

## APPENDICES

All piezometers and water table monitoring wells in Perry lakes reserve were read manually once a week regardless of whether they were equipped with a water level data logger or not. There were a number of reasons for this:

- many wells had no data logger, therefore weekly data was a minimum requirement for plotting local flow nets
- manual data provided calibration data for the data loggers which were known to drift in response to seasonal (probably temperature) changes
- manual data would fill gaps where data loggers failed (as they inevitably did)

Over time the number of wells monitored was expanded to include a number of nearby abandoned bores and some irrigation bores which could be monitored over winter. Refer to Figure 3.3 (in thesis text) and Appendix 2.1 for well locations.

Column 2 includes the top of casing (TOC) elevation in metres AHD. This was optically levelled from Department of Lands bench marks and surveyed points within Perry Lakes Reserve including Water Authority control point 1413 on the concrete apron of the East Lake flood remediation station (Figure 3.10a) and Australian Survey Office plan AO-495 Control Point 27 located in the asphalt road adjacent to West Lake (Figure 3.10b). All collar heights and manual SWL measurements are considered accurate to  $\pm 1$  mm.

All levels were read with an electronic sounder in which the slightly saline groundwater completes the circuit between two electrodes in a small weighted probe. When data loggers are removed from a well, water levels read low until the water displaced by the logger sensor is replaced. All such wells were allowed to re-establish equilibrium before reading, a process which took up to 10 minutes per well.

## Manual Well Levels

## Appendix 7.1

Well	TOC	2-5-96	29-5-96	19-6-96	4-7-96	22-7-96	29-7-96	5-8-96
PL1	7.079	2.779	2.844		3.210	3.329	3.434	3.491
WL1	5.722	2.717	2.784	2.897	3.158	3.232	3.410	3.434
WL2	5.480	2.720	2.765	2.910	3.190	3.271	3.401	3.410
WL3	5.308	2.688	2.726	2.941	3.202	3.222	3.378	3.380
N1a	4.857	2.672	2.700	2.977				
N1b	4.945	2.675	2.704	2.967				
N1c	5.013	2.673	2.704	2.955				
N2a	5.083	2.328	2.286	2.532				
N2b	5.138	2.353	2.311	2.578				
N2c	5.214	2.364	2.315	2.574				
WL4	5.806	2.271	2.237	2.418	2.636	2.700	2.804	2.848
WL5	7.426	2.156	2.126	2.254	2.438	2.526	2.590	2.652
WL6	3.427							
WL7	3.507							
WL8	3.489							
WL9	4.221							
WL10	4.955	2.510	2.459	2.777	3.023	3.045	3.173	3.190
WL11	5.345	2.480	2.424	2.716	2.973	2.989	3.122	3.147
WL12	5.836	2.421	2.362	2.614	2.877	2.930	3.041	3.074
PL2	4.953							
WL13	5.228	2.758	2.706	2.948	3.209	3.208	3.338	3.360
WL14	5.212	2.792	2.777	2.977	3.229	3.238	3.400	3.387
WL15	5.327	2.847	2.824	2.976	3.236	3.257	3.412	3.402
WL16	5.288	2.903	2.884	2.996	3.250	3.274	3.428	3.418
WL17	5.088	2.898	2.963	3.034	3.274	3.297	3.443	3.444
W26A	3.812							
WL18	5.746	2.846	2.881	3.089	3.364	3.446	3.586	3.596
WL19	5.726	2.866	2.928	3.081	3.357	3.412	3.555	3.554
WL20	5.439	2.889	2.956	3.112	3.349	3.383	3.518	3.514
N3a	4.982	2.877	2.939	3.109				
N3b	5.106	2.901	2.967	3.126				
N3c	5.254	2.894	2.967	3.124				
N4a	4.655	2.895	2.887	2.952				
N4b	4.800	2.890	2.881	2.957				
N4c	4.905	2.740	2.660	2.848				
WL21	5.071	2.831	2.793	2.904	3.127	3.165	3.301	3.313
WL22	5.067	2.747	2.668	2.845	3.073	3.091	3.247	3.265
WL23	5.096	2.506	2.276	2.671	2.914	2.950	3.114	3.130
WL24	5.170	2.375	1.954	2.592	2.816	2.880	3.018	3.032
WL25	2.817							
N5a	11.075	1.950	1.897	2.037				
N5b	11.111	1.971	1.916	2.054				
N5c	11.130	1.965	1.918	2.052				
W27	3.125							
Abd Bore #8	6.159			2.884	3.142	3.255	3.362	3.401
CSIRO #1	18.660							
Ag (old bore)	12.661							
Ag (old well)	16.914							
Lemnos St	8.401							
GE1 Bold Park	15.301							
City Beach HS	47.744							
Tennis Ct #11	9.864							
Chandler Dr #10	9.022							
McLean Park #12	9.867							
McGillivray #85	9.094							
Henderson Pk	11.370							













