287	141	173	162 62	1 31	0 01	0 00	1 00	1 32
288	174	175	-236 59	1 32	0 01	0 00	1 00	1 33
289	171	174	-233 10	1 69	0 01	0 00	1 00	1 70
289	171	174	61 24	1 02	0 01	0 00	1 00	1 03
291	172	171	01 27	1 07	0 01	0 00	1 00	1 08
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294	181	176	-107 34	1 17	0 01	0 00	1 00	1 18
295	181	180	-91 74	1 00	0 01	0 00	1 00	1 01
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297	173	180	-42 10	1 01	0 01	0 00	1 00	1 02
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299	177	189	-1493 37	2 13	0 01	0 00	1 00	2 14
300	181	189	-1423 98	2 14	0 01	0 00	1 00	2 15
301	184	183	-316 01	1 00	0 01	0 00	1 00	1 01
302	184	180	-119 91	1 21	0 01	0 00	1 00	1 22
303	184	187	-461 70	1 40	0 01	0 00	1 00	1 41
304	187	188	-906 75	1 97	0 01	0 00	1 00	1 98
305	180	180	-431 16	1 02	0 01	0 00	1 00	1 03
306	180	180	-607 52	1 44	0 01	0 00	1 00	1 45
307	180	180	-114 47	1 23	0 01	0 00	1 00	1 24
308	181	180	-1300 04	0 66	0 01	0 00	1 00	0 67
309	181	181	114 07	0 21	0 01	0 00	1 00	0 22
310	181	187	-263 00	0 21	0 01	0 00	1 00	0 22
311	180	181	17 34	0 46	0 01	0 00	1 00	0 47
312	180	180	-210 17	0 74	0 01	0 00	1 00	0 75
313	180	180	-402 13	1 23	0 01	0 00	1 00	1 24
314	184	181	-402 46	0 73	0 01	0 00	1 00	0 74
315	185	187	179 03	4 72	0 01	0 00	1 00	4 73
316	189	184	-409 01	1 48	0 01	0 00	1 00	1 49
317	186	187	-810 61	4 66	0 01	0 00	1 00	4 67
318	186	187	104 04	4 28	0 01	0 00	1 00	4 29
319	188	184	-47 94	0 77	0 01	0 00	1 00	0 78
320	184	183	671 33	4 41	0 01	0 00	1 00	4 42
321	183	181	1 49	0 24	0 01	0 00	1 00	0 25
322	180	181	1 00	0 20	0 01	0 00	1 00	0 21
323	181	181	32 00	0 24	0 01	0 00	1 00	0 25
324	181	181	209 21	1 50	0 01	0 00	1 00	1 51
325	180	180	127 41	0 56	0 01	0 00	1 00	0 57
326	180	180	142 96	0 55	0 01	0 00	1 00	0 56
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332	180	184	123 02	7 14	0 01	0 00	1 00	7 15
333	180	184	71 53	4 21	0 01	0 00	1 00	4 22
334	180	184	64 13	4 49	0 01	0 00	1 00	4 50
335	181	180	4 04	0 20	0 01	0 00	1 00	0 21
336	181	187	-246 25	0 36	0 01	0 00	1 00	0 37
337	182	187	-330 17	0 20	0 01	0 00	1 00	0 21
338	182	181	-101 52	0 73	0 01	0 00	1 00	0 74
339	183	181	32 19	0 22	0 01	0 00	1 00	0 23
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341	180	184	-110 04	0 26	0 01	0 00	1 00	0 27
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345	180	181	66 16	0 24	0 01	0 00	1 00	0 25
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347	194	194	-292 09	0 21	0 00	5 02	3 41	0 10
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353	198	197	2702 08	2 27	0 00	5 02	0 41	4 42
354	198	227	-4502 07	0 09	0 00	5 02	0 48	3 09
355	207	206	79 94	0 06	0 00	5 02	0 91	0 74
356	207	207	101 16	0 28	0 00	5 02	0 93	0 10
357	206	203	-162 83	0 01	0 00	5 02	0 44	0 21
358	204	203	1392 56	0 61	0 00	5 02	1 50	0 74
359	203	203	723 43	0 23	0 00	5 02	1 18	0 37
360	200	200	747 01	1 24	0 00	5 02	1 21	0 41
361	200	200	-44 30	0 01	0 00	5 02	0 49	0 00
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364	200	200	10 66	0 23	0 00	5 02	0 37	0 26
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366	200	200	10 22	0 01	0 00	5 02	0 17	0 22
367	200	200	10 00	0 00	0 00	5 02	0 20	0 00
368	200	200	-22 41	0 03	0 00	5 02	0 14	0 23
369	200	200	08 48	0 07	0 00	5 02	0 43	0 08
370	200	200	167 17	0 39	0 00	5 02	0 68	0 10
371	200	200	-07 69	0 28	0 00	5 02	0 56	0 40
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373	200	200	127 02	1 33	0 00	5 02	1 79	4 70
374	200	200	10 48	0 04	0 00	5 02	0 16	0 00
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376	200	200	20 02	0 12	0 00	5 02	0 20	0 20
377	200	200	-00 19	0 09	0 00	5 02	0 40	0 14
378	200	200	46 47	0 02	0 00	5 02	0 33	0 50
379	200	200	-261 43	0 40	0 00	5 02	1 27	0 04
380	200	200	00 05	0 03	0 00	5 02	0 20	0 23
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383	200	200	00 40	0 16	0 00	5 02	0 24	0 50
384	200	200	0 41	0 01	0 00	5 02	0 20	0 02
385	200	200	-00 71	0 07	0 00	5 02	0 20	0 70
386	200	200	-162 05	0 03	0 00	5 02	0 67	1 35
387	200	200	-201 01	0 05	0 00	5 02	0 74	1 64
388	200	200	-02 39	0 29	0 00	5 02	1 49	0 00
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390	200	200	-30 09	0 10	0 00	5 02	0 43	0 31
391	200	200	-11 06	0 03	0 00	5 02	0 13	0 03
392	200	200	-1 04	0 02	0 00	5 02	0 02	0 00
393	200	200	-21 73	0 04	0 00	5 02	1 27	0 00
394	200	200	-42 16	0 06	0 00	5 02	0 40	0 31
395	200	200	-04 71	0 08	0 00	5 02	1 20	0 04
396	200	200	-10 04	0 02	0 00	5 02	1 12	0 03
397	200	200	14 55	0 14	0 00	5 02	0 50	0 07
398	200	200	16 29	0 10	0 00	5 02	0 62	1 09
399	200	200	174 55	0 60	0 00	5 02	0 71	0 01
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407	200	200	-34 04	0 02	0 00	5 02	0 10	0 04
408	200	200	-37 71	0 03	0 00	5 02	0 20	0 00
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410	200	200	-27 20	0 05	0 00	5 02	0 31	0 10
411	200	200	00 04	0 13	0 00	5 02	0 44	0 25
412	200	200	-17 92	0 06	0 00	5 02	0 37	0 05
413	200	200	06 00	0 03	0 00	5 02	0 59	0 34
414	200	200	-26 09	0 07	0 00	5 02	0 39	0 16
415	200	200	123 04	0 11	0 00	5 02	0 71	0 41
416	200	200	-10 35	0 03	0 00	5 02	0 22	0 11
417	200	200	-11 04	0 03	0 00	5 02	0 21	0 13
418	200	200	-46 04	0 04	0 00	5 02	0 43	0 24
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451	200	200	0 00	0 00	0 00	5 02	0 10	0 00
452	200	200	0 00	0 00	0 00	5 02	0 10	0 00
453	200	200	0 00	0 00	0 00	5 02	0 10	0 00
454	200	200	0 00	0 00	0 00	5 02	0 10	0 00
455	200	200	0 00	0 00	0 00	5 02	0 10	0 00

490	332	237	-25.88	1.14	0.07	0.00	0.24	0.12
491	338	237	-22.04	1.02	0.07	0.00	0.23	0.10
492	337	239	-44.33	1.53	0.00	0.00	0.05	0.04
493	338	238	57.83	1.86	0.00	0.00	0.00	0.00
494	339	241	44.41	1.16	0.00	0.00	0.74	0.97
495	335	232	-14.20	1.00	0.00	0.00	0.14	0.04
496	333	234	-23.15	1.00	0.00	0.00	0.24	0.14
497	335	236	-31.91	1.11	0.00	0.00	0.35	0.24
498	307	235	-95.87	1.46	0.00	0.00	1.08	0.97
499	307	200	91.05	1.00	0.00	0.00	0.00	0.24
500	333	243	-41.07	1.04	0.00	0.00	0.73	0.46
501	333	241	-38.75	1.01	0.00	0.00	0.44	0.19
502	331	242	41.10	1.11	0.00	0.00	0.40	0.42
503	330	240	-19.32	1.21	0.00	0.00	0.70	0.29
504	330	200	237.82	2.32	0.00	0.00	0.95	0.67
505	300	200	324.67	4.63	0.00	0.00	2.07	4.49
506	300	200	324.67	1.71	0.00	0.00	2.07	2.45
507	300	251	-192.32	2.21	0.00	0.00	2.10	1.76
508	300	600	1141.84	7.83	0.00	0.00	0.95	10.74
509	300	260	-2614.80	11.78	0.00	0.00	4.47	7.70
510	300	260	-10.31	1.01	0.00	0.00	0.12	0.02
511	300	264	-12.44	1.01	0.00	0.00	0.14	0.02
512	300	271	-22.95	1.00	0.00	0.00	0.24	0.07
513	300	273	-41.33	1.00	0.00	0.00	0.45	0.21
514	300	279	-1.02	1.00	0.00	0.00	0.01	0.00
515	300	279	-4.12	1.01	0.00	0.00	0.01	0.01
516	300	279	1.00	1.01	0.00	0.00	0.11	0.03
517	300	279	27.93	1.01	0.00	0.00	0.24	0.13
518	300	279	25.70	1.04	0.00	0.00	0.24	0.11
519	300	279	64.69	1.04	0.00	0.00	0.74	0.47
520	300	292	-32.27	1.04	0.00	0.00	0.57	0.07
521	300	292	339.18	1.22	0.00	0.00	2.37	1.35
522	300	293	376.31	1.02	0.00	0.00	1.13	0.52
523	300	294	-1508.00	2.05	0.00	0.00	3.94	2.16
524	300	294	-64.41	1.23	0.00	0.00	0.31	1.29
525	300	294	35.00	1.10	0.00	0.00	0.10	1.17
526	300	299	350.63	1.54	0.00	0.00	2.47	1.54
527	300	298	-140.42	2.33	0.00	0.00	1.40	2.33
528	300	298	-428.92	0.82	0.00	0.00	1.74	2.07
529	300	298	-267.97	0.01	0.00	0.00	2.32	1.01
530	300	298	827.20	0.02	0.00	0.00	1.24	2.09
531	300	297	924.16	0.75	0.00	0.00	3.95	4.10
532	300	297	-543.70	0.00	0.00	0.00	3.73	0.80
533	300	291	-100.00	1.02	0.00	0.00	3.22	1.12
534	300	292	-167.74	0.07	0.00	0.00	1.74	0.37
535	300	293	-145.33	0.02	0.00	0.00	1.45	0.13
536	300	294	-138.70	0.00	0.00	0.00	1.94	1.43
537	300	294	-138.07	0.73	0.00	0.00	1.59	2.00
538	300	294	-140.25	1.03	0.00	0.00	1.59	2.00
539	300	292	17.65	0.01	0.00	0.00	5.10	1.04
540	300	292	4.12	0.04	0.00	0.00	0.07	0.01
541	300	292	-39.04	0.04	0.00	0.00	0.40	0.30
542	300	292	-71.31	0.10	0.00	0.00	0.01	0.00
543	300	292	-210.04	0.21	0.00	0.00	1.34	1.82
544	300	292	320.04	0.74	0.00	0.00	1.38	2.04
545	300	292	-122.94	0.43	0.00	0.00	1.42	2.02
546	300	292	-113.20	0.00	0.00	0.00	1.20	2.00
547	300	292	-80.00	0.43	0.00	0.00	1.03	1.73
548	300	292	-27.40	0.00	0.00	0.00	0.71	1.30
549	300	294	1143.10	0.10	0.00	0.00	1.22	1.30
550	300	294	-722.42	0.33	0.00	0.00	2.07	0.21
551	300	294	-920.10	1.70	0.00	0.00	1.72	0.42
552	300	294	-603.70	1.07	0.00	0.00	2.43	0.64
553	300	294	-629.48	0.34	0.00	0.00	2.41	0.72
554	300	294	-323.10	0.02	0.00	0.00	1.00	2.10
555	300	294	-80.00	0.07	0.00	0.00	0.02	1.37
556	300	294	1.67	0.00	0.00	0.00	0.00	1.00
557	300	294	-104.50	1.01	0.00	0.00	2.45	1.35
558	300	294	-621.72	1.20	0.00	0.00	2.60	2.00
559	300	294	-125.04	0.01	0.00	0.00	1.24	1.24
560	300	294	-340.10	0.70	0.00	0.00	2.23	2.00
561	300	294	234.13	0.76	0.00	0.00	1.51	1.34
562	300	294	-227.10	1.01	0.00	0.00	2.40	1.20
563	300	294	-127.00	0.07	0.00	0.00	1.17	1.17
564	300	294	126.02	0.11	0.00	0.00	1.01	0.43
565	300	294	-434.07	1.70	0.00	0.00	1.60	2.33
566	300	294	-233.10	0.00	0.00	0.00	1.16	1.16
567	300	294	-82.14	10.72	0.00	0.00	3.70	0.30
568	300	294	-871.13	0.04	0.00	0.00	3.07	2.47
569	300	294	874.10	1.00	0.00	0.00	3.47	7.01
570	300	294	-127.14	1.04	0.00	0.00	1.10	2.03
571	300	294	-720.10	2.74	0.00	0.00	4.40	12.94
572	300	294	1.41	0.00	0.00	0.00	0.04	0.00
573	300	294	-921.01	1.01	0.00	0.00	4.60	10.73
574	300	294	167.00	0.74	0.00	0.00	1.03	1.04
575	300	294	40.01	0.30	0.00	0.00	1.71	0.47
576	300	294	-70.00	0.10	0.00	0.00	0.20	0.00
577	300	294	89.00	0.44	0.00	0.00	1.10	1.10
578	300	294	-174.07	1.10	0.00	0.00	1.00	2.10
579	300	294	-874.00	10.72	0.00	0.00	1.00	7.00
580	300	294	-177.00	1.30	0.00	0.00	1.01	1.30
581	300	294	1.00	0.00	0.00	0.00	0.00	0.00

809	329	332	-3.68	0.00	0.00	0.00	0.00	0.00
810	330	303	-6.42	0.00	0.00	0.00	0.00	0.00
811	303	303	-8.73	0.00	0.00	0.00	0.00	0.00
812	330	306	-1.36	0.00	0.00	0.00	0.00	0.00
813	339	304	-5.47	0.00	0.00	0.00	0.00	0.00
814	301	307	26.79	0.00	0.00	0.00	0.00	0.00
815	312	317	5.55	0.00	0.00	0.00	0.00	0.00
816	311	314	3.29	0.00	0.00	0.00	0.00	0.00
817-FY	352	352	-2859.79	0.00	0.00	0.00	0.00	0.00
818	711	312	231.18	0.00	0.00	0.00	0.00	0.00
819-PD	333	300	3784.82	0.00	0.00	0.00	0.00	0.00
820-NR	327	349						
821	333	319	-936.96	0.00	0.00	0.00	0.00	0.00
822	330	297	-936.96	0.00	0.00	0.00	0.00	0.00
823	337	336	-149.42	1.00	6.00	0.00	0.00	0.00
824	334	335	-61.74	0.10	0.30	0.00	0.00	0.00
825	337	337	39.65	0.30	0.30	0.00	0.00	0.00
826	334	336	-137.62	1.70	0.30	0.00	0.00	0.00
827	336	349	-276.15	13.30	0.00	0.00	0.00	0.00
828	337	338	-316.63	0.30	0.30	0.00	0.00	0.00
829-NY	376	347						
830	340	330	188.02	0.00	1.00	0.00	0.00	0.00
831	334	342	-153.02	1.35	0.00	0.00	0.00	0.00
832	340	341	-155.02	1.35	0.00	0.00	0.00	0.00
833	341	341	-160.63	0.42	0.00	0.00	0.00	0.00
834	341	342	151.12	2.60	1.00	0.00	0.00	0.00
835	341	344	-113.19	1.75	1.00	0.00	0.00	0.00
836-NR	344	344						
837	344	349	2031.47	0.21	1.00	0.00	0.00	0.00
838	341	346	2007.35	13.61	1.00	0.00	0.00	0.00
839	344	346	-110.90	1.00	1.00	0.00	0.00	0.00
840	340	347	-70.90	1.00	1.00	0.00	0.00	0.00
841	343	348	-194.94	2.93	1.00	0.00	0.00	0.00
842	347	348	40.90	1.00	2.00	0.00	0.00	0.00
843	340	349	0.40	0.00	1.00	0.00	0.00	0.00
844	348	350	-318.30	0.36	1.00	0.00	0.00	0.00
845	348	351	-171.78	0.07	1.00	0.00	0.00	0.00
846	351	352	-75.19	0.16	0.00	0.00	0.00	0.00
847	351	353	-90.12	1.20	1.00	0.00	0.00	0.00
848	352	353	73.11	0.30	1.00	0.00	0.00	0.00
849	352	354	63.72	0.09	1.00	0.00	0.00	0.00
850	340	354	-151.90	0.01	1.00	0.00	0.00	0.00
851	344	355	-137.16	0.06	1.00	0.00	0.00	0.00
852	344	357	-141.62	1.00	1.00	0.00	0.00	0.00
853	347	357	-116.07	1.34	1.00	0.00	0.00	0.00
854	353	357	-172.02	0.21	0.00	0.00	0.00	0.00
855	359	349	311.75	0.27	0.00	0.00	0.00	0.00
856	340	350	476.04	0.09	0.00	0.00	0.00	0.00
857	340	361	-176.29	0.07	1.00	0.00	0.00	0.00
858	341	362	-176.71	0.30	1.00	0.00	0.00	0.00
859-NR	341	362						
860	349	362	-428.94	0.04	0.00	0.00	0.00	0.00
861	349	360	-418.70	0.20	0.00	0.00	0.00	0.00
862	350	356	-2044.21	0.00	0.00	0.00	0.00	0.00
863-FD	310	356	1647.09	3.43	0.00	0.00	0.00	0.00
864-PD	343	357	-402.76	0.12	0.00	0.00	0.00	0.00
865	343	367	622.76	2.10	0.00	0.00	0.00	0.00
866	343	368	0.00	0.00	0.00	0.00	0.00	0.00
867-NY	344	368						
868	344	375	133.47	0.00	0.00	0.00	0.00	0.00
869	344	380	-121.47	0.00	0.00	0.00	0.00	0.00
870	346	368	27.04	0.00	0.00	0.00	0.00	0.00
871	346	368	20.16	0.00	0.00	0.00	0.00	0.00
872	347	364	7.00	0.00	0.00	0.00	0.00	0.00
873	349	360	-12.00	0.00	0.00	0.00	0.00	0.00
874	349	370	9.74	0.00	0.00	0.00	0.00	0.00
875	379	371	-0.33	0.00	0.00	0.00	0.00	0.00
876	379	372	-0.40	0.00	0.00	0.00	0.00	0.00
877	379	379	-5.61	0.00	0.00	0.00	0.00	0.00
878	378	378	0.28	0.00	0.00	0.00	0.00	0.00
879	378	377	0.28	0.00	0.00	0.00	0.00	0.00
880	377	374	3.00	0.00	0.00	0.00	0.00	0.00
881	377	377	1.00	0.00	0.00	0.00	0.00	0.00
882	376	377	-13.27	0.00	0.00	0.00	0.00	0.00
883	379	374	10.63	0.00	0.00	0.00	0.00	0.00
884	378	372	-6.00	0.00	0.00	0.00	0.00	0.00
885	376	373	3.04	0.00	0.00	0.00	0.00	0.00
886	373	372	-0.91	0.00	0.00	0.00	0.00	0.00
887	373	372	0.17	0.00	0.00	0.00	0.00	0.00
888	371	368	-72.00	0.00	0.00	0.00	0.00	0.00
889	379	380	-122.61	0.00	0.00	0.00	0.00	0.00
890-PD	380	374	-138.76	0.00	0.00	0.00	0.00	0.00
891	428	319	-4540.00	1.00	0.00	0.00	0.00	0.00
892-NRFD	65	311						
893-PD	522	371	1619.04	0.17	139.90	0.00	0.00	0.00
894-PD	523	371	7245.17	2.70	136.13	0.00	0.00	0.00
895-PD	523	371	-4610.00	0.00	0.00	0.00	0.00	0.00
896-PD	523	371	-1622.39	0.00	0.00	0.00	0.00	0.00
897	523	371	2140.47	0.00	0.00	0.00	0.00	0.00
898-NRFD	523	371						
899-PD	523	371	3793.47	0.31	148.31	0.00	0.00	0.00
900-NRFD	523	364						

888	699	700	1016.78	17.79	1 CC	0.00	3.79	3.88
910-FG	700	LL	1016.75	17.82	1 CC	0.00	3.79	3.88
911-NK	702	700						
912-NK	703	703						
913-NK	704	704						
914-FG	704	NK	-273.49	1.02	1 CC	0.00	2.49	2.13

JUNCTION MCGE RESULTS

JUNCTION NUMBER	JUNCTION TITLE	INTERNAL HEIGHT (ft)	HYBRIDIC GRADE (ft)	JUNCTION ELEVATION (ft)	PRESSURE HEAD (ft)	JUNCTION PRESSURE (psi)
1		1.00	3223.97	3223.00	91.97	30.59
2		1.26	3223.95	3222.00	91.91	30.63
3		25.02	3223.69	3200.00	97.69	46.69
4		57.46	3223.68	3202.00	97.68	46.69
5		26.30	3223.72	3207.00	91.72	41.91
6		29.79	3223.84	3202.00	97.84	46.68
7		1.92	3224.27	3207.00	97.27	45.13
8		21.41	3223.73	3200.00	91.73	41.88
9		1.46	3223.69	3200.00	91.69	41.88
10		2.94	3223.94	3200.00	97.94	46.71
11		3.34	3223.94	3207.00	91.94	37.79
12		2.33	3224.09	3207.00	97.09	37.74
13		2.57	3224.00	3207.00	91.00	40.72
14		1.66	3223.64	3200.00	91.64	41.64
15		2.07	3223.62	3200.00	91.62	41.60
16		1.42	3223.10	3200.00	120.10	43.30
17		2.07	3223.16	3200.00	120.16	43.41
18		1.00	3224.62	3207.00	97.62	42.39
19		2.66	3224.79	3207.00	97.79	42.37
20		2.22	3224.10	3200.00	121.10	43.00
21		2.72	3224.05	3200.00	121.05	41.79
22		2.72	3224.33	3203.00	121.33	44.70
23		2.78	3224.24	3200.00	121.24	43.87
24		64.11	3223.51	3207.00	120.51	43.56
25		14.77	3223.27	3200.00	120.27	43.09
26		1.00	3223.19	3200.00	121.19	43.08
27		1.00	3223.01	3200.00	98.01	41.43
28		1.00	3223.01	3200.00	98.01	41.44
29		1.00	3223.01	3200.00	120.01	43.00
30		1.00	3223.01	3200.00	120.01	43.00
31		1.00	3223.01	3200.00	120.01	43.00
32		1.00	3223.01	3200.00	120.01	43.00
33		1.00	3223.01	3200.00	120.01	43.00
34		1.00	3223.01	3200.00	120.01	43.00
35		1.00	3223.01	3200.00	120.01	43.00
36		1.00	3223.01	3200.00	120.01	43.00
37		1.00	3223.01	3200.00	120.01	43.00
38		1.00	3223.01	3200.00	120.01	43.00
39		1.00	3223.01	3200.00	120.01	43.00
40		1.00	3223.01	3200.00	120.01	43.00
41		1.00	3223.01	3200.00	120.01	43.00
42		1.00	3223.01	3200.00	120.01	43.00
43		1.00	3223.01	3200.00	120.01	43.00
44		1.00	3223.01	3200.00	120.01	43.00
45		1.00	3223.01	3200.00	120.01	43.00
46		1.00	3223.01	3200.00	120.01	43.00
47		1.00	3223.01	3200.00	120.01	43.00
48		1.00	3223.01	3200.00	120.01	43.00
49		1.00	3223.01	3200.00	120.01	43.00
50		1.00	3223.01	3200.00	120.01	43.00
51		1.00	3223.01	3200.00	120.01	43.00
52		1.00	3223.01	3200.00	120.01	43.00
53		1.00	3223.01	3200.00	120.01	43.00
54		1.00	3223.01	3200.00	120.01	43.00
55		1.00	3223.01	3200.00	120.01	43.00
56		1.00	3223.01	3200.00	120.01	43.00
57		1.00	3223.01	3200.00	120.01	43.00
58		1.00	3223.01	3200.00	120.01	43.00
59		1.00	3223.01	3200.00	120.01	43.00
60		1.00	3223.01	3200.00	120.01	43.00
61		1.00	3223.01	3200.00	120.01	43.00
62		1.00	3223.01	3200.00	120.01	43.00
63		1.00	3223.01	3200.00	120.01	43.00
64		1.00	3223.01	3200.00	120.01	43.00
65		1.00	3223.01	3200.00	120.01	43.00
66		1.00	3223.01	3200.00	120.01	43.00
67		1.00	3223.01	3200.00	120.01	43.00
68		1.00	3223.01	3200.00	120.01	43.00
69		1.00	3223.01	3200.00	120.01	43.00
70		1.00	3223.01	3200.00	120.01	43.00
71		1.00	3223.01	3200.00	120.01	43.00
72		1.00	3223.01	3200.00	120.01	43.00
73		1.00	3223.01	3200.00	120.01	43.00
74		1.00	3223.01	3200.00	120.01	43.00
75		1.00	3223.01	3200.00	120.01	43.00
76		1.00	3223.01	3200.00	120.01	43.00
77		1.00	3223.01	3200.00	120.01	43.00

