III. DATA FOR SECTORAL REPORT VOL. II, FLOOD CONTROL

1. INTRODUCTION

This data book presents the river cross section data and the calculation results of flood water surface profile of the Iguaçu river from Foz do Areia to São Mateus do Sul by non-uniform flow which were used for the flood inundation analysis and flood control planning of União da Vitoria. The calculation was executed by the computer program, WATER SURFACE PROFILE CALCULATION (T.DAN) developed by Nippon Koei Co.,Ltd. by the use of UNIX computer system

2. OUTPUT OF NON-UNIFORM FLOW CALCULATION

The outputs of selected calculation cases are compiled with the following sections:

2.1 Without Excavation: Cases A1 to A5
2.2 Case With Excavation - 1: Cases B1 to B3
2.3 Case With Excavation - 2: Cases C1 to C3

The summary of the outputs is presented as follows:

Case	flood model	CN011	CN153	JT141	CF271	JS251
A1	1983year	744.000	746.743	750.072	758.979	764.334
A2	1983year	742.000	746.255	749.954	758.981	764.334
A3	1983year	739.000	746.141	749.930	758.979	764.334
A4	1992year	742.000	745.447	748.700	757.671	763.385
A5	1992year	739.000	745.314	748.673	757.670	763.285

* CN011 :Foz do Areia D1-77
CN153 :Porto Vitoria BAT-1B
JT141 :Uniao da Vitoria 14.GPF
CF271 :Fluviopolis FINFL-01.ENT
JS251 :Sao Mateus do Sul S-25.GPF

Case	flood model	CN011	SC153	JT141	CF271	JS251
B1	1983year	744.000	746.119	749.841	758.979	764.334
B2	1983year	742.000	745.435	749.719	758.975	764.334
B3	1983year	739.000	745.264	749.696	758.975	764.334

* SC153 :Porto Vitoria BAT-1B

Case	flood model	CN011	FN153	JT141	CF271	JS251
C1	1983year	744.000	745.702	749.525	758.969	764.334
C2	1983year	742.000	744.699	749.377	758.965	764.335
C3	1983year	739.000	744.167	749.341	758.965	764.335

* FN153 :Porto Vitoria BAT-1B

A1 1983 744.0 parana pjt. without excavation
1983year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	8358.000	615.000	744.000	129.000	.169	.030	1.131	744.002	.006	2
CN021	9230.000	8358.000	625.000	744.001	119.001	.132	.030	1.190	744.002	.006	2
CN031	12300.000	8358.000	635.000	744.001	109.001	.186	.030	1.164	744.003	.008	2
CN041	10000.000	8358.000	669.000	744.004	75.004	.174	.030	1.096	744.006	.008	2
CN051	11540.000	8358.000	675.000	744.003	69.003	.345	.030	1.151	744.010	.018	2
CN061	2160.000	8358.000	700.550	744.012	43.462	.405	.030	1.111	744.021	.026	2
CN071	3840.000	8358.000	705.190	743.956	38.766	1.199	.030	1.132	744.039	.086	2
CN081	400.000	8358.000	713.710	744.061	30.351	.517	.030	1.075	744.075	.038	2
CN091	1400.000	8358.000	714.940	744.065	29.125	.446	.030	1.146	744.077	.036	2
CN101	1420.000	8358.000	717.280	743.939	26.659	1.786	.030	1.083	744.115	.142	2
CN111	100.000	8358.000	722.160	744.032	21.872	1.752	.030	1.025	744.193	.136	2
CN121	3040.000	8358.000	718.180	743.805	25.625	2.685	.030	1.090	744.206	.255	2
ZN131	640.000	8358.000	732.270	745.014	12.744	2.145	.050	1.061	745.263	.225	2
CN141	500.000	5122.000	733.050	745.375	12.325	3.790	.050	1.056	746.149	.437	2
CN151	70.000	5122.000	730.370	746.637	16.267	1.519	.050	1.138	746.771	.204	2
CN152	70.000	5122.000	738.500	746.622	8.122	1.928	.050	1.011	746.814	.252	2
CN153	60.000	5122.000	735.150	746.743	11.593	1.462	.050	1.041	746.856	.180	2
CN154	50.000	5122.000	734.239	746.716	12.477	1.746	.050	1.055	746.880	.196	2
CN161	260.000	5122.000	731.410	746.730	15.320	1.696	.050	1.131	746.896	.206	2
CN171	1200.000	5122.000	731.720	746.759	15.039	1.704	.032	1.304	746.952	.209	2
CN181	300.000	5122.000	736.150	746.939	10.789	1.546	.033	1.518	747.124	.254	2
CN191	690.000	5122.000	736.890	747.011	10.121	1.475	.033	1.513	747.179	.241	2
CN201	1400.000	5122.000	734.620	747.117	12.497	1.221	.038	2.275	747.290	.227	2
CN211	1400.000	5122.000	734.990	747.321	12.331	.988	.040	2.711	747.456	.227	2
CN221	1600.000	5122.000	732.710	747.505	14.795	.472	.061	7.896	747.595	.211	2
CN231	1400.000	5122.000	735.690	747.619	11.929	1.374	.033	1.508	747.764	.201	2
ZN241	300.000	5122.000	738.000	747.634	9.634	2.339	.037	2.455	748.319	.568	2
CN251	300.000	5122.000	733.500	748.296	14.796	.985	.040	2.795	748.434	.216	2
CN261	2170.000	5122.000	729.600	748.162	18.563	1.076	.053	5.315	748.476	.341	2
CN271	230.000	5122.000	734.860	748.647	13.787	.804	.043	3.617	748.766	.207	2
CN281	1200.000	5122.000	734.630	748.665	14.035	.804	.043	3.615	748.784	.207	2
CN291	1400.000	5122.000	736.890	748.761	11.871	1.090	.041	2.487	748.912	.224	2
CN301	1368.600	5122.000	735.190	748.952	13.762	.725	.051	4.589	749.075	.209	2
JT011	999.100	5122.000	737.480	749.104	11.624	.944	.038	2.949	749.193	.151	2
JT021	232.300	5122.000	738.167	749.203	11.036	.904	.031	1.157	749.251	.110	2

CN311	762.800	5122.000	737.070	749.211	12.141	.488	.052	4.311	749.263	.133	2
JT031	737.200	5122.000	736.558	749.187	12.629	1.132	.037	2.045	749.320	.192	2
CN321	174.500	5122.000	736.580	749.268	12.688	.987	.038	2.531	749.394	.227	2
JT041	725.500	5122.000	734.672	749.295	14.623	1.076	.036	1.942	749.409	.166	2
CN331	308.600	5122.000	735.330	749.374	14.044	.579	.048	4.749	749.455	.177	2
JT051	999.700	5122.000	735.664	749.349	13.685	1.059	.040	2.278	749.479	.175	2
JT061	91.700	5122.000	729.825	749.395	19.570	.945	.054	4.003	749.578	.198	2
CN341	736.700	5122.000	735.980	749.550	13.570	.300	.062	7.217	749.583	.116	2
JT071	263.400	5122.000	736.606	749.544	12.938	.926	.035	1.592	749.614	.127	2
CN351	735.000	5122.000	738.550	749.576	11.026	.607	.041	2.758	749.628	.140	2
JT081	988.400	5122.000	738.224	749.607	11.383	.907	.033	1.350	749.664	.117	2
JT091	986.000	5122.000	733.126	749.502	16.376	1.623	.036	1.834	749.748	.229	2
JT101	890.600	5122.000	734.254	749.680	15.426	1.356	.036	1.928	749.861	.206	2
CN361	95.800	5122.000	731.840	749.749	17.909	.810	.054	6.261	749.959	.270	2
JT111	990.300	5122.000	732.826	749.815	16.989	1.039	.044	2.799	749.969	.195	2
JT121	955.800	5122.000	739.532	749.969	10.438	1.026	.034	1.569	750.054	.155	2
JT131	758.200	5122.000	739.756	750.033	10.277	1.133	.034	1.588	750.137	.175	2
CN371	214.300	5122.000	737.730	750.110	12.380	.619	.046	4.744	750.203	.216	2
JT141	185.700	4980.000	734.524	750.072	15.548	1.208	.036	2.083	750.227	.201	2
CN381	804.000	4980.000	736.240	750.107	13.867	.843	.038	3.762	750.243	.277	2
JT151	296.000	4980.000	738.589	750.222	11.633	1.096	.033	1.402	750.308	.153	2
CF011	712.700	4980.000	739.724	750.290	10.566	.542	.039	2.157	750.323	.105	2
JT161	990.100	4980.000	738.925	750.274	11.349	1.070	.035	1.530	750.363	.150	2
JT171	1005.700	4980.000	739.099	750.323	11.224	1.141	.038	2.088	750.461	.196	2
JT181	291.500	4980.000	739.138	750.463	11.325	1.057	.037	1.760	750.564	.161	2
CF021	699.200	4980.000	740.211	750.551	10.340	.623	.034	1.487	750.580	.097	2
JT191	998.200	4980.000	739.025	750.510	11.485	1.029	.040	2.174	750.628	.177	2
JT201	1002.600	4980.000	740.313	750.645	10.332	1.025	.032	1.278	750.714	.136	2
CF031	3300.000	4980.000	740.078	750.722	10.644	.697	.039	2.284	750.778	.138	2
CF041	3500.000	4980.000	736.565	750.904	14.339	.852	.041	2.781	751.007	.187	2
CF051	9950.000	4980.000	737.452	751.186	13.734	.525	.054	5.245	751.260	.161	2
CF061	4650.000	4980.000	739.406	751.839	12.433	.467	.054	6.096	751.907	.189	2
CF071	3900.000	4980.000	740.674	752.180	11.506	.620	.050	4.587	752.270	.198	2
CF081	5000.000	4980.000	740.297	752.492	12.195	.265	.070	7.587	752.519	.114	2
CF091	2000.000	4980.000	741.444	752.797	11.353	1.059	.041	2.820	752.958	.252	2
CF101	2000.000	4980.000	736.528	752.976	16.448	1.413	.038	2.675	753.249	.351	2
CF111	5750.000	4980.000	742.213	753.390	11.177	1.038	.037	2.178	753.510	.250	2
CF121	3250.000	4980.000	742.681	754.008	11.327	1.193	.036	1.696	754.132	.181	2
CF131	3500.000	4980.000	741.128	754.361	13.233	.946	.046	3.234	754.509	.223	2
CF141	2250.000	4980.000	742.400	754.766	12.366	.734	.049	3.969	754.875	.207	2
CF151	3250.000	4980.000	743.623	755.005	11.382	.494	.054	3.934	755.054	.131	2
CF161	5050.000	4980.000	743.827	755.186	11.359	.770	.038	2.475	755.261	.187	2
CF171	3050.000	4980.000	743.925	755.587	11.662	1.020	.040	2.602	755.725	.227	2
CF181	2950.000	4980.000	745.186	755.928	10.742	.685	.038	2.284	755.983	.155	2
CF191	4550.000	4980.000	744.830	756.099	11.269	.731	.039	2.792	756.175	.188	2

CF201	4400.000	4980.000	744.243	756.458	12.215	.617	.054	5.112	756.557	.208	2
CF211	4850.000	4980.000	745.134	756.880	11.746	.769	.046	4.146	757.005	.244	2
CF221	1700.000	4980.000	745.021	757.383	12.362	.553	.059	5.050	757.462	.158	2
CF231	3950.000	4980.000	746.037	757.525	11.488	.476	.041	2.931	757.559	.131	2
CF241	2225.000	3764.000	745.982	757.675	11.693	.802	.045	3.490	757.790	.223	2
CF251	4775.000	3764.000	745.752	757.901	12.149	.670	.042	2.360	757.955	.125	2
CF261	7000.000	3764.000	746.286	758.204	11.918	1.306	.035	1.684	758.351	.209	2
CF271	1805.800	3764.000	748.246	758.979	10.733	.928	.037	2.261	759.078	.210	2
JS021	1552.500	3764.000	748.899	759.146	10.247	.907	.036	1.846	759.224	.153	2
JS031	1762.600	3764.000	748.395	759.259	10.864	.936	.036	1.804	759.340	.159	2
JS041	2644.100	3764.000	749.421	759.402	9.981	.973	.034	1.603	759.480	.160	2
JS051	2191.600	3764.000	747.060	759.594	12.534	1.091	.039	2.198	759.728	.202	2
JS061	2388.100	3764.000	749.315	759.847	10.532	.766	.032	1.304	759.886	.104	2
JS071	3521.900	3764.000	748.567	759.941	11.374	.721	.035	1.504	759.981	.101	2
JS081	1817.200	3764.000	749.966	760.111	10.145	.906	.031	1.145	760.159	.122	2
JS091	2028.400	3764.000	750.891	760.243	9.352	1.045	.035	1.622	760.333	.183	2
JS101	2470.000	3764.000	752.081	760.557	8.476	1.533	.031	1.201	760.701	.242	2
JS111	1076.600	3764.000	751.858	761.053	9.195	1.121	.031	1.125	761.125	.158	2
JS121	2390.900	3764.000	751.801	760.995	9.194	1.969	.043	3.126	761.614	.528	2
JS131	2077.600	3764.000	752.261	762.640	10.379	1.185	.039	2.050	762.786	.228	2
JS141	2319.900	3764.000	752.830	763.006	10.176	.955	.037	1.775	763.089	.168	2
JS151	1916.500	3764.000	752.019	763.248	11.229	1.033	.037	1.684	763.340	.165	2
JS161	2866.900	3764.000	752.949	763.458	10.510	.870	.034	1.458	763.515	.133	2
JS171	1134.600	3764.000	752.900	763.650	10.750	.827	.032	1.177	763.691	.110	2
JS181	1295.500	3764.000	752.929	763.705	10.776	.883	.034	1.412	763.762	.131	2
JS191	737.200	3764.000	752.544	763.772	11.228	1.097	.043	2.475	763.923	.236	2
JS201	998.100	3764.000	753.308	763.924	10.616	1.060	.041	2.103	764.045	.195	2
JS211	391.600	3764.000	753.929	764.096	10.167	.906	.031	1.192	764.146	.121	2
JS221	1191.200	3764.000	753.530	764.117	10.587	.916	.032	1.243	764.170	.128	2
JS231	487.800	3764.000	754.250	764.195	9.945	.996	.036	1.628	764.278	.166	2
JS241	557.800	3764.000	753.289	764.268	10.979	.870	.035	1.440	764.324	.131	2
JS251	436.900	1670.000	754.456	764.334	9.878	1.001	.036	1.695	764.421	.171	2
JS261	516.200	1670.000	754.069	764.441	10.372	.378	.032	1.269	764.450	.053	2
JS271	512.400	1670.000	754.052	764.447	10.395	.382	.032	1.210	764.456	.053	2
JS281	919.300	1670.000	754.375	764.440	10.065	.579	.035	1.578	764.467	.097	2
JS291	875.200	1670.000	754.417	764.479	10.063	.367	.030	1.068	764.487	.047	2
JS301	.000	1670.000	753.498	764.482	10.984	.439	.038	1.768	764.500	.074	2

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A2 1983 742.0 parana pjt. without excavation
1983year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	8358.000	615.000	742.000	127.000	.174	.030	1.132	742.002	.007	2
CN021	9230.000	8358.000	625.000	742.001	117.001	.136	.030	1.191	742.002	.006	2
CN031	12300.000	8358.000	635.000	742.001	107.001	.192	.030	1.163	742.003	.008	2
CN041	10000.000	8358.000	669.000	742.004	73.004	.181	.030	1.095	742.006	.008	2
CN051	11540.000	8358.000	675.000	742.003	67.003	.362	.030	1.152	742.011	.019	2
CN061	2160.000	8358.000	700.550	742.015	41.465	.435	.030	1.114	742.026	.028	2
CN071	3840.000	8358.000	705.190	741.951	36.761	1.315	.030	1.130	742.050	.097	2
CN081	400.000	8358.000	713.710	742.080	28.370	.570	.030	1.063	742.098	.042	2
CN091	1400.000	8358.000	714.940	742.085	27.145	.500	.030	1.153	742.099	.042	2
CN101	1420.000	8358.000	717.280	741.931	24.651	2.015	.030	1.081	742.155	.168	2
CN111	100.000	8358.000	722.160	742.063	19.903	1.974	.030	1.023	742.267	.161	2
CN121	3040.000	8358.000	718.180	741.696	23.516	3.229	.030	1.116	742.289	.335	2
ZN131	640.000	8358.000	732.270	743.677	11.407	2.479	.050	1.068	744.012	.278	2
CN141	500.000	5122.000	733.050	744.258	11.208	4.393	.050	1.068	745.309	.546	2
CN151	70.000	5122.000	730.370	746.108	15.738	1.655	.050	1.160	746.270	.233	2
CN152	70.000	5122.000	738.500	746.099	7.599	2.110	.050	1.013	746.329	.288	2
CN153	60.000	5122.000	735.150	746.255	11.104	1.571	.050	1.048	746.387	.201	2
CN154	50.000	5122.000	734.239	746.231	11.992	1.851	.050	1.059	746.417	.215	2
CN161	260.000	5122.000	731.410	746.253	14.843	1.804	.050	1.121	746.439	.220	2
CN171	1200.000	5122.000	731.720	746.293	14.573	1.796	.032	1.276	746.503	.219	2
CN181	300.000	5122.000	736.150	746.495	10.345	1.675	.033	1.458	746.703	.278	2
CN191	690.000	5122.000	736.890	746.578	9.688	1.594	.033	1.484	746.770	.267	2
CN201	1400.000	5122.000	734.620	746.711	12.091	1.299	.038	2.222	746.902	.245	2
CN211	1400.000	5122.000	734.990	746.943	11.953	1.064	.039	2.594	747.093	.245	2
CN221	1600.000	5122.000	732.710	747.148	14.438	.518	.059	7.865	747.255	.240	2
CN231	1400.000	5122.000	735.690	747.294	11.604	1.439	.033	1.485	747.451	.212	2
ZN241	300.000	5122.000	738.000	747.324	9.324	2.521	.036	2.347	748.085	.618	2
CN251	300.000	5122.000	733.500	748.069	14.569	1.023	.039	2.734	748.215	.225	2
CN261	2170.000	5122.000	729.600	747.924	18.324	1.125	.052	5.202	748.260	.357	2
CN271	230.000	5122.000	734.860	748.446	13.586	.834	.042	3.553	748.572	.217	2
CN281	1200.000	5122.000	734.630	748.466	13.836	.834	.043	3.552	748.592	.217	2
CN291	1400.000	5122.000	736.890	748.570	11.680	1.125	.040	2.461	748.729	.233	2
CN301	1368.600	5122.000	735.190	748.772	13.582	.749	.050	4.557	748.902	.218	2
JT011	999.100	5122.000	737.480	748.937	11.457	.965	.038	1.941	749.029	.155	2
JT021	232.300	5122.000	738.167	749.042	10.875	.922	.031	1.157	749.092	.113	2

CN311	762.800	5122.000	737.070	749.049	11.979	.501	.052	4.303	749.105	.138	2
JT031	737.200	5122.000	736.558	749.028	12.470	1.157	.037	2.031	749.167	.198	2
CN321	174.500	5122.000	736.580	749.111	12.531	1.020	.037	2.474	749.242	.235	2
JT041	725.500	5122.000	734.672	749.138	14.466	1.097	.036	1.927	749.256	.171	2
CN331	308.600	5122.000	735.330	749.218	13.888	.597	.047	4.706	749.303	.184	2
JT051	999.700	5122.000	735.664	749.192	13.528	1.079	.040	2.269	749.327	.180	2
JT061	91.700	5122.000	729.825	749.240	19.415	.961	.054	3.994	749.428	.203	2
CN341	736.700	5122.000	735.980	749.399	13.419	.309	.061	7.238	749.434	.122	2
JT071	263.400	5122.000	736.606	749.395	12.789	.943	.035	1.587	749.467	.130	2
CN351	735.000	5122.000	738.550	749.428	10.878	.624	.041	2.739	749.482	.145	2
JT081	988.400	5122.000	738.224	749.462	11.238	.923	.033	1.346	749.521	.120	2
JT091	986.000	5122.000	733.126	749.356	16.230	1.648	.036	1.823	749.609	.233	2
JT101	890.600	5122.000	734.254	749.539	15.285	1.379	.036	1.915	749.725	.209	2
CN361	95.800	5122.000	731.840	749.610	17.770	.830	.054	6.224	749.829	.278	2
JT111	990.300	5122.000	732.826	749.681	16.855	1.056	.044	2.781	749.840	.199	2
JT121	955.800	5122.000	739.532	749.841	10.309	1.045	.034	1.566	749.928	.159	2
JT131	758.200	5122.000	739.756	749.908	10.152	1.154	.034	1.579	750.016	.179	2
CN371	214.300	5122.000	737.730	749.988	12.258	.639	.046	4.671	750.085	.225	2
JT141	185.700	4980.000	734.524	749.954	15.430	1.227	.036	2.067	750.112	.204	2
CN381	804.000	4980.000	736.240	749.986	13.746	.872	.038	3.652	750.128	.287	2
JT151	296.000	4980.000	738.589	750.137	11.548	1.109	.033	1.400	750.225	.156	2
CF011	712.700	4980.000	739.724	750.208	10.484	.550	.039	2.151	750.242	.108	2
JT161	990.100	4980.000	738.925	750.192	11.267	1.081	.035	1.528	750.283	.152	2
JT171	1005.700	4980.000	739.099	750.244	11.145	1.153	.038	2.083	750.385	.199	2
JT181	291.500	4980.000	739.138	750.389	11.251	1.067	.037	1.758	750.491	.163	2
CF021	699.200	4980.000	740.211	750.480	10.269	.631	.034	1.486	750.510	.099	2
JT191	998.200	4980.000	739.025	750.439	11.414	1.039	.040	2.171	750.559	.179	2
JT201	1002.600	4980.000	740.313	750.576	10.263	1.034	.032	1.279	750.646	.138	2
CF031	3300.000	4980.000	740.078	750.655	10.577	.705	.039	2.281	750.713	.140	2
CF041	3500.000	4980.000	736.565	750.844	14.279	.861	.041	2.769	750.948	.190	2
CF051	9950.000	4980.000	737.452	751.131	13.679	.530	.054	5.242	751.207	.164	2
CF061	4650.000	4980.000	739.406	751.798	12.392	.472	.053	6.074	751.867	.192	2
CF071	3900.000	4980.000	740.674	752.146	11.472	.625	.050	4.577	752.237	.199	2
CF081	5000.000	4980.000	740.297	752.462	12.165	.267	.069	7.596	752.490	.115	2
CF091	2000.000	4980.000	741.444	752.771	11.327	1.064	.041	2.813	752.934	.254	2
CF101	2000.000	4980.000	736.528	752.954	16.426	1.420	.038	2.662	753.228	.352	2
CF111	5750.000	4980.000	742.213	753.370	11.157	1.044	.036	2.169	753.491	.250	2
CF121	3250.000	4980.000	742.681	753.993	11.312	1.195	.036	1.695	754.117	.182	2
CF131	3500.000	4980.000	741.128	754.349	13.221	.948	.046	3.231	754.497	.224	2
CF141	2250.000	4980.000	742.400	754.786	12.386	.731	.049	3.975	754.894	.206	2
CF151	3250.000	4980.000	743.623	755.021	11.398	.493	.054	3.935	755.070	.130	2
CF161	5050.000	4980.000	743.827	755.202	11.375	.767	.038	2.480	755.276	.186	2
CF171	3050.000	4980.000	743.925	755.600	11.675	1.018	.040	2.605	755.738	.226	2
CF181	2950.000	4980.000	745.186	755.940	10.754	.683	.038	2.287	755.994	.154	2
CF191	4550.000	4980.000	744.830	756.107	11.277	.730	.039	2.794	756.183	.188	2

CF201	4400.000	4980.000	744.243	756.465	12.222	.616	.054	5.115	756.564	.208	2
CF211	4850.000	4980.000	745.134	756.886	11.752	.768	.047	4.150	757.010	.244	2
CF221	1700.000	4980.000	745.021	757.388	12.367	.553	.059	5.049	757.467	.158	2
CF231	3950.000	4980.000	746.037	757.529	11.492	.476	.041	2.932	757.563	.130	2
CF241	2225.000	3764.000	745.982	757.678	11.696	.801	.045	3.491	757.793	.223	2
CF251	4775.000	3764.000	745.752	757.904	12.152	.669	.042	2.360	757.958	.125	2
CF261	7000.000	3764.000	746.286	758.208	11.922	1.306	.035	1.684	758.354	.209	2
CF271	1805.800	3764.000	748.246	758.981	10.735	.927	.037	2.261	759.080	.210	2
JS021	1552.500	3764.000	748.899	759.148	10.249	.907	.036	1.847	759.226	.153	2
JS031	1762.600	3764.000	748.395	759.262	10.867	.936	.036	1.805	759.343	.159	2
JS041	2644.100	3764.000	749.421	759.406	9.985	.972	.034	1.603	759.484	.160	2
JS051	2191.600	3764.000	747.060	759.595	12.535	1.091	.039	2.198	759.729	.202	2
JS061	2388.100	3764.000	749.315	759.849	10.534	.765	.032	1.304	759.888	.104	2
JS071	3521.900	3764.000	748.567	759.943	11.376	.721	.035	1.504	759.983	.101	2
JS081	1817.200	3764.000	749.966	760.113	10.147	.905	.031	1.144	760.161	.122	2
JS091	2028.400	3764.000	750.891	760.245	9.354	1.045	.035	1.622	760.336	.183	2
JS101	2470.000	3764.000	752.081	760.561	8.480	1.532	.031	1.201	760.705	.241	2
JS111	1076.600	3764.000	751.858	761.055	9.197	1.121	.031	1.125	761.127	.158	2
JS121	2390.900	3764.000	751.801	760.995	9.194	1.969	.043	3.126	761.614	.528	2
JS131	2077.600	3764.000	752.261	762.640	10.379	1.185	.039	2.050	762.786	.228	2
JS141	2319.900	3764.000	752.830	763.006	10.176	.955	.037	1.775	763.089	.168	2
JS151	1916.500	3764.000	752.019	763.248	11.229	1.033	.037	1.684	763.340	.165	2
JS161	2866.900	3764.000	752.949	763.458	10.510	.870	.034	1.458	763.515	.133	2
JS171	1134.600	3764.000	752.900	763.650	10.750	.827	.032	1.177	763.691	.110	2
JS181	1295.500	3764.000	752.929	763.705	10.776	.883	.034	1.412	763.762	.131	2
JS191	737.200	3764.000	752.544	763.772	11.228	1.097	.043	2.475	763.923	.236	2
JS201	998.100	3764.000	753.308	763.924	10.616	1.060	.041	2.103	764.045	.195	2
JS211	391.600	3764.000	753.929	764.096	10.167	.906	.031	1.192	764.146	.121	2
JS221	1191.200	3764.000	753.530	764.117	10.587	.916	.032	1.243	764.170	.128	2
JS231	487.800	3764.000	754.250	764.195	9.945	.996	.036	1.628	764.278	.166	2
JS241	557.800	3764.000	753.289	764.268	10.979	.870	.035	1.440	764.324	.131	2
JS251	436.900	1670.000	754.456	764.334	9.878	1.001	.036	1.695	764.421	.171	2
JS261	516.200	1670.000	754.069	764.441	10.372	.378	.032	1.269	764.450	.053	2
JS271	512.400	1670.000	754.052	764.447	10.395	.382	.032	1.210	764.456	.053	2
JS281	919.300	1670.000	754.375	764.440	10.065	.579	.035	1.578	764.467	.097	2
JS291	875.200	1670.000	754.417	764.479	10.063	.367	.030	1.068	764.487	.047	2
JS301	.000	1670.000	753.498	764.482	10.984	.439	.038	1.768	764.500	.074	2

A3 1983 739.0 parana pjt. without excavation
1983year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	8358.000	615.000	739.000	124.000	.180	.030	1.135	739.002	.007	2
CN021	9230.000	8358.000	625.000	739.001	114.001	.142	.030	1.190	739.002	.006	2
CN031	12300.000	8358.000	635.000	739.001	104.001	.202	.030	1.162	739.003	.009	2
CN041	10000.000	8358.000	669.000	739.004	70.004	.192	.030	1.095	739.006	.009	2
CN051	11540.000	8358.000	675.000	739.003	64.003	.390	.030	1.153	739.012	.021	2
CN061	2160.000	8358.000	700.550	739.016	38.466	.489	.030	1.118	739.029	.033	2
CN071	3840.000	8358.000	705.190	738.931	33.741	1.527	.030	1.124	739.065	.118	2
CN081	400.000	8358.000	713.710	739.112	25.402	.665	.030	1.048	739.136	.050	2
CN091	1400.000	8358.000	714.940	739.117	24.177	.607	.030	1.155	739.138	.055	2
CN101	1420.000	8358.000	717.280	738.904	21.624	2.472	.030	1.073	739.238	.220	2
CN111	100.000	8358.000	722.160	739.144	16.984	2.415	.030	1.023	739.449	.215	2
CN121	3040.000	8358.000	718.180	738.016	19.836	4.899	.030	1.229	739.521	.644	2
ZN131	640.000	8358.000	732.270	742.744	10.474	2.775	.050	1.075	743.166	.328	2
CN141	500.000	5122.000	733.050	743.571	10.521	4.865	.050	1.078	744.872	.637	2
CN151	70.000	5122.000	730.370	745.983	15.613	1.690	.050	1.166	746.153	.241	2
CN152	70.000	5122.000	738.500	745.977	7.477	2.158	.050	1.014	746.217	.298	2
CN153	60.000	5122.000	735.150	746.141	10.991	1.599	.050	1.050	746.278	.206	2
CN154	50.000	5122.000	734.239	746.118	11.879	1.878	.050	1.061	746.309	.220	2
CN161	260.000	5122.000	731.410	746.139	14.729	1.830	.050	1.119	746.331	.223	2
CN171	1200.000	5122.000	731.720	746.184	14.464	1.818	.032	1.269	746.398	.222	2
CN181	300.000	5122.000	736.150	746.392	10.242	1.707	.032	1.443	746.607	.284	2
CN191	690.000	5122.000	736.890	746.477	9.587	1.625	.033	1.477	746.676	.274	2
CN201	1400.000	5122.000	734.620	746.620	12.000	1.317	.038	2.209	746.816	.249	2
CN211	1400.000	5122.000	734.990	746.860	11.870	1.082	.039	2.568	747.013	.248	2
CN221	1600.000	5122.000	732.710	747.069	14.359	.529	.059	7.851	747.181	.247	2
CN231	1400.000	5122.000	735.690	747.224	11.534	1.453	.033	1.480	747.384	.215	2
ZN241	300.000	5122.000	738.000	747.258	9.258	2.564	.036	2.322	748.037	.629	2
CN251	300.000	5122.000	733.500	748.023	14.523	1.032	.039	2.722	748.171	.226	2
CN261	2170.000	5122.000	729.600	747.877	18.277	1.135	.052	5.178	748.218	.360	2
CN271	230.000	5122.000	734.860	748.407	13.547	.840	.042	3.540	748.534	.219	2
CN281	1200.000	5122.000	734.630	748.427	13.797	.840	.042	3.539	748.554	.219	2
CN291	1400.000	5122.000	736.890	748.533	11.643	1.132	.040	2.456	748.694	.235	2
CN301	1368.600	5122.000	735.190	748.739	13.549	.753	.050	4.551	748.871	.219	2
JT011	999.100	5122.000	737.480	748.906	11.426	.969	.038	1.939	748.999	.156	2
JT021	232.300	5122.000	738.167	749.011	10.844	.926	.031	1.156	749.061	.113	2

CN311	762.800	5122.000	737.070	749.018	11.948	.504	.052	4.302	749.074	.139	2
JT031	737.200	5122.000	736.558	748.996	12.438	1.162	.037	2.027	749.136	.199	2
CN321	174.500	5122.000	736.580	749.080	12.500	1.026	.037	2.463	749.212	.236	2
JT041	725.500	5122.000	734.672	749.109	14.438	1.100	.036	1.924	749.228	.171	2
CN331	308.600	5122.000	735.330	749.190	13.860	.600	.047	4.697	749.277	.185	2
JT051	999.700	5122.000	735.664	749.165	13.501	1.082	.040	2.268	749.300	.181	2
JT061	91.700	5122.000	729.825	749.213	19.388	.963	.054	3.992	749.402	.204	2
CN341	736.700	5122.000	735.980	749.372	13.392	.311	.061	7.241	749.407	.123	2
JT071	263.400	5122.000	736.606	749.368	12.762	.946	.035	1.587	749.440	.131	2
CN351	735.000	5122.000	738.550	749.401	10.851	.627	.041	2.735	749.456	.146	2
JT081	988.400	5122.000	738.224	749.435	11.211	.926	.033	1.346	749.494	.121	2
JT091	986.000	5122.000	733.126	749.329	16.203	1.653	.036	1.821	749.583	.234	2
JT101	890.600	5122.000	734.254	749.513	15.259	1.383	.036	1.915	749.699	.210	2
CN361	95.800	5122.000	731.840	749.585	17.745	.834	.053	6.218	749.806	.280	2
JT111	990.300	5122.000	732.826	749.658	16.832	1.060	.044	2.777	749.817	.200	2
JT121	955.800	5122.000	739.532	749.818	10.286	1.048	.034	1.566	749.906	.160	2
JT131	758.200	5122.000	739.756	749.886	10.130	1.158	.034	1.578	749.994	.180	2
CN371	214.300	5122.000	737.730	749.965	12.235	.643	.046	4.658	750.063	.226	2
JT141	185.700	4980.000	734.524	749.930	15.406	1.231	.036	2.063	750.090	.205	2
CN381	804.000	4980.000	736.240	749.963	13.723	.878	.038	3.630	750.106	.289	2
JT151	296.000	4980.000	738.589	750.085	11.496	1.117	.033	1.398	750.174	.157	2
CF011	712.700	4980.000	739.724	750.158	10.434	.555	.039	2.148	750.191	.109	2
JT161	990.100	4980.000	738.925	750.144	11.219	1.088	.035	1.527	750.236	.153	2
JT171	1005.700	4980.000	739.099	750.197	11.098	1.161	.038	2.079	750.340	.201	2
JT181	291.500	4980.000	739.138	750.345	11.207	1.074	.037	1.757	750.448	.164	2
CF021	699.200	4980.000	740.211	750.436	10.225	.635	.034	1.485	750.467	.100	2
JT191	998.200	4980.000	739.025	750.396	11.371	1.045	.040	2.169	750.517	.181	2
JT201	1002.600	4980.000	740.313	750.536	10.223	1.040	.032	1.279	750.606	.140	2
CF031	3300.000	4980.000	740.078	750.613	10.535	.710	.039	2.279	750.672	.142	2
CF041	3500.000	4980.000	736.565	750.804	14.239	.866	.041	2.761	750.910	.191	2
CF051	9950.000	4980.000	737.452	751.096	13.644	.533	.054	5.240	751.172	.165	2
CF061	4650.000	4980.000	739.406	751.771	12.365	.476	.053	6.059	751.841	.193	2
CF071	3900.000	4980.000	740.674	752.122	11.448	.628	.050	4.571	752.214	.201	2
CF081	5000.000	4980.000	740.297	752.442	12.145	.268	.069	7.602	752.469	.116	2
CF091	2000.000	4980.000	741.444	752.754	11.310	1.068	.041	2.808	752.917	.255	2
CF101	2000.000	4980.000	736.528	752.937	16.409	1.425	.038	2.652	753.212	.353	2
CF111	5750.000	4980.000	742.213	753.349	11.136	1.049	.036	2.160	753.470	.248	2
CF121	3250.000	4980.000	742.681	753.977	11.296	1.198	.036	1.695	754.101	.182	2
CF131	3500.000	4980.000	741.128	754.334	13.206	.951	.046	3.228	754.483	.224	2
CF141	2250.000	4980.000	742.400	754.773	12.373	.733	.049	3.971	754.882	.207	2
CF151	3250.000	4980.000	743.623	755.010	11.387	.494	.054	3.935	755.059	.131	2
CF161	5050.000	4980.000	743.827	755.190	11.363	.769	.038	2.476	755.265	.187	2
CF171	3050.000	4980.000	743.925	755.590	11.665	1.020	.040	2.603	755.728	.227	2
CF181	2950.000	4980.000	745.186	755.931	10.745	.684	.038	2.285	755.986	.155	2
CF191	4550.000	4980.000	744.830	756.100	11.270	.731	.039	2.792	756.176	.188	2

CF201	4400.000	4980.000	744.243	756.459	12.216	.617	.054	5.113	756.558	.208	2
CF211	4850.000	4980.000	745.134	756.881	11.747	.769	.046	4.147	757.006	.244	2
CF221	1700.000	4980.000	745.021	757.384	12.363	.553	.059	5.050	757.463	.158	2
CF231	3950.000	4980.000	746.037	757.525	11.488	.476	.041	2.931	757.559	.131	2
CF241	2225.000	3764.000	745.982	757.675	11.693	.802	.045	3.490	757.790	.223	2
CF251	4775.000	3764.000	745.752	757.901	12.149	.670	.042	2.360	757.955	.125	2
CF261	7000.000	3764.000	746.286	758.204	11.918	1.306	.035	1.684	758.351	.209	2
CF271	1805.800	3764.000	748.246	758.979	10.733	.928	.037	2.261	759.078	.210	2
JS021	1552.500	3764.000	748.899	759.146	10.247	.907	.036	1.846	759.224	.153	2
JS031	1762.600	3764.000	748.395	759.259	10.864	.936	.036	1.804	759.340	.159	2
JS041	2644.100	3764.000	749.421	759.402	9.981	.973	.034	1.603	759.480	.160	2
JS051	2191.600	3764.000	747.060	759.594	12.534	1.091	.039	2.198	759.728	.202	2
JS061	2388.100	3764.000	749.315	759.847	10.532	.766	.032	1.304	759.886	.104	2
JS071	3521.900	3764.000	748.567	759.941	11.374	.721	.035	1.504	759.981	.101	2
JS081	1817.200	3764.000	749.966	760.111	10.145	.906	.031	1.145	760.159	.122	2
JS091	2028.400	3764.000	750.891	760.243	9.352	1.045	.035	1.622	760.333	.183	2
JS101	2470.000	3764.000	752.081	760.557	8.476	1.533	.031	1.201	760.701	.242	2
JS111	1076.600	3764.000	751.858	761.053	9.195	1.121	.031	1.125	761.125	.158	2
JS121	2390.900	3764.000	751.801	760.995	9.194	1.969	.043	3.126	761.614	.528	2
JS131	2077.600	3764.000	752.261	762.640	10.379	1.185	.039	2.050	762.786	.228	2
JS141	2319.900	3764.000	752.830	763.006	10.176	.955	.037	1.775	763.089	.168	2
JS151	1916.500	3764.000	752.019	763.248	11.229	1.033	.037	1.684	763.340	.165	2
JS161	2866.900	3764.000	752.949	763.458	10.510	.870	.034	1.458	763.515	.133	2
JS171	1134.600	3764.000	752.900	763.650	10.750	.827	.032	1.177	763.691	.110	2
JS181	1295.500	3764.000	752.929	763.705	10.776	.883	.034	1.412	763.762	.131	2
JS191	737.200	3764.000	752.544	763.772	11.228	1.097	.043	2.475	763.923	.236	2
JS201	998.100	3764.000	753.308	763.924	10.616	1.060	.041	2.103	764.045	.195	2
JS211	391.600	3764.000	753.929	764.096	10.167	.906	.031	1.192	764.146	.121	2
JS221	1191.200	3764.000	753.530	764.117	10.587	.916	.032	1.243	764.170	.128	2
JS231	487.800	3764.000	754.250	764.195	9.945	.996	.036	1.628	764.278	.166	2
JS241	557.800	3764.000	753.289	764.268	10.979	.870	.035	1.440	764.324	.131	2
JS251	436.900	1670.000	754.456	764.334	9.878	1.001	.036	1.695	764.421	.171	2
JS261	516.200	1670.000	754.069	764.441	10.372	.378	.032	1.269	764.450	.053	2
JS271	512.400	1670.000	754.052	764.447	10.395	.382	.032	1.210	764.456	.053	2
JS281	919.300	1670.000	754.375	764.440	10.065	.579	.035	1.578	764.467	.097	2
JS291	875.200	1670.000	754.417	764.479	10.063	.367	.030	1.068	764.487	.047	2
JS301	.000	1670.000	753.498	764.482	10.984	.439	.038	1.768	764.500	.074	2

A4 1992 742.0 parana pjt. without excavation
1992year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	6952.000	615.000	742.000	127.000	.144	.030	1.132	742.001	.006	2
CN021	9230.000	6952.000	625.000	742.001	117.001	.113	.030	1.191	742.002	.005	2
CN031	12300.000	6952.000	635.000	742.000	107.000	.160	.030	1.163	742.002	.007	2
CN041	10000.000	6952.000	669.000	742.000	73.000	.151	.030	1.095	742.001	.007	2
CN051	11540.000	6952.000	675.000	741.996	66.996	.301	.030	1.152	742.001	.016	2
CN061	2160.000	6952.000	700.550	742.003	41.453	.362	.030	1.114	742.011	.024	2
CN071	3840.000	6952.000	705.190	741.959	36.769	1.094	.030	1.130	742.028	.081	2
CN081	400.000	6952.000	713.710	742.049	28.339	.475	.030	1.062	742.061	.035	2
CN091	1400.000	6952.000	714.940	742.052	27.112	.417	.030	1.153	742.063	.035	2
CN101	1420.000	6952.000	717.280	741.947	24.667	1.675	.030	1.081	742.102	.139	2
CN111	100.000	6952.000	722.160	742.039	19.879	1.644	.030	1.023	742.180	.134	2
CN121	3040.000	6952.000	718.180	741.793	23.613	2.661	.030	1.114	742.196	.275	2
ZN131	640.000	6952.000	732.270	743.256	10.986	2.167	.050	1.071	743.513	.248	2
CN141	500.000	3917.000	733.050	743.735	10.685	3.946	.050	1.075	744.589	.510	2
CN151	70.000	3917.000	730.370	745.307	14.938	1.461	.050	1.207	745.439	.224	2
CN152	70.000	3917.000	738.500	745.312	6.812	1.881	.050	1.019	745.495	.278	2
CN153	60.000	3917.000	735.150	745.447	10.297	1.371	.050	1.063	745.549	.188	2
CN154	50.000	3917.000	734.239	745.439	11.200	1.571	.050	1.067	745.574	.193	2
CN161	260.000	3917.000	731.410	745.458	14.048	1.531	.050	1.104	745.590	.187	2
CN171	1200.000	3917.000	731.720	745.497	13.777	1.508	.031	1.228	745.640	.185	2
CN181	300.000	3917.000	736.150	745.646	9.496	1.514	.032	1.327	745.801	.254	2
CN191	690.000	3917.000	736.890	745.707	8.817	1.452	.032	1.412	745.859	.258	2
CN201	1400.000	3917.000	734.620	745.835	11.215	1.149	.036	2.088	745.976	.223	2
CN211	1400.000	3917.000	734.990	746.017	11.027	.980	.037	2.326	746.131	.214	2
CN221	1600.000	3917.000	732.710	746.171	13.461	.530	.053	7.407	746.277	.267	2
CN231	1400.000	3917.000	735.690	746.337	10.647	1.273	.032	1.410	746.454	.195	2
ZN241	300.000	3917.000	738.000	746.402	8.402	2.493	.034	1.949	747.020	.619	2
CN251	300.000	3917.000	733.500	747.026	13.526	.948	.037	2.427	747.137	.208	2
CN261	2170.000	3917.000	729.600	746.910	17.310	1.054	.049	4.637	747.172	.334	2
CN271	230.000	3917.000	734.860	747.330	12.470	.804	.039	3.089	747.432	.217	2
CN281	1200.000	3917.000	734.630	747.348	12.718	.805	.039	3.090	747.450	.218	2
CN291	1400.000	3917.000	736.890	747.445	10.555	1.058	.038	2.280	747.575	.225	2
CN301	1368.600	3917.000	735.190	747.624	12.434	.720	.046	4.257	747.736	.222	2
JT011	999.100	3917.000	737.480	747.778	10.298	.870	.036	1.866	747.850	.149	2
JT021	232.300	3917.000	738.167	747.866	9.699	.828	.031	1.151	747.906	.109	2

CN311	762.800	3917.000	737.070	747.868	10.798	.481	.048	4.175	747.917	.146	2
JT031	737.200	3917.000	736.558	747.866	11.308	1.058	.036	1.895	747.974	.191	2
CN321	174.500	3917.000	736.580	747.935	11.355	1.024	.035	1.981	748.041	.232	2
JT041	725.500	3917.000	734.672	747.966	13.294	.979	.034	1.794	748.054	.158	2
CN331	308.600	3917.000	735.330	748.021	12.691	.597	.042	4.182	748.097	.197	2
JT051	999.700	3917.000	735.664	748.016	12.352	.960	.039	2.187	748.118	.169	2
JT061	91.700	3917.000	729.825	748.062	18.237	.843	.052	3.894	748.204	.188	2
CN341	736.700	3917.000	735.980	748.171	12.191	.318	.055	7.111	748.208	.143	2
JT071	263.400	3917.000	736.606	748.184	11.578	.840	.034	1.544	748.240	.123	2
CN351	735.000	3917.000	738.550	748.203	9.653	.623	.038	2.507	748.253	.156	2
JT081	988.400	3917.000	738.224	748.244	10.020	.831	.032	1.308	748.290	.116	2
JT091	986.000	3917.000	733.126	748.181	15.055	1.442	.035	1.715	748.363	.211	2
JT101	890.600	3917.000	734.254	748.318	14.063	1.228	.035	1.797	748.456	.192	2
CN361	95.800	3917.000	731.840	748.355	16.515	.812	.049	5.690	748.546	.289	2
JT111	990.300	3917.000	732.826	748.435	15.609	.952	.042	2.592	748.555	.182	2
JT121	955.800	3917.000	739.532	748.562	9.030	.981	.033	1.529	748.637	.164	2
JT131	758.200	3917.000	739.756	748.638	8.882	1.088	.033	1.461	748.726	.180	2
CN371	214.300	3917.000	737.730	748.702	10.972	.720	.040	3.579	748.796	.257	2
JT141	185.700	3809.000	734.524	748.700	14.176	1.124	.034	1.856	748.819	.194	2
CN381	804.000	3809.000	736.240	748.710	12.470	1.048	.033	2.218	748.834	.321	2
JT151	296.000	3809.000	738.589	748.824	10.235	1.036	.032	1.343	748.898	.157	2
CF011	712.700	3809.000	739.724	748.884	9.160	.544	.037	2.032	748.915	.115	2
JT161	990.100	3809.000	738.925	748.882	9.957	.991	.034	1.491	748.957	.150	2
JT171	1005.700	3809.000	739.099	748.938	9.839	1.080	.037	1.965	749.055	.200	2
JT181	291.500	3809.000	739.138	749.073	9.935	.984	.036	1.716	749.157	.162	2
CF021	699.200	3809.000	740.211	749.148	8.937	.611	.033	1.478	749.176	.105	2
JT191	998.200	3809.000	739.025	749.126	10.101	.965	.038	2.086	749.225	.180	2
JT201	1002.600	3809.000	740.313	749.251	8.938	.967	.032	1.298	749.313	.144	2
CF031	3300.000	3809.000	740.078	749.329	9.251	.695	.037	2.189	749.383	.153	2
CF041	3500.000	3809.000	736.565	749.532	12.967	.849	.038	2.420	749.621	.197	2
CF051	9950.000	3809.000	737.452	749.803	12.351	.530	.049	5.022	749.875	.181	2
CF061	4650.000	3809.000	739.406	750.505	11.099	.540	.047	4.874	750.577	.223	2
CF071	3900.000	3809.000	740.674	750.886	10.212	.649	.045	4.097	750.974	.219	2
CF081	5000.000	3809.000	740.297	751.220	10.923	.298	.063	7.642	751.252	.143	2
CF091	2000.000	3809.000	741.444	751.559	10.115	1.064	.038	2.384	751.697	.262	2
CF101	2000.000	3809.000	736.528	751.750	15.222	1.407	.036	2.075	751.959	.280	2
CF111	5750.000	3809.000	742.213	752.092	9.879	1.061	.034	1.850	752.198	.225	2
CF121	3250.000	3809.000	742.681	752.715	10.034	1.101	.035	1.649	752.818	.180	2
CF131	3500.000	3809.000	741.128	753.055	11.927	.901	.044	3.037	753.180	.212	2
CF141	2250.000	3809.000	742.400	753.470	11.070	.739	.045	3.574	753.570	.207	2
CF151	3250.000	3809.000	743.623	753.706	10.083	.485	.050	3.935	753.753	.142	2
CF161	5050.000	3809.000	743.827	753.905	10.078	.822	.035	1.997	753.974	.200	2
CF171	3050.000	3809.000	743.925	754.317	10.392	1.014	.037	2.216	754.433	.231	2
CF181	2950.000	3809.000	745.186	754.639	9.453	.716	.035	1.944	754.690	.163	2
CF191	4550.000	3809.000	744.830	754.822	9.992	.795	.035	2.218	754.893	.216	2

CF201	4400.000	3809.000	744.243	755.196	10.953	.642	.049	4.486	755.290	.223	2
CF211	4850.000	3809.000	745.134	755.627	10.493	.820	.042	3.321	755.741	.254	2
CF221	1700.000	3809.000	745.021	756.123	11.102	.529	.055	5.069	756.195	.169	2
CF231	3950.000	3809.000	746.037	756.261	10.224	.519	.037	2.339	756.293	.138	2
CF241	2225.000	2879.000	745.982	756.421	10.439	.811	.041	3.019	756.522	.218	2
CF251	4775.000	2879.000	745.752	756.639	10.887	.624	.040	2.271	756.684	.123	2
CF261	7000.000	2879.000	746.286	756.938	10.652	1.228	.033	1.526	757.055	.205	2
CF271	1805.800	2879.000	748.246	757.671	9.425	.965	.035	1.831	757.757	.194	2
JS021	1552.500	2879.000	748.899	757.837	8.938	.866	.034	1.722	757.903	.158	2
JS031	1762.600	2879.000	748.395	757.953	9.558	.894	.035	1.721	758.023	.162	2
JS041	2644.100	2879.000	749.421	758.101	8.680	.949	.033	1.504	758.170	.171	2
JS051	2191.600	2879.000	747.060	758.306	11.246	1.030	.037	1.996	758.414	.196	2
JS061	2388.100	2879.000	749.315	758.533	9.218	.715	.032	1.321	758.567	.108	2
JS071	3521.900	2879.000	748.567	758.632	10.065	.663	.034	1.513	758.666	.103	2
JS081	1817.200	2879.000	749.966	758.823	8.857	.865	.031	1.183	758.868	.132	2
JS091	2028.400	2879.000	750.891	758.990	8.099	1.041	.034	1.607	759.079	.207	2
JS101	2470.000	2879.000	752.081	759.399	7.318	1.529	.030	1.265	759.550	.280	2
JS111	1076.600	2879.000	751.858	760.009	8.151	1.047	.031	1.150	760.074	.165	2
JS121	2390.900	2879.000	751.801	760.012	8.211	1.930	.040	2.949	760.572	.566	2
JS131	2077.600	2879.000	752.261	761.628	9.367	1.104	.037	2.058	761.756	.235	2
JS141	2319.900	2879.000	752.830	761.987	9.157	.885	.036	1.751	762.057	.171	2
JS151	1916.500	2879.000	752.019	762.227	10.208	.930	.037	1.710	762.302	.162	2
JS161	2866.900	2879.000	752.949	762.426	9.477	.794	.034	1.486	762.473	.134	2
JS171	1134.600	2879.000	752.900	762.615	9.715	.746	.032	1.199	762.649	.108	2
JS181	1295.500	2879.000	752.929	762.670	9.741	.803	.034	1.451	762.718	.132	2
JS191	737.200	2879.000	752.544	762.747	10.203	1.023	.042	2.406	762.876	.223	2
JS201	998.100	2879.000	753.308	762.890	9.582	.968	.040	2.131	762.992	.195	2
JS211	391.600	2879.000	753.929	763.050	9.121	.817	.031	1.218	763.092	.119	2
JS221	1191.200	2879.000	753.530	763.072	9.542	.836	.032	1.278	763.118	.130	2
JS231	487.800	2879.000	754.250	763.156	8.906	.922	.035	1.641	763.227	.170	2
JS241	557.800	2879.000	753.289	763.227	9.938	.793	.035	1.467	763.274	.132	2
JS251	436.900	1350.000	754.456	763.285	8.829	.931	.035	1.688	763.360	.176	2
JS261	516.200	1350.000	754.069	763.379	9.310	.365	.032	1.287	763.387	.056	2
JS271	512.400	1350.000	754.052	763.385	9.333	.370	.032	1.237	763.394	.057	2
JS281	919.300	1350.000	754.375	763.382	9.007	.573	.034	1.606	763.409	.106	2
JS291	875.200	1350.000	754.417	763.425	9.008	.354	.030	1.089	763.432	.050	2
JS301	.000	1350.000	753.498	763.432	9.934	.426	.038	1.803	763.448	.080	2

A5 1992 739.0 parana pjt. without excavation
1992year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	6952.000	615.600	739.000	124.000	.150	.030	1.135	739.001	.006	2
CN021	9230.000	6952.000	625.000	739.001	114.001	.118	.030	1.190	739.002	.005	2
CN031	12300.000	6952.000	635.000	739.000	104.000	.168	.030	1.162	739.002	.007	2
CN041	10000.000	6952.000	669.000	739.000	70.000	.160	.030	1.095	739.001	.008	2
CN051	11540.000	6952.000	675.000	738.997	63.997	.324	.030	1.153	739.003	.018	2
CN061	2160.000	6952.000	700.550	739.006	38.456	.407	.030	1.118	739.016	.028	2
CN071	3840.000	6952.000	705.190	738.948	33.758	1.269	.030	1.124	739.040	.098	2
CN081	400.000	6952.000	713.710	739.073	25.363	.554	.030	1.048	739.090	.042	2
CN091	1400.000	6952.000	714.940	739.077	24.137	.506	.030	1.155	739.092	.046	2
CN101	1420.000	6952.000	717.280	738.931	21.651	2.052	.030	1.073	739.162	.183	2
CN111	100.000	6952.000	722.160	739.095	16.935	2.017	.030	1.023	739.307	.180	2
CN121	3040.000	6952.000	718.180	738.435	20.255	3.852	.030	1.209	739.350	.489	2
ZN131	640.000	6952.000	732.270	741.819	9.549	2.613	.050	1.084	742.196	.327	2
CN141	500.000	3917.000	733.050	742.669	9.619	4.704	.050	1.095	743.905	.666	2
CN151	70.000	3917.000	730.370	745.159	14.789	1.503	.050	1.219	745.300	.235	2
CN152	70.000	3917.000	738.500	745.167	6.667	1.940	.050	1.020	745.363	.292	2
CN153	60.000	3917.000	735.150	745.314	10.164	1.403	.050	1.066	745.421	.195	2
CN154	50.000	3917.000	734.239	745.309	11.070	1.599	.050	1.069	745.449	.198	2
CN161	260.000	3917.000	731.410	745.332	13.922	1.557	.050	1.101	745.468	.190	2
CN171	1200.000	3917.000	731.720	745.373	13.653	1.530	.031	1.220	745.519	.188	2
CN181	300.000	3917.000	736.150	745.526	9.376	1.553	.032	1.307	745.687	.261	2
CN191	690.000	3917.000	736.890	745.589	8.699	1.491	.032	1.400	745.748	.266	2
CN201	1400.000	3917.000	734.620	745.725	11.105	1.172	.036	2.070	745.870	.228	2
CN211	1400.000	3917.000	734.990	745.916	10.926	1.000	.037	2.300	746.033	.218	2
CN221	1600.000	3917.000	732.710	746.076	13.366	.548	.052	7.322	746.188	.278	2
CN231	1400.000	3917.000	735.690	746.253	10.563	1.291	.032	1.403	746.372	.198	2
ZN241	300.000	3917.000	738.000	746.324	8.324	2.554	.033	1.910	746.960	.634	2
CN251	300.000	3917.000	733.500	746.968	13.468	.959	.037	2.409	747.081	.210	2
CN261	2170.000	3917.000	729.600	746.851	17.251	1.068	.049	4.600	747.118	.338	2
CN271	230.000	3917.000	734.860	747.279	12.419	.813	.039	3.062	747.382	.220	2
CN281	1200.000	3917.000	734.630	747.297	12.667	.815	.039	3.064	747.401	.221	2
CN291	1400.000	3917.000	736.890	747.395	10.505	1.068	.038	2.272	747.527	.227	2
CN301	1368.600	3917.000	735.190	747.578	12.388	.727	.046	4.240	747.692	.225	2
JT011	999.100	3917.000	737.480	747.735	10.255	.875	.036	1.863	747.808	.150	2
JT021	232.300	3917.000	738.167	747.826	9.659	.833	.031	1.150	747.867	.110	2

CN311	762.800	3917.000	737.070	747.829	10.759	.485	.048	4.168	747.879	.147	2
JT031	737.200	3917.000	736.558	747.827	11.269	1.065	.036	1.890	747.936	.192	2
CN321	174.500	3917.000	736.580	747.896	11.316	1.034	.035	1.963	748.004	.233	2
JT041	725.500	3917.000	734.672	747.927	13.255	.985	.034	1.789	748.015	.159	2
CN331	308.600	3917.000	735.330	747.982	12.652	.603	.042	4.157	748.059	.199	2
JT051	999.700	3917.000	735.664	747.977	12.313	.965	.038	2.183	748.080	.170	2
JT061	91.700	3917.000	729.825	748.023	18.198	.848	.052	3.889	748.166	.190	2
CN341	736.700	3917.000	735.980	748.135	12.155	.321	.055	7.095	748.173	.145	2
JT071	263.400	3917.000	736.606	748.149	11.543	.844	.034	1.543	748.205	.124	2
CN351	735.000	3917.000	738.550	748.168	9.618	.628	.038	2.498	748.219	.158	2
JT081	988.400	3917.000	738.224	748.211	9.987	.835	.032	1.307	748.258	.117	2
JT091	986.000	3917.000	733.126	748.148	15.022	1.448	.035	1.712	748.332	.212	2
JT101	890.600	3917.000	734.254	748.286	14.032	1.235	.035	1.794	748.426	.193	2
CN361	95.800	3917.000	731.840	748.324	16.484	.817	.049	5.672	748.518	.291	2
JT111	990.300	3917.000	732.826	748.409	15.583	.955	.042	2.588	748.529	.183	2
JT121	955.800	3917.000	739.532	748.535	9.003	.986	.033	1.528	748.611	.165	2
JT131	758.200	3917.000	739.756	748.610	8.854	1.094	.033	1.458	748.699	.181	2
CN371	214.300	3917.000	737.730	748.674	10.944	.727	.040	3.550	748.770	.259	2
JT141	185.700	3809.000	734.524	748.673	14.149	1.128	.034	1.851	748.794	.195	2
CN381	804.000	3809.000	736.240	748.682	12.442	1.060	.033	2.186	748.808	.323	2
JT151	296.000	3809.000	738.589	748.799	10.210	1.040	.032	1.341	748.873	.158	2
CF011	712.700	3809.000	739.724	748.860	9.136	.547	.037	2.029	748.891	.116	2
JT161	990.100	3809.000	738.925	748.859	9.934	.994	.034	1.491	748.934	.151	2
JT171	1005.700	3809.000	739.099	748.916	9.817	1.084	.036	1.962	749.033	.201	2
JT181	291.500	3809.000	739.138	749.052	9.914	.987	.036	1.716	749.137	.163	2
CF021	699.200	3809.000	740.211	749.128	8.917	.613	.033	1.478	749.156	.106	2
JT191	998.200	3809.000	739.025	749.106	10.081	.968	.038	2.085	749.206	.180	2
JT201	1002.600	3809.000	740.313	749.232	8.919	.970	.032	1.298	749.294	.145	2
CF031	3300.000	3809.000	740.078	749.314	9.236	.697	.037	2.187	749.368	.154	2
CF041	3500.000	3809.000	736.565	749.518	12.953	.851	.038	2.416	749.607	.198	2
CF051	9950.000	3809.000	737.452	749.792	12.340	.531	.049	5.018	749.864	.182	2
CF061	4650.000	3809.000	739.406	750.496	11.090	.541	.047	4.863	750.568	.223	2
CF071	3900.000	3809.000	740.674	750.878	10.204	.651	.045	4.093	750.967	.220	2
CF081	5000.000	3809.000	740.297	751.211	10.914	.289	.063	7.639	751.244	.143	2
CF091	2000.000	3809.000	741.444	751.552	10.108	1.067	.038	2.381	751.690	.262	2
CF101	2000.000	3809.000	736.528	751.742	15.214	1.409	.036	2.072	751.952	.280	2
CF111	5750.000	3809.000	742.213	752.085	9.872	1.063	.034	1.848	752.192	.226	2
CF121	3250.000	3809.000	742.681	752.710	10.029	1.102	.035	1.649	752.812	.180	2
CF131	3500.000	3809.000	741.128	753.051	11.923	.901	.044	3.037	753.177	.212	2
CF141	2250.000	3809.000	742.400	753.467	11.067	.739	.045	3.574	753.567	.207	2
CF151	3250.000	3809.000	743.623	753.705	10.082	.485	.050	3.935	753.752	.142	2
CF161	5050.000	3809.000	743.827	753.902	10.075	.822	.035	1.996	753.971	.201	2
CF171	3050.000	3809.000	743.925	754.313	10.388	1.015	.037	2.215	754.430	.231	2
CF181	2950.000	3809.000	745.186	754.635	9.449	.717	.035	1.943	754.686	.163	2
CF191	4550.000	3809.000	744.830	754.818	9.988	.796	.035	2.215	754.890	.216	2

CF201	4400.000	3809.000	744.243	755.192	10.949	.642	.049	4.484	755.286	.224	2
CF211	4850.000	3809.000	745.134	755.624	10.490	.820	.042	3.318	755.738	.254	2
CF221	1700.000	3809.000	745.021	756.120	11.099	.529	.055	5.069	756.192	.169	2
CF231	3950.000	3809.000	746.037	756.259	10.222	.519	.037	2.338	756.291	.138	2
CF241	2225.000	2879.000	745.982	756.419	10.438	.811	.041	3.018	756.521	.218	2
CF251	4775.000	2879.000	745.752	756.636	10.884	.624	.040	2.271	756.681	.124	2
CF261	7000.000	2879.000	746.286	756.936	10.650	1.228	.033	1.525	757.054	.205	2
CF271	1805.800	2879.000	748.246	757.670	9.424	.965	.035	1.831	757.757	.194	2
JS021	1552.500	2879.000	748.899	757.837	8.938	.866	.034	1.722	757.903	.158	2
JS031	1762.600	2879.000	748.395	757.953	9.558	.894	.035	1.721	758.023	.162	2
JS041	2644.100	2879.000	749.421	758.101	8.680	.949	.033	1.504	758.170	.171	2
JS051	2191.600	2879.000	747.060	758.306	11.246	1.030	.037	1.996	758.414	.196	2
JS061	2388.100	2879.000	749.315	758.533	9.218	.715	.032	1.321	758.567	.108	2
JS071	3521.900	2879.000	748.567	758.632	10.065	.663	.034	1.513	758.666	.103	2
JS081	1817.200	2879.000	749.966	758.823	8.857	.865	.031	1.183	758.868	.132	2
JS091	2028.400	2879.000	750.891	758.990	8.099	1.041	.034	1.607	759.079	.207	2
JS101	2470.000	2879.000	752.081	759.399	7.318	1.529	.030	1.265	759.550	.280	2
JS111	1076.600	2879.000	751.858	760.009	8.151	1.047	.031	1.150	760.074	.165	2
JS121	2390.900	2879.000	751.801	760.012	8.211	1.930	.040	2.949	760.572	.564	2
JS131	2077.600	2879.000	752.261	761.628	9.367	1.104	.037	2.058	761.756	.235	2
JS141	2319.900	2879.000	752.830	761.987	9.157	.885	.036	1.751	762.057	.171	2
JS151	1916.500	2879.000	752.019	762.227	10.208	.930	.037	1.710	762.302	.162	2
JS161	2866.900	2879.000	752.949	762.426	9.477	.794	.034	1.486	762.473	.134	2
JS171	1134.600	2879.000	752.900	762.615	9.715	.746	.032	1.199	762.649	.108	2
JS181	1295.500	2879.000	752.929	762.670	9.741	.803	.034	1.451	762.718	.132	2
JS191	737.200	2879.000	752.544	762.747	10.203	1.023	.042	2.406	762.876	.223	2
JS201	998.100	2879.000	753.308	762.890	9.582	.968	.040	2.131	762.992	.195	2
JS211	391.600	2879.000	753.929	763.050	9.121	.817	.031	1.218	763.092	.119	2
JS221	1191.200	2879.000	753.530	763.072	9.542	.836	.032	1.278	763.118	.130	2
JS231	487.800	2879.000	754.250	763.156	8.906	.922	.035	1.641	763.227	.170	2
JS241	557.800	2879.000	753.289	763.227	9.938	.793	.035	1.467	763.274	.132	2
JS251	436.900	1350.000	754.456	763.285	8.829	.931	.035	1.688	763.360	.176	2
JS261	516.200	1350.000	754.069	763.379	9.310	.365	.032	1.287	763.387	.056	2
JS271	512.400	1350.000	754.052	763.385	9.333	.370	.032	1.237	763.394	.057	2
JS281	919.300	1350.000	754.375	763.382	9.007	.573	.034	1.606	763.409	.106	2
JS291	875.200	1350.000	754.417	763.425	9.008	.354	.030	1.089	763.432	.050	2
JS301	.000	1350.000	753.498	763.432	9.934	.426	.038	1.803	763.448	.080	2

B1 1983 744.0 parana pjt. with excavation
1983year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	8358.000	615.000	744.000	129.000	.169	.030	1.131	744.002	.006	2
CN021	9230.000	8358.000	625.000	744.001	119.001	.132	.030	1.190	744.002	.006	2
CN031	12300.000	8358.000	635.000	744.001	109.001	.186	.030	1.164	744.003	.008	2
CN041	10000.000	8358.000	669.000	744.004	75.004	.174	.030	1.096	744.006	.008	2
CN051	11540.000	8358.000	675.000	744.003	69.003	.345	.030	1.151	744.010	.018	2
CN061	2160.000	8358.000	700.550	744.012	43.462	.405	.030	1.111	744.021	.026	2
CN071	3840.000	8358.000	705.190	743.956	38.766	1.199	.030	1.132	744.039	.086	2
CN081	400.000	8358.000	713.710	744.061	30.351	.517	.030	1.075	744.075	.038	2
CN091	1400.000	8358.000	714.940	744.065	29.125	.446	.030	1.146	744.077	.036	2
CN101	1420.000	8358.000	717.280	743.939	26.659	1.786	.030	1.083	744.115	.142	2
CN111	100.000	8358.000	722.160	744.032	21.872	1.752	.030	1.025	744.193	.136	2
CN121	3040.000	8358.000	718.180	743.805	25.625	2.685	.030	1.090	744.206	.255	2
YC131	640.000	8358.000	732.270	744.766	12.496	2.183	.040	1.057	745.023	.230	2
SC141	500.000	5122.000	733.050	744.998	11.948	3.857	.040	1.048	745.794	.446	2
SC151	70.000	5122.000	730.370	746.096	15.726	1.214	.040	1.061	746.175	.140	2
SC152	70.000	5122.000	737.000	746.069	9.069	1.483	.040	1.048	746.187	.173	2
SC153	60.000	5122.000	735.150	746.119	10.969	1.246	.040	1.035	746.201	.141	2
SC154	50.000	5122.000	734.239	746.045	11.806	1.781	.040	1.045	746.214	.201	2
CN161	260.000	5122.000	731.410	746.031	14.621	1.856	.040	1.116	746.227	.227	2
CN171	1200.000	5122.000	731.720	746.060	14.340	1.845	.032	1.262	746.279	.225	2
SC181	300.000	5122.000	736.150	746.276	10.126	1.687	.032	1.405	746.480	.275	2
SC191	690.000	5122.000	736.890	746.374	9.484	1.484	.032	1.428	746.535	.235	2
CN201	1400.000	5122.000	734.620	746.444	11.824	1.355	.037	2.184	746.649	.258	2
CN211	1400.000	5122.000	734.990	746.697	11.707	1.118	.039	2.518	746.858	.254	2
CN221	1600.000	5122.000	732.710	746.917	14.207	.551	.058	7.813	747.038	.261	2
CN231	1400.000	5122.000	735.690	747.088	11.398	1.482	.033	1.471	747.253	.220	2
ZN241	300.000	5122.000	738.000	747.132	9.132	2.649	.036	2.273	747.945	.652	2
CN251	300.000	5122.000	733.500	747.937	14.437	1.047	.039	2.698	748.088	.230	2
CN261	2170.000	5122.000	729.600	747.785	18.185	1.155	.052	5.132	748.134	.367	2
CN271	230.000	5122.000	734.860	748.329	13.469	.852	.042	3.514	748.459	.223	2
CN281	1200.000	5122.000	734.630	748.349	13.719	.852	.042	3.513	748.479	.223	2
CN291	1400.000	5122.000	736.890	748.456	11.566	1.148	.040	2.444	748.621	.239	2
CN301	1368.600	5122.000	735.190	748.669	13.479	.763	.050	4.537	748.804	.223	2
ST011	999.100	5122.000	737.480	748.840	11.360	.962	.037	1.922	748.931	.154	2
ST021	232.300	5122.000	737.800	748.940	11.140	.879	.032	1.266	748.990	.110	2

SC311	762.800	5122.000	737.070	748.944	11.874	.509	.051	4.292	749.001	.141	2
ST031	737.200	5122.000	736.558	748.924	12.366	1.168	.037	2.013	749.064	.200	2
SC321	174.500	5122.000	736.580	749.001	12.421	1.041	.037	2.426	749.135	.239	2
JT041	725.500	5122.000	734.672	749.028	14.356	1.111	.036	1.916	749.149	.174	2
CN331	308.600	5122.000	735.330	749.111	13.781	.610	.047	4.673	749.200	.189	2
JT051	999.700	5122.000	735.664	749.087	13.423	1.093	.040	2.263	749.225	.183	2
JT061	91.700	5122.000	729.825	749.138	19.313	.972	.054	3.988	749.330	.206	2
CN341	736.700	5122.000	735.980	749.300	13.320	.316	.061	7.249	749.337	.126	2
JT071	263.400	5122.000	736.606	749.297	12.691	.954	.035	1.584	749.371	.132	2
SC351	735.000	5122.000	738.200	749.324	11.124	.628	.043	3.147	749.387	.157	2
ST081	988.400	5122.000	738.200	749.369	11.169	.910	.032	1.343	749.426	.118	2
JT091	986.000	5122.000	733.126	749.256	16.130	1.666	.036	1.815	749.513	.236	2
JT101	890.600	5122.000	734.254	749.443	15.189	1.394	.036	1.907	749.632	.212	2
CN361	95.800	5122.000	731.840	749.515	17.675	.845	.053	6.198	749.740	.284	2
ST111	990.300	5122.000	732.826	749.592	16.766	1.067	.044	2.767	749.752	.201	2
ST121	955.800	5122.000	738.400	749.736	11.336	1.013	.038	2.086	749.845	.175	2
ST131	758.200	5122.000	738.400	749.835	11.435	1.044	.033	1.522	749.919	.151	2
CN371	214.300	5122.000	737.730	749.875	12.145	.658	.045	4.599	749.976	.232	2
JT141	185.700	4980.000	734.524	749.841	15.317	1.246	.036	2.050	750.004	.208	2
CN381	804.000	4980.000	736.240	749.873	13.633	.902	.037	3.544	750.020	.297	2
ST151	296.000	4980.000	738.500	749.996	11.496	1.117	.033	1.458	750.089	.160	2
SF011	712.700	4980.000	738.500	750.070	11.570	.548	.040	2.422	750.107	.113	2
ST161	990.100	4980.000	738.500	750.055	11.555	1.044	.036	1.641	750.146	.149	2
ST171	1005.700	4980.000	738.600	750.099	11.499	1.146	.038	2.083	750.238	.197	2
JT181	291.500	4980.000	739.138	750.237	11.099	1.089	.037	1.754	750.343	.168	2
CF021	699.200	4980.000	740.211	750.331	10.120	.646	.034	1.484	750.363	.102	2
JT191	998.200	4980.000	739.025	750.291	11.266	1.060	.040	2.163	750.415	.184	2
JT201	1002.600	4980.000	740.313	750.435	10.122	1.055	.032	1.281	750.508	.143	2
CF031	3300.000	4980.000	740.078	750.519	10.441	.722	.039	2.274	750.580	.145	2
CF041	3500.000	4980.000	736.565	750.718	14.153	.880	.040	2.743	750.827	.195	2
CF051	9950.000	4980.000	737.452	751.018	13.566	.541	.054	5.234	751.097	.168	2
CF061	4650.000	4980.000	739.406	751.714	12.308	.483	.053	6.026	751.786	.197	2
CF071	3900.000	4980.000	740.674	752.075	11.401	.635	.050	4.557	752.168	.203	2
CF081	5000.000	4980.000	740.297	752.404	12.107	.271	.069	7.612	752.433	.118	2
CF091	2000.000	4980.000	741.444	752.721	11.277	1.075	.040	2.798	752.886	.257	2
CF101	2000.000	4980.000	736.528	752.907	16.379	1.435	.038	2.634	753.184	.354	2
CF111	5750.000	4980.000	742.213	753.330	11.117	1.054	.036	2.152	753.452	.248	2
CF121	3250.000	4980.000	742.681	753.962	11.281	1.200	.036	1.694	754.087	.183	2
CF131	3500.000	4980.000	741.128	754.322	13.194	.953	.046	3.226	754.471	.224	2
CF141	2250.000	4980.000	742.400	754.762	12.362	.734	.049	3.969	754.871	.207	2
CF151	3250.000	4980.000	743.623	755.001	11.378	.495	.054	3.935	755.050	.131	2
CF161	5050.000	4980.000	743.827	755.182	11.355	.770	.038	2.473	755.257	.187	2
CF171	3050.000	4980.000	743.925	755.583	11.658	1.021	.040	2.601	755.721	.227	2
CF181	2950.000	4980.000	745.186	755.924	10.738	.685	.038	2.283	755.979	.155	2
CF191	4550.000	4980.000	744.830	756.095	11.265	.732	.039	2.790	756.171	.188	2

CF201	4400.000	4980.000	744.243	756.456	12.213	.617	.054	5.112	756.555	.209	2
CF211	4850.000	4980.000	745.134	756.877	11.743	.769	.046	4.145	757.002	.244	2
CF221	1700.000	4980.000	745.021	757.381	12.360	.553	.059	5.050	757.460	.159	2
CF231	3950.000	4980.000	746.037	757.524	11.487	.476	.041	2.930	757.558	.131	2
CF241	2225.000	3764.000	745.982	757.675	11.693	.802	.045	3.490	757.790	.223	2
CF251	4775.000	3764.000	745.752	757.901	12.149	.670	.042	2.360	757.955	.125	2
CF261	7000.000	3764.000	746.286	758.204	11.918	1.306	.035	1.684	758.351	.209	2
CF271	1805.800	3764.000	748.246	758.979	10.733	.928	.037	2.261	759.078	.210	2
JS021	1552.500	3764.000	748.899	759.146	10.247	.907	.036	1.846	759.224	.153	2
JS031	1762.600	3764.000	748.395	759.259	10.864	.936	.036	1.804	759.340	.159	2
JS041	2644.100	3764.000	749.421	759.402	9.981	.973	.034	1.603	759.480	.160	2
JS051	2191.600	3764.000	747.060	759.594	12.534	1.091	.039	2.198	759.728	.202	2
JS061	2588.100	3764.000	749.315	759.847	10.532	.766	.032	1.304	759.886	.104	2
JS071	3521.900	3764.000	748.567	759.941	11.374	.721	.035	1.504	759.981	.101	2
JS081	1817.200	3764.000	749.966	760.111	10.145	.906	.031	1.145	760.159	.122	2
JS091	2028.400	3764.000	750.891	760.243	9.352	1.045	.035	1.622	760.333	.183	2
JS101	2470.000	3764.000	752.081	760.557	8.476	1.533	.031	1.201	760.701	.242	2
JS111	1076.600	3764.000	751.858	761.053	9.195	1.121	.031	1.125	761.125	.158	2
JS121	2390.900	3764.000	751.801	760.995	9.194	1.969	.043	3.126	761.614	.528	2
JS131	2077.600	3764.000	752.261	762.640	10.379	1.185	.039	2.050	762.786	.228	2
JS141	2319.900	3764.000	752.830	763.006	10.176	.955	.037	1.775	763.089	.168	2
JS151	1916.500	3764.000	752.019	763.248	11.229	1.033	.037	1.684	763.340	.165	2
JS161	2866.900	3764.000	752.949	763.458	10.510	.870	.034	1.458	763.515	.133	2
JS171	1134.600	3764.000	752.900	763.650	10.750	.827	.032	1.177	763.691	.110	2
JS181	1295.500	3764.000	752.929	763.705	10.776	.883	.034	1.412	763.762	.131	2
JS191	737.200	3764.000	752.544	763.772	11.228	1.097	.043	2.475	763.923	.236	2
JS201	998.100	3764.000	753.308	763.924	10.616	1.060	.041	2.103	764.045	.195	2
JS211	391.600	3764.000	753.929	764.096	10.167	.906	.031	1.192	764.146	.121	2
JS221	1191.200	3764.000	753.530	764.117	10.587	.916	.032	1.243	764.170	.128	2
JS231	487.800	3764.000	754.250	764.195	9.945	.996	.036	1.628	764.278	.166	2
JS241	557.800	3764.000	753.289	764.268	10.979	.870	.035	1.440	764.324	.131	2
JS251	436.900	1670.000	754.456	764.334	9.878	1.001	.036	1.695	764.421	.171	2
JS261	516.200	1670.000	754.069	764.441	10.372	.378	.032	1.269	764.450	.053	2
JS271	512.400	1670.000	754.052	764.447	10.395	.382	.032	1.210	764.456	.053	2
JS281	919.300	1670.000	754.375	764.440	10.065	.579	.035	1.578	764.467	.097	2
JS291	875.200	1670.000	754.417	764.479	10.063	.367	.030	1.068	764.487	.047	2
JS301	.000	1670.000	753.498	764.482	10.984	.439	.038	1.768	764.500	.074	2

B2 1983 742.0 parana pjt. with excavation
1983year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	8358.000	615.000	742.000	127.000	.174	.030	1.132	742.002	.007	2
CN021	9230.000	8358.000	625.000	742.001	117.001	.136	.030	1.191	742.002	.006	2
CN031	12300.000	8358.000	635.000	742.001	107.001	.192	.030	1.165	742.003	.008	2
CN041	10000.000	8358.000	669.000	742.004	73.004	.181	.030	1.095	742.006	.008	2
CN051	11540.000	8358.000	675.000	742.003	67.003	.362	.030	1.152	742.011	.019	2
CN061	2160.000	8358.000	700.550	742.015	41.465	.435	.030	1.114	742.026	.028	2
CN071	3840.000	8358.000	705.190	741.951	36.761	1.315	.030	1.130	742.050	.097	2
CN081	400.000	8358.000	713.710	742.080	28.370	.570	.030	1.063	742.098	.042	2
CN091	1400.000	8358.000	714.940	742.085	27.145	.500	.030	1.153	742.099	.042	2
CN101	1420.000	8358.000	717.280	741.931	24.651	2.015	.030	1.081	742.155	.168	2
CN111	100.000	8358.000	722.160	742.063	19.903	1.974	.030	1.023	742.267	.161	2
CN121	3040.000	8358.000	718.180	741.696	23.516	3.229	.030	1.116	742.289	.335	2
YC131	640.000	8358.000	732.270	743.318	11.048	2.561	.040	1.065	743.674	.290	2
SC141	500.000	5122.000	733.050	743.713	10.663	4.592	.040	1.059	744.852	.579	2
SC151	70.000	5122.000	730.370	745.405	15.035	1.326	.040	1.066	745.501	.160	2
SC152	70.000	5122.000	737.000	745.374	8.374	1.627	.040	1.055	745.516	.199	2
SC153	60.000	5122.000	735.150	745.435	10.285	1.359	.040	1.040	745.533	.161	2
SC154	50.000	5122.000	734.239	745.348	11.109	1.943	.040	1.049	745.550	.230	2
CN161	260.000	5122.000	731.410	745.335	13.925	2.035	.040	1.101	745.567	.249	2
CN171	1200.000	5122.000	731.720	745.383	13.663	1.999	.031	1.221	745.632	.245	2
SC181	300.000	5122.000	736.150	745.646	9.496	1.906	.032	1.307	745.888	.312	2
SC191	690.000	5122.000	736.890	745.766	8.876	1.657	.032	1.375	745.959	.271	2
CN201	1400.000	5122.000	734.620	745.866	11.246	1.494	.036	2.094	746.105	.290	2
CN211	1400.000	5122.000	734.990	746.177	11.187	1.241	.037	2.368	746.363	.274	2
CN221	1600.000	5122.000	732.710	746.432	13.722	.637	.055	7.598	746.589	.314	2
CN231	1400.000	5122.000	735.690	746.669	10.979	1.579	.033	1.438	746.852	.238	2
ZN241	300.000	5122.000	738.000	746.746	8.746	2.943	.035	2.111	747.679	.729	2
CN251	300.000	5122.000	733.500	747.687	14.187	1.095	.039	2.628	747.847	.241	2
CN261	2170.000	5122.000	729.600	747.522	17.922	1.216	.051	4.994	747.899	.386	2
CN271	230.000	5122.000	734.860	748.114	13.254	.889	.041	3.436	748.253	.234	2
CN281	1200.000	5122.000	734.630	748.137	13.507	.888	.042	3.437	748.275	.235	2
CN291	1400.000	5122.000	736.890	748.255	11.365	1.189	.040	2.414	748.430	.249	2
CN301	1368.600	5122.000	735.190	748.483	13.293	.790	.049	4.498	748.626	.233	2
ST011	999.100	5122.000	737.480	748.667	11.188	.985	.037	1.912	748.762	.159	2
ST021	232.300	5122.000	737.800	748.772	10.972	.897	.032	1.265	748.824	.113	2

SC311	762.800	5122.000	737.070	748.777	11.707	.524	.051	4.279	748.837	.147	2
ST031	737.200	5122.000	736.558	748.757	12.199	1.197	.037	1.996	748.903	.206	2
SC321	174.500	5122.000	736.580	748.845	12.265	1.076	.037	2.365	748.984	.247	2
JT041	725.500	5122.000	734.672	748.876	14.204	1.133	.035	1.901	749.001	.178	2
CN331	308.600	5122.000	735.330	748.960	13.630	.629	.046	4.622	749.053	.197	2
JT051	999.700	5122.000	735.664	748.937	13.273	1.113	.040	2.254	749.080	.188	2
JT061	91.700	5122.000	729.825	748.990	19.165	.988	.053	3.978	749.188	.211	2
CN341	736.700	5122.000	735.980	749.156	13.176	.326	.060	7.260	749.195	.132	2
JT071	263.400	5122.000	736.606	749.154	12.548	.970	.035	1.580	749.230	.135	2
SC351	735.000	5122.000	738.200	749.180	10.979	.646	.043	3.121	749.246	.163	2
ST081	988.400	5122.000	738.200	749.228	11.028	.926	.032	1.340	749.287	.121	2
JT091	986.000	5122.000	733.126	749.115	15.989	1.692	.035	1.803	749.379	.241	2
JT101	890.600	5122.000	734.254	749.301	15.047	1.418	.036	1.894	749.495	.216	2
CN361	95.800	5122.000	731.840	749.371	17.531	.867	.053	6.153	749.607	.294	2
ST111	990.300	5122.000	732.826	749.456	16.630	1.085	.043	2.747	749.621	.205	2
ST121	955.800	5122.000	738.400	749.604	11.204	1.032	.038	2.078	749.717	.180	2
ST131	758.200	5122.000	738.400	749.709	11.309	1.062	.033	1.512	749.796	.155	2
CN371	214.300	5122.000	737.730	749.750	12.020	.681	.045	4.515	749.856	.241	2
JT141	185.700	4980.000	734.524	749.719	15.195	1.266	.036	2.032	749.886	.212	2
CN381	804.000	4980.000	736.240	749.751	13.511	.936	.037	3.424	749.904	.308	2
ST151	296.000	4980.000	738.500	749.882	11.382	1.135	.033	1.454	749.977	.164	2
SF011	712.700	4980.000	738.500	749.957	11.457	.559	.040	2.412	749.995	.116	2
ST161	990.100	4980.000	738.500	749.937	11.437	1.059	.035	1.637	750.030	.152	2
ST171	1005.700	4980.000	738.600	749.983	11.383	1.164	.038	2.073	750.126	.202	2
JT181	291.500	4980.000	739.138	750.126	10.988	1.105	.037	1.751	750.235	.171	2
CF021	699.200	4980.000	740.211	750.223	10.012	.658	.034	1.483	750.255	.104	2
JT191	998.200	4980.000	739.025	750.181	11.156	1.077	.040	2.158	750.309	.188	2
JT201	1002.600	4980.000	740.313	750.330	10.017	1.071	.032	1.282	750.405	.146	2
CF031	3300.000	4980.000	740.078	750.414	10.336	.735	.039	2.269	750.477	.149	2
CF041	3500.000	4980.000	736.565	750.621	14.056	.895	.040	2.721	750.732	.199	2
CF051	9950.000	4980.000	737.452	750.993	13.541	.543	.053	5.232	751.072	.170	2
CF061	4650.000	4980.000	739.406	751.695	12.289	.486	.053	6.014	751.767	.198	2
CF071	3900.000	4980.000	740.674	752.059	11.385	.637	.050	4.553	752.153	.204	2
CF081	5000.000	4980.000	740.297	752.388	12.091	.272	.069	7.616	752.417	.118	2
CF091	2000.000	4980.000	741.444	752.707	11.263	1.078	.040	2.794	752.873	.257	2
CF101	2000.000	4980.000	736.528	752.895	16.367	1.439	.038	2.627	753.173	.354	2
CF111	5750.000	4980.000	742.213	753.318	11.105	1.057	.036	2.147	753.441	.249	2
CF121	3250.000	4980.000	742.681	753.954	11.273	1.202	.036	1.694	754.079	.183	2
CF131	3500.000	4980.000	741.128	754.315	13.187	.954	.046	3.224	754.464	.224	2
CF141	2250.000	4980.000	742.400	754.756	12.356	.735	.049	3.967	754.866	.208	2
CF151	3250.000	4980.000	743.623	754.988	11.365	.496	.054	3.935	755.038	.131	2
CF161	5050.000	4980.000	743.827	755.171	11.344	.773	.038	2.469	755.246	.188	2
CF171	3050.000	4980.000	743.925	755.573	11.648	1.023	.040	2.598	755.712	.227	2
CF181	2950.000	4980.000	745.186	755.916	10.730	.686	.038	2.281	755.971	.155	2
CF191	4550.000	4980.000	744.830	756.087	11.257	.733	.039	2.788	756.163	.189	2

CF201	4400.000	4980.000	744.243	756.447	12.204	.619	.054	5.109	756.547	.209	2
CF211	4850.000	4980.000	745.134	756.872	11.738	.770	.046	4.142	756.997	.245	2
CF221	1700.000	4980.000	745.021	757.376	12.355	.554	.059	5.050	757.455	.159	2
CF231	3950.000	4980.000	746.037	757.518	11.481	.477	.041	2.928	757.552	.131	2
CF241	2225.000	3764.000	745.982	757.669	11.688	.803	.044	3.488	757.784	.223	2
CF251	4775.000	3764.000	745.752	757.897	12.145	.670	.042	2.360	757.951	.125	2
CF261	7000.000	3764.000	746.286	758.201	11.915	1.307	.035	1.683	758.348	.209	2
CF271	1805.800	3764.000	748.246	758.975	10.729	.928	.037	2.260	759.075	.210	2
JS021	1552.500	3764.000	748.899	759.142	10.243	.908	.036	1.846	759.220	.153	2
JS031	1762.600	3764.000	748.395	759.255	10.860	.937	.036	1.804	759.336	.159	2
JS041	2644.100	3764.000	749.421	759.399	9.978	.974	.034	1.603	759.476	.160	2
JS051	2191.600	3764.000	747.060	759.590	12.530	1.092	.039	2.198	759.724	.202	2
JS061	2388.100	3764.000	749.315	759.842	10.527	.766	.032	1.304	759.881	.104	2
JS071	3521.900	3764.000	748.567	759.937	11.370	.721	.035	1.504	759.977	.102	2
JS081	1817.200	3764.000	749.966	760.109	10.143	.906	.031	1.144	760.157	.122	2
JS091	2028.400	3764.000	750.891	760.241	9.350	1.046	.035	1.622	760.331	.183	2
JS101	2470.000	3764.000	752.081	760.557	8.476	1.534	.031	1.202	760.701	.242	2
JS111	1076.600	3764.000	751.858	761.053	9.195	1.121	.031	1.125	761.125	.158	2
JS121	2390.900	3764.000	751.801	760.995	9.194	1.969	.043	3.126	761.614	.528	2
JS131	2077.600	3764.000	752.261	762.640	10.379	1.185	.039	2.050	762.786	.228	2
JS141	2319.900	3764.000	752.830	763.006	10.176	.955	.037	1.775	763.089	.168	2
JS151	1916.500	3764.000	752.019	763.248	11.229	1.033	.037	1.684	763.340	.165	2
JS161	2866.900	3764.000	752.949	763.458	10.510	.870	.034	1.458	763.515	.133	2
JS171	1134.600	3764.000	752.900	763.650	10.750	.827	.032	1.177	763.691	.110	2
JS181	1295.500	3764.000	752.929	763.705	10.776	.883	.034	1.412	763.762	.131	2
JS191	737.200	3764.000	752.544	763.772	11.228	1.097	.043	2.475	763.923	.236	2
JS201	998.100	3764.000	753.308	763.924	10.616	1.060	.041	2.103	764.045	.195	2
JS211	391.600	3764.000	753.929	764.096	10.167	.906	.031	1.192	764.146	.121	2
JS221	1191.200	3764.000	753.530	764.117	10.587	.916	.032	1.243	764.170	.128	2
JS231	487.800	3764.000	754.250	764.195	9.945	.996	.036	1.628	764.278	.166	2
JS241	557.800	3764.000	753.289	764.268	10.979	.870	.035	1.440	764.324	.131	2
JS251	436.900	1670.000	754.456	764.334	9.878	1.001	.036	1.695	764.421	.171	2
JS261	516.200	1670.000	754.069	764.441	10.372	.378	.032	1.269	764.450	.053	2
JS271	512.400	1670.000	754.052	764.447	10.395	.382	.032	1.210	764.456	.053	2
JS281	919.300	1670.000	754.375	764.440	10.065	.579	.035	1.578	764.467	.097	2
JS291	875.200	1670.000	754.417	764.479	10.063	.367	.030	1.068	764.487	.047	2
JS301	.000	1670.000	753.498	764.482	10.984	.439	.038	1.768	764.500	.074	2

B3 1983 739.0 parana pjt. with excavation
1983year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	8358.000	615.000	739.000	124.000	.180	.030	1.135	739.002	.007	2
CN021	9230.000	8358.000	625.000	739.001	114.001	.142	.030	1.190	739.002	.006	2
CN031	12300.000	8358.000	635.000	739.001	104.001	.202	.030	1.162	739.003	.009	2
CN041	10000.000	8358.000	669.000	739.004	70.004	.192	.030	1.095	739.006	.009	2
CN051	11540.000	8358.000	675.000	739.003	64.003	.390	.030	1.153	739.012	.021	2
CN061	2160.000	8358.000	700.550	739.016	38.466	.489	.030	1.118	739.029	.033	2
CN071	3840.000	8358.000	705.190	738.931	33.741	1.527	.030	1.124	739.065	.118	2
CN081	400.000	8358.000	713.710	739.112	25.402	.665	.030	1.048	739.136	.050	2
CN091	1400.000	8358.000	714.940	739.117	24.177	.607	.030	1.155	739.138	.055	2
CN101	1420.000	8358.000	717.280	738.904	21.624	2.472	.030	1.073	739.238	.220	2
CN111	100.000	8358.000	722.160	739.144	16.984	2.415	.030	1.023	739.449	.215	2
CN121	3040.000	8358.000	718.180	738.016	19.836	4.899	.030	1.229	739.521	.644	2
YC131	640.000	8358.000	732.270	742.286	10.016	2.914	.040	1.073	742.751	.351	2
SC141	500.000	5122.000	733.050	742.892	9.842	5.220	.040	1.069	744.379	.702	2
SC151	70.000	5122.000	730.370	745.232	14.862	1.358	.040	1.067	745.333	.165	2
SC152	70.000	5122.000	737.000	745.199	8.199	1.667	.040	1.057	745.349	.207	2
SC153	60.000	5122.000	735.150	745.264	10.114	1.390	.040	1.042	745.367	.166	2
SC154	50.000	5122.000	734.239	745.174	10.935	1.988	.040	1.049	745.385	.238	2
CN161	260.000	5122.000	731.410	745.160	13.750	2.083	.040	1.098	745.403	.254	2
CN171	1200.000	5122.000	731.720	745.215	13.495	2.040	.031	1.211	745.472	.251	2
SC181	300.000	5122.000	736.150	745.490	9.340	1.967	.031	1.282	745.743	.322	2
SC191	690.000	5122.000	736.890	745.617	8.727	1.706	.032	1.360	745.819	.281	2
CN201	1400.000	5122.000	734.620	745.725	11.105	1.532	.036	2.070	745.973	.299	2
CN211	1400.000	5122.000	734.990	746.052	11.062	1.273	.037	2.334	746.244	.279	2
CN221	1600.000	5122.000	732.710	746.315	13.605	.661	.054	7.521	746.483	.329	2
CN231	1400.000	5122.000	735.690	746.573	10.883	1.603	.033	1.430	746.760	.243	2
ZN241	300.000	5122.000	738.000	746.658	8.658	3.018	.034	2.071	747.621	.748	2
CN251	300.000	5122.000	733.500	747.633	14.133	1.106	.038	2.612	747.796	.243	2
CN261	2170.000	5122.000	729.600	747.464	17.864	1.230	.051	4.962	747.847	.391	2
CN271	230.000	5122.000	734.860	748.067	13.207	.897	.041	3.418	748.207	.237	2
CN281	1200.000	5122.000	734.630	748.090	13.460	.897	.041	3.419	748.230	.237	2
CN291	1400.000	5122.000	736.890	748.210	11.320	1.199	.040	2.407	748.387	.252	2
CN301	1368.600	5122.000	735.190	748.443	13.253	.796	.049	4.489	748.588	.236	2
ST011	999.100	5122.000	737.480	748.629	11.149	.990	.037	1.910	748.725	.160	2
ST021	232.300	5122.000	737.800	748.734	10.934	.901	.032	1.265	748.786	.114	2

SC311	762.800	5122.000	737.070	748.738	11.668	.528	.051	4.276	748.799	.149	2
ST031	737.200	5122.000	736.558	748.718	12.160	1.204	.037	1.992	748.865	.208	2
SC321	174.500	5122.000	736.580	748.807	12.227	1.085	.037	2.351	748.948	.249	2
JT041	725.500	5122.000	734.672	748.837	14.165	1.139	.035	1.897	748.962	.179	2
CN331	308.600	5122.000	735.330	748.921	13.591	.634	.046	4.609	749.015	.199	2
JT051	999.700	5122.000	735.664	748.899	13.235	1.118	.040	2.251	749.043	.189	2
JT061	91.700	5122.000	729.825	748.954	19.129	.992	.053	3.976	749.153	.212	2
CN341	736.700	5122.000	735.980	749.121	13.141	.328	.060	7.262	749.161	.133	2
JT071	263.400	5122.000	736.606	749.122	12.516	.974	.035	1.579	749.198	.136	2
SC351	735.000	5122.000	738.200	749.148	10.948	.650	.043	3.115	749.215	.164	2
ST081	988.400	5122.000	738.200	749.197	10.997	.930	.032	1.339	749.256	.121	2
JT091	986.000	5122.000	733.126	749.084	15.958	1.698	.035	1.800	749.349	.242	2
JT101	890.600	5122.000	734.254	749.277	15.023	1.422	.036	1.892	749.473	.216	2
CN361	95.800	5122.000	731.840	749.348	17.508	.871	.053	6.145	749.585	.296	2
ST111	990.300	5122.000	732.826	749.431	16.605	1.089	.043	2.743	749.597	.206	2
ST121	955.800	5122.000	738.400	749.581	11.181	1.036	.038	2.076	749.694	.181	2
ST131	758.200	5122.000	738.400	749.685	11.285	1.065	.033	1.510	749.773	.155	2
CN371	214.300	5122.000	737.730	749.726	11.996	.685	.045	4.498	749.834	.243	2
JT141	185.700	4980.000	734.524	749.696	15.172	1.270	.036	2.029	749.861	.213	2
CN381	804.000	4980.000	736.240	749.727	13.487	.943	.037	3.400	749.882	.311	2
ST151	296.000	4980.000	738.500	749.859	11.359	1.139	.033	1.453	749.956	.165	2
SF011	712.700	4980.000	738.500	749.935	11.435	.561	.040	2.410	749.973	.117	2
ST161	990.100	4980.000	738.500	749.921	11.421	1.061	.035	1.637	750.015	.153	2
ST171	1005.700	4980.000	738.600	749.967	11.367	1.167	.038	2.072	750.111	.202	2
JT181	291.500	4980.000	739.138	750.112	10.974	1.107	.037	1.751	750.221	.172	2
CF021	699.200	4980.000	740.211	750.206	9.995	.660	.034	1.483	750.239	.105	2
JT191	998.200	4980.000	739.025	750.166	11.141	1.079	.040	2.157	750.294	.189	2
JT201	1002.600	4980.000	740.313	750.317	10.004	1.073	.032	1.282	750.392	.146	2
CF031	3300.000	4980.000	740.078	750.402	10.324	.737	.039	2.268	750.465	.149	2
CF041	3500.000	4980.000	736.565	750.611	14.046	.896	.040	2.719	750.723	.200	2
CF051	9950.000	4980.000	737.452	750.922	13.470	.550	.053	5.226	751.003	.173	2
CF061	4650.000	4980.000	739.406	751.644	12.238	.492	.053	5.982	751.718	.202	2
CF071	3900.000	4980.000	740.674	752.016	11.342	.643	.050	4.541	752.112	.206	2
CF081	5000.000	4980.000	740.297	752.352	12.055	.274	.069	7.626	752.381	.120	2
CF091	2000.000	4980.000	741.444	752.676	11.232	1.085	.040	2.785	752.843	.259	2
CF101	2000.000	4980.000	736.528	752.867	16.339	1.448	.038	2.611	753.146	.355	2
CF111	5750.000	4980.000	742.213	753.294	11.081	1.064	.036	2.137	753.418	.250	2
CF121	3250.000	4980.000	742.681	753.935	11.254	1.205	.036	1.693	754.060	.184	2
CF131	3500.000	4980.000	741.128	754.297	13.169	.957	.046	3.220	754.447	.224	2
CF141	2250.000	4980.000	742.400	754.740	12.340	.738	.049	3.963	754.850	.209	2
CF151	3250.000	4980.000	743.623	754.981	11.358	.496	.054	3.934	755.031	.132	2
CF161	5050.000	4980.000	743.827	755.165	11.338	.774	.038	2.468	755.240	.188	2
CF171	3050.000	4980.000	743.925	755.570	11.645	1.024	.040	2.597	755.708	.228	2
CF181	2950.000	4980.000	745.186	755.913	10.727	.687	.038	2.281	755.968	.155	2
CF191	4550.000	4980.000	744.830	756.084	11.254	.734	.039	2.787	756.161	.189	2

CF201	4400.000	4980.000	744.243	756.445	12.202	.619	.054	5.108	756.545	.209	2
CF211	4850.000	4980.000	745.134	756.870	11.736	.771	.046	4.141	756.995	.245	2
CF221	1700.000	4980.000	745.021	757.375	12.354	.554	.059	5.050	757.454	.159	2
CF231	3950.000	4980.000	746.037	757.518	11.481	.477	.041	2.928	757.552	.131	2
CF241	2225.000	3764.000	745.982	757.669	11.688	.803	.044	3.488	757.784	.223	2
CF251	4775.000	3764.000	745.752	757.897	12.145	.670	.042	2.360	757.951	.125	2
CF261	7000.000	3764.000	746.286	758.201	11.915	1.307	.035	1.683	758.348	.209	2
CF271	1805.800	3764.000	748.246	758.975	10.729	.928	.037	2.260	759.075	.210	2
JS021	1552.500	3764.000	748.899	759.142	10.243	.908	.036	1.846	759.220	.153	2
JS031	1762.600	3764.000	748.395	759.255	10.860	.937	.036	1.804	759.336	.159	2
JS041	2644.100	3764.000	749.421	759.399	9.978	.974	.034	1.603	759.476	.160	2
JS051	2191.600	3764.000	747.060	759.590	12.530	1.092	.039	2.198	759.724	.202	2
JS061	2588.100	3764.000	749.315	759.842	10.527	.766	.032	1.304	759.881	.104	2
JS071	3521.900	3764.000	748.567	759.937	11.370	.721	.035	1.504	759.977	.102	2
JS081	1817.200	3764.000	749.966	760.109	10.143	.906	.031	1.144	760.157	.122	2
JS091	2028.400	3764.000	750.891	760.241	9.350	1.046	.035	1.622	760.331	.183	2
JS101	2470.000	3764.000	752.081	760.557	8.476	1.534	.031	1.202	760.701	.242	2
JS111	1076.600	3764.000	751.858	761.053	9.195	1.121	.031	1.125	761.125	.158	2
JS121	2390.900	3764.000	751.801	760.995	9.194	1.969	.043	3.120	761.614	.528	2
JS131	2077.600	3764.000	752.261	762.640	10.379	1.185	.039	2.050	762.786	.228	2
JS141	2319.900	3764.000	752.830	763.006	10.176	.955	.037	1.775	763.089	.168	2
JS151	1916.500	3764.000	752.019	763.248	11.229	1.033	.037	1.684	763.340	.165	2
JS161	2866.900	3764.000	752.949	763.458	10.510	.870	.034	1.458	763.515	.133	2
JS171	1134.600	3764.000	752.900	763.650	10.750	.827	.032	1.177	763.691	.110	2
JS181	1295.500	3764.000	752.929	763.705	10.776	.883	.034	1.412	763.762	.121	2
JS191	737.200	3764.000	752.544	763.772	11.228	1.097	.043	2.475	763.923	.236	2
JS201	998.100	3764.000	753.308	763.924	10.616	1.060	.041	2.103	764.045	.195	2
JS211	391.600	3764.000	753.929	764.096	10.167	.906	.031	1.192	764.146	.121	2
JS221	1191.200	3764.000	753.530	764.117	10.587	.916	.032	1.243	764.170	.128	2
JS231	487.800	3764.000	754.250	764.195	9.945	.996	.036	1.628	764.278	.166	2
JS241	557.800	3764.000	753.289	764.268	10.979	.870	.035	1.440	764.324	.131	2
JS251	436.900	1670.000	754.456	764.334	9.878	1.001	.036	1.695	764.421	.171	2
JS261	516.200	1670.000	754.069	764.441	10.372	.378	.032	1.269	764.450	.053	2
JS271	512.400	1670.000	754.052	764.447	10.395	.382	.032	1.210	764.456	.053	2
JS281	919.300	1670.000	754.375	764.440	10.065	.579	.035	1.578	764.467	.097	2
JS291	875.200	1670.000	754.417	764.479	10.063	.367	.030	1.068	764.487	.047	2
JS301	.000	1670.000	753.498	764.482	10.984	.439	.038	1.768	764.500	.074	2

