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Monitoring the condition of semi-natural vegetation: the application of remote sensing and geographical information systems (GIS).

VOLUME 2, APPENDICES.

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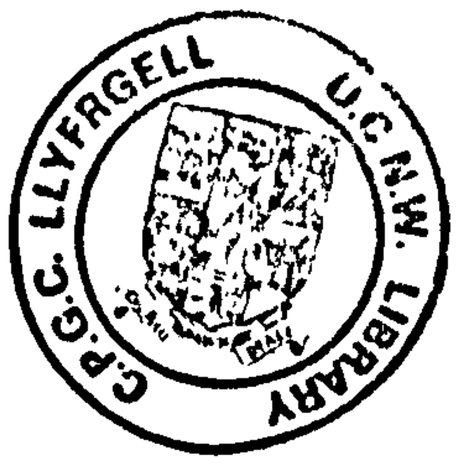

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DIGITAL NUMBERS (DN) EXTRACTED FROM CRYMLYN BOG DAEDALUS DATA SAMPLES, IN GROUPS OF FOUR, CORRESPOND TO FIELD SURVEY SITES

SAMPLE	DN1	DN2	DN3	DN4	DN5	DN6	DN7	DN8	DN9	DN10	DN11
1	34	44	53	64	52	57	61	67	77	50	124
2	44	45	52	64	52	55	58	65	69	50	126
3	45	43	52	63	51	53	56	64	75	47	126
4	45	44	52	63	51	54	56	63	68	47	126
5	46	44	55	66	56	53	49	49	58	45	112
6	39	46	56	68	58	53	48	49	64	48	115
7	44	48	60	73	63	63	60	61	71	51	113
8	44	48	59	71	62	58	53	55	77	53	119
9	34	39	43	58	46	30	26	31	40	35	137
10	36	41	45	60	47	35	31	34	42	37	130
11	39	40	45	60	47	34	29	33	45	38	132
12	40	42	49	64	51	41	38	42	50	42	125
13	44	46	55	70	57	52	53	61	72	53	123
14	40	48	58	73	61	54	53	59	76	58	123
15	42	46	56	70	60	52	52	58	68	55	124
16	44	48	56	72	61	58	58	63	75	62	121
17	39	43	53	65	53	49	51	58	71	51	119
18	38	44	53	65	53	51	53	60	72	50	113
19	38	43	51	63	51	47	48	55	65	49	123
20	43	42	52	65	52	48	49	56	66	49	118
21	35	41	47	61	48	38	36	43	58	47	119
22	29	40	46	60	47	35	32	38	59	44	113
23	31	42	47	61	48	36	33	37	60	47	116
24	37	42	49	63	51	39	36	41	64	48	117
25	43	42	52	63	52	59	63	69	79	53	108
26	39	40	52	62	52	58	59	62	73	49	110
27	43	43	55	65	54	64	68	73	81	53	107
28	45	44	53	63	52	60	63	69	76	52	111
29	41	40	47	63	53	41	37	40	57	46	108
30	34	41	49	65	55	45	42	44	61	51	112
31	38	41	48	65	55	42	38	42	57	49	110
32	38	41	48	64	55	43	39	42	59	50	112
33	56	58	72	79	73	84	80	75	82	60	114
34	58	58	73	79	74	88	85	78	84	61	112
35	55	59	73	81	75	85	82	75	85	60	113
36	60	59	71	79	73	86	84	79	86	61	111
37	51	54	67	76	71	78	74	71	81	62	115
38	53	54	66	75	69	78	74	71	86	64	117
39	49	50	62	71	65	74	71	69	81	58	115
40	54	53	67	75	69	82	78	73	87	62	114
41	54	48	59	67	61	71	68	66	83	55	126
42	41	48	59	68	61	72	71	69	76	54	123
43	45	50	63	72	65	77	73	69	85	59	133
44	43	49	61	69	63	75	73	71	80	58	128
45	56	58	65	76	71	75	72	67	85	61	113
46	56	55	64	76	71	74	69	66	87	61	115
47	50	58	67	76	73	80	77	72	85	63	115
48	53	58	65	75	73	80	77	71	85	62	116
49	45	46	51	65	57	52	45	43	69	51	123
50	42	46	50	64	56	50	44	43	69	51	128
51	48	47	52	65	57	53	46	45	65	50	121
52	48	46	51	65	56	52	45	44	65	50	122
53	46	47	52	65	55	47	41	41	70	52	124
54	53	46	50	63	55	48	40	39	67	52	123
55	51	46	51	64	55	49	42	41	64	50	125
56	47	46	51	64	55	48	41	41	61	51	124

TABLE 3.4 (continued)

57	48	51	61	72	64	64	58	55	71	53	109
58	52	51	61	72	65	64	58	55	77	53	110
59	55	53	63	74	67	66	59	56	73	54	107
60	54	50	60	72	64	61	54	52	70	53	109
61	44	48	54	68	59	48	41	42	65	54	124
62	43	45	51	67	57	45	39	39	67	54	124
63	40	46	53	67	58	50	43	44	71	54	126
64	46	47	53	67	58	48	41	42	70	54	122
65	42	41	48	62	53	48	42	41	62	48	119
66	36	42	47	60	51	49	44	43	58	46	120
67	40	43	48	63	52	46	41	43	61	47	117
68	43	42	48	61	52	46	41	41	60	44	115
69	45	47	55	66	55	53	53	59	79	56	136
70	47	45	55	67	55	54	55	60	77	56	133
71	40	45	53	66	54	51	51	59	77	54	137
72	41	46	53	66	53	51	50	57	81	54	135
73	43	44	53	65	54	55	55	60	71	53	122
74	44	46	55	66	55	59	58	62	78	54	122
75	42	44	54	67	54	55	56	61	74	53	124
76	39	45	54	66	54	55	56	62	74	54	122
77	49	47	54	66	57	49	44	45	69	53	121
78	39	49	57	71	61	53	48	49	73	56	124
79	37	49	57	68	61	53	47	48	77	59	127
80	47	49	57	71	61	54	50	51	71	57	125
81	48	49	58	69	62	60	55	55	77	59	123
82	47	48	56	68	59	55	51	52	77	58	124
83	43	44	51	63	54	49	44	45	69	51	121
84	43	47	55	67	59	52	47	47	67	51	125
85	39	47	54	68	62	56	48	45	70	55	119
86	49	47	54	69	63	58	50	46	70	56	117
87	49	48	53	68	62	55	47	45	73	55	119
88	47	47	53	68	63	56	49	46	76	55	117
89	40	48	54	67	59	55	49	48	70	52	119
90	49	48	54	66	59	55	49	47	68	52	121
91	53	48	55	69	61	55	49	48	76	54	122
92	45	48	54	67	60	54	49	48	74	55	124
93	47	50	57	69	62	63	58	56	74	55	113
94	43	48	57	68	61	61	56	54	76	53	114
95	50	49	56	68	61	62	57	55	77	52	117
96	48	50	57	68	62	62	57	54	69	53	115
97	51	51	61	71	64	66	60	57	75	57	124
98	47	49	59	69	61	64	59	58	80	58	124
99	45	51	61	72	65	68	62	59	81	59	123
100	45	50	59	70	63	64	59	59	79	58	123
101	47	53	61	72	64	70	67	63	77	57	119
102	53	53	62	71	63	69	67	63	73	55	111
103	48	52	61	72	65	66	62	60	78	58	119
104	46	53	61	71	64	68	65	62	72	53	112
105	55	54	62	72	66	69	66	63	73	55	114
106	51	53	60	72	64	66	63	62	72	54	116
107	45	50	59	69	63	70	66	61	72	51	113
108	49	53	63	74	66	71	69	65	78	57	117
109	57	55	67	74	69	88	87	80	80	61	105
110	51	52	61	68	63	81	80	75	79	57	103
111	51	52	61	69	65	86	85	78	83	58	102
112	53	52	61	69	63	83	82	76	89	56	99
113	39	46	56	66	59	67	62	59	74	51	114
114	47	48	57	66	60	70	66	62	71	52	110
115	54	48	57	67	60	70	67	63	77	53	115
116	45	48	57	67	60	69	66	62	71	53	111
117	52	48	60	68	60	71	68	64	71	51	111
118	41	43	53	62	55	61	57	55	63	46	102
119	45	50	61	69	63	76	72	65	70	50	106
120	45	47	59	68	60	68	64	62	68	49	106

TABLE 3.4 (continued)

121	47	46	54	63	57	62	57	54	61	46	108
122	43	46	55	66	57	63	59	56	68	49	111
123	46	48	57	68	60	64	57	53	66	48	113
124	45	49	60	68	63	71	66	61	68	50	115
125	47	49	58	67	60	69	67	63	70	52	104
126	50	51	60	68	62	73	69	64	68	52	103
127	56	50	61	70	63	75	73	68	74	52	105
128	50	52	61	69	63	74	72	68	74	53	104
129	38	48	55	67	54	53	59	70	77	51	115
130	48	48	56	68	55	54	56	63	78	53	123
131	39	48	56	67	55	55	56	62	73	50	120
132	34	51	60	71	59	59	60	66	76	55	131
133	44	46	56	66	55	61	66	71	73	50	95
134	45	46	56	66	54	60	65	71	71	50	96
135	50	47	56	66	55	61	66	71	77	51	98
136	36	45	57	67	55	61	67	72	76	50	99
137	38	49	64	77	65	61	62	69	79	56	109
138	46	49	63	76	64	62	63	71	79	55	107
139	37	49	61	75	63	56	57	64	74	55	111
140	44	48	61	74	62	58	59	66	75	53	110
141	32	45	53	68	55	44	45	54	63	50	122
142	38	46	53	68	56	44	44	54	67	53	120
143	30	43	53	69	56	43	44	54	64	52	128
144	40	44	52	68	56	41	40	50	71	55	126
145	32	44	51	70	58	44	42	52	72	58	116
146	35	42	46	64	52	37	35	44	68	51	114
147	38	44	51	70	60	44	42	50	65	61	120
148	44	43	50	69	59	44	43	54	77	64	118
149	50	55	65	79	73	59	49	45	63	55	103
150	53	52	61	74	67	59	50	47	64	53	105
151	40	52	61	77	68	52	43	40	57	52	99
152	48	54	63	78	71	55	46	43	64	53	100
153	47	47	54	63	53	52	45	46	70	47	107
154	39	44	49	59	49	44	36	36	57	40	99
155	51	51	59	69	60	55	46	43	66	53	113
156	49	49	56	67	58	52	44	42	63	50	113
157	48	51	60	70	62	53	45	42	63	51	112
158	51	54	62	73	64	54	45	42	63	53	107
159	43	50	58	68	60	50	41	40	60	50	116
160	40	52	59	69	60	52	43	40	59	50	107
161	54	56	67	76	70	70	62	57	76	59	121
162	58	58	67	77	71	70	62	57	80	60	118
163	58	53	63	73	67	65	57	53	70	55	117
164	56	54	64	73	68	69	61	55	77	56	114
165	57	57	64	72	66	63	52	46	69	51	115
166	56	57	64	71	67	65	54	47	66	50	116
167	45	57	64	72	66	65	54	47	66	52	114
168	49	57	65	73	67	67	55	48	69	53	116
169	58	61	73	82	78	78	69	61	84	62	119
170	53	62	74	83	80	79	69	60	85	63	117
171	58	62	73	82	77	78	68	60	86	61	117
172	54	63	75	83	79	79	69	60	86	60	117
173	53	57	65	76	72	71	64	57	83	61	125
174	57	57	65	76	71	72	65	58	88	61	124
175	57	56	63	74	69	69	61	55	80	59	126
176	53	57	64	75	71	71	63	56	82	59	122
177	55	52	59	70	66	69	62	57	85	56	117
178	49	53	60	71	66	69	62	56	77	56	116
179	42	53	61	72	67	71	65	59	82	59	117
180	56	54	60	71	67	68	61	57	86	58	118
181	48	53	65	72	66	75	70	64	76	53	103
182	64	52	63	71	64	74	70	65	72	53	103
183	47	51	60	68	63	74	68	60	65	50	101
184	49	51	61	69	63	79	77	69	74	53	103

TABLE 3.4 (continued)

185	40	43	47	61	51	44	41	42	51	39	101
186	45	42	47	61	49	43	39	40	50	39	102
187	43	46	53	66	56	54	50	48	55	44	105
188	49	47	53	67	57	55	52	51	57	46	109
189	43	46	55	67	57	60	59	58	67	45	105
190	44	47	55	65	57	62	60	58	59	46	105
191	45	45	55	67	59	61	59	57	64	47	108
192	42	48	58	69	61	68	66	63	64	50	107
193	44	45	54	62	53	59	56	54	63	45	95
194	48	46	55	65	57	62	60	57	65	47	97
195	55	49	61	70	62	70	68	65	72	55	100
196	40	54	63	75	66	68	67	67	74	55	103
197	31	40	47	60	49	46	46	49	63	43	92
198	41	41	46	59	47	47	47	50	56	42	92
199	40	47	57	70	61	62	65	69	79	57	100
200	42	48	54	67	58	60	62	65	77	56	100
201	49	45	50	62	52	54	57	61	65	47	98
202	48	46	52	65	56	56	59	63	67	52	100
203	38	46	52	64	55	61	67	72	73	53	100
204	40	45	50	62	53	58	62	68	74	53	100
205	44	45	55	64	55	67	70	70	66	48	103
206	49	45	54	63	54	64	66	67	65	48	105
207	48	45	54	63	55	62	62	62	67	50	104
208	41	46	56	65	56	67	69	67	66	49	102
209	46	50	58	69	61	66	67	68	78	55	108
210	52	48	59	69	61	67	67	68	78	54	106
211	42	49	57	69	60	61	61	63	76	55	106
212	47	50	60	71	62	66	66	66	77	58	107
213	49	48	61	72	62	64	62	65	74	52	121
214	43	47	60	70	60	63	61	62	73	51	114
215	47	48	62	73	62	64	61	64	72	52	116
216	46	49	62	71	61	66	64	64	74	49	115
217	40	50	63	73	63	71	70	70	77	54	108
218	50	51	65	73	63	78	81	82	80	58	110
219	51	51	63	72	63	71	71	72	76	57	112
220	39	49	59	68	57	66	69	73	77	52	108
221	45	48	55	67	58	66	73	78	82	57	112
222	49	46	53	65	54	62	69	76	81	56	105
223	47	46	53	63	54	62	69	74	82	52	106
224	47	46	54	64	54	62	67	73	77	53	104
225	45	47	55	66	55	53	53	59	79	56	136
226	47	45	55	67	55	54	55	60	77	56	133
227	40	45	53	66	54	51	51	59	77	54	137
228	41	46	53	66	53	51	50	57	81	54	135
229	46	44	55	66	56	53	49	49	58	45	112
230	39	46	56	68	58	53	48	49	64	48	115
231	44	48	60	73	63	63	60	61	71	51	113
232	44	48	59	71	62	58	53	55	77	53	119
233	43	44	53	65	54	55	55	60	71	53	122
234	44	46	55	66	55	59	58	62	78	54	122
235	42	44	54	67	54	55	56	61	74	53	124
236	39	45	54	66	54	55	56	62	74	54	122
237	41	49	58	70	59	61	65	70	71	56	114
238	35	46	57	67	56	61	65	72	76	54	113
239	50	48	59	70	59	62	67	73	80	55	116
240	44	45	55	65	53	59	65	72	77	52	114
241	54	52	57	65	61	77	78	73	78	52	105
242	56	50	57	65	62	79	79	72	76	53	103
243	55	52	57	66	62	82	84	78	83	56	103
244	55	52	58	67	63	82	83	77	85	55	103