85	4 14	4013.67	3001.00	137.47	56.62
86	29 54	4013.26	3002.00	128.24	55.97
87	0 00	4013.12	3003.00	127.22	55.89
88	0 00	4013.40	3004.00	127.40	55.94
89	0 04	4013.51	3005.00	126.51	54.87
90	0 70	4013.49	3006.00	126.49	54.81
91	30 46	4013.24	3007.00	127.24	55.88
92	95 44	4013.27	3008.00	94.27	37.35
93	14 77	4013.38	3009.00	114.70	49.54
94	0 00	4013.21	3010.00	122.21	52.96
95	201 06	4013.74	3011.00	120.74	52.33
96	29 54	4013.77	3012.00	127.77	55.37
97	15 10	4014.82	3013.00	121.82	57.12
98	0 00	4013.97	3014.00	130.97	56.75
99	2 94	4013.71	3015.00	133.71	57.84
100	0 00	4014.10	3016.00	131.10	56.56
101	0 42	4017.25	3017.00	133.25	60.34
102	0 42	4017.29	3018.00	137.29	59.41
103	0 00	4013.07	3019.00	131.07	56.83
104	0 42	4014.62	3020.00	124.62	56.17
105	20 54	4014.79	3021.00	124.79	56.24
106	12 74	4013.99	3022.00	130.99	56.78
107	20 54	4013.84	3023.00	131.84	56.70
108	10 24	4013.29	3024.00	137.29	60.67
109	0 04	4013.64	3025.00	137.64	59.21
110	0 04	4013.81	3026.00	137.81	59.28
111	1 10	4013.90	3027.00	137.90	59.34
112	14 77	4017.82	3028.00	137.82	60.84
113	1 54	4014.55	3029.00	134.55	60.31
114	0 00	4014.64	3030.00	134.64	60.38
115	5 28	4014.84	3031.00	134.84	60.43
116	0 74	4014.90	3032.00	133.90	60.56
117	4 20	4014.88	3033.00	137.88	60.59
118	0 00	4014.45	3034.00	137.45	61.81
119	0 42	4014.47	3035.00	127.45	59.03
120	0 00	4014.74	3036.00	131.74	61.10
121	2 10	4014.94	3037.00	131.94	61.18
122	1 40	4014.74	3038.00	131.74	61.22
123	4 79	4014.66	3039.00	121.66	54.89
124	4 26	4013.44	3040.00	121.44	54.79
125	48 62	4014.49	3041.00	121.49	54.81
126	6 04	4013.14	3042.00	127.14	59.64
127	7 80	4014.94	3043.00	121.94	54.81
128	1 60	4017.00	3044.00	131.00	64.77
129	1 00	4017.01	3045.00	137.01	67.21
130	7 00	4013.34	3046.00	132.34	60.80
131	0 70	4014.83	3047.00	134.83	65.20
132	0 42	4014.70	3048.00	137.70	69.60
133	0 00	4014.65	3049.00	137.65	69.63
134	0 04	4014.25	3050.00	133.25	64.34
135	0 42	4014.14	3051.00	141.14	68.74
136	0 00	4014.14	3052.00	131.14	64.30
137	0 00	4014.14	3053.00	131.14	64.30
138	2 00	4014.17	3054.00	131.17	64.37
139	1 00	4014.82	3055.00	131.82	64.91
140	24 24	4017.54	3056.00	127.54	65.27
141	1 41	4017.77	3057.00	127.77	65.17
142	46 42	4013.88	3058.00	123.88	63.14
143	0 16	4017.84	3059.00	123.84	64.34
144	2 12	4013.87	3060.00	131.87	67.14
145	0 00	4013.34	3061.00	134.34	69.21
146	0 00	4013.39	3062.00	134.39	69.22
147	0 00	4014.11	3063.00	133.11	67.68
148	2 94	4017.87	3064.00	138.87	72.49
149	0 04	4013.84	3065.00	138.84	72.83
150	0 04	4013.67	3066.00	135.67	68.69
151	0 42	4013.27	3067.00	140.27	73.86
152	0 00	4013.84	3068.00	141.84	74.26
153	0 00	4013.84	3069.00	141.84	74.26
154	0 04	4014.31	3070.00	137.31	71.86
155	0 04	4014.22	3071.00	134.22	70.83
156	2 00	4014.22	3072.00	131.22	67.73
157	104 90	4014.22	3073.00	131.22	67.73
158	7 01	4014.22	3074.00	132.21	69.10
159	10 00	4014.22	3075.00	122.21	64.00
160	0 00	4017.84	3076.00	122.84	64.17
161	40 31	4014.81	3077.00	122.81	64.17
162	2 00	4014.84	3078.00	122.84	64.17
163	23 28	4013.35	3079.00	124.35	65.88
164	0 42	4017.24	3080.00	132.24	70.64
165	0 00	4017.41	3081.00	132.41	70.61
166	0 04	4013.82	3082.00	134.82	72.86
167	1 00	4013.63	3083.00	134.63	72.87
168	1 00	4013.71	3084.00	137.71	74.11
169	0 04	4013.87	3085.00	137.87	74.16
170	0 00	4014.04	3086.00	134.04	70.97
171	1 00	4013.84	3087.00	134.84	71.64
172	10 04	4013.14	3088.00	127.14	67.10
173	0 00	4013.17	3089.00	124.17	65.24
174	0 00	4013.84	3090.00	130.84	68.84
175	3 00	4013.82	3091.00	131.82	69.81
176	0 00	4014.16	3092.00	131.16	69.84
177	0 00	4014.16	3093.00	131.16	69.84
178	0 00	4014.16	3094.00	131.16	69.84
179	0 00	4014.16	3095.00	131.16	69.84
180	0 00	4014.16	3096.00	131.16	69.84
181	0 00	4014.16	3097.00	131.16	69.84
182	0 00	4014.16	3098.00	131.16	69.84
183	0 00	4014.16	3099.00	131.16	69.84
184	0 00	4014.16	3100.00	131.16	69.84

184	1 40	4220.64	3004 00	135.64	38.78
185	1 40	4221.10	3005 00	135.10	37.68
186	3 00	4221.50	3006 00	136.50	38.68
187	3 00	4221.61	3007 00	136.61	38.86
188	0 00	4221.76	3008 00	136.76	39.03
189	0 00	4222.09	3009 00	137.09	37.20
190	0 00	4222.81	3010 00	137.81	38.48
191	2 10	4223.67	3011 00	138.67	37.82
192	0 00	4223.67	3012 00	138.67	38.22
193	0 00	4223.81	3013 00	138.81	38.57
194	0 00	4224.10	3014 00	139.10	38.27
195	4 00	4224.10	3015 00	139.10	39.31
196	29 96	4224.61	3016 00	139.61	40.07
197	3 00	4224.91	3017 00	139.91	40.16
198	24 38	4225.01	3018 00	140.01	41.19
199	29 84	4225.11	3019 00	140.11	42.02
200	29 84	4225.65	3020 00	140.65	42.26
201	0 42	4225.62	3021 00	140.62	42.84
202	2 10	4225.90	3022 00	140.90	42.66
203	4 10	4225.96	3023 00	140.96	42.84
204	294 43	4226.37	3024 00	141.37	43.83
205	1 04	4226.62	3025 00	141.62	44.94
206	1.43	4226.74	3026 00	141.74	44.99
207	1.04	4226.76	3027 00	141.76	45.56
208	1.04	4226.81	3028 00	141.81	45.88
209	1.04	4226.84	3029 00	141.84	46.77
210	1.04	4226.79	3030 00	141.79	46.71
211	1.20	4226.87	3031 00	141.87	47.26
212	1.42	4226.87	3032 00	141.87	48.29
213	1.20	4226.87	3033 00	141.87	48.66
214	1.20	4226.87	3034 00	141.87	49.21
215	1.04	4226.87	3035 00	141.87	49.21
216	1.04	4226.89	3036 00	141.89	49.27
217	1.00	4226.83	3037 00	141.83	49.81
218	1.20	4226.79	3038 00	141.79	49.71
219	1.20	4226.85	3039 00	141.85	49.84
220	1.19	4226.89	3040 00	141.89	50.00
221	1.00	4226.83	3041 00	141.83	50.61
222	1.24	4226.74	3042 00	141.74	50.61
223	1.24	4226.99	3043 00	141.99	50.61
224	1.24	4226.94	3044 00	141.94	50.61
225	1.00	4226.82	3045 00	141.82	50.60
226	1.04	4226.83	3046 00	141.83	50.67
227	1.04	4226.81	3047 00	141.81	50.67
228	1.10	4226.98	3048 00	141.98	50.67
229	1.13	4226.92	3049 00	141.92	50.67
230	1.04	4226.83	3050 00	141.83	50.67
231	1.13	4226.82	3051 00	141.82	50.67
232	1.28	4226.83	3052 00	141.83	50.67
233	1.28	4226.84	3053 00	141.84	50.67
234	1.48	4226.98	3054 00	141.98	50.67
235	1.24	4226.88	3055 00	141.88	50.67
236	1.10	4226.85	3056 00	141.85	50.67
237	1.72	4226.81	3057 00	141.81	50.67
238	1.28	4226.90	3058 00	141.90	50.67
239	20.22	4226.84	3059 00	141.84	50.67
240	17.56	4226.88	3060 00	141.88	50.67
241	1.22	4226.86	3061 00	141.86	50.67
242	14.90	4226.80	3062 00	141.80	50.67
243	4.79	4226.87	3063 00	141.87	50.67
244	0 42	4226.83	3064 00	141.83	50.67
245	0 52	4226.74	3065 00	141.74	50.67
246	10.11	4226.96	3066 00	141.96	50.67
247	12.77	4226.87	3067 00	141.87	50.67
248	2.02	4226.93	3068 00	141.93	50.67
249	1.00	4226.63	3069 00	141.63	50.67
250	1.00	4226.71	3070 00	141.71	50.67
251	2.00	4226.84	3071 00	141.84	50.67
252	1 00	4226.87	3072 00	141.87	50.67
253	1 00	4226.79	3073 00	141.79	50.67
254	1 00	4226.87	3074 00	141.87	50.67
255	3 42	4226.73	3075 00	141.73	50.67
256	1 00	4226.88	3076 00	141.88	50.67
257	1 00	4226.86	3077 00	141.86	50.67
258	14 25	4226.83	3078 00	141.83	50.67
259	1 00	4226.87	3079 00	141.87	50.67
260	1 04	4226.84	3080 00	141.84	50.67
261	1 00	4226.78	3081 00	141.78	50.67
262	1 00	4226.77	3082 00	141.77	50.67
263	1 00	4226.80	3083 00	141.80	50.67
264	1 00	4226.76	3084 00	141.76	50.67
265	1 00	4226.71	3085 00	141.71	50.67
266	1 10	4226.76	3086 00	141.76	50.67
267	1 40	4226.86	3087 00	141.86	50.67
268	1 00	4226.86	3088 00	141.86	50.67
269	1 00	4226.80	3089 00	141.80	50.67
270	1 00	4226.85	3090 00	141.85	50.67
271	1 00	4226.82	3091 00	141.82	50.67
272	0 42	4226.63	3092 00	141.63	50.67
273	0 00	4226.66	3093 00	141.66	50.67
274	0 00	4226.61	3094 00	141.61	50.67
275	0 42	4226.61	3095 00	141.61	50.67
276	1 26	4226.78	3096 00	141.78	50.67

302	0.00	4020.12	3072.00	168.12	64.19
303	0.00	4017.67	3071.00	166.67	63.66
304	0.00	4021.77	3071.00	168.77	64.48
305	0.00	4021.68	3071.00	168.68	64.37
306	0.00	4021.76	3071.00	168.76	64.33
307	0.00	4021.77	3071.00	168.77	64.30
308	0.00	4021.72	3071.00	168.72	64.29
309	0.00	4021.81	3071.00	168.81	64.41
310	0.00	4021.80	3071.00	168.80	64.45
311	0.00	4021.79	3071.00	168.79	64.40
312	0.00	4022.26	3071.00	169.26	64.64
313	0.00	4022.26	3071.00	169.26	64.79
314	0.00	4022.65	3071.00	169.65	64.92
315	0.00	4022.64	3071.00	169.64	64.91
316	0.00	4022.67	3071.00	169.67	64.93
317	0.00	4022.31	3071.00	169.31	64.87
318	0.00	4022.24	3071.00	169.24	64.81
319	0.00	4022.36	3071.00	169.36	64.89
320	0.00	4022.30	3071.00	169.30	64.86
321	0.00	4022.34	3071.00	169.34	64.88
322	0.00	4022.34	3071.00	169.34	64.88
323	0.00	4022.34	3071.00	169.34	64.88
324	0.00	4022.34	3071.00	169.34	64.88
325	0.00	4022.34	3071.00	169.34	64.88
326	0.00	4022.34	3071.00	169.34	64.88
327	0.00	4022.34	3071.00	169.34	64.88
328	0.00	4022.34	3071.00	169.34	64.88
329	0.00	4022.34	3071.00	169.34	64.88
330	0.00	4022.34	3071.00	169.34	64.88
331	0.00	4022.34	3071.00	169.34	64.88
332	0.00	4022.34	3071.00	169.34	64.88
333	0.00	4022.34	3071.00	169.34	64.88
334	0.00	4022.34	3071.00	169.34	64.88
335	0.00	4022.34	3071.00	169.34	64.88
336	0.00	4022.34	3071.00	169.34	64.88
337	0.00	4022.34	3071.00	169.34	64.88
338	0.00	4022.34	3071.00	169.34	64.88
339	0.00	4022.34	3071.00	169.34	64.88
340	0.00	4022.34	3071.00	169.34	64.88
341	0.00	4022.34	3071.00	169.34	64.88
342	0.00	4022.34	3071.00	169.34	64.88
343	0.00	4022.34	3071.00	169.34	64.88
344	0.00	4022.34	3071.00	169.34	64.88
345	0.00	4022.34	3071.00	169.34	64.88
346	0.00	4022.34	3071.00	169.34	64.88
347	0.00	4022.34	3071.00	169.34	64.88
348	0.00	4022.34	3071.00	169.34	64.88
349	0.00	4022.34	3071.00	169.34	64.88
350	0.00	4022.34	3071.00	169.34	64.88
351	0.00	4022.34	3071.00	169.34	64.88
352	0.00	4022.34	3071.00	169.34	64.88
353	0.00	4022.34	3071.00	169.34	64.88
354	0.00	4022.34	3071.00	169.34	64.88
355	0.00	4022.34	3071.00	169.34	64.88
356	0.00	4022.34	3071.00	169.34	64.88
357	0.00	4022.34	3071.00	169.34	64.88
358	0.00	4022.34	3071.00	169.34	64.88
359	0.00	4022.34	3071.00	169.34	64.88
360	0.00	4022.34	3071.00	169.34	64.88
361	0.00	4022.34	3071.00	169.34	64.88
362	0.00	4022.34	3071.00	169.34	64.88
363	0.00	4022.34	3071.00	169.34	64.88
364	0.00	4022.34	3071.00	169.34	64.88
365	0.00	4022.34	3071.00	169.34	64.88
366	0.00	4022.34	3071.00	169.34	64.88
367	0.00	4022.34	3071.00	169.34	64.88
368	0.00	4022.34	3071.00	169.34	64.88
369	0.00	4022.34	3071.00	169.34	64.88
370	0.00	4022.34	3071.00	169.34	64.88
371	0.00	4022.34	3071.00	169.34	64.88
372	0.00	4022.34	3071.00	169.34	64.88
373	0.00	4022.34	3071.00	169.34	64.88
374	0.00	4022.34	3071.00	169.34	64.88
375	0.00	4022.34	3071.00	169.34	64.88
376	0.00	4022.34	3071.00	169.34	64.88
377	0.00	4022.34	3071.00	169.34	64.88
378	0.00	4022.34	3071.00	169.34	64.88
379	0.00	4022.34	3071.00	169.34	64.88
380	0.00	4022.34	3071.00	169.34	64.88
381	0.00	4022.34	3071.00	169.34	64.88
382	0.00	4022.34	3071.00	169.34	64.88
383	0.00	4022.34	3071.00	169.34	64.88
384	0.00	4022.34	3071.00	169.34	64.88
385	0.00	4022.34	3071.00	169.34	64.88
386	0.00	4022.34	3071.00	169.34	64.88
387	0.00	4022.34	3071.00	169.34	64.88
388	0.00	4022.34	3071.00	169.34	64.88
389	0.00	4022.34	3071.00	169.34	64.88
390	0.00	4022.34	3071.00	169.34	64.88
391	0.00	4022.34	3071.00	169.34	64.88
392	0.00	4022.34	3071.00	169.34	64.88
393	0.00	4022.34	3071.00	169.34	64.88
394	0.00	4022.34	3071.00	169.34	64.88
395	0.00	4022.34	3071.00	169.34	64.88
396	0.00	4022.34	3071.00	169.34	64.88
397	0.00	4022.34	3071.00	169.34	64.88
398	0.00	4022.34	3071.00	169.34	64.88
399	0.00	4022.34	3071.00	169.34	64.88
400	0.00	4022.34	3071.00	169.34	64.88

MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURE (psi)	JUNCTION NUMBER	MINIMUM PRESSURE (psi)
319	86.16	322	1.00
420	81.99	323	5.24
427	81.10	330	5.84
524	81.21	725	4.33
303	71.97	363	6.40

SL / 1000

PIPE NUMBER	MAXIMUM SL/1000 (ft/ft)	PIPE NUMBER	MINIMUM SL/1000 (ft/ft)
614	35.77	321	0.21
620	31.22	423	0.21
317	30.83	630	0.07
110	24.00	650	0.07
313	24.69	536	0.01

REGULATING VALVE REPORT

VALVE LABEL	VALVE TYPE	MODE	CONTROLLED VALVE PIPE	VALVE SETTING (ft or psi)	VALVE STATUS	UPSTREAM GRADE (ft)	DOWNSTREAM GRADE (ft)	THROUGH FLOW (gpm)
RS	PRV-1	506	647	4210.40	THROTTLED	4270.32	4010.40	131.47

SUMMARY OF INFLOWS AND OUTFLOWS

1-1 INFLOWS INTO THE SYSTEM FROM FIXED GRADE NODES
 1-1 OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

NODE LABEL	PIPE NUMBER	FLOWRATE (gpm)	NODE TITLE
AA	42	-2403.37	TANK 0100
CC	617	1000.70	TANK 7050
DC	303	-1701.82	TANK 7000
EE	643	-1407.89	TANK 7201
FF	644	613.86	TANK 7201
GG	650	135.70	TANK 7770
II	613	4433.00	TANK 1310
JJ	630	4433.39	TANK 1310

NET SYSTEM OUTPUT = 4075.03
 NET SYSTEM DEMAND = 3442.73
 CHANGES FOR NEXT SIMULATION
 DEMAND CHANGES

DEMAND TYPE = 1 CD = 1.00

PIPE PARAMETER CHANGES

STATUS CODE	EX - CLOSED PIPE CV - CHECK VALVE	FX - FIXED GRADE NODE BV - REGULATING VALVE	FW - JUMP LINE			
PIPE NUMBER	NODE NO1 NO2	LENGTH (ft)	DIAMETER (in)	ROUGHNESS COEFF	MINOR LOSS COEFF	PCF-MGL (ft)
023-FW	221 226	70.0	14 C	125.00	0.00	0.00
010-FW	222 22	70.0	16 C	100.00	0.00	0.00

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 SIMULATION RESULTS

THE RESULTS ARE OBTAINED AFTER 3 ITERATIONS WITH AN ACCURACY = 0.001%

PIPELINE RESULTS

STATUS CODE	EX - CLOSED PIPE CV - CHECK VALVE	FX - FIXED GRADE NODE BV - REGULATING VALVE	FW - JUMP LINE TL - STORAGE TANK					
PIPE NUMBER	NODE NO1 NO2	FLOWRATE (gpm)	HEAD LOSS (ft)	PUMP HEAD (ft)	FUNCT. LABEL	MINOR LOSS (ft)	LINE VELOCITY (ft/s)	HL/100' (ft/ft)
1	1 2	13.33	0.03	0.00		0.00	0.15	0.23
2	2 3	32.74	0.74	0.00		0.00	0.25	0.23
3	3 4	63.10	2.44	0.00		0.00	0.72	0.40
4	4 5	-30.91	0.01	0.00		0.00	0.12	0.20
5	4 6	-7.92	0.02	0.00		0.00	0.19	0.31
6	4 7	0.09	0.00	0.00		0.00	0.04	0.02
7	6 7	-51.44	0.12	0.00		0.00	0.43	0.30
8	6 8	60.44	0.14	0.00		0.00	0.40	0.44
9	6 9	61.03	0.04	0.00		0.00	0.29	0.20
10	10 2	10.23	0.03	0.00		0.00	0.22	0.20
11	11 1	14.53	0.02	0.00		0.00	0.16	0.06
12	10 11	-7.09	0.02	0.00		0.00	0.20	0.02
13	10 9	10.01	0.10	0.00		0.00	0.23	0.00
14	9 7	122.08	0.40	0.00		0.00	1.16	1.16
15	9 7	0.07	0.00	0.00		0.00	0.09	0.01
16	7 10	-21.22	0.00	0.00		0.00	0.24	0.07
17	21 10	21.03	0.34	0.00		0.00	0.34	0.13
18	10 10	-2.41	0.00	0.00		0.00	0.23	0.00
19	10 7	28.93	0.00	0.00		0.00	0.43	0.17
20	24 10	42.14	0.10	0.00		0.00	0.40	0.41
21	27 10	61.17	0.03	0.00		0.00	0.19	0.11
22	17 10	-61.17	0.03	0.00		0.00	0.19	0.11
23	17 10	-43.56	0.03	0.00		0.00	0.20	0.11
24	16 14	-109.13	0.46	0.00		0.00	0.67	0.66
25	16 14	38.33	0.04	0.00		0.00	0.61	2.46
26	16 9	122.07	0.10	0.00		0.00	0.47	1.10
27	27 12	210.45	0.07	0.00		0.00	0.17	0.13
28	20 14	66.71	0.07	0.00		0.00	0.50	0.20
29	27 20	69.73	0.07	0.00		0.00	0.50	0.08
30	16 13	27.57	0.04	0.00		0.00	0.40	0.30
31	13 10	28.14	0.12	0.00		0.00	0.40	0.30
32	10 11	26.42	0.04	0.00		0.00	0.20	0.10
33	13 10	0.06	0.02	0.00		0.00	0.10	0.02
34	14 12	22.76	0.02	0.00		0.00	0.24	0.11
35	13 14	-0.75	0.00	0.00		0.00	0.11	0.01
36	13 17	20.22	0.07	0.00		0.00	0.23	0.11
37	23 22	-23.43	0.10	0.00		0.00	0.18	0.04
38	22 20	19.70	0.00	0.00		0.00	0.17	0.07
39	20 22	23.27	0.02	0.00		0.00	0.18	0.27
40	27 20	-219.98	0.66	0.00		0.00	0.77	0.27
41	20 20	23.47	0.04	0.00		0.00	0.20	0.00
42-XRFS	21 24							
43	21 20	163.41	0.11	0.00		0.00	0.30	0.27
44	20 24	60.20	0.09	0.00		0.00	0.57	0.57
45	20 28	23.76	0.03	0.00		0.00	0.20	0.13
46	25 24	129.07	0.01	0.00		0.00	0.19	0.15
47	14 21	-2.70	0.00	0.00		0.00	0.01	0.00
48	21 10	12.10	0.01	0.00		0.00	0.14	0.03
49	20 21	14.70	0.03	0.00		0.00	0.17	0.01
50	22 21	22.45	0.00	0.00		0.00	0.20	0.07
51	22 23	-13.42	0.01	0.00		0.00	0.03	0.11
52	22 23	-57.00	0.02	0.00		0.00	0.24	0.20
53	23 42	0.00	0.00	0.00		0.00	0.03	0.01

