Appendix

INSURANCE SERVICES OFFICE, INC.

HYDRANT FLOW DATA SUMMARY

City Polk Co FD 1

County Polk, Marion State Oregon Witnessed by: Insurance Services Office, Inc. Date: September 12, 2012

TEST NO.	TYPE DIST.*	TEST LOCATION	SERVICE	FLOW - GPM $Q=(29.83(C(d^2)p^{u.5}))$ INDIVIDUAL HYDRANTS			TOTAL	PRESSURE PSI STATIC	PRESSURE PSI RESID.	FLOW -AT 20 PSI NEEDED **	FLOW -AT 20 PSI AVAIL.	REMARKS***
1	Comm	4375 Independence	Independence, Main	920	920	0	1840	70	40	5500	2400	(D)-(4247 gpm)
1B	Comm	4375 Independence	Independence, Main	920	920	0	1840	70	40	2250	2400	
1A	Comm	4375 Independence Hwy	Independence, Main	920	920	0	1840	70	40	5000	2400	(D)-(4247 gpm)
2	Comm	958 Church St - front hyd	Monmouth, Main	820	820	0	1640	72	46	3500	2400	
2R	Res	958 Church St - front hy	Monmouth, Main	820	820	0	1640	72	46	1000	2400	
3	Comm	854 N Main St	Independence, Main	1010	1010	0	2020	72	48	3500	3100	
4	Comm	South 16th Street	Independence, Main	1280	0	0	1280	56	14	3000	1200	
5	Comm	North Monmouth Avenue	Monmouth, Main	1190	0	0	1190	58	54	3000	4000	
6	Comm	5th and 1st St	Independence, Main	860	860	0	1720	60	30	2500	2000	
6R	Res	5th and 1st St	Independence, Main	860	860	0	1720	60	30	1000	2000	
7	Comm	Main St and High St	Monmouth, Main	950	1060	0	2010	63	51	2500	4000	
8	Comm	8585 Suver Rd - hose bib	Luckiamute Domestic Water Association, Main	630	0	0	630	98	28	3000	650	(A)-(1670 gpm)

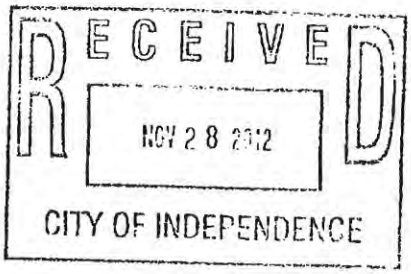
THE ABOVE LISTED NEEDED FIRE FLOWS ARE FOR PROPERTY INSURANCE PREMIUM CALCULATIONS ONLY AND ARE *NOT* INTENDED TO PREDICT THE MAXIMUM AMOUNT OF WATER REQUIRED FOR A LARGE SCALE FIRE CONDITION.

THE AVAILABLE FLOWS ONLY INDICATE THE CONDITIONS THAT EXISTED AT THE TIME AND AT THE LOCATION WHERE TESTS WERE WITNESSED.

*Comm = Commercial; Res = Residential.

**Needed is the rate of flow for a specific duration for a full credit condition. Needed Fire Flows greater than 3,500 gpm are not considered in determining the classification of the city when using the Fire Suppression Rating Schedule.

*** (A)-Limited by available hydrants to gpm shown. Available facilities limit flow to gpm shown plus consumption for the needed duration of (B)-2 hours, (C)-3 hours or (D)-4 hours.



4 B Eves Drive, Suite 200
P.O. Box 961
Marlton, NJ 08053-3112

t 856.985.5600
f 856.810.9065

November 20, 2012

Mr. Jay Carey, Board Chairman
Polk County Fire District 1
1800 Monmouth St
Independence, OR 97351

RE: Polk Co FD 1, Marion and Polk Counties, OR
Public Protection Classification: 4/8B
Prior Public Protection Classification: 3/9

Dear Chairman Carey:

We wish to thank you, Chief Jason Cane, Water Resource Director Matt Carpenter, Public Works Director Russell Cooper and others for your cooperation during our recent Public Protection Classification (PPC™) survey. Insurance Services Office (ISO®) has completed its analysis of the structural fire suppression delivery system provided in your community. The resulting classification is indicated above. This is a retrogression from the previous classification.

Enclosed is a Public Protection Summary Report, which provides a detailed analysis of your fire suppression services. If you would like to know how your community's classification could improve or if you would like to learn about the potential effect of proposed changes to your fire suppression delivery system, please call us at the phone number listed below or visit our website - www.isomitigation.com.

We are not implementing the class change at this time. Before we make this change, we would like to know if you desire to develop a program to retain class 3/9. We request that you acknowledge this letter in writing within 30 days, and advise when this matter will be reviewed. If you choose to begin an improvement program, we would appreciate receiving a list of intended changes within 60 days. (The list of intended changes can be included in the 30 day letter if you wish.) In cases where improvements have not been completed within 6 months or by May 20, 2013 in this case, ISO will publish the retrogressed classification, but will continue to work with your community towards an improved future classification.

The PPC program is not intended to analyze all aspects of a comprehensive structural fire suppression delivery system program. It is not for purposes of determining compliance with any state or local law, nor is it for making loss prevention or life safety recommendations.

If you have any questions about your classification, please let us know.

Sincerely,

Thomas Geibel

Thomas Geibel, CFPS
Email: tgeibel@iso.com
Office: (312) 206-4186
Fax: (856) 985-2511

Encl.

cc: Chief Jason Cane, Fire Chief, Polk County Fire District 1
Mr. Scott McCure, City Manager, Monmouth
Mr. Mark Buchholz, Communications Director, Willamette Valley Communications
Mr. Russell Cooper, Public Works Director, Monmouth
Mr. David Clyne, City Manager, Independence
Mr. Matt Carpenter, Water Resource Director, Independence
Ms. Carol Clark, Water Superintendent, Luckiamute Domestic Water Association

HISTORIC INDEPENDENCE

City of Independence

240 MONMOUTH STREET, P.O. BOX 7, INDEPENDENCE, OREGON 97351
Telephone: (503) 838-1212 FAX: (503) 838-5548

Mr.Thomas Geibel, CFPS
4 B Eves Drive, Suite 200
Marlton, NJ 08053-3112

RE: Public Protection Classification, City of Independence, Oregon

Dear Mr. Geibel,

This letter will acknowledge our receipt of your correspondence dated November 20, 2012, which announced a possible change in Public Protection Class from 3/9 to 4/8B.

Since receiving your letter, the City of Independence, through and with its water engineer, 4B Engineering, has conducted its own fire flow tests on the Independence system. The unique operating design of our system requires hydrant flows to operate for a few minutes before the system senses a drop in pressure. After the system senses a need for more water/pressure, its series of booster pumps kick in to maintain adequate system pressure.

We believe it is likely the ISO testing team was unaware of how the Independence water system operates with respect to how it supports fire suppression flows at the hydrants.

Attached is a letter from our engineer, and a record of the system testing we have performed. Please review the information and let us know how we can proceed to maintain the 3/9 classification we rightfully can support.

Sincerely,

Michael L. Danko
Public Works Director
Community Development Director

CC David Clyne, Chief Jason Cane, Ken Perkins, Matt Carpenter

4B Engineering & Consulting LLC

3700 River Road N., Suite #2
Keizer Oregon 97303
Phone: 503-589-1115--------Fax: 503-589-1118

Michael Danko
Community Development Director
City of Independence
P.O. Box 7
Independence, OR 97351

December 18, 2012

RE: Confirmation of Fire Flow Testing at Selected ISO Sites

Dear Mr. Danko,

As requested, on December 17, 2012, Adam Butts and myself, Edward Butts, from 4B Engineering and Consulting, LLC, along with Matt Carpenter of the Independence Public Works Department, performed flow testing at two (2) city sites which had previously been tested by the local fire district and ISO personnel on September 12, 2012. The purpose of these tests were to ascertain the specific and unique characteristics of the Independence water system associated with fire flow testing as opposed to standard fire flow criteria and the difference these characteristics cause in performing fire flow tests from the Independence water system. Although operation of each hydrant was relegated to Mr. Carpenter, all of the pitot, static, and residual pressure measurements and subsequent calculations were conducted by personnel from 4B Engineering. The calculations were performed using the Hazen-Williams formula and coefficient. The following two (2) flow tests were performed:

1.) Location: 5th and "I" Streets—(ISO 9/12/12 Test Site #6 and 6R)
Static Pressure: 64 psig
Residual Pressure Observed During Flow Test: 54 psig
(Both pressure observations were obtained from the Head Start School next to the hydrant)
Observed Flow from Hydrant: 1065 GPM (based on pitot pressure measurement)
Predicted Flow Rate at 20 psig Residual Pressure: ~2370 GPM

2.) Location: 854 N. Main Street---(ISO 9/12/12 Test Site #3)
Static Pressure: 73 psig
Residual Pressure Observed During Flow Test: 67 psig
(Both pressure observations were obtained from hose bibb at OAWU Office across the street)
Observed Flow from Hydrant: 1100 GPM
Predicted Flow Rate at 20 psig Residual Pressure: ~3567 GPM

Note that the static and residual pressure readings for both tests were conducted at an offsite location, as close as practical to the hydrant under test, with verification of the static pressure readings taken from each fire hydrant and the residual pressure readings were verified to be observed during a condition of "no flow" within the observation location. Static and residual pressures were taken as close as possible to the fire hydrant under test in order to provide representative pressure readings from the water main for both conditions. The residual pressures were obtained after the water system had been permitted adequate time to enable the required pumping units, commensurate with the fire flow, to activate and stabilize pressures within the water system. This required up to 6-8 minutes at both sites.

Please note that the Independence water system, as opposed to most other municipal water systems, operates in a "closed-loop" configuration, rather than using a conventional "gravity-storage" method. This basically means that the pressure, and therefore, the flow available to any site within the water system are not directly provided from elevated water storage, but, instead utilizes a combination of pumping units that are individually activated upon a pressure decline within the water distribution system and function within a set pressure band of 15-25 psig. When this initial pressure drop occurs upon the opening of a fire hydrant or other instantaneous demand, the control system immediately senses this drop in system pressure and transmits a "Run Command" signal to one or more booster pumps located at various sites within the city. These pumps are then instructed to activate and start to deliver water to the system, effectively supplying the demand of flow and pressure. Conversely, if the pressure drop is too sudden or rapid, separate controls located at each site respond as "local control" and immediately activate the local pumping unit. Generally, either one of these procedures requires no more than 3-4 minutes to begin to restore and stabilize the pressures in the water system, therefore, any pressure reading taken before this has occurred would be representative of a "false" reading and not indicative of the true capability of the water system. Residual pressure readings observed and recorded before the pumping units in the water system have been permitted the time to fully function and restore pressure would thus indicate a severe limitation of the distribution system where there actually is none. This function was observed during both flow tests as the observed pressure would fall to as low as 30 psig while the control system relayed starting commands to the required booster pumping units, the units were activated and started to deliver water to the system, and the system pressures were allowed time to increase and stabilize to their respective levels. Therefore, in order to obtain accurate and meaningful data regarding the available fire flow at any test site within the Independence grid, it is imperative that these procedures are followed.

I trust that I have provided the information you requested, however, please let me know if I can be of further assistance. Thank you for the opportunity to be of service.

Respectfully,

Edward P. Butts, P.E.
City Water Engineer

Adam E. Butts, EI (Test Witness)

Year 2035
Peak Hour
Demand
w/
600 GPM Peak
Demand in
Southwest Inc
Concepta Area

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* * * * * * * * * * * * K Y P I P E * * * * * * * * * * * *
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*  Pipe Network Modeling Software                         *
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*  CopyRighted by KYPIPE LLC (www.kypipe.com)             *
*  Version: 6.025  10/21/2013                             *
*  Serial #:  10-10229116                                 *
*  Interface:  Classic                                    *
*  Licensed for Pipe2014                                  *
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Date & Time: Fri Feb 13 13:27:32 2015

Master File : c:\users\4b engineering\documents\city documents\independence\indep master plan 2013\peak future.KYP\peak future.P2K

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 S U M M A R Y   O F   O R I G I N A L   D A T A
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U N I T S S P E C I F I E D

FLOWRATE ..... = gallons/minute
HEAD (HGL) ..... = feet
PRESSURE ..... = psig

P I P E L I N E D A T A

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE NAME	NODE NAMES #1	#2	LENGTH (ft)	DIAMETER (in)	ROUGHNESS COEFF.	MINOR LOSS COEFF.
P-1	J-1	J-2	305.01	4.00	115.0000	0.00
P-2	J-2	J-3	169.02	4.00	115.0000	0.00
P-3	J-3	J-349	682.85	4.00	115.0000	0.00
P-4	J-5	J-2_	200.83	6.00	130.0000	0.00
P-5	J-5	J-346	361.66	6.00	115.0000	0.00
P-6	J-6	J-2_	378.77	6.00	130.0000	0.00
P-7	J-6	J-9	605.72	6.00	130.0000	0.00
P-8	J-8	J-6	376.28	6.00	130.0000	0.00
P-9	J-9	J-12	508.82	6.00	130.0000	0.00
P-10	J-2_	J-8	664.61	6.00	130.0000	0.00
P-11	J-1	J-10	411.14	4.00	115.0000	0.00
P-12	J-9	J-11	258.35	6.00	130.0000	0.00
P-13	J-12	J-8	627.48	6.00	130.0000	0.00

P-14	J-12	J-13	268.16	6.00	130.0000	0.00
P-15	J-7	J-211	102.58	8.00	115.0000	0.00
P-16	J-14	J-15	110.60	8.00	115.0000	0.00
P-17	J-14	J-16	115.26	8.00	115.0000	0.00
P-18	J-15	J-17	189.18	4.00	115.0000	0.00
P-19	J-15	J-36	41.69	8.00	115.0000	0.00
P-20	J-18	J-19	172.83	8.00	115.0000	0.00
P-21	J-20	J-18	260.94	8.00	115.0000	0.00
P-22	J-21	J-20	347.07	8.00	115.0000	0.00
P-23	J-22	J-21	311.24	8.00	115.0000	0.00
P-24	J-22	J-23	235.68	8.00	115.0000	0.00
P-25	J-23	J-24	455.69	6.00	115.0000	0.00
P-26	J-23	J-25	198.75	8.00	115.0000	0.00
P-27	J-25	J-19	663.05	8.00	115.0000	0.00
P-28	J-25	J-40	232.38	8.00	130.0000	0.00
P-29	J-27	J-26	297.23	6.00	130.0000	0.00
P-30	J-27	J-28	396.57	6.00	130.0000	0.00
P-31	J-28	J-29	127.61	6.00	130.0000	0.00
P-32	J-28	J-30	527.41	8.00	130.0000	0.00
P-33	J-30	J-32	292.48	6.00	130.0000	0.00
P-34	J-30	J-31	401.90	8.00	130.0000	0.00
P-35	J-32	J-26	924.54	8.00	130.0000	0.00
P-36	J-32	J-33	389.55	8.00	130.0000	0.00
P-37	J-33	J-31	290.15	6.00	130.0000	0.00
P-38	J-33	J-34	579.76	8.00	130.0000	0.00
P-39	J-31	J-35	557.69	8.00	130.0000	0.00
P-40	J-36	J-22	237.12	8.00	115.0000	0.00
P-41	J-36	J-38	260.00	8.00	115.0000	0.00
P-42	J-38	J-37	543.04	8.00	115.0000	0.00
P-43	J-38	J-39	166.48	4.00	115.0000	0.00
P-44	J-40	J-27	523.50	8.00	130.0000	0.00
P-45	J-40	J-41	233.76	8.00	115.0000	0.00
P-46	J-41	J-208	641.36	8.00	115.0000	0.00
P-47	J-41	J-42	348.05	8.00	115.0000	0.00
P-48	J-26	J-43	1106.79	8.00	130.0000	0.00
P-49	J-43	J-42	297.40	8.00	120.0000	0.00
P-50	J-43	J-44	364.73	4.00	120.0000	0.00
P-51	J-43	J-45	294.08	8.00	120.0000	0.00
P-52	J-45	J-46	348.52	8.00	115.0000	0.00
P-53	J-45	J-47	391.41	6.00	130.0000	0.00
P-54	J-47	J-48	242.43	6.00	115.0000	0.00
P-55	J-47	J-49	363.90	6.00	130.0000	0.00
P-56	J-49	J-50	275.29	2.00	130.0000	0.00
P-57	J-49	J-52	33.17	8.00	130.0000	0.00
P-58	J-52	J-51	383.40	8.00	130.0000	0.00
P-59	J-52	J-53	327.01	6.00	130.0000	0.00
P-60	J-53	J-192	23.22	6.00	130.0000	0.00
P-61	J-53	J-54	739.48	6.00	130.0000	0.00
P-62	J-54	J-61	329.41	8.00	130.0000	0.00
P-63	J-55	J-62	386.14	6.00	130.0000	0.00
P-64	J-55	J-63	667.29	6.00	130.0000	0.00
P-65	J-57	J-69	45.44	6.00	130.0000	0.00
P-66	J-57	J-58	381.72	8.00	130.0000	0.00
P-67	J-58	J-59	90.44	8.00	130.0000	0.00

P-68	J-58	J-173	285.37	8.00	130.0000	0.00
P-69	J-61	J-57	373.88	6.00	115.0000	0.00
P-70	J-56	J-60	381.50	6.00	130.0000	0.00
P-71	J-62	J-54	34.93	6.00	130.0000	0.00
P-72	J-62	J-60	675.41	6.00	115.0000	0.00
P-73	J-63	J-56	13.30	6.00	130.0000	0.00
P-74	J-63	J-64	311.09	8.00	130.0000	0.00
P-75	J-64	J-65	886.19	6.00	115.0000	0.00
P-76	J-64	J-66	712.15	8.00	130.0000	0.00
P-77	J-66	J-55	323.32	8.00	115.0000	0.00
P-78	J-66	J-67	322.60	8.00	115.0000	0.00
P-79	J-67	J-68	295.08	6.00	115.0000	0.00
P-80	J-67	J-65	134.50	6.00	115.0000	0.00
P-81	J-69	J-55	329.96	6.00	130.0000	0.00
P-82	J-67	J-70	676.97	8.00	115.0000	0.00
P-83	J-68	J-69	642.67	6.00	115.0000	0.00
P-84	J-70	J-79	361.78	6.00	115.0000	0.00
P-85	J-70	J-72	35.71	6.00	115.0000	0.00
P-86	J-71	J-78	290.85	8.00	115.0000	0.00
P-87	J-71	J-75	401.73	8.00	115.0000	0.00
P-88	J-73	J-337	1295.74	8.00	130.0000	0.00
P-89	J-74	J-73	260.63	8.00	130.0000	0.00
P-90	J-75	J-74	284.83	8.00	115.0000	0.00
P-91	J-75	J-76	307.77	8.00	115.0000	0.00
P-92	J-72	J-71	488.97	6.00	115.0000	0.00
P-93	J-72	J-77	289.45	6.00	115.0000	0.00
P-94	J-78	J-77	496.25	4.00	115.0000	0.00
P-95	J-78	J-83	79.48	6.00	115.0000	0.00
P-96	J-79	J-68	23.66	6.00	115.0000	0.00
P-97	J-79	J-80	292.00	6.00	130.0000	0.00
P-98	J-81	J-80	336.44	8.00	130.0000	0.00
P-99	J-81	J-77	752.97	6.00	130.0000	0.00
P-100	J-82	J-94	65.41	8.00	130.0000	0.00
P-101	J-83	J-82	281.50	8.00	115.0000	0.00
P-102	J-83	J-84	202.50	4.00	115.0000	0.00
P-103	J-82	J-100	517.53	12.00	130.0000	0.00
P-104	J-86	J-71	352.11	8.00	130.0000	0.00
P-105	J-85	J-86	1087.38	8.00	130.0000	0.00
P-106	J-85	J-87	603.17	12.00	130.0000	0.00
P-107	J-87	J-88	78.91	6.00	115.0000	0.00
P-108	J-87	J-104	629.71	12.00	130.0000	0.00
P-109	J-89	J-90	1768.97	8.00	130.0000	0.00
P-110	J-89	J-92	984.59	6.00	115.0000	0.00
P-111	J-92	J-91	529.45	6.00	130.0000	0.00
P-112	J-93	J-168	197.21	8.00	130.0000	0.00
P-113	J-93	J-347	73.96	12.00	115.0000	0.00
P-114	J-94	J-93	661.04	8.00	130.0000	0.00
P-115	J-94	J-95	320.56	6.00	130.0000	0.00
P-116	J-95	J-96	125.40	4.00	130.0000	0.00
P-117	J-95	J-98	238.58	6.00	130.0000	0.00
P-118	J-98	J-97	54.23	2.00	130.0000	0.00
P-119	J-98	J-99	378.32	6.00	130.0000	0.00
P-120	J-100	J-85	258.35	12.00	130.0000	0.00
P-121	J-100	J-99	349.12	6.00	115.0000	0.00

P-122	J-99	J-101	51.83	6.00	115.0000	0.00
P-123	J-101	J-102	679.00	6.00	115.0000	0.00
P-124	J-101	J-103	189.95	6.00	115.0000	0.00
P-125	J-104	J-89	287.80	12.00	130.0000	0.00
P-126	J-104	J-107	1113.80	10.00	130.0000	0.00
P-127	J-106	J-105	82.95	8.00	115.0000	0.00
P-128	J-106	J-108	704.40	8.00	115.0000	0.00
P-129	J-107	J-106	710.31	10.00	130.0000	0.00
P-130	J-107	J-109	137.53	4.00	115.0000	0.00
P-131	J-108	J-102	1163.44	8.00	115.0000	0.00
P-132	J-103	J-110	416.70	4.00	115.0000	0.00
P-133	J-110	J-111	270.47	2.00	115.0000	0.00
P-134	J-110	J-112	74.83	4.00	115.0000	0.00
P-135	J-112	J-113	40.79	6.00	115.0000	0.00
P-136	J-112	J-115	152.01	6.00	115.0000	0.00
P-137	J-114	J-103	260.83	6.00	115.0000	0.00
P-138	J-115	J-114	842.74	6.00	115.0000	0.00
P-139	J-115	J-116	116.52	4.00	115.0000	0.00
P-140	J-114	J-117	813.01	8.00	120.0000	0.00
P-141	J-117	J-152	1020.18	8.00	130.0000	0.00
P-142	J-117	J-122	551.11	8.00	115.0000	0.00
P-143	J-120	J-119	575.19	6.00	115.0000	0.00
P-144	J-120	J-123	275.24	6.00	115.0000	0.00
P-145	J-122	J-120	538.63	6.00	115.0000	0.00
P-146	J-119	J-123	305.50	6.00	115.0000	0.00
P-147	J-123	J-124	306.81	8.00	115.0000	0.00
P-148	J-124	J-129	311.28	8.00	115.0000	0.00
P-149	J-124	J-125	234.44	4.00	115.0000	0.00
P-150	J-126	J-121	230.43	8.00	115.0000	0.00
P-151	J-126	J-127	455.62	8.00	115.0000	0.00
P-152	J-127	J-128	345.97	8.00	115.0000	0.00
P-153	J-129	J-126	8.38	8.00	115.0000	0.00
P-154	J-127	J-130	272.93	8.00	115.0000	0.00
P-155	J-130	J-122	638.19	8.00	115.0000	0.00
P-156	J-130	J-135	292.32	8.00	130.0000	0.00
P-157	J-121	J-131	297.30	8.00	130.0000	0.00
P-158	J-131	J-132	191.73	8.00	130.0000	0.00
P-159	J-131	J-134	268.27	8.00	130.0000	0.00
P-160	J-134	J-133	190.59	8.00	130.0000	0.00
P-161	J-135	J-143	687.90	8.00	130.0000	0.00
P-162	J-134	J-135	130.29	8.00	130.0000	0.00
P-163	J-136	J-121	621.51	6.00	130.0000	0.00
P-164	J-136	J-145	265.94	8.00	130.0000	0.00
P-165	J-137	J-138	614.21	6.00	130.0000	0.00
P-166	J-138	J-121	256.46	8.00	130.0000	0.00
P-167	J-138	J-140	1958.56	8.00	130.0000	0.00
P-168	J-140	J-306	669.54	10.00	130.0000	0.00
P-169	J-140	J-142	1541.20	10.00	130.0000	0.00
P-170	J-142	J-141	190.63	10.00	130.0000	0.00
P-171	J-221	J-307	32.62	12.00	130.0000	0.00
P-172	O-Pump-2	J-141	48.24	12.00	130.0000	0.00
P-173	J-143	J-150	299.29	8.00	130.0000	0.00
P-174	J-143	J-144	484.05	6.00	130.0000	0.00
P-175	J-145	J-137	15.69	8.00	130.0000	0.00

P-176	J-145	J-146	791.89	6.00	130.0000	0.00
P-177	J-146	J-147	106.82	6.00	130.0000	0.00
P-178	J-146	J-148	475.49	6.00	130.0000	0.00
P-179	J-148	J-149	133.52	6.00	130.0000	0.00
P-180	J-148	J-151	615.58	6.00	130.0000	0.00
P-181	J-150	J-136	244.13	8.00	130.0000	0.00
P-182	J-151	J-150	148.38	8.00	130.0000	0.00
P-183	J-152	J-118	190.98	6.00	130.0000	0.00
P-184	J-152	J-153	79.65	8.00	130.0000	0.00
P-185	J-153	J-155	182.29	2.00	130.0000	0.00
P-186	J-155	J-156	140.90	2.00	130.0000	0.00
P-187	J-156	J-154	137.63	2.00	130.0000	0.00
P-188	J-156	J-158	401.41	6.00	130.0000	0.00
P-189	J-155	J-157	114.63	6.00	130.0000	0.00
P-190	J-157	J-159	177.10	8.00	115.0000	0.00
P-191	J-157	J-160	203.90	2.00	130.0000	0.00
P-192	J-159	J-119	305.65	8.00	115.0000	0.00
P-193	J-159	J-161	95.97	8.00	115.0000	0.00
P-194	J-161	J-162	224.27	4.00	115.0000	0.00
P-195	J-161	J-163	243.21	8.00	115.0000	0.00
P-196	J-163	J-164	229.24	4.00	115.0000	0.00
P-197	J-163	J-165	244.48	8.00	115.0000	0.00
P-198	J-165	J-166	240.15	4.00	115.0000	0.00
P-199	J-165	J-167	331.42	4.00	115.0000	0.00
P-200	J-167	J-129	306.17	4.00	115.0000	0.00
P-201	J-349	J-214	750.15	10.00	130.0000	0.00
P-202	J-81	J-171	628.03	8.00	130.0000	0.00
P-203	J-168	J-81	40.75	8.00	130.0000	0.00
P-204	J-168	J-170	485.65	4.00	130.0000	0.00
P-205	J-171	J-59	290.97	8.00	130.0000	0.00
P-206	J-171	J-174	384.17	4.00	130.0000	0.00
P-207	J-173	J-183	44.54	8.00	130.0000	0.00
P-208	J-174	J-172	43.03	8.00	130.0000	0.00
P-209	J-173	J-174	288.39	6.00	130.0000	0.00
P-210	J-172	J-177	736.97	6.00	115.0000	0.00
P-211	J-172	J-176	279.65	8.00	130.0000	0.00
P-212	J-177	J-175	446.39	2.00	130.0000	0.00
P-213	J-176	J-179	447.84	2.00	130.0000	0.00
P-214	J-179	J-178	314.34	8.00	130.0000	0.00
P-215	J-179	J-180	66.26	8.00	130.0000	0.00
P-216	J-180	J-181	374.62	8.00	130.0000	0.00
P-217	J-180	J-182	309.46	6.00	130.0000	0.00
P-218	J-183	J-61	335.73	8.00	130.0000	0.00
P-219	J-178	J-183	742.48	8.00	130.0000	0.00
P-220	J-178	J-184	12.90	8.00	130.0000	0.00
P-221	J-184	J-185	44.44	4.00	130.0000	0.00
P-222	J-185	J-186	188.76	2.00	130.0000	0.00
P-223	J-186	J-184	146.15	8.00	130.0000	0.00
P-224	J-186	J-188	214.19	8.00	130.0000	0.00
P-225	J-188	J-187	53.69	8.00	130.0000	0.00
P-226	J-188	J-189	334.10	6.00	130.0000	0.00
P-227	J-189	J-191	361.25	4.00	130.0000	0.00
P-228	J-189	J-190	422.91	6.00	130.0000	0.00
P-229	J-191	J-185	296.56	4.00	130.0000	0.00