Well	16-06-97	23-06-97	30-06-97	07-07-97	14-07-97	21-07-97	28-07-97	04-08-97
PL1	3.279	3.285	3.278	3.297	3.335	3.364	3.385	3.400
WL1	3.224	3.213	3.197	3.221	3.264	3.287	3.302	3.317
WL2	3.187	3.172	3.152	3.192	3.233	3.243	3.260	3.276
WL3	3.147	3.129	3.103	3.159	3.201	3.191	3.210	3.230
N1a	3.120	3.099	3.070	3.140	3.185	3.156	3.177	3.199
N1b	3.125	3.105	3.077	3.143	3.188	3.163	3.185	3.207
N1c	3.083	3.095	3.068	3.135	3.180	3.113	3.180	3.204
N2a	2.712	2.695	2.668	2.729	2.783	2.771	2.791	2.805
N2b	2.739	2.725	2.698	2.764	2.816	2.800	2.820	2.837
N2c	2.739	2.727	2.704	2.766	2.816	2.784	2.822	2.837
WL4	2.618	2.613	2.598	2.639	2.687	2.691	2.707	2.718
WL5	2.454	2.464	2.466	2.485	2.527	2.547	2.561	2.574
WL6	3.107	3.033	3.002	3.092	3.134	3.093	3.121	3.146
WL7	3.051	3.012	2.970	3.069	3.118	3.075	3.099	3.128
WL8	3.045	2.999	2.954	3.069	3.117	3.066	3.091	3.121
WL9	3.008	2.972	2.938	2.983	3.037	3.032	3.027	3.032
WL10	2.918	2.893	2.857	2.938	2.988	2.961	2.981	2.998
WL11	2.873	2.856	2.822	2.896	2.946	2.925	2.943	2.957
WL12	5.497	2.791	2.763	2.822	2.869	2.862	2.879	2.889
PL2	3.095	3.057	3.017	3.103	3.151	3.116	3.139	3.162
WL13	3.123	3.085	3.046	3.116	3.170	3.156	3.161	3.180
WL14	3.148	3.109	3.069	3.142	3.189	3.162	3.183	3.199
WL15	3.167	3.127	3.087	3.149	3.197	3.175	3.194	3.209
WL16	3.193	3.151	3.110	3.169	3.216	3.195	3.214	3.231
WL17	3.228	3.180	3.136	3.193	3.239	3.215	3.235	3.255
W26A							3.277	3.318
WL18	3.389	3.366	3.343	3.379	3.419	3.429	3.446	3.461
WL19	3.346	3.308	3.274	3.326	3.366	3.360	3.377	3.398
WL20	3.311	3.268	3.227	3.295	3.334	3.309	3.332	3.359
N3a	3.274	3.229	3.184	3.266	3.305	3.274	3.302	3.341
N3b	3.288	3.243	3.200	3.278	3.318	3.279	3.307	3.345
N3c	3.286	3.245	3.201	3.277	3.316	3.274	3.306	3.344
N4a	3.107	3.068	3.020	3.068	3.118	3.093	3.113	3.133
N4b	3.103	3.068	3.020	3.068	3.117	3.090	3.109	3.129
N4c	2.992	2.982	2.947	2.992	3.037	3.017	3.036	3.056
WL21	3.058	3.032	2.986	3.032	3.081	3.058	3.076	3.094
WL22	2.994	2.981	2.944	2.984	3.034	3.019	3.034	3.051
WL23	2.808	2.842	2.818	2.855	2.903	2.899	2.913	2.930
WL24	2.710	2.762	2.748	2.789	2.837	2.829	2.845	2.865
WL25	2.047	2.070	2.090	2.109	2.136	2.155	2.171	2.188
N5a	2.215	2.264	2.283	2.301	2.335	2.356	2.368	2.384
N5b	2.231	2.280	2.300	2.317	2.351	2.372	2.386	2.400
N5c	2.226	2.272	2.295	2.312	2.346	2.366	2.380	2.395
W27								
Abd Bore #8	3.197	3.200	3.193	3.215	3.256	3.281	3.299	3.318
CSIRO #1	2.978	3.011	3.038	3.061	3.085	3.105	3.122	3.141
Ag (old bore)	3.164	3.197	3.221	3.250	3.277	3.289	3.313	3.331
Ag (old well)	3.166	3.197	3.224	3.249	3.273	3.291	3.310	3.314
Lemnos St	2.818	2.808	2.800	2.831	2.864	2.867	2.887	2.908
GE1 Bold Park	1.255	1.268	1.280	1.288	1.302	1.308	1.314	1.325
City Beach HS		2.142	2.236	2.241	2.262	2.286	2.295	2.302
Tennis Ct #11	3.613	3.644	3.662	3.691	3.715	3.723	3.762	3.794
Chandler Dr #10	3.595	3.625	3.644	3.668	3.689		3.745	3.782
McLean Park #12		3.635	3.659	3.683	3.712	3.727	3.769	3.799
McGillivray #85		2.242	2.260	2.276	2.314	2.311	2.308	2.337
Henderson Pk				6.568	6.595	6.600	6.615	6.629