50	42	43	-1 97	0.00	0.00	0.00	0.00	0.00
51	42	43	-14 80	0.03	0.00	0.00	0.00	0.00
52	44	43	13 04	0.18	0.00	0.00	0.00	0.00
53	44	45	54 72	0.16	0.00	0.00	0.00	0.00
54	44	46	-1 57	0.01	0.00	0.00	0.00	0.00
55	41	38	128 74	0.72	0.00	0.00	0.00	0.00
56	37	38	123 67	0.01	0.00	0.00	0.00	0.00
57	38	37	-21 33	0.01	0.00	0.00	0.00	0.00
58	38	37	21 13	0.02	0.00	0.00	0.00	0.00
59	38	34	31 38	0.00	0.00	0.00	0.00	0.00
60	36	35	18 35	0.00	0.00	0.00	0.00	0.00
61	35	34	67 48	0.11	0.00	0.00	0.00	0.00
62	31	30	487 38	0.18	0.00	0.00	0.00	0.00
63	32	30	-76 39	0.11	0.00	0.00	0.00	0.00
64	31	29	-48 17	0.00	0.00	0.00	0.00	0.00
65	47	45	50 46	0.02	0.00	0.00	0.00	0.00
66	44	44	30 72	0.12	0.00	0.00	0.00	0.00
67	44	47	40 43	0.16	0.00	0.00	0.00	0.00
68	46	46	-43 74	0.04	0.00	0.00	0.00	0.00
69	48	46	40 98	0.02	0.00	0.00	0.00	0.00
70	46	46	10 26	0.00	0.00	0.00	0.00	0.00
71	46	48	-10 21	0.01	0.00	0.00	0.00	0.00
72	49	49	22 24	0.01	0.00	0.00	0.00	0.00
73	62	48	12 42	0.01	0.00	0.00	0.00	0.00
74	64	63	3 12	0.00	0.00	0.00	0.00	0.00
75	64	66	-44 78	0.00	0.00	0.00	0.00	0.00
76	64	67	-11 33	0.00	0.00	0.00	0.00	0.00
77	65	64	-157 62	0.17	0.01	0.00	0.00	0.00
78	64	67	-243 38	0.18	0.00	0.00	0.00	0.00
79	65	73	62 94	0.06	0.00	0.00	0.00	0.00
80	72	74	-216 15	0.23	0.00	0.00	0.00	0.00
81	72	74	-92 77	0.30	0.00	0.00	0.00	0.00
82	75	76	-75 91	0.16	0.00	0.00	0.00	0.00
83	127	124	83 64	0.21	0.00	0.00	0.00	0.00
84	123	124	86 34	0.01	0.00	0.00	0.00	0.00
85	125	76	21 77	0.17	0.00	0.00	0.00	0.00
86	75	76	-123 28	0.48	0.00	0.00	0.00	0.00
87	76	77	-182 58	0.04	0.00	0.00	0.00	0.00
88	77	67	97 23	0.13	0.00	0.00	0.00	0.00
89	77	78	-133 71	0.10	0.00	0.00	0.00	0.00
90	78	68	124 68	0.18	0.00	0.00	0.00	0.00
91	67	68	-189 60	0.17	0.00	0.00	0.00	0.00
92	66	61	-22 90	0.04	0.00	0.00	0.00	0.00
93	68	69	184 88	0.11	0.00	0.00	0.00	0.00
94	68	69	-78 38	0.04	0.00	0.00	0.00	0.00
95	69	69	-1 63	0.00	0.00	0.00	0.00	0.00
96	62	61	144 29	0.04	0.00	0.00	0.00	0.00
97	61	62	13 29	0.02	0.00	0.00	0.00	0.00
98	61	60	62 62	0.02	0.00	0.00	0.00	0.00
99	60	48	41 60	0.01	0.00	0.00	0.00	0.00
100	58	58	17 59	0.01	0.00	0.00	0.00	0.00
101	60	57	17 71	0.00	0.00	0.00	0.00	0.00
102	57	49	11 1	0.00	0.00	0.00	0.00	0.00
103	57	48	12 24	0.02	0.00	0.00	0.00	0.00
104	53	58	-24 82	0.04	0.00	0.00	0.00	0.00
105	58	55	42 12	0.14	0.00	0.00	0.00	0.00
106	58	54	71 49	0.13	0.00	0.00	0.00	0.00
107	55	55	58 79	0.00	0.00	0.00	0.00	0.00
108	52	54	-487 88	0.16	0.00	0.00	0.00	0.00
109	52	56	45 54	0.02	0.00	0.00	0.00	0.00
110	52	72	-42 94	0.06	0.00	0.00	0.00	0.00
111	54	71	-442 93	0.10	0.00	0.00	0.00	0.00
112	71	72	-9 30	0.00	0.00	0.00	0.00	0.00
113	72	80	-47 74	0.04	0.00	0.00	0.00	0.00
114	71	87	-446 13	0.07	0.00	0.00	0.00	0.00
115	68	85	48 40	0.13	0.00	0.00	0.00	0.00
116	62	88	69 71	0.13	0.00	0.00	0.00	0.00
117	70	88	31 04	0.12	0.00	0.00	0.00	0.00
118	70	69	24 74	0.12	0.00	0.00	0.00	0.00
119	49	80	-44 62	0.12	0.00	0.00	0.00	0.00
120	78	79	-81 61	0.11	0.00	0.00	0.00	0.00
121	78	121	-261 27	0.34	0.00	0.00	0.00	0.00
122	77	126	-79 27	0.04	0.00	0.00	0.00	0.00
123	123	121	32 17	0.08	0.00	0.00	0.00	0.00
124	121	128	-61 02	1.05	0.00	0.00	0.00	0.00
125	128	147	81 71	2.71	0.06	0.00	0.00	0.00
126	125	124	-269 27	0.77	0.01	0.00	0.00	0.00
127	126	143	-123 11	0.77	0.00	0.00	0.00	0.00
128	122	136	-131 00	0.04	0.00	0.00	0.00	0.00
129	128	181	171 88	0.78	0.00	0.00	0.00	0.00
130	128	129	8 61	0.69	0.00	0.00	0.00	0.00
131	121	75	128 61	0.23	0.00	0.00	0.00	0.00
132	79	86	19 49	0.29	0.00	0.00	0.00	0.00
133	120	119	-210 87	1.03	0.00	0.00	0.00	0.00
134	120	88	41 09	0.32	0.00	0.00	0.00	0.00
135	127	89	12 79	0.01	0.00	0.00	0.00	0.00
136	127	81	28 65	0.13	0.00	0.00	0.00	0.00
137	80	81	25 68	0.17	0.00	0.00	0.00	0.00
138	81	79	83 02	0.04	0.00	0.00	0.00	0.00
139	81	63	7 52	0.01	0.00	0.00	0.00	0.00
140	118	81	100 61	0.36	0.00	0.00	0.00	0.00
141	82	82	88 48	0.18	0.00	0.00	0.00	0.00
142	108	83	29 39	0.09	0.00	0.00	0.00	0.00
143	80	82	-43 46	0.03	0.00	0.00	0.00	0.00
144	45	84	30 46	0.12	0.00	0.00	0.00	0.00

197	86	88	38 81	0 81	0 05	0 00	0 25	0 05
198	87	88	36 75	0 80	0 05	0 00	0 25	0 05
199	87	104	-481 24	0 11	0 05	0 00	0 25	0 05
200	88	88	75 54	0 05	0 05	0 00	0 25	0 05
201	89	89	49 82	0 02	0 05	0 00	0 25	0 05
202	103	80	92 18	0 17	0 05	0 00	0 25	0 05
203	89	91	123 14	0 04	0 00	0 00	0 25	0 05
204	90	91	428 80	0 04	0 00	0 00	0 25	0 05
205	97	160	-338 25	0 45	0 00	0 00	0 25	0 05
206	91	95	501 36	0 27	0 00	0 00	0 25	0 05
207	91	92	591 14	0 45	0 00	0 00	0 25	0 05
208	93	93	774 20	0 04	0 00	0 00	0 25	0 05
209	93	94	-289 93	0 44	0 00	0 00	0 25	0 05
210	91	142	-509 36	0 48	0 00	0 00	0 25	0 05
211	94	159	-997 61	0 80	0 00	0 00	0 25	0 05
212	94	95	506 65	0 67	0 00	0 00	0 25	0 05
213	94	198	-181 30	0 92	0 00	0 00	0 25	0 05
214	94	98	-974 80	0 85	0 00	0 00	0 25	0 05
215	97	197	-84 19	0 18	0 00	0 00	0 25	0 05
216	97	98	393 84	0 14	0 00	0 00	0 25	0 05
217	99	203	31 64	0 19	0 00	0 00	0 25	0 05
218	99	89	-823 30	0 43	0 00	0 00	0 25	0 05
219	102	99	81 88	0 13	0 00	0 00	0 25	0 05
220	99	186	-11 86	0 01	0 00	0 00	0 25	0 05
221	99	188	-134 88	0 12	0 00	0 00	0 25	0 05
222	103	180	-17 13	0 02	0 00	0 00	0 25	0 05
223	101	180	84 91	0 10	0 00	0 00	0 25	0 05
224	101	182	83 48	0 07	0 00	0 00	0 25	0 05
225	101	183	-179 93	0 43	0 00	0 00	0 25	0 05
226	102	184	214 88	0 22	0 00	0 00	0 25	0 05
227	109	184	283 84	0 12	0 00	0 00	0 25	0 05
228	109	182	-379 83	0 41	0 00	0 00	0 25	0 05
229	109	182	-34 08	0 13	0 00	0 00	0 25	0 05
230	109	182	11 84	0 00	0 00	0 00	0 25	0 05
231	109	186	37 86	0 02	0 00	0 00	0 25	0 05
232	109	188	-39 72	0 05	0 00	0 00	0 25	0 05
233	109	187	36 48	0 16	0 00	0 00	0 25	0 05
234	109	187	-64 33	0 00	0 00	0 00	0 25	0 05
235	109	187	61 85	0 11	0 00	0 00	0 25	0 05
236	109	188	21 65	0 11	0 00	0 00	0 25	0 05
237	109	187	113 83	0 12	0 00	0 00	0 25	0 05
238	109	188	81 88	0 05	0 00	0 00	0 25	0 05
239	109	188	13 24	0 04	0 00	0 00	0 25	0 05
240	109	188	-130 82	0 13	0 00	0 00	0 25	0 05
241	109	186	106 12	0 09	0 00	0 00	0 25	0 05
242	109	188	3 63	0 00	0 00	0 00	0 25	0 05
243	110	181	-99 19	0 13	0 00	0 00	0 25	0 05
244	114	184	100 14	0 07	0 00	0 00	0 25	0 05
245	114	181	-64 71	0 06	0 00	0 00	0 25	0 05
246	112	183	248 17	0 03	0 00	0 00	0 25	0 05
247	112	180	-728 68	0 18	0 00	0 00	0 25	0 05
248	111	183	-21 73	0 00	0 00	0 00	0 25	0 05
249	114	183	-44 83	0 01	0 00	0 00	0 25	0 05
250	113	183	-74 81	0 08	0 00	0 00	0 25	0 05
251	113	184	-18 74	0 01	0 00	0 00	0 25	0 05
252	110	182	38 12	0 08	0 00	0 00	0 25	0 05
253	110	183	-18 84	0 00	0 00	0 00	0 25	0 05
254	110	189	91 47	0 07	0 00	0 00	0 25	0 05
255	110	189	-48 96	0 03	0 00	0 00	0 25	0 05
256	113	181	71 48	0 04	0 00	0 00	0 25	0 05
257	113	184	-38 99	0 09	0 00	0 00	0 25	0 05
258	110	188	31 01	0 03	0 00	0 00	0 25	0 05
259	110	188	-22 37	0 00	0 00	0 00	0 25	0 05
260	110	188	109 43	0 07	0 00	0 00	0 25	0 05
261	110	188	-38 46	0 02	0 00	0 00	0 25	0 05
262	116	187	48 18	0 09	0 00	0 00	0 25	0 05
263	116	188	-177 18	0 04	0 00	0 00	0 25	0 05
264	118	187	-704 55	0 08	0 00	0 00	0 25	0 05
265	119	184	-143 78	0 01	0 00	0 00	0 25	0 05
266	119	188	-1 67	0 00	0 00	0 00	0 25	0 05
267	129	184	-575 79	0 05	0 00	0 00	0 25	0 05
268	138	189	-204 31	0 03	0 00	0 00	0 25	0 05
269	136	188						
270	136	187	436 89	0 03	0 00	0 00	0 25	0 05
271	137	181	43 84	0 06	0 00	0 00	0 25	0 05
272	140	181	-171 24	0 08	0 00	0 00	0 25	0 05
273	140	183	-189 78	0 09	0 00	0 00	0 25	0 05
274	140	184	-183 16	0 16	0 00	0 00	0 25	0 05
275	140	188	-482 20	0 14	0 00	0 00	0 25	0 05
276	140	181	-38 80	0 02	0 00	0 00	0 25	0 05
277	140	182	68 80	0 02	0 00	0 00	0 25	0 05
278	140	181	-421 10	0 03	0 00	0 00	0 25	0 05
279	141	183	-74 51	0 03	0 00	0 00	0 25	0 05
280	141	184	-241 87	0 04	0 00	0 00	0 25	0 05
281	140	188	-382 68	0 00	0 00	0 00	0 25	0 05
282	140	186	4 18	0 00	0 00	0 00	0 25	0 05
283	140	187	-141 60	0 07	0 00	0 00	0 25	0 05
284	140	188	382 74	0 03	0 00	0 00	0 25	0 05
285	140	170	281 88	0 10	0 00	0 00	0 25	0 05
286	140	189	71 88	0 10	0 00	0 00	0 25	0 05
287	140	187	-44 57	0 04	0 00	0 00	0 25	0 05
288	140	187	63 89	0 12	0 00	0 00	0 25	0 05
289	140	188	44 78	0 07	0 00	0 00	0 25	0 05
290	140	182	39 32	0 08	0 00	0 00	0 25	0 05
291	140	182	-31 82	0 00	0 00	0 00	0 25	0 05

286	158	159	156.30	0.76	0.00	0.00	1.19	1.23
287	159	161	-157.07	0.56	0.30	0.00	2.24	3.00
288	161	161	-161.71	0.73	0.00	0.00	6.14	10.27
289	161	162	160.94	1.34	0.30	3.00	2.49	3.44
290	162	163	-118.03	0.69	0.00	3.00	1.35	1.54
291	163	164	-163.23	1.06	0.00	3.00	1.64	3.71
292	164	165	257.35	0.77	0.00	3.00	1.71	1.71
293	164	166	-87.19	0.59	0.30	3.00	3.99	0.07
294	165	166	236.95	0.89	0.00	3.00	1.81	1.36
295	165	167	-258.89	1.04	0.00	3.00	1.71	1.71
296	202	204	184.05	1.98	0.00	0.00	1.34	0.95
297	193	203	-167.18	1.65	0.00	3.00	1.57	0.72
298	193	204	50.34	0.34	0.00	0.00	0.32	0.14
299	194	201	101.12	0.16	0.00	0.00	0.65	0.52
270	195	207	-81.96	0.10	0.00	0.00	0.33	0.15
271	190	201	81.06	0.24	0.00	0.00	0.52	0.38
272	180	207	-75.31	0.01	0.00	0.00	0.33	0.08
273	197	200	-86.31	0.04	0.00	0.00	0.39	0.11
274	179	200	44.64	0.04	0.00	0.00	0.30	0.13
275	179	200	-13.20	0.01	0.00	0.00	0.32	0.08
276	169	200	-14.68	0.01	0.00	0.00	0.31	0.08
277	188	200	-91.88	0.07	0.00	0.00	0.37	0.12
278	178	200	21.14	0.04	0.00	0.00	0.31	0.06
279	178	200	-49.74	0.04	0.00	0.00	0.31	0.10
280	189	200	-81.42	0.05	0.00	0.00	0.33	0.10
281	177	200	-14.10	0.01	0.00	0.00	0.30	0.03
282	177	200	-170.39	0.09	0.00	0.00	0.30	0.10
283	177	213	-235.63	0.34	0.00	0.00	0.68	0.57
284	184	206	-888.67	0.34	0.00	0.00	1.48	1.97
285	176	206	-178.06	1.71	0.00	0.00	2.04	6.51
286	178	244	42.82	2.22	0.00	0.00	2.49	1.53
287	182	273	-69.56	0.11	0.00	0.00	0.40	0.26
288	176	278	-167.99	1.00	0.00	0.00	1.42	4.00
289	173	274	-160.28	0.84	0.00	0.00	1.37	1.33
290	172	273	-84.63	0.62	0.00	0.00	0.98	0.82
291	172	271	18.82	0.67	0.00	0.00	0.18	0.83
292	172	288	-13.30	0.34	0.00	0.00	0.22	0.08
293	183	257	4.24	0.33	0.00	0.00	0.73	2.01
294	221	228	194.05	0.31	0.00	0.00	2.42	1.51
295	221	228	-828.09	1.25	0.00	0.00	2.31	3.91
296	174	227	-30.61	0.01	0.00	0.00	0.22	1.04
297	179	228	-18.83	0.01	0.00	0.00	0.16	1.07
298	176	228	221.15	0.20	0.00	0.00	0.95	1.42
299	176	219	-1107.08	1.76	0.00	0.00	2.72	3.25
300	220	219	-1204.61	1.85	0.00	0.00	2.04	7.31
301	224	228	-1250.92	0.00	0.00	0.00	3.30	1.27
302	220	226	-808.74	0.37	0.00	0.00	1.07	1.53
303	226	227	-614.22	0.80	0.00	0.00	1.74	1.67
304	227	228	-627.94	1.69	0.00	0.00	2.03	1.00
305	228	229	-647.93	0.83	0.00	0.00	2.69	1.73
306	229	220	-788.17	0.85	0.00	0.00	3.60	3.06
307	229	220	-1147.92	1.17	0.00	0.00	3.26	0.32
308	229	228	-1269.44	0.43	0.00	0.00	3.34	6.23
309	229	221	99.34	0.01	0.00	0.00	0.20	0.06
310	221	217	-244.07	0.31	0.00	0.00	1.49	3.27
311	221	217	1617.59	0.41	0.00	0.00	4.14	10.38
312	220	219	-2284.89	0.71	0.00	0.00	4.72	0.66
313	219	211	-4826.48	1.10	0.00	0.00	6.37	22.04
314	216	211	-3827.43	0.66	0.00	0.00	7.16	12.80
315	216	211	1296.89	0.67	0.00	0.00	2.92	2.40
316	249	216	-2126.75	4.44	0.00	0.00	1.40	2.72
317	234	217	-793.12	3.31	0.00	0.00	3.08	6.93
318	231	216	263.09	3.77	0.00	0.00	2.30	6.47
319	216	216	-264.16	0.07	0.00	0.00	2.60	0.74
320	214	213	273.23	0.14	0.00	0.00	0.45	0.60
321	213	212	0.60	0.01	0.00	0.00	0.03	0.00
322	213	211	0.00	0.05	0.00	0.00	0.09	0.00
323	207	203	180.07	2.03	0.00	0.00	1.15	1.51
324	214	210	275.31	1.81	0.00	0.00	1.12	0.99
325	210	208	124.45	0.33	0.00	0.00	0.79	1.76
326	210	209	149.40	0.51	0.00	0.00	0.94	1.07
327	209	208	20.42	0.01	0.00	0.00	0.16	1.08
328	208	207	151.77	0.89	0.00	0.00	0.97	1.10
329	207	207	119.49	0.34	0.00	0.00	0.77	0.91
330	207	206	120.06	0.31	0.00	0.00	0.89	0.93
331	206	204	282.02	0.91	0.00	0.00	1.06	1.36
332	207	208	-38.00	0.01	0.00	0.00	0.13	0.03
333	208	204	158.79	1.29	0.00	0.00	1.01	1.29
334	204	207	18.22	0.22	0.00	0.00	0.37	0.20
335	203	208	37.41	0.03	0.00	0.00	0.43	0.10
336	203	202	-212.79	1.26	0.00	0.00	1.14	1.13
337	203	203	-228.68	1.30	0.00	0.00	1.44	1.29
338	203	201	-189.96	0.73	0.00	0.00	1.19	0.87
339	202	201	12.17	0.00	0.00	0.00	0.30	0.01
340	201	200	-171.40	0.01	0.00	0.00	0.71	1.39
341	201	204	-25.48	0.02	0.00	0.00	0.88	0.21
342	201	200	-627.66	0.00	0.00	0.00	1.46	1.17
343	201	200	277.47	0.01	0.00	0.00	1.77	1.03
344	199	200	289.07	0.07	0.00	0.00	0.00	0.07
345	199	200	-53.98	0.26	0.00	0.00	0.61	0.14
346	198	203	187.43	0.12	0.00	0.00	0.82	0.33
347	198	203	-89.01	0.12	0.00	0.00	0.48	0.17
348	194	204	79.74	0.42	0.00	0.00	0.83	0.52
349	194	204	243.03	1.21	0.00	0.00	1.82	1.82
350	193	204	124.10	1.08	0.00	0.00	3.29	2.04
351	184	244	649.29	2.09	0.00	0.00	2.42	3.74

255	191	188	77 08	0 28	2.09	0 00	0 00	2 31
256	189	184	39 76	1 03	2.09	0 00	0 44	0.14
257	186	187	-02.24	0 00	1.00	0 00	0 50	0.22
258	187	187	89.36	0 12	1.00	0 00	0 30	0.11
259	187	188	-14 10	0 12	1.00	0 00	0 23	0.04
260	188	188	-04 14	0 20	1.00	0 00	0 01	0.07
261	188	191	-121 13	0 47	1.00	0 00	0 06	0.09
262	191	191	73 17	0 01	1.00	0 00	0 03	1.16
263	191	192	-7 70	0 00	1.00	0 00	0 05	0.00
264	191	193	-1299 70	0 00	1.00	0 00	2 71	0.00
265	193	194	-314 08	0 13	1.00	0 00	3 16	0.05
266	196	193	744 05	0 00	1.00	0 00	1 58	0.70
267	196	193	-381 97	0 02	1.00	0 00	0 03	0.20
268	194	193	1683 74	0 00	1.00	0 00	3 43	1.37
269	196	190	200 10	0 03	1.00	0 00	1 13	1.40
270	197	194	1414 1.	0.18	1.00	0 00	2 46	2.29
271	197	194	-464 10	0 05	1.00	0 00	0 70	0.39
272	197	205	1113 54	1.15	1.00	0 00	1.00	0.99
273	194	197	2012.01	1 20	1.00	0 00	4 33	4.09
274	194	227	-4234 54	32 24	1.00	0 00	4 43	1.60
275	267	266	01.59	0 01	0.00	0 00	0 44	0.70
276	267	267	370.78	0 27	0.00	0 00	0 70	0.20
277	264	269	-105.49	0 00	0.00	0 00	0 00	0.10
278	265	263	1127.92	0 01	0.00	0.00	1.00	0.00
279	263	259	931.02	0 10	0.00	0.00	1 04	0.22
280	259	269	864.44	1 00	0.00	0.00	1 50	0.63
281	259	269	-02.74	0 00	0.00	0 00	0 13	0.01
282	259	266	-74.07	0 00	0.00	0 00	0 00	0.18
283	260	261	-43.16	0 13	0.00	0 00	0 00	0.35
284	259	261	32 40	0 12	0.00	0 00	0 00	0.30
285	241	262	-17.07	0 00	0.00	0 00	0 00	0.09
286	276	262	17.47	0 01	0.00	0 00	0 11	0.02
287	246	254	-20.71	0 00	0.00	0 00	0 00	0.00
288	278	273	-13 77	0 01	0.00	0 00	0 00	0.00
289	274	266	-130.29	0 04	0.00	0 00	0 00	0.60
290	241	270	89.10	0 14	0.00	0 00	0 00	0.00
291	277	276	-79.22	0 01	0.00	0 00	0 00	0.10
292	277	257	289.69	0 03	0.00	0 00	2 17	0.00
293	257	284	234.00	0 26	0.00	0 00	3 00	12.10
294	258	284	44.73	0 00	0.00	0 00	0 70	1.97
295	277	280	-53.49	0 00	0.00	0 00	0 00	0.09
296	280	278	43.06	0 15	0.00	0 00	0 00	0.02
297	280	281	-121.25	0 00	0.00	0 00	7.41	0.14
298	281	274	83.22	0 23	0.00	0 00	0 00	0.00
299	281	274	-378.06	0 01	0.00	0 00	1.13	0.92
300	279	281	71 70	0 27	0.00	0 00	0 00	0.27
301	282	284	89 87	0 13	1.00	0 00	0 00	0.24
302	282	282	-75 51	0 20	0.00	0 00	0 00	1.22
303	278	279	97 52	0 21	1.00	0 00	0 00	0.00
304	282	280	-19 40	0 03	1.00	0 00	0 00	0.10
305	282	279	-60 32	0 07	1.00	0 00	0 00	0.70
306	274	273	-175 25	0 04	1.00	0 00	0 72	0 45
307	273	197	-100 32	0 08	1.00	0 00	0 77	0 44
308	272	271	-45 09	0 33	1.00	0 00	0 12	0 40
309	271	250	-17 15	1.18	1.00	0 00	0 11	0 19
310	271	270	-16 74	1 20	1.00	0 00	0 04	0 34
311	268	269	-12.08	0 04	1.00	0 00	0 14	0 04
312	270	269	-1.01	0 00	1.00	0 00	0 02	0 30
313	269	265	-24 01	0 07	1.00	0 00	0 30	0 00
314	269	265	-44 03	1 07	1.00	0 00	0 31	0 25
315	269	269	-21 04	1 09	1.00	0 00	0 29	0 27
316	262	269	-11.36	0 02	1.00	0 00	0 13	0 04
317	269	274	69 67	0 17	1.00	0 00	0 00	0 70
318	270	269	42.10	1.00	1.00	0 00	0 00	0 00
319	267	269	192 43	0 01	1.00	0 00	0 70	0 66
320	266	271	-27 28	0 01	1.00	0 00	0 00	0 11
321	272	264	-10 47	0 01	1.00	0 00	0 19	0 01
322	264	264	-40 03	0 23	1.00	0 00	0 44	0 19
323	266	269	-40 30	1 22	1.00	0 00	1 40	0 10
324	266	262	-8 03	1 03	1.00	0 00	0 11	0 37
325	262	264	-17 16	1 01	1.00	0 00	0 25	0 34
326	262	261	-27 07	1 04	1.00	0 00	0 21	0 10
327	261	261	-1 07	1 03	1.00	0 00	0 17	0 05
328	261	262	-19 29	1 06	1.00	0 00	0 27	0 10
329	260	262	-45 24	0 07	1.00	0 00	0 29	0 23
330	260	259	-29 09	0 09	1.00	0 00	0 24	0 22
331	260	259	-74 00	0 27	1.00	0 00	0 40	0 10
332	259	264	-20 13	0 00	1.00	0 00	0 33	0 17
333	259	261	-94 06	0 20	1.00	0 00	0 41	0 06
334	259	264	-29 76	0 07	1.00	0 00	0 34	0 20
335	259	262	124 73	0 40	1.00	0 00	0 00	0 70
336	260	270	-29 00	0 04	1.00	0 00	0 36	0 13
337	259	263	-124 73	0 00	1.00	0 00	0 00	0 00
338	259	266	-02 10	0 00	1.00	0 00	0 13	0 30
339	256	269	-61 04	0 31	1.00	0 00	0 19	0 23
340	256	267	-8 10	0 04	1.00	0 00	0 27	0 17
341	256	264	10 79	0 04	1.00	0 00	0 10	0 00
342	256	264	-16 75	0 06	1.00	0 00	0 10	0 00
343	256	269	-16 79	1 00	1.00	0 00	0 10	0 00
344	256	260	8 33	0 03	1.00	0 00	0 13	0 07
345	257	260	8 10	0 00	1.00	0 00	0 13	0 07
346	259	260	-03 06	0 02	1.00	0 00	0 10	0 10
347	259	261	-17 10	0 10	1.00	0 00	0 40	0 22
348	256	260	8 04	0 00	1.00	0 00	0 10	0 00
349	256	265	49 61	0 00	1.00	0 00	0 13	0 03
350	256	265	128 09	0 00	1.00	0 00	1 40	0 17