P-230	J-191	J-194	36.83	6.00	130.0000	0.00
P-231	J-192	J-195	348.33	6.00	130.0000	0.00
P-232	J-194	J-193	249.79	2.00	130.0000	0.00
P-233	J-192	J-194	284.86	6.00	130.0000	0.00
P-234	J-195	J-51	345.06	6.00	130.0000	0.00
P-235	J-195	J-196	423.43	6.00	130.0000	0.00
P-236	J-196	J-235	306.16	6.00	115.0000	0.00
P-237	J-196	J-197	42.41	6.00	130.0000	0.00
P-238	J-197	J-198	338.87	8.00	115.0000	0.00
P-239	J-198	J-199	417.12	8.00	130.0000	0.00
P-240	J-199	J-51	41.44	8.00	130.0000	0.00
P-241	J-199	J-200	640.84	8.00	130.0000	0.00
P-242	J-200	J-46	194.52	8.00	115.0000	0.00
P-243	J-200	J-201	417.03	8.00	115.0000	0.00
P-244	J-201	J-198	640.99	8.00	115.0000	0.00
P-245	J-201	J-203	342.15	8.00	115.0000	0.00
P-246	J-202	J-198	352.04	8.00	130.0000	0.00
P-247	J-203	J-207	292.11	8.00	130.0000	0.00
P-248	J-202	J-204	370.90	8.00	130.0000	0.00
P-249	J-204	J-205	109.44	8.00	130.0000	0.00
P-250	J-9	J-1	567.16	6.00	130.0000	0.00
P-251	J-167	J-169	440.83	8.00	115.0000	0.00
P-252	J-207	J-206	368.49	4.00	115.0000	0.00
P-253	J-206	J-213	285.75	8.00	115.0000	0.00
P-254	J-208	J-16	303.62	8.00	115.0000	0.00
P-255	J-208	J-210	672.57	6.00	115.0000	0.00
P-256	J-209	J-203	46.44	8.00	115.0000	0.00
P-257	J-209	J-16	762.63	8.00	115.0000	0.00
P-258	J-211	J-14	210.55	8.00	115.0000	0.00
P-259	J-211	J-212	616.68	6.00	115.0000	0.00
P-260	J-213	J-209	337.43	8.00	115.0000	0.00
P-261	J-354	J-213	142.24	6.00	115.0000	0.00
P-262	J-139	J-352	3989.81	8.00	130.0000	0.00
P-263	J-350	I-Pump-4	71.66	10.00	130.0000	0.00
P-264	O-Pump-4	J-348	54.25	12.00	130.0000	0.00
P-265	J-141	J-344	2324.05	2.00	130.0000	0.00
P-266	J-217	J-216	61.68	10.00	130.0000	0.00
P-267	R-3	J-221	83.57	8.00	130.0000	0.00
P-268	J-220	J-217	219.18	8.00	130.0000	0.00
P-269	J-358	R-2	32.40	10.00	130.0000	0.00
P-270	J-224	J-228	795.97	10.00	130.0000	0.00
P-271	J-216	J-215	192.24	10.00	130.0000	0.00
P-272	J-5	J-215	95.87	6.00	130.0000	0.00
P-273	J-225	J-4	979.15	6.00	115.0000	0.00
P-274	J-351	I-Pump-7	93.02	12.00	115.0000	0.00
P-275	J-197	J-219	343.27	6.00	130.0000	0.00
P-276	J-219	J-202	342.92	8.00	130.0000	0.00
P-277	J-219	J-231	373.14	6.00	130.0000	0.00
P-278	J-222	J-205	217.65	8.00	115.0000	0.00
P-279	J-222	J-225	753.11	10.00	130.0000	0.00
P-280	J-224	J-223	250.09	2.00	115.0000	0.00
P-281	J-214	J-224	292.00	10.00	130.0000	0.00
P-282	J-4	J-214	27.27	6.00	115.0000	0.00
P-283	J-225	J-226	101.87	10.00	130.0000	0.00

P-284	J-226	J-228	18.95	10.00	130.0000	0.00
P-285	J-228	J-227	70.27	10.00	130.0000	0.00
P-286	J-228	J-229	213.50	8.00	130.0000	0.00
P-287	J-229	J-230	320.88	6.00	115.0000	0.00
P-288	J-231	J-222	18.87	6.00	130.0000	0.00
P-289	J-231	J-236	302.45	8.00	130.0000	0.00
P-290	J-232	J-219	308.37	4.00	103.0000	0.00
P-291	J-232	J-233	330.51	8.00	130.0000	0.00
P-292	J-233	J-238	24.29	8.00	130.0000	0.00
P-293	J-234	J-233	392.24	4.00	103.0000	0.00
P-294	J-234	J-241	317.21	8.00	130.0000	0.00
P-295	J-236	J-232	374.67	6.00	130.0000	0.00
P-296	J-235	J-190	29.84	6.00	115.0000	0.00
P-297	J-235	J-237	366.01	6.00	130.0000	0.00
P-298	J-238	J-244	378.31	8.00	130.0000	0.00
P-299	J-237	J-238	371.39	8.00	130.0000	0.00
P-300	J-187	J-239	359.85	8.00	130.0000	0.00
P-301	J-239	J-237	26.46	8.00	130.0000	0.00
P-302	J-239	J-240	171.16	2.00	130.0000	0.00
P-303	J-241	J-236	21.58	8.00	130.0000	0.00
P-304	J-241	J-230	423.21	6.00	115.0000	0.00
P-305	J-234	J-242	748.17	8.00	130.0000	0.00
P-306	J-242	J-243	27.63	8.00	115.0000	0.00
P-307	J-243	J-229	321.09	8.00	115.0000	0.00
P-308	J-243	J-244	759.65	8.00	110.0000	0.00
P-309	J-244	J-234	25.25	8.00	130.0000	0.00
P-310	J-244	J-245	330.81	8.00	130.0000	0.00
P-311	J-245	J-249	178.40	4.00	115.0000	0.00
P-312	J-246	J-238	332.78	8.00	130.0000	0.00
P-313	J-246	J-181	808.52	8.00	130.0000	0.00
P-314	J-182	J-247	373.59	8.00	130.0000	0.00
P-315	J-181	J-247	312.21	6.00	130.0000	0.00
P-316	J-247	J-248	1001.68	8.00	130.0000	0.00
P-317	J-249	J-246	200.74	4.00	115.0000	0.00
P-318	J-248	J-249	320.84	8.00	115.0000	0.00
P-319	J-248	J-279	197.03	8.00	130.0000	0.00
P-320	J-250	J-251	319.79	8.00	110.0000	0.00
P-321	J-251	J-245	385.14	4.00	115.0000	0.00
P-322	J-251	J-252	396.04	4.00	115.0000	0.00
P-323	J-252	J-242	306.68	10.00	130.0000	0.00
P-324	J-252	J-253	342.31	10.00	130.0000	0.00
P-325	J-253	J-250	380.03	8.00	130.0000	0.00
P-326	J-182	J-254	687.69	6.00	130.0000	0.00
P-327	J-254	J-247	308.27	6.00	130.0000	0.00
P-328	J-254	J-255	254.19	6.00	130.0000	0.00
P-329	J-248	J-259	311.97	8.00	115.0000	0.00
P-330	J-256	J-257	341.74	6.00	130.0000	0.00
P-331	J-256	J-258	333.52	4.00	130.0000	0.00
P-332	J-259	J-256	230.01	6.00	130.0000	0.00
P-333	J-257	J-283	167.23	6.00	130.0000	0.00
P-334	J-257	J-260	10.84	6.00	130.0000	0.00
P-335	J-261	J-259	377.99	8.00	115.0000	0.00
P-336	J-260	J-262	150.01	8.00	115.0000	0.00
P-337	J-262	J-355	302.32	8.00	130.0000	0.00

P-338	J-263	J-265	615.94	6.00	115.0000	0.00
P-339	J-265	J-264	209.93	1.00	115.0000	0.00
P-340	J-265	J-284	43.49	6.00	115.0000	0.00
P-341	J-263	J-268	912.41	8.00	130.0000	0.00
P-342	J-268	J-266	291.02	8.00	115.0000	0.00
P-343	J-268	J-269	560.87	8.00	130.0000	0.00
P-344	J-269	J-297	32.15	6.00	130.0000	0.00
P-345	J-270	J-269	295.19	4.00	115.0000	0.00
P-346	J-270	J-272	29.19	8.00	130.0000	0.00
P-347	J-271	J-270	370.30	6.00	115.0000	0.00
P-348	J-271	J-273	342.74	8.00	130.0000	0.00
P-349	J-272	J-274	276.42	2.00	130.0000	0.00
P-350	J-273	J-275	566.36	6.00	115.0000	0.00
P-351	J-275	J-277	977.66	8.00	120.0000	0.00
P-352	J-277	J-253	318.05	10.00	130.0000	0.00
P-353	J-277	J-276	367.93	8.00	130.0000	0.00
P-354	J-276	J-250	306.96	6.00	130.0000	0.00
P-355	J-276	J-281	185.83	6.00	130.0000	0.00
P-356	J-278	J-259	199.45	6.00	130.0000	0.00
P-357	J-279	J-250	362.64	8.00	130.0000	0.00
P-358	J-278	J-279	308.72	8.00	130.0000	0.00
P-359	J-278	J-280	372.70	6.00	130.0000	0.00
P-360	J-280	J-261	211.84	6.00	130.0000	0.00
P-361	J-280	J-282	39.62	6.00	130.0000	0.00
P-362	J-281	J-278	178.15	6.00	130.0000	0.00
P-363	J-282	J-281	513.21	6.00	130.0000	0.00
P-364	J-282	J-267	309.28	4.00	130.0000	0.00
P-365	J-283	J-261	12.74	6.00	130.0000	0.00
P-366	J-284	J-267	258.12	6.00	115.0000	0.00
P-367	J-283	J-284	299.56	6.00	115.0000	0.00
P-368	J-285	J-271	254.55	8.00	130.0000	0.00
P-369	J-285	J-286	271.14	6.00	130.0000	0.00
P-370	J-286	J-287	627.32	4.00	130.0000	0.00
P-371	J-286	J-289	326.47	4.00	130.0000	0.00
P-372	J-4	J-354	610.94	6.00	115.0000	0.00
P-373	J-289	J-290	325.46	4.00	130.0000	0.00
P-374	J-289	J-291	221.23	6.00	130.0000	0.00
P-375	J-290	J-292	301.85	6.00	130.0000	0.00
P-376	J-291	J-339	344.42	6.00	130.0000	0.00
P-377	J-292	J-336	773.16	4.00	115.0000	0.00
P-378	J-293	J-285	40.56	8.00	130.0000	0.00
P-379	J-293	J-294	561.22	8.00	130.0000	0.00
P-380	J-294	J-295	306.50	6.00	115.0000	0.00
P-381	J-294	J-298	293.80	4.00	130.0000	0.00
P-382	J-297	J-293	335.95	6.00	130.0000	0.00
P-383	J-297	J-296	326.94	8.00	130.0000	0.00
P-384	J-298	J-296	278.86	8.00	130.0000	0.00
P-385	J-298	J-300	45.40	4.00	130.0000	0.00
P-386	J-300	J-299	64.22	4.00	130.0000	0.00
P-387	J-300	J-301	298.65	8.00	130.0000	0.00
P-388	J-301	J-303	17.26	8.00	130.0000	0.00
P-389	J-301	J-304	1456.70	10.00	130.0000	0.00
P-390	J-303	J-302	361.28	6.00	130.0000	0.00
P-391	J-303	J-295	332.08	8.00	130.0000	0.00

P-392	J-306	J-142	844.51	10.00	130.0000	0.00
P-393	J-306	J-304	470.98	10.00	130.0000	0.00
P-395	J-307	J-345	38.93	12.00	130.0000	0.00
P-397	J-221	J-352	110.99	12.00	130.0000	0.00
P-398	J-305	J-290	268.47	10.00	115.0000	0.00
P-399	J-305	J-295	270.51	8.00	130.0000	0.00
P-400	J-302	J-310	662.34	8.00	115.0000	0.00
P-401	J-302	J-309	236.76	6.00	130.0000	0.00
P-402	J-302	J-311	320.35	6.00	115.0000	0.00
P-403	J-311	J-312	909.22	8.00	115.0000	0.00
P-404	J-311	J-313	299.56	6.00	115.0000	0.00
P-405	J-312	J-314	72.24	8.00	115.0000	0.00
P-406	J-312	J-315	57.32	8.00	115.0000	0.00
P-407	J-315	J-316	421.91	8.00	130.0000	0.00
P-408	J-315	J-317	1275.17	6.00	130.0000	0.00
P-409	J-316	J-318	393.20	8.00	130.0000	0.00
P-410	J-317	J-316	879.70	6.00	130.0000	0.00
P-411	J-318	J-317	1286.27	6.00	130.0000	0.00
P-412	J-318	J-319	437.62	8.00	115.0000	0.00
P-413	J-319	J-320	726.25	6.00	115.0000	0.00
P-414	J-319	J-321	360.77	8.00	115.0000	0.00
P-415	J-321	J-322	1547.98	4.00	130.0000	0.00
P-416	J-321	J-322	49.48	8.00	115.0000	0.00
P-417	J-322	J-326	393.23	6.00	130.0000	0.00
P-418	J-323	J-335	1414.62	6.00	130.0000	0.00
P-419	J-323	J-325	88.12	8.00	115.0000	0.00
P-420	J-325	J-324	24.02	6.00	130.0000	0.00
P-421	J-326	J-323	1097.74	6.00	130.0000	0.00
P-422	J-326	J-327	404.55	8.00	115.0000	0.00
P-423	J-327	J-329	1189.30	6.00	115.0000	0.00
P-424	J-328	J-332	1177.97	6.00	130.0000	0.00
P-425	J-328	J-330	542.04	6.00	130.0000	0.00
P-426	J-329	J-328	418.21	6.00	130.0000	0.00
P-427	J-329	J-331	55.08	6.00	130.0000	0.00
P-428	J-332	J-327	399.92	6.00	130.0000	0.00
P-429	J-330	J-333	1114.21	6.00	130.0000	0.00
P-430	J-330	J-334	1510.36	6.00	130.0000	0.00
P-431	J-333	J-332	509.28	6.00	130.0000	0.00
P-432	J-334	J-333	388.52	6.00	130.0000	0.00
P-433	J-334	J-336	5729.47	10.00	130.0000	0.00
P-434	J-336	J-305	31.81	10.00	115.0000	0.00
P-435	J-324	J-325	1239.25	6.00	130.0000	0.00
P-436	J-337	J-73	150.44	8.00	130.0000	0.00
P-438	J-339	J-292	47.78	6.00	130.0000	0.00
P-446	R-3	J-221	83.57	12.00	130.0000	0.00
P-448	O-Pump-1	J-141	59.06	12.00	130.0000	0.00
P-449	O-Pump-3	J-141	66.21	12.00	130.0000	0.00
P-450	J-345	I-Pump-1	49.17	12.00	130.0000	0.00
P-451	J-345	I-Pump-2	53.99	12.00	130.0000	0.00
P-452	J-345	I-Pump-3	48.93	12.00	130.0000	0.00
P-453	J-346	J-7	257.28	6.00	115.0000	0.00
P-455	J-348	J-218	164.26	12.00	130.0000	0.00
P-456	O-Pump-5	J-348	39.27	12.00	130.0000	0.00
P-457	J-350	J-358	42.02	10.00	130.0000	0.00

P-458	O-Pump-6	J-348	46.46	12.00	130.0000	0.00
P-459	J-218	J-349	367.16	10.00	130.0000	0.00
P-460	J-350	I-Pump-5	48.76	10.00	130.0000	0.00
P-461	J-350	I-Pump-6	44.47	10.00	130.0000	0.00
P-462	O-Pump-7	J-347	57.76	12.00	115.0000	0.00
P-464	J-351	R-1	81.75	12.00	115.0000	0.00
P-465	O-Pump-9	J-347	77.47	12.00	115.0000	0.00
P-466	J-352	R-3	157.05	8.00	130.0000	0.00
P-467	J-351	I-Pump-9	84.21	12.00	115.0000	0.00
P-483	J-355	J-263	329.66	8.00	130.0000	0.00
P-484	J-355	J-284	313.30	6.00	130.0000	0.00
P-500	J-204	J-206	354.29	8.00	130.0000	0.00
P-501	J-207	J-202	353.39	8.00	130.0000	0.00

P U M P/L O S S E L E M E N T D A T A

THERE IS A DEVICE AT NODE Pump-1 DESCRIBED BY THE FOLLOWING DATA: (ID= 4)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
160.00	0.00	70.00
155.00	250.00	70.00
150.00	400.00	70.00
140.00	500.00	70.00
125.00	600.00	70.00
110.00	700.00	70.00
90.00	800.00	70.00

THERE IS A DEVICE AT NODE Pump-2 DESCRIBED BY THE FOLLOWING DATA: (ID= 5)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
200.00	0.00	70.00
198.00	300.00	70.00
195.00	400.00	70.00
190.00	600.00	70.00
180.00	800.00	70.00
160.00	1000.00	70.00
120.00	1200.00	70.00

THERE IS A DEVICE AT NODE Pump-3 DESCRIBED BY THE FOLLOWING DATA: (ID= 6)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
165.00	0.00	70.00
160.00	500.00	70.00
159.00	750.00	70.00
157.00	1000.00	70.00
140.00	1500.00	70.00
125.00	1750.00	70.00

118.00	1875.00	70.00
107.00	2000.00	70.00
100.00	2100.00	70.00

THERE IS A DEVICE AT NODE Pump-4 DESCRIBED BY THE FOLLOWING DATA: (ID= 7)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
195.00	0.00	70.00
180.00	250.00	70.00
174.00	400.00	70.00
168.00	500.00	70.00
145.00	675.00	70.00
129.00	800.00	70.00
108.00	900.00	70.00

THERE IS A DEVICE AT NODE Pump-5 .....> (ID= 7)

THERE IS A DEVICE AT NODE Pump-6 DESCRIBED BY THE FOLLOWING DATA: (ID= 8)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
176.00	0.00	70.00
165.00	200.00	70.00
160.00	300.00	70.00
145.00	425.00	70.00
115.00	550.00	70.00

THERE IS A DEVICE AT NODE Pump-7 .....> (ID= 6)

THERE IS A DEVICE AT NODE Pump-9 DESCRIBED BY THE FOLLOWING DATA: (ID= 12)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
180.00	0.00	70.00
165.00	200.00	70.00
160.00	400.00	70.00
140.00	500.00	70.00
120.00	575.00	70.00

N O D E D A T A

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	JUNCTION ELEVATION (ft)	EXTERNAL GRADE (ft)
J-1		11.80	170.00	

J-2	11.80	170.00
J-3	11.80	170.00
J-4	11.80	170.00
J-5	11.80	170.00
J-6	11.80	170.00
J-7	11.80	170.00
J-8	11.80	170.00
J-9	11.80	170.00
J-10	11.80	170.00
J-11	11.80	170.00
J-12	11.80	170.00
J-13	11.80	170.00
J-14	11.80	170.00
J-15	11.80	170.00
J-16	11.80	170.00
J-17	11.80	170.00
J-18	11.80	170.00
J-19	11.80	170.00
J-20	11.80	170.00
J-21	11.80	170.00
J-22	11.80	170.00
J-23	11.80	170.00
J-24	11.80	170.00
J-25	11.80	170.00
J-26	11.80	170.00
J-27	11.80	170.00
J-28	11.80	170.00
J-29	11.80	170.00
J-30	11.80	170.00
J-31	11.80	170.00
J-32	11.80	170.00
J-33	11.80	170.00
J-34	11.80	170.00
J-35	11.80	170.00
J-36	11.80	170.00
J-37	11.80	170.00
J-38	11.80	170.00
J-39	11.80	170.00
J-40	11.80	170.00
J-41	11.80	170.00
J-42	11.80	170.00
J-43	11.80	170.00
J-44	150.00	170.00
J-45	11.80	170.00
J-46	11.80	170.00
J-47	11.80	170.00
J-48	11.80	170.00
J-49	11.80	170.00
J-50	11.80	170.00
J-51	11.80	170.00
J-52	11.80	170.00
J-53	11.80	170.00
J-54	11.80	170.00
J-55	11.80	170.00

J-56	11.80	170.00
J-57	11.80	170.00
J-58	11.80	170.00
J-59	11.80	170.00
J-60	150.00	170.00
J-61	11.80	170.00
J-62	11.80	170.00
J-63	11.80	170.00
J-64	11.80	170.00
J-65	11.80	170.00
J-66	11.80	170.00
J-67	11.80	170.00
J-68	11.80	170.00
J-69	11.80	170.00
J-70	11.80	170.00
J-71	11.80	170.00
J-72	11.80	170.00
J-73	11.80	170.00
J-74	11.80	170.00
J-75	11.80	170.00
J-76	150.00	170.00
J-77	11.80	170.00
J-78	11.80	170.00
J-79	11.80	170.00
J-80	11.80	170.00
J-81	11.80	170.00
J-82	11.80	170.00
J-83	11.80	170.00
J-84	11.80	170.00
J-85	11.80	170.00
J-86	11.80	170.00
J-87	11.80	170.00
J-88	11.80	170.00
J-89	11.80	170.00
J-90	11.80	170.00
J-91	150.00	170.00
J-92	11.80	170.00
J-93	11.80	170.00
J-94	11.80	170.00
J-95	11.80	170.00
J-96	11.80	170.00
J-97	11.80	170.00
J-98	11.80	170.00
J-99	11.80	170.00
J-100	11.80	170.00
J-101	11.80	170.00
J-102	11.80	170.00
J-103	11.80	170.00
J-104	11.80	170.00
J-105	11.80	170.00
J-106	11.80	170.00
J-107	11.80	170.00
J-108	11.80	170.00
J-109	11.80	170.00

J-110	11.80	170.00
J-111	11.80	170.00
J-112	11.80	170.00
J-113	11.80	170.00
J-114	11.80	170.00
J-115	11.80	170.00
J-116	11.80	170.00
J-117	11.80	170.00
J-118	11.80	170.00
J-119	11.80	170.00
J-120	11.80	170.00
J-121	11.80	170.00
J-122	11.80	170.00
J-123	11.80	170.00
J-124	11.80	170.00
J-125	11.80	170.00
J-126	11.80	170.00
J-127	11.80	170.00
J-128	11.80	170.00
J-129	11.80	170.00
J-130	11.80	170.00
J-131	11.80	170.00
J-132	11.80	170.00
J-133	11.80	170.00
J-134	11.80	170.00
J-135	11.80	170.00
J-136	11.80	170.00
J-137	11.80	170.00
J-138	11.80	170.00
J-139	11.80	170.00
J-140	11.80	170.00
J-141	11.80	170.00
J-142	11.80	170.00
J-143	11.80	170.00
J-144	11.80	170.00
J-145	11.80	170.00
J-146	11.80	170.00
J-147	11.80	170.00
J-148	11.80	170.00
J-149	11.80	170.00
J-150	11.80	170.00
J-151	11.80	170.00
J-152	11.80	170.00
J-153	11.80	170.00
J-154	11.80	170.00
J-155	11.80	170.00
J-156	11.80	170.00
J-157	11.80	170.00
J-158	11.80	170.00
J-159	11.80	170.00
J-160	11.80	170.00
J-161	11.80	170.00
J-162	11.80	170.00
J-163	11.80	170.00

J-164	11.80	170.00
J-165	11.80	170.00
J-166	11.80	170.00
J-167	11.80	170.00
J-168	11.80	170.00
J-169	11.80	170.00
J-170	11.80	170.00
J-171	11.80	170.00
J-172	11.80	170.00
J-173	11.80	170.00
J-174	11.80	170.00
J-175	11.80	170.00
J-176	11.80	170.00
J-177	11.80	170.00
J-178	11.80	170.00
J-179	11.80	170.00
J-180	11.80	170.00
J-181	11.80	170.00
J-182	11.80	170.00
J-183	11.80	170.00
J-184	11.80	170.00
J-185	11.80	170.00
J-186	11.80	170.00
J-187	11.80	170.00
J-188	11.80	170.00
J-189	11.80	170.00
J-190	11.80	170.00
J-191	11.80	170.00
J-192	11.80	170.00
J-193	11.80	170.00
J-194	11.80	170.00
J-195	11.80	170.00
J-196	11.80	170.00
J-197	11.80	170.00
J-198	11.80	170.00
J-199	11.80	170.00
J-200	11.80	170.00
J-201	11.80	170.00
J-202	11.80	170.00
J-203	11.80	170.00
J-204	11.80	170.00
J-205	11.80	170.00
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J-210	11.80	170.00
J-211	11.80	170.00
J-212	11.80	170.00
J-213	11.80	170.00
J-214	11.80	170.00
J-215	11.80	170.00
J-216	11.80	170.00
J-217	11.80	170.00

J-218	11.80	170.00
J-219	11.80	170.00
J-220	11.80	170.00
J-221	11.80	170.00
J-222	11.80	170.00
J-223	11.80	170.00
J-224	11.80	170.00
J-225	11.80	170.00
J-226	11.80	170.00
J-227	11.80	170.00
J-228	11.80	170.00
J-229	11.80	170.00
J-230	11.80	170.00
J-231	11.80	170.00
J-232	11.80	170.00
J-233	11.80	170.00
J-234	11.80	170.00
J-235	11.80	170.00
J-236	11.80	170.00
J-237	11.80	170.00
J-238	11.80	170.00
J-239	11.80	170.00
J-240	11.80	170.00
J-241	11.80	170.00
J-242	11.80	170.00
J-243	11.80	170.00
J-244	11.80	170.00
J-245	11.80	170.00
J-246	11.80	170.00
J-247	11.80	170.00
J-248	11.80	170.00
J-249	11.80	170.00
J-250	11.80	170.00
J-251	11.80	170.00
J-252	11.80	170.00
J-253	11.80	170.00
J-254	11.80	170.00
J-255	11.80	170.00
J-256	11.80	170.00
J-257	11.80	170.00
J-258	11.80	170.00
J-259	11.80	170.00
J-260	11.80	170.00
J-261	11.80	170.00
J-262	11.80	170.00
J-263	11.80	170.00
J-264	11.80	170.00
J-265	11.80	170.00
J-266	11.80	170.00
J-267	11.80	170.00
J-268	11.80	170.00
J-269	11.80	170.00
J-270	11.80	170.00
J-271	11.80	170.00

J-272		11.80	170.00
J-273		11.80	170.00
J-274		11.80	170.00
J-275		11.80	170.00
J-276		11.80	170.00
J-277		11.80	170.00
J-278		11.80	170.00
J-279		11.80	170.00
J-280		11.80	170.00
J-281		11.80	170.00
J-282		11.80	170.00
J-283		11.80	170.00
J-284		11.80	170.00
J-285		11.80	170.00
J-286		11.80	170.00
J-287		11.80	170.00
J-289		11.80	170.00
J-290		11.80	170.00
J-291		11.80	170.00
J-292		11.80	170.00
J-293		11.80	170.00
J-294		11.80	170.00
J-295		11.80	170.00
J-296		11.80	170.00
J-297		11.80	170.00
J-298		11.80	170.00
J-299		11.80	170.00
J-300		11.80	170.00
J-301		11.80	170.00
J-302		11.80	170.00
J-303		11.80	170.00
J-304		11.80	170.00
J-305		11.80	170.00
J-306		11.80	170.00
J-307		11.80	170.00
J-309	Boise Cascad	11.80	170.00
J-310		11.80	170.00
J-311		11.80	170.00
J-312		11.80	170.00
J-313		11.80	170.00
J-314		11.80	170.00
J-315		11.80	170.00
J-316		11.80	170.00
J-317		11.80	170.00
J-318		11.80	170.00
J-319		11.80	170.00
J-320		11.80	170.00
J-321		11.80	170.00
J-322		11.80	170.00
J-323		11.80	170.00
J-324		11.80	170.00
J-325		11.80	170.00
J-326		11.80	170.00
J-327		11.80	170.00

J-328		11.80	170.00	
J-329		11.80	170.00	
J-330		11.80	170.00	
J-331		11.80	170.00	
J-332		11.80	170.00	
J-333		11.80	170.00	
J-334		11.80	170.00	
J-335		11.80	170.00	
J-336		11.80	170.00	
J-337		11.80	170.00	
J-339		11.80	170.00	
J-344		11.80	170.00	
J-345		11.80	170.00	
J-346		11.80	170.00	
J-347		11.80	170.00	
J-348		11.80	170.00	
J-349		11.80	170.00	
J-350		11.80	170.00	
J-351		11.80	170.00	
J-352		11.80	170.00	
J-354		11.80	170.00	
J-355		11.80	170.00	
J-358		11.80	170.00	
J-2_		11.80	170.00	
O-Pump-1	NORTH BP # 1	0.00	170.00	
O-Pump-2	NORTH BP # 2	0.00	170.00	
O-Pump-3	NORTH BP # 3	0.00	170.00	
O-Pump-4	SOUTH BP # 2	0.00	170.00	
O-Pump-5	SOUTH BP # 1	0.00	170.00	
O-Pump-6	SOUTH BP # 3	0.00	170.00	
I-Pump-7	MONMOUTH ST	0.00	170.00	
I-Pump-9	MONMOUTH ST	0.00	170.00	
R-1	MONMOUTH ST	----	170.00	200.00
R-2	SOUTH RESERV	----	171.00	191.00
R-3	POLK RESERVO	----	170.00	192.00
I-Pump-4	SOUTH BP # 2	0.00	170.00	
I-Pump-1	NORTH BP # 1	0.00	170.00	
I-Pump-2	NORTH BP # 2	0.00	170.00	
I-Pump-3	NORTH BP # 3	0.00	170.00	
I-Pump-5	SOUTH BP # 1	0.00	170.00	
I-Pump-6	SOUTH BP # 3	0.00	170.00	
O-Pump-7	MONMOUTH ST	0.00	170.00	
O-Pump-9	MONMOUTH ST	0.00	170.00	

O U T P U T O P T I O N D A T A

OUTPUT SELECTION: ALL RESULTS ARE INCLUDED IN THE TABULATED OUTPUT

MAXIMUM AND MINIMUM PRESSURES	=	5
MAXIMUM AND MINIMUM VELOCITIES	=	5
MAXIMUM AND MINIMUM HEAD LOSS/1000	=	5

S Y S T E M C O N F I G U R A T I O N

NUMBER OF PIPES .....(p) = 458
NUMBER OF END NODES .....(j) = 357
NUMBER OF PRIMARY LOOPS .....(l) = 99
NUMBER OF SUPPLY NODES .....(f) = 3
NUMBER OF SUPPLY ZONES .....(z) = 1

==========

Case: 0

RESULTS OBTAINED AFTER 10 TRIALS: ACCURACY = 0.00001

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)

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

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE NAME	NODE NUMBERS #1	#2	FLOWRATE gpm	HEAD LOSS ft	MINOR LOSS ft	LINE VELO. ft/s	HL+ML/ 1000 ft/f	HL/ 1000 ft/f
P-1	J-2	J-1	110.35	3.45	0.00	2.82	11.31	11.31
P-2	J-3	J-2	122.15	2.31	0.00	3.12	13.65	13.65
P-3	J-349	J-3	133.95	11.06	0.00	3.42	16.20	16.20
P-4	J-2_	J-5	4.15	0.00	0.00	0.05	0.00	0.00
P-5	J-346	J-5	54.85	0.16	0.00	0.62	0.43	0.43
P-6	J-6	J-2_	10.82	0.01	0.00	0.12	0.02	0.02
P-7	J-9	J-6	30.58	0.07	0.00	0.35	0.12	0.12
P-8	J-6	J-8	7.95	0.00	0.00	0.09	0.01	0.01
P-9	J-9	J-12	32.57	0.07	0.00	0.37	0.13	0.13