Well	11-08-97	18-08-97	25-08-97	01-09-97	08-09-97	15-09-97	22-09-97	29-09-97
PL1	3.441	3.511	3.524	3.536	3.590	3.722	3.710	3.695
WL1	3.371	3.435	3.433	3.444	3.525	3.645	3.612	3.591
WL2	3.331	3.390	3.382	3.392	3.493	3.602	3.560	3.535
WL3	3.290	3.338	3.320	3.334	3.463	3.546	3.498	3.468
N1a	3.268	3.304	3.275	3.294	3.460	3.506	3.454	3.420
N1b	3.273	3.311	3.285	3.303	3.462	3.515	3.464	3.432
N1c	3.266	3.306	3.265	3.301	3.454	3.510	3.455	3.435
N2a	2.864	2.912	2.906	2.926	3.025	3.119	3.092	3.064
N2b	2.895	2.940	2.930	2.953	3.058	3.144	3.117	3.089
N2c	2.895	2.937	2.930	2.953	3.055	3.142	3.114	3.089
WL4	2.773	2.815	2.819	2.836	2.914	3.013	2.998	2.976
WL5	2.606	2.647	2.666	2.680	2.722	2.817	2.829	2.821
WL6	3.210	3.249	3.222	3.240	3.467	3.447	3.411	3.374
WL7	3.197	3.227	3.195	3.243	3.420	3.442	3.384	3.345
WL8	3.196	3.225	3.187	3.240	3.424	3.436	3.378	3.338
WL9	3.115	3.164	3.157	3.156	3.294	3.395	3.367	3.308
WL10	3.067	3.114	3.089	3.110	3.257	3.334	3.281	3.244
WL11	3.023	3.072	3.053	3.072	3.203	3.295	3.244	3.207
WL12	2.948	3.003	2.992	3.008	3.111	3.230	3.183	3.147
PL2	3.228	3.269	3.239	3.254	3.437	3.477	3.423	3.385
WL13	3.251	3.309	3.282	3.280	3.448	3.510	3.451	3.413
WL14	3.268	3.314	3.286	3.300	3.471	3.530	3.472	3.435
WL15	3.277	3.326	3.300	3.311	3.467	3.545	3.487	3.450
WL16	3.296	3.343	3.320	3.331	3.485	3.562	3.509	3.472
WL17	3.318	3.360	3.338	3.349	3.510	3.577	3.530	3.493
W26A	3.362	3.393	3.370	3.380	3.539	3.598	3.554	3.525
WL18	3.516	3.577	3.571	3.579	3.680	3.797	3.757	3.733
WL19	3.454	3.506	3.492	3.498	3.612	3.721	3.675	3.645