828-MSFC	826	819							
829-MSFC	826	819							
835-V2	826	819	4114 54	0.34	178.35	810	0.00	4.43	7.43
811	427	428	-4134 54	4.37	0.00	810	4.43	7.43	7.43
809	680	700	2876 55	31.97	0.00	810	7.91	7.91	4.29
810-V2	780	711	2876 55	1.17	0.00	810	3.01	4.28	4.28
811-NE	711	739							
812-NE	701	701							
813-NE	701	701							
814-PC	701	701	-212 58	0.00	0.00	810	0.48	0.48	0.19

JUNCTION NODE RESULTS

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEMAND (gpm)	HYDRAULIC GRADE (ft)	JUNCTION ELEVATION (ft)	PRESSURE HEAD (ft)	JUNCTION PRESSURE (psf)
1		1.28	6528.87	3764.88	121.97	52.88
2		1.07	6528.86	3812.00	124.89	54.18
3		27.40	6528.75	3919.00	128.70	54.92
4		82.28	6528.26	3973.00	130.24	55.72
5		54.72	6528.26	3977.00	129.28	56.01
6		42.16	6528.26	3920.00	128.26	56.71
7		1.28	6528.39	3897.00	129.17	56.07
8		11.46	6528.60	3898.00	128.47	56.84
9		7.00	6528.79	3898.00	128.74	56.81
10		4.20	6528.97	3920.00	126.67	56.12
11		4.00	6528.99	3907.00	119.84	51.89
12		1.50	6527.04	3507.00	122.04	52.02
13		2.43	6527.07	3508.00	127.07	55.06
14		2.48	6527.14	3508.00	128.14	55.97
15		5.00	6527.20	3508.00	129.20	55.99
16		3.00	6527.74	3508.00	131.74	57.09
17		1.00	6528.72	3508.00	131.72	57.08
18		12.32	6528.43	3507.00	129.41	56.10
19		3.50	6528.11	3507.00	129.01	56.10
20		7.42	6528.00	3508.00	131.00	57.04
21		4.22	6528.00	3508.00	133.00	57.02
22		15.84	6528.00	3508.00	133.00	57.01
23		11.00	6528.00	3508.00	131.00	57.04
24		62.30	6528.04	3508.00	131.04	57.04
25		21.10	6528.00	3508.00	133.00	57.01
26		5.00	6528.71	3508.00	132.71	57.01
27		4.00	6527.21	3508.00	129.21	56.99
28		3.00	6527.16	3508.00	129.16	56.99
29		5.00	6527.21	3508.00	131.21	56.96
30		0.00	6527.20	3508.00	127.20	56.98
31		6.00	6527.39	3508.00	127.39	56.94
32		0.00	6527.19	3508.00	134.19	56.94
33		1.00	6527.00	3508.00	130.00	56.97
34		0.00	6527.11	3508.00	122.11	51.01
35		0.00	6527.32	3508.00	127.32	56.97
36		1.00	6527.02	3508.00	127.02	56.96
37		1.00	6527.60	3508.00	134.60	56.90
38		0.00	6527.30	3508.00	127.30	56.93
39		0.00	6527.64	3508.00	127.64	56.90
40		04.40	6528.00	3508.00	131.00	57.01
41		101.50	6528.00	3508.00	131.00	57.01
42		4.00	6528.00	3508.00	134.00	56.98
43		2.00	6528.00	3508.00	133.00	56.98
44		21.38	6528.00	3508.00	127.00	56.97
45		27.04	6528.00	3508.00	124.00	56.99
46		11.00	6528.00	3508.00	129.00	56.98
47		27.04	6528.00	3508.00	127.00	56.97
48		24.00	6527.70	3508.00	140.70	56.98
49		0.00	6527.71	3508.00	140.71	56.98
50		0.00	6527.61	3508.00	140.61	56.98
51		0.00	6527.30	3508.00	140.30	56.98
52		0.00	6527.62	3508.00	140.62	56.98
53		0.00	6527.62	3508.00	137.62	56.98
54		0.00	6527.74	3508.00	140.74	56.98
55		14.91	6527.04	3508.00	140.04	56.98
56		11.00	6527.70	3508.00	140.70	56.98
57		0.00	6527.70	3508.00	140.70	56.98
58		1.00	6527.90	3508.00	140.90	56.98
59		1.00	6527.14	3508.00	140.14	56.98
60		24.16	6527.71	3508.00	140.71	56.98
61		60.10	6527.70	3508.00	140.70	56.98
62		0.00	6527.70	3508.00	140.70	56.98
63		27.70	6527.70	3508.00	140.70	56.98
64		32.10	6527.70	3508.00	140.70	56.98
65		10.00	6527.20	3508.00	140.20	56.98
66		4.00	6527.00	3508.00	140.00	56.98
67		2.16	6527.70	3508.00	140.70	56.98
68		10.00	6527.00	3508.00	140.00	56.98
69		0.00	6527.00	3508.00	140.00	56.98
70		4.00	6528.00	3508.00	140.00	56.98
71		0.00	6527.00	3508.00	140.00	56.98
72		0.00	6527.00	3508.00	140.00	56.98

31	3 30	4910.12	3878 00	153 17	45 75
32	1 00	4911 11	3878 01	152 17	45 75
33	80.40	4912 59	3878 02	151 59	45 86
34	7.00	4913 94	3881 00	167 94	44 11
35	6.20	4914 94	3881 01	164 94	43 47
36	42.20	4915 94	3882 00	146 94	43 24
37	4 30	4916 93	3882 01	145 93	43 24
38	6 30	4917 93	3882 02	145 93	43 24
39	1 20	4918 68	3883 00	144 68	42 78
40	1 20	4919 93	3883 01	144 93	42 79
41	47 80	4920 31	3883 02	137 80	42 68
42	134 14	4921 66	3883 03	64 66	29 71
43	21 10	4922 30	3883 04	127 10	42 13
44	2 00	4923 74	3883 05	131 74	41 09
45	418 00	4924 00	3883 06	130 00	41 20
46	42 20	4925 40	3886 00	141 20	41 17
47	21 70	4926 39	3882 03	145 39	43 00
48	2 00	4927 35	3883 09	147 35	42 94
49	6 20	4928 66	3882 03	144 64	43 84
50	9 00	4929 80	3881 03	147 80	44 04
51	3 60	4930 30	3878 03	15 30	45 40
52	3 00	4931 30	3881 03	144 30	44 70
53	3 00	4932 04	3882 03	140 04	44 16
54	2 00	4933 04	3881 03	147 04	43 72
55	42 20	4934 01	3881 03	147 01	43 72
56	16 00	4935 91	3882 09	147 91	43 28
57	44 37	4936 97	3882 00	147 97	43 28
58	43 20	4937 01	3878 00	130 20	43 24
59	1 20	4938 20	3877 00	141 20	45 92
60	1 20	4939 30	3877 01	131 30	44 90
61	3 00	4940 01	3877 01	137 01	42 19
62	32 10	4941 47	3878 01	137 47	42 20
63	2 20	4942 04	3880 01	140 04	44 33
64	6 30	4943 07	3880 01	140 07	44 34
65	7 60	4944 52	3880 01	144 52	44 38
66	1 20	4945 33	3881 01	147 33	43 91
67	6 20	4946 34	3878 01	134 34	43 23
68	6 99	4947 64	3883 01	144 64	43 94
69	2 00	4948 09	3883 02	144 09	43 94
70	8 00	4949 41	3883 03	140 41	43 10
71	3 00	4950 41	3883 03	144 41	43 10
72	3 00	4951 00	3883 03	140 00	42 32
73	6 04	4952 02	3880 03	131 02	42 19
74	6 00	4953 01	3887 09	131 01	42 42
75	55 78	4954 17	3888 00	131 17	42 31
76	1 20	4955 04	3888 00	134 04	42 04
77	11 40	4956 12	3888 01	131 12	42 28
78	2 40	4957 37	3888 00	142 37	42 53
79	3 00	4958 39	3888 00	144 39	42 57
80	10 00	4959 47	3888 00	141 47	44 36
81	1 00	4960 04	3878 00	157 04	45 16
82	3 00	4961 41	3877 00	151 41	45 41
83	7 00	4962 41	3877 00	151 41	45 41
84	1 20	4963 39	3878 00	147 39	45 47
85	5 00	4964 37	3878 00	144 37	46 00
86	2 00	4965 31	3878 00	141 31	46 11
87	4 00	4966 34	3878 00	143 34	46 10
88	9 50	4967 33	3878 00	142 33	46 02
89	4 20	4968 07	3878 00	132 07	45 00
90	221.20	4969 70	3881 01	137 70	45 67
91	2 10	4970 07	3881 01	130 07	44 39
92	51 79	4971 41	3881 01	134 41	44 27
93	24 52	4972 71	3881 01	140 71	40 97
94	7 60	4973 00	3887 01	142 00	41 04
95	3 04	4974 04	3884 01	145 04	42 05
96	6 70	4975 04	3881 01	144 04	42 38
97	3 00	4976 11	3881 01	140 11	42 31
98	8 34	4977 06	3881 01	145 06	43 04
99	4 20	4978 33	3877 01	133 33	41 00
100	1 20	4979 31	3877 01	132 31	41 00
101	1 24	4980 14	3878 00	132 14	40 71
102	8 60	4981 09	3878 00	137 09	40 36
103	12 00	4982 01	3878 00	135 01	41 17
104	18 00	4983 02	3877 00	133 02	40 31
105	4 21	4984 01	3879 00	140 01	44 00
106	4 00	4985 09	3880 00	140 09	44 41
107	408 70	4986 57	3883 00	140 57	43 04
108	138 50	4987 10	3884 00	144 10	42 14
109	84 47	4988 07	3887 00	142 07	43 00
110	8 00	4989 07	3887 00	141 07	43 00
111	43 10	4990 10	3889 00	141 10	43 14
112	4 00	4991 76	3881 00	133 76	41 04
113	43 40	4992 46	3882 00	134 46	40 29
114	15 10	4993 31	3887 00	140 31	41 24
115	3 00	4994 01	3886 00	144 01	40 79
116	1 10	4995 04	3878 00	142 04	40 00
117	3 40	4996 14	3877 00	141 14	40 41
118	2 40	4997 01	3877 00	141 01	40 33
119	1 20	4998 29	3877 00	141 29	40 30
120	5 00	4999 33	3880 00	140 33	40 37
121	13 00	5000 66	3882 00	134 66	39 29
122	15 10	5001 04	3881 00	137 04	38 40

290	1.20	4031.03	3074.00	157.01	43.39
291	1.00	4032.96	3073.00	158.97	40.09
292	1.00	4033.07	3076.00	158.07	47.43
293	4.00	4032.05	3076.00	155.05	47.49
294	4.00	4031.75	3079.00	156.75	47.93
295	0.00	4031.04	3074.00	157.04	48.31
296	1.00	4031.03	3073.00	158.03	48.76
297	197.00	4032.67	3070.00	155.67	49.09
298	0.00	4032.30	3073.00	158.30	44.31
299	0.00	4032.07	3073.00	156.07	43.70
300	4.00	4032.78	3070.00	157.78	42.32
301	4.00	4032.04	3070.00	157.04	41.76
302	18.00	4032.07	3076.00	154.07	42.41
303	18.00	4031.09	3081.00	153.09	40.91
304	22.00	4032.28	3080.00	152.28	45.25
305	0.00	4032.00	3081.00	152.00	44.63
306	0.00	4034.00	3084.00	150.00	42.31
307	12.16	4030.00	3081.00	152.00	44.02
308	6.00	3999.00	3080.00	159.00	43.57
309	17.00	4032.00	3080.00	155.00	47.36
310	7.00	4032.00	3080.00	158.00	49.52
311	12.16	4032.00	3080.00	158.00	49.22
312	12.16	4032.00	3080.00	158.00	41.08
313	12.16	4032.00	3080.00	158.00	49.12
314	12.16	4032.00	3080.00	158.00	71.66
315	22.00	4030.00	3080.00	158.00	42.54
316	10.00	4030.00	3080.00	154.00	49.02
317	0.00	4030.00	3080.00	154.00	41.00
318	4.00	4030.00	3080.00	154.00	40.17
319	1.00	4030.00	3080.00	154.00	40.30
320	1.00	4030.00	3080.00	154.00	40.00
321	1.00	4030.00	3080.00	154.00	40.00
322	1.00	4030.00	3080.00	154.00	40.00
323	1.00	4030.00	3080.00	154.00	40.00
324	1.00	4030.00	3080.00	154.00	40.00
325	1.00	4030.00	3080.00	154.00	40.00
326	1.00	4030.00	3080.00	154.00	40.00
327	1.00	4030.00	3080.00	154.00	40.00
328	1.00	4030.00	3080.00	154.00	40.00
329	1.00	4030.00	3080.00	154.00	40.00
330	1.00	4030.00	3080.00	154.00	40.00
331	1.00	4030.00	3080.00	154.00	40.00
332	1.00	4030.00	3080.00	154.00	40.00
333	1.00	4030.00	3080.00	154.00	40.00
334	1.00	4030.00	3080.00	154.00	40.00
335	1.00	4030.00	3080.00	154.00	40.00
336	1.00	4030.00	3080.00	154.00	40.00
337	1.00	4030.00	3080.00	154.00	40.00
338	1.00	4030.00	3080.00	154.00	40.00
339	1.00	4030.00	3080.00	154.00	40.00
340	1.00	4030.00	3080.00	154.00	40.00
341	1.00	4030.00	3080.00	154.00	40.00
342	1.00	4030.00	3080.00	154.00	40.00
343	1.00	4030.00	3080.00	154.00	40.00
344	1.00	4030.00	3080.00	154.00	40.00
345	1.00	4030.00	3080.00	154.00	40.00
346	1.00	4030.00	3080.00	154.00	40.00
347	1.00	4030.00	3080.00	154.00	40.00
348	1.00	4030.00	3080.00	154.00	40.00
349	1.00	4030.00	3080.00	154.00	40.00
350	1.00	4030.00	3080.00	154.00	40.00
351	1.00	4030.00	3080.00	154.00	40.00

378	16.24	4210.22	6160.00	79.23	36.43
379	17.16	4276.24	6183.00	95.34	41.31
380	17.16	4276.40	6183.00	84.40	37.46
381	17.80	4321.04	3870.00	131.06	65.46
382	17.80	4329.28	3872.00	157.29	68.16
383	0.30	4321.97	3871.00	154.87	67.15
384	0.30	4331.48	3873.00	158.46	68.47
385	1.00	4331.35	3871.00	151.39	67.31
386	0.30	4331.43	3874.00	151.43	68.22
387	0.30	4331.46	3879.00	153.46	68.33
388	0.30	4331.50	3877.00	154.50	68.85
389	0.30	4331.54	3871.00	151.54	67.33
390	1.00	4331.63	3871.00	151.63	67.87
391	1.00	4331.30	3873.00	150.30	66.64
392	0.30	4332.04	3881.00	152.04	67.98
393	0.30	4332.44	3881.00	152.44	68.26
394	0.30	4332.53	3881.00	152.53	68.13
395	0.30	4332.74	3881.00	152.74	68.52
396	0.50	4332.70	3889.00	152.70	68.86
397	0.50	4331.30	3887.00	151.30	67.32
398	0.50	4332.30	3889.00	154.30	68.40
399	0.50	4333.30	3889.00	154.00	68.40
400	0.50	4331.91	3889.00	152.91	67.36
401	1.00	4332.30	3894.00	154.30	68.22
402	1.00	4333.02	3894.00	154.02	68.24
403	0.50	4333.01	3896.00	153.01	68.37
404	0.50	4333.09	3898.00	153.09	68.81
405	0.50	4333.11	3898.00	152.11	68.87
406	0.50	4334.11	3898.00	154.11	69.37
407	0.50	4334.11	3898.00	154.11	69.37
408	0.50	4334.11	3898.00	154.11	69.37
409	0.50	4334.11	3898.00	154.11	69.37
410	0.50	4334.11	3898.00	154.11	69.37
411	0.50	4334.11	3898.00	154.11	69.37
412	0.50	4334.11	3898.00	154.11	69.37
413	0.50	4334.11	3898.00	154.11	69.37
414	0.50	4334.11	3898.00	154.11	69.37
415	0.50	4334.11	3898.00	154.11	69.37
416	0.50	4334.11	3898.00	154.11	69.37
417	0.50	4334.11	3898.00	154.11	69.37
418	0.50	4334.11	3898.00	154.11	69.37
419	0.50	4334.11	3898.00	154.11	69.37
420	0.50	4334.11	3898.00	154.11	69.37
421	0.50	4334.11	3898.00	154.11	69.37
422	0.50	4334.11	3898.00	154.11	69.37
423	0.50	4334.11	3898.00	154.11	69.37
424	0.50	4334.11	3898.00	154.11	69.37
425	0.50	4334.11	3898.00	154.11	69.37
426	0.50	4334.11	3898.00	154.11	69.37
427	0.50	4334.11	3898.00	154.11	69.37
428	0.50	4334.11	3898.00	154.11	69.37
429	0.50	4334.11	3898.00	154.11	69.37
430	0.50	4334.11	3898.00	154.11	69.37
431	0.50	4334.11	3898.00	154.11	69.37
432	0.50	4334.11	3898.00	154.11	69.37
433	0.50	4334.11	3898.00	154.11	69.37
434	0.50	4334.11	3898.00	154.11	69.37
435	0.50	4334.11	3898.00	154.11	69.37
436	0.50	4334.11	3898.00	154.11	69.37
437	0.50	4334.11	3898.00	154.11	69.37
438	0.50	4334.11	3898.00	154.11	69.37
439	0.50	4334.11	3898.00	154.11	69.37
440	0.50	4334.11	3898.00	154.11	69.37
441	0.50	4334.11	3898.00	154.11	69.37
442	0.50	4334.11	3898.00	154.11	69.37
443	0.50	4334.11	3898.00	154.11	69.37
444	0.50	4334.11	3898.00	154.11	69.37
445	0.50	4334.11	3898.00	154.11	69.37
446	0.50	4334.11	3898.00	154.11	69.37
447	0.50	4334.11	3898.00	154.11	69.37
448	0.50	4334.11	3898.00	154.11	69.37
449	0.50	4334.11	3898.00	154.11	69.37
450	0.50	4334.11	3898.00	154.11	69.37
451	0.50	4334.11	3898.00	154.11	69.37
452	0.50	4334.11	3898.00	154.11	69.37
453	0.50	4334.11	3898.00	154.11	69.37
454	0.50	4334.11	3898.00	154.11	69.37
455	0.50	4334.11	3898.00	154.11	69.37
456	0.50	4334.11	3898.00	154.11	69.37
457	0.50	4334.11	3898.00	154.11	69.37
458	0.50	4334.11	3898.00	154.11	69.37
459	0.50	4334.11	3898.00	154.11	69.37
460	0.50	4334.11	3898.00	154.11	69.37
461	0.50	4334.11	3898.00	154.11	69.37
462	0.50	4334.11	3898.00	154.11	69.37
463	0.50	4334.11	3898.00	154.11	69.37
464	0.50	4334.11	3898.00	154.11	69.37
465	0.50	4334.11	3898.00	154.11	69.37
466	0.50	4334.11	3898.00	154.11	69.37
467	0.50	4334.11	3898.00	154.11	69.37
468	0.50	4334.11	3898.00	154.11	69.37
469	0.50	4334.11	3898.00	154.11	69.37
470	0.50	4334.11	3898.00	154.11	69.37
471	0.50	4334.11	3898.00	154.11	69.37
472	0.50	4334.11	3898.00	154.11	69.37
473	0.50	4334.11	3898.00	154.11	69.37
474	0.50	4334.11	3898.00	154.11	69.37
475	0.50	4334.11	3898.00	154.11	69.37
476	0.50	4334.11	3898.00	154.11	69.37
477	0.50	4334.11	3898.00	154.11	69.37
478	0.50	4334.11	3898.00	154.11	69.37
479	0.50	4334.11	3898.00	154.11	69.37
480	0.50	4334.11	3898.00	154.11	69.37
481	0.50	4334.11	3898.00	154.11	69.37
482	0.50	4334.11	3898.00	154.11	69.37
483	0.50	4334.11	3898.00	154.11	69.37
484	0.50	4334.11	3898.00	154.11	69.37
485	0.50	4334.11	3898.00	154.11	69.37
486	0.50	4334.11	3898.00	154.11	69.37
487	0.50	4334.11	3898.00	154.11	69.37
488	0.50	4334.11	3898.00	154.11	69.37
489	0.50	4334.11	3898.00	154.11	69.37
490	0.50	4334.11	3898.00	154.11	69.37
491	0.50	4334.11	3898.00	154.11	69.37
492	0.50	4334.11	3898.00	154.11	69.37
493	0.50	4334.11	3898.00	154.11	69.37
494	0.50	4334.11	3898.00	154.11	69.37
495	0.50	4334.11	3898.00	154.11	69.37
496	0.50	4334.11	3898.00	154.11	69.37
497	0.50	4334.11	3898.00	154.11	69.37
498	0.50	4334.11	3898.00	154.11	69.37
499	0.50	4334.11	3898.00	154.11	69.37
500	0.50	4334.11	3898.00	154.11	69.37

MAXIMUM AND MINIMUM VALUES
PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURE (psi)	JUNCTION NUMBER	MINIMUM PRESSURE (psi)
329	87.64	388	2.02
428	87.22	333	5.10
427	84.87	318	5.70
374	61.13	738	6.50
364	77.20	363	8.36

NO. 10000

PIPE NUMBER	MAXIMUM HEAD (ft)	PIPE NUMBER	MINIMUM HEAD (ft)
167	31.92	423	0.50
168	41.44	128	0.80
816	36.48	321	0.80
699	36.30	688	0.50
608	32.43	688	0.50

REGULATING VALVE REPORT

VALVE LABEL	VALVE POSITION	CONTROLLING VALVE	VALVE SETTINGS (ft or psi)	VALVE STATUS	UPSTREAM TRACE (ft)	DOWNSTREAM TRACE (ft)	TURBO FLOW (ft ³ /hr)	
81	PRV 1	364	647	4219.40	THROTTLED	4270.16	4210.40	150.24