P-10	J-8	J-2_	5.12	0.00	0.00	0.06	0.00
0.00							
P-11	J-1	J-10	11.80	0.07	0.00	0.30	0.18
0.18							
P-12	J-9	J-11	11.80	0.01	0.00	0.13	0.02
0.02							
P-13	J-12	J-8	8.97	0.01	0.00	0.10	0.01
0.01							
P-14	J-12	J-13	11.80	0.01	0.00	0.13	0.02
0.02							
P-15	J-211	J-7	78.45	0.02	0.00	0.50	0.21
0.21							
P-16	J-14	J-15	106.75	0.04	0.00	0.68	0.36
0.36							
P-17	J-16	J-14	220.61	0.16	0.00	1.41	1.40
1.40							
P-18	J-15	J-17	11.80	0.03	0.00	0.30	0.18
0.18							
P-19	J-15	J-36	83.15	0.01	0.00	0.53	0.23
0.23							
P-20	J-19	J-18	10.82	0.00	0.00	0.07	0.01
0.01							
P-21	J-20	J-18	0.98	0.00	0.00	0.01	0.00
0.00							
P-22	J-21	J-20	12.78	0.00	0.00	0.08	0.01
0.01							
P-23	J-22	J-21	24.58	0.01	0.00	0.16	0.02
0.02							
P-24	J-23	J-22	0.43	0.00	0.00	0.00	0.00
0.00							
P-25	J-23	J-24	11.80	0.01	0.00	0.13	0.02
0.02							
P-26	J-25	J-23	24.03	0.00	0.00	0.15	0.02
0.02							
P-27	J-25	J-19	22.62	0.01	0.00	0.14	0.02
0.02							
P-28	J-40	J-25	58.45	0.02	0.00	0.37	0.10
0.10							
P-29	J-26	J-27	15.98	0.01	0.00	0.18	0.03
0.03							
P-30	J-27	J-28	39.09	0.07	0.00	0.44	0.18
0.18							
P-31	J-28	J-29	11.80	0.00	0.00	0.13	0.02
0.02							
P-32	J-28	J-30	15.49	0.00	0.00	0.10	0.01
0.01							
P-33	J-32	J-30	13.95	0.01	0.00	0.16	0.03
0.03							
P-34	J-30	J-31	17.64	0.00	0.00	0.11	0.01
0.01							
P-35	J-26	J-32	55.31	0.08	0.00	0.35	0.09
0.09							
P-36	J-32	J-33	29.56	0.01	0.00	0.19	0.03
0.03							

P-37	J-33	J-31	5.96	0.00	0.00	0.07	0.01
0.01							
P-38	J-33	J-34	11.80	0.00	0.00	0.08	0.00
0.00							
P-39	J-31	J-35	11.80	0.00	0.00	0.08	0.00
0.00							
P-40	J-36	J-22	35.95	0.01	0.00	0.23	0.05
0.05							
P-41	J-36	J-38	35.40	0.01	0.00	0.23	0.05
0.05							
P-42	J-38	J-37	11.80	0.00	0.00	0.08	0.01
0.01							
P-43	J-38	J-39	11.80	0.03	0.00	0.30	0.18
0.18							
P-44	J-40	J-27	34.91	0.02	0.00	0.22	0.04
0.04							
P-45	J-41	J-40	105.15	0.08	0.00	0.67	0.35
0.35							
P-46	J-208	J-41	50.00	0.06	0.00	0.32	0.09
0.09							
P-47	J-42	J-41	66.95	0.05	0.00	0.43	0.15
0.15							
P-48	J-43	J-26	83.09	0.20	0.00	0.53	0.18
0.18							
P-49	J-43	J-42	78.75	0.06	0.00	0.50	0.19
0.19							
P-50	J-43	J-44	150.00	6.73	0.00	3.83	18.46
18.46							
P-51	J-45	J-43	323.64	0.77	0.00	2.07	2.62
2.62							
P-52	J-46	J-45	233.26	0.54	0.00	1.49	1.55
1.55							
P-53	J-47	J-45	102.19	0.42	0.00	1.16	1.09
1.09							
P-54	J-47	J-48	11.80	0.01	0.00	0.13	0.02
0.02							
P-55	J-49	J-47	125.79	0.58	0.00	1.43	1.59
1.59							
P-56	J-49	J-50	11.80	1.16	0.00	1.20	4.20
4.20							
P-57	J-52	J-49	149.39	0.02	0.00	0.95	0.54
0.54							
P-58	J-51	J-52	72.31	0.05	0.00	0.46	0.14
0.14							
P-59	J-53	J-52	88.88	0.27	0.00	1.01	0.84
0.84							
P-60	J-53	J-192	4.63	0.00	0.00	0.05	0.00
0.00							
P-61	J-54	J-53	105.31	0.85	0.00	1.19	1.15
1.15							
P-62	J-61	J-54	107.20	0.10	0.00	0.68	0.29
0.29							
P-63	J-55	J-62	73.82	0.23	0.00	0.84	0.59
0.59							

P-64	J-55	J-63	34.08	0.09	0.00	0.39	0.14
0.14							
P-65	J-57	J-69	1.29	0.00	0.00	0.01	0.00
0.00							
P-66	J-58	J-57	85.24	0.07	0.00	0.54	0.19
0.19							
P-67	J-59	J-58	303.77	0.18	0.00	1.94	2.01
2.01							
P-68	J-58	J-173	206.73	0.28	0.00	1.32	0.99
0.99							
P-69	J-57	J-61	72.15	0.27	0.00	0.82	0.71
0.71							
P-70	J-56	J-60	97.90	0.38	0.00	1.11	1.00
1.00							
P-71	J-62	J-54	9.92	0.00	0.00	0.11	0.01
0.01							
P-72	J-62	J-60	52.10	0.26	0.00	0.59	0.39
0.39							
P-73	J-63	J-56	109.70	0.02	0.00	1.24	1.24
1.24							
P-74	J-64	J-63	87.41	0.06	0.00	0.56	0.20
0.20							
P-75	J-65	J-64	38.49	0.20	0.00	0.44	0.22
0.22							
P-76	J-66	J-64	60.73	0.07	0.00	0.39	0.10
0.10							
P-77	J-66	J-55	59.72	0.04	0.00	0.38	0.12
0.12							
P-78	J-67	J-66	132.25	0.17	0.00	0.84	0.54
0.54							
P-79	J-68	J-67	96.14	0.36	0.00	1.09	1.22
1.22							
P-80	J-67	J-65	50.29	0.05	0.00	0.57	0.37
0.37							
P-81	J-69	J-55	59.98	0.13	0.00	0.68	0.40
0.40							
P-82	J-70	J-67	98.20	0.21	0.00	0.63	0.31
0.31							
P-83	J-68	J-69	70.49	0.44	0.00	0.80	0.68
0.68							
P-84	J-79	J-70	69.05	0.24	0.00	0.78	0.66
0.66							
P-85	J-72	J-70	40.95	0.01	0.00	0.46	0.25
0.25							
P-86	J-78	J-71	119.81	0.13	0.00	0.76	0.45
0.45							
P-87	J-71	J-75	197.20	0.46	0.00	1.26	1.13
1.13							
P-88	J-73	J-337	2.81	0.00	0.00	0.02	0.00
0.00							
P-89	J-74	J-73	23.60	0.00	0.00	0.15	0.02
0.02							
P-90	J-75	J-74	35.40	0.01	0.00	0.23	0.05
0.05							

P-91	J-75	J-76	150.00	0.21	0.00	0.96	0.68
0.68							
P-92	J-72	J-71	66.65	0.30	0.00	0.76	0.62
0.62							
P-93	J-77	J-72	119.40	0.53	0.00	1.35	1.82
1.82							
P-94	J-77	J-78	35.77	0.70	0.00	0.91	1.40
1.40							
P-95	J-83	J-78	95.84	0.10	0.00	1.09	1.21
1.21							
P-96	J-79	J-68	178.43	0.09	0.00	2.02	3.82
3.82							
P-97	J-80	J-79	259.27	1.78	0.00	2.94	6.09
6.09							
P-98	J-81	J-80	271.07	0.55	0.00	1.73	1.63
1.63							
P-99	J-81	J-77	166.97	2.03	0.00	1.89	2.69
2.69							
P-100	J-94	J-82	523.27	0.36	0.00	3.34	5.51
5.51							
P-101	J-82	J-83	119.44	0.13	0.00	0.76	0.45
0.45							
P-102	J-83	J-84	11.80	0.04	0.00	0.30	0.18
0.18							
P-103	J-82	J-100	392.03	0.23	0.00	1.11	0.45
0.45							
P-104	J-86	J-71	22.54	0.01	0.00	0.14	0.02
0.02							
P-105	J-85	J-86	34.34	0.04	0.00	0.22	0.04
0.04							
P-106	J-85	J-87	269.15	0.13	0.00	0.76	0.22
0.22							
P-107	J-87	J-88	11.80	0.00	0.00	0.13	0.02
0.02							
P-108	J-87	J-104	245.55	0.12	0.00	0.70	0.19
0.19							
P-109	J-89	J-90	11.80	0.01	0.00	0.08	0.00
0.00							
P-110	J-89	J-92	161.80	3.14	0.00	1.84	3.19
3.19							
P-111	J-92	J-91	150.00	1.17	0.00	1.70	2.21
2.21							
P-112	J-93	J-168	859.99	2.72	0.00	5.49	13.82
13.82							
P-113	J-347	J-93	1519.50	0.51	0.00	4.31	6.91
6.91							
P-114	J-93	J-94	647.71	5.40	0.00	4.13	8.17
8.17							
P-115	J-94	J-95	112.64	0.42	0.00	1.28	1.30
1.30							
P-116	J-95	J-96	11.80	0.02	0.00	0.30	0.14
0.14							
P-117	J-95	J-98	89.04	0.20	0.00	1.01	0.84
0.84							

P-118	J-98	J-97	11.80	0.23	0.00	1.20	4.20	4.20
P-119	J-98	J-99	65.44	0.18	0.00	0.74	0.48	0.48
P-120	J-100	J-85	315.29	0.08	0.00	0.89	0.30	0.30
P-121	J-100	J-99	64.94	0.21	0.00	0.74	0.59	0.59
P-122	J-99	J-101	118.58	0.09	0.00	1.35	1.79	1.79
P-123	J-101	J-102	22.45	0.06	0.00	0.25	0.08	0.08
P-124	J-101	J-103	84.33	0.18	0.00	0.96	0.95	0.95
P-125	J-104	J-89	185.40	0.03	0.00	0.53	0.11	0.11
P-126	J-104	J-107	48.35	0.03	0.00	0.20	0.02	0.02
P-127	J-106	J-105	11.80	0.00	0.00	0.08	0.01	0.01
P-128	J-106	J-108	1.15	0.00	0.00	0.01	0.00	0.00
P-129	J-107	J-106	24.75	0.00	0.00	0.10	0.01	0.01
P-130	J-107	J-109	11.80	0.02	0.00	0.30	0.18	0.18
P-131	J-102	J-108	10.65	0.01	0.00	0.07	0.01	0.01
P-132	J-103	J-110	26.48	0.34	0.00	0.68	0.80	0.80
P-133	J-110	J-111	11.80	1.42	0.00	1.20	5.27	5.27
P-134	J-110	J-112	2.88	0.00	0.00	0.07	0.01	0.01
P-135	J-112	J-113	11.80	0.00	0.00	0.13	0.02	0.02
P-136	J-115	J-112	20.72	0.01	0.00	0.24	0.07	0.07
P-137	J-103	J-114	46.05	0.08	0.00	0.52	0.31	0.31
P-138	J-114	J-115	44.32	0.24	0.00	0.50	0.29	0.29
P-139	J-115	J-116	11.80	0.02	0.00	0.30	0.18	0.18
P-140	J-117	J-114	10.07	0.00	0.00	0.06	0.00	0.00
P-141	J-117	J-152	43.83	0.06	0.00	0.28	0.06	0.06
P-142	J-122	J-117	65.70	0.08	0.00	0.42	0.15	0.15
P-143	J-120	J-119	54.29	0.24	0.00	0.62	0.42	0.42
P-144	J-123	J-120	28.57	0.04	0.00	0.32	0.13	0.13

P-145	J-122	J-120	37.52	0.11	0.00	0.43	0.21
0.21							
P-146	J-123	J-119	82.22	0.28	0.00	0.93	0.91
0.91							
P-147	J-124	J-123	122.60	0.14	0.00	0.78	0.47
0.47							
P-148	J-129	J-124	146.20	0.20	0.00	0.93	0.65
0.65							
P-149	J-124	J-125	11.80	0.04	0.00	0.30	0.18
0.18							
P-150	J-121	J-126	238.34	0.37	0.00	1.52	1.61
1.61							
P-151	J-126	J-127	24.69	0.01	0.00	0.16	0.02
0.02							
P-152	J-127	J-128	11.80	0.00	0.00	0.08	0.01
0.01							
P-153	J-126	J-129	201.85	0.01	0.00	1.29	1.18
1.18							
P-154	J-127	J-130	1.09	0.00	0.00	0.01	0.00
0.00							
P-155	J-130	J-122	115.02	0.27	0.00	0.73	0.42
0.42							
P-156	J-135	J-130	125.73	0.11	0.00	0.80	0.39
0.39							
P-157	J-121	J-131	141.14	0.14	0.00	0.90	0.49
0.49							
P-158	J-131	J-132	11.80	0.00	0.00	0.08	0.00
0.00							
P-159	J-131	J-134	117.54	0.09	0.00	0.75	0.35
0.35							
P-160	J-134	J-133	11.80	0.00	0.00	0.08	0.00
0.00							
P-161	J-143	J-135	43.59	0.04	0.00	0.28	0.06
0.06							
P-162	J-134	J-135	93.94	0.03	0.00	0.60	0.23
0.23							
P-163	J-121	J-136	41.25	0.13	0.00	0.47	0.20
0.20							
P-164	J-145	J-136	74.07	0.04	0.00	0.47	0.15
0.15							
P-165	J-138	J-137	132.14	1.07	0.00	1.50	1.75
1.75							
P-166	J-138	J-121	432.53	0.99	0.00	2.76	3.87
3.87							
P-167	J-140	J-138	576.47	12.90	0.00	3.68	6.59
6.59							
P-168	J-140	J-306	55.82	0.02	0.00	0.23	0.03
0.03							
P-169	J-142	J-140	644.09	4.21	0.00	2.63	2.73
2.73							
P-170	J-141	J-142	1549.43	2.64	0.00	6.33	13.87
13.87							
P-171	J-221	J-307	1596.63	0.20	0.00	4.53	6.03
6.03							

P-172	O-Pump-2	J-141	1000.03	0.12	0.00	2.84	2.54
2.54							
P-173	J-150	J-143	67.19	0.04	0.00	0.43	0.12
0.12							
P-174	J-143	J-144	11.80	0.01	0.00	0.13	0.02
0.02							
P-175	J-137	J-145	120.34	0.01	0.00	0.77	0.36
0.36							
P-176	J-145	J-146	34.47	0.11	0.00	0.39	0.15
0.15							
P-177	J-146	J-147	11.80	0.00	0.00	0.13	0.02
0.02							
P-178	J-146	J-148	10.87	0.01	0.00	0.12	0.02
0.02							
P-179	J-148	J-149	11.80	0.00	0.00	0.13	0.02
0.02							
P-180	J-151	J-148	12.73	0.01	0.00	0.14	0.02
0.02							
P-181	J-136	J-150	103.52	0.07	0.00	0.66	0.27
0.27							
P-182	J-150	J-151	24.53	0.00	0.00	0.16	0.02
0.02							
P-183	J-152	J-118	11.80	0.00	0.00	0.13	0.02
0.02							
P-184	J-152	J-153	20.23	0.00	0.00	0.13	0.01
0.01							
P-185	J-153	J-155	8.43	0.41	0.00	0.86	2.25
2.25							
P-186	J-155	J-156	35.40	4.52	0.00	3.61	32.10
32.10							
P-187	J-156	J-154	11.80	0.58	0.00	1.20	4.20
4.20							
P-188	J-156	J-158	11.80	0.01	0.00	0.13	0.02
0.02							
P-189	J-157	J-155	38.77	0.02	0.00	0.44	0.18
0.18							
P-190	J-159	J-157	62.37	0.02	0.00	0.40	0.13
0.13							
P-191	J-157	J-160	11.80	0.86	0.00	1.20	4.20
4.20							
P-192	J-119	J-159	124.71	0.15	0.00	0.80	0.49
0.49							
P-193	J-159	J-161	50.55	0.01	0.00	0.32	0.09
0.09							
P-194	J-161	J-162	11.80	0.04	0.00	0.30	0.18
0.18							
P-195	J-161	J-163	26.95	0.01	0.00	0.17	0.03
0.03							
P-196	J-163	J-164	11.80	0.04	0.00	0.30	0.18
0.18							
P-197	J-163	J-165	3.35	0.00	0.00	0.02	0.00
0.00							
P-198	J-165	J-166	11.80	0.04	0.00	0.30	0.18
0.18							

P-199	J-167	J-165	20.25	0.16	0.00	0.52	0.49
0.49							
P-200	J-129	J-167	43.85	0.63	0.00	1.12	2.05
2.05							
P-201	J-349	J-214	1302.92	7.55	0.00	5.32	10.06
10.06							
P-202	J-81	J-171	386.54	1.97	0.00	2.47	3.14
3.14							
P-203	J-168	J-81	836.39	0.53	0.00	5.34	13.12
13.12							
P-204	J-168	J-170	11.80	0.07	0.00	0.30	0.14
0.14							
P-205	J-171	J-59	315.57	0.63	0.00	2.01	2.16
2.16							
P-206	J-171	J-174	59.17	1.09	0.00	1.51	2.84
2.84							
P-207	J-173	J-183	190.43	0.04	0.00	1.22	0.85
0.85							
P-208	J-174	J-172	51.87	0.00	0.00	0.33	0.08
0.08							
P-209	J-173	J-174	4.49	0.00	0.00	0.05	0.00
0.00							
P-210	J-172	J-177	23.60	0.07	0.00	0.27	0.09
0.09							
P-211	J-172	J-176	16.47	0.00	0.00	0.11	0.01
0.01							
P-212	J-177	J-175	11.80	1.87	0.00	1.20	4.20
4.20							
P-213	J-176	J-179	4.67	0.34	0.00	0.48	0.75
0.75							
P-214	J-179	J-178	34.97	0.01	0.00	0.22	0.04
0.04							
P-215	J-180	J-179	42.10	0.00	0.00	0.27	0.05
0.05							
P-216	J-181	J-180	39.65	0.02	0.00	0.25	0.05
0.05							
P-217	J-182	J-180	14.25	0.01	0.00	0.16	0.03
0.03							
P-218	J-183	J-61	46.84	0.02	0.00	0.30	0.06
0.06							
P-219	J-183	J-178	131.79	0.32	0.00	0.84	0.43
0.43							
P-220	J-178	J-184	154.96	0.01	0.00	0.99	0.58
0.58							
P-221	J-184	J-185	51.95	0.10	0.00	1.33	2.23
2.23							
P-222	J-186	J-185	3.12	0.07	0.00	0.32	0.36
0.36							
P-223	J-184	J-186	91.20	0.03	0.00	0.58	0.22
0.22							
P-224	J-186	J-188	76.28	0.03	0.00	0.49	0.16
0.16							
P-225	J-187	J-188	7.10	0.00	0.00	0.05	0.00
0.00							

P-226	J-188	J-189	71.58	0.19	0.00	0.81	0.56
0.56							
P-227	J-189	J-191	31.48	0.32	0.00	0.80	0.88
0.88							
P-228	J-189	J-190	28.30	0.04	0.00	0.32	0.10
0.10							
P-229	J-185	J-191	43.28	0.47	0.00	1.10	1.59
1.59							
P-230	J-191	J-194	62.96	0.02	0.00	0.71	0.44
0.44							
P-231	J-192	J-195	32.19	0.04	0.00	0.37	0.13
0.13							
P-232	J-194	J-193	11.80	1.05	0.00	1.20	4.20
4.20							
P-233	J-194	J-192	39.36	0.05	0.00	0.45	0.19
0.19							
P-234	J-195	J-51	67.86	0.18	0.00	0.77	0.51
0.51							
P-235	J-196	J-195	47.47	0.11	0.00	0.54	0.26
0.26							
P-236	J-235	J-196	82.05	0.28	0.00	0.93	0.91
0.91							
P-237	J-196	J-197	22.78	0.00	0.00	0.26	0.07
0.07							
P-238	J-197	J-198	84.08	0.08	0.00	0.54	0.23
0.23							
P-239	J-198	J-199	141.62	0.20	0.00	0.90	0.49
0.49							
P-240	J-199	J-51	16.24	0.00	0.00	0.10	0.01
0.01							
P-241	J-199	J-200	113.58	0.21	0.00	0.72	0.33
0.33							
P-242	J-200	J-46	245.06	0.33	0.00	1.56	1.70
1.70							
P-243	J-201	J-200	143.28	0.26	0.00	0.91	0.63
0.63							
P-244	J-198	J-201	84.37	0.15	0.00	0.54	0.24
0.24							
P-245	J-203	J-201	70.71	0.06	0.00	0.45	0.17
0.17							
P-246	J-202	J-198	153.71	0.20	0.00	0.98	0.57
0.57							
P-247	J-207	J-203	147.34	0.15	0.00	0.94	0.53
0.53							
P-248	J-204	J-202	197.24	0.34	0.00	1.26	0.90
0.90							
P-249	J-205	J-204	261.60	0.17	0.00	1.67	1.52
1.52							
P-250	J-1	J-9	86.75	0.45	0.00	0.98	0.80
0.80							
P-251	J-167	J-169	11.80	0.00	0.00	0.08	0.01
0.01							
P-252	J-206	J-207	33.05	0.45	0.00	0.84	1.21
1.21							

P-253	J-206	J-213	7.70	0.00	0.00	0.05	0.00
0.00							
P-254	J-16	J-208	73.60	0.06	0.00	0.47	0.18
0.18							
P-255	J-208	J-210	11.80	0.02	0.00	0.13	0.02
0.02							
P-256	J-203	J-209	64.84	0.01	0.00	0.41	0.14
0.14							
P-257	J-209	J-16	306.01	1.95	0.00	1.95	2.56
2.56							
P-258	J-14	J-211	102.05	0.07	0.00	0.65	0.33
0.33							
P-259	J-211	J-212	11.80	0.02	0.00	0.13	0.02
0.02							
P-260	J-213	J-209	252.97	0.61	0.00	1.61	1.80
1.80							
P-261	J-354	J-213	257.07	1.07	0.00	2.92	7.52
7.52							
P-262	J-352	J-139	11.80	0.02	0.00	0.08	0.00
0.00							
P-263	J-350	I-Pump-4	579.67	0.16	0.00	2.37	2.24
2.24							
P-264	O-Pump-4	J-348	579.67	0.05	0.00	1.64	0.92
0.92							
P-265	J-141	J-344	11.80	9.75	0.00	1.20	4.20
4.20							
P-266	J-216	J-217	23.60	0.00	0.00	0.10	0.01
0.01							
P-267	R-3	J-221	355.85	0.23	0.00	2.27	2.70
2.70							
P-268	J-217	J-220	11.80	0.00	0.00	0.08	0.00
0.00							
P-269	R-2	J-358	1495.87	0.42	0.00	6.11	12.99
12.99							
P-270	J-224	J-228	801.69	3.26	0.00	3.27	4.09
4.09							
P-271	J-215	J-216	35.40	0.00	0.00	0.14	0.01
0.01							
P-272	J-5	J-215	47.20	0.02	0.00	0.54	0.26
0.26							
P-273	J-4	J-225	185.17	4.01	0.00	2.10	4.10
4.10							
P-274	J-351	I-Pump-7	1531.30	0.65	0.00	4.34	7.01
7.01							
P-275	J-219	J-197	73.10	0.20	0.00	0.83	0.58
0.58							
P-276	J-219	J-202	94.36	0.08	0.00	0.60	0.23
0.23							
P-277	J-231	J-219	145.16	0.78	0.00	1.65	2.08
2.08							
P-278	J-222	J-205	273.40	0.45	0.00	1.74	2.08
2.08							
P-279	J-225	J-222	524.46	1.40	0.00	2.14	1.86
1.86							

P-280	J-224	J-223	11.80	1.32	0.00	1.20	5.27
5.27							
P-281	J-214	J-224	825.29	1.26	0.00	3.37	4.32
4.32							
P-282	J-214	J-4	465.83	0.62	0.00	5.29	22.61
22.61							
P-283	J-226	J-225	351.09	0.09	0.00	1.43	0.89
0.89							
P-284	J-228	J-226	362.89	0.02	0.00	1.48	0.94
0.94							
P-285	J-228	J-227	11.80	0.00	0.00	0.05	0.00
0.00							
P-286	J-228	J-229	415.20	0.77	0.00	2.65	3.59
3.59							
P-287	J-229	J-230	102.40	0.44	0.00	1.16	1.37
1.37							
P-288	J-222	J-231	239.26	0.10	0.00	2.71	5.25
5.25							
P-289	J-231	J-236	82.30	0.05	0.00	0.53	0.18
0.18							
P-290	J-232	J-219	34.11	0.49	0.00	0.87	1.58
1.58							
P-291	J-232	J-233	30.16	0.01	0.00	0.19	0.03
0.03							
P-292	J-233	J-238	36.84	0.00	0.00	0.24	0.04
0.04							
P-293	J-234	J-233	18.48	0.20	0.00	0.47	0.51
0.51							
P-294	J-241	J-234	73.24	0.05	0.00	0.47	0.14
0.14							
P-295	J-236	J-232	76.06	0.24	0.00	0.86	0.63
0.63							
P-296	J-190	J-235	16.50	0.00	0.00	0.19	0.05
0.05							
P-297	J-237	J-235	77.35	0.24	0.00	0.88	0.65
0.65							
P-298	J-244	J-238	144.04	0.19	0.00	0.92	0.50
0.50							
P-299	J-238	J-237	131.65	0.16	0.00	0.84	0.43
0.43							
P-300	J-239	J-187	18.90	0.00	0.00	0.12	0.01
0.01							
P-301	J-237	J-239	42.50	0.00	0.00	0.27	0.05
0.05							
P-302	J-239	J-240	11.80	0.72	0.00	1.20	4.20
4.20							
P-303	J-241	J-236	5.57	0.00	0.00	0.04	0.00
0.00							
P-304	J-230	J-241	90.60	0.46	0.00	1.03	1.09
1.09							
P-305	J-242	J-234	75.01	0.11	0.00	0.48	0.15
0.15							
P-306	J-243	J-242	213.69	0.04	0.00	1.36	1.32
1.32							

P-307	J-229	J-243	301.00	0.80	0.00	1.92	2.48
2.48							
P-308	J-243	J-244	75.50	0.16	0.00	0.48	0.21
0.21							
P-309	J-234	J-244	117.97	0.01	0.00	0.75	0.35
0.35							
P-310	J-244	J-245	37.63	0.01	0.00	0.24	0.04
0.04							
P-311	J-245	J-249	22.60	0.11	0.00	0.58	0.60
0.60							
P-312	J-238	J-246	37.44	0.01	0.00	0.24	0.04
0.04							
P-313	J-246	J-181	44.24	0.05	0.00	0.28	0.06
0.06							
P-314	J-247	J-182	31.20	0.01	0.00	0.20	0.03
0.03							
P-315	J-247	J-181	7.21	0.00	0.00	0.08	0.01
0.01							
P-316	J-248	J-247	68.66	0.13	0.00	0.44	0.13
0.13							
P-317	J-249	J-246	18.60	0.08	0.00	0.47	0.42
0.42							
P-318	J-248	J-249	7.81	0.00	0.00	0.05	0.00
0.00							
P-319	J-279	J-248	63.89	0.02	0.00	0.41	0.11
0.11							
P-320	J-251	J-250	5.64	0.00	0.00	0.04	0.00
0.00							
P-321	J-245	J-251	3.23	0.01	0.00	0.08	0.02
0.02							
P-322	J-252	J-251	14.21	0.10	0.00	0.36	0.25
0.25							
P-323	J-242	J-252	126.88	0.04	0.00	0.52	0.13
0.13							
P-324	J-252	J-253	100.87	0.03	0.00	0.41	0.09
0.09							
P-325	J-253	J-250	84.18	0.07	0.00	0.54	0.19
0.19							
P-326	J-182	J-254	5.15	0.00	0.00	0.06	0.00
0.00							
P-327	J-247	J-254	18.45	0.01	0.00	0.21	0.05
0.05							
P-328	J-254	J-255	11.80	0.01	0.00	0.13	0.02
0.02							
P-329	J-259	J-248	24.37	0.01	0.00	0.16	0.02
0.02							
P-330	J-257	J-256	17.58	0.01	0.00	0.20	0.04
0.04							
P-331	J-256	J-258	11.80	0.05	0.00	0.30	0.14
0.14							
P-332	J-259	J-256	6.02	0.00	0.00	0.07	0.01
0.01							
P-333	J-257	J-283	15.57	0.01	0.00	0.18	0.03
0.03							