C1 1983 744.0 parana pjt. with large excavation
1983year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	8358.000	615.000	744.000	129.000	.169	.030	1.131	744.002	.006	2
CN021	9230.000	8358.000	625.000	744.001	119.001	.132	.030	1.190	744.002	.006	2
CN031	12300.000	8358.000	635.000	744.001	109.001	.186	.030	1.164	744.003	.008	2
CN041	10000.000	8358.000	669.000	744.004	75.004	.174	.030	1.096	744.006	.008	2
CN051	11540.000	8358.000	675.000	744.003	69.003	.345	.030	1.151	744.010	.018	2
CN061	2160.000	8358.000	700.550	744.012	43.462	.405	.030	1.111	744.021	.026	2
CN071	3840.000	8358.000	705.190	743.956	38.766	1.199	.030	1.132	744.039	.086	2
CN081	400.000	8358.000	713.710	744.061	30.351	.517	.030	1.075	744.075	.038	2
CN091	1400.000	8358.000	714.940	744.065	29.125	.446	.030	1.146	744.077	.030	2
CN101	1420.000	8358.000	717.280	743.939	26.659	1.786	.030	1.083	744.115	.142	2
CN111	100.000	8358.000	722.160	744.032	21.872	1.752	.030	1.025	744.193	.136	2
CN121	3040.000	8358.000	718.180	743.805	25.625	2.685	.030	1.090	744.206	.255	2
XN131	640.000	8358.000	732.270	744.732	12.462	2.094	.040	1.037	744.964	.214	2
FN141	500.000	5122.000	733.050	744.945	11.895	3.313	.040	1.026	745.519	.352	2
FN151	70.000	5122.000	730.370	745.689	15.319	1.080	.040	1.057	745.752	.117	2
FN152	70.000	5122.000	735.000	745.664	10.664	1.324	.040	1.075	745.760	.148	2
FN153	60.000	5122.000	735.000	745.702	10.702	1.114	.040	1.055	745.769	.120	2
FN154	50.000	5122.000	734.239	745.634	11.395	1.647	.040	1.053	745.779	.180	2
FN161	260.000	5122.000	731.410	745.601	14.191	1.847	.040	1.086	745.790	.217	2
CN171	1200.000	5122.000	731.720	745.603	13.883	1.947	.031	1.234	745.841	.239	2
FN181	300.000	5122.000	735.000	745.852	10.852	1.547	.031	1.308	746.011	.231	2
FN191	690.000	5122.000	735.000	745.930	10.930	1.282	.032	1.344	746.042	.182	2
FN201	1400.000	5122.000	734.620	745.912	11.292	1.451	.036	2.074	746.135	.276	2
FN211	1400.000	5122.000	735.000	746.188	11.188	1.186	.037	2.297	746.352	.252	2
CN221	1600.000	5122.000	732.710	746.398	13.688	.644	.054	7.577	746.558	.319	2
FN231	1400.000	5122.000	735.500	746.636	11.136	1.373	.032	1.362	746.767	.188	2
ZN241	300.000	5122.000	738.000	746.612	8.612	3.059	.034	2.050	747.591	.759	2
FN251	300.000	5122.000	733.500	747.608	14.108	1.094	.039	2.637	747.769	.240	2
CN261	2170.000	5122.000	729.600	747.436	17.836	1.237	.051	4.947	747.822	.393	2
CN271	230.000	5122.000	734.860	748.044	13.184	.901	.041	3.409	748.186	.238	2
CN281	1200.000	5122.000	734.630	748.067	13.437	.901	.041	3.410	748.208	.239	2
CN291	1400.000	5122.000	736.890	748.189	11.299	1.203	.040	2.403	748.367	.253	2
CN301	1368.600	5122.000	735.190	748.423	13.233	.799	.049	4.484	748.569	.237	2
FT011	999.100	5122.000	736.000	748.609	12.609	.909	.036	1.927	748.691	.141	2
FT021	232.300	5122.000	736.000	748.684	12.684	.817	.035	1.546	748.736	.109	2

FN311	762.800	5122.000	736.000	748.685	12.685	.511	.049	4.526	748.745	.146	2
FT031	737.200	5122.000	736.000	748.672	12.672	1.120	.035	1.908	748.794	.182	2
FN321	174.500	5122.000	736.000	748.731	12.731	1.028	.035	2.210	748.851	.222	2
JT041	725.500	5122.000	734.672	748.735	14.063	1.154	.035	1.886	748.864	.182	2
CN331	308.600	5122.000	735.330	748.822	13.492	.648	.046	4.572	748.920	.204	2
FT051	999.700	5122.000	735.664	748.812	13.148	1.088	.039	2.187	748.945	.179	2
JT061	91.700	5122.000	729.825	748.845	19.020	1.004	.053	3.968	749.049	.216	2
FN341	736.700	5122.000	736.000	749.015	13.015	.333	.058	7.330	749.056	.137	2
FT071	263.400	5122.000	736.000	749.012	13.012	.931	.036	1.741	749.089	.134	2
FN351	735.000	5122.000	736.000	749.028	13.028	.625	.044	3.724	749.102	.169	2
FT081	988.400	5122.000	736.500	749.078	12.578	.889	.033	1.464	749.137	.119	2
JT091	986.000	5122.000	733.126	748.958	15.832	1.722	.035	1.789	749.228	.246	2
JT101	890.600	5122.000	734.254	749.156	14.902	1.443	.036	1.881	749.356	.220	2
CN361	95.800	5122.000	731.840	749.227	17.387	.890	.052	6.104	749.474	.304	2
FT111	990.300	5122.000	732.826	749.342	16.516	1.090	.040	2.363	749.485	.191	2
FT121	955.800	5122.000	736.500	749.454	12.954	.986	.038	2.204	749.563	.173	2
FT131	758.200	5122.000	736.500	749.550	13.050	.984	.032	1.479	749.623	.136	2
FN371	214.300	5122.000	736.500	749.565	13.065	.693	.042	4.314	749.671	.241	2
JT141	185.700	4980.000	734.524	749.525	15.001	1.301	.035	2.002	749.698	.219	2
FN381	804.000	4980.000	736.500	749.559	13.059	.985	.036	3.182	749.716	.320	2
FT151	296.000	4980.000	736.500	749.676	13.176	1.039	.036	1.944	749.783	.166	2
FF011	712.700	4980.000	736.500	749.742	13.242	.541	.045	3.733	749.798	.138	2
FT161	990.100	4980.000	736.500	749.757	13.257	.943	.034	1.572	749.828	.125	2
FT171	1005.700	4980.000	736.500	749.777	13.277	1.039	.035	1.888	749.881	.162	2
JT181	291.500	4980.000	739.138	749.853	10.715	1.147	.036	1.743	749.970	.181	2
CF021	699.200	4980.000	740.211	749.956	9.745	.688	.033	1.481	749.992	.111	2
JT191	998.200	4980.000	739.025	749.916	10.891	1.118	.039	2.142	750.052	.198	2
JT201	1002.600	4980.000	740.313	750.079	9.766	1.110	.032	1.285	750.159	.154	2
CF031	3300.000	4980.000	740.078	750.172	10.094	.768	.039	2.255	750.240	.158	2
CF041	3500.000	4980.000	736.565	750.403	13.838	.931	.040	2.671	750.521	.209	2
CF051	9950.000	4980.000	737.452	750.737	13.285	.570	.053	5.208	750.823	.181	2
CF061	4650.000	4980.000	739.406	751.511	12.105	.511	.052	5.892	751.589	.212	2
CF071	3900.000	4980.000	740.674	751.905	11.231	.659	.049	4.507	752.005	.213	2
CF081	5000.000	4980.000	740.297	752.256	11.959	.281	.068	7.648	752.287	.125	2
CF091	2000.000	4980.000	741.444	752.592	11.148	1.104	.040	2.760	752.763	.264	2
CF101	2000.000	4980.000	736.528	752.790	16.262	1.474	.038	2.567	753.074	.357	2
CF111	5750.000	4980.000	742.213	753.226	11.013	1.082	.036	2.109	753.352	.245	2
CF121	3250.000	4980.000	742.681	753.883	11.202	1.213	.036	1.692	754.010	.185	2
CF131	3500.000	4980.000	741.128	754.253	13.125	.964	.046	3.212	754.405	.225	2
CF141	2250.000	4980.000	742.400	754.705	12.305	.743	.049	3.953	754.816	.211	2
CF151	3250.000	4980.000	743.623	754.950	11.327	.499	.054	3.935	755.000	.133	2
CF161	5050.000	4980.000	743.827	755.136	11.309	.779	.038	2.458	755.212	.189	2
CF171	3050.000	4980.000	743.925	755.543	11.618	1.029	.040	2.591	755.683	.229	2
CF181	2950.000	4980.000	745.186	755.890	10.704	.690	.038	2.275	755.945	.156	2
CF191	4550.000	4980.000	744.830	756.060	11.230	.738	.039	2.779	756.138	.190	2

CF201	4400.000	4980.000	744.243	756.427	12.184	.621	.054	5.101	756.527	.210	2
CF211	4850.000	4980.000	745.134	756.854	11.720	.774	.046	4.132	756.980	.246	2
CF221	1700.000	4980.000	745.021	757.365	12.344	.555	.059	5.051	757.444	.159	2
CF231	3950.000	4980.000	746.037	757.508	11.471	.478	.041	2.924	757.542	.131	2
CF241	2225.000	3764.000	745.982	757.659	11.677	.805	.044	3.484	757.775	.224	2
CF251	4775.000	3764.000	745.752	757.888	12.136	.671	.042	2.359	757.942	.125	2
CF261	7000.000	3764.000	746.286	758.192	11.906	1.309	.035	1.682	758.339	.209	2
CF271	1805.800	3764.000	748.246	758.969	10.723	.929	.037	2.258	759.069	.210	2
JS021	1552.500	3764.000	748.899	759.137	10.238	.908	.036	1.846	759.215	.154	2
JS031	1762.600	3764.000	748.395	759.250	10.855	.937	.036	1.804	759.331	.159	2
JS041	2644.100	3764.000	749.421	759.395	9.974	.974	.034	1.603	759.472	.160	2
JS051	2191.600	3764.000	747.060	759.586	12.526	1.092	.039	2.197	759.720	.202	2
JS061	2388.100	3764.000	749.315	759.841	10.526	.766	.032	1.304	759.880	.104	2
JS071	3521.900	3764.000	748.567	759.934	11.367	.722	.035	1.504	759.974	.102	2
JS081	1817.200	3764.000	749.966	760.105	10.139	.907	.031	1.145	760.153	.122	2
JS091	2028.400	3764.000	750.891	760.237	9.346	1.046	.035	1.622	760.328	.183	2
JS101	2470.000	3764.000	752.081	760.553	8.472	1.535	.031	1.202	760.698	.242	2
JS111	1076.600	3764.000	751.858	761.049	9.191	1.122	.031	1.125	761.121	.159	2
JS121	2390.900	3764.000	751.801	760.991	9.190	1.971	.043	3.126	761.611	.528	2
JS131	2077.600	3764.000	752.261	762.639	10.378	1.185	.039	2.050	762.786	.228	2
JS141	2319.900	3764.000	752.830	763.006	10.176	.955	.037	1.775	763.089	.168	2
JS151	1916.500	3764.000	752.019	763.248	11.229	1.033	.037	1.684	763.340	.165	2
JS161	2866.900	3764.000	752.949	763.458	10.510	.870	.034	1.458	763.515	.133	2
JS171	1134.600	3764.000	752.900	763.650	10.750	.827	.032	1.177	763.691	.110	2
JS181	1295.500	3764.000	752.929	763.705	10.776	.883	.034	1.412	763.762	.131	2
JS191	737.200	3764.000	752.544	763.772	11.228	1.097	.043	2.475	763.923	.236	2
JS201	998.100	3764.000	753.308	763.924	10.616	1.060	.041	2.103	764.045	.195	2
JS211	391.600	3764.000	753.929	764.096	10.167	.906	.031	1.192	764.146	.121	2
JS221	1191.200	3764.000	753.530	764.117	10.587	.916	.032	1.243	764.170	.128	2
JS231	487.800	3764.000	754.250	764.195	9.945	.996	.036	1.628	764.278	.166	2
JS241	557.800	3764.000	753.289	764.268	10.979	.870	.035	1.440	764.324	.131	2
JS251	436.900	1670.000	754.456	764.334	9.878	1.001	.036	1.695	764.421	.171	2
JS261	516.200	1670.000	754.069	764.441	10.372	.378	.032	1.269	764.450	.053	2
JS271	512.400	1670.000	754.052	764.447	10.395	.382	.032	1.210	764.456	.053	2
JS281	919.300	1670.000	754.375	764.440	10.065	.579	.035	1.578	764.467	.097	2
JS291	875.200	1670.000	754.417	764.479	10.063	.367	.030	1.068	764.487	.047	2
JS301	.000	1670.000	753.498	764.482	10.984	.439	.038	1.768	764.500	.074	2

C2.1983 742.0 parana pjt. with large excavation
1983year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	8358.000	615.000	742.000	127.000	.174	.030	1.132	742.002	.007	2
CN021	9230.000	8358.000	625.000	742.001	117.001	.136	.030	1.191	742.002	.006	2
CN031	12300.000	8358.000	635.000	742.001	107.001	.192	.030	1.163	742.003	.008	2
CN041	10000.000	8358.000	669.000	742.004	73.004	.181	.030	1.095	742.006	.008	2
CN051	11540.000	8358.000	675.000	742.003	67.003	.362	.030	1.152	742.011	.019	2
CN061	2160.000	8358.000	700.550	742.015	41.465	.435	.030	1.114	742.026	.028	2
CN071	3840.000	8358.000	705.190	741.951	36.761	1.315	.030	1.130	742.050	.097	2
CN081	400.000	8358.000	713.710	742.080	28.370	.570	.030	1.063	742.098	.042	2
CN091	1400.000	8358.000	714.940	742.085	27.145	.500	.030	1.153	742.099	.042	2
CN101	1420.000	8358.000	717.280	741.931	24.651	2.015	.030	1.081	742.155	.168	2
CN111	100.000	8358.000	722.160	742.063	19.903	1.974	.030	1.023	742.267	.161	2
CN121	3040.000	8358.000	718.180	741.696	23.516	3.229	.030	1.116	742.289	.335	2
XN131	640.000	8358.000	732.270	743.256	10.986	2.446	.040	1.039	743.573	.268	2
FN141	500.000	5122.000	733.050	743.600	10.550	3.869	.040	1.026	744.384	.441	2
FN151	70.000	5122.000	730.370	744.682	14.312	1.213	.040	1.058	744.761	.138	2
FN152	70.000	5122.000	735.000	744.648	9.648	1.496	.040	1.085	744.772	.178	2
FN153	60.000	5122.000	735.000	744.699	9.699	1.250	.040	1.063	744.784	.143	2
FN154	50.000	5122.000	734.239	744.611	10.372	1.857	.040	1.055	744.797	.215	2
FN161	260.000	5122.000	731.410	744.574	13.164	2.099	.040	1.063	744.813	.244	2
CN171	1200.000	5122.000	731.720	744.594	12.874	2.203	.031	1.175	744.885	.271	2
FN181	300.000	5122.000	735.000	744.919	9.919	1.804	.031	1.189	745.116	.242	2
FN191	690.000	5122.000	735.000	745.020	10.020	1.479	.031	1.247	745.159	.216	2
FN201	1400.000	5122.000	734.620	745.003	10.383	1.716	.034	1.900	745.288	.337	2
FN211	1400.000	5122.000	735.000	745.383	10.383	1.390	.035	2.083	745.588	.292	2
CN221	1600.000	5122.000	732.710	745.640	12.930	.841	.049	6.803	745.885	.439	2
FN231	1400.000	5122.000	735.500	746.032	10.532	1.495	.032	1.310	746.182	.208	2
ZN241	300.000	5122.000	738.000	746.057	8.057	3.645	.033	1.770	747.257	.903	2
FN251	300.000	5122.000	733.500	747.315	13.815	1.154	.038	2.553	747.489	.254	2
CN261	2170.000	5122.000	729.600	747.123	17.523	1.318	.050	4.767	747.546	.418	2
CN271	230.000	5122.000	734.860	747.794	12.934	.949	.040	3.307	747.945	.253	2
CN281	1200.000	5122.000	734.630	747.818	13.188	.948	.041	3.309	747.969	.253	2
CN291	1400.000	5122.000	736.890	747.953	11.063	1.257	.039	2.364	748.143	.265	2
CN301	1368.600	5122.000	735.190	748.206	13.016	.834	.048	4.432	748.363	.250	2
FT011	999.100	5122.000	736.000	748.409	12.409	.932	.036	1.911	748.494	.146	2
FT021	232.300	5122.000	736.000	748.489	12.489	.835	.034	1.542	748.543	.112	2

FN311	762.800	5122.000	736.000	748.489	12.489	.529	.048	4.489	748.553	.153	2
FT031	737.200	5122.000	736.000	748.478	12.478	1.151	.035	1.886	748.605	.189	2
FN321	174.500	5122.000	736.000	748.539	12.539	1.070	.035	2.135	748.664	.231	2
JT041	725.500	5122.000	734.672	748.544	13.872	1.183	.035	1.865	748.677	.188	2
CN331	308.600	5122.000	735.330	748.632	13.302	.675	.045	4.495	748.736	.215	2
FT051	999.700	5122.000	735.664	748.625	12.961	1.113	.038	2.173	748.762	.184	2
JT061	91.700	5122.000	729.825	748.661	18.836	1.026	.053	3.953	748.873	.223	2
FN341	736.700	5122.000	736.000	748.836	12.836	.347	.057	7.310	748.881	.145	2
FT071	263.400	5122.000	736.000	748.836	12.836	.950	.036	1.734	748.916	.137	2
FN351	735.000	5122.000	736.000	748.853	12.853	.646	.043	3.663	748.931	.176	2
FT081	988.400	5122.000	736.500	748.906	12.406	.908	.033	1.458	748.968	.122	2
JT091	986.000	5122.000	733.126	748.783	15.657	1.756	.035	1.774	749.062	.253	2
JT101	890.600	5122.000	734.254	748.989	14.735	1.473	.035	1.866	749.196	.226	2
CN361	95.800	5122.000	731.840	749.059	17.219	.919	.052	6.040	749.319	.317	2
FT111	990.300	5122.000	732.826	749.185	16.359	1.112	.040	2.342	749.333	.195	2
FT121	955.800	5122.000	736.500	749.302	12.802	1.007	.037	2.190	749.415	.178	2
FT131	758.200	5122.000	736.500	749.401	12.901	1.002	.032	1.466	749.477	.140	2
FN371	214.300	5122.000	736.500	749.414	12.914	.723	.042	4.188	749.526	.252	2
JT141	185.700	4980.000	734.524	749.377	14.853	1.328	.035	1.978	749.555	.225	2
FN381	804.000	4980.000	736.500	749.407	12.907	1.036	.035	3.017	749.572	.336	2
FT151	296.000	4980.000	736.500	749.534	13.034	1.058	.036	1.929	749.644	.170	2
FF011	712.700	4980.000	736.500	749.604	13.104	.554	.045	3.700	749.662	.142	2
FT161	990.100	4980.000	736.500	749.620	13.120	.958	.034	1.567	749.693	.128	2
FT171	1005.700	4980.000	736.500	749.642	13.142	1.057	.035	1.874	749.748	.166	2
JT181	291.500	4980.000	739.138	749.720	10.582	1.169	.036	1.739	749.841	.185	2
CF021	699.200	4980.000	740.211	749.827	9.616	.704	.033	1.480	749.865	.115	2
JT191	998.200	4980.000	739.025	749.787	10.762	1.139	.039	2.134	749.928	.204	2
JT201	1002.600	4980.000	740.313	749.958	9.645	1.130	.032	1.287	750.041	.159	2
CF031	3300.000	4980.000	740.078	750.057	9.979	.785	.038	2.248	750.128	.163	2
CF041	3500.000	4980.000	736.565	750.300	13.735	.949	.040	2.646	750.422	.214	2
CF051	9950.000	4980.000	737.452	750.647	13.195	.580	.052	5.197	750.737	.186	2
CF061	4650.000	4980.000	739.406	751.447	12.041	.521	.052	5.845	751.528	.217	2
CF071	3900.000	4980.000	740.674	751.854	11.180	.667	.049	4.491	751.956	.216	2
CF081	5000.000	4980.000	740.297	752.212	11.915	.284	.068	7.657	752.244	.127	2
CF091	2000.000	4980.000	741.444	752.558	11.115	1.111	.040	2.750	752.732	.267	2
CF101	2000.000	4980.000	736.528	752.758	16.230	1.484	.038	2.549	753.045	.358	2
CF111	5750.000	4980.000	742.213	753.198	10.985	1.089	.036	2.100	753.326	.243	2
CF121	3250.000	4980.000	742.681	753.862	11.181	1.217	.036	1.691	753.990	.186	2
CF131	3500.000	4980.000	741.128	754.233	13.105	.967	.046	3.208	754.386	.225	2
CF141	2250.000	4980.000	742.400	754.688	12.288	.745	.049	3.949	754.800	.211	2
CF151	3250.000	4980.000	743.623	754.935	11.312	.501	.054	3.935	754.985	.133	2
CF161	5050.000	4980.000	743.827	755.122	11.295	.781	.038	2.453	755.198	.190	2
CF171	3050.000	4980.000	743.925	755.532	11.607	1.031	.040	2.588	755.672	.230	2
CF181	2950.000	4980.000	745.186	755.880	10.694	.692	.038	2.273	755.936	.156	2
CF191	4550.000	4980.000	744.830	756.053	11.223	.739	.039	2.777	756.130	.191	2

CF201	4400.000	4980.000	744.243	756.419	12.176	.622	.054	5.099	756.520	.211	2
CF211	4850.000	4980.000	745.134	756.849	11.715	.775	.046	4.130	756.975	.246	2
CF221	1700.000	4980.000	745.021	757.358	12.337	.555	.059	5.051	757.437	.159	2
CF231	3950.000	4980.000	746.037	757.501	11.464	.479	.041	2.921	757.535	.131	2
CF241	2225.000	3764.000	745.982	757.654	11.672	.806	.044	3.482	757.769	.224	2
CF251	4775.000	3764.000	745.752	757.881	12.129	.672	.041	2.359	757.935	.125	2
CF261	7000.000	3764.000	746.286	758.187	11.901	1.310	.035	1.682	758.334	.209	2
CF271	1805.800	3764.000	748.246	758.965	10.719	.930	.037	2.256	759.065	.210	2
JS021	1552.500	3764.000	748.899	759.133	10.234	.909	.036	1.846	759.211	.154	2
JS031	1762.600	3764.000	748.395	759.248	10.853	.938	.036	1.804	759.328	.159	2
JS041	2644.100	3764.000	749.421	759.393	9.972	.975	.034	1.603	759.471	.160	2
JS051	2191.600	3764.000	747.060	759.583	12.523	1.093	.039	2.197	759.717	.202	2
JS061	2388.100	3764.000	749.315	759.837	10.522	.767	.032	1.304	759.877	.104	2
JS071	3521.900	3764.000	748.567	759.930	11.363	.722	.035	1.504	759.970	.102	2
JS081	1817.200	3764.000	749.966	760.102	10.135	.907	.031	1.145	760.150	.122	2
JS091	2028.400	3764.000	750.891	760.234	9.343	1.047	.035	1.622	760.324	.184	2
JS101	2470.000	3764.000	752.081	760.551	8.470	1.535	.031	1.202	760.695	.242	2
JS111	1076.600	3764.000	751.858	761.062	9.204	1.120	.031	1.125	761.134	.158	2
JS121	2390.900	3764.000	751.801	761.003	9.202	1.965	.043	3.127	761.619	.520	2
JS131	2077.600	3764.000	752.261	762.642	10.381	1.184	.039	2.050	762.788	.228	2
JS141	2319.900	3764.000	752.830	763.009	10.179	.954	.037	1.775	763.091	.168	2
JS151	1916.500	3764.000	752.019	763.249	11.230	1.032	.037	1.684	763.341	.165	2
JS161	2866.900	3764.000	752.949	763.461	10.512	.869	.034	1.458	763.517	.133	2
JS171	1134.600	3764.000	752.900	763.652	10.752	.827	.032	1.177	763.693	.110	2
JS181	1295.500	3764.000	752.929	763.706	10.777	.883	.034	1.412	763.763	.131	2
JS191	737.200	3764.000	752.544	763.774	11.230	1.096	.043	2.475	763.926	.236	2
JS201	998.100	3764.000	753.308	763.925	10.617	1.060	.041	2.103	764.046	.195	2
JS211	391.600	3764.000	753.929	764.097	10.168	.906	.031	1.192	764.147	.121	2
JS221	1191.200	3764.000	753.530	764.120	10.590	.916	.032	1.243	764.173	.128	2
JS231	487.800	3764.000	754.250	764.198	9.948	.995	.036	1.628	764.280	.166	2
JS241	557.800	3764.000	753.289	764.269	10.980	.870	.035	1.440	764.325	.131	2
JS251	436.900	1670.000	754.456	764.335	9.879	1.001	.036	1.695	764.422	.171	2
JS261	516.200	1670.000	754.069	764.440	10.371	.378	.032	1.269	764.449	.053	2
JS271	512.400	1670.000	754.052	764.447	10.395	.382	.032	1.210	764.456	.053	2
JS281	919.300	1670.000	754.375	764.440	10.065	.579	.035	1.578	764.467	.097	2
JS291	875.200	1670.000	754.417	764.479	10.063	.367	.030	1.068	764.487	.047	2
JS301	.000	1670.000	753.498	764.482	10.984	.439	.038	1.768	764.500	.074	2

C3 1983 739.0 parana pjt. with large excavation
1983year flood model

sec name	distance (m)	dischar. (m /s)	elevati. (TP m)	W.level (TP m)	Max W.D. (m)	Ave.velo (m/s)	combined Coeffici	Energy modified	W.head (TP m)	Frudes	decision
CN011	9230.000	8358.000	615.000	739.000	124.000	.180	.030	1.135	739.002	.007	2
CN021	9230.000	8358.000	625.000	739.001	114.001	.142	.030	1.190	739.002	.006	2
CN031	12300.000	8358.000	635.000	739.001	104.001	.202	.030	1.162	739.003	.009	2
CN041	10000.000	8358.000	669.000	739.004	70.004	.192	.030	1.095	739.006	.009	2
CN051	11540.000	8358.000	675.000	739.003	64.003	.390	.030	1.153	739.012	.021	2
CN061	2160.000	8358.000	700.550	739.016	38.466	.489	.030	1.118	739.029	.033	2
CN071	3840.000	8358.000	705.190	738.931	33.741	1.527	.030	1.124	739.065	.118	2
CN081	400.000	8358.000	713.710	739.112	25.402	.665	.030	1.048	739.136	.050	2
CN091	1400.000	8358.000	714.940	739.117	24.177	.607	.030	1.155	739.138	.055	2
CN101	1420.000	8358.000	717.280	738.904	21.624	2.472	.030	1.073	739.238	.220	2
CN111	100.000	8358.000	722.160	739.144	16.984	2.415	.030	1.023	739.449	.215	2
CN121	3040.000	8358.000	718.180	738.016	19.836	4.899	.030	1.229	739.521	.644	2
XN131	640.000	8358.000	732.270	742.189	9.919	2.778	.040	1.041	742.599	.321	2
FN141	500.000	5122.000	733.050	742.701	9.651	4.351	.040	1.026	743.692	.523	2
FN151	70.000	5122.000	730.370	744.143	13.773	1.296	.040	1.059	744.234	.151	2
FN152	70.000	5122.000	735.000	744.105	9.105	1.608	.040	1.090	744.249	.199	2
FN153	60.000	5122.000	735.000	744.167	9.167	1.337	.040	1.067	744.264	.159	2
FN154	50.000	5122.000	734.239	744.067	9.828	1.990	.040	1.056	744.281	.236	2
FN161	260.000	5122.000	731.410	744.028	12.618	2.246	.040	1.054	744.300	.260	2
CN171	1200.000	5122.000	731.720	744.063	12.343	2.358	.031	1.146	744.388	.290	2
FN181	300.000	5122.000	735.000	744.442	9.442	1.940	.031	1.151	744.663	.262	2
FN191	690.000	5122.000	735.000	744.559	9.559	1.603	.031	1.188	744.714	.237	2
FN201	1400.000	5122.000	734.620	744.545	9.925	1.888	.033	1.792	744.870	.377	2
FN211	1400.000	5122.000	735.000	744.999	9.999	1.510	.034	1.969	745.228	.320	2
CN221	1600.000	5122.000	732.710	745.284	12.574	.975	.046	6.209	745.585	.515	2
FN231	1400.000	5122.000	735.500	745.778	10.278	1.551	.031	1.288	745.936	.216	2
ZN241	300.000	5122.000	738.000	745.835	7.835	3.941	.032	1.644	747.137	.972	2
FN251	300.000	5122.000	733.500	747.218	13.718	1.175	.038	2.524	747.396	.258	2
CN261	2170.000	5122.000	729.600	747.019	17.419	1.347	.049	4.704	747.455	.427	2
CN271	230.000	5122.000	734.860	747.712	12.852	.965	.040	3.271	747.867	.258	2
CN281	1200.000	5122.000	734.630	747.738	13.108	.965	.040	3.275	747.894	.258	2
CN291	1400.000	5122.000	736.890	747.878	10.988	1.274	.039	2.351	748.073	.269	2
CN301	1368.600	5122.000	735.190	748.139	12.949	.845	.048	4.415	748.300	.254	2
FT011	999.100	5122.000	736.000	748.349	12.349	.939	.036	1.906	748.434	.148	2
FT021	232.300	5122.000	736.000	748.429	12.429	.841	.034	1.541	748.484	.113	2

FN311	762.800	5122.000	736.000	748.430	12.430	.535	.048	4.477	748.495	.155	2
FT031	737.200	5122.000	736.000	748.419	12.419	1.160	.035	1.879	748.548	.191	2
FN321	174.500	5122.000	736.000	748.484	12.484	1.083	.035	2.113	748.611	.233	2
JT041	725.500	5122.000	734.672	748.492	13.820	1.191	.035	1.859	748.627	.189	2
CN331	308.600	5122.000	735.330	748.581	13.251	.683	.045	4.473	748.687	.219	2
FT051	999.700	5122.000	735.664	748.577	12.913	1.120	.038	2.169	748.716	.186	2
JT061	91.700	5122.000	729.825	748.615	18.790	1.031	.053	3.949	748.829	.224	2
FN341	736.700	5122.000	736.000	748.792	12.792	.351	.057	7.302	748.838	.147	2
FT071	263.400	5122.000	736.000	748.793	12.793	.955	.036	1.732	748.874	.138	2
FN351	735.000	5122.000	736.000	748.810	12.810	.652	.043	3.647	748.889	.178	2
FT081	988.400	5122.000	736.500	748.866	12.366	.912	.033	1.457	748.928	.123	2
JT091	986.000	5122.000	733.126	748.744	15.618	1.764	.035	1.770	749.025	.254	2
JT101	890.600	5122.000	734.254	748.953	14.699	1.479	.035	1.862	749.161	.227	2
CN361	95.800	5122.000	731.840	749.024	17.184	.925	.051	6.026	749.287	.319	2
FT111	990.300	5122.000	732.826	749.150	16.324	1.117	.040	2.337	749.299	.196	2
FT121	955.800	5122.000	736.500	749.267	12.767	1.012	.037	2.186	749.381	.179	2
FT131	758.200	5122.000	736.500	749.367	12.867	1.007	.032	1.463	749.443	.140	2
FN371	214.300	5122.000	736.500	749.380	12.880	.730	.041	4.158	749.493	.255	2
JT141	185.700	4980.000	734.524	749.341	14.817	1.335	.035	1.972	749.521	.226	2
FN381	804.000	4980.000	736.500	749.372	12.872	1.049	.035	2.978	749.539	.340	2
FT151	296.000	4980.000	736.500	749.500	13.000	1.063	.036	1.926	749.611	.171	2
FF011	712.700	4980.000	736.500	749.569	13.069	.557	.045	3.692	749.628	.143	2
FT161	990.100	4980.000	736.500	749.586	13.086	.961	.034	1.565	749.660	.129	2
FT171	1005.700	4980.000	736.500	749.609	13.109	1.061	.035	1.870	749.717	.167	2
JT181	291.500	4980.000	739.138	749.686	10.548	1.175	.036	1.738	749.808	.187	2
CF021	699.200	4980.000	740.211	749.793	9.582	.708	.033	1.480	749.831	.116	2
JT191	998.200	4980.000	739.025	749.753	10.728	1.145	.039	2.132	749.895	.205	2
JT201	1002.600	4980.000	740.313	749.926	9.613	1.136	.032	1.288	750.011	.160	2
CF031	3300.000	4980.000	740.078	750.026	9.948	.789	.038	2.246	750.098	.164	2
CF041	3500.000	4980.000	736.565	750.273	13.708	.954	.039	2.639	750.396	.216	2
CF051	9950.000	4980.000	737.452	750.623	13.171	.583	.052	5.194	750.713	.187	2
CF061	4650.000	4980.000	739.406	751.431	12.025	.523	.052	5.833	751.512	.218	2
CF071	3900.000	4980.000	740.674	751.840	11.166	.669	.049	4.487	751.943	.217	2
CF081	5000.000	4980.000	740.297	752.201	11.904	.285	.068	7.659	752.233	.127	2
CF091	2000.000	4980.000	741.444	752.549	11.105	1.113	.040	2.747	752.722	.267	2
CF101	2000.000	4980.000	736.528	752.751	16.223	1.486	.038	2.545	753.038	.358	2
CF111	5750.000	4980.000	742.213	753.191	10.978	1.091	.036	2.098	753.318	.243	2
CF121	3250.000	4980.000	742.681	753.857	11.176	1.218	.036	1.691	753.984	.186	2
CF131	3500.000	4980.000	741.128	754.230	13.102	.967	.046	3.208	754.383	.226	2
CF141	2250.000	4980.000	742.400	754.686	12.286	.746	.049	3.948	754.798	.212	2
CF151	3250.000	4980.000	743.623	754.932	11.309	.501	.054	3.935	754.982	.133	2
CF161	5050.000	4980.000	743.827	755.120	11.293	.782	.038	2.453	755.196	.190	2
CF171	3050.000	4980.000	743.925	755.532	11.607	1.031	.040	2.588	755.672	.230	2
CF181	2950.000	4980.000	745.186	755.880	10.694	.692	.038	2.273	755.936	.156	2
CF191	4550.000	4980.000	744.830	756.053	11.223	.739	.039	2.777	756.130	.191	2

CF201	4400.000	4980.000	744.243	756.419	12.176	.622	.054	5.099	756.520	.211	2
CF211	4850.000	4980.000	745.134	756.849	11.715	.775	.046	4.130	756.975	.246	2
CF221	1700.000	4980.000	745.021	757.358	12.337	.555	.059	5.051	757.437	.159	2
CF231	3950.000	4980.000	746.037	757.501	11.464	.479	.041	2.921	757.535	.131	2
CF241	2225.000	3764.000	745.982	757.654	11.672	.806	.044	3.482	757.769	.224	2
CF251	4775.000	3764.000	745.752	757.881	12.129	.672	.041	2.359	757.935	.125	2
CF261	7000.000	3764.000	746.286	758.187	11.901	1.310	.035	1.682	758.334	.209	2
CF271	1805.800	3764.000	748.246	758.965	10.719	.930	.037	2.256	759.065	.210	2
JS021	1552.500	3764.000	748.899	759.133	10.234	.909	.036	1.846	759.211	.154	2
JS031	1762.600	3764.000	748.395	759.248	10.853	.938	.036	1.804	759.328	.159	2
JS041	2644.100	3764.000	749.421	759.393	9.972	.975	.034	1.603	759.471	.160	2
JS051	2191.600	3764.000	747.060	759.583	12.523	1.093	.039	2.197	759.717	.202	2
JS061	2388.100	3764.000	749.315	759.837	10.522	.767	.032	1.304	759.877	.104	2
JS071	3521.900	3764.000	748.567	759.930	11.363	.722	.035	1.504	759.970	.102	2
JS081	1817.200	3764.000	749.966	760.102	10.135	.907	.031	1.145	760.150	.122	2
JS091	2028.400	3764.000	750.891	760.234	9.343	1.047	.035	1.622	760.324	.184	2
JS101	2470.000	3764.000	752.081	760.551	8.470	1.535	.031	1.202	760.695	.242	2
JS111	1076.600	3764.000	751.858	761.062	9.204	1.120	.031	1.125	761.134	.158	2
JS121	2390.900	3764.000	751.801	761.003	9.202	1.965	.043	3.127	761.619	.526	2
JS131	2077.600	3764.000	752.261	762.642	10.381	1.184	.039	2.050	762.788	.228	2
JS141	2319.900	3764.000	752.830	763.009	10.179	.954	.037	1.775	763.091	.168	2
JS151	1916.500	3764.000	752.019	763.249	11.230	1.032	.037	1.684	763.341	.165	2
JS161	2866.900	3764.000	752.949	763.461	10.512	.869	.034	1.458	763.517	.133	2
JS171	1134.600	3764.000	752.900	763.652	10.752	.827	.032	1.177	763.693	.110	2
JS181	1295.500	3764.000	752.929	763.706	10.777	.883	.034	1.412	763.763	.131	2
JS191	737.200	3764.000	752.544	763.774	11.230	1.096	.043	2.475	763.926	.236	2
JS201	998.100	3764.000	753.308	763.925	10.617	1.060	.041	2.103	764.046	.195	2
JS211	391.600	3764.000	753.929	764.097	10.168	.906	.031	1.192	764.147	.121	2
JS221	1191.200	3764.000	753.530	764.120	10.590	.916	.032	1.243	764.173	.128	2
JS231	487.800	3764.000	754.250	764.198	9.948	.995	.036	1.628	764.280	.166	2
JS241	557.800	3764.000	753.289	764.269	10.980	.870	.035	1.440	764.325	.131	2
JS251	436.900	1670.000	754.456	764.335	9.879	1.001	.036	1.695	764.422	.171	2
JS261	516.200	1670.000	754.069	764.440	10.371	.378	.032	1.269	764.449	.053	2
JS271	512.400	1670.000	754.052	764.447	10.395	.382	.032	1.210	764.456	.053	2
JS281	919.300	1670.000	754.375	764.440	10.065	.579	.035	1.578	764.467	.097	2
JS291	875.200	1670.000	754.417	764.479	10.063	.367	.030	1.068	764.487	.047	2
JS301	.000	1670.000	753.498	764.482	10.984	.439	.038	1.768	764.500	.074	2

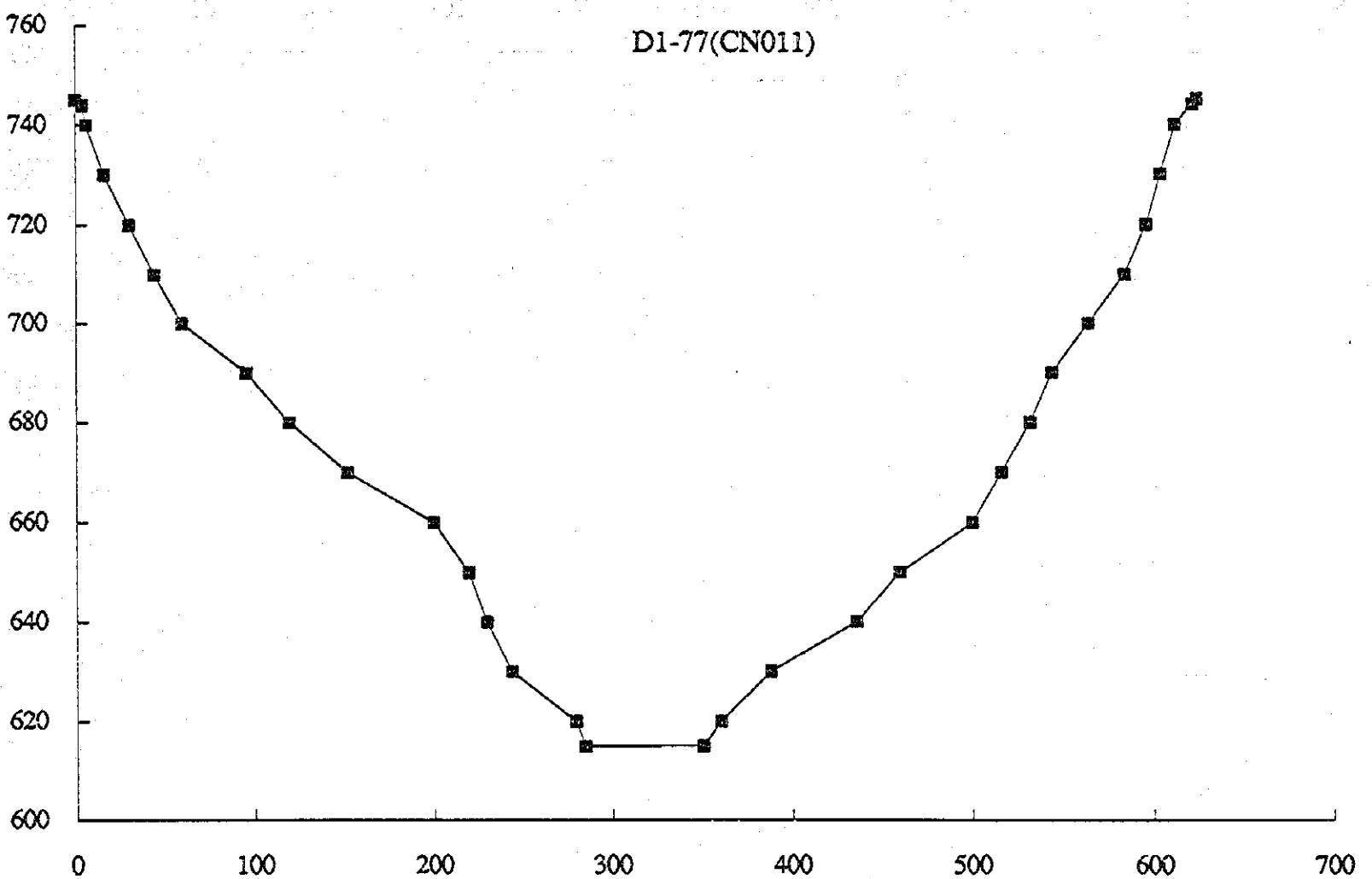
3. RIVER CROSS SECTION DATA

.1 Original River Cross sections

lthout Excavation (Original data)

Original Section name	Section No.	Distance (m)	Accumulated Distance (m)
D1-77	CN011	9230.000	0.000
D2-77	CN021	9230.000	9230.000
D3-77	CN031	12300.000	18460.000
D4-77	CN041	10000.000	30760.000
D5-77	CN051	11540.000	40760.000
PV8-78	CN061	2160.000	52300.000
PV7-78	CN071	3840.000	54460.000
PV6-78	CN081	400.000	58300.000
PV5A-78	CN091	1400.000	58700.000
PV5-78	CN101	1420.000	60100.000
PV4-78	CN111	100.000	61520.000
M1-73	CN121	3040.000	61620.000
PV3-78	ZN131	640.000	64660.000
PV2-78	CN141	500.000	65300.000
PV1-78	CN151	70.000	65800.000
BAT-1A	CN152	70.000	65870.000
BAT-1B	CN153	60.000	65940.000
BAT-2	CN154	50.000	66000.000
B3-84	CN161	260.000	66050.000
R5-94	CN171	1200.000	66310.000
R4-94	CN181	300.000	67510.000
M2-73	CN191	690.000	67810.000
UV8-78	CN201	1400.000	68500.000
UV7-78	CN211	1400.000	69900.000
UV6-78	CN221	1600.000	71300.000
M3-73	CN231	1400.000	72900.000
UV5A-78	CN241	300.000	74300.000
R3-94	CN251	300.000	74600.000
UV5-78	CN261	2170.000	74900.000
R2-94	CN271	230.000	77070.000
UV4-78	CN281	1200.000	77300.000
M4-73	CN291	1400.000	78500.000
UV3-78	CN301	1368.559	79900.000
01.GPF	JT011	999.116	81268.559
02.GPF	JT021	232.325	82267.675
UV2-78	CN311	762.845	82500.000
03.GPF	JT031	737.155	83262.845
R1-94	CN321	174.458	84000.000
04.GPF	JT041	725.542	84174.458
M5-73	CN331	308.594	84900.000
05.GPF	JT051	999.700	85208.594
06.GPF	JT061	91.706	86208.294
M6-73	CN341	736.650	86300.000
07.GPF	JT071	263.350	87036.650
M7-73	CN351	735.024	87300.000
08.GPF	JT081	988.412	88035.024
09.GPF	JT091	986.009	89023.436
10.GPF	JT101	890.555	90009.445
M8-73	CN361	95.809	90900.000
11.GPF	JT111	990.253	90995.809
12.GPF	JT121	955.756	91986.062
13.GPF	JT131	758.182	92941.818
UV-92	CN371	214.332	93700.000
14.GPF	JT141	185.668	93914.332
UV1-78	CN381	804.008	94100.000
15.GPF	JT151	295.992	94904.008
INFL-27.ENT	CF011	712.720	95200.000
16.GPF	JT161	990.062	95912.720
17.GPF	JT171	1005.718	96902.782

Original Section name	Section No.	Distance (m)	Accumulated Distance (m)
18.GPF	JT181	291.500	97908.500
FINFL-26.ENT	CF021	699.237	98200.000
19.GPF	JT191	998.171	98899.237
20.GPF	JT201	1002.592	99897.408
FINFL-25.ENT	CF031	3300.000	100900.000
FINFL-24.ENT	CF041	3500.000	104200.000
FINFL-23.ENT	CF051	9950.000	107700.000
FINFL-22.ENT	CF061	4650.000	117650.000
FINFL-21.ENT	CF071	3900.000	122300.000
FINFL-20.ENT	CF081	5000.000	126200.000
FINFL-19.ENT	CF091	2000.000	131200.000
FINFL-18.ENT	CF101	2000.000	133200.000
FINFL-17.ENT	CF111	5750.000	135200.000
FINFL-16.ENT	CF121	3250.000	140950.000
FINFL-15.ENT	CF131	3500.000	144200.000
FINFL-14.ENT	CF141	2250.000	147700.000
FINFL-13.ENT	CF151	3250.000	149950.000
FINFL-12.ENT	CF161	5050.000	153200.000
FINFL-11.ENT	CF171	3050.000	158250.000
FINFL-10.ENT	CF181	2950.000	161300.000
FINFL-09.ENT	CF191	4550.000	164250.000
FINFL-08.ENT	CF201	4400.000	168800.000
FINFL-07.ENT	CF211	4850.000	173200.000
FINFL-06.ENT	CF221	1700.000	178050.000
FINFL-05.ENT	CF231	3950.000	179750.000
FINFL-04.ENT	CF241	2225.000	183700.000
FINFL-03.ENT	CF251	4775.000	185925.000
FINFL-02.ENT	CF261	7000.004	190700.000
FINFL-01.ENT	CF271	1805.800	197700.004
S-02.GPF	JS021	1552.490	199505.804
S-03.GPF	JS031	1762.610	201058.294
S-04.GPF	JS041	2644.140	202820.904
S-05.GPF	JS051	2191.590	205465.044
S-06.GPF	JS061	2388.090	207656.634
S-07.GPF	JS071	3521.930	210044.724
S-08.GPF	JS081	1817.230	213566.654
S-09.GPF	JS091	2028.390	215383.884
S-10.GPF	JS101	2469.990	217412.274
S-11.GPF	JS111	1076.570	219882.264
S-12.GPF	JS121	2390.910	220958.834
S-13.GPF	JS131	2077.590	223349.744
S-14.GPF	JS141	2319.950	225427.334
S-15.GPF	JS151	1916.490	227747.284
S-16.GPF	JS161	2866.920	229663.774
S-17.GPF	JS171	1134.620	232530.694
S-18.GPF	JS181	1295.530	233665.314
S-19.GPF	JS191	737.220	234960.844
S-20.GPF	JS201	998.120	235698.064
S-21.GPF	JS211	391.560	236696.184
S-22.GPF	JS221	1191.210	237087.744
S-23.GPF	JS231	487.750	238278.954
S-24.GPF	JS241	557.770	238766.704
S-25.GPF	JS251	436.940	239324.474
S-26.GPF	JS261	516.210	239761.414
S-27.GPF	JS271	512.410	240277.624
S-28.GPF	JS281	919.310	240790.034
S-29.GPF	JS291	875.150	241709.344
S-30.GPF	JS301	0.000	242584.494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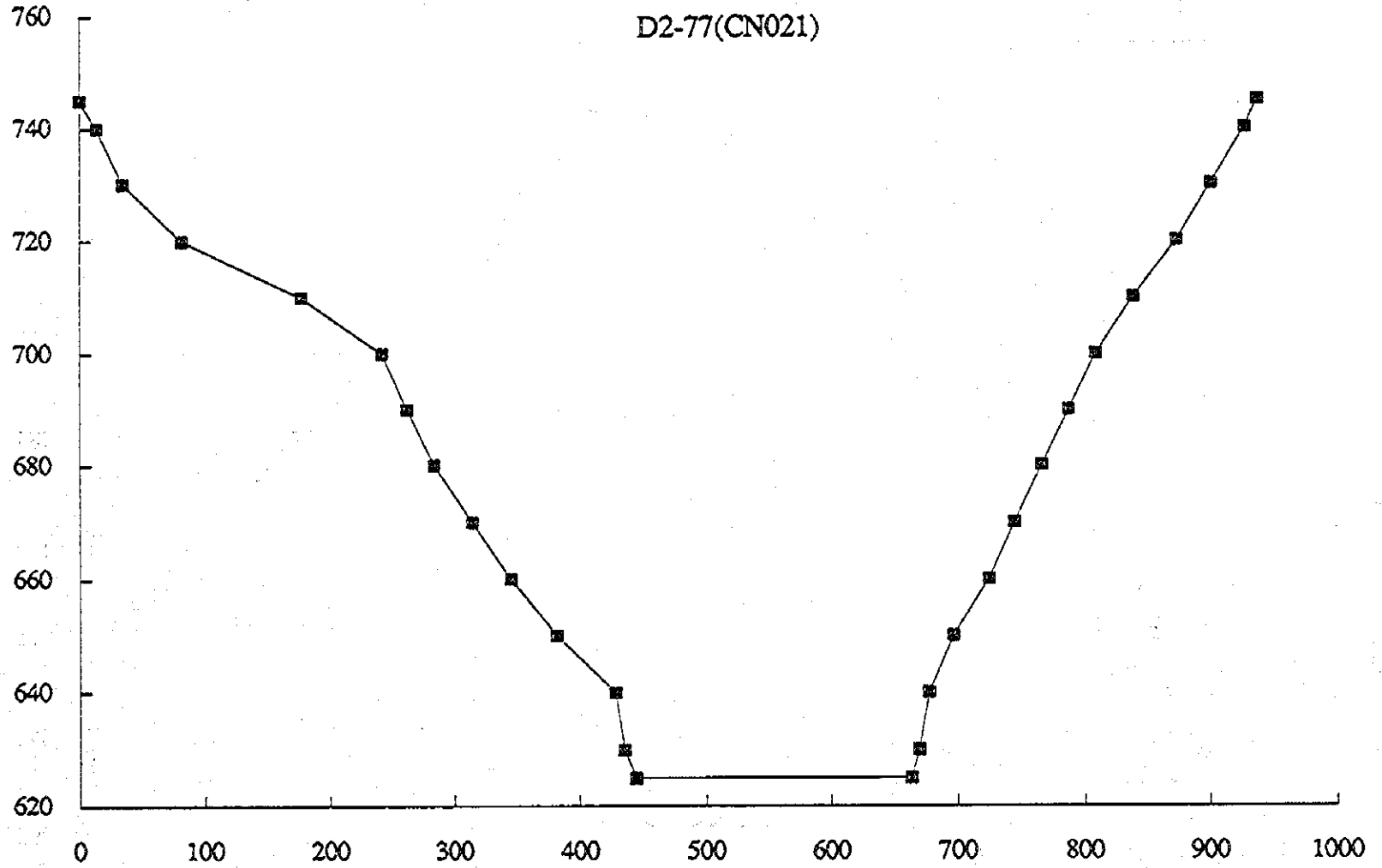
D2-77(CN021)
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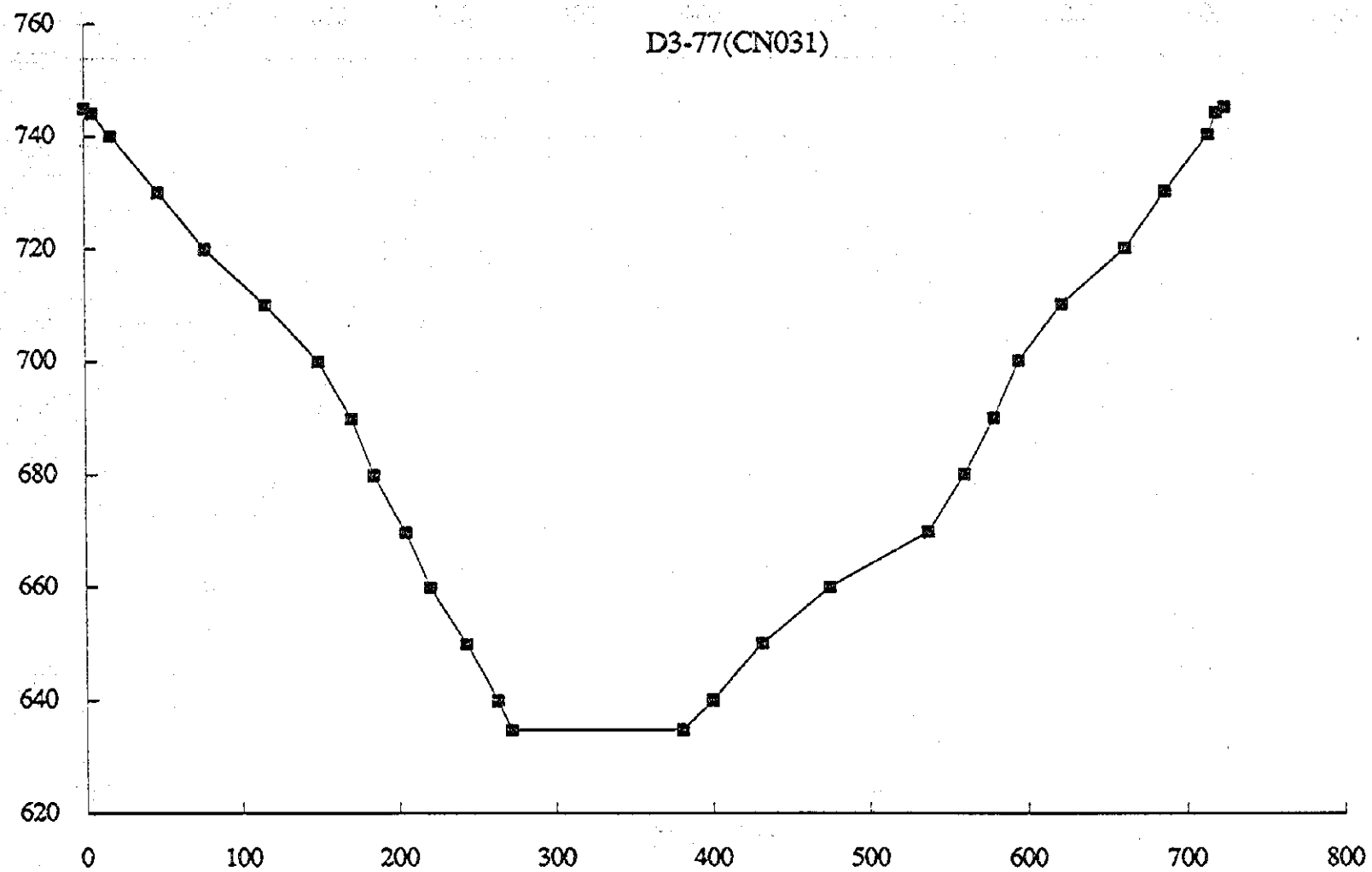
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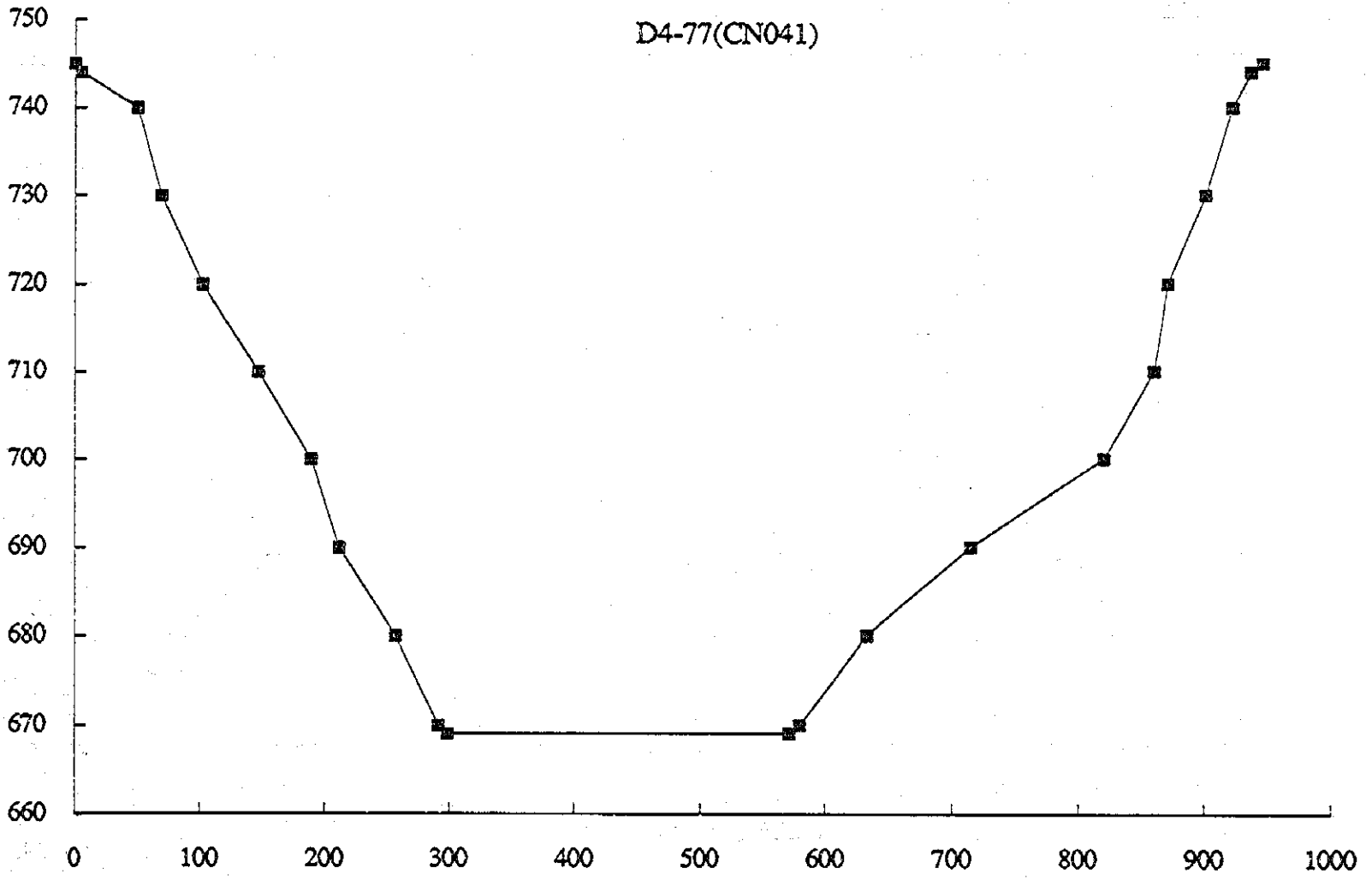
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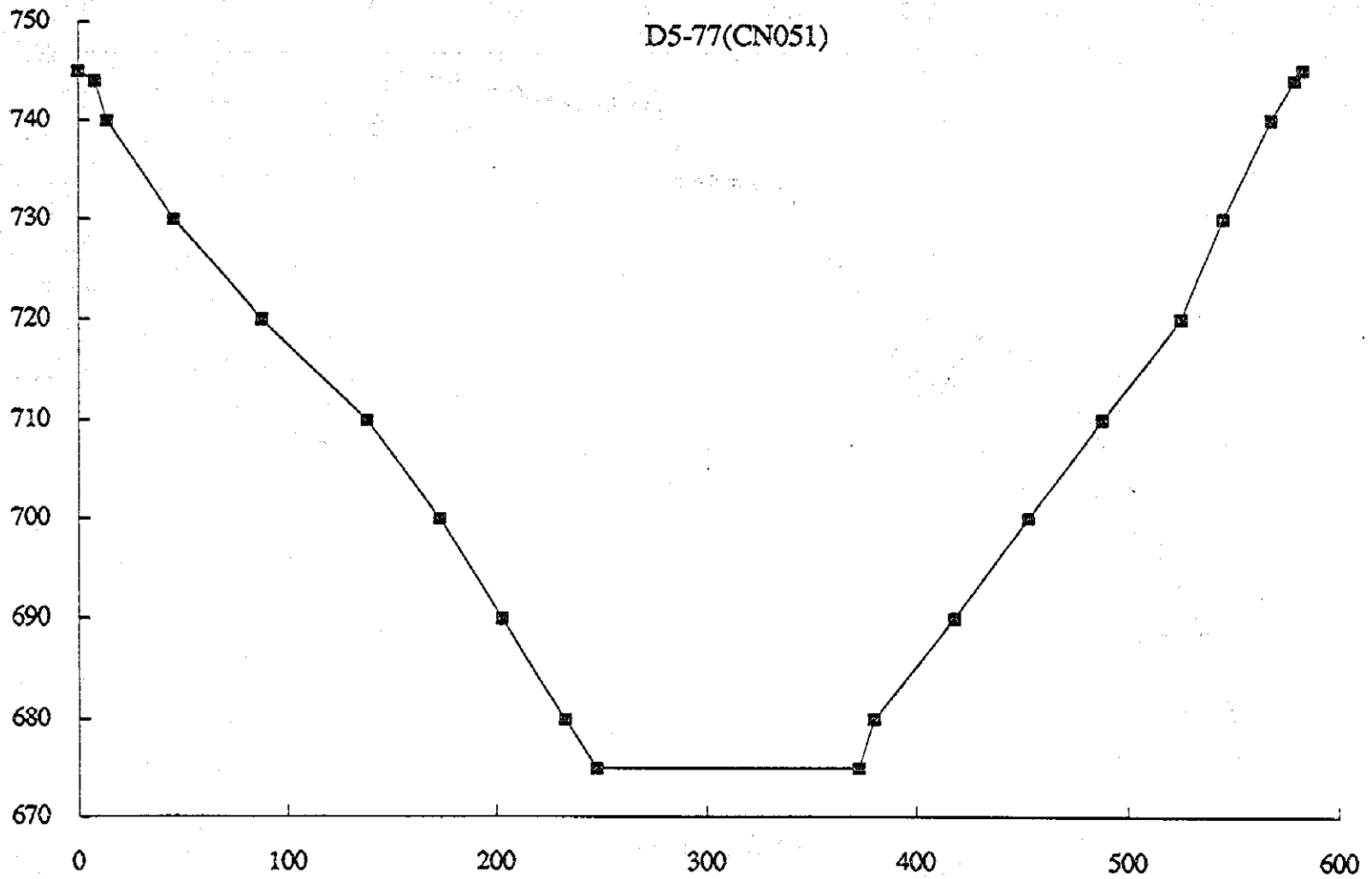
D5-77(CN051)
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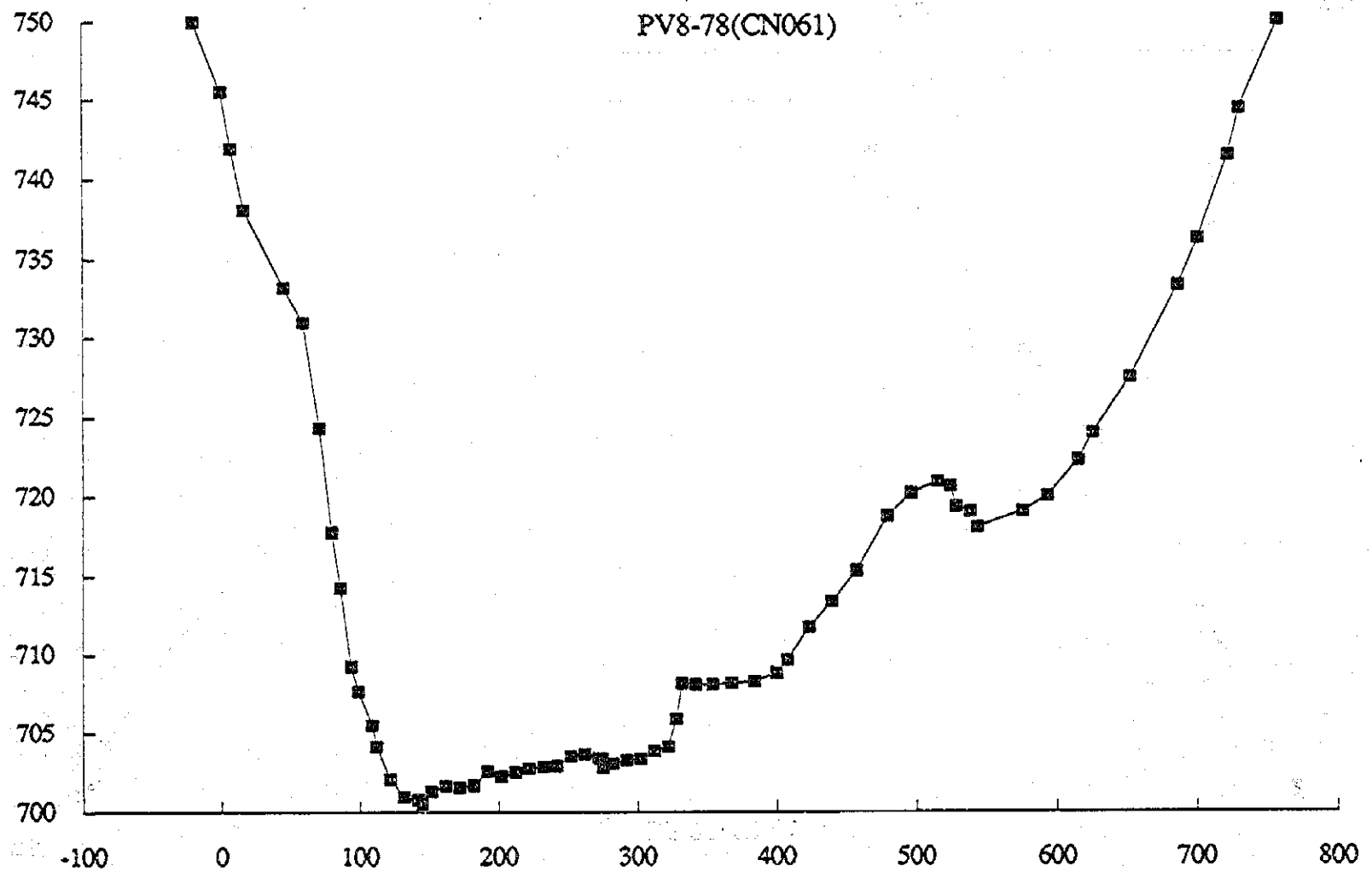
PV8-78(CN061)
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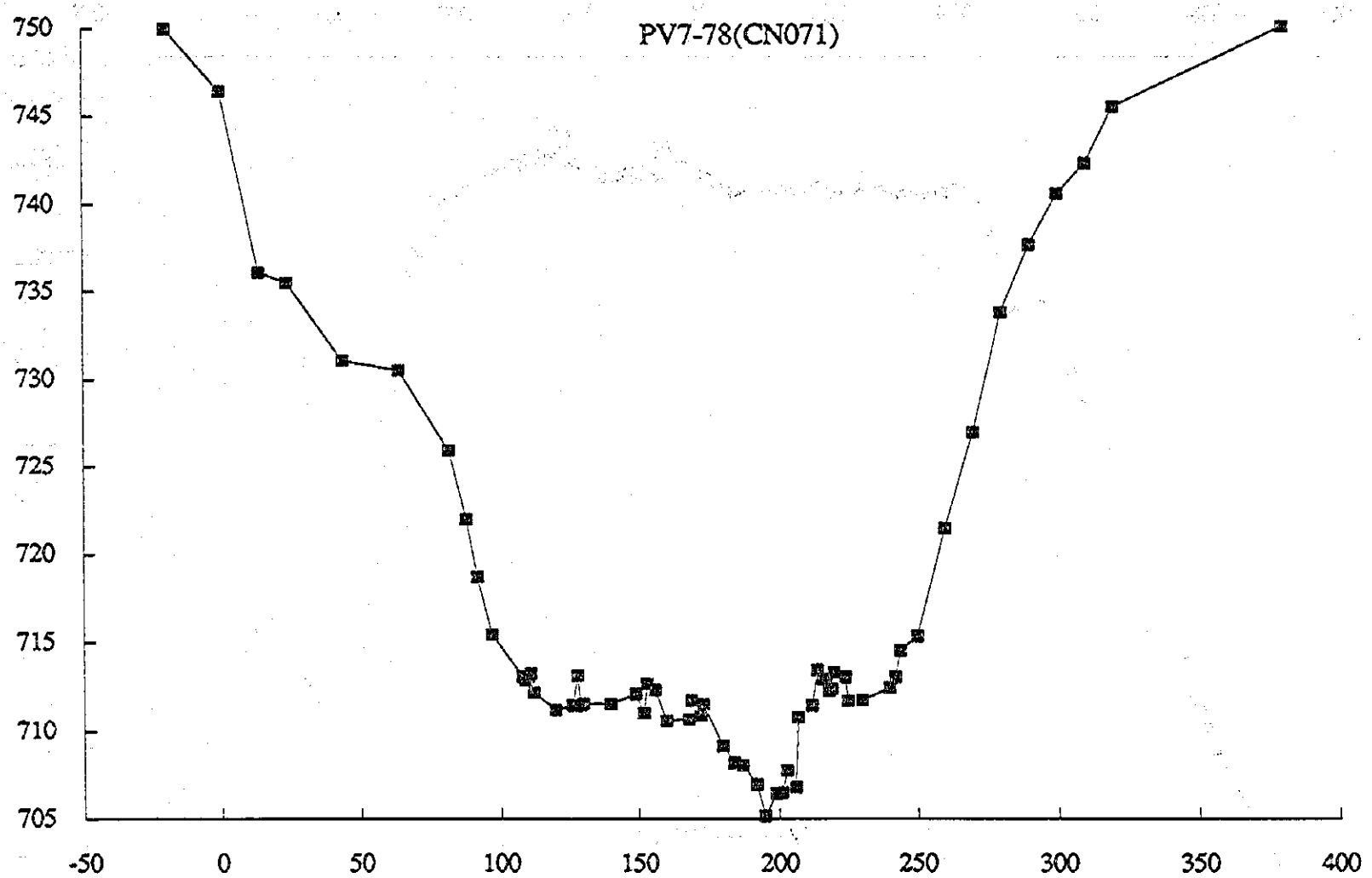
PV7-78(CN071)
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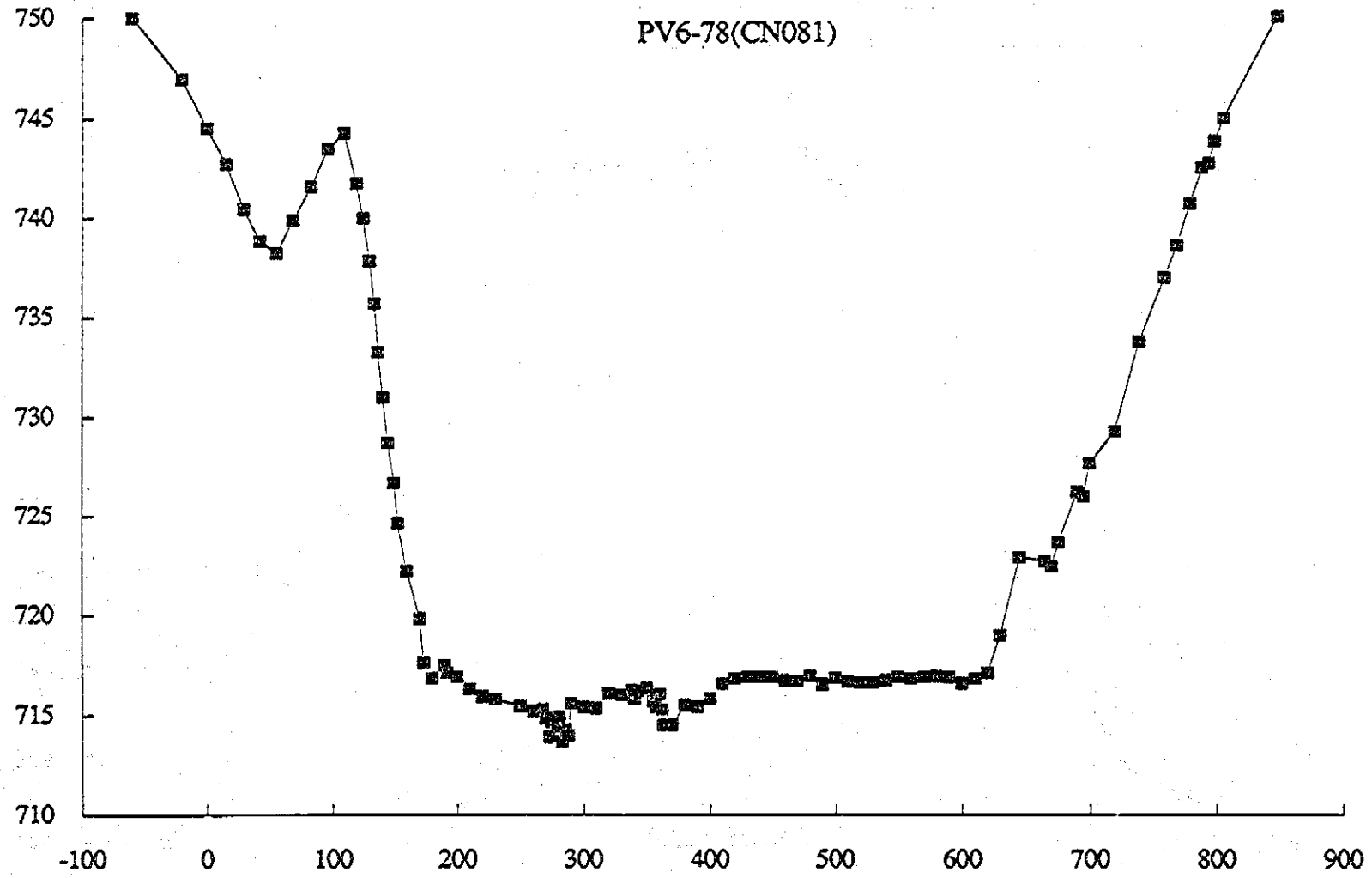
PV6-78(CN081)
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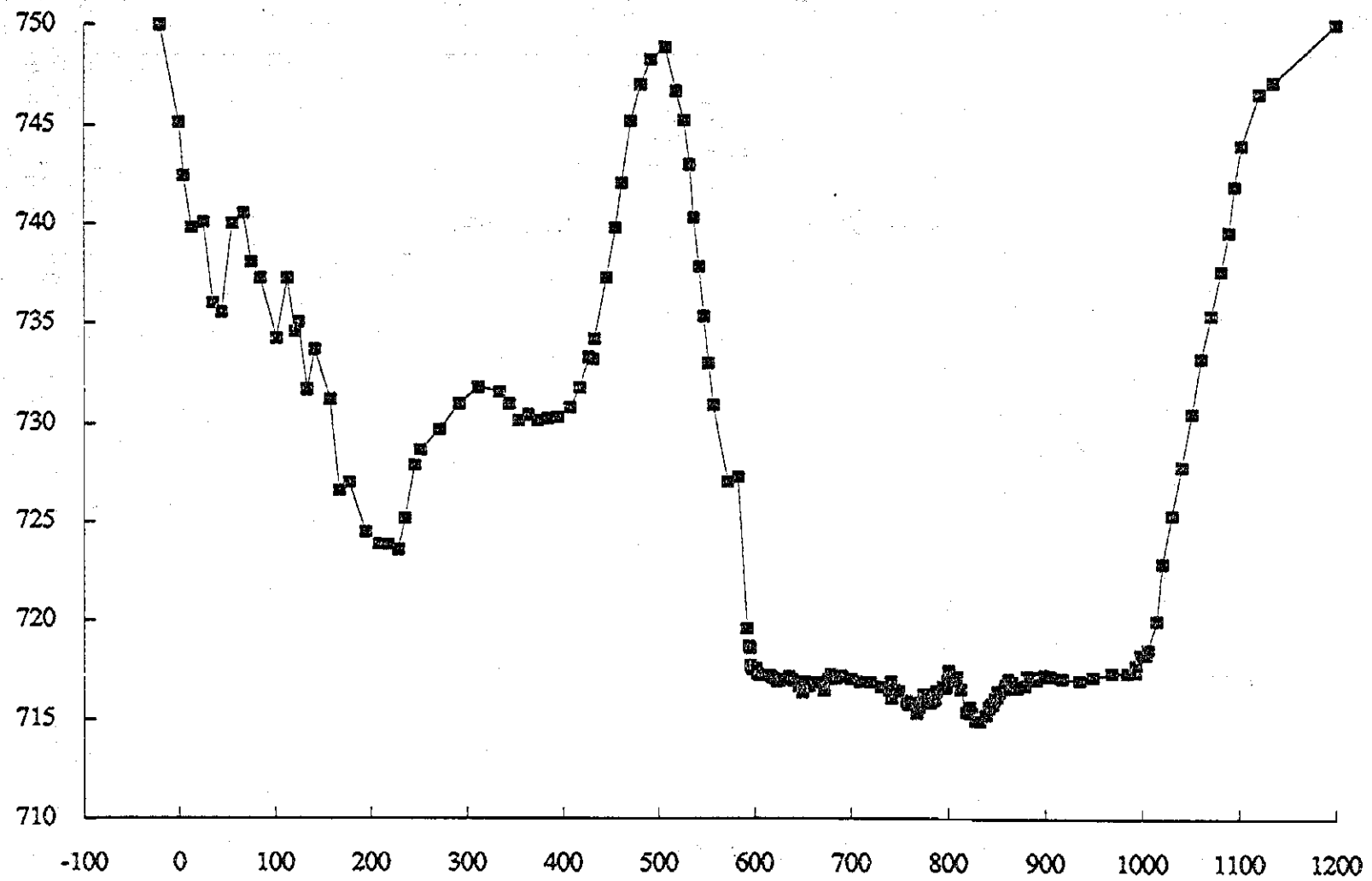
PV5A-78(CN091)
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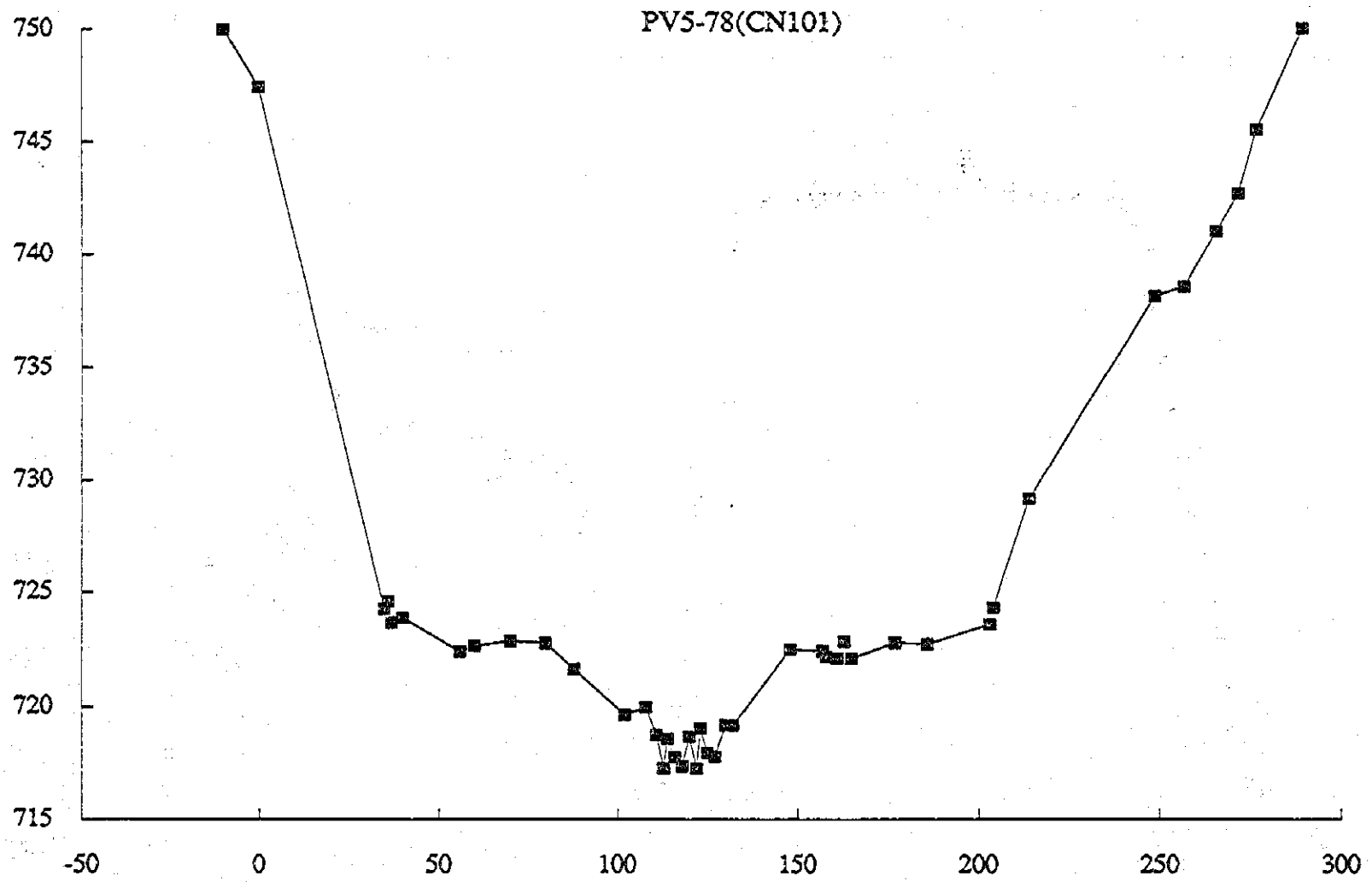
PV5-78(CN101)
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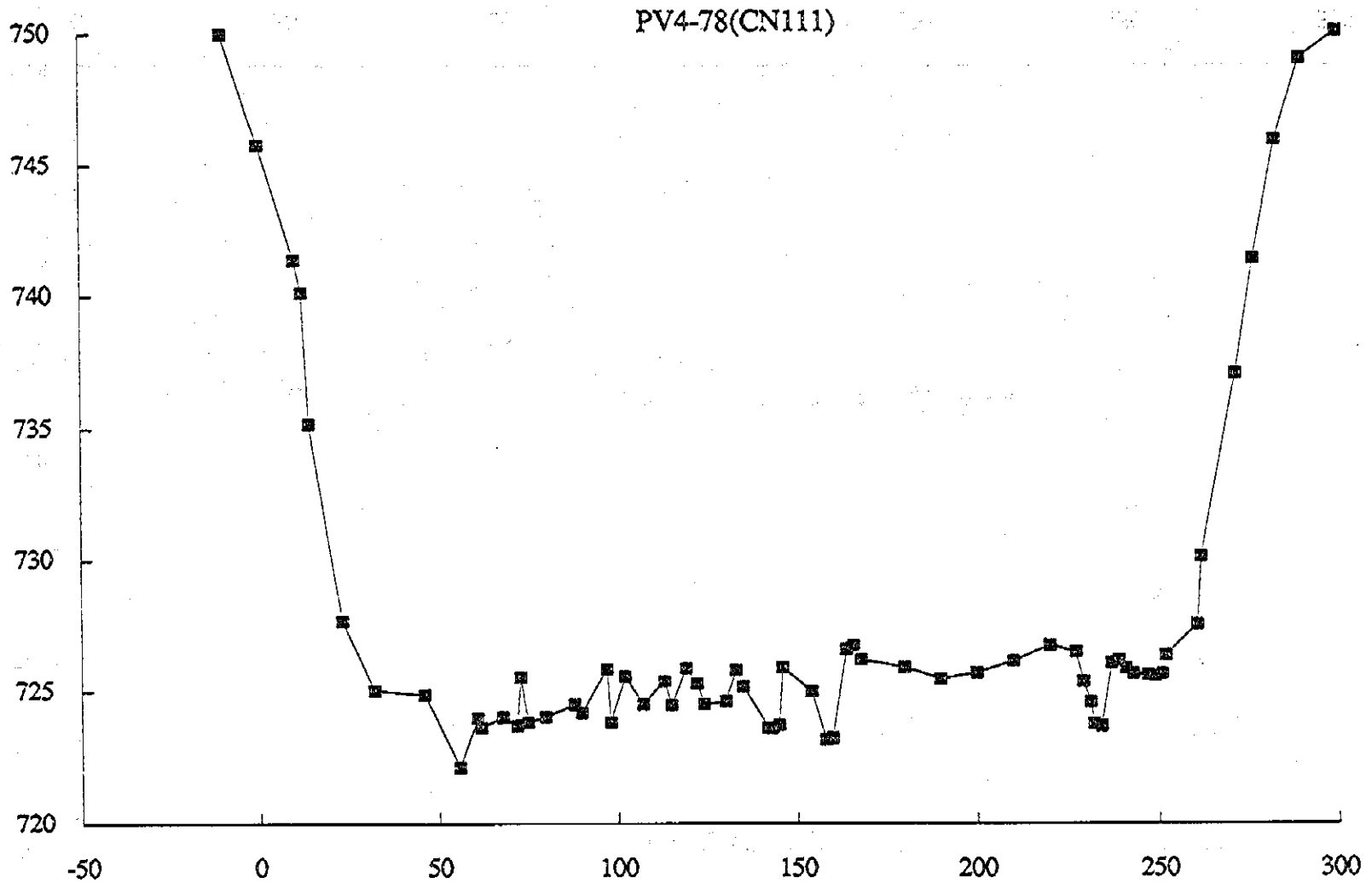
PV4-78(CN111)
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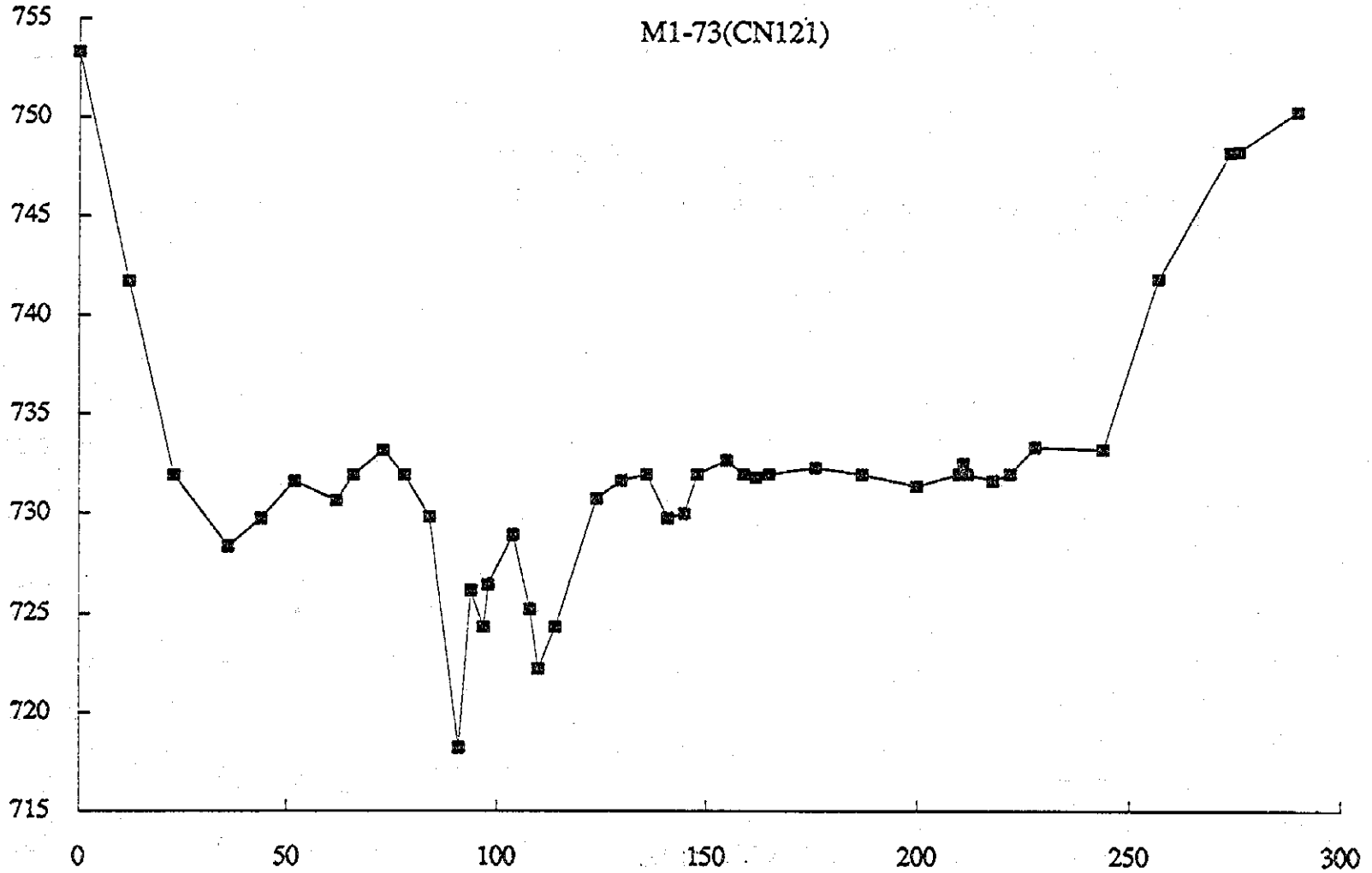
M1-73(CN121)
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740
735
730
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720
715
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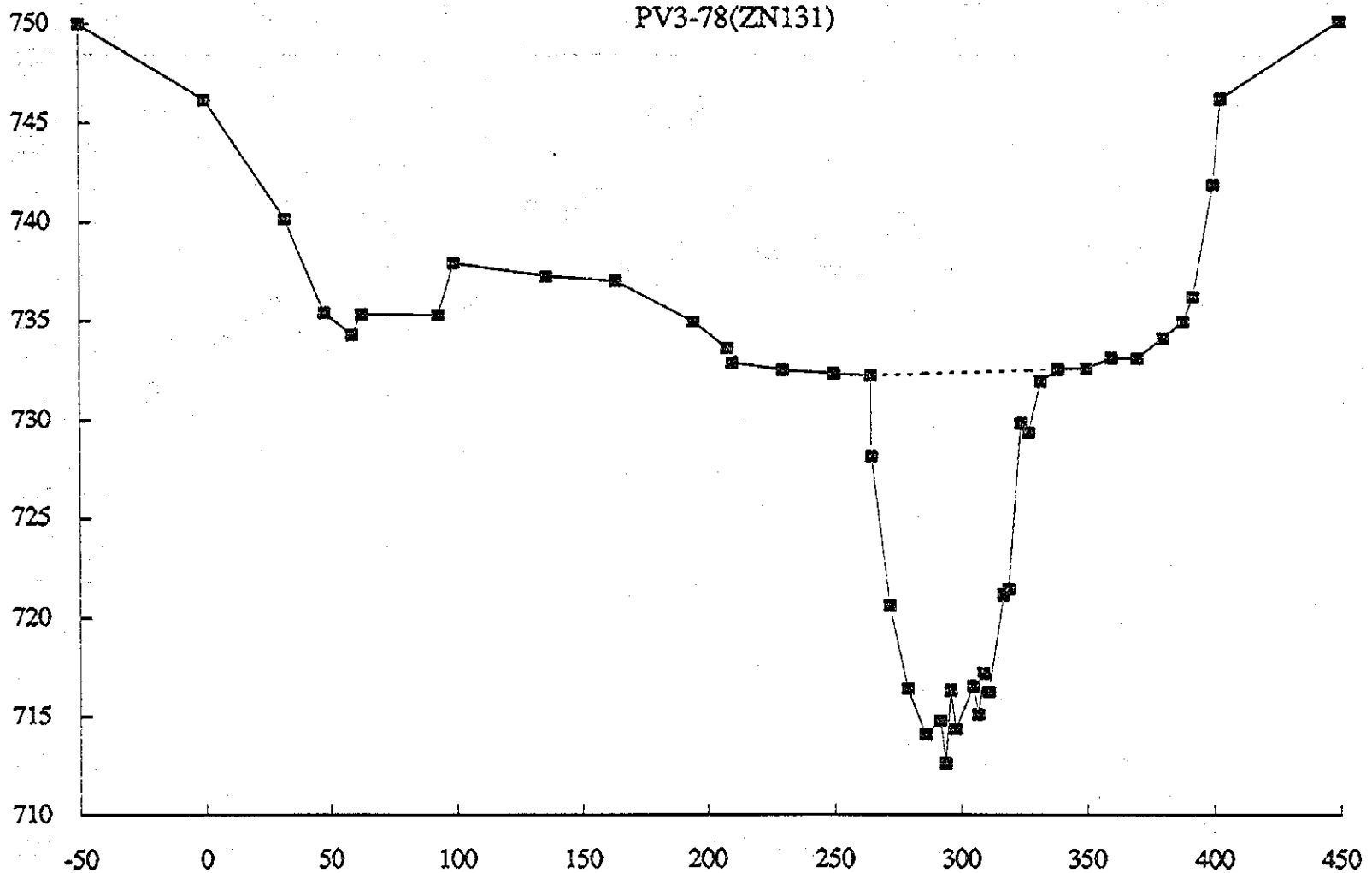
250
300


PV3-78(ZN131)
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720
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710
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100
150
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300
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400
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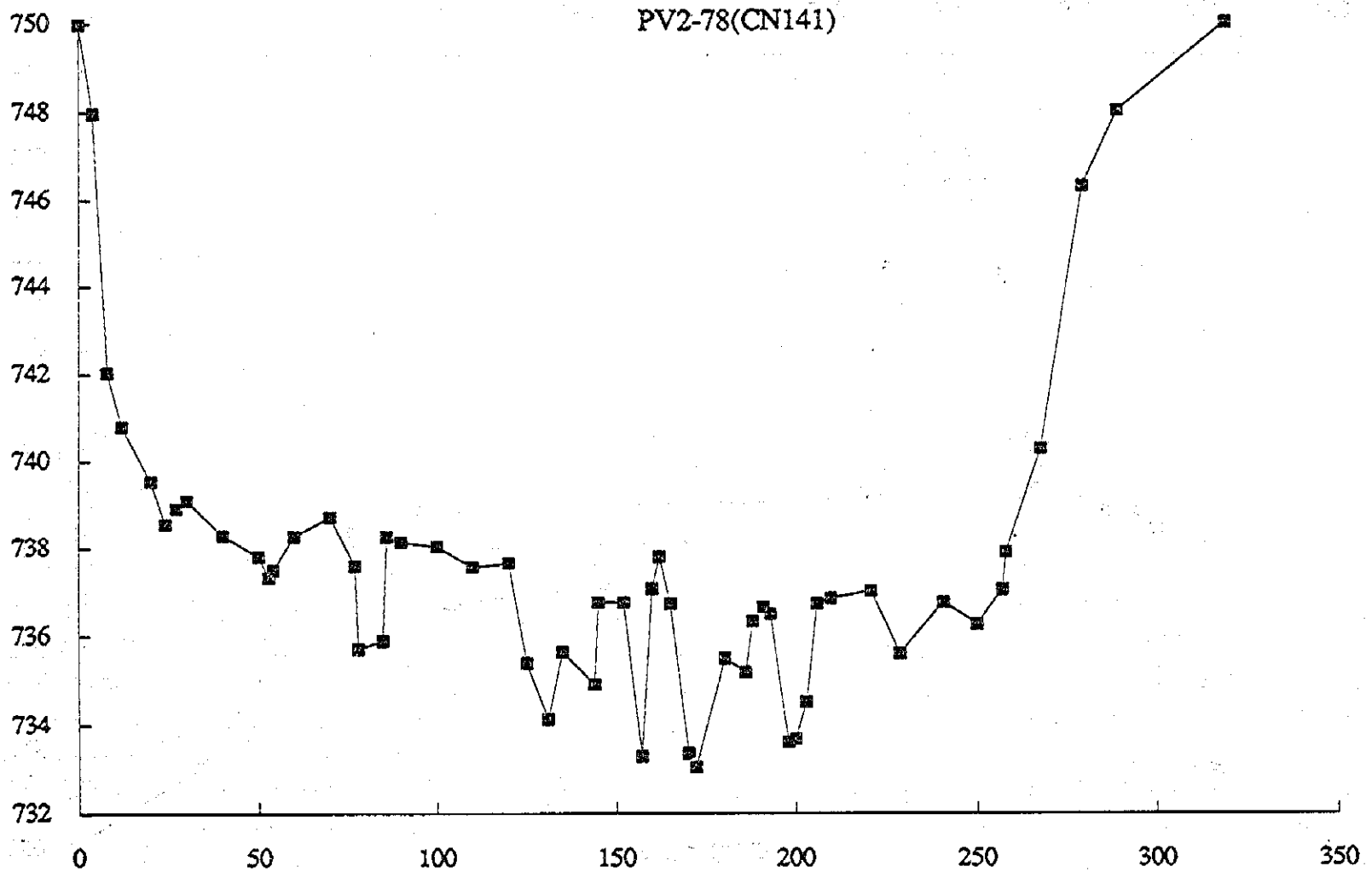
PV2-78(CN141)
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744
742
740
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734
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200
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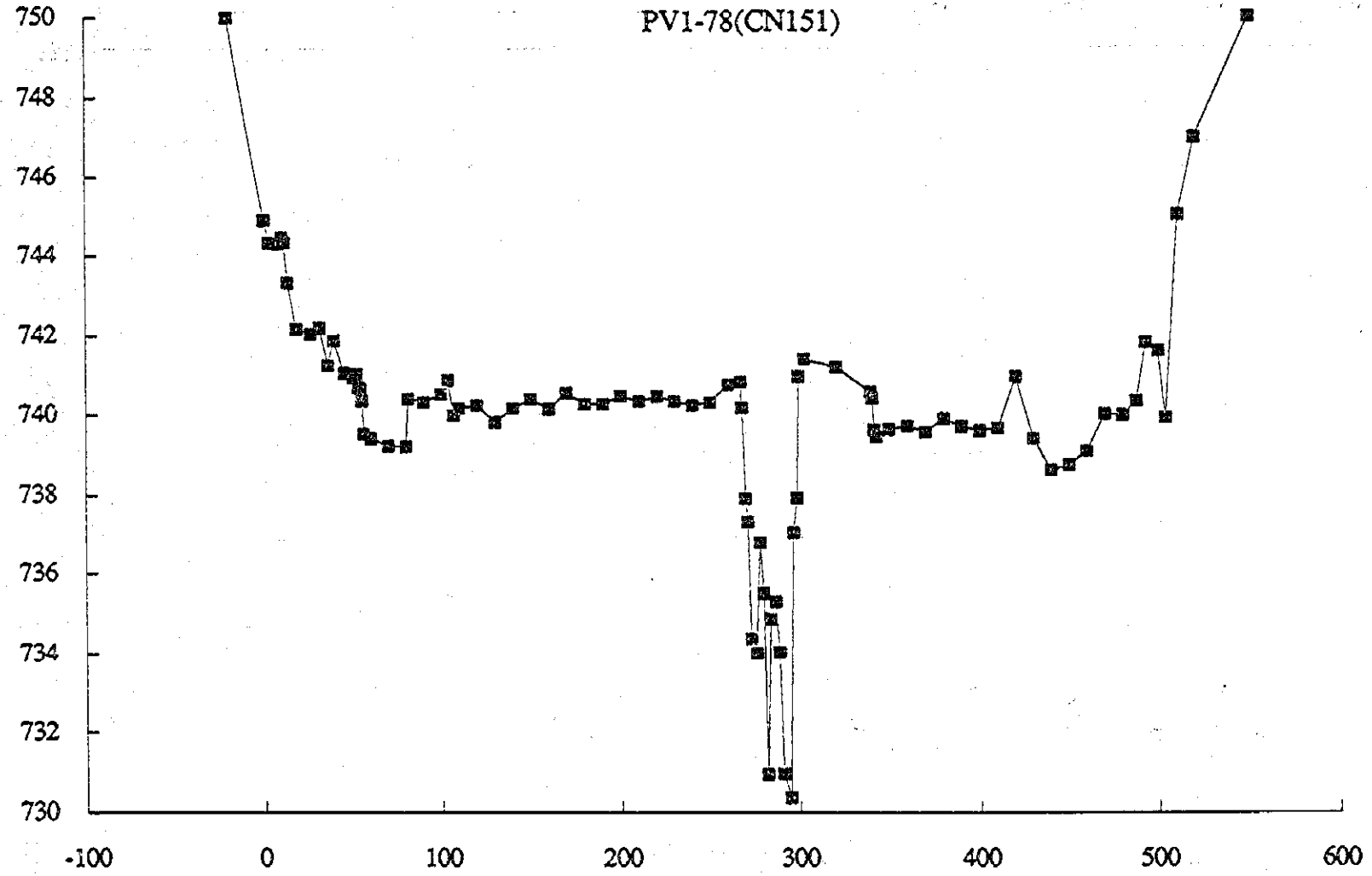
300
350