SUMMARY OF INFLOWS AND OUTFLOWS

(+) INFLOWS INTO THE SYSTEM FROM FIXED GRADE MODELS
(-) OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE MODELS

NO. OF LANE	PIPE NUMBER	FLOWRATE (cfs)	MODEL NUMBER
EC	387	1869.76	TANK 7050
ED	383	-2386.04	TANK 7080
EE	403	-1668.17	TANK 7201
EF	366	934.63	TANK 7241
EG	408	193.90	TANK 7775
EH	418	4228.10	TANK 1316
EJ	437	4228.23	TANK 1339
EK	626	4334.34	TANK 3190, PL. 07
EL	697	-1676.08	TANK 7030
EM	314	212.66	TANK 7130

CHANGES FOR NEXT SIMULATION
DEMAND CHANGES

DEMAND TYPE = 1 - CEF = 1.700

PIPE PARAMETER CHANGES

STATUS CODE	XX - CLOSED PIPE CV - CHECK VALVE	PG - FIXED GRADE NODE BV - REGULATING VALVE	PJ - PUMP LINE			
PIPE NUMBER	NODE NO1 NO2	LENGTH (FEET)	DIAMETER (IN)	ROUGHNESS COEFF	MINOR LOSS COEFF	PCW-HLL (FEET)
823-PU	823 824	70.0	14.0	125.00	1.00	0.00
THE PIPE IDENTIFYING NUMBER (ID) = 12						
810-PU	823 822	75.0	16.0	120.00	4.00	0.00
THE PIPE IDENTIFYING NUMBER (ID) = 11						

SIMULATION RESULTS

THE RESULTS ARE OBTAINED AFTER 6 TITLES WITH AN ACCURACY = 0.0012

PIPELINE RESULTS

STATUS CODE	XX - CLOSED PIPE CV - CHECK VALVE	PG - FIXED GRADE NODE BV - REGULATING VALVE	PJ - PUMP LINE TR - STORAGE TANK					
PIPE NUMBER	NODE NOS NO1 NO2	FLOWRATE (GPM)	HEAD LOSS (FEET)	PUMP HEAD (FEET)	PUMP LABEL	MINOR LOSS (FEET)	LINK LOSS (FEET)	HL/1000 (FEET)
1	1 2	22.45	0.07	0.00		0.00	0.25	0.27
2	2 3	31.42	0.63	0.00		0.00	0.50	0.33
3	3 4	28.30	0.18	0.00		0.00	1.19	1.22
4	4 5	-19.69	0.04	0.00		0.00	0.32	0.06
5	4 6	-14.57	0.09	0.00		0.00	0.17	0.03
6	4 7	0.47	0.01	0.00		0.00	0.11	0.01
7	6 7	-06.59	0.36	0.00		0.00	1.12	1.05
8	6 8	143.04	0.30	0.00		0.00	1.17	1.19
9	8 9	182.37	0.34	0.00		0.00	0.64	0.03
10	10 9	32.33	0.69	0.00		0.00	0.17	0.20
11	10 11	24.49	0.09	0.00		0.00	0.10	0.15
12	11 12	-12.04	0.04	0.00		0.00	0.14	0.04
13	11 13	31.61	0.46	0.00		0.00	0.16	0.24
14	9 10	162.44	1.00	0.00		0.00	1.91	2.94
15	9 7	0.58	0.01	0.00		0.00	0.10	0.01
16	7 12	-19.13	0.19	0.00		0.00	0.43	0.20
17	21 18	87.59	0.43	0.00		0.00	0.69	0.60
18	18 19	-2.71	0.33	0.00		0.00	0.04	0.34
19	19 7	61.41	0.19	0.00		0.00	0.74	0.61
20	24 19	71.67	0.26	0.00		0.00	0.06	1.23
21	17 20	94.71	0.28	0.00		0.00	0.62	0.26
22	17 18	-96.71	0.28	0.00		0.00	0.42	0.37
23	20 18	-60.01	0.28	0.00		0.00	0.44	0.29
24	14 18	-146.70	0.87	0.00		0.00	1.04	1.31
25	15 14	187.00	0.11	0.00		0.00	1.27	1.17
26	14 9	262.17	0.03	0.00		0.00	1.61	0.03
27	27 18	207.49	0.02	0.00		0.00	0.92	0.99
28	29 14	141.44	0.17	0.00		0.00	0.73	0.60
29	27 20	117.70	0.16	0.00		0.00	0.20	0.11
30	14 13	41.49	0.21	0.00		0.00	0.67	0.77
31	13 10	88.93	0.17	0.00		0.00	0.51	0.68
32	12 11	44.69	0.15	0.00		0.00	0.17	0.08
33	12 11	14.77	0.06	0.00		0.00	0.41	0.31
34	14 10	76.03	0.14	0.00		0.00	0.41	0.12
35	33 34	-19.71	0.31	0.00		0.00	0.23	0.12
36	33 33	39.83	0.07	0.00		0.00	0.41	0.30
37	33 33	-21.04	0.32	0.00		0.00	0.44	0.32
38	32 30	33.74	0.03	0.00		0.00	0.32	0.09
39	21 31	84.80	0.34	0.00		0.00	0.42	0.60
40	37 30	-437.14	0.14	0.00		0.00	1.26	0.90
41	32 29	214.79	0.14	0.00		0.00	1.02	1.04
42-2473	31 30							
43	31 30	871.62	0.31	0.00		0.00	1.42	0.90
44	23 30	70.48	1.14	0.00		0.00	0.50	1.30
45	26 31	140.12	0.04	0.00		0.00	0.61	0.30
46	26 31	203.14	0.12	0.00		0.00	0.45	0.30
47	28 30	-20.83	0.01	0.00		0.00	0.09	0.03
48	30 31	10.81	0.04	0.00		0.00	0.28	0.09
49	30 31	34.06	0.00	0.00		0.00	0.30	0.07
50	29 31	47.74	0.11	0.00		0.00	0.46	0.21
51	29 31	-29.49	0.09	0.00		0.00	0.13	0.01
52	23 42	-122.10	0.06	0.00		0.00	0.46	0.17
53	23 41	11.71	0.03	0.00		0.00	0.16	0.01

89	22	43	47.90	0.10	0.00	0.00	0.00	0.25
90	44	43	63.26	0.44	0.00	0.00	0.18	1.02
91	44	43	51.40	0.43	0.00	0.00	0.18	0.60
92	45	42	15.47	0.01	0.00	0.00	0.10	0.21
93	40	38	-247.72	1.42	0.00	0.00	1.97	1.47
94	39	38	179.90	0.08	0.00	0.00	1.14	0.07
95	36	37	62.02	0.11	0.00	0.00	0.43	0.13
96	34	37	69.00	0.11	0.00	0.00	0.45	0.14
97	35	34	38.16	0.09	0.00	0.00	0.65	0.60
98	34	34	74.36	0.20	0.00	0.00	0.45	0.14
99	34	34	146.94	0.47	0.00	0.00	0.45	0.28
100	51	33	781.32	0.35	0.00	0.00	1.20	0.37
101	51	32	-142.05	0.44	0.00	0.00	1.03	0.47
102	50	41	-122.36	0.54	0.00	0.00	0.80	0.42
103	47	49	117.39	0.37	0.00	0.00	0.40	0.19
104	46	44	71.46	0.41	0.00	0.00	0.41	1.11
105	46	47	130.66	0.37	0.00	0.00	0.06	0.00
106	44	43	84.23	0.32	0.00	0.00	0.06	0.02
107	43	44	138.97	1.01	0.00	0.00	0.09	0.03
108	74	76	14.36	0.19	0.00	0.00	0.10	0.09
109	74	40	-13.66	1.01	0.00	0.00	0.60	0.91
110	48	45	77.06	0.07	0.00	0.00	0.49	0.17
111	43	49	82.44	0.10	0.00	0.00	0.33	0.15
112	44	42	37.47	0.08	0.00	0.00	0.24	0.08
113	44	44	84.23	0.22	0.00	0.00	0.40	1.10
114	44	47	84.10	0.23	0.00	0.00	0.26	0.06
115	43	44	-349.42	0.30	0.00	0.00	1.41	1.40
116	44	47	-449.94	0.31	0.00	0.00	1.01	2.71
117	44	43	98.24	0.23	0.00	0.00	1.00	1.00
118	43	42	-256.17	0.47	0.00	0.00	0.04	21.00
119	73	124	-142.74	1.44	0.00	0.00	0.04	1.00
120	73	124	-133.76	1.01	0.00	0.00	1.40	3.04
121	127	124	143.02	0.06	0.00	0.00	1.01	4.04
122	123	124	192.74	3.62	0.00	0.00	1.71	4.04
123	123	76	87.42	0.79	0.00	0.00	0.07	0.01
124	75	76	-232.62	1.20	0.00	0.00	2.44	0.04
125	76	77	-172.40	2.13	0.00	0.00	1.91	3.09
126	77	67	368.77	0.00	0.00	0.00	1.10	0.09
127	77	78	-161.42	0.07	0.00	0.00	1.02	1.23
128	78	64	647.11	1.20	0.00	0.00	1.51	1.35
129	67	68	-200.20	0.37	0.00	0.00	1.04	0.03
130	46	63	20.17	0.29	0.00	0.00	0.33	0.20
131	46	63	363.57	0.31	0.00	0.00	0.97	0.07
132	48	60	72.44	0.04	0.00	0.00	0.20	0.09
133	47	59	26.19	0.19	0.00	0.00	0.26	0.17
134	43	61	266.25	0.13	0.00	0.00	0.76	0.20
135	41	62	13.10	0.02	0.00	0.00	0.18	0.01
136	41	60	130.06	0.27	0.00	0.00	1.39	3.11
137	40	40	70.34	0.04	0.00	0.00	0.33	0.00
138	40	40	50.40	0.04	0.00	0.00	0.07	3.00
139	40	47	46.29	0.01	0.00	0.00	0.10	0.07
140	37	49	37.06	0.29	0.00	0.00	0.31	0.10
141	37	49	27.14	0.29	0.00	0.00	0.22	3.10
142	50	40	1.47	0.29	0.00	0.00	1.02	0.00
143	10	48	121.04	0.07	0.00	0.00	0.04	0.04
144	45	48	113.48	0.27	0.00	0.00	0.75	0.22
145	34	50	95.21	0.10	0.00	0.00	0.67	0.23
146	41	44	-781.53	0.37	0.00	0.00	1.10	3.37
147	41	34	40.14	0.10	0.00	0.00	0.42	0.12
148	41	34	-40.14	0.13	0.00	0.00	0.42	0.12
149	41	34	-404.70	0.33	0.00	0.00	1.10	0.11
150	41	34	15.13	0.00	0.00	0.00	0.10	0.01
151	71	72	15.13	0.00	0.00	0.00	0.10	0.00
152	72	60	-20.21	0.00	0.00	0.00	1.22	0.33
153	71	67	-781.51	0.16	0.00	0.00	1.22	0.04
154	65	65	42.67	0.00	0.00	0.00	0.27	0.04
155	61	66	132.12	0.28	0.00	0.00	0.74	0.24
156	70	59	37.39	0.24	0.00	0.00	0.42	0.13
157	70	63	20.14	0.15	0.00	0.00	0.14	0.22
158	49	40	37.14	0.09	0.00	0.00	0.07	1.27
159	70	72	-120.61	0.24	0.00	0.00	0.02	0.01
160	78	121	-230.63	0.07	0.00	0.00	1.69	1.27
161	77	122	-237.66	0.41	0.00	0.00	0.04	0.44
162	121	123	47.98	0.23	0.00	0.00	0.97	0.24
163	123	120	90.19	0.00	0.00	0.00	1.09	1.22
164	123	123	150.28	0.23	0.00	0.00	2.01	0.00
165	122	126	-340.14	1.10	0.00	0.00	2.00	0.48
166	124	123	-740.42	1.61	0.00	0.00	2.10	2.36
167	122	126	-340.12	0.33	0.00	0.00	1.13	0.48
168	127	121	446.67	0.20	0.00	0.00	1.30	1.98
169	121	120	46.94	0.02	0.00	0.00	0.37	0.74
170	120	75	360.50	0.01	0.00	0.00	1.70	1.74
171	79	80	60.00	0.29	0.00	0.00	0.10	0.12
172	120	119	-209.77	1.00	0.00	0.00	1.34	2.20
173	120	80	71.24	0.00	0.00	0.00	0.06	1.28
174	117	80	7.73	0.00	0.00	0.00	0.00	0.21
175	117	81	67.10	0.43	0.00	0.00	0.15	0.73
176	60	81	47.26	0.42	0.00	0.00	0.76	0.00
177	81	70	77.73	0.12	0.00	0.00	0.10	0.17
178	81	63	41.42	0.10	0.00	0.00	0.09	0.44
179	112	87	246.27	0.04	0.00	0.00	1.17	0.00
180	82	82	194.06	0.44	0.00	0.00	1.24	3.20
181	108	82	41.41	0.37	0.00	0.00	0.76	0.40
182	80	82	-119.70	0.10	0.00	0.00	0.73	0.23
183	80	82	153.52	0.15	0.00	0.00	0.06	3.09
184	80	82	153.52	0.15	0.00	0.00	0.06	4.00

180	87	80	-26.32	0.00	0.00	0.00	1.16	0.00
181	88	81	-676.61	0.21	0.00	0.00	1.08	0.00
182	89	82	144.76	0.16	0.00	0.00	1.02	0.00
183	90	83	-80.49	0.05	0.00	0.00	1.01	0.00
184	91	84	132.22	0.12	0.00	0.00	1.00	0.00
185	92	85	223.22	7.44	0.00	0.00	0.99	0.00
186	93	86	724.72	8.22	0.00	0.00	0.98	0.00
187	94	87	-342.92	0.38	0.00	0.00	0.97	0.00
188	95	88	975.45	14.57	0.00	0.00	0.96	0.00
189	96	89	1797.22	175.52	0.00	0.00	0.95	0.00
190	97	90	2318.96	122.82	0.00	0.00	0.94	0.00
191	98	91	-434.88	17.24	0.00	0.00	0.93	0.00
192	99	92	-883.58	28.14	0.00	0.00	0.92	0.00
193	00	93	-1342.20	12.28	0.00	0.00	0.91	0.00
194	01	94	947.42	4.24	0.00	0.00	0.90	0.00
195	02	95	-246.33	1.97	0.00	0.00	0.89	0.00
196	03	96	-657.10	2.22	0.00	0.00	0.88	0.00
197	04	97	-94.63	0.22	0.00	0.00	0.87	0.00
198	05	98	340.65	0.22	0.00	0.00	0.86	0.00
199	06	99	142.05	0.04	0.00	0.00	0.85	0.00
200	07	00	-370.50	0.08	0.00	0.00	0.84	0.00
201	08	01	124.09	0.09	0.00	0.00	0.83	0.00
202	09	02	10.01	0.02	0.00	0.00	0.82	0.00
203	10	03	-218.24	0.22	0.00	0.00	0.81	0.00
204	11	04	-52.81	0.03	0.00	0.00	0.80	0.00
205	12	05	124.25	1.54	0.00	0.00	0.79	0.00
206	13	06	229.11	0.18	0.00	0.00	0.78	0.00
207	14	07	-184.49	1.47	0.00	0.00	0.77	0.00
208	15	08	0.46	0.00	0.00	0.00	0.76	0.00
209	16	09	-619.70	0.09	0.00	0.00	0.75	0.00
210	17	10	-932.88	1.77	0.00	0.00	0.74	0.00
211	18	11	-28.62	0.22	0.00	0.00	0.73	0.00
212	19	12	-86.27	0.12	0.00	0.00	0.72	0.00
213	20	13	62.69	0.07	0.00	0.00	0.71	0.00
214	21	14	12.84	0.07	0.00	0.00	0.70	0.00
215	22	15	65.61	0.06	0.00	0.00	0.69	0.00
216	23	16	-84.77	2.09	0.00	0.00	0.68	0.00
217	24	17	116.05	0.24	0.00	0.00	0.67	0.00
218	25	18	10.92	0.04	0.00	0.00	0.66	0.00
219	26	19	229.90	0.22	0.00	0.00	0.65	0.00
220	27	20	222.90	0.09	0.00	0.00	0.64	0.00
221	28	21	35.22	0.27	0.00	0.00	0.63	0.00
222	29	22	-216.02	2.22	0.00	0.00	0.62	0.00
223	30	23	147.72	2.16	0.00	0.00	0.61	0.00
224	31	24	22.02	2.12	0.00	0.00	0.60	0.00
225	32	25	-146.84	2.26	0.00	0.00	0.59	0.00
226	33	26	172.74	2.12	0.00	0.00	0.58	0.00
227	34	27	22.23	0.02	0.00	0.00	0.57	0.00
228	35	28	22.09	0.08	0.00	0.00	0.56	0.00
229	36	29	2170.04	2.04	0.00	0.00	0.55	0.00
230	37	30	-126.04	2.22	0.00	0.00	0.54	0.00
231	38	31	-185.72	2.22	0.00	0.00	0.53	0.00
232	39	32	-2.22	0.09	0.00	0.00	0.52	0.00
233	40	33	-122.72	0.22	0.00	0.00	0.51	0.00
234	41	34	21.12	0.22	0.00	0.00	0.50	0.00
235	42	35	41.24	0.02	0.00	0.00	0.49	0.00
236	43	36	-73.14	0.12	0.00	0.00	0.48	0.00
237	44	37	-180.11	0.12	0.00	0.00	0.47	0.00
238	45	38	222.17	6.17	0.00	0.00	0.46	0.00
239	46	39	-20.11	0.10	0.00	0.00	0.45	0.00
240	47	40	61.70	0.10	0.00	0.00	0.44	0.00
241	48	41	-17.53	0.08	0.00	0.00	0.43	0.00
242	49	42	146.29	0.12	0.00	0.00	0.42	0.00
243	50	43	-81.17	0.20	0.00	0.00	0.41	0.00
244	51	44	76.71	0.04	0.00	0.00	0.40	0.00
245	52	45	-240.14	2.20	0.00	0.00	0.39	0.00
246	53	46	-1415.60	2.20	0.00	0.00	0.38	0.00
247	54	47	-222.49	2.27	0.00	0.00	0.37	0.00
248	55	48	22.09	0.22	0.00	0.00	0.36	0.00
249	56	49	-472.12	2.22	0.00	0.00	0.35	0.00
250	57	50	-211.24	0.02	0.00	0.00	0.34	0.00
251	58	51	111.08	0.14	0.00	0.00	0.33	0.00
252	59	52	-42.14	0.04	0.00	0.00	0.32	0.00
253	60	53	-220.84	1.27	0.00	0.00	0.31	0.00
254	61	54	-246.00	2.16	0.00	0.00	0.30	0.00
255	62	55	-254.02	0.20	0.00	0.00	0.29	0.00
256	63	56	-247.22	2.22	0.00	0.00	0.28	0.00
257	64	57	222.04	0.08	0.00	0.00	0.27	0.00
258	65	58	420.04	0.20	0.00	0.00	0.26	0.00
259	66	59	-84.18	0.20	0.00	0.00	0.25	0.00
260	67	60	120.27	0.12	0.00	0.00	0.24	0.00
261	68	61	-418.05	1.20	0.00	0.00	0.23	0.00
262	69	62	-244.79	1.22	0.00	0.00	0.22	0.00
263	70	63	181.04	0.02	0.00	0.00	0.21	0.00
264	71	64	-82.05	0.02	0.00	0.00	0.20	0.00
265	72	65	221.06	1.41	0.00	0.00	0.19	0.00
266	73	66	224.18	0.22	0.00	0.00	0.18	0.00
267	74	67	121.42	0.45	0.00	0.00	0.17	0.00
268	75	68	22.45	0.45	0.00	0.00	0.16	0.00
269	76	69	75.63	0.10	0.00	0.00	0.15	0.00
270	77	70	75.63	0.17	0.00	0.00	0.14	0.00
271	78	71	88.07	0.22	0.00	0.00	0.13	0.00
272	79	72	-22.91	0.22	0.00	0.00	0.12	0.00
273	80	73	22.91	0.22	0.00	0.00	0.11	0.00

257	189	161	-070.24	1.27	0.70	2.00	1.50	15.19
258	161	161	-1641.14	1.27	0.70	2.00	1.50	49.21
259	161	162	445.12	6.16	0.00	2.00	4.25	9.24
260	160	163	-190.04	1.79	1.00	2.00	2.28	7.98
261	163	164	-271.04	7.43	1.00	2.00	3.00	7.19
262	164	165	420.90	1.70	1.00	2.00	2.65	3.91
263	164	165	-149.79	1.82	1.00	2.00	1.81	2.47
264	162	166	344.22	1.17	1.00	2.00	2.12	2.73
265	157	162	-407.47	4.17	1.00	2.00	2.17	3.44
266	202	164	327.98	4.86	1.00	2.00	2.29	2.49
267	181	163	-245.70	4.33	1.00	2.00	1.82	1.93
268	152	164	1.00	1.00	1.00	2.00	0.21	0.00
269	166	161	68.75	1.16	1.00	2.00	0.87	0.41
270	166	167	-89.19	1.20	1.00	2.00	0.57	0.41
271	160	161	101.22	1.26	1.00	2.00	0.40	0.17
272	160	167	-32.75	0.82	1.00	2.00	0.23	0.07
273	167	166	-144.25	0.19	1.00	2.00	0.39	0.20
274	179	160	71.62	0.19	1.00	2.00	0.49	0.31
275	179	160	-7.44	0.00	1.00	2.00	0.58	0.20
276	160	164	0.85	0.90	1.00	2.00	0.86	0.00
277	160	169	-165.94	0.19	1.00	2.00	0.64	0.22
278	170	170	74.25	0.19	1.00	2.00	0.47	0.29
279	170	169	1.86	0.00	1.00	2.00	0.21	0.09
280	169	170	-141.99	2.22	1.00	2.00	0.74	0.42
281	171	170	73.22	0.19	1.00	2.00	0.81	0.33
282	171	170	-113.40	0.84	1.00	2.00	0.48	0.16
283	179	173	-676.64	2.43	0.00	2.00	2.76	4.84
284	169	176	-1391.91	2.12	0.00	2.00	2.40	3.85
285	175	176	-193.75	1.06	1.00	2.00	1.20	7.01
286	175	164	74.60	1.30	1.00	2.00	1.07	1.64
287	143	171	-230.47	0.98	1.00	2.00	1.49	2.38
288	176	175	-145.23	1.73	1.00	2.00	1.69	4.11
289	173	176	-240.44	1.27	1.00	2.00	1.71	3.14
290	172	173	-17.26	0.83	0.00	2.00	0.11	0.01
291	172	171	94.21	0.88	0.00	2.00	0.41	0.26
292	172	224	-164.74	1.03	0.00	2.00	1.19	1.22
293	191	167	-17.23	0.11	0.00	2.00	0.11	0.01
294	221	226	292.91	0.13	0.00	2.00	1.03	2.74
295	221	220	-648.89	1.20	0.00	2.00	2.41	3.84
296	174	227	-132.21	0.41	0.00	2.00	0.74	0.81
297	175	222	-42.35	0.43	0.00	2.00	0.71	2.06
298	176	221	10.95	0.09	1.00	2.00	0.04	0.01
299	174	219	-1599.41	2.54	0.00	2.00	3.33	4.42
300	220	219	-1842.39	2.94	0.00	2.00	0.42	0.42
301	224	225	-841.23	0.09	1.00	2.00	1.96	1.32
302	225	226	-487.44	0.26	1.00	2.00	1.70	1.09
303	224	227	-682.73	0.42	1.00	2.00	1.71	1.41
304	227	228	-941.22	1.93	1.00	2.00	2.47	3.69
305	228	229	-1911.30	1.08	1.00	2.00	7.07	4.11
306	229	230	-714.60	0.80	1.00	2.00	2.91	1.00
307	229	230	-234.97	1.13	1.00	2.00	3.47	1.00
308	230	231	-1415.76	0.78	1.00	2.00	4.02	7.51
309	231	232	188.41	0.02	1.00	2.00	0.02	0.19
310	231	237	-269.42	0.21	1.00	2.00	1.72	3.19
311	210	217	1221.98	0.98	1.00	2.00	4.39	14.43
312	210	210	-2638.44	0.94	1.00	2.00	8.49	11.72
313	210	210	-8794.44	1.40	1.00	2.00	9.73	29.74
314	210	231	-4061.72	0.87	1.00	2.00	0.01	27.43
315	214	219	1989.93	0.89	1.00	2.00	4.18	0.43
316	214	214	-2012.19	4.10	1.00	2.00	1.74	2.44
317	214	214	-851.77	6.91	1.00	2.00	1.89	5.13
318	214	217	457.67	0.78	1.00	2.00	2.89	0.31
319	214	214	210.47	0.84	1.00	2.00	0.85	0.84
320	214	214	477.68	0.97	1.00	2.00	2.79	4.87
321	213	213	1.01	0.81	1.00	2.00	0.01	0.00
322	212	213	0.01	0.94	1.00	2.00	0.00	0.00
323	180	204	163.93	1.17	1.00	2.00	1.21	5.67
324	214	210	484.46	2.88	1.00	2.00	1.80	1.42
325	210	200	210.40	1.49	1.00	2.00	1.49	1.16
326	210	204	262.94	2.47	1.00	2.00	1.44	1.25
327	209	208	16.49	0.82	0.80	2.00	0.24	0.29
328	208	206	284.91	1.04	1.00	2.00	1.43	2.37
329	209	207	221.41	1.13	1.00	2.00	1.43	2.38
330	207	206	179.47	0.73	1.00	2.00	1.15	1.55
331	206	206	422.49	1.92	1.00	2.00	3.77	7.48
332	207	208	41.49	0.83	1.00	2.00	0.27	6.16
333	206	204	229.62	2.23	1.00	2.00	1.47	2.37
334	204	207	-11.43	0.44	1.00	2.00	0.58	0.41
335	203	209	31.40	0.61	1.00	2.00	0.24	0.13
336	202	202	-122.47	0.86	1.00	2.00	2.26	2.42
337	202	203	-691.41	0.44	1.00	2.00	1.29	1.07
338	202	222	-154.14	0.82	1.00	2.00	0.80	0.82
339	202	203	40.84	0.89	1.00	2.00	0.31	0.13
340	201	200	-166.12	0.81	1.00	2.00	0.43	0.10
341	200	204	-217.02	0.21	1.00	2.00	2.22	3.34
342	200	199	-319.40	0.22	1.00	2.00	1.31	0.79
343	200	189	480.44	0.11	1.00	2.00	2.93	4.44
344	199	198	473.78	2.07	1.00	2.00	2.48	4.92
345	198	198	-44.84	0.37	1.00	2.00	2.74	6.13
346	198	193	464.81	0.21	1.00	2.00	2.48	4.79
347	198	191	-81.18	0.15	1.00	2.00	0.49	0.35
348	197	194	-93.41	0.44	1.00	2.00	1.09	0.87
349	194	194	434.46	2.92	1.00	2.00	2.81	4.29
350	193	194	494.01	4.25	1.00	2.00	3.22	0.82
351	192	194	449.44	4.71	1.00	2.00	4.12	0.74