TABLE 3.7

Radiometrically calibrated ATM sample data from CRYM386

SAMPLE	SITE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6	CAL7	CAL8	CAL9	CAL10	UNCAL11
1	1	4.6608	9.5324	14.0110	12.0056	12.9629	38.9655	51.1731	39.7171	5.57434	0.659298	124
2	1	7.4272	9.8698	13.5917	12.0056	12.9629	37.3147	48.4289	38.3409	4.85162	0.659298	126
3	1	7.7039	9.1951	13.5917	11.6115	12.5708	35.6639	46.5995	37.6528	5.39366	0.593718	126
4	1	7.7039	9.5324	13.5917	11.6115	12.5708	36.4893	46.5995	36.9647	4.76128	0.593718	126
5	2	7.9805	9.5324	14.8496	12.7937	14.5315	35.6639	40.1965	27.3313	3.85788	0.549998	112
6	2	6.0440	10.2072	15.2689	13.5819	15.3158	35.6639	39.2817	27.3313	4.39992	0.615578	115
7	2	7.4272	10.8819	16.9460	15.5524	17.2766	43.9179	50.2584	35.5885	5.03230	0.681158	113
8	2	7.4272	10.8819	16.5267	14.7642	16.8844	39.7909	43.8553	31.4599	5.57434	0.724878	119
9	3	4.6608	7.8456	9.8181	9.6410	10.6100	16.6797	19.1579	14.9455	2.23176	0.331398	137
10	3	5.2141	8.5204	10.6567	10.4292	11.0022	20.8067	23.7315	17.0098	2.41244	0.375118	130
11	3	6.0440	8.1830	10.6567	10.4292	11.0022	19.9813	21.9021	16.3217	2.68346	0.396978	132
12	3	6.3207	8.8577	12.3338	12.0056	12.5708	25.7591	30.1345	22.5146	3.13516	0.484418	125
13	4	7.4272	10.2072	14.8496	14.3701	14.9237	34.8385	43.8553	35.5885	5.12264	0.724878	123
14	4	6.3207	10.8819	16.1074	15.5524	16.4923	36.4893	43.8553	34.2123	5.48400	0.834178	123
15	4	6.8740	10.2072	15.2689	14.3701	16.1001	34.8385	42.9406	33.5242	4.76128	0.768598	124
16	4	7.4272	10.8819	15.2689	15.1583	16.4923	39.7909	48.4289	36.9647	5.39366	0.921618	121
17	5	6.0440	9.1951	14.0110	12.3996	13.3551	32.3623	42.0259	33.5242	5.03230	0.681158	119
18	5	5.7674	9.5324	14.0110	12.3996	13.3551	34.0131	43.8553	34.9004	5.12264	0.659298	113
19	5	5.7674	9.1951	13.1724	11.6115	12.5708	30.7115	39.2817	31.4599	4.49026	0.637438	123
20	5	7.1506	8.8577	13.5917	12.3996	12.9629	31.5369	40.1965	32.1480	4.58060	0.637438	118
21	6	4.9375	8.5204	11.4953	10.8233	11.3943	23.2829	28.3051	23.2027	3.85788	0.593718	119
22	6	3.2776	8.1830	11.0760	10.4292	11.0022	20.8067	24.6462	19.7622	3.94822	0.528138	113
23	6	3.8309	8.8577	11.4953	10.8233	11.3943	21.6321	25.5609	19.0741	4.03856	0.593718	116
24	6	5.4908	8.8577	12.3338	11.6115	12.5708	24.1083	28.3051	21.8265	4.39992	0.615578	117
25	7	7.1506	8.8577	13.5917	11.6115	12.9629	40.6163	53.0025	41.0933	5.75502	0.724878	108
26	7	6.0440	8.1830	13.5917	11.2174	12.9629	39.7909	49.3437	36.2766	5.21298	0.637438	110
27	7	7.1506	9.1951	14.8496	12.3996	13.7472	44.7433	57.5761	43.8457	5.93570	0.724878	107
28	7	7.7039	9.5324	14.0110	11.6115	12.9629	41.4417	53.0025	41.0933	5.48400	0.703018	111
29	8	6.5973	8.1830	11.4953	11.6115	13.3551	25.7591	29.2198	21.1384	3.76754	0.571858	108
30	8	4.6608	8.5204	12.3338	12.3996	14.1394	29.0607	33.7934	23.8908	4.12890	0.681158	112
31	8	5.7674	8.5204	11.9145	12.3996	14.1394	26.5845	30.1345	22.5146	3.76754	0.637438	110
32	8	5.7674	8.5204	11.9145	12.0056	14.1394	27.4099	31.0493	22.5146	3.94822	0.659298	112
33	9	10.7469	14.2555	21.9775	17.9169	21.1981	61.2513	68.5528	45.2219	6.02604	0.877898	114
34	9	11.3002	14.2555	22.3968	17.9169	21.5902	64.5529	73.1264	47.2862	6.20672	0.899758	112
35	9	10.4703	14.5928	22.3968	18.7051	21.9824	62.0767	70.3822	45.2219	6.29706	0.877898	113
36	9	11.8535	14.5928	21.5582	17.9169	21.1981	62.9021	72.2117	47.9743	6.38740	0.899758	111
37	10	9.3637	12.9060	19.8811	16.7346	20.4138	56.2989	63.0645	42.4695	5.93570	0.921618	115
38	10	9.9170	12.9060	19.4618	16.3405	19.6295	56.2989	63.0645	42.4695	6.38740	0.965338	117
39	10	8.8104	11.5566	17.7846	14.7642	18.0609	52.9973	60.3203	41.0933	5.93570	0.834178	115
40	10	10.1936	12.5687	19.8811	16.3405	19.6295	59.6005	66.7233	43.8457	6.47774	0.921618	114
41	11	10.1936	10.8819	16.5267	13.1878	16.4923	50.5211	57.5761	39.0290	6.11638	0.768598	126
42	11	6.5973	10.8819	16.5267	13.5819	16.4923	51.3465	60.3203	41.0933	5.48400	0.746738	123
43	11	7.7039	11.5566	18.2039	15.1583	18.0609	55.4735	62.1497	41.0933	6.29706	0.856038	133
44	11	7.1506	11.2192	17.3653	13.9760	17.2766	53.8227	62.1497	42.4695	5.84536	0.834178	128
45	12	10.7469	14.2555	19.0425	16.7346	20.4138	53.8227	61.2350	39.7171	6.29706	0.899758	113
46	12	10.7469	13.2434	18.6232	16.7346	20.4138	52.9973	58.4909	39.0290	6.47774	0.899758	115
47	12	9.0871	14.2555	19.8811	16.7346	21.1981	57.9497	65.8086	43.1576	6.29706	0.943478	115
48	12	9.9170	14.2555	19.0425	16.3405	21.1981	57.9497	65.8086	42.4695	6.29706	0.921618	116
49	13	7.7039	10.2072	13.1724	12.3996	14.9237	34.8385	36.5376	23.2027	4.85162	0.681158	123
50	13	6.8740	10.2072	12.7531	12.0056	14.5315	33.1877	35.6229	23.2027	4.85162	0.681158	128
51	13	8.5338	10.5445	13.5917	12.3996	14.9237	35.6639	37.4523	24.5789	4.49026	0.659298	121
52	13	8.5338	10.2072	13.1724	12.3996	14.5315	34.8385	36.5376	23.8908	4.49026	0.659298	122
53	14	7.9805	10.5445	13.5917	12.3996	14.1394	30.7115	32.8787	21.8265	4.94196	0.703018	124
54	14	9.9170	10.2072	12.7531	11.6115	14.1394	31.5369	31.9640	20.4503	4.67094	0.703018	123
55	14	9.3637	10.2072	13.1724	12.0056	14.1394	32.3623	33.7934	21.8265	4.39992	0.659298	125
56	14	8.2572	10.2072	13.1724	12.0056	14.1394	31.5369	32.8787	21.8265	4.12890	0.681158	124
57	15	8.5338	11.8940	17.3653	15.1583	17.6687	44.7433	48.4289	31.4599	5.03230	0.724878	109
58	15	9.6404	11.8940	17.3653	15.1583	18.0609	44.7433	48.4289	31.4599	5.57434	0.724878	110
59	15	10.4703	12.5687	18.2039	15.9465	18.8452	46.3941	49.3437	32.1480	5.21298	0.746738	107
60	15	10.1936	11.5566	16.9460	15.1583	17.6687	42.2671	44.7701	29.3956	4.94196	0.724878	109

TABLE 3.7 (continued)

TABLE 3.7 (continued)

127	32	10.7469	11.5566	17.3653	14.3701	17.2766	53.8227	62.1497	40.4052	5.30332	0.703018	105
128	32	9.0871	12.2313	17.3653	13.9760	17.2766	52.9973	61.2350	40.4052	5.30332	0.724878	104
129	33	5.7674	10.8819	14.8496	13.1878	13.7472	35.6639	49.3437	41.7814	5.57434	0.681158	115
130	33	8.5338	10.8819	15.2689	13.5819	14.1394	36.4893	46.5995	36.9647	5.66468	0.724878	123
131	33	6.0440	10.8819	15.2689	13.1878	14.1394	37.3147	46.5995	36.2766	5.21298	0.659298	120
132	33	4.6608	11.8940	16.9460	14.7642	15.7080	40.6163	50.2584	39.0290	5.48400	0.768598	131
133	34	7.4272	10.2072	15.2689	12.7937	14.1394	42.2671	55.7467	42.4695	5.21298	0.659298	95
134	34	7.7039	10.2072	15.2689	12.7937	13.7472	41.4417	54.8320	42.4695	5.03230	0.659298	96
135	34	9.0871	10.5445	15.2689	12.7937	14.1394	42.2671	55.7467	42.4695	5.57434	0.681158	98
136	34	5.2141	9.8698	15.6882	13.1878	14.1394	42.2671	56.6614	43.1576	5.48400	0.659298	99
137	35	5.7674	11.2192	18.6232	17.1287	18.0609	42.2671	52.0878	41.0933	5.75502	0.790458	109
138	35	7.9805	11.2192	18.2039	16.7346	17.6687	43.0925	53.0025	42.4695	5.75502	0.768598	107
139	35	5.4908	11.2192	17.3653	16.3405	17.2766	38.1401	47.5142	37.6528	5.30332	0.768598	111
140	35	7.4272	10.8819	17.3653	15.9465	16.8844	39.7909	49.3437	39.0290	5.39366	0.724878	110
141	36	4.1076	9.8698	14.0110	13.5819	14.1394	28.2353	36.5376	30.7718	4.30958	0.659298	122
142	36	5.7674	10.2072	14.0110	13.5819	14.5315	28.2353	35.6229	30.7718	4.67094	0.724878	120
143	36	3.5543	9.1951	14.0110	13.9760	14.5315	27.4099	35.6229	30.7718	4.39992	0.703018	128
144	36	6.3207	9.5324	13.5917	13.5819	14.5315	25.7591	31.9640	28.0194	5.03230	0.768598	126
145	37	4.1076	9.5324	13.1724	14.3701	15.3158	28.2353	33.7934	29.3956	5.12264	0.834178	116
146	37	4.9375	8.8577	11.0760	12.0056	12.9629	22.4575	27.3904	23.8908	4.76128	0.681158	114
147	37	5.7674	9.5324	13.1724	14.3701	16.1001	28.2353	33.7934	28.0194	4.49026	0.899758	120
148	37	7.4272	9.1951	12.7531	13.9760	15.7080	28.2353	34.7081	30.7718	5.57434	0.965338	118
149	38	9.0871	13.2434	19.0425	17.9169	21.1981	40.6163	40.1965	24.5789	4.30958	0.768598	103
150	38	9.9170	12.2313	17.3653	15.9465	18.8452	40.6163	41.1112	25.9551	4.39992	0.724878	105
151	38	6.3207	12.2313	17.3653	17.1287	19.2373	34.8385	34.7081	21.1384	3.76754	0.703018	99
152	38	8.5338	12.9060	18.2039	17.5228	20.4138	37.3147	37.4523	23.2027	4.39992	0.724878	100
153	39	8.2572	10.5445	14.4303	11.6115	13.3551	34.8385	36.5376	25.2670	4.94196	0.593718	107
154	39	6.0440	9.5324	12.3338	10.0351	11.7865	28.2353	28.3051	18.3860	3.76754	0.440698	99
155	39	9.3637	11.8940	16.5267	13.9760	16.1001	37.3147	37.4523	23.2027	4.58060	0.724878	113
156	39	8.8104	11.2192	15.2689	13.1878	15.3158	34.8385	35.6229	22.5146	4.30958	0.659298	113
157	40	8.5338	11.8940	16.9460	14.3701	16.8844	35.6639	36.5376	22.5146	4.30958	0.681158	112
158	40	9.3637	12.9060	17.7846	15.5524	17.6687	36.4893	36.5376	22.5146	4.30958	0.724878	107
159	40	7.1506	11.5566	16.1074	13.5819	16.1001	33.1877	32.8787	21.1384	4.03856	0.659298	116
160	40	6.3207	12.2313	16.5267	13.9760	16.1001	34.8385	34.7081	21.1384	3.94822	0.659298	107
161	41	10.1936	13.5808	19.8811	16.7346	20.0216	49.6957	52.0878	32.8361	5.48400	0.856038	121
162	41	11.3002	14.2555	19.8811	17.1287	20.4138	49.6957	52.0878	32.8361	5.84536	0.877898	118
163	41	11.3002	12.5687	18.2039	15.5524	18.8452	45.5687	47.5142	30.0837	4.94196	0.768598	117
164	41	10.7469	12.9060	18.6232	15.5524	19.2373	48.8703	51.1731	31.4599	5.57434	0.790458	114
165	42	11.0236	13.9181	18.6232	15.1583	18.4530	43.9179	42.9406	25.2670	4.85162	0.681158	115
166	42	10.7469	13.9181	18.6232	14.7642	18.8452	45.5687	44.7701	25.9551	4.58060	0.659298	116
167	42	7.7039	13.9181	18.6232	15.1583	18.4530	45.5687	44.7701	25.9551	4.58060	0.703018	114
168	42	8.8104	13.9181	19.0425	15.5524	18.8452	47.2195	45.6848	26.6432	4.85162	0.724878	116
169	43	11.3002	15.2676	22.3968	19.0992	23.1588	56.2989	58.4909	35.5885	6.20672	0.921618	119
170	43	9.9170	15.6049	22.8161	19.4933	23.9431	57.1243	58.4909	34.9004	6.29706	0.943478	117
171	43	11.3002	15.6049	22.3968	19.0992	22.7667	56.2989	57.5761	34.9004	6.38740	0.899758	117
172	43	10.1936	15.9423	23.2354	19.4933	23.5510	57.1243	58.4909	34.9004	6.38740	0.877898	117
173	44	9.9170	13.9181	19.0425	16.7346	20.8059	50.5211	53.9173	32.8361	6.11638	0.899758	125
174	44	11.0236	13.9181	19.0425	16.7346	20.4138	51.3465	54.8320	33.5242	6.56808	0.899758	124
175	44	11.0236	13.5808	18.2039	15.9465	19.6295	48.8703	51.1731	31.4599	5.84536	0.856038	126
176	44	9.9170	13.9181	18.6232	16.3405	20.4138	50.5211	53.0025	32.1480	6.02604	0.856038	122
177	45	10.4703	12.2313	16.5267	14.3701	18.4530	48.8703	52.0878	32.8361	6.29706	0.790458	117
178	45	8.8104	12.5687	16.9460	14.7642	18.4530	48.8703	52.0878	32.1480	5.57434	0.790458	116
179	45	6.8740	12.5687	17.3653	15.1583	18.8452	50.5211	54.8320	34.2123	6.02604	0.856038	117
180	45	10.7469	12.9060	16.9460	14.7642	18.8452	48.0449	51.1731	32.8361	6.38740	0.834178	118
181	46	8.5338	12.5687	19.0425	15.1583	18.4530	53.8227	59.4056	37.6528	5.48400	0.724878	103
182	46	12.9600	12.2313	18.2039	14.7642	17.6687	52.9973	59.4056	38.3409	5.12264	0.724878	103
183	46	8.2572	11.8940	16.9460	13.5819	17.2766	52.9973	57.5761	34.9004	4.49026	0.659298	101
184	46	8.8104	11.8940	17.3653	13.9760	17.2766	57.1243	65.8086	41.0933	5.30332	0.724878	103
185	47	6.3207	9.1951	11.4953	10.8233	12.5708	28.2353	32.8787	22.5146	3.22550	0.418838	101
186	47	7.7039	8.8577	11.4953	10.8233	11.7865	27.4099	31.0493	21.1384	3.13516	0.418838	102
187	47	7.1506	10.2072	14.0110	12.7937	14.5315	36.4893	41.1112	26.6432	3.58686	0.528138	105
188	47	8.8104	10.5445	14.0110	13.1878	14.9237	37.3147	42.9406	28.7075	3.76754	0.571858	109
189	48	7.1506	10.2072	14.8496	13.1878	14.9237	41.4417	49.3437	33.5242	4.67094	0.549998	105
190	48	7.4272	10.5445	14.8496	12.3996	14.9237	43.0925	50.2584	33.5242	3.94822	0.571858	105
191	48	7.7039	9.8698	14.8496	13.1878	15.7080	42.2671	49.3437	32.8361	4.39992	0.593718	108
192	48	6.8740	10.8819	16.1074	13.9760	16.4923	48.0449	55.7467	36.9647	4.39992	0.659298	107