WL20	3.415	3.454	3.436	3.444	3.575	3.661	3.619	3.588
N3a	3.387	3.420	3.398	3.409	3.552	3.620	3.578	3.545
N3b	3.391	3.425	3.404	3.416	3.557	3.629	3.589	3.557
N3c	3.389	3.424	3.400	3.415	3.556	3.629	3.586	3.557
N4a	3.196	3.238	3.217	3.240	3.395	3.463	3.420	3.386
N4b	3.192	3.234	3.212	3.235	3.388	3.458	3.414	3.381
N4c	3.111	3.156	3.143	3.165	3.296	3.377	3.339	3.312
WL21	3.154	3.202	3.184	3.201	3.348	3.431	3.385	3.351
WL22	3.109	3.159	3.146	3.160	3.299	3.390	3.344	3.310
WL23	2.980	3.036	3.029	3.040	3.161	3.263	3.220	3.189
WL24	2.914	2.963	2.958	2.970	3.113	3.187	3.147	3.118
WL25	2.208	2.231	2.251	2.267	2.307	2.346	2.369	2.383
N5a	2.404	2.438	2.462	2.478	2.510	2.584	2.617	2.625
N5b	2.421	2.453	2.477	2.494	2.525	2.600	2.631	2.640
N5c	2.415	2.449	2.471	2.489	2.520	2.592	2.624	2.633
W27								
Abd Bore #8	3.361	3.421	3.432	3.447	3.511	3.622	3.609	3.597
CSIRO #1	3.211	3.192	3.227	3.257	3.294	3.349	3.399	3.427
Ag (old bore)	3.347	3.374	3.403	3.437	3.481	3.533	3.571	3.589
Ag (old well)	3.336	3.318	3.379	3.406	3.446	3.486	3.529	3.556
Lemnos St	2.933	2.973	2.973	2.993	3.069	3.114	3.108	3.105
GE1 Bold Park	1.335	1.348	1.350	1.346	1.360	1.376	1.376	1.379
City Beach HS	2.310	2.331	2.347	2.372	2.391	2.402	2.417	2.426
Tennis Ct #11	3.827	3.867	3.895	3.924	3.987	4.059	4.087	4.092
Chandler Dr #10	3.810	3.862	3.887	3.915	3.963	4.067	4.089	
McLean Park #12	3.829	3.887	3.916	3.939	3.980	4.084	4.111	4.120
McGillivray #85	2.370	2.397	2.424	2.456	2.503	2.561	2.567	2.571
Henderson Pk	6.663	6.727	6.744	6.753	6.811	6.922	6.933	6.910

