Table 3.3.1 Evapotranspiration (3)

CCC: THORNTHWAITE

MASATEPE BY AV. TEMPATATURE IN 74-87

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
TEMP	22.7	23.4	24.3	25.5	25.6	24.3	23.8	23.8	23.7	23.6	23.5	22.8		
I MONTH	9.880	10.34	10.95	11.78	11.85	10.95	10.61	10.61	10.54	10.47	10.41	9.946	128.3 a=	2.950
ETa=2.950	8.612	9.419	10.52	12.13	12.27	10.52	9.902	9.902	9.780	9.659	9.538	8.724		
C	1	0.91	1.03	1.03	1.08	1.06	1.08	1.07	1.02	1.02	0.98	0.99		
ET*	8.612	8.571	10.84	12.50	13.26	11.16	10.69	10.59	9.976	9.852	9.348	8.637	1240.	

A.C.SANDINO BY AV. TEMPARATURE IN 57-89

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
TEMP	25.8	26.6	27.9	28.8	28.7	26.8	26.4	26.5	26.3	26.1	26	25.6		
I MONTH	11.99	12.56	13.50	14.16	14.09	12.70	12.41	12.48	12.34	12.20	12.13	11.85	152.4 a=	3.824
ET	11.97	13.74	15.82	17.38	17.20	14.05	13.44	13.59	13.29	12.99	12.85	12.27		
C	1	0.91	1.03	1.03	1.08	1.06	1.08	1.07	1.02	1.02	0.98	0.99		
ET*	11.97	12.51	16.30	17.90	18.57	14.89	14.52	14.54	13.56	13.25	12.59	12.15	1728.	

RURD BY AV. 64-87

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
TEMP	26.2	26.9	27.8	28.7	28.4	27	26.7	26.7	26.4	26.4	26.3	26.2		
I MONTH	12.27	12.77	13.42	14.09	13.87	12.84	12.63	12.63	12.41	12.41	12.34	12.27	154.0 a=	3.889
ET	12.63	14.00	15.91	18.01	17.29	14.20	13.60	13.60	13.01	13.01	12.82	12.63		
C	1	0.91	1.03	1.03	1.08	1.06	1.08	1.07	1.02	1.02	0.98	0.99		
ET*	12.63	12.74	16.39	18.55	18.67	15.05	14.68	14.55	13.27	13.27	12.56	12.51	1749.	

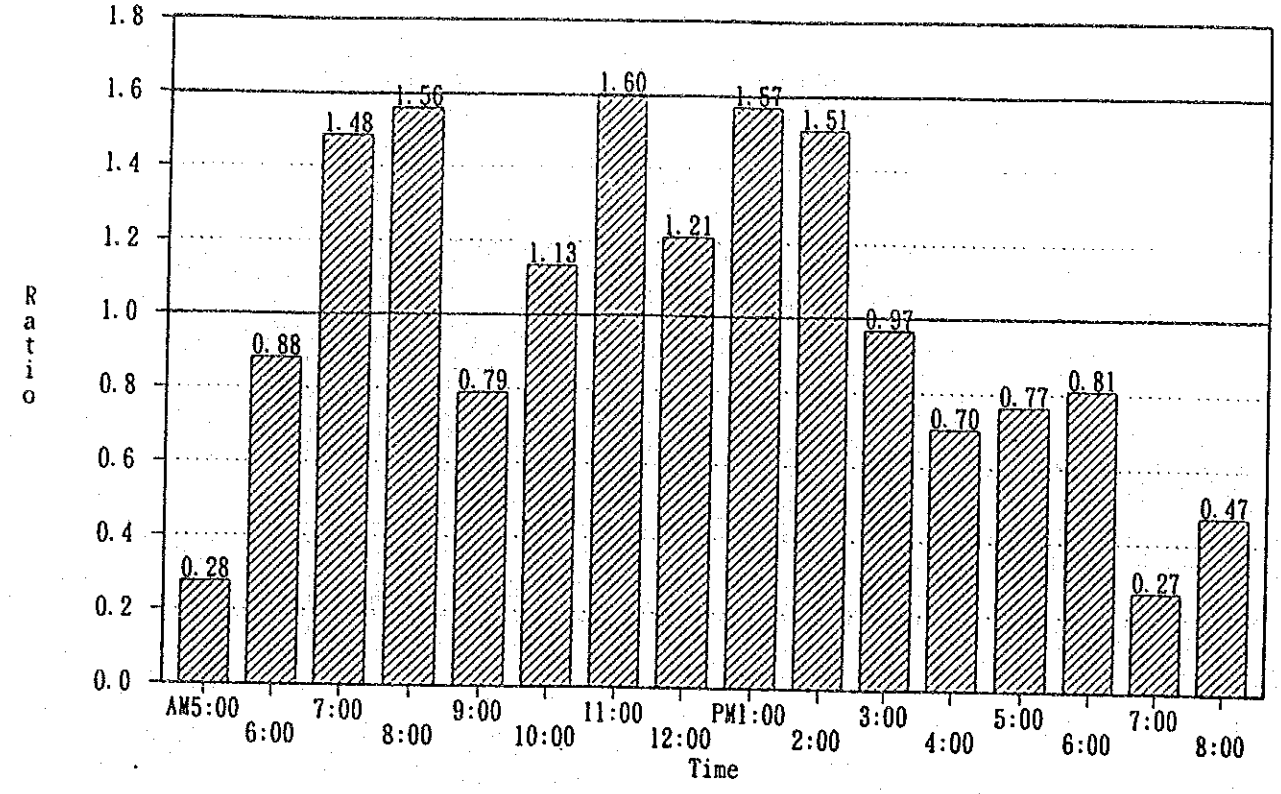
MASAYA BY AV. 77-89

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
TEMP	25	25.9	27	27.9	28.1	26.5	26	26.4	26	25.8	25.5	25		
I MONTH	11.43	12.06	12.84	13.50	13.64	12.48	12.13	12.41	12.13	11.99	11.78	11.43	147.8 a=	3.639
ET	10.83	12.32	14.33	16.15	16.57	13.39	12.49	13.20	12.49	12.14	11.64	10.83		
C	1	0.91	1.03	1.03	1.08	1.06	1.08	1.07	1.02	1.02	0.98	0.99		
ET*	10.83	11.21	14.76	16.63	17.90	14.19	13.49	14.13	12.74	12.39	11.41	10.72	1604.	

Table 3.4 Summary of consumption measurement July 1992

No	Village name	District	Zone	Number of family	Water consumption	Type of the household
					g/p/d	
1	Santo			4	41.667	I
2	Rosa	4	Low	6	52.543	I
3				5	54.744	I
4				13	42.365	I
5	Camilo			6	43.541	I
6	Chamorro	6	Low	8	42.030	I
7				8	11.073	H
8				3	44.444	I
9	Bolonia			5	190.500	F
10		2	High	6	81.379	D
11				8	38.860	I
12				4	124.458	F
13	Villa			6	108.333	D
14	Venazuela	6	High	3	94.444	D
15				5	18.629	H
16				6	38.889	I
17	Las			6	91.248	D
18	Colinas	5	Highest	4	80.588	D
19				6	74.500	D
20				7	47.937	I
21	Rpto			4	18.750	H
22	Schich	5	Highest	9	85.332	F
23				3	49.118	I
24				4	50.000	I
25	Sun			3	49.280	I
26	Judas	3	Highest	2	64.198	D
27				4	46.958	I
28				3	18.651	H

Household Type	Average
H (small) ..... 20g/c/d under	16.8g/c/d (63 l/e/d)
I (middle) ..... 21g/c/d - 55	45.9g/c/d (173 l/e/d)
D (big) ..... 56g/c/d - 110	85.0g/c/d (321 l/e/d)
F (biggest) ....110g/c/d over	157.5g/c/d (596 l/e/d)



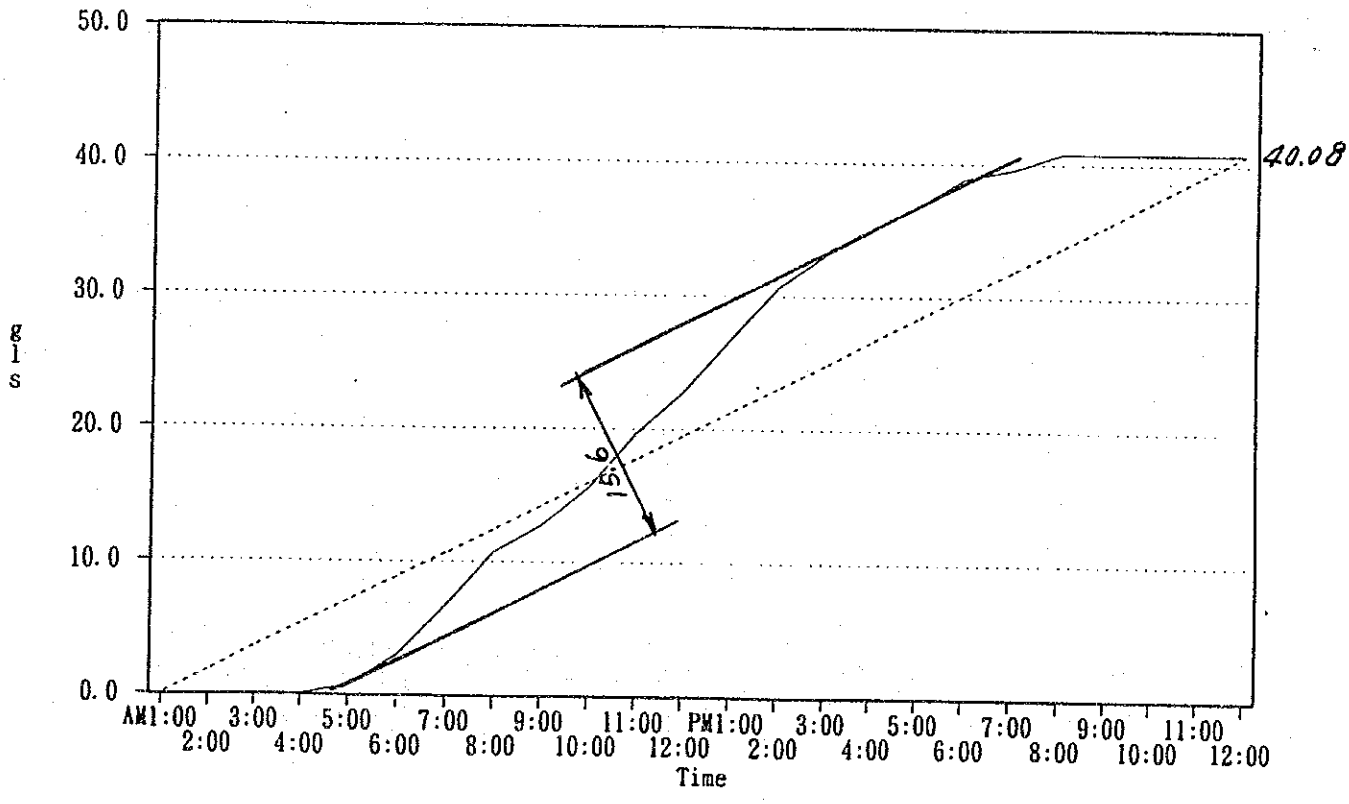
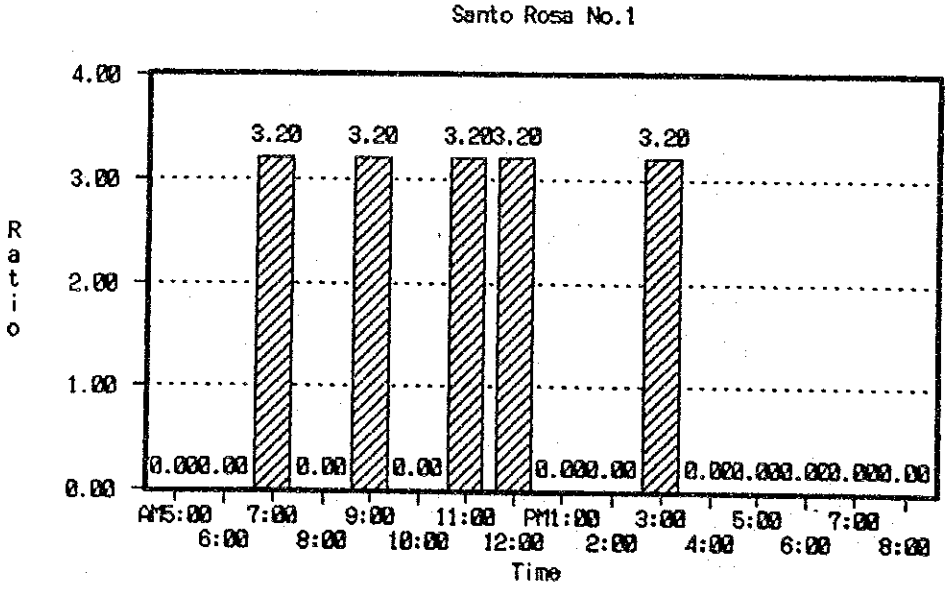


Fig. 3.4 Measured average domestic hourly water use
(4 sample houses each from 7 districts July 1992)

CONSUMO DOMICILIAR

ZONA	02/16
Barrio/Rpto	Santa Rosa
Medidor No.	315111
No. viviendas usuarios	1
No. personas usuarios	4

	10-07-92		11-07-92		12-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	6357.000	(gls)	6358.000	(gls)	6360.000	(gls)	(gls)
6 : 00 AM	6357.000	0.000	6358.000	0.000	6360.000	0.000	0.000
7 : 00 AM	6357.000	0.000	6358.000	0.000	6360.000	0.000	0.000
8 : 00 AM	6357.000	0.000	6359.000	100.000	6360.000	0.000	33.333
9 : 00 AM	6357.000	0.000	6359.000	0.000	6360.000	0.000	0.000
10 : 00 AM	6357.000	0.000	6359.000	0.000	6361.000	100.000	33.333
11 : 00 AM	6357.000	0.000	6359.000	0.000	6361.000	0.000	0.000
12 : 00 AM	6358.000	100.000	6359.000	0.000	6361.000	0.000	33.333
1 : 00 PM	6358.000	0.000	6360.000	100.000	6361.000	0.000	33.333
2 : 00 PM	6358.000	0.000	6360.000	0.000	6361.000	0.000	0.000
3 : 00 PM	6358.000	0.000	6360.000	0.000	6361.000	0.000	0.000
4 : 00 PM	6358.000	0.000	6360.000	0.000	6362.000	100.000	33.333
5 : 00 PM	6358.000	0.000	6360.000	0.000	6362.000	0.000	0.000
6 : 00 PM	6358.000	0.000	6360.000	0.000	6362.000	0.000	0.000
7 : 00 PM	6358.000	0.000	6360.000	0.000	6362.000	0.000	0.000
8 : 00 PM	6358.000	0.000	6360.000	0.000	6362.000	0.000	0.000
9 : 00 PM	6358.000	0.000	6360.000	0.000	6362.000	0.000	0.000
total(gls)		100.000		200.000		200.000	166.667
gls/Pp/d		25.000		50.000		50.000	41.667

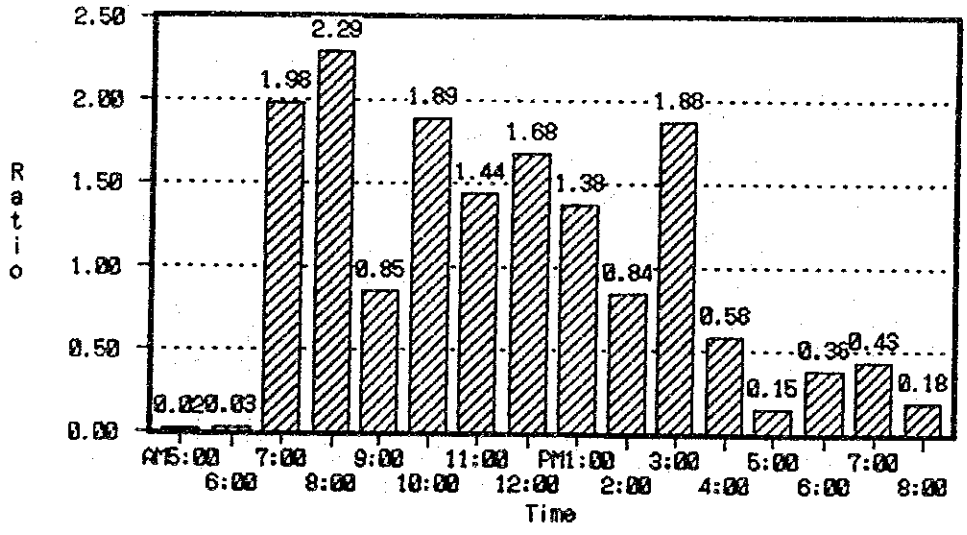


CONSUMO DOMICILIAR

ZONA	02/16/4180
Barrio/Rpto	SANTA ROSA
Medidor No.	9119983
No. viviendas usuarios	1
No. personas usuarios	6

	10-07-92		11-07-92		12-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	191.700	(M3)	192.898	(M3)	194.114	(M3)	(M3)
6 : 00 AM	191.703	0.003	192.898	0.000	194.116	0.002	0.002
7 : 00 AM	191.710	0.007	192.898	0.000	194.116	0.000	0.002
8 : 00 AM	191.853	0.143	193.081	0.183	194.227	0.111	0.146
9 : 00 AM	191.855	0.002	193.205	0.124	194.606	0.379	0.168
10 : 00 AM	191.856	0.001	193.277	0.072	194.72	0.114	0.062
11 : 00 AM	192.106	0.250	193.367	0.090	194.797	0.077	0.139
12 : 00 AM	192.164	0.058	193.564	0.197	194.86	0.063	0.106
13 : 00 PM	192.167	0.003	193.758	0.194	195.034	0.174	0.124
14 : 00 PM	192.200	0.033	193.970	0.212	195.093	0.059	0.101
15 : 00 PM	192.284	0.084	194.020	0.050	195.144	0.051	0.062
16 : 00 PM	192.662	0.378	194.039	0.019	195.161	0.017	0.138
17 : 00 PM	192.778	0.116	194.039	0.000	195.172	0.011	0.042
18 : 00 PM	192.792	0.014	194.056	0.017	195.174	0.002	0.011
19 : 00 PM	192.812	0.020	194.074	0.018	195.22	0.046	0.028
20 : 00 PM	192.852	0.040	194.098	0.024	195.252	0.032	0.032
21 : 00 PM	192.874	0.022	194.108	0.010	195.26	0.008	0.013
total (M3)		1.198		1.216		1.161	1.192
gls/Pp/d		52.822		53.616		51.190	52.543