PV1-78(CN151)
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746
744
742
740
738
736
734
732
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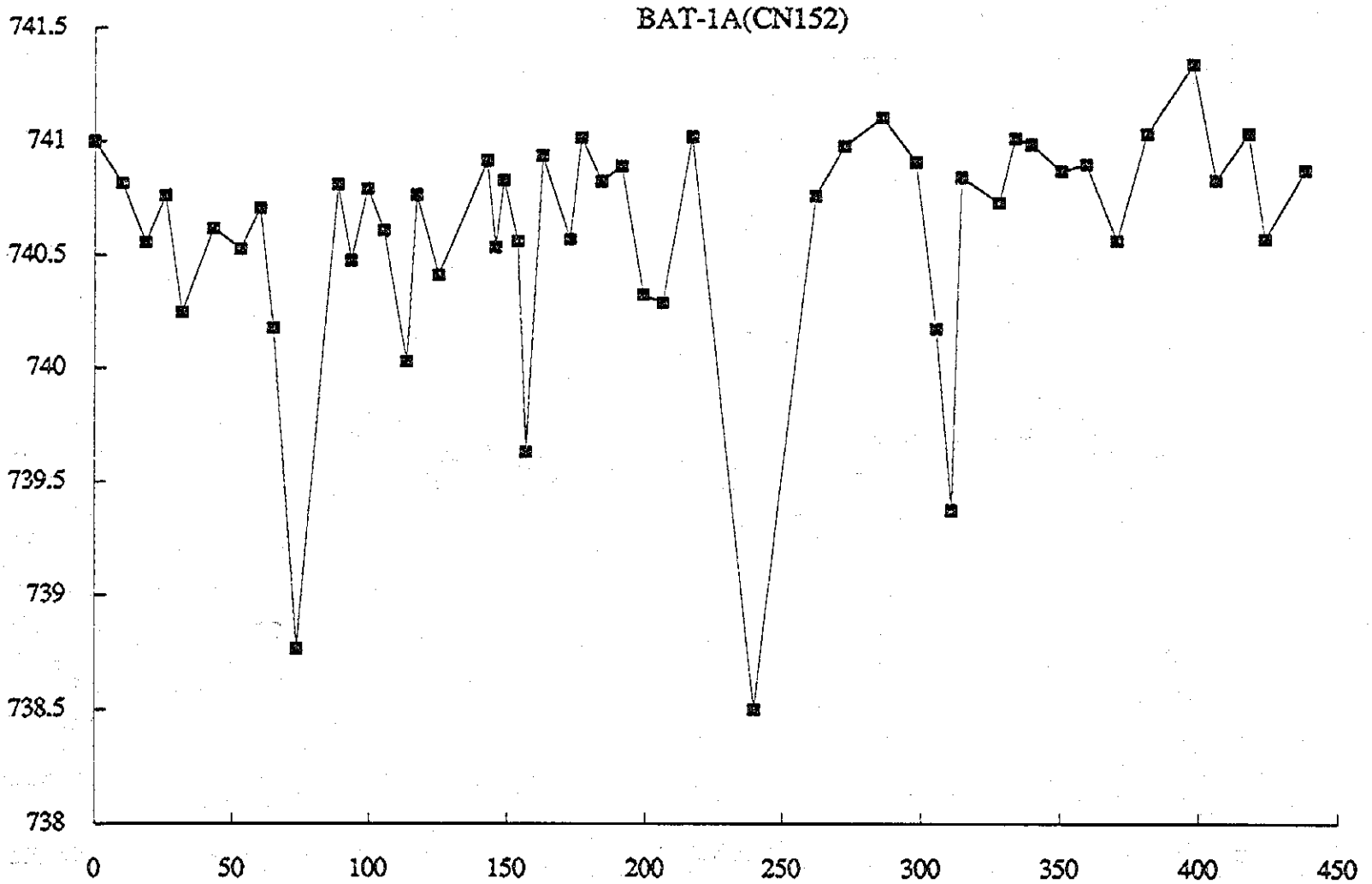
0
100
200
300
400
500
600


BAT-1A(CN152)
741.5
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739.5
739
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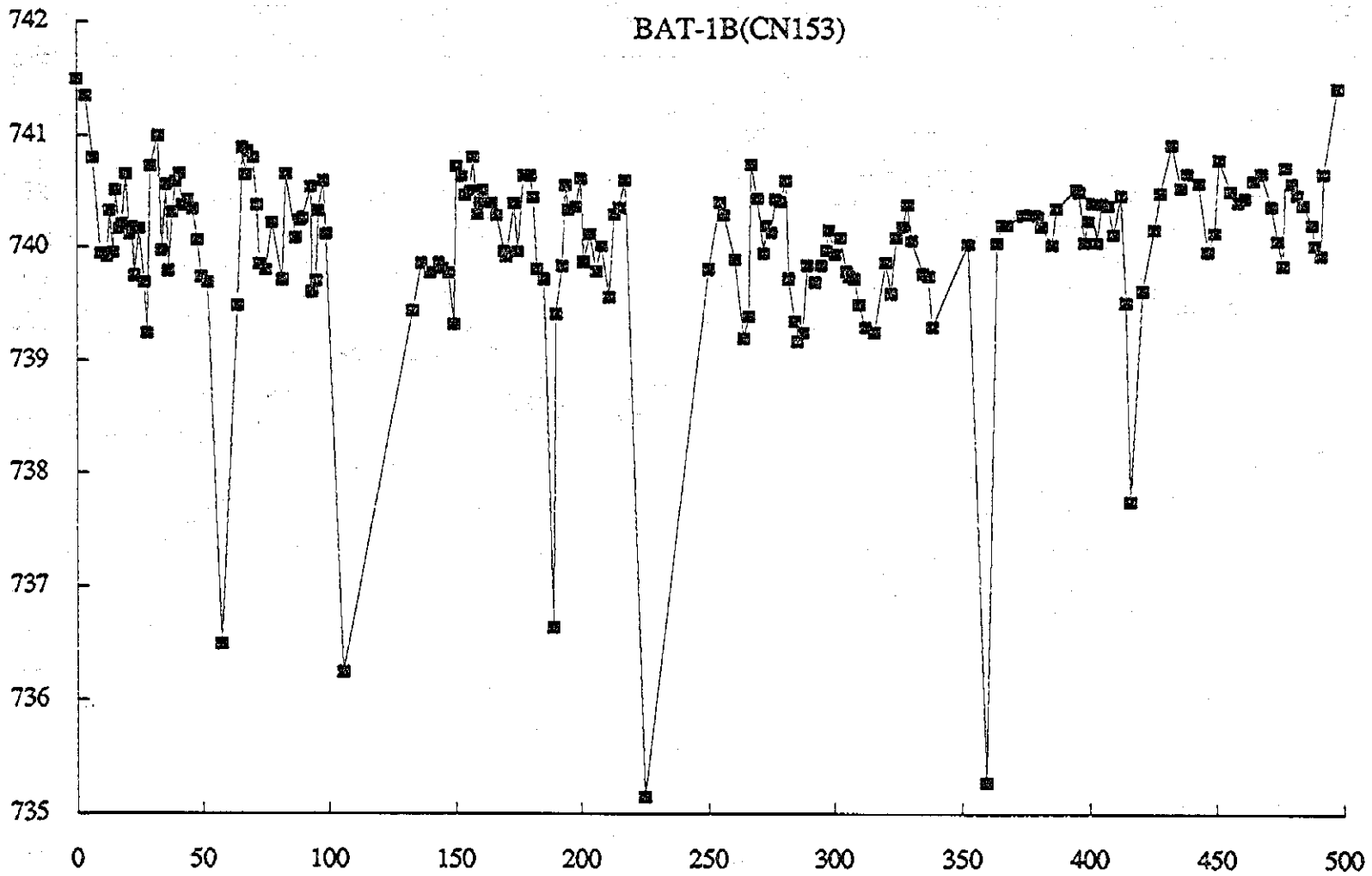
BAT-1B(CN153)
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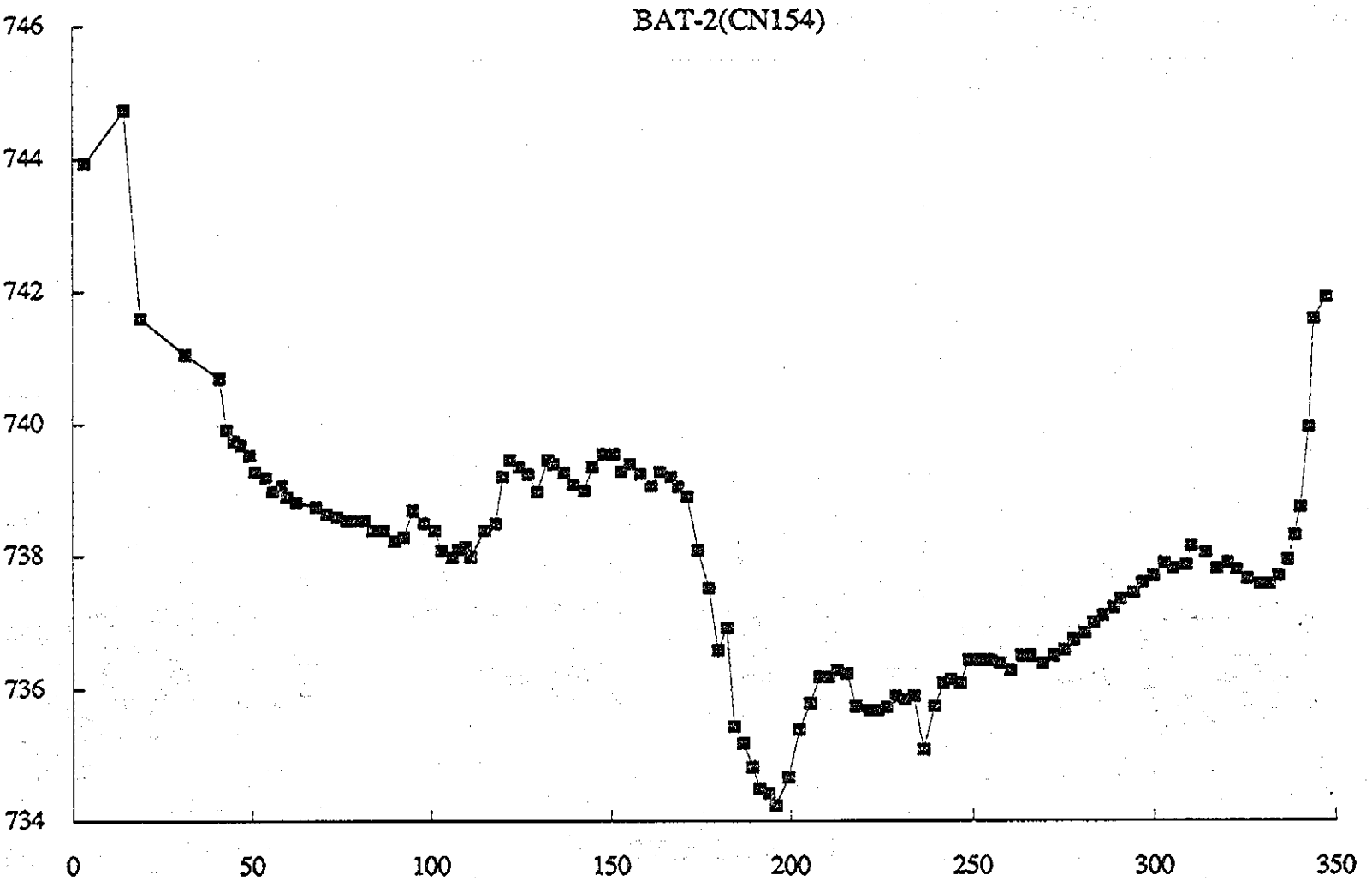
BAT-2(CN154)
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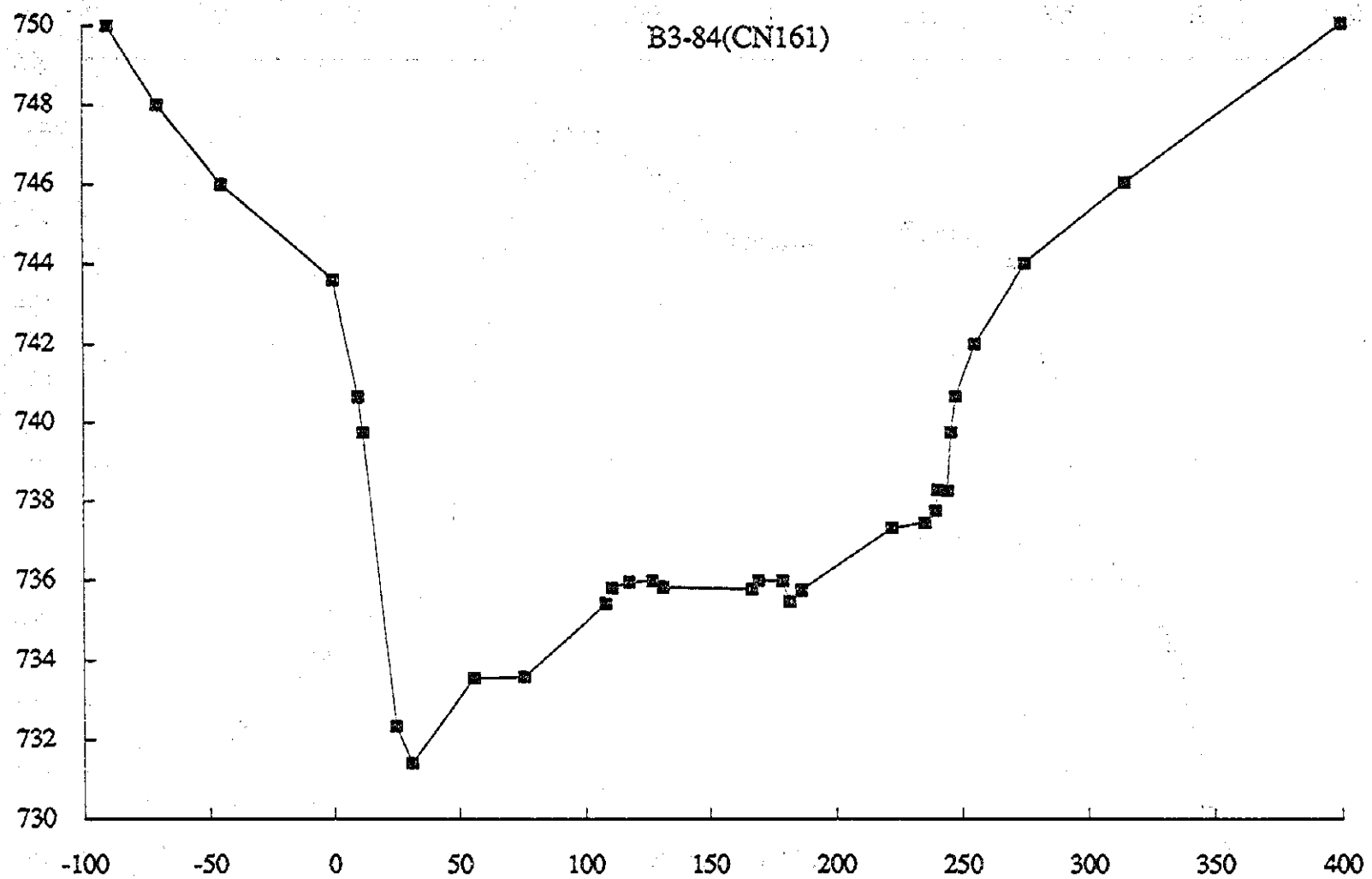
B3-84(CN161)
750
748
746
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732
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100
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250
300
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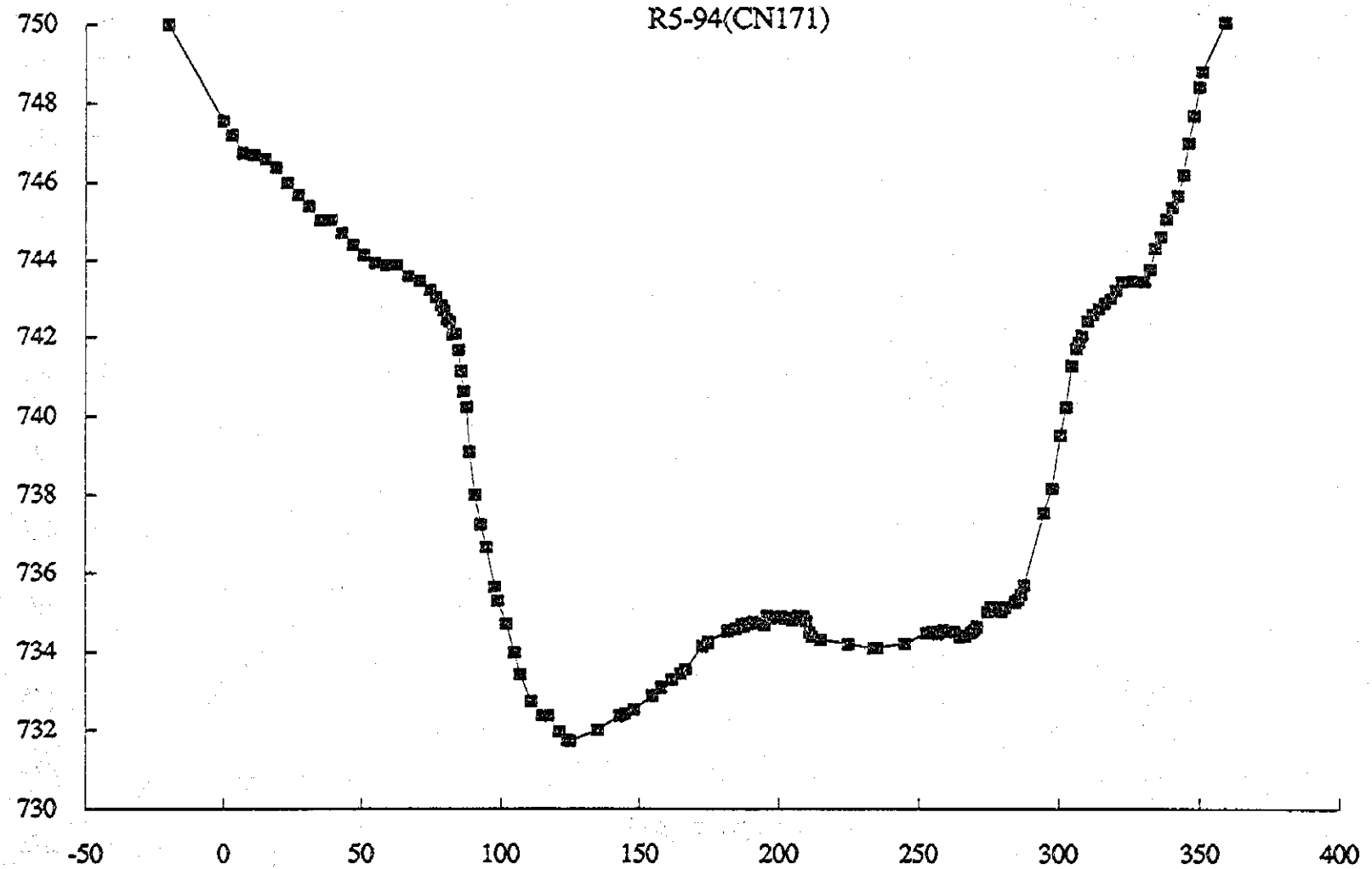
R5-94(CN171)
750
748
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740
738
736
734
732
730
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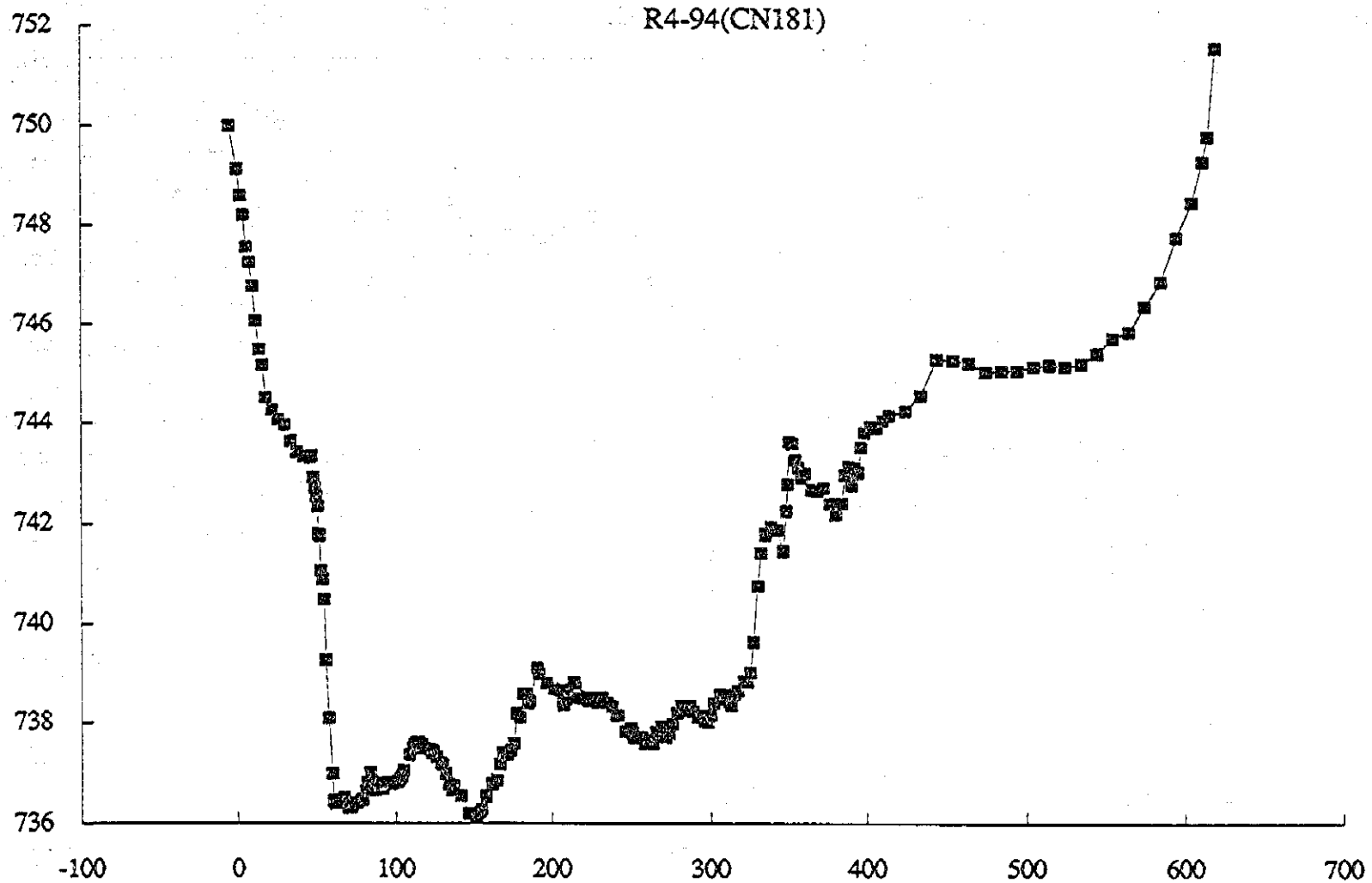
350
400


R4-94(CN181)
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750
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746
744
742
740
738
736
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0
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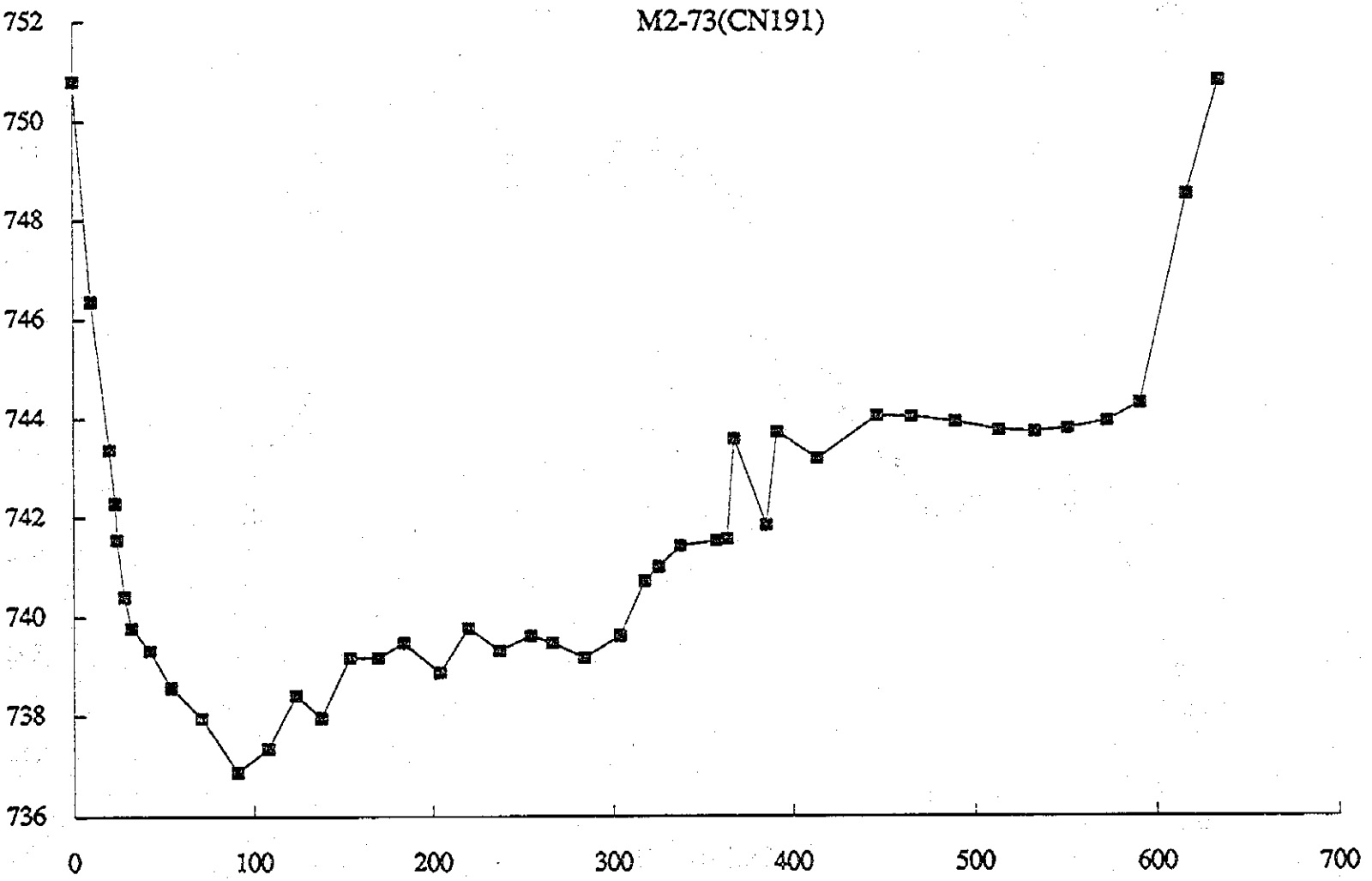
400
500
600
700


M2-73(CN191)
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744
742
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738
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600
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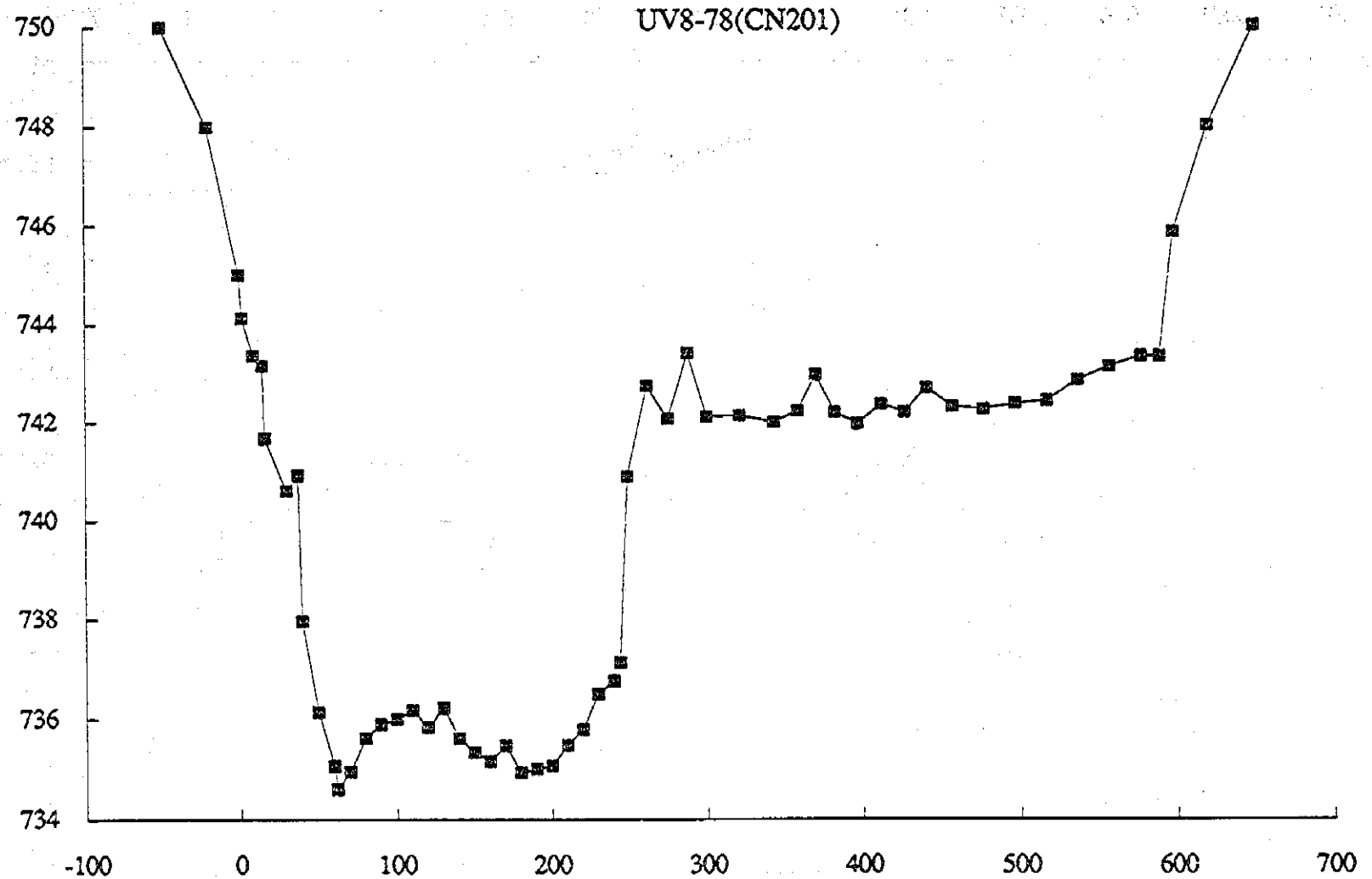
UV8-78(CN201)
750
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740
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736
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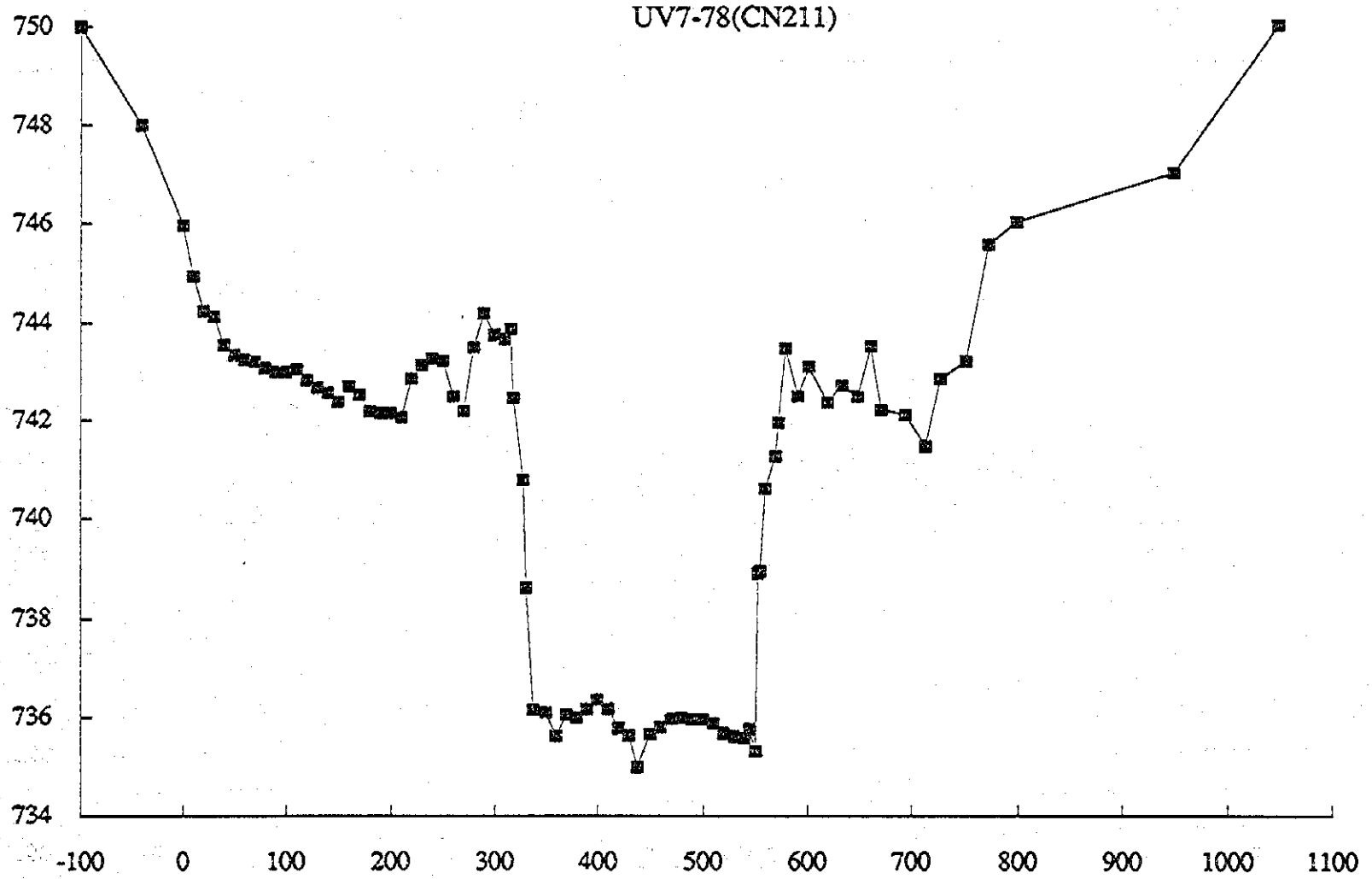
UV7-78(CN211)
750
748
746
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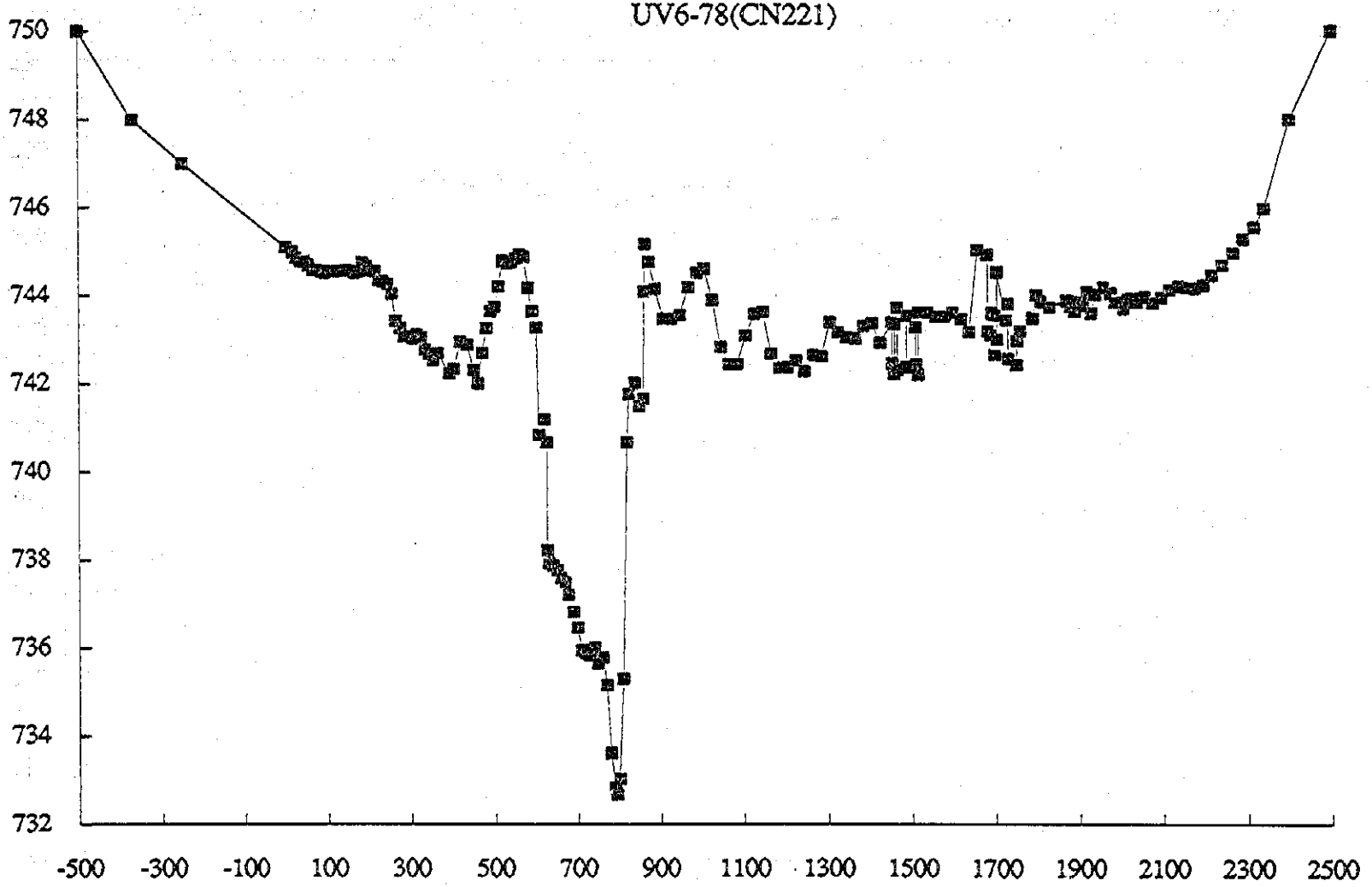
UV6-78(CN221)
750
748
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744
742
740
738
736
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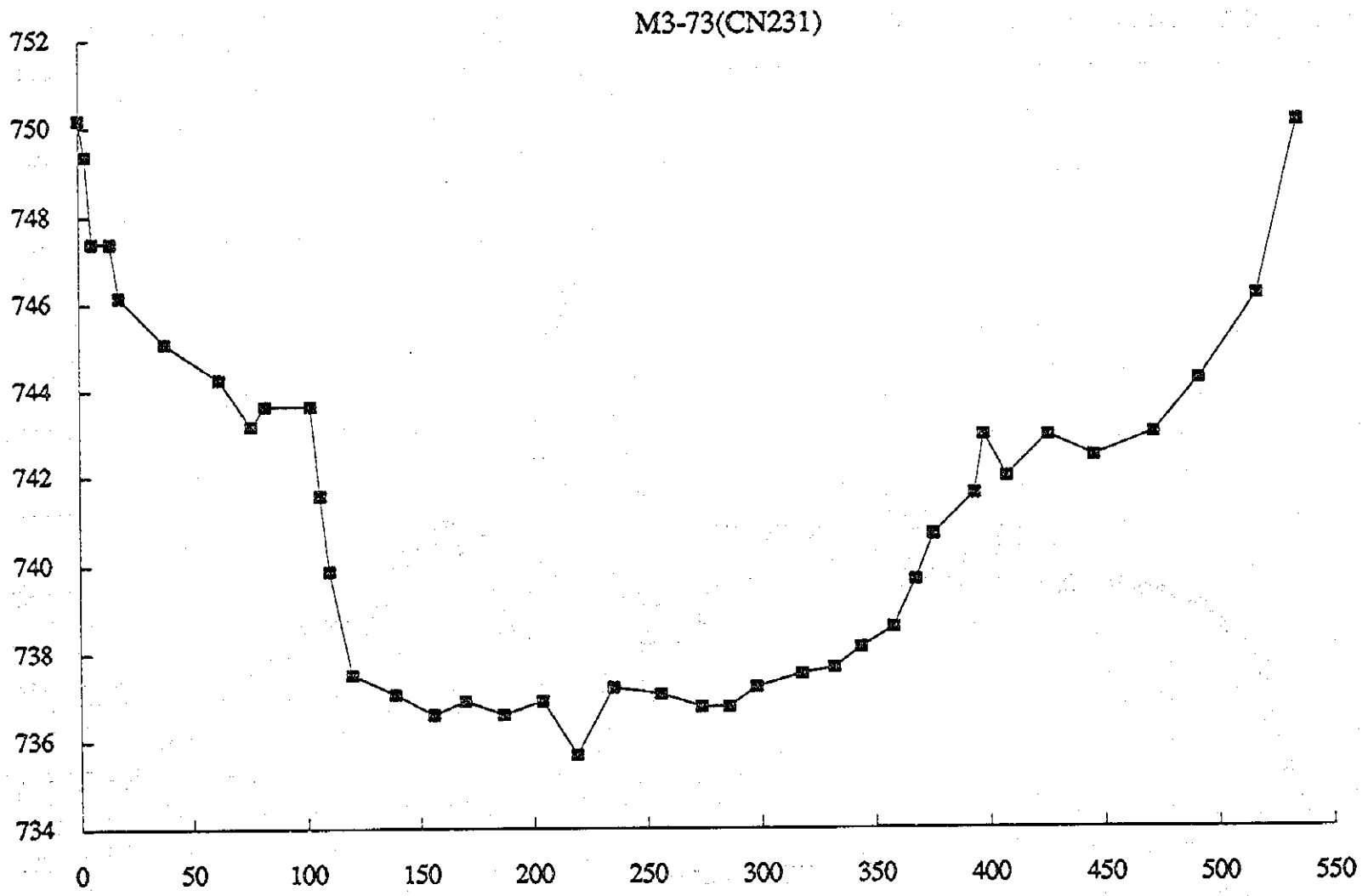
M3-73(CN231)
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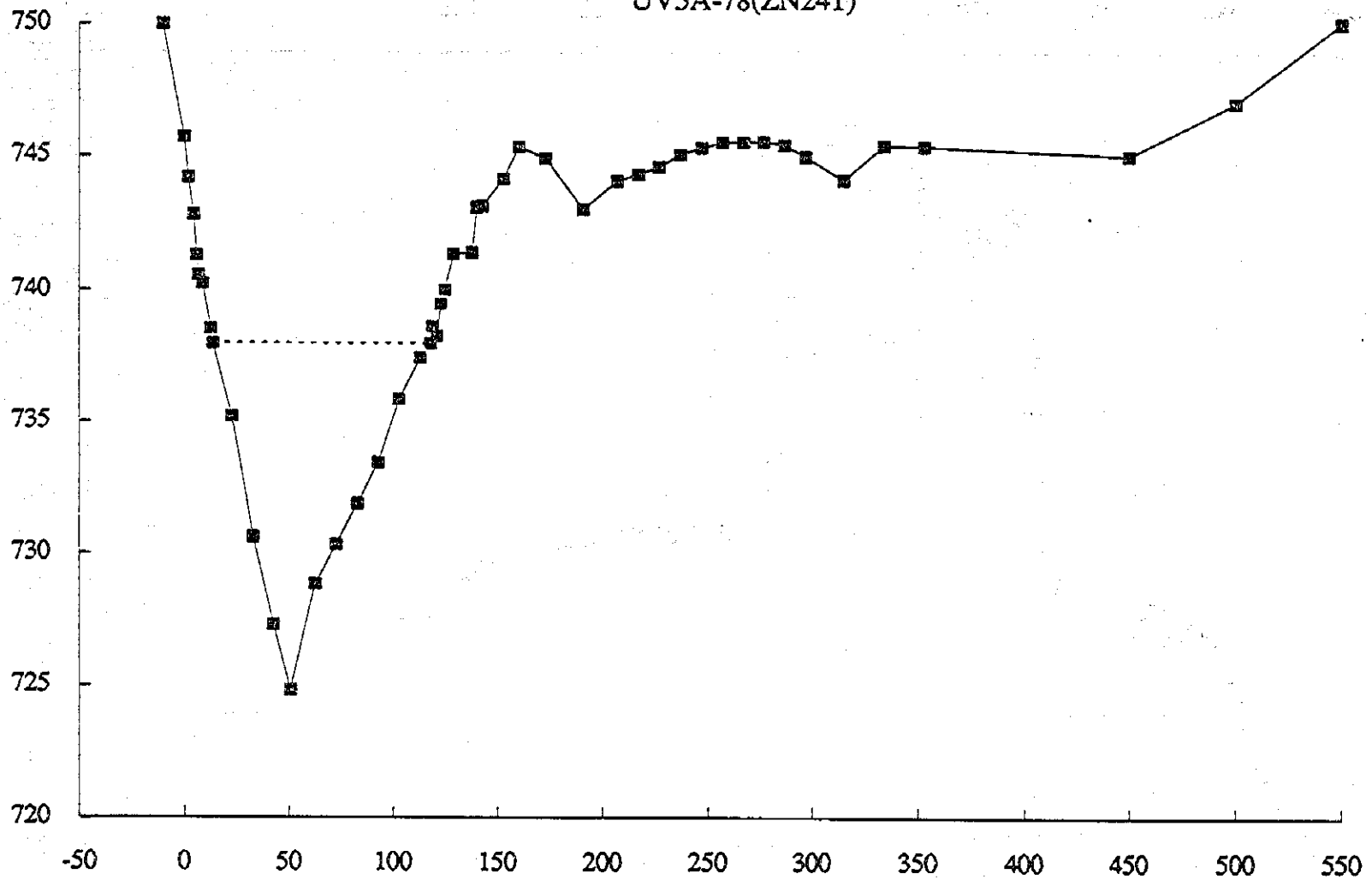
UV5A-78(ZN241)
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720
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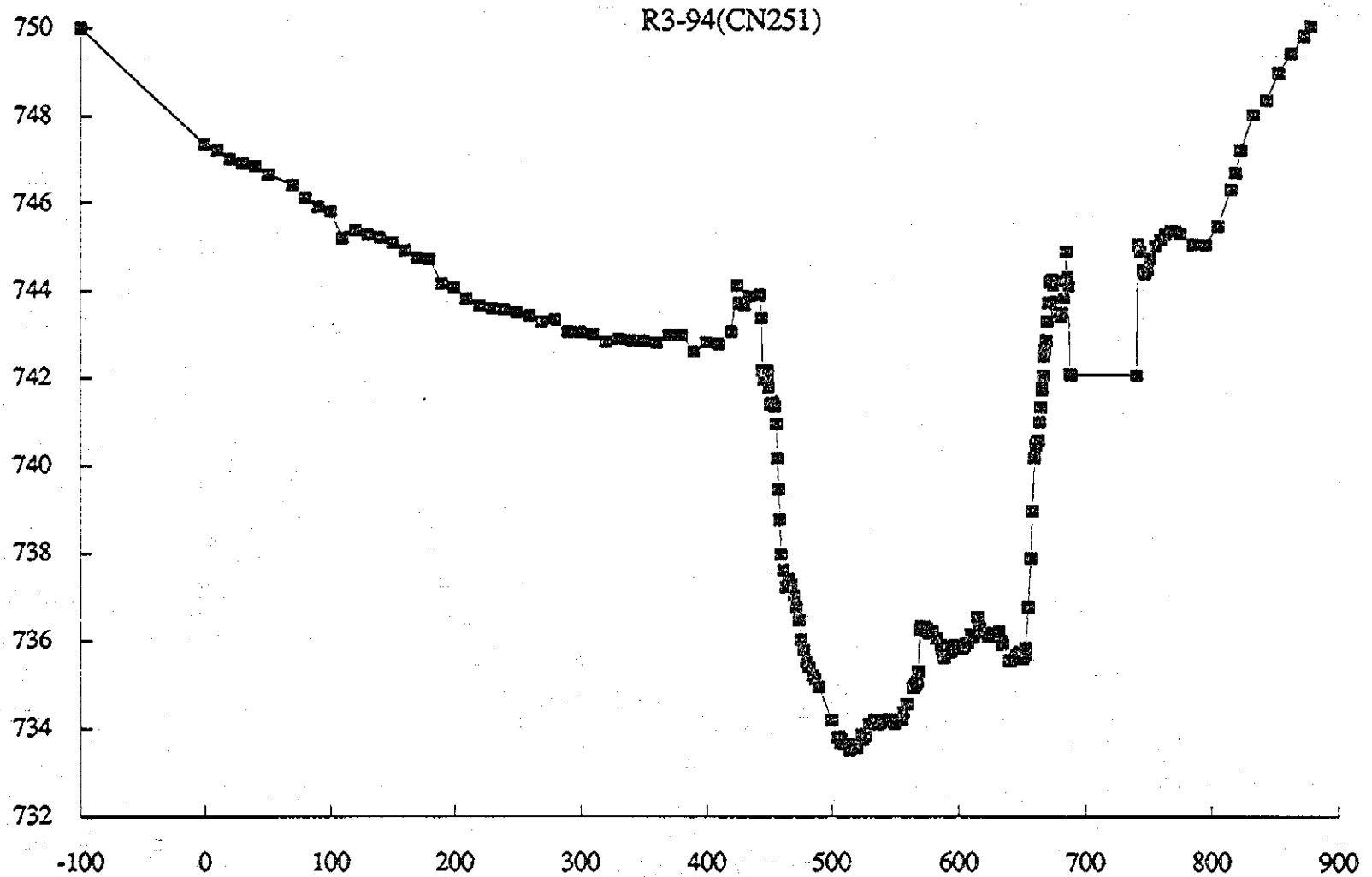
R3-94(CN251)
750
748
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744
742
740
738
736
734
732
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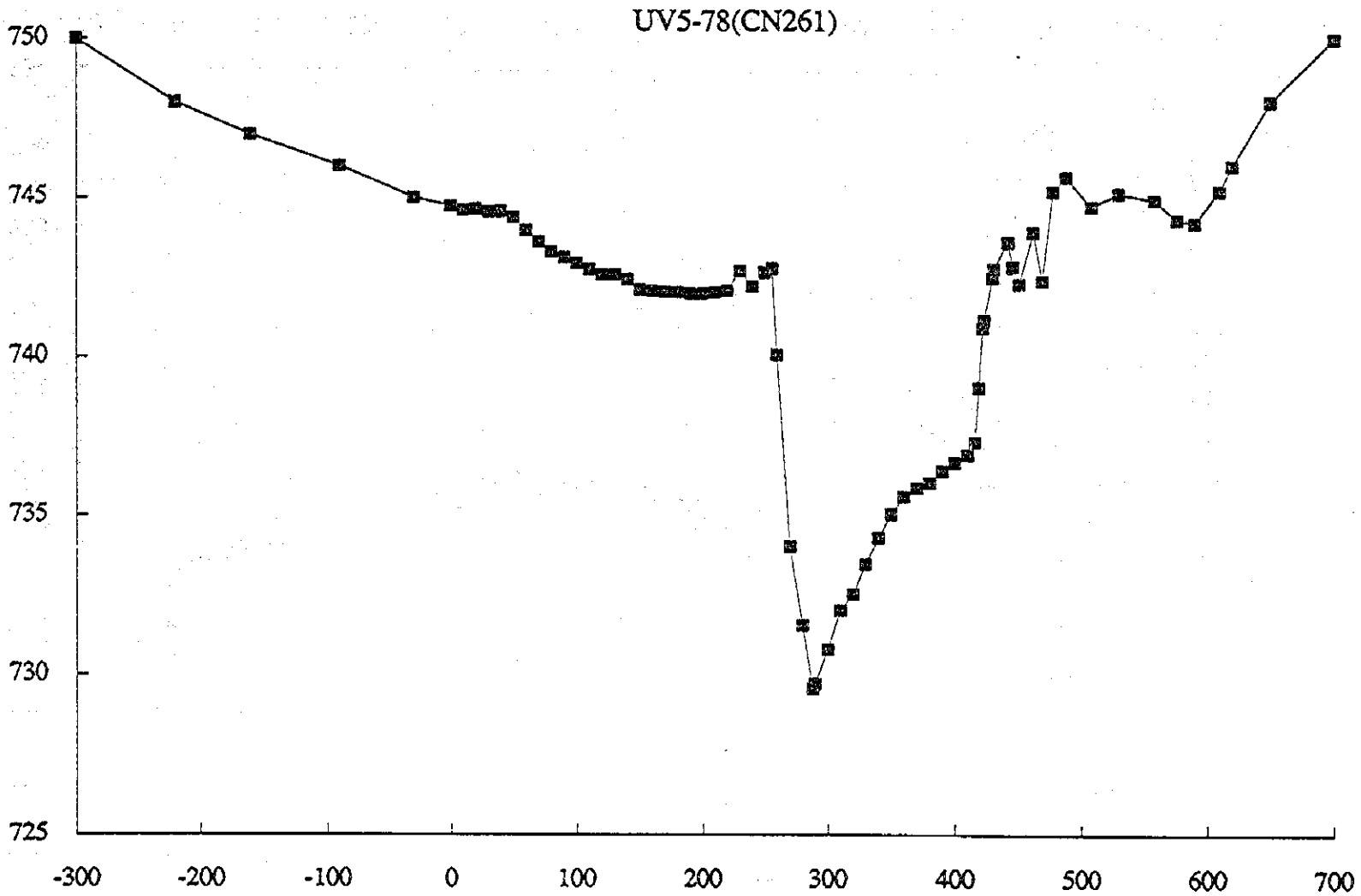
UV5-78(CN261)
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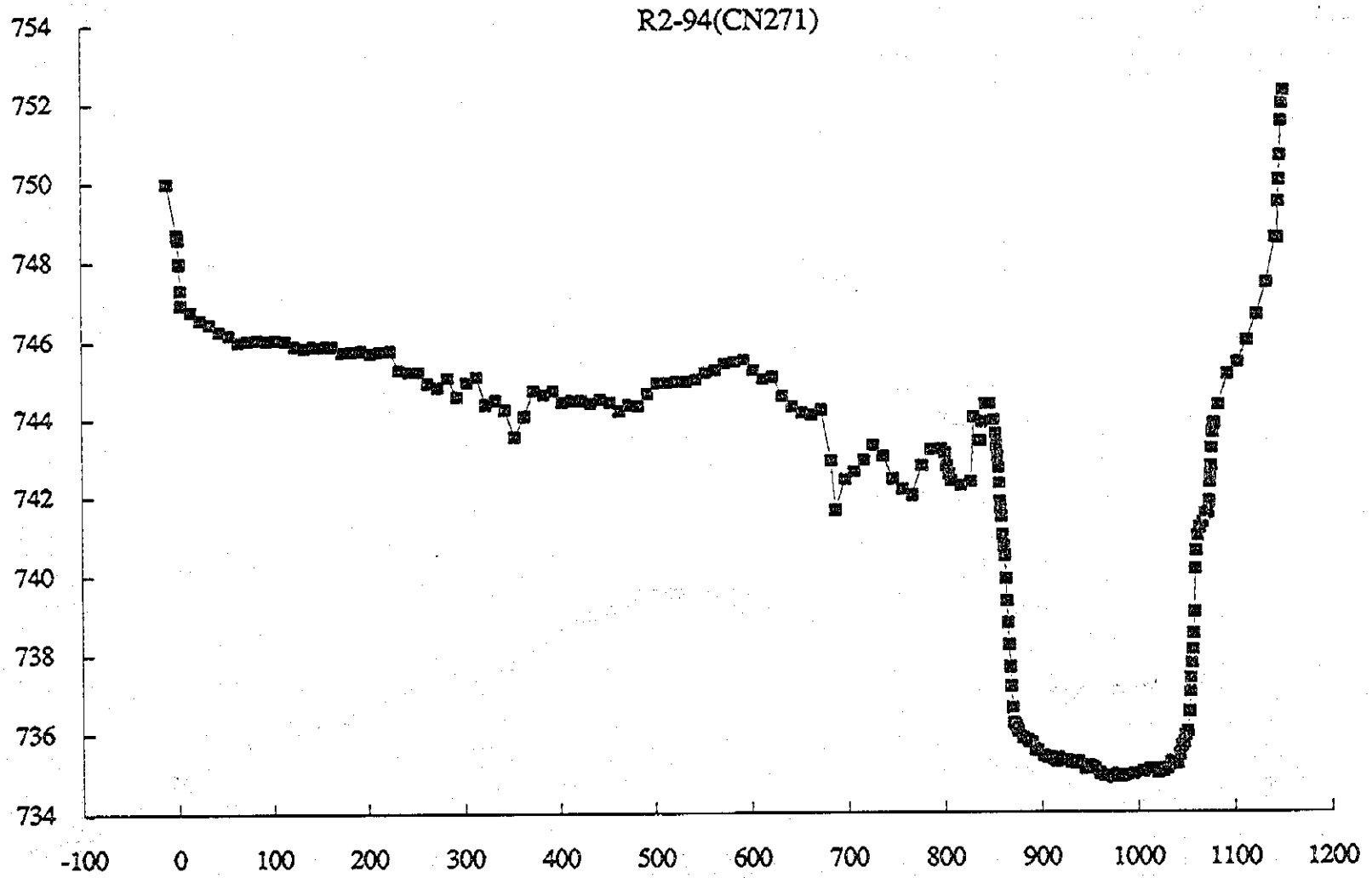
R2-94(CN271)
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752
750
748
746
744
742
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500
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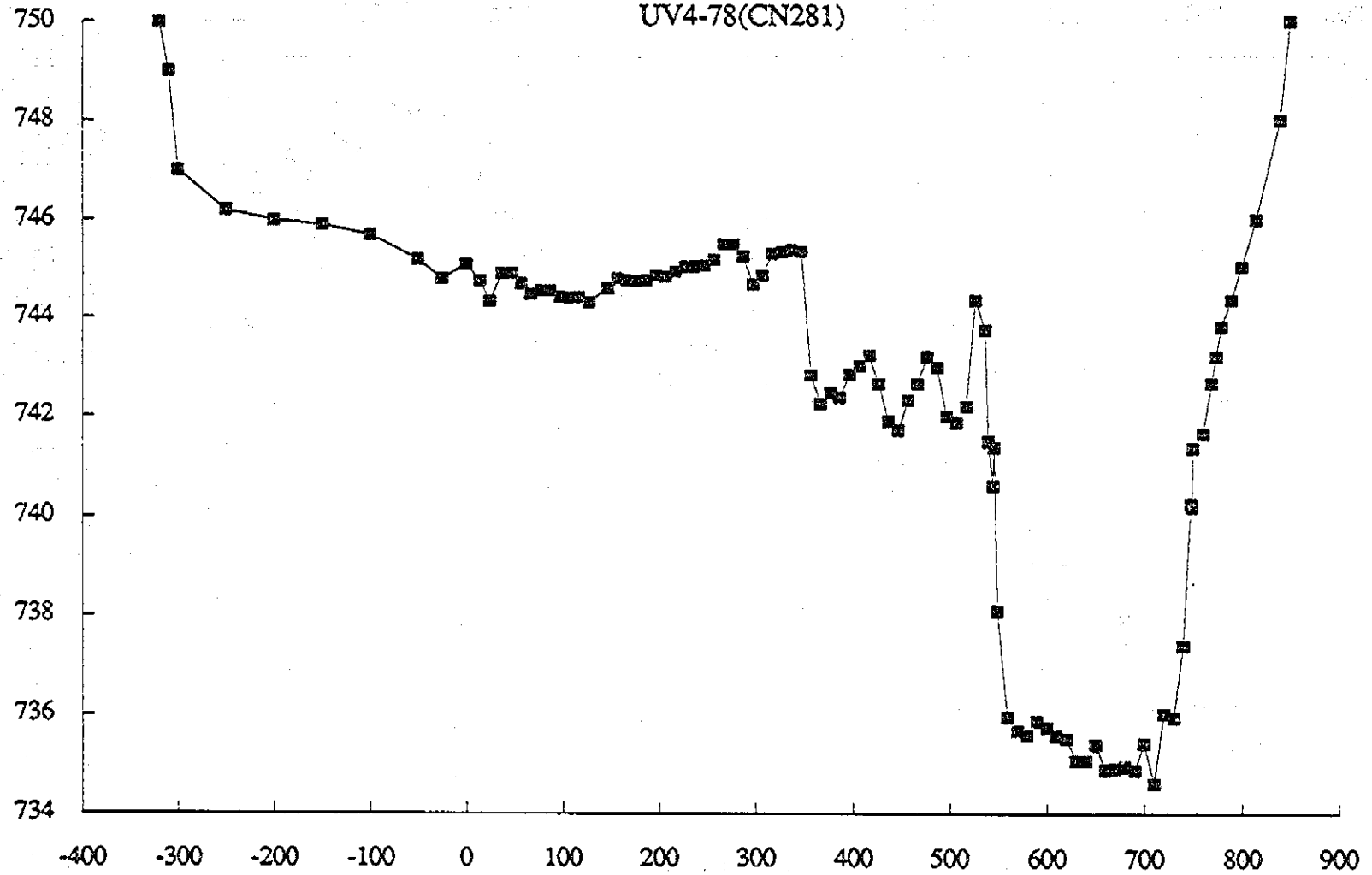
UV4-78(CN281)
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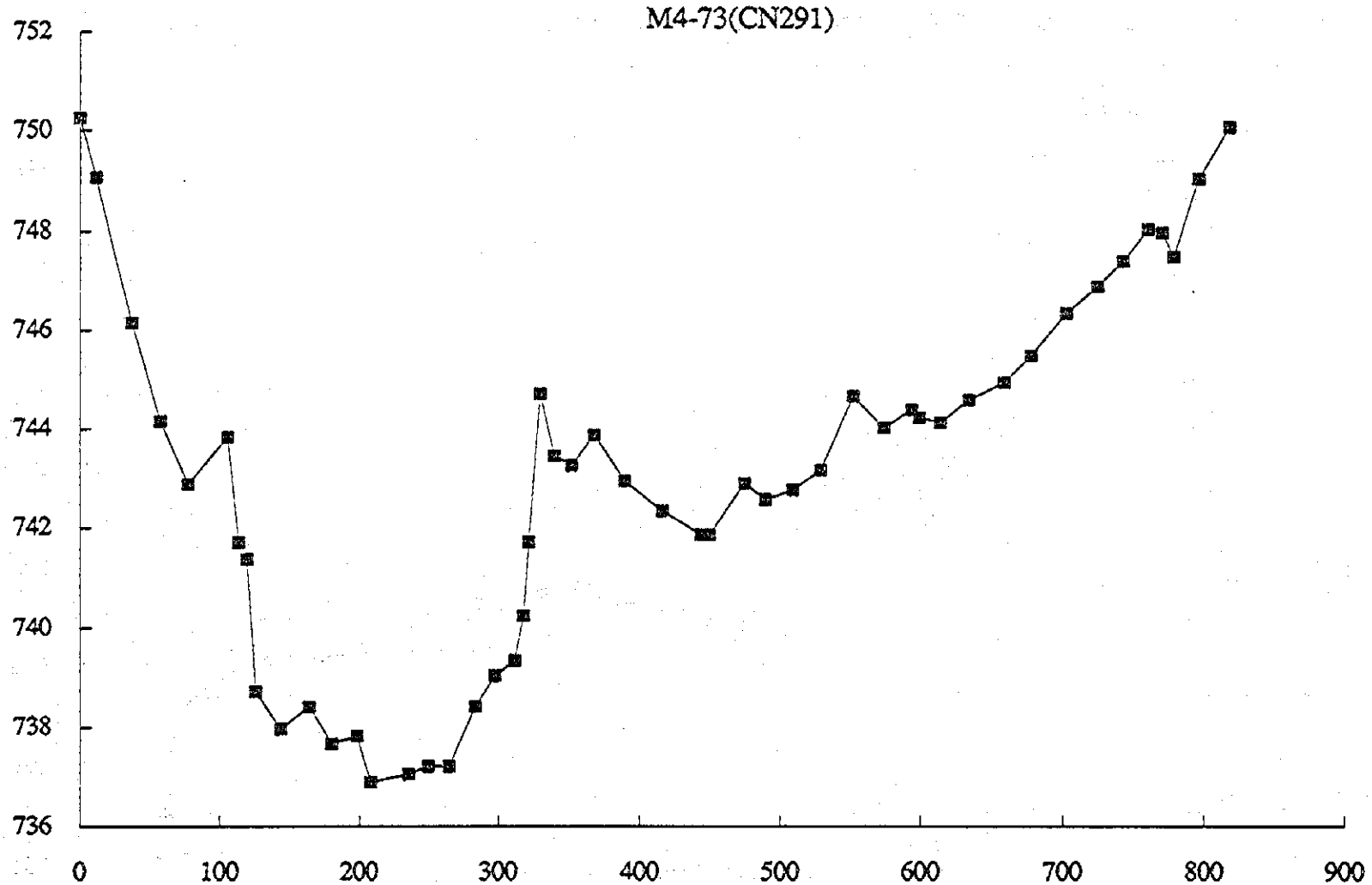
M4-73(CN291)
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744
742
740
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736
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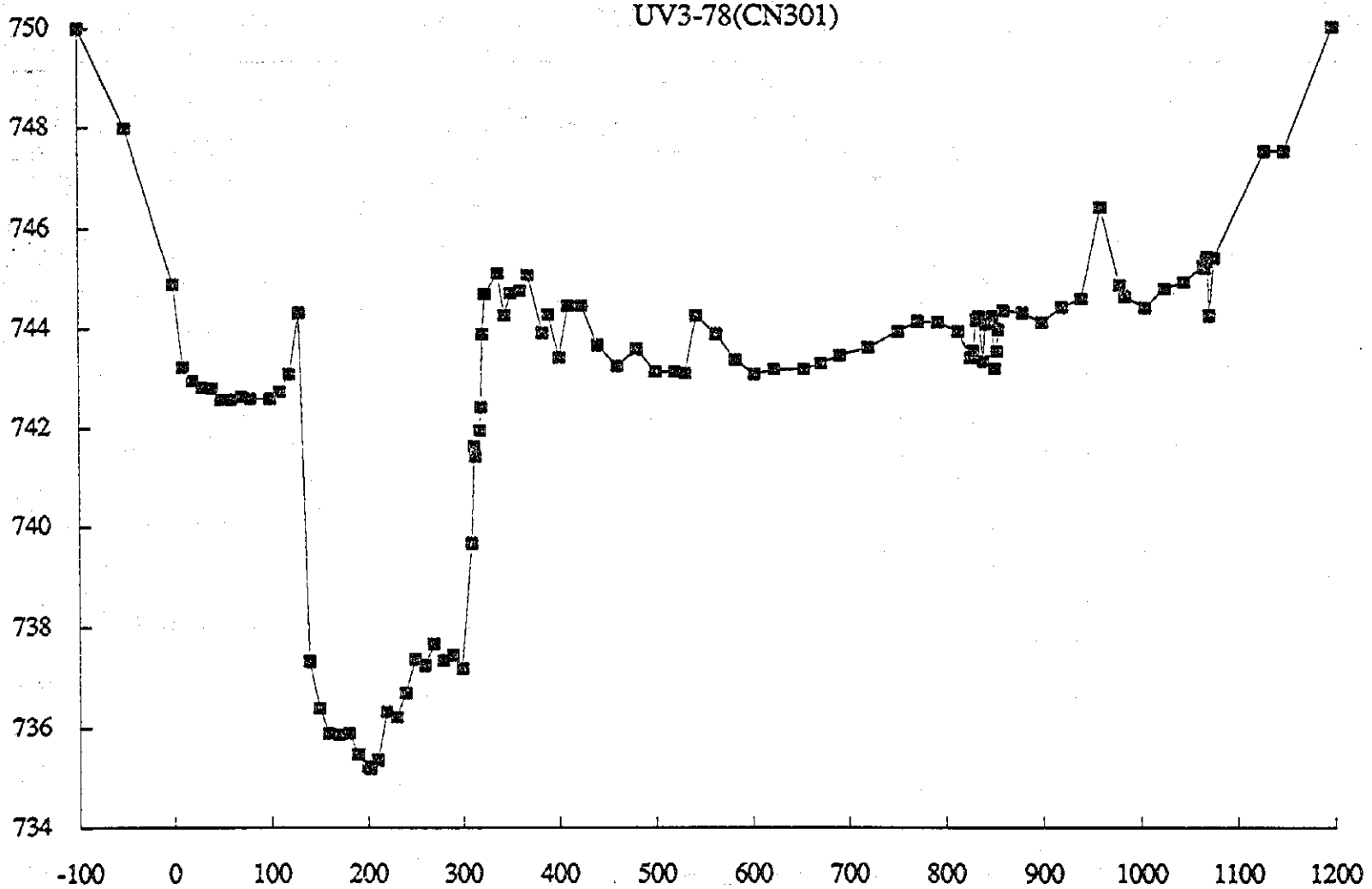
UV3-78(CN301)
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744
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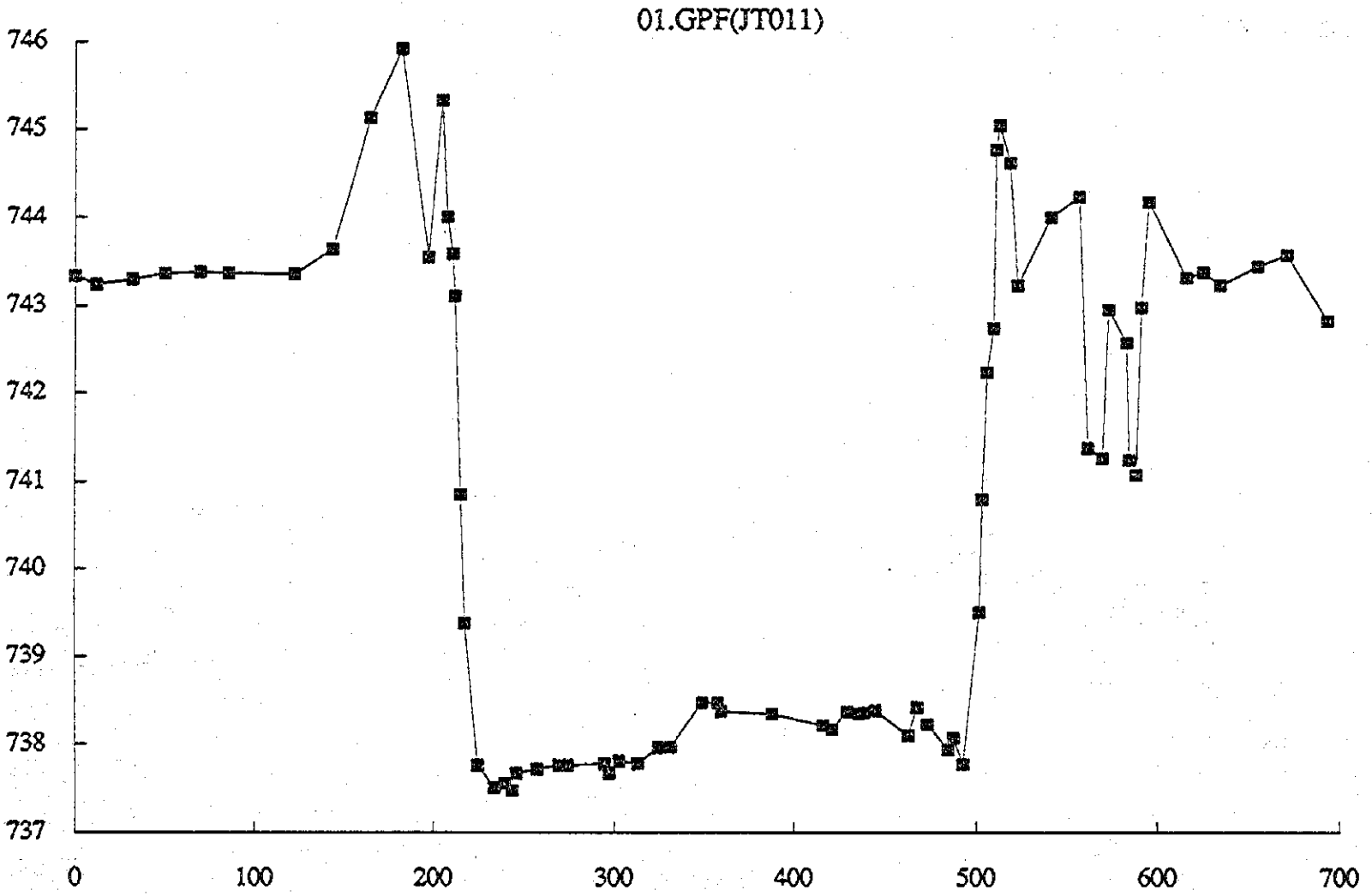
01.GPF(JT011)
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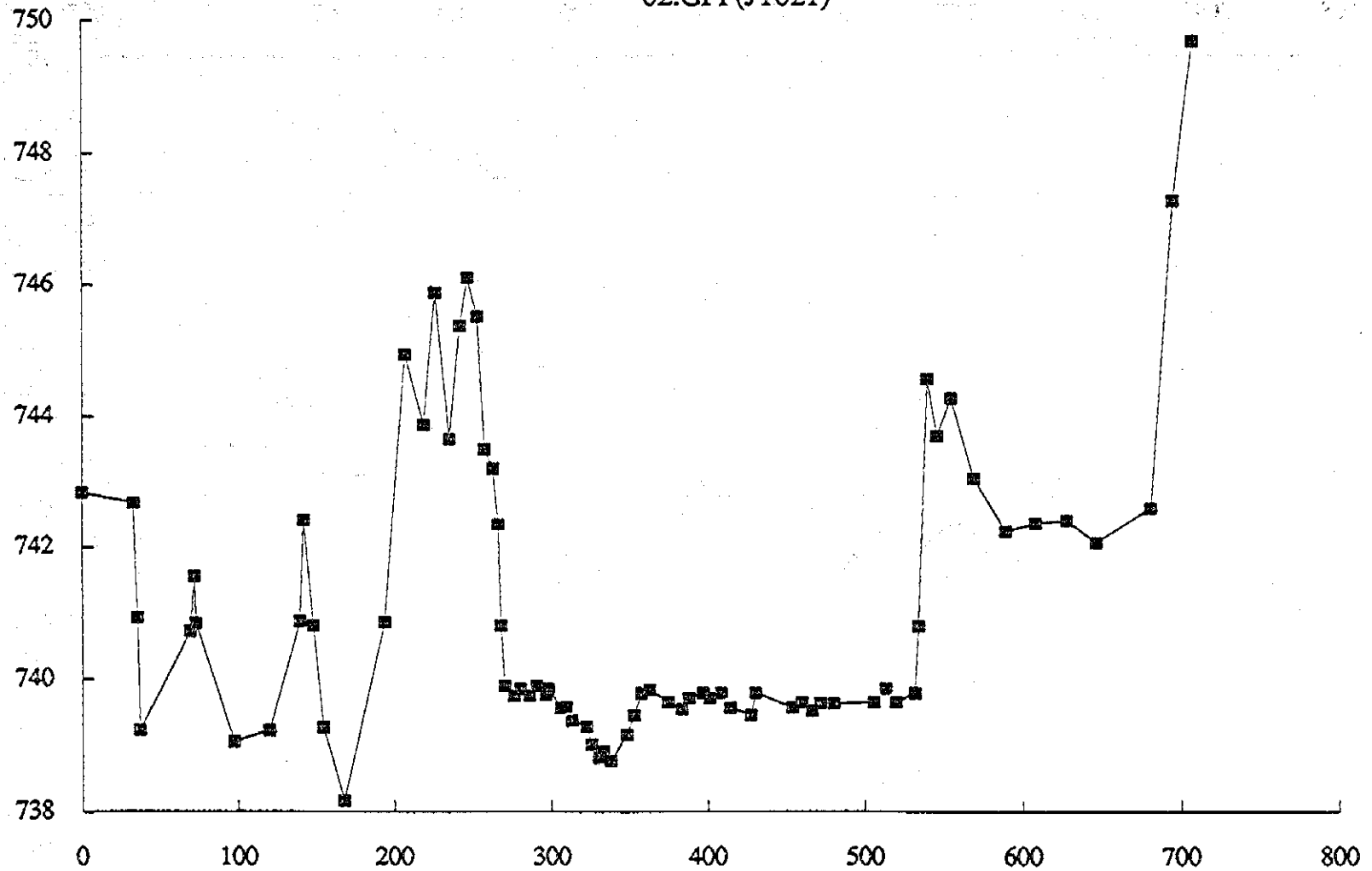
600
700


02.GPF(JT021)
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740
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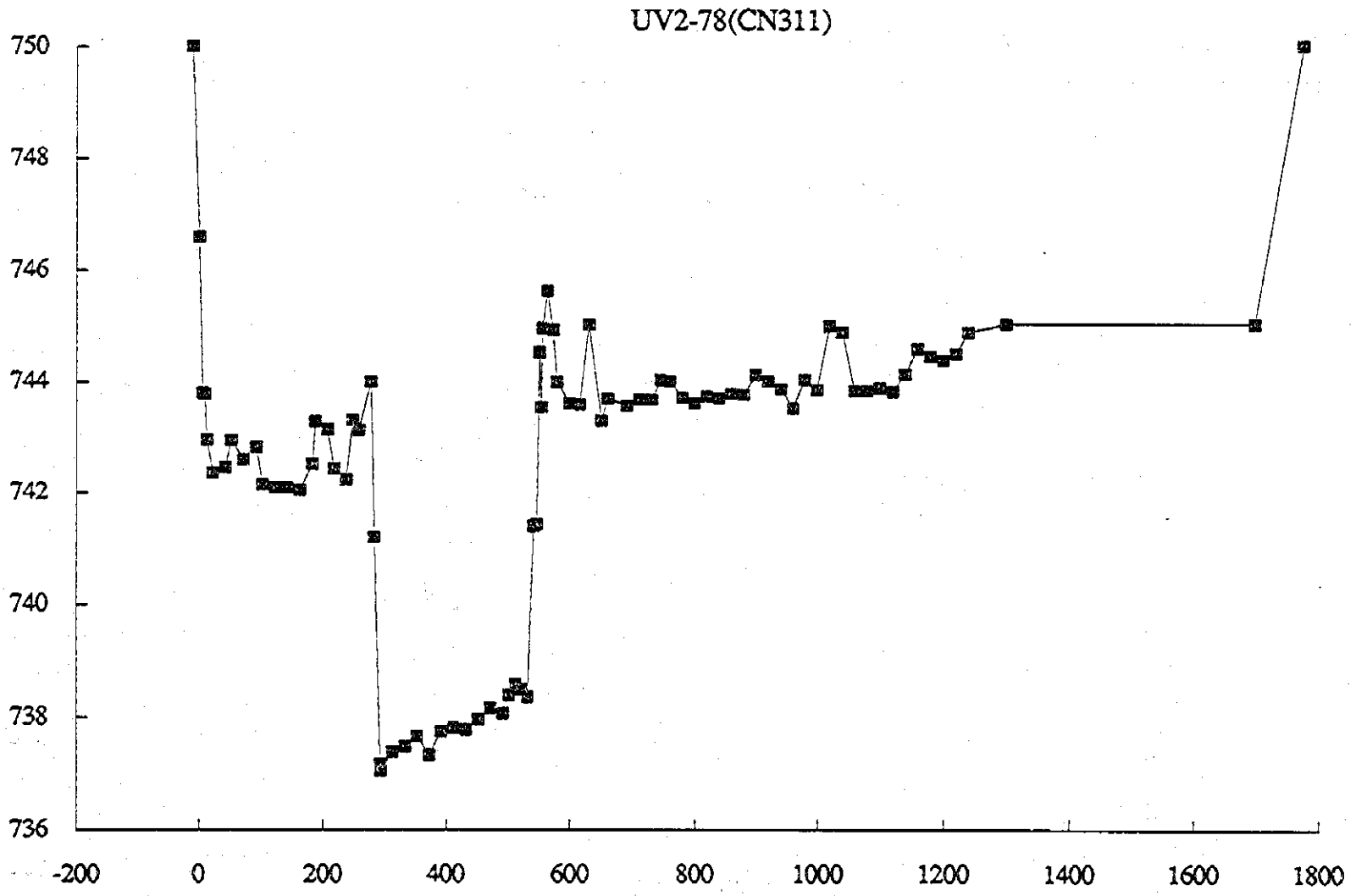
700
800


UV2-78(CN311)
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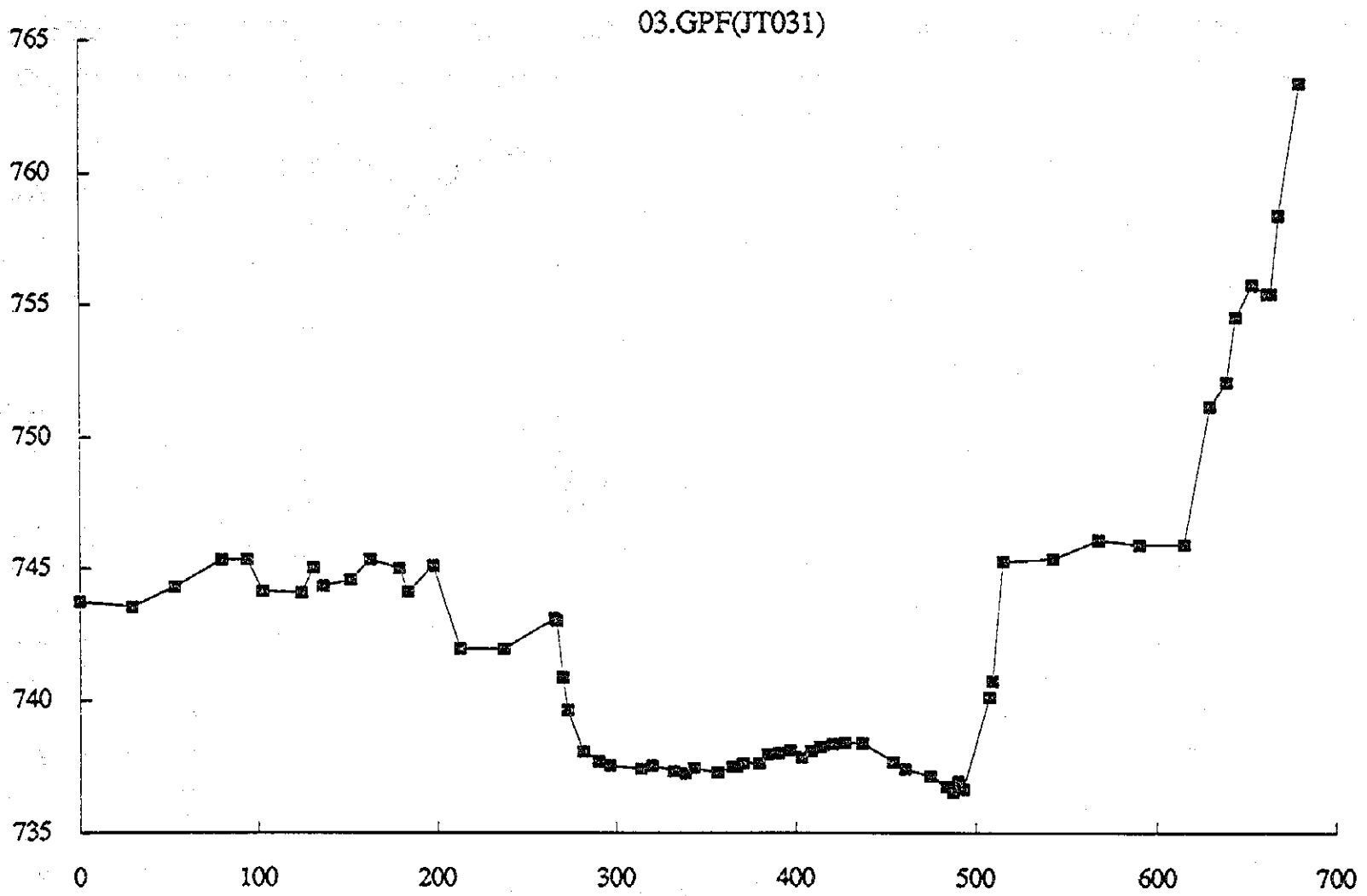
744
742
740
738
736
-200
0
200
400
600
800
1000
1200
1400
1600
1800


03.GPF(JT031)
765
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745
740
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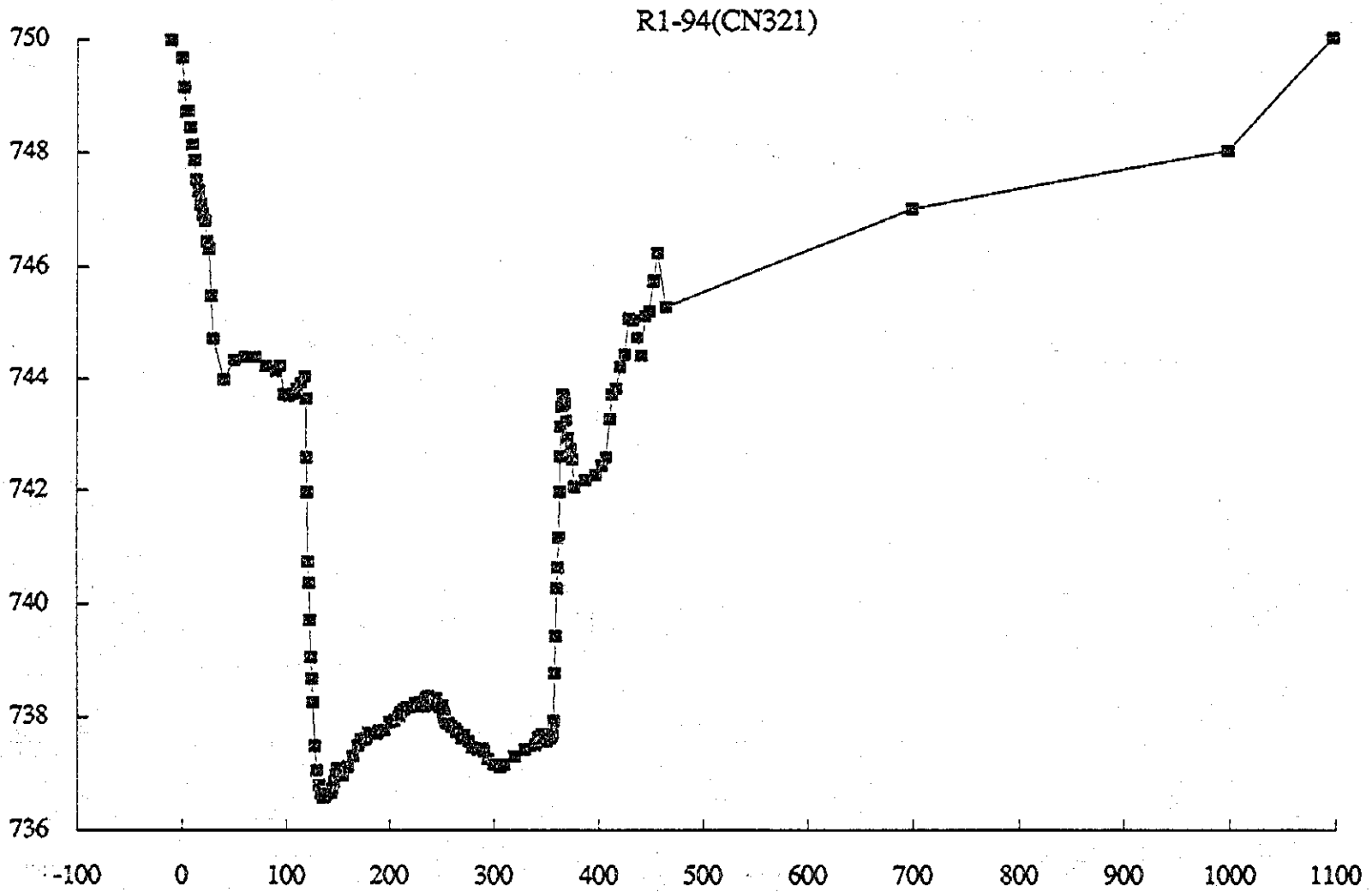
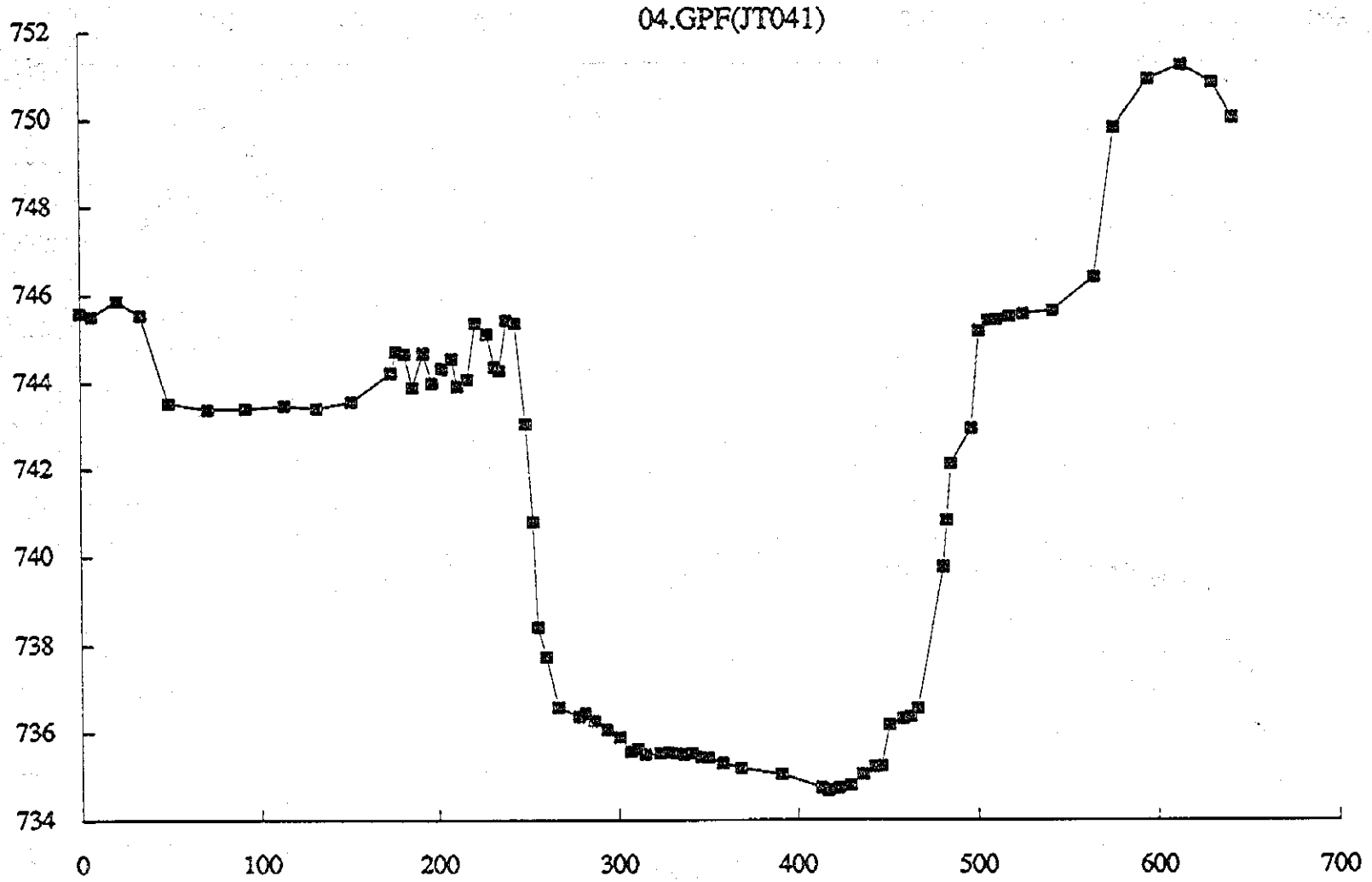
600
700


R1-94(CN321)
750
748
746
744
742
740
738
736
-100
0
100
200
300
400
500
600
700
800
900
1000
1100


04.GPF(JT041)
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750
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746
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742
740
738
736
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400
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600
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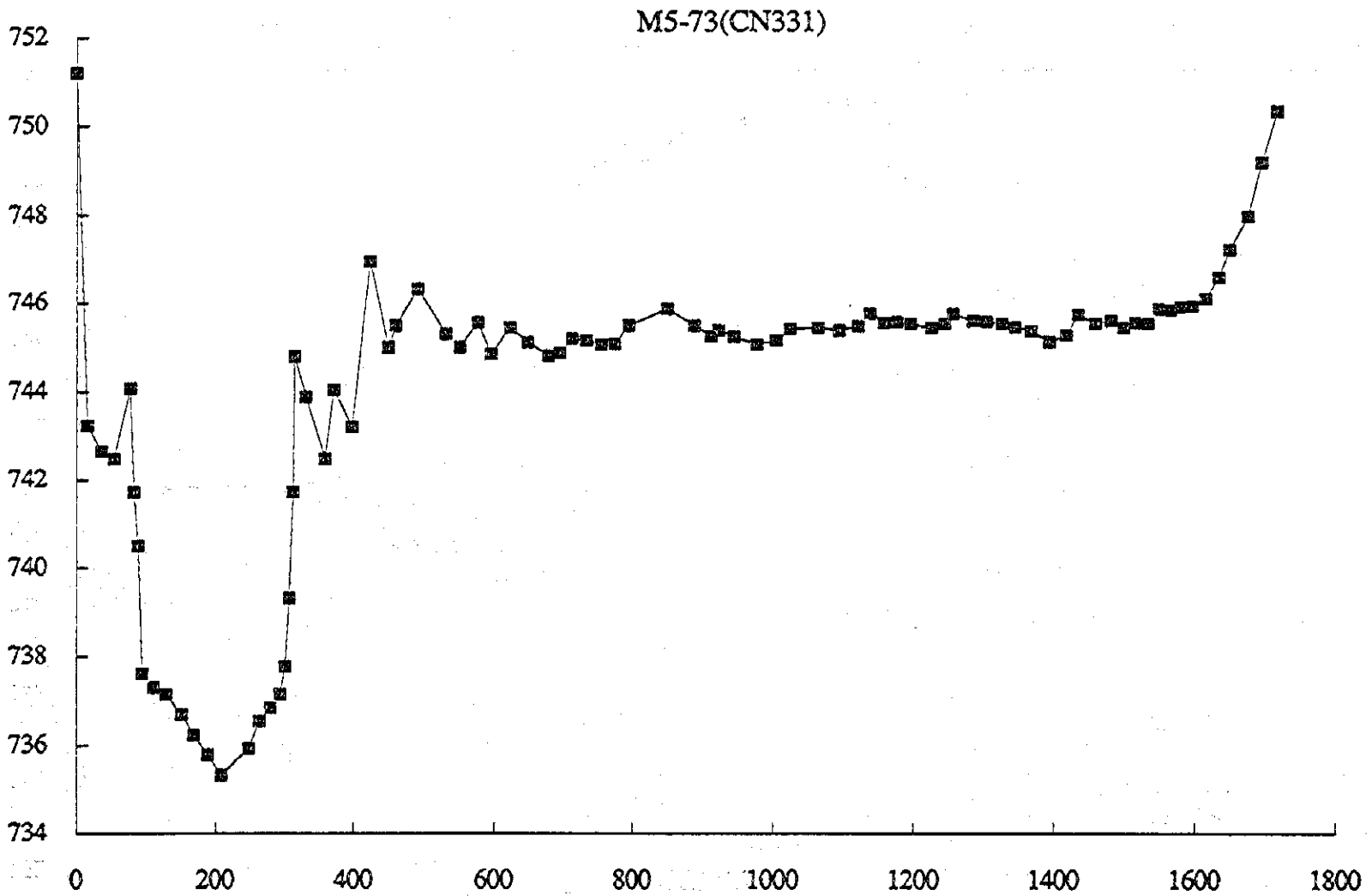
M5-73(CN331)
752
750
748
746
744
742
740
738
736
734
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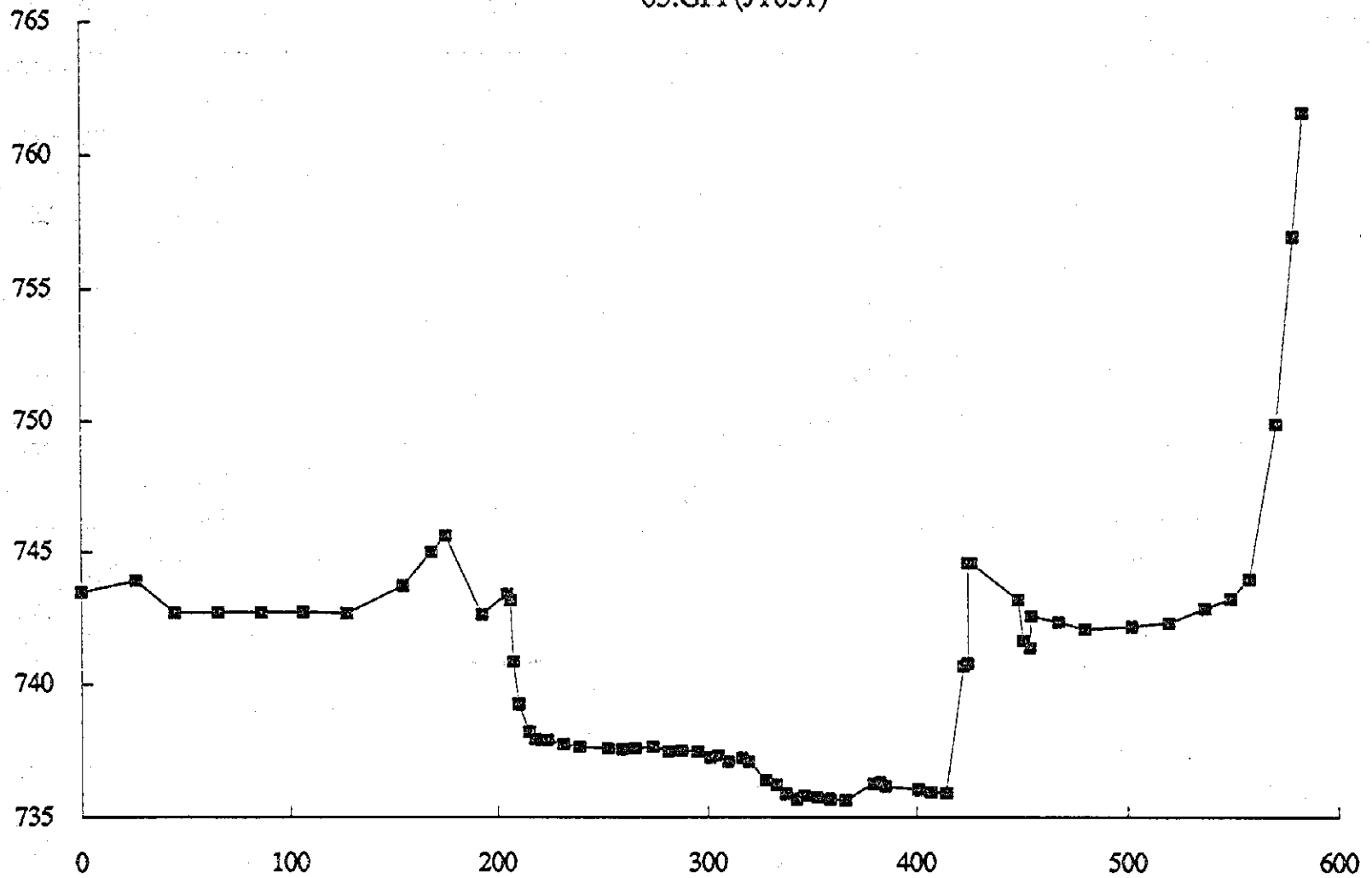
1000
1200
1400
1600
1800


05.GPF(JT051)
765
760
755
750
745
740
735
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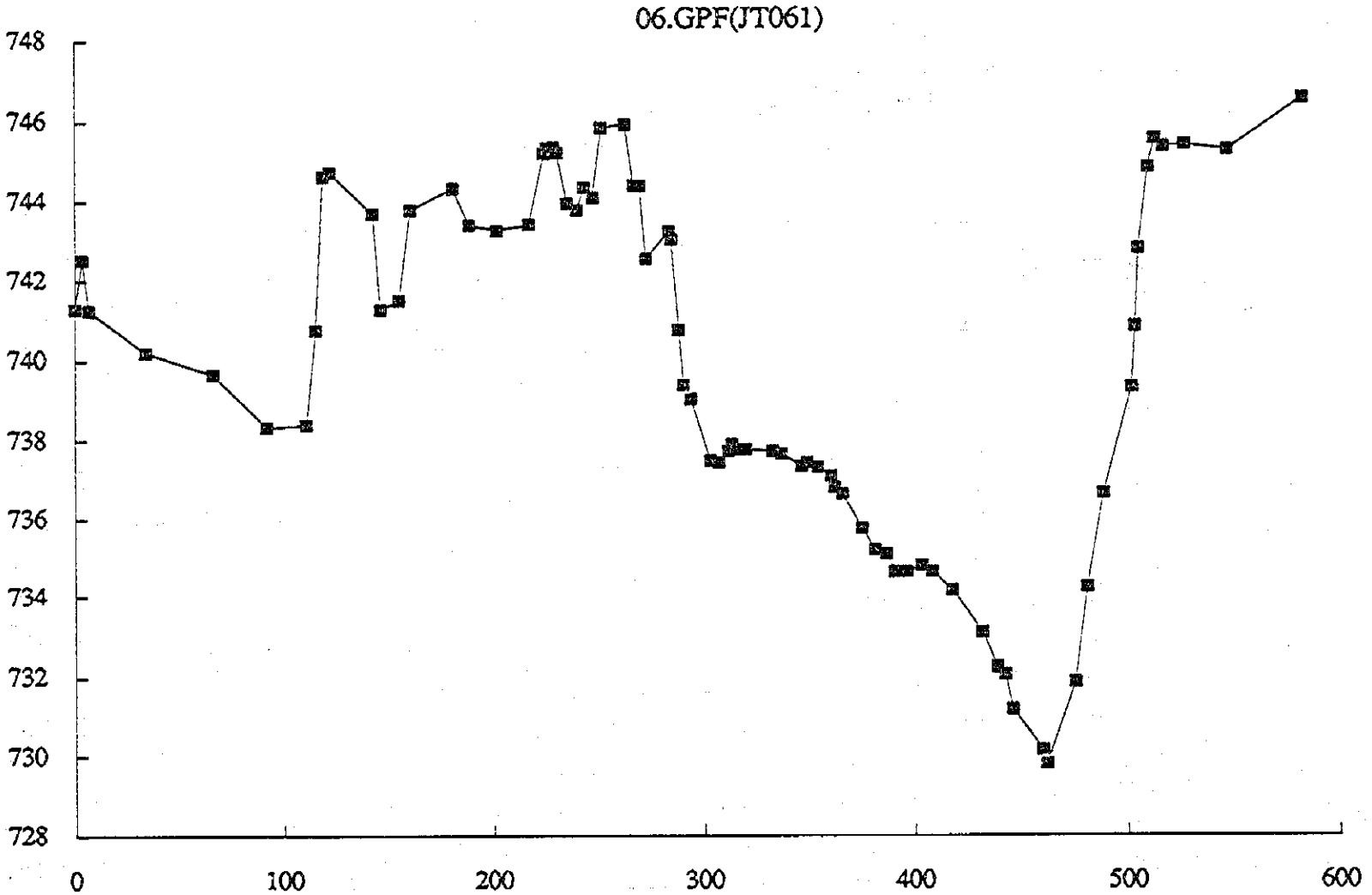
300
400
500
600