P-334	J-260	J-257	44.95	0.00	0.00	0.51	0.24
0.24							
P-335	J-261	J-259	20.32	0.01	0.00	0.13	0.02
0.02							
P-336	J-262	J-260	56.75	0.02	0.00	0.36	0.11
0.11							
P-337	J-355	J-262	68.55	0.04	0.00	0.44	0.13
0.13							
P-338	J-263	J-265	39.88	0.15	0.00	0.45	0.24
0.24							
P-339	J-265	J-264	11.80	32.33	0.00	4.82	153.98
153.98							
P-340	J-265	J-284	16.28	0.00	0.00	0.18	0.05
0.05							
P-341	J-268	J-263	165.05	0.59	0.00	1.05	0.65
0.65							
P-342	J-268	J-266	11.80	0.00	0.00	0.08	0.01
0.01							
P-343	J-269	J-268	188.65	0.47	0.00	1.20	0.83
0.83							
P-344	J-297	J-269	210.02	0.13	0.00	2.38	4.12
4.12							
P-345	J-269	J-270	9.57	0.04	0.00	0.24	0.12
0.12							
P-346	J-270	J-272	23.60	0.00	0.00	0.15	0.02
0.02							
P-347	J-271	J-270	25.83	0.04	0.00	0.29	0.11
0.11							
P-348	J-271	J-273	111.70	0.11	0.00	0.71	0.32
0.32							
P-349	J-272	J-274	11.80	1.16	0.00	1.20	4.20
4.20							
P-350	J-273	J-275	99.90	0.74	0.00	1.13	1.31
1.31							
P-351	J-275	J-277	88.10	0.23	0.00	0.56	0.24
0.24							
P-352	J-253	J-277	4.89	0.00	0.00	0.02	0.00
0.00							
P-353	J-277	J-276	81.19	0.06	0.00	0.52	0.17
0.17							
P-354	J-276	J-250	12.30	0.01	0.00	0.14	0.02
0.02							
P-355	J-276	J-281	57.09	0.07	0.00	0.65	0.37
0.37							
P-356	J-278	J-259	21.87	0.01	0.00	0.25	0.06
0.06							
P-357	J-250	J-279	90.33	0.08	0.00	0.58	0.21
0.21							
P-358	J-279	J-278	14.63	0.00	0.00	0.09	0.01
0.01							
P-359	J-278	J-280	8.80	0.00	0.00	0.10	0.01
0.01							
P-360	J-280	J-261	7.40	0.00	0.00	0.08	0.01
0.01							

P-361	J-282	J-280	10.39	0.00	0.00	0.12	0.02
0.02							
P-362	J-281	J-278	27.84	0.02	0.00	0.32	0.10
0.10							
P-363	J-281	J-282	17.45	0.02	0.00	0.20	0.04
0.04							
P-364	J-267	J-282	4.75	0.01	0.00	0.12	0.03
0.03							
P-365	J-283	J-261	24.72	0.00	0.00	0.28	0.08
0.08							
P-366	J-284	J-267	16.55	0.01	0.00	0.19	0.05
0.05							
P-367	J-284	J-283	20.95	0.02	0.00	0.24	0.07
0.07							
P-368	J-285	J-271	149.34	0.14	0.00	0.95	0.54
0.54							
P-369	J-286	J-285	25.69	0.02	0.00	0.29	0.08
0.08							
P-370	J-286	J-287	11.80	0.09	0.00	0.30	0.14
0.14							
P-371	J-289	J-286	49.29	0.66	0.00	1.26	2.03
2.03							
P-372	J-4	J-354	268.87	4.99	0.00	3.05	8.17
8.17							
P-373	J-290	J-289	28.36	0.24	0.00	0.72	0.73
0.73							
P-374	J-291	J-289	32.73	0.03	0.00	0.37	0.13
0.13							
P-375	J-290	J-292	56.77	0.11	0.00	0.64	0.37
0.37							
P-376	J-339	J-291	44.53	0.08	0.00	0.51	0.23
0.23							
P-377	J-336	J-292	11.37	0.13	0.00	0.29	0.17
0.17							
P-378	J-293	J-285	135.44	0.02	0.00	0.86	0.45
0.45							
P-379	J-294	J-293	172.13	0.39	0.00	1.10	0.70
0.70							
P-380	J-295	J-294	160.21	0.96	0.00	1.82	3.13
3.13							
P-381	J-298	J-294	23.72	0.15	0.00	0.61	0.52
0.52							
P-382	J-293	J-297	24.89	0.03	0.00	0.28	0.08
0.08							
P-383	J-296	J-297	196.93	0.29	0.00	1.26	0.90
0.90							
P-384	J-298	J-296	208.73	0.28	0.00	1.33	1.00
1.00							
P-385	J-300	J-298	244.26	1.78	0.00	6.24	39.26
39.26							
P-386	J-300	J-299	11.80	0.01	0.00	0.30	0.14
0.14							
P-387	J-301	J-300	267.86	0.48	0.00	1.71	1.59
1.59							

P-388	J-301	J-303	646.10	0.14	0.00	4.12	8.14
8.14							
P-389	J-304	J-301	925.76	7.78	0.00	3.78	5.34
5.34							
P-390	J-303	J-302	196.93	1.32	0.00	2.23	3.66
3.66							
P-391	J-303	J-295	437.37	1.31	0.00	2.79	3.95
3.95							
P-392	J-142	J-306	893.54	4.22	0.00	3.65	5.00
5.00							
P-393	J-306	J-304	937.56	2.58	0.00	3.83	5.47
5.47							
P-395	J-307	J-345	1584.83	0.23	0.00	4.50	5.95
5.95							
P-397	J-352	J-221	219.07	0.02	0.00	0.62	0.15
0.15							
P-398	J-305	J-290	96.93	0.03	0.00	0.40	0.10
0.10							
P-399	J-295	J-305	265.37	0.42	0.00	1.69	1.57
1.57							
P-400	J-302	J-310	11.80	0.00	0.00	0.08	0.01
0.01							
P-401	J-302	J-309	11.80	0.00	0.00	0.13	0.02
0.02							
P-402	J-302	J-311	161.53	1.02	0.00	1.83	3.18
3.18							
P-403	J-311	J-312	137.93	0.53	0.00	0.88	0.58
0.58							
P-404	J-311	J-313	11.80	0.01	0.00	0.13	0.02
0.02							
P-405	J-312	J-314	11.80	0.00	0.00	0.08	0.01
0.01							
P-406	J-312	J-315	114.33	0.02	0.00	0.73	0.41
0.41							
P-407	J-315	J-316	81.00	0.07	0.00	0.52	0.17
0.17							
P-408	J-315	J-317	21.53	0.08	0.00	0.24	0.06
0.06							
P-409	J-316	J-318	63.90	0.04	0.00	0.41	0.11
0.11							
P-410	J-316	J-317	5.30	0.00	0.00	0.06	0.00
0.00							
P-411	J-317	J-318	15.03	0.04	0.00	0.17	0.03
0.03							
P-412	J-318	J-319	67.13	0.07	0.00	0.43	0.15
0.15							
P-413	J-319	J-320	11.80	0.02	0.00	0.13	0.02
0.02							
P-414	J-319	J-321	43.53	0.02	0.00	0.28	0.07
0.07							
P-415	J-321	J-322	0.88	0.00	0.00	0.02	0.00
0.00							
P-416	J-321	J-322	30.85	0.00	0.00	0.20	0.04
0.04							

P-417	J-322	J-326	19.93	0.02	0.00	0.23	0.05
0.05							
P-418	J-323	J-335	11.80	0.03	0.00	0.13	0.02
0.02							
P-419	J-323	J-325	23.60	0.00	0.00	0.15	0.02
0.02							
P-420	J-325	J-324	10.53	0.00	0.00	0.12	0.02
0.02							
P-421	J-326	J-323	47.20	0.28	0.00	0.54	0.26
0.26							
P-422	J-327	J-326	39.07	0.02	0.00	0.25	0.06
0.06							
P-423	J-329	J-327	9.98	0.02	0.00	0.11	0.02
0.02							
P-424	J-332	J-328	0.45	0.00	0.00	0.01	0.00
0.00							
P-425	J-330	J-328	44.92	0.13	0.00	0.51	0.24
0.24							
P-426	J-328	J-329	33.58	0.06	0.00	0.38	0.14
0.14							
P-427	J-329	J-331	11.80	0.00	0.00	0.13	0.02
0.02							
P-428	J-332	J-327	40.90	0.08	0.00	0.46	0.20
0.20							
P-429	J-333	J-330	15.40	0.04	0.00	0.17	0.03
0.03							
P-430	J-334	J-330	41.32	0.31	0.00	0.47	0.20
0.20							
P-431	J-333	J-332	53.15	0.16	0.00	0.60	0.32
0.32							
P-432	J-334	J-333	80.35	0.27	0.00	0.91	0.70
0.70							
P-433	J-336	J-334	133.47	0.85	0.00	0.55	0.15
0.15							
P-434	J-305	J-336	156.64	0.01	0.00	0.64	0.25
0.25							
P-435	J-325	J-324	1.27	0.00	0.00	0.01	0.00
0.00							
P-436	J-73	J-337	8.99	0.00	0.00	0.06	0.00
0.00							
P-438	J-292	J-339	56.33	0.02	0.00	0.64	0.36
0.36							
P-446	R-3	J-221	1033.51	0.23	0.00	2.93	2.70
2.70							
P-448	O-Pump-1	J-141	34.03	0.00	0.00	0.10	0.00
0.00							
P-449	O-Pump-3	J-141	538.97	0.05	0.00	1.53	0.81
0.81							
P-450	J-345	I-Pump-1	34.03	0.00	0.00	0.10	0.00
0.00							
P-451	J-345	I-Pump-2	1000.03	0.14	0.00	2.84	2.54
2.54							
P-452	J-345	I-Pump-3	538.97	0.04	0.00	1.53	0.81
0.81							

P-453	J-7	J-346	66.65	0.16	0.00	0.76	0.62
0.62							
P-455	J-348	J-218	1460.47	0.84	0.00	4.14	5.11
5.11							
P-456	O-Pump-5	J-348	580.17	0.04	0.00	1.65	0.93
0.93							
P-457	J-358	J-350	1484.07	0.54	0.00	6.06	12.80
12.80							
P-458	O-Pump-6	J-348	312.44	0.01	0.00	0.89	0.29
0.29							
P-459	J-218	J-349	1448.67	4.49	0.00	5.92	12.24
12.24							
P-460	J-350	I-Pump-5	580.17	0.11	0.00	2.37	2.25
2.25							
P-461	J-350	I-Pump-6	312.44	0.03	0.00	1.28	0.71
0.71							
P-462	O-Pump-7	J-347	1531.30	0.40	0.00	4.34	7.01
7.01							
P-464	R-1	J-351	1543.10	0.58	0.00	4.38	7.11
7.11							
P-465	O-Pump-9	J-347	0.00	0.00	0.00	0.00	0.00
0.00							
P-466	R-3	J-352	242.67	0.21	0.00	1.55	1.33
1.33							
P-467	J-351	I-Pump-9	0.00	0.00	0.00	0.00	0.00
0.00							
P-483	J-263	J-355	113.38	0.11	0.00	0.72	0.32
0.32							
P-484	J-355	J-284	33.02	0.04	0.00	0.37	0.13
0.13							
P-500	J-204	J-206	52.56	0.03	0.00	0.34	0.08
0.08							
P-501	J-202	J-207	126.09	0.14	0.00	0.80	0.39
0.39							

P U M P/L O S S E L E M E N T R E S U L T S

#PUMPS PARALLEL	#PUMPS SERIES	NAME	NPSH Avail. ft	FLOWRATE gpm	INLET HEAD ft	OUTLET HEAD ft	PUMP HEAD ft	EFFIC-ENCY %	USEFUL POWER Hp	INCREMTL COST $	TOTAL COST $
		Pump-1	54.5	34.03	21.35	181.08	159.7	75.00	0.	0.0	0.0
**	**	Pump-2	54.3	1000.03	21.21	181.20	160.0	75.00	0.	0.0	0.0
**	**										

Pump-3	538.97	21.31	181.14	159.8	75.00	0.	0.0	0.0
**	**	54.5						
Pump-4	579.67	19.88	178.94	159.1	75.00	0.	0.0	0.0
**	**	53.0						
Pump-5	580.17	19.93	178.92	159.0	75.00	0.	0.0	0.0
**	**	53.0						
Pump-6	312.44	20.01	178.90	158.9	75.00	0.	0.0	0.0
**	**	53.2						
Pump-7	1531.30	28.77	167.08	138.3	75.00	0.	0.0	0.0
**	**	61.7						
Device "Pump-9" is closed								
Pump-9	0.00	29.42	166.67	0.0	75.00	0.	0.0	0.0
**	**	62.6						

N O D E R E S U L T S

NODE NAME	NODE TITLE	EXTERNAL DEMAND gpm	HYDRAULIC GRADE ft	NODE ELEVATION ft	PRESSURE HEAD ft	NODE PRESSURE psi
J-1		11.80	326.73	170.00	156.73	67.92
J-2		11.80	330.18	170.00	160.18	69.41
J-3		11.80	332.49	170.00	162.49	70.41
J-4		11.80	335.39	170.00	165.39	71.67
J-5		11.80	326.20	170.00	156.20	67.69
J-6		11.80	326.21	170.00	156.21	67.69
J-7		11.80	326.52	170.00	156.52	67.82
J-8		11.80	326.21	170.00	156.21	67.69
J-9		11.80	326.28	170.00	156.28	67.72
J-10		11.80	326.66	170.00	156.66	67.89
J-11		11.80	326.28	170.00	156.28	67.72
J-12		11.80	326.21	170.00	156.21	67.69
J-13		11.80	326.21	170.00	156.21	67.69
J-14		11.80	326.61	170.00	156.61	67.86
J-15		11.80	326.57	170.00	156.57	67.85
J-16		11.80	326.77	170.00	156.77	67.93
J-17		11.80	326.53	170.00	156.53	67.83
J-18		11.80	326.54	170.00	156.54	67.83
J-19		11.80	326.54	170.00	156.54	67.83
J-20		11.80	326.54	170.00	156.54	67.83
J-21		11.80	326.54	170.00	156.54	67.83
J-22		11.80	326.55	170.00	156.55	67.84
J-23		11.80	326.55	170.00	156.55	67.84
J-24		11.80	326.54	170.00	156.54	67.83
J-25		11.80	326.55	170.00	156.55	67.84
J-26		11.80	326.57	170.00	156.57	67.85
J-27		11.80	326.56	170.00	156.56	67.84
J-28		11.80	326.48	170.00	156.48	67.81
J-29		11.80	326.48	170.00	156.48	67.81
J-30		11.80	326.48	170.00	156.48	67.81
J-31		11.80	326.47	170.00	156.47	67.81
J-32		11.80	326.49	170.00	156.49	67.81

J-33	11.80	326.48	170.00	156.48	67.81
J-34	11.80	326.47	170.00	156.47	67.80
J-35	11.80	326.47	170.00	156.47	67.80
J-36	11.80	326.56	170.00	156.56	67.84
J-37	11.80	326.54	170.00	156.54	67.84
J-38	11.80	326.55	170.00	156.55	67.84
J-39	11.80	326.52	170.00	156.52	67.82
J-40	11.80	326.57	170.00	156.57	67.85
J-41	11.80	326.66	170.00	156.66	67.88
J-42	11.80	326.71	170.00	156.71	67.91
J-43	11.80	326.77	170.00	156.77	67.93
J-44	150.00	320.03	170.00	150.03	65.01
J-45	11.80	327.54	170.00	157.54	68.27
J-46	11.80	328.08	170.00	158.08	68.50
J-47	11.80	327.96	170.00	157.96	68.45
J-48	11.80	327.96	170.00	157.96	68.45
J-49	11.80	328.54	170.00	158.54	68.70
J-50	11.80	327.39	170.00	157.39	68.20
J-51	11.80	328.62	170.00	158.62	68.73
J-52	11.80	328.56	170.00	158.56	68.71
J-53	11.80	328.84	170.00	158.84	68.83
J-54	11.80	329.68	170.00	159.68	69.20
J-55	11.80	329.91	170.00	159.91	69.30
J-56	11.80	329.80	170.00	159.80	69.25
J-57	11.80	330.05	170.00	160.05	69.35
J-58	11.80	330.12	170.00	160.12	69.39
J-59	11.80	330.30	170.00	160.30	69.46
J-60	150.00	329.42	170.00	159.42	69.08
J-61	11.80	329.78	170.00	159.78	69.24
J-62	11.80	329.68	170.00	159.68	69.20
J-63	11.80	329.82	170.00	159.82	69.26
J-64	11.80	329.88	170.00	159.88	69.28
J-65	11.80	330.08	170.00	160.08	69.37
J-66	11.80	329.95	170.00	159.95	69.31
J-67	11.80	330.13	170.00	160.13	69.39
J-68	11.80	330.49	170.00	160.49	69.54
J-69	11.80	330.05	170.00	160.05	69.35
J-70	11.80	330.34	170.00	160.34	69.48
J-71	11.80	330.05	170.00	160.05	69.35
J-72	11.80	330.35	170.00	160.35	69.48
J-73	11.80	329.57	170.00	159.57	69.15
J-74	11.80	329.58	170.00	159.58	69.15
J-75	11.80	329.59	170.00	159.59	69.16
J-76	150.00	329.38	170.00	159.38	69.07
J-77	11.80	330.87	170.00	160.87	69.71
J-78	11.80	330.18	170.00	160.18	69.41
J-79	11.80	330.58	170.00	160.58	69.58
J-80	11.80	332.36	170.00	162.36	70.35
J-81	11.80	332.90	170.00	162.90	70.59
J-82	11.80	330.40	170.00	160.40	69.51
J-83	11.80	330.27	170.00	160.27	69.45
J-84	11.80	330.24	170.00	160.24	69.44
J-85	11.80	330.09	170.00	160.09	69.37
J-86	11.80	330.05	170.00	160.05	69.36

J-87	11.80	329.96	170.00	159.96	69.31
J-88	11.80	329.95	170.00	159.95	69.31
J-89	11.80	329.81	170.00	159.81	69.25
J-90	11.80	329.80	170.00	159.80	69.25
J-91	150.00	325.50	170.00	155.50	67.38
J-92	11.80	326.67	170.00	156.67	67.89
J-93	11.80	336.16	170.00	166.16	72.00
J-94	11.80	330.76	170.00	160.76	69.66
J-95	11.80	330.34	170.00	160.34	69.48
J-96	11.80	330.33	170.00	160.33	69.47
J-97	11.80	329.92	170.00	159.92	69.30
J-98	11.80	330.14	170.00	160.14	69.40
J-99	11.80	329.96	170.00	159.96	69.32
J-100	11.80	330.17	170.00	160.17	69.41
J-101	11.80	329.87	170.00	159.87	69.28
J-102	11.80	329.81	170.00	159.81	69.25
J-103	11.80	329.69	170.00	159.69	69.20
J-104	11.80	329.84	170.00	159.84	69.26
J-105	11.80	329.81	170.00	159.81	69.25
J-106	11.80	329.81	170.00	159.81	69.25
J-107	11.80	329.81	170.00	159.81	69.25
J-108	11.80	329.81	170.00	159.81	69.25
J-109	11.80	329.79	170.00	159.79	69.24
J-110	11.80	329.35	170.00	159.35	69.05
J-111	11.80	327.93	170.00	157.93	68.44
J-112	11.80	329.35	170.00	159.35	69.05
J-113	11.80	329.35	170.00	159.35	69.05
J-114	11.80	329.61	170.00	159.61	69.16
J-115	11.80	329.36	170.00	159.36	69.06
J-116	11.80	329.34	170.00	159.34	69.05
J-117	11.80	329.61	170.00	159.61	69.16
J-118	11.80	329.55	170.00	159.55	69.14
J-119	11.80	329.34	170.00	159.34	69.05
J-120	11.80	329.58	170.00	159.58	69.15
J-121	11.80	330.34	170.00	160.34	69.48
J-122	11.80	329.69	170.00	159.69	69.20
J-123	11.80	329.61	170.00	159.61	69.17
J-124	11.80	329.76	170.00	159.76	69.23
J-125	11.80	329.72	170.00	159.72	69.21
J-126	11.80	329.97	170.00	159.97	69.32
J-127	11.80	329.96	170.00	159.96	69.32
J-128	11.80	329.96	170.00	159.96	69.31
J-129	11.80	329.96	170.00	159.96	69.32
J-130	11.80	329.96	170.00	159.96	69.32
J-131	11.80	330.20	170.00	160.20	69.42
J-132	11.80	330.20	170.00	160.20	69.42
J-133	11.80	330.10	170.00	160.10	69.38
J-134	11.80	330.10	170.00	160.10	69.38
J-135	11.80	330.07	170.00	160.07	69.37
J-136	11.80	330.22	170.00	160.22	69.43
J-137	11.80	330.26	170.00	160.26	69.45
J-138	11.80	331.33	170.00	161.33	69.91
J-139	11.80	191.77	170.00	21.77	9.43
J-140	11.80	344.23	170.00	174.23	75.50

J-141	11.80	351.08	170.00	181.08	78.47
J-142	11.80	348.44	170.00	178.44	77.32
J-143	11.80	330.11	170.00	160.11	69.38
J-144	11.80	330.10	170.00	160.10	69.38
J-145	11.80	330.25	170.00	160.25	69.44
J-146	11.80	330.14	170.00	160.14	69.39
J-147	11.80	330.14	170.00	160.14	69.39
J-148	11.80	330.13	170.00	160.13	69.39
J-149	11.80	330.13	170.00	160.13	69.39
J-150	11.80	330.15	170.00	160.15	69.40
J-151	11.80	330.15	170.00	160.15	69.40
J-152	11.80	329.55	170.00	159.55	69.14
J-153	11.80	329.55	170.00	159.55	69.14
J-154	11.80	324.04	170.00	154.04	66.75
J-155	11.80	329.14	170.00	159.14	68.96
J-156	11.80	324.62	170.00	154.62	67.00
J-157	11.80	329.16	170.00	159.16	68.97
J-158	11.80	324.61	170.00	154.61	67.00
J-159	11.80	329.19	170.00	159.19	68.98
J-160	11.80	328.31	170.00	158.31	68.60
J-161	11.80	329.18	170.00	159.18	68.98
J-162	11.80	329.14	170.00	159.14	68.96
J-163	11.80	329.17	170.00	159.17	68.97
J-164	11.80	329.13	170.00	159.13	68.96
J-165	11.80	329.17	170.00	159.17	68.97
J-166	11.80	329.13	170.00	159.13	68.96
J-167	11.80	329.33	170.00	159.33	69.04
J-168	11.80	333.44	170.00	163.44	70.82
J-169	11.80	329.33	170.00	159.33	69.04
J-170	11.80	333.37	170.00	163.37	70.79
J-171	11.80	330.93	170.00	160.93	69.74
J-172	11.80	329.84	170.00	159.84	69.26
J-173	11.80	329.84	170.00	159.84	69.26
J-174	11.80	329.84	170.00	159.84	69.26
J-175	11.80	327.90	170.00	157.90	68.42
J-176	11.80	329.83	170.00	159.83	69.26
J-177	11.80	329.77	170.00	159.77	69.23
J-178	11.80	329.48	170.00	159.48	69.11
J-179	11.80	329.50	170.00	159.50	69.11
J-180	11.80	329.50	170.00	159.50	69.12
J-181	11.80	329.52	170.00	159.52	69.12
J-182	11.80	329.51	170.00	159.51	69.12
J-183	11.80	329.80	170.00	159.80	69.25
J-184	11.80	329.48	170.00	159.48	69.11
J-185	11.80	329.38	170.00	159.38	69.06
J-186	11.80	329.44	170.00	159.44	69.09
J-187	11.80	329.41	170.00	159.41	69.08
J-188	11.80	329.41	170.00	159.41	69.08
J-189	11.80	329.22	170.00	159.22	69.00
J-190	11.80	329.18	170.00	159.18	68.98
J-191	11.80	328.90	170.00	158.90	68.86
J-192	11.80	328.84	170.00	158.84	68.83
J-193	11.80	327.84	170.00	157.84	68.40
J-194	11.80	328.89	170.00	158.89	68.85

J-195	11.80	328.79	170.00	158.79	68.81
J-196	11.80	328.90	170.00	158.90	68.86
J-197	11.80	328.90	170.00	158.90	68.86
J-198	11.80	328.82	170.00	158.82	68.82
J-199	11.80	328.62	170.00	158.62	68.73
J-200	11.80	328.41	170.00	158.41	68.64
J-201	11.80	328.67	170.00	158.67	68.76
J-202	11.80	329.02	170.00	159.02	68.91
J-203	11.80	328.73	170.00	158.73	68.78
J-204	11.80	329.36	170.00	159.36	69.05
J-205	11.80	329.52	170.00	159.52	69.13
J-206	11.80	329.33	170.00	159.33	69.04
J-207	11.80	328.88	170.00	158.88	68.85
J-208	11.80	326.71	170.00	156.71	67.91
J-209	11.80	328.72	170.00	158.72	68.78
J-210	11.80	326.70	170.00	156.70	67.90
J-211	11.80	326.54	170.00	156.54	67.83
J-212	11.80	326.52	170.00	156.52	67.83
J-213	11.80	329.33	170.00	159.33	69.04
J-214	11.80	336.01	170.00	166.01	71.94
J-215	11.80	326.18	170.00	156.18	67.68
J-216	11.80	326.18	170.00	156.18	67.68
J-217	11.80	326.18	170.00	156.18	67.68
J-218	11.80	348.05	170.00	178.05	77.15
J-219	11.80	329.10	170.00	159.10	68.94
J-220	11.80	326.17	170.00	156.17	67.68
J-221	11.80	191.77	170.00	21.77	9.44
J-222	11.80	329.97	170.00	159.97	69.32
J-223	11.80	333.43	170.00	163.43	70.82
J-224	11.80	334.74	170.00	164.74	71.39
J-225	11.80	331.38	170.00	161.38	69.93
J-226	11.80	331.47	170.00	161.47	69.97
J-227	11.80	331.49	170.00	161.49	69.98
J-228	11.80	331.49	170.00	161.49	69.98
J-229	11.80	330.72	170.00	160.72	69.65
J-230	11.80	330.28	170.00	160.28	69.46
J-231	11.80	329.88	170.00	159.88	69.28
J-232	11.80	329.59	170.00	159.59	69.15
J-233	11.80	329.58	170.00	159.58	69.15
J-234	11.80	329.78	170.00	159.78	69.24
J-235	11.80	329.18	170.00	159.18	68.98
J-236	11.80	329.82	170.00	159.82	69.26
J-237	11.80	329.42	170.00	159.42	69.08
J-238	11.80	329.58	170.00	159.58	69.15
J-239	11.80	329.42	170.00	159.42	69.08
J-240	11.80	328.70	170.00	158.70	68.77
J-241	11.80	329.82	170.00	159.82	69.26
J-242	11.80	329.89	170.00	159.89	69.28
J-243	11.80	329.92	170.00	159.92	69.30
J-244	11.80	329.77	170.00	159.77	69.23
J-245	11.80	329.75	170.00	159.75	69.23
J-246	11.80	329.56	170.00	159.56	69.14
J-247	11.80	329.52	170.00	159.52	69.12
J-248	11.80	329.65	170.00	159.65	69.18

J-249	11.80	329.65	170.00	159.65	69.18
J-250	11.80	329.75	170.00	159.75	69.22
J-251	11.80	329.75	170.00	159.75	69.22
J-252	11.80	329.85	170.00	159.85	69.27
J-253	11.80	329.82	170.00	159.82	69.25
J-254	11.80	329.50	170.00	159.50	69.12
J-255	11.80	329.50	170.00	159.50	69.12
J-256	11.80	329.65	170.00	159.65	69.18
J-257	11.80	329.67	170.00	159.67	69.19
J-258	11.80	329.60	170.00	159.60	69.16
J-259	11.80	329.65	170.00	159.65	69.18
J-260	11.80	329.67	170.00	159.67	69.19
J-261	11.80	329.66	170.00	159.66	69.19
J-262	11.80	329.69	170.00	159.69	69.20
J-263	11.80	329.83	170.00	159.83	69.26
J-264	11.80	297.36	170.00	127.36	55.19
J-265	11.80	329.69	170.00	159.69	69.20
J-266	11.80	330.42	170.00	160.42	69.52
J-267	11.80	329.67	170.00	159.67	69.19
J-268	11.80	330.42	170.00	160.42	69.52
J-269	11.80	330.89	170.00	160.89	69.72
J-270	11.80	330.86	170.00	160.86	69.70
J-271	11.80	330.89	170.00	160.89	69.72
J-272	11.80	330.85	170.00	160.85	69.70
J-273	11.80	330.79	170.00	160.79	69.67
J-274	11.80	329.69	170.00	159.69	69.20
J-275	11.80	330.05	170.00	160.05	69.35
J-276	11.80	329.75	170.00	159.75	69.23
J-277	11.80	329.82	170.00	159.82	69.25
J-278	11.80	329.67	170.00	159.67	69.19
J-279	11.80	329.67	170.00	159.67	69.19
J-280	11.80	329.66	170.00	159.66	69.19
J-281	11.80	329.68	170.00	159.68	69.20
J-282	11.80	329.66	170.00	159.66	69.19
J-283	11.80	329.66	170.00	159.66	69.19
J-284	11.80	329.68	170.00	159.68	69.20
J-285	11.80	331.03	170.00	161.03	69.78
J-286	11.80	331.06	170.00	161.06	69.79
J-287	11.80	330.97	170.00	160.97	69.75
J-289	11.80	331.72	170.00	161.72	70.08
J-290	11.80	331.95	170.00	161.95	70.18
J-291	11.80	331.75	170.00	161.75	70.09
J-292	11.80	331.84	170.00	161.84	70.13
J-293	11.80	331.05	170.00	161.05	69.79
J-294	11.80	331.44	170.00	161.44	69.96
J-295	11.80	332.40	170.00	162.40	70.38
J-296	11.80	331.32	170.00	161.32	69.90
J-297	11.80	331.02	170.00	161.02	69.78
J-298	11.80	331.60	170.00	161.60	70.03
J-299	11.80	333.37	170.00	163.37	70.79
J-300	11.80	333.38	170.00	163.38	70.80
J-301	11.80	333.86	170.00	163.86	71.00
J-302	11.80	332.39	170.00	162.39	70.37
J-303	11.80	333.72	170.00	163.72	70.94