193	49	7.4272	9.8698	14.4303	11.2174	13.3551	40.6163	46.5995	30.7718	4.30958	0.549998	95
194	49	8.5338	10.2072	14.8496	12.3996	14.9237	43.0925	50.2584	32.8361	4.49026	0.593718	97
195	49	10.4703	11.2192	17.3653	14.3701	16.8844	49.6957	57.5761	38.3409	5.12264	0.768598	100
196	49	6.3207	12.9060	18.2039	16.3405	18.4530	48.0449	56.6614	39.7171	5.30332	0.768598	103
197	50	3.8309	8.1830	11.4953	10.4292	11.7865	29.8861	37.4523	27.3313	4.30958	0.506278	92
198	50	6.5973	8.5204	11.0760	10.0351	11.0022	30.7115	38.3670	28.0194	3.67720	0.484418	92
199	50	6.3207	10.5445	15.6882	14.3701	16.4923	43.0925	54.8320	41.0933	5.75502	0.812318	100
200	50	6.8740	10.8819	14.4303	13.1878	15.3158	41.4417	52.0878	38.3409	5.57434	0.790458	100
201	51	8.8104	9.8698	12.7531	11.2174	12.9629	36.4893	47.5142	35.5885	4.49026	0.593718	98
202	51	8.5338	10.2072	13.5917	12.3996	14.5315	38.1401	49.3437	36.9647	4.67094	0.703018	100
203	51	5.7674	10.2072	13.5917	12.0056	14.1394	42.2671	56.6614	43.1576	5.21298	0.724878	100
204	51	6.3207	9.8698	12.7531	11.2174	13.3551	39.7909	52.0878	40.4052	5.30332	0.724878	100
205	52	7.4272	9.8698	14.8496	12.0056	14.1394	47.2195	59.4056	41.7814	4.58060	0.615578	103
206	52	8.8104	9.8698	14.4303	11.6115	13.7472	44.7433	55.7467	39.7171	4.49026	0.615578	105
207	52	8.5338	9.8698	14.4303	11.6115	14.1394	43.0925	52.0878	36.2766	4.67094	0.659298	104
208	52	6.5973	10.2072	15.2689	12.3996	14.5315	47.2195	58.4909	39.7171	4.58060	0.637438	102
209	53	7.9805	11.5566	16.1074	13.9760	16.4923	46.3941	56.6614	40.4052	5.66468	0.768598	108
210	53	9.6404	10.8819	16.5267	13.9760	16.4923	47.2195	56.6614	40.4052	5.66468	0.746738	106
211	53	6.8740	11.2192	15.6882	13.9760	16.1001	42.2671	51.1731	36.9647	5.48400	0.768598	106
212	53	8.2572	11.5566	16.9460	14.7642	16.8844	46.3941	55.7467	39.0290	5.57434	0.834178	107
213	54	8.8104	10.8819	17.3653	15.1583	16.8844	44.7433	52.0878	38.3409	5.30332	0.703018	121
214	54	7.1506	10.5445	16.9460	14.3701	16.1001	43.9179	51.1731	36.2766	5.21298	0.681158	114
215	54	8.2572	10.8819	17.7846	15.5524	16.8844	44.7433	51.1731	37.6528	5.12264	0.703018	116
216	54	7.9805	11.2192	17.7846	14.7642	16.4923	46.3941	53.9173	37.6528	5.30332	0.637438	115
217	55	6.3207	11.5566	18.2039	15.5524	17.2766	50.5211	59.4056	41.7814	5.57434	0.746738	108
218	55	9.0871	11.8940	19.0425	15.5524	17.2766	56.2989	69.4675	50.0386	5.84536	0.834178	110
219	55	9.3637	11.8940	18.2039	15.1583	17.2766	50.5211	60.3203	43.1576	5.48400	0.812318	112
220	55	6.0440	11.2192	16.5267	13.5819	14.9237	46.3941	58.4909	43.8457	5.57434	0.703018	108
221	56	7.7039	10.8819	14.8496	13.1878	15.3158	46.3941	62.1497	47.2862	6.02604	0.812318	112
222	56	8.8104	10.2072	14.0110	12.3996	13.7472	43.0925	58.4909	45.9100	5.93570	0.790458	105
223	56	8.2572	10.2072	14.0110	11.6115	13.7472	43.0925	58.4909	44.5338	6.02604	0.703018	106
224	56	8.2572	10.2072	14.4303	12.0056	13.7472	43.0925	56.6614	43.8457	5.57434	0.724878	104
225	57	7.7039	10.5445	14.8496	12.7937	14.1394	35.6639	43.8553	34.2123	5.75502	0.790458	136
226	57	8.2572	9.8698	14.8496	13.1878	14.1394	36.4893	45.6848	34.9004	5.57434	0.790458	133
227	57	6.3207	9.8698	14.0110	12.7937	13.7472	34.0131	42.0259	34.2123	5.57434	0.746738	137
228	57	6.5973	10.2072	14.0110	12.7937	13.3551	34.0131	41.1112	32.8361	5.93570	0.746738	135
229	58	7.9805	9.5324	14.8496	12.7937	14.5315	35.6639	40.1965	27.3313	3.85788	0.549998	112
230	58	6.0440	10.2072	15.2689	13.5819	15.3158	35.6639	39.2817	27.3313	4.39992	0.615578	115
231	58	7.4272	10.8819	16.9460	15.5524	17.2766	43.9179	50.2584	35.5885	5.03230	0.681158	113
232	58	7.4272	10.8819	16.5267	14.7642	16.8844	39.7909	43.8553	31.4599	5.57434	0.724878	119
233	59	7.1506	9.5324	14.0110	12.3996	13.7472	37.3147	45.6848	34.9004	5.03230	0.724878	122
234	59	7.4272	10.2072	14.8496	12.7937	14.1394	40.6163	48.4289	36.2766	5.66468	0.746738	122
235	59	6.8740	9.5324	14.4303	13.1878	13.7472	37.3147	46.5995	35.5885	5.30332	0.724878	124
236	59	6.0440	9.8698	14.4303	12.7937	13.7472	37.3147	46.5995	36.2766	5.30332	0.746738	122
237	60	6.5973	11.2192	16.1074	14.3701	15.7080	42.2671	54.8320	41.7814	5.03230	0.790458	114
238	60	4.9375	10.2072	15.6882	13.1878	14.5315	42.2671	54.8320	43.1576	5.48400	0.746738	113
239	60	9.0871	10.8819	16.5267	14.3701	15.7080	43.0925	56.6614	43.8457	5.84536	0.768598	116
240	60	7.4272	9.8698	14.8496	12.3996	13.3551	40.6163	54.8320	43.1576	5.57434	0.703018	114
241	61	10.1936	12.2313	15.6882	12.3996	16.4923	55.4735	66.7233	43.8457	5.66468	0.703018	105
242	61	10.7469	11.5566	15.6882	12.3996	16.8844	57.1243	67.6381	43.1576	5.48400	0.724878	103
243	61	10.4703	12.2313	15.6882	12.7937	16.8844	59.6005	72.2117	47.2862	6.11638	0.790458	103
244	61	10.4703	12.2313	16.1074	13.1878	17.2766	59.6005	71.2969	46.5981	6.29706	0.768598	103

TABLE 8: Radiometrically calibrated ATM field site means from CRYM386

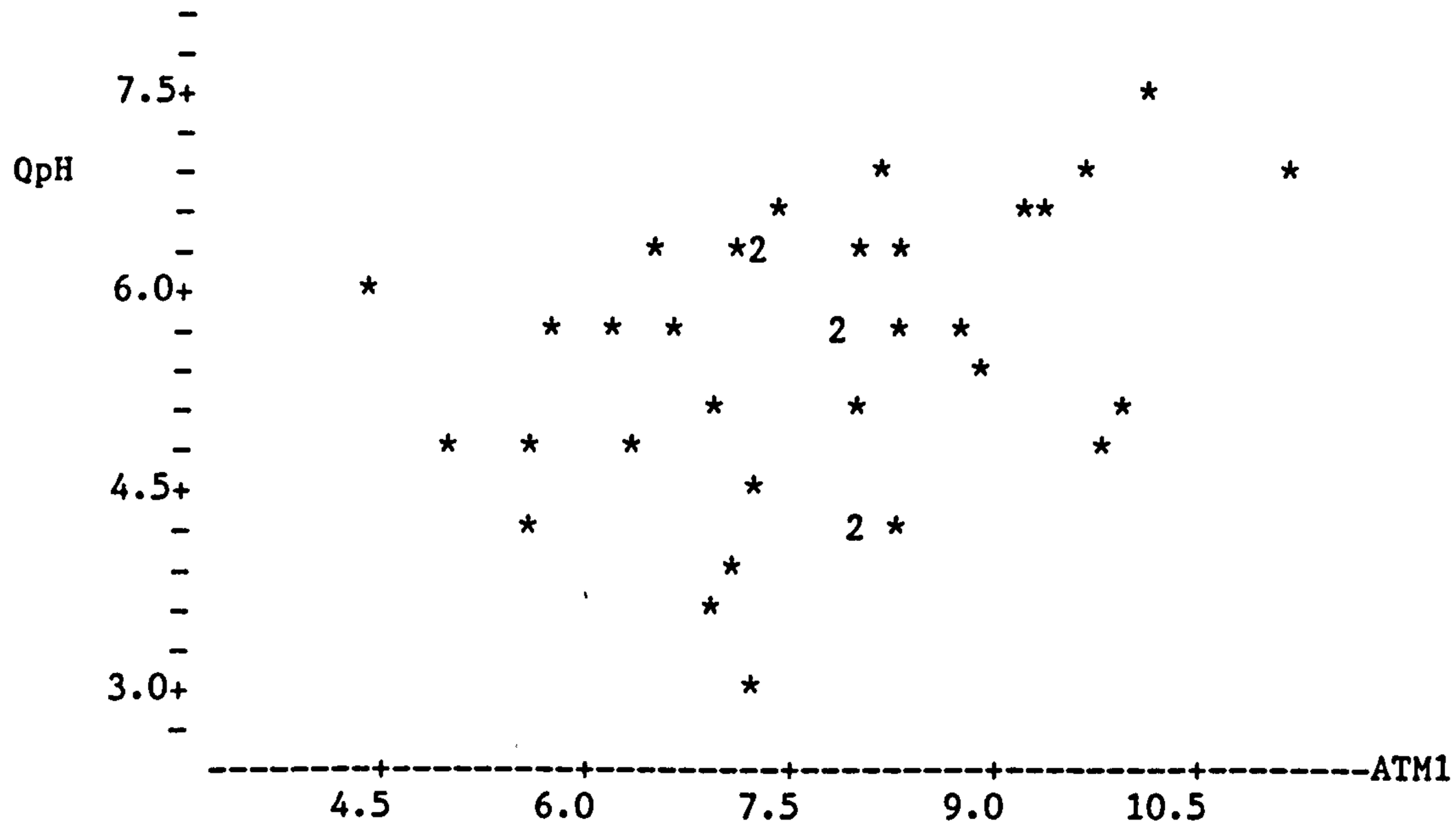
SITE	MR1	MR2	MR3	MR4	MR5	MR6	MR7	MR8	MR9	MR10	MDN11
1	6.8740	9.5324	13.6965	11.8085	12.7668	37.1083	48.2003	38.1689	5.14522	0.62651	125.50
2	7.2198	10.3758	15.8978	14.1731	16.0021	38.7591	43.3980	30.4278	4.71611	0.64290	114.75
3	5.5599	8.3517	10.8663	10.6262	11.2963	20.8067	23.7315	17.6979	2.61570	0.39698	131.00
4	7.0123	10.5445	15.3737	14.8627	16.0021	36.4893	44.7701	35.0725	5.19039	0.81232	122.75
5	6.1824	9.1951	13.6965	12.2026	13.0609	32.1559	41.3399	33.0082	4.80645	0.65383	118.25
6	4.3842	8.6047	11.6001	10.9218	11.5904	22.4575	26.7043	20.9664	4.06114	0.58279	116.25
7	7.0123	8.9421	14.0110	11.7100	13.1590	41.6480	53.2312	40.5773	5.59692	0.69755	109.00
8	5.6982	8.4360	11.9145	12.1041	13.9433	27.2035	31.0493	22.5146	3.90305	0.63744	110.50
9	11.0927	14.4242	22.0823	18.1140	21.4922	62.6957	71.0683	46.4261	6.22930	0.88883	112.50
10	9.5712	12.4843	19.2521	16.0450	19.4334	56.2989	63.2931	42.4695	6.18413	0.91069	115.25
11	7.9114	11.1349	17.1557	13.9760	17.0805	52.7909	60.5490	40.9213	5.93570	0.80139	127.50
12	10.1245	14.0025	19.1473	16.6361	20.8059	55.6798	62.8358	41.0933	6.34223	0.91615	114.75
13	7.9114	10.2915	13.1724	12.3011	14.7276	34.6321	36.5376	23.7188	4.67094	0.67023	123.50
14	8.8796	10.2915	13.1724	12.0056	14.1394	31.5369	32.8787	21.4825	4.53543	0.68662	124.00
15	9.7095	11.9783	17.4701	15.3553	18.0609	44.5369	47.7429	31.1159	5.19039	0.73034	108.75
16	7.2198	10.3758	13.9062	13.2864	15.3158	31.3305	32.8787	22.3426	4.78386	0.74674	124.00
17	6.3898	8.8577	11.8097	11.0203	12.9629	30.9178	33.7934	22.5146	4.06114	0.57732	117.75
18	7.2198	10.1228	14.4303	12.8923	13.8452	35.0448	43.1693	34.0403	5.70985	0.76860	135.25
19	6.8740	9.7855	14.4303	12.7937	13.8452	38.1401	46.8282	35.7606	5.32590	0.73581	122.50
20	7.1506	11.0506	15.3737	13.9760	16.1001	35.0448	38.5957	26.8153	5.16781	0.79592	124.25
21	7.7730	10.5445	14.8496	13.0893	15.5119	36.4893	40.4251	27.8474	5.16781	0.76313	123.25
22	7.9805	10.6289	14.2206	13.6804	17.0805	38.3464	39.7391	24.9230	5.14523	0.77406	118.00
23	8.1880	10.8819	14.5351	13.2864	16.0021	37.1083	40.1965	26.4712	5.12264	0.73034	121.50
24	8.2572	11.3036	15.5833	13.6804	16.6883	43.0925	47.5142	31.2879	5.30332	0.73034	114.75
25	8.2572	11.6409	16.9460	14.5671	17.3746	45.9814	50.2584	33.6963	5.73243	0.83418	123.50
26	8.6721	12.4843	17.4701	14.9612	17.6687	48.2512	55.0607	36.2766	5.39366	0.78499	115.25
27	9.0871	12.4000	17.3653	15.0598	17.9628	48.8703	55.7467	36.7927	5.28074	0.75220	115.00
28	9.9170	12.4843	17.9942	14.3701	18.0609	61.6640	71.7543	46.7702	6.09379	0.83418	102.25
29	8.0497	10.7132	15.5833	12.9908	16.0021	48.8703	55.0607	35.9326	5.23557	0.70848	112.50
30	7.9114	10.5445	16.2123	13.0893	15.9040	48.8703	55.0607	35.9326	4.76128	0.63744	106.25
31	7.7730	10.6289	15.4785	12.8923	15.8060	45.5687	50.0297	32.1480	4.55801	0.62104	111.75
32	9.2946	11.7253	16.9460	13.7790	16.8844	51.9655	59.6343	38.8570	5.07747	0.70848	104.00
33	6.2515	11.1349	15.5833	13.6804	14.4335	37.5210	48.2003	38.5130	5.48400	0.70848	122.25
34	7.3581	10.2072	15.3737	12.8923	14.0413	42.0607	55.7467	42.6416	5.32590	0.66476	97.00
35	6.6665	11.1349	17.8894	16.5376	17.4726	40.8226	50.4871	40.0612	5.55175	0.76313	109.25
36	4.9375	9.7011	13.9062	13.6804	14.4335	27.4099	34.9368	30.0837	4.60318	0.71395	124.00
37	5.5599	9.2794	12.5435	13.6804	15.0217	26.7908	32.4213	28.0194	4.98713	0.84511	117.00
38	8.4646	12.6530	17.9942	17.1287	19.9236	38.3464	38.3670	23.7188	4.21924	0.73034	101.75
39	8.1188	10.7975	14.6399	12.2026	14.1394	33.8067	34.4795	22.3426	4.39992	0.60465	108.00
40	7.8422	12.1470	16.8412	14.3701	16.6883	35.0448	35.1655	21.8265	4.15148	0.68116	110.50
41	10.8852	13.3277	19.1473	16.2420	19.6295	48.4576	50.7157	31.8040	5.46141	0.82325	117.50
42	9.5712	13.9181	18.7280	15.1583	18.6491	45.5687	44.5414	25.9551	4.71611	0.69209	115.25
43	10.6778	15.6049	22.7113	19.2962	23.3549	56.7116	58.2622	35.0725	6.31964	0.91069	117.50
44	10.4703	13.8338	18.7280	16.4391	20.3157	50.3147	53.2312	32.4921	6.13896	0.87790	124.25
45	9.2254	12.5687	16.9460	14.7642	18.6491	49.0766	52.5452	33.0082	6.07121	0.81778	117.00
46	9.6404	12.1470	17.8894	14.3701	17.6687	54.2354	60.5490	37.9969	5.10005	0.70848	102.50
47	7.4964	9.7011	12.7531	11.9070	13.4531	32.3623	36.9949	24.7510	3.42876	0.48442	104.25
48	7.2889	10.3758	15.1640	13.1878	15.5119	43.7115	51.1731	34.2123	4.35475	0.59372	106.25
49	8.1880	11.0506	16.2123	13.5819	15.9040	45.3623	52.7739	35.4165	4.80645	0.67023	98.75
50	5.9057	9.5324	13.1724	12.0056	13.6492	36.2829	45.6848	33.6963	4.82903	0.64837	96.00
51	7.3581	10.0385	13.1724	11.7100	13.7472	39.1718	51.4018	39.0290	4.91937	0.68662	99.50
52	7.8422	9.9541	14.7448	11.9070	14.1394	45.5687	56.4327	39.3731	4.58060	0.63197	103.50
53	8.1880	11.3036	16.3171	14.1731	16.4923	45.5687	55.0607	39.2011	5.59692	0.77953	106.75
54	8.0497	10.8819	17.4701	14.9612	16.5903	44.9496	52.0878	37.4808	5.23556	0.68116	116.50
55	7.7039	11.6409	17.9943	14.9612	16.6883	50.9338	61.9211	44.7059	5.61951	0.77406	109.50
56	8.2572	10.3758	14.3255	12.3011	14.1394	43.9179	58.9482	45.3940	5.89053	0.75767	106.75
57	7.2198	10.1228	14.4303	12.8923	13.8452	35.0448	43.1693	34.0403	5.70985	0.76860	135.25
58	7.2198	10.3758	15.8978	14.1731	16.0021	38.7591	43.3980	30.4278	4.71611	0.64290	114.75
59	6.8740	9.7855	14.4303	12.7937	13.8452	38.1401	46.8282	35.7606	5.32590	0.73581	122.50
60	7.0123	10.5445	15.7930	13.5819	14.8256	42.0607	55.2893	42.9856	5.48400	0.75220	114.25
61	10.4703	12.0626	15.7930	12.6952	16.8844	57.9497	69.4675	45.2219	5.89053	0.74674	103.50