06.GPF(JT061)
748
746
744
742
740
738
736
734
732
730
728
0
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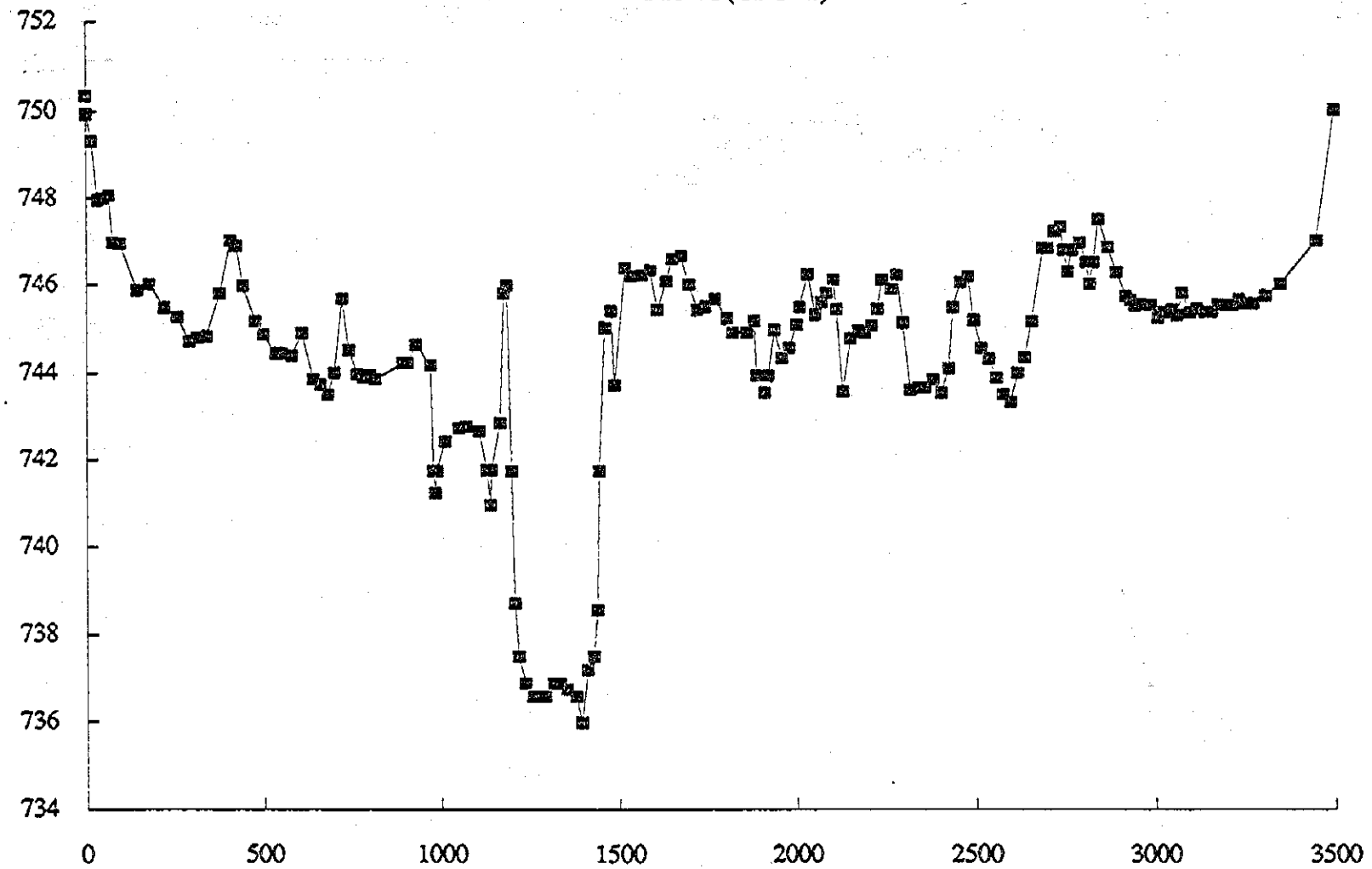
300
400
500
600


M6-73(CN341)
752
750
748
746
744
742
740
738
736
734
0
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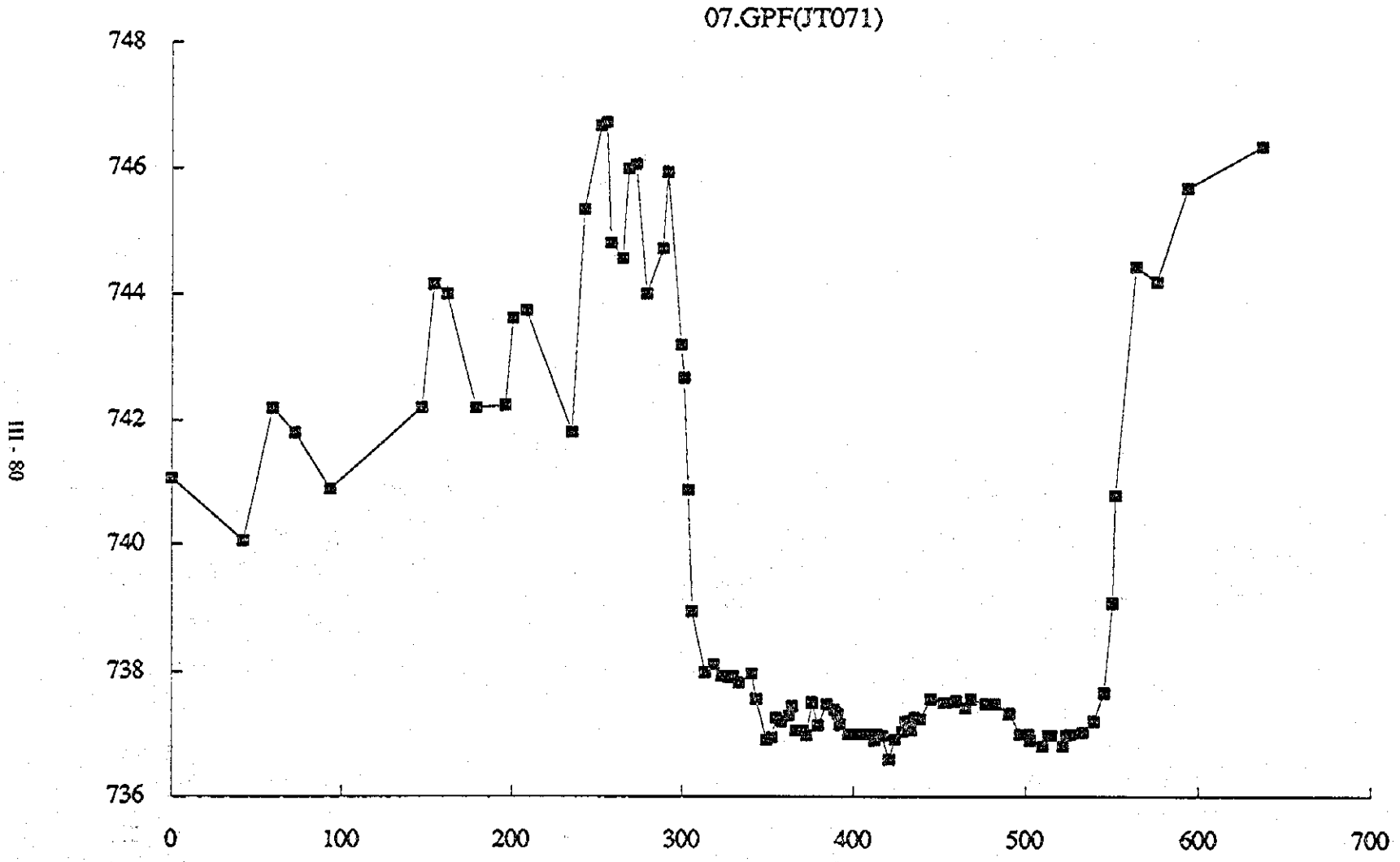
1000
1500
2000
2500
3000
3500


07.GPF(JT071)
748
746
744
742
740
738
736
0
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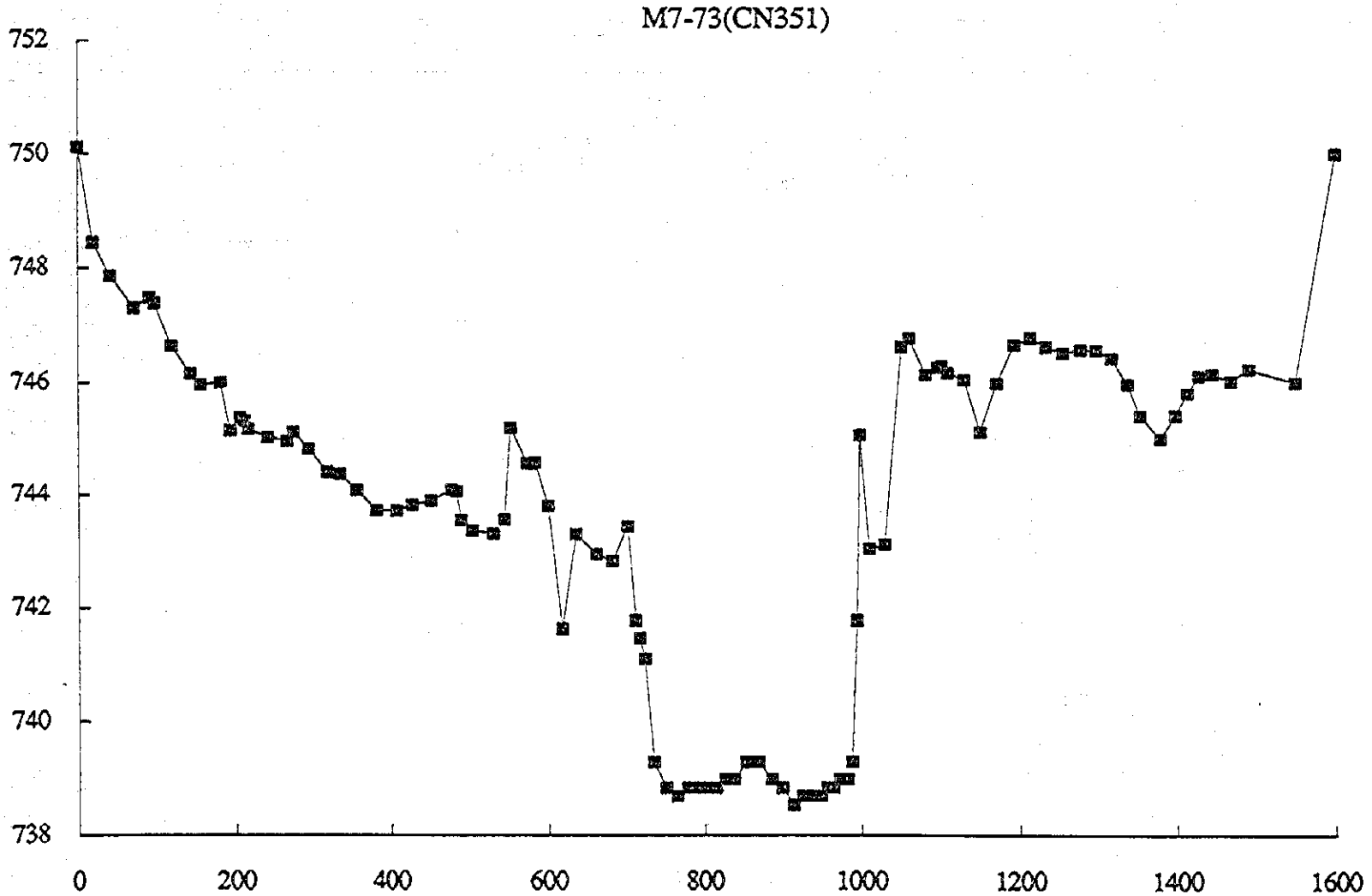
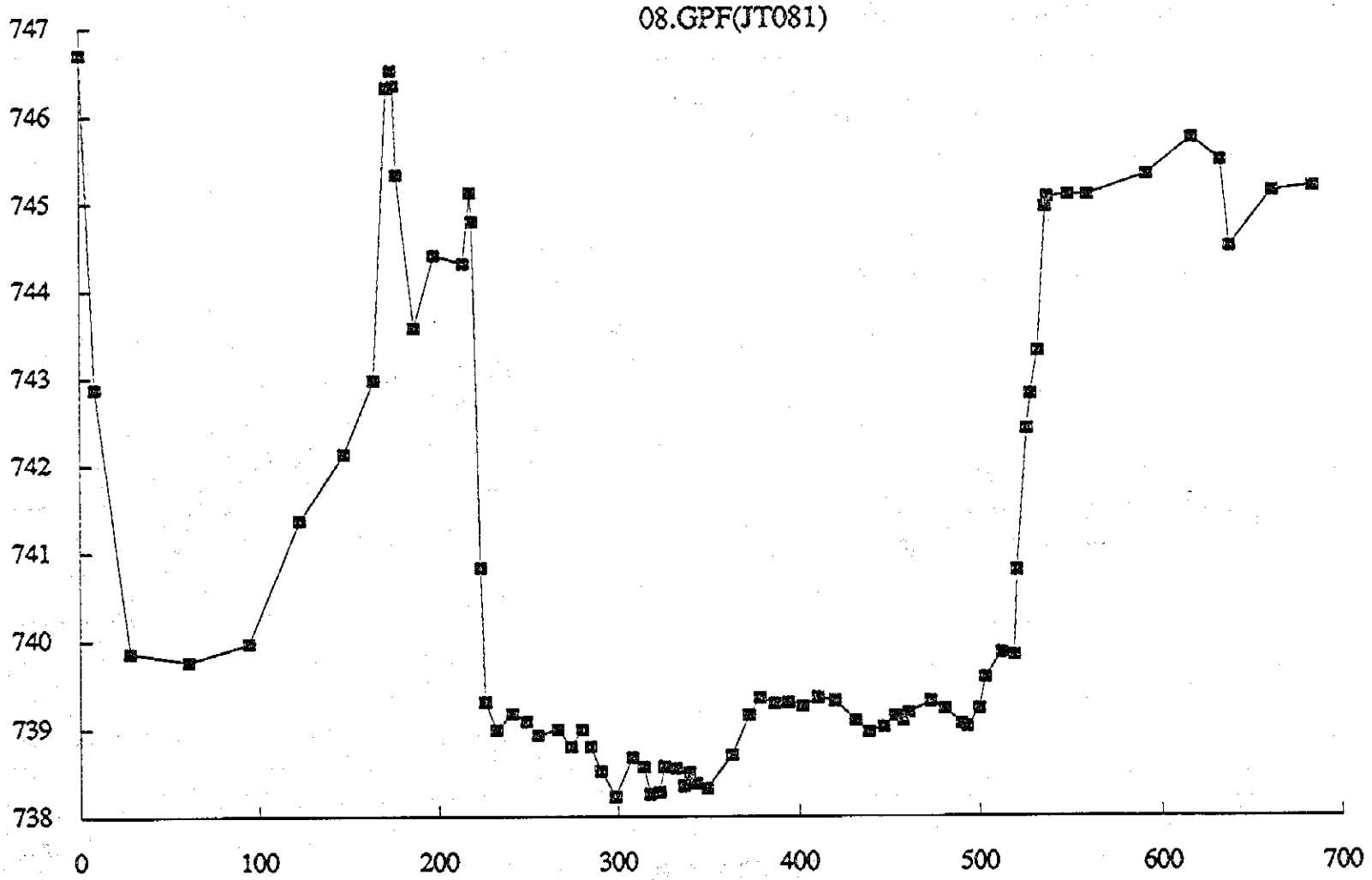
400
500
600
700


M7-73(CN351)
752
750
748
746
744
742
740
738
0
200
400
600
800
1000
1200
1400
1600


08.GPF(JT081)
747
746
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744
743
742
741
740
739
738
0
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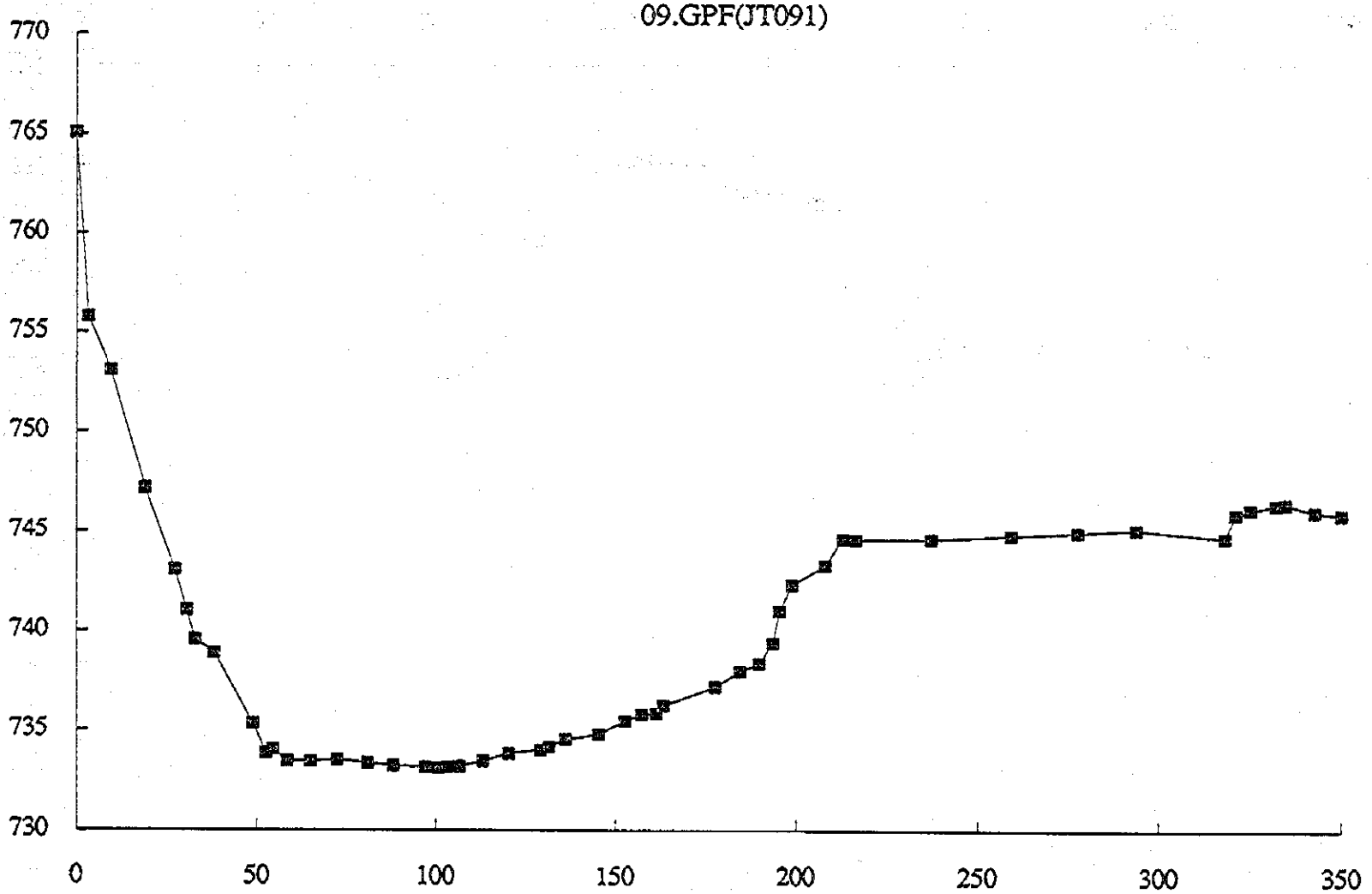
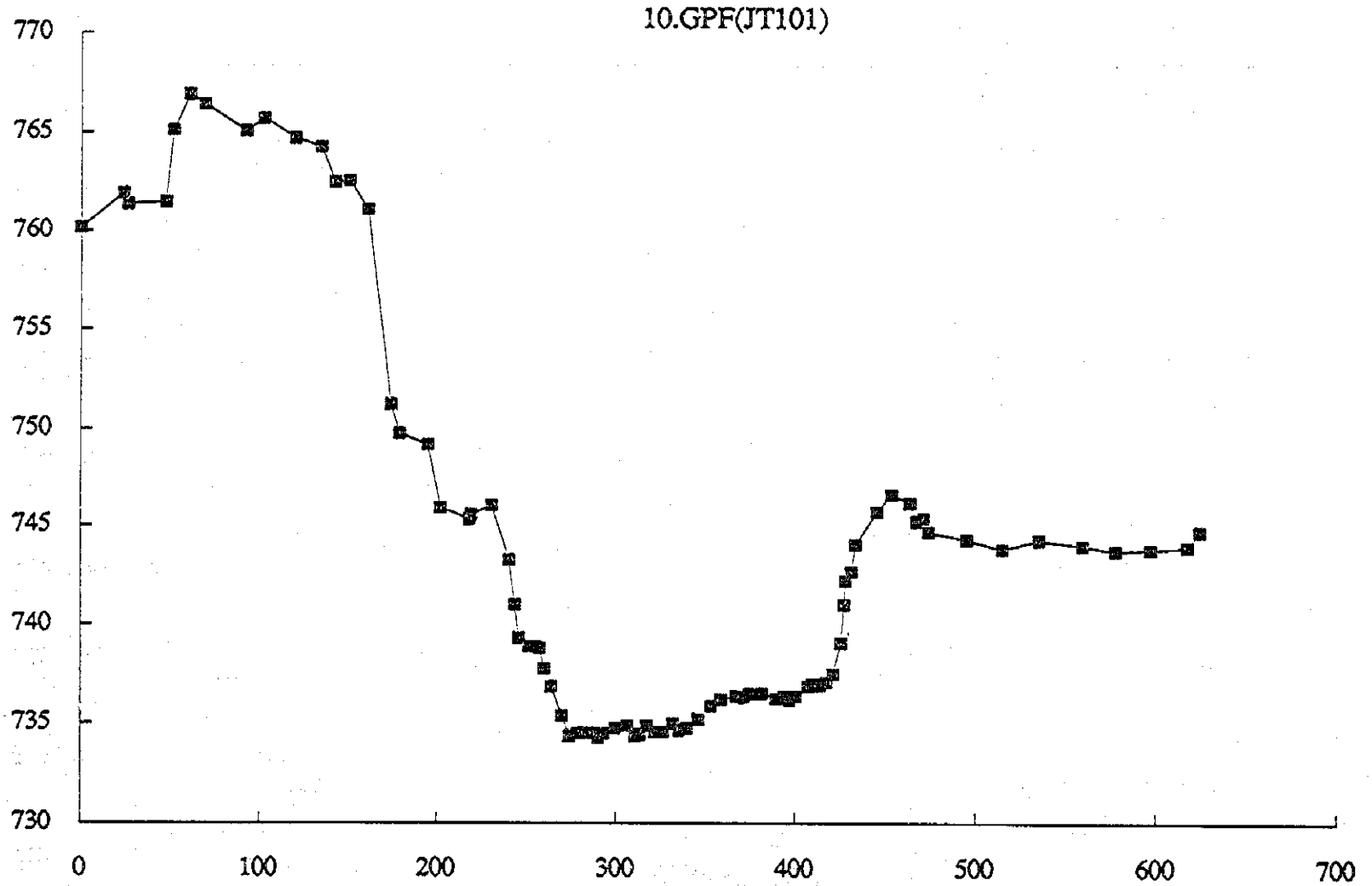
400
500
600
700


09.GPF(JT091)
770
765
760
755
750
745
740
735
730
0
50
100
150
200
250
300
350


10.GPF(JT101)
770
765
760
755
750
745
740
735
730
0
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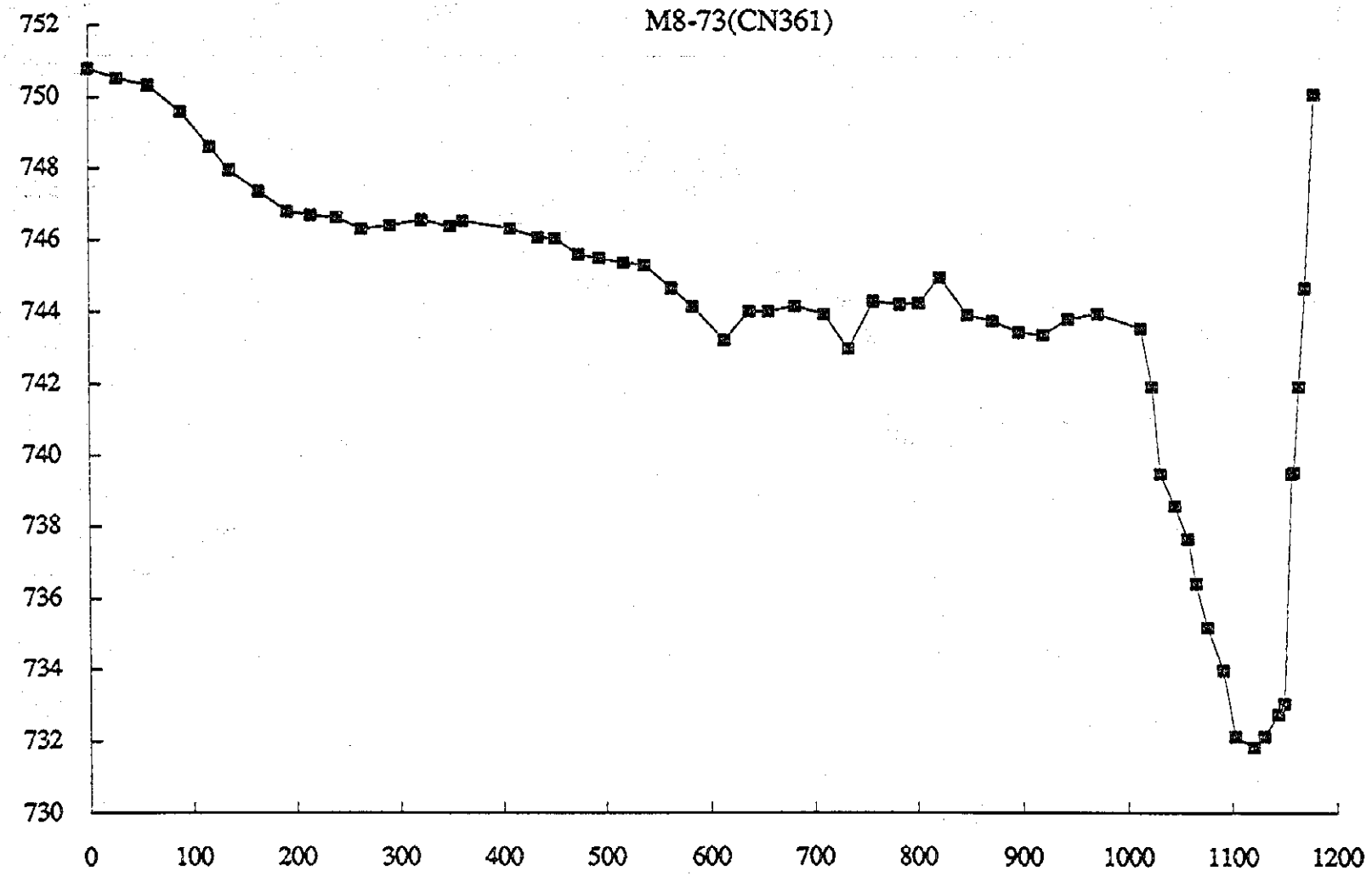
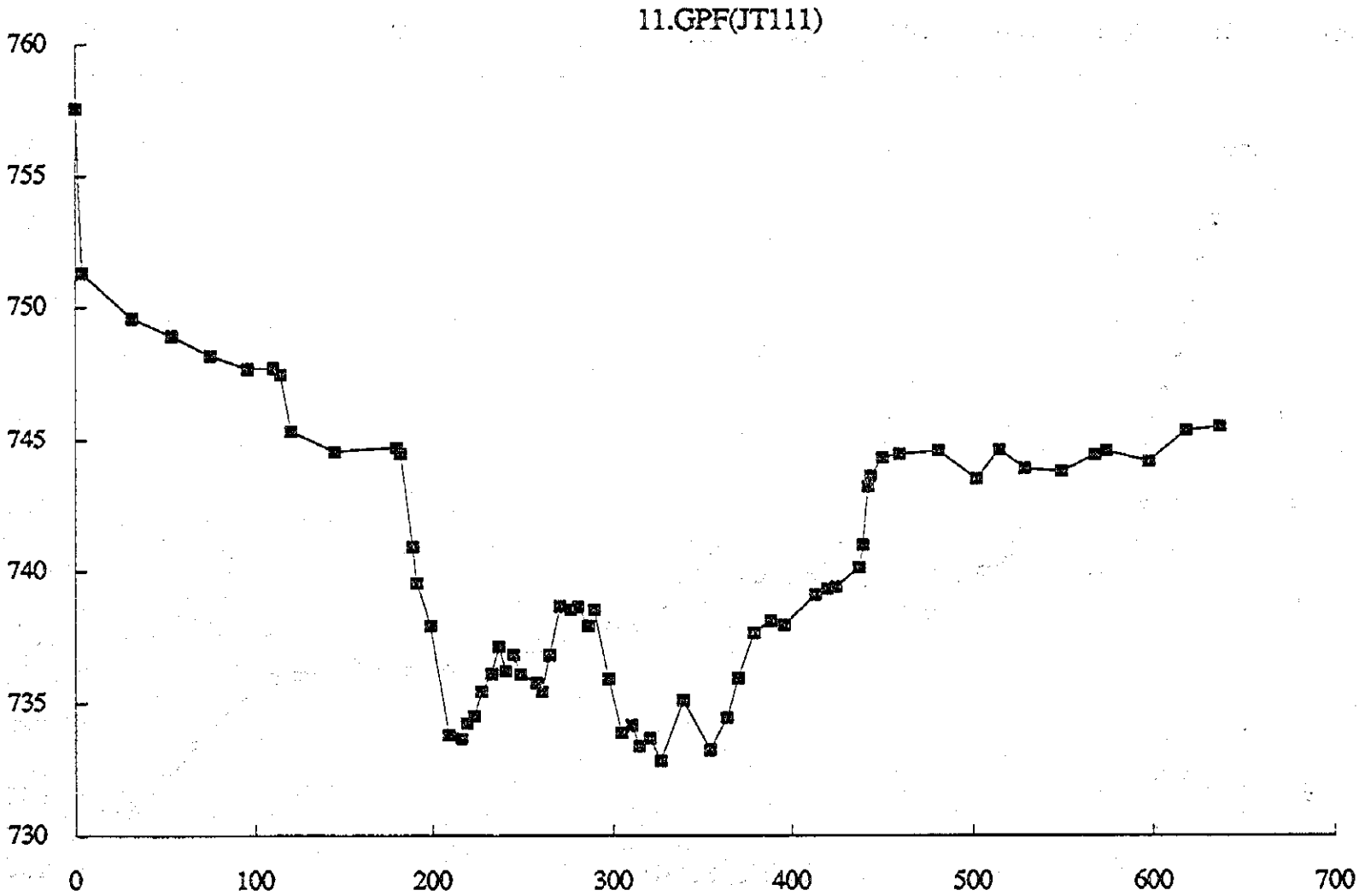
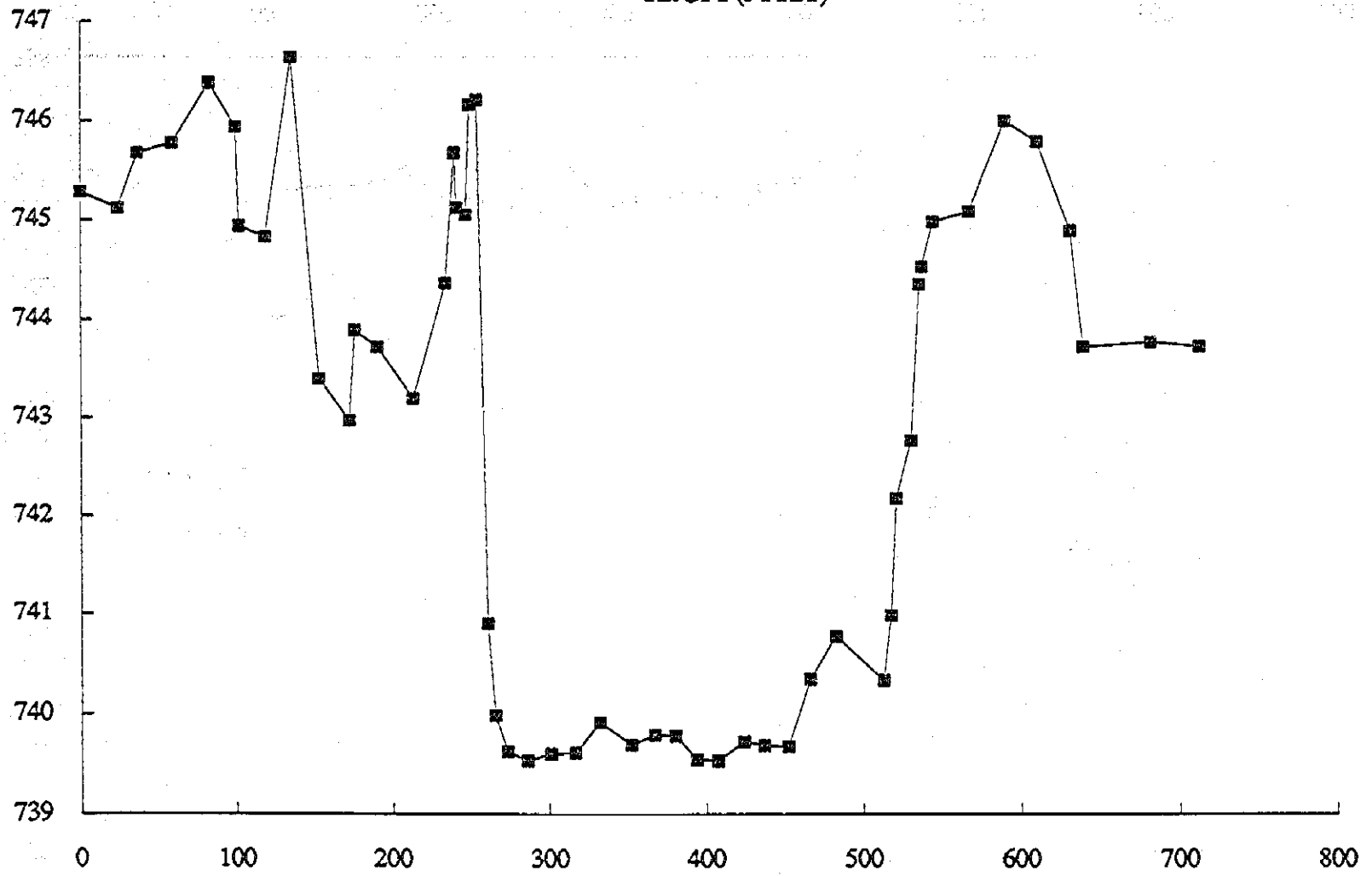
200
300
400
500
600
700


M8-73(CN361)
752
750
748
746
744
742
740
738
736
734
732
730
0
100
200
300
400
500
600
700
800
900
1000
1100
1200


11.GPF(JT111)
760
755
750
745
740
735
730
0
100
200
300
400
500
600
700


12.GPF(JT121)
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746
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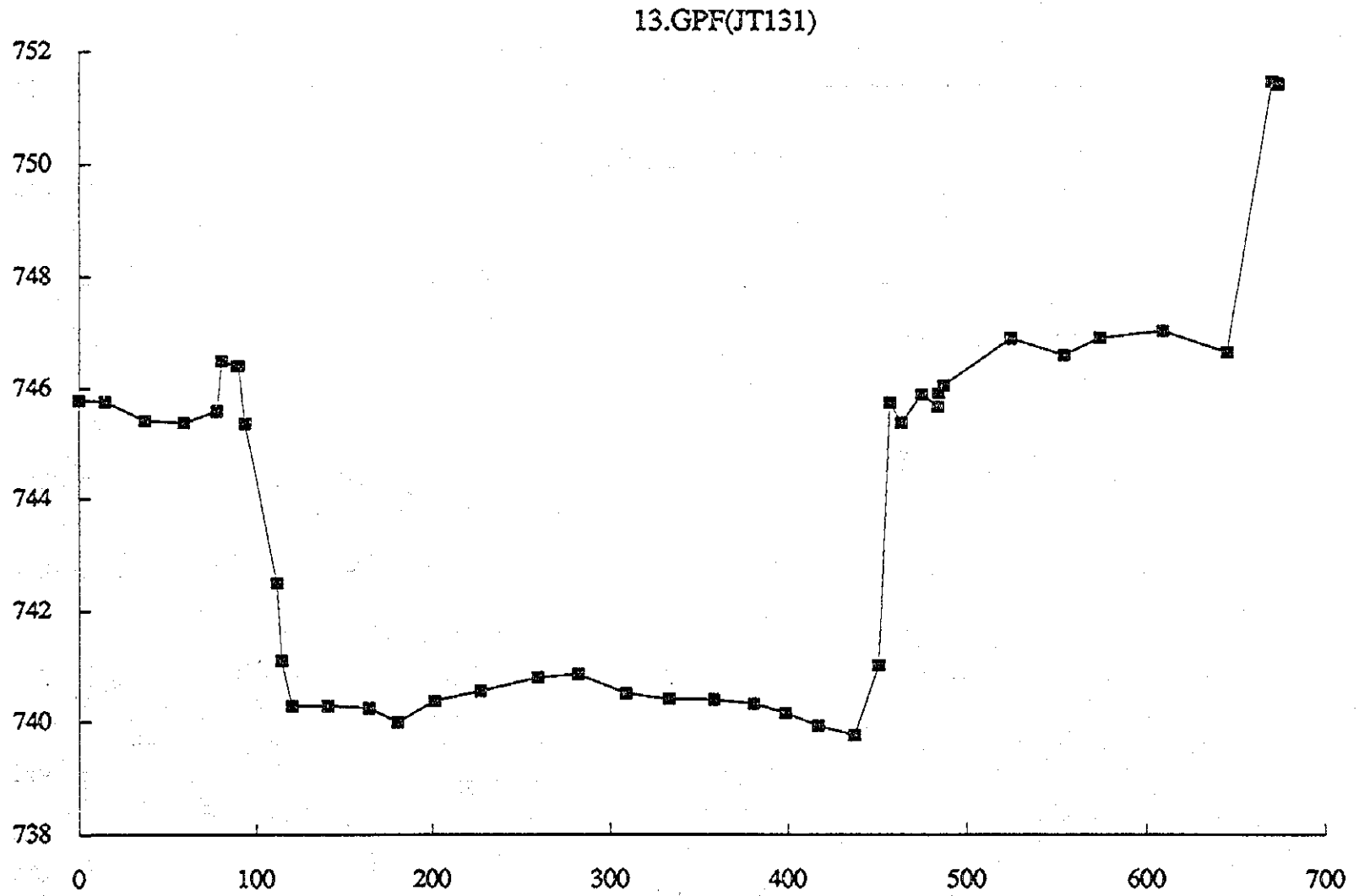
744
743
742
741
740
739
0
100
200
300
400
500
600
700
800


13.GPF(JT131)
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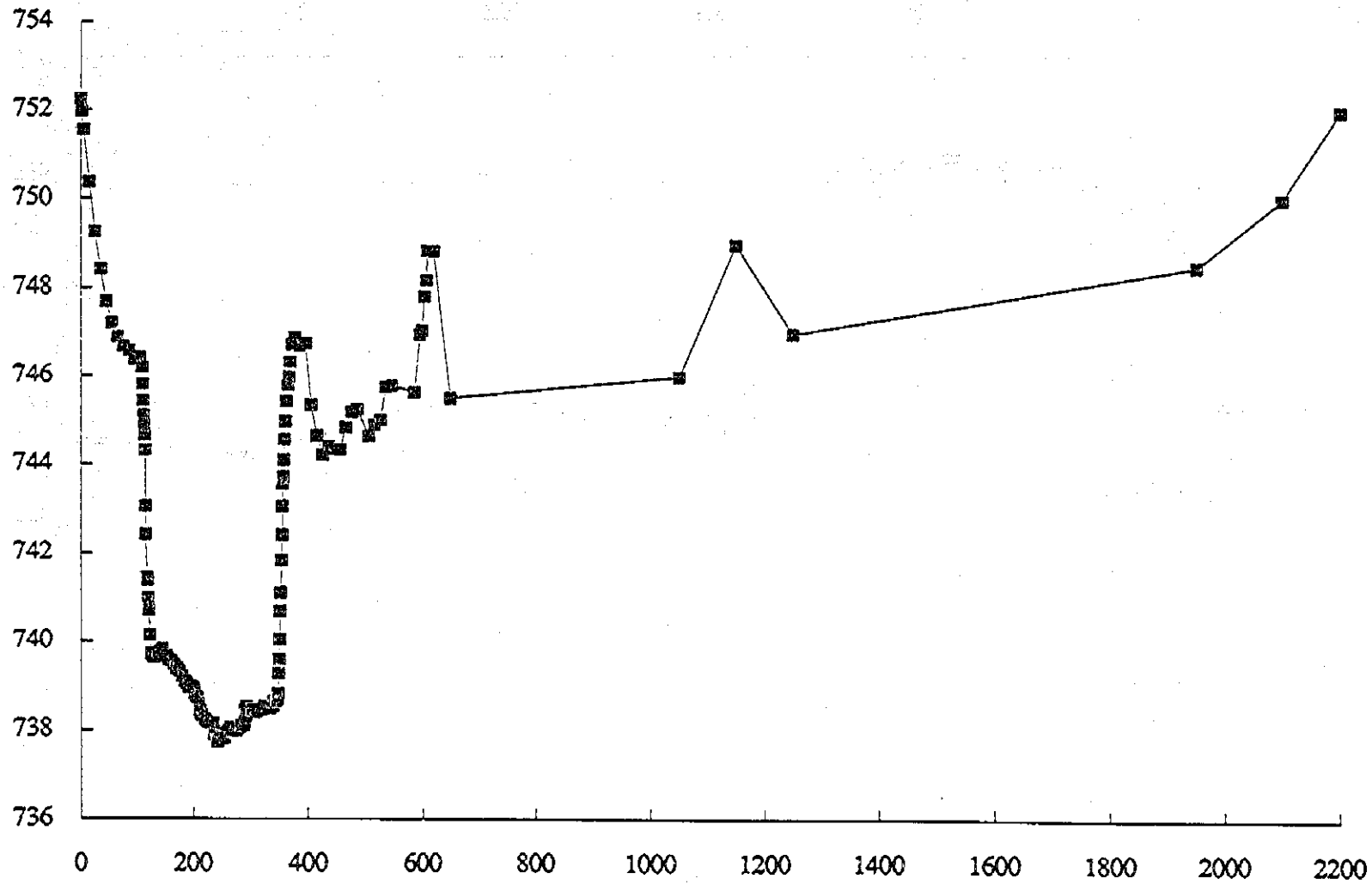
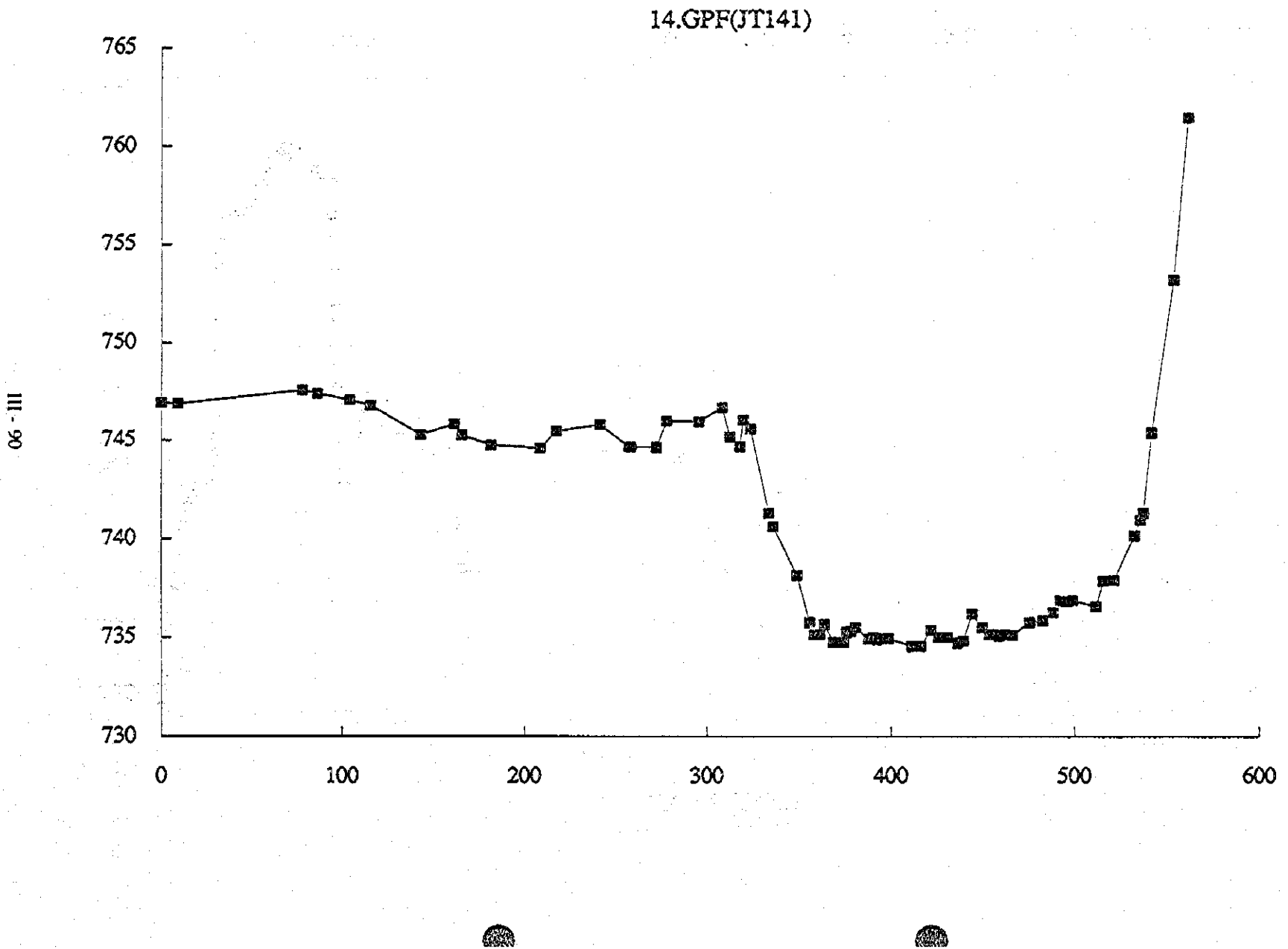
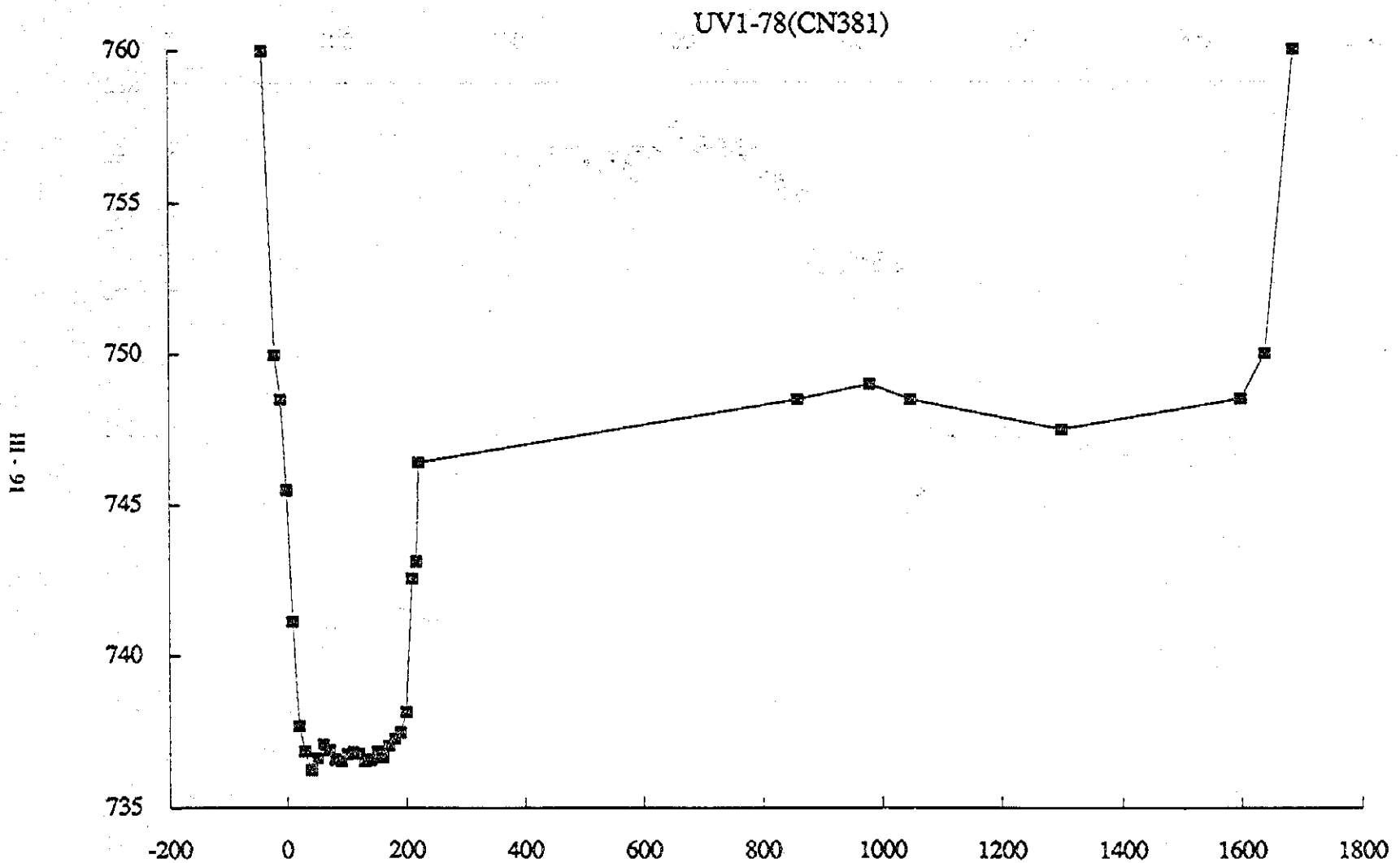
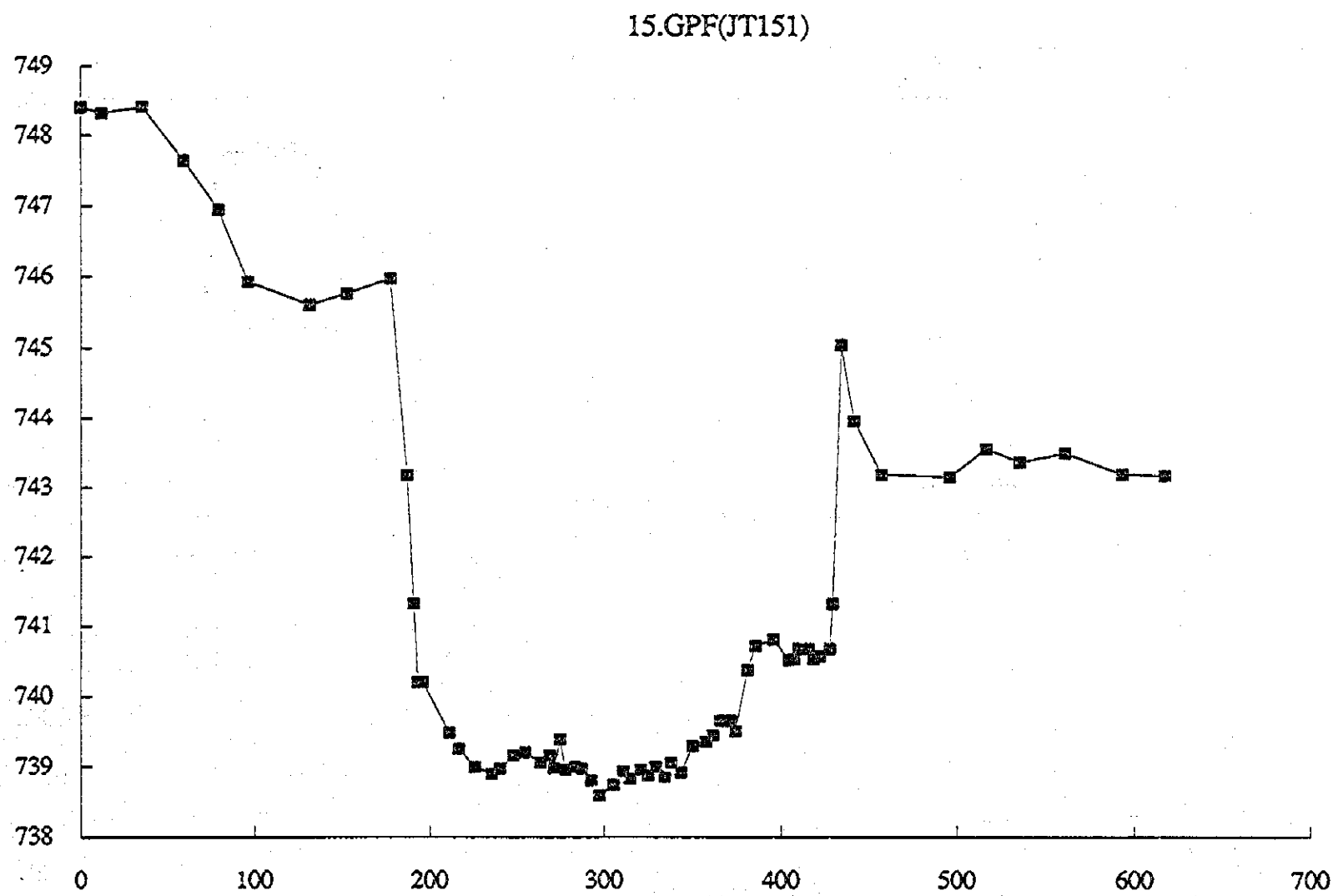
750
748
746
744
742
740
738
0
100
200
300
400
500
600
700


UV-92(CN371)
754
752
750
748
746
744
742
740
738
736
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200


14.GPF(JT141)
765
760
755
750
745
740
735
730
0
100
200
300
400
500
600
III - 90


UV1-78(CN381)
760
755
750
745
740
735
-200
0
200
400
600
800
1000
1200
1400
1600
1800
16 - 91


15.GPF(JT151)
749
748
747
746
745
744
743
742
741
740
739
738
0
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200
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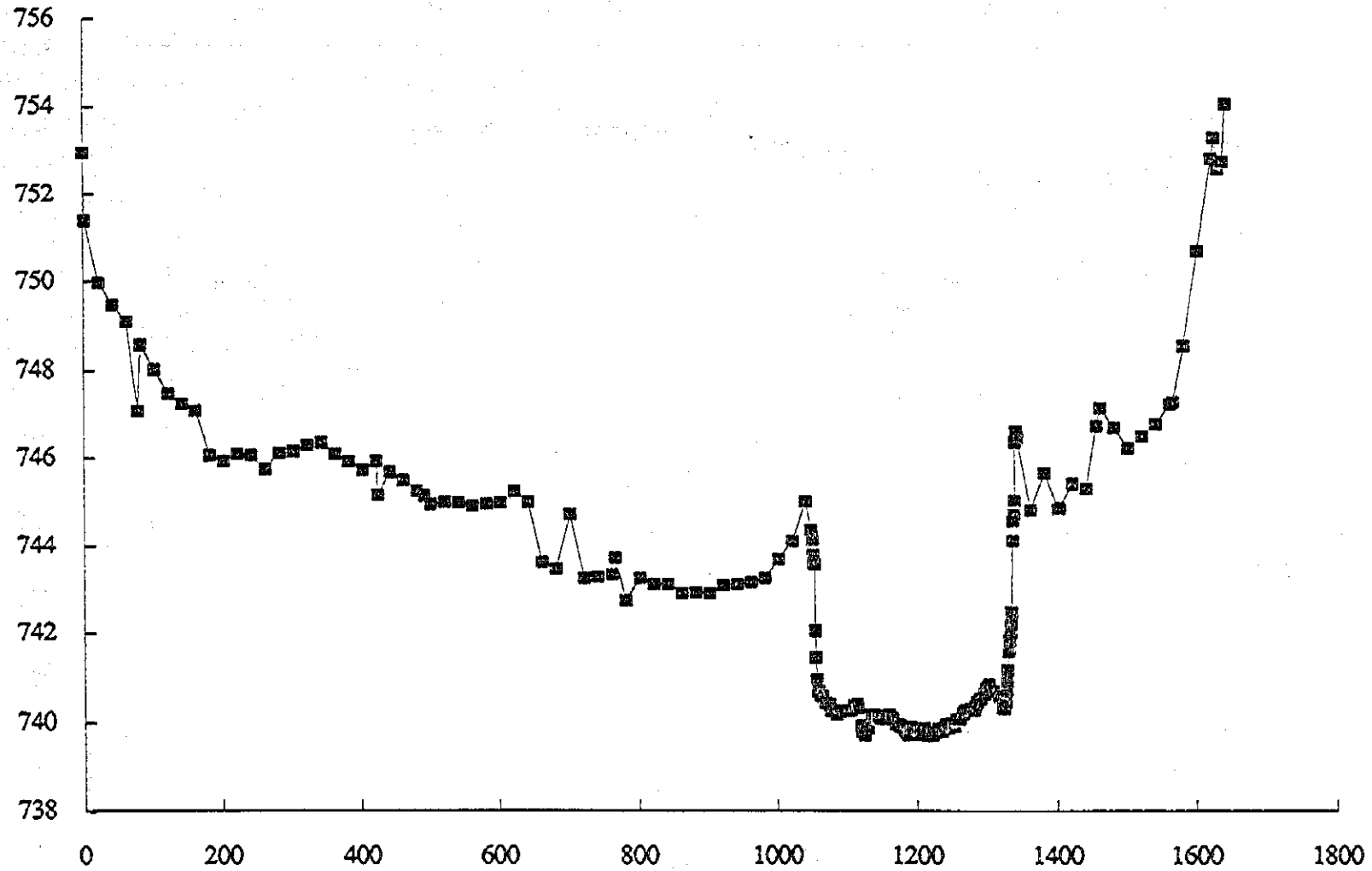
400
500
600
700


FINFL-27.ENT(CF011)
756
754
752
750
748
746
744
742
740
738
0
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400
600
800
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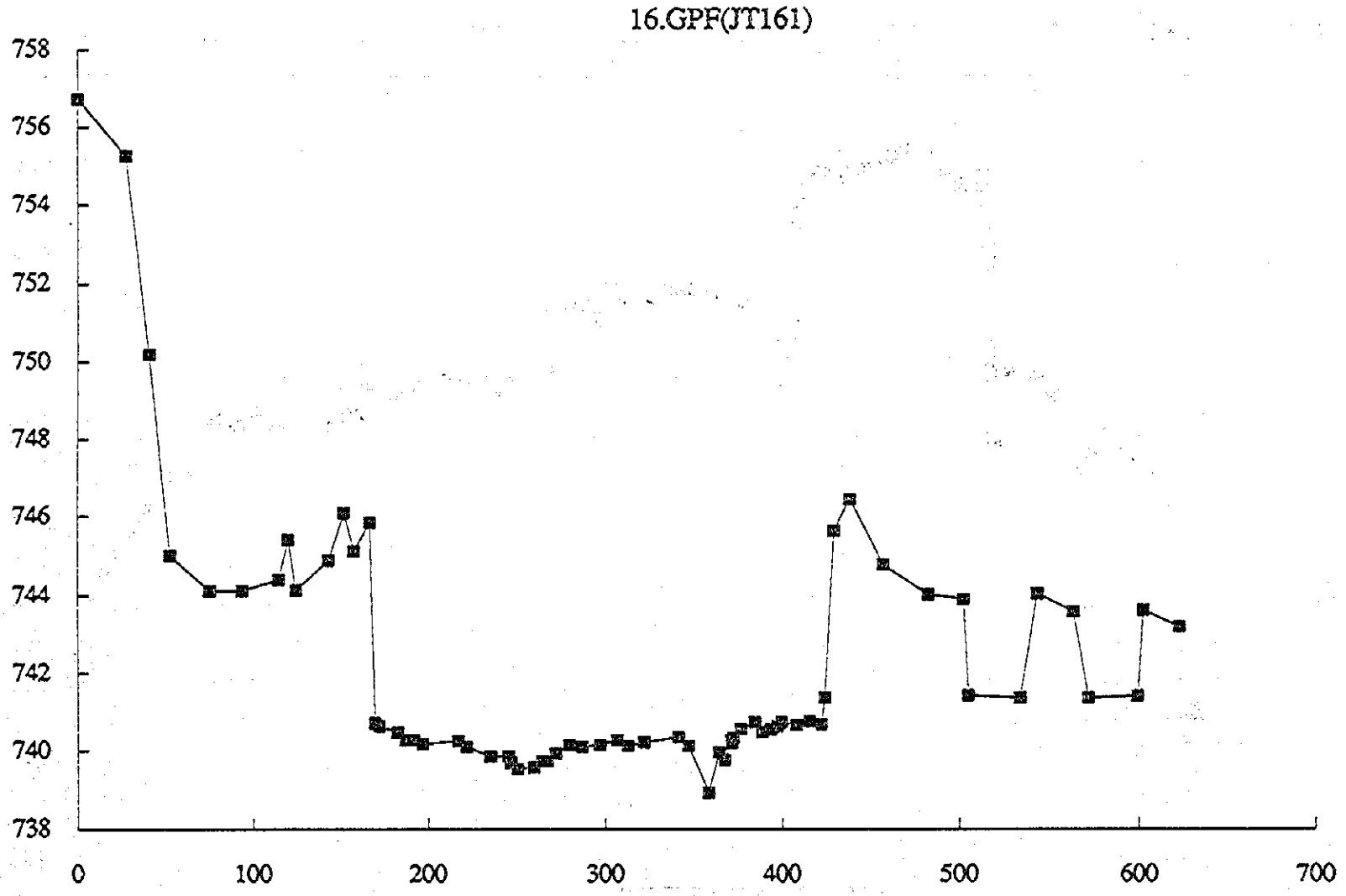
1200
1400
1600
1800


16.GPF(JT161)
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756
754
752
750
748
746
744
742
740
738
0
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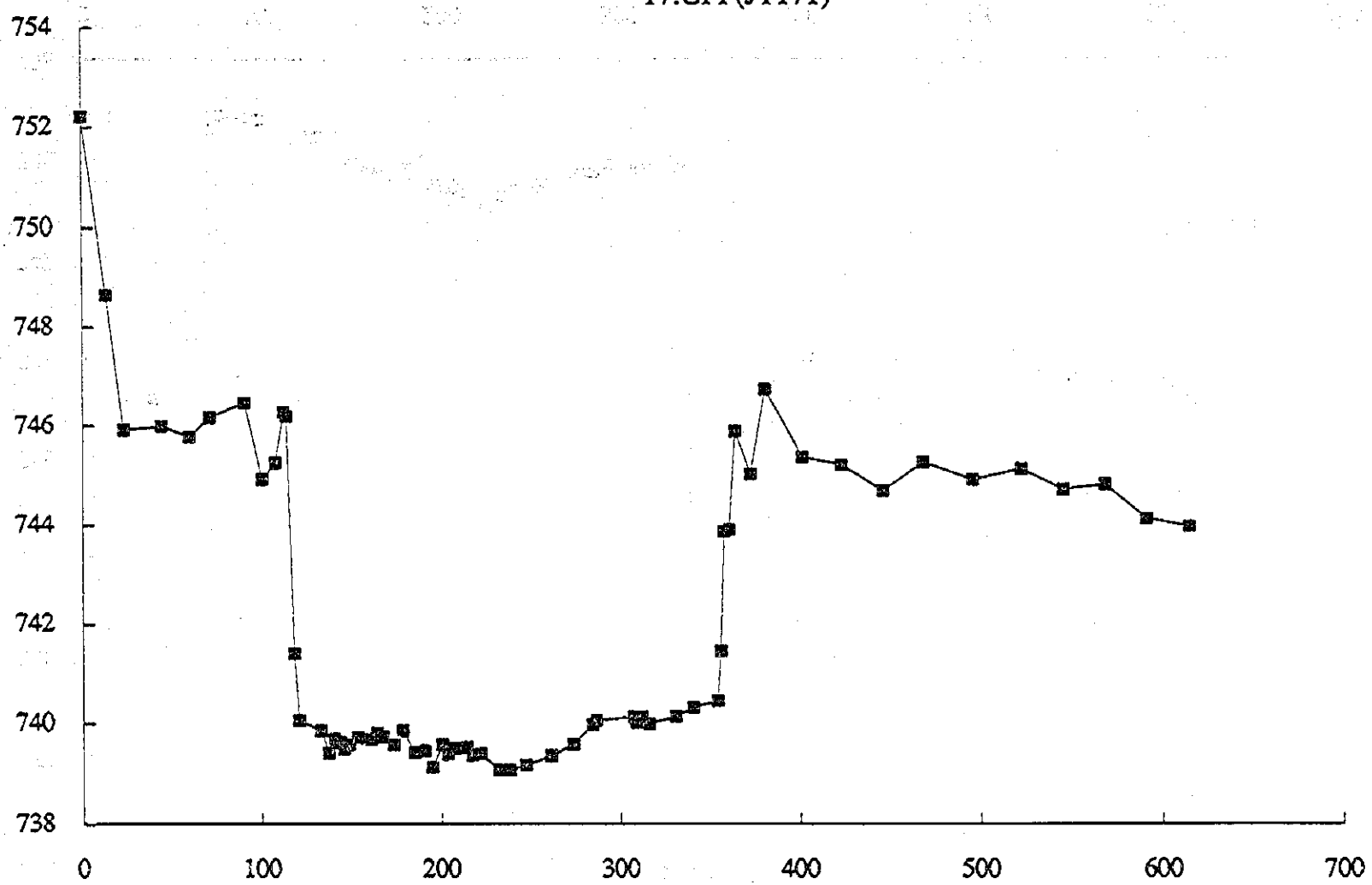
200
300
400
500
600
700


17.GPF(JT171)
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752
750
748
746
744
742
740
738
0
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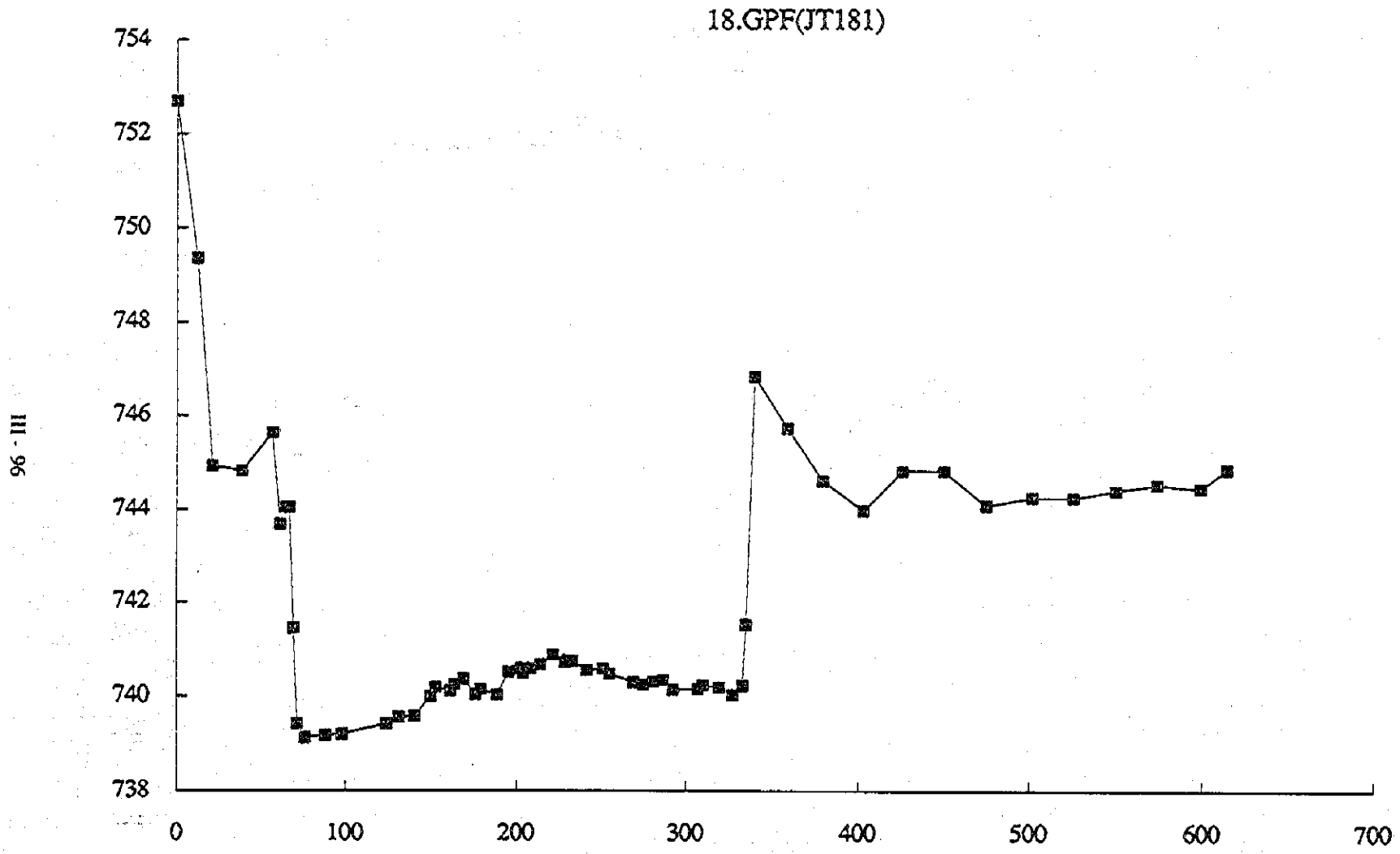
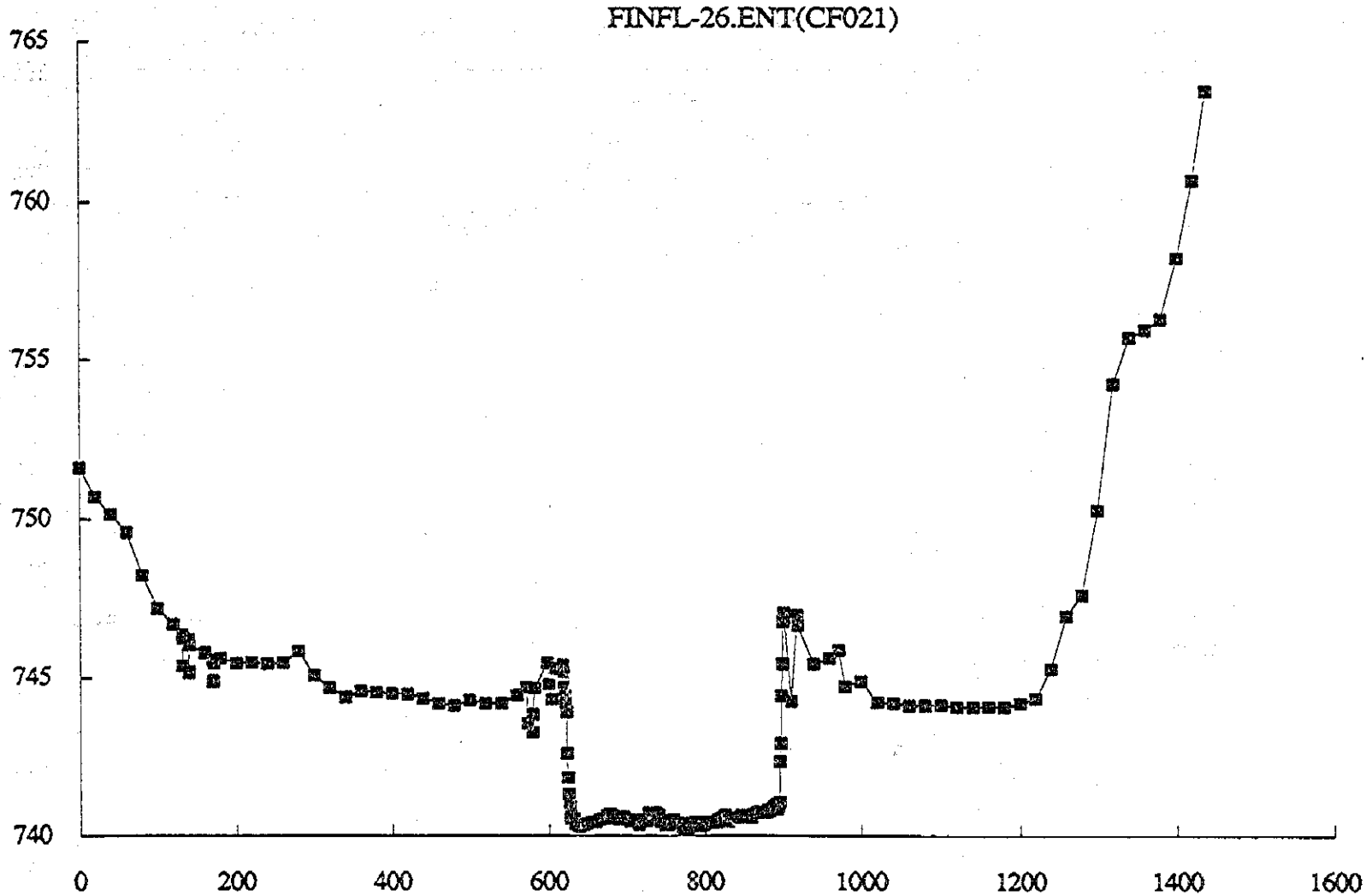
200
300
400
500
600
700


18.GPF(JT181)
754
752
750
748
746
744
742
740
738
0
100
200
300
400
500
600
700
III - 96


FINFL-26.ENT(CF021)
765
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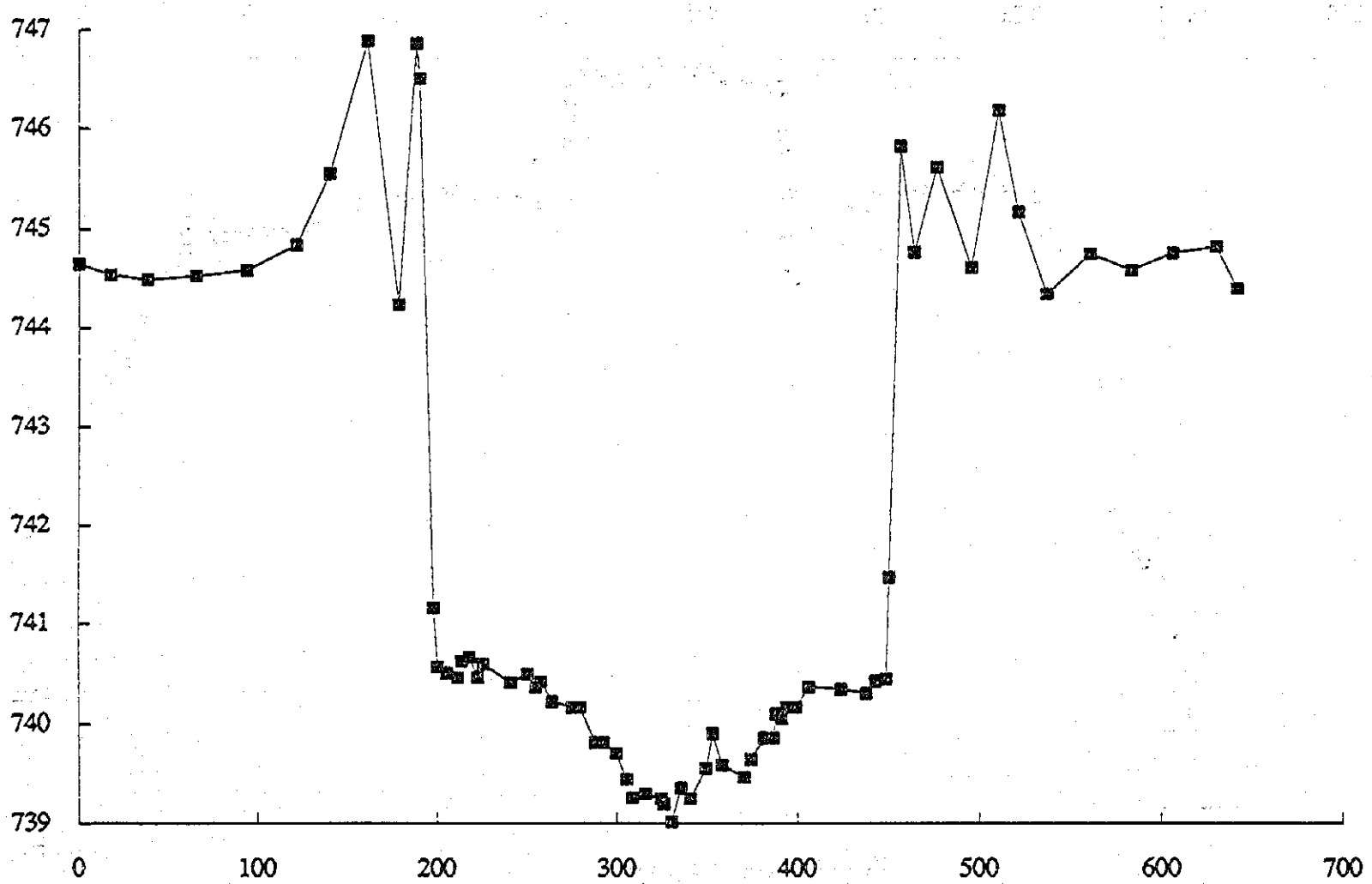
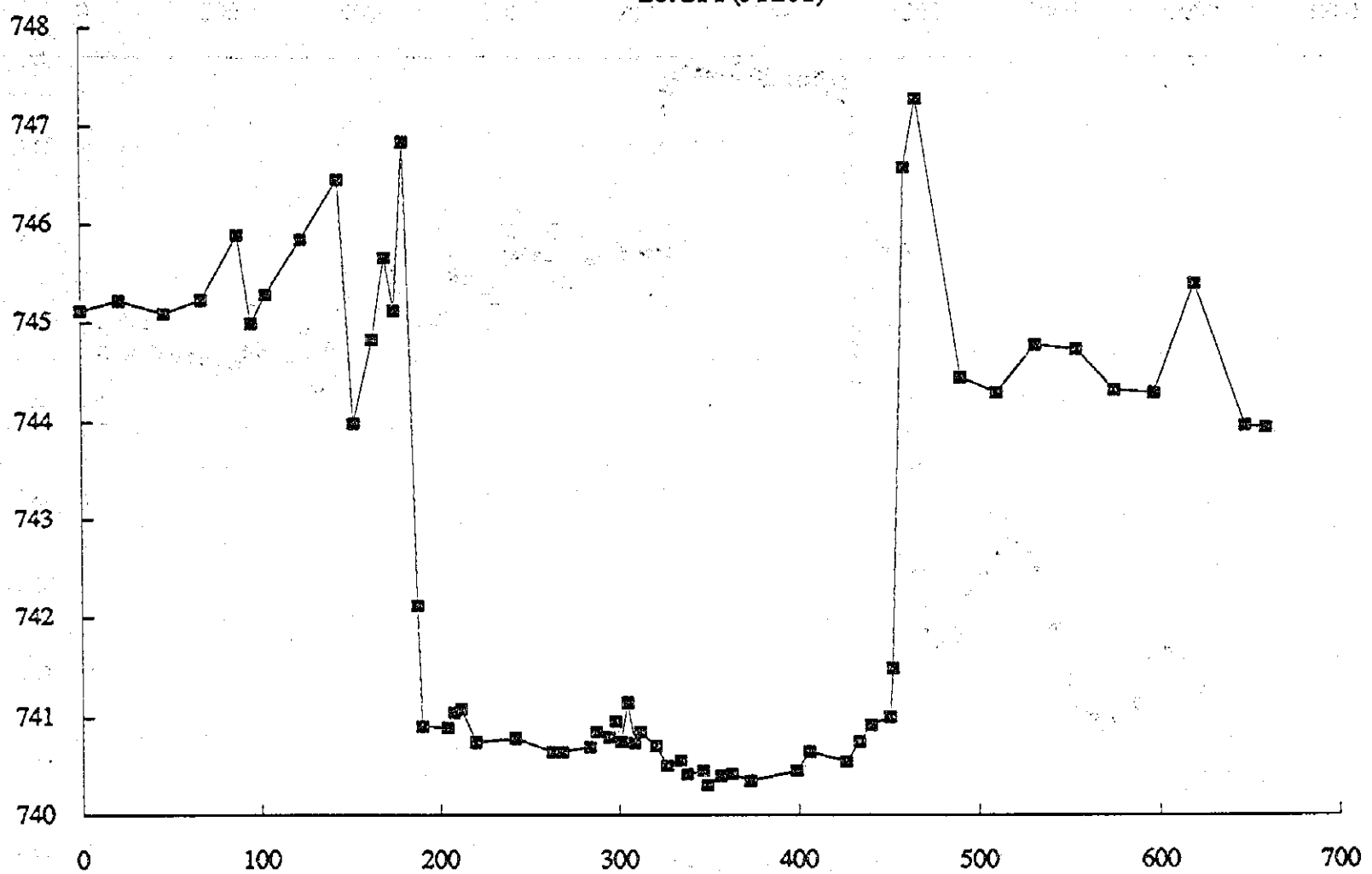
755
750
745
740
0
200
400
600
800
1000
1200
1400
1600

19.GPF(JT191)




20.GPF(JT201)
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745
744
743
742
741
740
0
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400
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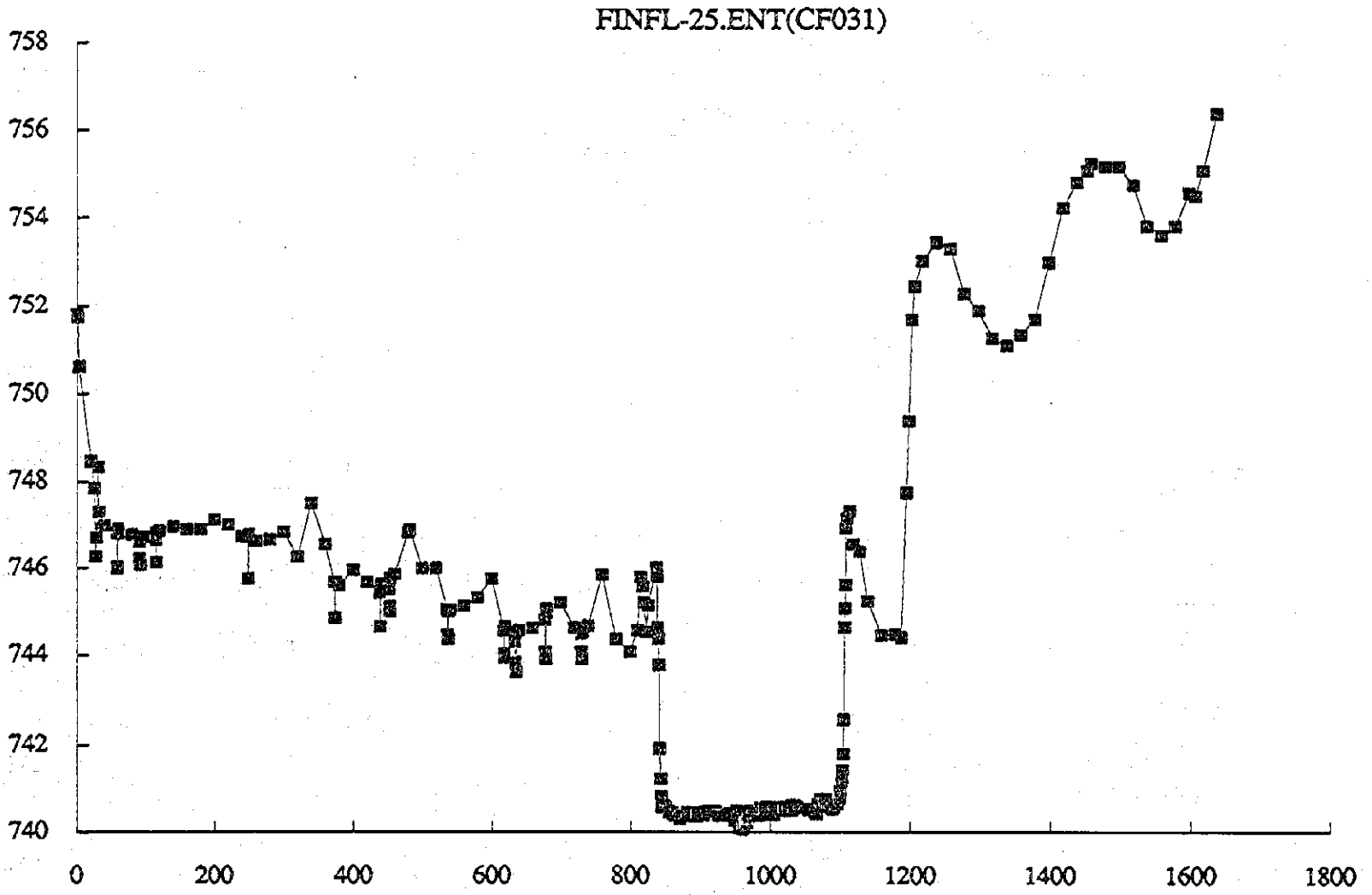
600
700


FINFL-25.ENT(CF031)
758
756
754
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748
746
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742
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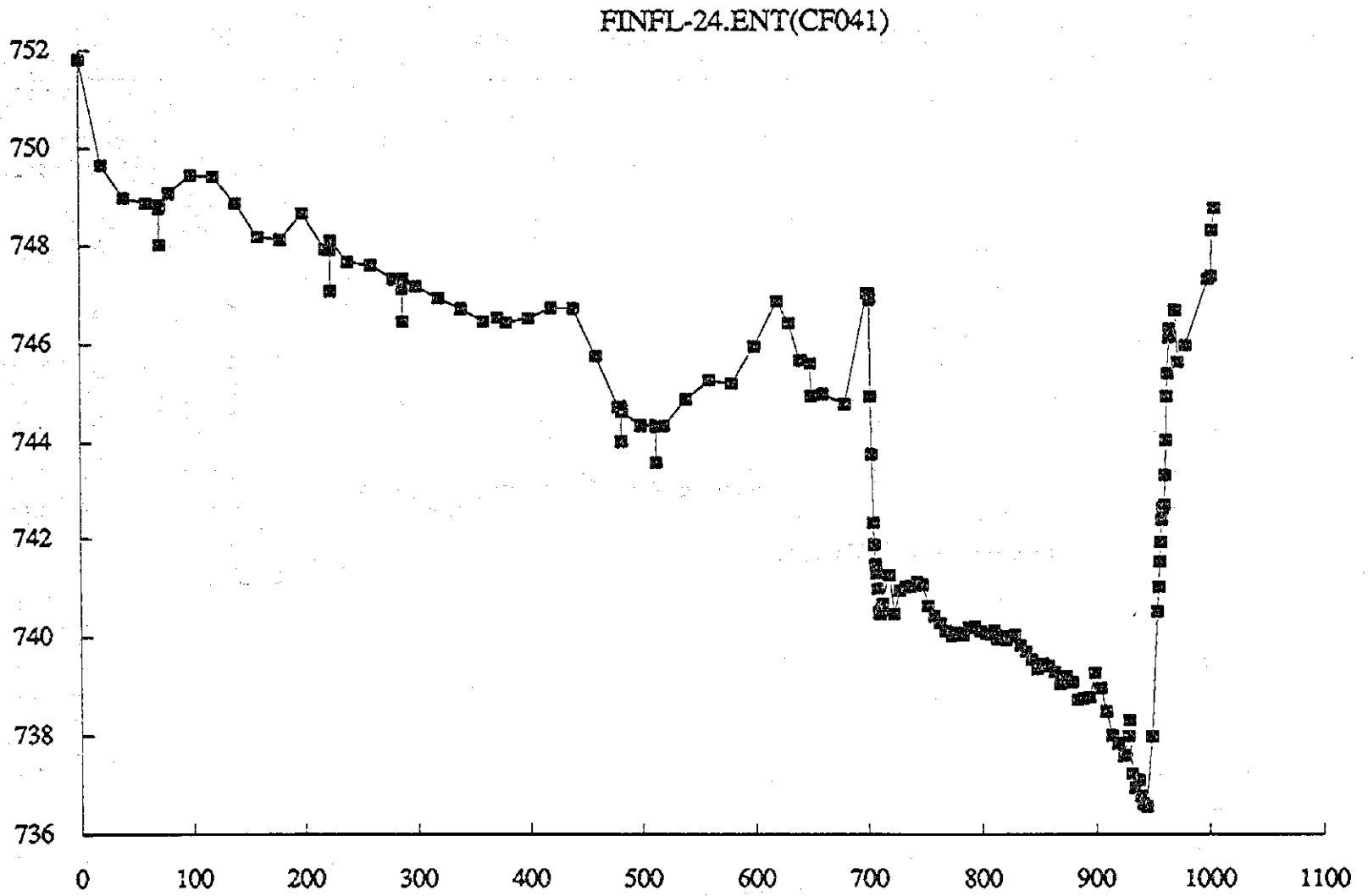
1600
1800


FINFL-24.ENT(CF041)
752
750
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740
738
736
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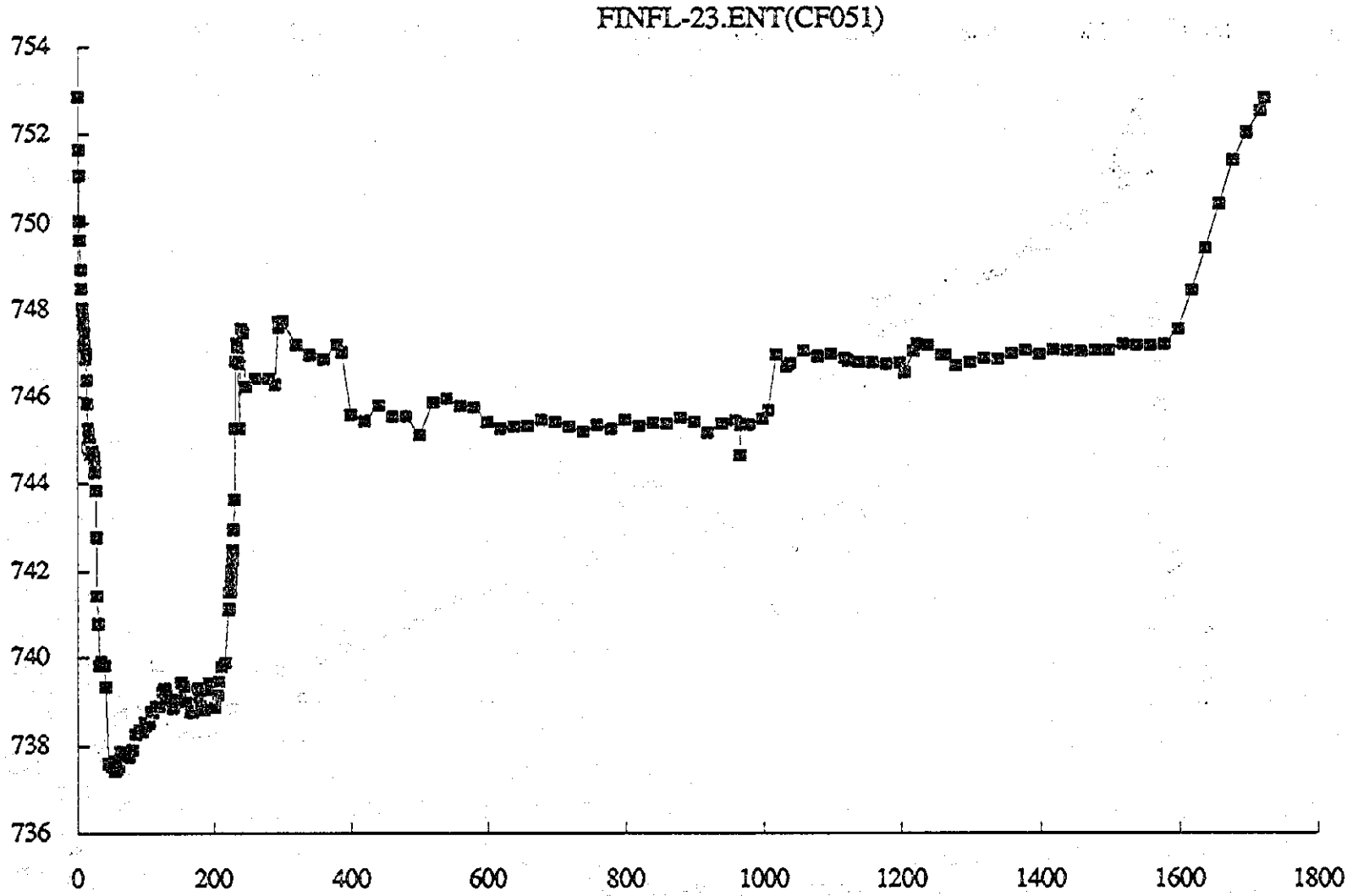
800
900
1000
1100


FINFL-23.ENT(CF051)
754
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744
742
740
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736
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1200
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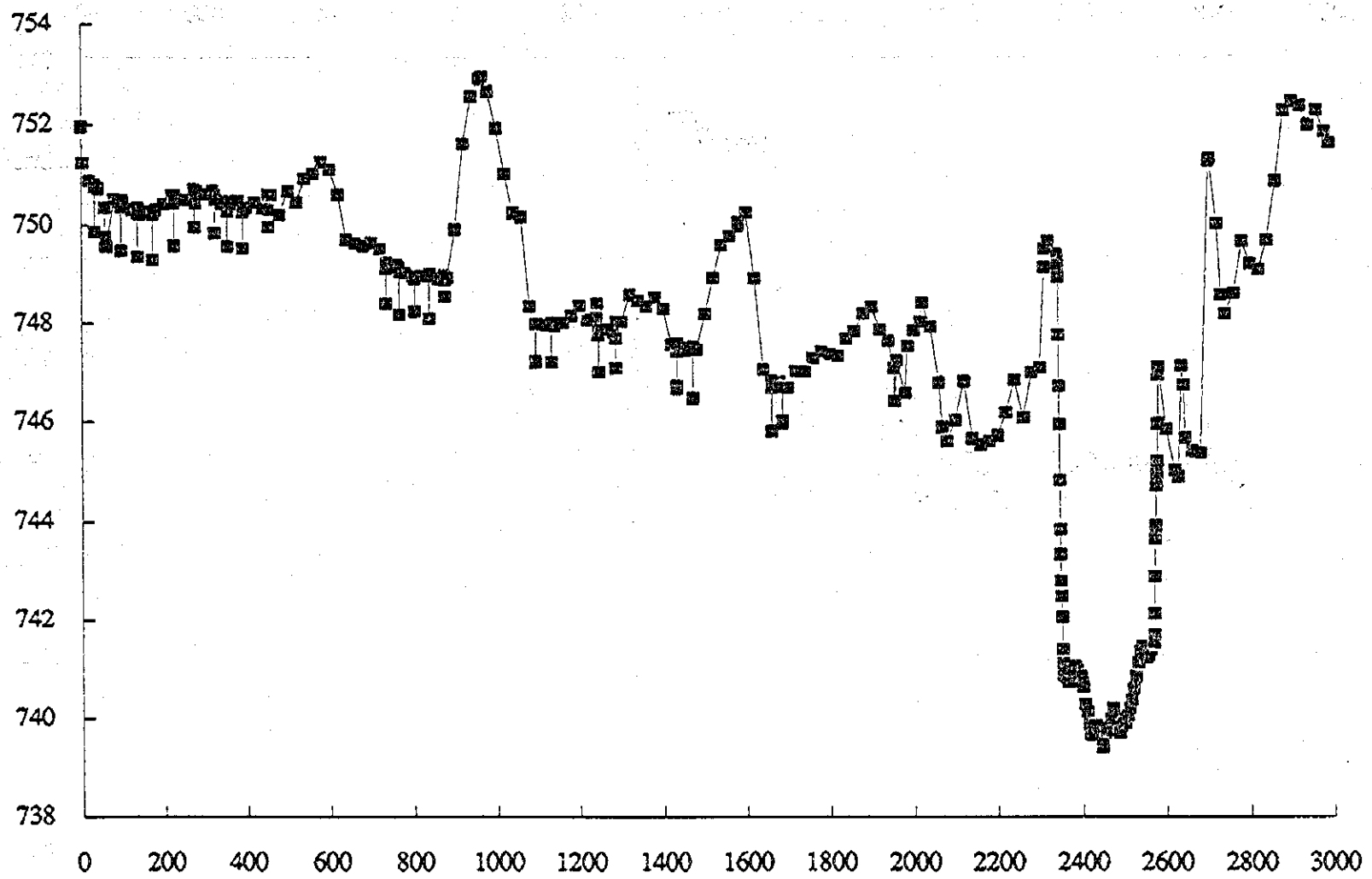
1600
1800


FINFL-22.ENT(CF061)
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748
746
744
742
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800
1000
1200
1400
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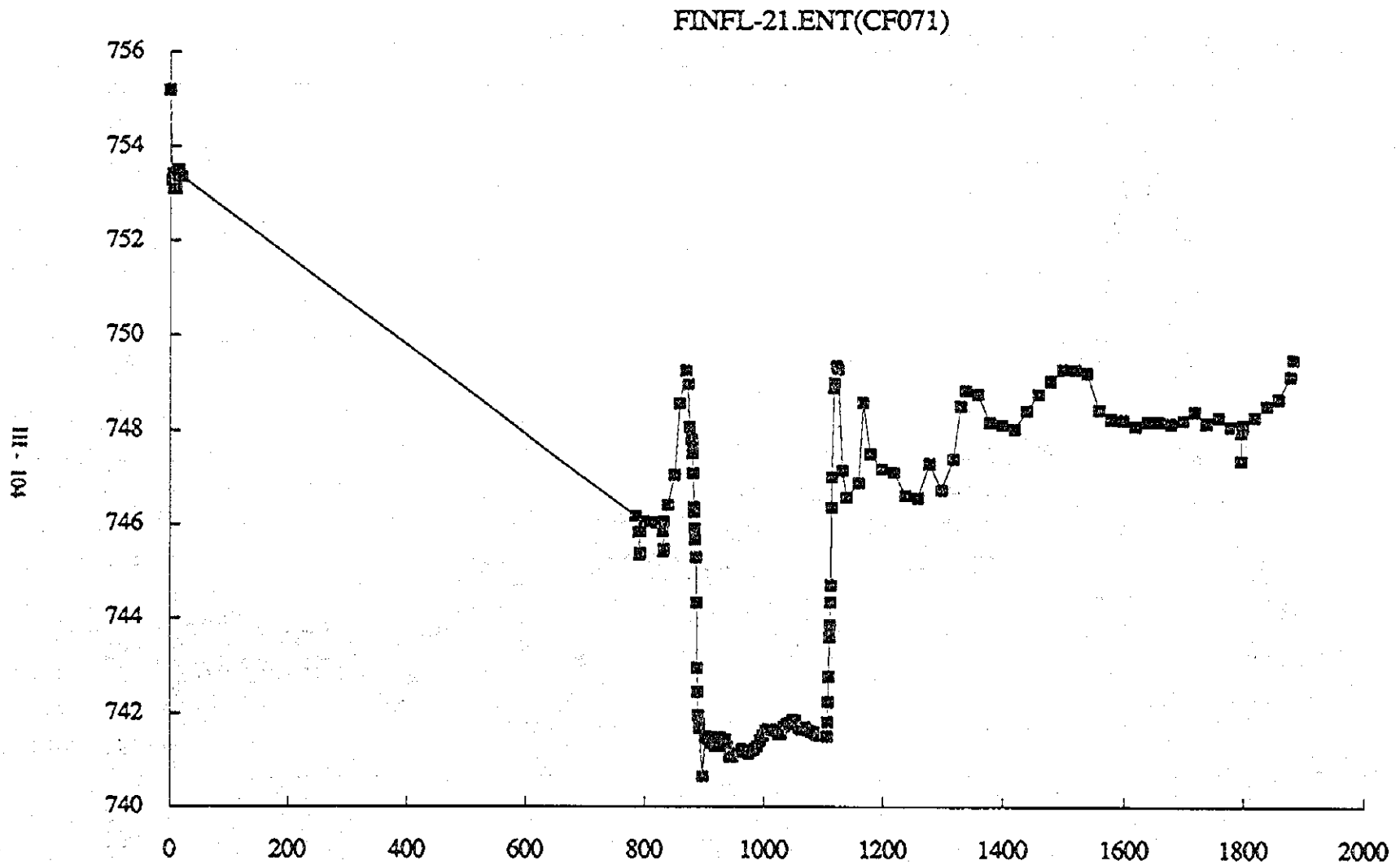
1800
2000
2200
2400
2600
2800
3000


