

ALL PUMPS ON

RESULTS OBTAINED AFTER 4 TRIALS: ACCURACY = 0.00002

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

P I P E N A M E	N O D E N U M B E R S		F L O W R A T E (gpm)	H E A D L O S S (ft)	M I N O R L O S S (ft)	L I N E V E L O . (ft/s)	H L + M L / 1 0 0 0 (ft/ft)	H L / 1 0 0 0 (ft/ft)
	#1	#2						
FM-010	O-Pump-010	N-011	459.36	0.25	0.83	2.93	21.54	5.02
FM-011	N-011	N-012	459.36	1.52	0.16	1.88	1.61	1.46
FM-012	N-012	N-013	2262.33	3.85	0.51	3.61	3.21	2.83
FM-013	N-013	N-014	2262.33	2.45	0.33	3.61	3.21	2.83
FM-014	N-014	FGN-1	2262.33	5.67	0.77	3.61	3.22	2.83
FM-020	O-Pump-020	N-021	1309.34	0.24	1.39	3.71	32.64	4.84
FM-021	N-021	N-022	1309.34	5.43	1.73	3.71	5.51	4.18
FM-022	N-022	N-012	1802.98	13.54	0.57	2.88	1.94	1.86
FM-030	O-Pump-030	N-031	493.64	0.29	0.95	3.15	24.81	5.73
FM-031	N-031	N-022	493.64	2.01	0.12	2.02	1.77	1.67

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

NAME	FLOWRATE (gpm)	INLET HEAD (ft)	OUTLET HEAD (ft)	PUMP HEAD (ft)	EFFIC- ENCY (%)	USEFUL POWER (Hp)	INCREMTL COST (\$)	TOTAL COST (\$)	#PUMPS PARALLEL	#PUMPS SERIES	NPSH Avail. (ft)
Pump-010	459.36	3.00	95.49	92.5	75.00	0.	0.0	0.0	**	**	36.2
Pump-020	1309.34	3.00	115.63	112.6	75.00	0.	0.0	0.0	**	**	36.2
Pump-030	493.64	3.00	110.21	107.2	75.00	0.	0.0	0.0	**	**	36.2

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)
FGN-1		----	87.15	26.00	61.15	26.50
N-011		0.00	102.41	26.00	76.41	33.11
N-012		0.00	100.74	26.00	74.74	32.39
N-013		0.00	96.37	6.00	90.37	39.16
N-014		0.00	93.59	26.00	67.59	29.29
N-021		0.00	122.00	26.00	96.00	41.60
N-022		0.00	114.84	26.00	88.84	38.50
N-031		0.00	116.97	26.00	90.97	39.42
O-Pump-010		----	103.49	8.00	95.49	41.38
O-Pump-020		----	123.63	8.00	115.63	50.11
O-Pump-030		----	118.21	8.00	110.21	47.76

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

ALL PUMPS ON

JUNCTION NUMBER	MAXIMUM PRESSURES (psi)	JUNCTION NUMBER	MINIMUM PRESSURES (psi)
O-Pump-020	50.11	FGN-1	26.50
O-Pump-030	47.76	N-014	29.29
N-021	41.60	N-012	32.39
O-Pump-010	41.38	N-011	33.11
N-031	39.42	N-022	38.50

VELOCITIES

PIPE NUMBER	MAXIMUM VELOCITY (ft/s)	PIPE NUMBER	MINIMUM VELOCITY (ft/s)
FM-020	3.71	FM-011	1.88
FM-021	3.71	FM-031	2.02
FM-012	3.61	FM-022	2.88
FM-013	3.61	FM-010	2.93
FM-014	3.61	FM-030	3.15

HL + ML / 1000

PIPE NUMBER	MAXIMUM HL+ML/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL+ML/1000 (ft/ft)
FM-020	32.64	FM-011	1.61
FM-030	24.81	FM-031	1.77
FM-010	21.54	FM-022	1.94
FM-021	5.51	FM-012	3.21
FM-014	3.22	FM-013	3.21

HL / 1000

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)
FM-030	5.73	FM-011	1.46
FM-010	5.02	FM-031	1.67
FM-020	4.84	FM-022	1.86
FM-021	4.18	FM-012	2.83
FM-013	2.83	FM-013	2.83

SUMMARY OF INFLOWS AND OUTFLOWS

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES

(-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE (gpm)	NODE TITLE
FGN-1	-2262.33	
Pump-010	459.36	
Pump-020	1309.34	
Pump-030	493.64	

NET SYSTEM INFLOW = 2262.33
 NET SYSTEM OUTFLOW = -2262.33
 NET SYSTEM DEMAND = 0.00