APPENDIX 2

CRYMLYN BOG STUDY

RELATING AIRBORNE SCANNER DATA TO FIELD-MEASURED VARIABLES

REGRESSION RESULTS AND SCATTER PLOTS QUADRAT SAMPLES



Correlation of QpH and ATM1 = 0.359

The regression equation is
QpH = 3.57 + 0.255 ATM1

Predictor	Coef	Stdev	t-ratio
Constant	3.5689	0.8681	4.11
ATM1	0.2549	0.1119	2.28

s = 1.001 R-sq = 12.9% R-sq(adj) = 10.4%

Analysis of Variance

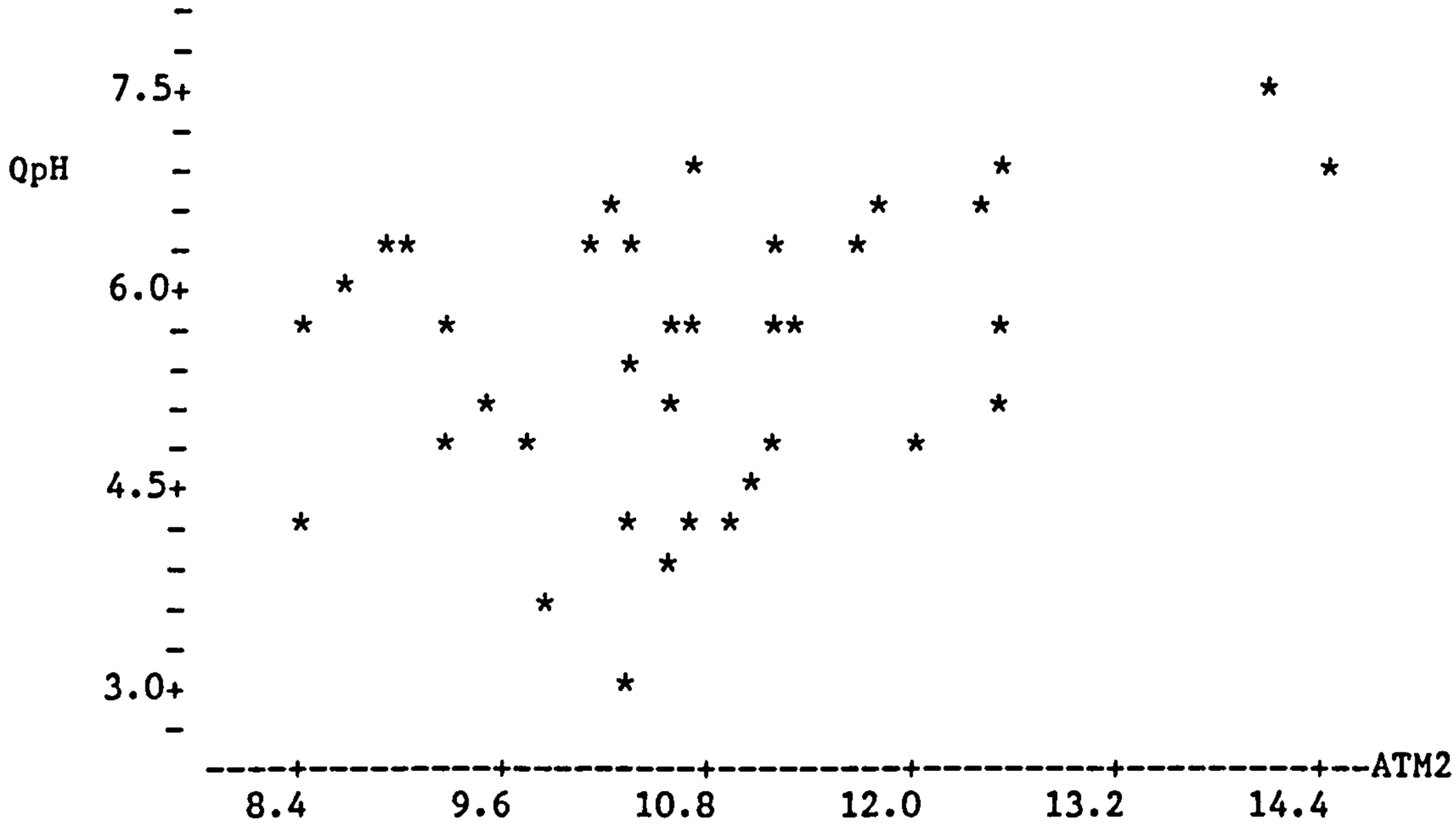
SOURCE	DF	SS	MS
Regression	1	5.200	5.200
Error	35	35.040	1.001
Total	36	40.240	

Unusual Observations

Obs.	ATM1	QpH	Fit	Stdev.Fit	Residual	St.Resid
9	11.1	7.000	6.397	0.422	0.603	0.66 X
16	7.2	3.140	5.409	0.170	-2.269	-2.30R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C113 and C101 = 0.396



Correlation of QpH and ATM2 = 0.377

The regression equation is
QpH = 2.50 + 0.281 ATM2

Predictor	Coef	Stdev	t-ratio
Constant	2.497	1.263	1.98
ATM2	0.2815	0.1170	2.41

s = 0.9932 R-sq = 14.2% R-sq(adj) = 11.7%

Analysis of Variance

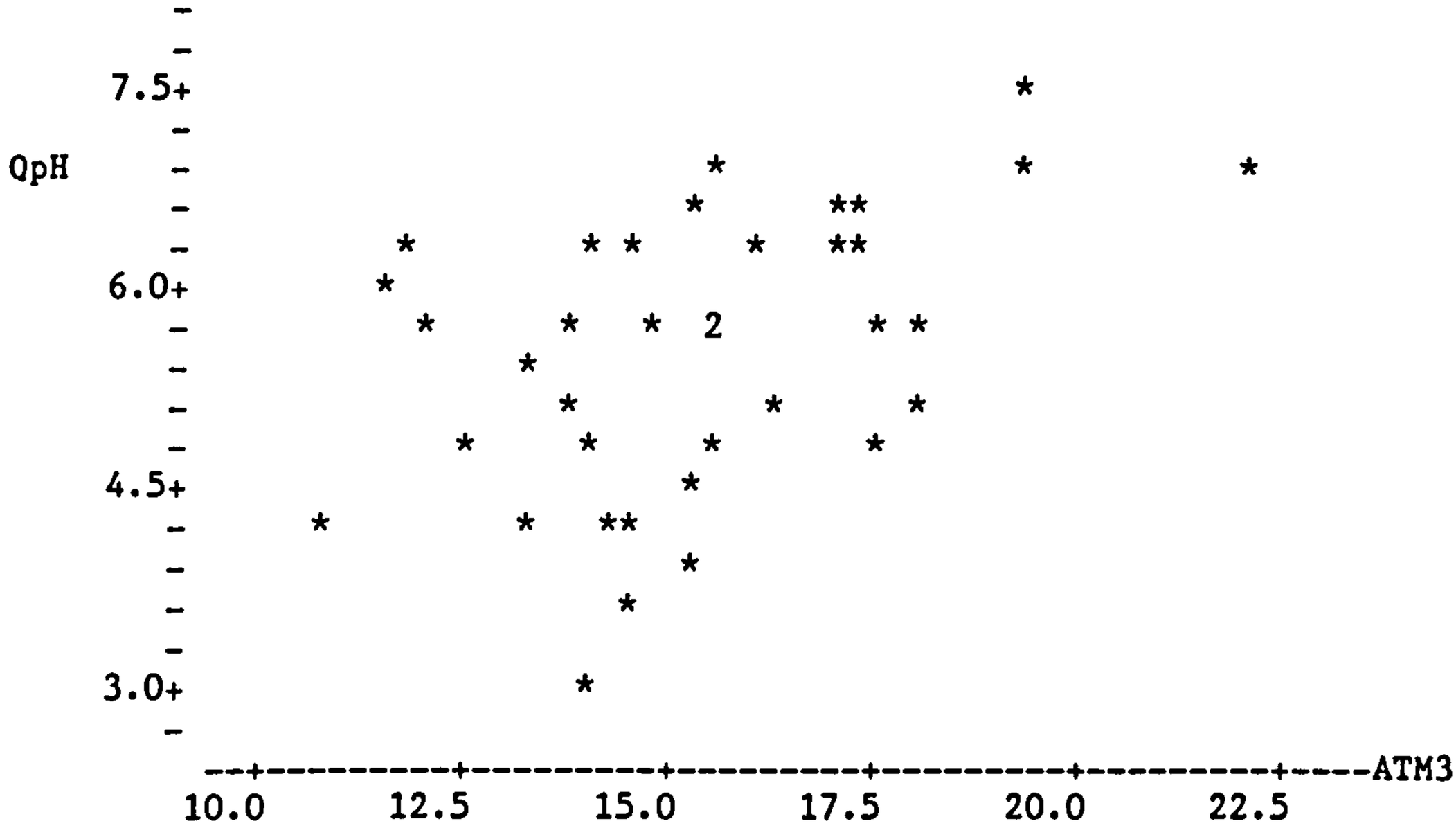
SOURCE	DF	SS	MS
Regression	1	5.7108	5.7108
Error	35	34.5289	0.9865
Total	36	40.2396	

Unusual Observations

Obs.	ATM2	QpH	Fit	Stdev.Fit	Residual	St.Resid
9	14.4	7.000	6.557	0.464	0.443	0.50 X
12	14.0	7.580	6.439	0.419	1.141	1.27 X
16	10.4	3.140	5.418	0.168	-2.278	-2.33R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C113 and C102 = 0.341