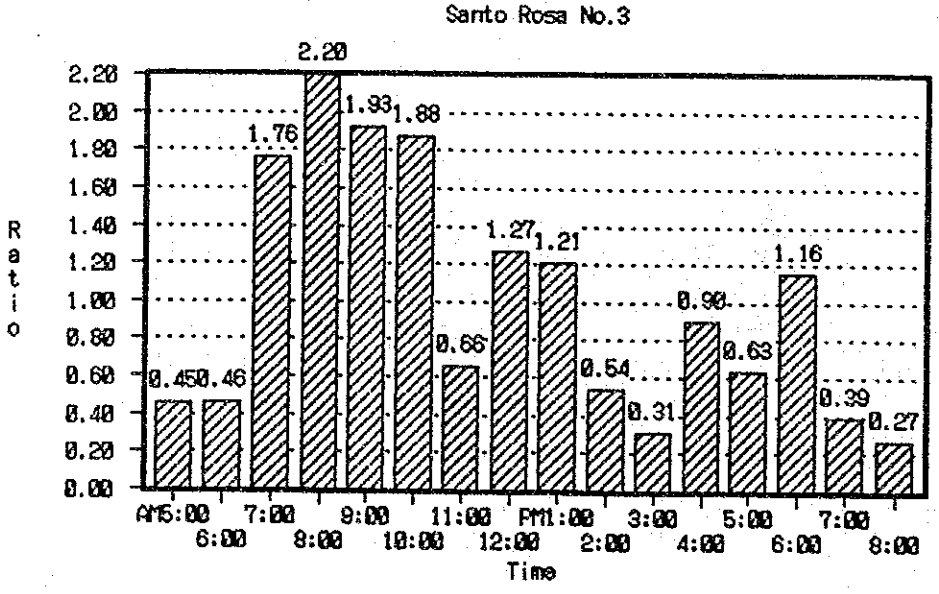
Santo Rosa No.2



CONSUMO DOMICILIAR

ZONA	01/16
Barrio/Rpto	Santa Rosa
Medidor No.	91146709
No. viviendas usuarios	1
No. personas usuarios	5

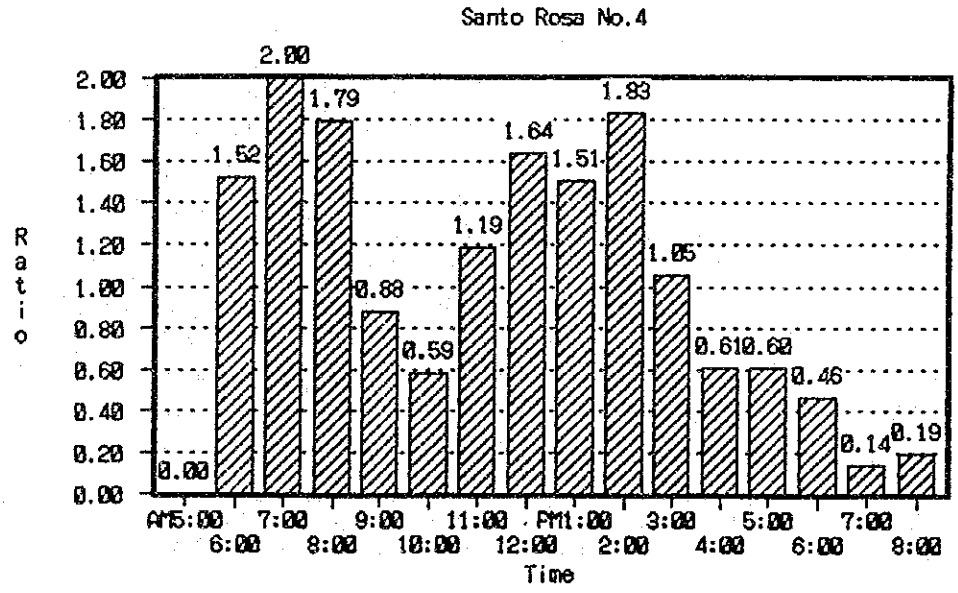
	10-07-92		11-07-92		12-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	151.228	(M3)	152.141	(M3)	153.430	(M3)	(M3)
6 : 00 AM	151.304	0.076	152.141	0.000	153.439	0.009	0.028
7 : 00 AM	151.362	0.058	152.160	0.019	153.449	0.010	0.029
8 : 00 AM	151.431	0.069	152.410	0.250	153.461	0.012	0.110
9 : 00 AM	151.573	0.142	152.597	0.187	153.546	0.085	0.138
10 : 00 AM	151.610	0.037	152.851	0.254	153.618	0.072	0.121
11 : 00 AM	151.649	0.039	153.091	0.240	153.692	0.074	0.118
12 : 00 AM	151.680	0.031	153.154	0.063	153.722	0.030	0.041
1 : 00 PM	151.792	0.112	153.168	0.014	153.835	0.113	0.080
2 : 00 PM	151.843	0.051	153.197	0.029	153.983	0.148	0.076
3 : 00 PM	151.844	0.001	153.224	0.027	154.056	0.073	0.034
4 : 00 PM	151.882	0.038	153.234	0.010	154.066	0.010	0.019
5 : 00 PM	151.934	0.052	153.287	0.053	154.131	0.065	0.057
6 : 00 PM	151.989	0.055	153.351	0.064	154.131	0.000	0.040
7 : 00 PM	152.049	0.060	153.360	0.009	154.280	0.149	0.073
8 : 00 PM	152.073	0.024	153.393	0.033	154.296	0.016	0.024
9 : 00 PM	152.095	0.022	153.416	0.023	154.302	0.006	0.017
total (M3)		0.913		1.289		0.902	1.035
gls/Pp/d		48.307		68.201		47.725	54.744



CONSUMO DOMICILIAR

ZONA	01/16
Barrio/Rpto	Santa Rosa
Medidor No.	91146708
No. viviendas usuarios	1
No. personas usuarios	13

	10-07-92		11-07-92		12-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	309.068	(M3)	310.834	(M3)	313.368	(M3)	(M3)
6 : 00 AM	309.068	0.000	310.834	0.000	313.368	0.000	0.000
7 : 00 AM	309.291	0.223	311.169	0.335	313.387	0.019	0.192
8 : 00 AM	309.533	0.242	311.357	0.188	313.715	0.328	0.253
9 : 00 AM	309.803	0.270	311.465	0.108	314.016	0.301	0.226
10 : 00 AM	309.850	0.047	311.578	0.113	314.189	0.173	0.111
11 : 00 AM	309.869	0.019	311.683	0.105	314.288	0.099	0.074
12 : 00 AM	310.110	0.241	311.815	0.132	314.366	0.078	0.150
13 : 00 PM	310.278	0.168	312.150	0.335	314.485	0.119	0.207
14 : 00 PM	310.353	0.075	312.435	0.285	314.697	0.212	0.191
15 : 00 PM	310.528	0.175	312.815	0.380	314.838	0.141	0.232
16 : 00 PM	310.592	0.064	312.928	0.113	315.06	0.222	0.133
17 : 00 PM	310.624	0.032	313.025	0.097	315.161	0.101	0.077
18 : 00 PM	310.682	0.058	313.196	0.171	315.161	0.000	0.076
19 : 00 PM	310.717	0.035	313.270	0.074	315.228	0.067	0.059
20 : 00 PM	310.728	0.011	313.304	0.034	315.238	0.010	0.018
21 : 00 PM	310.738	0.010	313.349	0.045	315.256	0.018	0.024
total (M3)		1.766		2.534		1.945	2.082
gls/Pp/d		35.938		51.567		39.591	42.365

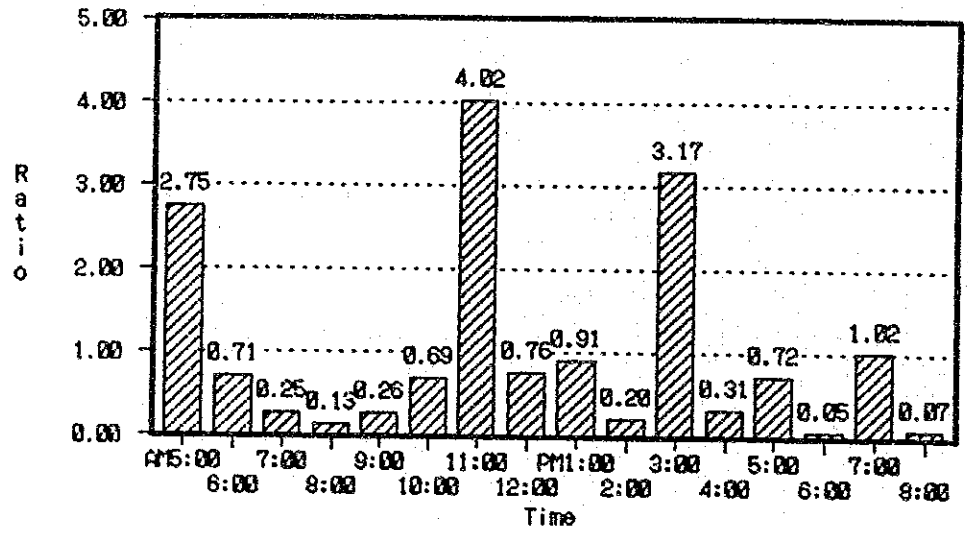


CONSUMO DOMICILIAR

ZONA	00/99/76900
Barrio/Rpto	CAMILO CHAMORRO
Medidor No.	87001793
No. viviendas usuarios	1
No. personas usuarios	6

	10-07-92		11-07-92		12-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	425.463	(M3)	425.850	(M3)	427.215	(M3)	(M3)
6 : 00 AM	425.481	0.018	426.300	0.450	427.217	0.002	0.157
7 : 00 AM	425.511	0.030	426.358	0.058	427.250	0.033	0.040
8 : 00 AM	425.516	0.005	426.358	0.000	427.288	0.038	0.014
9 : 00 AM	425.538	0.022	426.358	0.000	427.288	0.000	0.007
10 : 00 AM	425.542	0.004	426.396	0.038	427.290	0.002	0.015
11 : 00 AM	425.542	0.000	426.504	0.108	427.300	0.010	0.039
12 : 00 AM	425.543	0.001	426.631	0.127	427.860	0.560	0.229
1 : 00 PM	425.550	0.007	426.738	0.107	427.875	0.015	0.043
2 : 00 PM	425.550	0.000	426.890	0.152	427.878	0.003	0.052
3 : 00 PM	425.550	0.000	426.922	0.032	427.880	0.002	0.011
4 : 00 PM	425.551	0.001	427.057	0.135	428.287	0.407	0.181
5 : 00 PM	425.552	0.001	427.096	0.039	428.300	0.013	0.018
6 : 00 PM	425.552	0.000	427.189	0.093	428.330	0.030	0.041
7 : 00 PM	425.552	0.000	427.191	0.002	428.337	0.007	0.003
8 : 00 PM	425.712	0.160	427.195	0.004	428.348	0.011	0.058
9 : 00 PM	425.716	0.004	427.200	0.005	428.351	0.003	0.004
total(M3)		0.387		1.365		1.2105	0.987
gls/Pp/d		17.063		60.185		53.373	43.541

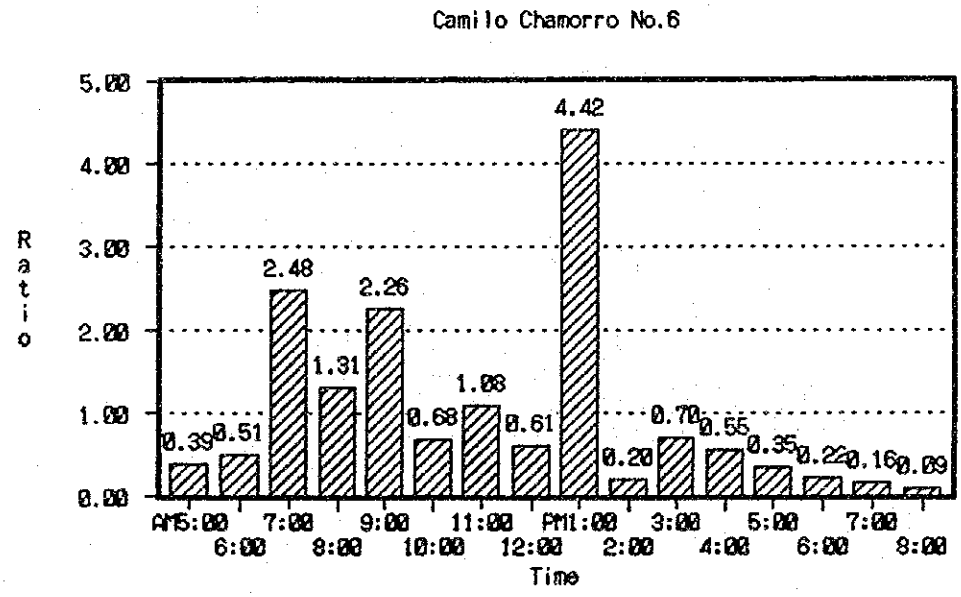
Camilo Chamorro No.5



CONSUMO DOMICILIAR

ZONA 00/24/33300
Barrio/Rpto CAMILO CHAMORRO
Medidor No. 87001928
No. viviendas usuarios 1
No. personas usuarios 8

	10-07-92		11-07-92		12-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	878.596		880.690		881.435		(M3)
6 : 00 AM	878.598	0.002	880.719	0.029	881.494	0.059	0.030
7 : 00 AM	878.644	0.046	880.789	0.070	881.494	0.000	0.039
8 : 00 AM	878.989	0.345	880.789	0.000	881.718	0.224	0.190
9 : 00 AM	879.178	0.189	880.789	0.000	881.829	0.111	0.100
10 : 00 AM	879.303	0.125	881.100	0.311	881.912	0.083	0.173
11 : 00 AM	879.407	0.104	881.100	0.000	881.965	0.053	0.052
12 : 00 AM	879.553	0.146	881.130	0.030	882.038	0.073	0.083
13 : 00 PM	879.626	0.073	881.180	0.050	882.055	0.017	0.047
14 : 00 PM	880.457	0.831	881.254	0.074	882.165	0.110	0.338
15 : 00 PM	880.475	0.018	881.254	0.000	882.193	0.028	0.015
16 : 00 PM	880.524	0.049	881.281	0.027	882.278	0.085	0.054
17 : 00 PM	880.571	0.047	881.318	0.037	882.321	0.043	0.042
18 : 00 PM	880.578	0.007	881.382	0.064	882.33	0.009	0.027
19 : 00 PM	880.581	0.003	881.408	0.026	882.352	0.022	0.017
20 : 00 PM	880.598	0.017	881.420	0.012	882.359	0.007	0.012
21 : 00 PM	880.604	0.006	881.431	0.011	882.364	0.005	0.007
total (M3)		2.094		0.745		0.974	1.271
gls/Pp/d		69.246		24.636		32.209	42.030

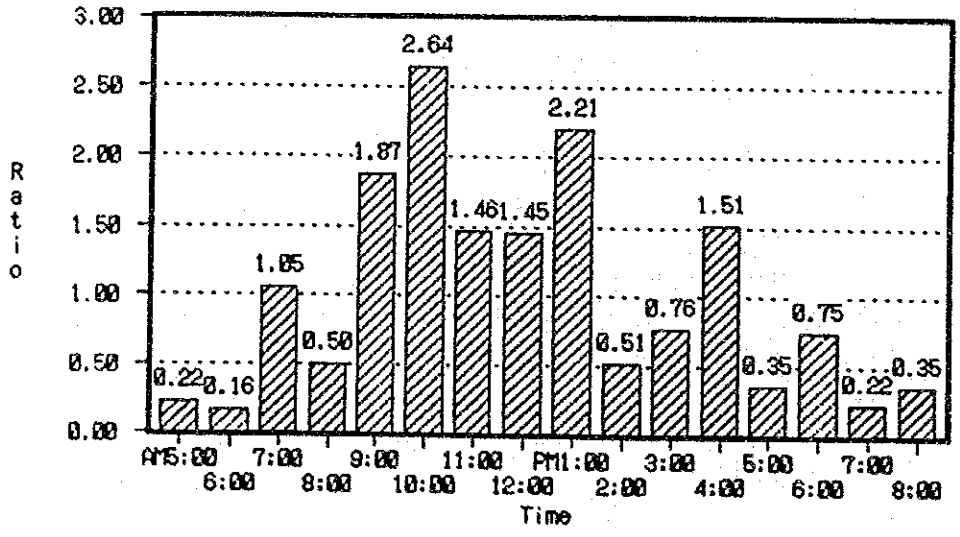


CONSUMO DOMICILIAR

ZONA	00/24/31000
Barrio/Rpto	CAMILO CHAMORRO
Medidor No.	3354
No. viviendas usuarios	1
No. personas usuarios	8

	10-07-92		11-07-92		12-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	819.492	(M3)	819.875	(M3)	820.170	(M3)	(M3)
6 : 00 AM	819.501	0.009	819.876	0.001	820.174	0.004	0.005
7 : 00 AM	819.509	0.008	819.877	0.001	820.175	0.001	0.003
8 : 00 AM	819.531	0.022	819.877	0.000	820.218	0.043	0.022
9 : 00 AM	819.553	0.022	819.877	0.000	820.227	0.009	0.010
10 : 00 AM	819.587	0.034	819.936	0.059	820.250	0.023	0.039
11 : 00 AM	819.636	0.049	820.014	0.078	820.287	0.037	0.055
12 : 00 AM	819.685	0.049	820.021	0.007	820.322	0.035	0.030
1 : 00 PM	819.725	0.040	820.064	0.043	820.329	0.007	0.030
2 : 00 PM	819.776	0.051	820.094	0.030	820.385	0.056	0.046
3 : 00 PM	819.791	0.015	820.101	0.007	820.395	0.010	0.011
4 : 00 PM	819.802	0.011	820.112	0.011	820.420	0.025	0.016
5 : 00 PM	819.856	0.054	820.121	0.009	820.450	0.030	0.031
6 : 00 PM	819.859	0.003	820.137	0.016	820.453	0.003	0.007
7 : 00 PM	819.867	0.008	820.158	0.021	820.470	0.017	0.015
8 : 00 PM	819.869	0.002	820.160	0.002	820.480	0.010	0.005
9 : 00 PM	819.875	0.006	820.163	0.003	820.493	0.013	0.007
total (M3)		0.383		0.295		0.327	0.335
gls/Pp/d		12.665		9.755		10.797	11.073

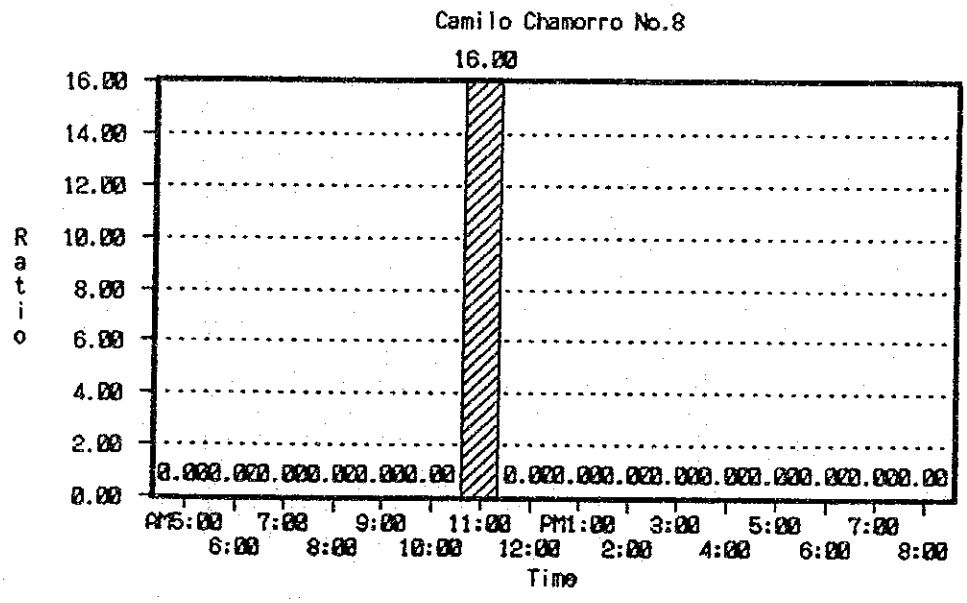
Camilo Chamorro No.7



CONSUMO DOMICILIAR

ZONA	00/240/1800
Barrio/Rpto	CAMILO CHAMORRO
Medidor No.	951624
No. viviendas usuarios	1
No. personas usuarios	3