FINFL-21.ENT(CF071)
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746
744
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1400
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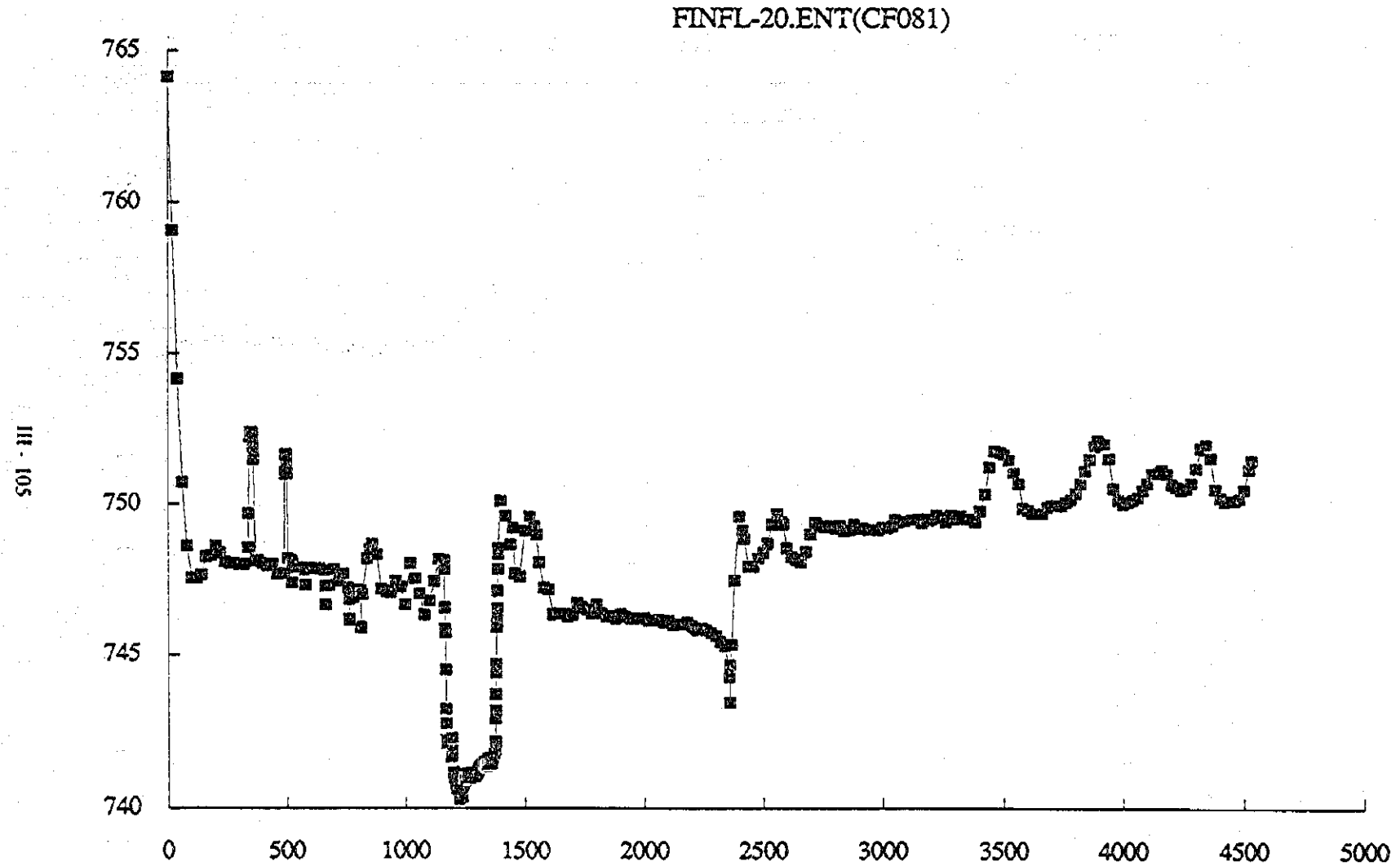
1800
2000


FINFL-20.ENT(CF081)
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745
740
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1500
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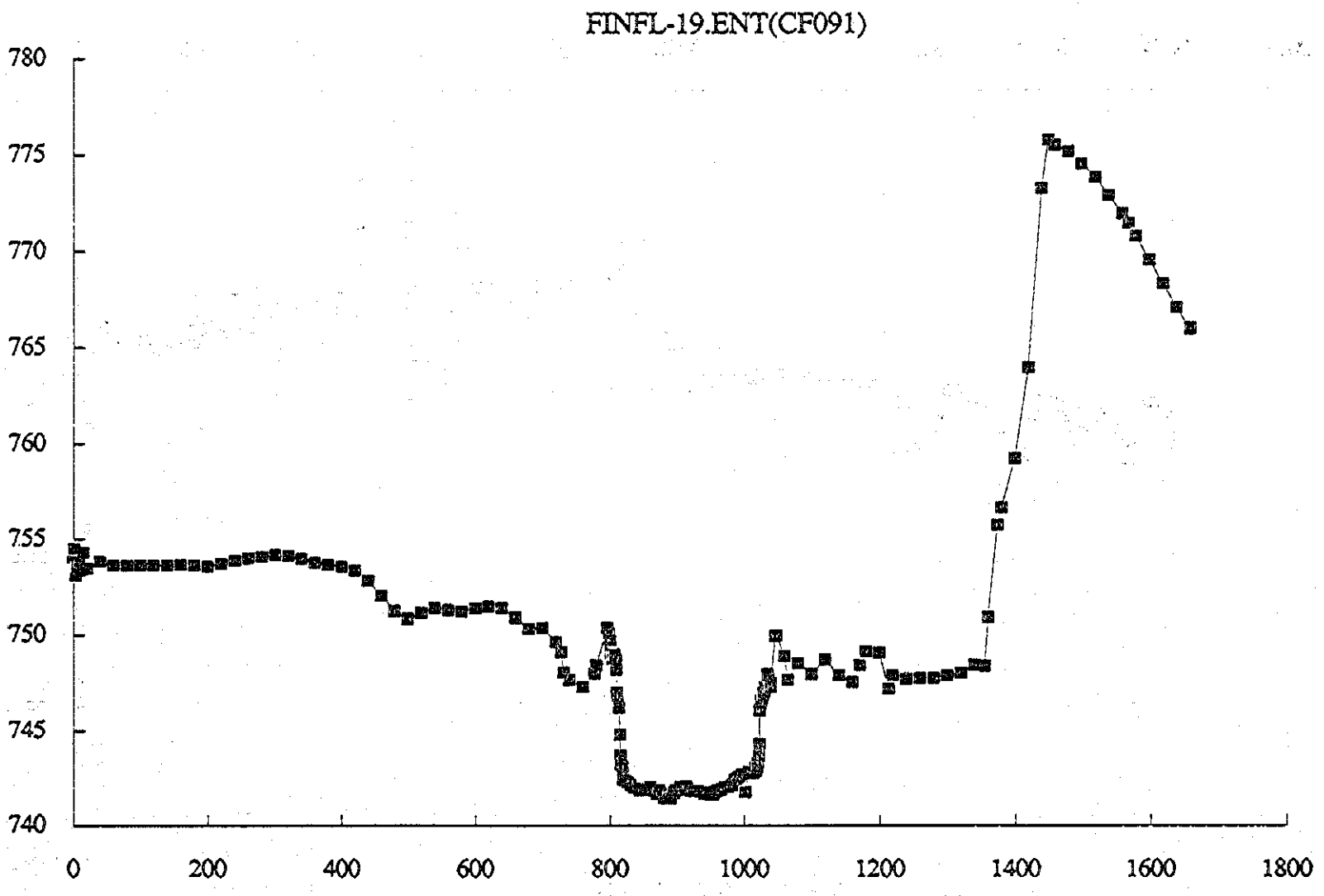
3500
4000
4500
5000


FINFL-19.ENT(CF091)
780
775
770
765
760
755
750
745
740
0
200
400
600
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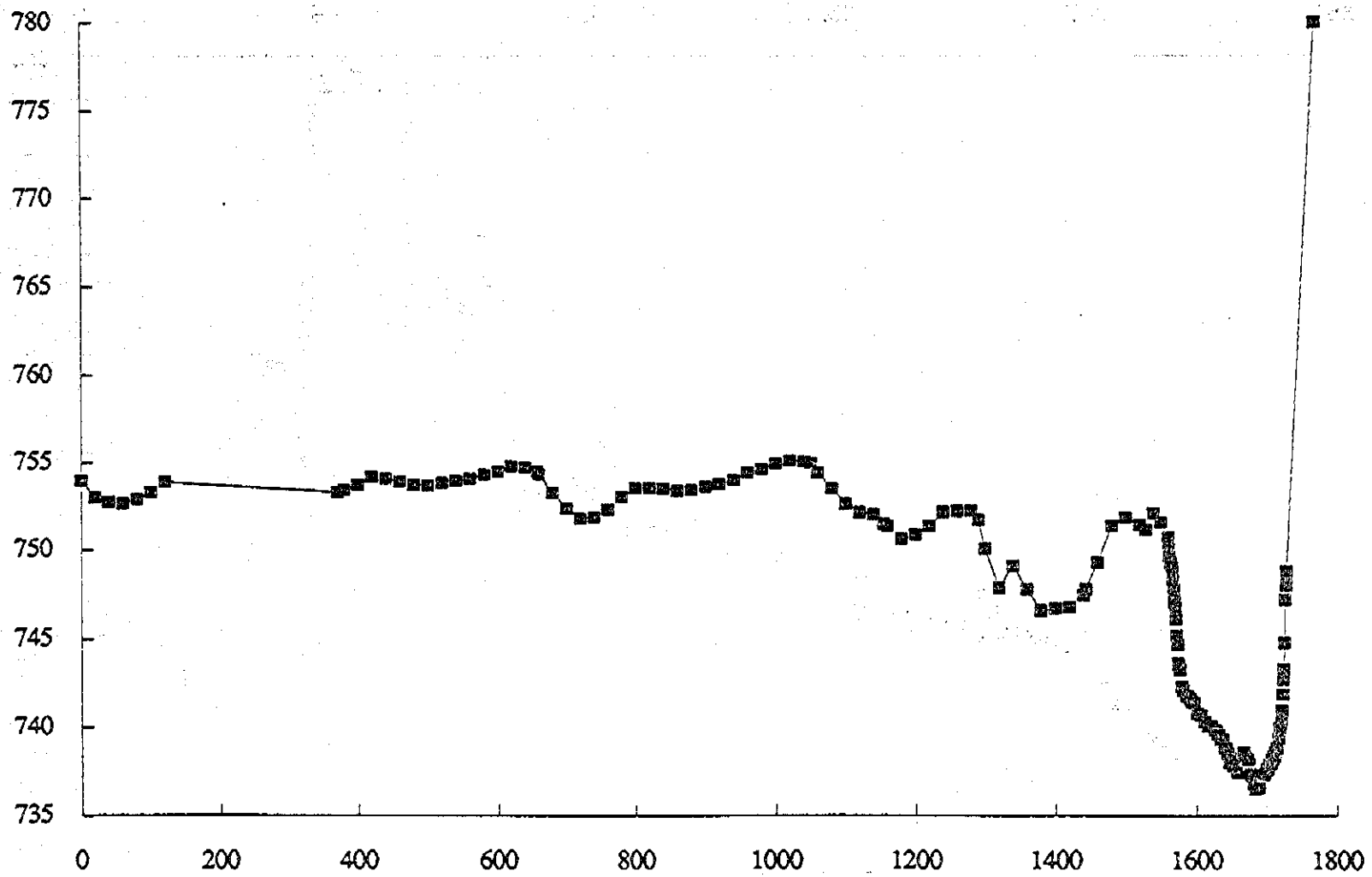
1200
1400
1600
1800


FINFL-18.ENT(CF101)
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775
770
765
760
755
750
745
740
735
0
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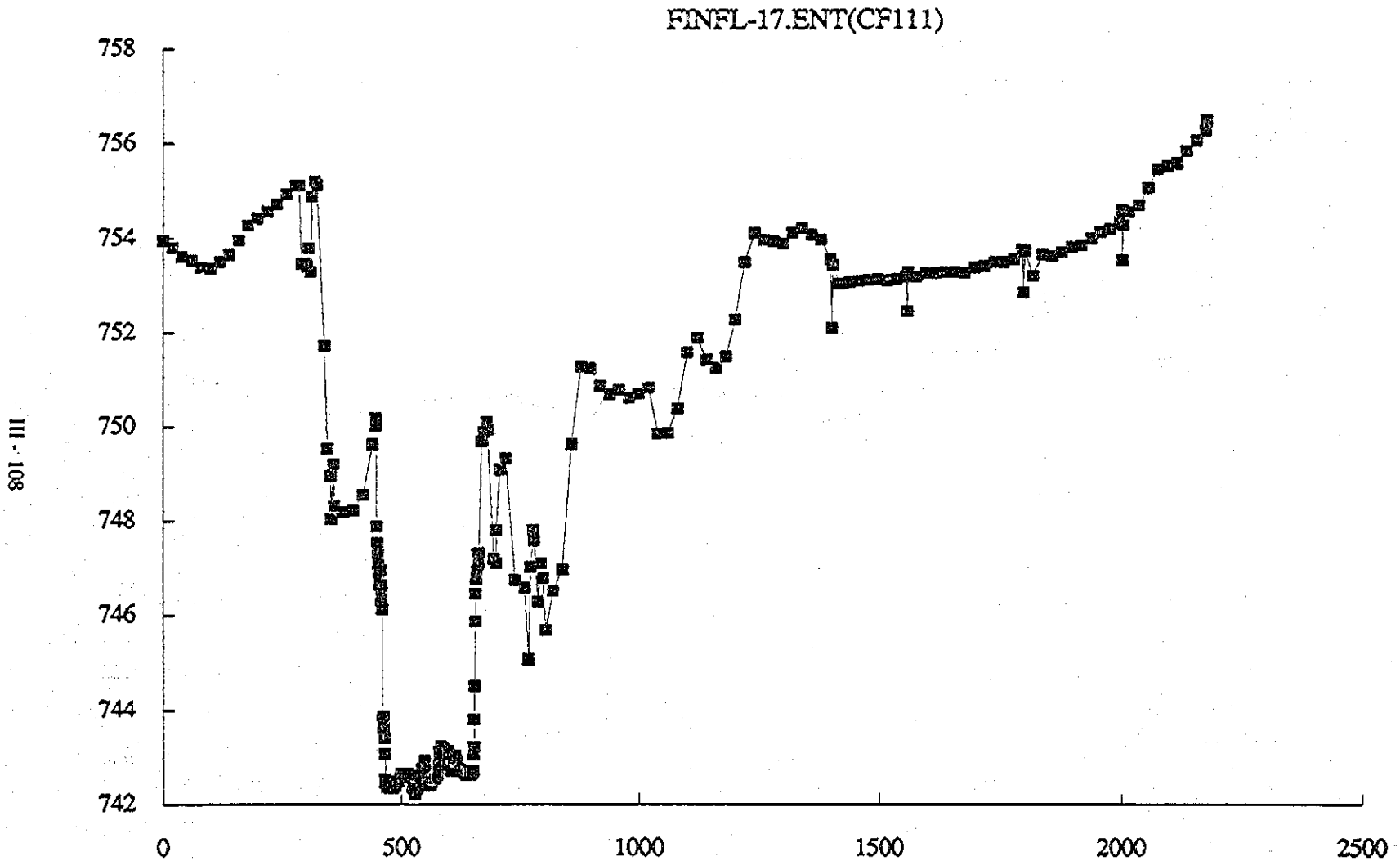
400
600
800
1000
1200
1400
1600
1800


FINFL-17.ENT(CF111)
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756
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752
750
748
746
744
742
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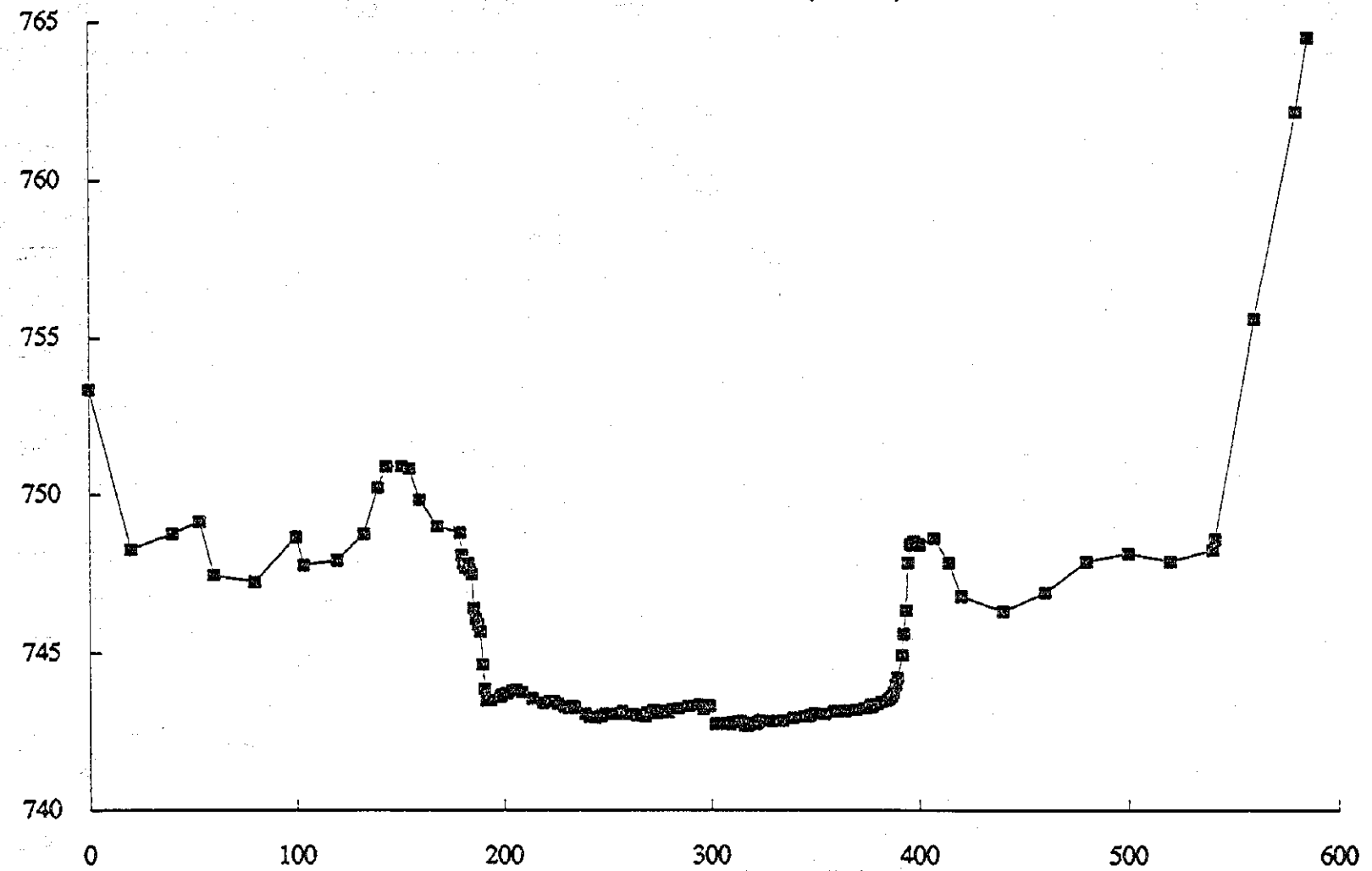
1000
1500
2000
2500


FINFL-16.ENT(CF121)
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755
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745
740
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300
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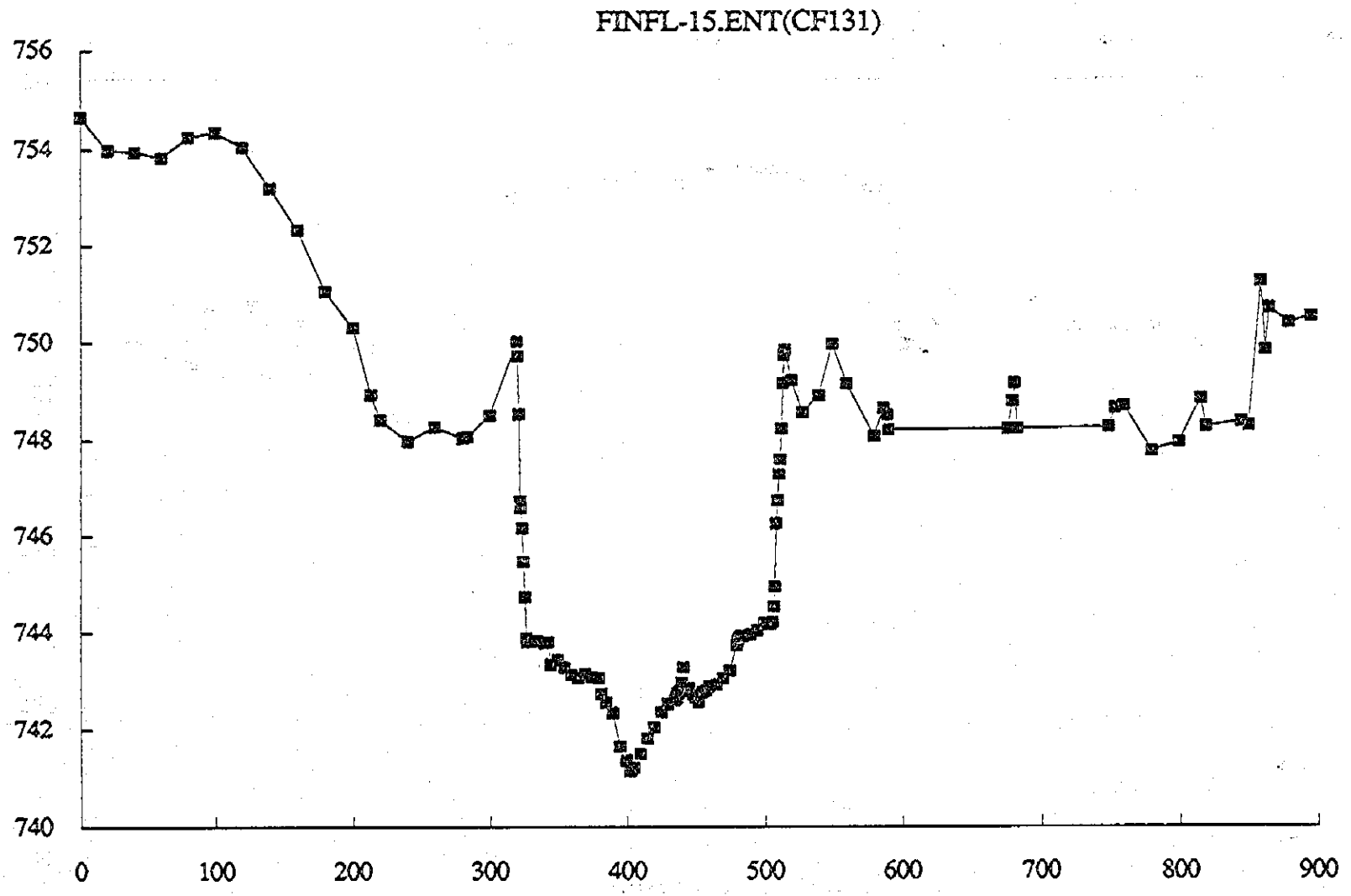
500
600


FINFL-15.ENT(CF131)
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754
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748
746
744
742
740
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200
300
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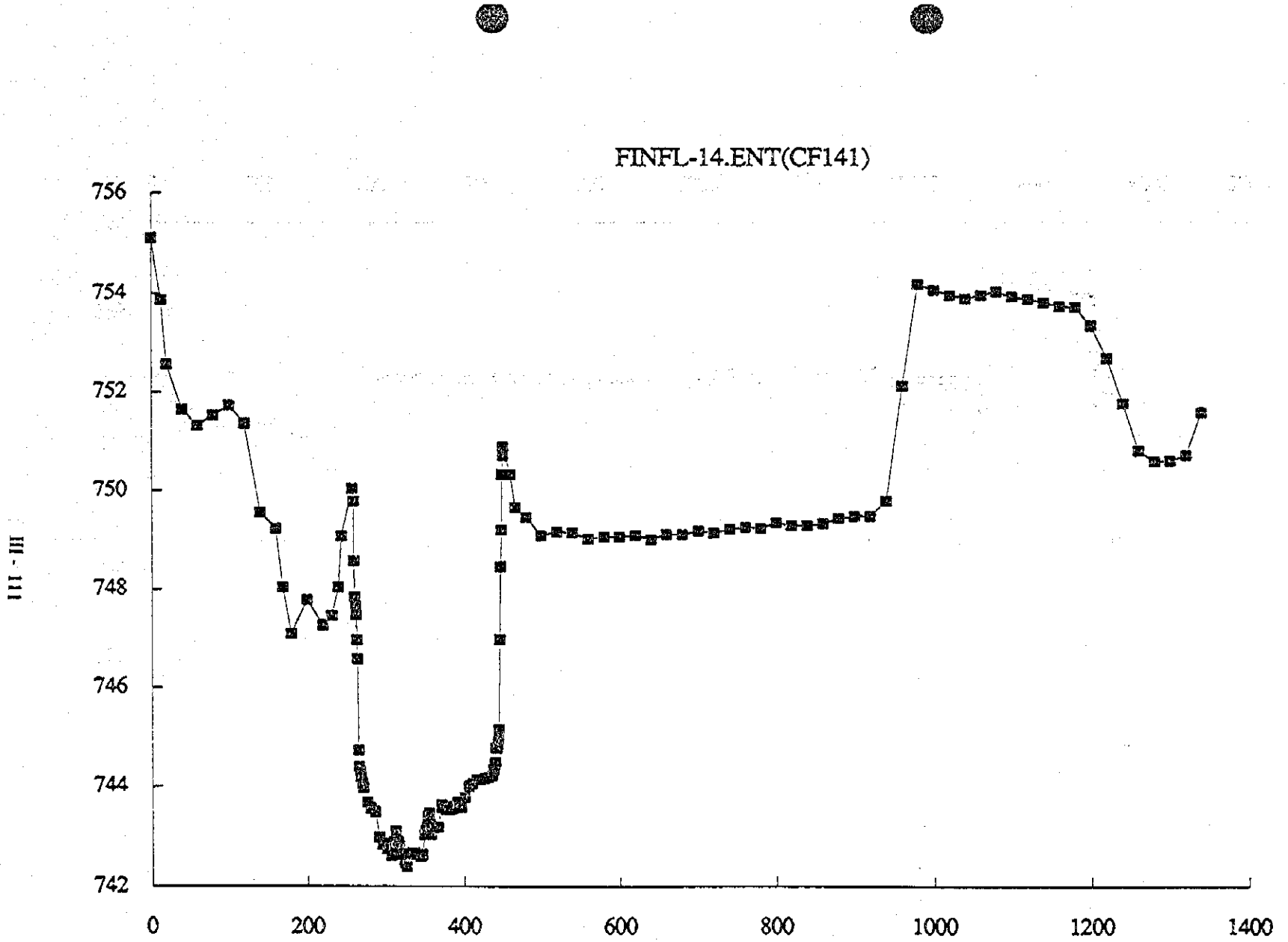
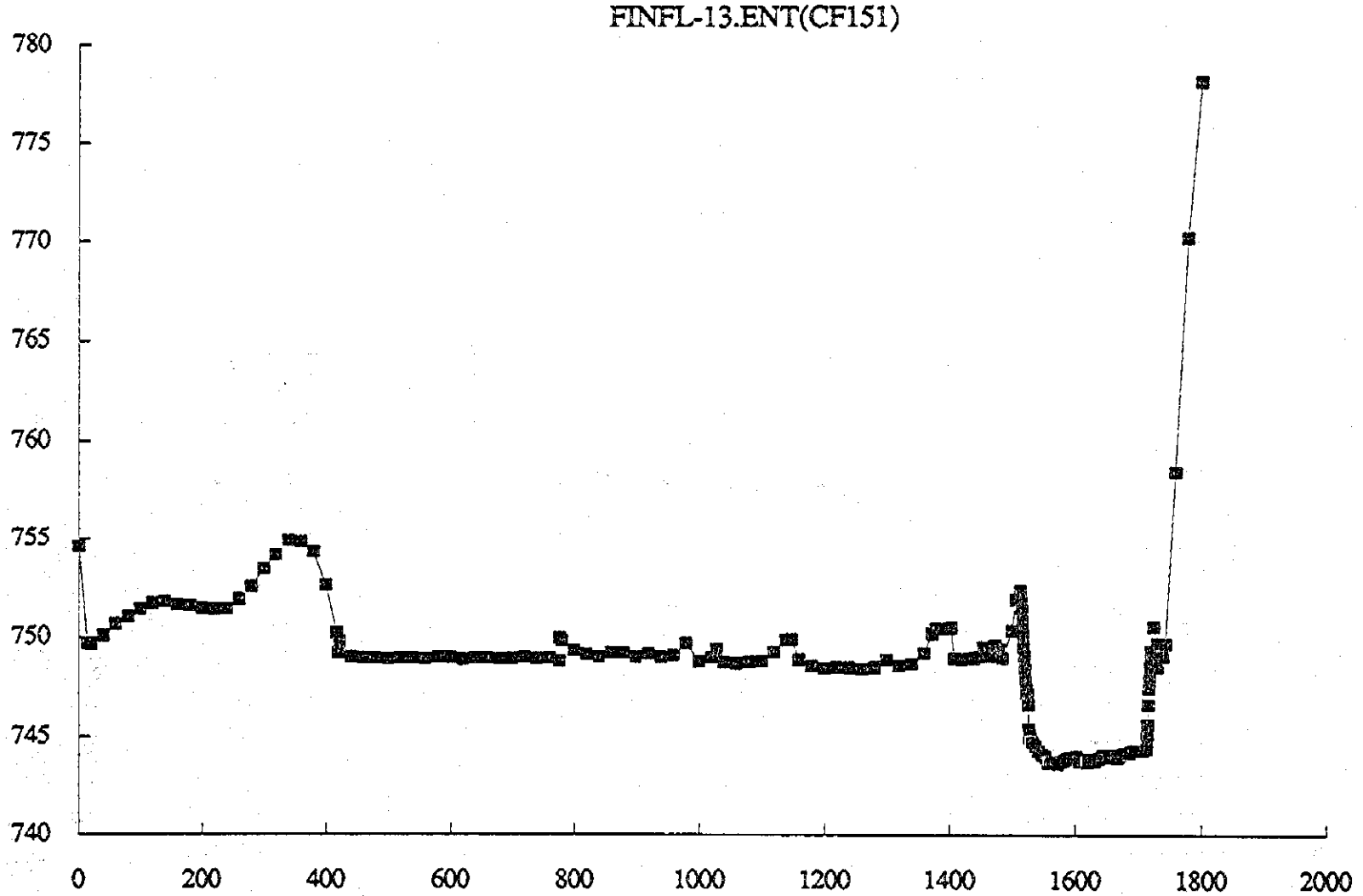
600
700
800
900


FINFL-14.ENT(CF141)
756
754
752
750
748
746
744
742
0
200
400
600
800
1000
1200
1400


FINFL-13.ENT(CF151)
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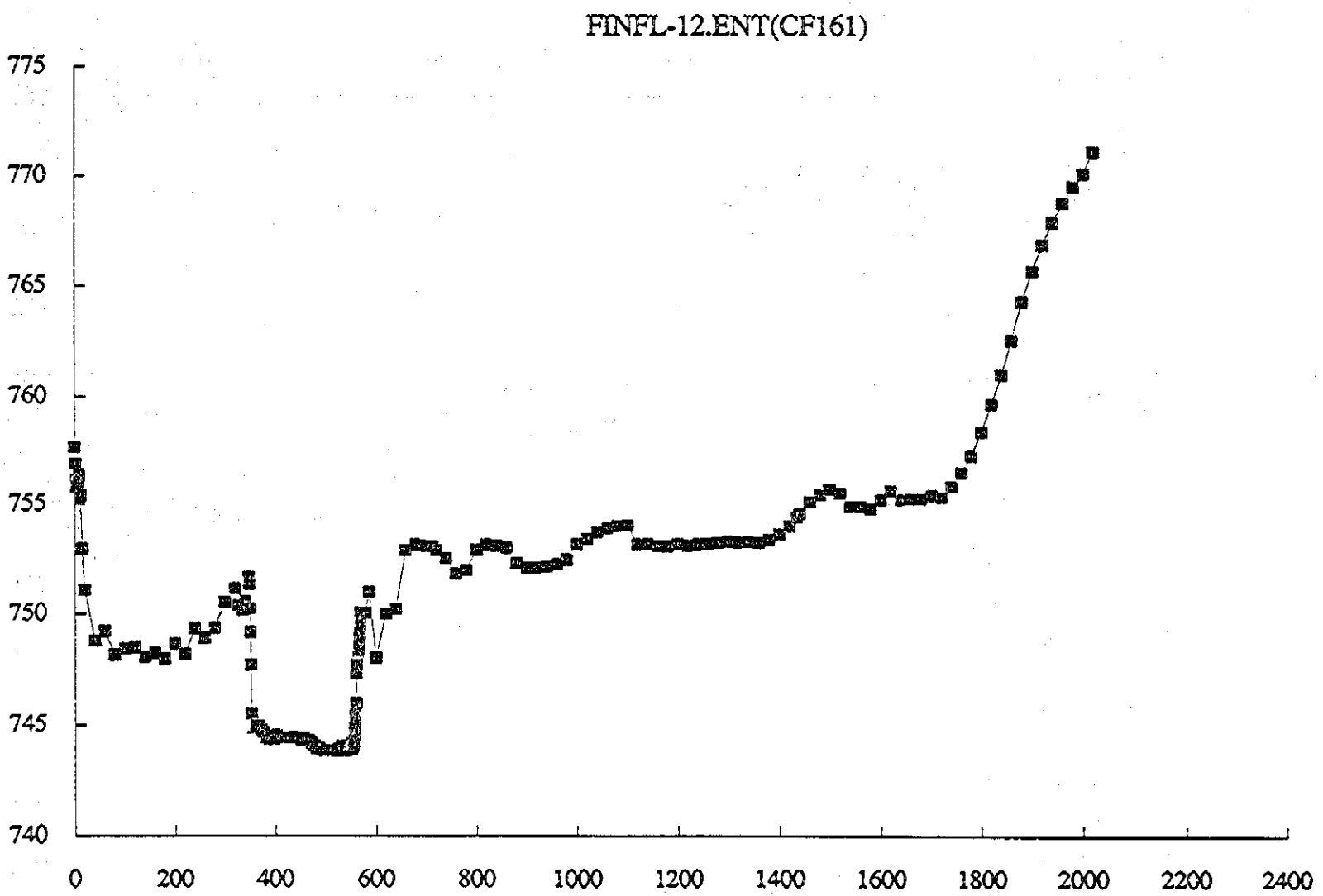
FINFL-12.ENT(CF161)
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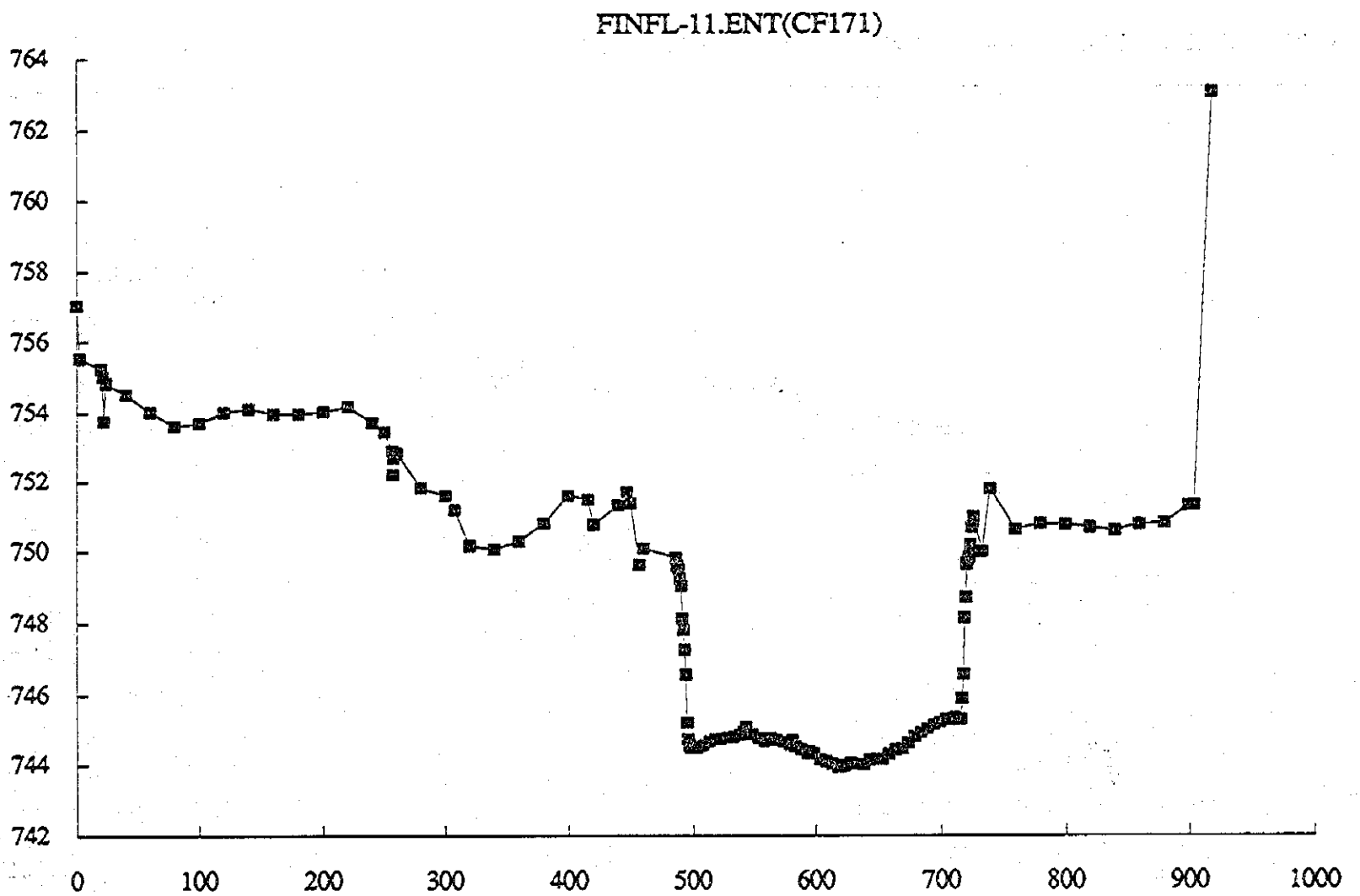
FINFL-11.ENT(CF171)
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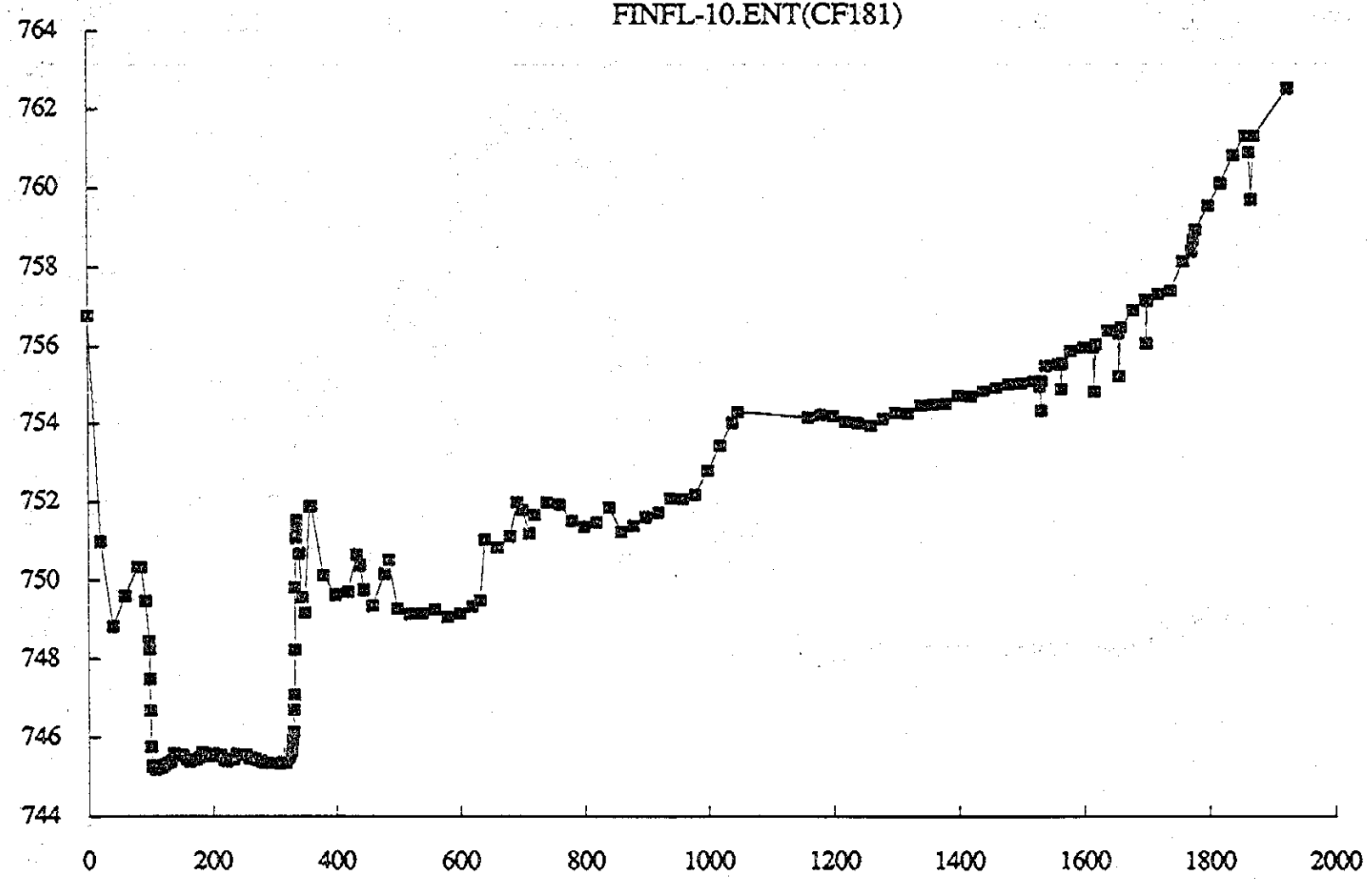
FINFL-10.ENT(CF181)
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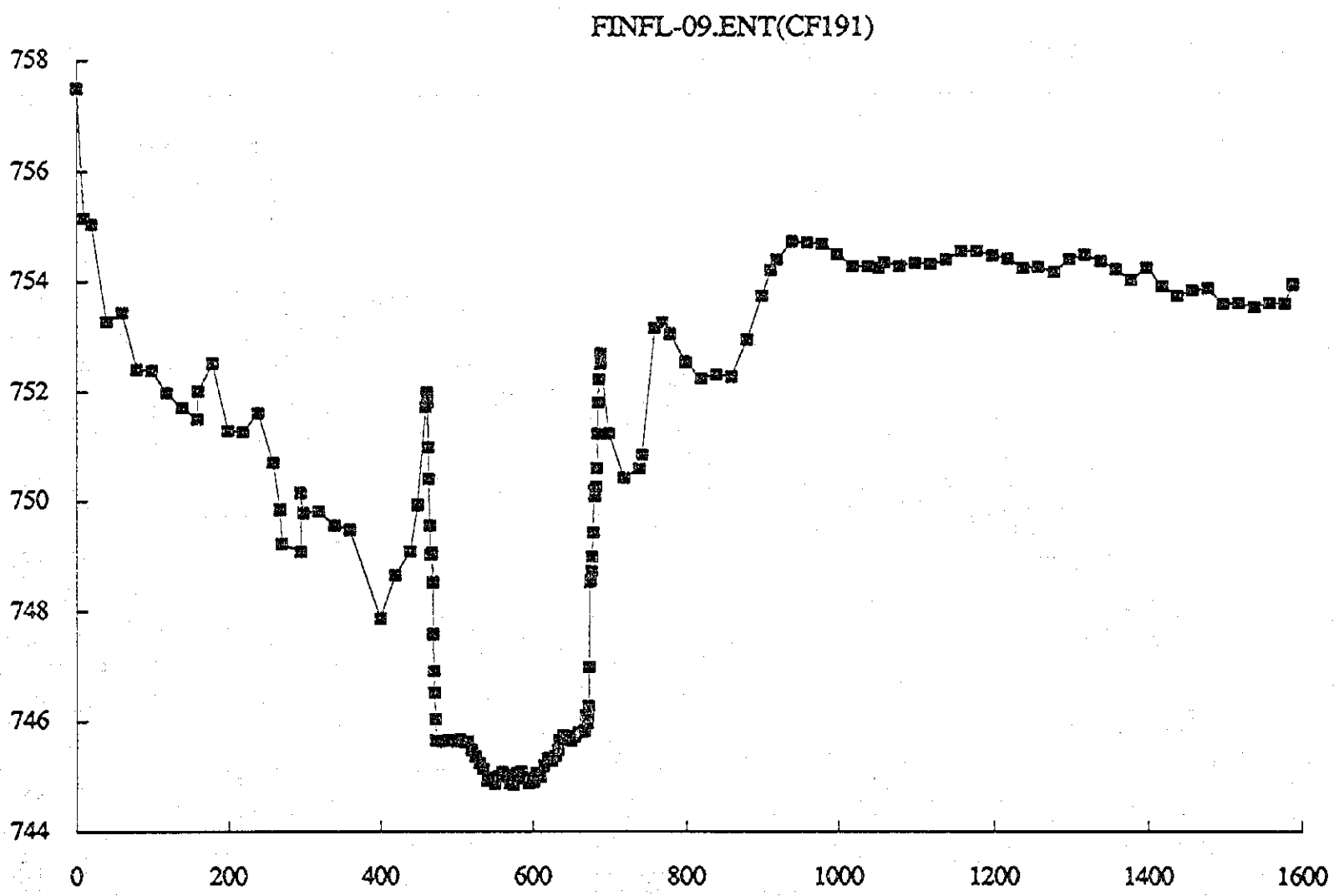
FINFL-09.ENT(CF191)
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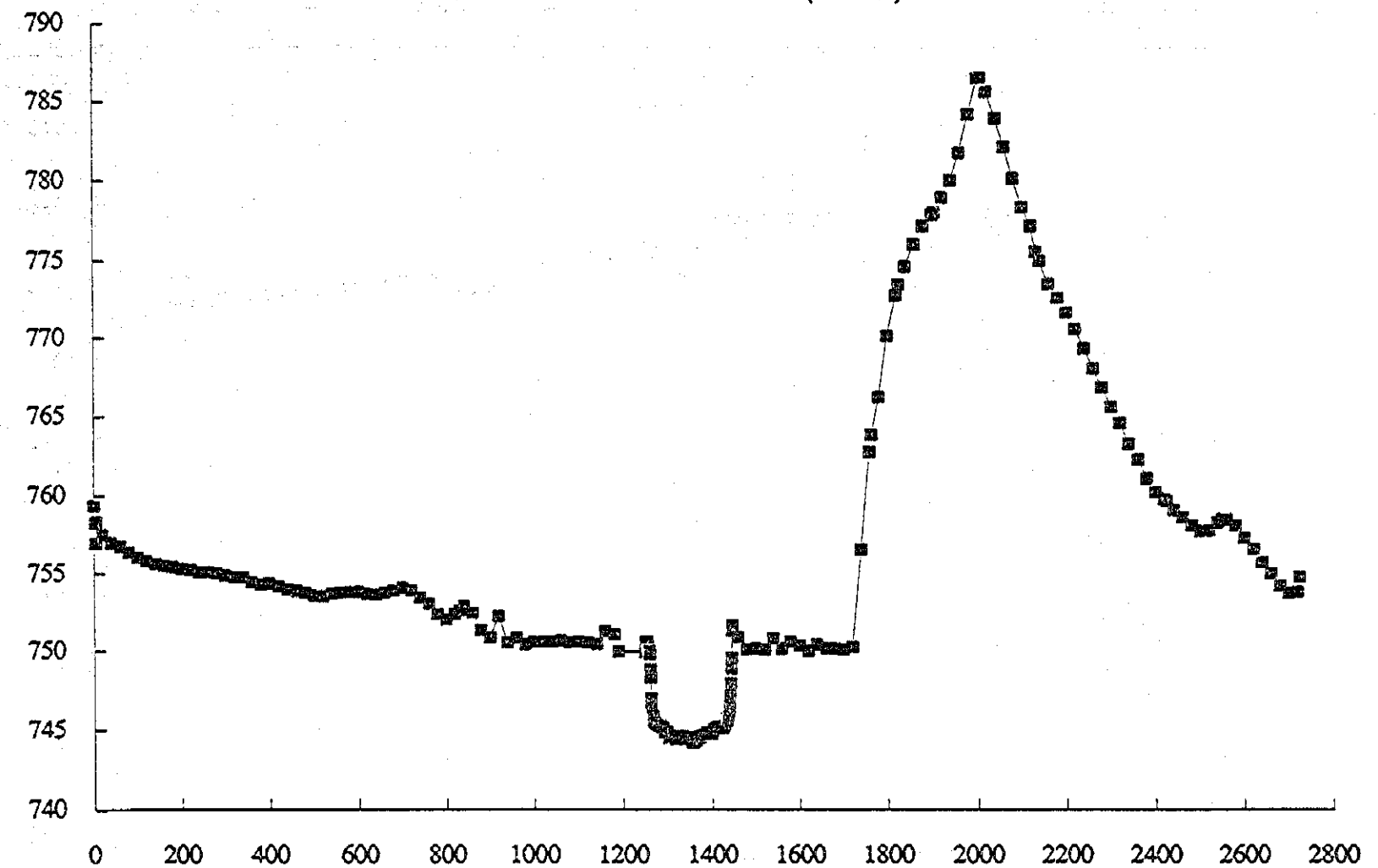
FINFL-08.ENT(CF201)
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770
765
760
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1600
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2600
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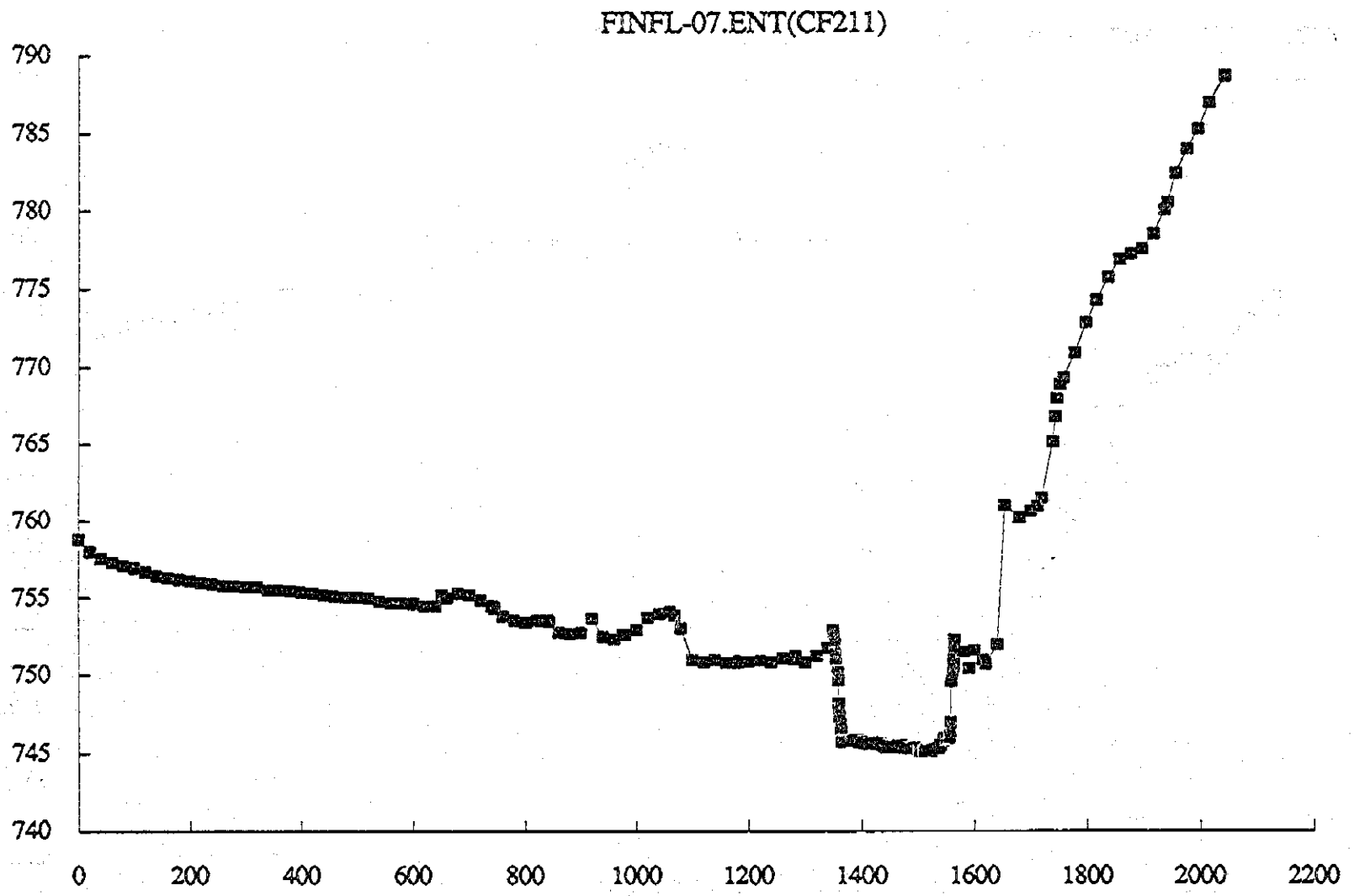
FINFL-07.ENT(CF211)
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785
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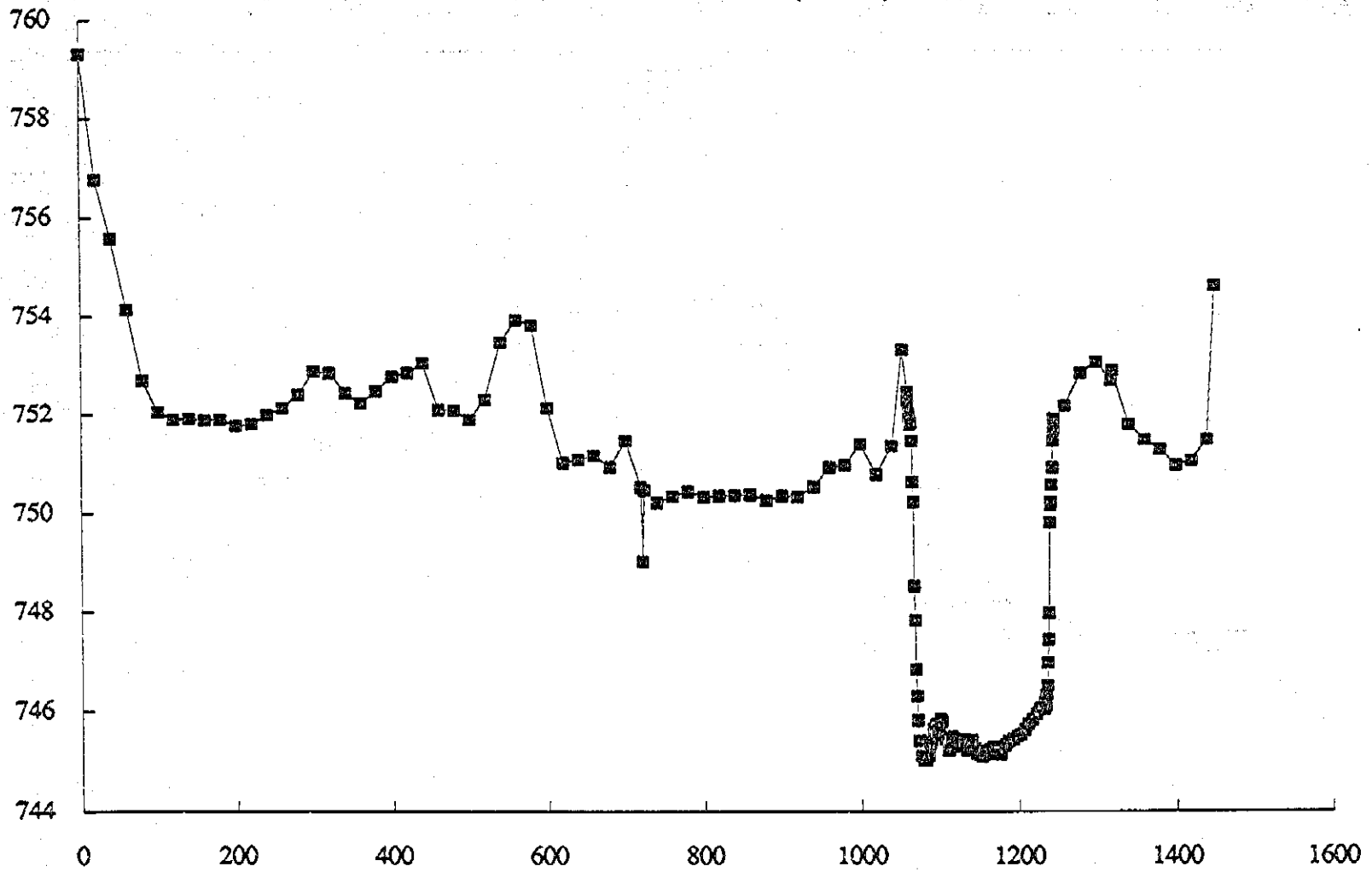
FINFL-06.ENT(CF221)
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744
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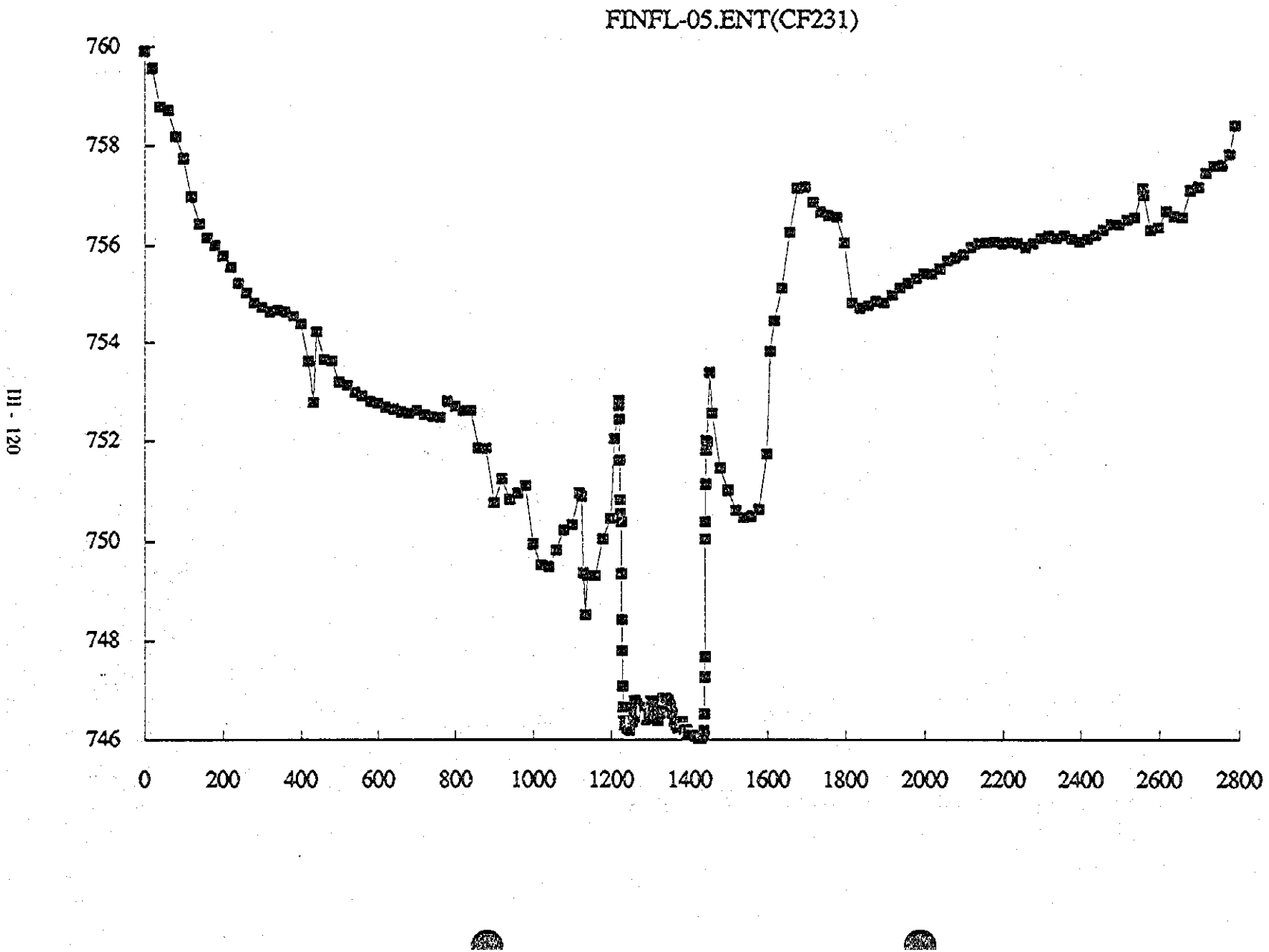
1200
1400
1600


FINFL-05.ENT(CF231)
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752
750
748
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1000
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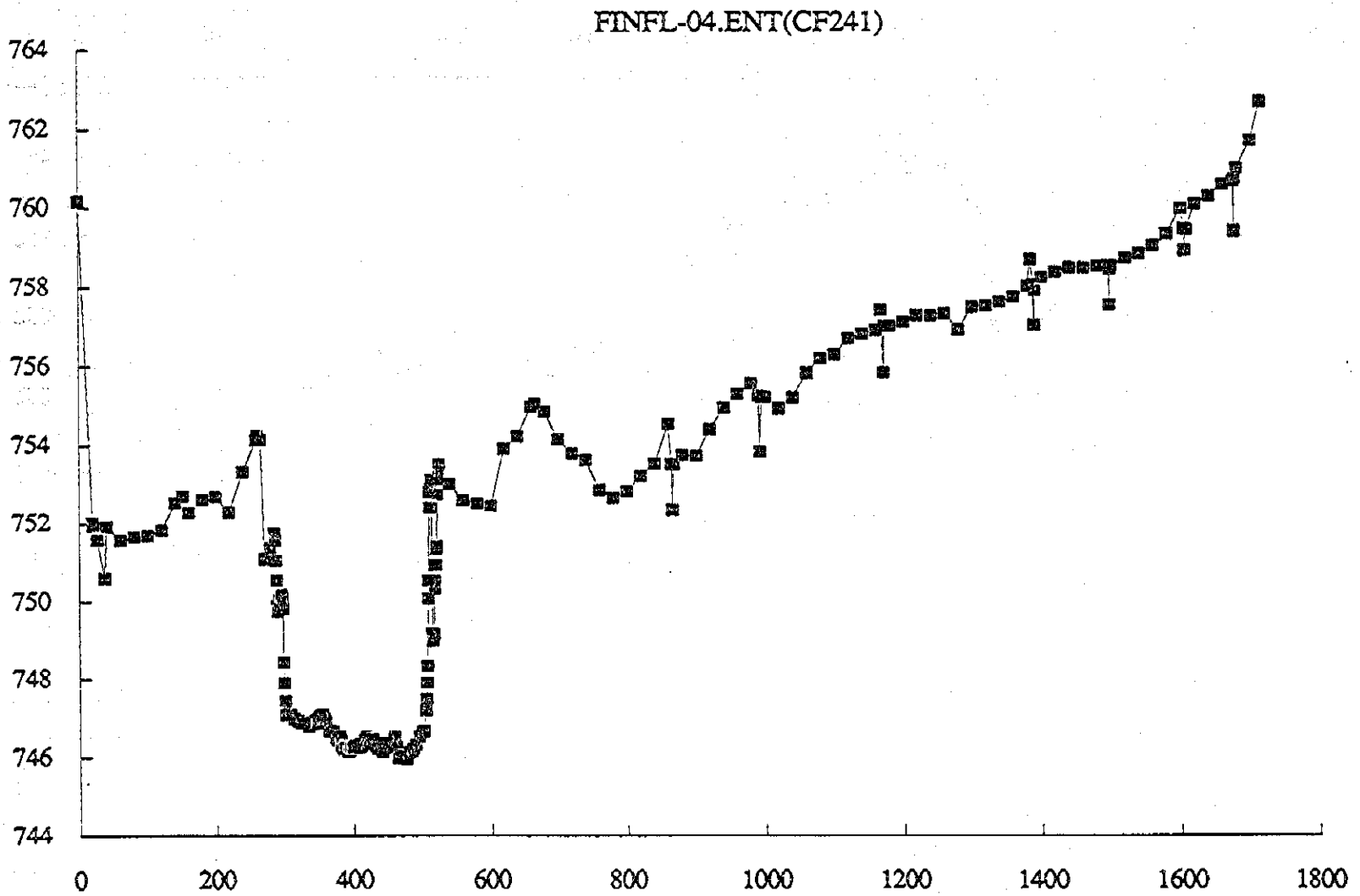
1600
1800
2000
2200
2400
2600
2800
III - 120


FINFL-04.ENT(CF241)
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750
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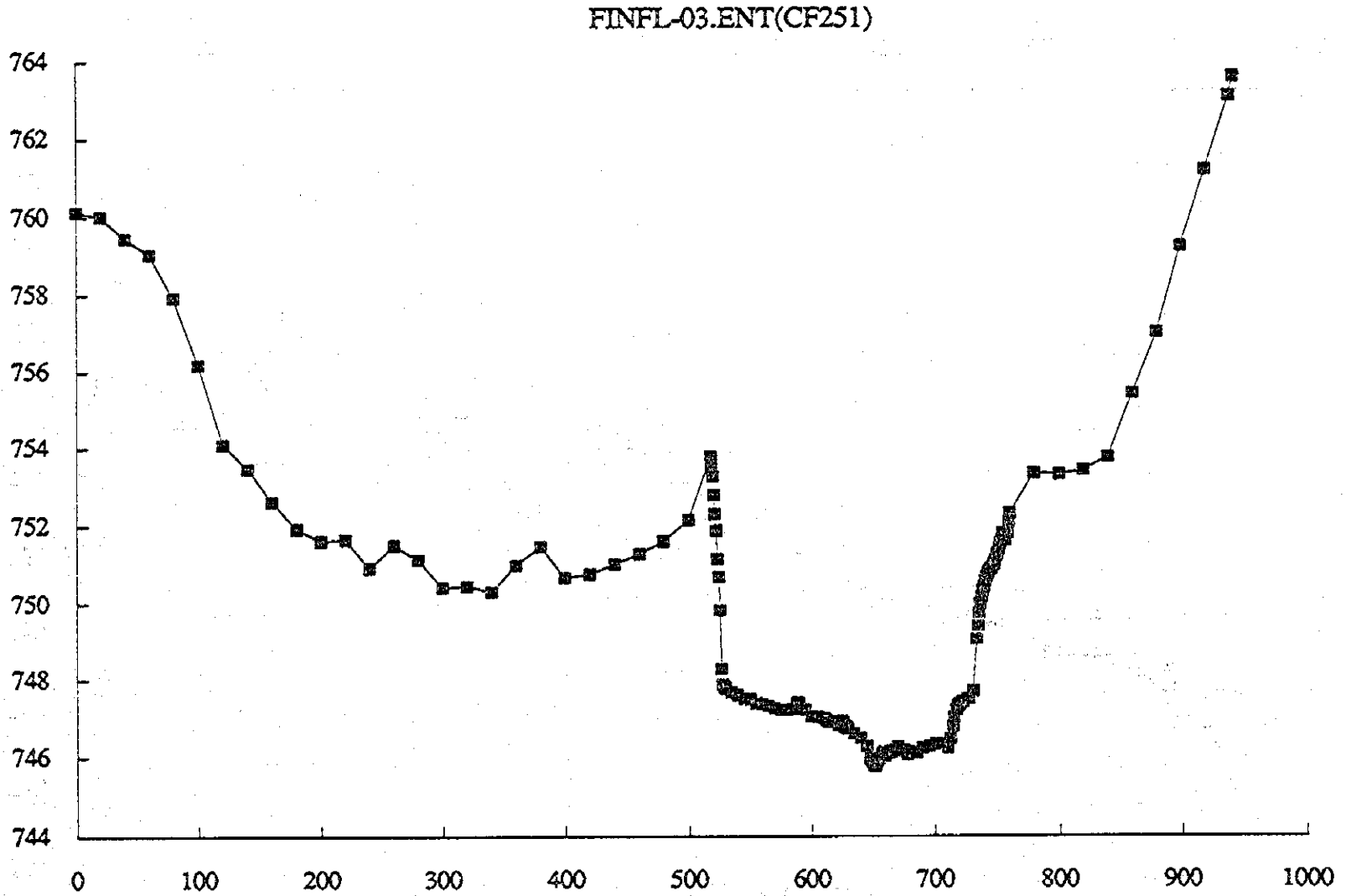
1200
1400
1600
1800


FINFL-03.ENT(CF251)
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762
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756
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752
750
748
746
744
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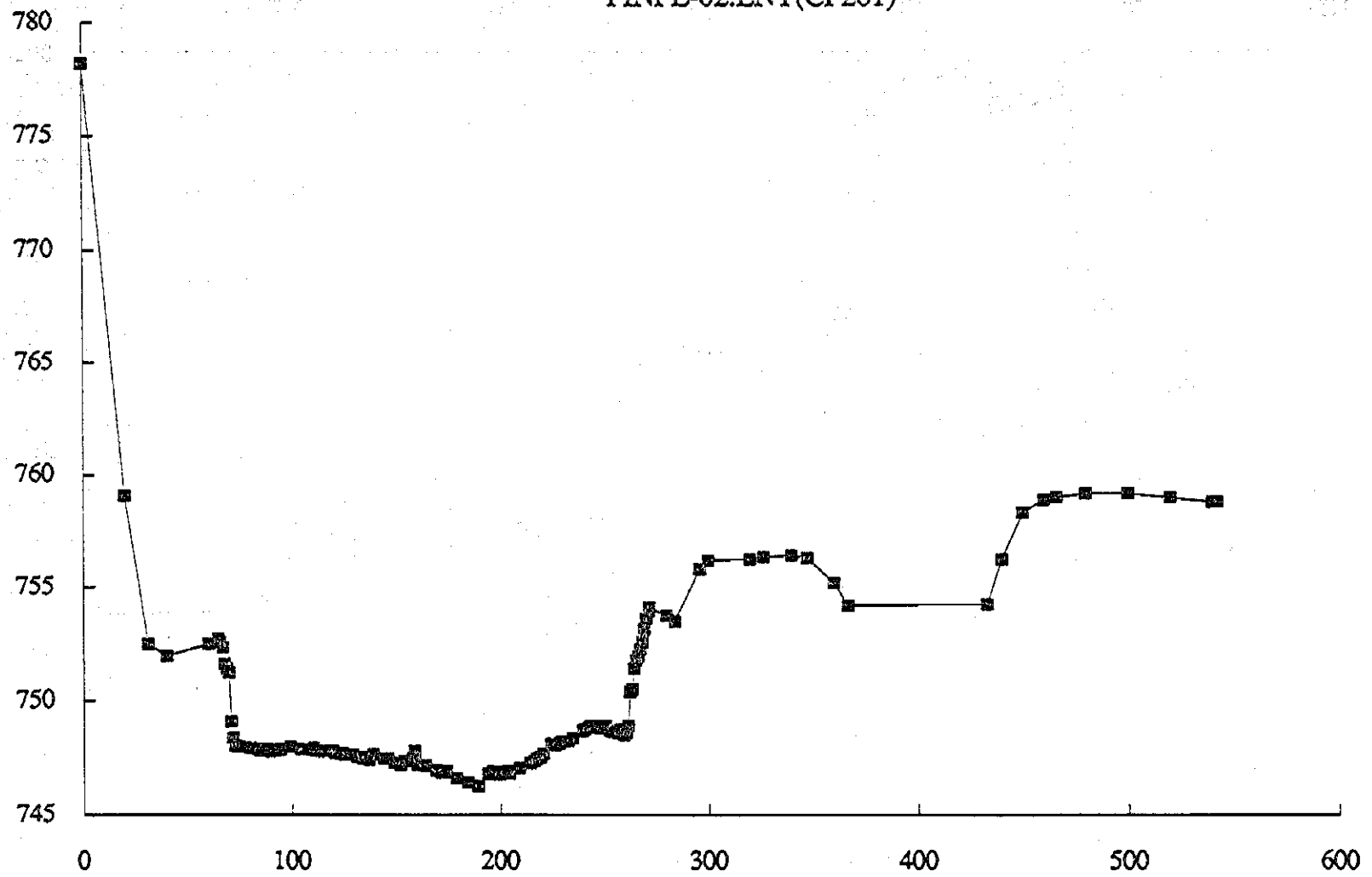
700
800
900
1000


FINFL-02.ENT(CF261)
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770
765
760
755
750
745
0
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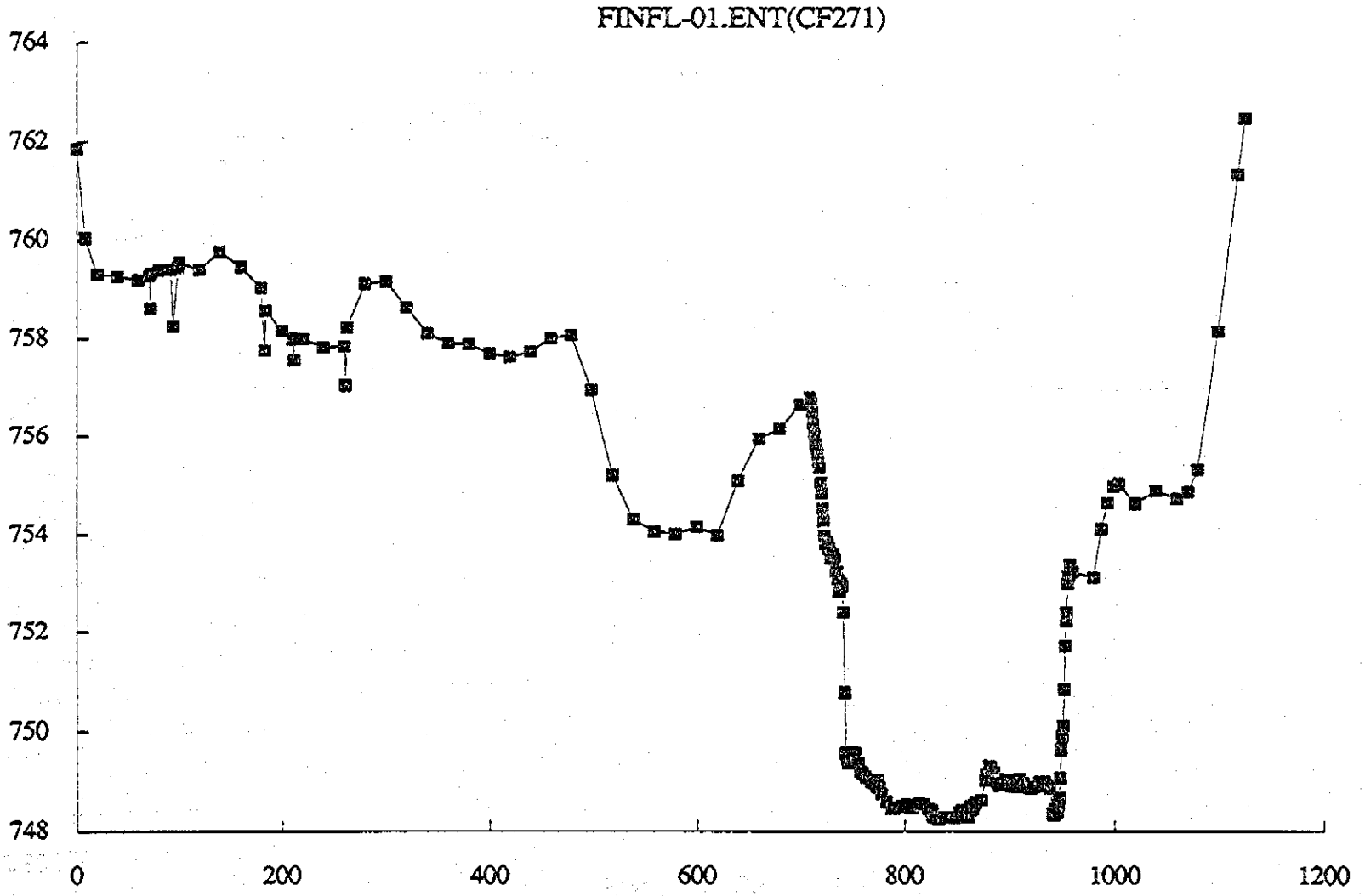
300
400
500
600


FINFL-01.ENT(CF271)
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756
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752
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748
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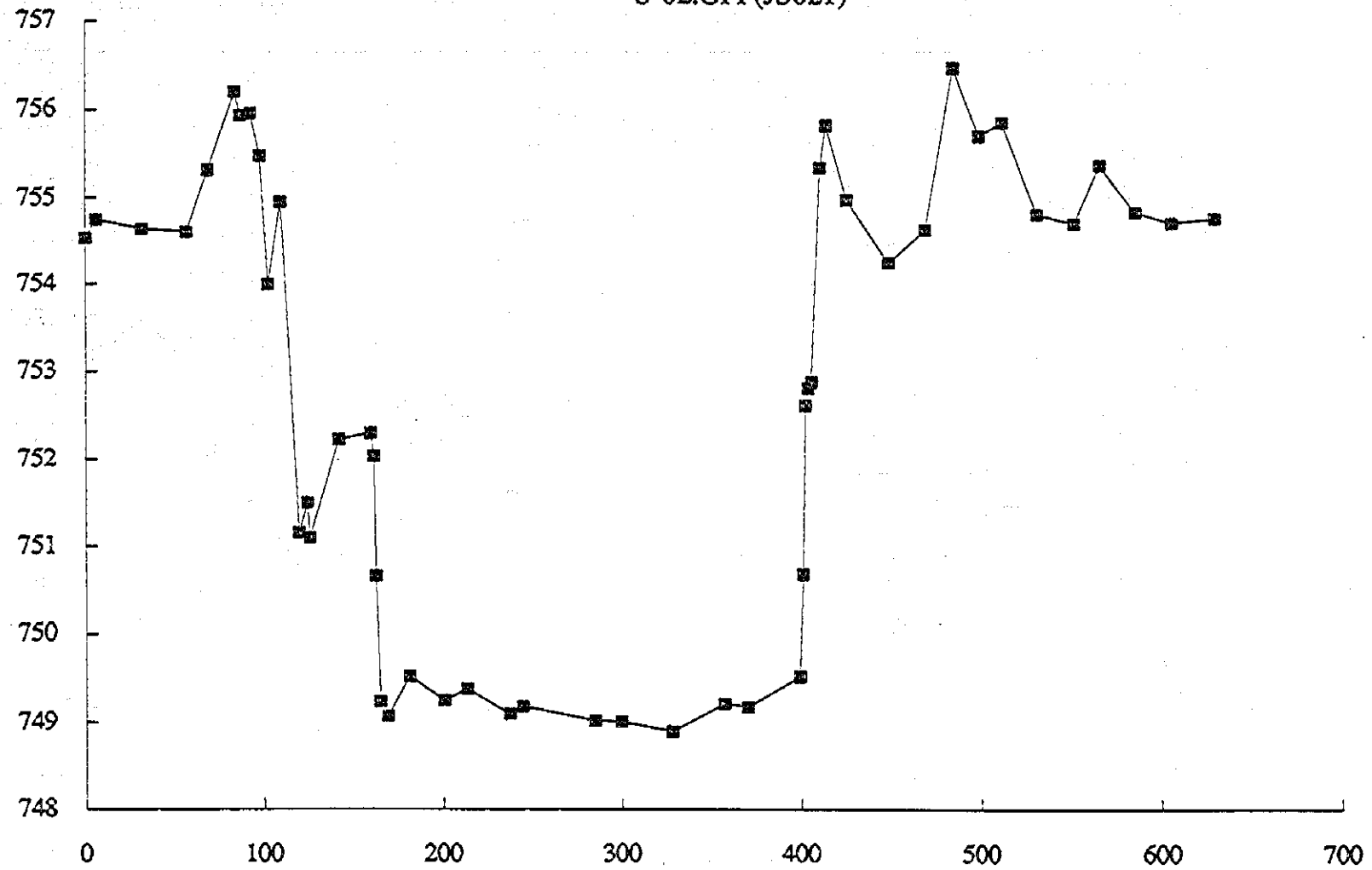
600
800
1000
1200


S-02.GPF(JS021)
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753
752
751
750
749
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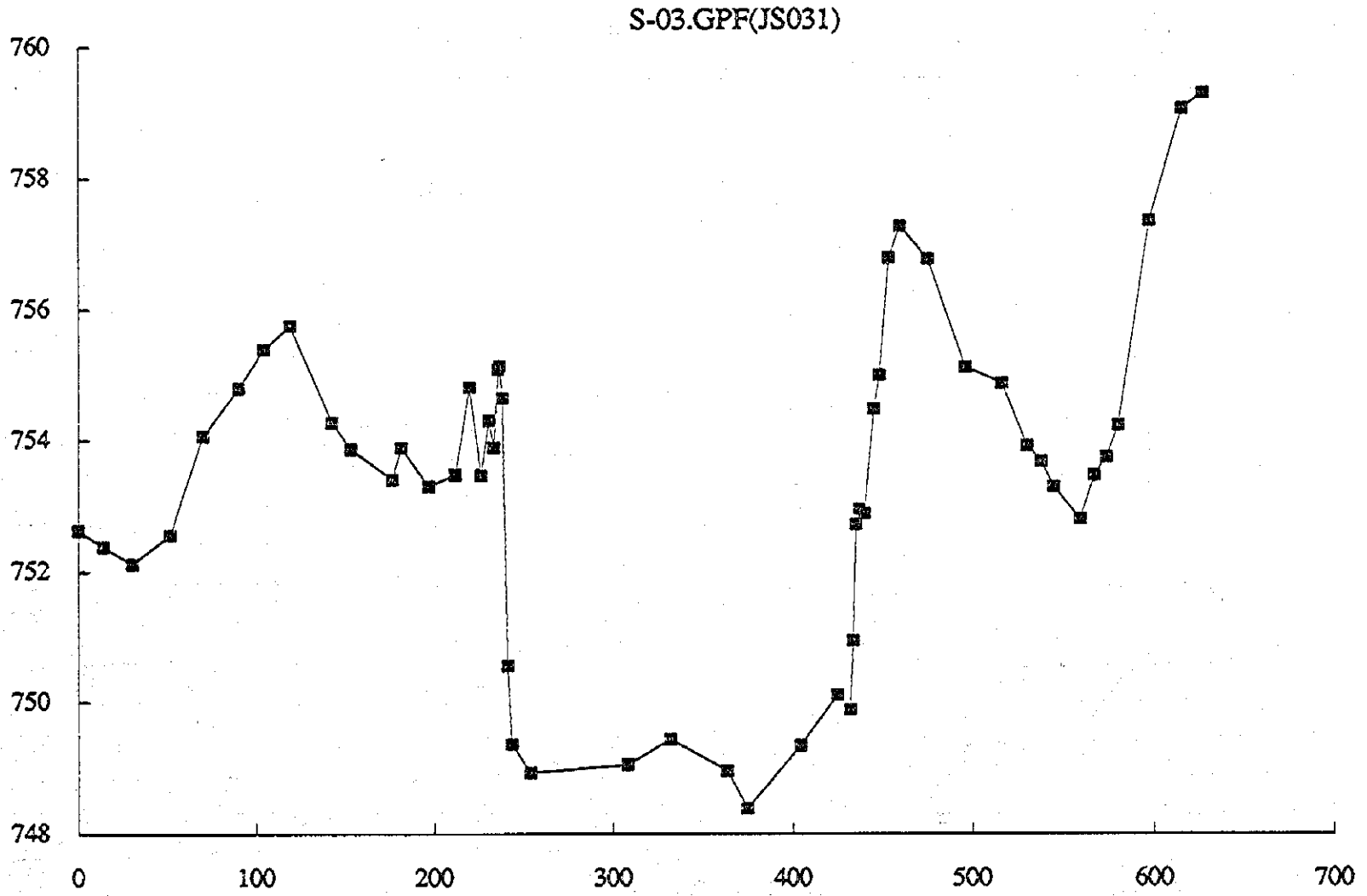
700


S-03.GPF(JS031)
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754
752
750
748
0
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200
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400
500
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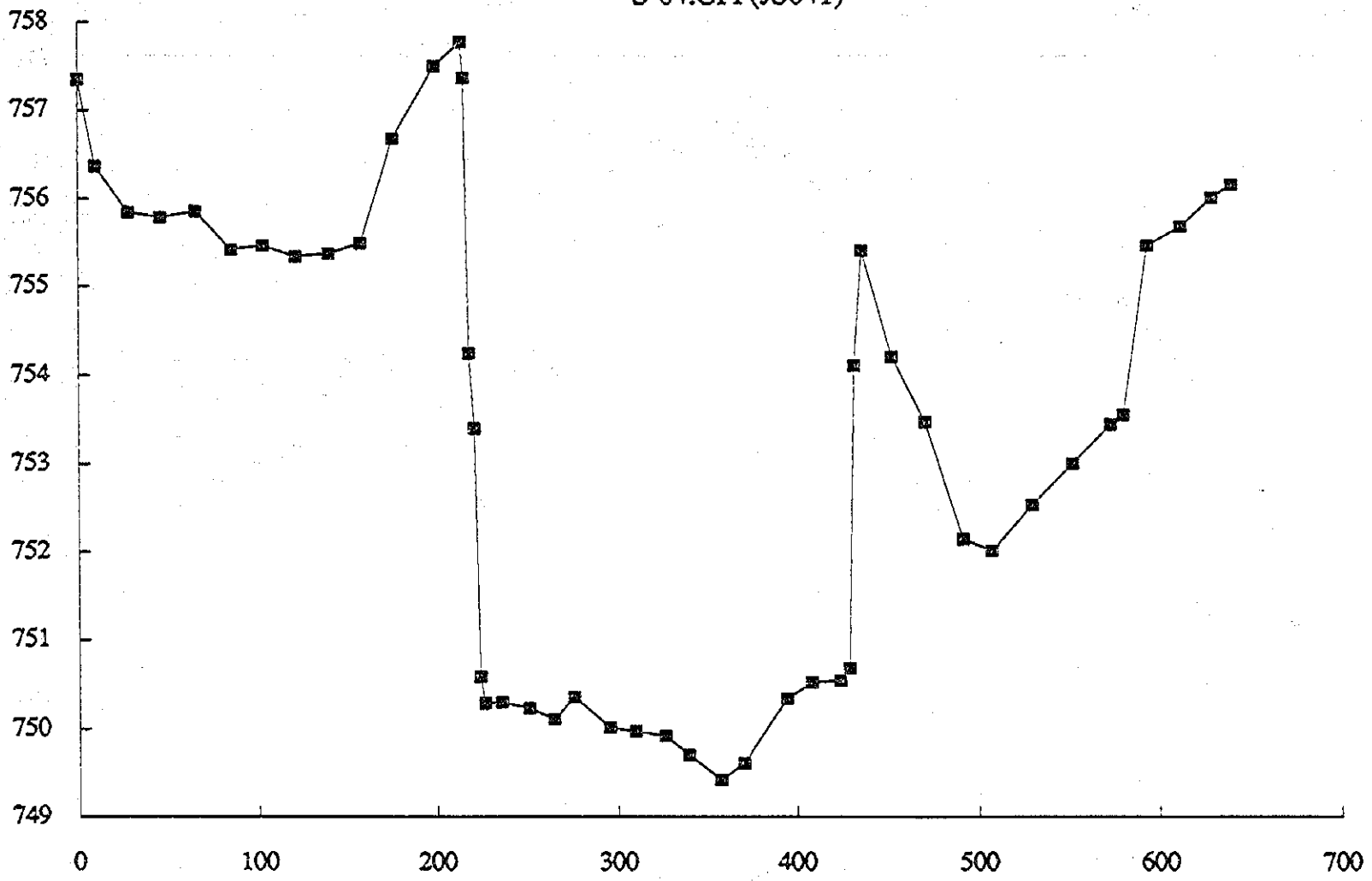
700


S-04.GPF(JS041)
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755
754
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752
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749
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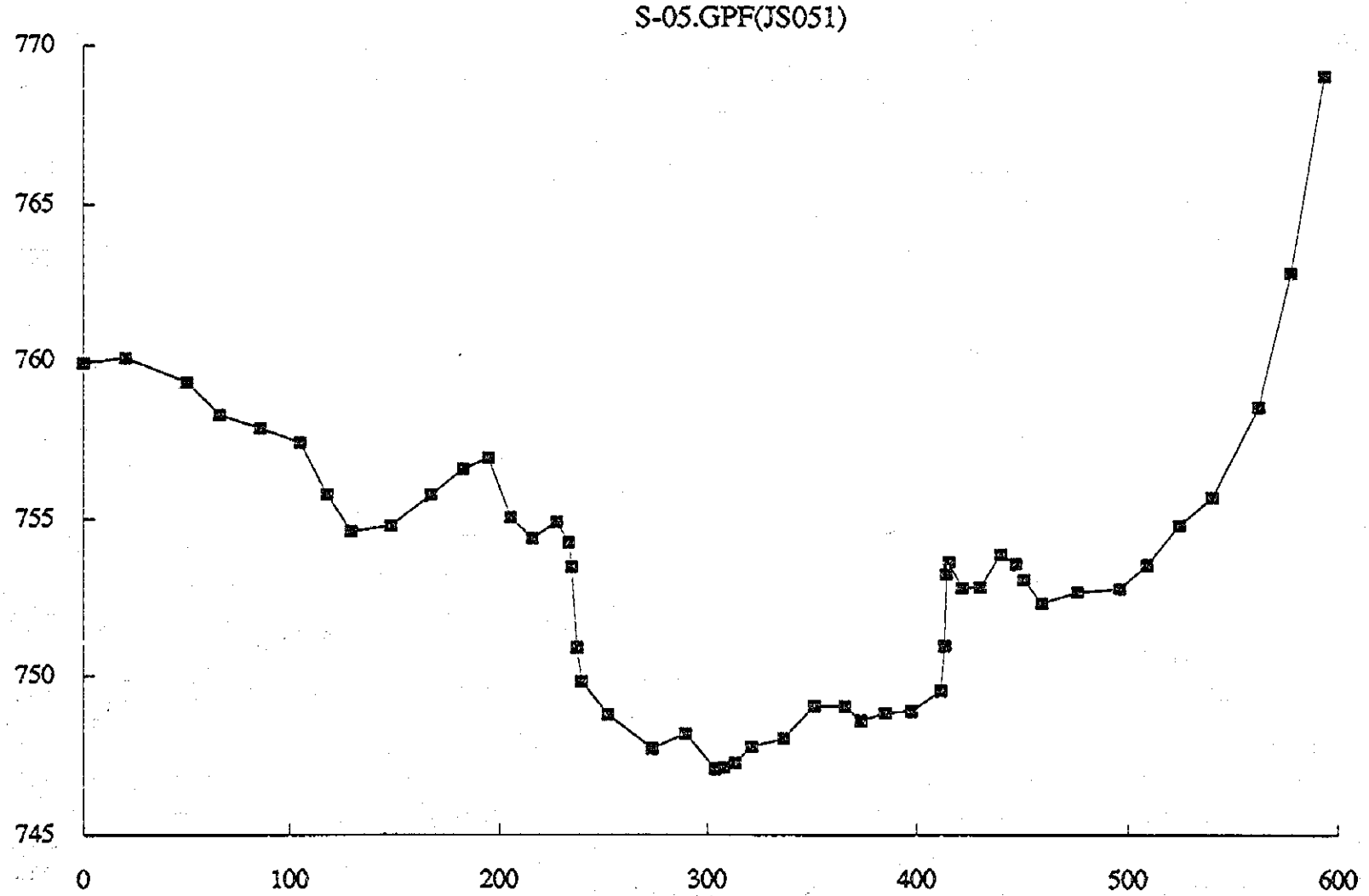
S-05.GPF(JS051)
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765
760
755
750
745
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100
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300
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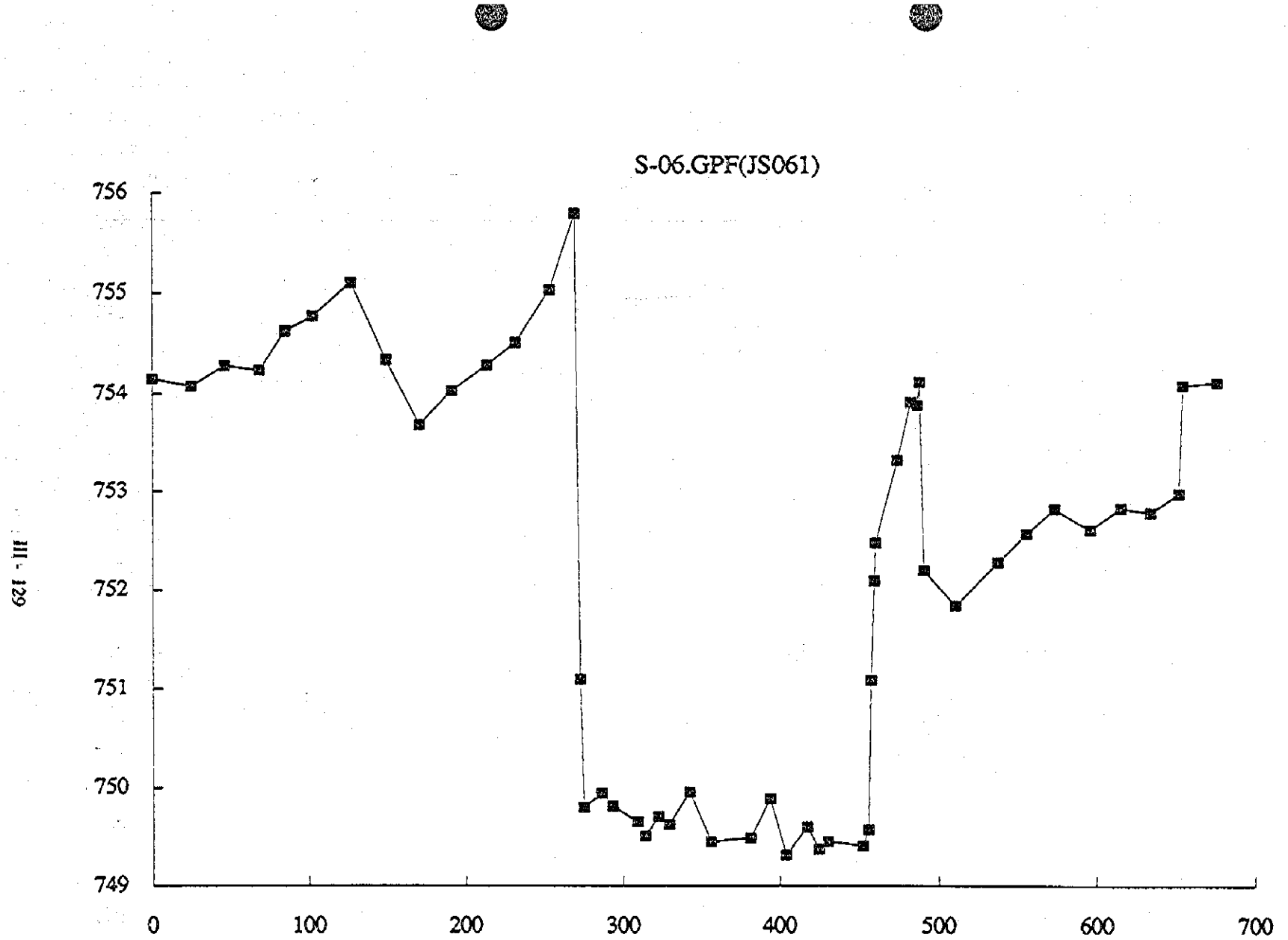
500
600


S-06.GPF(JS061)
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200
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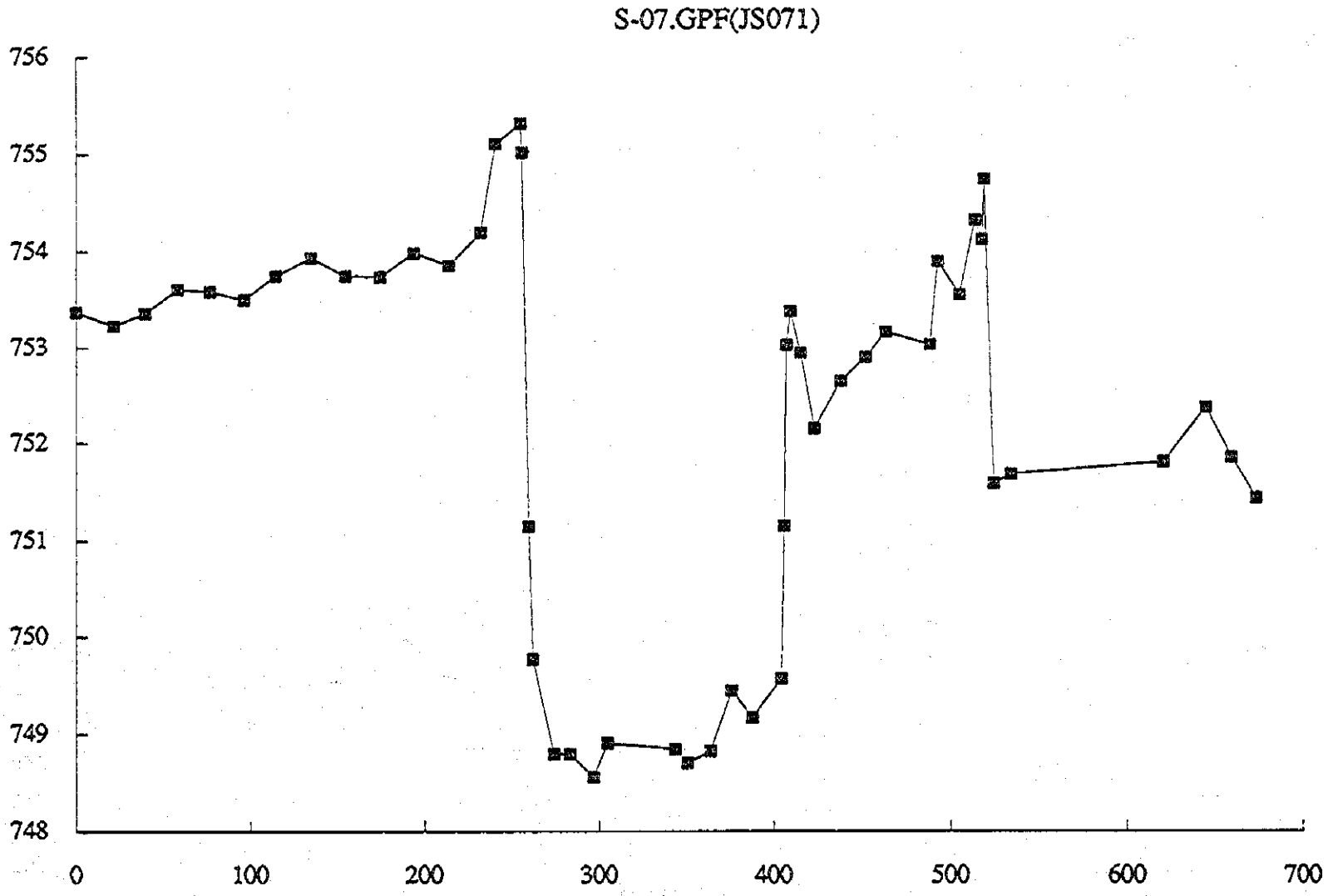
600
700
III - 129