Well	06-10-97	12-10-97	19-10-97	26-10-97	02-11-97	09-11-97	16-11-97	23-11-97
PL1	3.673	3.672	3.638	3.573	3.520	3.469	3.422	3.398
WL1	3.569	3.570	3.538	3.477	3.425	3.384	3.339	3.315
WL2	3.509	3.516	3.482	3.424	3.375	3.337	3.291	3.268
WL3	3.440	3.453	3.415	3.360	3.311	3.271	3.228	3.208
N1a	3.391	3.412	3.371	3.317	3.267	3.225	3.183	3.167
N1b	3.402	3.420	3.380	3.326	3.277	3.235	3.194	3.175
N1c	3.406	3.423	3.385	3.330	3.280	3.237	3.195	3.173
N2a	3.040	3.051	3.023	2.983	2.949	2.909	2.854	2.815
N2b	3.065	3.076	3.047	3.006	2.963	2.921	2.870	2.833
N2c	3.066	3.075	3.047	3.006	2.962	2.922	2.873	2.836
WL4	2.957	2.960	2.940	2.903	2.873	2.839	2.790	2.751
WL5	2.811	2.811	2.798	2.767	2.733	2.705	2.661	2.629
WL6	3.340	3.360	3.323	3.273	3.222	3.180	3.139	3.098
WL7	3.309	3.336	3.293	3.241	3.187	3.135	3.090	3.063
WL8	3.301	3.329	3.284	3.231	3.173	3.124	3.076	3.047
WL9	3.278	3.280	3.249	3.199	3.144	3.096	3.050	3.003
WL10	3.211	3.228	3.191	3.147	3.094	3.049	3.004	2.962
WL11	3.177	3.189	3.157	3.113	3.062	3.018	2.975	2.930
WL12	3.118	3.128	3.097	3.055	3.008	2.967	2.919	2.877
PL2	3.352	3.373	3.334	3.282	3.233	3.185	3.140	3.111
WL13	3.382	3.400	3.361	3.306	3.260	3.211	3.171	3.138
WL14	3.404	3.419	3.381	3.324	3.280	3.230	3.185	3.155
WL15	3.420	3.433	3.397	3.339	3.294	3.245	3.200	3.164
WL16	3.443	3.454	3.416	3.358	3.316	3.262	3.221	3.182
WL17	3.461	3.476	3.438	3.378	3.328	3.274	3.228	3.198
W26A	3.493	3.510	3.467	3.412	3.359	3.301	3.251	3.219
WL18	3.712	3.711	3.681	3.634	3.598	3.546	3.499	3.471
WL19	3.620	3.624	3.593	3.546	3.511	3.456	3.413	3.382
WL20	3.560	3.569	3.535	3.485	3.444	3.387	3.327	3.311
N3a	3.520	3.529	3.495	3.444	3.395	3.339	3.286	3.265
N3b	3.529	3.539	3.505	3.454	3.406	3.349	3.298	3.276
N3c	3.529	3.539	3.505	3.453	3.405	3.348	3.296	3.275
N4a	3.352	3.368	3.327	3.268	3.206	3.157	3.093	3.059
N4b	3.349	3.362	3.322	3.262	3.201	3.152	3.088	3.057
N4c	3.283	3.292	3.257	3.191	3.126	3.086	3.023	2.994
WL21	3.319	3.330	3.293	3.232	3.171	3.125	3.060	3.028
WL22	3.280	3.289	3.254	3.190	3.129	3.090	3.024	2.990
WL23	3.164	3.167	3.135	3.069	2.999	2.974	2.909	2.880
WL24	3.094	3.098	3.068	2.992	2.932	2.905	2.842	2.814
WL25	2.389	2.390	2.382	2.354	2.324	2.297	2.261	2.239
N5a	2.627	2.623	2.607	2.559	2.518	2.487	2.438	2.410
N5b	2.642	2.636	2.622	2.573	2.533	2.502	2.453	2.426
N5c	2.636	2.632	2.617	2.568	2.526	2.495	2.447	2.420
W27								
Abd Bore #8	3.578	3.577	3.544	3.487	3.434	3.389	3.344	3.321
CSIRO #1	3.433	3.436	3.417	3.368	3.349	3.324	3.293	3.282
Ag (old bore)	3.600	3.614	3.565	3.575	3.556	3.544	3.499	3.490
Ag (old well)	3.574	3.564	3.534		3.546	3.536	3.494	3.482
Lemnos St	3.094	3.096	3.089	3.065	3.043	3.018	2.981	2.965
GE1 Bold Park	1.379	1.376	1.374	1.353	1.335	1.308	1.283	1.263
City Beach HS	2.409	2.422	2.424	2.410	2.394	2.367	2.337	2.317
Tennis Ct #11	4.091	4.108	4.092	4.053	4.001	3.972	3.922	3.901
Chandler Dr #10		4.101	4.077	4.033		3.932	3.885	3.863
McLean Park #12	4.116	4.129	4.104	4.050	3.985	3.935	3.883	3.840
McGillivray #85	2.569	2.550	2.507	2.474	2.342	2.355	2.255	2.272
Henderson Pk		6.889	6.834	6.779	6.763	6.729	6.674	6.673