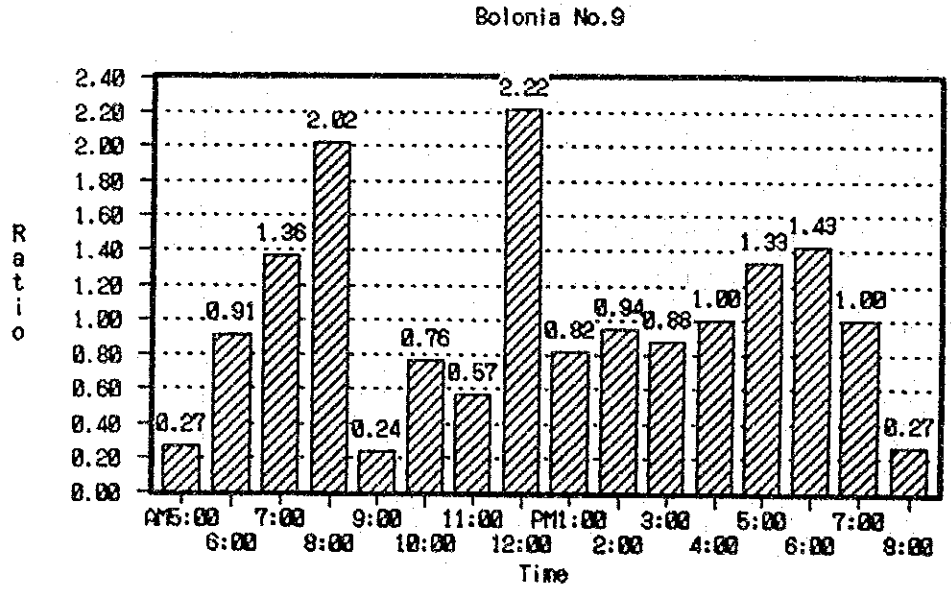
	10-07-92		11-07-92		12-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	4735.000	(gls)	4737.000	(gls)	4738.000	(gls)	(gls)
6 : 00 AM	4735.000	0.000	4737.000	0.000	4738.000	0.000	0.000
7 : 00 AM	4735.000	0.000	4737.000	0.000	4738.000	0.000	0.000
8 : 00 AM	4735.000	0.000	4737.000	0.000	4738.000	0.000	0.000
9 : 00 AM	4735.000	0.000	4737.000	0.000	4738.000	0.000	0.000
10 : 00 AM	4735.000	0.000	4737.000	0.000	4738.000	0.000	0.000
11 : 00 AM	4735.000	0.000	4737.000	0.000	4738.000	0.000	0.000
12 : 00 AM	4736.000	100.000	4737.000	0.000	4738.000	0.000	33.333
13 : 00 PM	4736.000	0.000	4737.000	0.000	4738.000	0.000	0.000
14 : 00 PM	4736.000	0.000	4737.000	0.000	4738.000	0.000	0.000
15 : 00 PM	4736.000	0.000	4737.000	0.000	4738.000	0.000	0.000
16 : 00 PM	4736.000	0.000	4737.000	0.000	4738.000	0.000	0.000
17 : 00 PM	4736.000	0.000	4737.000	0.000	4738.000	0.000	0.000
18 : 00 PM	4736.000	0.000	4737.000	0.000	4738.000	0.000	0.000
19 : 00 PM	4736.000	0.000	4737.000	0.000	4738.000	0.000	0.000
20 : 00 PM	4736.000	0.000	4737.000	0.000	4738.000	0.000	0.000
21 : 00 PM	4736.000	0.000	4737.000	0.000	4738.000	0.000	0.000
total(gls)		200.000		100.000		100.000	133.333
gls/Pp/d		66.667		33.333		33.333	44.444



CONSUMO DOMICILIAR

ZONA	03/73/4410
Barrio/Rpto	Bolonia
Medidor No.	312028
No. viviendas usuarios	1
No. personas usuarios	5

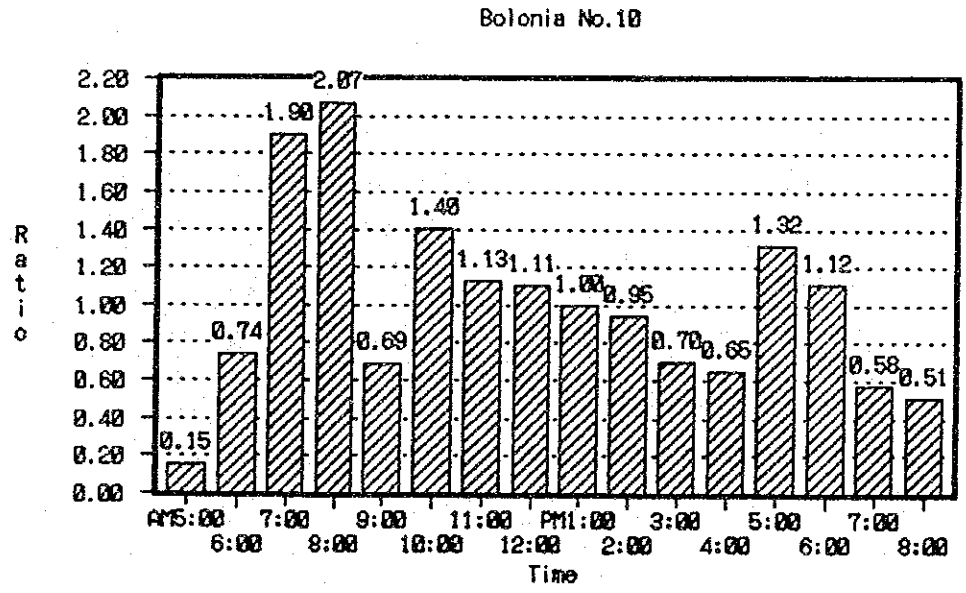
	15-07-92		16-07-92		17-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM		(gls)	7859.000	(gls)	7871.460	(gls)	(gls)
6 : 00 AM			7859.000	0.000	7871.920	46.000	15.333
7 : 00 AM	7851.000		7860.000	100.000	7872.470	55.000	51.667
8 : 00 AM	7851.000	0.000	7861.000	100.000	7873.790	132.000	77.333
9 : 00 AM	7852.000	100.000	7863.000	200.000	7874.230	44.000	114.667
10 : 00 AM	7852.000	0.000	7863.190	19.000	7874.450	22.000	13.667
11 : 00 AM	7852.000	0.000	7863.860	67.000	7875.080	63.000	43.333
12 : 00 AM	7852.000	0.000	7864.430	57.000	7875.480	40.000	32.333
1 : 00 PM	7853.000	100.000	7865.720	129.000	7876.970	149.000	126.000
2 : 00 PM	7853.000	0.000	7866.520	80.000	7877.560	59.000	46.333
3 : 00 PM	7853.000	0.000	7867.760	124.000	7877.930	37.000	53.667
4 : 00 PM	7854.000	100.000	7868.000	24.000	7878.190	26.000	50.000
5 : 00 PM	7855.000	100.000	7868.640	64.000	7878.250	6.000	56.667
6 : 00 PM	7856.000	100.000	7869.100	46.000	7879.050	80.000	75.333
7 : 00 PM	7857.000	100.000	7870.180	108.000	7879.400	35.000	81.000
8 : 00 PM	7858.000	100.000	7870.650	47.000	7879.630	23.000	56.667
9 : 00 PM	7858.000	0.000	7870.930	28.000	7879.810	18.000	15.333
total (gls)		800.000		1146.000		911.500	952.500
gls/Pp/d		160.000		229.200		182.300	190.500



CONSUMO DOMICILIAR

ZONA	03
Barrio/Rpto	Bolonia
Medidor No.	004288
No. viviendas usuarios	1
No. personas usuarios	6

	15-07-92		16-07-92		17-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM		(M3)	258.500	(M3)	260.250	(M3)	(M3)
6 : 00 AM			258.500	0.000	260.284	0.034	0.017
7 : 00 AM	256.700		258.600	0.100	260.350	0.066	0.083
8 : 00 AM	256.800	0.100	258.900	0.300	260.586	0.236	0.212
9 : 00 AM	257.000	0.200	259.100	0.200	260.879	0.293	0.231
10 : 00 AM	257.100	0.100	259.157	0.057	260.953	0.074	0.077
11 : 00 AM	257.200	0.100	259.230	0.073	261.251	0.298	0.157
12 : 00 AM	257.300	0.100	259.361	0.131	261.400	0.149	0.127
13 : 00 PM	257.500	0.200	259.388	0.027	261.544	0.144	0.124
14 : 00 PM	257.700	0.200	259.412	0.024	261.654	0.110	0.111
15 : 00 PM	257.800	0.100	259.531	0.119	261.752	0.098	0.106
16 : 00 PM	257.900	0.100	259.613	0.082	261.805	0.053	0.078
17 : 00 PM	258.000	0.100	259.716	0.103	261.821	0.016	0.073
18 : 00 PM	258.200	0.200	259.925	0.209	261.854	0.033	0.147
19 : 00 PM	258.300	0.100	260.000	0.075	262.053	0.199	0.125
20 : 00 PM	258.300	0.000	260.123	0.123	262.123	0.070	0.064
21 : 00 PM	258.400	0.100	260.170	0.047	262.147	0.024	0.057
total (M3)		1.800		1.750		1.987	1.846
gls/Pp/d		79.365		77.160		87.610	81.379

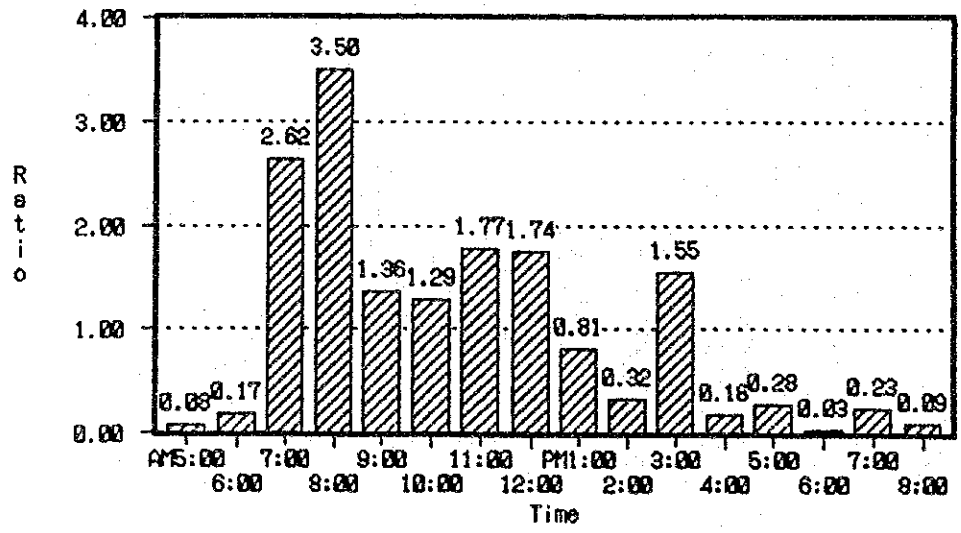


CONSUMO DOMICILIAR

ZONA	03/79/2320
Barrio/Rpto	Bolonia
Medidor No.	001442173
No. viviendas usuarios	1
No. personas usuarios	8

	15-07-92		16-07-92		17-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM		(gls)	74924.000	(gls)	74952.570	(gls)	(gls)
6 : 00 AM			74924.000	0.000	74952.980	4.100	1.367
7 : 00 AM	74877.000		74924.000	0.000	74953.900	9.200	3.067
8 : 00 AM	74880.000	30.000	74929.000	50.000	74960.050	61.500	47.167
9 : 00 AM	74890.000	100.000	74935.000	60.000	74962.950	29.000	63.000
10 : 00 AM	74893.000	30.000	74939.340	43.400	74962.950	0.000	24.467
11 : 00 AM	74895.000	20.000	74941.550	22.100	74965.680	27.300	23.133
12 : 00 AM	74902.000	70.000	74943.800	22.500	74966.000	3.200	31.900
1 : 00 PM	74910.000	80.000	74945.180	13.800	74966.000	0.000	31.267
2 : 00 PM	74913.000	30.000	74946.500	13.200	74966.030	0.300	14.500
3 : 00 PM	74913.000	0.000	74946.500	0.000	74967.780	17.500	5.833
4 : 00 PM	74920.000	70.000	74947.840	13.400	74967.790	0.100	27.833
5 : 00 PM	74920.000	0.000	74948.800	9.600	74967.790	0.000	3.200
6 : 00 PM	74921.000	10.000	74949.250	4.500	74967.850	0.600	5.033
7 : 00 PM	74921.000	0.000	74949.400	1.500	74967.850	0.000	0.500
8 : 00 PM	74921.000	0.000	74950.600	12.000	74967.900	0.500	4.167
9 : 00 PM	74921.000	0.000	74951.000	4.000	74967.980	0.800	1.600
total (gls)		470.000		285.7		176.950	310.883
gls/Pp/d		58.750		35.713		22.119	38.860

Bolonia No.11

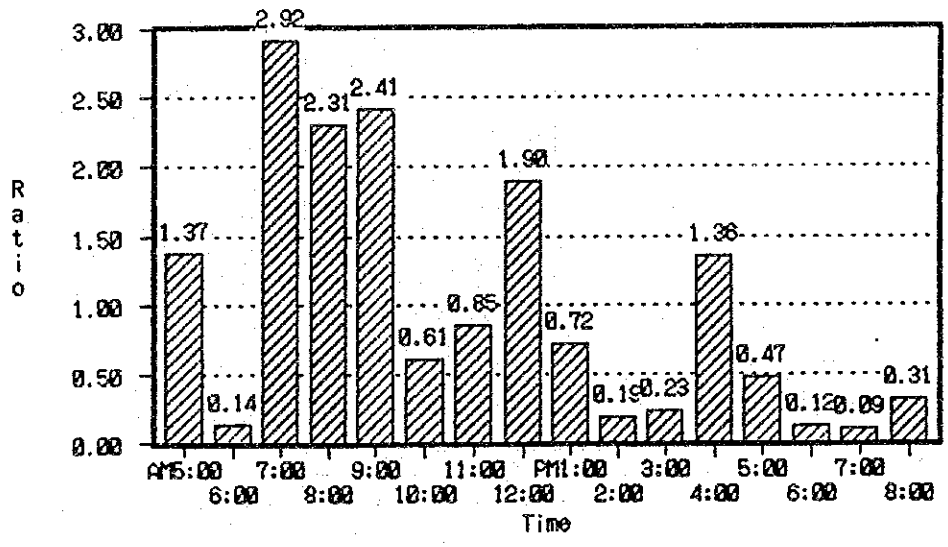


CONSUMO DOMICILIAR

ZONA	03/79/2200
Barrio/Rpto	Bolonia
Medidor No.	000563421
No. viviendas usuarios	1
No. personas usuarios	4

	15-07-92		16-07-92		17-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM		(gls)	13795.000	(gls)	13798.990	(gls)	(gls)
6 : 00 AM			13795.000	0.000	13800.000	101.000	33.667
7 : 00 AM	13790.000		13795.000	0.000	13800.100	10.000	3.333
8 : 00 AM	13791.000	100.000	13796.000	100.000	13800.250	15.000	71.667
9 : 00 AM	13791.000	0.000	13796.000	0.000	13801.950	170.000	56.667
10 : 00 AM	13792.000	100.000	13796.130	13.000	13802.600	65.000	59.333
11 : 00 AM	13792.000	0.000	13796.400	27.000	13802.780	18.000	15.000
12 : 00 AM	13792.000	0.000	13796.880	48.000	13802.930	15.000	21.000
13 : 00 PM	13793.000	100.000	13797.280	40.000	13802.930	0.000	46.667
14 : 00 PM	13793.000	0.000	13797.790	51.000	13802.950	2.000	17.667
15 : 00 PM	13793.000	0.000	13797.930	14.000	13802.950	0.000	4.667
16 : 00 PM	13793.000	0.000	13798.100	17.000	13802.950	0.000	5.667
17 : 00 PM	13793.000	0.000	13798.250	15.000	13803.800	85.000	33.333
18 : 00 PM	13793.000	0.000	13798.550	30.000	13803.850	5.000	11.667
19 : 00 PM	13793.000	0.000	13798.620	7.000	13803.870	2.000	3.000
20 : 00 PM	13793.000	0.000	13798.690	7.000	13803.870	0.000	2.333
21 : 00 PM	13793.000	0.000	13798.900	21.000	13803.890	2.000	7.667
total(gls)		500.000		399.000		594.500	497.833
gls/Pp/d		125.000		99.750		148.625	124.458

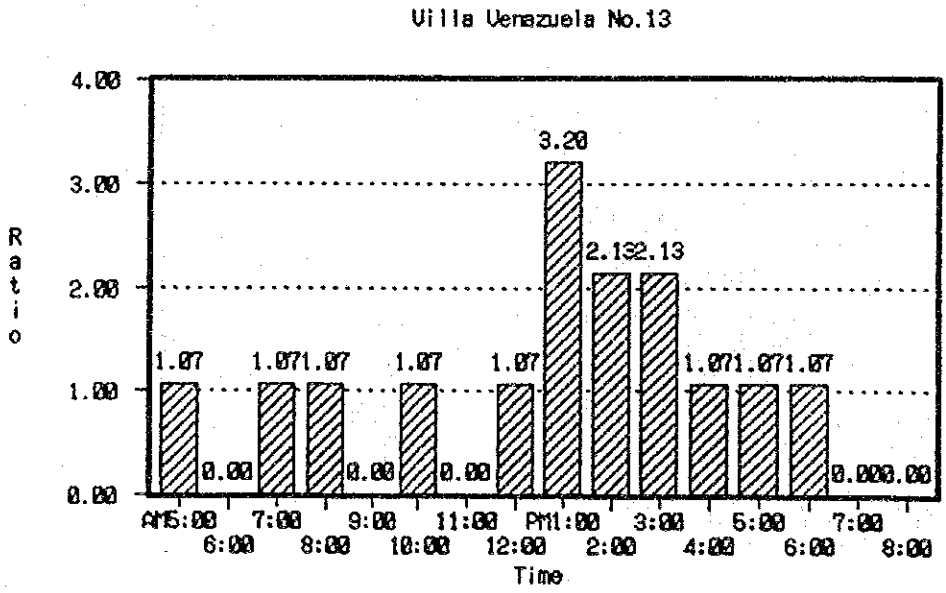
Bolonia No.12



CONSUMO DOMICILIAR

ZONA	06/21/27300
Barrio/Rpto	VILLA VENEZUELA
Medidor No.	227533
No. viviendas usuarios	1
No. personas usuarios	6