S-07.GPF(JS071)
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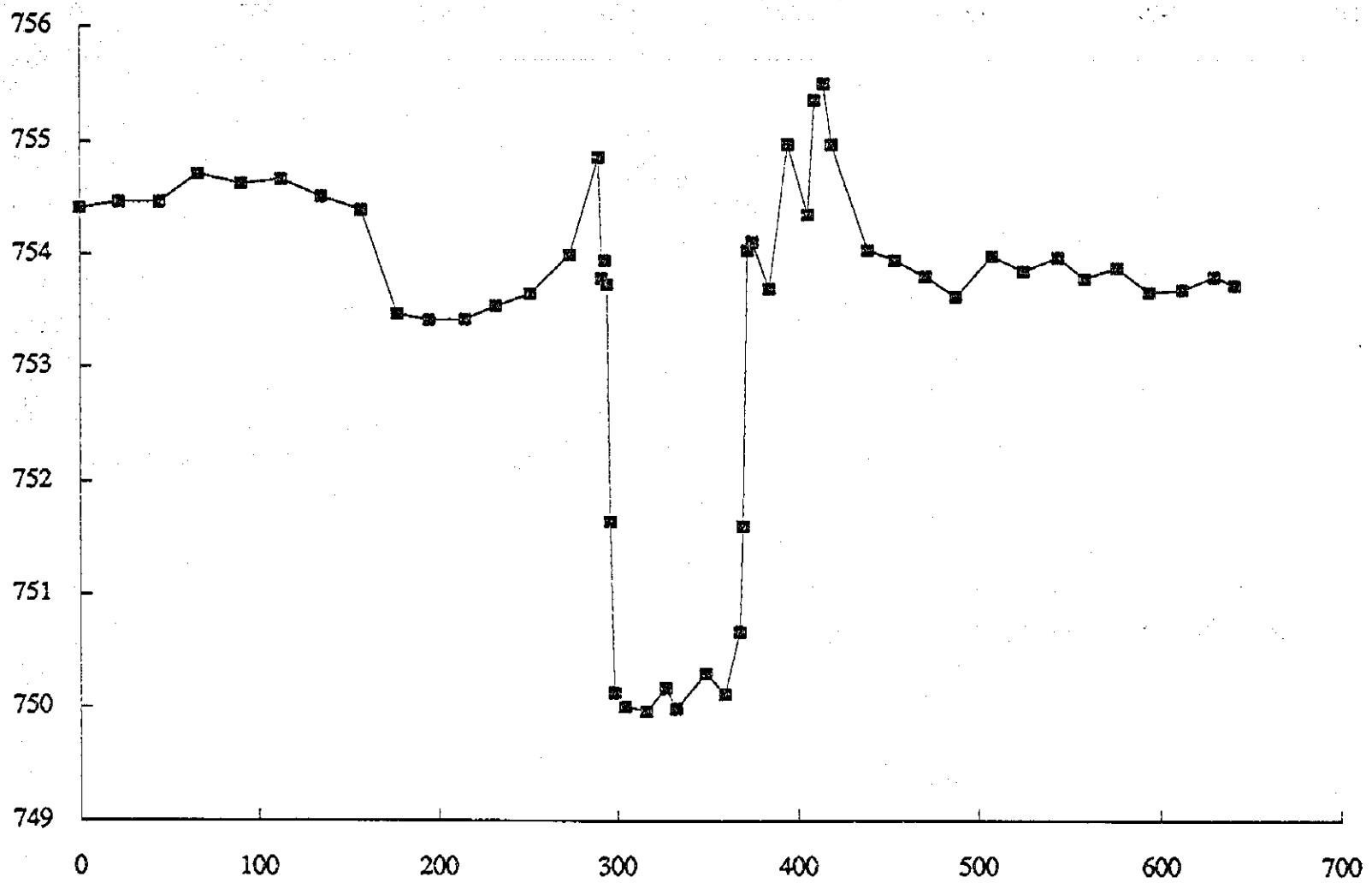
S-08.GPF(JS081)
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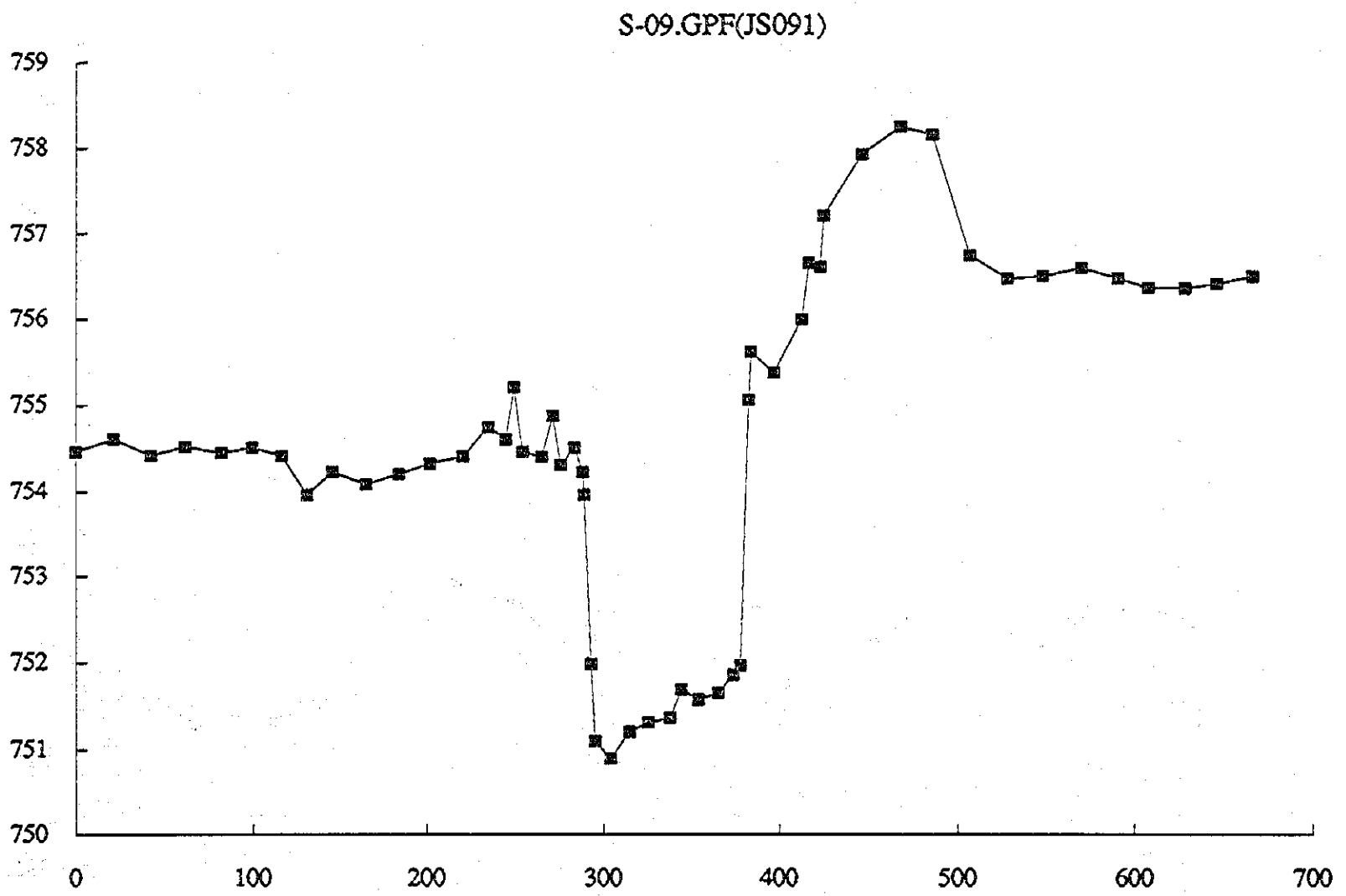
S-09.GPF(JS091)
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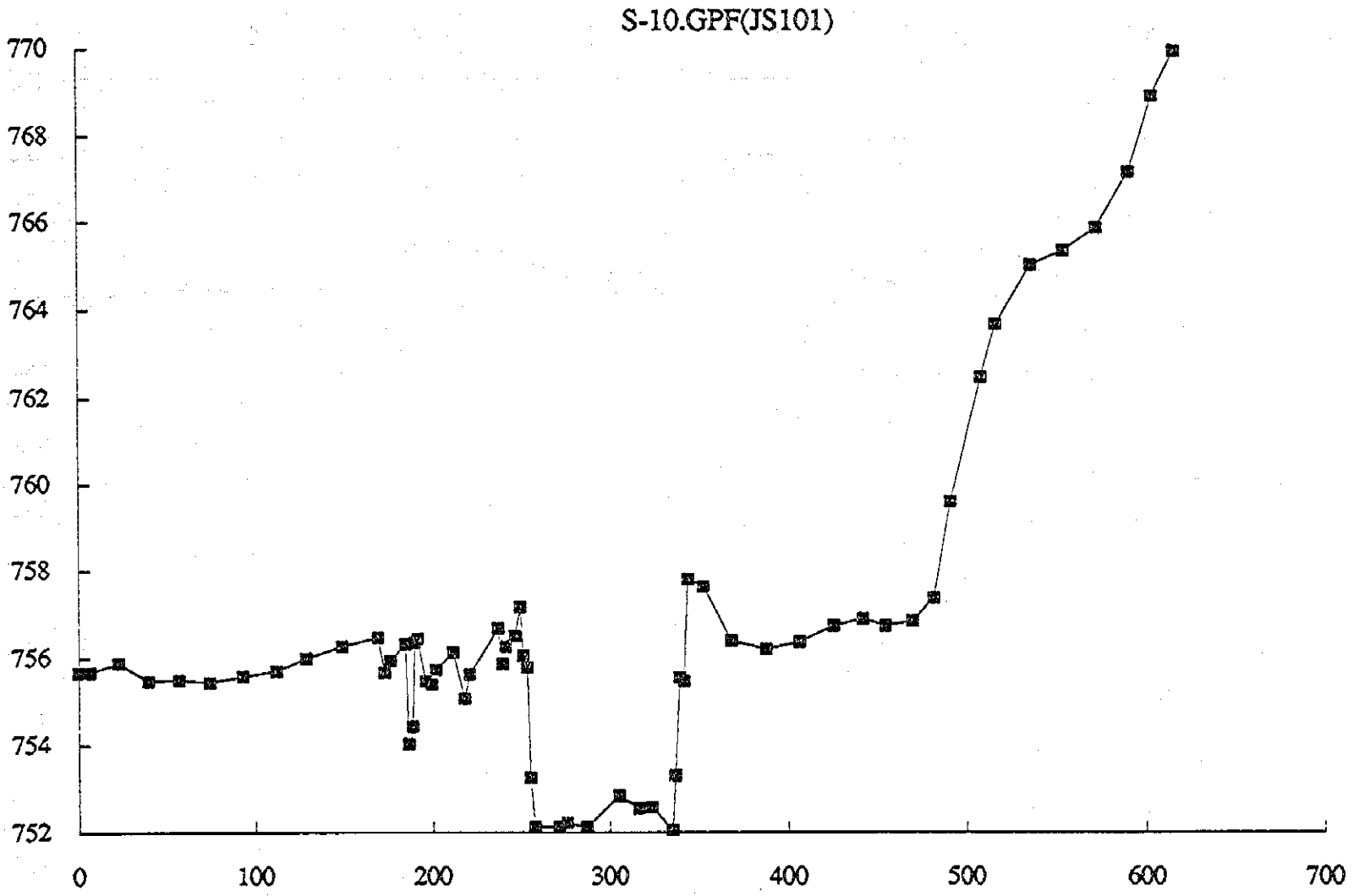
700


S-10.GPF(JS101)
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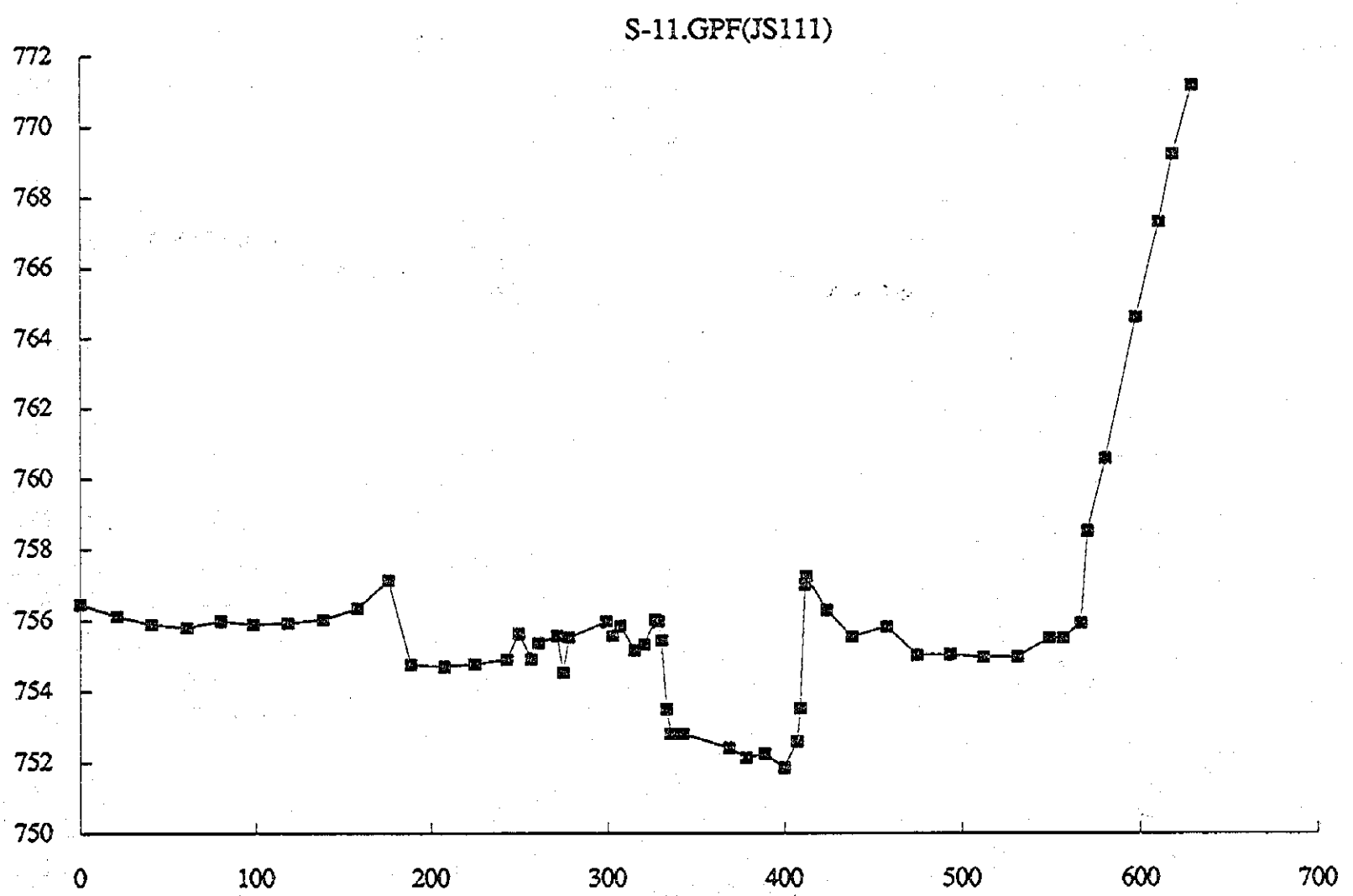
700


S-11.GPF(JS111)
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762
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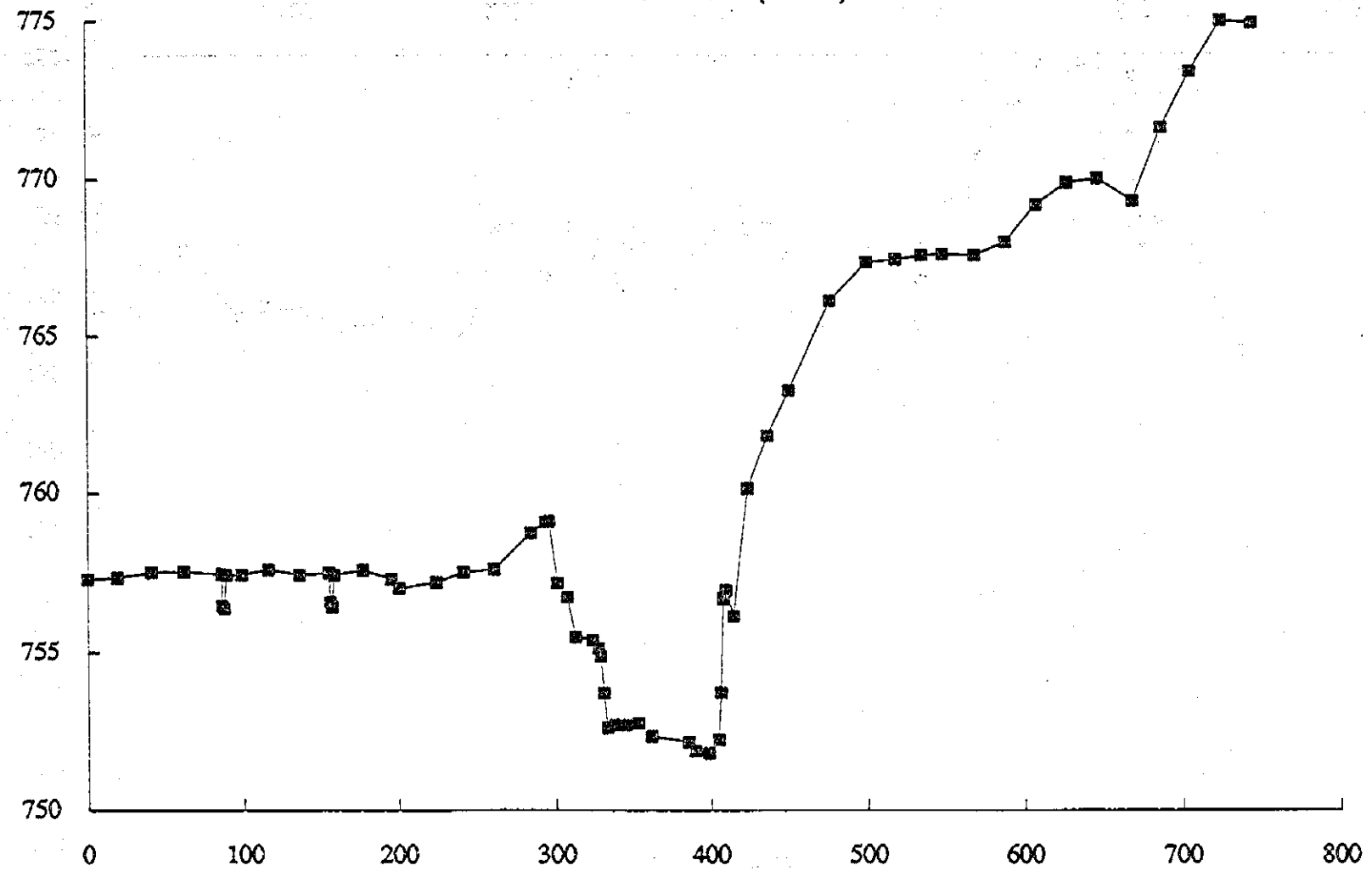
S-12.GPF(JS121)
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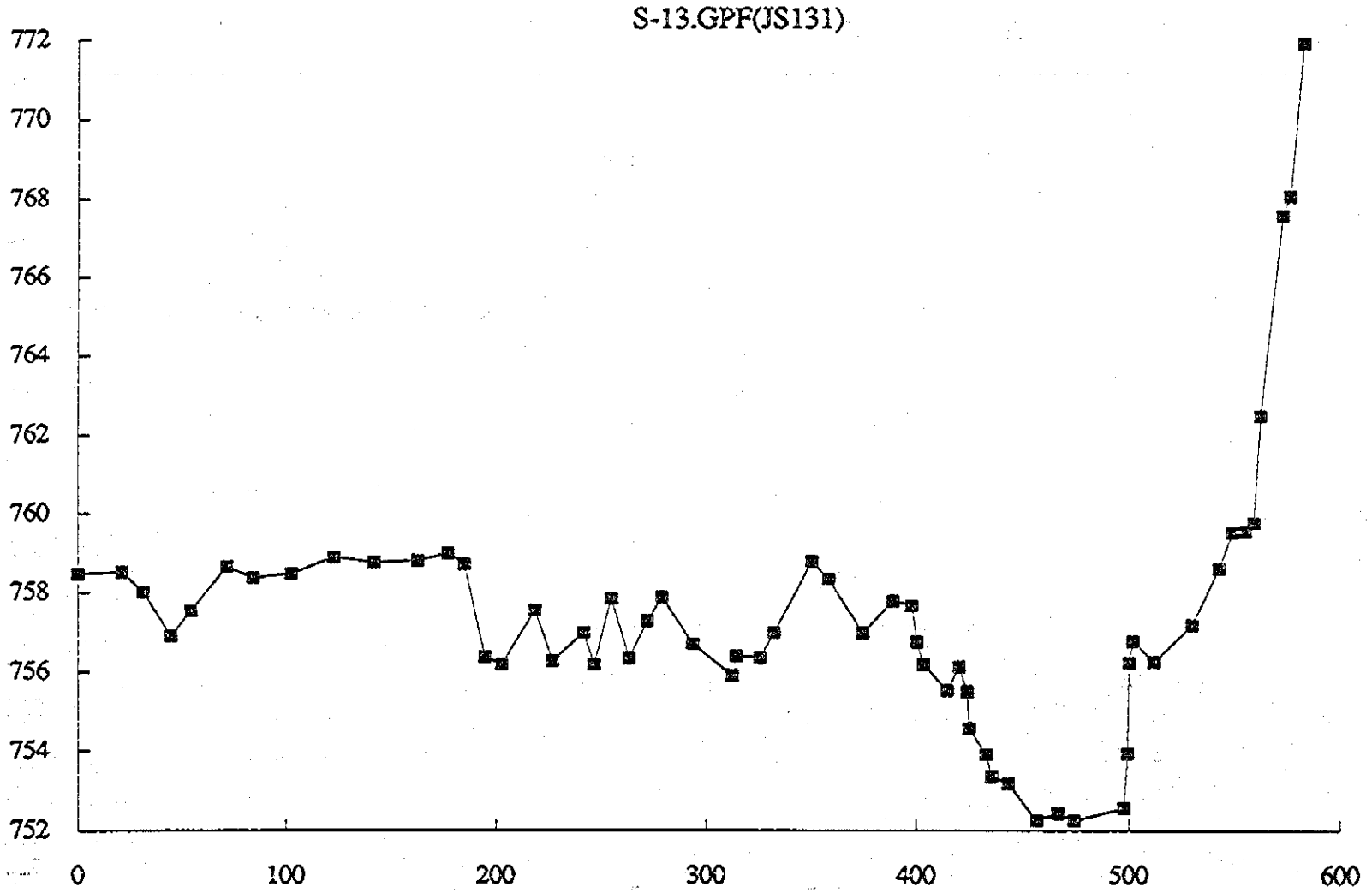
S-13.GPF(JS131)
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762
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752
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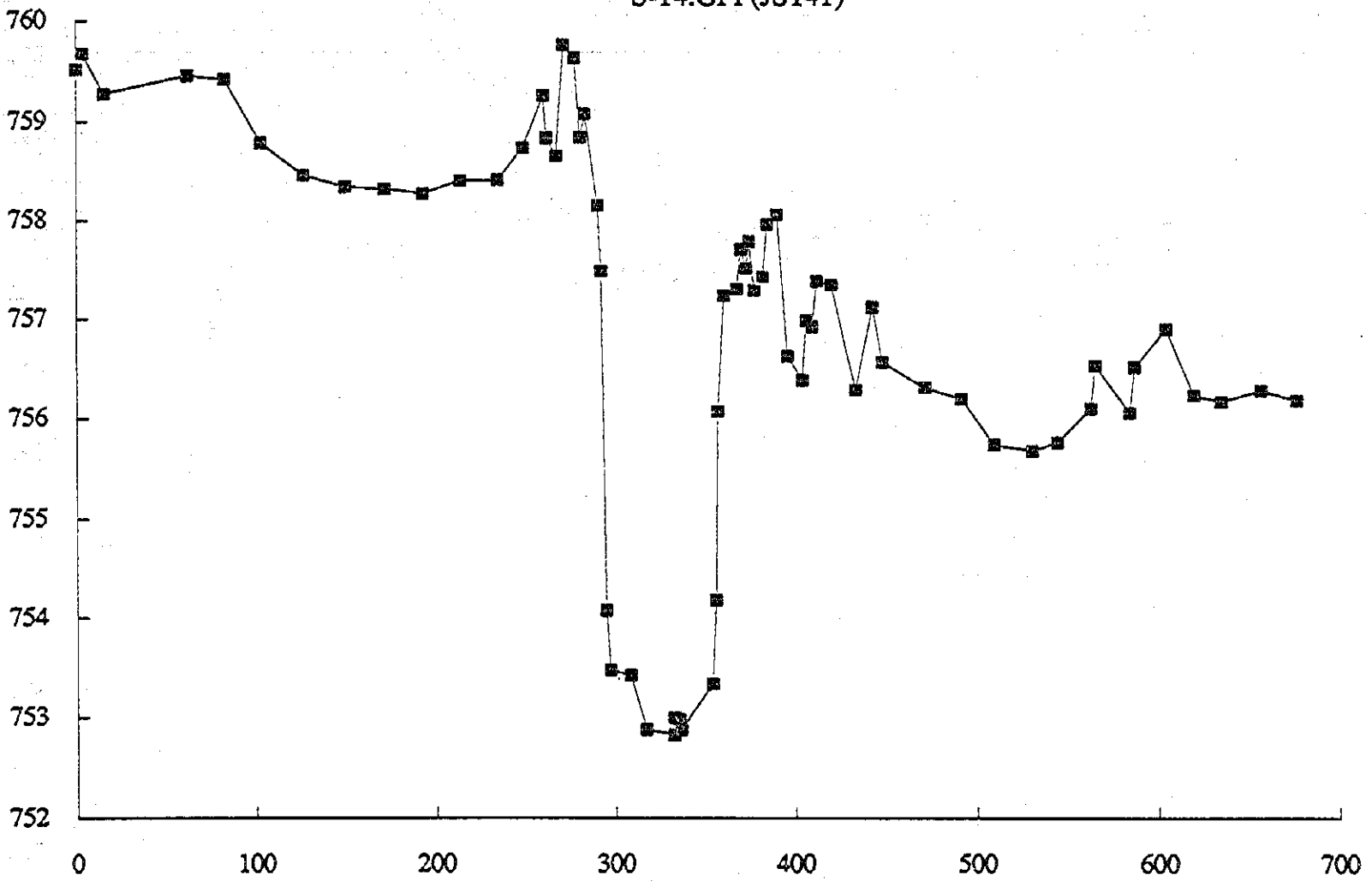
S-14.GPF(JS141)
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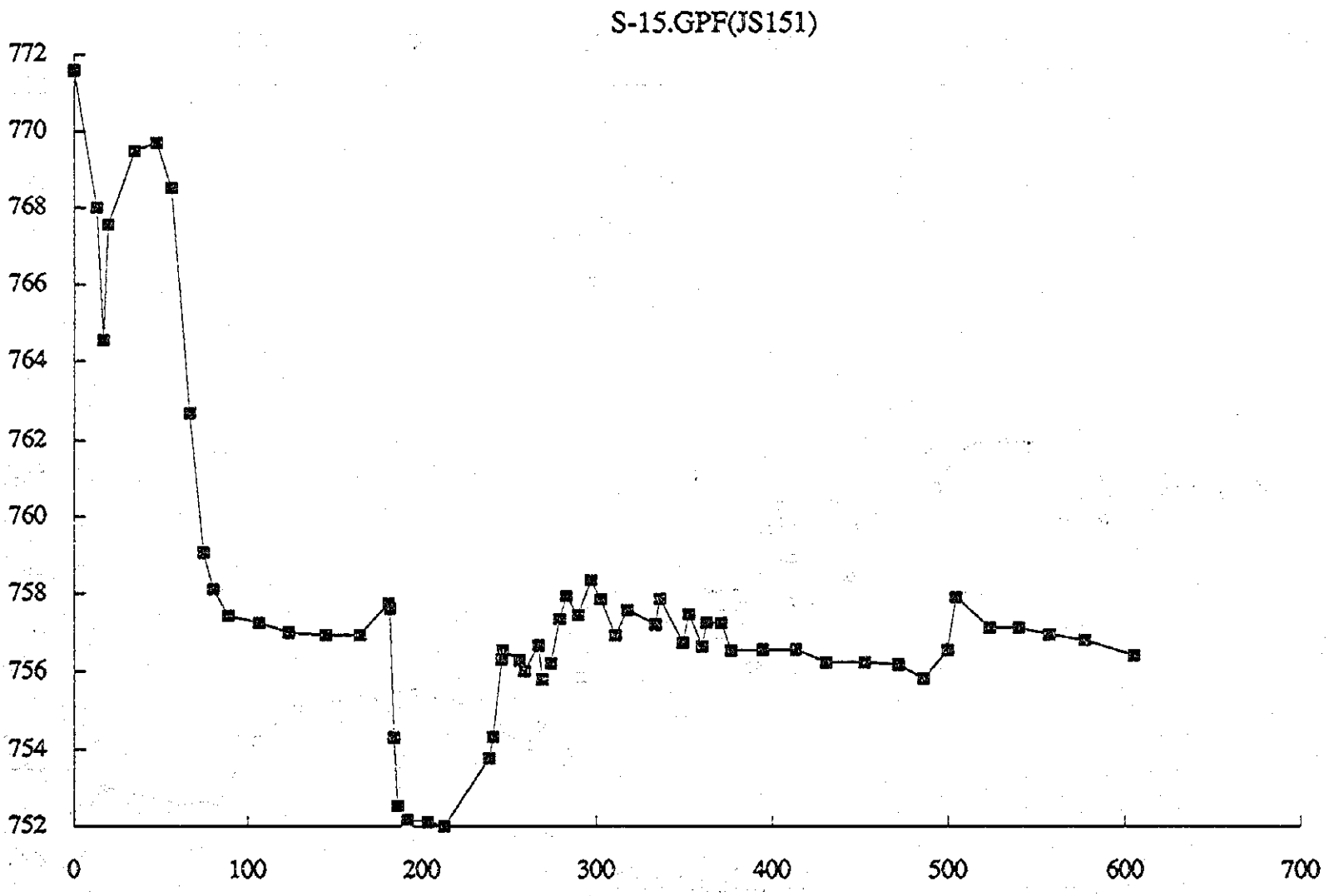
S-15.GPF(JS151)
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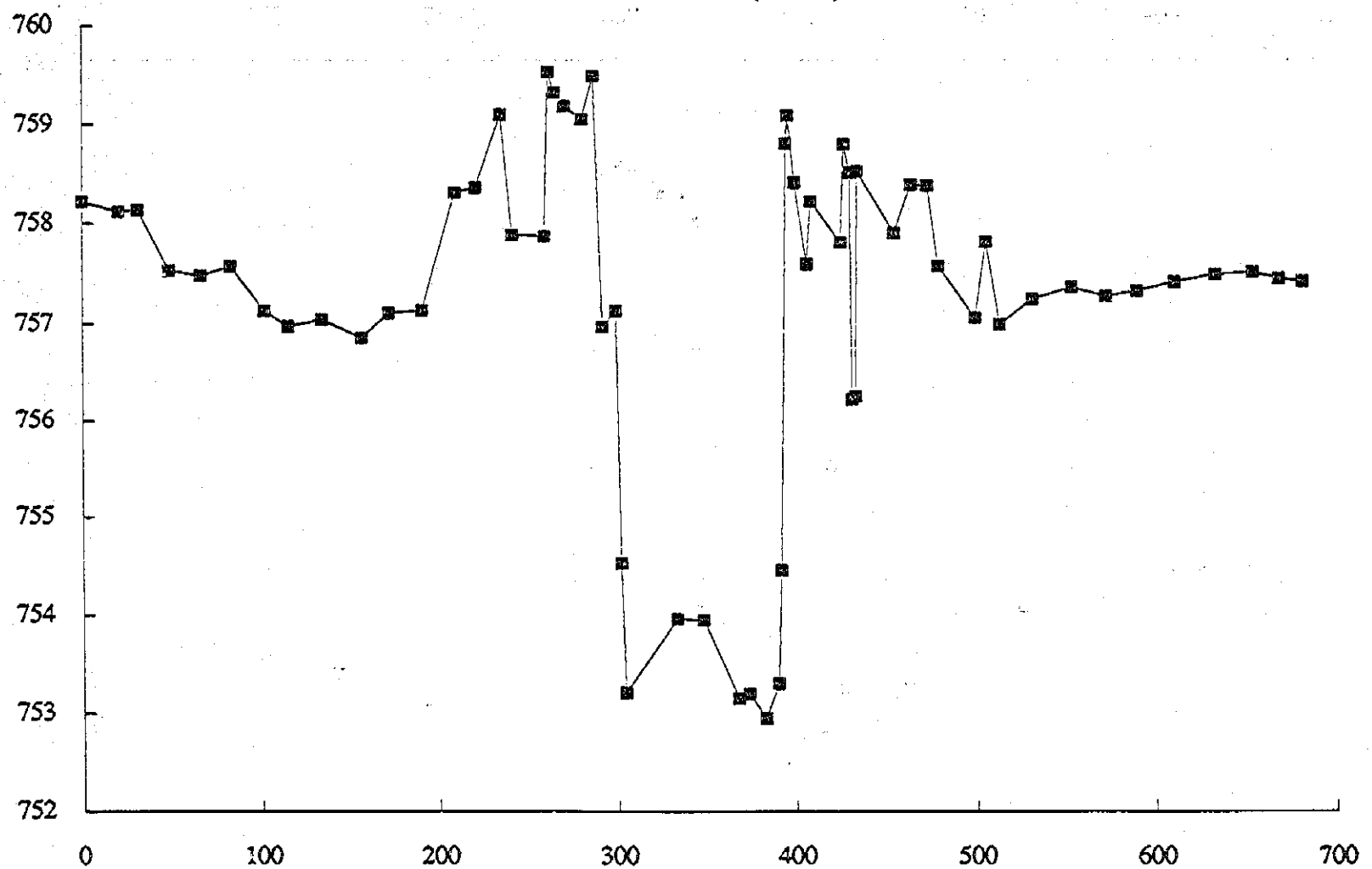
S-16.GPF(JS161)
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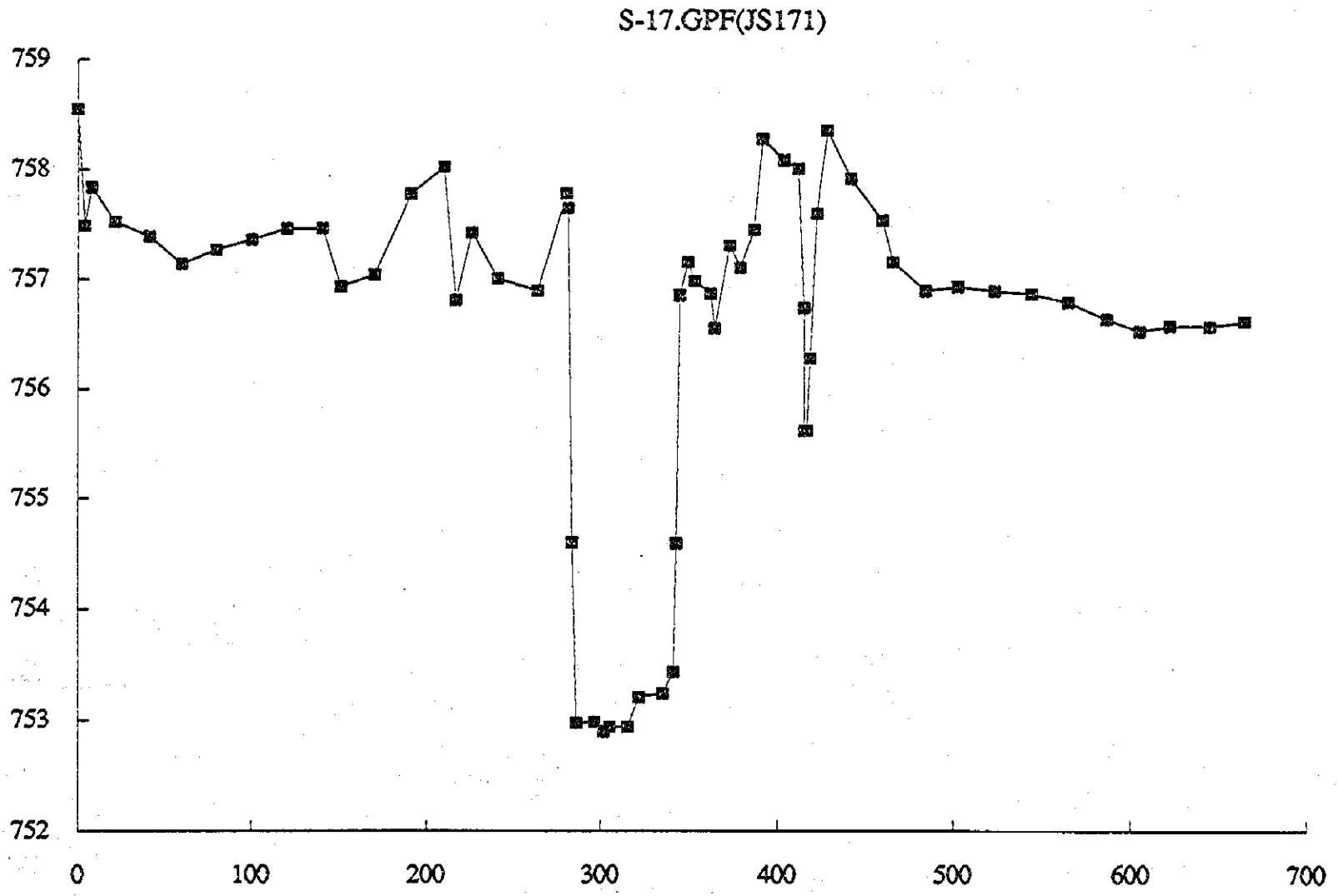
S-17.GPF(JS171)
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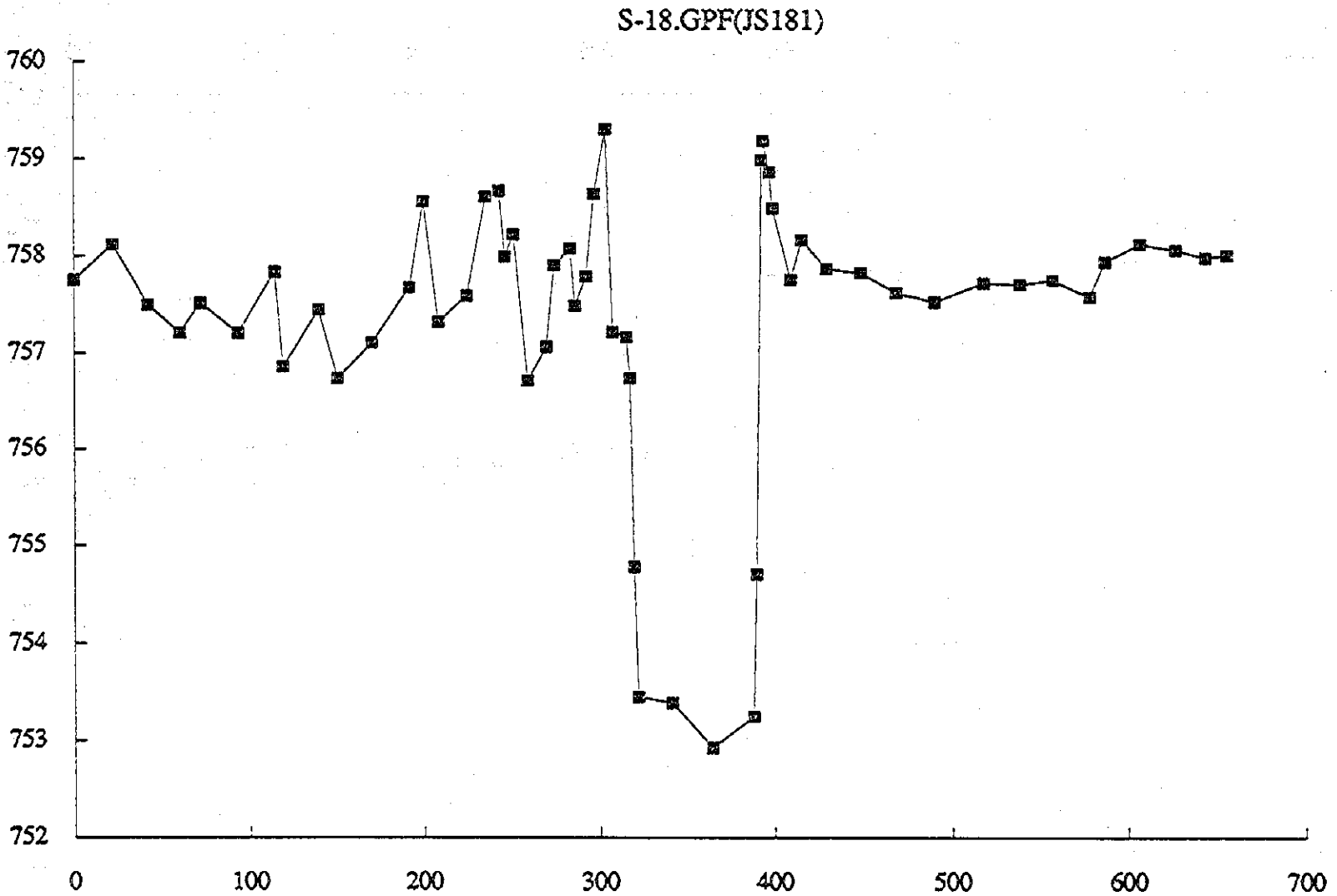
S-18.GPF(JS181)
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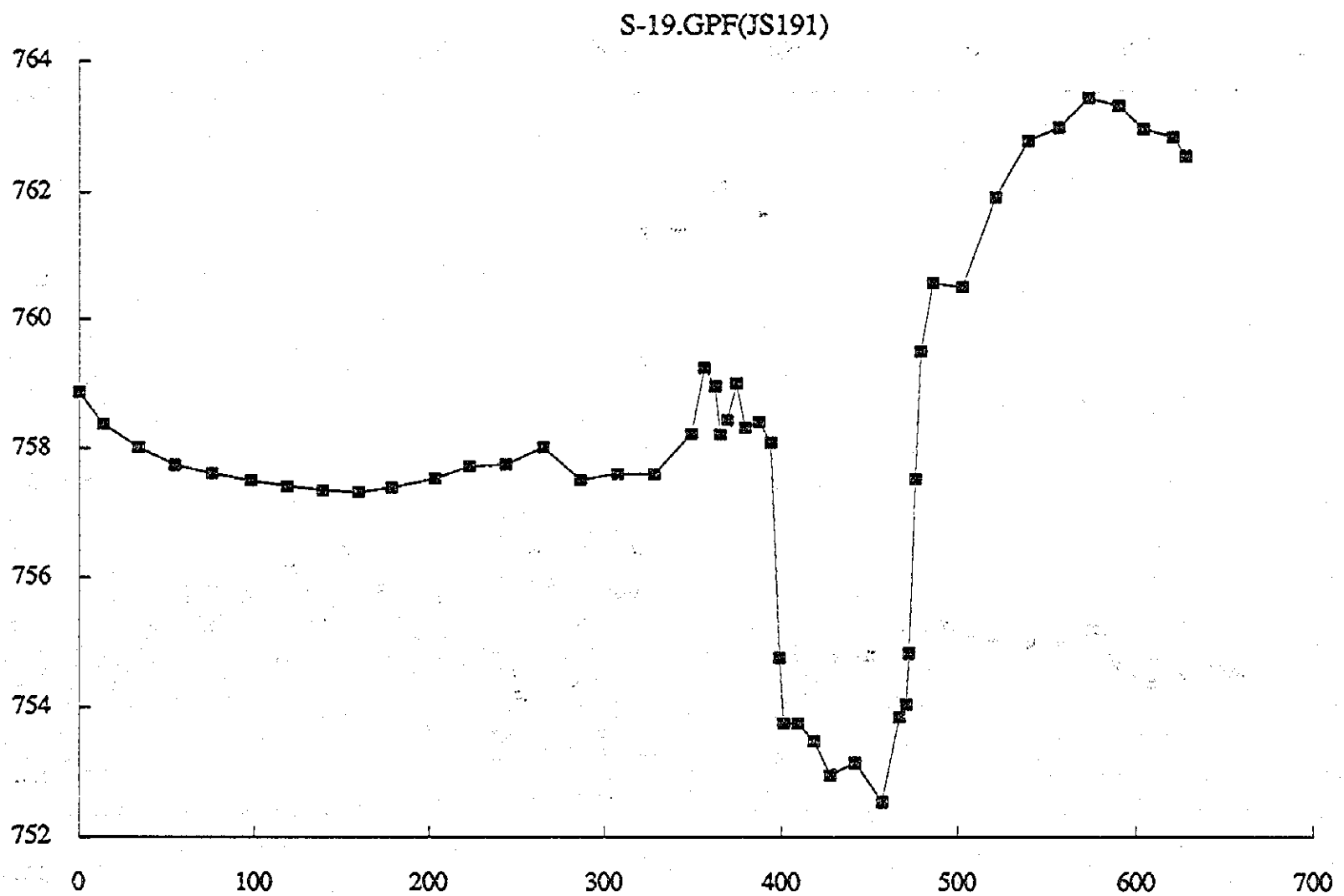
S-19.GPF(JS191)
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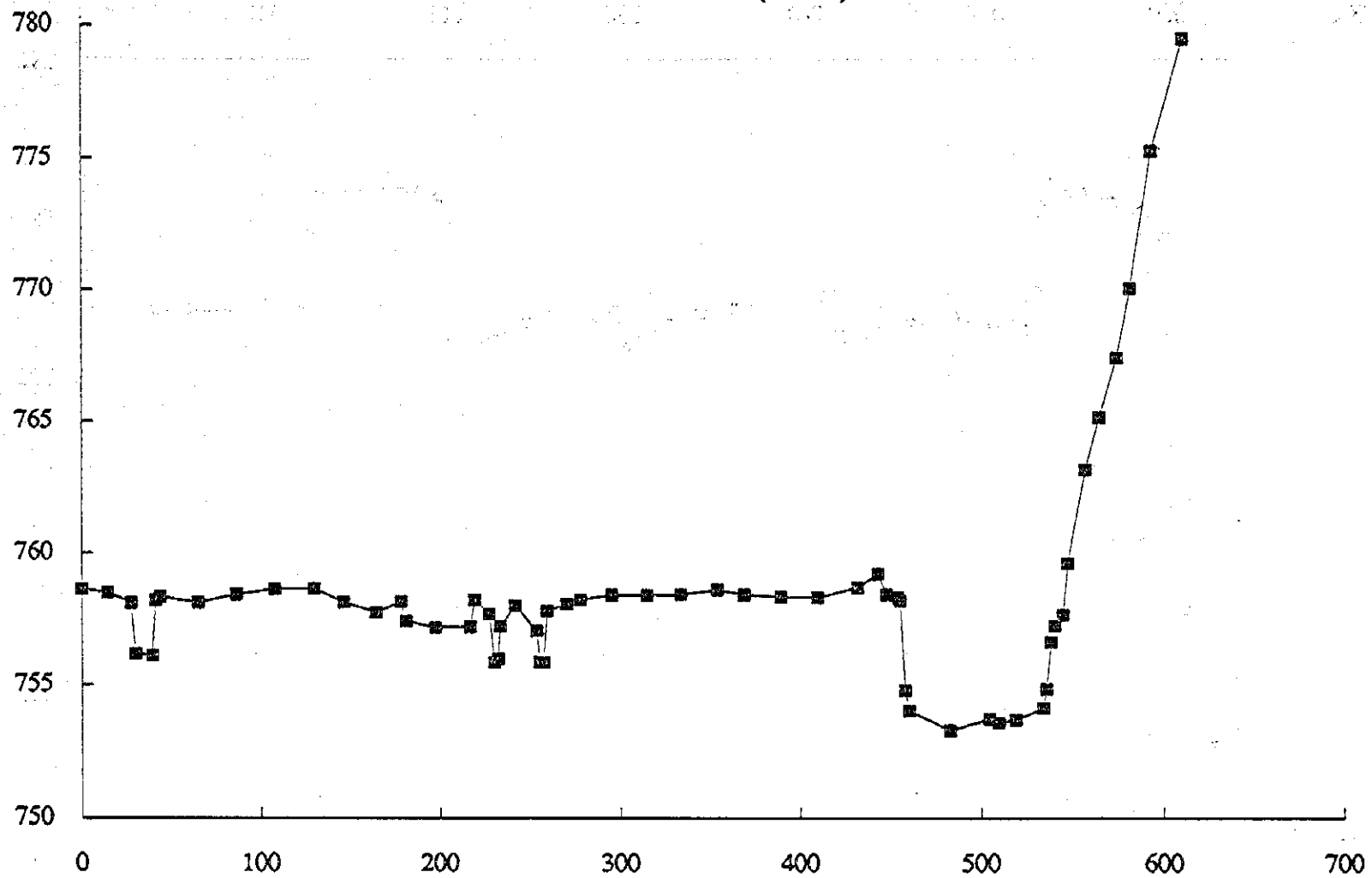
700


S-20.GPF(JS201)
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500
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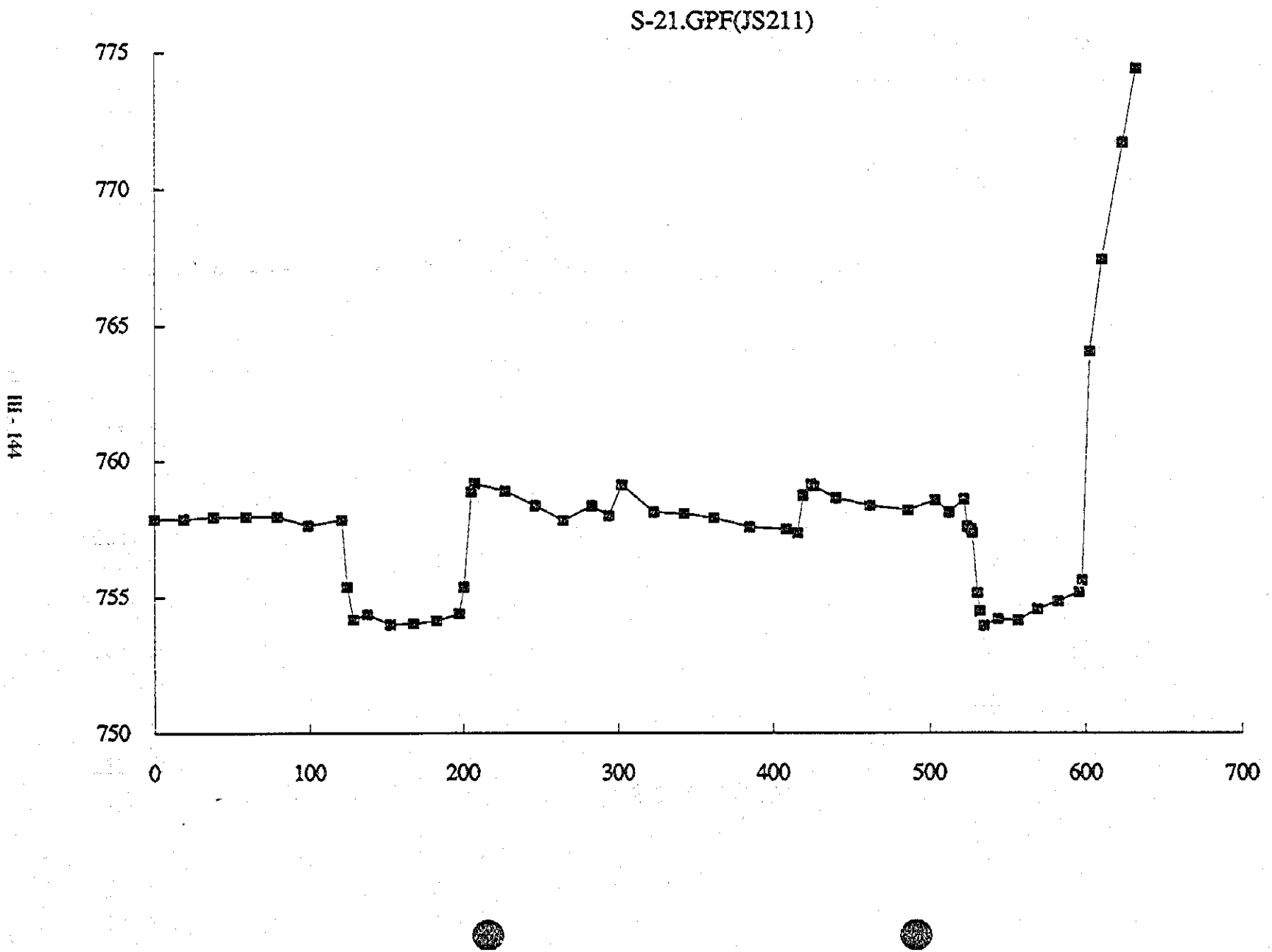
700


S-21.GPF(JS211)
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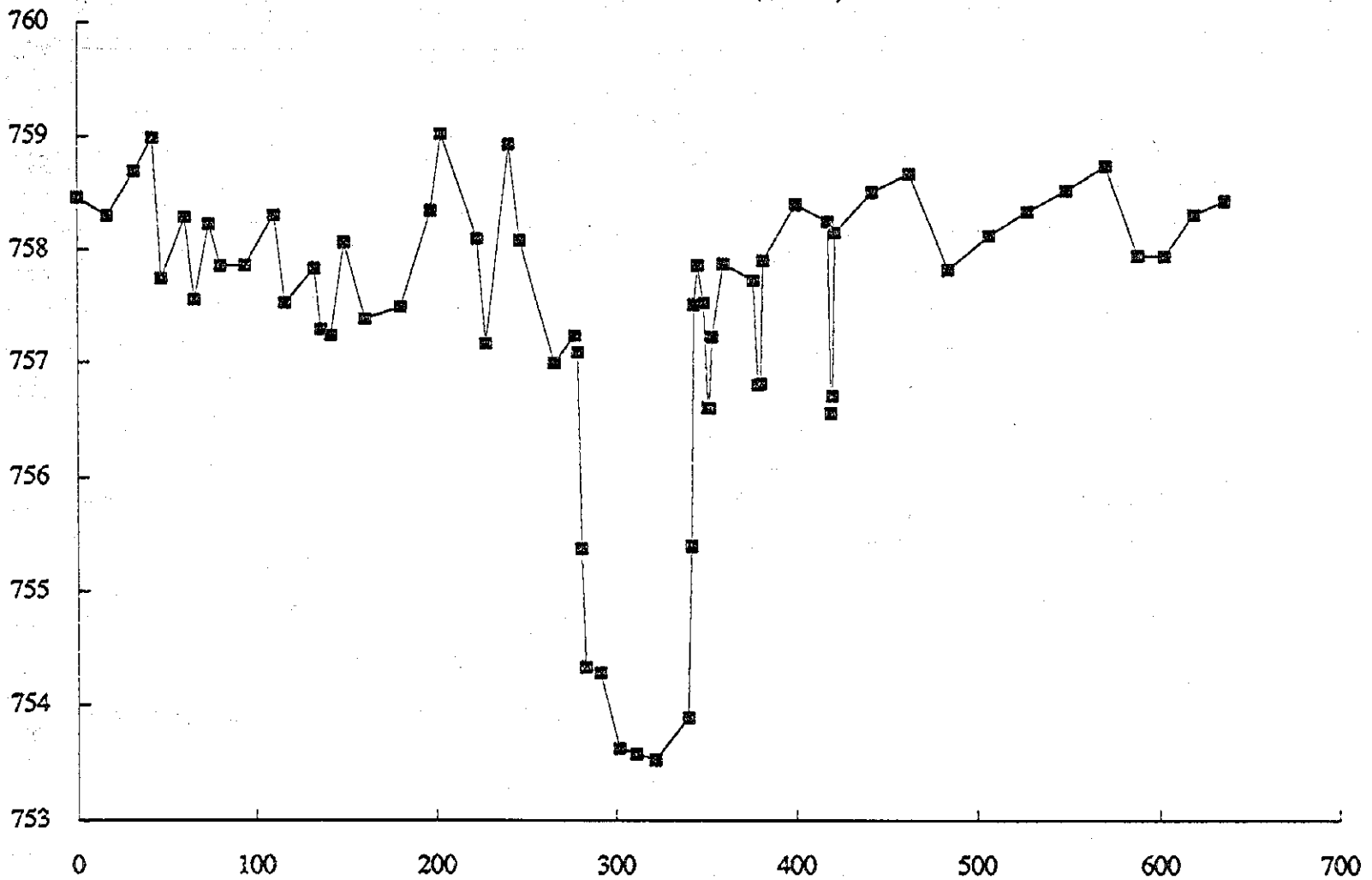
700


S-22.GPF(JS221)
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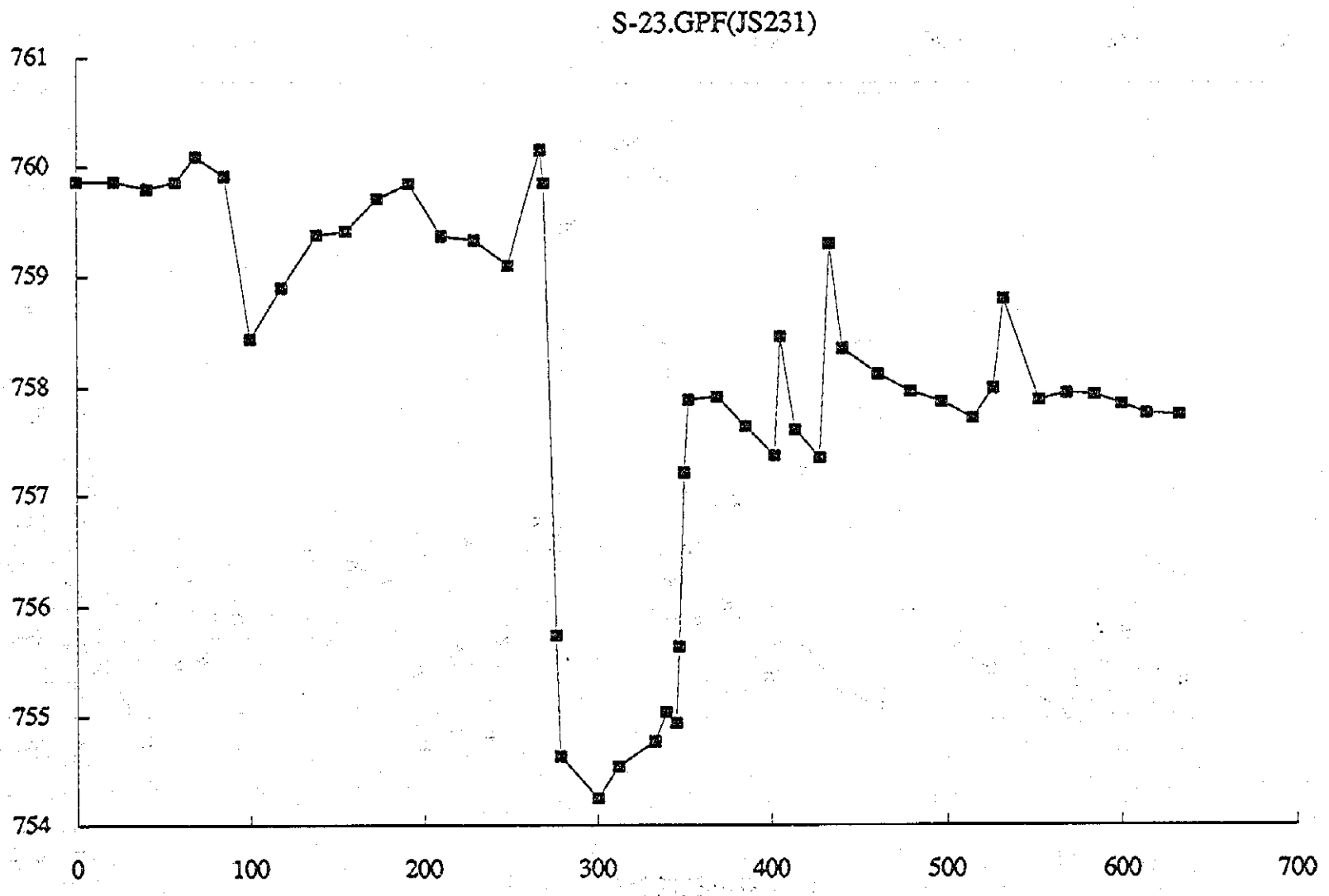
S-23.GPF(JS231)
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756
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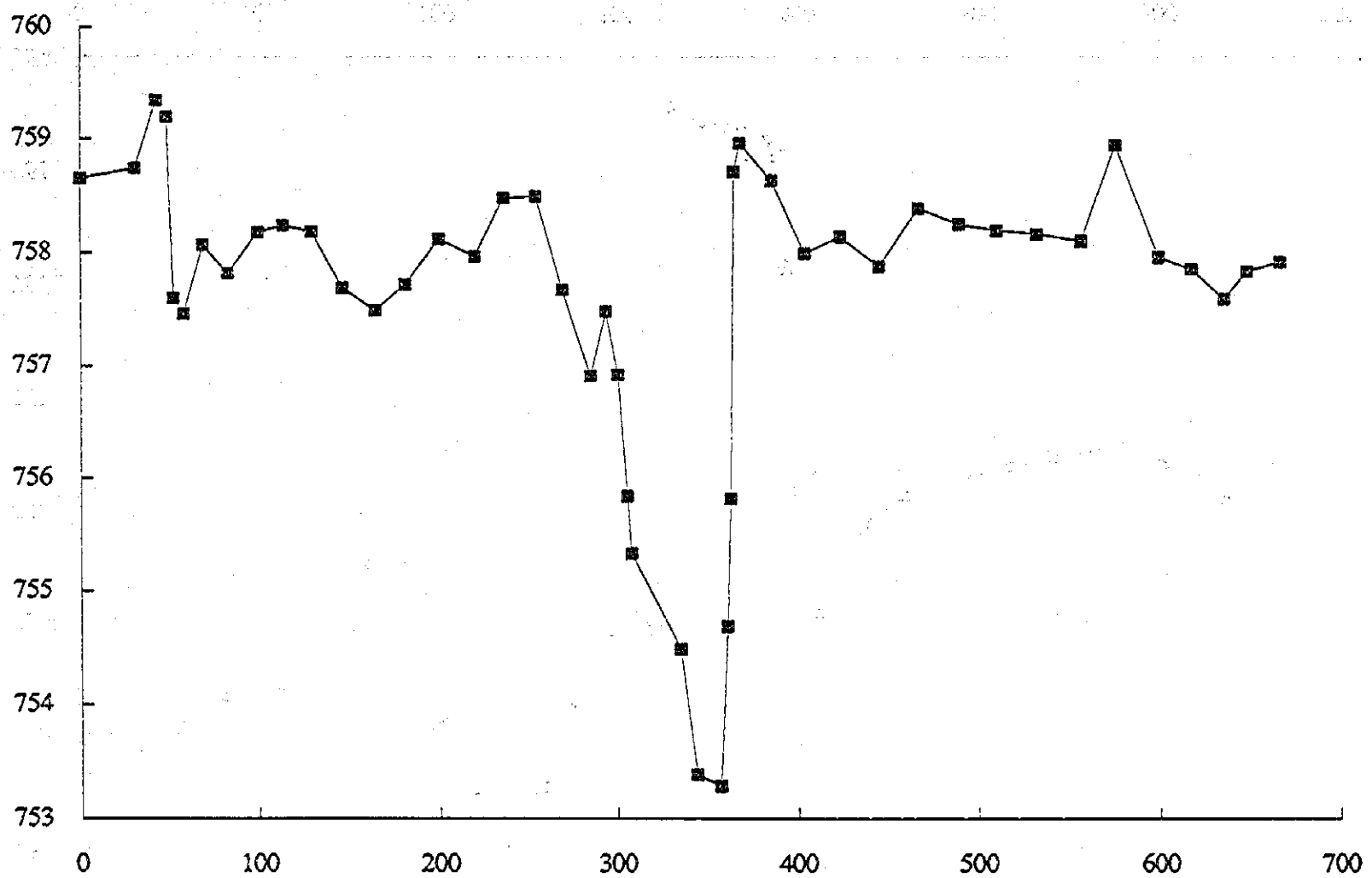
700


S-24.GPF(JS241)
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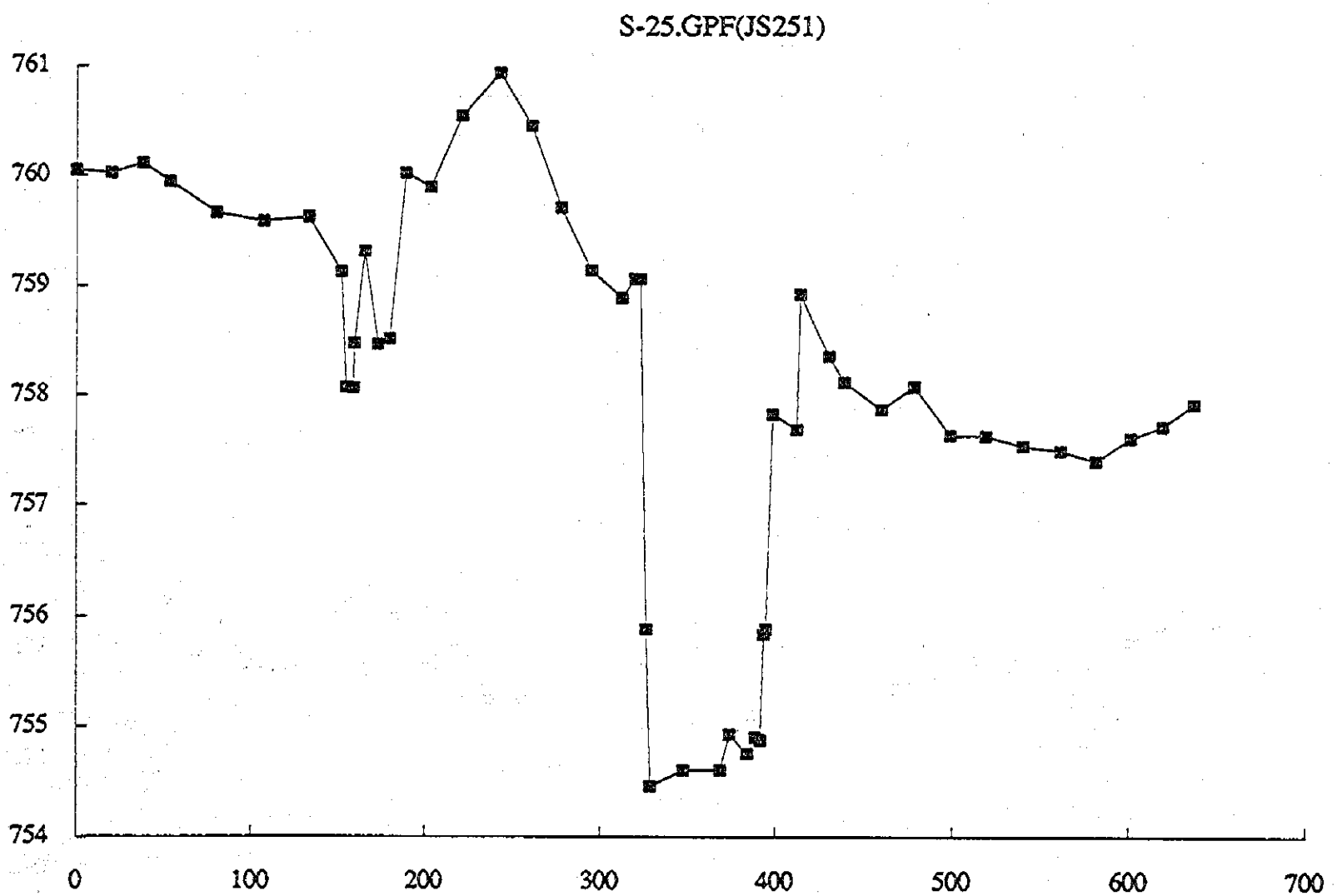
S-25.GPF(JS251)
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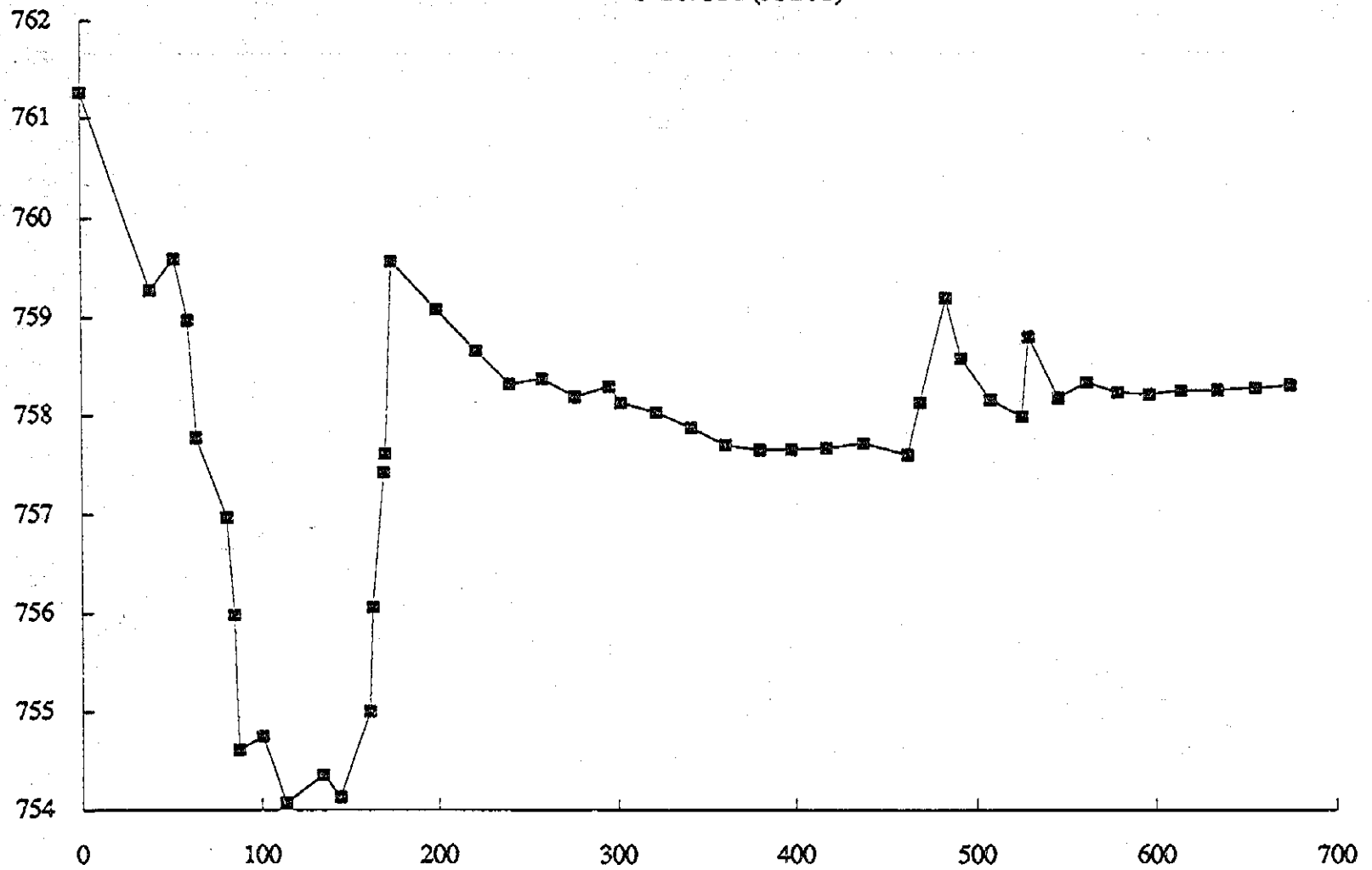
S-26.GPF(JS261)
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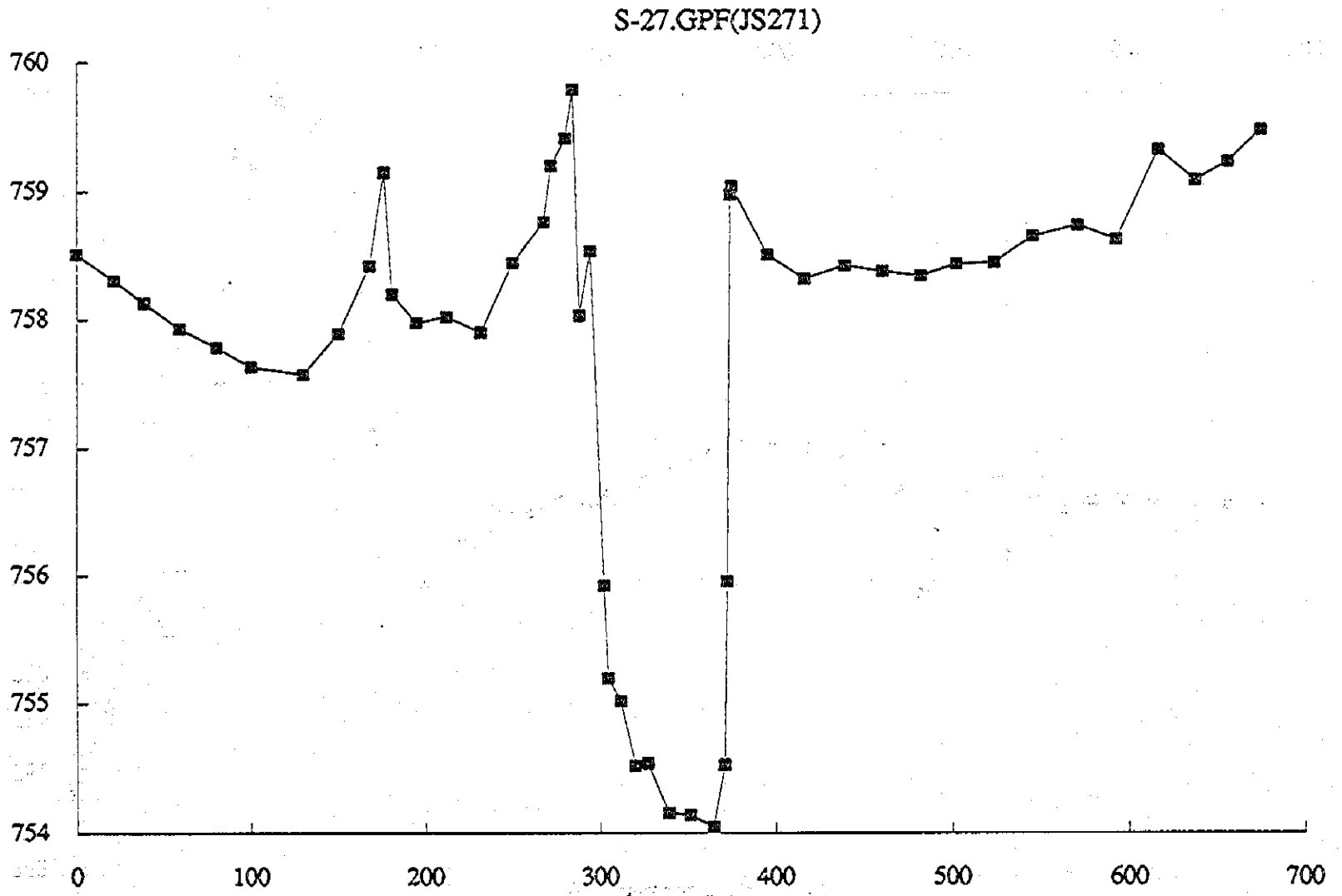
700


S-27.GPF(JS271)
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755
754
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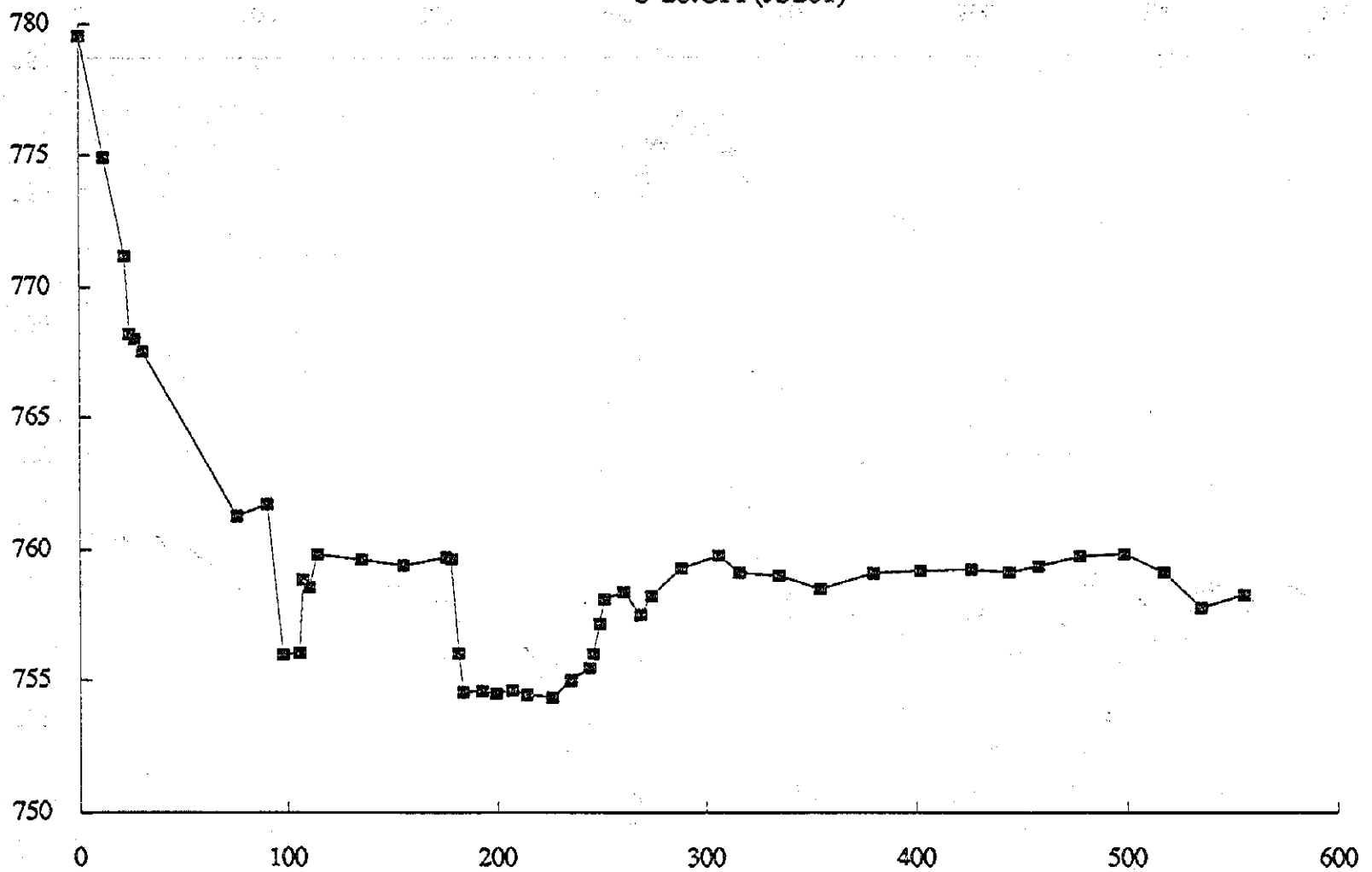
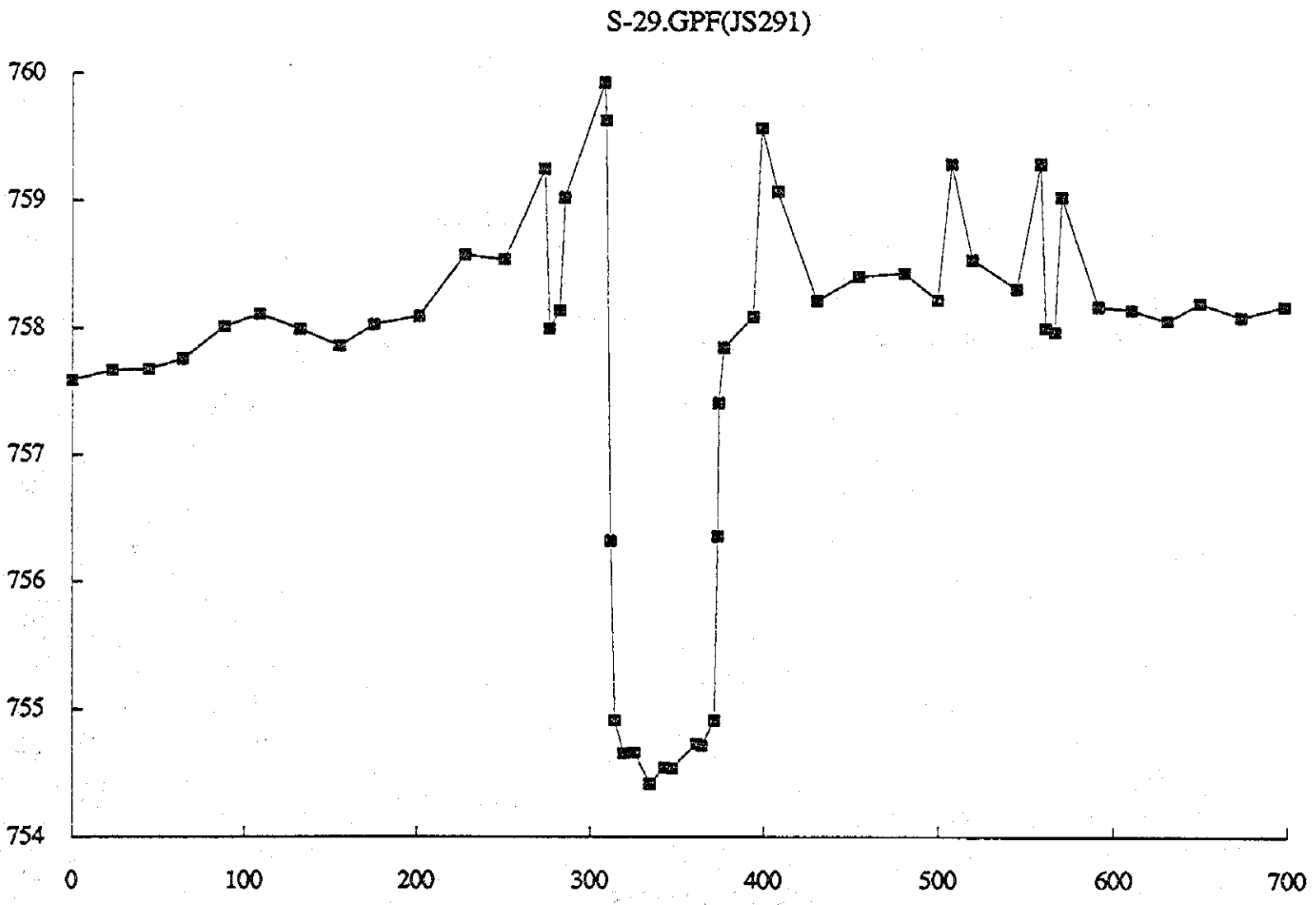
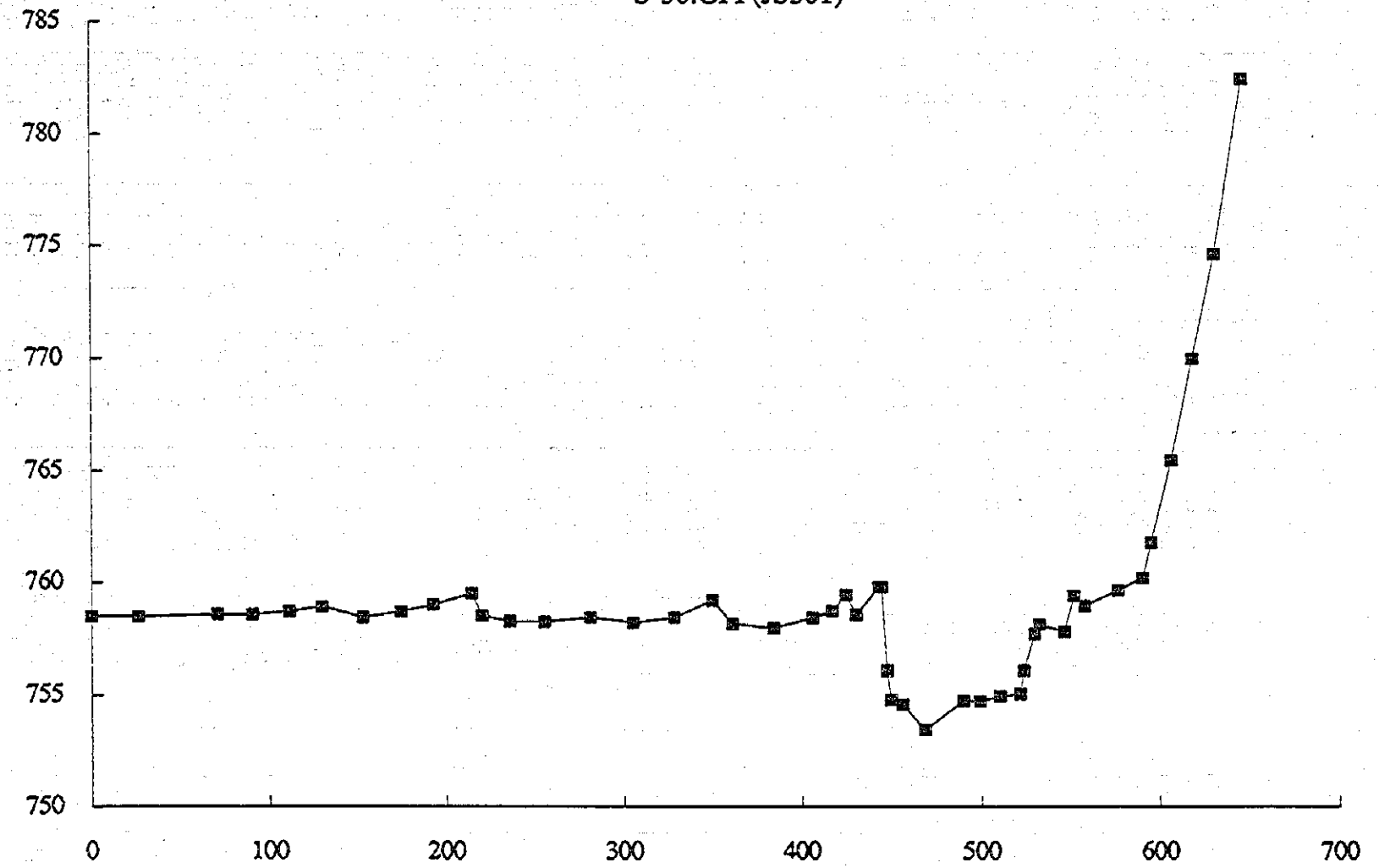
400
500
600
700


S-28.GPF(JS281)
780
775
770
765
760
755
750
0
100
200
300
400
500
600

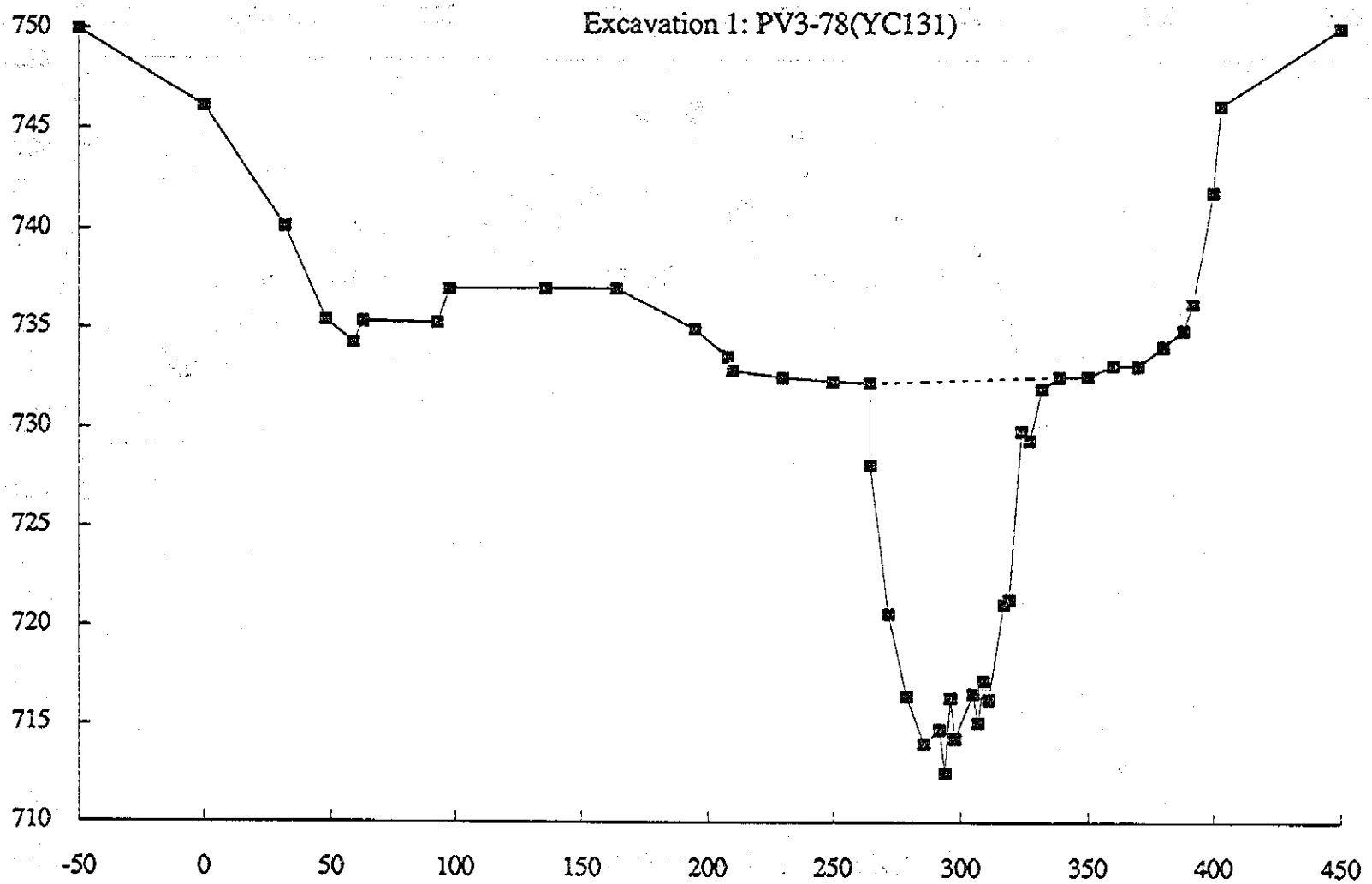

S-29.GPF(JS291)
760
759
758
757
756
755
754
0
100
200
300
400
500
600
700

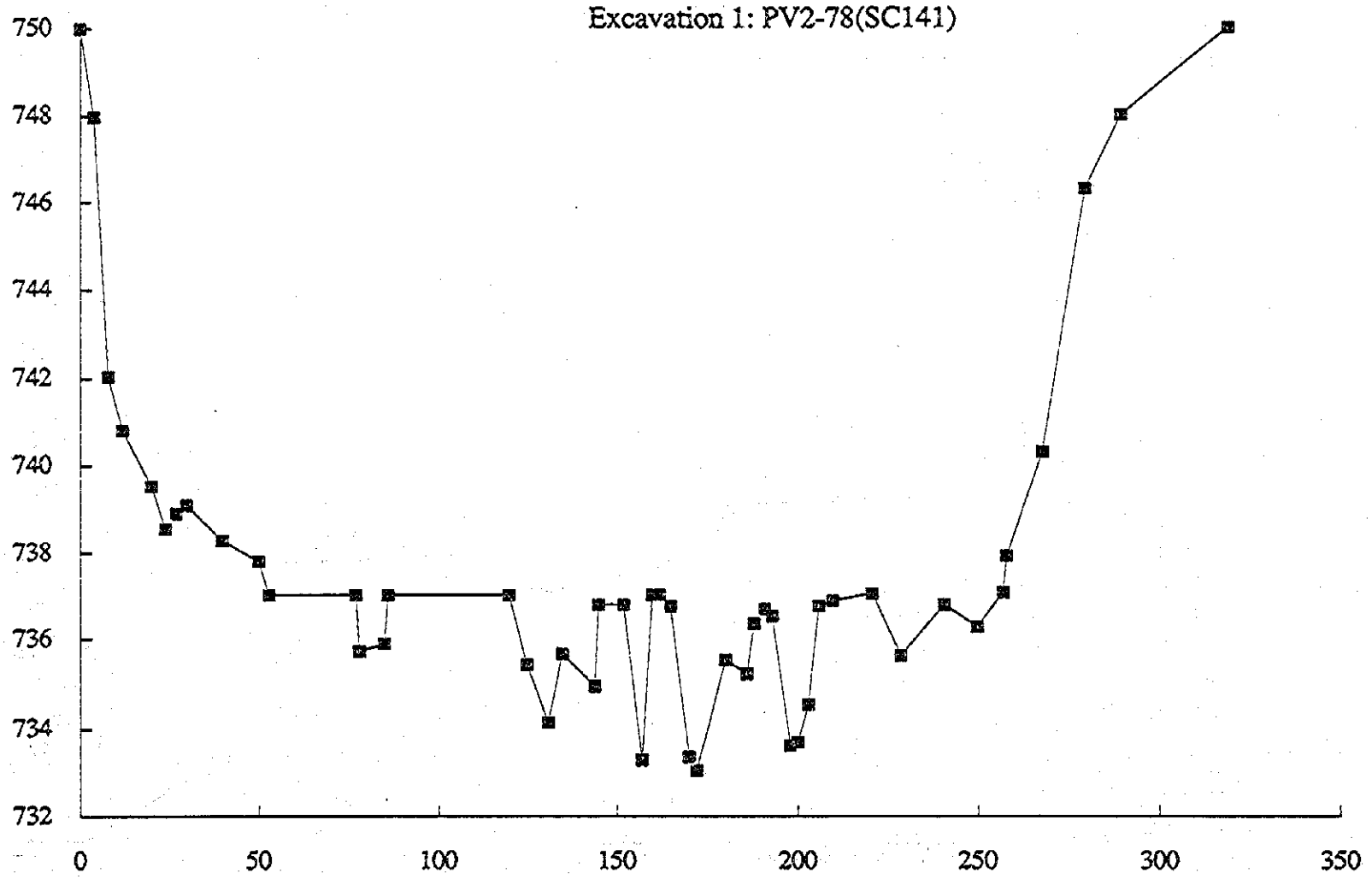

S-30.GPF(JS301)
785
780
775
770
765
760
755
750
0
100
200
300
400
500
600
700

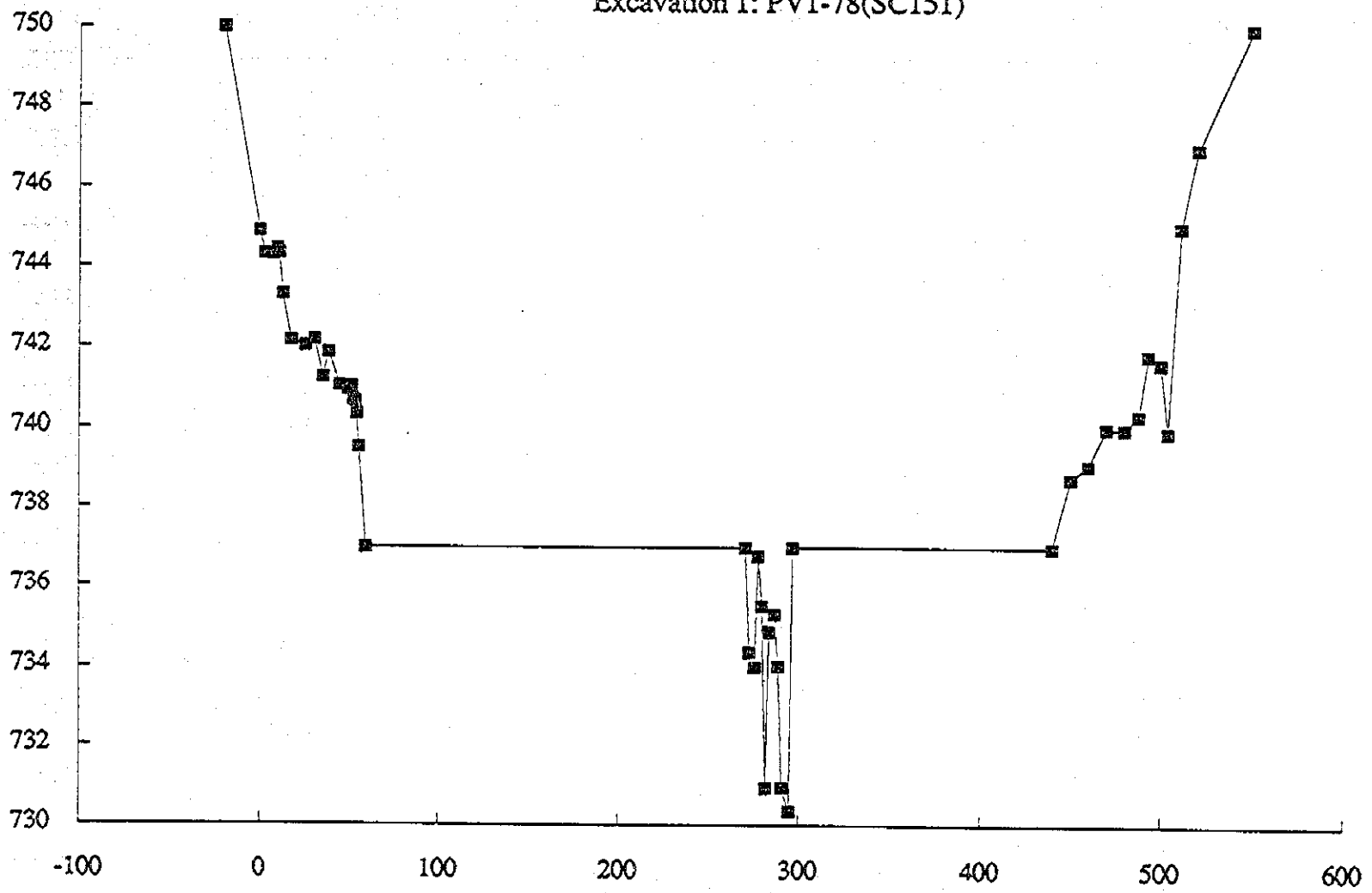
3.2 River Cross Sections With Excavation - 1

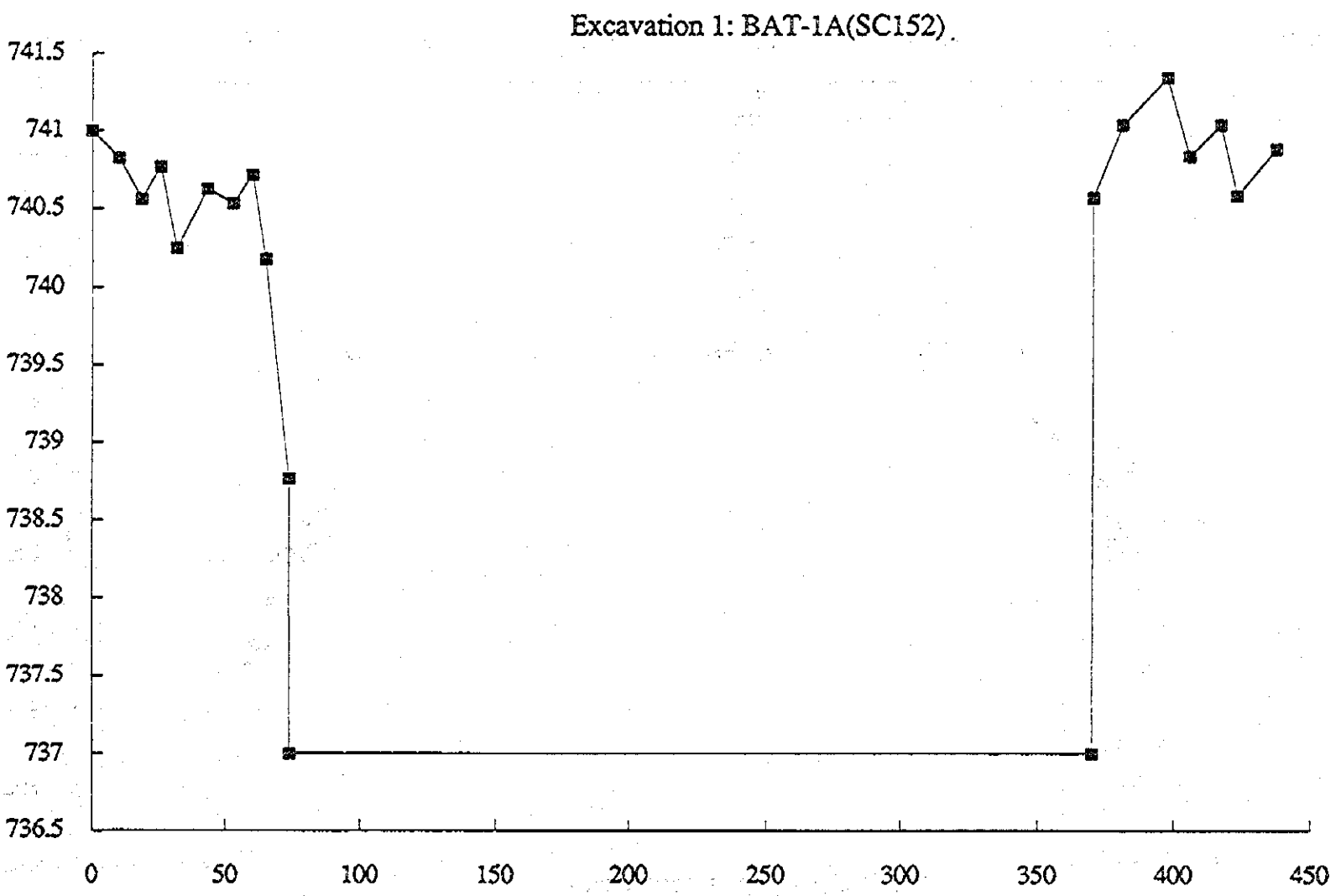
Original Section name	Section No.	Distance (m)	Accumulated Distance (m)
D1-77	CN011	9230.000	0.000
D2-77	CN021	9230.000	9230.000
D3-77	CN031	12300.000	18460.000
D4-77	CN041	10000.000	30760.000
D5-77	CN051	11540.000	40760.000
PV8-78	CN061	2160.000	52300.000
PV7-78	CN071	3840.000	54460.000
PV6-78	CN081	400.000	58300.000
PV5A-78	CN091	1400.000	58700.000
PV5-78	CN101	1420.000	60100.000
PV4-78	CN111	100.000	61520.000
M1-73	CN121	3040.000	61620.000
PV3-78	YC131	640.000	64660.000
PV2-78	SC141	500.000	65300.000
PV1-78	SC151	70.000	65800.000
BAT-1A	SC152	70.000	65870.000
BAT-1B	SC153	60.000	65940.000
BAT-2	SC154	50.000	66000.000
B3-84	CN161	260.000	66050.000
R5-94	CN171	1200.000	66310.000
R4-94	SC181	300.000	67510.000
M2-73	SC191	690.000	67810.000
UV8-78	CN201	1400.000	68500.000
UV7-78	CN211	1400.000	69900.000
UV6-78	CN221	1600.000	71300.000
M3-73	CN231	1400.000	72900.000
UV5A-78	CN241	300.000	74300.000
R3-94	CN251	300.000	74600.000
UV5-78	CN261	2170.000	74900.000
R2-94	CN271	230.000	77070.000
UV4-78	CN281	1200.000	77300.000
M4-73	CN291	1400.000	78500.000
UV3-78	CN301	1368.559	79900.000
01.GPF	ST011	999.116	81268.559
02.GPF	ST021	232.325	82267.675
UV2-78	SC311	762.845	82500.000
03.GPF	ST031	737.155	83262.845
R1-94	SC321	174.458	84000.000
04.GPF	JT041	725.542	84174.458
M5-73	CN331	308.594	84900.000
05.GPF	JT051	999.700	85208.594
06.GPF	JT061	91.706	86208.294
M6-73	CN341	736.650	86300.000
07.GPF	JT071	263.350	87036.650
M7-73	SC351	735.024	87300.000
08.GPF	ST081	988.412	88035.024
09.GPF	JT091	986.009	89023.436
10.GPF	JT101	890.555	90009.445
M8-73	CN361	95.809	90900.000
11.GPF	ST111	990.253	90995.809
12.GPF	ST121	955.756	91986.062
13.GPF	ST131	758.182	92941.818
UV-92	CN371	214.332	93700.000
14.GPF	JT141	185.668	93914.332
UV1-78	CN381	804.008	94100.000
15.GPF	ST151	295.992	94904.008
FINFL-27.ENT	SF011	712.720	95200.000
16.GPF	ST161	990.062	95912.720
17.GPF	ST171	1005.718	96902.782