Correlation of QpH and ATM3 = 0.470

The regression equation is
QpH = 2.30 + 0.209 ATM3

Predictor	Coef	Stdev	t-ratio
Constant	2.302	1.032	2.23
ATM3	0.20947	0.06658	3.15

s = 0.9467 R-sq = 22.0% R-sq(adj) = 19.8%

Analysis of Variance

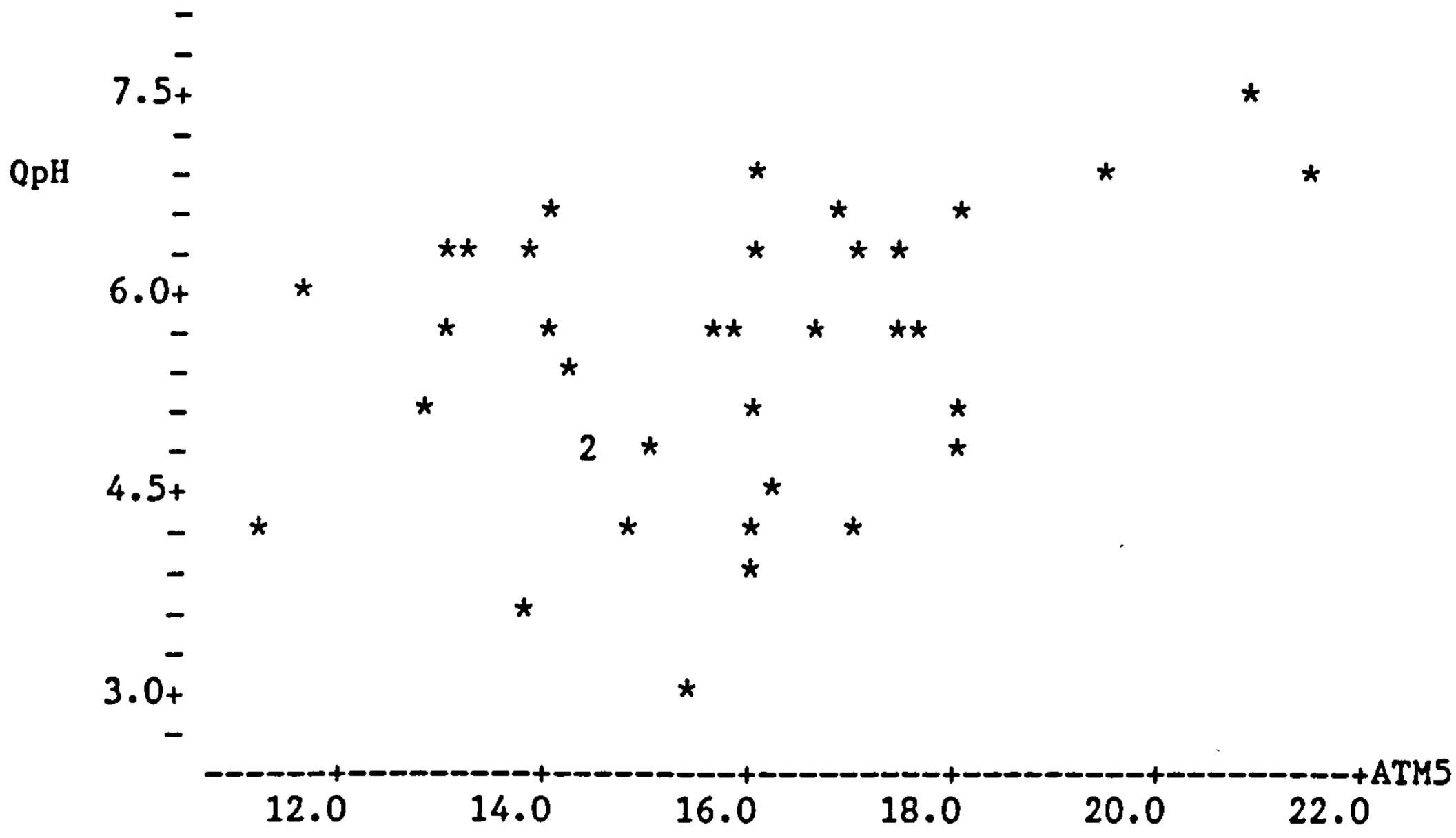
SOURCE	DF	SS	MS
Regression	1	8.8718	8.8718
Error	35	31.3679	0.8962
Total	36	40.2396	

Unusual Observations

Obs.	ATM3	QpH	Fit	Stdev.Fit	Residual	St.Resid
9	22.1	7.000	6.927	0.476	0.073	0.09 X
16	13.9	3.140	5.215	0.182	-2.075	-2.23R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C113 and C103 = 0.475



Correlation of QpH and ATM5 = 0.366

The regression equation is
QpH = 2.88 + 0.168 ATM5

Predictor	Coef	Stdev	t-ratio
Constant	2.876	1.144	2.51
ATM5	0.16756	0.07198	2.33

s = 0.9978 R-sq = 13.4% R-sq(adj) = 10.9%

Analysis of Variance

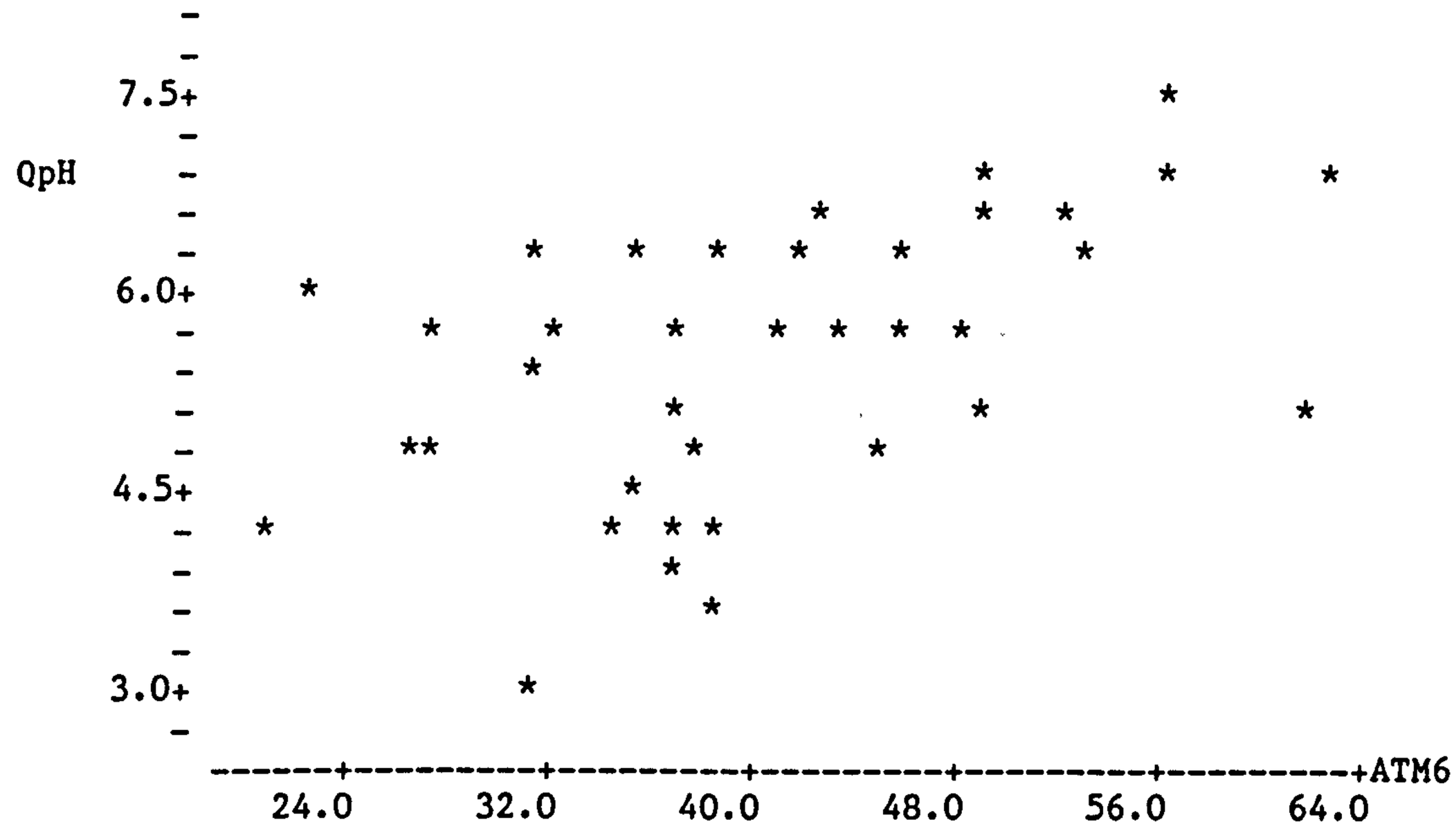
SOURCE	DF	SS	MS
Regression	1	5.3945	5.3945
Error	35	34.8451	0.9956
Total	36	40.2396	

Unusual Observations

Obs.	ATM5	QpH	Fit	Stdev.Fit	Residual	St.Resid
9	21.5	7.000	6.477	0.446	0.523	0.59 X
16	15.3	3.140	5.442	0.167	-2.302	-2.34R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C113 and C105 = 0.317



Correlation of QpH and ATM6 = 0.515

The regression equation is
QpH = 3.37 + 0.0530 ATM6

Predictor	Coef	Stdev	t-ratio
Constant	3.3700	0.6208	5.43
ATM6	0.05300	0.01490	3.56

s = 0.9190 R-sq = 26.5% R-sq(adj) = 24.4%

Analysis of Variance

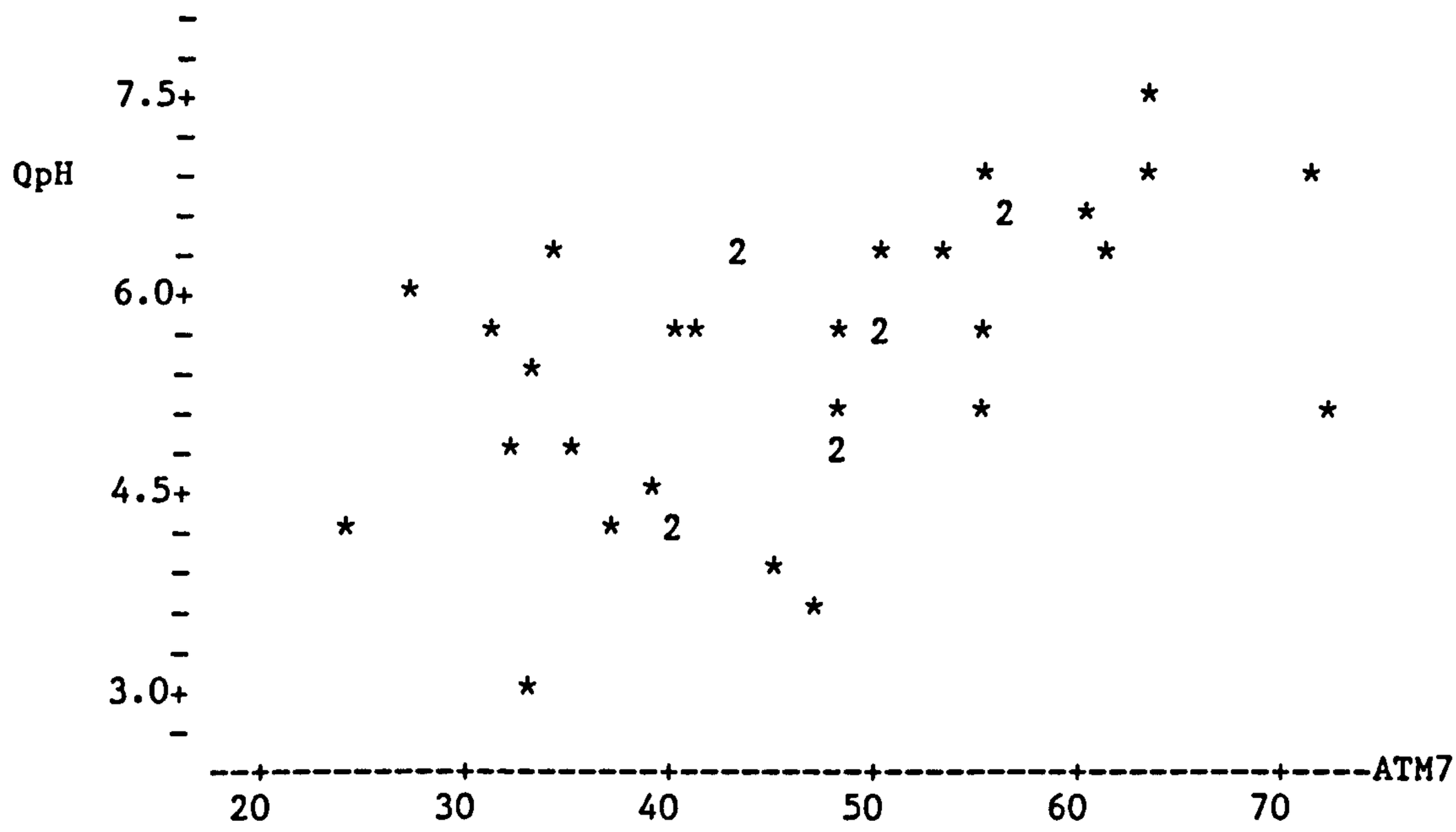
SOURCE	DF	SS	MS
Regression	1	10.680	10.680
Error	35	29.560	0.845
Total	36	40.240	

Unusual Observations

Obs.	ATM6	QpH	Fit	Stdev.Fit	Residual	St.Resid
16	31.3	3.140	5.030	0.203	-1.890	-2.11R
19	38.1	3.510	5.391	0.155	-1.881	-2.08R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C113 and C106 = 0.566



Correlation of QpH and ATM7 = 0.535

The regression equation is
QpH = 3.27 + 0.0481 ATM7

Predictor	Coef	Stdev	t-ratio
Constant	3.2709	0.6156	5.31
ATM7	0.04806	0.01281	3.75

s = 0.9056 R-sq = 28.7% R-sq(adj) = 26.6%

Analysis of Variance

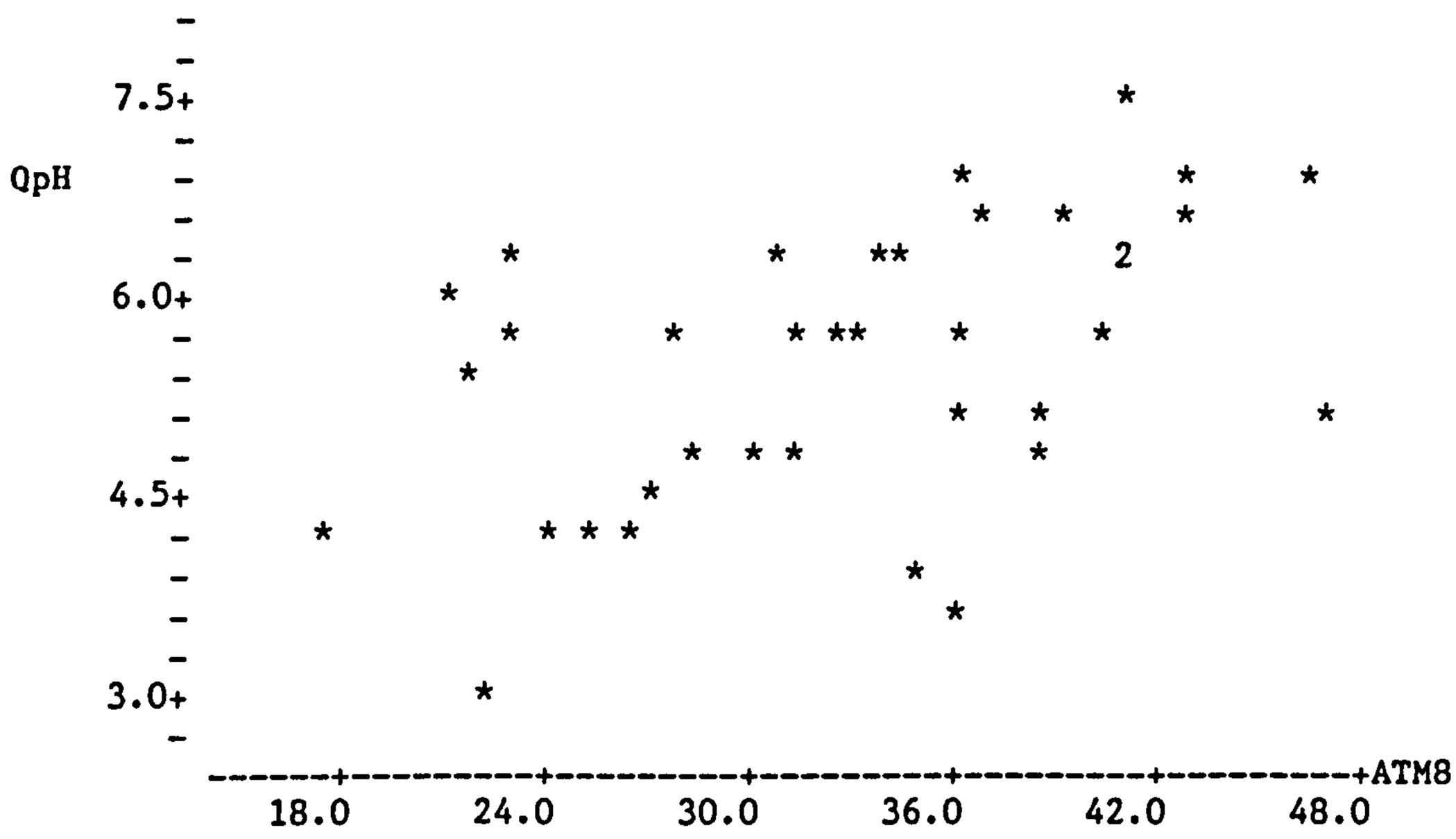
SOURCE	DF	SS	MS
Regression	1	11.536	11.536
Error	35	28.703	0.820
Total	36	40.240	