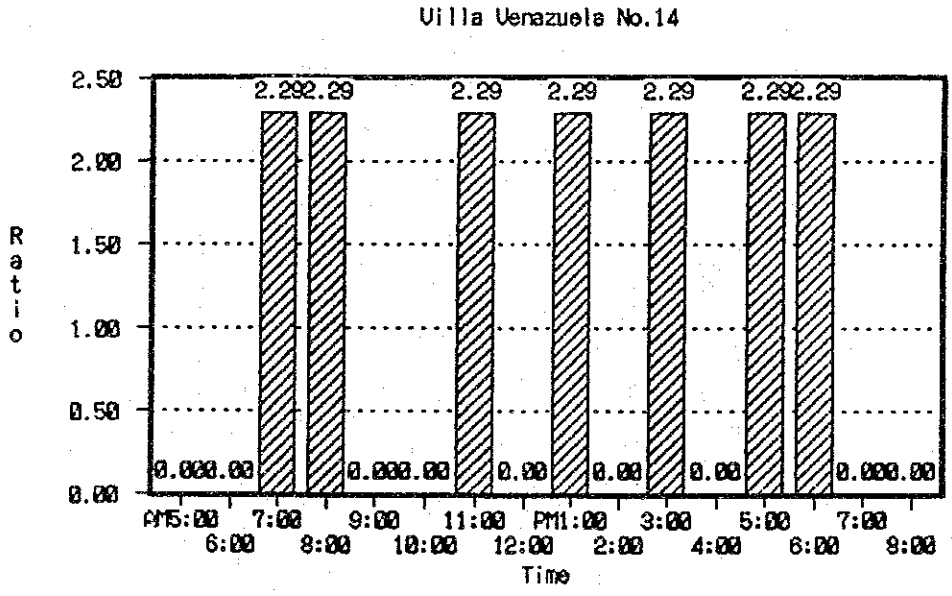
	13-07-92		14-07-92		15-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	4659.000	(gls)	4665.000	(gls)	4671.000	(gls)	(gls)
6 : 00 AM	4660.000	100.000	4665.000	0.000	4671.000	0.000	33.333
7 : 00 AM	4660.000	0.000	4665.000	0.000	4671.000	0.000	0.000
8 : 00 AM	4660.000	0.000	4665.000	0.000	4672.000	100.000	33.333
9 : 00 AM	4660.000	0.000	4666.000	100.000	4672.000	0.000	33.333
10 : 00 AM	4660.000	0.000	4666.000	0.000	4672.000	0.000	0.000
11 : 00 AM	4661.000	100.000	4666.000	0.000	4672.000	0.000	33.333
12 : 00 AM	4661.000	0.000	4666.000	0.000	4672.000	0.000	0.000
1 : 00 PM	4661.000	0.000	4666.000	0.000	4673.000	100.000	33.333
2 : 00 PM	4662.000	100.000	4667.000	100.000	4674.000	100.000	100.000
3 : 00 PM	4663.000	100.000	4668.000	100.000	4674.000	0.000	66.667
4 : 00 PM	4663.000	0.000	4669.000	100.000	4675.000	100.000	66.667
5 : 00 PM	4663.000	0.000	4669.000	0.000	4676.000	100.000	33.333
6 : 00 PM	4664.000	100.000	4669.000	0.000	4676.000	0.000	33.333
7 : 00 PM	4664.000	0.000	4669.000	0.000	4677.000	100.000	33.333
8 : 00 PM	4664.000	0.000	4669.000	0.000	4677.000	0.000	0.000
9 : 00 PM	4664.000	0.000	4669.000	0.000	4677.000	0.000	0.000
total (M3)		600.000		600.000		750.000	650.000
total (gls)		100.000		100.000		125.000	108.333



CONSUMO DOMICILIAR

ZONA	06/21/25300
Barrio/Rpto	VILLA VENEZUELA
Medidor No.	314299
No. viviendas usuarios	1
No. personas usuarios	3

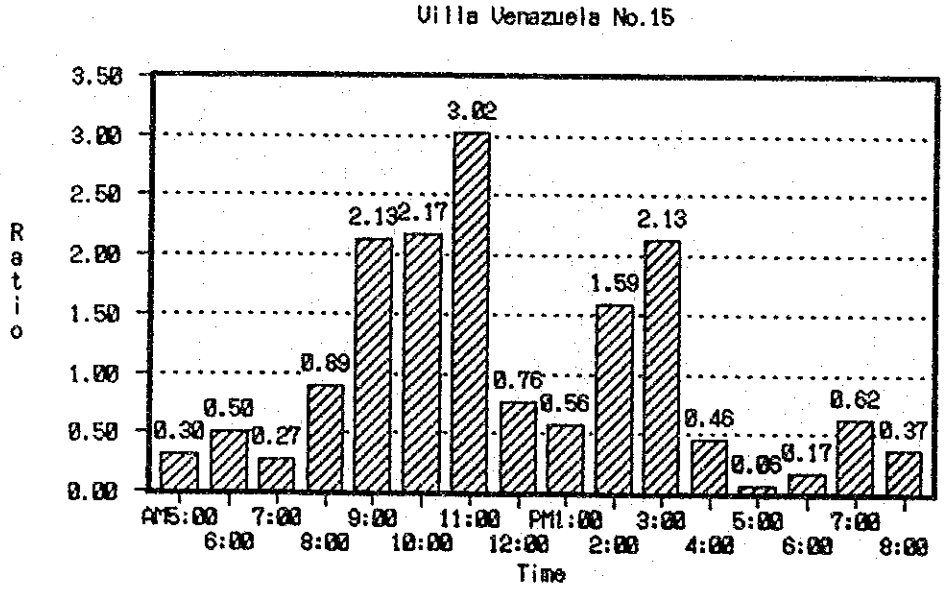
	13-07-92		14-07-92		15-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	8644.000	(gls)	8648.000	(gls)	8650.000	(gls)	(gls)
6 : 00 AM	8644.000	0.000	8648.000	0.000	8650.000	0.000	0.000
7 : 00 AM	8644.000	0.000	8648.000	0.000	8650.000	0.000	0.000
8 : 00 AM	8644.000	0.000	8648.000	0.000	8651.000	100.000	33.333
9 : 00 AM	8645.000	100.000	8648.000	0.000	8651.000	0.000	33.333
10 : 00 AM	8645.000	0.000	8648.000	0.000	8651.000	0.000	0.000
11 : 00 AM	8645.000	0.000	8648.000	0.000	8651.000	0.000	0.000
12 : 00 AM	8645.000	0.000	8649.000	100.000	8651.000	0.000	33.333
13 : 00 PM	8645.000	0.000	8649.000	0.000	8651.000	0.000	0.000
14 : 00 PM	8646.000	100.000	8649.000	0.000	8651.000	0.000	33.333
15 : 00 PM	8646.000	0.000	8649.000	0.000	8651.000	0.000	0.000
16 : 00 PM	8647.000	100.000	8649.000	0.000	8651.000	0.000	33.333
17 : 00 PM	8647.000	0.000	8649.000	0.000	8651.000	0.000	0.000
18 : 00 PM	8648.000	100.000	8649.000	0.000	8651.000	0.000	33.333
19 : 00 PM	8648.000	0.000	8649.000	0.000	8652.000	100.000	33.333
20 : 00 PM	8648.000	0.000	8649.000	0.000	8652.000	0.000	0.000
21 : 00 PM	8648.000	0.000	8649.000	0.000	8652.000	0.000	0.000
total (M3)		400.000		200.000		250.000	283.333
total (gls)		133.333		66.667		83.333	94.444



CONSUMO DOMICILIAR

ZONA	06/23/64100
Barrio/Rpto	VILLA VENEZUELA
Medidor No.	5790
No. viviendas usuarios	1
No. personas usuarios	5

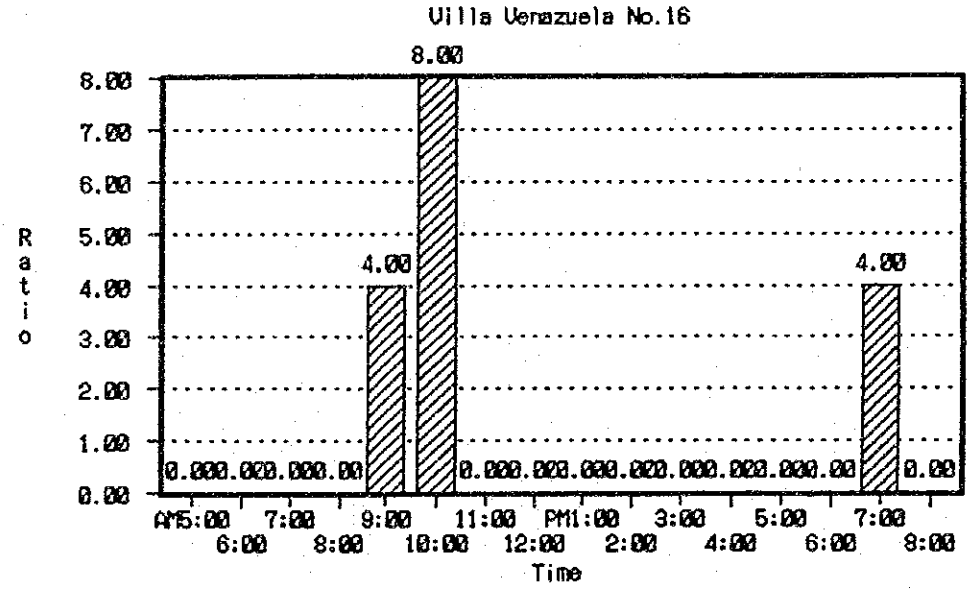
	13-07-92		14-07-92		15-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	174.630	(M3)	175.078	(M3)	175.317	(M3)	(M3)
6 : 00 AM	174.640	0.010	175.087	0.009	175.317	0.000	0.006
7 : 00 AM	174.670	0.030	175.087	0.000	175.319	0.002	0.011
8 : 00 AM	174.677	0.007	175.093	0.006	175.323	0.004	0.006
9 : 00 AM	174.700	0.023	175.099	0.006	175.350	0.027	0.019
10 : 00 AM	174.727	0.027	175.099	0.000	175.458	0.108	0.045
11 : 00 AM	174.772	0.045	175.182	0.083	175.467	0.009	0.046
12 : 00 AM	174.835	0.063	175.204	0.022	175.573	0.106	0.064
1 : 00 PM	174.860	0.025	175.224	0.020	175.576	0.003	0.016
2 : 00 PM	174.877	0.017	175.243	0.019	175.576	0.000	0.012
3 : 00 PM	174.952	0.075	175.268	0.025	175.577	0.001	0.034
4 : 00 PM	175.000	0.048	175.294	0.026	175.638	0.061	0.045
5 : 00 PM	175.018	0.018	175.298	0.004	175.645	0.007	0.010
6 : 00 PM	175.022	0.004	175.298	0.000	175.645	0.000	0.001
7 : 00 PM	175.022	0.000	175.303	0.005	175.651	0.006	0.004
8 : 00 PM	175.045	0.023	175.307	0.004	175.663	0.012	0.013
9 : 00 PM	175.056	0.011	175.310	0.003	175.672	0.009	0.008
total (M3)		0.448		0.239		0.369	0.352
total (gls)		23.704		12.646		19.538	18.629



CONSUMO DOMICILIAR

ZONA 06/23
Barrio/Rpto VILLA VENEZUELA
Medidor No.
No. viviendas usuarios 1
No. personas usuarios 6

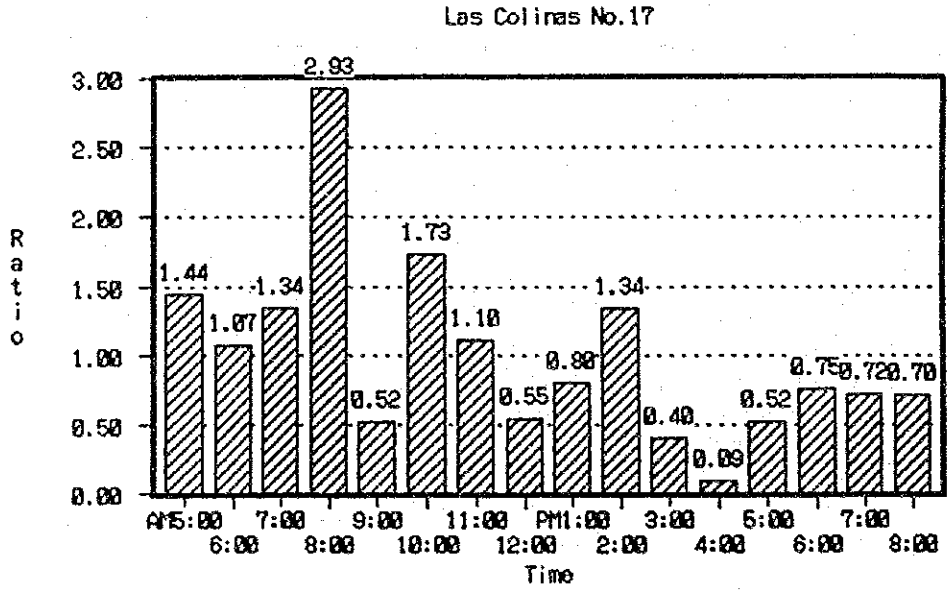
	13-07-92		14-07-92		15-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	12339.000	(gls)	12341.000	(gls)	12343.000	(gls)	(gls)
6 : 00 AM	12339.000	0.000	12341.000	0.000	12343.000	0.000	0.000
7 : 00 AM	12339.000	0.000	12341.000	0.000	12343.000	0.000	0.000
8 : 00 AM	12339.000	0.000	12341.000	0.000	12343.000	0.000	0.000
9 : 00 AM	12339.000	0.000	12341.000	0.000	12343.000	0.000	0.000
10 : 00 AM	12339.000	0.000	12342.000	100.000	12343.000	0.000	33.333
11 : 00 AM	12340.000	100.000	12342.000	0.000	12344.000	100.000	66.667
12 : 00 AM	12340.000	0.000	12342.000	0.000	12344.000	0.000	0.000
13 : 00 PM	12340.000	0.000	12342.000	0.000	12344.000	0.000	0.000
14 : 00 PM	12340.000	0.000	12342.000	0.000	12344.000	0.000	0.000
15 : 00 PM	12340.000	0.000	12342.000	0.000	12344.000	0.000	0.000
16 : 00 PM	12340.000	0.000	12342.000	0.000	12344.000	0.000	0.000
17 : 00 PM	12340.000	0.000	12342.000	0.000	12344.000	0.000	0.000
18 : 00 PM	12340.000	0.000	12342.000	0.000	12344.000	0.000	0.000
19 : 00 PM	12340.000	0.000	12342.000	0.000	12344.000	0.000	0.000
20 : 00 PM	12340.000	0.000	12342.000	0.000	12345.000	100.000	33.333
21 : 00 PM	12340.000	0.000	12342.000	0.000	12345.000	0.000	0.000
total (gls)		200.000		200.000		300.000	233.333
total (gls)		33.333		33.333		50.000	38.889



CONSUMO DOMICILIAR

ZONA	07/26/12000
Barrio/Rpto	Las Colinas
Medidor No.	7008
No. viviendas usuarios	1
No. personas usuarios	6

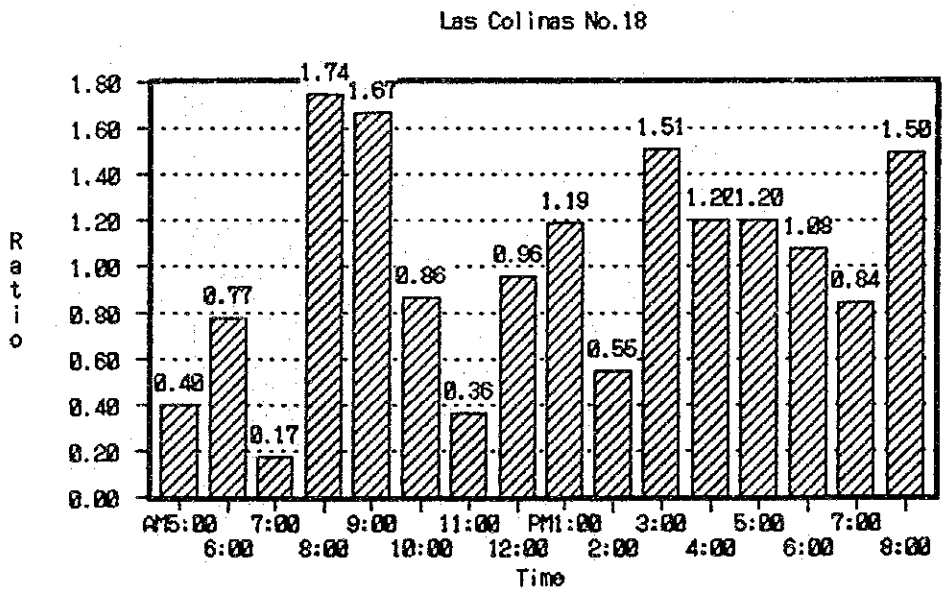
	16-07-92		17-07-92		18-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	1510.000	(M3)	1511.887	(M3)	1513.504	(M3)	(M3)
6 : 00 AM	1510.300	0.300	1511.904	0.017	1513.704	0.200	0.172
7 : 00 AM	1510.400	0.100	1512.110	0.206	1513.785	0.081	0.129
8 : 00 AM	1510.600	0.200	1512.378	0.268	1513.801	0.016	0.161
9 : 00 AM	1510.700	0.100	1512.545	0.167	1514.588	0.787	0.351
10 : 00 AM	1510.800	0.100	1512.614	0.069	1514.607	0.019	0.063
11 : 00 AM	1510.908	0.108	1512.701	0.087	1515.035	0.428	0.208
12 : 00 AM	1511.139	0.231	1512.825	0.124	1515.078	0.043	0.133
1 : 00 PM	1511.176	0.037	1512.950	0.125	1515.113	0.035	0.066
2 : 00 PM	1511.310	0.134	1513.041	0.091	1515.175	0.062	0.096
3 : 00 PM	1511.403	0.093	1513.107	0.066	1515.498	0.323	0.161
4 : 00 PM	1511.427	0.024	1513.129	0.022	1515.596	0.098	0.048
5 : 00 PM	1511.436	0.009	1513.137	0.008	1515.610	0.014	0.010
6 : 00 PM	1511.478	0.042	1513.160	0.023	1515.733	0.123	0.063
7 : 00 PM	1511.520	0.042	1513.309	0.149	1515.812	0.079	0.090
8 : 00 PM	1511.553	0.033	1513.398	0.089	1515.949	0.137	0.086
9 : 00 PM	1511.597	0.044	1513.497	0.099	1516.060	0.111	0.085
total (M3)		1.887		1.617		2.7045	2.069
gls/Pp/d		83.201		71.296		119.246	91.248



CONSUMO DOMICILIAR

ZONA	07/26/18200
Barrio/Rpto	Las Colinas
Medidor No.	008682
No. viviendas usuarios	1
No. personas usuarios	4