356	309	306	59.10	0.49	0.03	0.00	0.00	0.00
357	306	307	-23.97	0.19	0.03	1.00	1.00	1.49
358	304	307	32.58	0.27	0.03	1.00	1.00	0.23
359	307	306	-15.97	0.27	0.03	1.00	1.00	0.09
360	308	303	-147.18	0.64	0.03	1.00	1.00	1.04
361	309	301	-246.23	1.47	0.03	1.00	1.00	1.94
362	301	301	130.94	2.78	0.00	1.00	1.00	2.94
363	301	302	-32.34	0.00	0.00	1.00	1.00	2.00
364	302	303	-1029.41	2.13	0.00	1.00	1.00	4.47
365	309	304	-686.70	2.34	0.00	1.00	1.00	5.90
366	306	309	669.45	0.44	1.00	1.00	1.00	0.92
367	307	303	-222.15	0.01	0.00	1.00	1.00	0.27
368	306	303	2182.36	0.46	0.00	1.00	1.00	3.46
369	306	300	317.18	1.39	0.00	1.00	1.00	4.92
370	307	304	1959.07	0.32	0.00	1.00	1.00	0.16
371	307	306	-418.11	0.05	0.00	1.00	1.00	0.24
372	309	305	1239.74	1.02	0.00	1.00	1.00	0.00
373	304	307	1227.01	0.33	0.00	1.00	1.00	5.02
374	304	307	-5259.30	78.82	0.00	1.00	1.00	0.07
375	307	304	70.45	0.45	0.00	1.00	1.00	0.00
376	307	307	345.17	0.23	0.00	1.00	1.00	0.17
377	306	306	-102.23	0.04	0.00	1.00	1.00	0.03
378	305	303	708.62	0.35	0.00	1.00	1.00	0.48
379	303	309	297.00	0.1	0.00	1.00	1.00	0.07
380	309	309	133.78	0.00	0.00	1.00	1.00	0.01
381	309	305	173.23	0.1	0.00	1.00	1.00	0.05
382	307	308	-85.44	0.47	0.00	1.00	1.00	0.10
383	303	301	-46.19	0.31	0.00	1.00	1.00	0.08
384	309	301	61.23	0.34	0.00	1.00	1.00	0.60
385	301	302	-14.90	0.22	0.00	1.00	1.00	0.06
386	306	307	34.74	0.25	0.00	1.00	1.00	0.01
387	306	304	-41.21	0.30	0.00	1.00	1.00	0.02
388	305	307	-49.46	0.13	0.00	1.00	1.00	0.14
389	306	306	-110.46	0.09	0.00	1.00	1.00	0.10
390	301	306	135.02	0.57	0.00	1.00	1.00	2.04
391	307	306	-135.02	0.40	0.00	1.00	1.00	2.64
392	307	306	273.11	0.33	0.00	1.00	1.00	33.24
393	307	307	291.29	0.07	0.00	1.00	1.00	0.07
394	305	306	172.74	0.20	0.00	1.00	1.00	0.20
395	307	300	-85.77	0.01	0.00	1.00	1.00	1.28
396	300	307	9.71	0.25	0.00	1.00	1.00	0.07
397	309	301	-10.79	0.05	0.00	1.00	1.00	0.14
398	301	309	23.73	0.31	0.00	1.00	1.00	0.63
399	301	304	-232.66	0.74	0.00	1.00	1.00	0.30
400	307	303	-10.00	0.02	0.00	1.00	1.00	0.00
401	303	304	-27.23	0.02	0.00	1.00	1.00	0.17
402	303	302	-25.48	0.04	0.00	1.00	1.00	0.14
403	308	309	23.23	0.33	0.00	1.00	1.00	0.06
404	302	301	18.43	0.01	0.00	1.00	1.00	0.30
405	302	302	-14.25	0.23	0.00	1.00	1.00	0.10
406	304	303	-118.03	0.02	0.00	1.00	1.00	0.38
407	302	307	-104.46	0.59	0.00	1.00	1.00	0.37
408	302	301	-19.29	0.24	0.00	1.00	1.00	0.14
409	301	300	-23.44	0.12	0.00	1.00	1.00	0.14
410	301	307	-30.40	0.17	0.00	1.00	1.00	0.24
411	300	300	-12.13	0.34	0.00	1.00	1.00	0.05
412	309	300	-1.44	0.30	0.00	1.00	1.00	0.05
413	309	400	24.90	0.37	0.00	1.00	1.00	0.05
414	404	405	-42.04	0.36	0.00	1.00	1.00	0.33
415	405	300	-47.10	0.38	0.00	1.00	1.00	0.07
416	405	300	-10.00	0.01	0.00	1.00	1.00	0.03
417	402	300	34.00	0.19	0.00	1.00	1.00	0.78
418	300	300	0.00	0.00	0.00	1.00	1.00	0.71
419	306	301	140.31	0.08	0.00	1.00	1.00	0.63
420	306	301	-10.97	0.34	0.00	1.00	1.00	0.09
421	306	304	-6.00	0.30	0.00	1.00	1.00	0.00
422	302	304	-33.21	0.19	0.00	1.00	1.00	0.30
423	306	300	-16.03	0.18	0.00	1.00	1.00	0.32
424	309	403	-0.35	0.01	0.00	1.00	1.00	0.02
425	407	401	-10.18	0.02	0.00	1.00	1.00	0.04
426	403	404	-15.49	0.04	0.00	1.00	1.00	0.09
427	401	402	-15.49	0.02	0.00	1.00	1.00	0.04
428	401	402	-10.16	0.04	0.00	1.00	1.00	0.09
429	401	401	-41.41	0.06	0.00	1.00	1.00	0.10
430	400	401	-27.47	0.08	0.00	1.00	1.00	0.13
431	400	309	69.49	0.18	0.00	1.00	1.00	0.36
432	301	306	-20.49	0.05	0.00	1.00	1.00	0.10
433	302	302	90.17	0.27	0.00	1.00	1.00	0.02
434	303	304	-11.03	0.13	0.00	1.00	1.00	0.30
435	303	302	121.30	0.40	0.00	1.00	1.00	0.77
436	309	303	-24.02	0.04	0.00	1.00	1.00	0.10
437	303	302	-121.59	0.70	0.00	1.00	1.00	1.23
438	305	306	-120.47	0.20	0.00	1.00	1.00	0.60
439	306	309	-117.40	0.37	0.00	1.00	1.00	0.24
440	306	309	-9.74	0.12	0.00	1.00	1.00	0.38
441	304	306	22.04	0.13	0.00	1.00	1.00	0.24
442	304	301	-12.04	0.12	0.00	1.00	1.00	0.24
443	301	308	-21.04	0.12	0.00	1.00	1.00	0.24
444	309	308	0.74	0.11	0.00	1.00	1.00	0.24
445	309	308	-0.74	0.14	0.00	1.00	1.00	0.24
446	309	307	-19.47	0.33	0.00	1.00	1.00	1.30
447	309	303	-10.27	0.01	0.00	1.00	1.00	0.02
448	304	307	144.19	0.01	0.00	1.00	1.00	0.02
449	304	308	-27.33	0.00	0.00	1.00	1.00	0.00
450	303	307	150.42	7.47	0.00	1.00	1.00	8.93

487	342	381	-284.75	3.70	0.00	0.00	2.02	3.83
488	343	382	-285.10	3.65	0.00	0.00	2.02	3.83
489	344	383	-285.45	3.60	0.00	0.00	2.02	3.83
490	345	384	-285.80	3.55	0.00	0.00	2.02	3.83
491	346	385	-286.15	3.50	0.00	0.00	2.02	3.83
492	347	386	-286.50	3.45	0.00	0.00	2.02	3.83
493	348	387	-286.85	3.40	0.00	0.00	2.02	3.83
494	349	388	-287.20	3.35	0.00	0.00	2.02	3.83
495	350	389	-287.55	3.30	0.00	0.00	2.02	3.83
496	351	390	-287.90	3.25	0.00	0.00	2.02	3.83
497	352	391	-288.25	3.20	0.00	0.00	2.02	3.83
498	353	392	-288.60	3.15	0.00	0.00	2.02	3.83
499	354	393	-288.95	3.10	0.00	0.00	2.02	3.83
500	355	394	-289.30	3.05	0.00	0.00	2.02	3.83
501	356	395	-289.65	3.00	0.00	0.00	2.02	3.83
502	357	396	-290.00	2.95	0.00	0.00	2.02	3.83
503	358	397	-290.35	2.90	0.00	0.00	2.02	3.83
504	359	398	-290.70	2.85	0.00	0.00	2.02	3.83
505	360	399	-291.05	2.80	0.00	0.00	2.02	3.83
506	361	400	-291.40	2.75	0.00	0.00	2.02	3.83
507	362	401	-291.75	2.70	0.00	0.00	2.02	3.83
508	363	402	-292.10	2.65	0.00	0.00	2.02	3.83
509	364	403	-292.45	2.60	0.00	0.00	2.02	3.83
510	365	404	-292.80	2.55	0.00	0.00	2.02	3.83
511	366	405	-293.15	2.50	0.00	0.00	2.02	3.83
512	367	406	-293.50	2.45	0.00	0.00	2.02	3.83
513	368	407	-293.85	2.40	0.00	0.00	2.02	3.83
514	369	408	-294.20	2.35	0.00	0.00	2.02	3.83
515	370	409	-294.55	2.30	0.00	0.00	2.02	3.83
516	371	410	-294.90	2.25	0.00	0.00	2.02	3.83
517	372	411	-295.25	2.20	0.00	0.00	2.02	3.83
518	373	412	-295.60	2.15	0.00	0.00	2.02	3.83
519	374	413	-295.95	2.10	0.00	0.00	2.02	3.83
520	375	414	-296.30	2.05	0.00	0.00	2.02	3.83
521	376	415	-296.65	2.00	0.00	0.00	2.02	3.83
522	377	416	-297.00	1.95	0.00	0.00	2.02	3.83
523	378	417	-297.35	1.90	0.00	0.00	2.02	3.83
524	379	418	-297.70	1.85	0.00	0.00	2.02	3.83
525	380	419	-298.05	1.80	0.00	0.00	2.02	3.83
526	381	420	-298.40	1.75	0.00	0.00	2.02	3.83
527	382	421	-298.75	1.70	0.00	0.00	2.02	3.83
528	383	422	-299.10	1.65	0.00	0.00	2.02	3.83
529	384	423	-299.45	1.60	0.00	0.00	2.02	3.83
530	385	424	-299.80	1.55	0.00	0.00	2.02	3.83
531	386	425	-300.15	1.50	0.00	0.00	2.02	3.83
532	387	426	-300.50	1.45	0.00	0.00	2.02	3.83
533	388	427	-300.85	1.40	0.00	0.00	2.02	3.83
534	389	428	-301.20	1.35	0.00	0.00	2.02	3.83
535	390	429	-301.55	1.30	0.00	0.00	2.02	3.83
536	391	430	-301.90	1.25	0.00	0.00	2.02	3.83
537	392	431	-302.25	1.20	0.00	0.00	2.02	3.83
538	393	432	-302.60	1.15	0.00	0.00	2.02	3.83
539	394	433	-302.95	1.10	0.00	0.00	2.02	3.83
540	395	434	-303.30	1.05	0.00	0.00	2.02	3.83
541	396	435	-303.65	1.00	0.00	0.00	2.02	3.83
542	397	436	-304.00	0.95	0.00	0.00	2.02	3.83
543	398	437	-304.35	0.90	0.00	0.00	2.02	3.83
544	399	438	-304.70	0.85	0.00	0.00	2.02	3.83
545	400	439	-305.05	0.80	0.00	0.00	2.02	3.83
546	401	440	-305.40	0.75	0.00	0.00	2.02	3.83
547	402	441	-305.75	0.70	0.00	0.00	2.02	3.83
548	403	442	-306.10	0.65	0.00	0.00	2.02	3.83
549	404	443	-306.45	0.60	0.00	0.00	2.02	3.83
550	405	444	-306.80	0.55	0.00	0.00	2.02	3.83
551	406	445	-307.15	0.50	0.00	0.00	2.02	3.83
552	407	446	-307.50	0.45	0.00	0.00	2.02	3.83
553	408	447	-307.85	0.40	0.00	0.00	2.02	3.83
554	409	448	-308.20	0.35	0.00	0.00	2.02	3.83
555	410	449	-308.55	0.30	0.00	0.00	2.02	3.83
556	411	450	-308.90	0.25	0.00	0.00	2.02	3.83
557	412	451	-309.25	0.20	0.00	0.00	2.02	3.83
558	413	452	-309.60	0.15	0.00	0.00	2.02	3.83
559	414	453	-309.95	0.10	0.00	0.00	2.02	3.83
560	415	454	-310.30	0.05	0.00	0.00	2.02	3.83
561	416	455	-310.65	0.00	0.00	0.00	2.02	3.83
562	417	456	-311.00	0.00	0.00	0.00	2.02	3.83
563	418	457	-311.35	0.00	0.00	0.00	2.02	3.83
564	419	458	-311.70	0.00	0.00	0.00	2.02	3.83
565	420	459	-312.05	0.00	0.00	0.00	2.02	3.83
566	421	460	-312.40	0.00	0.00	0.00	2.02	3.83
567	422	461	-312.75	0.00	0.00	0.00	2.02	3.83
568	423	462	-313.10	0.00	0.00	0.00	2.02	3.83
569	424	463	-313.45	0.00	0.00	0.00	2.02	3.83
570	425	464	-313.80	0.00	0.00	0.00	2.02	3.83
571	426	465	-314.15	0.00	0.00	0.00	2.02	3.83
572	427	466	-314.50	0.00	0.00	0.00	2.02	3.83
573	428	467	-314.85	0.00	0.00	0.00	2.02	3.83
574	429	468	-315.20	0.00	0.00	0.00	2.02	3.83
575	430	469	-315.55	0.00	0.00	0.00	2.02	3.83
576	431	470	-315.90	0.00	0.00	0.00	2.02	3.83
577	432	471	-316.25	0.00	0.00	0.00	2.02	3.83
578	433	472	-316.60	0.00	0.00	0.00	2.02	3.83
579	434	473	-316.95	0.00	0.00	0.00	2.02	3.83
580	435	474	-317.30	0.00	0.00	0.00	2.02	3.83
581	436	475	-317.65	0.00	0.00	0.00	2.02	3.83
582	437	476	-318.00	0.00	0.00	0.00	2.02	3.83
583	438	477	-318.35	0.00	0.00	0.00	2.02	3.83
584	439	478	-318.70	0.00	0.00	0.00	2.02	3.83
585	440	479	-319.05	0.00	0.00	0.00	2.02	3.83
586	441	480	-319.40	0.00	0.00	0.00	2.02	3.83
587	442	481	-319.75	0.00	0.00	0.00	2.02	3.83
588	443	482	-320.10	0.00	0.00	0.00	2.02	3.83
589	444	483	-320.45	0.00	0.00	0.00	2.02	3.83
590	445	484	-320.80	0.00	0.00	0.00	2.02	3.83
591	446	485	-321.15	0.00	0.00	0.00	2.02	3.83
592	447	486	-321.50	0.00	0.00	0.00	2.02	3.83
593	448	487	-321.85	0.00	0.00	0.00	2.02	3.83
594	449	488	-322.20	0.00	0.00	0.00	2.02	3.83
595	450	489	-322.55	0.00	0.00	0.00	2.02	3.83
596	451	490	-322.90	0.00	0.00	0.00	2.02	3.83
597	452	491	-323.25	0.00	0.00	0.00	2.02	3.83
598	453	492	-323.60	0.00	0.00	0.00	2.02	3.83
599	454	493	-323.95	0.00	0.00	0.00	2.02	3.83
600	455	494	-324.30	0.00	0.00	0.00	2.02	3.83

889	301	330	36.87	3.27	0.02	0.00	0.00	0.14
890	302	331	25.14	3.26	0.02	0.00	0.00	0.00
891	303	332	20.22	3.25	0.02	0.00	0.00	0.00
892	304	333	-36.91	3.24	0.02	0.00	0.00	0.00
893	305	334	-0.93	3.23	0.02	0.00	0.00	0.00
894	306	335	-16.25	3.22	0.02	0.00	0.00	0.00
895	307	336	-0.47	3.21	0.02	0.00	0.00	0.00
896	308	337	-1.02	3.20	0.02	0.00	0.00	0.00
897	309	338	-0.47	3.19	0.02	0.00	0.00	0.00
898	310	339	66.59	3.18	0.02	0.00	0.00	0.00
899	311	340	34.74	3.17	0.02	0.00	0.00	0.00
900	312	341	-21.94	3.16	0.02	0.00	0.00	0.00
901-PS	313	342	-1805.49	3.15	0.02	0.00	0.00	0.00
902	314	343	231.43	3.14	0.02	0.00	0.00	0.00
903-PS	315	344	643.43	3.13	0.02	0.00	0.00	0.00
904-NX	316	345						
905	317	346	-360.47	3.12	0.02	0.00	0.00	0.00
906	318	347	-344.47	3.11	0.02	0.00	0.00	0.00
907	319	348	383.00	3.10	0.02	0.00	0.00	0.00
908	320	349	-140.24	3.09	0.02	0.00	0.00	0.00
909	321	350	96.39	3.08	0.02	0.00	0.00	0.00
910	322	351	-317.24	3.07	0.02	0.00	0.00	0.00
911	323	352	-470.41	3.06	0.02	0.00	0.00	0.00
912	324	353	-762.51	3.05	0.02	0.00	0.00	0.00
913-NX	325	354						
914	326	355	376.46	3.04	0.02	0.00	0.00	0.00
915	327	356	-376.46	3.03	0.02	0.00	0.00	0.00
916	328	357	-376.46	3.02	0.02	0.00	0.00	0.00
917	329	358	-783.91	3.01	0.02	0.00	0.00	0.00
918	330	359	376.46	3.00	0.02	0.00	0.00	0.00
919	331	360	-276.51	2.99	0.02	0.00	0.00	0.00
920-NX	332	361						
921	333	362	2117.21	2.98	0.02	0.00	0.00	0.00
922	334	363	2105.26	2.97	0.02	0.00	0.00	0.00
923	335	364	-266.71	2.96	0.02	0.00	0.00	0.00
924	336	365	87.96	2.95	0.02	0.00	0.00	0.00
925	337	366	-470.47	2.94	0.02	0.00	0.00	0.00
926	338	367	97.96	2.93	0.02	0.00	0.00	0.00
927	339	368	-2.49	2.92	0.02	0.00	0.00	0.00
928	340	369	-774.47	2.91	0.02	0.00	0.00	0.00
929	341	370	-415.83	2.90	0.02	0.00	0.00	0.00
930	342	371	-184.61	2.89	0.02	0.00	0.00	0.00
931	343	372	-215.15	2.88	0.02	0.00	0.00	0.00
932	344	373	170.10	2.87	0.02	0.00	0.00	0.00
933	345	374	164.71	2.86	0.02	0.00	0.00	0.00
934	346	375	-171.77	2.85	0.02	0.00	0.00	0.00
935	347	376	-132.88	2.84	0.02	0.00	0.00	0.00
936	348	377	-142.81	2.83	0.02	0.00	0.00	0.00
937	349	378	-717.99	2.82	0.02	0.00	0.00	0.00
938	350	379	-413.47	2.81	0.02	0.00	0.00	0.00
939	351	380	725.55	2.80	0.02	0.00	0.00	0.00
940	352	381	1144.49	2.79	0.02	0.00	0.00	0.00
941	353	382	-461.14	2.78	0.02	0.00	0.00	0.00
942	354	383	-442.18	2.77	0.02	0.00	0.00	0.00
943-NX	355	384						
944	356	385	-2310.21	2.76	0.02	0.00	0.00	0.00
945	357	386	-403.89	2.75	0.02	0.00	0.00	0.00
946	358	387	-2102.16	2.74	0.02	0.00	0.00	0.00
947-PS	359	388	1293.43	2.73	0.02	0.00	0.00	0.00
948-PS	360	389	-1672.41	2.72	0.02	0.00	0.00	0.00
949	361	390	1672.41	2.71	0.02	0.00	0.00	0.00
950	362	391	0.00	2.70	0.02	0.00	0.00	0.00
951-NX	363	392						
952	364	393	373.71	2.69	0.02	0.00	0.00	0.00
953	365	394	-273.71	2.68	0.02	0.00	0.00	0.00
954	366	395	373.71	2.67	0.02	0.00	0.00	0.00
955	367	396	214.24	2.66	0.02	0.00	0.00	0.00
956	368	397	44.84	2.65	0.02	0.00	0.00	0.00
957	369	398	16.28	2.64	0.02	0.00	0.00	0.00
958	370	399	-31.28	2.63	0.02	0.00	0.00	0.00
959	371	400	23.71	2.62	0.02	0.00	0.00	0.00
960	372	401	-18.98	2.61	0.02	0.00	0.00	0.00
961	373	402	23.02	2.60	0.02	0.00	0.00	0.00
962	374	403	-8.78	2.59	0.02	0.00	0.00	0.00
963	375	404	6.79	2.58	0.02	0.00	0.00	0.00
964	376	405	-7.46	2.57	0.02	0.00	0.00	0.00
965	377	406	3.00	2.56	0.02	0.00	0.00	0.00
966	378	407	3.00	2.55	0.02	0.00	0.00	0.00
967	379	408	-11.74	2.54	0.02	0.00	0.00	0.00
968	380	409	65.24	2.53	0.02	0.00	0.00	0.00
969	381	410	-46.74	2.52	0.02	0.00	0.00	0.00
970	382	411	9.37	2.51	0.02	0.00	0.00	0.00
971	383	412	-12.39	2.50	0.02	0.00	0.00	0.00
972	384	413	-123.99	2.49	0.02	0.00	0.00	0.00
973	385	414	-177.83	2.48	0.02	0.00	0.00	0.00
974	386	415	-309.28	2.47	0.02	0.00	0.00	0.00
975-PS	387	416	-320.78	2.46	0.02	0.00	0.00	0.00
976	388	417	-929.18	2.45	0.02	0.00	0.00	0.00
977-NXPS	41	401						
978-PC	417	417	OPERATING	CUT OF RANGE		0.00	0.00	0.00
979-PC	422	421	10.77	0.21	107.49	0.00	0.00	0.00
980-NX	415	415	OPERATING	CUT OF RANGE		0.00	0.00	0.00
981-PC	421	421	0.00	0.00	130.01	0.00	0.00	0.00
982-PC	422	422	-4918.23	0.56	0.00	0.00	0.00	0.00
983-PC	423	423	-4918.16	0.54	0.00	0.00	0.00	0.00
984	423	423	2117.15	0.53	0.00	0.00	0.00	0.00
985-NXPS	423	424						
986-PC	423	424	2117.18	0.52	157.84	0.00	0.00	0.00