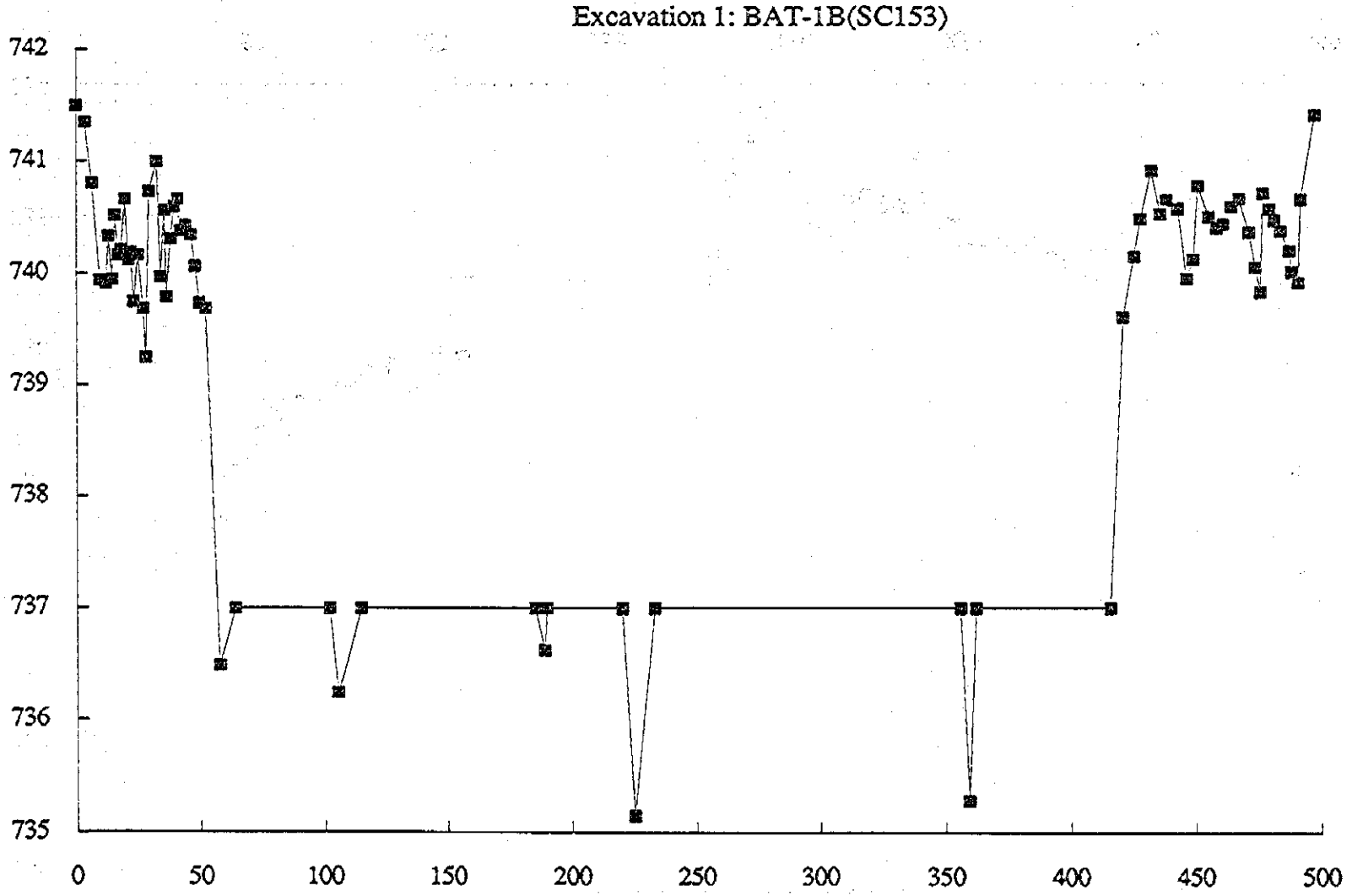
Original Section name	Section No.	Distance (m)	Accumulated Distance (m)
18.GPF	JT181	291.500	97908.500
FINFL-26.ENT	CF021	699.237	98200.000
19.GPF	JT191	998.171	98899.237
20.GPF	JT201	1002.592	99897.408
FINFL-25.ENT	CF031	3300.000	100900.000
FINFL-24.ENT	CF041	3500.000	104200.000
FINFL-23.ENT	CF051	9950.000	107700.000
FINFL-22.ENT	CF061	4650.000	117650.000
FINFL-21.ENT	CF071	3900.000	122300.000
FINFL-20.ENT	CF081	5000.000	126200.000
FINFL-19.ENT	CF091	2000.000	131200.000
FINFL-18.ENT	CF101	2000.000	133200.000
FINFL-17.ENT	CF111	5750.000	135200.000
FINFL-16.ENT	CF121	3250.000	140950.000
FINFL-15.ENT	CF131	3500.000	144200.000
FINFL-14.ENT	CF141	2250.000	147700.000
FINFL-13.ENT	CF151	3250.000	149950.000
FINFL-12.ENT	CF161	5050.000	153200.000
FINFL-11.ENT	CF171	3050.000	158250.000
FINFL-10.ENT	CF181	2950.000	161300.000
FINFL-09.ENT	CF191	4550.000	164250.000
FINFL-08.ENT	CF201	4400.000	168800.000
FINFL-07.ENT	CF211	4850.000	173200.000
FINFL-06.ENT	CF221	1700.000	178050.000
FINFL-05.ENT	CF231	3950.000	179750.000
FINFL-04.ENT	CF241	2225.000	183700.000
FINFL-03.ENT	CF251	4775.000	185925.000
FINFL-02.ENT	CF261	7000.004	190700.000
FINFL-01.ENT	CF271	1805.800	197700.004
S-02.GPF	JS021	1552.490	199505.804
S-03.GPF	JS031	1762.610	201058.294
S-04.GPF	JS041	2644.140	202820.904
S-05.GPF	JS051	2191.590	205465.044
S-06.GPF	JS061	2388.090	207656.634
S-07.GPF	JS071	3521.930	210044.724
S-08.GPF	JS081	1817.230	213566.654
S-09.GPF	JS091	2028.390	215383.884
S-10.GPF	JS101	2469.990	217412.274
S-11.GPF	JS111	1076.570	219882.264
S-12.GPF	JS121	2390.910	220958.834
S-13.GPF	JS131	2077.590	223349.744
S-14.GPF	JS141	2319.950	225427.334
S-15.GPF	JS151	1916.490	227747.284
S-16.GPF	JS161	2866.920	229663.774
S-17.GPF	JS171	1134.620	232530.694
S-18.GPF	JS181	1295.530	233665.314
S-19.GPF	JS191	737.220	234960.844
S-20.GPF	JS201	998.120	235698.064
S-21.GPF	JS211	391.560	236696.184
S-22.GPF	JS221	1191.210	237087.744
S-23.GPF	JS231	487.750	238278.954
S-24.GPF	JS241	557.770	238766.704
S-25.GPF	JS251	436.940	239324.474
S-26.GPF	JS261	516.210	239761.414
S-27.GPF	JS271	512.410	240277.624
S-28.GPF	JS281	919.310	240790.034
S-29.GPF	JS291	875.150	241709.344
S-30.GPF	JS301	0.000	242584.494

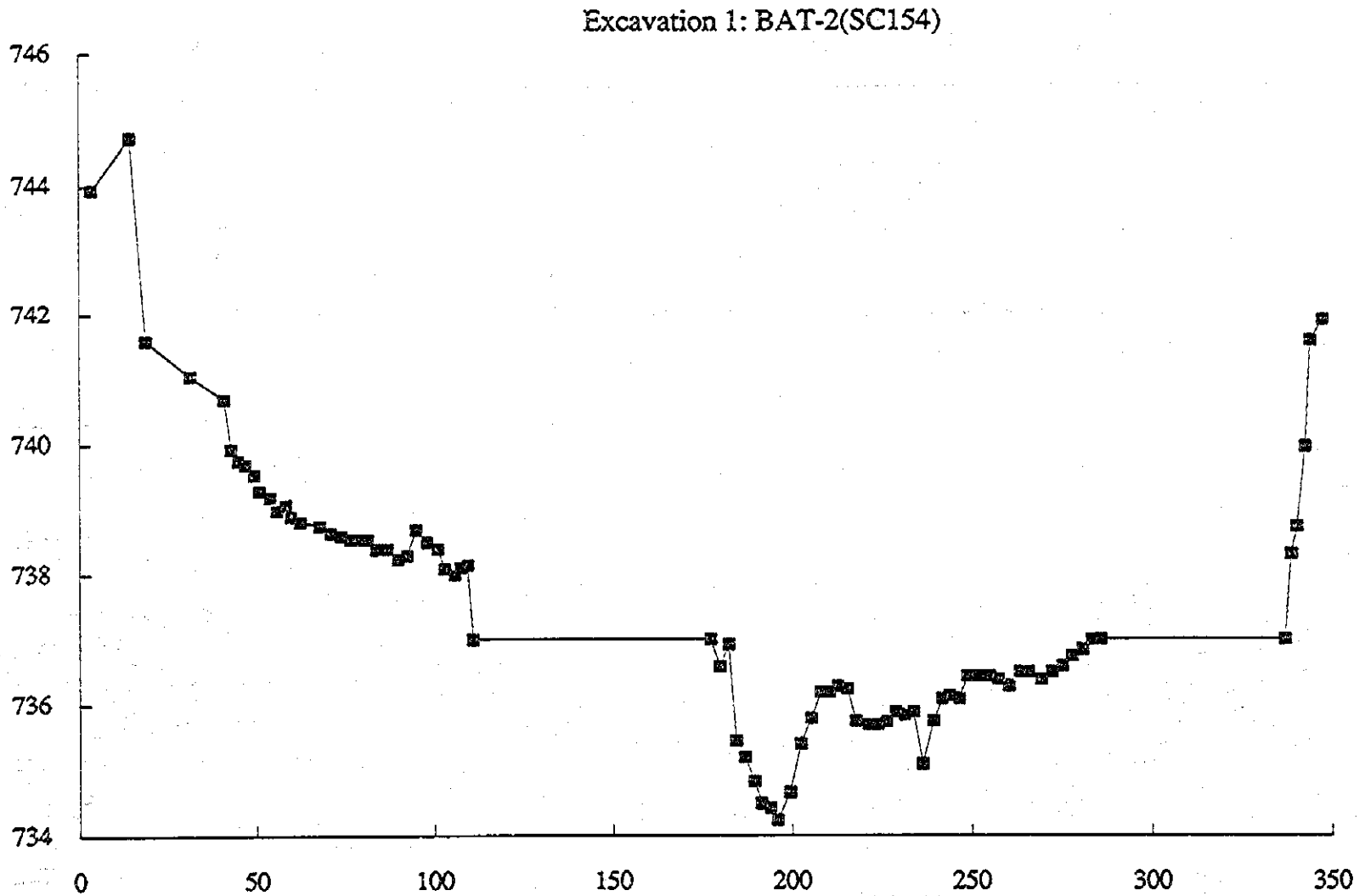

Excavation 1: PV3-78(YC131)
750
745
740
735
730
725
720
715
710
-50
0
50
100
150
200
250
300
350
400
450

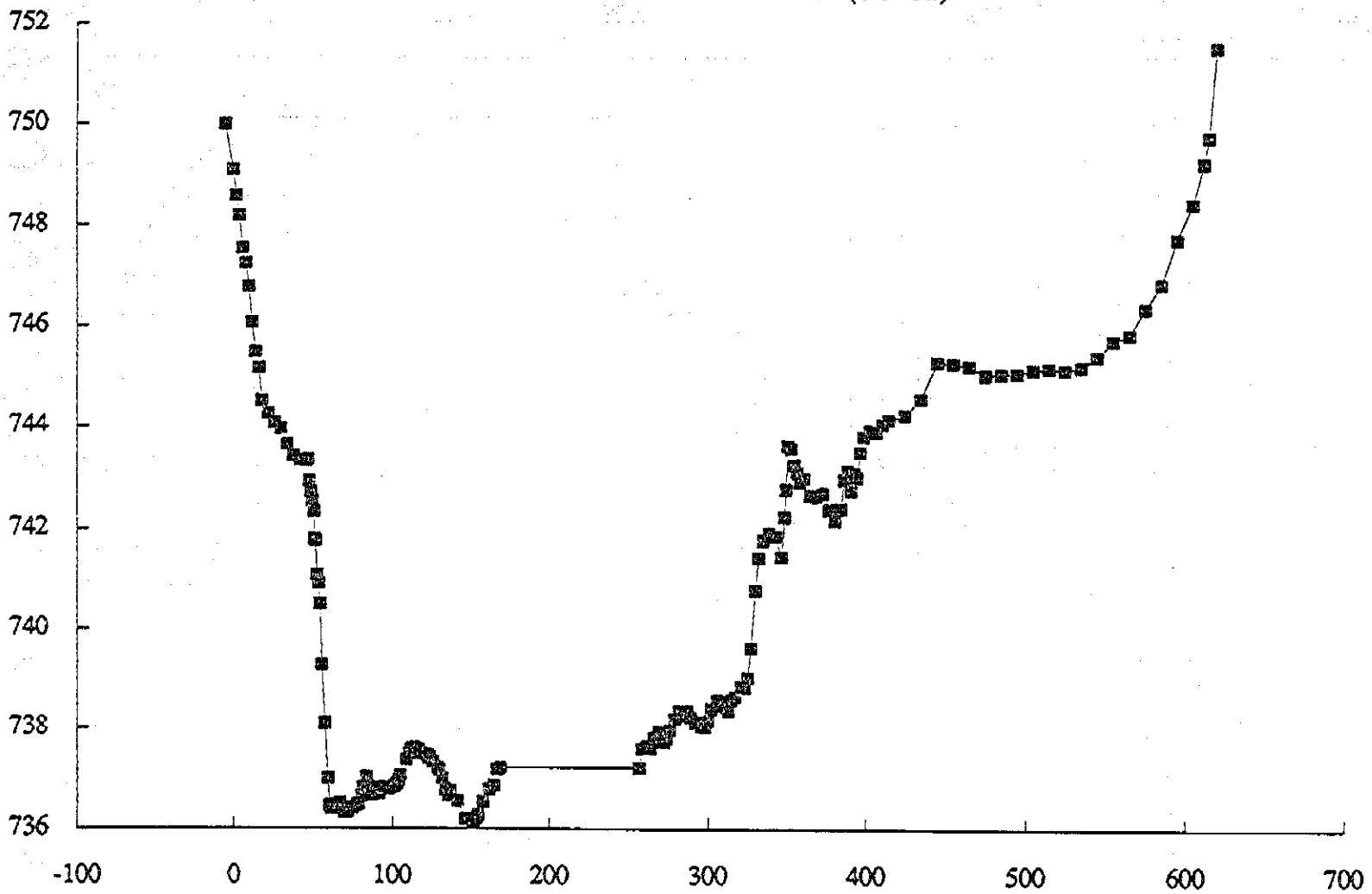

Excavation 1: PV2-78(SC141)
750
748
746
744
742
740
738
736
734
732
0
50
100
150
200
250
300
350

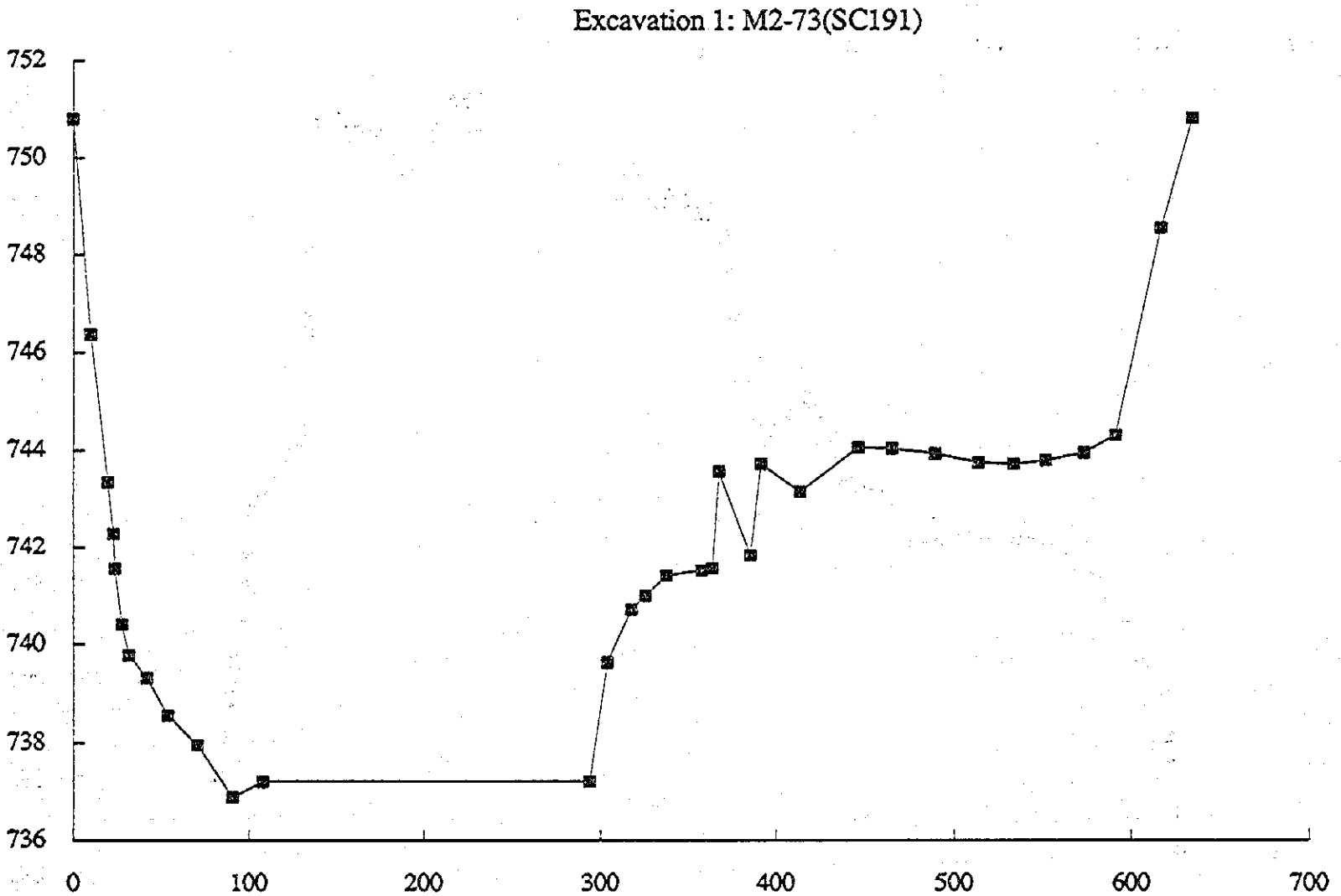

Excavation 1: PV1-78(SC151)
750
748
746
744
742
740
738
736
734
732
730
-100
0
100
200
300
400
500
600

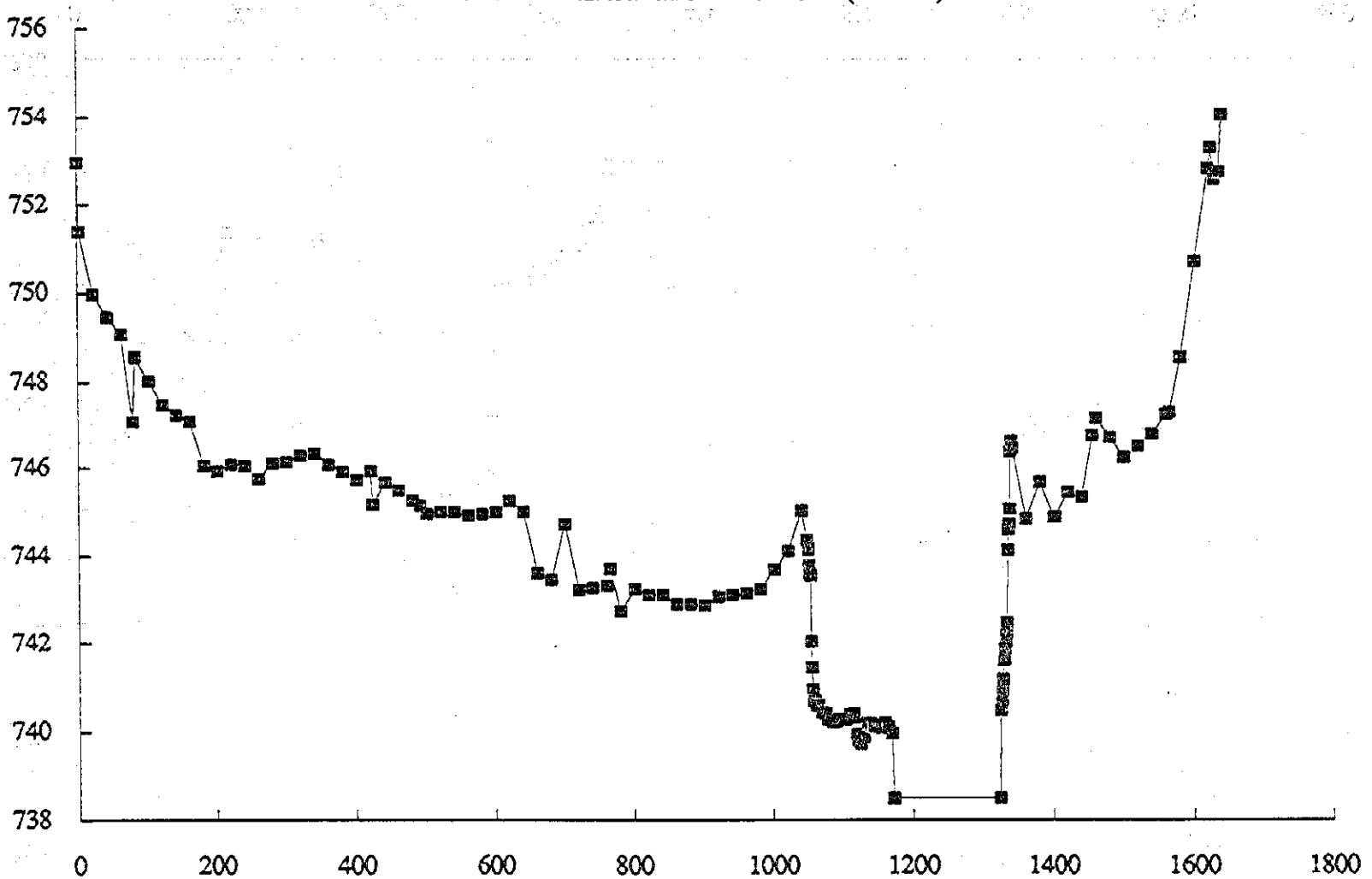

Excavation 1: BAT-1A(SC152)
741.5
741
740.5
740
739.5
739
738.5
738
737.5
737
736.5
0
50
100
150
200
250
300
350
400
450

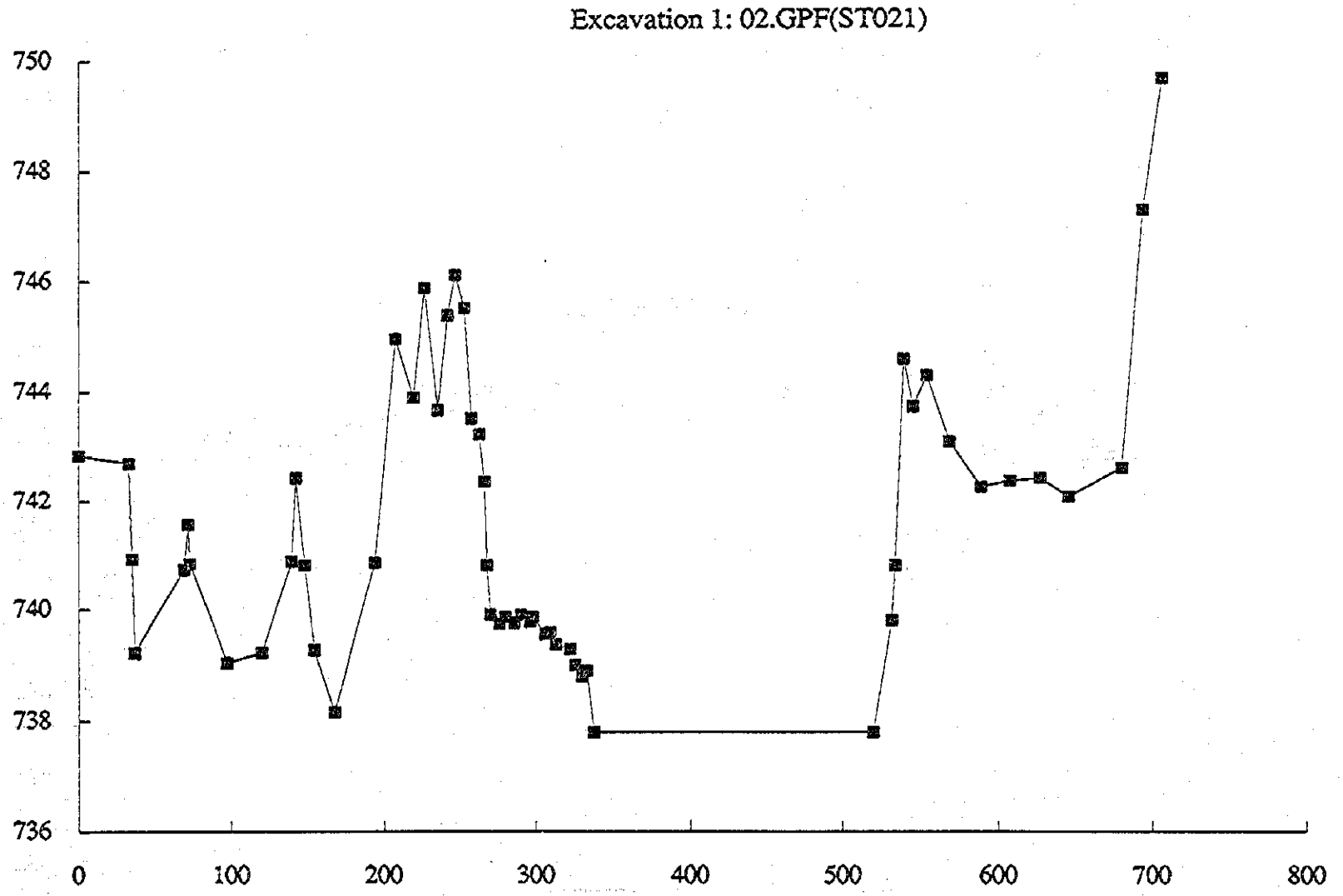

Excavation 1: BAT-1B(SC153)
742
741
740
739
738
737
736
735
0
50
100
150
200
250
300
350
400
450
500

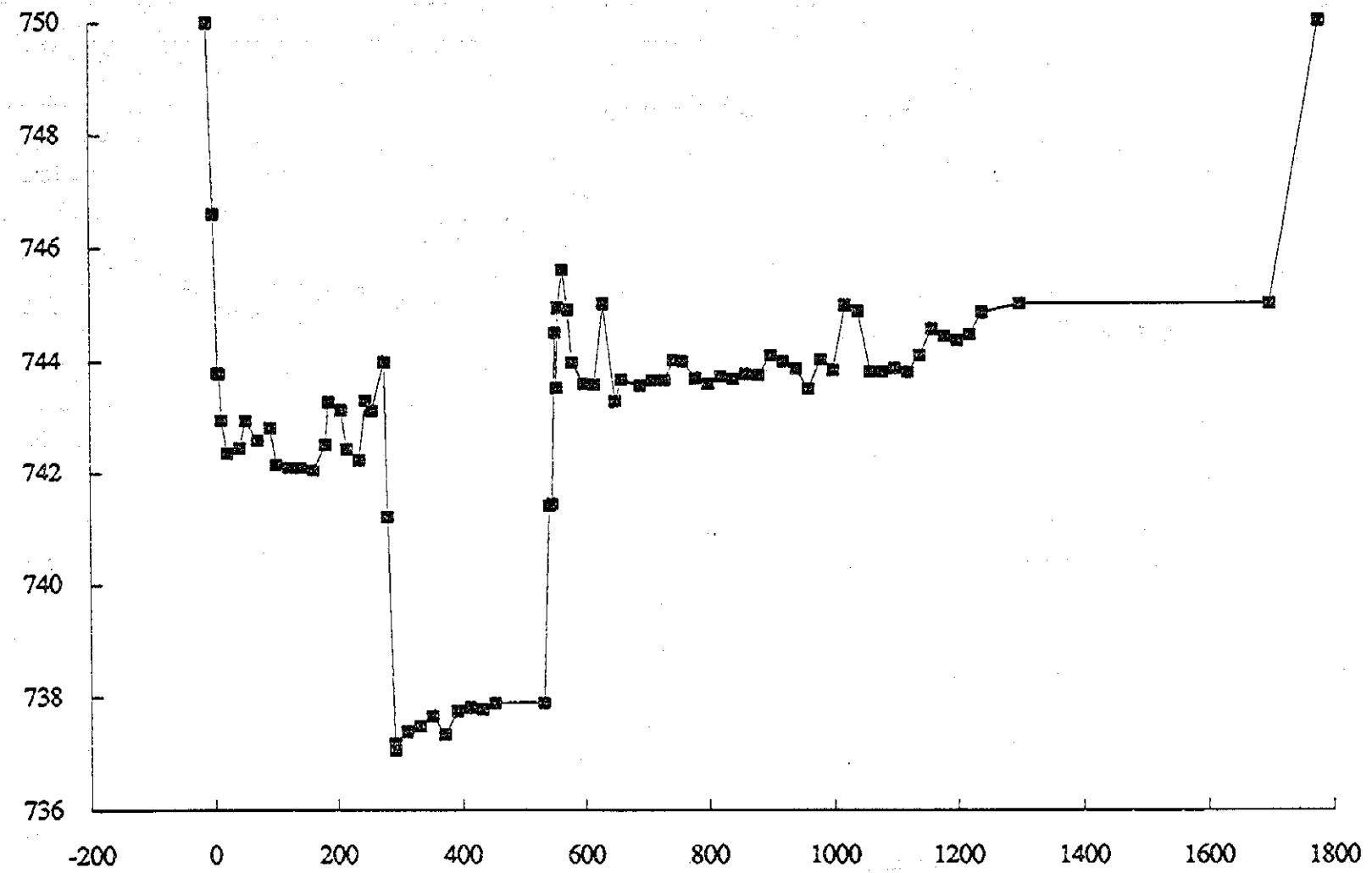

Excavation 1: BAT-2(SC154)
746
744
742
740
738
736
734
0
50
100
150
200
250
300
350

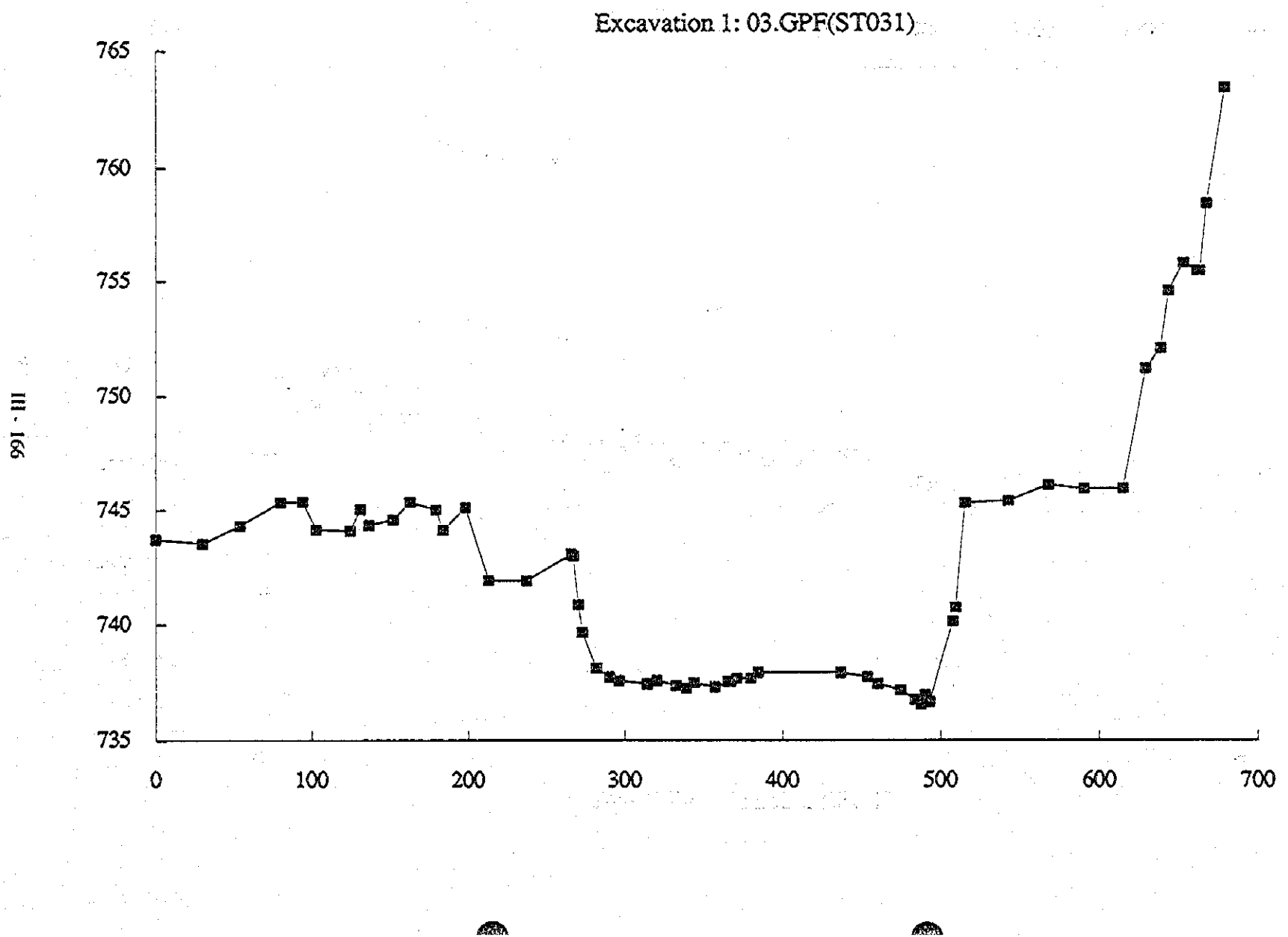

Excavation 1: R4-94(SC181)
752
750
748
746
744
742
740
738
736
-100
0
100
200
300
400
500
600
700

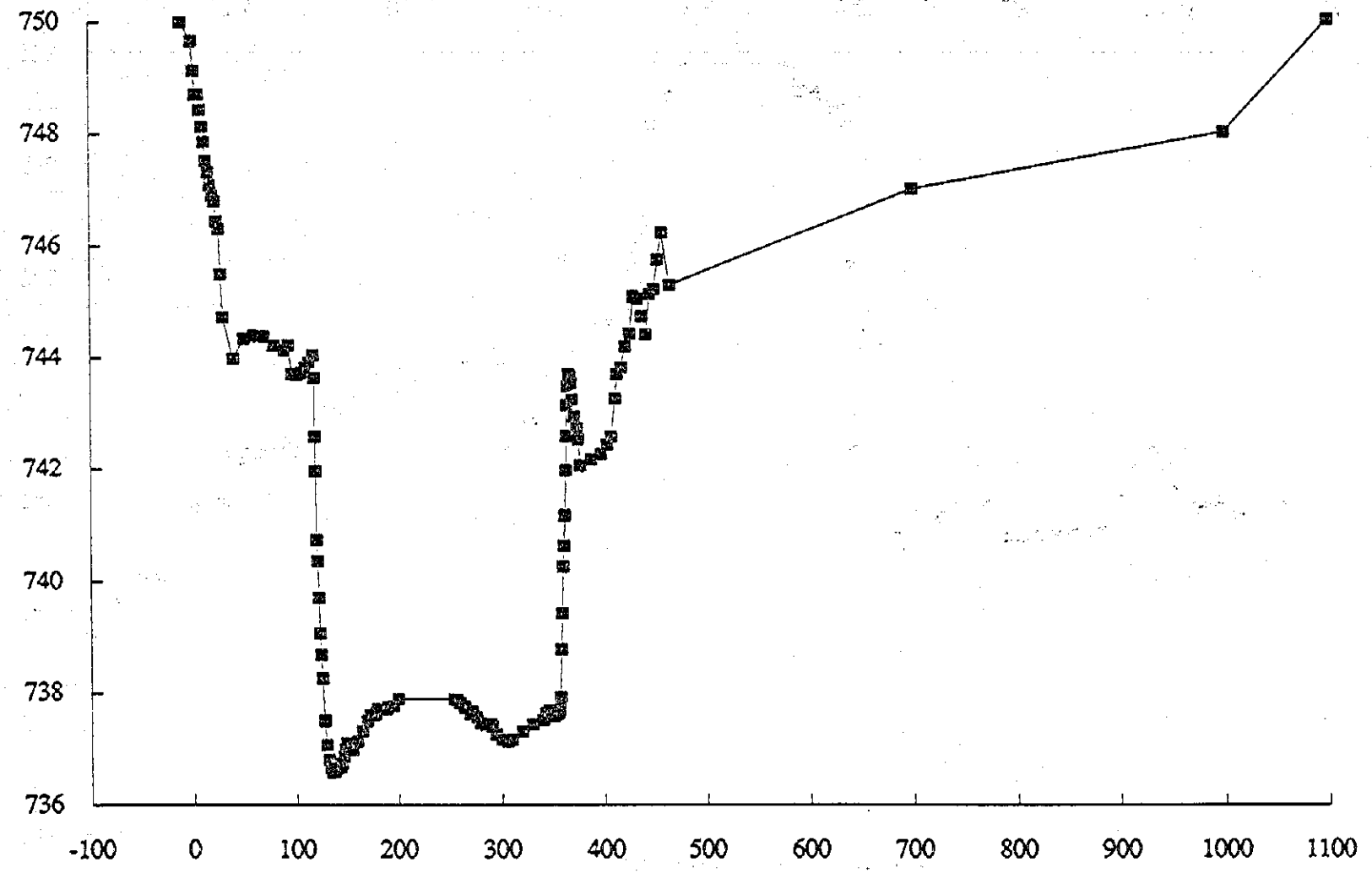

Excavation 1: M2-73(SC191)
752
750
748
746
744
742
740
738
736
0
100
200
300
400
500
600
700

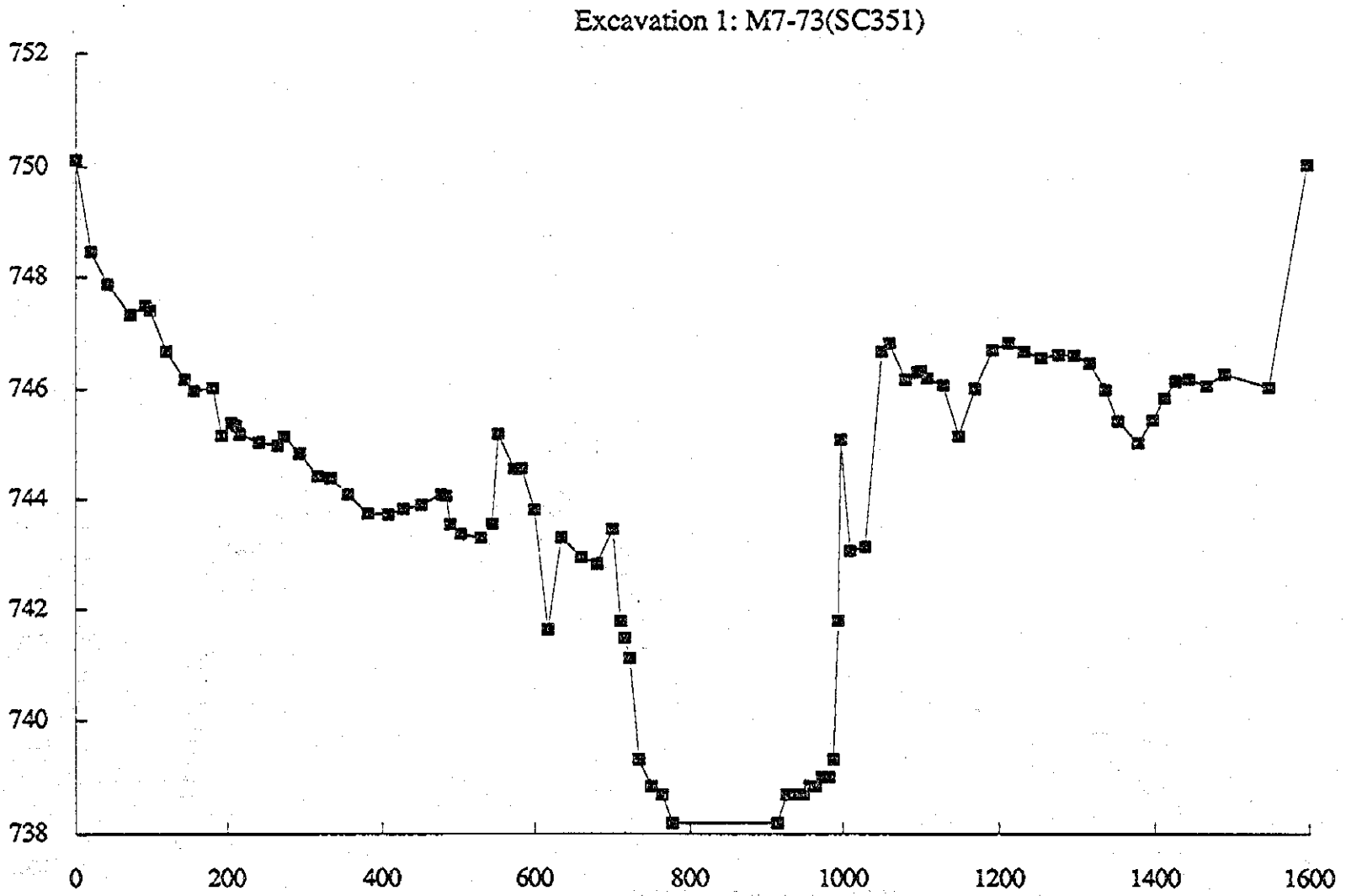

Excavation 1: 01.GPF(ST011)
756
754
752
750
748
746
744
742
740
738
0
200
400
600
800
1000
1200
1400
1600
1800

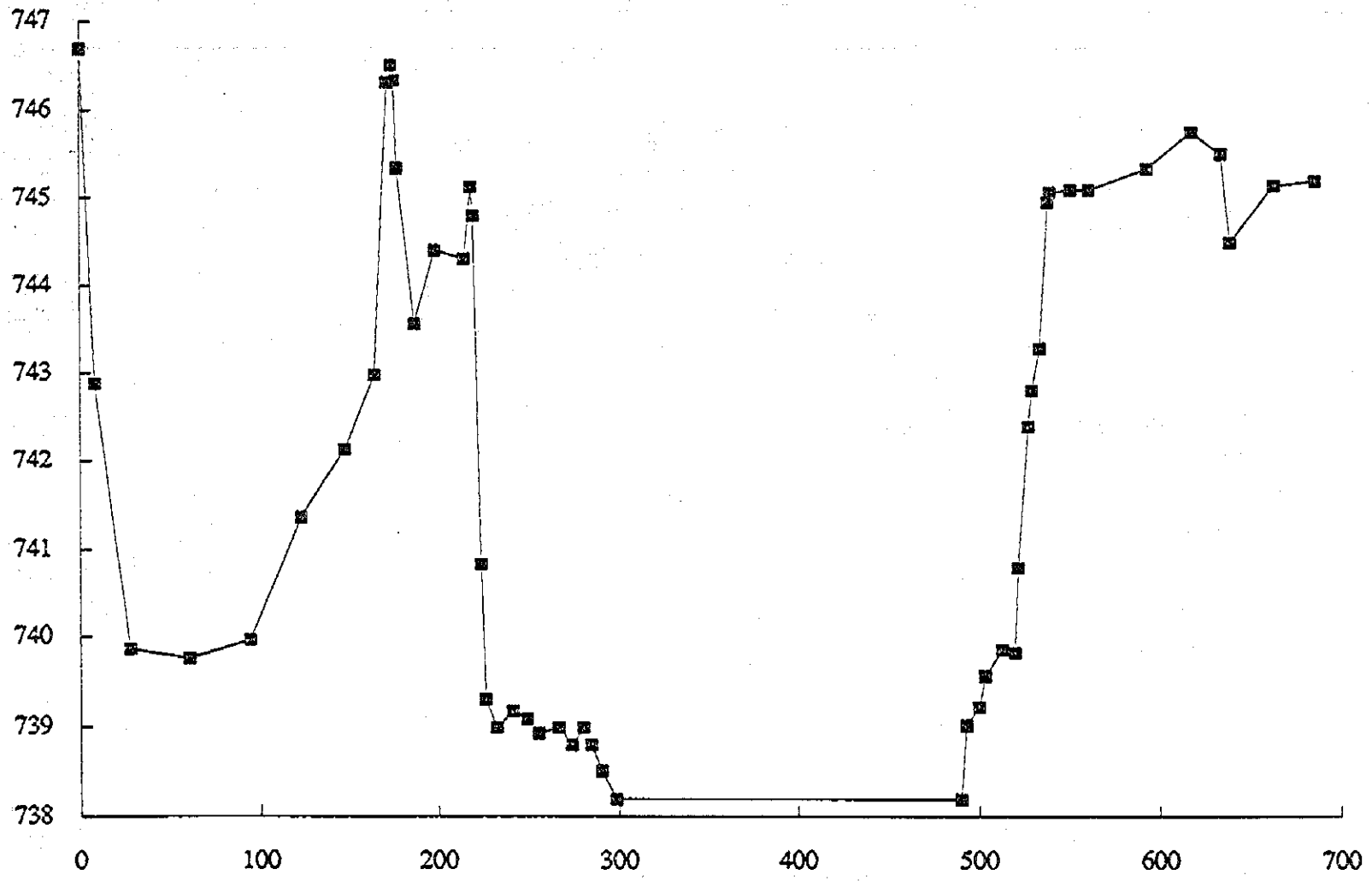

Excavation 1: 02.GPF(ST021)
750
748
746
744
742
740
738
736
0
100
200
300
400
500
600
700
800

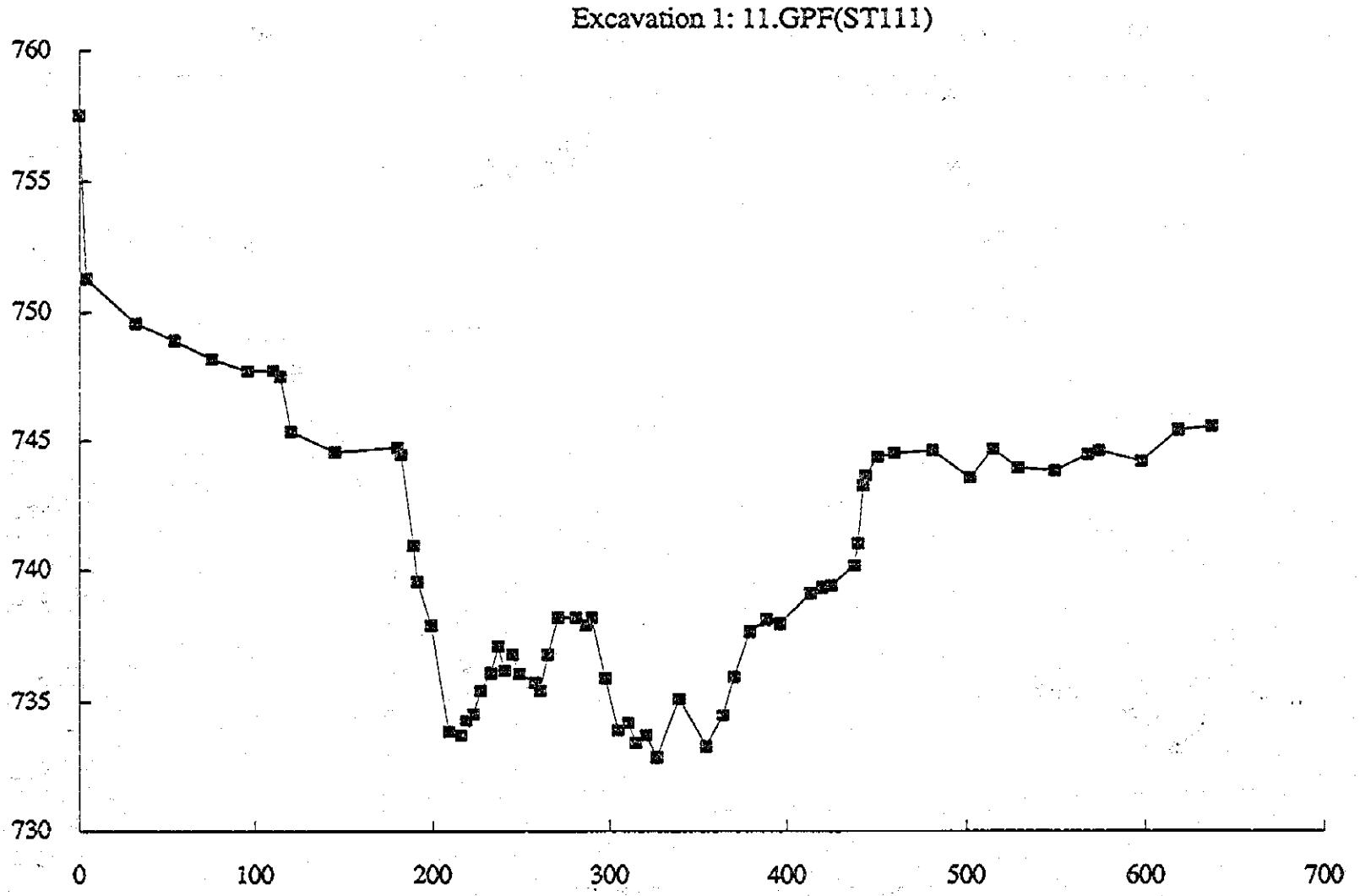

Excavation 1: UV2-78(SC311)
750
748
746
744
742
740
738
736
-200
0
200
400
600
800
1000
1200
1400
1600
1800

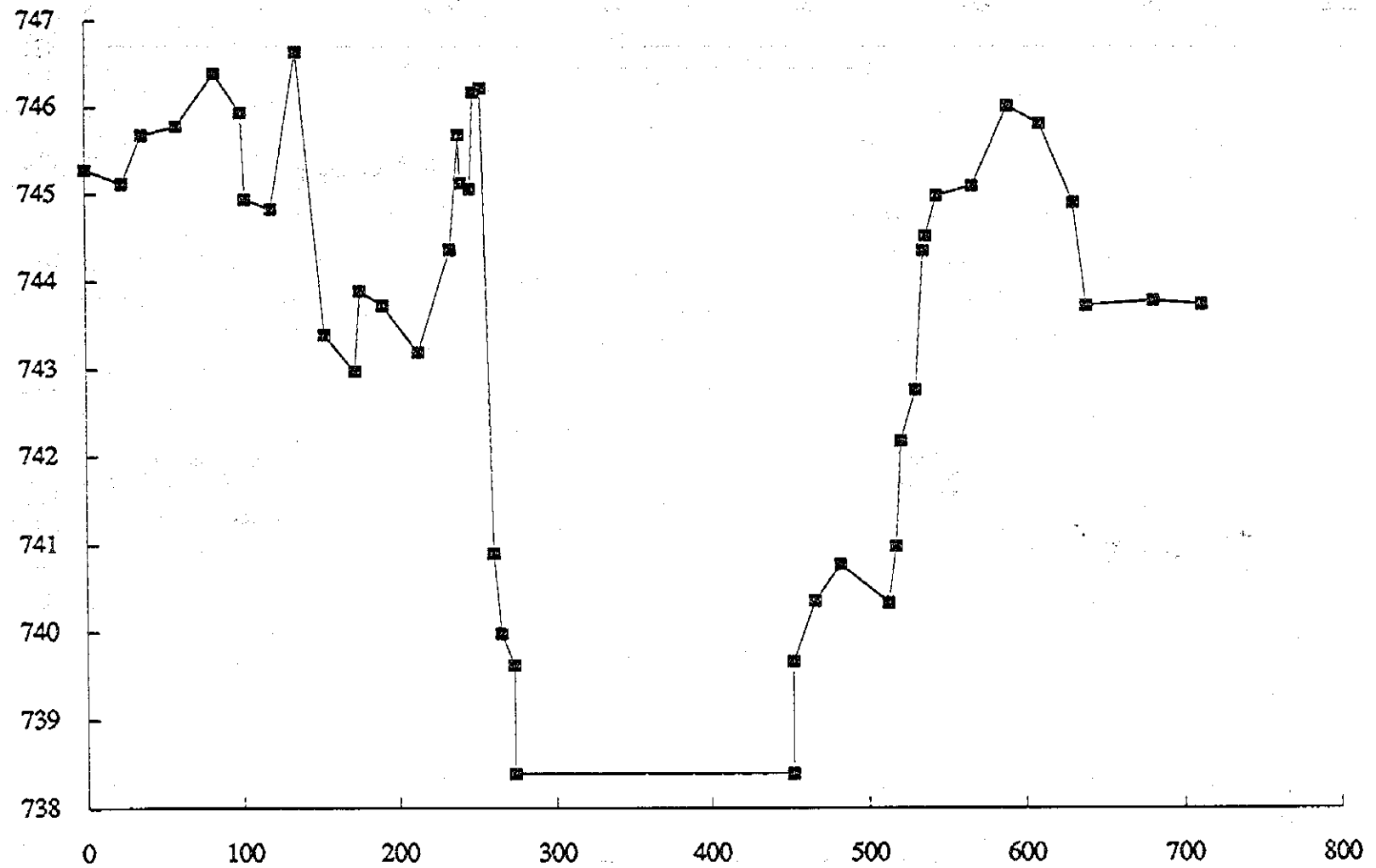

Excavation 1: 03.GPF(ST031)
765
760
755
750
745
740
735
0
100
200
300
400
500
600
700

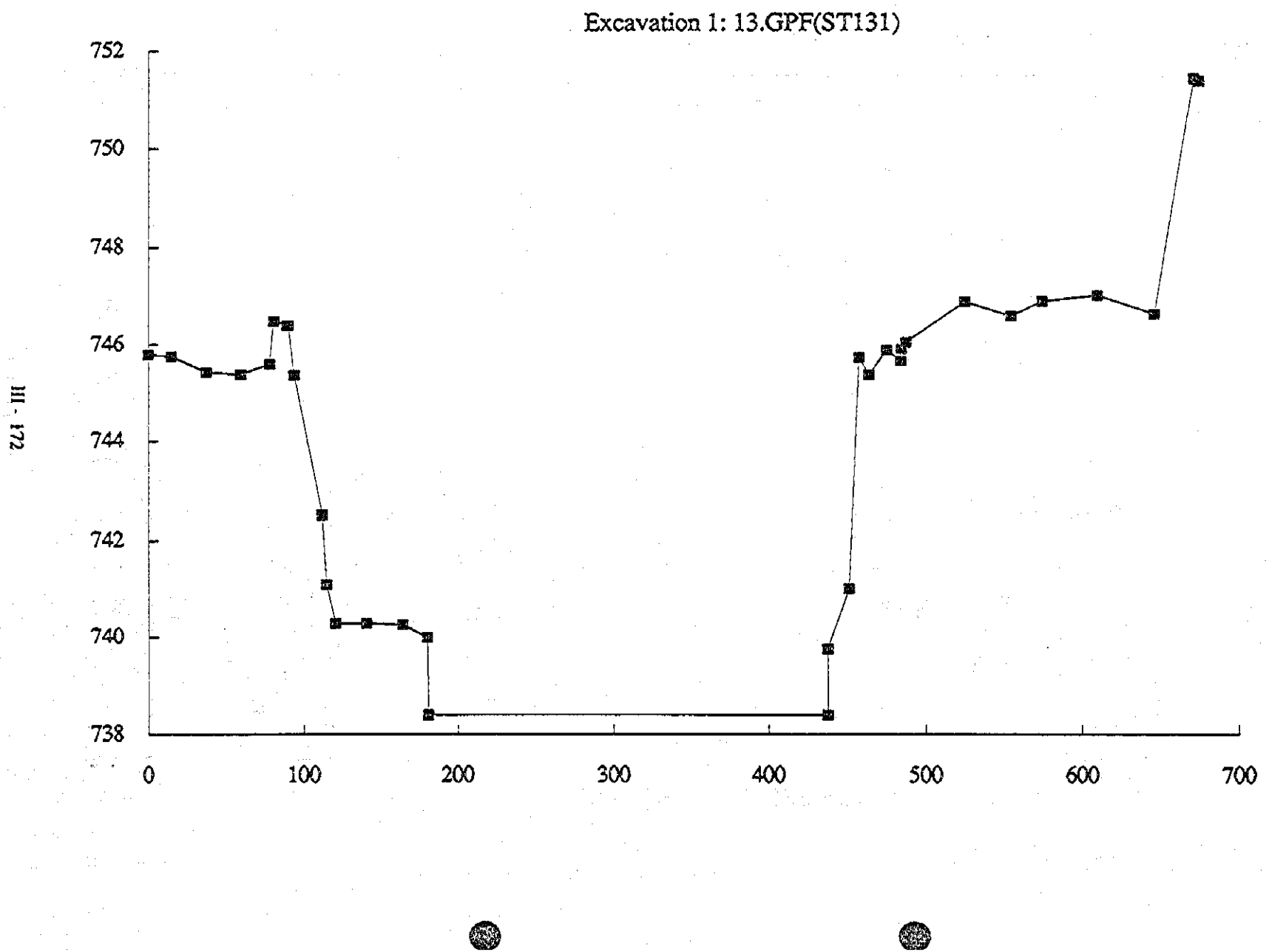

Excavation 1: R1-94(SC321)
750
748
746
744
742
740
738
736
-100
0
100
200
300
400
500
600
700
800
900
1000
1100

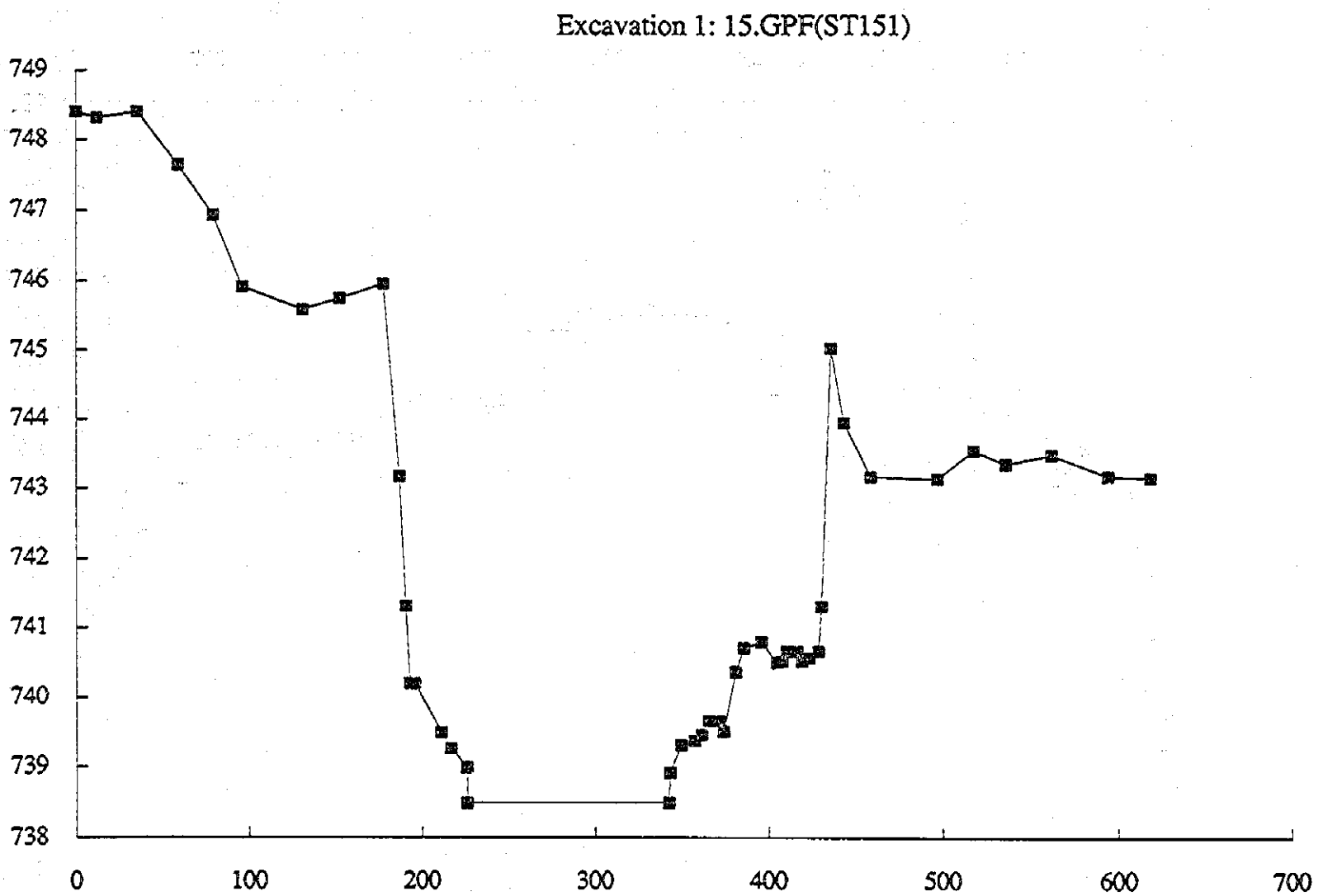

Excavation 1: M7-73(SC351)
752
750
748
746
744
742
740
738
0
200
400
600
800
1000
1200
1400
1600

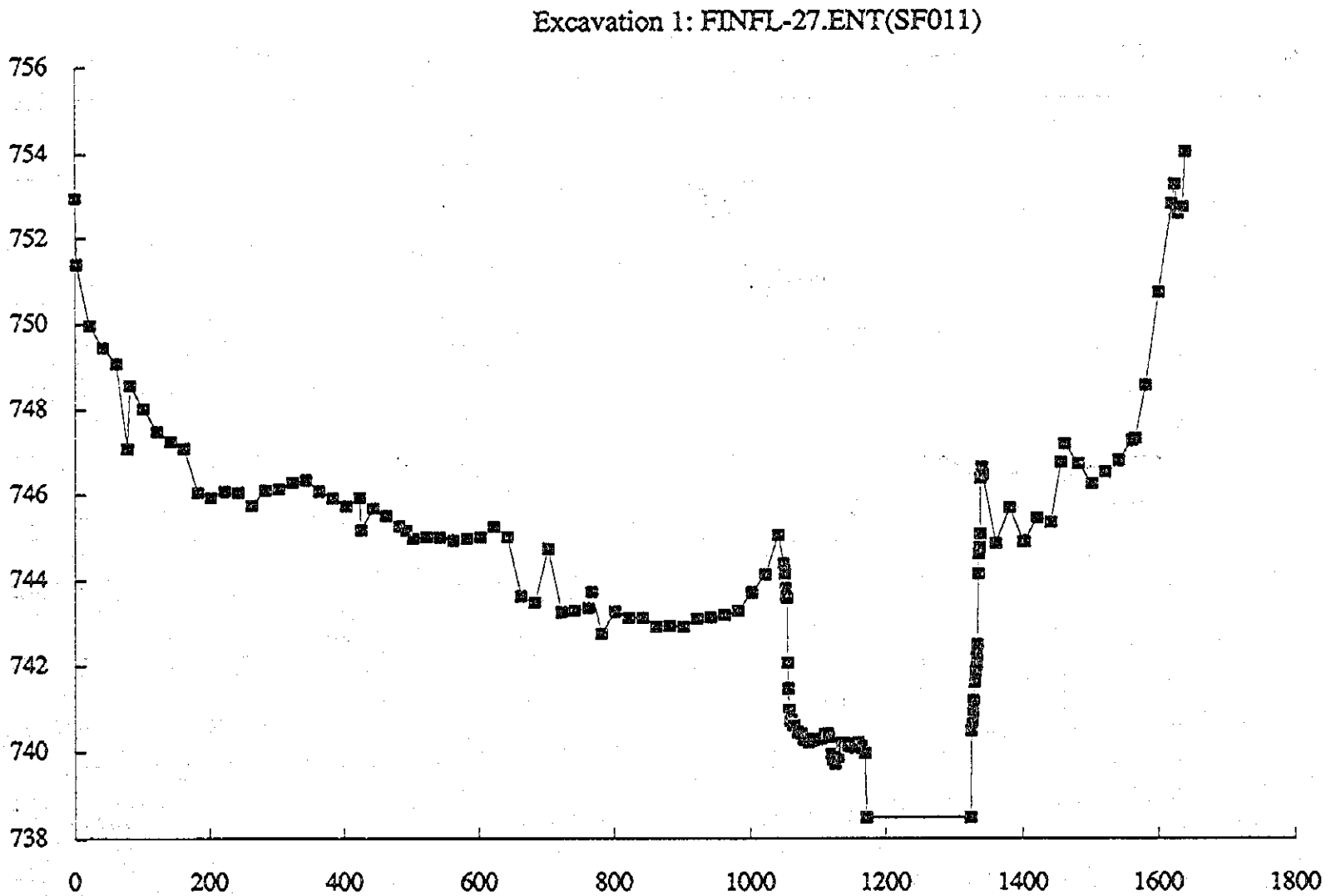

Excavation 1: 08.GPF(ST081)
747
746
745
744
743
742
741
740
739
738
0
100
200
300
400
500
600
700

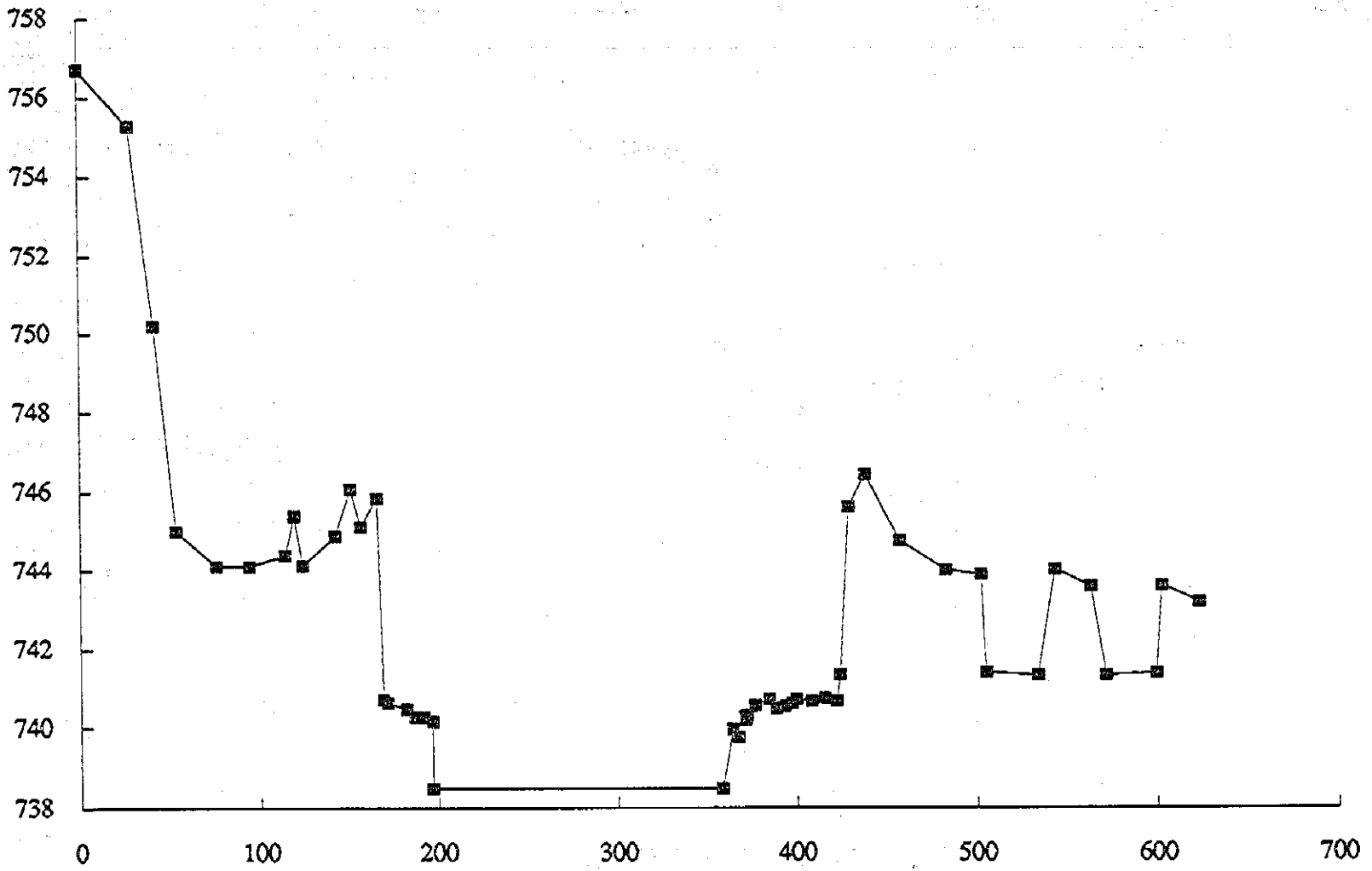

Excavation 1: 11.GPF(ST111)
760
755
750
745
740
735
730
0
100
200
300
400
500
600
700

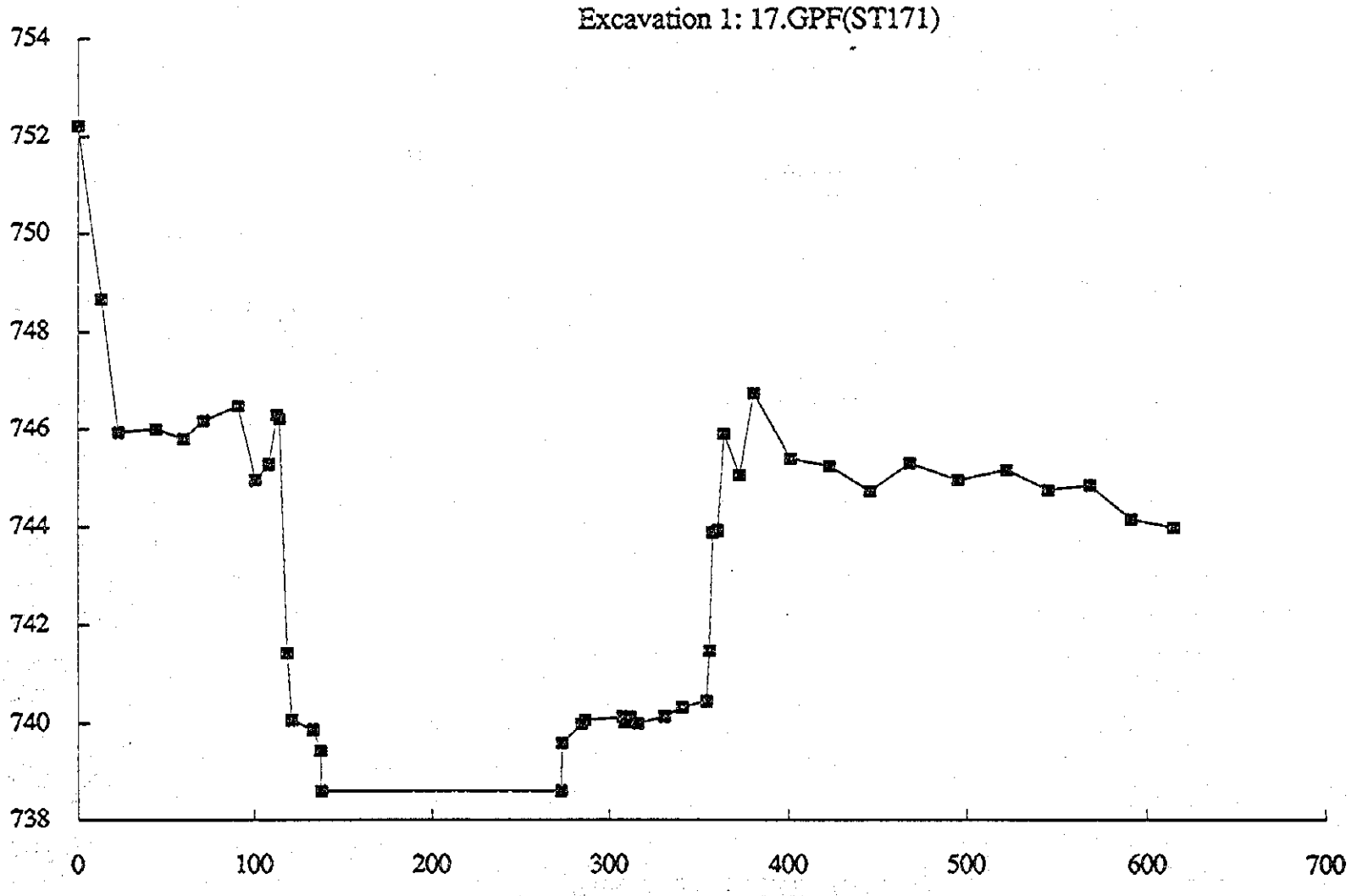

Excavation 1: 12.GPF(ST121)
747
746
745
744
743
742
741
740
739
738
0
100
200
300
400
500
600
700
800


Excavation 1: 13.GPF(ST131)
752
750
748
746
744
742
740
738
0
100
200
300
400
500
600
700


Excavation 1: 15.GPF(ST151)
749
748
747
746
745
744
743
742
741
740
739
738
0
100
200
300
400
500
600
700


Excavation 1: FINFL-27.ENT(SF011)
756
754
752
750
748
746
744
742
740
738
0
200
400
600
800
1000
1200
1400
1600
1800

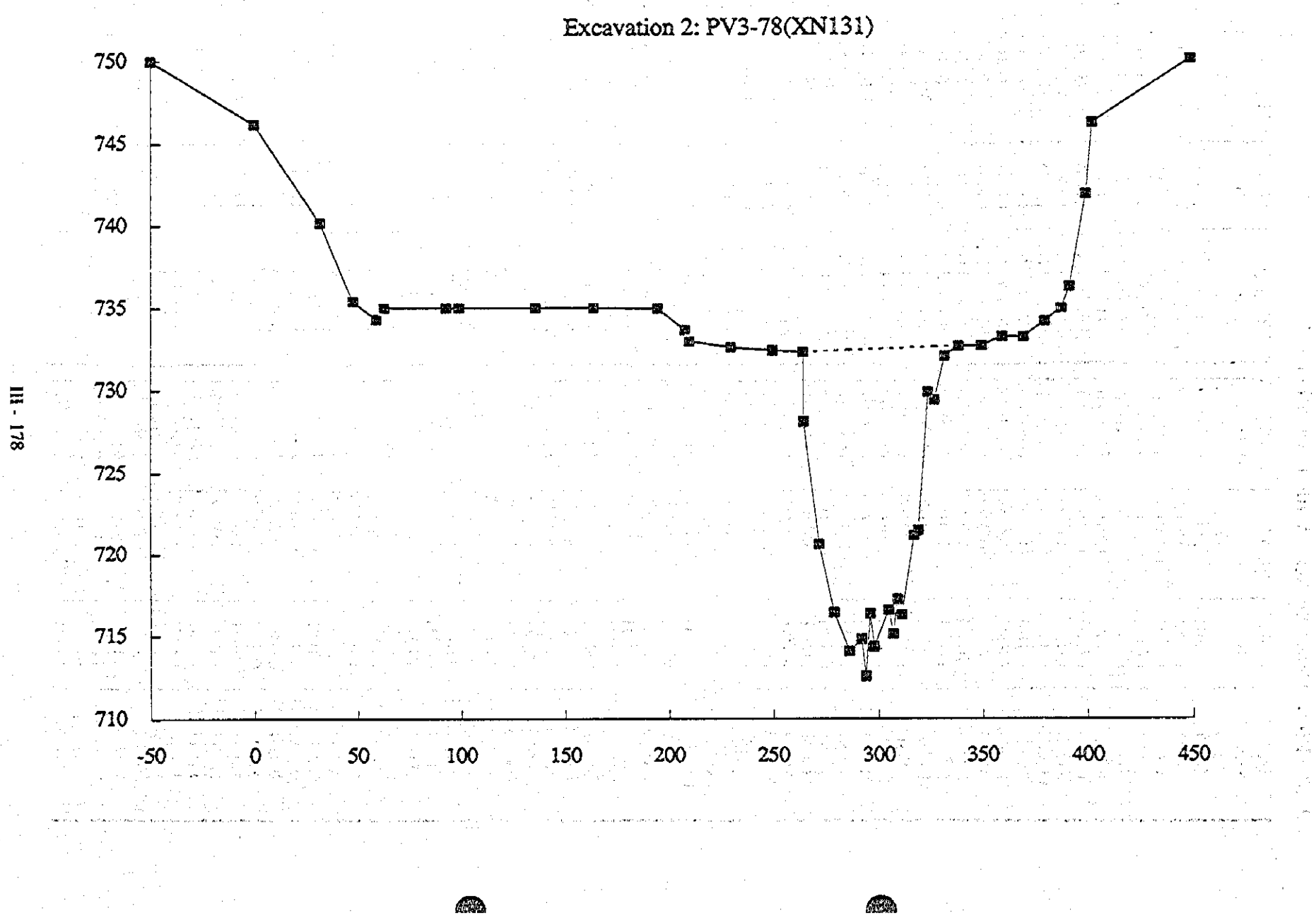

Excavation 1: 16.GPF(ST161)
758
756
754
752
750
748
746
744
742
740
738
0
100
200
300
400
500
600
700


Excavation 1: 17.GPF(ST171)
754
752
750
748
746
744
742
740
738
0
100
200
300
400
500
600
700

3.3 River Cross Sections With Excavation - 2

Original Section name	Section No.	Distance (m)	Accumulated Distance (m)
D1-77	CN011	9230.000	0.000
D2-77	CN021	9230.000	9230.000
D3-77	CN031	12300.000	18460.000
D4-77	CN041	10000.000	30760.000
D5-77	CN051	11540.000	40760.000
PV8-78	CN061	2160.000	52300.000
PV7-78	CN071	3840.000	54460.000
PV6-78	CN081	400.000	58300.000
PV5A-78	CN091	1400.000	58700.000
PV5-78	CN101	1420.000	60100.000
PV4-78	CN111	100.000	61520.000
M1-73	CN121	3040.000	61620.000
PV3-78	XN131	640.000	64660.000
PV2-78	FN141	500.000	65300.000
PV1-78	FN151	70.000	65800.000
BAT-1A	FN152	70.000	65870.000
BAT-1B	FN153	60.000	65940.000
BAT-2	FN154	50.000	66000.000
B3-84	FN161	260.000	66050.000
R5-94	CN171	1200.000	66310.000
R4-94	FN181	300.000	67510.000
M2-73	FN191	690.000	67810.000
UV8-78	FN201	1400.000	68500.000
UV7-78	FN211	1400.000	69900.000
UV6-78	CN221	1600.000	71300.000
M3-73	FN231	1400.000	72900.000
UV5A-78	CN241	300.000	74300.000
R3-94	FN251	300.000	74600.000
UV5-78	CN261	2170.000	74900.000
R2-94	CN271	230.000	77070.000
UV4-78	CN281	1200.000	77300.000
M4-73	CN291	1400.000	78500.000
UV3-78	CN301	1368.559	79900.000
01.GPF	FT011	999.116	81268.559
02.GPF	FT021	232.325	82267.675
UV2-78	FN311	762.845	82500.000
03.GPF	FT031	737.155	83262.845
R1-94	FN321	174.458	84000.000
04.GPF	JT041	725.542	84174.458
M5-73	CN331	308.594	84900.000
05.GPF	FT051	999.700	85208.594
06.GPF	JT061	91.706	86208.294
M6-73	FN341	736.650	86300.000
07.GPF	FT071	263.350	87036.650
M7-73	FN351	735.024	87300.000
08.GPF	FT081	988.412	88035.024
09.GPF	JT091	986.009	89023.436
10.GPF	JT101	890.555	90009.445
M8-73	CN361	95.809	90900.000
11.GPF	FT111	990.253	90995.809
12.GPF	FT121	955.756	91986.062
13.GPF	FT131	758.182	92941.818
UV-92	FN371	214.332	93700.000
14.GPF	JT141	185.668	93914.332
UV1-78	FN381	804.008	94100.000
15.GPF	FT151	295.992	94904.008
FINFL-27.ENT	FF011	712.720	95200.000
16.GPF	FT161	990.062	95912.720
17.GPF	FT171	1005.718	96902.782

Original Section name	Section No.	Distance (m)	Accumulated Distance (m)
18.GPF	JT181	291.500	97908.5(
FINFL-26.ENT	CF021	699.237	98200.0(
19.GPF	JT191	998.171	98899.2(
20.GPF	JT201	1002.592	99897.4(
FINFL-25.ENT	CF031	3300.000	100900.0(
FINFL-24.ENT	CF041	3500.000	104200.0(
FINFL-23.ENT	CF051	9950.000	107700.0(
FINFL-22.ENT	CF061	4650.000	117650.0(
FINFL-21.ENT	CF071	3900.000	122300.0(
FINFL-20.ENT	CF081	5000.000	126200.0(
FINFL-19.ENT	CF091	2000.000	131200.0(
FINFL-18.ENT	CF101	2000.000	133200.0(
FINFL-17.ENT	CF111	5750.000	135200.0(
FINFL-16.ENT	CF121	3250.000	140950.0(
FINFL-15.ENT	CF131	3500.000	144200.0(
FINFL-14.ENT	CF141	2250.000	147700.0(
FINFL-13.ENT	CF151	3250.000	149950.0(
FINFL-12.ENT	CF161	5050.000	153200.0(
FINFL-11.ENT	CF171	3050.000	158250.0(
FINFL-10.ENT	CF181	2950.000	161300.0(
FINFL-09.ENT	CF191	4550.000	164250.0(
FINFL-08.ENT	CF201	4400.000	168800.0(
FINFL-07.ENT	CF211	4850.000	173200.0(
FINFL-06.ENT	CF221	1700.000	178050.0(
FINFL-05.ENT	CF231	3950.000	179750.0(
FINFL-04.ENT	CF241	2225.000	183700.0(
FINFL-03.ENT	CF251	4775.000	185925.0(
FINFL-02.ENT	CF261	7000.004	190700.0(
FINFL-01.ENT	CF271	1805.800	197700.0(
S-02.GPF	JS021	1552.490	199505.8(
S-03.GPF	JS031	1762.610	201058.2(
S-04.GPF	JS041	2644.140	202820.9(
S-05.GPF	JS051	2191.590	205465.0(
S-06.GPF	JS061	2388.090	207656.6(
S-07.GPF	JS071	3521.930	210044.7(
S-08.GPF	JS081	1817.230	213566.6(
S-09.GPF	JS091	2028.390	215383.8(
S-10.GPF	JS101	2469.990	217412.2(
S-11.GPF	JS111	1076.570	219882.2(
S-12.GPF	JS121	2390.910	220958.8(
S-13.GPF	JS131	2077.590	223349.7(
S-14.GPF	JS141	2319.950	225427.3(
S-15.GPF	JS151	1916.490	227747.2(
S-16.GPF	JS161	2866.920	229663.7(
S-17.GPF	JS171	1134.620	232530.6(
S-18.GPF	JS181	1295.530	233665.3(
S-19.GPF	JS191	737.220	234960.8(
S-20.GPF	JS201	998.120	235698.0(
S-21.GPF	JS211	391.560	236696.1(
S-22.GPF	JS221	1191.210	237087.7(
S-23.GPF	JS231	487.750	238278.9(
S-24.GPF	JS241	557.770	238766.7(
S-25.GPF	JS251	436.940	239324.4(
S-26.GPF	JS261	516.210	239761.4(
S-27.GPF	JS271	512.410	240277.6(
S-28.GPF	JS281	919.310	240790.0(
S-29.GPF	JS291	875.150	241709.3(
S-30.GPF	JS301	0.000	242584.4(


Excavation 2: PV3-78(XN131)
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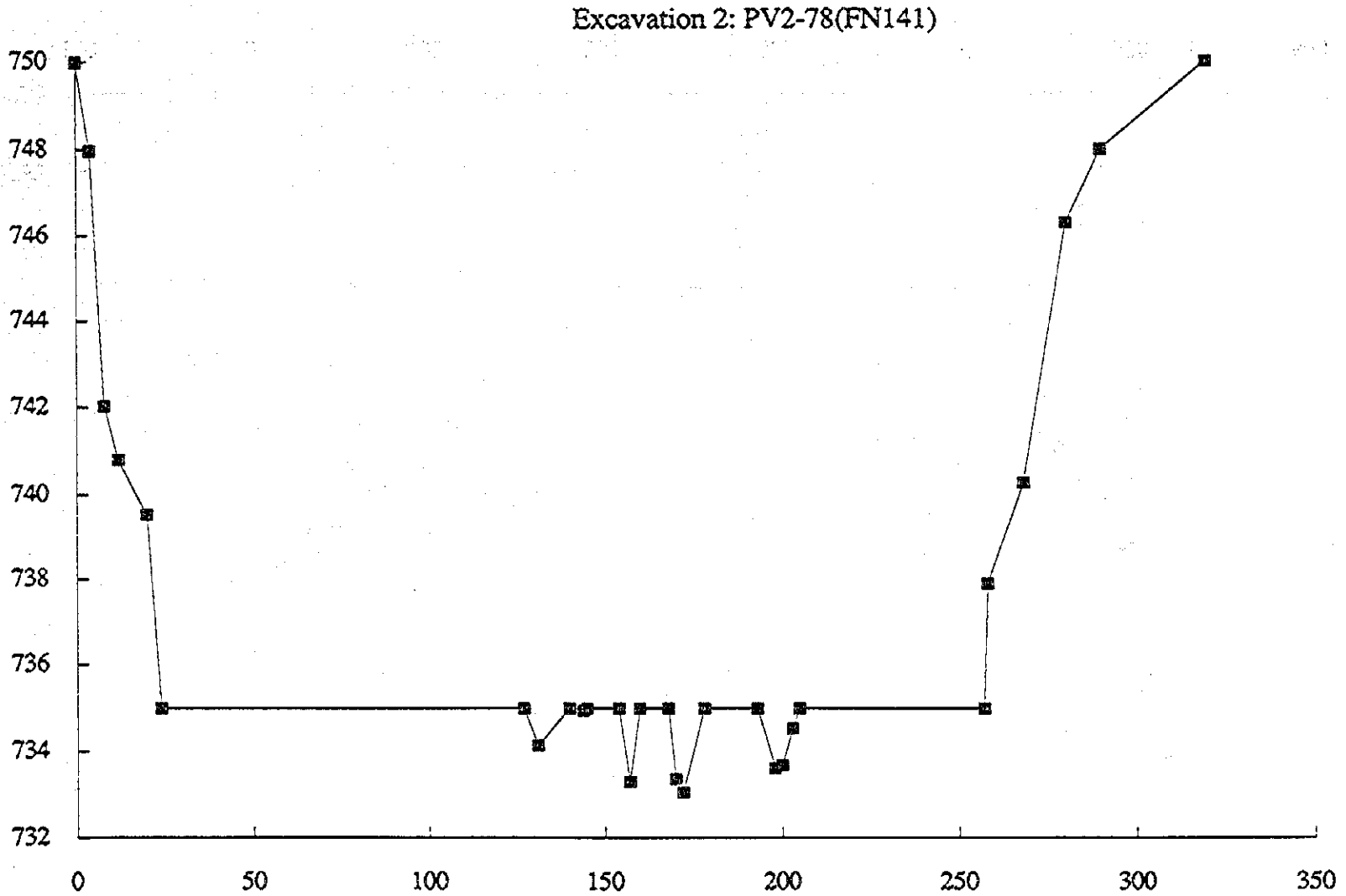
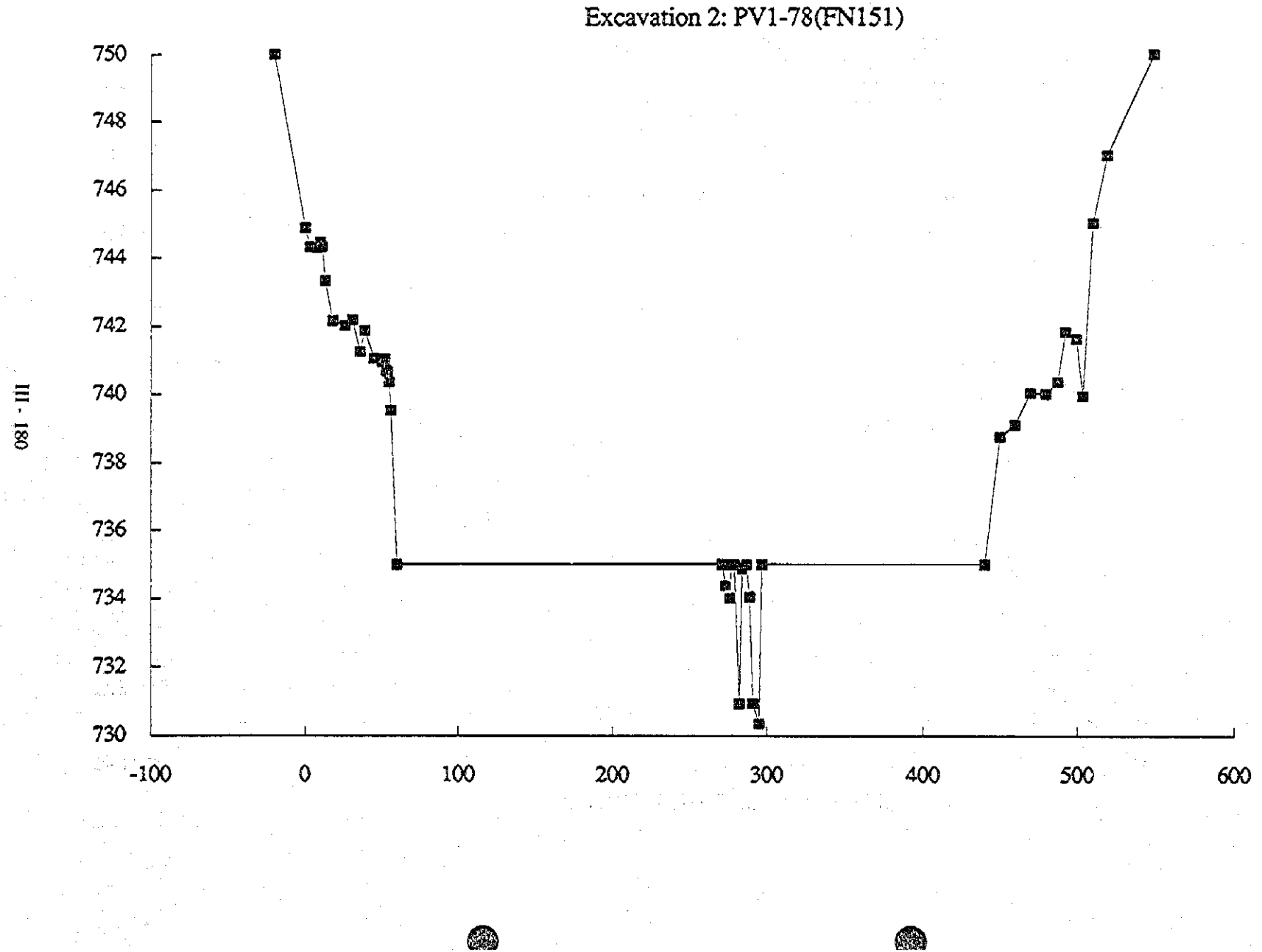
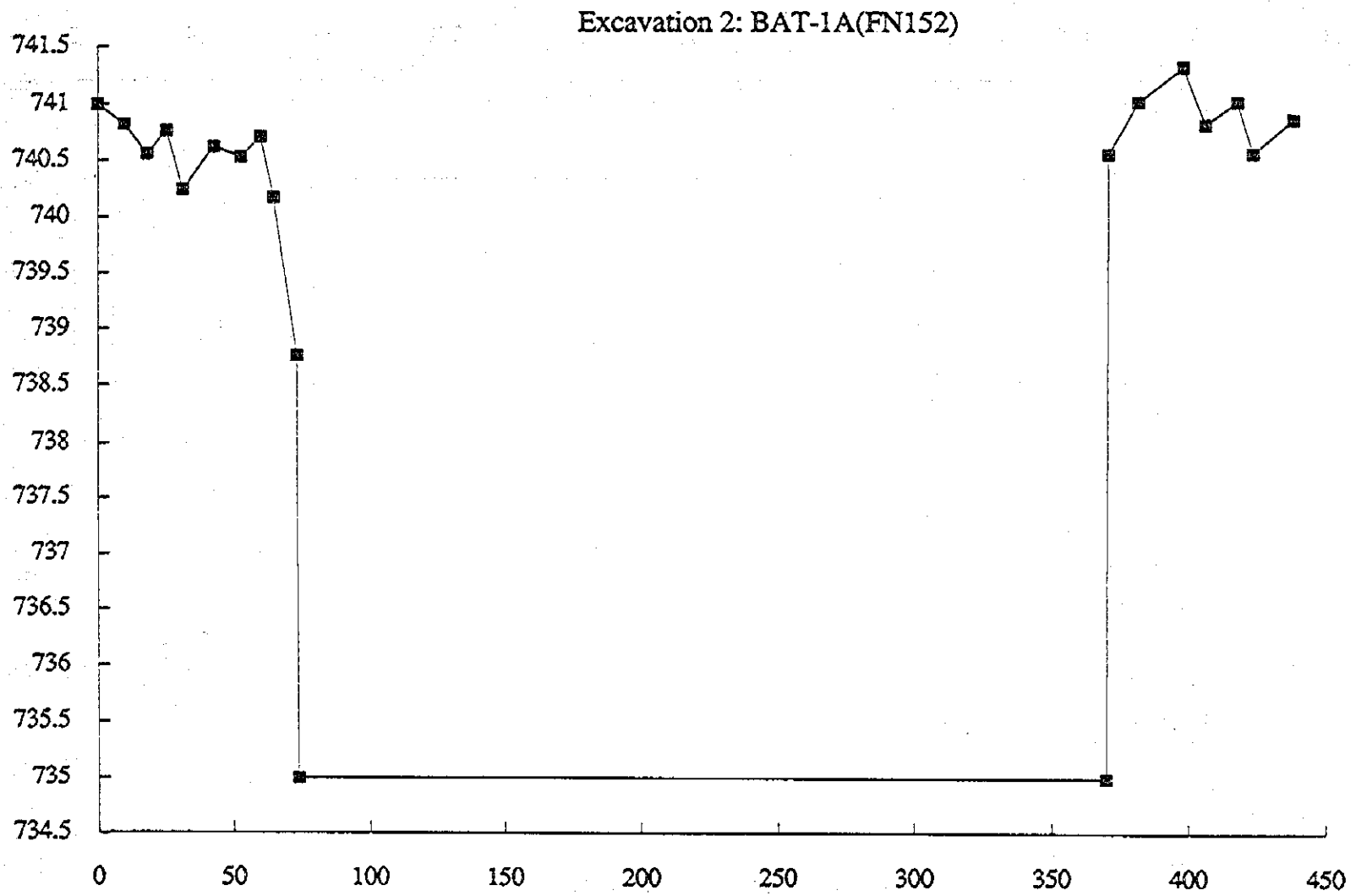
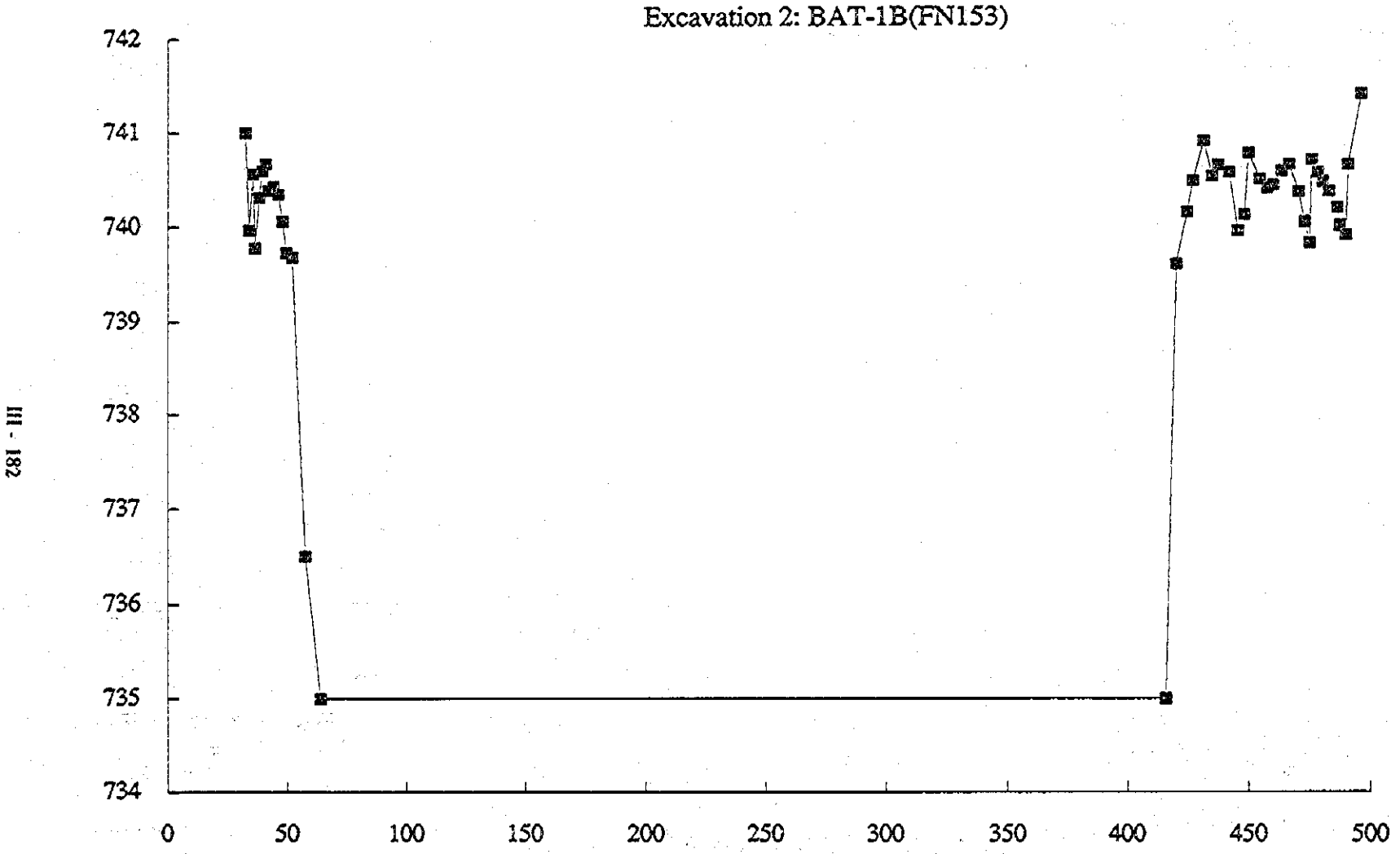
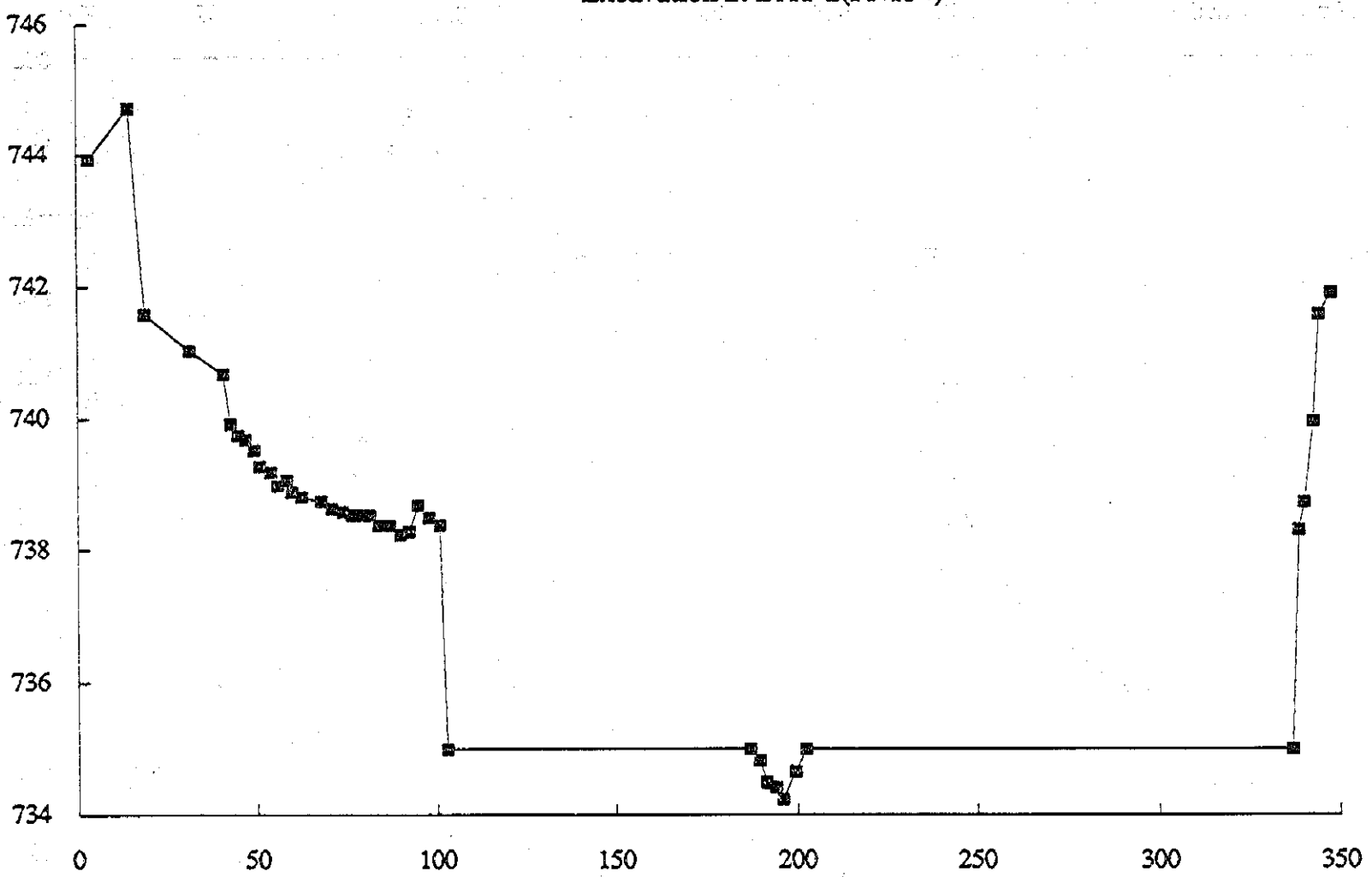
745
740
735
730
725
720
715
710
-50
0
50
100
150
200
250
300
350
400
450