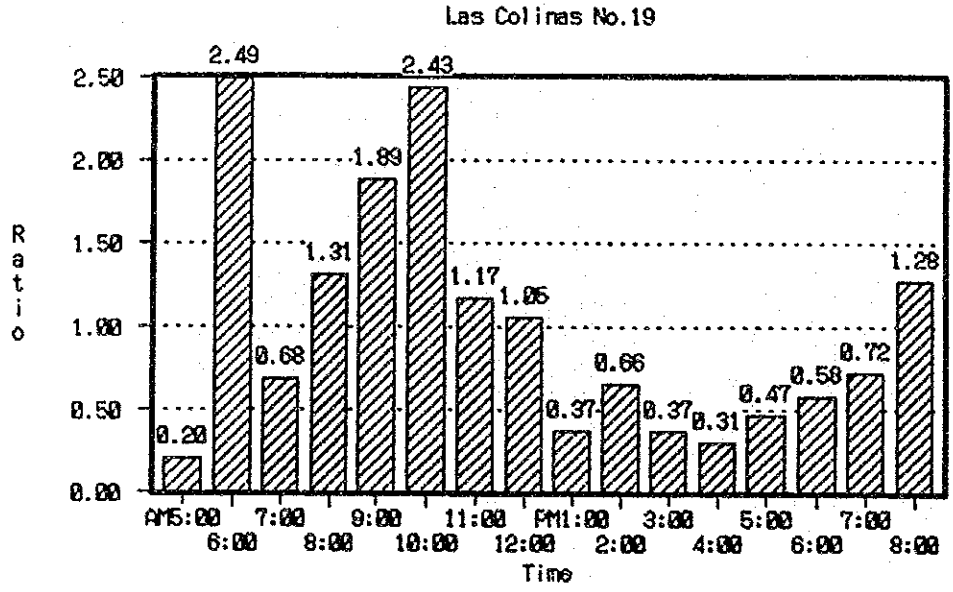
	16-07-92		17-07-92		18-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	2394.400	(M3)	2395.378	(M3)	2396.708	(M3)	(M3)
6 : 00 AM	2394.400	0.000	2395.453	0.075	2396.717	0.009	0.028
7 : 00 AM	2394.500	0.100	2395.500	0.047	2396.733	0.016	0.054
8 : 00 AM	2394.500	0.000	2395.529	0.029	2396.740	0.007	0.012
9 : 00 AM	2394.600	0.100	2395.687	0.158	2396.849	0.109	0.122
10 : 00 AM	2394.700	0.100	2395.783	0.096	2397.004	0.155	0.117
11 : 00 AM	2394.710	0.010	2395.849	0.066	2397.110	0.106	0.061
12 : 00 AM	2394.717	0.007	2395.879	0.030	2397.149	0.039	0.025
13 : 00 PM	2394.724	0.007	2395.943	0.064	2397.279	0.130	0.067
14 : 00 PM	2394.826	0.102	2395.960	0.017	2397.410	0.131	0.083
15 : 00 PM	2394.846	0.020	2396.052	0.092	2397.413	0.003	0.038
16 : 00 PM	2394.984	0.138	2396.184	0.132	2397.460	0.047	0.106
17 : 00 PM	2395.060	0.076	2396.274	0.090	2397.546	0.086	0.084
18 : 00 PM	2395.147	0.087	2396.323	0.049	2397.663	0.117	0.084
19 : 00 PM	2395.176	0.029	2396.483	0.160	2397.701	0.038	0.076
20 : 00 PM	2395.184	0.008	2396.515	0.032	2397.838	0.137	0.059
21 : 00 PM	2395.223	0.039	2396.670	0.155	2397.959	0.121	0.105
total(M3)		0.978		1.330		1.347	1.218
gls/Pp/d		64.683		87.963		89.120	80.589



CONSUMO DOMICILIAR

ZONA	07/26/18000
Barrio/Rpto	Las Colinas
Medidor No.	21202
No. viviendas usuarios	1
No. personas usuarios	6

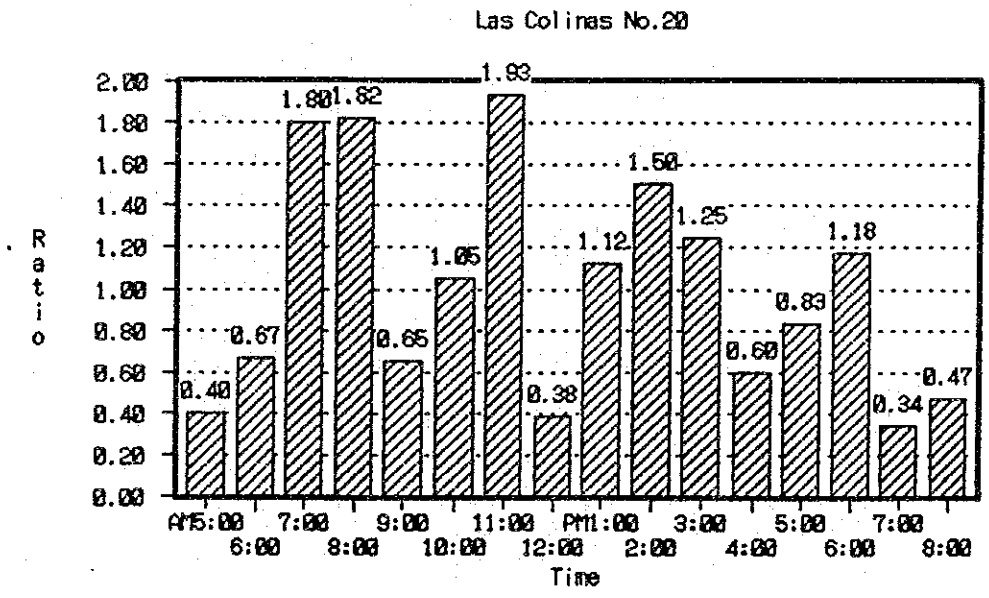
	16-07-92		17-07-92		18-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	139.530	(M3)	140.120	(M3)	143.515	(M3)	(M3)
6 : 00 AM	139.538	0.008	140.130	0.010	143.520	0.005	0.008
7 : 00 AM	139.557	0.019	140.149	0.019	143.764	0.244	0.094
8 : 00 AM	139.597	0.040	140.163	0.014	143.787	0.023	0.026
9 : 00 AM	139.622	0.025	140.209	0.046	143.864	0.077	0.049
10 : 00 AM	139.707	0.085	140.236	0.027	143.965	0.101	0.071
11 : 00 AM	139.776	0.069	140.299	0.063	144.108	0.143	0.092
12 : 00 AM	139.850	0.074	140.312	0.013	144.154	0.046	0.044
1 : 00 PM	139.877	0.027	140.325	0.013	144.233	0.079	0.040
2 : 00 PM	139.879	0.002	140.336	0.011	144.262	0.029	0.014
3 : 00 PM	139.894	0.015	140.379	0.043	144.278	0.016	0.025
4 : 00 PM	139.919	0.025	140.387	0.008	144.287	0.009	0.014
5 : 00 PM	139.944	0.025	140.393	0.006	144.291	0.004	0.012
6 : 00 PM	139.952	0.008	140.417	0.024	144.312	0.021	0.018
7 : 00 PM	139.971	0.019	140.423	0.006	144.353	0.041	0.022
8 : 00 PM	139.983	0.012	140.430	0.007	144.415	0.062	0.027
9 : 00 PM	139.998	0.015	140.497	0.067	144.477	0.062	0.048
total (M3)		0.59		3.395		1.084	1.690
gls/Pp/d		26.014		149.691		47.795	74.500



CONSUMO DOMICILIAR

ZONA	07/26/11400
Barrio/Rpto	Las Colinas
Medidor No.	1475994
No. viviendas usuarios	1
No. personas usuarios	7

	16-07-92		17-07-92		18-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	74000.000	(gls)	74041.690	(gls)	74077.550	(gls)	(gls)
6 : 00 AM	74001.000	10.000	74041.690	0.000	74078.700	11.500	7.167
7 : 00 AM	74003.000	20.000	74043.230	15.400	74078.750	0.500	11.967
8 : 00 AM	74005.000	20.000	74049.600	63.700	74080.100	13.500	32.400
9 : 00 AM	74011.000	60.000	74050.230	6.300	74083.290	31.900	32.733
10 : 00 AM	74013.000	20.000	74050.420	1.900	74084.610	13.200	11.700
11 : 00 AM	74014.150	11.500	74052.770	23.500	74086.770	21.600	18.867
12 : 00 AM	74018.830	46.800	74057.340	45.700	74087.940	11.700	34.733
13 : 00 PM	74018.950	1.200	74058.730	13.900	74088.500	5.600	6.900
14 : 00 PM	74019.800	8.500	74059.220	4.900	74093.200	47.000	20.133
15 : 00 PM	74021.030	12.300	74064.500	52.800	74094.800	16.000	27.033
16 : 00 PM	74022.700	16.700	74068.850	43.500	74095.500	7.000	22.400
17 : 00 PM	74023.910	12.100	74069.910	10.600	74096.460	9.600	10.767
18 : 00 PM	74026.800	28.900	74070.500	5.900	74097.460	10.000	14.933
19 : 00 PM	74029.710	29.100	74073.240	27.400	74098.150	6.900	21.133
20 : 00 PM	74030.070	3.600	74074.090	8.500	74098.750	6.000	6.033
21 : 00 PM	74030.330	2.600	74075.150	10.600	74099.980	12.300	8.500
total (M3)		416.900		358.6		231.180	335.560
gls/Pp/d		59.557		51.229		33.026	47.937

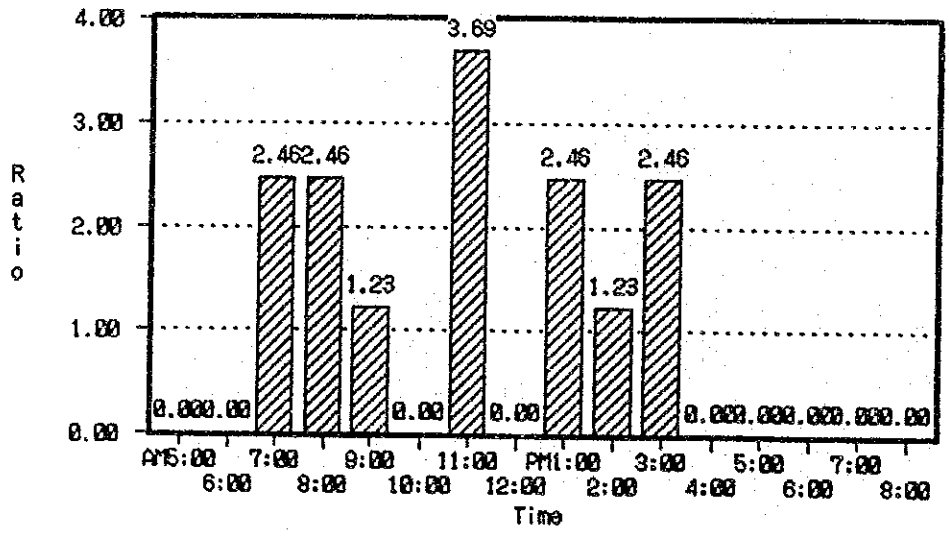


CONSUMO DOMICILIAR

ZONA	07/77/1440
Barrio/Rpto	Rpto.Schick
Medidor No.	001441294
No. viviendas usuarios	1
No. personas usuarios	4

	13-07-92		14-07-92		15-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	23116.000	(gls)	23122.000	(gls)	23131.000	(gls)	(gls)
6 : 00 AM	23116.000	0.000	23122.000	0.000			0.000
7 : 00 AM	23116.000	0.000	23122.000	0.000			0.000
8 : 00 AM	23118.000	20.000	23122.000	0.000			10.000
9 : 00 AM	23119.000	10.000	23123.000	10.000			10.000
10 : 00 AM	23120.000	10.000	23123.000	0.000			5.000
11 : 00 AM	23120.000	0.000	23123.000	0.000			0.000
12 : 00 AM	23121.000	10.000	23125.000	20.000			15.000
1 : 00 PM	23121.000	0.000	23125.000	0.000			0.000
2 : 00 PM	23122.000	10.000	23126.000	10.000			10.000
3 : 00 PM	23122.000	0.000	23127.000	10.000			5.000
4 : 00 PM	23122.000	0.000	23129.000	20.000			10.000
5 : 00 PM	23122.000	0.000	23129.000	0.000			0.000
6 : 00 PM	23122.000	0.000	23129.000	0.000			0.000
7 : 00 PM	23122.000	0.000	23129.000	0.000			0.000
8 : 00 PM	23122.000	0.000	23129.000	0.000			0.000
9 : 00 PM	23122.000	0.000	23129.000	0.000			0.000
total(gls)		60.000		90.000			75.000
gls/Pp/d		15.000		22.500			18.750

Rpto Schich No.21

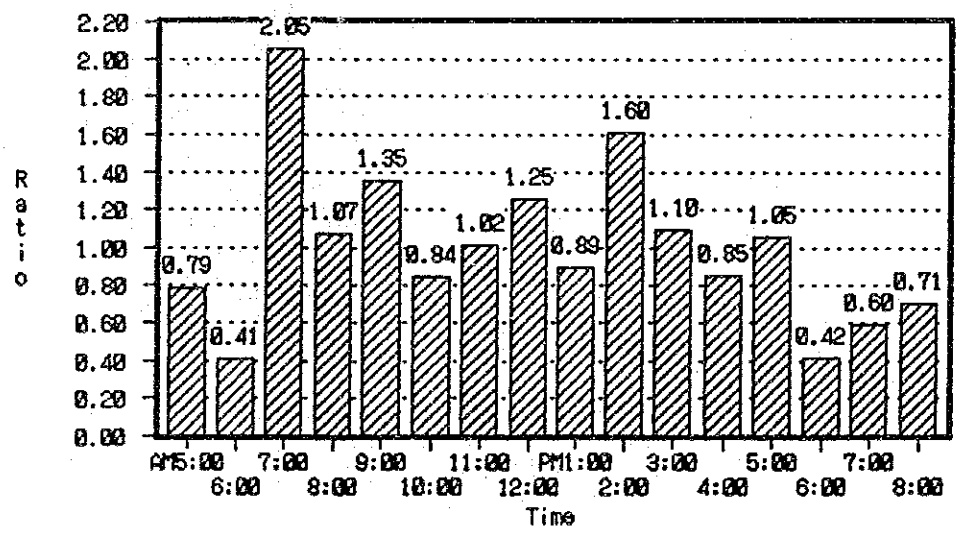


CONSUMO DOMICILIAR

ZONA	07/79/7300
Barrio/Rpto	Rpto. Schick
Medidor No.	9194286
No. viviendas usuarios	1
No. personas usuarios	9

	13-07-92		14-07-92		15-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	304.477	(M3)	307.125	(M3)	310.283	(M3)	(M3)
6 : 00 AM	304.563	0.086	307.271	0.146			0.116
7 : 00 AM	304.680	0.117	307.274	0.003			0.060
8 : 00 AM	304.877	0.197	307.680	0.406			0.302
9 : 00 AM	305.020	0.143	307.851	0.171			0.157
10 : 00 AM	305.218	0.198	308.050	0.199			0.199
11 : 00 AM	305.330	0.112	308.186	0.136			0.124
12 : 00 AM	305.472	0.142	308.342	0.156			0.149
13 : 00 PM	305.630	0.158	308.552	0.210			0.184
14 : 00 PM	305.727	0.097	308.716	0.164			0.130
15 : 00 PM	306.040	0.313	308.874	0.158			0.236
16 : 00 PM	306.256	0.216	308.980	0.106			0.161
17 : 00 PM	306.412	0.156	309.073	0.093			0.124
18 : 00 PM	306.524	0.112	309.270	0.197			0.155
19 : 00 PM	306.529	0.005	309.387	0.117			0.061
20 : 00 PM	306.568	0.039	309.523	0.136			0.088
21 : 00 PM	306.588	0.020	309.710	0.187			0.103
total (M3)		2.648		3.158			2.903
gls/Pp/d		77.837		92.828			85.332

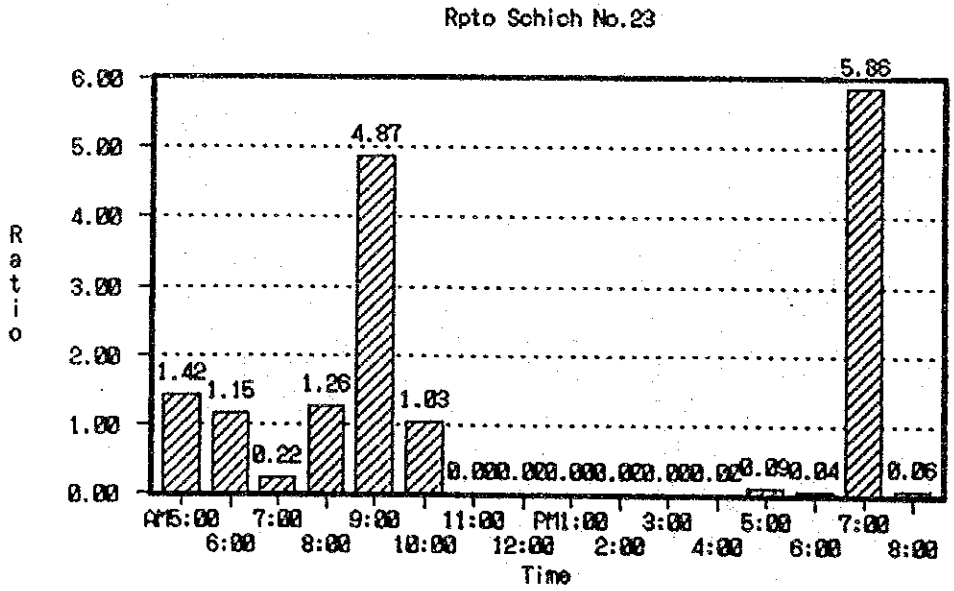
Rpto Schich No.22



CONSUMO DOMICILIAR

ZONA	07/79/7900
Barrio/Rpto	Rpto. Schick
Medidor No.	9194276
No. viviendas usuarios	1
No. personas usuarios	3

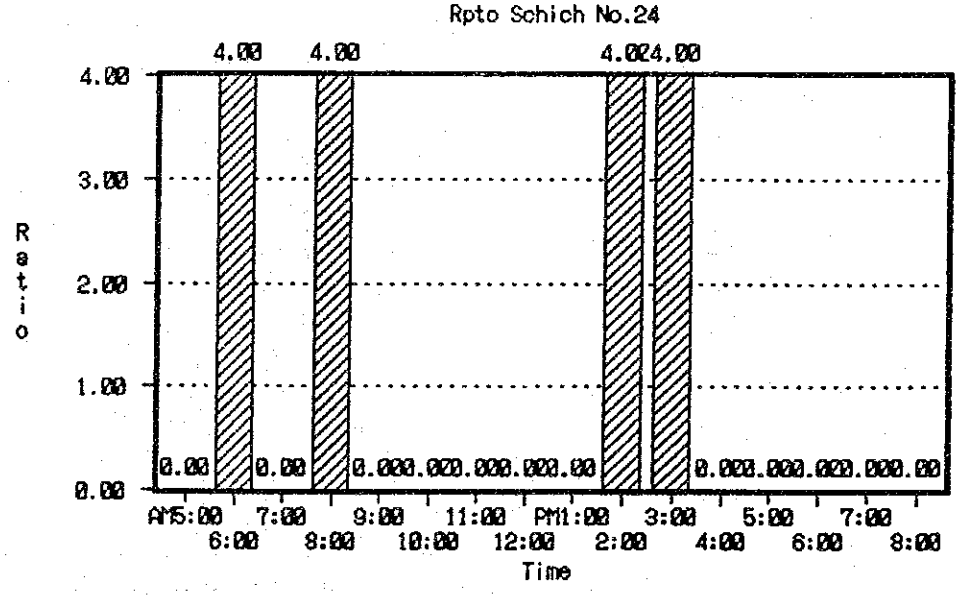
	13-07-92		14-07-92		15-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	108.253	(M3)	108.767	(M3)	109.367	(M3)	(M3)
6 : 00 AM	108.253	0.000	108.865	0.098			0.049
7 : 00 AM	108.330	0.077	108.867	0.002			0.040
8 : 00 AM	108.345	0.015	108.867	0.000			0.008
9 : 00 AM	108.345	0.000	108.954	0.087			0.043
10 : 00 AM	108.345	0.000	109.290	0.336			0.168
11 : 00 AM	108.345	0.000	109.361	0.071			0.035
12 : 00 AM	108.345	0.000	109.361	0.000			0.000
1 : 00 PM	108.345	0.000	109.361	0.000			0.000
2 : 00 PM	108.345	0.000	109.361	0.000			0.000
3 : 00 PM	108.345	0.000	109.361	0.000			0.000
4 : 00 PM	108.345	0.000	109.361	0.000			0.000
5 : 00 PM	108.345	0.000	109.361	0.000			0.000
6 : 00 PM	108.345	0.000	109.367	0.006			0.003
7 : 00 PM	108.348	0.003	109.367	0.000			0.002
8 : 00 PM	108.752	0.404	109.367	0.000			0.202
9 : 00 PM	108.756	0.004	109.367	0.000			0.002
total (M3)		0.514		0.6			0.557
gls/Pp/d		45.326		52.910			49.118