Unusual Observations

Obs.	ATM7	QpH	Fit	Stdev.Fit	Residual	St.Resid
19	46.8	3.510	5.521	0.149	-2.011	-2.25R
28	71.8	4.980	6.719	0.355	-1.739	-2.09R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C113 and C107 = 0.605



Correlation of QpH and ATM8 = 0.490

The regression equation is
QpH = 3.28 + 0.0680 ATM8

Predictor	Coef	Stdev	t-ratio
Constant	3.2801	0.6888	4.76
ATM8	0.06804	0.02048	3.32

s = 0.9349 R-sq = 24.0% R-sq(adj) = 21.8%

Analysis of Variance

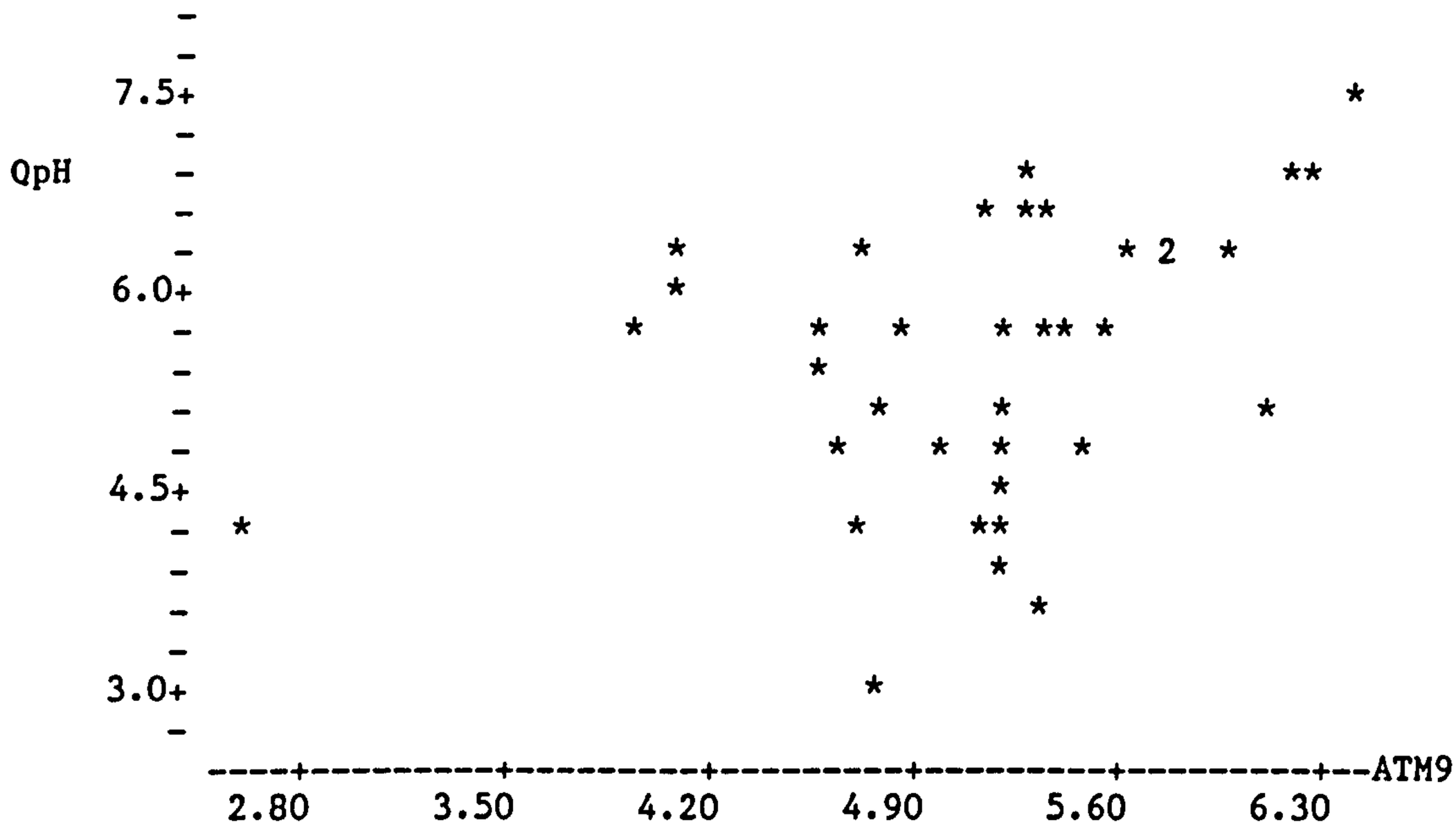
SOURCE	DF	SS	MS
Regression	1	9.6508	9.6508
Error	35	30.5889	0.8740
Total	36	40.2396	

Unusual Observations

Obs.	ATM8	QpH	Fit	Stdev.Fit	Residual	St.Resid
19	35.8	3.510	5.713	0.165	-2.203	-2.39R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C113 and C108 = 0.535



Correlation of QpH and ATM9 = 0.388

The regression equation is
QpH = 2.60 + 0.571 ATM9

Predictor	Coef	Stdev	t-ratio
Constant	2.596	1.181	2.20
ATM9	0.5707	0.2290	2.49

s = 0.9881 R-sq = 15.1% R-sq(adj) = 12.6%

Analysis of Variance

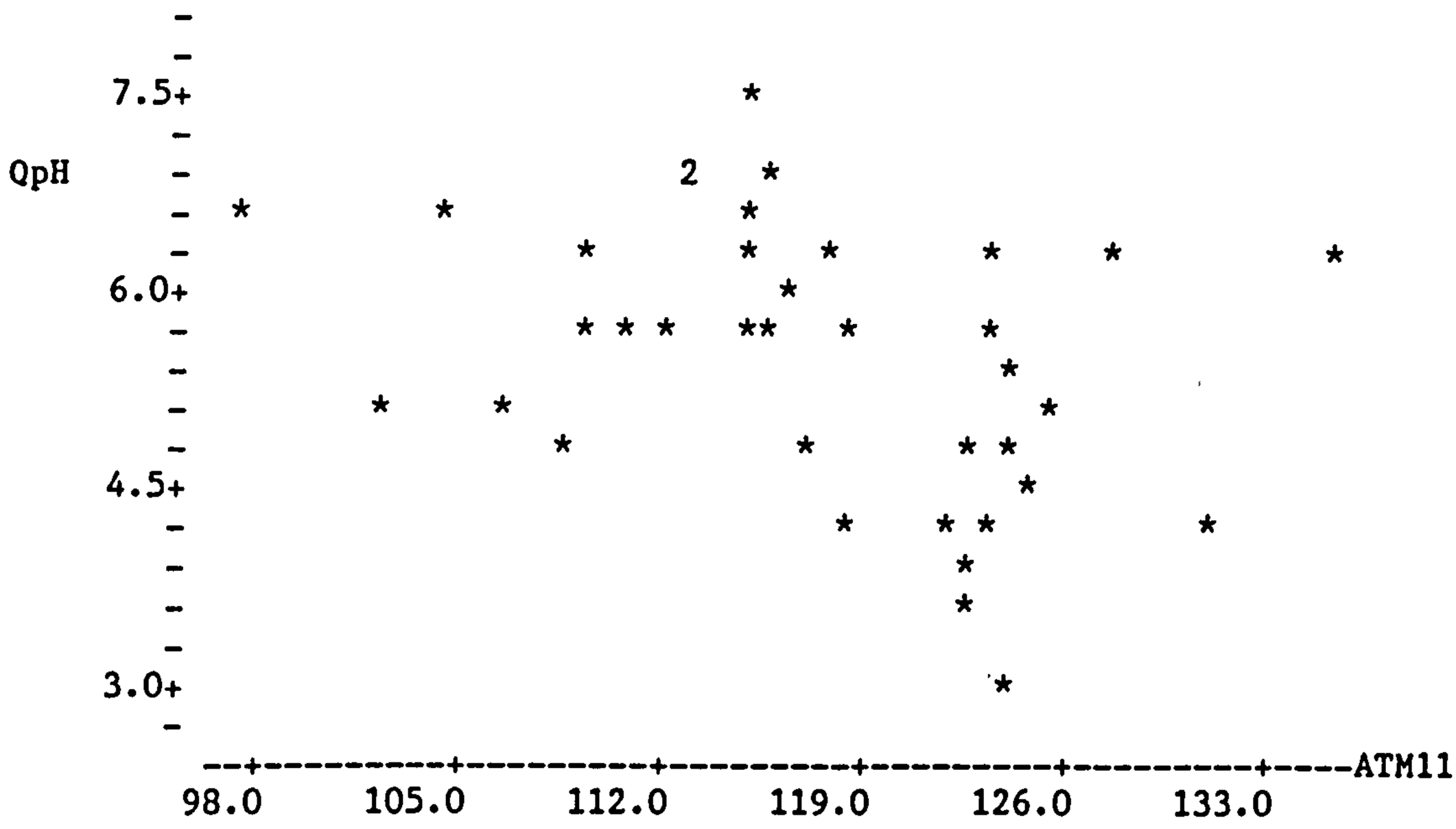
SOURCE	DF	SS	MS
Regression	1	6.0664	6.0664
Error	35	34.1732	0.9764
Total	36	40.2396	

Unusual Observations

Obs.	ATM9	QpH	Fit	Stdev.Fit	Residual	St.Resid
3	2.62	4.130	4.089	0.593	0.041	0.05 X
16	4.78	3.140	5.326	0.179	-2.186	-2.25R
19	5.33	3.510	5.636	0.170	-2.126	-2.18R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C113 and C109 = 0.429



Correlation of QpH and ATM11 = -0.362

The regression equation is
QpH = 11.0 - 0.0471 ATM11

Predictor	Coef	Stdev	t-ratio
Constant	11.035	2.407	4.58
ATM11	-0.04714	0.02049	-2.30

s = 0.9994 R-sq = 13.1% R-sq(adj) = 10.7%

Analysis of Variance

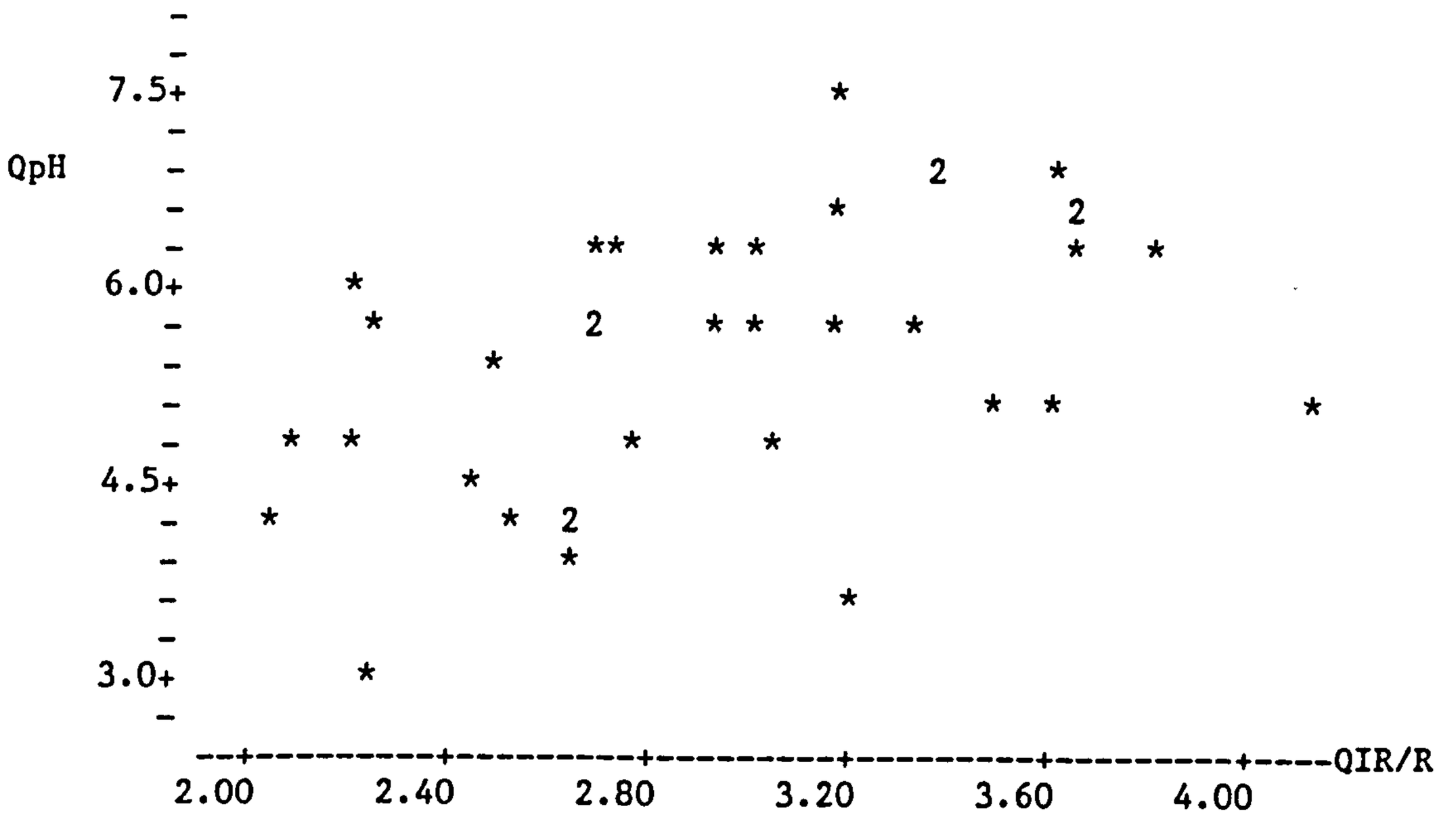
SOURCE	DF	SS	MS
Regression	1	5.2848	5.2848
Error	35	34.9549	0.9987
Total	36	40.2396	

Unusual Observations

Obs.	ATM11	QpH	Fit	Stdev.Fit	Residual	St.Resid
16	124	3.140	5.190	0.216	-2.050	-2.10R
18	135	6.340	4.659	0.405	1.681	1.84 X
34	97	6.700	6.462	0.445	0.238	0.27 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C113 and C111 = -0.397