J-304		11.80	341.64	170.00	171.64	74.38
J-305		11.80	331.98	170.00	161.98	70.19
J-306		11.80	344.21	170.00	174.21	75.49
J-307		11.80	191.58	170.00	21.58	9.35
J-309	Boise Cascad	11.80	332.39	170.00	162.39	70.37
J-310		11.80	332.39	170.00	162.39	70.37
J-311		11.80	331.38	170.00	161.38	69.93
J-312		11.80	330.84	170.00	160.84	69.70
J-313		11.80	331.37	170.00	161.37	69.93
J-314		11.80	330.84	170.00	160.84	69.70
J-315		11.80	330.82	170.00	160.82	69.69
J-316		11.80	330.75	170.00	160.75	69.66
J-317		11.80	330.74	170.00	160.74	69.66
J-318		11.80	330.70	170.00	160.70	69.64
J-319		11.80	330.64	170.00	160.64	69.61
J-320		11.80	330.62	170.00	160.62	69.60
J-321		11.80	330.61	170.00	160.61	69.60
J-322		11.80	330.61	170.00	160.61	69.60
J-323		11.80	330.30	170.00	160.30	69.46
J-324		11.80	330.30	170.00	160.30	69.46
J-325		11.80	330.30	170.00	160.30	69.46
J-326		11.80	330.59	170.00	160.59	69.59
J-327		11.80	330.61	170.00	160.61	69.60
J-328		11.80	330.69	170.00	160.69	69.63
J-329		11.80	330.63	170.00	160.63	69.61
J-330		11.80	330.82	170.00	160.82	69.69
J-331		11.80	330.63	170.00	160.63	69.61
J-332		11.80	330.69	170.00	160.69	69.63
J-333		11.80	330.86	170.00	160.86	69.70
J-334		11.80	331.13	170.00	161.13	69.82
J-335		11.80	330.28	170.00	160.28	69.45
J-336		11.80	331.97	170.00	161.97	70.19
J-337		11.80	329.57	170.00	159.57	69.15
J-339		11.80	331.83	170.00	161.83	70.12
J-344		11.80	341.33	170.00	171.33	74.24
J-345		11.80	191.35	170.00	21.35	9.25
J-346		11.80	326.36	170.00	156.36	67.76
J-347		11.80	336.67	170.00	166.67	72.23
J-348		11.80	348.89	170.00	178.89	77.52
J-349		11.80	343.55	170.00	173.55	75.21
J-350		11.80	190.04	170.00	20.04	8.68
J-351		11.80	199.42	170.00	29.42	12.75
J-352		11.80	191.79	170.00	21.79	9.44
J-354		11.80	330.40	170.00	160.40	69.51
J-355		11.80	329.73	170.00	159.73	69.21
J-358		11.80	190.58	170.00	20.58	8.92
J-2_		11.80	326.20	170.00	156.20	67.69
O-Pump-1	NORTH BP # 1	0.00	351.08	170.00	181.08	78.47
O-Pump-2	NORTH BP # 2	0.00	351.20	170.00	181.20	78.52
O-Pump-3	NORTH BP # 3	0.00	351.14	170.00	181.14	78.49
O-Pump-4	SOUTH BP # 2	0.00	348.94	170.00	178.94	77.54
O-Pump-5	SOUTH BP # 1	0.00	348.92	170.00	178.92	77.53
O-Pump-6	SOUTH BP # 3	0.00	348.90	170.00	178.90	77.52
I-Pump-7	MONMOUTH ST	0.00	198.77	170.00	28.77	12.47

I-Pump-9	MONMOUTH ST	0.00	199.42	170.00	29.42	12.75
R-1	MONMOUTH ST	----	200.00	170.00	30.00	13.00
R-2	SOUTH RESERV	----	191.00	171.00	20.00	8.67
R-3	POLK RESERVO	----	192.00	170.00	22.00	9.53
I-Pump-4	SOUTH BP # 2	0.00	189.88	170.00	19.88	8.61
I-Pump-1	NORTH BP # 1	0.00	191.35	170.00	21.35	9.25
I-Pump-2	NORTH BP # 2	0.00	191.21	170.00	21.21	9.19
I-Pump-3	NORTH BP # 3	0.00	191.31	170.00	21.31	9.23
I-Pump-5	SOUTH BP # 1	0.00	189.93	170.00	19.93	8.64
I-Pump-6	SOUTH BP # 3	0.00	190.01	170.00	20.01	8.67
O-Pump-7	MONMOUTH ST	0.00	337.08	170.00	167.08	72.40
O-Pump-9	MONMOUTH ST	0.00	336.67	170.00	166.67	72.23

M A X I M U M A N D M I N I M U M V A L U E S

P R E S S U R E S

JUNCTION NUMBER	MAXIMUM PRESSURES psi	JUNCTION NUMBER	MINIMUM PRESSURES psi
O-Pump-2	78.52	I-Pump-4	8.61
O-Pump-3	78.49	I-Pump-5	8.64
O-Pump-1	78.47	R-2	8.67
J-141	78.47	I-Pump-6	8.67
O-Pump-4	77.54	J-350	8.68

V E L O C I T I E S

PIPE NUMBER	MAXIMUM VELOCITY (ft/s)	PIPE NUMBER	MINIMUM VELOCITY (ft/s)
P-170	6.33	P-24	0.00
P-385	6.24	P-424	0.01
P-269	6.11	P-21	0.01
P-457	6.06	P-154	0.01
P-459	5.92	P-128	0.01

H L + M L / 1 0 0 0

PIPE NUMBER	MAXIMUM HL+ML/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL+ML/1000 (ft/ft)
P-339	153.98	P-24	0.00
P-385	39.26	P-424	0.00
P-186	32.10	P-21	0.00
P-282	22.61	P-154	0.00
P-50	18.46	P-128	0.00

H L / 1 0 0 0

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)
P-339	153.98	P-24	0.00
P-385	39.26	P-424	0.00
P-186	32.10	P-21	0.00
P-282	22.61	P-154	0.00
P-50	18.46	P-128	0.00

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
(-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE gpm	NODE TITLE
R-1	1543.10	MONMOUTH ST
R-2	1495.87	SOUTH RESERV
R-3	1632.03	POLK RESERVO

NET SYSTEM INFLOW = 4671.00
NET SYSTEM OUTFLOW = 0.00
NET SYSTEM DEMAND = 4671.00

***** HYDRAULIC ANALYSIS COMPLETED *****

Year 2035
Max. Day
w/
4000 GPM Fire
Flow in Downtown
Core &
200 GPM @ S. W.
Independence
Concept
Plan Area

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* * * * * * * * * * * * K Y P I P E * * * * * * * * * * * *
*                                                          *
*  Pipe Network Modeling Software                          *
*                                                          *
*  CopyRighted by KYPIPE LLC (www.kypipe.com)              *
*  Version: 6.025  10/21/2013                              *
*  Serial #:  10-10229116                                  *
*  Interface:  Classic                                     *
*  Licensed for Pipe2014                                   *
*                                                          *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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Date & Time: Thu Feb 12 12:21:17 2015

Master File : c:\users\4b engineering\documents\city documents\independence\indep master plan 2013\max day with fire.KYP\max day with fire.P2K

SUMMARY OF ORIGINAL DATA

UNITS SPECIFIED

FLOWRATE ..... = gallons/minute
HEAD (HGL) ..... = feet
PRESSURE ..... = psig

PIPELINE DATA

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE NAME	NODE NAMES #1	#2	LENGTH (ft)	DIAMETER (in)	ROUGHNESS COEFF.	MINOR LOSS COEFF.
P-1	J-1	J-2	305.01	4.00	115.0000	0.00
P-2	J-2	J-3	169.02	4.00	115.0000	0.00
P-3	J-3	J-349	682.85	4.00	115.0000	0.00
P-4	J-5	J-2_	200.83	6.00	130.0000	0.00
P-5	J-5	J-346	361.66	6.00	115.0000	0.00
P-6	J-6	J-2_	378.77	6.00	130.0000	0.00
P-7	J-6	J-9	605.72	6.00	130.0000	0.00
P-8	J-8	J-6	376.28	6.00	130.0000	0.00
P-9	J-9	J-12	508.82	6.00	130.0000	0.00
P-10	J-2_	J-8	664.61	6.00	130.0000	0.00
P-11	J-1	J-10	411.14	4.00	115.0000	0.00
P-12	J-9	J-11	258.35	6.00	130.0000	0.00
P-13	J-12	J-8	627.48	6.00	130.0000	0.00

P-14	J-12	J-13	268.16	6.00	130.0000	0.00
P-15	J-7	J-211	102.58	8.00	115.0000	0.00
P-16	J-14	J-15	110.60	8.00	115.0000	0.00
P-17	J-14	J-16	115.26	8.00	115.0000	0.00
P-18	J-15	J-17	189.18	4.00	115.0000	0.00
P-19	J-15	J-36	41.69	8.00	115.0000	0.00
P-20	J-18	J-19	172.83	8.00	115.0000	0.00
P-21	J-20	J-18	260.94	8.00	115.0000	0.00
P-22	J-21	J-20	347.07	8.00	115.0000	0.00
P-23	J-22	J-21	311.24	8.00	115.0000	0.00
P-24	J-22	J-23	235.68	8.00	115.0000	0.00
P-25	J-23	J-24	455.69	6.00	115.0000	0.00
P-26	J-23	J-25	198.75	8.00	115.0000	0.00
P-27	J-25	J-19	663.05	8.00	115.0000	0.00
P-28	J-25	J-40	232.38	8.00	130.0000	0.00
P-29	J-27	J-26	297.23	6.00	130.0000	0.00
P-30	J-27	J-28	396.57	6.00	130.0000	0.00
P-31	J-28	J-29	127.61	6.00	130.0000	0.00
P-32	J-28	J-30	527.41	8.00	130.0000	0.00
P-33	J-30	J-32	292.48	6.00	130.0000	0.00
P-34	J-30	J-31	401.90	8.00	130.0000	0.00
P-35	J-32	J-26	924.54	8.00	130.0000	0.00
P-36	J-32	J-33	389.55	8.00	130.0000	0.00
P-37	J-33	J-31	290.15	6.00	130.0000	0.00
P-38	J-33	J-34	579.76	8.00	130.0000	0.00
P-39	J-31	J-35	557.69	8.00	130.0000	0.00
P-40	J-36	J-22	237.12	8.00	115.0000	0.00
P-41	J-36	J-38	260.00	8.00	115.0000	0.00
P-42	J-38	J-37	543.04	8.00	115.0000	0.00
P-43	J-38	J-39	166.48	4.00	115.0000	0.00
P-44	J-40	J-27	523.50	8.00	130.0000	0.00
P-45	J-40	J-41	233.76	8.00	115.0000	0.00
P-46	J-41	J-208	641.36	8.00	115.0000	0.00
P-47	J-41	J-42	348.05	8.00	115.0000	0.00
P-48	J-26	J-43	1106.79	8.00	130.0000	0.00
P-49	J-43	J-42	297.40	8.00	120.0000	0.00
P-50	J-43	J-44	364.73	4.00	120.0000	0.00
P-51	J-43	J-45	294.08	8.00	120.0000	0.00
P-52	J-45	J-46	348.52	8.00	115.0000	0.00
P-53	J-45	J-47	391.41	6.00	130.0000	0.00
P-54	J-47	J-48	242.43	6.00	115.0000	0.00
P-55	J-47	J-49	363.90	6.00	130.0000	0.00
P-56	J-49	J-50	275.29	2.00	130.0000	0.00
P-57	J-49	J-52	33.17	8.00	130.0000	0.00
P-58	J-52	J-51	383.40	8.00	130.0000	0.00
P-59	J-52	J-53	327.01	6.00	130.0000	0.00
P-60	J-53	J-192	23.22	6.00	130.0000	0.00
P-61	J-53	J-54	739.48	6.00	130.0000	0.00
P-62	J-54	J-61	329.41	8.00	130.0000	0.00
P-63	J-55	J-62	386.14	6.00	130.0000	0.00
P-64	J-55	J-63	667.29	6.00	130.0000	0.00
P-65	J-57	J-69	45.44	6.00	130.0000	0.00
P-66	J-57	J-58	381.72	8.00	130.0000	0.00
P-67	J-58	J-59	90.44	8.00	130.0000	0.00

P-68	J-58	J-173	285.37	8.00	130.0000	0.00
P-69	J-61	J-57	373.88	6.00	115.0000	0.00
P-70	J-56	J-60	381.50	6.00	130.0000	0.00
P-71	J-62	J-54	34.93	6.00	130.0000	0.00
P-72	J-62	J-60	675.41	6.00	115.0000	0.00
P-73	J-63	J-56	13.30	6.00	130.0000	0.00
P-74	J-63	J-64	311.09	8.00	130.0000	0.00
P-75	J-64	J-65	886.19	6.00	115.0000	0.00
P-76	J-64	J-66	712.15	8.00	130.0000	0.00
P-77	J-66	J-55	323.32	8.00	115.0000	0.00
P-78	J-66	J-67	322.60	8.00	115.0000	0.00
P-79	J-67	J-68	295.08	6.00	115.0000	0.00
P-80	J-67	J-65	134.50	6.00	115.0000	0.00
P-81	J-69	J-55	329.96	6.00	130.0000	0.00
P-82	J-67	J-70	676.97	8.00	115.0000	0.00
P-83	J-68	J-69	642.67	6.00	115.0000	0.00
P-84	J-70	J-79	361.78	6.00	115.0000	0.00
P-85	J-70	J-72	35.71	6.00	115.0000	0.00
P-86	J-71	J-78	290.85	8.00	115.0000	0.00
P-87	J-71	J-75	401.73	8.00	115.0000	0.00
P-88	J-73	J-337	1295.74	8.00	130.0000	0.00
P-89	J-74	J-73	260.63	8.00	130.0000	0.00
P-90	J-75	J-74	284.83	8.00	115.0000	0.00
P-91	J-75	J-76	307.77	8.00	115.0000	0.00
P-92	J-72	J-71	488.97	6.00	115.0000	0.00
P-93	J-72	J-77	289.45	6.00	115.0000	0.00
P-94	J-78	J-77	496.25	4.00	115.0000	0.00
P-95	J-78	J-83	79.48	6.00	115.0000	0.00
P-96	J-79	J-68	23.66	6.00	115.0000	0.00
P-97	J-79	J-80	292.00	6.00	130.0000	0.00
P-98	J-81	J-80	336.44	8.00	130.0000	0.00
P-99	J-81	J-77	752.97	6.00	130.0000	0.00
P-100	J-82	J-94	65.41	8.00	130.0000	0.00
P-101	J-83	J-82	281.50	8.00	115.0000	0.00
P-102	J-83	J-84	202.50	4.00	115.0000	0.00
P-103	J-82	J-100	517.53	12.00	130.0000	0.00
P-104	J-86	J-71	352.11	8.00	130.0000	0.00
P-105	J-85	J-86	1087.38	8.00	130.0000	0.00
P-106	J-85	J-87	603.17	12.00	130.0000	0.00
P-107	J-87	J-88	78.91	6.00	115.0000	0.00
P-108	J-87	J-104	629.71	12.00	130.0000	0.00
P-109	J-89	J-90	1768.97	8.00	130.0000	0.00
P-110	J-89	J-92	984.59	6.00	115.0000	0.00
P-111	J-92	J-91	529.45	2.00	130.0000	0.00
P-112	J-93	J-168	197.21	8.00	130.0000	0.00
P-113	J-93	J-347	73.96	12.00	115.0000	0.00
P-114	J-94	J-93	661.04	8.00	130.0000	0.00
P-115	J-94	J-95	320.56	6.00	130.0000	0.00
P-116	J-95	J-96	125.40	4.00	130.0000	0.00
P-117	J-95	J-98	238.58	6.00	130.0000	0.00
P-118	J-98	J-97	54.23	2.00	130.0000	0.00
P-119	J-98	J-99	378.32	6.00	130.0000	0.00
P-120	J-100	J-85	258.35	12.00	130.0000	0.00
P-121	J-100	J-99	349.12	6.00	115.0000	0.00

P-122	J-99	J-101	51.83	6.00	115.0000	0.00
P-123	J-101	J-102	679.00	6.00	115.0000	0.00
P-124	J-101	J-103	189.95	6.00	115.0000	0.00
P-125	J-104	J-89	287.80	12.00	130.0000	0.00
P-126	J-104	J-107	1113.80	10.00	130.0000	0.00
P-127	J-106	J-105	82.95	8.00	115.0000	0.00
P-128	J-106	J-108	704.40	8.00	115.0000	0.00
P-129	J-107	J-106	710.31	10.00	130.0000	0.00
P-130	J-107	J-109	137.53	4.00	115.0000	0.00
P-131	J-108	J-102	1163.44	8.00	115.0000	0.00
P-132	J-103	J-110	416.70	4.00	115.0000	0.00
P-133	J-110	J-111	270.47	2.00	115.0000	0.00
P-134	J-110	J-112	74.83	4.00	115.0000	0.00
P-135	J-112	J-113	40.79	6.00	115.0000	0.00
P-136	J-112	J-115	152.01	6.00	115.0000	0.00
P-137	J-114	J-103	260.83	6.00	115.0000	0.00
P-138	J-115	J-114	842.74	6.00	115.0000	0.00
P-139	J-115	J-116	116.52	4.00	115.0000	0.00
P-140	J-114	J-117	813.01	8.00	120.0000	0.00
P-141	J-117	J-152	1020.18	8.00	130.0000	0.00
P-142	J-117	J-122	551.11	8.00	115.0000	0.00
P-143	J-120	J-119	575.19	6.00	115.0000	0.00
P-144	J-120	J-123	275.24	6.00	115.0000	0.00
P-145	J-122	J-120	538.63	6.00	115.0000	0.00
P-146	J-119	J-123	305.50	6.00	115.0000	0.00
P-147	J-123	J-124	306.81	8.00	115.0000	0.00
P-148	J-124	J-129	311.28	8.00	115.0000	0.00
P-149	J-124	J-125	234.44	4.00	115.0000	0.00
P-150	J-126	J-121	230.43	8.00	115.0000	0.00
P-151	J-126	J-127	455.62	8.00	115.0000	0.00
P-152	J-127	J-128	345.97	8.00	115.0000	0.00
P-153	J-129	J-126	8.38	8.00	115.0000	0.00
P-154	J-127	J-130	272.93	8.00	115.0000	0.00
P-155	J-130	J-122	638.19	8.00	115.0000	0.00
P-156	J-130	J-135	292.32	8.00	130.0000	0.00
P-157	J-121	J-131	297.30	8.00	130.0000	0.00
P-158	J-131	J-132	191.73	8.00	130.0000	0.00
P-159	J-131	J-134	268.27	8.00	130.0000	0.00
P-160	J-134	J-133	190.59	8.00	130.0000	0.00
P-161	J-135	J-143	687.90	8.00	130.0000	0.00
P-162	J-134	J-135	130.29	8.00	130.0000	0.00
P-163	J-136	J-121	621.51	6.00	130.0000	0.00
P-164	J-136	J-145	265.94	8.00	130.0000	0.00
P-165	J-137	J-138	614.21	6.00	130.0000	0.00
P-166	J-138	J-121	256.46	8.00	130.0000	0.00
P-167	J-138	J-140	1958.56	8.00	130.0000	0.00
P-168	J-140	J-306	669.54	10.00	130.0000	0.00
P-169	J-140	J-142	1541.20	10.00	130.0000	0.00
P-170	J-142	J-141	190.63	10.00	130.0000	0.00
P-171	J-221	J-307	32.62	12.00	130.0000	0.00
P-172	O-Pump-2	J-141	48.24	12.00	130.0000	0.00
P-173	J-143	J-150	299.29	8.00	130.0000	0.00
P-174	J-143	J-144	484.05	6.00	130.0000	0.00
P-175	J-145	J-137	15.69	8.00	130.0000	0.00

P-176	J-145	J-146	791.89	6.00	130.0000	0.00
P-177	J-146	J-147	106.82	6.00	130.0000	0.00
P-178	J-146	J-148	475.49	6.00	130.0000	0.00
P-179	J-148	J-149	133.52	6.00	130.0000	0.00
P-180	J-148	J-151	615.58	6.00	130.0000	0.00
P-181	J-150	J-136	244.13	8.00	130.0000	0.00
P-182	J-151	J-150	148.38	8.00	130.0000	0.00
P-183	J-152	J-118	190.98	6.00	130.0000	0.00
P-184	J-152	J-153	79.65	8.00	130.0000	0.00
P-185	J-153	J-155	182.29	2.00	130.0000	0.00
P-186	J-155	J-156	140.90	2.00	130.0000	0.00
P-187	J-156	J-154	137.63	2.00	130.0000	0.00
P-188	J-156	J-158	401.41	6.00	130.0000	0.00
P-189	J-155	J-157	114.63	6.00	130.0000	0.00
P-190	J-157	J-159	177.10	8.00	115.0000	0.00
P-191	J-157	J-160	203.90	2.00	130.0000	0.00
P-192	J-159	J-119	305.65	8.00	115.0000	0.00
P-193	J-159	J-161	95.97	8.00	115.0000	0.00
P-194	J-161	J-162	224.27	4.00	115.0000	0.00
P-195	J-161	J-163	243.21	8.00	115.0000	0.00
P-196	J-163	J-164	229.24	4.00	115.0000	0.00
P-197	J-163	J-165	244.48	8.00	115.0000	0.00
P-198	J-165	J-166	240.15	4.00	115.0000	0.00
P-199	J-165	J-167	331.42	4.00	115.0000	0.00
P-200	J-167	J-129	306.17	4.00	115.0000	0.00
P-201	J-349	J-214	750.15	10.00	130.0000	0.00
P-202	J-81	J-171	628.03	8.00	130.0000	0.00
P-203	J-168	J-81	40.75	8.00	130.0000	0.00
P-204	J-168	J-170	485.65	4.00	130.0000	0.00
P-205	J-171	J-59	290.97	8.00	130.0000	0.00
P-206	J-171	J-174	384.17	4.00	130.0000	0.00
P-207	J-173	J-183	44.54	8.00	130.0000	0.00
P-208	J-174	J-172	43.03	8.00	130.0000	0.00
P-209	J-173	J-174	288.39	6.00	130.0000	0.00
P-210	J-172	J-177	736.97	6.00	115.0000	0.00
P-211	J-172	J-176	279.65	8.00	130.0000	0.00
P-212	J-177	J-175	446.39	2.00	130.0000	0.00
P-213	J-176	J-179	447.84	2.00	130.0000	0.00
P-214	J-179	J-178	314.34	8.00	130.0000	0.00
P-215	J-179	J-180	66.26	8.00	130.0000	0.00
P-216	J-180	J-181	374.62	8.00	130.0000	0.00
P-217	J-180	J-182	309.46	6.00	130.0000	0.00
P-218	J-183	J-61	335.73	8.00	130.0000	0.00
P-219	J-178	J-183	742.48	8.00	130.0000	0.00
P-220	J-178	J-184	12.90	8.00	130.0000	0.00
P-221	J-184	J-185	44.44	4.00	130.0000	0.00
P-222	J-185	J-186	188.76	2.00	130.0000	0.00
P-223	J-186	J-184	146.15	8.00	130.0000	0.00
P-224	J-186	J-188	214.19	8.00	130.0000	0.00
P-225	J-188	J-187	53.69	8.00	130.0000	0.00
P-226	J-188	J-189	334.10	6.00	130.0000	0.00
P-227	J-189	J-191	361.25	4.00	130.0000	0.00
P-228	J-189	J-190	422.91	6.00	130.0000	0.00
P-229	J-191	J-185	296.56	4.00	130.0000	0.00

P-230	J-191	J-194	36.83	6.00	130.0000	0.00
P-231	J-192	J-195	348.33	6.00	130.0000	0.00
P-232	J-194	J-193	249.79	2.00	130.0000	0.00
P-233	J-192	J-194	284.86	6.00	130.0000	0.00
P-234	J-195	J-51	345.06	6.00	130.0000	0.00
P-235	J-195	J-196	423.43	6.00	130.0000	0.00
P-236	J-196	J-235	306.16	6.00	115.0000	0.00
P-237	J-196	J-197	42.41	6.00	130.0000	0.00
P-238	J-197	J-198	338.87	8.00	115.0000	0.00
P-239	J-198	J-199	417.12	8.00	130.0000	0.00
P-240	J-199	J-51	41.44	8.00	130.0000	0.00
P-241	J-199	J-200	640.84	8.00	130.0000	0.00
P-242	J-200	J-46	194.52	8.00	115.0000	0.00
P-243	J-200	J-201	417.03	8.00	115.0000	0.00
P-244	J-201	J-198	640.99	8.00	115.0000	0.00
P-245	J-201	J-203	342.15	8.00	115.0000	0.00
P-246	J-202	J-198	352.04	8.00	130.0000	0.00
P-247	J-203	J-207	292.11	8.00	130.0000	0.00
P-248	J-202	J-204	370.90	8.00	130.0000	0.00
P-249	J-204	J-205	109.44	8.00	130.0000	0.00
P-250	J-9	J-1	567.16	6.00	130.0000	0.00
P-251	J-167	J-169	440.83	8.00	115.0000	0.00
P-252	J-207	J-206	368.49	4.00	115.0000	0.00
P-253	J-206	J-213	285.75	8.00	115.0000	0.00
P-254	J-208	J-16	303.62	8.00	115.0000	0.00
P-255	J-208	J-210	672.57	6.00	115.0000	0.00
P-256	J-209	J-203	46.44	8.00	115.0000	0.00
P-257	J-209	J-16	762.63	8.00	115.0000	0.00
P-258	J-211	J-14	210.55	8.00	115.0000	0.00
P-259	J-211	J-212	616.68	6.00	115.0000	0.00
P-260	J-213	J-209	337.43	8.00	115.0000	0.00
P-261	J-354	J-213	142.24	6.00	115.0000	0.00
P-262	J-139	J-352	3989.81	8.00	130.0000	0.00
P-263	J-350	I-Pump-4	71.66	10.00	130.0000	0.00
P-264	O-Pump-4	J-348	54.25	12.00	130.0000	0.00
P-265	J-141	J-344	2324.05	2.00	130.0000	0.00
P-266	J-217	J-216	61.68	10.00	130.0000	0.00
P-267	R-3	J-221	83.57	8.00	130.0000	0.00
P-268	J-220	J-217	219.18	8.00	130.0000	0.00
P-269	J-358	R-2	32.40	10.00	130.0000	0.00
P-270	J-224	J-228	795.97	10.00	130.0000	0.00
P-271	J-216	J-215	192.24	10.00	130.0000	0.00
P-272	J-5	J-215	95.87	6.00	130.0000	0.00
P-273	J-225	J-4	979.15	6.00	115.0000	0.00
P-274	J-351	I-Pump-7	93.02	12.00	115.0000	0.00
P-275	J-197	J-219	343.27	6.00	130.0000	0.00
P-276	J-219	J-202	342.92	8.00	130.0000	0.00
P-277	J-219	J-231	373.14	6.00	130.0000	0.00
P-278	J-222	J-205	217.65	8.00	115.0000	0.00
P-279	J-222	J-225	753.11	10.00	130.0000	0.00
P-280	J-224	J-223	250.09	2.00	115.0000	0.00
P-281	J-214	J-224	292.00	10.00	130.0000	0.00
P-282	J-4	J-214	27.27	6.00	115.0000	0.00
P-283	J-225	J-226	101.87	10.00	130.0000	0.00

P-284	J-226	J-228	18.95	10.00	130.0000	0.00
P-285	J-228	J-227	70.27	10.00	130.0000	0.00
P-286	J-228	J-229	213.50	8.00	130.0000	0.00
P-287	J-229	J-230	320.88	6.00	115.0000	0.00
P-288	J-231	J-222	18.87	6.00	130.0000	0.00
P-289	J-231	J-236	302.45	8.00	130.0000	0.00
P-290	J-232	J-219	308.37	4.00	103.0000	0.00
P-291	J-232	J-233	330.51	8.00	130.0000	0.00
P-292	J-233	J-238	24.29	8.00	130.0000	0.00
P-293	J-234	J-233	392.24	4.00	103.0000	0.00
P-294	J-234	J-241	317.21	8.00	130.0000	0.00
P-295	J-236	J-232	374.67	6.00	130.0000	0.00
P-296	J-235	J-190	29.84	6.00	115.0000	0.00
P-297	J-235	J-237	366.01	6.00	130.0000	0.00
P-298	J-238	J-244	378.31	8.00	130.0000	0.00
P-299	J-237	J-238	371.39	8.00	130.0000	0.00
P-300	J-187	J-239	359.85	8.00	130.0000	0.00
P-301	J-239	J-237	26.46	8.00	130.0000	0.00
P-302	J-239	J-240	171.16	2.00	130.0000	0.00
P-303	J-241	J-236	21.58	8.00	130.0000	0.00
P-304	J-241	J-230	423.21	6.00	115.0000	0.00
P-305	J-234	J-242	748.17	8.00	130.0000	0.00
P-306	J-242	J-243	27.63	8.00	115.0000	0.00
P-307	J-243	J-229	321.09	8.00	115.0000	0.00
P-308	J-243	J-244	759.65	8.00	110.0000	0.00
P-309	J-244	J-234	25.25	8.00	130.0000	0.00
P-310	J-244	J-245	330.81	8.00	130.0000	0.00
P-311	J-245	J-249	178.40	4.00	115.0000	0.00
P-312	J-246	J-238	332.78	8.00	130.0000	0.00
P-313	J-246	J-181	808.52	8.00	130.0000	0.00
P-314	J-182	J-247	373.59	8.00	130.0000	0.00
P-315	J-181	J-247	312.21	6.00	130.0000	0.00
P-316	J-247	J-248	1001.68	8.00	130.0000	0.00
P-317	J-249	J-246	200.74	4.00	115.0000	0.00
P-318	J-248	J-249	320.84	8.00	115.0000	0.00
P-319	J-248	J-279	197.03	8.00	130.0000	0.00
P-320	J-250	J-251	319.79	8.00	110.0000	0.00
P-321	J-251	J-245	385.14	4.00	115.0000	0.00
P-322	J-251	J-252	396.04	4.00	115.0000	0.00
P-323	J-252	J-242	306.68	10.00	130.0000	0.00
P-324	J-252	J-253	342.31	10.00	130.0000	0.00
P-325	J-253	J-250	380.03	8.00	130.0000	0.00
P-326	J-182	J-254	687.69	6.00	130.0000	0.00
P-327	J-254	J-247	308.27	6.00	130.0000	0.00
P-328	J-254	J-255	254.19	6.00	130.0000	0.00
P-329	J-248	J-259	311.97	8.00	115.0000	0.00
P-330	J-256	J-257	341.74	6.00	130.0000	0.00
P-331	J-256	J-258	333.52	4.00	130.0000	0.00
P-332	J-259	J-256	230.01	6.00	130.0000	0.00
P-333	J-257	J-283	167.23	6.00	130.0000	0.00
P-334	J-257	J-260	10.84	6.00	130.0000	0.00
P-335	J-261	J-259	377.99	8.00	115.0000	0.00
P-336	J-260	J-262	150.01	8.00	115.0000	0.00
P-337	J-262	J-355	302.32	8.00	130.0000	0.00