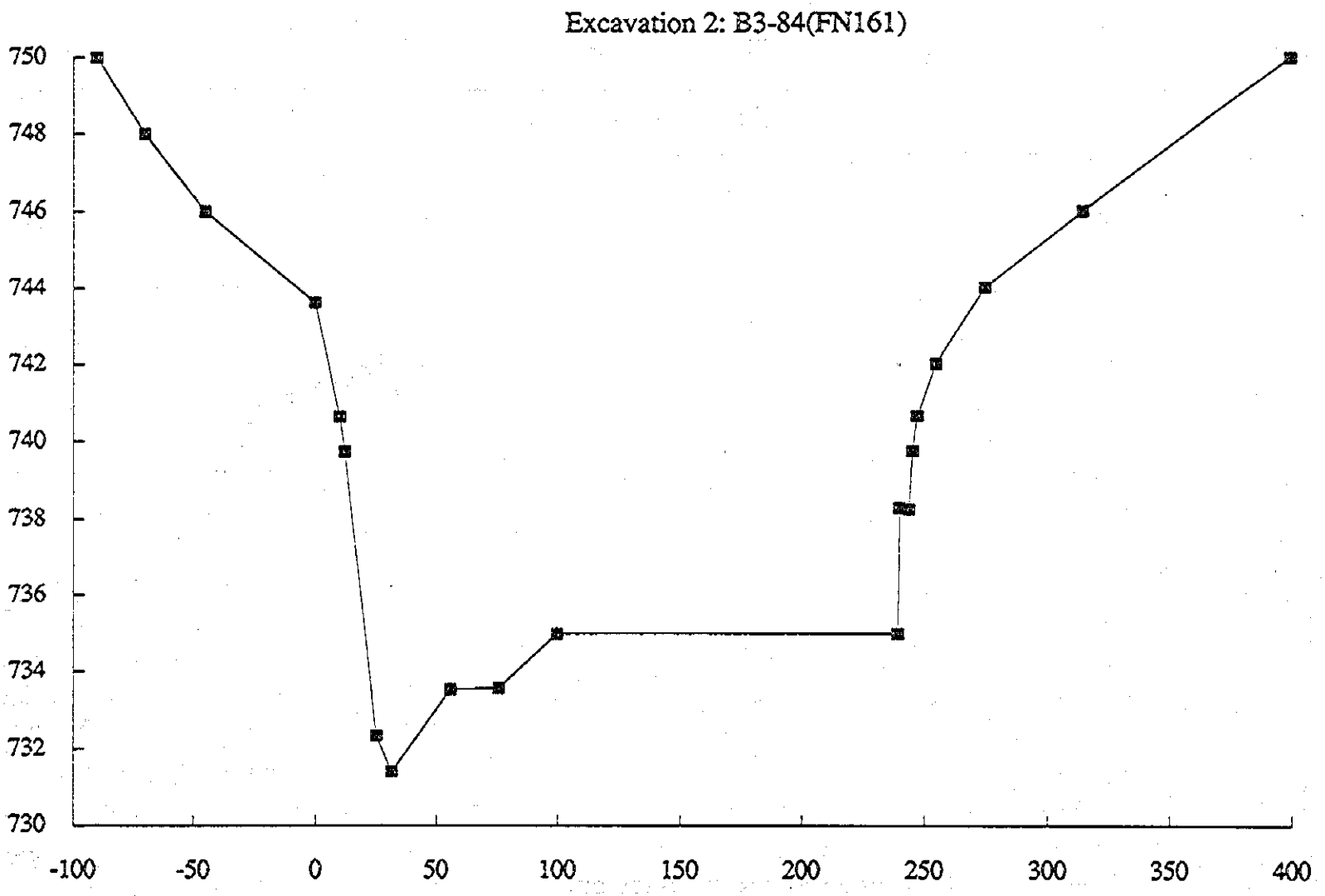

Excavation 2: PV2-78(FN141)
750
748
746
744
742
740
738
736
734
732
0
50
100
150
200
250
300
350

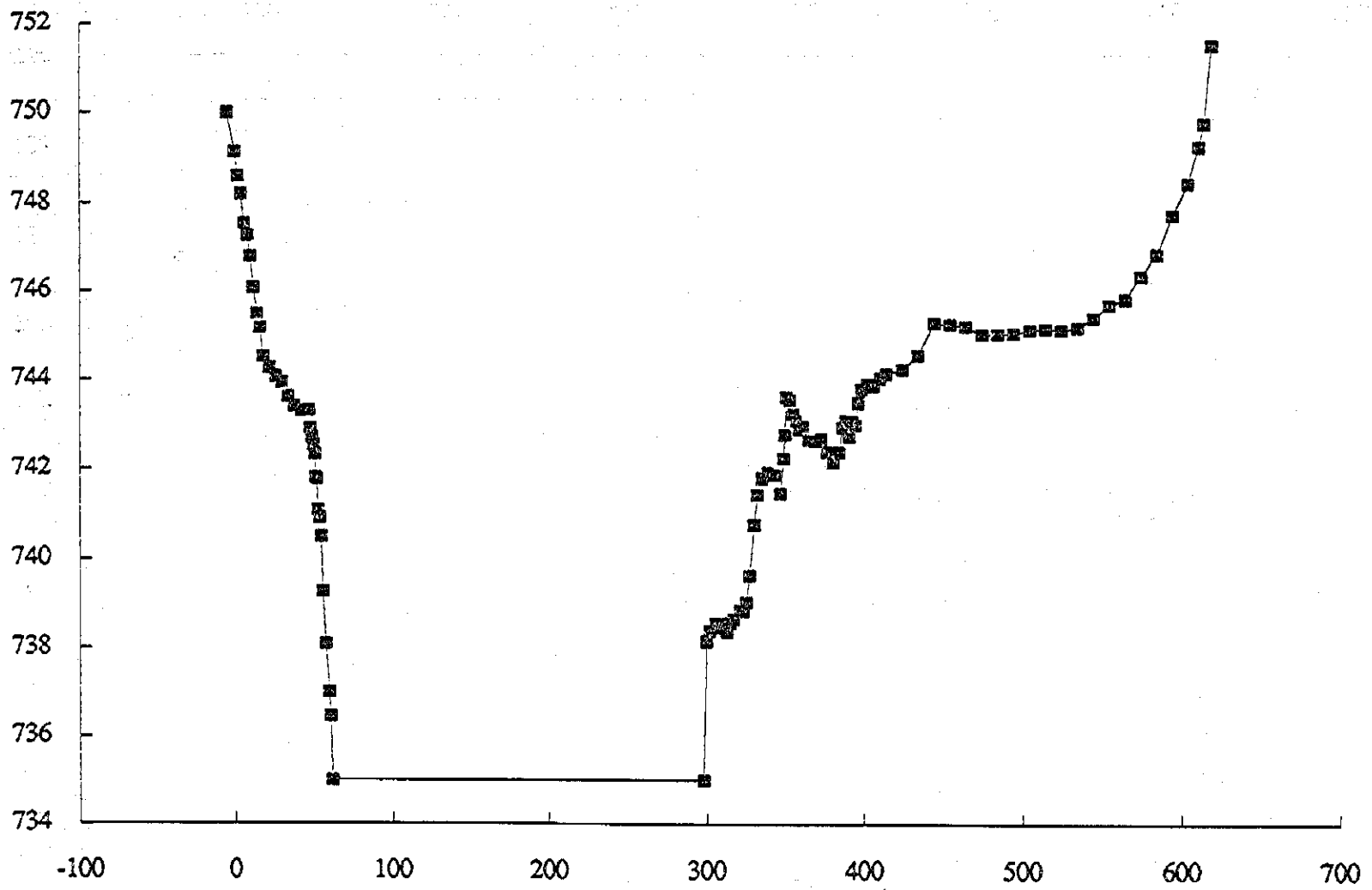

Excavation 2: PV1-78(FN151)
750
748
746
744
742
740
738
736
734
732
730
-100
0
100
200
300
400
500
600
III - 180

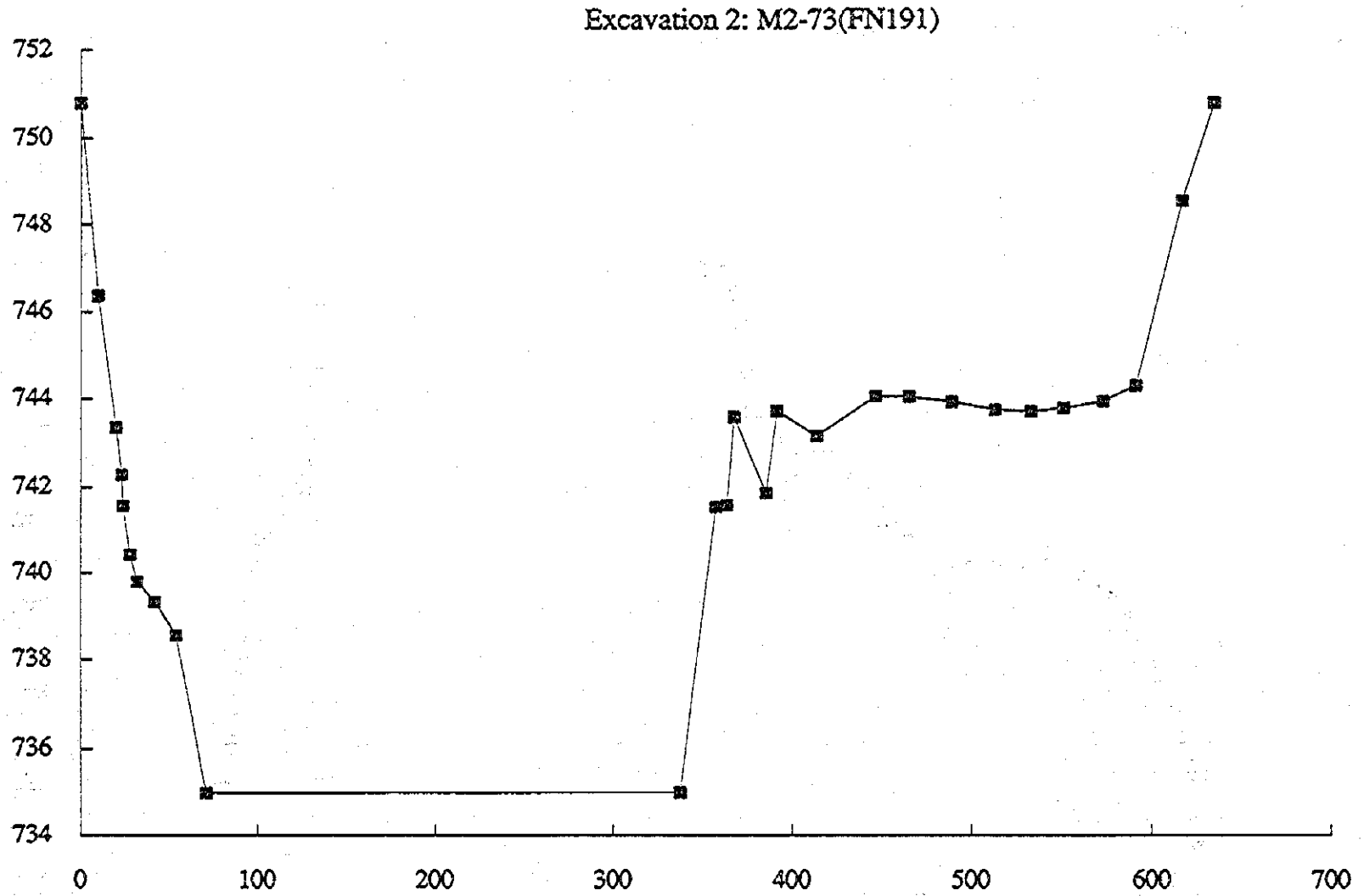

Excavation 2: BAT-1A(FN152)
741.5
741
740.5
740
739.5
739
738.5
738
737.5
737
736.5
736
735.5
735
734.5
0
50
100
150
200
250
300
350
400
450

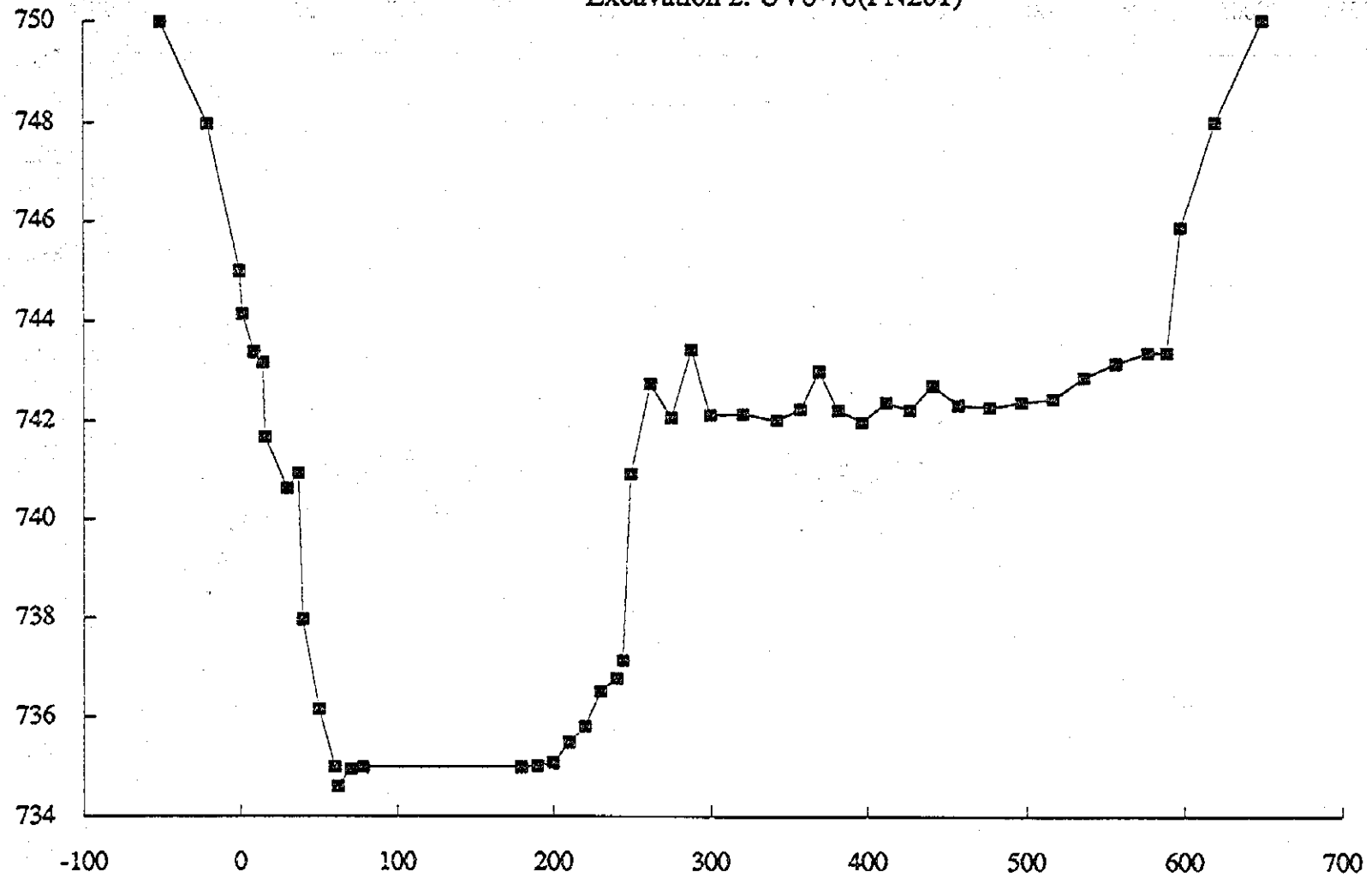

Excavation 2: BAT-1B(FN153)
742
741
740
739
738
737
736
735
734
0
50
100
150
200
250
300
350
400
450
500

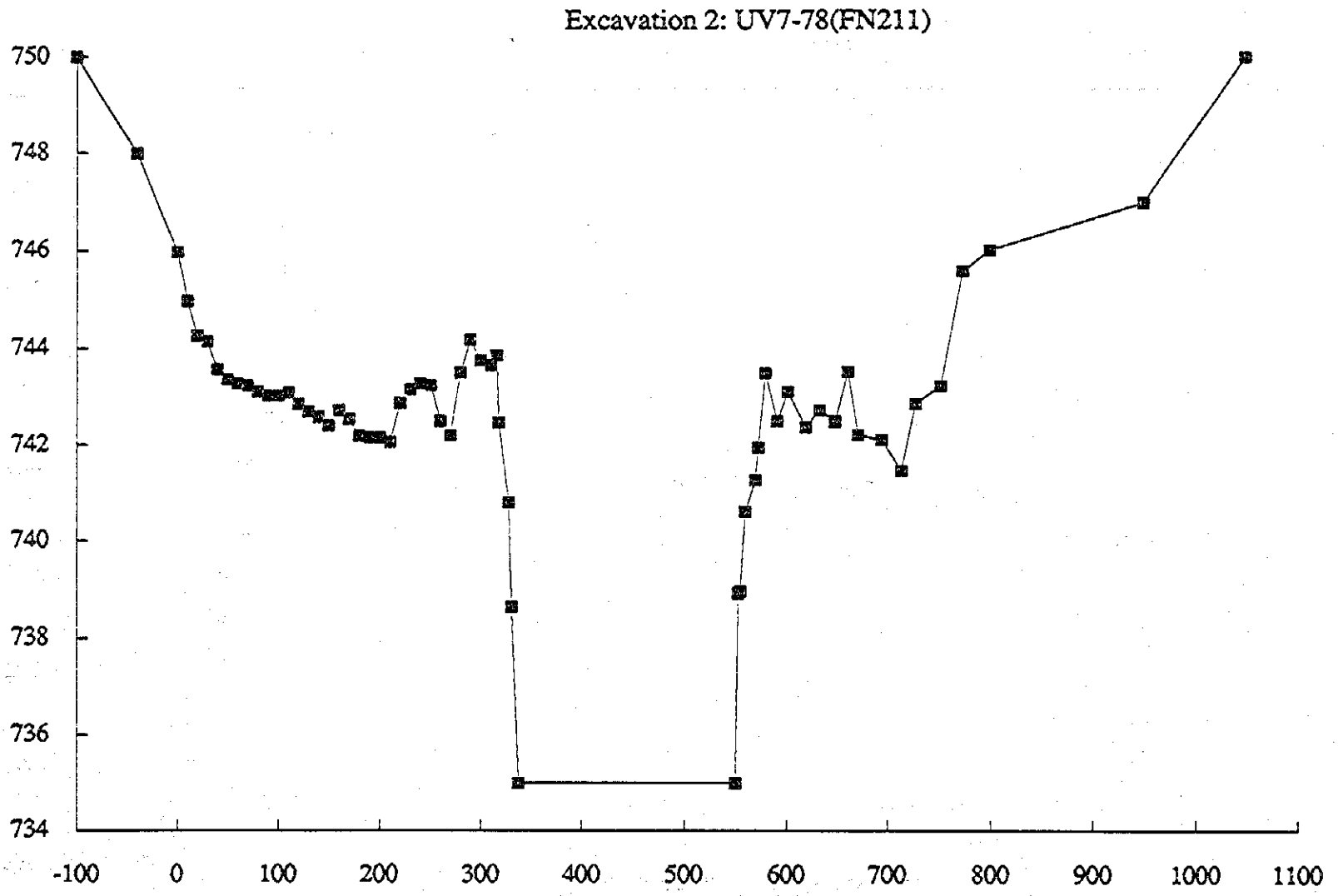

Excavation 2: BAT-2(FN154)
746
744
742
740
738
736
734
0
50
100
150
200
250
300
350

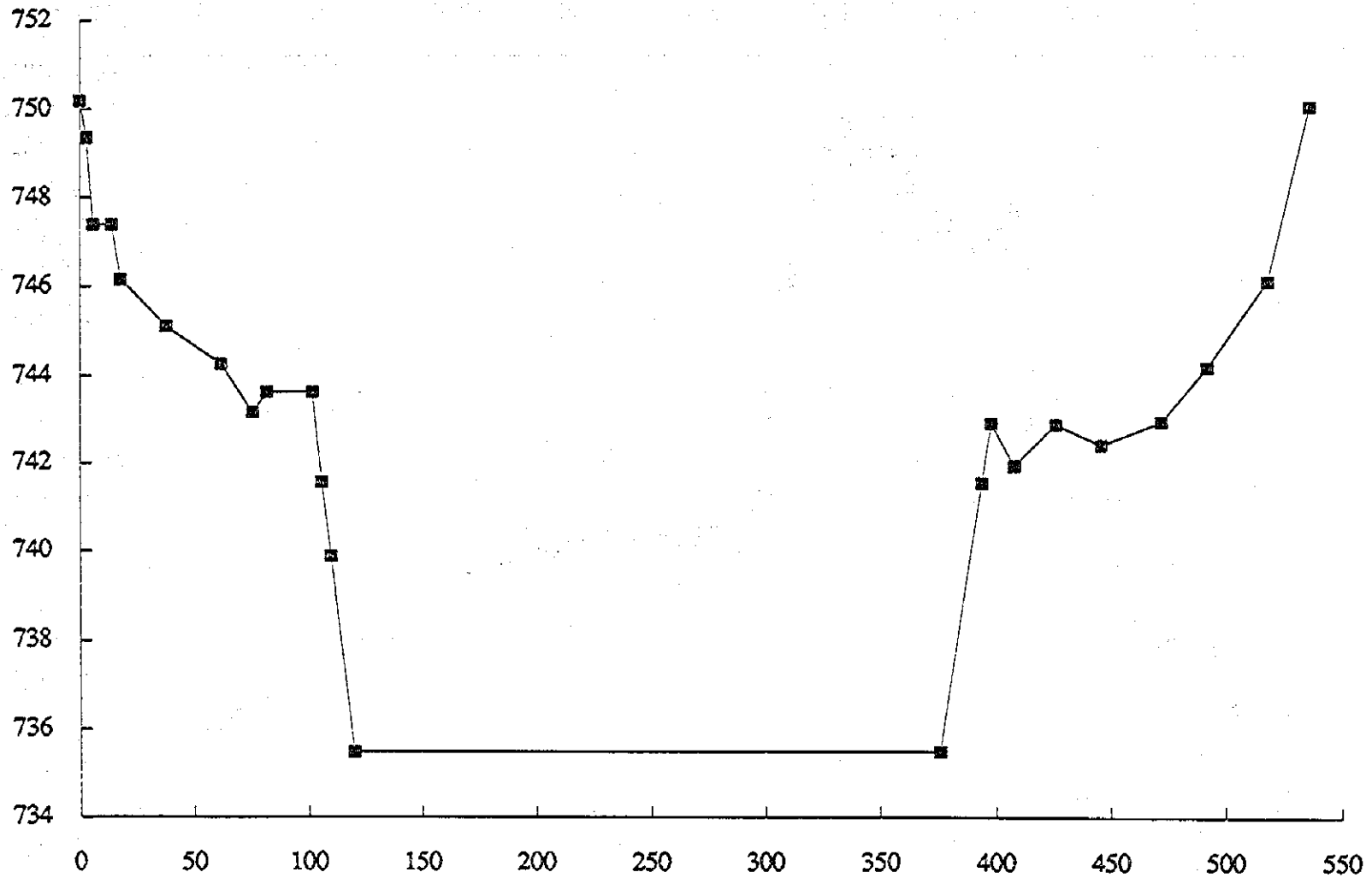

Excavation 2: B3-84(FN161)
750
748
746
744
742
740
738
736
734
732
730
-100
-50
0
50
100
150
200
250
300
350
400

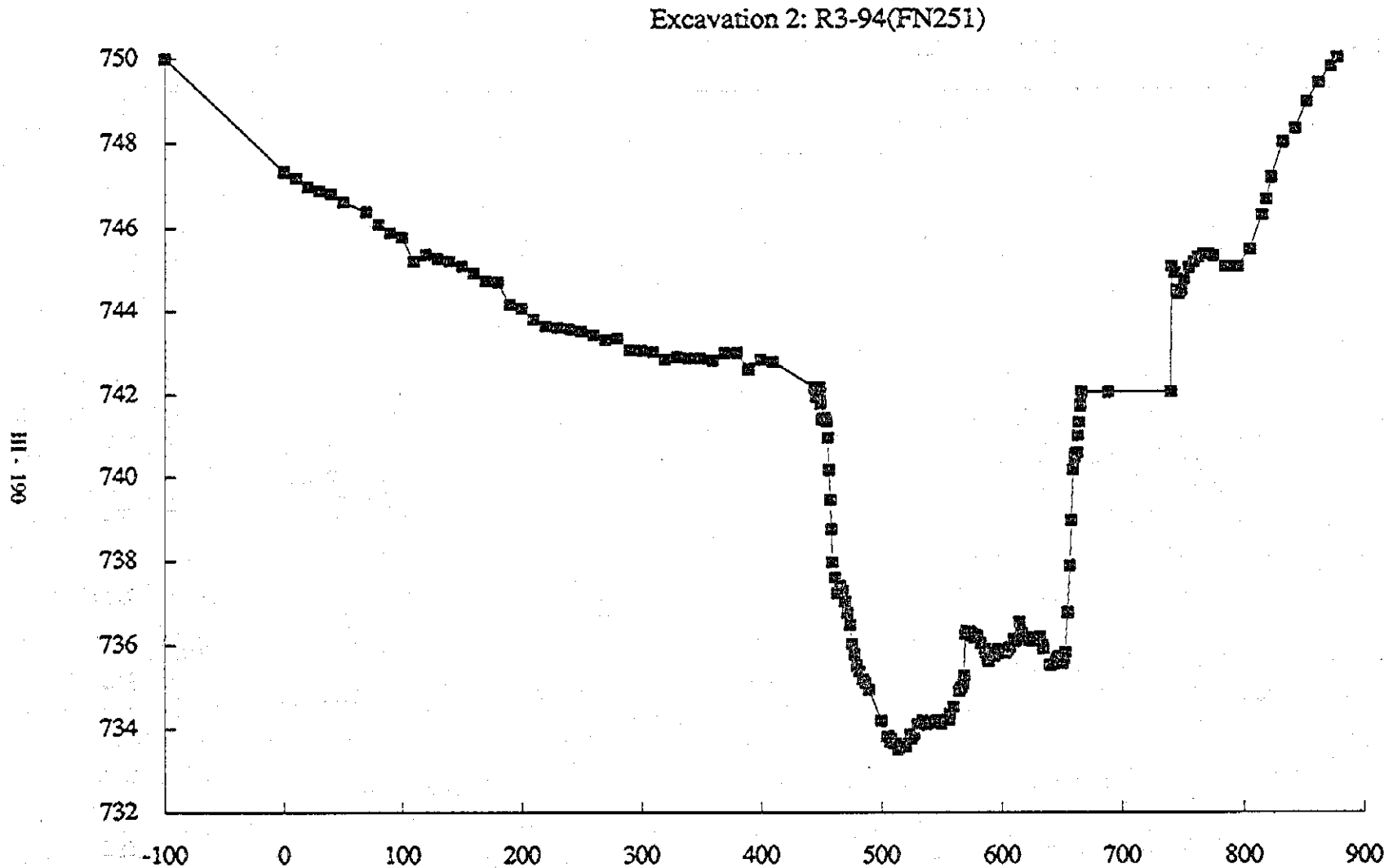

Excavation 2: R4-94(FN181)
752
750
748
746
744
742
740
738
736
734
-100
0
100
200
300
400
500
600
700

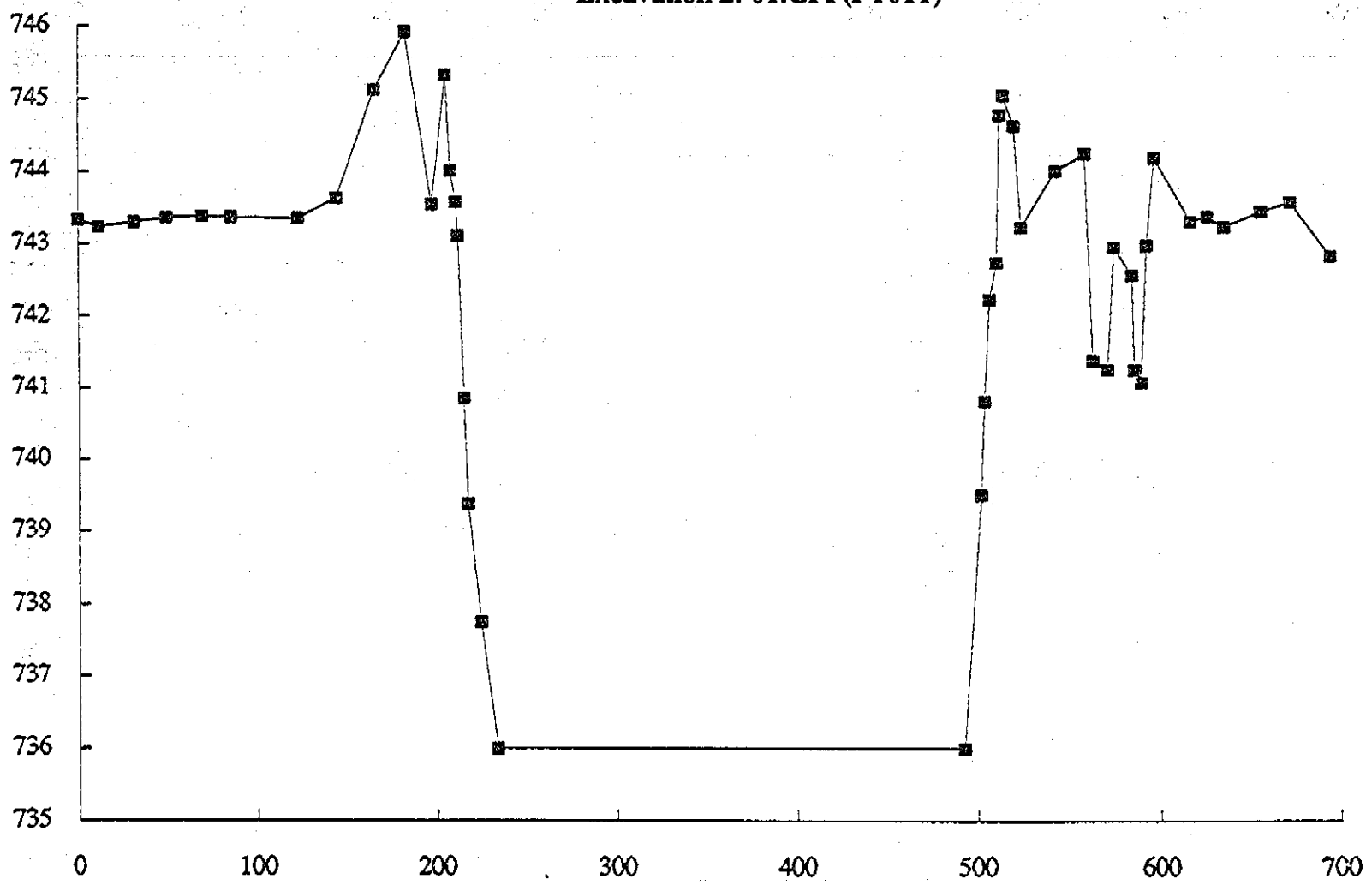

Excavation 2: M2-73(FN191)
752
750
748
746
744
742
740
738
736
734
0
100
200
300
400
500
600
700

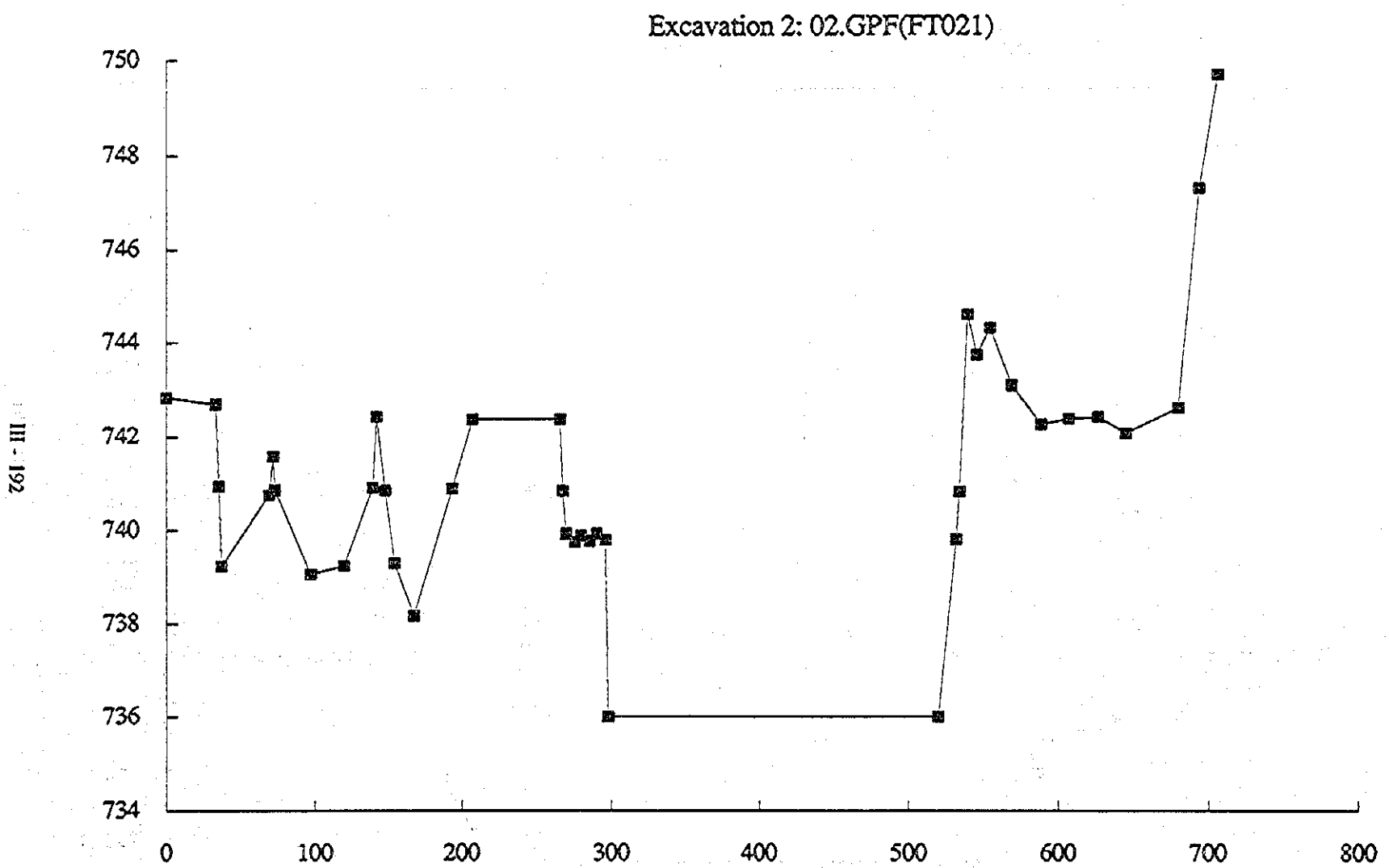

Excavation 2: UV8-78(FN201)
750
748
746
744
742
740
738
736
734
-100
0
100
200
300
400
500
600
700


Excavation 2: UV7-78(FN211)
750
748
746
744
742
740
738
736
734
-100
0
100
200
300
400
500
600
700
800
900
1000
1100


Excavation 2: M3-73(FN231)
752
750
748
746
744
742
740
738
736
734
0
50
100
150
200
250
300
350
400
450
500
550


Excavation 2: R3-94(FN251)
750
748
746
744
742
740
738
736
734
732
-100
0
100
200
300
400
500
600
700
800
900


Excavation 2: 01.GPF(FT011)
746
745
744
743
742
741
740
739
738
737
736
735
0
100
200
300
400
500
600
700


Excavation 2: 02.GPF(FT021)
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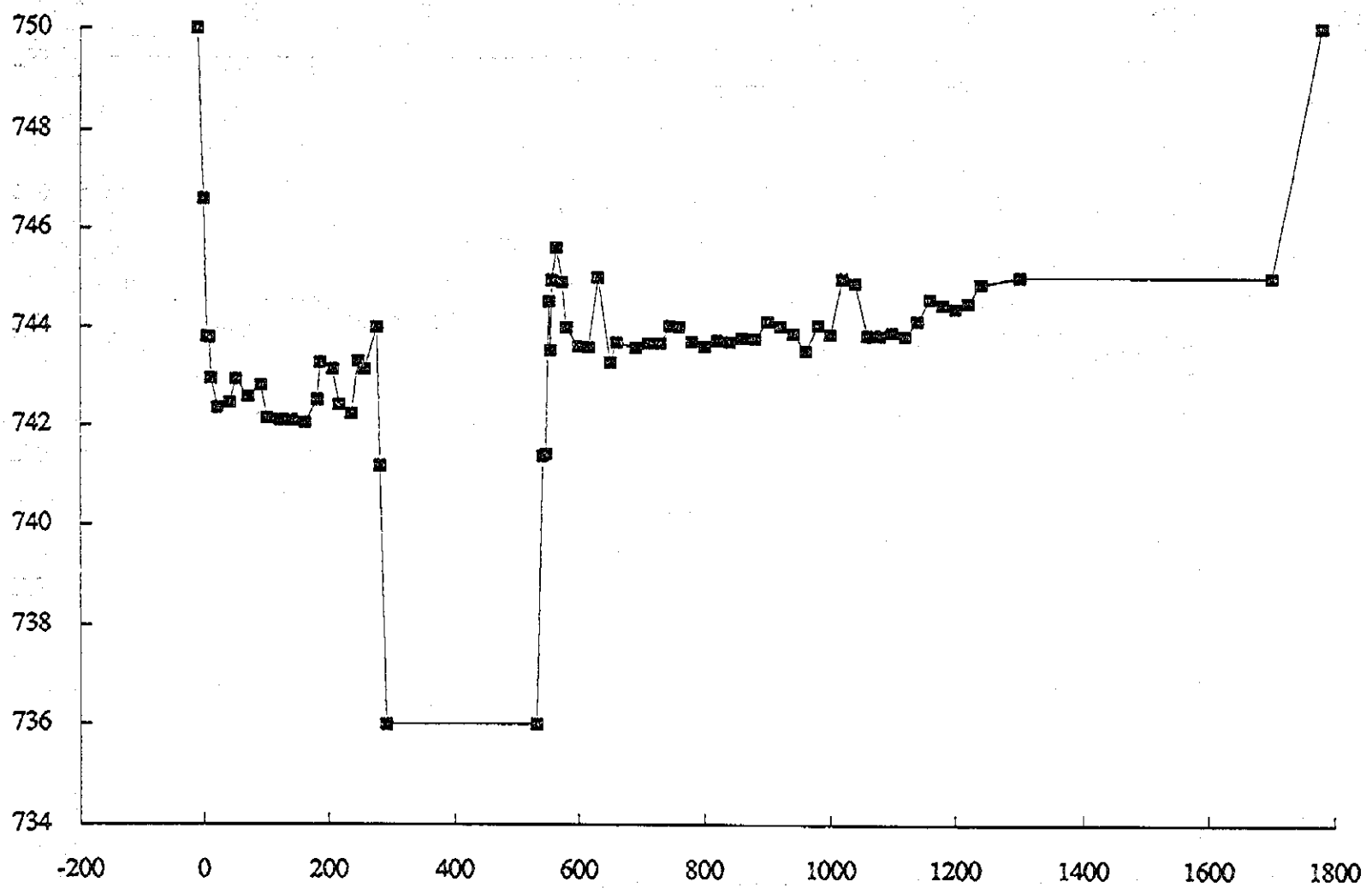
746
744
742
740
738
736
734
0
100
200
300
400
500
600
700
800


Excavation 2: UV2-78(FN311)
750
748
746
744
742
740
738
736
734
-200
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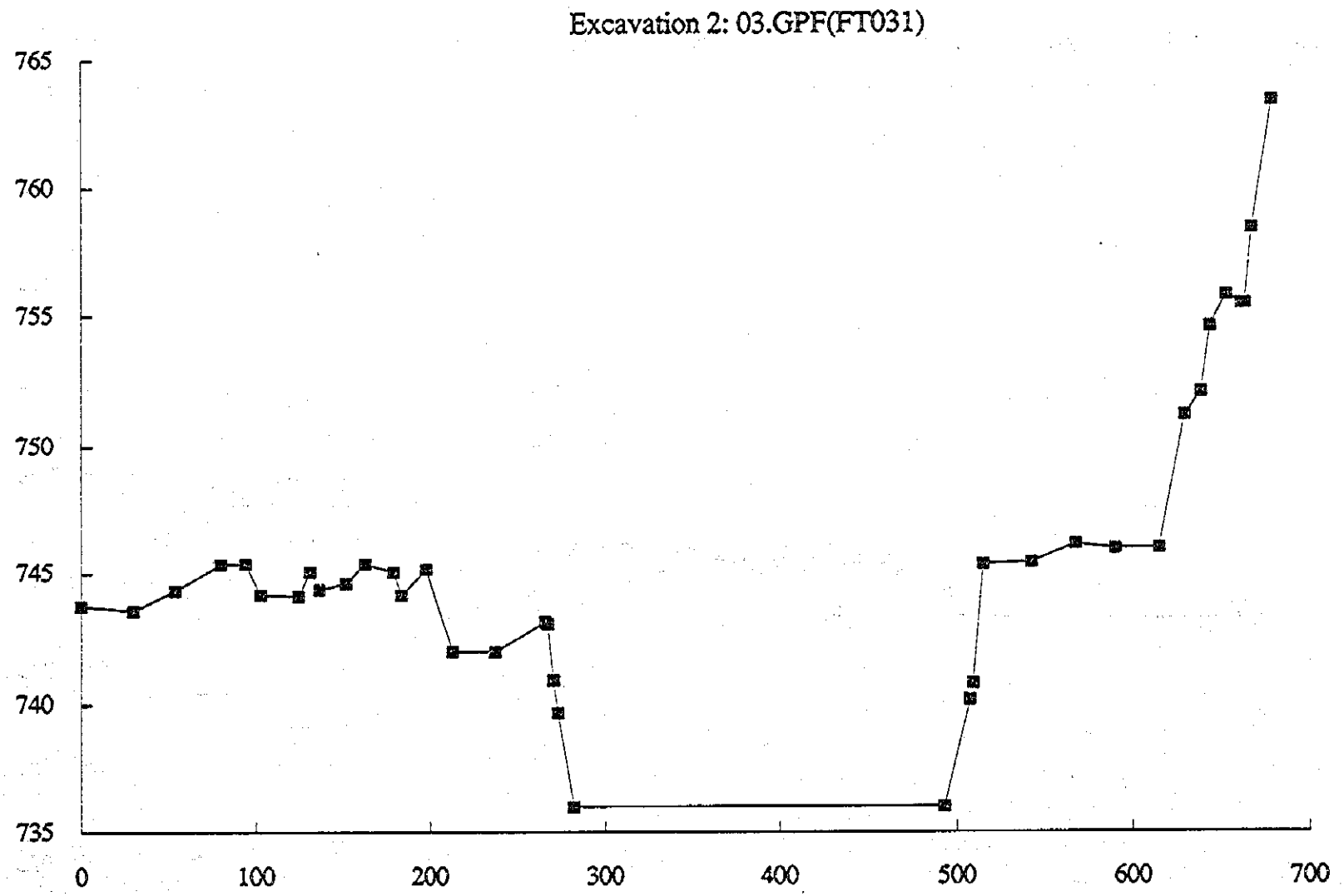
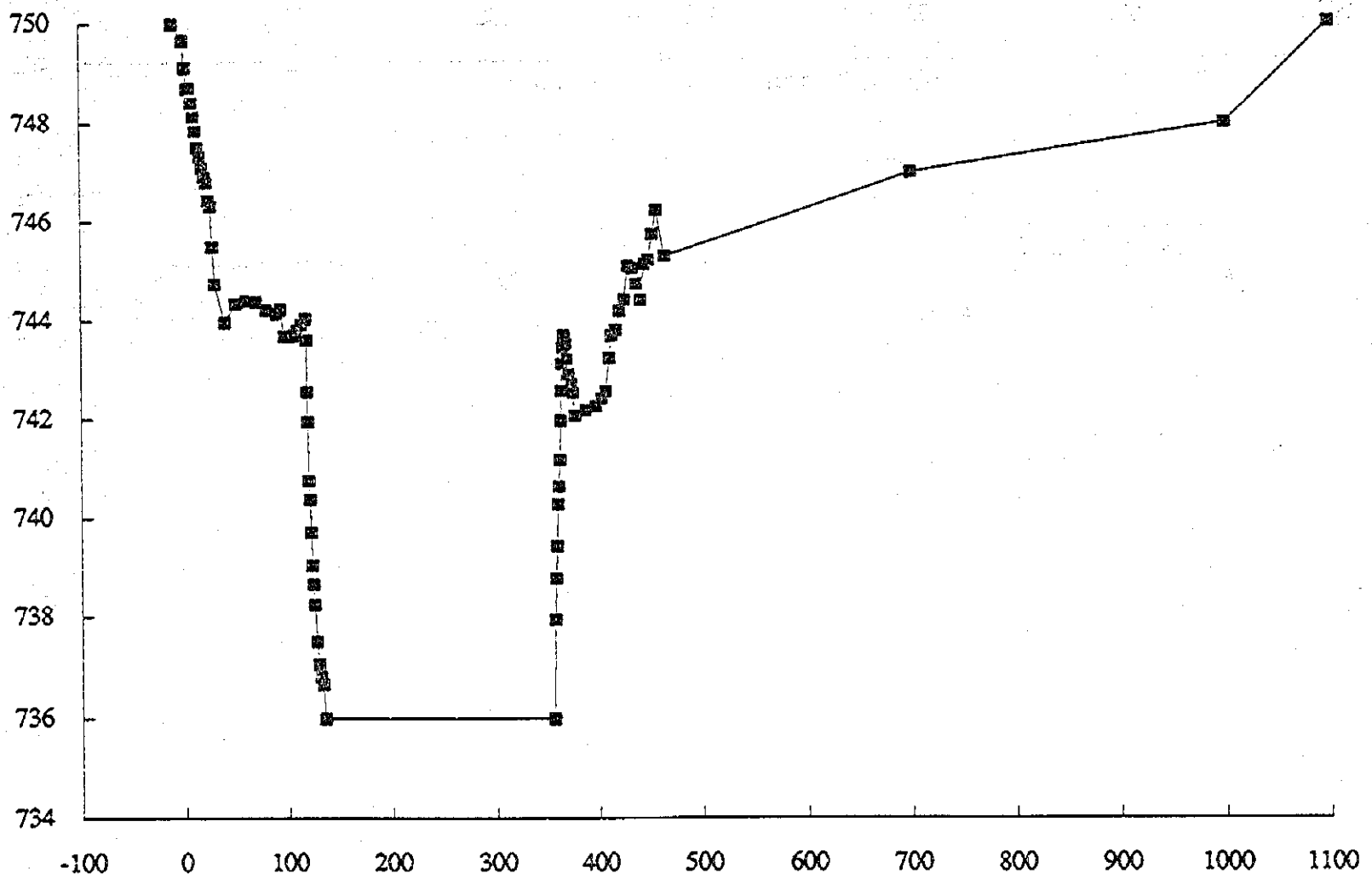
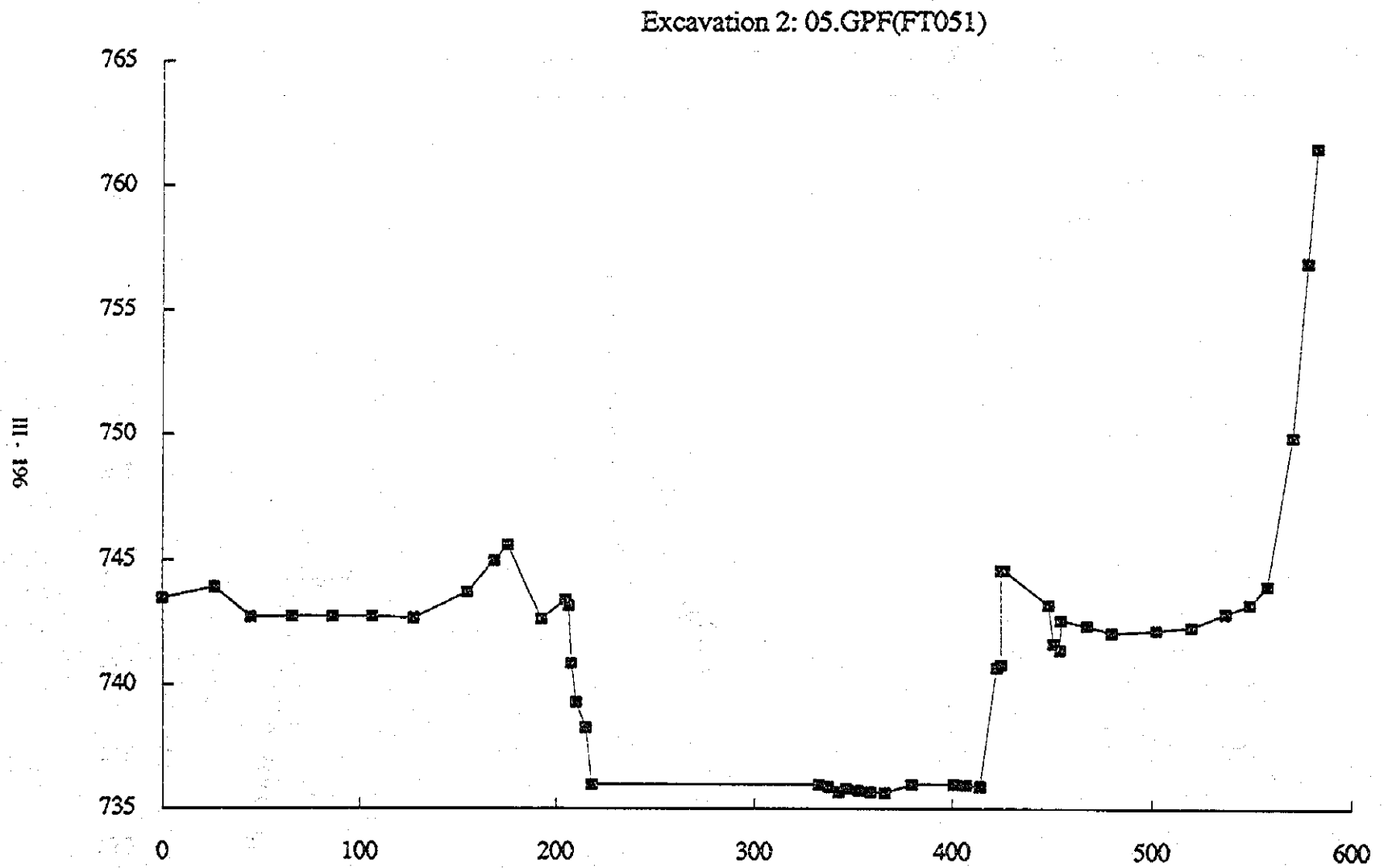
200
400
600
800
1000
1200
1400
1600
1800


Excavation 2: 03.GPF(FT031)
765
760
755
750
745
740
735
0
100
200
300
400
500
600
700


Excavation 2: R1-94(FN321)
750
748
746
744
742
740
738
736
734
-100
0
100
200
300
400
500
600
700
800
900
1000
1100


Excavation 2: 05.GPF(FT051)
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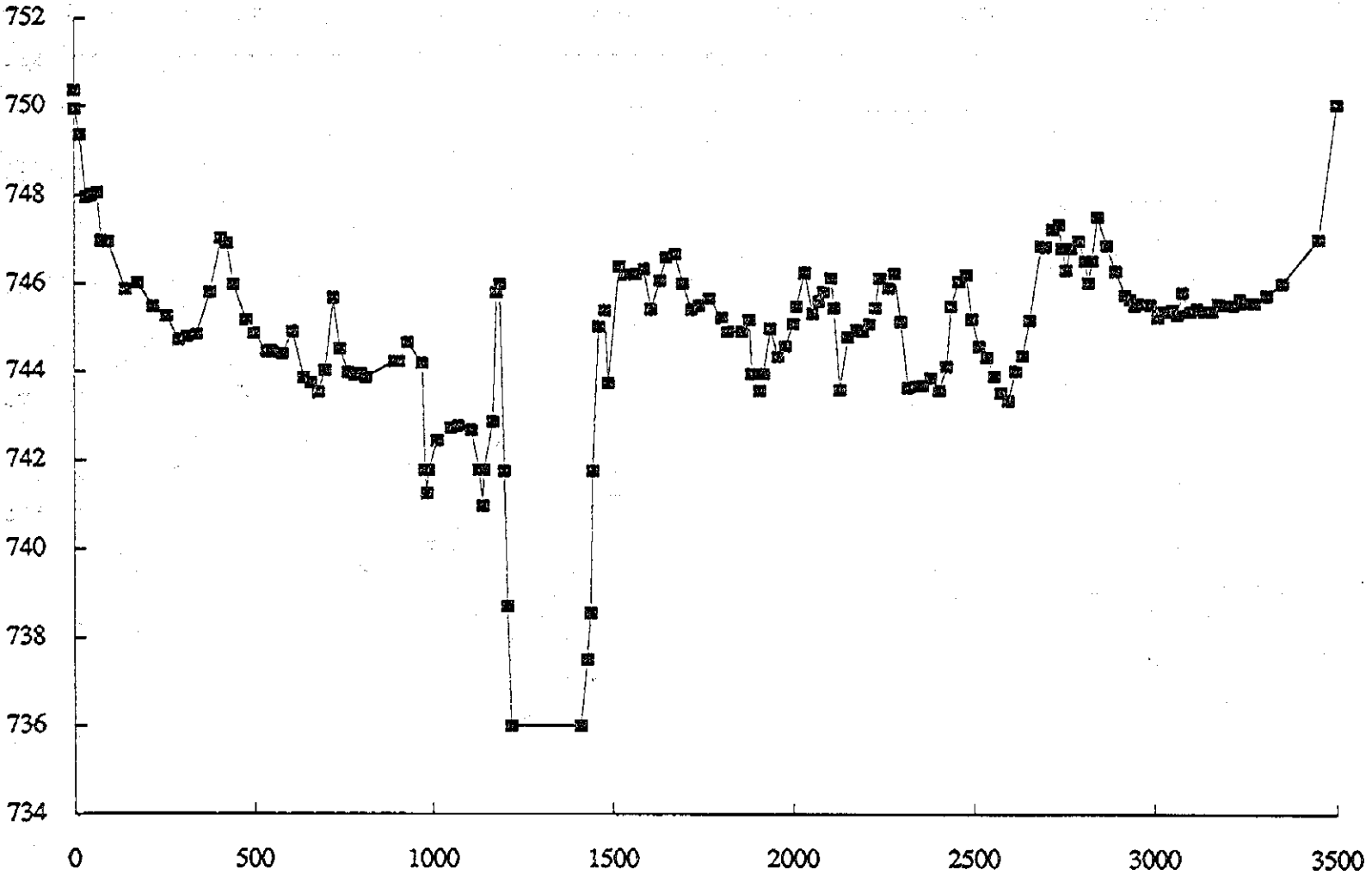
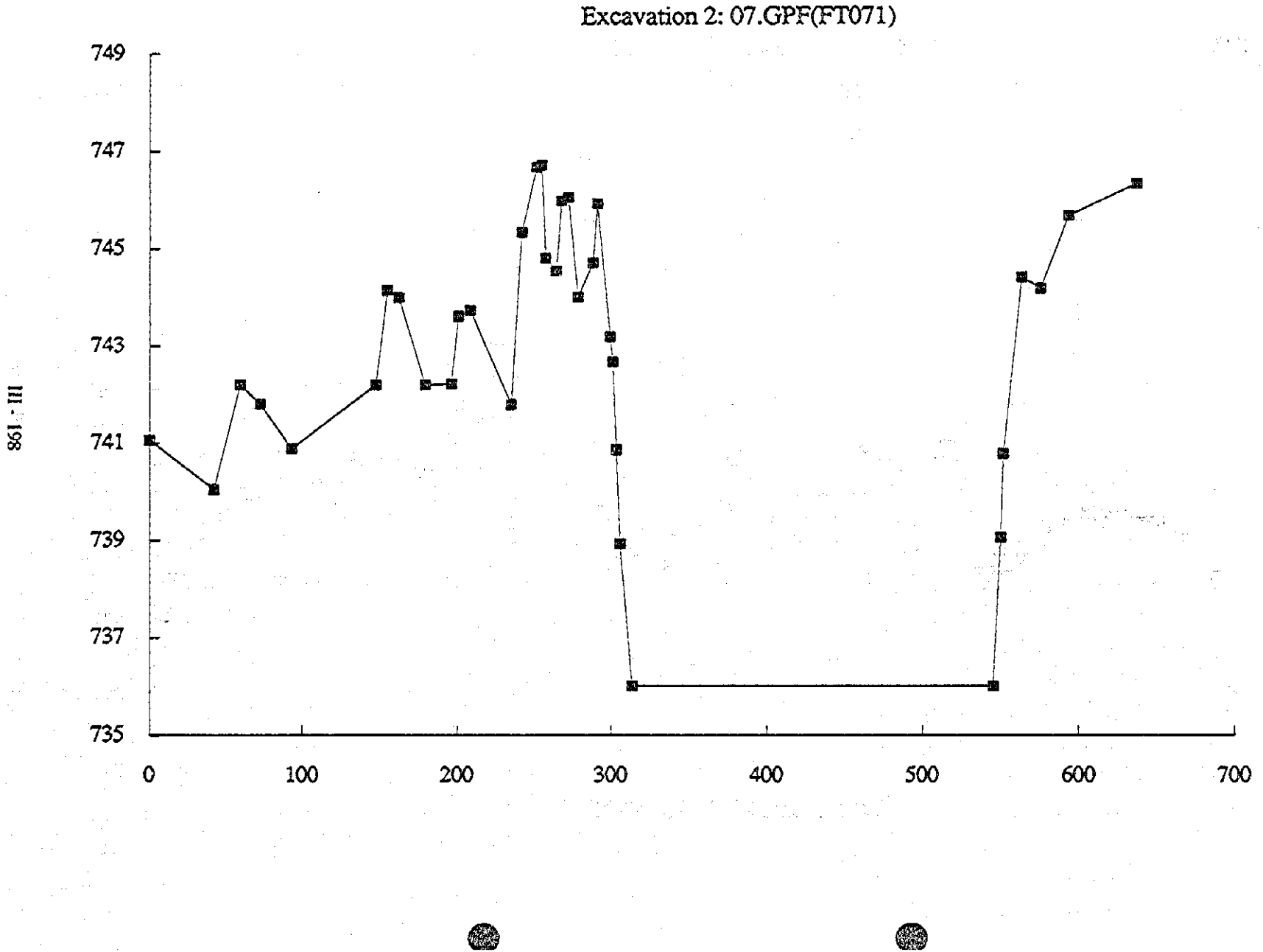
760
755
750
745
740
735
0
100
200
300
400
500
600


Excavation 2: M6-73(FN341)
752
750
748
746
744
742
740
738
736
734
0
500
1000
1500
2000
2500
3000
3500


Excavation 2: 07.GPF(FT071)
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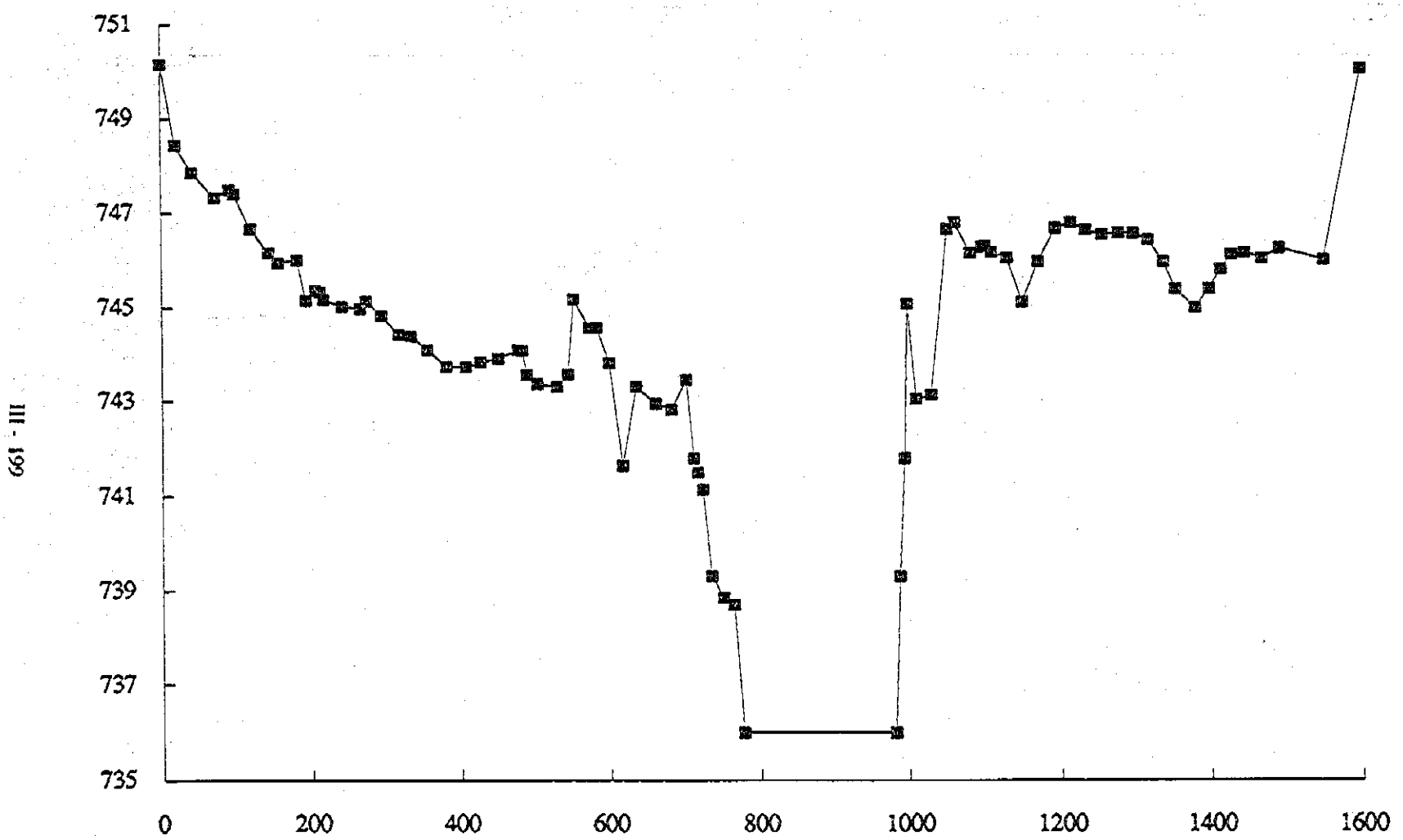
747
745
743
741
739
737
735
0
100
200
300
400
500
600
700


Excavation 2: M7-73(FN351)
751
749
747
745
743
741
739
737
735
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200
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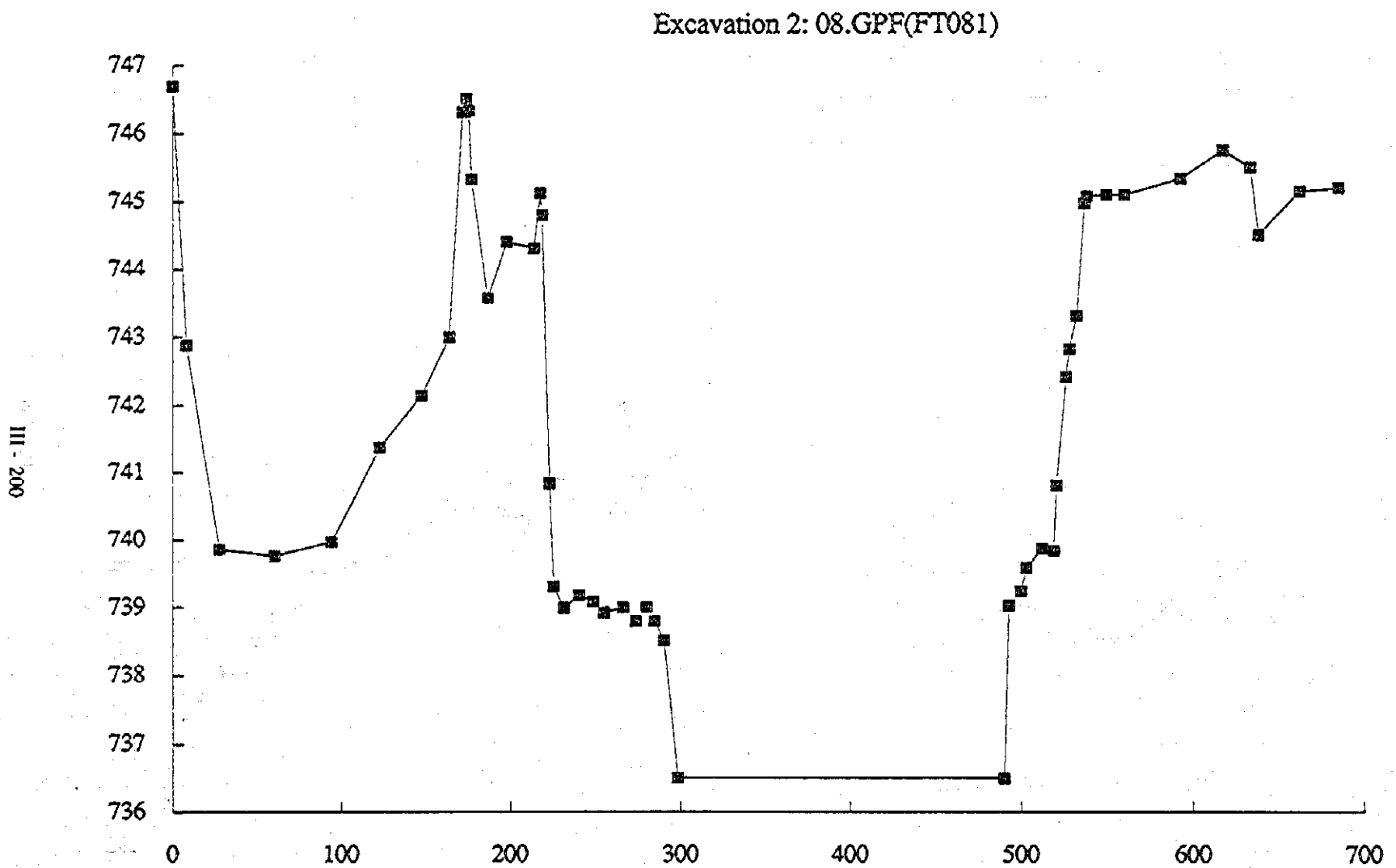
600
800
1000
1200
1400
1600
661 - 111


Excavation 2: 08.GPF(FT081)
747
746
745
744
743
742
741
740
739
738
737
736
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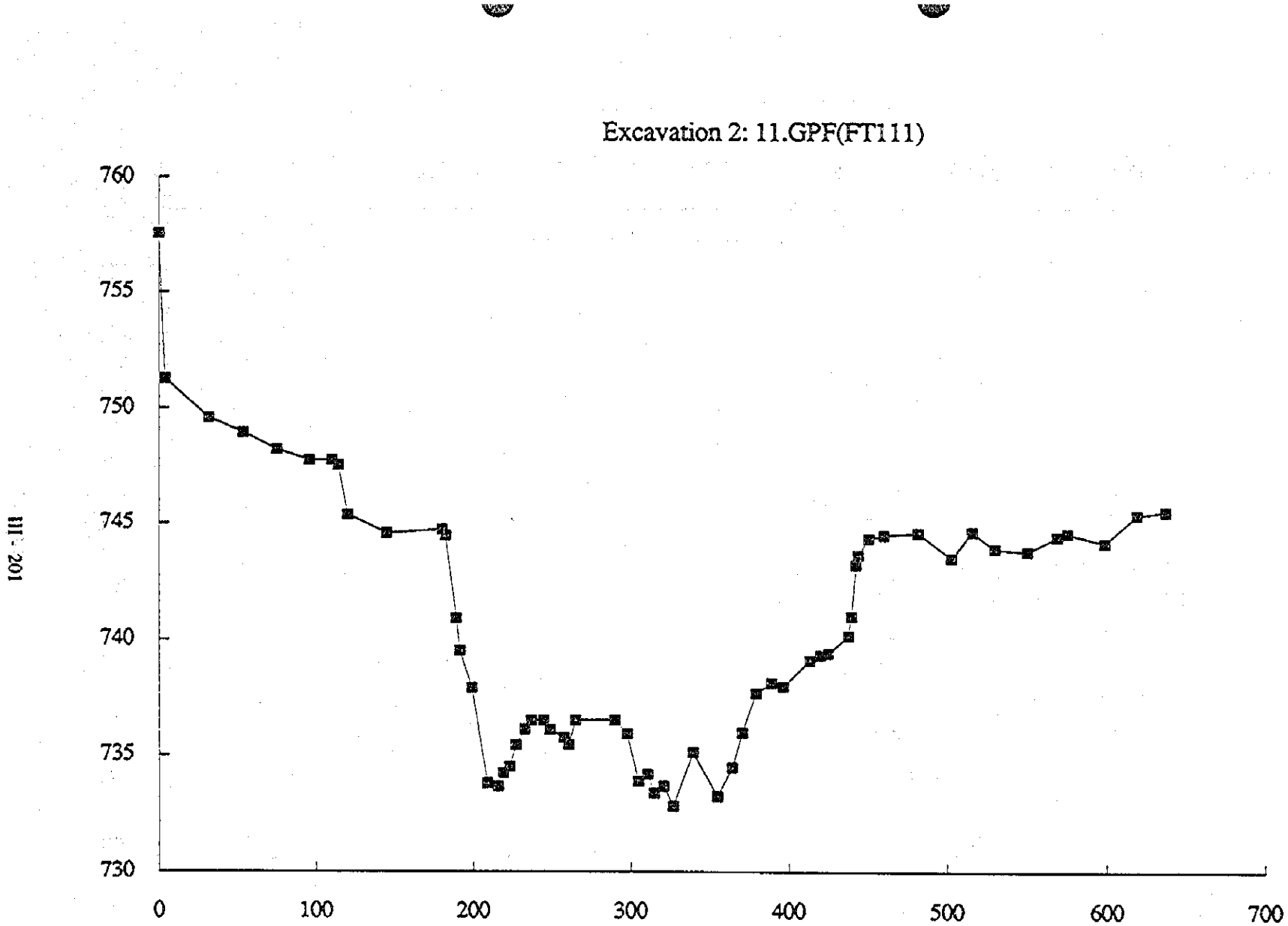
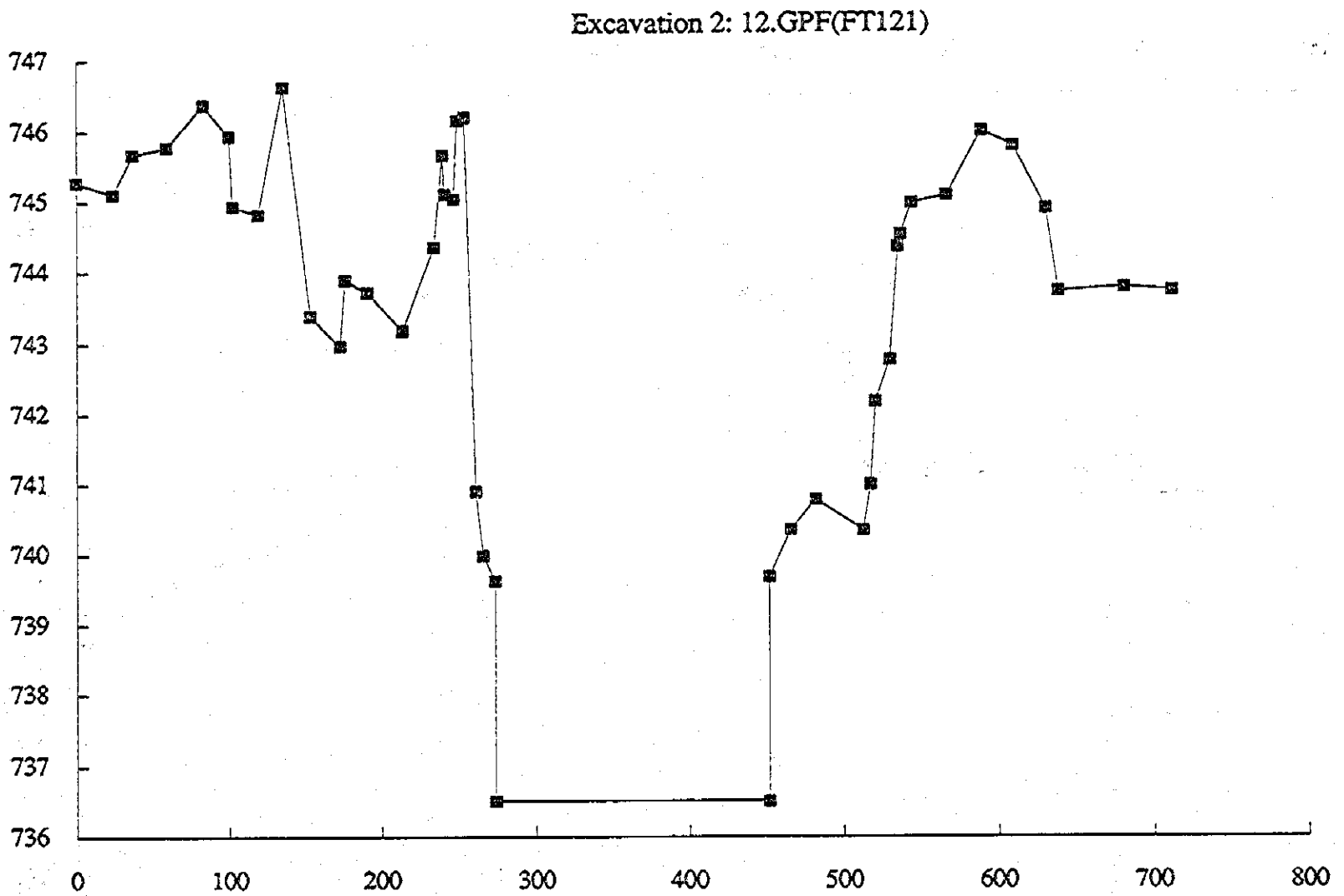
500
600
700


Excavation 2: 11.GPF(FT111)
760
755
750
745
740
735
730
0
100
200
300
400
500
600
700
111 - 201


Excavation 2: 12.GPF(FT121)
747
746
745
744
743
742
741
740
739
738
737
736
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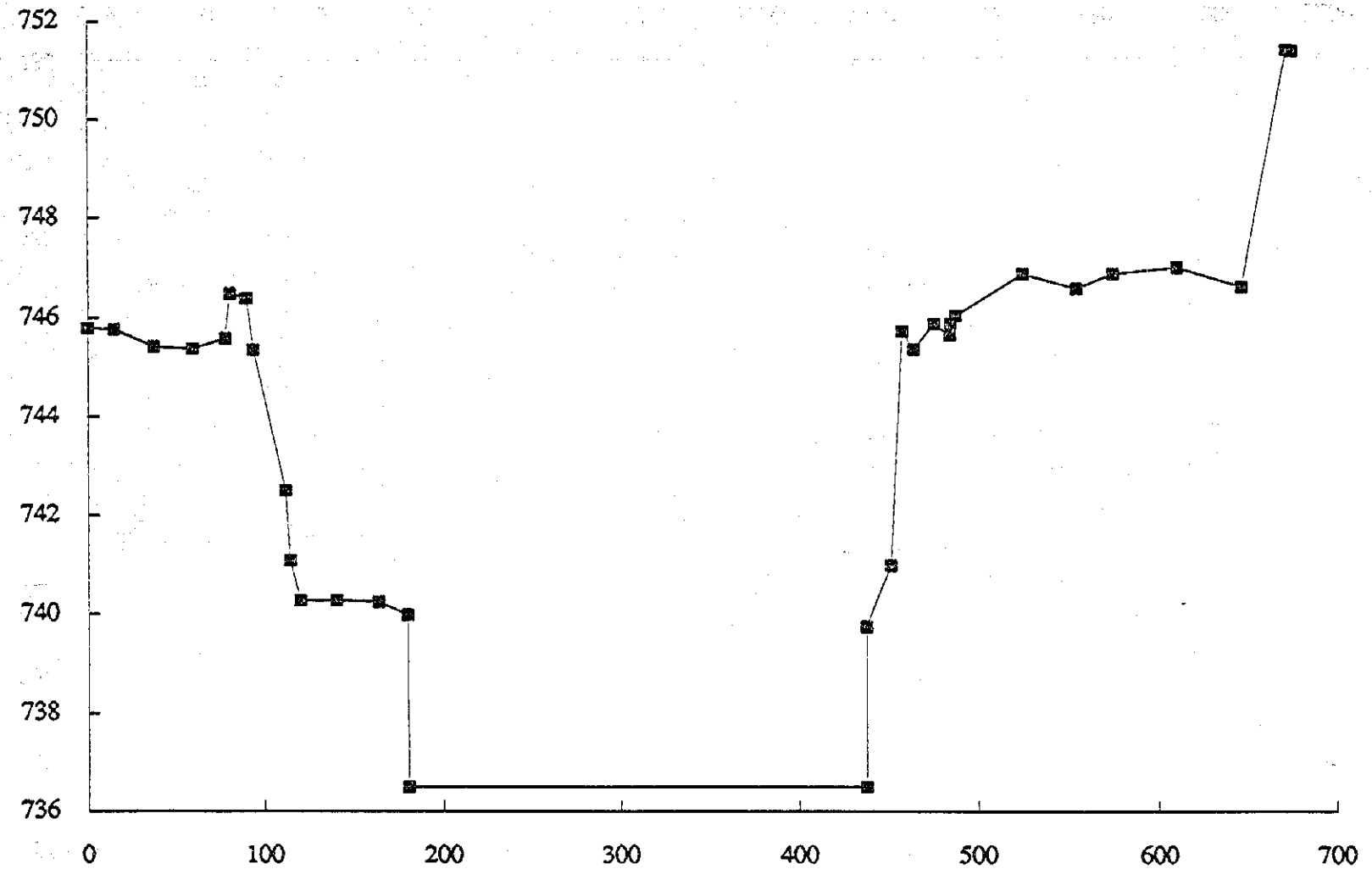
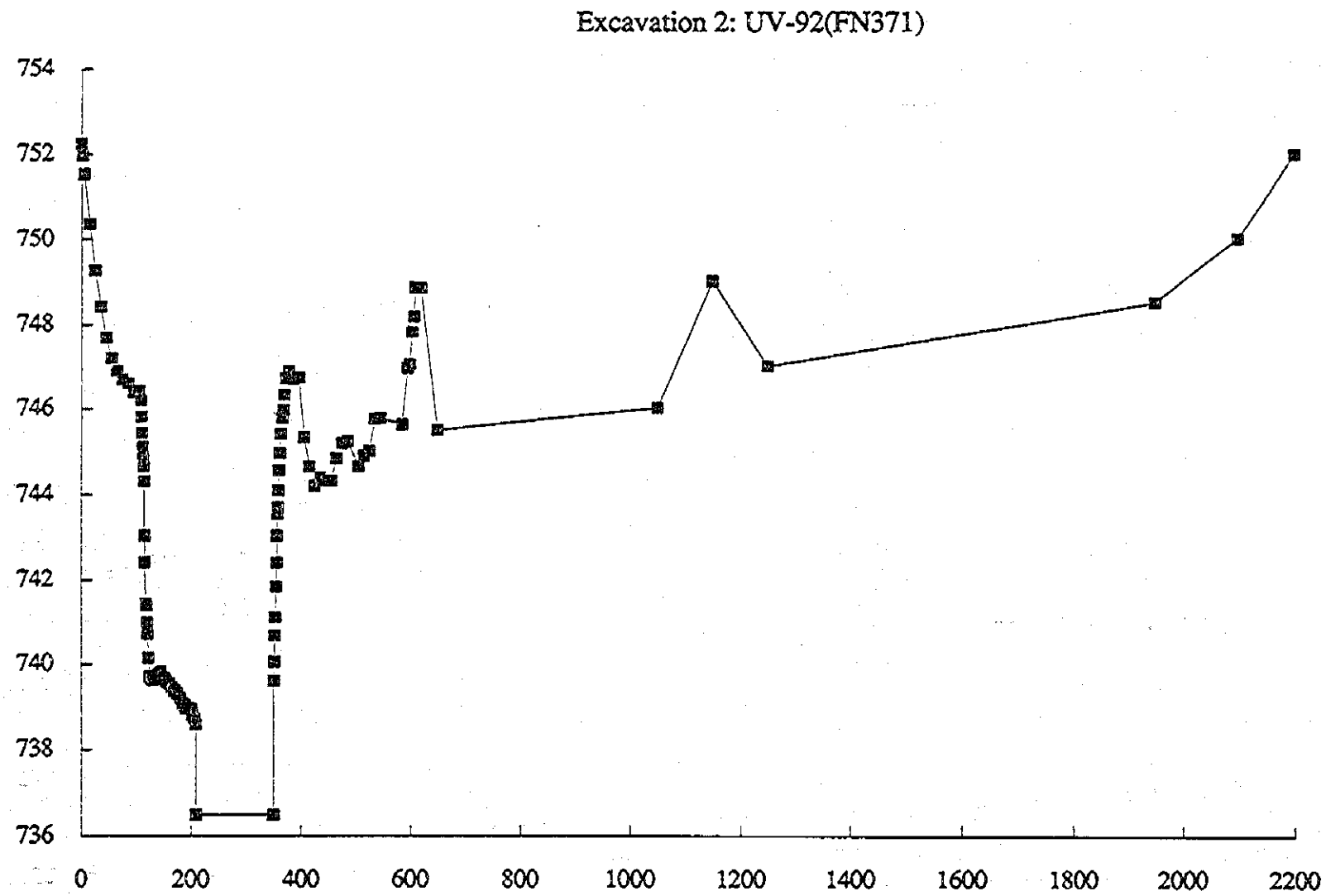
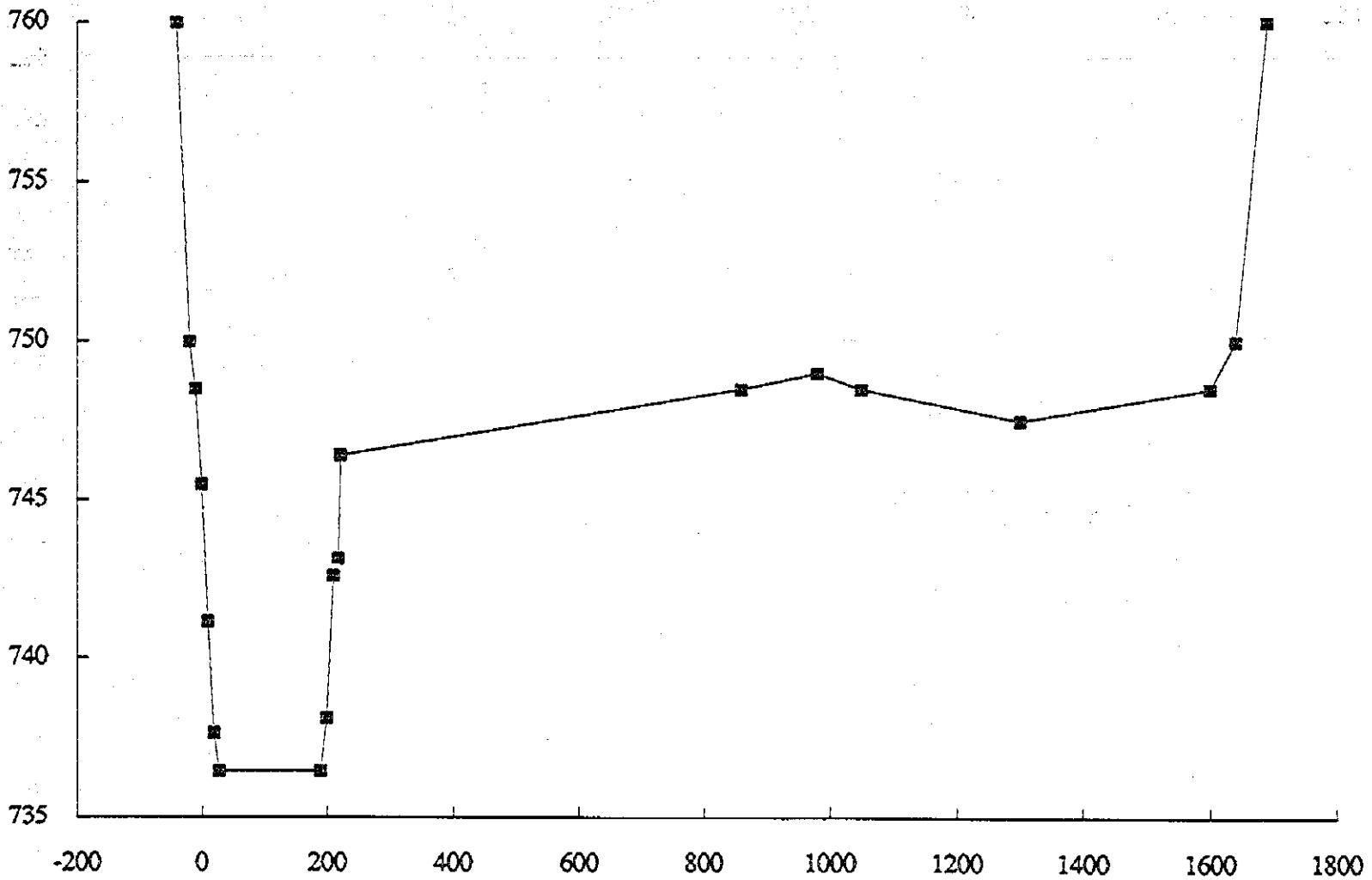
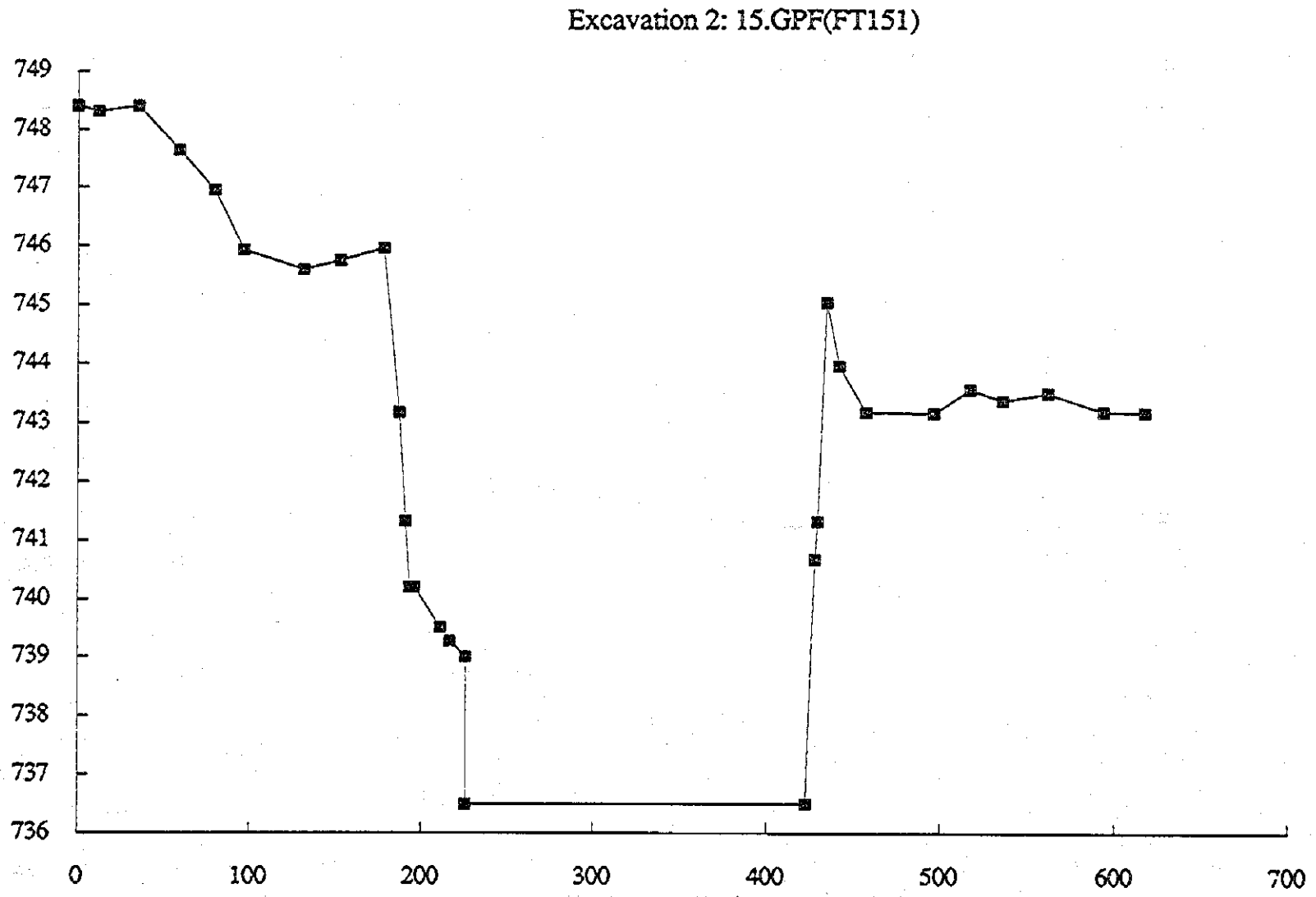
100
200
300
400
500
600
700
800

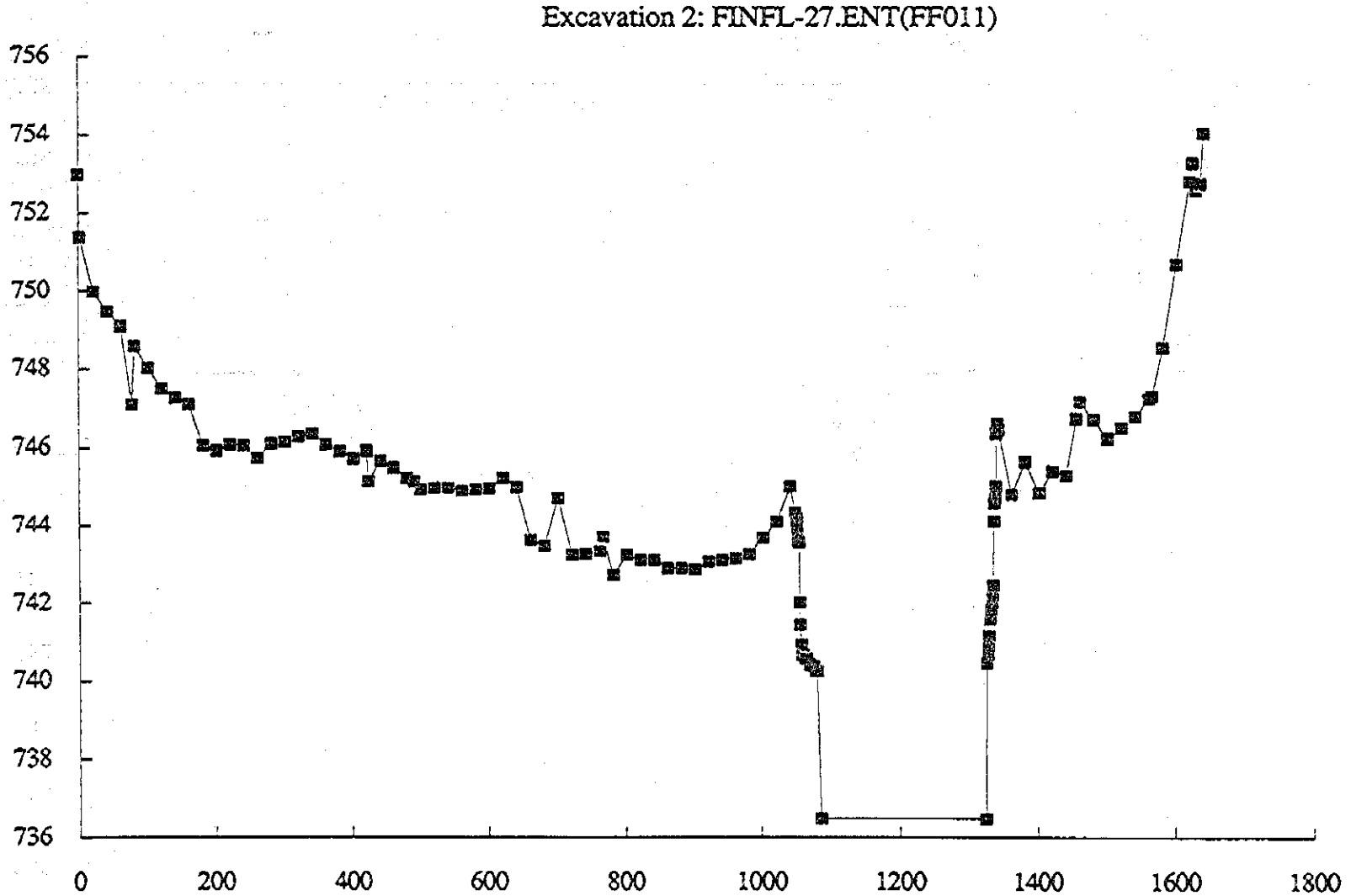

Excavation 2: 13.GPF(FT131)
752
750
748
746
744
742
740
738
736
0
100
200
300
400
500
600
700

Excavation 2: UV-92(FN371)

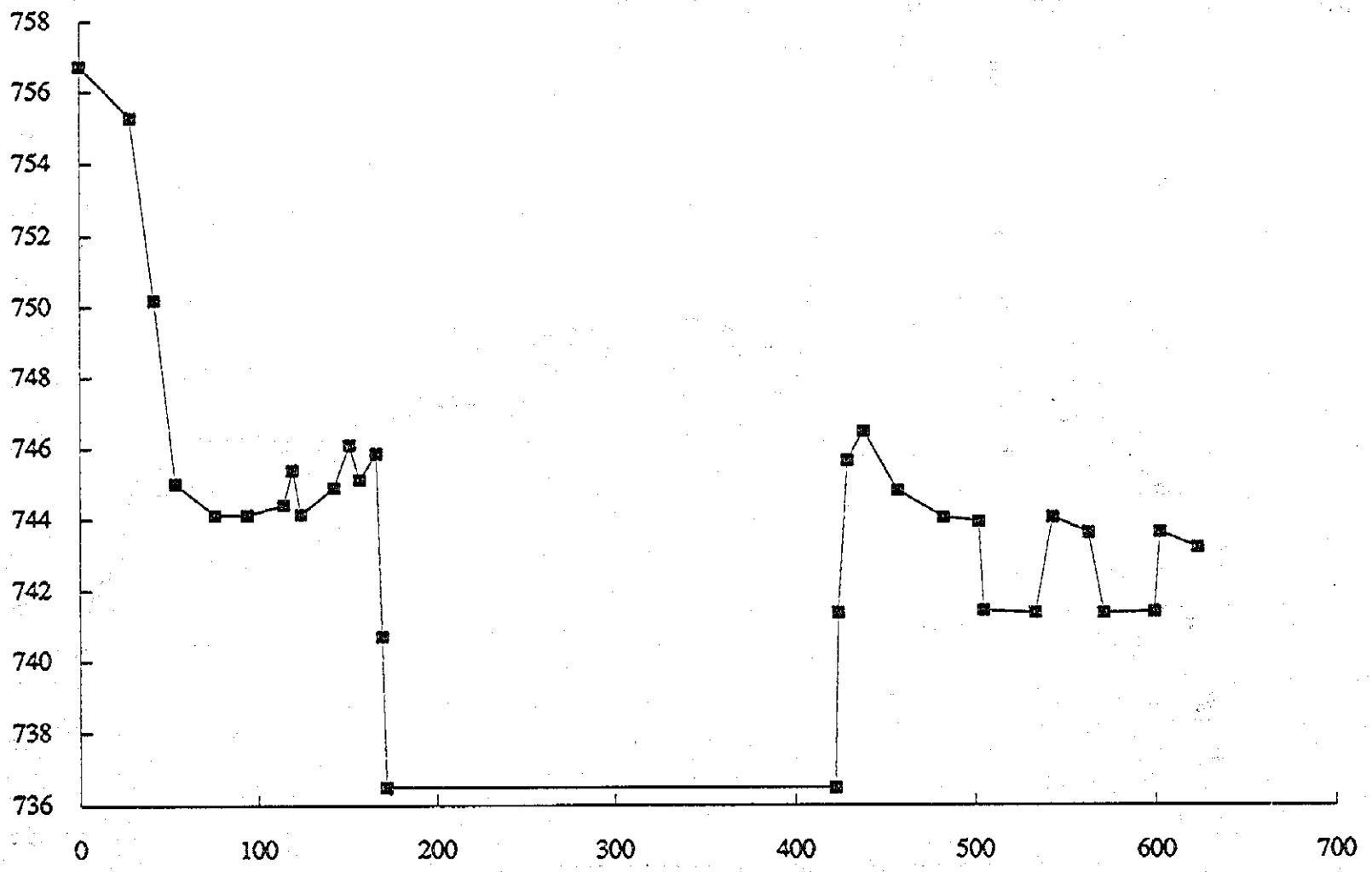


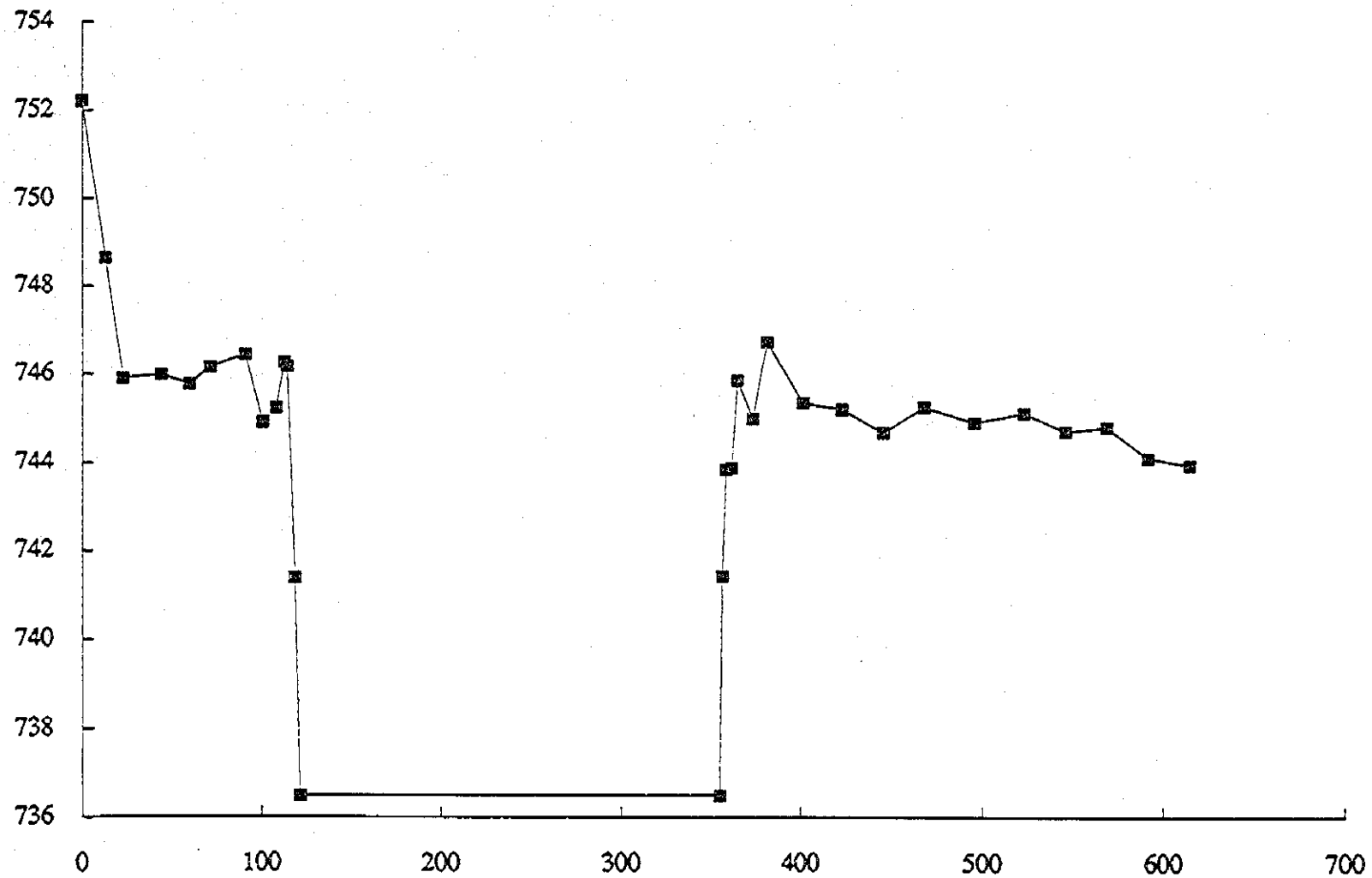

Excavation 2: UV1-78(FN381)
760
755
750
745
740
735
-200
0
200
400
600
800
1000
1200
1400
1600
1800


Excavation 2: 15.GPF(FT151)
749
748
747
746
745
744
743
742
741
740
739
738
737
736
0
100
200
300
400
500
600
700


Excavation 2: FINFL-27.ENT(FF011)
756
754
752
750
748
746
744
742
740
738
736
0
200
400
600
800
1000
1200
1400
1600
1800

Excavation 2: 16.GPF(FT161)




Excavation 2: 17.GPF(FT171)
754
752
750
748
746
744
742
740
738
736
0
100
200
300
400
500
600
700