Correlation of QpH and QIR/R = 0.479

The regression equation is
QpH = 2.73 + 0.944 QIR/R

Predictor	Coef	Stdev	t-ratio
Constant	2.7282	0.8768	3.11
QIR/R	0.9445	0.2929	3.22

s = 0.9415 R-sq = 22.9% R-sq(adj) = 20.7%

Analysis of Variance

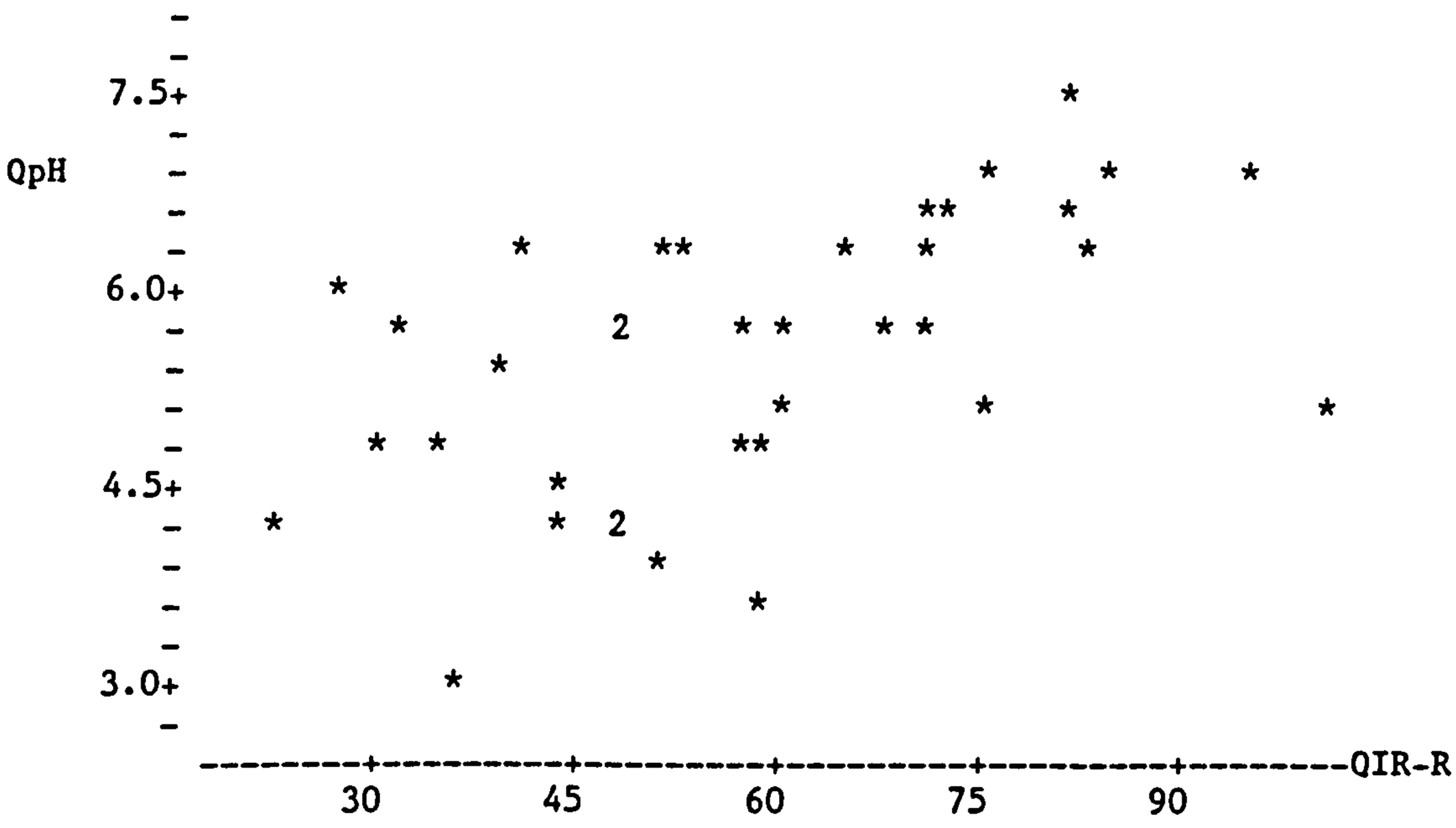
SOURCE	DF	SS	MS
Regression	1	9.2177	9.2177
Error	35	31.0220	0.8863
Total	36	40.2396	

Unusual Observations

Obs.	QIR/R	QpH	Fit	Stdev.Fit	Residual	St.Resid
12	3.17	7.580	5.718	0.167	1.862	2.01R
19	3.19	3.510	5.741	0.170	-2.231	-2.41R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C113 and C146 = 0.545



Correlation of QpH and QIR-R = 0.536

The regression equation is
QpH = 3.80 + 0.0296 QIR-R

Predictor	Coef	Stdev	t-ratio
Constant	3.8032	0.4785	7.95
QIR-R	0.029600	0.007881	3.76

s = 0.9052 R-sq = 28.7% R-sq(adj) = 26.7%

Analysis of Variance

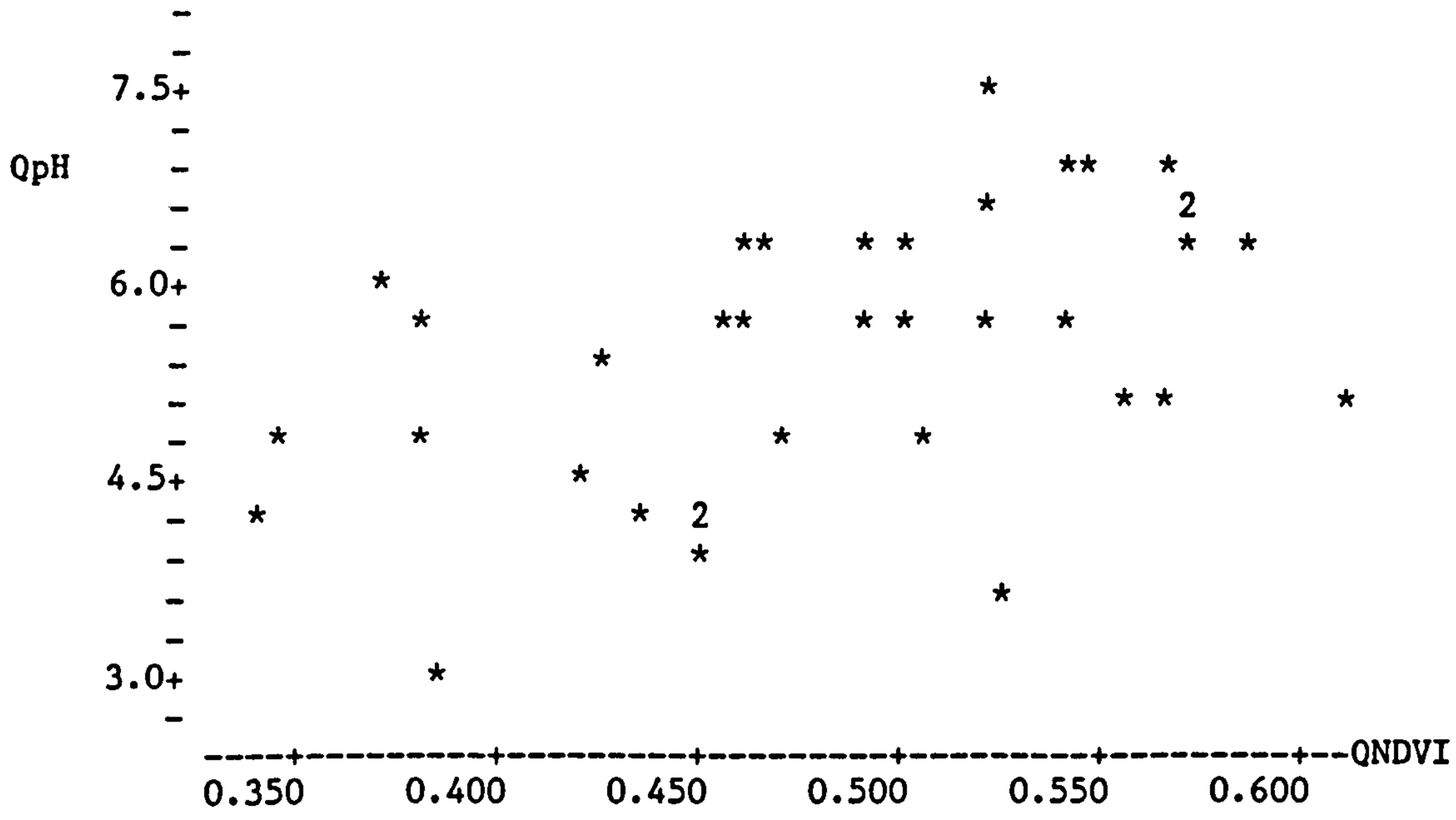
SOURCE	DF	SS	MS
Regression	1	11.560	11.560
Error	35	28.679	0.819
Total	36	40.240	

Unusual Observations

Obs.	QIR-R	QpH	Fit	Stdev.Fit	Residual	St.Resid
19	58	3.510	5.530	0.149	-2.020	-2.26R
28	101	4.980	6.792	0.372	-1.812	-2.20RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C113 and C147 = 0.606



Correlation of QpH and QNDVI = 0.495

The regression equation is
QpH = 1.95 + 7.37 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	1.945	1.071	1.82
QNDVI	7.369	2.189	3.37

s = 0.9320 R-sq = 24.5% R-sq(adj) = 22.3%

Analysis of Variance

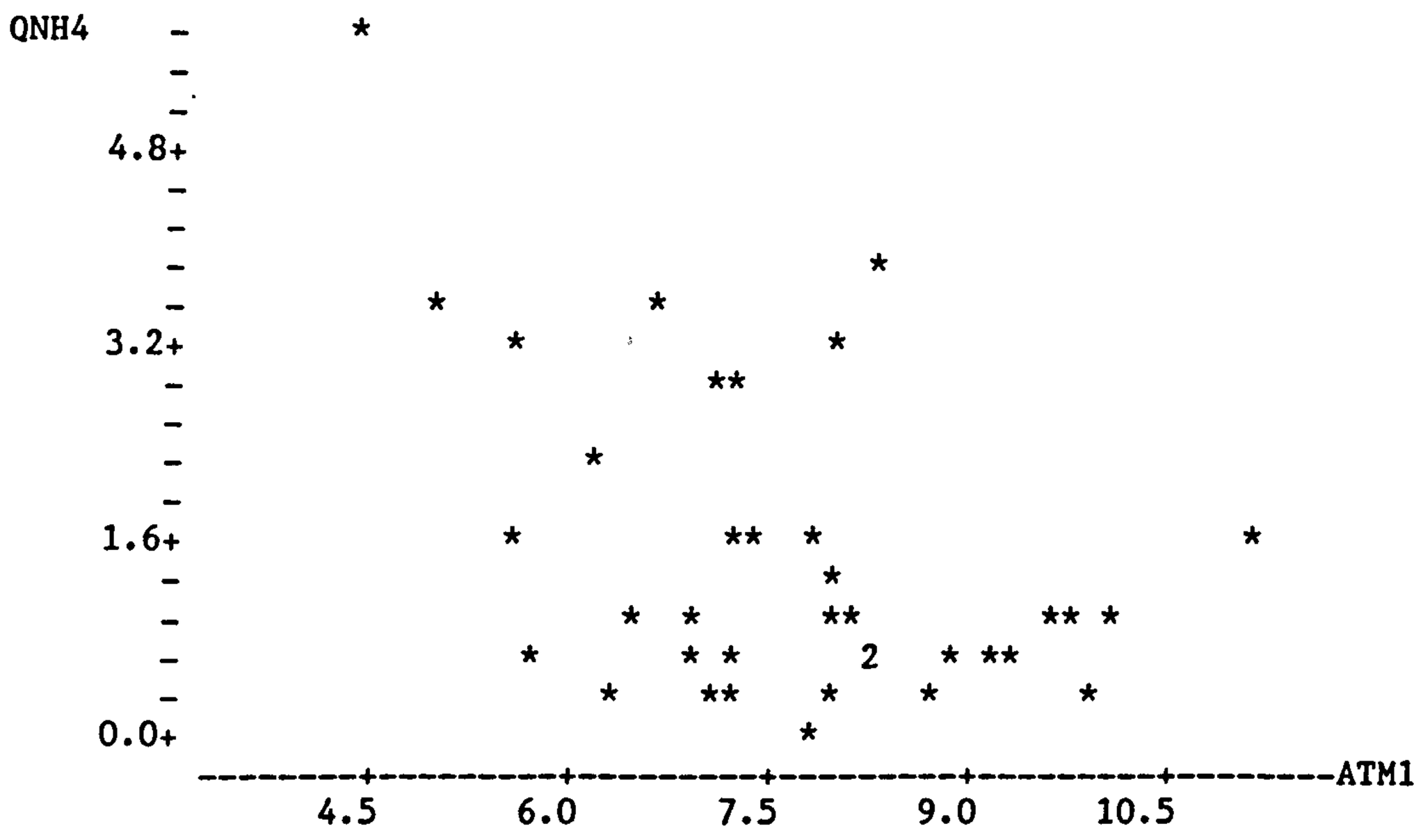
SOURCE	DF	SS	MS
Regression	1	9.8406	9.8406
Error	35	30.3990	0.8685
Total	36	40.2396	

Unusual Observations

Obs.	QNDVI	QpH	Fit	Stdev.Fit	Residual	St.Resid
19	0.523	3.510	5.796	0.175	-2.286	-2.50R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C113 and C148 = 0.545



Correlation of QNH4 and ATM1 = -0.477

The regression equation is
QNH4 = 4.56 - 0.407 ATM1

Predictor	Coef	Stdev	t-ratio
Constant	4.5571	0.9843	4.63
ATM1	-0.4070	0.1268	-3.21

s = 1.135 R-sq = 22.7% R-sq(adj) = 20.5%

Analysis of Variance

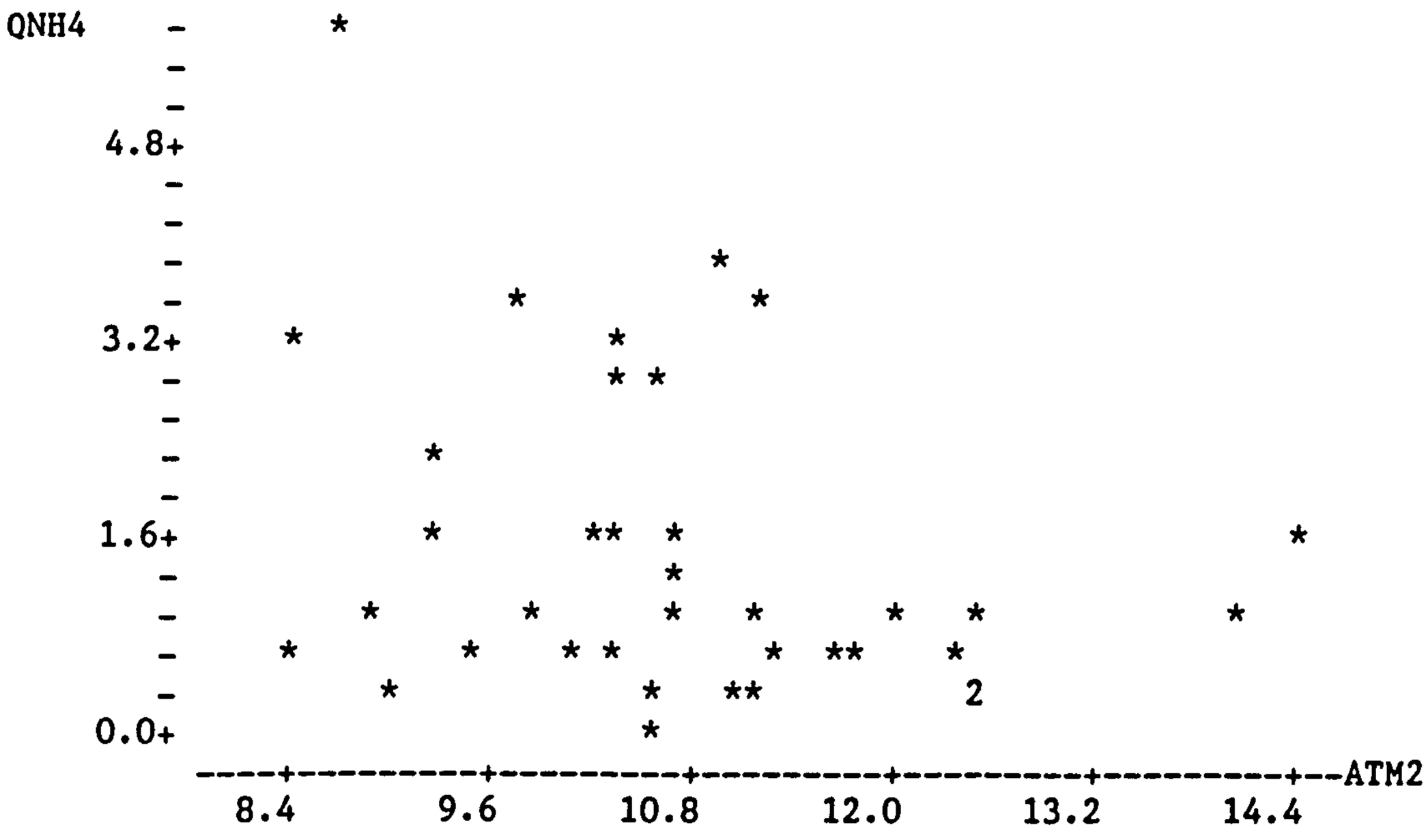
SOURCE	DF	SS	MS
Regression	1	13.256	13.256
Error	35	45.049	1.287
Total	36	58.305	