LINE NO.	DESCRIPTION	AMOUNT	DATE	INITIALS	REMARKS
100
101
102
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120

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL CHARGE (1984)	HYDRAULIC GRADE (1984)	JUNCTION ELEVATION (1984)	REVISION	JUNCTION ELEVATION (1984)
1		2 24	7071 10	1000 00	14 20	30 20
2		3 24	7071 27	1000 00	14 24	30 24
3		40 12	7074 00	1000 00	14 40	30 40
4		130 16	7077 42	1000 00	14 42	30 42
5		51 12	7077 04	1000 00	14 50	30 50
6		72 00	7077 47	1000 00	14 57	30 57
7		16 00	7077 01	1000 00	14 57	30 57
8		04 00	7077 04	1000 00	14 57	30 57
9		11 24	7077 06	1000 00	14 57	30 57
10		7 24	7074 10	1000 00	14 57	30 57
11		0 10	7074 15	1000 00	14 57	30 57
12		0 10	7074 10	1000 00	14 57	30 57
13		0 10	7074 10	1000 00	14 57	30 57
14		0 10	7074 10	1000 00	14 57	30 57
15		0 10	7074 10	1000 00	14 57	30 57
16		0 10	7074 10	1000 00	14 57	30 57
17		0 10	7074 10	1000 00	14 57	30 57
18		0 10	7074 10	1000 00	14 57	30 57
19		0 10	7074 10	1000 00	14 57	30 57
20		0 10	7074 10	1000 00	14 57	30 57
21		0 10	7074 10	1000 00	14 57	30 57
22		0 10	7074 10	1000 00	14 57	30 57
23		0 10	7074 10	1000 00	14 57	30 57
24		0 10	7074 10	1000 00	14 57	30 57
25		0 10	7074 10	1000 00	14 57	30 57
26		0 10	7074 10	1000 00	14 57	30 57
27		0 10	7074 10	1000 00	14 57	30 57
28		0 10	7074 10	1000 00	14 57	30 57
29		0 10	7074 10	1000 00	14 57	30 57
30		0 10	7074 10	1000 00	14 57	30 57
31		0 10	7074 10	1000 00	14 57	30 57
32		0 10	7074 10	1000 00	14 57	30 57
33		0 10	7074 10	1000 00	14 57	30 57
34		0 10	7074 10	1000 00	14 57	30 57
35		0 10	7074 10	1000 00	14 57	30 57
36		0 10	7074 10	1000 00	14 57	30 57
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63		0 10	7074 10	1000 00	14 57	30 57
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73		0 10	7074 10	1000 00	14 57	30 57
74		0 10	7074 10	1000 00	14 57	30 57
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97		0 10	7074 10	1000 00	14 57	30 57
98		0 10	7074 10	1000 00	14 57	30 57
99		0 10	7074 10	1000 00	14 57	30 57
100		0 10	7074 10	1000 00	14 57	30 57

178	4.28	3994 2.	3877 07	329 02	46 27
179	5.17	3993 02	3877 02	329 02	46 29
180	4.65	3993 04	3877 02	329 04	46 21
181	5.17	3993 23	3876 02	327 29	46 48
182	1.09 64	3996 59	3880 02	326 32	46 36
183	2.24	3996 87	3887 07	324 67	45 30
184	3.47	3997 33	3895 03	322 33	44 34
185	4.47	3998 18	3898 33	321 33	43 41
186	4.07	3998 84	3893 03	320 03	43 63
187	13 02	3994 14	3895 03	319 04	43 73
188	0 70	3993 21	3894 00	318 31	43 87
189	0 02	3999 74	3890 00	317 74	43 42
190	0 02	3991 20	3888 00	316 22	44 73
191	5 10	3999 47	3888 05	315 47	43 87
192	0 25	3999 47	3887 20	314 67	45 27
193	0 20	3992 09	3883 50	313 60	44 53
194	9 00	3973 26	3885 00	312 26	44 91
195	8 00	3932 24	3880 00	310 24	44 04
196	72 74	3991 89	3884 00	307 89	44 63
197	6 00	3992 03	3885 00	307 03	44 77
198	73 78	3999 08	3881 00	306 08	47 18
199	71 74	3991 92	3880 00	311 92	46 33
200	71 74	3991 01	3879 00	322 03	46 01
201	1 02	3991 07	3879 00	322 03	46 00
202	1 10	3991 10	3878 00	316 10	46 33
203	13 30	3992 25	3878 00	314 30	50 16
204	715 02	3973 06	3873 00	314 06	43 44
205	2 04	3992 09	3873 00	313 09	44 41
206	1 02	3991 70	3872 00	312 70	46 27
207	2 04	3992 12	3876 00	311 12	45 06
208	2 04	3993 24	3875 00	310 24	44 09
209	2 04	3993 24	3875 00	307 24	43 47
210	6 04	3994 72	3874 00	311 71	45 01
211	6 02	3994 62	3874 00	310 61	47 03
212	6 02	3994 61	3873 00	308 61	47 07
213	6 02	3994 61	3872 00	304 61	47 33
214	6 02	3994 64	3871 00	306 60	46 39
215	17 14	3997 64	3871 00	306 64	46 21
216	7 02	3997 74	3870 00	313 74	47 06
217	6 02	3997 02	3870 00	309 02	47 02
218	5 01	3994 24	3868 00	309 24	47 32
219	3 02	3991 31	3868 00	312 31	47 32
220	7 75	3992 59	3867 00	302 59	46 46
221	0 02	3993 39	3865 00	304 39	46 21
222	0 02	3993 20	3865 00	304 20	46 56
223	3 74	3998 07	3865 00	311 07	39 04
224	3 02	3993 17	3865 00	304 17	46 01
225	3 02	3993 24	3865 00	304 24	47 02
226	13 30	3999 12	3865 00	304 12	41 02
227	6 46	3996 23	3863 00	309 46	42 00
228	7 75	3991 04	3860 00	311 04	43 78
229	8 17	3992 04	3859 00	307 04	44 36
230	2 00	3997 01	3858 00	300 01	46 03
231	8 17	3992 24	3858 00	307 24	46 56
232	10 24	3993 23	3858 00	304 23	43 03
233	15 30	3999 30	3853 00	304 30	41 76
234	6 30	3999 00	3850 00	320 00	43 36
235	25 00	3999 74	3847 00	322 74	46 04
236	15 00	3997 04	3846 00	327 04	46 38
237	14 12	3996 12	3845 00	324 12	47 32
238	10 54	3994 11	3845 00	320 11	47 32
239	44 10	3994 11	3840 00	323 10	47 71
240	42 04	3993 24	3843 11	304 24	46 04
241	12 02	3999 26	3844 00	305 26	45 01
242	26 18	3999 45	3844 00	303 45	44 32
243	11 03	3998 04	3841 00	304 04	42 03
244	1 32	3998 21	3841 00	307 31	42 17
245	21 02	3994 30	3841 00	308 30	41 30
246	23 59	3995 09	3841 00	304 09	45 46
247	11 51	3995 09	3841 00	307 09	47 31
248	4 12	3994 00	3840 00	309 00	47 10
249	6 04	3991 01	3840 00	312 04	46 03
250	9 20	3990 27	3840 00	310 27	47 78
251	5 23	3990 04	3840 00	308 04	47 05
252	6 28	3994 04	3840 00	314 04	46 09
253	6 27	3994 04	3840 00	309 04	47 34
254	0 20	3993 02	3840 00	310 02	46 03
255	1 32	3994 04	3840 00	307 04	47 32
256	0 20	3994 04	3840 00	314 04	46 02
257	9 29	3990 17	3840 00	311 17	47 02
258	0 20	3991 00	3840 00	312 00	46 03
259	7 04	3990 13	3840 00	310 13	46 03
260	0 02	3990 06	3840 00	310 06	46 33
261	0 02	3990 04	3840 00	310 04	46 11
262	0 02	3993 04	3840 00	310 04	46 10
263	0 02	3993 07	3840 00	310 07	46 01
264	0 02	3993 03	3840 00	312 03	46 02
265	5 43	3993 06	3840 00	312 06	46 01
266	1 45	3992 35	3840 00	307 45	46 00
267	11 03	3992 04	3840 00	302 04	46 32
268	3 12	3992 28	3840 00	301 28	46 56
269	3 12	3992 28	3840 00	301 28	46 56

277	6.22	3892 44	2872 00	118.66	51.33
278	7.00	3891 43	2876 03	118.43	51.72
279	3.04	3891 30	2876 00	117.38	50.86
280	3.22	3891 27	2873.03	118.37	51.79
281	3.06	3891 43	2876.00	118.43	51.82
282	3.00	3891 44	2876 03	118.44	51.83
283	0.00	3891 43	2876 03	118.40	51.44
284	9.00	3891 42	2876.00	117.42	50.80
285	1.10	3891 42	2873.00	118.42	51.32
286	232.78	3873 38	2870.00	118.30	44.80
287	1.00	3894 60	2873.00	118.60	48.40
288	1.00	3894 60	2875.00	118.60	47.83
289	0.00	3892 29	2871.00	117.30	48.66
290	0.00	3891 43	2870.00	111.40	60.27
291	23.84	3895 45	2870.00	122.05	47.43
292	11.21	3895 33	2880.00	125.33	49.64
293	28.76	3895 32	2890.00	92.32	41.31
294	0.00	3895 30	2890.00	84.38	40.86
295	0.00	3890.82	2890.00	80.82	39.58
296	20.47	3893.73	2890.00	70.73	34.12
297	0.00	3890.89	2890.00	20.89	9.04
298	39.72	4214 21	2825.00	89.21	38.44
299	12.32	4214 20	2820.00	84.20	40.82
300	20.47	4214 20	2820.00	80.20	40.82
301	20.47	4214 27	2840.00	70.27	32.23
302	20.47	4214 24	2840.00	70.24	30.44
303	23.24	4214 18	2821.00	99.18	42.84
304	20.74	3483 87	2820.00	73.87	31.84
305	18.23	3483 93	2825.00	68.93	28.84
306	12.10	3893 24	2820.00	73.24	31.74
307	10.24	3893 20	2820.00	81.20	34.10
308	0.00	3892.28	2820.00	82.28	33.84
309	7.76	3894 80	2820.00	94.80	41.34
310	0.00	3891.24	2820.00	87.80	42.37
311	10.34	2894 80	2873.00	100.80	44.14
312	18.39	2894 71	2875.00	104.71	47.86
313	0.00	2891.85	2875.00	104.89	47.27
314	0.00	2891.25	2875.00	102.21	46.94
315	0.24	2893 35	2880.00	97.39	42.20
316	0.00	2892.67	2880.00	96.67	41.89
317	0.00	2897.64	2874.00	108.64	49.89
318	1.02	2891.92	2874.00	107.92	48.77
319	0.00	2891.00	2870.00	95.90	41.54
320	13.50	2891.68	2860.00	95.68	41.81
321	10.82	2891.44	2870.00	106.44	44.11
322	29.72	2891.32	2870.00	108.38	46.17
323	22.67	2891.04	2880.00	95.62	41.25
324	41.14	2891 33	2890.00	85.33	41.31
325	40.88	2891 23	2875.00	104.23	48.89
326	10.34	2892.89	2875.00	82.89	35.87
327	20.47	2893.00	2875.00	73.00	31.44
328	10.14	2893.04	2813.00	93.04	31.64
329	16.84	4014.14	2815.00	89.14	42.87
330	18.84	4014.17	2815.00	84.17	42.87
331	45.14	4014.25	2845.00	89.25	10.00
332	0.00	2891.78	2845.00	86.78	11.81
333	0.00	2893.80	2848.00	11.80	3.00
334	0.00	4014 25	2825.00	64.25	17.84
335	0.00	4014 28	2840.00	89.80	19.33
336	0.00	4014 67	2845.00	74.67	22.89
337	0.00	4014.87	2850.00	88.87	25.49
338	0.00	2893.74	2860.00	11.74	3.00
339	0.00	4014.34	2875.00	87.34	29.82
340	0.00	4014.48	2875.00	87.48	29.80
341	0.00	4072 43	2890.00	82.43	16.72
342	0.00	4083 20	2890.00	74.20	14.36
343	0.00	4074 87	2890.00	64.87	14.84
344	14.21	4074 4	2890.00	80.42	28.22
345	12.92	414.01	2890.00	102.22	41.88
346	0.00	4087 43	4.22 22	87.43	20.80
347	0.00	4087.73	6.22 22	82.74	19.84
348	28.87	4087 65	4.22 22	80.88	24.27
349	122.77	2087 83	2890.00	97.84	49.71
350	289.18	4082.64	6.22 22	69.64	19.18
351	0.12	4032.13	6.22 22	72.13	21.24
352	1.00	4081.14	6.22 22	60.14	24.24
353	12.48	4081 10	4020.00	71.22	20.36
354	117.11	4081 90	4020.00	82.88	28.88
355	0.00	4082 17	4.22 22	87.17	24.77
356	0.00	4084 28	4.22 22	88.28	28.22
357	0.00	4084 20	4.22 22	64.20	17.82
358	0.00	4121.17	4040.00	83.17	26.81
359	407.42	4121 64	4.22 22	80.64	21.84
360	0.00	4080.21	4.22 22	62.21	17.00
361	1.02	4112.01	4.22 22	49.47	21.44
362	0.00	4113 88	4.22 22	44.88	20.14
363	1.00	4118 23	4080.00	18.22	0.33
364	0.00	4120.00	4100.00	17.80	14.36
365	0.00	4110.00	4100.00	15.00	47.86
366	10.34	4110.22	4100.00	10.22	48.84
367	11.00	4110.80	4100.00	10.80	48.84
368	7.79	4110.24	4100.00	8.24	45.14
369	29.84	4110.01	4100.00	92.01	40.22

376	12 50	4269 94	4138 00	71 50	31 17
377	5 17	4209 94	4152 00	59 94	25 57
378	31.01	4209 94	4141 00	59 94	30 33
379	25.50	4271 01	4103 00	95 66	31.19
380	29 30	4271 20	4192 00	86 24	37 37
381	233 78	3471 30	3872 00	101 39	41 81
382	0 00	3901 71	3892 00	114 71	49 71
383	1 31	3901 04	3871 00	109 06	47 60
384	0 00	3892 02	3872 00	117 63	51 06
385	0 00	3892 45	3874 00	115 45	50 93
386	0 00	3892 71	3874 00	118 71	50 98
387	0 00	3892 86	3878 00	112 84	48 80
388	0 00	3892 87	3877 00	112 87	48 79
389	0 00	3892 08	3878 00	114 08	50 10
390	0 00	3892 40	3875 01	116 40	51 44
391	0 00	3892 57	3873 00	117 57	51 17
392	0 00	3892 11	3883 00	111 11	48 16
393	0 00	3892 91	3883 00	111 91	48 34
394	3.00	3892 84	3887 00	111 84	48 39
395	2.00	3891 02	3885 00	105 02	44 29
396	2.00	3891 87	3885 00	108 87	46 31
397	0 00	3892 32	3887 00	105 32	43 64
398	1.00	3892 23	3883 00	103 23	44 71
399	0 00	3892 03	3889 00	103 03	44 60
400	3.00	3891 97	3889 00	102 97	44 62
401	2.00	3892 03	3894 00	98 03	42 40
402	0 00	3892 07	3894 00	98 07	42 50
403	3 00	3892 64	3896 00	86 64	41 67
404	3 00	3892 69	3898 00	87 69	42 07
405	3 00	3892 11	3895 00	87 11	42 10
406	3 00	4031 00	3892 00	179 00	79 40
407	0 00	4074 00	3855 00	106 00	46 73
408	0 00	4070 70	3890 70	100 00	41 51
409	0 00	3894 02	3883 00	113 02	49 24
410	0 00	3894 14	3883 00	6 14	3 78
411	0 00	3894 20	3866 10	28 10	16 91
412	0 00	4184 05	3866 10	104 05	79 89
413	0 00	4110 22	4089 50	10 72	8 11
414	0 00	3892 72	3890 70	27 05	11 72
415	0 00	3892 31	3865 00	91 31	49 33
416	1223 93	3877 48	3865 00	14 48	6 28
417	0 00	3892 00	3868 00	20 00	10 42

MAXIMUM AND MINIMUM VALUES
FOR PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURE (PSI)	JUNCTION NUMBER	MINIMUM PRESSURE (PSI)
119	0.70	82	-31.00
420	82.3	612	2.71
820	79.89	123	1.00
629	77.60	330	1.00
104	76.94	705	4.20

HL / 1000

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)
10	108.49	174	0.00
100	132.52	422	0.00
418	80.62	623	0.00
439	62.87	721	0.00
170	11.87	379	0.00

REGULATING VALVE REPORT

VALVE LABEL	VALVE TYPE	CONTROLING PIPE	VALVE SETTING (ft of H ₂ O)	VALVE STATUS	UPSTREAM GRADE (ft)	DOWNSTREAM GRADE (ft)	THROUGH FLOW (gpm)	
R1	PRV	366	647	4830 46	THROTTLED	4379.00	4310 40	119.71

SUMMARY OF INFLOWS AND OUTFLOWS

- (-) INFLOW INTO THE SYSTEM FROM FIXED GRADE NODES
- (+) OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

PIPE LABEL	PIPE NUMBER	FLOW RATE (gpm)	NODE TITLE
CC	497	1883 40	TANK 1000
DD	619	-693 41	TANK 7000
EE	643	-1291 41	TANK 7101
FF	644	1472 41	TANK 7101
GG	669	329 70	TANK 7170
II	810	6538 32	TANK 1320
JJ	830	4930 16	TANK 1723
KK	836	6283 30	TANK 1400, 91, 92
LL	474	700 49	TANK 1400

7 1 0 0

**** RTTYPE SIMULATION COMPLETED ****

DATE 07/22/94
TIME 16 09:00 02



APPENDIX I - Existing Storage Capacities

EXISTING WATER TANK DATA

Structure No.	Type	Capacity in Gallons	Year Built	Elevation	Location
129	Elevated Tank (steel)	150,000	1910		Fort Bliss
493	Elev Wtr Tank (steel)	500,000	1941	3883.10	Fort Bliss
1318	Grnd Stor Reserv (conc)	558,000	1917		Fort Bliss
1319	Grnd Stor Tank (conc)	500,000	1959	3875.77	Fort Bliss
3680	Grnd Stor Tank (steel)	1,500,000	1978		Desert Field
3691	Grnd Stor Tank (steel)	194,000	1954	3880.00	Desert Field
3682	Grnd Stor Tank (steel)	194,000	1954	3890.00	Desert Field
3780	Elev Tank (steel)	100,000	1961		Tobin Wells
3794	Elev Tank (steel)	190,000	1972		Tobin Wells
4317	Grnd Stor Reserv (conc)	500,000	1940	3888.00	Logan Hts
4888	Grnd Stor Tank (steel)	712,000	1941	4200.40	Logan Hts
5300	Elevated Tank (steel)	1,500,000	1967		Fort Bliss
7088	Grnd Stor Tank (steel)	1,000,000	1932	3768.20	WBAMC
7090	Grnd Stor Tank (steel)	1,500,000	1959	3864.20	WBAMC
7241	Grnd Stor Tank (steel)	600,000	1930		WBAMC
7775	Grnd Stor Tank (steel)	1,000,000	1971	4137.90	WBAMC
11282	Elevated Tank (steel)	200,000	1949		Biggs
11146	Elevated Tank (steel)	750,000	1955	3915.17	Biggs
11172	Elevated Tank (steel)	600,000	1943		Biggs
11313	Elevated Tank (steel)	300,000	1967		Biggs

APPENDIX J - Probable Cost Estimates

APPENDIX K - Miscellaneous Calculations

MAINTENANCE COST

ALTERNATIVE #2 - ADDITION OF STORAGE COST

A. PAINTING OF NEW TANKS EVERY 10 YEARS

DESCRIPTION	QUANTITY		LABOR		MATERIAL		TOTAL
	NO	UNIT	UNIT	TOTAL	UNIT	TOTAL	
NEW TANKS	12000	SF	\$0.24	\$2,880	\$0.19	\$2,280	\$5,160

B. ANNUAL CONTROLS MAINTENANCE (I.E. LEVEL SWITCHES, VALVES, ETC.)

DESCRIPTION	QUANTITY		LABOR		MATERIAL		TOTAL
	NO	UNIT	UNIT	TOTAL	UNIT	TOTAL	
LABOR	16	HR	\$25.75	\$412	\$0	\$0	\$412
MATERIALS	1	LS	\$0.00	\$0	\$250	\$250	\$250
TOTAL							\$662

C. TOTAL ANNUAL COST

TOTAL = \$5,160 / 10 YEARS + \$662 / YEAR

TOTAL = \$1,178 / YR

100

APPENDIX L

Life Cycle Cost Calculations

**LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECP)**

LOCATION: FORT BLISS, TEXAS REGION NO. 3 PROJECT NO. 94127001F
 PROJECT TITLE: FORT BLISS WATER DISTRIBUTION SYSTEM FISCAL YEAR 1994
 DISCRETE PORTION NAME: ALTERNATIVE 2 - ADDITIONAL STORAGE CAPACITY
 ANALYSIS DATE: 07/13/93 ECONOMIC LIFE 20 PREPARED BY S. P. CLARK

1. INVESTMENT COSTS:

A. CONSTRUCTION COST	<u>\$558,932</u>	
B. BIDDING	<u>\$30,741</u>	
C. DESIGN COST	<u>\$33,536</u>	
D. TOTAL COST (1A+1B+1C)	<u>\$623,209</u>	
E. SALVAGE VALUE OF EXISTING EQUIPMENT	<u>\$0</u>	
F. PUBLIC UTILITY COMPANY REBATE	<u>\$0</u>	
G. TOTAL INVESTMENT (1D-1E-1F)		<u>\$623,209</u>

2. ENERGY SAVINGS (+) OR COST (-):

DATE OF NISTIR 85-3273-X USED FOR DISCOUNT FACTORS:

OCTOBER 1992

ENERGY SOURCE	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVINGS(5)
A. ELEC	<u>\$2.24</u>	<u>0</u>	<u>\$0</u>	<u>14.08</u>	<u>\$0</u>
B. DIST			<u>\$0</u>	<u>17.76</u>	<u>\$0</u>
C. RESID			<u>\$0</u>	<u>20.99</u>	<u>\$0</u>
D. NG	<u>\$2.80</u>	<u>0</u>	<u>\$0</u>	<u>20.80</u>	<u>\$0</u>
E. PPG			<u>\$0</u>	<u>13.88</u>	<u>\$0</u>
F. COAL			<u>\$0</u>	<u>16.32</u>	<u>\$0</u>
G. SOLAR			<u>\$0</u>	<u>13.89</u>	<u>\$0</u>
H. GEOTH			<u>\$0</u>	<u>13.89</u>	<u>\$0</u>
I. BIOMA			<u>\$0</u>	<u>10.59</u>	<u>\$0</u>
J. REFUS			<u>\$0</u>	<u>13.89</u>	<u>\$0</u>
K. WIND			<u>\$0</u>	<u>13.88</u>	<u>\$0</u>
L. OTHER			<u>\$0</u>	<u>13.88</u>	<u>\$0</u>
M. DEMAND SAVINGS			<u>\$27,697</u>	<u>13.88</u>	<u>\$22,720</u>
N. TOTAL		<u>0</u>	<u>\$27,697</u>		<u>\$22,720</u>

3. NON ENERGY SAVINGS (+) OR COST (-):

A. ANNUAL RECURRING (+/-)	<u>-81,170.0</u>
1. DISCOUNT FACTOR (TABLE A)	<u>13.88</u>
2. DISCOUNTED SAVINGS/COST (3A X 3A1)	<u>-818.000</u>

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECP)

B NON RECURRING SAVINGS (+) OR COST(-)

ITEM	SAVINGS(+) / COST(-) (1)	YEAR OF OCCUR (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS(+) / COST(-) (4)
a	80	1	0.95	80
b	80	2	0.92	80
c	80	3	0.89	80
d	80	4	0.85	80
e	80	5	0.82	80
f	80	6	0.79	80
g	80	7	0.76	80
h	80	8	0.73	80
i	80	9	0.7	80
j	80	10	0.68	80
k	80	11	0.65	80
l	80	12	0.62	80
m	80	13	0.6	80
n	80	14	0.56	80
o	80	15	0.53	80
p	TOTAL			80

C TOTAL NON ENERGY DISCOUNTED SAVINGS (SA2 + 30p4) - 816.008

4. SIMPLE PAYBACK (IC / (2N3 + 3A + 12C)) / ECONOMIC LIFE) 8.3 YEARS

5. TOTAL NET DISCOUNTED SAVINGS ((N3) + 3C) 890.711

6. SAVINGS TO INVESTMENT RATIO (S/N) (N1) 1.45

7. ADJUSTED INTERNAL RATE OF RETURN (A RR) 6.0%

APPENDIX M - Scope of Work

Contractor must submit four copies of invoice

Expires Aug 2, 1993

(11) Reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Services, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Project (0704-0187), Washington, DC 20503. Please, DO NOT RETURN your copy to either of these addresses. Send your completed and unrecruited official identified in items 1.

1. PURCHASE ORDER NO. 2. DELIVERY ORDER NO. 3. DATE OF ORDER 4. REALIZATION/TRACE REQUEST NO. 5. PRIORITY

6. ENGINEER DISTRICT: FTW CODE W0254 17. ADMINISTERED BY CODE See Block 6 8. DELIVERY FOR () DIRECT () OTHER (See Schedule)

9. DELIVER TO FOR ORDER BY 10. DELIVER TO FOR ORDER BY 11. FORM OF BIL. IS () SMALL () SMALL DIS-ACQUAINTED () MCHEN-GARD 12. BIDDING TERMS 0 1 2 3 4 5 6 7 8 9 10 11 12 13. MAIL INVOICES TO See Block 15

14. ENGINEER DISTRICT: FTW CODE W0254 15. PAYMENT WILL BE MADE BY () CHECKING OFFICER/ENGINEER () LEAD ENGINEER DISTRICT: FTW CODE W0254 16. ALL PROGRES AND PAPERS WITH CONTRACT OR ORDER NUMBER

18. This delivery order is issued in addition to another Government A.O. or it accordance with and subject to terms and conditions of above numbered contract.