P-338	J-263	J-265	615.94	6.00	115.0000	0.00
P-339	J-265	J-264	209.93	1.00	115.0000	0.00
P-340	J-265	J-284	43.49	6.00	115.0000	0.00
P-341	J-263	J-268	912.41	8.00	130.0000	0.00
P-342	J-268	J-266	291.02	8.00	115.0000	0.00
P-343	J-268	J-269	560.87	8.00	130.0000	0.00
P-344	J-269	J-297	32.15	6.00	130.0000	0.00
P-345	J-270	J-269	295.19	4.00	115.0000	0.00
P-346	J-270	J-272	29.19	8.00	130.0000	0.00
P-347	J-271	J-270	370.30	6.00	115.0000	0.00
P-348	J-271	J-273	342.74	8.00	130.0000	0.00
P-349	J-272	J-274	276.42	2.00	130.0000	0.00
P-350	J-273	J-275	566.36	6.00	115.0000	0.00
P-351	J-275	J-277	977.66	8.00	120.0000	0.00
P-352	J-277	J-253	318.05	10.00	130.0000	0.00
P-353	J-277	J-276	367.93	8.00	130.0000	0.00
P-354	J-276	J-250	306.96	6.00	130.0000	0.00
P-355	J-276	J-281	185.83	6.00	130.0000	0.00
P-356	J-278	J-259	199.45	6.00	130.0000	0.00
P-357	J-279	J-250	362.64	8.00	130.0000	0.00
P-358	J-278	J-279	308.72	8.00	130.0000	0.00
P-359	J-278	J-280	372.70	6.00	130.0000	0.00
P-360	J-280	J-261	211.84	6.00	130.0000	0.00
P-361	J-280	J-282	39.62	6.00	130.0000	0.00
P-362	J-281	J-278	178.15	6.00	130.0000	0.00
P-363	J-282	J-281	513.21	6.00	130.0000	0.00
P-364	J-282	J-267	309.28	4.00	130.0000	0.00
P-365	J-283	J-261	12.74	6.00	130.0000	0.00
P-366	J-284	J-267	258.12	6.00	115.0000	0.00
P-367	J-283	J-284	299.56	6.00	115.0000	0.00
P-368	J-285	J-271	254.55	8.00	130.0000	0.00
P-369	J-285	J-286	271.14	6.00	130.0000	0.00
P-370	J-286	J-287	627.32	4.00	130.0000	0.00
P-371	J-286	J-289	326.47	4.00	130.0000	0.00
P-372	J-4	J-354	610.94	6.00	115.0000	0.00
P-373	J-289	J-290	325.46	4.00	130.0000	0.00
P-374	J-289	J-291	221.23	6.00	130.0000	0.00
P-375	J-290	J-292	301.85	6.00	130.0000	0.00
P-376	J-291	J-339	344.42	6.00	130.0000	0.00
P-377	J-292	J-336	773.16	4.00	115.0000	0.00
P-378	J-293	J-285	40.56	8.00	130.0000	0.00
P-379	J-293	J-294	561.22	8.00	130.0000	0.00
P-380	J-294	J-295	306.50	6.00	115.0000	0.00
P-381	J-294	J-298	293.80	4.00	130.0000	0.00
P-382	J-297	J-293	335.95	6.00	130.0000	0.00
P-383	J-297	J-296	326.94	8.00	130.0000	0.00
P-384	J-298	J-296	278.86	8.00	130.0000	0.00
P-385	J-298	J-300	45.40	4.00	130.0000	0.00
P-386	J-300	J-299	64.22	4.00	130.0000	0.00
P-387	J-300	J-301	298.65	8.00	130.0000	0.00
P-388	J-301	J-303	17.26	8.00	130.0000	0.00
P-389	J-301	J-304	1456.70	10.00	130.0000	0.00
P-390	J-303	J-302	361.28	6.00	130.0000	0.00
P-391	J-303	J-295	332.08	8.00	130.0000	0.00

P-392	J-306	J-142	844.51	10.00	130.0000	0.00
P-393	J-306	J-304	470.98	10.00	130.0000	0.00
P-395	J-307	J-345	38.93	12.00	130.0000	0.00
P-397	J-221	J-352	110.99	12.00	130.0000	0.00
P-398	J-305	J-290	268.47	10.00	115.0000	0.00
P-399	J-305	J-295	270.51	8.00	130.0000	0.00
P-400	J-302	J-310	662.34	8.00	115.0000	0.00
P-401	J-302	J-309	236.76	6.00	130.0000	0.00
P-402	J-302	J-311	320.35	6.00	115.0000	0.00
P-403	J-311	J-312	909.22	8.00	115.0000	0.00
P-404	J-311	J-313	299.56	6.00	115.0000	0.00
P-405	J-312	J-314	72.24	8.00	115.0000	0.00
P-406	J-312	J-315	57.32	8.00	115.0000	0.00
P-407	J-315	J-316	421.91	8.00	130.0000	0.00
P-408	J-315	J-317	1275.17	6.00	130.0000	0.00
P-409	J-316	J-318	393.20	8.00	130.0000	0.00
P-410	J-317	J-316	879.70	6.00	130.0000	0.00
P-411	J-318	J-317	1286.27	6.00	130.0000	0.00
P-412	J-318	J-319	437.62	8.00	115.0000	0.00
P-413	J-319	J-320	726.25	6.00	115.0000	0.00
P-414	J-319	J-321	360.77	8.00	115.0000	0.00
P-415	J-321	J-322	1547.98	4.00	130.0000	0.00
P-416	J-321	J-322	49.48	8.00	115.0000	0.00
P-417	J-322	J-326	393.23	6.00	130.0000	0.00
P-418	J-323	J-335	1414.62	6.00	130.0000	0.00
P-419	J-323	J-325	88.12	8.00	115.0000	0.00
P-420	J-325	J-324	24.02	6.00	130.0000	0.00
P-421	J-326	J-323	1097.74	6.00	130.0000	0.00
P-422	J-326	J-327	404.55	8.00	115.0000	0.00
P-423	J-327	J-329	1189.30	6.00	115.0000	0.00
P-424	J-328	J-332	1177.97	6.00	130.0000	0.00
P-425	J-328	J-330	542.04	6.00	130.0000	0.00
P-426	J-329	J-328	418.21	6.00	130.0000	0.00
P-427	J-329	J-331	55.08	6.00	130.0000	0.00
P-428	J-332	J-327	399.92	6.00	130.0000	0.00
P-429	J-330	J-333	1114.21	6.00	130.0000	0.00
P-430	J-330	J-334	1510.36	6.00	130.0000	0.00
P-431	J-333	J-332	509.28	6.00	130.0000	0.00
P-432	J-334	J-333	388.52	6.00	130.0000	0.00
P-433	J-334	J-336	5729.47	10.00	130.0000	0.00
P-434	J-336	J-305	31.81	10.00	115.0000	0.00
P-435	J-324	J-325	1239.25	6.00	130.0000	0.00
P-436	J-337	J-73	150.44	8.00	130.0000	0.00
P-438	J-339	J-292	47.78	6.00	130.0000	0.00
P-446	R-3	J-221	83.57	12.00	130.0000	0.00
P-448	O-Pump-1	J-141	59.06	12.00	130.0000	0.00
P-449	O-Pump-3	J-141	66.21	12.00	130.0000	0.00
P-450	J-345	I-Pump-1	49.17	12.00	130.0000	0.00
P-451	J-345	I-Pump-2	53.99	12.00	130.0000	0.00
P-452	J-345	I-Pump-3	48.93	12.00	130.0000	0.00
P-453	J-346	J-7	257.28	6.00	115.0000	0.00
P-455	J-348	J-218	164.26	12.00	130.0000	0.00
P-456	O-Pump-5	J-348	39.27	12.00	130.0000	0.00
P-457	J-350	J-358	42.02	10.00	130.0000	0.00

P-458	O-Pump-6	J-348	46.46	12.00	130.0000	0.00
P-459	J-218	J-349	367.16	10.00	130.0000	0.00
P-460	J-350	I-Pump-5	48.76	10.00	130.0000	0.00
P-461	J-350	I-Pump-6	44.47	10.00	130.0000	0.00
P-462	O-Pump-7	J-347	57.76	12.00	115.0000	0.00
P-464	J-351	R-1	81.75	12.00	115.0000	0.00
P-465	O-Pump-9	J-347	77.47	12.00	115.0000	0.00
P-466	J-352	R-3	157.05	8.00	130.0000	0.00
P-467	J-351	I-Pump-9	84.21	12.00	115.0000	0.00
P-483	J-355	J-263	329.66	8.00	130.0000	0.00
P-484	J-355	J-284	313.30	6.00	130.0000	0.00
P-500	J-204	J-206	354.29	8.00	130.0000	0.00
P-501	J-207	J-202	353.39	8.00	130.0000	0.00

P U M P/L O S S E L E M E N T D A T A

THERE IS A DEVICE AT NODE Pump-1 DESCRIBED BY THE FOLLOWING DATA: (ID= 4)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
160.00	0.00	70.00
155.00	250.00	70.00
150.00	400.00	70.00
140.00	500.00	70.00
125.00	600.00	70.00
110.00	700.00	70.00
90.00	800.00	70.00

THERE IS A DEVICE AT NODE Pump-2 DESCRIBED BY THE FOLLOWING DATA: (ID= 5)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
200.00	0.00	70.00
198.00	300.00	70.00
195.00	400.00	70.00
190.00	600.00	70.00
180.00	800.00	70.00
160.00	1000.00	70.00
120.00	1200.00	70.00

THERE IS A DEVICE AT NODE Pump-3 DESCRIBED BY THE FOLLOWING DATA: (ID= 6)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
165.00	0.00	70.00
160.00	500.00	70.00
159.00	750.00	70.00
157.00	1000.00	70.00
140.00	1500.00	70.00
125.00	1750.00	70.00

118.00	1875.00	70.00
107.00	2000.00	70.00
100.00	2100.00	70.00

THERE IS A DEVICE AT NODE Pump-4 DESCRIBED BY THE FOLLOWING DATA: (ID= 7)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
195.00	0.00	70.00
180.00	250.00	70.00
174.00	400.00	70.00
168.00	500.00	70.00
145.00	675.00	70.00
129.00	800.00	70.00
108.00	900.00	70.00

THERE IS A DEVICE AT NODE Pump-5 .....> (ID= 7)

THERE IS A DEVICE AT NODE Pump-6 DESCRIBED BY THE FOLLOWING DATA: (ID= 8)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
176.00	0.00	70.00
165.00	200.00	70.00
160.00	300.00	70.00
145.00	425.00	70.00
115.00	550.00	70.00

THERE IS A DEVICE AT NODE Pump-7 .....> (ID= 6)

THERE IS A DEVICE AT NODE Pump-9 DESCRIBED BY THE FOLLOWING DATA: (ID= 12)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
180.00	0.00	70.00
165.00	200.00	70.00
160.00	400.00	70.00
140.00	500.00	70.00
120.00	575.00	70.00

N O D E D A T A

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	JUNCTION ELEVATION (ft)	EXTERNAL GRADE (ft)
J-1		6.17	170.00	

J-2	6.17	170.00
J-3	6.17	170.00
J-4	6.17	170.00
J-5	6.17	170.00
J-6	6.17	170.00
J-7	6.17	170.00
J-8	6.17	170.00
J-9	6.17	170.00
J-10	6.17	170.00
J-11	6.17	170.00
J-12	6.17	170.00
J-13	6.17	170.00
J-14	6.17	170.00
J-15	6.17	170.00
J-16	6.17	170.00
J-17	6.17	170.00
J-18	6.17	170.00
J-19	6.17	170.00
J-20	6.17	170.00
J-21	6.17	170.00
J-22	6.17	170.00
J-23	6.17	170.00
J-24	6.17	170.00
J-25	6.17	170.00
J-26	6.17	170.00
J-27	6.17	170.00
J-28	6.17	170.00
J-29	6.17	170.00
J-30	6.17	170.00
J-31	6.17	170.00
J-32	6.17	170.00
J-33	6.17	170.00
J-34	6.17	170.00
J-35	6.17	170.00
J-36	6.17	170.00
J-37	6.17	170.00
J-38	6.17	170.00
J-39	6.17	170.00
J-40	6.17	170.00
J-41	6.17	170.00
J-42	6.17	170.00
J-43	6.17	170.00
J-44	50.00	170.00
J-45	6.17	170.00
J-46	6.17	170.00
J-47	6.17	170.00
J-48	6.17	170.00
J-49	6.17	170.00
J-50	6.17	170.00
J-51	6.17	170.00
J-52	6.17	170.00
J-53	6.17	170.00
J-54	6.17	170.00
J-55	6.17	170.00

J-56	6.17	170.00
J-57	6.17	170.00
J-58	6.17	170.00
J-59	6.17	170.00
J-60	50.00	170.00
J-61	6.17	170.00
J-62	6.17	170.00
J-63	6.17	170.00
J-64	6.17	170.00
J-65	6.17	170.00
J-66	6.17	170.00
J-67	6.17	170.00
J-68	6.17	170.00
J-69	6.17	170.00
J-70	6.17	170.00
J-71	6.17	170.00
J-72	6.17	170.00
J-73	6.17	170.00
J-74	6.17	170.00
J-75	6.17	170.00
J-76	50.00	170.00
J-77	6.17	170.00
J-78	6.17	170.00
J-79	6.17	170.00
J-80	6.17	170.00
J-81	6.17	170.00
J-82	6.17	170.00
J-83	6.17	170.00
J-84	6.17	170.00
J-85	6.17	170.00
J-86	6.17	170.00
J-87	6.17	170.00
J-88	6.17	170.00
J-89	6.17	170.00
J-90	6.17	170.00
J-91	50.00	170.00
J-92	6.17	170.00
J-93	6.17	170.00
J-94	6.17	170.00
J-95	6.17	170.00
J-96	6.17	170.00
J-97	6.17	170.00
J-98	6.17	170.00
J-99	6.17	170.00
J-100	6.17	170.00
J-101	6.17	170.00
J-102	6.17	170.00
J-103	6.17	170.00
J-104	6.17	170.00
J-105	6.17	170.00
J-106	6.17	170.00
J-107	6.17	170.00
J-108	6.17	170.00
J-109	6.17	170.00

J-110	6.17	170.00
J-111	6.17	170.00
J-112	6.17	170.00
J-113	6.17	170.00
J-114	6.17	170.00
J-115	6.17	170.00
J-116	6.17	170.00
J-117	6.17	170.00
J-118	6.17	170.00
J-119	6.17	170.00
J-120	6.17	170.00
J-121	6.17	170.00
J-122	6.17	170.00
J-123	6.17	170.00
J-124	6.17	170.00
J-125	6.17	170.00
J-126	6.17	170.00
J-127	6.17	170.00
J-128	6.17	170.00
J-129	6.17	170.00
J-130	6.17	170.00
J-131	6.17	170.00
J-132	6.17	170.00
J-133	6.17	170.00
J-134	6.17	170.00
J-135	6.17	170.00
J-136	6.17	170.00
J-137	6.17	170.00
J-138	6.17	170.00
J-139	6.17	170.00
J-140	6.17	170.00
J-141	6.17	170.00
J-142	6.17	170.00
J-143	6.17	170.00
J-144	6.17	170.00
J-145	6.17	170.00
J-146	6.17	170.00
J-147	6.17	170.00
J-148	6.17	170.00
J-149	6.17	170.00
J-150	6.17	170.00
J-151	6.17	170.00
J-152	6.17	170.00
J-153	6.17	170.00
J-154	6.17	170.00
J-155	6.17	170.00
J-156	6.17	170.00
J-157	6.17	170.00
J-158	6.17	170.00
J-159	6.17	170.00
J-160	6.17	170.00
J-161	6.17	170.00
J-162	6.17	170.00
J-163	6.17	170.00

J-164	6.17	170.00
J-165	6.17	170.00
J-166	6.17	170.00
J-167	6.17	170.00
J-168	6.17	170.00
J-169	6.17	170.00
J-170	6.17	170.00
J-171	6.17	170.00
J-172	6.17	170.00
J-173	6.17	170.00
J-174	6.17	170.00
J-175	6.17	170.00
J-176	6.17	170.00
J-177	6.17	170.00
J-178	6.17	170.00
J-179	6.17	170.00
J-180	6.17	170.00
J-181	6.17	170.00
J-182	6.17	170.00
J-183	6.17	170.00
J-184	6.17	170.00
J-185	6.17	170.00
J-186	6.17	170.00
J-187	6.17	170.00
J-188	6.17	170.00
J-189	6.17	170.00
J-190	6.17	170.00
J-191	6.17	170.00
J-192	6.17	170.00
J-193	6.17	170.00
J-194	6.17	170.00
J-195	6.17	170.00
J-196	6.17	170.00
J-197	6.17	170.00
J-198	6.17	170.00
J-199	6.17	170.00
J-200	6.17	170.00
J-201	6.17	170.00
J-202	6.17	170.00
J-203	6.17	170.00
J-204	6.17	170.00
J-205	6.17	170.00
J-206	6.17	170.00
J-207	6.17	170.00
J-208	6.17	170.00
J-209	6.17	170.00
J-210	6.17	170.00
J-211	6.17	170.00
J-212	6.17	170.00
J-213	6.17	170.00
J-214	6.17	170.00
J-215	6.17	170.00
J-216	6.17	170.00
J-217	6.17	170.00

J-218		6.17	170.00
J-219		6.17	170.00
J-220		6.17	170.00
J-221		6.17	170.00
J-222		6.17	170.00
J-223		6.17	170.00
J-224		6.17	170.00
J-225		6.17	170.00
J-226		6.17	170.00
J-227		6.17	170.00
J-228		6.17	170.00
J-229		6.17	170.00
J-230		6.17	170.00
J-231		6.17	170.00
J-232		6.17	170.00
J-233		6.17	170.00
J-234		6.17	170.00
J-235		6.17	170.00
J-236		6.17	170.00
J-237		6.17	170.00
J-238		6.17	170.00
J-239		6.17	170.00
J-240		6.17	170.00
J-241		6.17	170.00
J-242		6.17	170.00
J-243		6.17	170.00
J-244		6.17	170.00
J-245		6.17	170.00
J-246		6.17	170.00
J-247		6.17	170.00
J-248		6.17	170.00
J-249		6.17	170.00
J-250		6.17	170.00
J-251		6.17	170.00
J-252		6.17	170.00
J-253		6.17	170.00
J-254		6.17	170.00
J-255		6.17	170.00
J-256	FIRE	1333.00	170.00
J-257		6.17	170.00
J-258		6.17	170.00
J-259		6.17	170.00
J-260		6.17	170.00
J-261	FIRE	1333.00	170.00
J-262		6.17	170.00
J-263		6.17	170.00
J-264		6.17	170.00
J-265		6.17	170.00
J-266		6.17	170.00
J-267		6.17	170.00
J-268		6.17	170.00
J-269		6.17	170.00
J-270		6.17	170.00
J-271		6.17	170.00

J-272		6.17	170.00
J-273		6.17	170.00
J-274		6.17	170.00
J-275		6.17	170.00
J-276		6.17	170.00
J-277		6.17	170.00
J-278	FIRE	1333.00	170.00
J-279		6.17	170.00
J-280		6.17	170.00
J-281		6.17	170.00
J-282		6.17	170.00
J-283		6.17	170.00
J-284		6.17	170.00
J-285		6.17	170.00
J-286		6.17	170.00
J-287		6.17	170.00
J-289		6.17	170.00
J-290		6.17	170.00
J-291		6.17	170.00
J-292		6.17	170.00
J-293		6.17	170.00
J-294		6.17	170.00
J-295		6.17	170.00
J-296		6.17	170.00
J-297		6.17	170.00
J-298		6.17	170.00
J-299		6.17	170.00
J-300		6.17	170.00
J-301		6.17	170.00
J-302		6.17	170.00
J-303		6.17	170.00
J-304		6.17	170.00
J-305		6.17	170.00
J-306		6.17	170.00
J-307		6.17	170.00
J-309	Boise Cascad	6.17	170.00
J-310		6.17	170.00
J-311		6.17	170.00
J-312		6.17	170.00
J-313		6.17	170.00
J-314		6.17	170.00
J-315		6.17	170.00
J-316		6.17	170.00
J-317		6.17	170.00
J-318		6.17	170.00
J-319		6.17	170.00
J-320		6.17	170.00
J-321		6.17	170.00
J-322		6.17	170.00
J-323		6.17	170.00
J-324		6.17	170.00
J-325		6.17	170.00
J-326		6.17	170.00
J-327		6.17	170.00

J-328		6.17	170.00	
J-329		6.17	170.00	
J-330		6.17	170.00	
J-331		6.17	170.00	
J-332		6.17	170.00	
J-333		6.17	170.00	
J-334		6.17	170.00	
J-335		6.17	170.00	
J-336		6.17	170.00	
J-337		6.17	170.00	
J-339		6.17	170.00	
J-344		6.17	170.00	
J-345		6.17	170.00	
J-346		6.17	170.00	
J-347		6.17	170.00	
J-348		6.17	170.00	
J-349		6.17	170.00	
J-350		6.17	170.00	
J-351		6.17	170.00	
J-352		6.17	170.00	
J-354		6.17	170.00	
J-355		6.17	170.00	
J-358		6.17	170.00	
J-2_		6.17	170.00	
O-Pump-1	NORTH BP # 1	0.00	170.00	
O-Pump-2	NORTH BP # 2	0.00	170.00	
O-Pump-3	NORTH BP # 3	0.00	170.00	
O-Pump-4	SOUTH BP # 2	0.00	170.00	
O-Pump-5	SOUTH BP # 1	0.00	170.00	
O-Pump-6	SOUTH BP # 3	0.00	170.00	
I-Pump-7	MONMOUTH ST	0.00	170.00	
I-Pump-9	MONMOUTH ST	0.00	170.00	
R-1	MONMOUTH ST	----	170.00	200.00
R-2	SOUTH RESERV	----	171.00	191.00
R-3	POLK RESERVO	----	170.00	192.00
I-Pump-4	SOUTH BP # 2	0.00	170.00	
I-Pump-1	NORTH BP # 1	0.00	170.00	
I-Pump-2	NORTH BP # 2	0.00	170.00	
I-Pump-3	NORTH BP # 3	0.00	170.00	
I-Pump-5	SOUTH BP # 1	0.00	170.00	
I-Pump-6	SOUTH BP # 3	0.00	170.00	
O-Pump-7	MONMOUTH ST	0.00	170.00	
O-Pump-9	MONMOUTH ST	0.00	170.00	

O U T P U T O P T I O N D A T A

OUTPUT SELECTION: ALL RESULTS ARE INCLUDED IN THE TABULATED OUTPUT

MAXIMUM AND MINIMUM PRESSURES	=	5
MAXIMUM AND MINIMUM VELOCITIES	=	5
MAXIMUM AND MINIMUM HEAD LOSS/1000	=	5

S Y S T E M C O N F I G U R A T I O N

NUMBER OF PIPES .....(p) = 458
NUMBER OF END NODES .....(j) = 357
NUMBER OF PRIMARY LOOPS .....(l) = 99
NUMBER OF SUPPLY NODES .....(f) = 3
NUMBER OF SUPPLY ZONES .....(z) = 1

==========

Case: 0

RESULTS OBTAINED AFTER 8 TRIALS: ACCURACY = 0.00004

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)

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

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE NAME	NODE NUMBERS #1	#2	FLOWRATE gpm	HEAD LOSS ft	MINOR LOSS ft	LINE VELO. ft/s	HL+ML/ 1000 ft/f	HL/ 1000 ft/f
P-1	J-2	J-1	150.47	6.13	0.00	3.84	20.09	20.09
P-2	J-3	J-2	156.64	3.66	0.00	4.00	21.64	21.64
P-3	J-349	J-3	162.81	15.87	0.00	4.16	23.25	23.25
P-4	J-2_	J-5	94.94	0.19	0.00	1.08	0.95	0.95
P-5	J-5	J-346	64.09	0.21	0.00	0.73	0.57	0.57
P-6	J-6	J-2_	58.32	0.15	0.00	0.66	0.38	0.38
P-7	J-9	J-6	69.61	0.32	0.00	0.79	0.53	0.53
P-8	J-6	J-8	5.12	0.00	0.00	0.06	0.00	0.00
P-9	J-9	J-12	56.18	0.18	0.00	0.64	0.36	0.36

	P-10	J-8	J-2_	42.79	0.14	0.00	0.49	0.22
0.22								
	P-11	J-1	J-10	6.17	0.02	0.00	0.16	0.05
0.05								
	P-12	J-9	J-11	6.17	0.00	0.00	0.07	0.01
0.01								
	P-13	J-12	J-8	43.84	0.14	0.00	0.50	0.23
0.23								
	P-14	J-12	J-13	6.17	0.00	0.00	0.07	0.01
0.01								
	P-15	J-7	J-211	51.75	0.01	0.00	0.33	0.10
0.10								
	P-16	J-14	J-15	79.93	0.02	0.00	0.51	0.21
0.21								
	P-17	J-16	J-14	46.69	0.01	0.00	0.30	0.08
0.08								
	P-18	J-15	J-17	6.17	0.01	0.00	0.16	0.05
0.05								
	P-19	J-15	J-36	67.59	0.01	0.00	0.43	0.16
0.16								
	P-20	J-19	J-18	1.36	0.00	0.00	0.01	0.00
0.00								
	P-21	J-20	J-18	4.81	0.00	0.00	0.03	0.00
0.00								
	P-22	J-21	J-20	10.98	0.00	0.00	0.07	0.01
0.01								
	P-23	J-22	J-21	17.15	0.00	0.00	0.11	0.01
0.01								
	P-24	J-22	J-23	19.59	0.00	0.00	0.13	0.02
0.02								
	P-25	J-23	J-24	6.17	0.00	0.00	0.07	0.01
0.01								
	P-26	J-23	J-25	7.25	0.00	0.00	0.05	0.00
0.00								
	P-27	J-25	J-19	7.53	0.00	0.00	0.05	0.00
0.00								
	P-28	J-40	J-25	6.45	0.00	0.00	0.04	0.00
0.00								
	P-29	J-27	J-26	1.05	0.00	0.00	0.01	0.00
0.00								
	P-30	J-27	J-28	21.20	0.02	0.00	0.24	0.06
0.06								
	P-31	J-28	J-29	6.17	0.00	0.00	0.07	0.01
0.01								
	P-32	J-28	J-30	8.86	0.00	0.00	0.06	0.00
0.00								
	P-33	J-32	J-30	6.83	0.00	0.00	0.08	0.01
0.01								
	P-34	J-30	J-31	9.52	0.00	0.00	0.06	0.00
0.00								
	P-35	J-26	J-32	28.16	0.02	0.00	0.18	0.02
0.02								
	P-36	J-32	J-33	15.16	0.00	0.00	0.10	0.01
0.01								

P-37	J-33	J-31	2.82	0.00	0.00	0.03	0.00
0.00							
P-38	J-33	J-34	6.17	0.00	0.00	0.04	0.00
0.00							
P-39	J-31	J-35	6.17	0.00	0.00	0.04	0.00
0.00							
P-40	J-36	J-22	42.91	0.02	0.00	0.27	0.07
0.07							
P-41	J-36	J-38	18.51	0.00	0.00	0.12	0.01
0.01							
P-42	J-38	J-37	6.17	0.00	0.00	0.04	0.00
0.00							
P-43	J-38	J-39	6.17	0.01	0.00	0.16	0.05
0.05							
P-44	J-40	J-27	28.42	0.01	0.00	0.18	0.02
0.02							
P-45	J-41	J-40	41.05	0.01	0.00	0.26	0.06
0.06							
P-46	J-208	J-41	30.99	0.02	0.00	0.20	0.04
0.04							
P-47	J-42	J-41	16.23	0.00	0.00	0.10	0.01
0.01							
P-48	J-43	J-26	33.28	0.04	0.00	0.21	0.03
0.03							
P-49	J-43	J-42	22.40	0.01	0.00	0.14	0.02
0.02							
P-50	J-43	J-44	50.00	0.88	0.00	1.28	2.41
2.41							
P-51	J-45	J-43	111.84	0.11	0.00	0.71	0.37
0.37							
P-52	J-46	J-45	70.08	0.06	0.00	0.45	0.17
0.17							
P-53	J-47	J-45	47.94	0.10	0.00	0.54	0.27
0.27							
P-54	J-47	J-48	6.17	0.00	0.00	0.07	0.01
0.01							
P-55	J-49	J-47	60.28	0.15	0.00	0.68	0.41
0.41							
P-56	J-49	J-50	6.17	0.35	0.00	0.63	1.26
1.26							
P-57	J-52	J-49	72.62	0.00	0.00	0.46	0.14
0.14							
P-58	J-52	J-51	91.99	0.08	0.00	0.59	0.22
0.22							
P-59	J-53	J-52	170.77	0.92	0.00	1.94	2.81
2.81							
P-60	J-53	J-192	289.37	0.17	0.00	3.28	7.46
7.46							
P-61	J-54	J-53	466.31	13.35	0.00	5.29	18.05
18.05							
P-62	J-61	J-54	20.64	0.00	0.00	0.13	0.01
0.01							
P-63	J-55	J-62	306.35	3.20	0.00	3.48	8.29
8.29							