CONSUMO DOMICILIAR

ZONA	07/77/1430
Barrio/Rpto	Rpto.Schick
Medidor No.	000315796
No. viviendas usuarios	1
No. personas usuarios	4

	13-07-92		14-07-92		15-07-92		Promedio
	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Lectura	Gasto/Hora	Gasto/Hora
5 : 00 AM	6454.000	(gls)	6456.000	(gls)	6458.000	(gls)	(gls)
6 : 00 AM	6454.000	0.000	6456.000	0.000			0.000
7 : 00 AM	6455.000	100.000	6456.000	0.000			50.000
8 : 00 AM	6455.000	0.000	6456.000	0.000			0.000
9 : 00 AM	6455.000	0.000	6457.000	100.000			50.000
10 : 00 AM	6455.000	0.000	6457.000	0.000			0.000
11 : 00 AM	6455.000	0.000	6457.000	0.000			0.000
12 : 00 AM	6455.000	0.000	6457.000	0.000			0.000
13 : 00 PM	6455.000	0.000	6457.000	0.000			0.000
14 : 00 PM	6455.000	0.000	6457.000	0.000			0.000
15 : 00 PM	6456.000	100.000	6457.000	0.000			50.000
16 : 00 PM	6456.000	0.000	6458.000	100.000			50.000
17 : 00 PM	6456.000	0.000	6458.000	0.000			0.000
18 : 00 PM	6456.000	0.000	6458.000	0.000			0.000
19 : 00 PM	6456.000	0.000	6458.000	0.000			0.000
20 : 00 PM	6456.000	0.000	6458.000	0.000			0.000
21 : 00 PM	6456.000	0.000	6458.000	0.000			0.000
total(gls)		200.000		200.000			200.000
gls/Pp/d		50.000		50.000			50.000



3.4 Runoff

All the rivers in the Study Area are generally dry except during the rainy season, and yet their flow does not last long even in this season - this is the so called flash-out condition. For this reason, investigation on annual runoff - direct outflow amount in the lakes was not accurately conducted, except for some short term studies.

IRENA conducted continuous discharge measurements in 1986-1988 in the study "INFORME SOBRE EL ESTUDIO HIDROGEOLOGICO DEL AREA DE LAS LAGUNAS DE NEJAPA, ASOSOSCA Y ACAHUALINA".

In order to assess the runoff condition, the discharge records at San Judas Station and the rainfall records at Las Nubes, San Isidro Libertador, Los Pastores, Santa Leonor, Magdalena and Sierra Maestra stations were reviewed.

The following table shows the location of the stations:

unit:m.s.n.m.

Station	item	Elevation (m)	Area (km^2)
Las Nubes	rainfall	900	1.19
San Isidro	rainfall	750	3.45
Los Pastores	rainfall	450	3.70
Santa Leonor	rainfall	350	3.58
Magdalena	rainfall	350	2.61
Sierra Maestra	rainfall	240	0.66
San Judas	discharge	240	15.19

Table 3.4.1 shows monthly rainfall and areal quantity measured at each station in 1985-1989, while Fig. 3.4.1 shows the monthly rainfall distribution.

Records on the stream discharge at the San Judas station are listed in Table 3.4.2. These records are irregularly collected because this stream is basically dry and flows only during a very short period after rainfall in the upstream area.

As a suitable quantity of data was not available, areal rainfall was assessed using the data collected at San Isidro and Magdalena stations in compliance with the discharge data and elevation of the stations.

The table below shows the assumed area covered by each station:

Station	Cover Area(km^2)
San Isidro	8.34
Magdalena	6.85

Table 3.4.3 is a calculation sheet of areal rainfall, monthly discharge and final runoff coefficients.

Outline of the calculated runoff coefficient and monthly rainfall at San Isidro Station are as follows:

unit: mm & (%)

	Year	May	Jun	Jul	Aug	Sep	Oct	Nov
Rain(mm)	1986	201	272	114	121	178	159	56
Runoff(%)	1986	0.2	0	0.1	0.6	-	0	0
	1987	68	92	430	247	274	155	10
	1987	2.6	0.4	1.3	3.2	-	0.9	-
	1988	391	358	192	549	315	554	86
	1988	0.8	2.3	-	2.1	3.9	7.6	-
	1989	48	139	180	157	467	64	89
	1989	-	0.7	0	0.3	2.0	0.3	-

The results indicate that variation in runoff coefficient is not only related with the rainfall amount of same month but also with the previous month rainfall.

The rainfall in 1986 was comparatively low, and so was the runoff coefficient throughout the year.

In 1987, the coefficients were 1.3% and 3.2% in July and August, respectively, in spite of a rainfall amount of 430 mm and 247 mm each month. Soil condition upto July was assessed to be very dried and the rain water at fell in July was consumed for saturation. Additionally, due to soil condition, runoff does not only occur in surface but in middle soil too. 1988 was very rainy and runoff coefficient in September was more than 7%. This recharge model was inferred to be made by tank model. Future daily rainfall and groundwater level records were estimated.

MONTHLY RAINFALL IN CUENCA OCCIDENTAL

in 1985-1989

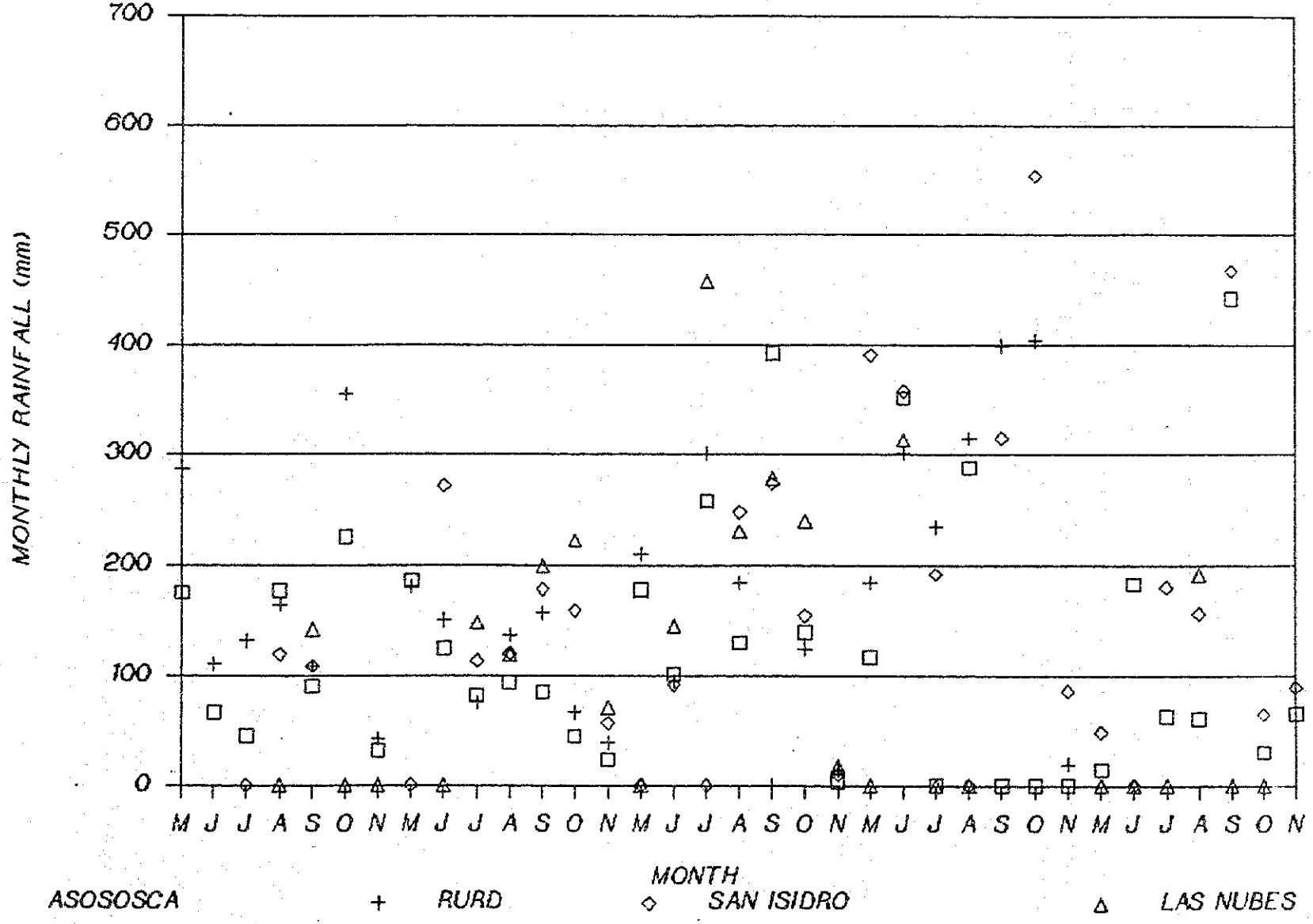


Table 3.4.1 Manthly Rainfall and Areal Quantity

STATION: LAS NUBES AREA= 1.19 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1985								66.0P142.5		81.0P		
1986						5.8P	148.3	120.1	199	222.3	70.7	39.4
1987					70.0P	145.5	457.5	230	278.3	239.5	16.5	
1988					401.0P	313.8	35.6P	289.2P				
1989					62.1P	134.2P	148.1P	191.2	415.5P	79.9P		

STATION: SAN ISIDRO LIBERTADOR AREA= 3.45 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1985							142.0	120	109.5			
1986				0	201.0P	271.8	114	120.6	178	158.6	56.4	19.6P
1987					67.7P	91.9	430.0	247.3	273.5	154.7	9.8	
1988					398.6	358.2	191.8		315.3P	554.2	86.1	51.9
1989	5.0 P			0.0 P	47.8		180	156.5	467.1	64	69.3P	

STATION: LOS PASTORES AREA= 3.7 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1987					93.0P	114.9	282.3	247.4	330.5	122.7	11.6	
1988					235.2P	271.3	174.3	429.6	218.4	461.9	56.5	
1989					59.0P	159.5P	165.9	165.2	448.6	41.5		

STATION: SANTA LEONOR AREA= 3.58 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1987					90.5P	70	90.3P			25.7P	18	
1988					205.0P	283.5	125.0P	92.0P	175.5P	389	54	6.0P
1989				0.0P	119	158.5	158.5	36.0P	178.7P	44	126.5	20.0P

STATION: SANTA LEONOR AREA= 3.58 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1987							113.8P	154.2P				
1988						134.2P	204.8	355.4	249.2	356.4P	33.6	
1989					118.6P	168.6	172.6	121.8	559.2	37.8		

STATION: MAGDALENA AREA= 2.61 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1985							220.0P	212	160.5			
1986					117.6P	175	89.4	73.5	91.8	49.8	27.1	1.0P
1987					117.4P	93.6	233.3P	197.5	303.8	122.3	7.9	
1988					209.5	316.1	265.9	329.4	322.8	402.5	8.0P	
1989					38.5P	157.6	145.9	112.2	464.5	34.4	50.2	

STATION: SIERRA MAESTRA AREA= 0.66 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1988					113.0P	310	205.5	66.5	392.5	379	45	11.5P
1989				0.0P	33.5	181.5	72.5P	101	239.2P	32.0P	0.0P	
1988					118.1P	306.1	179.7	328.7	386.8	365.4	34.2	
1989							146.7	89.1	442.7	29.3	82.8P	

STATION: LAS NUBES AREA= 1.19 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1985	0	0	0	0	0	0	0	71400	169575	98380	0	0
1986	0	0	0	0	0	8902	176477	142919	236810	264537	84131	46886
1987	0	0	0	0	83300	173115	544425	273700	331177	285005	19635	0
1988	0	0	0	0	477190	373422	42364	344148	0	0	0	0
1989	0	0	0	0	73899	199698	176239	227528	494445	95081	0	0
TOTAL	0	0	0	0	634389	713137	939505	1059695	1232027	741013	103766	46886

STATION: SAN ISIDRO LIBERTADOR AREA= 3.45 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1985	0	0	0	0	0	0	0	142300	130305	0	0	0
1986	0	0	0	0	239190	323442	135660	143514	211820	188972	67116	23324
1987	0	0	0	0	80563	109361	0	294287	325465	184093	11662	0
1988	0	0	0	0	464814	426258	228242	0	375267	659498	102459	0
1989	5950	0	0	0	56882	0	214200	186235	555849	76160	106267	0
TOTAL	5950	0	0	0	841449	859061	578102	766836	1598646	1108723	287504	23324

STATION: LOS PASTORES AREA= 3.7 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1987	0	0	0	0	344100	425130	1044510	915380	1222850	453990	42920	0
1988	0	0	0	0	870240	1003810	644910	1589520	808080	1709030	205050	0
1989	0	0	0	0	218300	590150	613830	611240	1659820	153550	0	0
TOTAL	0	0	0	0	1432640	2019090	2303250	3116140	3690750	2316570	251970	0

STATION: SANTA LEONOR AREA= 3.58 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1987	0	0	0	0	323990	250600	323274	0	0	92006	64440	0
1988	0	0	0	0	733900	1014930	447500	329360	628290	1392520	193320	21480
1989	0	0	0	0	426020	567430	567430	126880	639746	157520	652870	71500
TOTAL	0	0	0	0	1483910	1832960	1338204	456240	1268036	1642146	710630	93080

STATION: SANTA LEONOR AREA= 3.58 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1987	0	0	0	0	0	0	407404	552036	0	0	0	0
1988	0	0	0	0	0	480436	733184	1272332	892136	1275912	120288	0
1989	0	0	0	0	424588	603588	617908	436044	2601936	135324	0	0
TOTAL	0	0	0	0	424588	1084024	1758496	2260412	2894072	1411236	120288	0

STATION: MAGDALENA AREA= 2.61 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1985	0	0	0	0	0	0	574200	553320	418905	0	0	0
1986	0	0	0	0	305535	456750	233334	191835	244818	129978	70731	2610
1987	0	0	0	0	306414	244296	608913	515475	792918	319203	20619	0
1988	0	0	0	0	548795	825021	537399	859734	842508	1050525	20880	0
1989	0	0	0	0	100485	411336	386799	292842	1212345	89784	131022	0
TOTAL	0	0	0	0	1260630	1937403	2334645	2413206	3511484	1589490	243252	2610

STATION: SIERRA MAESTRA AREA= 0.66 (Km2)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1988	0	0	0	0	74580	204600	135630	43890	259050	250140	29700	7590
1989	0	0	0	0	22110	119750	47850	66660	157872	21120	0	0
TOTAL	0	0	0	0	96690	324350	183480	110550	416922	271260	29700	7590
1988	0	0	0	0	77946	202926	118602	216942	255288	241824	22572	0
1989	0	0	0	0	0	0	96822	58806	282182	19338	54648	0
TOTAL	0	0	0	0	77946	202926	215424	275748	547470	261162	77220	0

No.

Table 3.4.2 Stream Discharge at the San Judas

CUENCA OCCIDENTAL DISCHARGE in 1986-1987

*** DISCHARGE ANALYSIS AT THE SAN JUDAS STATION

YEAR	MONTH	START DAY	START HR	START MIN	END DAY	END HR	END MIN	TIME	Q(m3)	Q(m3/s)	H:total
1989	6	14	13	47	14	15	11	84	6836.2	1.3563	
		16	15	21	16	15	31	10	41.7	0.0695	
		16	17	37	16	18	11	34	2924.3	1.4334	
		20	15	51	20	16	6	15	78.3	0.087	
		27	14	16	27	16	38	142	6495.7	0.7624	16376.2
	7	20	15	33	20	15	36	3	46.8	0.26	
		21	13	34	21	13	58	24	1466.4	1.0183	
?		25	16	16	25	16	26	10	21.9	0.0365	
		26	12	30	26	12	31	1	0.6	0.01	
		27	7	30	27	7	43	13	79.05	0.1013	
		27	7	50	27	8	50	60	111.33	0.0309	1726.08
	8	17	14	25	17	14	44	19	88.2	0.0773	
		24	16	19	24	18	15	116	5066.6	0.7279	
		25	12	14	25	13	14	60	1692.6	0.4701	6847.4
	9	3	18	25	3	20	17	112	5161.6	0.7680	
		4	15	38	4	16	8	30	345.03	0.1916	
		13	18	2	13	20	27	145	1434.4	0.1648	
		14	21	20	14	22	19	59	735.93	0.2078	
		16	7	36	16	9	29	113	1691.9	0.2495	
		16	21	39	16	23	55	136	2595.8	0.3181	
		17	18	48	17	20	56	128	4356.4	0.5672	
		17	23	59	18	1	44	105	3562.65	0.5655	
		18	14	54	18	18	32	218	98821	7.5551	
		26	20	7	27	0	4	237	1363.1	0.0958	
		27	14	46	27	23	5	499	1064.6	0.0355	
		28	1	35	28	3	49	134	3448.4	0.4289	
		28	13	41	28	15	7	86	4647	0.9005	
		29	11	28	29	12	28	60	2032.43	0.5645	
		29	23	14	29	23	49	35	1340.76	0.6384	
		30	11	0	30	12	39	99	4667.1	0.7857	
		30	19	10	30	21	24	134	9345.6	1.1623	146613.
	10	3	18	10	3	18	24	14	2278.5	2.7125	
		11	15	18	11	15	42	24	286.38	0.1988	2564.88
1988	5	14	23	35	15	0	20	45	887.01	0.3285	
		18	13	28	18	14	47	79	36297	7.6575	
		19	12	52	19	13	30	38	181.2	0.0794	
		20	19	47	20	20	41	54	1141.9	0.3524	
		28	14	52	28	15	1	9	17.4	0.0322	
		29	5	33	29	6	18	45	1673.3	0.6197	40197.8
	6	12	21	48	12	23	55	127	59342.9	7.7877	
		13	0	0	13	0	34	34	565.4	0.2771	
		14	18	19	14	19	52	93	4565	0.8181	
		15	16	15	15	16	26	11	49.2	0.0745	
		17	22	20	18	1	45	205	56361.4	4.5822	
		18	14	58	18	15	40	42	100.56	0.0399	120984.
	8	3	12	58	3	18	6	308	34213.0	1.8513	
		4	15	51	4	16	36	45	3013.7	1.1161	
		5	16	34	5	17	41	67	2665.2	0.6629	
		9	16	40	9	19	1	141	25791	3.0485	
		10	17	16	10	18	44	88	54062	10.239	
		11	15	16	11	15	39	23	547.26	0.3965	
		15	19	51	15	21	21	90	6751.9	1.2503	
		19	19	49	19	19	52	3	10.8	0.06	
		21	22	35	21	23	53	78	10654	2.2764	
		22	20	20	22	20	58	38	117.57	0.0515	
		23	16	19	23	17	10	51	9479.94	3.0980	
		31	11	33	31	12	37	64	518.94	0.1351	147825.