Well	30-11-97	08-12-97	14-12-97	21-12-97	28-12-97	04-01-98
PL1	3.358	3.309	3.262	3.214	3.191	3.149
WL1	3.276	3.229	3.173	3.128	3.100	3.054
WL2	3.230	3.185	3.132	3.083	3.052	3.003
WL3	3.174	3.129	3.077	3.029	2.996	2.947
N1a	3.136	3.094	3.040	2.994	2.958	2.909
N1b	3.142	3.098	3.045	2.997	2.961	2.915
N1c	3.135	3.092	3.035	2.987	2.952	2.905
N2a	2.777	2.728	2.667	2.629	2.580	2.533
N2b	2.797	2.746	2.685	2.640	2.595	2.550
N2c	2.802	2.753	2.693	2.647	2.603	2.558
WL4	2.720	2.680	2.624	2.584	2.538	2.494
WL5	2.603	2.564	2.523	2.487	2.449	2.408
WL6	3.068	3.027	2.965	2.904	2.860	2.810
WL7	3.022	2.972	2.905	2.848	2.804	2.760
WL8	3.006	2.955	2.885	2.827	2.781	2.740
WL9	2.973	2.932	2.858	2.783	2.738	2.692
WL10	2.927	2.878	2.803	2.742	2.698	2.655
WL11	2.896	2.848	2.775	2.716	2.674	2.630
WL12	2.841	2.798	2.728	2.670	2.629	2.587
PL2	3.075	3.027	2.955	2.900	2.860	2.815
WL13	3.106	3.061	2.985	2.925	2.884	2.838
WL14	3.126	3.075	3.002	2.944	2.904	2.858
WL15	3.137	3.088	3.016	2.961	2.920	2.872
WL16	3.148	3.103	3.035	2.981	2.939	2.891
WL17	3.159	3.115	3.051	2.999	2.959	2.911
W26A	3.187	3.135	3.071	3.016	2.985	2.932
WL18	3.438	3.391	3.324	3.296	3.228	3.184
WL19	3.349	3.302	3.228	3.176	3.120	3.077
WL20	3.272	3.224	3.154	3.094	3.048	3.001
N3a	3.223	3.174	3.105	3.040	2.997	2.951
N3b	3.233	3.183	3.114	3.051	3.008	2.960
N3c	3.232	3.184	3.115	3.052	3.008	2.961
N4a	3.016	2.937	2.855	2.808	2.783	2.747
N4b	3.010	2.934	2.853	2.805	2.781	2.746
N4c	2.953	2.895	2.820	2.753	2.727	2.697
WL21	2.987	2.915	2.838	2.785	2.758	2.723
WL22	2.954	2.890	2.817	2.757	2.727	2.696
WL23	2.838	2.791	2.734	2.663	2.634	2.618
WL24	2.768	2.721	2.666	2.601	2.580	2.573
WL25	2.206	2.183	2.158	2.126	2.095	2.067
N5a	2.381	2.346	2.306	2.265	2.239	2.205
N5b	2.397	2.362	2.321	2.282	2.255	2.222
N5c	2.390	2.353	2.313	2.275	2.248	2.215
W27						2.817
Abd Bore #8	3.279	3.232	3.187	3.141	3.107	3.069
CSIRO #1	3.267	3.216				
Ag (old bore)	3.479	3.449	3.418	3.389	3.358	3.326
Ag (old well)	3.464	3.432	3.410	3.387	3.362	3.335
Lemnos St	2.938	2.903	2.876	2.843	2.814	2.792
GE1 Bold Park	1.247	1.228	1.206	1.184	1.161	1.144
City Beach HS	2.299	2.274	2.253	2.222	2.196	2.174
Tennis Ct #11	3.866	3.826	3.776	3.731	3.691	3.652
Chandler Dr #10	3.825	3.781	3.715	3.675	3.642	3.597
McLean Park #12	3.806	3.782	3.717	3.679	3.626	3.589
McGillivray #85	2.242	2.156	2.137	2.082		1.984
Henderson Pk	6.647	6.626	6.582	6.530	6.508	6.471