P-64	J-63	J-55	53.92	0.22	0.00	0.61	0.33
0.33							
P-65	J-69	J-57	349.58	0.48	0.00	3.97	10.59
10.59							
P-66	J-57	J-58	75.99	0.06	0.00	0.48	0.15
0.15							
P-67	J-59	J-58	654.98	0.75	0.00	4.18	8.34
8.34							
P-68	J-58	J-173	724.80	2.87	0.00	4.63	10.07
10.07							
P-69	J-57	J-61	267.43	3.02	0.00	3.03	8.09
8.09							
P-70	J-56	J-60	201.66	1.46	0.00	2.29	3.82
3.82							
P-71	J-62	J-54	451.84	0.59	0.00	5.13	17.03
17.03							
P-72	J-60	J-62	151.66	1.91	0.00	1.72	2.83
2.83							
P-73	J-63	J-56	207.83	0.05	0.00	2.36	4.04
4.04							
P-74	J-64	J-63	267.92	0.50	0.00	1.71	1.59
1.59							
P-75	J-65	J-64	134.74	2.01	0.00	1.53	2.27
2.27							
P-76	J-66	J-64	139.36	0.34	0.00	0.89	0.47
0.47							
P-77	J-66	J-55	349.11	1.06	0.00	2.23	3.26
3.26							
P-78	J-67	J-66	494.63	2.01	0.00	3.16	6.22
6.22							
P-79	J-68	J-67	227.62	1.77	0.00	2.58	6.00
6.00							
P-80	J-67	J-65	140.91	0.33	0.00	1.60	2.47
2.47							
P-81	J-55	J-69	90.51	0.29	0.00	1.03	0.87
0.87							
P-82	J-70	J-67	414.09	3.03	0.00	2.64	4.48
4.48							
P-83	J-68	J-69	265.25	5.12	0.00	3.01	7.97
7.97							
P-84	J-70	J-79	118.99	0.65	0.00	1.35	1.81
1.81							
P-85	J-72	J-70	539.25	1.06	0.00	6.12	29.65
29.65							
P-86	J-78	J-71	186.51	0.30	0.00	1.19	1.02
1.02							
P-87	J-71	J-75	74.68	0.08	0.00	0.48	0.19
0.19							
P-88	J-73	J-337	1.73	0.00	0.00	0.01	0.00
0.00							
P-89	J-74	J-73	12.34	0.00	0.00	0.08	0.01
0.01							
P-90	J-75	J-74	18.51	0.00	0.00	0.12	0.01
0.01							

P-91	J-75	J-76	50.00	0.03	0.00	0.32	0.09
0.09							
P-92	J-71	J-72	321.05	5.55	0.00	3.64	11.35
11.35							
P-93	J-77	J-72	224.37	1.69	0.00	2.55	5.84
5.84							
P-94	J-78	J-77	93.80	4.15	0.00	2.39	8.37
8.37							
P-95	J-83	J-78	286.48	0.73	0.00	3.25	9.19
9.19							
P-96	J-79	J-68	499.04	0.61	0.00	5.66	25.69
25.69							
P-97	J-80	J-79	386.22	3.72	0.00	4.38	12.73
12.73							
P-98	J-81	J-80	392.39	1.09	0.00	2.50	3.23
3.23							
P-99	J-81	J-77	136.74	1.40	0.00	1.55	1.86
1.86							
P-100	J-94	J-82	493.53	0.32	0.00	3.15	4.94
4.94							
P-101	J-82	J-83	298.82	0.69	0.00	1.91	2.45
2.45							
P-102	J-83	J-84	6.17	0.01	0.00	0.16	0.05
0.05							
P-103	J-82	J-100	188.55	0.06	0.00	0.53	0.12
0.12							
P-104	J-86	J-71	215.39	0.37	0.00	1.37	1.06
1.06							
P-105	J-85	J-86	221.56	1.22	0.00	1.41	1.12
1.12							
P-106	J-85	J-87	56.39	0.01	0.00	0.16	0.01
0.01							
P-107	J-87	J-88	6.17	0.00	0.00	0.07	0.01
0.01							
P-108	J-87	J-104	44.05	0.00	0.00	0.12	0.01
0.01							
P-109	J-89	J-90	6.17	0.00	0.00	0.04	0.00
0.00							
P-110	J-89	J-92	56.17	0.44	0.00	0.64	0.45
0.45							
P-111	J-92	J-91	50.00	32.21	0.00	5.11	60.84
60.84							
P-112	J-93	J-168	1362.30	6.39	0.00	8.69	32.39
32.39							
P-113	J-347	J-93	1855.73	0.74	0.00	5.26	10.00
10.00							
P-114	J-93	J-94	487.26	3.19	0.00	3.11	4.82
4.82							
P-115	J-95	J-94	12.45	0.01	0.00	0.14	0.02
0.02							
P-116	J-95	J-96	6.17	0.01	0.00	0.16	0.04
0.04							
P-117	J-98	J-95	24.79	0.02	0.00	0.28	0.08
0.08							

P-118	J-98	J-97	6.17	0.07	0.00	0.63	1.26
1.26							
P-119	J-99	J-98	37.13	0.06	0.00	0.42	0.17
0.17							
P-120	J-100	J-85	284.12	0.06	0.00	0.81	0.25
0.25							
P-121	J-99	J-100	101.74	0.47	0.00	1.15	1.35
1.35							
P-122	J-101	J-99	145.04	0.14	0.00	1.65	2.60
2.60							
P-123	J-101	J-102	67.65	0.43	0.00	0.77	0.63
0.63							
P-124	J-103	J-101	218.86	1.06	0.00	2.48	5.58
5.58							
P-125	J-104	J-89	68.51	0.01	0.00	0.19	0.02
0.02							
P-126	J-107	J-104	30.63	0.01	0.00	0.13	0.01
0.01							
P-127	J-106	J-105	6.17	0.00	0.00	0.04	0.00
0.00							
P-128	J-108	J-106	55.31	0.08	0.00	0.35	0.11
0.11							
P-129	J-106	J-107	42.97	0.01	0.00	0.18	0.02
0.02							
P-130	J-107	J-109	6.17	0.01	0.00	0.16	0.05
0.05							
P-131	J-102	J-108	61.48	0.15	0.00	0.39	0.13
0.13							
P-132	J-110	J-103	30.32	0.43	0.00	0.77	1.03
1.03							
P-133	J-110	J-111	6.17	0.43	0.00	0.63	1.58
1.58							
P-134	J-112	J-110	42.66	0.15	0.00	1.09	1.95
1.95							
P-135	J-112	J-113	6.17	0.00	0.00	0.07	0.01
0.01							
P-136	J-115	J-112	55.00	0.07	0.00	0.62	0.43
0.43							
P-137	J-114	J-103	194.71	1.17	0.00	2.21	4.49
4.49							
P-138	J-114	J-115	67.34	0.53	0.00	0.76	0.63
0.63							
P-139	J-115	J-116	6.17	0.01	0.00	0.16	0.05
0.05							
P-140	J-117	J-114	268.22	1.51	0.00	1.71	1.85
1.85							
P-141	J-117	J-152	2.42	0.00	0.00	0.02	0.00
0.00							
P-142	J-122	J-117	276.81	1.17	0.00	1.77	2.12
2.12							
P-143	J-120	J-119	6.37	0.00	0.00	0.07	0.01
0.01							
P-144	J-123	J-120	73.92	0.21	0.00	0.84	0.75
0.75							

P-145	J-120	J-122	61.38	0.29	0.00	0.70	0.53
0.53							
P-146	J-123	J-119	70.71	0.21	0.00	0.80	0.69
0.69							
P-147	J-124	J-123	150.80	0.21	0.00	0.96	0.69
0.69							
P-148	J-129	J-124	163.14	0.25	0.00	1.04	0.80
0.80							
P-149	J-124	J-125	6.17	0.01	0.00	0.16	0.05
0.05							
P-150	J-121	J-126	266.96	0.46	0.00	1.70	1.99
1.99							
P-151	J-126	J-127	53.75	0.05	0.00	0.34	0.10
0.10							
P-152	J-127	J-128	6.17	0.00	0.00	0.04	0.00
0.00							
P-153	J-126	J-129	207.04	0.01	0.00	1.32	1.24
1.24							
P-154	J-127	J-130	41.41	0.02	0.00	0.26	0.06
0.06							
P-155	J-130	J-122	221.60	0.90	0.00	1.41	1.41
1.41							
P-156	J-135	J-130	186.36	0.24	0.00	1.19	0.81
0.81							
P-157	J-121	J-131	137.41	0.14	0.00	0.88	0.46
0.46							
P-158	J-131	J-132	6.17	0.00	0.00	0.04	0.00
0.00							
P-159	J-131	J-134	125.07	0.10	0.00	0.80	0.39
0.39							
P-160	J-134	J-133	6.17	0.00	0.00	0.04	0.00
0.00							
P-161	J-143	J-135	79.80	0.12	0.00	0.51	0.17
0.17							
P-162	J-134	J-135	112.73	0.04	0.00	0.72	0.32
0.32							
P-163	J-121	J-136	22.03	0.04	0.00	0.25	0.06
0.06							
P-164	J-145	J-136	83.41	0.05	0.00	0.53	0.18
0.18							
P-165	J-138	J-137	125.64	0.98	0.00	1.43	1.59
1.59							
P-166	J-138	J-121	432.57	0.99	0.00	2.76	3.87
3.87							
P-167	J-140	J-138	564.38	12.40	0.00	3.60	6.33
6.33							
P-168	J-140	J-306	364.02	0.63	0.00	1.49	0.95
0.95							
P-169	J-142	J-140	934.57	8.38	0.00	3.82	5.44
5.44							
P-170	J-141	J-142	2286.00	5.43	0.00	9.34	28.49
28.49							
P-171	J-221	J-307	2310.68	0.39	0.00	6.55	11.96
11.96							

P-172	O-Pump-2	J-141	1024.23	0.13	0.00	2.91	2.65
2.65							
P-173	J-150	J-143	92.14	0.07	0.00	0.59	0.22
0.22							
P-174	J-143	J-144	6.17	0.00	0.00	0.07	0.01
0.01							
P-175	J-137	J-145	119.47	0.01	0.00	0.76	0.36
0.36							
P-176	J-145	J-146	29.89	0.09	0.00	0.34	0.11
0.11							
P-177	J-146	J-147	6.17	0.00	0.00	0.07	0.01
0.01							
P-178	J-146	J-148	17.55	0.02	0.00	0.20	0.04
0.04							
P-179	J-148	J-149	6.17	0.00	0.00	0.07	0.01
0.01							
P-180	J-148	J-151	5.21	0.00	0.00	0.06	0.00
0.00							
P-181	J-136	J-150	99.27	0.06	0.00	0.63	0.25
0.25							
P-182	J-150	J-151	0.96	0.00	0.00	0.01	0.00
0.00							
P-183	J-152	J-118	6.17	0.00	0.00	0.07	0.01
0.01							
P-184	J-153	J-152	9.92	0.00	0.00	0.06	0.00
0.00							
P-185	J-155	J-153	16.09	1.36	0.00	1.64	7.46
7.46							
P-186	J-155	J-156	18.51	1.36	0.00	1.89	9.66
9.66							
P-187	J-156	J-154	6.17	0.17	0.00	0.63	1.26
1.26							
P-188	J-156	J-158	6.17	0.00	0.00	0.07	0.01
0.01							
P-189	J-157	J-155	40.77	0.02	0.00	0.46	0.20
0.20							
P-190	J-159	J-157	53.11	0.02	0.00	0.34	0.10
0.10							
P-191	J-157	J-160	6.17	0.26	0.00	0.63	1.26
1.26							
P-192	J-119	J-159	70.91	0.05	0.00	0.45	0.17
0.17							
P-193	J-159	J-161	11.63	0.00	0.00	0.07	0.01
0.01							
P-194	J-161	J-162	6.17	0.01	0.00	0.16	0.05
0.05							
P-195	J-163	J-161	0.71	0.00	0.00	0.00	0.00
0.00							
P-196	J-163	J-164	6.17	0.01	0.00	0.16	0.05
0.05							
P-197	J-165	J-163	13.05	0.00	0.00	0.08	0.01
0.01							
P-198	J-165	J-166	6.17	0.01	0.00	0.16	0.05
0.05							

P-199	J-167	J-165	25.39	0.25	0.00	0.65	0.74
0.74							
P-200	J-129	J-167	37.73	0.47	0.00	0.96	1.55
1.55							
P-201	J-349	J-214	1918.23	15.45	0.00	7.84	20.59
20.59							
P-202	J-81	J-171	814.66	7.85	0.00	5.20	12.50
12.50							
P-203	J-168	J-81	1349.96	1.30	0.00	8.62	31.85
31.85							
P-204	J-168	J-170	6.17	0.02	0.00	0.16	0.04
0.04							
P-205	J-171	J-59	661.15	2.47	0.00	4.22	8.49
8.49							
P-206	J-171	J-174	147.34	5.92	0.00	3.76	15.40
15.40							
P-207	J-173	J-183	794.88	0.53	0.00	5.07	11.94
11.94							
P-208	J-174	J-172	64.92	0.00	0.00	0.41	0.12
0.12							
P-209	J-174	J-173	76.25	0.18	0.00	0.87	0.63
0.63							
P-210	J-172	J-177	12.34	0.02	0.00	0.14	0.03
0.03							
P-211	J-172	J-176	46.41	0.02	0.00	0.30	0.06
0.06							
P-212	J-177	J-175	6.17	0.56	0.00	0.63	1.26
1.26							
P-213	J-176	J-179	40.24	18.22	0.00	4.11	40.69
40.69							
P-214	J-178	J-179	732.02	3.22	0.00	4.67	10.25
10.25							
P-215	J-179	J-180	766.09	0.74	0.00	4.89	11.15
11.15							
P-216	J-180	J-181	344.19	0.95	0.00	2.20	2.53
2.53							
P-217	J-180	J-182	415.73	4.52	0.00	4.72	14.59
14.59							
P-218	J-61	J-183	240.62	0.44	0.00	1.54	1.31
1.31							
P-219	J-183	J-178	1029.33	14.31	0.00	6.57	19.27
19.27							
P-220	J-178	J-184	291.15	0.02	0.00	1.86	1.86
1.86							
P-221	J-185	J-184	35.24	0.05	0.00	0.90	1.09
1.09							
P-222	J-185	J-186	7.85	0.37	0.00	0.80	1.97
1.97							
P-223	J-184	J-186	320.22	0.32	0.00	2.04	2.22
2.22							
P-224	J-186	J-188	321.90	0.48	0.00	2.05	2.24
2.24							
P-225	J-188	J-187	350.28	0.14	0.00	2.24	2.62
2.62							

P-226	J-189	J-188	34.55	0.05	0.00	0.39	0.15
0.15							
P-227	J-191	J-189	70.05	1.40	0.00	1.79	3.89
3.89							
P-228	J-189	J-190	29.33	0.05	0.00	0.33	0.11
0.11							
P-229	J-191	J-185	49.27	0.60	0.00	1.26	2.02
2.02							
P-230	J-194	J-191	125.49	0.06	0.00	1.42	1.59
1.59							
P-231	J-192	J-195	145.37	0.73	0.00	1.65	2.08
2.08							
P-232	J-194	J-193	6.17	0.32	0.00	0.63	1.26
1.26							
P-233	J-192	J-194	137.83	0.54	0.00	1.56	1.89
1.89							
P-234	J-195	J-51	51.06	0.10	0.00	0.58	0.30
0.30							
P-235	J-195	J-196	88.14	0.35	0.00	1.00	0.83
0.83							
P-236	J-196	J-235	161.45	0.97	0.00	1.83	3.18
3.18							
P-237	J-197	J-196	79.48	0.03	0.00	0.90	0.68
0.68							
P-238	J-198	J-197	113.09	0.14	0.00	0.72	0.40
0.40							
P-239	J-199	J-198	73.58	0.06	0.00	0.47	0.15
0.15							
P-240	J-51	J-199	136.88	0.02	0.00	0.87	0.46
0.46							
P-241	J-199	J-200	57.12	0.06	0.00	0.36	0.09
0.09							
P-242	J-200	J-46	76.25	0.04	0.00	0.49	0.20
0.20							
P-243	J-201	J-200	25.29	0.01	0.00	0.16	0.03
0.03							
P-244	J-201	J-198	22.36	0.01	0.00	0.14	0.02
0.02							
P-245	J-203	J-201	53.83	0.04	0.00	0.34	0.10
0.10							
P-246	J-202	J-198	23.32	0.01	0.00	0.15	0.02
0.02							
P-247	J-203	J-207	37.65	0.01	0.00	0.24	0.04
0.04							
P-248	J-204	J-202	120.25	0.13	0.00	0.77	0.36
0.36							
P-249	J-205	J-204	7.83	0.00	0.00	0.05	0.00
0.00							
P-250	J-1	J-9	138.13	1.08	0.00	1.57	1.90
1.90							
P-251	J-167	J-169	6.17	0.00	0.00	0.04	0.00
0.00							
P-252	J-206	J-207	23.05	0.23	0.00	0.59	0.62
0.62							

P-253	J-213	J-206	147.82	0.19	0.00	0.94	0.66
0.66							
P-254	J-16	J-208	43.33	0.02	0.00	0.28	0.07
0.07							
P-255	J-208	J-210	6.17	0.01	0.00	0.07	0.01
0.01							
P-256	J-209	J-203	97.64	0.01	0.00	0.62	0.31
0.31							
P-257	J-209	J-16	96.19	0.23	0.00	0.61	0.30
0.30							
P-258	J-211	J-14	39.41	0.01	0.00	0.25	0.06
0.06							
P-259	J-211	J-212	6.17	0.00	0.00	0.07	0.01
0.01							
P-260	J-213	J-209	200.00	0.39	0.00	1.28	1.16
1.16							
P-261	J-354	J-213	353.99	1.93	0.00	4.02	13.60
13.60							
P-262	J-352	J-139	6.17	0.01	0.00	0.04	0.00
0.00							
P-263	J-350	I-Pump-4	800.06	0.29	0.00	3.27	4.08
4.08							
P-264	O-Pump-4	J-348	800.06	0.09	0.00	2.27	1.68
1.68							
P-265	J-141	J-344	6.17	2.93	0.00	0.63	1.26
1.26							
P-266	J-216	J-217	12.34	0.00	0.00	0.05	0.00
0.00							
P-267	R-3	J-221	508.25	0.44	0.00	3.24	5.22
5.22							
P-268	J-217	J-220	6.17	0.00	0.00	0.04	0.00
0.00							
P-269	R-2	J-358	2111.88	0.80	0.00	8.63	24.61
24.61							
P-270	J-224	J-228	1245.91	7.37	0.00	5.09	9.26
9.26							
P-271	J-215	J-216	18.51	0.00	0.00	0.08	0.00
0.00							
P-272	J-5	J-215	24.68	0.01	0.00	0.28	0.08
0.08							
P-273	J-4	J-225	287.47	9.06	0.00	3.26	9.25
9.25							
P-274	J-351	I-Pump-7	1861.90	0.94	0.00	5.28	10.06
10.06							
P-275	J-197	J-219	27.45	0.03	0.00	0.31	0.10
0.10							
P-276	J-202	J-219	145.29	0.18	0.00	0.93	0.51
0.51							
P-277	J-219	J-231	67.58	0.19	0.00	0.77	0.50
0.50							
P-278	J-222	J-205	14.00	0.00	0.00	0.09	0.01
0.01							
P-279	J-225	J-222	594.09	1.77	0.00	2.43	2.35
2.35							

P-280	J-224	J-223	6.17	0.40	0.00	0.63	1.58
1.58							
P-281	J-214	J-224	1258.25	2.75	0.00	5.14	9.43
9.43							
P-282	J-214	J-4	653.80	1.16	0.00	7.42	42.36
42.36							
P-283	J-226	J-225	312.79	0.07	0.00	1.28	0.72
0.72							
P-284	J-228	J-226	318.96	0.01	0.00	1.30	0.74
0.74							
P-285	J-228	J-227	6.17	0.00	0.00	0.03	0.00
0.00							
P-286	J-228	J-229	914.62	3.31	0.00	5.84	15.48
15.48							
P-287	J-229	J-230	131.26	0.69	0.00	1.49	2.17
2.17							
P-288	J-222	J-231	573.92	0.50	0.00	6.51	26.52
26.52							
P-289	J-231	J-236	635.34	2.39	0.00	4.05	7.89
7.89							
P-290	J-219	J-232	98.98	3.50	0.00	2.53	11.34
11.34							
P-291	J-232	J-233	252.04	0.47	0.00	1.61	1.42
1.42							
P-292	J-233	J-238	204.72	0.02	0.00	1.31	0.97
0.97							
P-293	J-233	J-234	41.15	0.88	0.00	1.05	2.23
2.23							
P-294	J-241	J-234	588.86	2.17	0.00	3.76	6.85
6.85							
P-295	J-236	J-232	159.23	0.92	0.00	1.81	2.47
2.47							
P-296	J-190	J-235	23.16	0.00	0.00	0.26	0.09
0.09							
P-297	J-235	J-237	178.44	1.12	0.00	2.02	3.05
3.05							
P-298	J-238	J-244	334.31	0.91	0.00	2.13	2.40
2.40							
P-299	J-237	J-238	504.04	1.91	0.00	3.22	5.14
5.14							
P-300	J-187	J-239	344.11	0.91	0.00	2.20	2.53
2.53							
P-301	J-239	J-237	331.77	0.06	0.00	2.12	2.37
2.37							
P-302	J-239	J-240	6.17	0.22	0.00	0.63	1.26
1.26							
P-303	J-236	J-241	469.94	0.10	0.00	3.00	4.51
4.51							
P-304	J-230	J-241	125.09	0.84	0.00	1.42	1.98
1.98							
P-305	J-234	J-242	302.70	1.49	0.00	1.93	2.00
2.00							
P-306	J-243	J-242	958.63	0.59	0.00	6.12	21.20
21.20							

P-307	J-229	J-243	777.19	4.62	0.00	4.96	14.37
14.37							
P-308	J-244	J-243	187.61	0.85	0.00	1.20	1.12
1.12							
P-309	J-234	J-244	321.13	0.06	0.00	2.05	2.23
2.23							
P-310	J-244	J-245	461.66	1.44	0.00	2.95	4.37
4.37							
P-311	J-245	J-249	294.80	12.45	0.00	7.53	69.80
69.80							
P-312	J-238	J-246	368.29	0.96	0.00	2.35	2.87
2.87							
P-313	J-246	J-181	69.18	0.10	0.00	0.44	0.13
0.13							
P-314	J-182	J-247	318.00	0.82	0.00	2.03	2.19
2.19							
P-315	J-181	J-247	407.19	4.38	0.00	4.62	14.04
14.04							
P-316	J-247	J-248	798.24	12.06	0.00	5.09	12.03
12.03							
P-317	J-246	J-249	292.94	13.85	0.00	7.48	68.99
68.99							
P-318	J-249	J-248	581.57	2.70	0.00	3.71	8.40
8.40							
P-319	J-248	J-279	247.50	0.27	0.00	1.58	1.38
1.38							
P-320	J-251	J-250	282.16	0.76	0.00	1.80	2.39
2.39							
P-321	J-245	J-251	160.69	8.74	0.00	4.10	22.69
22.69							
P-322	J-252	J-251	127.63	5.87	0.00	3.26	14.81
14.81							
P-323	J-242	J-252	1255.16	2.88	0.00	5.13	9.39
9.39							
P-324	J-252	J-253	1121.36	2.61	0.00	4.58	7.62
7.62							
P-325	J-253	J-250	744.71	4.02	0.00	4.75	10.58
10.58							
P-326	J-182	J-254	91.55	0.61	0.00	1.04	0.89
0.89							
P-327	J-254	J-247	79.21	0.21	0.00	0.90	0.68
0.68							
P-328	J-254	J-255	6.17	0.00	0.00	0.07	0.01
0.01							
P-329	J-248	J-259	1126.14	8.91	0.00	7.19	28.57
28.57							
P-330	J-257	J-256	547.65	8.31	0.00	6.21	24.31
24.31							
P-331	J-256	J-258	6.17	0.01	0.00	0.16	0.04
0.04							
P-332	J-259	J-256	791.52	11.06	0.00	8.98	48.09
48.09							
P-333	J-257	J-283	38.81	0.03	0.00	0.44	0.18
0.18							

P-334	J-260	J-257	592.63	0.31	0.00	6.72	28.14
28.14							
P-335	J-259	J-261	555.89	2.92	0.00	3.55	7.73
7.73							
P-336	J-262	J-260	598.80	1.33	0.00	3.82	8.87
8.87							
P-337	J-355	J-262	604.97	2.18	0.00	3.86	7.20
7.20							
P-338	J-263	J-265	224.49	3.60	0.00	2.55	5.85
5.85							
P-339	J-265	J-264	6.17	9.73	0.00	2.52	46.34
46.34							
P-340	J-265	J-284	212.15	0.23	0.00	2.41	5.27
5.27							
P-341	J-268	J-263	961.97	15.51	0.00	6.14	17.00
17.00							
P-342	J-268	J-266	6.17	0.00	0.00	0.04	0.00
0.00							
P-343	J-269	J-268	974.31	9.76	0.00	6.22	17.41
17.41							
P-344	J-297	J-269	899.18	1.96	0.00	10.20	60.91
60.91							
P-345	J-270	J-269	81.30	1.90	0.00	2.08	6.42
6.42							
P-346	J-270	J-272	12.34	0.00	0.00	0.08	0.01
0.01							
P-347	J-271	J-270	99.81	0.48	0.00	1.13	1.30
1.30							
P-348	J-271	J-273	395.61	1.12	0.00	2.52	3.28
3.28							
P-349	J-272	J-274	6.17	0.35	0.00	0.63	1.26
1.26							
P-350	J-273	J-275	389.44	9.19	0.00	4.42	16.23
16.23							
P-351	J-275	J-277	383.27	3.51	0.00	2.45	3.59
3.59							
P-352	J-253	J-277	370.48	0.31	0.00	1.51	0.98
0.98							
P-353	J-277	J-276	747.58	3.92	0.00	4.77	10.66
10.66							
P-354	J-250	J-276	79.92	0.21	0.00	0.91	0.69
0.69							
P-355	J-276	J-281	821.33	9.57	0.00	9.32	51.50
51.50							
P-356	J-278	J-259	227.45	0.95	0.00	2.58	4.78
4.78							
P-357	J-250	J-279	940.77	5.92	0.00	6.00	16.32
16.32							
P-358	J-279	J-278	1182.10	7.69	0.00	7.54	24.90
24.90							
P-359	J-278	J-280	133.54	0.66	0.00	1.52	1.78
1.78							
P-360	J-280	J-261	424.21	3.21	0.00	4.81	15.15
15.15							

P-361	J-282	J-280	296.84	0.31	0.00	3.37	7.82
7.82							
P-362	J-281	J-278	511.89	3.82	0.00	5.81	21.46
21.46							
P-363	J-281	J-282	303.28	4.18	0.00	3.44	8.14
8.14							
P-364	J-282	J-267	0.27	0.00	0.00	0.01	0.00
0.00							
P-365	J-283	J-261	352.89	0.14	0.00	4.00	10.77
10.77							
P-366	J-284	J-267	5.90	0.00	0.00	0.07	0.01
0.01							
P-367	J-284	J-283	320.25	3.38	0.00	3.63	11.30
11.30							
P-368	J-285	J-271	501.59	1.30	0.00	3.20	5.09
5.09							
P-369	J-286	J-285	202.65	1.05	0.00	2.30	3.86
3.86							
P-370	J-286	J-287	6.17	0.03	0.00	0.16	0.04
0.04							
P-371	J-289	J-286	214.99	10.12	0.00	5.49	31.00
31.00							
P-372	J-4	J-354	360.16	8.58	0.00	4.09	14.04
14.04							
P-373	J-290	J-289	83.23	1.74	0.00	2.12	5.35
5.35							
P-374	J-291	J-289	137.93	0.42	0.00	1.57	1.89
1.89							
P-375	J-290	J-292	129.69	0.51	0.00	1.47	1.69
1.69							
P-376	J-339	J-291	144.10	0.71	0.00	1.64	2.05
2.05							
P-377	J-336	J-292	26.75	0.63	0.00	0.68	0.82
0.82							
P-378	J-293	J-285	305.11	0.08	0.00	1.95	2.03
2.03							
P-379	J-294	J-293	553.21	3.43	0.00	3.53	6.10
6.10							
P-380	J-295	J-294	563.87	9.87	0.00	6.40	32.21
32.21							
P-381	J-294	J-298	4.48	0.01	0.00	0.11	0.02
0.02							
P-382	J-293	J-297	241.93	1.80	0.00	2.75	5.35
5.35							
P-383	J-296	J-297	663.42	2.79	0.00	4.23	8.54
8.54							
P-384	J-298	J-296	669.59	2.42	0.00	4.27	8.69
8.69							
P-385	J-300	J-298	671.28	11.59	0.00	17.14	255.35
255.35							
P-386	J-300	J-299	6.17	0.00	0.00	0.16	0.04
0.04							
P-387	J-301	J-300	683.62	2.70	0.00	4.36	9.03
9.03							

P-388	J-301	J-303	1007.16	0.32	0.00	6.43	18.51
18.51							
P-389	J-304	J-301	1696.94	23.90	0.00	6.93	16.41
16.41							
P-390	J-303	J-302	192.47	1.27	0.00	2.18	3.51
3.51							
P-391	J-303	J-295	808.51	4.09	0.00	5.16	12.32
12.32							
P-392	J-142	J-306	1345.26	9.01	0.00	5.50	10.67
10.67							
P-393	J-306	J-304	1703.11	7.78	0.00	6.96	16.52
16.52							
P-395	J-307	J-345	2304.51	0.46	0.00	6.54	11.90
11.90							
P-397	J-352	J-221	332.46	0.04	0.00	0.94	0.33
0.33							
P-398	J-305	J-290	219.09	0.12	0.00	0.89	0.46
0.46							
P-399	J-295	J-305	238.48	0.35	0.00	1.52	1.28
1.28							
P-400	J-302	J-310	6.17	0.00	0.00	0.04	0.00
0.00							
P-401	J-302	J-309	6.17	0.00	0.00	0.07	0.01
0.01							
P-402	J-302	J-311	173.96	1.17	0.00	1.97	3.65
3.65							
P-403	J-311	J-312	161.62	0.71	0.00	1.03	0.78
0.78							
P-404	J-311	J-313	6.17	0.00	0.00	0.07	0.01
0.01							
P-405	J-312	J-314	6.17	0.00	0.00	0.04	0.00
0.00							
P-406	J-312	J-315	149.28	0.04	0.00	0.95	0.68
0.68							
P-407	J-315	J-316	113.64	0.14	0.00	0.73	0.33
0.33							
P-408	J-315	J-317	29.47	0.14	0.00	0.33	0.11
0.11							
P-409	J-316	J-318	104.93	0.11	0.00	0.67	0.28
0.28							
P-410	J-316	J-317	2.54	0.00	0.00	0.03	0.00
0.00							
P-411	J-317	J-318	25.84	0.11	0.00	0.29	0.09
0.09							
P-412	J-318	J-319	124.60	0.21	0.00	0.80	0.48
0.48							
P-413	J-319	J-320	6.17	0.01	0.00	0.07	0.01
0.01							
P-414	J-319	J-321	112.26	0.14	0.00	0.72	0.40
0.40							
P-415	J-321	J-322	2.94	0.02	0.00	0.07	0.01
0.01							
P-416	J-321	J-322	103.16	0.02	0.00	0.66	0.34
0.34							