YEAR	MONTH	START DAY	START HR	START MIN	END DAY	END HR	END MIN	TIME	Q(m3)	Q(m3/s)	H:total
	9	4	13	55	4	15	46	111	62670	9.4099	
		10	14	38	10	15	18	40	249.06	0.1037	
		11	13	56	11	14	29	33	1097.4	0.5542	
		12	0	23	12	1	54	91	253.05	0.0463	
		12	15	30	12	16	39	69	4918.35	1.1880	
		19	16	51	19	17	4	13	190	0.2435	
		20	17	35	20	22	10	275	67524	4.0923	
		21	20	10	21	21	35	85	5161.5	1.0120	
		25	11	39	25	12	38	59	5000.5	1.4125	
		26	12	20	26	14	17	117	2006.4	0.2858	
		27	17	15	27	18	30	75	30828	6.8506	
		29	14	31	29	15	51	80	10656	2.22	190554.
	10	8	15	58	8	17	12	74	4915.3	1.1070	
		12	18	47	12	19	17	30	205.68	0.1142	
		12	23	17	13	1	32	135	10463	1.2917	
		13	21	17	13	22	25	68	765.15	0.1875	
		14	18	25	14	22	26	241	67095	4.6400	
		16	15	29	16	19	5	216	14.85	0.0011	
		17	18	21	17	19	55	94	48882	8.6670	
		19	22	7	19	23	45	98	61118.1	10.394	
		22	18	40	23	0	55	375	356657.	15.851	
		23	2	43	23	5	27	166	16510.8	1.6779	
		24	23	17	25	0	3	46	264.36	0.0957	
		28	15	19	28	15	34	15	62.97	0.0699	566954.
1987	5	20	14	55	20	16	33	98	9537	1.6219	
		24	23	6	24	23	53	47	15390	5.4574	
		25	0	3	25	2	15	132	11141	1.4066	36068
	6	30	13	21	30	15	58	157	6867.2	0.7290	6867.2
	7	1	13	14	1	14	34	80	1154.2	0.2404	
		1	18	5	1	21	4	179	6158.8	0.5734	
		3	18	30	3	19	0	30	52.5	0.0291	
		7	13	59	7	15	52	113	12813	1.8898	
		13	15	19	13	17	18	119	26324	3.6868	
		30	15	38	30	17	6	88	1210.4	0.2292	47712.9
	8	2	17	28	2	19	37	129	18241.2	2.3567	
		3	2	19	3	9	7	408	65519.4	2.6764	
		3	16	27	3	17	23	56	5402.3	1.6078	
		3	19	0	3	23	43	283	9038.2	0.5322	
		4	0	8	4	1	41	93	9097.2	1.6303	
		15	17	16	15	18	37	81	2627.9	0.5407	
		29	18	14	29	18	19	5	11.4	0.038	109937.
	10	4	17	50	4	21	40	230	3797.87	0.2752	
		5	19	47	5	23	59	252	10297	0.6810	
		6	21	5	6	23	12	127	3574.3	0.4690	
		7	20	15	7	22	41	146	1508.9	0.1722	
		12	20	43	12	23	1	138	1346.4	0.1626	20524.4
1986	5	23	7	48	23	7	56	8	36.3	0.0756	
		25	19	38	25	20	49	71	970.2	0.2277	
		26	4	51	26	5	50	59	429.39	0.1212	
		27	0	5	27	1	9	64	3506.5	0.9131	
		28	3	54	28	6	21	147	1105.3	0.1253	
		28	23	55	29	15	25	930	655.56	0.0117	6703.25
	6	9	14	0	9	15	10	70	2795.1	0.6655	
		22	15	40	22	15	42	2	2.4	0.02	
		28	11	37	28	12	26	49	268.5	0.0913	3066
	7	2	16	2	2	16	20	18	96.12	0.089	
		4	15	32	4	16	0	28	624.24	0.3715	
		5	16	35	5	17	41	66	2007.1	0.5068	
		10	13	38	10	14	11	33	159.87	0.0807	2887.33
	8	18	18	9	18	20	54	165	9526.4	0.9622	9526.4
	10	15	4	42	15	5	57	75	68.25	0.0151	68.25
	11	20	15	5	20	15	20	15	61.86	0.0687	61.86

Calculation of Runoff Coefficient

(1) RAINFALL
STATION: SAN ISIDRO
ELEVATION: 750 M
FOR AREA 8.34 KM

UNIT: M3/MONTH

PM/	MAY	JUN	JUL	AUG	SEP	OCT	NOV	TOTAL
1986	201	272	114	121	178	159	56	1101
1987	68	92	430	247	274	155	10	1276
1988	391	358	192	549	315	554	86	2445
1989	48	139	180	157	467	64	89	1144

(2) RAINFALL
STATION: SAN ISIDRO
ELEVATION: 350 M
FOR AREA 6.85 KM

PM/	MAY	JUN	JUL	AUG	SEP	OCT	NOV	TOTAL
1986	129	175	89	74	94	50	27	638
1987	117	94	233	198	304	122	8	1076
1988	210	316	206	329	323	403	56	1843
1989	39	158	146	112	465	34	50	1004

(3) TOTAL QUANTITY CALCURATED (1)x8.34 + (2)x6.85

UNIT: 1000 M3

PM/	MAY	JUN	JUL	AUG	SEP	OCT	NOV	TOTAL
1986	2559.	3467.	1560.	1516.	2128.	1668.	651.9	13552
1987	1368.	1411.	5182.	3416.	4367.	2128.	138.2	18012
1988	4699.	5150.	3012.	6832.	4839.	7380.	1100.	33015
1989	667.4	2241.	2501.	2076.	7080.	766.6	1084.	16418

(4) DISCHARGE AT SAN JUDAS

UNIT: 1000 M3

PM/	MAY	JUN	JUL	AUG	SEP	OCT	NOV	TOTAL
1986	6.7	3.07	2.89	9.53	-	0.07	0.06	-
1987	36.06	6.87	47.71	109.9	-	20.52	-	-
1988	40.19	120.9	-	147.8	190.5	566.9	-	-
1989	-	16.37	1.73	6.85	146.6	2.56	-	-

(5) RUNOFF COEFFICIENT CALCURATED BY (4)/(3)

UNIT: %

PM/	MAY	JUN	JUL	AUG	SEP	OCT	NOV	TOTAL
1986	0.2	0	0.1	0.6	-	0	0	-
1987	2.6	0.4	1.3	3.2	-	0.9	-	-
1988	0.8	2.3	-	2.1	3.9	7.6	-	-
1989	-	0.7	0	0.3	2	0.3	-	-

3.5 Groundwater Use in 1972-1991

(1) Main wells of INAA Central Managua

The study on groundwater use was based on data collected by INAA in 1972-1991.

Basically, most of INAA production wells do not have equipment (discharge meter) to measure the pumping discharge. The pumping discharge is estimated by a field measurement of the in-pipe pressure with a manometer-type instrument, electric voltage and pumping hours.

To estimate the pumping discharge, the in-pipe pressure was measured in day time only. Since the discharge varies according to the pressure from connected line, i.e., demand in terminal, estimations are considered not accurate enough.

It was strongly recommended to fit out all the wells with a discharge meter and to carry out daily control and record of the pumpage values.

Table 3.5.1 shows the annual pumping discharge of Lake Asososca, Carlos Fonseca well field, Sabana Grande well field and other wells in central Managua in 1972-1991.

Table 3.5.2 (1)-(20) show monthly and annual pumping discharge in 1972-1991, respectively.

The following table summarizes annual production and discharge amount ratio of each well field in the total discharge amount recorded in INAA's main well fields in 1972-1991.

unit:million m3 & (%)

Location	1972	1975	1980	1985	1990	1991
Lake Asososca	25.10 (100)	33.90 (100)	27.20 (49)	31.09 (48)	25.94 (27)	24.00 (24)
Carlos Fonceca	- (0)	- (0)	20.07 (38)	21.39 (33)	20.20 (21)	21.99 (22)
Sabana Grande	- (0)	- (0)	- (0)	- (0)	4.73 (5)	5.45 (5)
Veracruz	- (0)	- (0)	2.05* (4)	2.05* (3)	3.21 (3)	3.89 (4)
Other	- (0)	- (0)	5.14 (9)	10.12 (16)	40.82 (44)	46.69 (46)
Total	25.10	33.90	55.09	64.65	97.04	102.02

* Annual production in Veracruz was estimated according to operation hours.

The table illustrates how water sources have shifted within the past 20 years.

Along with the expansion of Managua City, annual pumping discharge has rapidly increased in the past 20 years, from 25 million m^3 in 1972 to 102 million m^3 in 1991.

Until 1976, almost 100 % of the drinking water supply was taken from Lake Asososca. The Carlos Fonceca well-field was then developed from 1977 and its share in the total production of water supply has rapidly increased. Almost one-third of the total demand in 1980 and one-fourth in 1990 were provided from this well field.

The development and use of the Veracruz and Sabana Grande well fields started in 1976 and 1988, respectively. The production of other wells in central Managua was increasingly developed from mid 1980, and amounted to about half of the total amount in 1991.

The pumping discharge from Asososca Lake was maintained at 30 million m^3 in 1984-1986 and 25 million m^3 in 1987-1991.

(2) Other wells of INAA

Interviews on water production were conducted by INAA in other municipales.

Table 3.5.3 displays the production of INAA wells in other departments and municipalities. Only a few data was recorded, and most of the production estimate was therefore based on pumping capacity.

The annual production in 1991 is about 8.9 million m^3 and in comparison to the available records of 1972, the annual production has largely increased, a fact attributed to the improvements in the local water supply services of INAA.

(3) Other wells

(a) Industrial wells

Interviews were conducted to survey the main industrial and some commercial wells. Table 3.5.4 shows the results of the survey including the 1982 records.

The total well pumping discharge has decreased because many factories were closed down and due to the public water supply

services provided by INAA.

The following table summarizes the condition of the wells in 1982.

unit:No.

Condition	No. of well
Factory is closed down or non-existent	19
No use of pump/changed to INAA services	10
Functioning wells	24
Total	53

A survey on water demand was conducted in the following studies in 1972 and 1982.

- "ESTUDIO DE LA DEMAND DE AGUA DE LA POBLACION ESPERADA DE LA CIUDAD DE MANAGUA EN EL ANO 2000", SOGREAH in 1982
- "INVESTIGACIONES DE AGUAS SUBTERRANEAS EN LA REGION DEL PACIFICO DE NICARAGUA", NACIONES UNIDOS in 1973

The total pumping discharge measurements in 1972, 1982 and 1992 were compared, assuming that the wells surveyed in 1972 and 1982 are still functioning.

unit:million m3

Year	Annual pumping discharge
1972	10.90
1982	9.55
1992	5.88

The above Table shows that almost half of the pumping discharge in 1972 is discharged in 1992.

(b) Agricultural wells

A large-scale irrigation scheme, CENTRO NACIONAL DE INVESTIGACION DE GRANOS BASICOS, was conducted in San Cristobal. Other important schemes are also conducted at Tsima and Los Brasiles in the surrounding area.

The CNIGB is a public scheme which mainly produces seeds for farmers. The farm fields are located between the cities of Cofradia and Sabana Grande.

The main crops are Maize, Sorgo and Frijol, and their cropping area varies annually according to market conditions. The cultivable area extends on 584 ha, but only 247 ha is irrigable through the center pivot irrigation system.

The irrigation engineer of this scheme reported that the total irrigated area of this year was approximately 170 ha and the annual pumping hours totaled 1700 hrs.

The capacity of the 4 pumps used for irrigation purposes are as follows:

- Well 1: 900 G/min
- Well 2: 900 G/min
- Well 3: 800 G/min
- Well 4: 600 G/min

With an annual pumping hour of 1700, the annual pumping discharge is about 1.24 million m^3.

Irrigation is basically conducted for crop consumption and the methods applied vary according to the soil and rainfall conditions.

Water use is calculated based on the following concepts:

(a) Cropping pattern --- two seasons (Nov-Feb, May-Aug)
(b) Rainfall --- Mean rainfall amount: 1,100 mm in A.C. Sandino Station
(c) Water consumption -- Maize, 6.25 mm/day, 120 days, negligeable differences in growing stage
(d) Cropping area ------ 150 ha
(e) Efficiency --- 90 %

unit:mm

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(1) Day	31	28	31	30	31	30	31	31	30	31	30	31
(2) Consumption	194	175	194	188	194	188	194	194	188	194	188	194
(3) Cropping	*	*			*	*	*	*	*		*	*
(4) Rain	4	2	4	6	128	208	141	146	207	205	51	11
(5) Water Req.	190	173	-	-	66	-	53	48	-		137	183

Sample estimation:

Month: January

Consumption = 6.25 x 31 = 194 mm
Rainfall = 4 mm
Water consumption = 194 - 4 = 190 mm
Water requirement = 190/0.90 = 211 mm
Conversion in
Water requirement = 211 mm x 150 ha
= 47.5 million m^3

From this water balance, the annual water requirement is estimated at about 850 mm in water depth, i.e. 8,500 m^3/ha/year (amount of water to be utilized).

A cropping area of 150 ha would thus require an annual water use of 1.275 million m^3. The forementioned annual pumping discharge is assessed to closely meet the irrigation water demand.

Table 3.5.1 Annual Pumping Discharge of Central Managua in 1972 – 1991

ANNUAL PUMPING DISCHARGE IN 1972-1991

(1) Annual pumping discharge in million m3	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Asososca	25.095	26.383	31.432	33.897	29.977	24.842	28.320	37.493	27.204	25.939	25.378	27.243	31.406	31.053	29.683	29.477	24.354	24.284	25.944	26.004
Carlos Fonseca	-	-	-	-	-	5.608	16.008	16.099	20.700	18.898	18.975	21.546	21.714	21.390	21.749	28.311	17.718	16.065	20.196	21.987
Sabana Grande	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.116	3.994	4.730	5.445
Veracruz	-	-	-	-	2.053	2.053	2.053	2.053	2.053	2.053	2.053	2.053	2.053	2.053	2.053	2.053	2.053	2.053	3.205	3.889
Other	-	-	-	-	-	-	0.304	3.744	5.135	6.330	7.746	8.829	9.317	10.117	12.804	15.171	26.734	40.818	42.966	46.654
GRAND TOTAL	25.095	26.383	31.432	33.897	32.030	32.503	46.684	59.299	55.091	53.219	54.152	59.671	64.489	64.652	66.295	67.012	72.974	87.213	97.042	102.028
(2) Ratio to total pumping discharge																				
Asososca	1.00	1.00	1.00	1.00	0.94	0.76	0.61	0.63	0.49	0.49	0.47	0.46	0.49	0.48	0.45	0.44	0.33	0.28	0.27	0.26
Carlos Fonseca	0.00	0.00	0.00	0.00	0.00	0.17	0.34	0.27	0.38	0.36	0.35	0.36	0.34	0.33	0.33	0.30	0.24	0.18	0.21	0.22
Sabana Grande	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.05	0.05
Veracruz	0.00	0.00	0.00	0.00	0.06	0.06	0.04	0.03	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.04
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.09	0.12	0.14	0.15	0.14	0.16	0.19	0.23	0.37	0.47	0.44	0.46
GRAND TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2887.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	37.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	209.	400.	0.	0.	0.	93.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	4169.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	2294.	0.	834.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	504.
16	0.	0.	209.	2085.	0.	0.	0.	0.	0.	0.	0.	103.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1139.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2252.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	257.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2502.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	105.	75134.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	5003.	626.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (1) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2237.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	209.	406.	0.	0.	0.	93.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	4169.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	2294.	0.	834.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	638.
16	0.	0.	209.	2085.	0.	0.	0.	0.	0.	0.	0.	103.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1141.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2252.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	257.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2502.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	105.	72063.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	5003.	626.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (2) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4554.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	113.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	209.	412.	0.	0.	93.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	4169.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	2294.	0.	834.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	772.
16	0.	0.	209.	2085.	0.	0.	0.	0.	0.	0.	0.	103.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1143.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2252.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	257.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2502.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	105.	86.	115.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	5003.	626.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (3) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4554.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	209.	418.	0.	0.	0.	93.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	4189.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	2294.	0.	834.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	906.
16	0.	0.	209.	2085.	0.	0.	0.	0.	0.	0.	0.	103.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1143.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2252.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	251.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2502.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	105.92968.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	5003.	626.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (4) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6667.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	209.	424.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	4159.	0.	0.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	2294.	0.	834.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1040.
16	0.	0.	209.	2085.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1147.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2252.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	257.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2502.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	105.	82129.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	5003.	626.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (5) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6667.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	3380.	209.	430.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	4169.	0.	11062.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	922.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	2294.	0.	834.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	587.
16	0.	0.	209.	2085.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	587.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1149.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2252.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	257.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2502.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	185.	68060.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	5003.	626.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (6) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6667.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	9649.	209.	436.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	4169.	0.	31577.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	2631.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	2294.	0.	834.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	654.
16	0.	0.	209.	2085.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	654.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1152.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2252.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	257.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2502.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	105.	17589.	0.	0.	0.	0.	0.	0.	0.	0.	271.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	5003.	626.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	152.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	493.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (7) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6667.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	9704.	209.	442.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	4169.	0.	31757.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	2646.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	2294.	0.	834.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	721.
16	0.	0.	209.	2085.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	721.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1154.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2252.	0.	0.	72.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	84.	0.	0.	0.	0.	0.	508.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	257.	0.	0.	0.	0.	477.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2502.	0.	0.	0.	4410.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	105.	84959.	0.	0.	0.	0.	0.	0.	0.	0.	1323.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	5003.	626.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	464.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	3094.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (8) Year 1972

No.

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0. 9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0. 9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6667.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	0.	3387.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Fig 3.5.2 Pumping Discharge Map (9) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6667.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	64.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	11390.	209.	454.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	4169.	0.	37277.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	3106.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	2294.	0.	834.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	855.
16	0.	0.	209.	2085.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	855.	0.
17	0.	0.	0.	0.	0.	1338.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1158.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2252.	0.	400.	1395.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	257.	0.	0.	0.	0.	2082.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2502.	0.	0.	0.	4843.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	763.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	105.	71065.	0.	0.	0.	0.	0.	0.	0.	0.	1480.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	5003.	626.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	498.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	4575.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (10) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6669.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	766.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	11437.	190.	460.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	3780.	0.	37431.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	3113.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	278.	0.	0.	0.	0.	0.	0.
15	0.	2085.	0.	758.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	922.
16	0.	0.	190.	1895.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	922.	0.
17	0.	0.	0.	0.	0.	1025.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1160.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	45.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2847.	0.	771.	1767.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	76.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	234.	0.	0.	0.	0.	1690.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2224.	0.	0.	0.	6588.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	441.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	95.	69528.	0.	0.	0.	0.	0.	0.	0.	0.	160.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	4548.	569.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	788.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	83.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	5830.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (11) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6667.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	215.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	766.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	12986.	190.	466.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	3790.	0.	42501.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	3542.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	278.	0.	0.	0.	0.	0.	0.
15	0.	2085.	0.	758.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	989.
16	0.	0.	190.	1895.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	989.	0.
17	0.	0.	0.	0.	0.	1239.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1162.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	45.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2047.	0.	717.	2338.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	76.	0.	0.	0.	0.	0.	56.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	234.	0.	2056.	0.	0.	1617.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2224.	0.	0.	0.	6280.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	212.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	95.	74639.	0.	0.	0.	0.	0.	0.	0.	0.	1704.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	4548.	569.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	830.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	140.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	6800.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (12) Year 1972

No.