19. Referenced your furnish the following on terms specified herein.

20. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE ABOVE PURCHASE ORDER AS IF PAY PREVIOUSLY MADE AND ACCEPTS SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH AND AGREES TO PERFORM THE SAME

21. NAME OF CONTRACTOR SIGNATURE 22. TYPE NAME AND TITLE DATE SIGNED

23. CONDITIONS AND APPROPRIATION DATA/LOCAL USE 211228 18 0073 072018.72 041443 19 1230333333333333 001 04 027791207

Table with 5 columns: 18. QUANTITY, 19. SCHEDULE OF SUPPLIES/SERVICE, 20. QUANTITY ORDERED, 21. UNIT, 22. UNIT PRICE, 23. AMOUNT. Row 1: PROVIDE AN ANALYSIS OF A BRANCH OF THE WATER DISTRIBUTION SYSTEM FOR THE PLANS IN ACCORDANCE WITH THE ATTACHED SCOPE OF WORK. POINT OF CONTACT: RICHARD CHAFFIN 017334-023

24. SHIP TO: UNITED STATES OF AMERICA 25. SHIP NO. 26. D.O. NUMBER 27. CONTRACTING OFFICER'S SIGNATURE: R. Lewis 9/2/93 28. TITLE: CONTRACTING OFFICER

29. SHIP NO. 30. D.O. NUMBER 31. PARTIAL 32. FINAL 33. CONTRACTING OFFICER'S SIGNATURE

13 MAY 1994

CARTER-BURGESS
3850 HULEN STREET
P.O. BOX 985006
FORT WORTH, TX.
76185-9006

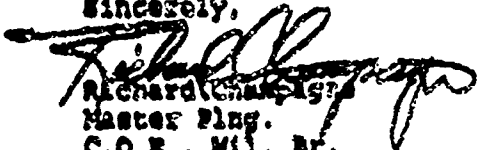
Gentlemen:

Reference Purchase Order for the analysis of the Water
Distribution System at Fort Bliss, TX.

You are hereby authorized to proceed as required under the
scope of work for this project. Your firm has been
requested to submit a draft prefinal report, prior to
submitting a final report for this study.

Should you have any questions, please contact Richard
Champagne at (817)334-2750.

Sincerely,


Richard Champagne
Master Eng.
C.O.E., M.I. Br.
Fort Worth

Fort Bliss Water Distribution Study Scope of Work and Assumptions

SCOPE OF WORK

1. Gather and compile data from Fort Bliss Public Works for the Water Distribution System which serves William Beaumont Army Medical Center (WBAMC).
2. Perform a site investigation to gather additional data.
3. Analyze and update the existing KY Pipe data files created by Texas A&M for a previous study.
4. Use the KY Pipe model (for the peak daily usage) to simulate the hours between 10:00 am and 9:00 pm to determine if the pumps serving WBAMC can be scheduled "off" during the peak electrical usage period.
5. Based on the KY Pipe analysis and the assumptions listed below, calculate the construction cost, energy savings and life cycle cost for the additional storage capacity at WBAMC.
6. Provide the analysis results in a life cycle cost analysis report complete with recommendations.

LIST OF ASSUMPTIONS

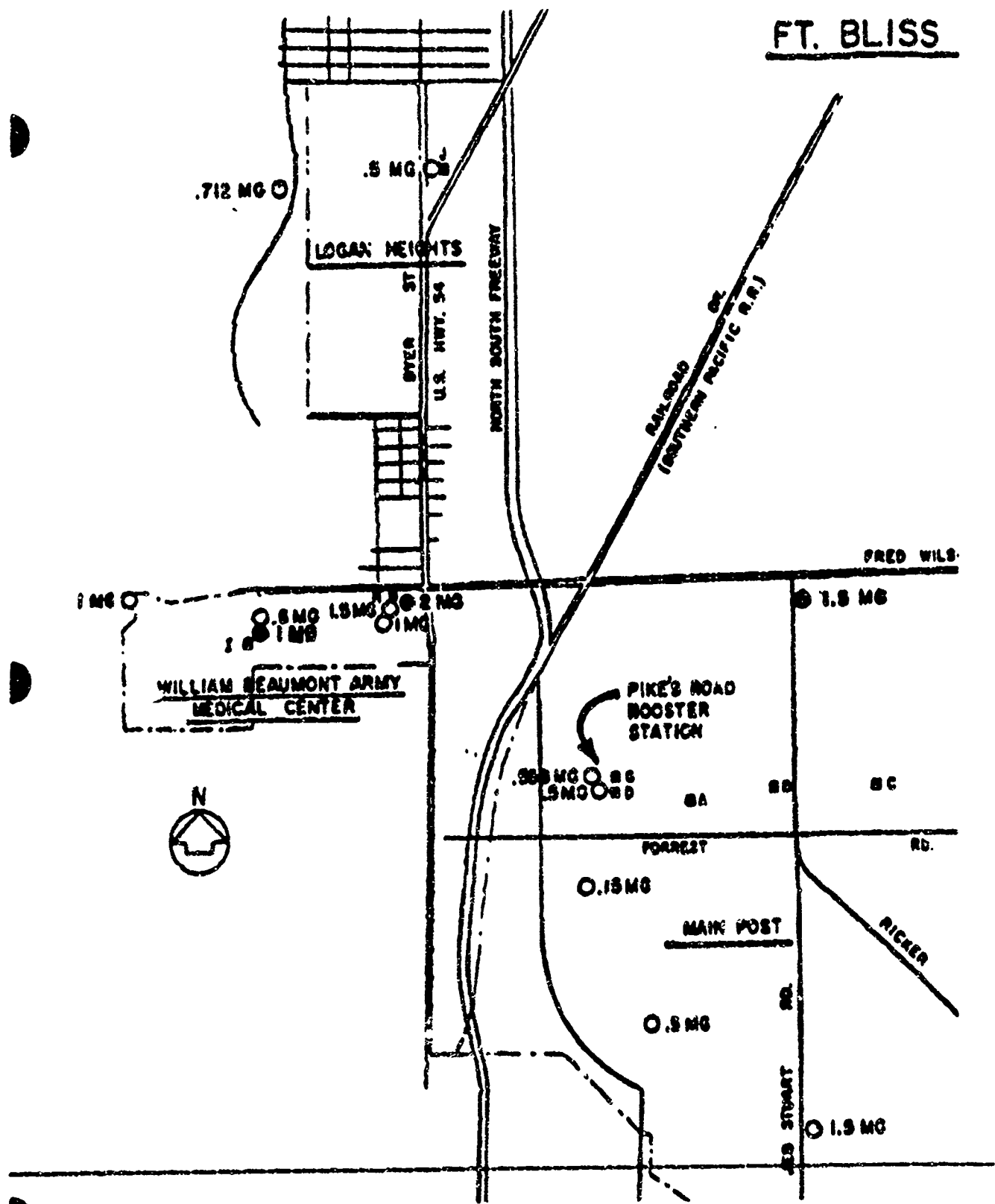
1. WBAMC is the most critical branch of the entire water distribution system based on observations of Fort Bliss Public Works.
2. Fort Bliss Public Works will provide the A/E with the KY Pipe data files as well as twelve months of historical hourly pumping data (on disk) for all of the well and distribution pumps for the WBAMC water distribution system.
3. A/E will adjust the historical data to reflect the added consumption from three residential areas and Logan Heights based on "typical" capacity and demand for noted usage. Also, a reasonable safety factor will be added (i.e. 10-15%).
4. Fort Bliss Public Works will provide the A/E with drawings of the WBAMC water distribution system, including location and sizes for all pumps and piping, as well as tank locations and elevations.
5. Fort Bliss Public Works will provide the A/E with lowest acceptable tank water levels to maintain fire flows and duration requirements for the tanks associated with WBAMC.

**Fort Bliss Water Distribution Study
Scope of Work and Assumptions**

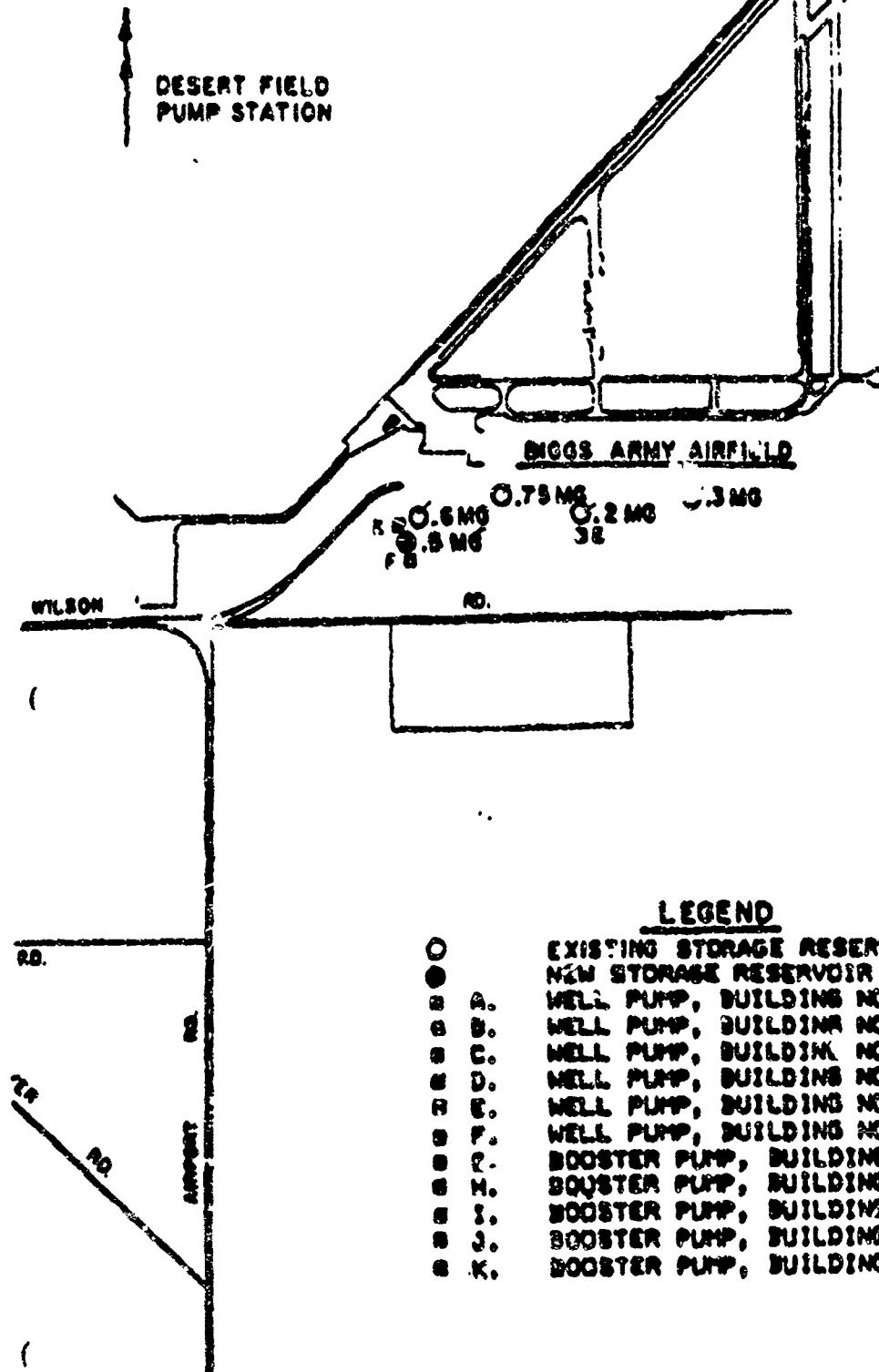
- D**
6. Using the tank level information and the pumping run time and capacity data, the A/E will calculate the average hourly draw down rate for each tank for use in the KY Pipe analysis.
- D**

APPENDIX N - Map

FT. BLISS



IS WATER SYSTEM



LEGEND

- EXISTING STORAGE RESERVOIR
- NEW STORAGE RESERVOIR
- A. WELL PUMP, BUILDING NO. 1170
- B. WELL PUMP, BUILDING NO. 1252
- C. WELL PUMP, BUILDING NO. 2451
- D. WELL PUMP, BUILDING NO. 1998
- E. WELL PUMP, BUILDING NO. 11241
- F. WELL PUMP, BUILDING NO. 11180
- G. BOOSTER PUMP, BUILDING NO. 1318
- H. BOOSTER PUMP, BUILDING NO. 7084
- I. BOOSTER PUMP, BUILDING NO. 7242
- J. BOOSTER PUMP, BUILDING NO. 4318
- K. BOOSTER PUMP, BUILDING NO. 11171

APPENDIX O

**Symbols, Abbreviations
and Conversion Factors**

SYMBOLS AND ABBREVIATIONS

KW	• Kilowatt (1,000 watts)
KWH	• Kilowatt-hour (1,000 watt-hours)
CF	• Cubic Feet
KCF	• 1,000 Cubic Feet
MCF	• 1,000,000 Cubic Feet
BTU	• British Thermal Unit
KBTU	• 1,000 BTUs
MBTU	• 1,000,000 BTUs

CONVERSION FACTORS

1 KWH	• .003413 MBTU
1 KCF	• 1.031 MBTU

APPENDIX N - DD Form 1391

1 COMPONENT ARMY		FY 1994 MILITARY CONSTRUCTION PROJECT DATA		2 DATE Aug. 1994	
3. INSTALLATION AND LOCATION Fort Bliss, El Paso, Texas			4. PROJECT TITLE Water Distribution Energy Retrofit		
5. PROGRAM ELEMENT		6. ESTIMATED COST 80000	7. FUNDING NUMBER	8. PROJECT COST CODE 623	
9. COST ESTIMATES					
FROM		QTY	AMOUNT	EST. COST	NET COST
Additional water storage tanks		Gal	1,000,000	.559	559
Subtotal					559
Contingency (5%)					28.9
Total Contract Cost					587.9
SICR (6.0%)					35.3
Total Request					623.2
Total Request Rounded					623
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS					
10. DESCRIPTION OF PROPOSED CONSTRUCTION:					
<p>The water distribution retrofit at Fort Bliss consists of installing 1 million gallons of additional storage capacity to eliminate the need to operate the distribution and well pumps during peak electrical periods. The retrofit system results in a discounted payback period of 9.3 years. A Savings To Investment Ratio (SIR) of 1.45 and an Adjusted Rate of Return (AIRP) of 6%.</p>					
11. REQUIREMENTS:					
Refer to attached for additional information.					

I. System Description

The existing water distribution system consists of 17 well pumps and 5 booster pumping stations. The desert field well and booster pumps were not included in this study due to their remote location. The well and booster pumps provide water supply to several ground elevated storage tanks located across the reservation (Refer to Appendix N for map indicating general locations). These storage tanks are located to provide three pressure zones. The upper pressure zone is maintained by a one million gallon tank. The intermediate pressure zone is maintained by a 0.6 million gallon tank. Pressure in the lower zone is maintained by three (3) elevated storage tanks.

II. Analysis Of Present Energy Consumption

In order to establish the energy consumption of the existing water distribution system, El Paso Electric supplied 30-minute measured KW demand values as well as utility bills for the entire base for the period from September 1991 through August 1992 (Refer to Appendix B for this data). This data was used to determine the peak electrical demand day for the entire base which El Paso Electric utilizes for billing purposes each month. Next, the Williams Electric Automated Control System was utilized to download the pump run-time data for each pump, for each of the peak days during the 12-month period previously identified (Refer to Appendix E for this data). Using the run-time data and the KW demand for each pump, the total pumping system electrical demand was calculated and subtracted from the base electrical demand and plotted with the total base demand (Refer to Appendix C for these graphs). These graphs represent the maximum demand savings possible through modification of the water distribution system. These graphs were then used to determine the maximum peak shaving potential, and the most advantageous operating period for the peak shaving methods. Example energy calculations along with a narrative description are included in Appendix D. The total peak shaving potential for the pumping system was determined to be 3,158 KW/YR (Refer to Appendix E for calculations). The most advantageous period for peak shaving is between 10:00 a.m. and 3:00 p.m. daily (Refer to Appendix C).

III. Analysis of Present Water Consumption

A. Purpose

The purpose of the water distribution system modeling was to determine the additional water storage requirements needed to operate the system with distribution and well pumps turned-off during the hours of 10:00 am to 3:00 pm.

B. Proposed Water Demands

Existing pumping records for distribution and well pumps for the periods between March 1993 and February 1994 for the Fort Bliss and William Beaumont Army Medical Center (WBAMC) systems were analyzed. The well pumping data was utilized to represent the average daily demand. The average day well pumpage rate was 3.21 MGD. The peak day well pumpage occurred on June 16, 1993 and was 6.95 MGD. Hourly pumping records were unavailable for the wells and distribution system pumps.

Tank level information was not available. It is reasonable to assume the average daily and peak day pumpage corresponds to the water demands within the system. Hourly records of pumping or tank levels are not available. Hourly electrical power usage by pump (from Energy Engineering Analysis Program report prepared by Carter and Burgess, dated February 1993) was used to evaluate the diurnal water demands. The peak day pumping records for July 23, 1992 are presented in the table contained in Appendix F. A graph of the diurnal demand for July 23, 1992 is also contained in Appendix F. The maximum hour usage occurred at 10:00 pm.

C. Analysis

The KY pipe computer file for the base model was supplied by Fort Bliss and was developed for a previous study performed by Texas A&M University in March of 1991. The total peak day demand in the modeling was 11.13 MGD. The base file with the 11.13 MGD peak day demand was modified to reflect future growth in the water system. Point source demands for the Van Horn and Logan Heights Additions were added to the model. The peak day water consumption used for Van Horn and Logan Heights are 0.80 MGD and 1.95 MGD respectively. Also, the water demand at the Hospital was increased by 25 percent. The total peak day demand model was 13.89 MGD.

Several different demand conditions were modeled with the Fort Bliss water distribution system model for steady state conditions including:

- Peak Day Demands
- Peak Day Demands with all pumps off
- Maximum-Hour Demands (using a 1.7 peak day to maximum hour ratio)
- Tank Filling during Low Demand Periods (using a 0.70 peak day to late evening/early morning demand ratio)

For the demand conditions listed above several scenarios were evaluated to further refine the system. Peak day and maximum hour demands were modeled with existing pumping capabilities and proposed pumping

replacements. Several iterations were performed for the tank filling scenario to evaluate the existing pumps and the ability of the system to fill the tanks and provide supply to the system. From analysis of the computer modeling and calculations it was determined that additional pumping and storage capacity would be necessary to operate the system as proposed.

D. Results

Additional water storage capacity of 0.75 MG is recommended in the vicinity of Tanks 7241, to supply the upper pressure plane with ground storage and provide elevated storage to the middle pressure plane. Additional water storage capacity is recommended in the vicinity of Tanks 7090/7088, to provide ground water supply to the middle pressure plane in the event supply from the lower pressure plane is interrupted. Interruption of the supply could include a broken pipeline, inoperative pumps, or if supply to the lower pressure plane was temporarily interrupted.

Additional pumping of 1200 gpm is needed to refill the proposed tank near Tank 7241. Since no pumping will occur during the hours of 10:00 am to 3:00 pm, the meeting of the domestic demands as well as filling of storage tanks is required in the remaining hours. In order to refill all the elevated storage in the lower pressure plane and Tanks 7090/7088 and the proposed .25 MG tank and additional pumping of 3500 gpm is required at the Pike Pump Station.

A summary of the recommended water system capital improvements required for electrical peak shaving is listed in the table below.

Summary of Capital Improvements for Water Distribution System	
Improvement	Location
New 0.75 MG Storage Tank	Middle Pressure Plane (near tank 7241)
Replacement of pump #2 with 2800 gpm pump	WBAMC Station #7242
Replacement of 10" line with 12" line (approx 3300 LF)	Service line from 7090 to 7241
New .25 MG Storage Tank	Middle Pressure Plane (near tanks 7088/7090)
Replacement of pump #2 with 5800 gpm pump	Pike Station #1318

IV. Analysis Of Energy Conservation Opportunities (ECO's)

A. Increase Storage Capacity (Alternative #2)

The addition of 1.0 million gallons of storage tank capacity was analyzed. The existing storage capacities for all of the tanks at Fort Bliss are listed in Appendix F. The size and location of the new storage tanks were based on the results of the KY pipe analysis discussed and are as follows:

WBAMC:	Middle	.75 MG
	Lower	<u>25 MG</u>
Total		1.0 MG

This additional storage capacity will allow the well and booster pumps to be shut-off during on-peak utility periods. The existing Williams Electric Control system would be utilized to disable the pumps during specified peak periods. Software changes only would be required to accomplish the added functions using the existing control system.

V. Conclusions

The results of this study indicate that increased storage capacity for the Fort Bliss Water Distribution System will result in an SIR of 1.45, a simple payback of 9.3 years and an negative Adjusted Internal Rate of Return (AIRR) of 6.0%.

**LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)**

LOCATION: FORT BLISS, TEXAS REGION NO. 8 PROJECT NO. 84127801F
 PROJECT TITLE: FORT BLISS WATER DISTRIBUTION SYSTEM FISCAL YEAR 1994
 DISCRETE PORTION NAME: ALTERNATIVE 2 - ADDITIONAL STORAGE CAPACITY
 ANALYSIS DATE: 07/12/83 ECONOMIC LIFE 20 PREPARED BY S. P. CLARK

1. INVESTMENT COSTS:

A. CONSTRUCTION COST	<u>8558,932</u>	
B. SIGN	<u>350,741</u>	
C. DESIGN COST	<u>833,536</u>	
D. TOTAL COST (1A+1B+1C)	<u>9743,209</u>	
E. SALVAGE VALUE OF EXISTING EQUIPMENT	<u>00</u>	
F. PUBLIC UTILITY COMPANY REBATE	<u>00</u>	
G. TOTAL INVESTMENT (1D-1E-1F)		<u>9743,209</u>

2. ENERGY SAVINGS (+)/COST(-):

DATE OF NISTIR 85-3273-X USED FOR DISCOUNT FACTORS:

OCTOBER 1992

ENERGY SOURCE	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVINGS(5)
A. ELEC	<u>82.24</u>	<u>0</u>	<u>00</u>	<u>14.86</u>	<u>00</u>
B. DIST			<u>00</u>	<u>17.70</u>	<u>00</u>
C. RESID			<u>00</u>	<u>20.74</u>	<u>00</u>
D. NG	<u>82.90</u>	<u>0</u>	<u>00</u>	<u>20.80</u>	<u>00</u>
E. PPG			<u>00</u>	<u>13.59</u>	<u>00</u>
F. COAL			<u>00</u>	<u>18.33</u>	<u>00</u>
G. SOLAR			<u>00</u>	<u>13.59</u>	<u>00</u>
H. GEOTH			<u>00</u>	<u>13.59</u>	<u>00</u>
I. BIOMA			<u>00</u>	<u>13.59</u>	<u>00</u>
J. REFUR			<u>00</u>	<u>13.59</u>	<u>00</u>
K. WIND			<u>00</u>	<u>13.59</u>	<u>00</u>
L. OTHER			<u>00</u>	<u>13.59</u>	<u>00</u>
M. DEMAND SAVINGS			<u>887,687</u>	<u>13.59</u>	<u>8822,720</u>
N. TOTAL		<u>0</u>	<u>887,687</u>		<u>8822,720</u>

3. NON ENERGY SAVINGS (+) OR COST (-):

A. ANNUAL RECURRING (+/-)	<u>-9,178.0</u>	
1. DISCOUNT FACTOR (TABLE 2)		<u>13.59</u>
2. DISCOUNTED SAVINGS/COST (3A X 3A1)		<u>-816,028</u>

**LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)**

B. NON RECURRING SAVINGS (+) OR COST(-)

ITEM	SAVINGS(+) COST(-)(1)	YEAR OF OCCUR.(2)	DISCOUNT FACTOR(3)	DISCOUNTED SAVINGS(+) COST(-)(4)
a.	\$0	1	0.98	\$0
b.	\$0	2	0.92	\$0
c.	\$0	3	0.88	\$0
d.	\$0	4	0.85	\$0
e.	\$0	5	0.82	\$0
f.	\$0	6	0.79	\$0
g.	\$0	7	0.76	\$0
h.	\$0	8	0.73	\$0
i.	\$0	9	0.7	\$0
j.	\$0	10	0.68	\$0
k.	\$0	11	0.65	\$0
l.	\$0	12	0.62	\$0
m.	\$0	13	0.6	\$0
n.	\$0	14	0.58	\$0
o.	\$0	15	0.56	\$0
p. TOTAL	\$0			\$0

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (SA2 + 38p4) - \$18,000

4. SIMPLE PAYBACK 100(2NS + 3A + 38p4)/(ECONOMIC LIFE): 8.2 YEARS

5. TOTAL NET DISCOUNTED SAVINGS (2NS + 3C): 8905,711

6. SAVINGS TO INVESTMENT RATIO (3C) #10: 1.45

7. ADJUSTED INTERNAL RATE OF RETURN (AIRR): 8.0%