P-417	J-322	J-326	99.92	0.41	0.00	1.13	1.04	1.04
P-418	J-323	J-335	6.17	0.01	0.00	0.07	0.01	0.01
P-419	J-323	J-325	12.34	0.00	0.00	0.08	0.01	0.01
P-420	J-325	J-324	6.51	0.00	0.00	0.07	0.01	0.01
P-421	J-326	J-323	24.68	0.09	0.00	0.28	0.08	0.08
P-422	J-326	J-327	69.07	0.07	0.00	0.44	0.16	0.16
P-423	J-327	J-329	22.03	0.09	0.00	0.25	0.08	0.08
P-424	J-332	J-328	11.05	0.02	0.00	0.13	0.02	0.02
P-425	J-328	J-330	14.58	0.02	0.00	0.17	0.03	0.03
P-426	J-329	J-328	9.69	0.01	0.00	0.11	0.01	0.01
P-427	J-329	J-331	6.17	0.00	0.00	0.07	0.01	0.01
P-428	J-327	J-332	40.87	0.08	0.00	0.46	0.20	0.20
P-429	J-330	J-333	0.01	0.00	0.00	0.00	0.00	0.00
P-430	J-330	J-334	8.40	0.02	0.00	0.10	0.01	0.01
P-431	J-332	J-333	23.65	0.04	0.00	0.27	0.07	0.07
P-432	J-333	J-334	17.48	0.02	0.00	0.20	0.04	0.04
P-433	J-334	J-336	19.70	0.02	0.00	0.08	0.00	0.00
P-434	J-305	J-336	13.22	0.00	0.00	0.05	0.00	0.00
P-435	J-324	J-325	0.34	0.00	0.00	0.00	0.00	0.00
P-436	J-73	J-337	4.44	0.00	0.00	0.03	0.00	0.00
P-438	J-292	J-339	150.27	0.11	0.00	1.71	2.22	2.22
P-446	R-3	J-221	1476.14	0.44	0.00	4.19	5.22	5.22
P-448	O-Pump-1	J-141	223.14	0.01	0.00	0.63	0.16	0.16
P-449	O-Pump-3	J-141	1050.97	0.18	0.00	2.98	2.78	2.78
P-450	J-345	I-Pump-1	223.14	0.01	0.00	0.63	0.16	0.16
P-451	J-345	I-Pump-2	1024.23	0.14	0.00	2.91	2.65	2.65
P-452	J-345	I-Pump-3	1050.97	0.14	0.00	2.98	2.78	2.78

P-453	J-346	J-7	57.92	0.12	0.00	0.66	0.48	0.48
P-455	J-348	J-218	2093.37	1.64	0.00	5.94	9.96	9.96
P-456	O-Pump-5	J-348	800.71	0.07	0.00	2.27	1.68	1.68
P-457	J-358	J-350	2105.71	1.03	0.00	8.60	24.47	24.47
P-458	O-Pump-6	J-348	498.77	0.03	0.00	1.41	0.70	0.70
P-459	J-218	J-349	2087.20	8.84	0.00	8.53	24.08	24.08
P-460	J-350	I-Pump-5	800.71	0.20	0.00	3.27	4.08	4.08
P-461	J-350	I-Pump-6	498.77	0.08	0.00	2.04	1.70	1.70
P-462	O-Pump-7	J-347	1861.90	0.58	0.00	5.28	10.06	10.06
P-464	R-1	J-351	1868.07	0.83	0.00	5.30	10.12	10.12
P-465	O-Pump-9	J-347	0.00	0.00	0.00	0.00	0.00	0.00
P-466	R-3	J-352	344.80	0.40	0.00	2.20	2.54	2.54
P-467	J-351	I-Pump-9	0.00	0.00	0.00	0.00	0.00	0.00
P-483	J-263	J-355	731.31	3.37	0.00	4.67	10.23	10.23
P-484	J-355	J-284	120.17	0.46	0.00	1.36	1.47	1.47
P-500	J-206	J-204	118.59	0.12	0.00	0.76	0.35	0.35
P-501	J-207	J-202	54.53	0.03	0.00	0.35	0.08	0.08

P U M P/L O S S E L E M E N T R E S U L T S

NAME	FLOWRATE	INLET HEAD	OUTLET HEAD	PUMP HEAD	EFFIC-ENCY	USEFUL POWER	INCREMTL COST	TOTAL COST	#PUMPS PARALLEL	#PUMPS SERIES	NPSH Avail.
	gpm	ft	ft	ft	%	Hp	$	$			ft
Pump-1	223.14	20.70	176.47	155.8	75.00	0.	0.0	0.0	**	**	53.9
Pump-2	1024.23	20.57	176.59	156.0	75.00	0.	0.0	0.0	**	**	53.6

Pump-3	1050.97	20.57	176.65	156.1	75.00	0.	0.0	0.0
** **	53.6							
Pump-4	800.06	18.88	147.87	129.0	75.00	0.	0.0	0.0
** **	51.9							
Pump-5	800.71	18.98	147.85	128.9	75.00	0.	0.0	0.0
** **	52.0							
Pump-6	498.77	19.10	147.81	128.7	75.00	0.	0.0	0.0
** **	52.2							
Pump-7	1861.90	28.24	147.22	119.0	75.00	0.	0.0	0.0
** **	61.0							
Device "Pump-9" is closed								
Pump-9	0.00	29.17	146.64	0.0	75.00	0.	0.0	0.0
** **	62.4							

N O D E R E S U L T S

NODE NAME	NODE TITLE	EXTERNAL DEMAND gpm	HYDRAULIC GRADE ft	NODE ELEVATION ft	PRESSURE HEAD ft	NODE PRESSURE psi
J-1		6.17	281.65	170.00	111.65	48.38
J-2		6.17	287.77	170.00	117.77	51.03
J-3		6.17	291.43	170.00	121.43	52.62
J-4		6.17	290.70	170.00	120.70	52.30
J-5		6.17	279.91	170.00	109.91	47.63
J-6		6.17	280.25	170.00	110.25	47.77
J-7		6.17	279.58	170.00	109.58	47.49
J-8		6.17	280.25	170.00	110.25	47.77
J-9		6.17	280.57	170.00	110.57	47.91
J-10		6.17	281.62	170.00	111.62	48.37
J-11		6.17	280.57	170.00	110.57	47.91
J-12		6.17	280.39	170.00	110.39	47.83
J-13		6.17	280.39	170.00	110.39	47.83
J-14		6.17	279.56	170.00	109.56	47.48
J-15		6.17	279.54	170.00	109.54	47.47
J-16		6.17	279.57	170.00	109.57	47.48
J-17		6.17	279.53	170.00	109.53	47.46
J-18		6.17	279.51	170.00	109.51	47.45
J-19		6.17	279.51	170.00	109.51	47.45
J-20		6.17	279.51	170.00	109.51	47.45
J-21		6.17	279.51	170.00	109.51	47.45
J-22		6.17	279.51	170.00	109.51	47.46
J-23		6.17	279.51	170.00	109.51	47.45
J-24		6.17	279.51	170.00	109.51	47.45
J-25		6.17	279.51	170.00	109.51	47.45
J-26		6.17	279.50	170.00	109.50	47.45
J-27		6.17	279.50	170.00	109.50	47.45
J-28		6.17	279.47	170.00	109.47	47.44
J-29		6.17	279.47	170.00	109.47	47.44
J-30		6.17	279.47	170.00	109.47	47.44
J-31		6.17	279.47	170.00	109.47	47.44
J-32		6.17	279.47	170.00	109.47	47.44

J-33	6.17	279.47	170.00	109.47	47.44
J-34	6.17	279.47	170.00	109.47	47.44
J-35	6.17	279.47	170.00	109.47	47.44
J-36	6.17	279.53	170.00	109.53	47.46
J-37	6.17	279.52	170.00	109.52	47.46
J-38	6.17	279.53	170.00	109.53	47.46
J-39	6.17	279.52	170.00	109.52	47.46
J-40	6.17	279.51	170.00	109.51	47.45
J-41	6.17	279.52	170.00	109.52	47.46
J-42	6.17	279.53	170.00	109.53	47.46
J-43	6.17	279.53	170.00	109.53	47.46
J-44	50.00	278.65	170.00	108.65	47.08
J-45	6.17	279.64	170.00	109.64	47.51
J-46	6.17	279.70	170.00	109.70	47.54
J-47	6.17	279.75	170.00	109.75	47.56
J-48	6.17	279.74	170.00	109.74	47.56
J-49	6.17	279.89	170.00	109.89	47.62
J-50	6.17	279.55	170.00	109.55	47.47
J-51	6.17	279.82	170.00	109.82	47.59
J-52	6.17	279.90	170.00	109.90	47.62
J-53	6.17	280.82	170.00	110.82	48.02
J-54	6.17	294.17	170.00	124.17	53.81
J-55	6.17	297.96	170.00	127.96	55.45
J-56	6.17	298.13	170.00	128.13	55.52
J-57	6.17	297.20	170.00	127.20	55.12
J-58	6.17	297.14	170.00	127.14	55.09
J-59	6.17	297.89	170.00	127.89	55.42
J-60	50.00	296.67	170.00	126.67	54.89
J-61	6.17	294.17	170.00	124.17	53.81
J-62	6.17	294.76	170.00	124.76	54.06
J-63	6.17	298.19	170.00	128.19	55.55
J-64	6.17	298.68	170.00	128.68	55.76
J-65	6.17	300.70	170.00	130.70	56.63
J-66	6.17	299.02	170.00	129.02	55.91
J-67	6.17	301.03	170.00	131.03	56.78
J-68	6.17	302.80	170.00	132.80	57.55
J-69	6.17	297.68	170.00	127.68	55.33
J-70	6.17	304.06	170.00	134.06	58.09
J-71	6.17	310.67	170.00	140.67	60.96
J-72	6.17	305.12	170.00	135.12	58.55
J-73	6.17	310.59	170.00	140.59	60.92
J-74	6.17	310.59	170.00	140.59	60.92
J-75	6.17	310.59	170.00	140.59	60.92
J-76	50.00	310.56	170.00	140.56	60.91
J-77	6.17	306.81	170.00	136.81	59.28
J-78	6.17	310.96	170.00	140.96	61.08
J-79	6.17	303.41	170.00	133.41	57.81
J-80	6.17	307.12	170.00	137.12	59.42
J-81	6.17	308.21	170.00	138.21	59.89
J-82	6.17	312.38	170.00	142.38	61.70
J-83	6.17	311.69	170.00	141.69	61.40
J-84	6.17	311.68	170.00	141.68	61.40
J-85	6.17	312.26	170.00	142.26	61.65
J-86	6.17	311.04	170.00	141.04	61.12

J-87	6.17	312.25	170.00	142.25	61.64
J-88	6.17	312.25	170.00	142.25	61.64
J-89	6.17	312.24	170.00	142.24	61.64
J-90	6.17	312.24	170.00	142.24	61.64
J-91	50.00	279.59	170.00	109.59	47.49
J-92	6.17	311.80	170.00	141.80	61.45
J-93	6.17	315.90	170.00	145.90	63.22
J-94	6.17	312.71	170.00	142.71	61.84
J-95	6.17	312.71	170.00	142.71	61.84
J-96	6.17	312.71	170.00	142.71	61.84
J-97	6.17	312.66	170.00	142.66	61.82
J-98	6.17	312.73	170.00	142.73	61.85
J-99	6.17	312.80	170.00	142.80	61.88
J-100	6.17	312.32	170.00	142.32	61.67
J-101	6.17	312.93	170.00	142.93	61.94
J-102	6.17	312.50	170.00	142.50	61.75
J-103	6.17	313.99	170.00	143.99	62.40
J-104	6.17	312.25	170.00	142.25	61.64
J-105	6.17	312.27	170.00	142.27	61.65
J-106	6.17	312.27	170.00	142.27	61.65
J-107	6.17	312.26	170.00	142.26	61.65
J-108	6.17	312.35	170.00	142.35	61.68
J-109	6.17	312.25	170.00	142.25	61.64
J-110	6.17	314.42	170.00	144.42	62.58
J-111	6.17	313.99	170.00	143.99	62.40
J-112	6.17	314.57	170.00	144.57	62.65
J-113	6.17	314.57	170.00	144.57	62.65
J-114	6.17	315.16	170.00	145.16	62.90
J-115	6.17	314.63	170.00	144.63	62.67
J-116	6.17	314.63	170.00	144.63	62.67
J-117	6.17	316.67	170.00	146.67	63.56
J-118	6.17	316.67	170.00	146.67	63.56
J-119	6.17	318.12	170.00	148.12	64.19
J-120	6.17	318.12	170.00	148.12	64.19
J-121	6.17	319.26	170.00	149.26	64.68
J-122	6.17	317.84	170.00	147.84	64.06
J-123	6.17	318.33	170.00	148.33	64.28
J-124	6.17	318.54	170.00	148.54	64.37
J-125	6.17	318.53	170.00	148.53	64.36
J-126	6.17	318.80	170.00	148.80	64.48
J-127	6.17	318.75	170.00	148.75	64.46
J-128	6.17	318.75	170.00	148.75	64.46
J-129	6.17	318.79	170.00	148.79	64.48
J-130	6.17	318.74	170.00	148.74	64.45
J-131	6.17	319.12	170.00	149.12	64.62
J-132	6.17	319.12	170.00	149.12	64.62
J-133	6.17	319.02	170.00	149.02	64.57
J-134	6.17	319.02	170.00	149.02	64.57
J-135	6.17	318.98	170.00	148.98	64.56
J-136	6.17	319.22	170.00	149.22	64.66
J-137	6.17	319.27	170.00	149.27	64.69
J-138	6.17	320.25	170.00	150.25	65.11
J-139	6.17	191.59	170.00	21.59	9.36
J-140	6.17	332.65	170.00	162.65	70.48

J-141	6.17	346.47	170.00	176.47	76.47
J-142	6.17	341.03	170.00	171.03	74.11
J-143	6.17	319.09	170.00	149.09	64.61
J-144	6.17	319.09	170.00	149.09	64.61
J-145	6.17	319.27	170.00	149.27	64.68
J-146	6.17	319.18	170.00	149.18	64.64
J-147	6.17	319.18	170.00	149.18	64.64
J-148	6.17	319.16	170.00	149.16	64.64
J-149	6.17	319.16	170.00	149.16	64.64
J-150	6.17	319.16	170.00	149.16	64.64
J-151	6.17	319.16	170.00	149.16	64.64
J-152	6.17	316.67	170.00	146.67	63.56
J-153	6.17	316.67	170.00	146.67	63.56
J-154	6.17	316.49	170.00	146.49	63.48
J-155	6.17	318.03	170.00	148.03	64.15
J-156	6.17	316.67	170.00	146.67	63.56
J-157	6.17	318.05	170.00	148.05	64.16
J-158	6.17	316.66	170.00	146.66	63.55
J-159	6.17	318.07	170.00	148.07	64.16
J-160	6.17	317.79	170.00	147.79	64.04
J-161	6.17	318.07	170.00	148.07	64.16
J-162	6.17	318.06	170.00	148.06	64.16
J-163	6.17	318.07	170.00	148.07	64.16
J-164	6.17	318.06	170.00	148.06	64.16
J-165	6.17	318.07	170.00	148.07	64.16
J-166	6.17	318.06	170.00	148.06	64.16
J-167	6.17	318.32	170.00	148.32	64.27
J-168	6.17	309.51	170.00	139.51	60.45
J-169	6.17	318.32	170.00	148.32	64.27
J-170	6.17	309.49	170.00	139.49	60.44
J-171	6.17	300.36	170.00	130.36	56.49
J-172	6.17	294.44	170.00	124.44	53.92
J-173	6.17	294.27	170.00	124.27	53.85
J-174	6.17	294.45	170.00	124.45	53.93
J-175	6.17	293.86	170.00	123.86	53.67
J-176	6.17	294.42	170.00	124.42	53.92
J-177	6.17	294.42	170.00	124.42	53.92
J-178	6.17	279.42	170.00	109.42	47.42
J-179	6.17	276.20	170.00	106.20	46.02
J-180	6.17	275.46	170.00	105.46	45.70
J-181	6.17	274.51	170.00	104.51	45.29
J-182	6.17	270.95	170.00	100.95	43.74
J-183	6.17	293.73	170.00	123.73	53.62
J-184	6.17	279.40	170.00	109.40	47.41
J-185	6.17	279.45	170.00	109.45	47.43
J-186	6.17	279.08	170.00	109.08	47.27
J-187	6.17	278.46	170.00	108.46	47.00
J-188	6.17	278.60	170.00	108.60	47.06
J-189	6.17	278.64	170.00	108.64	47.08
J-190	6.17	278.60	170.00	108.60	47.06
J-191	6.17	280.05	170.00	110.05	47.69
J-192	6.17	280.64	170.00	110.64	47.95
J-193	6.17	279.79	170.00	109.79	47.58
J-194	6.17	280.11	170.00	110.11	47.71

J-195	6.17	279.92	170.00	109.92	47.63
J-196	6.17	279.57	170.00	109.57	47.48
J-197	6.17	279.60	170.00	109.60	47.49
J-198	6.17	279.74	170.00	109.74	47.55
J-199	6.17	279.80	170.00	109.80	47.58
J-200	6.17	279.74	170.00	109.74	47.55
J-201	6.17	279.75	170.00	109.75	47.56
J-202	6.17	279.74	170.00	109.74	47.55
J-203	6.17	279.78	170.00	109.78	47.57
J-204	6.17	279.88	170.00	109.88	47.61
J-205	6.17	279.88	170.00	109.88	47.61
J-206	6.17	280.00	170.00	110.00	47.67
J-207	6.17	279.77	170.00	109.77	47.57
J-208	6.17	279.55	170.00	109.55	47.47
J-209	6.17	279.80	170.00	109.80	47.58
J-210	6.17	279.54	170.00	109.54	47.47
J-211	6.17	279.57	170.00	109.57	47.48
J-212	6.17	279.57	170.00	109.57	47.48
J-213	6.17	280.19	170.00	110.19	47.75
J-214	6.17	291.86	170.00	121.86	52.80
J-215	6.17	279.90	170.00	109.90	47.63
J-216	6.17	279.90	170.00	109.90	47.62
J-217	6.17	279.90	170.00	109.90	47.62
J-218	6.17	316.14	170.00	146.14	63.33
J-219	6.17	279.57	170.00	109.57	47.48
J-220	6.17	279.90	170.00	109.90	47.62
J-221	6.17	191.56	170.00	21.56	9.34
J-222	6.17	279.88	170.00	109.88	47.61
J-223	6.17	288.71	170.00	118.71	51.44
J-224	6.17	289.10	170.00	119.10	51.61
J-225	6.17	281.65	170.00	111.65	48.38
J-226	6.17	281.72	170.00	111.72	48.41
J-227	6.17	281.73	170.00	111.73	48.42
J-228	6.17	281.73	170.00	111.73	48.42
J-229	6.17	278.43	170.00	108.43	46.99
J-230	6.17	277.73	170.00	107.73	46.68
J-231	6.17	279.38	170.00	109.38	47.40
J-232	6.17	276.07	170.00	106.07	45.96
J-233	6.17	275.60	170.00	105.60	45.76
J-234	6.17	274.72	170.00	104.72	45.38
J-235	6.17	278.60	170.00	108.60	47.06
J-236	6.17	276.99	170.00	106.99	46.36
J-237	6.17	277.48	170.00	107.48	46.58
J-238	6.17	275.57	170.00	105.57	45.75
J-239	6.17	277.54	170.00	107.54	46.60
J-240	6.17	277.33	170.00	107.33	46.51
J-241	6.17	276.89	170.00	106.89	46.32
J-242	6.17	273.23	170.00	103.23	44.73
J-243	6.17	273.81	170.00	103.81	44.99
J-244	6.17	274.67	170.00	104.67	45.35
J-245	6.17	273.22	170.00	103.22	44.73
J-246	6.17	274.62	170.00	104.62	45.33
J-247	6.17	270.13	170.00	100.13	43.39
J-248	6.17	258.07	170.00	88.07	38.16

J-249		6.17	260.77	170.00	90.77	39.33
J-250		6.17	263.72	170.00	93.72	40.61
J-251		6.17	264.48	170.00	94.48	40.94
J-252		6.17	270.35	170.00	100.35	43.48
J-253		6.17	267.74	170.00	97.74	42.35
J-254		6.17	270.34	170.00	100.34	43.48
J-255		6.17	270.34	170.00	100.34	43.48
J-256	FIRE	1333.00	238.10	170.00	68.10	29.51
J-257		6.17	246.41	170.00	76.41	33.11
J-258		6.17	238.08	170.00	68.08	29.50
J-259		6.17	249.16	170.00	79.16	34.30
J-260		6.17	246.71	170.00	76.71	33.24
J-261	FIRE	1333.00	246.24	170.00	76.24	33.04
J-262		6.17	248.04	170.00	78.04	33.82
J-263		6.17	253.59	170.00	83.59	36.22
J-264		6.17	240.26	170.00	70.26	30.45
J-265		6.17	249.99	170.00	79.99	34.66
J-266		6.17	269.11	170.00	99.11	42.95
J-267		6.17	249.76	170.00	79.76	34.56
J-268		6.17	269.11	170.00	99.11	42.95
J-269		6.17	278.87	170.00	108.87	47.18
J-270		6.17	280.77	170.00	110.77	48.00
J-271		6.17	281.25	170.00	111.25	48.21
J-272		6.17	280.77	170.00	110.77	48.00
J-273		6.17	280.13	170.00	110.13	47.72
J-274		6.17	280.42	170.00	110.42	47.85
J-275		6.17	270.94	170.00	100.94	43.74
J-276		6.17	263.51	170.00	93.51	40.52
J-277		6.17	267.43	170.00	97.43	42.22
J-278	FIRE	1333.00	250.11	170.00	80.11	34.72
J-279		6.17	257.80	170.00	87.80	38.05
J-280		6.17	249.45	170.00	79.45	34.43
J-281		6.17	253.94	170.00	83.94	36.37
J-282		6.17	249.76	170.00	79.76	34.56
J-283		6.17	246.38	170.00	76.38	33.10
J-284		6.17	249.76	170.00	79.76	34.56
J-285		6.17	282.55	170.00	112.55	48.77
J-286		6.17	283.59	170.00	113.59	49.22
J-287		6.17	283.56	170.00	113.56	49.21
J-289		6.17	293.71	170.00	123.71	53.61
J-290		6.17	295.45	170.00	125.45	54.36
J-291		6.17	294.13	170.00	124.13	53.79
J-292		6.17	294.94	170.00	124.94	54.14
J-293		6.17	282.63	170.00	112.63	48.81
J-294		6.17	286.05	170.00	116.05	50.29
J-295		6.17	295.92	170.00	125.92	54.57
J-296		6.17	283.62	170.00	113.62	49.24
J-297		6.17	280.83	170.00	110.83	48.03
J-298		6.17	286.05	170.00	116.05	50.29
J-299		6.17	297.64	170.00	127.64	55.31
J-300		6.17	297.64	170.00	127.64	55.31
J-301		6.17	300.34	170.00	130.34	56.48
J-302		6.17	298.75	170.00	128.75	55.79
J-303		6.17	300.02	170.00	130.02	56.34

J-304		6.17	324.24	170.00	154.24	66.84
J-305		6.17	295.58	170.00	125.58	54.42
J-306		6.17	332.02	170.00	162.02	70.21
J-307		6.17	191.17	170.00	21.17	9.18
J-309	Boise Cascad	6.17	298.75	170.00	128.75	55.79
J-310		6.17	298.75	170.00	128.75	55.79
J-311		6.17	297.58	170.00	127.58	55.29
J-312		6.17	296.87	170.00	126.87	54.98
J-313		6.17	297.58	170.00	127.58	55.28
J-314		6.17	296.87	170.00	126.87	54.98
J-315		6.17	296.83	170.00	126.83	54.96
J-316		6.17	296.69	170.00	126.69	54.90
J-317		6.17	296.69	170.00	126.69	54.90
J-318		6.17	296.58	170.00	126.58	54.85
J-319		6.17	296.37	170.00	126.37	54.76
J-320		6.17	296.36	170.00	126.36	54.76
J-321		6.17	296.23	170.00	126.23	54.70
J-322		6.17	296.21	170.00	126.21	54.69
J-323		6.17	295.71	170.00	125.71	54.48
J-324		6.17	295.71	170.00	125.71	54.48
J-325		6.17	295.71	170.00	125.71	54.48
J-326		6.17	295.80	170.00	125.80	54.51
J-327		6.17	295.73	170.00	125.73	54.48
J-328		6.17	295.63	170.00	125.63	54.44
J-329		6.17	295.64	170.00	125.64	54.44
J-330		6.17	295.62	170.00	125.62	54.43
J-331		6.17	295.64	170.00	125.64	54.44
J-332		6.17	295.65	170.00	125.65	54.45
J-333		6.17	295.62	170.00	125.62	54.43
J-334		6.17	295.60	170.00	125.60	54.43
J-335		6.17	295.70	170.00	125.70	54.47
J-336		6.17	295.58	170.00	125.58	54.42
J-337		6.17	310.59	170.00	140.59	60.92
J-339		6.17	294.84	170.00	124.84	54.10
J-344		6.17	343.53	170.00	173.53	75.20
J-345		6.17	190.71	170.00	20.71	8.97
J-346		6.17	279.70	170.00	109.70	47.54
J-347		6.17	316.64	170.00	146.64	63.54
J-348		6.17	317.78	170.00	147.78	64.04
J-349		6.17	307.30	170.00	137.30	59.50
J-350		6.17	189.17	170.00	19.17	8.31
J-351		6.17	199.17	170.00	29.17	12.64
J-352		6.17	191.60	170.00	21.60	9.36
J-354		6.17	282.12	170.00	112.12	48.59
J-355		6.17	250.22	170.00	80.22	34.76
J-358		6.17	190.20	170.00	20.20	8.75
J-2_		6.17	280.10	170.00	110.10	47.71
O-Pump-1	NORTH BP # 1	0.00	346.47	170.00	176.47	76.47
O-Pump-2	NORTH BP # 2	0.00	346.59	170.00	176.59	76.52
O-Pump-3	NORTH BP # 3	0.00	346.65	170.00	176.65	76.55
O-Pump-4	SOUTH BP # 2	0.00	317.87	170.00	147.87	64.08
O-Pump-5	SOUTH BP # 1	0.00	317.85	170.00	147.85	64.07
O-Pump-6	SOUTH BP # 3	0.00	317.81	170.00	147.81	64.05
I-Pump-7	MONMOUTH ST	0.00	198.24	170.00	28.24	12.24

I-Pump-9	MONMOUTH ST	0.00	199.17	170.00	29.17	12.64
R-1	MONMOUTH ST	----	200.00	170.00	30.00	13.00
R-2	SOUTH RESERV	----	191.00	171.00	20.00	8.67
R-3	POLK RESERVO	----	192.00	170.00	22.00	9.53
I-Pump-4	SOUTH BP # 2	0.00	188.88	170.00	18.88	8.18
I-Pump-1	NORTH BP # 1	0.00	190.70	170.00	20.70	8.97
I-Pump-2	NORTH BP # 2	0.00	190.57	170.00	20.57	8.91
I-Pump-3	NORTH BP # 3	0.00	190.57	170.00	20.57	8.92
I-Pump-5	SOUTH BP # 1	0.00	188.98	170.00	18.98	8.22
I-Pump-6	SOUTH BP # 3	0.00	189.10	170.00	19.10	8.28
O-Pump-7	MONMOUTH ST	0.00	317.22	170.00	147.22	63.79
O-Pump-9	MONMOUTH ST	0.00	316.64	170.00	146.64	63.54

M A X I M U M A N D M I N I M U M V A L U E S

P R E S S U R E S

JUNCTION NUMBER	MAXIMUM PRESSURES psi	JUNCTION NUMBER	MINIMUM PRESSURES psi
O-Pump-3	76.55	I-Pump-4	8.18
O-Pump-2	76.52	I-Pump-5	8.22
O-Pump-1	76.47	I-Pump-6	8.28
J-141	76.47	J-350	8.31
J-344	75.20	R-2	8.67

V E L O C I T I E S

PIPE NUMBER	MAXIMUM VELOCITY (ft/s)	PIPE NUMBER	MINIMUM VELOCITY (ft/s)
P-385	17.14	P-429	0.00
P-344	10.20	P-435	0.00
P-170	9.34	P-195	0.00
P-355	9.32	P-182	0.01
P-332	8.98	P-364	0.01

H L + M L / 1 0 0 0

PIPE NUMBER	MAXIMUM HL+ML/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL+ML/1000 (ft/ft)
P-385	255.35	P-429	0.00
P-311	69.80	P-435	0.00
P-317	68.99	P-195	0.00
P-344	60.91	P-182	0.00
P-111	60.84	P-20	0.00

H L / 1 0 0 0

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)
P-385	255.35	P-429	0.00
P-311	69.80	P-435	0.00
P-317	68.99	P-195	0.00
P-344	60.91	P-182	0.00
P-111	60.84	P-20	0.00

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
(-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE gpm	NODE TITLE
R-1	1868.07	MONMOUTH ST
R-2	2111.88	SOUTH RESERV
R-3	2329.19	POLK RESERVO

NET SYSTEM INFLOW = 6309.14
NET SYSTEM OUTFLOW = 0.00
NET SYSTEM DEMAND = 6309.14

***** HYDRAULIC ANALYSIS COMPLETED *****