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0. 9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	115.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0. 9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	65.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5432.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	223.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	0.	60.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	442.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Fig 3.5.2 Pumping Discharge Map (13) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	128.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	78.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6300.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	255.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	199.	0.	0.	360.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1188.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.12893.	190.	437.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.42194.	0.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	3516.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	180.	0.	109.	0.	0.	0.	0.
15	0.	2085.	0.	758.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	721.
16	0.	0.	190.	1895.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	721.	0.	721.	0.
17	0.	0.	0.	0.	0.	1305.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1061.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	45.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2047.	549.	0.	2232.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	76.	0.	0.	0.	0.	0.	422.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	234.	0.	3046.	0.	0.	1357.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2224.	0.	0.	0.	4466.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	1618.	0.	0.	33.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	2263.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	228.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	392.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	95.85186.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1628.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	4578.	569.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	620.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	0.	98.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	7139.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (14) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	115.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	71.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7582.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	246.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	182.	0.	0.	501.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1221.	0.
10	0.	0.	0.	0.	1200.	700.	2400.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1200.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	13108.	190.	418.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	1200.	0.	42902.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	3575.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	259.	0.	76.	0.	0.	0.	0.
15	0.	2085.	0.	758.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	748.
16	0.	0.	190.	1895.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	748.	0.	748.	0.
17	0.	0.	0.	0.	0.	1651.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1389.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	45.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2047.	579.	0.	2587.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	76.	0.	0.	0.	0.	0.	499.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	234.	0.	5338.	0.	0.	1237.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2224.	0.	0.	0.	6096.	0.	0.	0.	587.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	1662.	0.	0.	586.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	2354.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	301.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	159.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
28	0.	0.	0.	95.	81340.	0.	0.	0.	0.	0.	0.	0.	0.	1704.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	4578.	569.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	672.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	104.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	7495.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (15) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	103.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	81.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7152.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	266.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	399.	0.	0.	0.	0.	0.	0.	0.	232.	0.	0.	734.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1215.	0.
10	0.	0.	0.	0.	1200.	700.	2400.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1200.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	12242.	190.	475.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	1200.	0.	40066.	0.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	3339.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	204.	0.	77.	0.	0.	0.	0.
15	0.	2085.	0.	758.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	789.
16	0.	0.	190.	1895.	0.	0.	698.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	783.	0.	789.	0.
17	0.	0.	0.	0.	0.	1785.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2032.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	45.	0.	0.	45.	35.	2975.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2047.	648.	0.	1485.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	76.	0.	0.	0.	0.	0.	718.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	234.	0.	4947.	0.	0.	1564.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2224.	0.	0.	0.	7677.	0.	0.	0.	151.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	0.	0.	0.	0.	0.	0.	2014.	0.	0.	151.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	4290.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	420.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	95.	80760.	0.	0.	0.	0.	0.	0.	0.	0.	1660.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	4578.	569.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	1052.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	79.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	8110.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (16) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	66.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	74.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7564.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	256.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	957.	0.	0.	0.	0.	0.	0.	0.	267.	0.	0.	686.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1145.	0.
10	0.	0.	0.	0.	1200.	700.	2400.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1200.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	10679.	190.	510.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	1200.	0.	34950.	2551.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	2913.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	260.	0.	230.	0.	0.	0.	0.
15	0.	2085.	0.	758.	0.	2145.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	824.
16	0.	0.	190.	1895.	0.	1102.	1389.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	824.	0.	824.	0.
17	0.	0.	0.	0.	0.	1808.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1818.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	45.	3774.	0.	0.	1429.	3023.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2047.	0.	537.	1540.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	76.	2343.	0.	0.	0.	0.	434.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	234.	0.	3081.	0.	0.	1693.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2224.	0.	0.	0.	8282.	0.	0.	0.	151.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	2602.	0.	2824.	2574.	0.	0.	1891.	0.	0.	150.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	7535.	0.	1815.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	4261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	404.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	95.	66723.	177.	0.	0.	0.	0.	0.	0.	0.	1658.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	4578.	569.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	1357.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	6474.	0.	0.	0.	0.	0.	0.	0.	0.	885.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (17) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	103.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	84.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6019.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	270.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	998.	0.	0.	0.	0.	0.	0.	0.	0.	359.	0.	0.	816.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1262.	0.
10	0.	0.	0.	0.	1200.	700.	2400.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1200.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	9683.	190.	0.	0.	0.	0.	0.	593.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	1200.	0.	31689.	4815.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	2641.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	309.	0.	0.	0.	0.	0.
15	0.	2085.	0.	758.	0.	4049.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	797.
16	0.	0.	190.	1895.	0.	2079.	2580.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	797.	0.	797.	0.
17	0.	0.	0.	0.	0.	1433.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2098.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	45.	3569.	0.	0.	0.	5425.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2047.	0.	370.	1508.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	76.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	234.	5628.	4722.	0.	0.	3957.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2224.	0.	0.	0.	7634.	0.	2301.	0.	37.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	3625.	0.	3550.	3255.	0.	0.	2037.	0.	0.	37.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	10315.	0.	2967.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	8409.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	471.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	95.	66532.	1926.	0.	0.	0.	0.	0.	0.	0.	1572.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	4578.	569.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	2332.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	8115.	0.	0.	0.	0.	0.	0.	0.	0.	2199.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (18) Year 1972

**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
2	0.	0.	0.	113.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
4	0.	0.	78.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6360.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	290.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	1296.	0.	0.	0.	0.	0.	0.	0.	308.	0.	0.	561.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1250.	0.
10	0.	0.	0.	0.	1200.	700.	2400.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1200.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	12173.	190.	567.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	1200.	0.	39840.	5702.	0.	0.	0.	0.	1415.	4209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	3320.	0.	0.	0.	0.	0.	0.	0.	1728.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	305.	0.	0.	0.	0.	0.	0.
15	0.	2085.	0.	758.	0.	4795.	0.	0.	0.	0.	0.	0.	0.	1429.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	894.
16	0.	0.	190.	1895.	614.	2462.	3212.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	894.	0.	894.	0.
17	0.	0.	0.	1226.	1405.	1563.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2212.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	45.	3333.	0.	0.	148.	5228.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	2047.	0.	186.	1571.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	76.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	234.	5279.	4011.	0.	0.	4338.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	2224.	0.	0.	0.	6816.	0.	1410.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.
23	0.	0.	3580.	0.	3102.	3778.	0.	0.	2053.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.
24	0.	0.	10332.	0.	2887.	416.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.
25	0.	0.	0.	0.	0.	0.	0.	7789.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	577.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
26	0.	0.	0.	1503.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.
27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
28	0.	0.	0.	95.	71080.	885.	0.	0.	0.	0.	0.	0.	0.	1616.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
29	0.	0.	4578.	569.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
30	0.	0.	0.	2479.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
32	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
33	0.	9751.	0.	0.	0.	0.	0.	0.	0.	0.	2745.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
36	0.	0.	0.	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
37	0.	0.	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.
38	0.	0.	0.	0.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.	9999.

Fig 3.5.2 Pumping Discharge Map (19) Year 1972

Table 3.5.3 Water Use of INAA's Well in Departments

TABLE-1

PRODUCTION IN M3 PER DAY IN LOCALS WELL OF MASAYA AND MANAGUA.
VALLE GOTHEL Y VERACRUZ

LOCATION NUMBER	START YEAR	PLACE	NAME OF WELL	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	
-	-	MASAYA	TWO WELLS	2,887	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	1974	MASAYA	C.LEÑA #4	-	-	-	-	-	-	-	-	-	-	-	-	2,361	2,190	2,918	2,449	2,368	2,691	1,584	1,331	
2	MAY 1976	MASAYA	INCA #5	-	-	-	-	-	-	-	-	-	-	-	-	2,295	1,983	2,257	2,106	1,787	2,431	284	-	
2	MAY 1976	MASAYA	INCA #6	-	-	-	-	-	-	-	-	-	-	-	-	2,032	2,638	2,319	3,389	3,173	3,361	1,992	3,255	
1	1976	MASAYA	P.CARR #7	-	-	-	-	-	-	-	-	-	-	-	-	1,247	1,894	1,912	2,146	2,570	2,896	2,233	2,097	
1	1974	MASAYA	P.MUNIC #8	-	-	-	-	-	-	-	-	-	-	-	-	1,884	2,216	2,752	2,557	2,626	1,352	2,543	2,696	
3	1990	MASAYA	B.MORGE #9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,919	2,280	
3	1990	MASAYA	B.MORGE #10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,604	2,353	
5	DECEM.'81	MASATEPE	TANQUE #1	-	-	-	-	-	-	-	-	-	-	-	-	766	1,188	1,225	1,218	1,145	1,262	1,250	1,496	
5	1991	MASATEPE	HONDONDO #2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	
6	29/7/87	NINDIRI	NINDIRI #1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	957	998	1,296	1,365	
7	NOV. '84	PIO XII	PIO XII	-	-	-	-	-	-	-	-	-	-	-	-	-	368	501	734	626	816	561	604	
8	-	MANDASMO	MANDASMO	-	-	-	-	-	-	-	-	-	-	-	-	119	135	182	232	267	353	308	238	
9	-	CONCEPCION	CONCEPCION	-	-	-	-	-	-	-	-	-	-	-	-	60	169	76	77	230	-	-	-	
11	1982	S.J.CONCEPCION	S.J.CONCEPCION	-	-	-	-	-	-	-	-	-	-	-	-		18	259	294	269	309	305	329	
13	-	SAN MARCOS	SAN MARCOS	504	-	-	-	-	-	-	-	-	-	-	-	2,117	2,162	2,243	2,368	2,471	2,290	2,681	2,632	
31	-	ESQUIPULAS	ESQUIPULAS	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	-	VERACRUZ	VERACRUZ	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	-	TICUANTEPE	#1	336	-	-	-	-	-	-	-	-	-	-	-	-	363	609	297	494	498	494	522	
12	-	TICUANTEPE	#2		-	-	-	-	-	-	-	-	-	-	-	932	698	780	1,735	1,324	1,600	1,718	1,584	
16	-	COPRADIA	#1	37	-	-	-	-	-	-	-	-	-	-	-			75	57	16	63	75	102	
16	NOV. '82	COPRADIA	#2		-	-	-	-	-	-	-	-	-	-	-	119	114	95	81	116	102	110	149	
16	1983	COPRADIA	#3		-	-	-	-	-	-	-	-	-	-	-	39	76	76	128	124	105	105	104	
15	MARCH '68	SABANA GRANDE	#1	135	-	-	-	-	-	-	-	-	-	-	-	207	204	194	254	249	273	270	272	
15	MARCH '68	SABANA GRANDE	#2		-	-	-	-	-	-	-	-	-	-	-	235	233	224	222	261	320	297	325	
18	-	LAS NUBES	(PRESA #2) SPRING		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	
14	-	LAS NUBES	(PRESA #3) SPRING		-	-	-	-	-	-	-	-	-	-	-	222	226	301	420	404	471	577	256	
17	-	ZAMBRANO	#1	21	-	-	-	-	-	-	-	-	-	-	-	115	128	115	103	66	103	113	138	
18	1981	SAN LUIS	#1		-	-	-	-	-	-	-	-	-	-	-	65	78	71	81	76	84	78	84	
19	-	S.I.CRUZ VERDE	S.I.CRUZ VERDE	33	-	-	-	-	-	-	-	-	-	-	-	-	-	586	151	150	37	-	-	
10	-	BELLA CRUZ	BELLA CRUZ	-	-	-	-	-	-	-	-	-	-	83	140	185	98	194	79	-	-	-	-	
23	1976	VALLE GOTHEL	VALLE GOTHEL #1	-	-	-	-	2,259	2,259	2,259	2,259	2,259	2,259	2,259	2,259	2,259	2,259	2,259	2,259	2,259	2,259	2,259	1,693	**
22	1976	VALLE GOTHEL	VALLE GOTHEL #2	-	-	-	-	1,415	1,415	1,415	1,415	1,415	1,415	1,415	1,415	1,415	1,415	1,415	1,415	1,415	1,415	1,415	1,664	**
33	1976	VALLE GOTHEL	VALLE GOTHEL #3	-	-	-	-	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	**
25	1990	VERACRUZ	VERACRUZ #4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,429	1,571	**
24	1990	VERACRUZ	VERACRUZ #5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,728	1,987	**
24	1991	VERACRUZ	VERACRUZ #6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,811	**

NOTES: ** ESTIMATED WITH FLOW AND PUMPING HOURS DAILY AVERAGES
REMAINDED DATES WAS OBTAINED OF INAA OFFICES.

Table 3.5.4 Industrial Groundwater Use in 1982 & 1992 (1)

NO.	Location	Survey in 1982 No.of Well	Consump in GPD	in m3/d	BH	Survey in 1992 No.of Well	Consump in GPD	in m3/d	BH	Remarks
1	Lecheria La Completa	3	3000	11.37	B	2	-	-	-	no operation since 1989
2	IPAGAN	4	1500000	5685	U	6	-	-	-	for domestic use
3	Plantel Shell	2	25000	94.75	A	1	30000	113.7	U	
4	Granero Enabas	1	25000	94.75	A	1	-	-	-	no exist
5	HERCASA-BLPESA	4	1200000	4548	U	2	320000	1212.8	U	
6	ESSO	2	150000	568.5	A	5	1008000	3820.32	U	
7	Hieleria Polar	1	20000	75.8	U	1	15300	57.987	U	
8	Plantel Nayco	3	20000	75.8	A	1	9000	34.11	U	for domestic use
9	CONADECO	2	20000	75.8	A	1	50000	189.5	U	
10	EMEKSA	1	10000	37.9	A	1	-	-	A	for domestic use
11	ALUNEX	1	10000	37.9	A	-	-	-	-	
12	Lecheria La Selecta	3	12000	45.48	U	2	93000	352.47	A	
13	Matadero CARNIC	3	1000000	3790	B	2	110000	416.9	A	
14	Cerveceria El Aguila	4	-	0		-	-	-		No operation
15	Plasticos Maber	1	10000	37.9	A	-	-	-		Closed
16	Plasticos Modernos	1	10000	37.9	A	1	-	-		Closed
17	Azulejos Cerisa	1	10000	37.9	A	1	200	0.758	U	
18	FANATEX	3	200000	758	B	2	? 200000	(760)		no information
19	Laboratorios SOLEA	1	20000	75.8	A	1	-	-		Public Line
20	CYNAMID	2	100000	379	A	-	-	-		Public line
21	Procesa	1	10000	37.9	A	-	-	-		no exist
22	El Porvenir	1	20000	75.8	A	-	-	-		no exist
23	PEPSI COLA	2	500000	1895	B	3	410000	1553.9	U	
24	Nicar Quimica	1	5000	18.95	A	1	-	-		Public Line
25	Kola Shaler	1	10000	37.9	B	1	18000	68.22	U	
26	Beneficio San Francisco	1	5000	18.95	A	-	-	-		closed
27	Fabrica Fibra de Vidrio	1	5000	18.95	A	-	-	-		closed
28	TRICOTEXTIL	2	50000	189.5	B	2	90000	341.1		half production
29	PINSA	1	10000	37.9	A	-	-	-		closed
30	Hilados Las Tres	1	10000	37.9	A	1	10000	37.9		
31	Lecheria La Perfecta	2	40000	151.6	U	1	180000	682.2	B	
32	COCA COLA	3	500000	1895	U	3	574000	2175.46	B	estimation from pepsi
33	Nabisco Cristal	2	12000	45.48	U	1	30000	113.7		
34	Muebles Pierson Jackman	1	5000	18.95	A	1	165	0.62535		
35	HARPE	2	20000	75.8	A	2	37000	140.23	B	for garden irrigation
36	NICATEX	2	50000	189.5	B	2	-	-		no use
37	I Hep	1	5000	18.95	A	1	3000	11.37		
38	Cafe Presto	2	50000	189.5	U	2	80000	303.2	B	
39	Hielo Syf	1	20000	75.8	B	-	-	-		no exist
40	Cerveceria Tona	2	400000	1516	B	2	150000	568.5	U	
41	Desano Tadora Inagor	1	20000	75.8	A	-	-	-		Closed
42	Parque Industrial INUSA	1	25000	94.75	A	-	-	-		Closed
43	ELSA	1	10000	37.9	A	-	-	-		Closed
44	Prod. Atmosfericos	2	15000	56.85	A	2	-	300		
45	TANIC	3	50000	189.5	A	-	52000	197.5		no information

Table 3.5.4 Industrial Groundwater Use in 1982 & 1992 (2)

NO. Location	Survey in 1982 No.of Well	Consump in GPD	in m3/d	BH	Survey in 1992 No.of Well	Consump in GPD	in m3/d	BH	Remarks
46 Conos Victoria	1	5000	18.95	A	-	-	-		Closed
47 Candelas Llanes	1	5000	18.95	A	1	-	-		Closed
48 Baterias Willard	1	5000	18.95	A	1	-	-		no use
49 Tejidos Nicarao	1	10000	37.9	A	1	-	-		no use
50 El Lechon	2	20000	75.8	A	-	-	-		Closed
51 Bielera Wking	2	20000	75.8	B	-	-	-		Closed
52 aceitera Coronaaceitera Coro	1	50000	189.5	A	3	1500	5.685		
53 Cervecerua Victoria	3	600000	2274	U	4	700000	2653		
54 POLYCASA	-	-	-	-	2	-	-		No operation
55 MACEN	-	-	-	-	1	6000	22.74		
56 NICATEX	-	-	-	-	2	-	-		no use
57 CRISCASA	-	-	-	-	1	-	-		no use
58 SNISUERO	-	-	-	-	1	-	-		no use
59 INCAE	-	-	-	-	1	25000	94.75		
60 EMPROSEM	-	-	-	-	1	-	-		no use
61 ALUNISA	-	-	-	-	1	-	-		for domestic use
62 SAIMSA	-	-	-	-	1	-	-		no use
63 ESC. NACIONAL AGRI.	-	-	-	-	2	-	-		for irrigation
64 TIPTOP	-	-	-	-	3	120000	454.8	E	
65 GRANJA LA TRINIDAD	-	-	-	-	1	160000	606.4	E	
66 HOTEL CAMINO REAL	-	-	-	-	1	270000	1023.3	U	
67 HOTEL LAS MERCEDES	-	-	-	-	1	300000	1137	U	
68 EL CANON	-	-	-	-	1	8000	30.32		for domestc
69 SANTA ANA	-	-	-	-	1	1315	4.98385		for domestc
70 GRANJA EL MADERAL MINDRI	-	-	-	-	1	3900	14.781		for domestc
71 COOPERATIVA JULIO RODORIGEZ	-	-	-	-	1	-	-		no use
72 GRANJA LA BARRANCA	-	-	-	-	1	5000	18.95		for domestc
73 BUENOS AIRES QUINTA MEDISON	-	-	-	-	1	-	-		no use
74 HACIENDA LOS AIPES	-	-	-	-	1	260	0.9854		for domestc
75 SANTAJULIA	-	-	-	-	1	260	0.9854		for domestc
TOTAL		6907000	26177.53			4818900	18563.63		