Unusual Observations

Obs.	ATM1	QNH4	Fit	Stdev.Fit	Residual	St.Resid
6	4.4	5.640	2.773	0.451	2.867	2.75R
9	11.1	1.440	0.042	0.478	1.398	1.36 X
23	8.2	3.760	1.224	0.200	2.536	2.27R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C114 and C101 = -0.334



Correlation of QNH4 and ATM2 = -0.332

The regression equation is
QNH4 = 4.65 - 0.299 ATM2

Predictor	Coef	Stdev	t-ratio
Constant	4.654	1.549	3.01
ATM2	-0.2987	0.1434	-2.08

s = 1.217 R-sq = 11.0% R-sq(adj) = 8.5%

Analysis of Variance

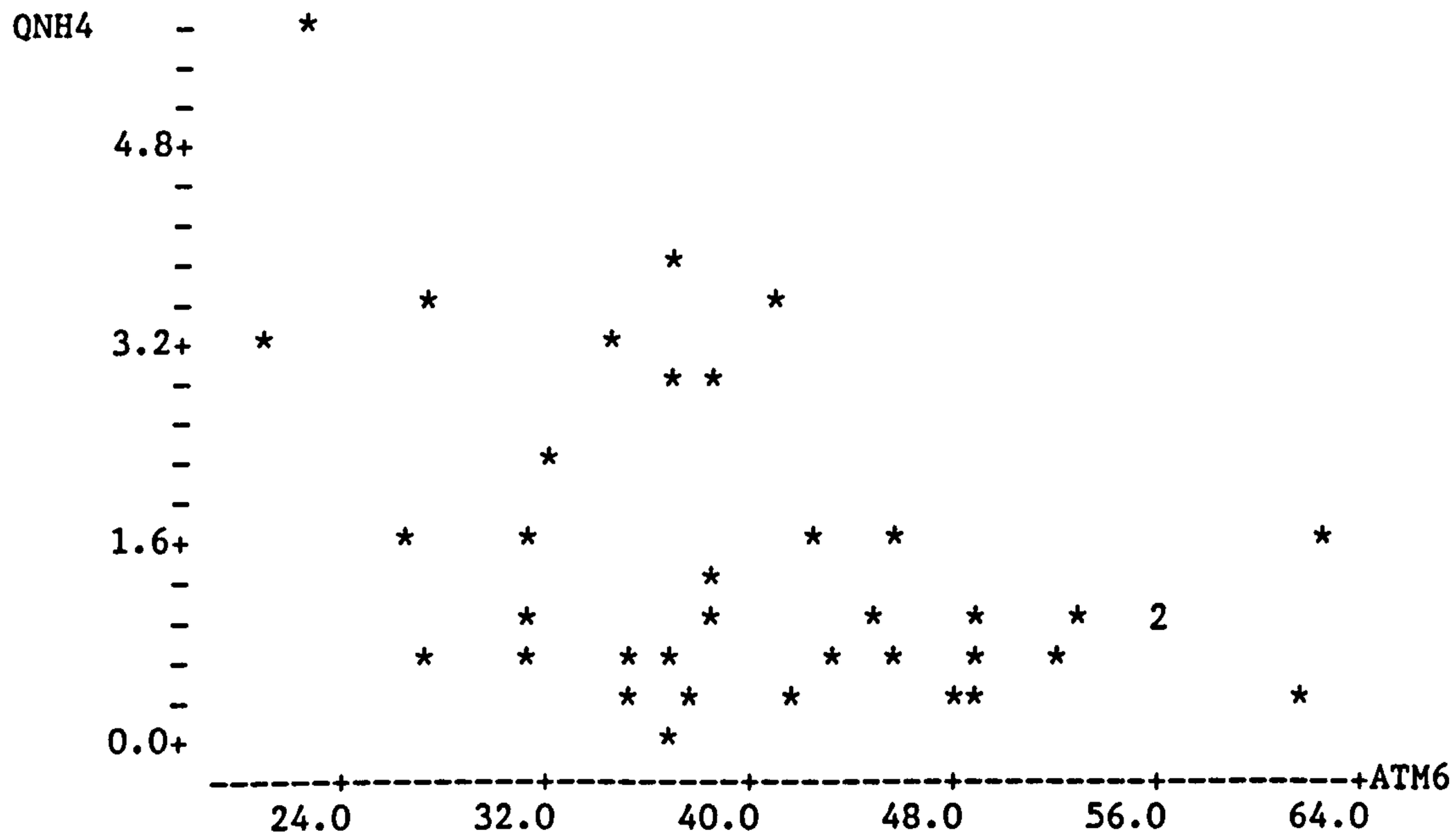
SOURCE	DF	SS	MS
Regression	1	6.431	6.431
Error	35	51.874	1.482
Total	36	58.305	

Unusual Observations

Obs.	ATM2	QNH4	Fit	Stdev.Fit	Residual	St.Resid
6	8.6	5.640	2.084	0.362	3.556	3.06R
9	14.4	1.440	0.346	0.569	1.094	1.02 X
12	14.0	0.960	0.472	0.513	0.488	0.44 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C114 and C102 = -0.309



Correlation of QNH4 and ATM6 = -0.472

The regression equation is
QNH4 = 3.82 - 0.0584 ATM6

Predictor	Coef	Stdev	t-ratio
Constant	3.8161	0.7688	4.96
ATM6	-0.05842	0.01846	-3.17

s = 1.138 R-sq = 22.3% R-sq(adj) = 20.0%

Analysis of Variance

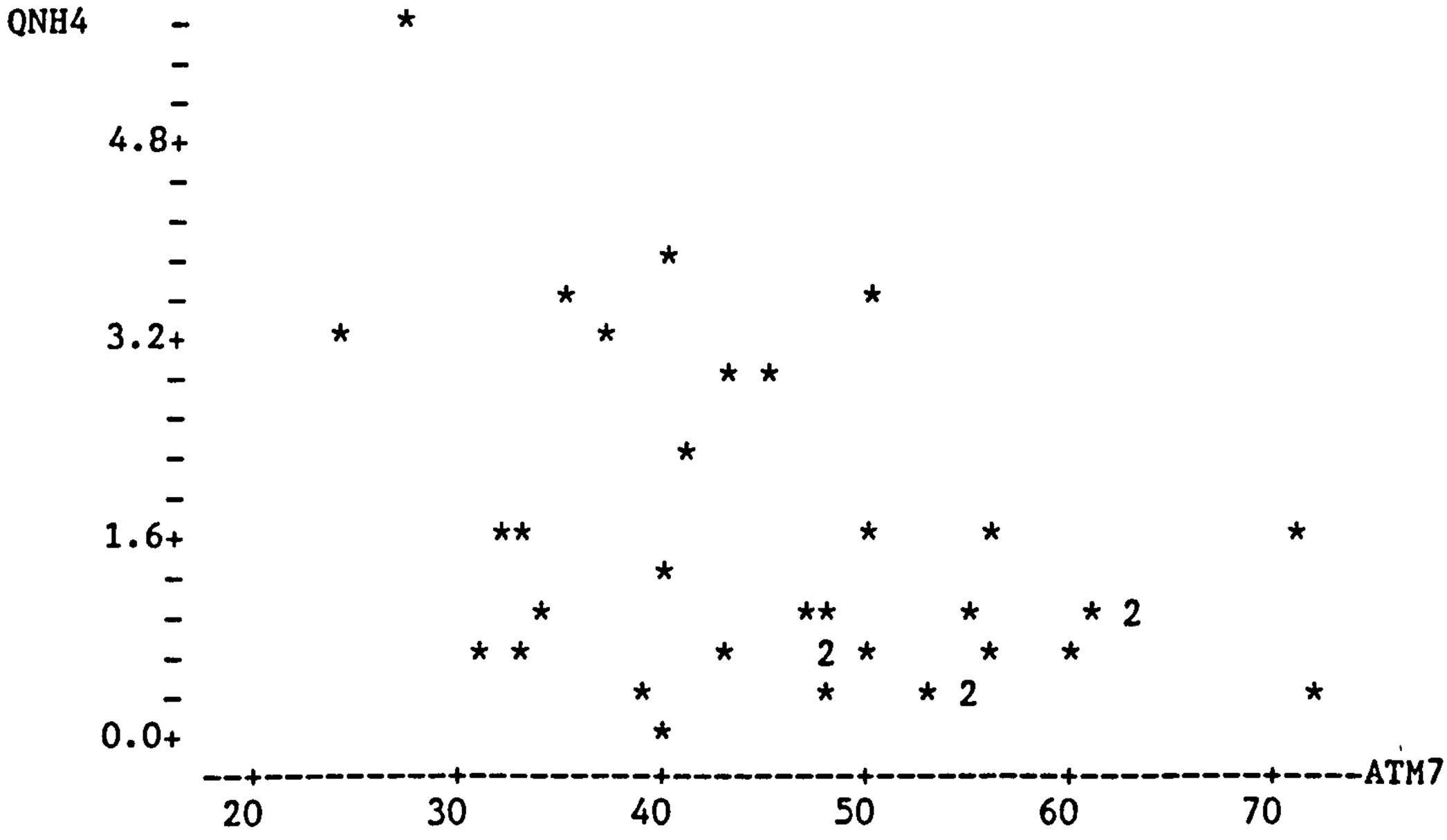
SOURCE	DF	SS	MS
Regression	1	12.977	12.977
Error	35	45.328	1.295
Total	36	58.305	

Unusual Observations

Obs.	ATM6	QNH4	Fit	Stdev.Fit	Residual	St.Resid
6	22.5	5.640	2.504	0.380	3.136	2.92R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C114 and C106 = -0.361



Correlation of QNH4 and ATM7 = -0.458

The regression equation is
QNH4 = 3.76 - 0.0494 ATM7

Predictor	Coef	Stdev	t-ratio
Constant	3.7606	0.7802	4.82
ATM7	-0.04944	0.01624	-3.04

s = 1.148 R-sq = 20.9% R-sq(adj) = 18.7%

Analysis of Variance

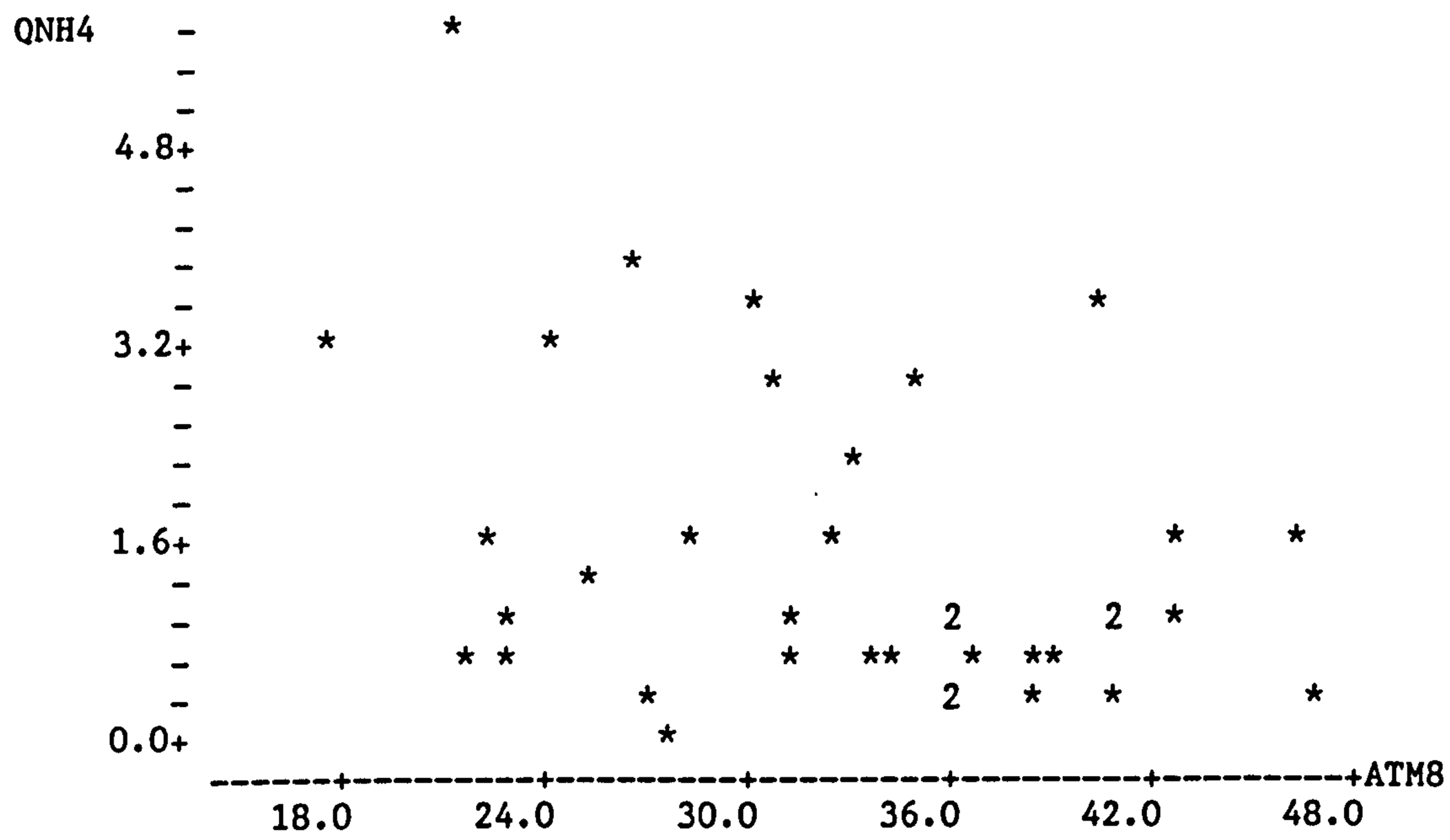
SOURCE	DF	SS	MS
Regression	1	12.209	12.209
Error	35	46.095	1.317
Total	36	58.305	

Unusual Observations

Obs.	ATM7	QNH4	Fit	Stdev.Fit	Residual	St.Resid
6	26.7	5.640	2.440	0.374	3.200	2.95R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C114 and C107 = -0.373



Correlation of QNH4 and ATM8 = -0.378

The regression equation is
QNH4 = 3.53 - 0.0632 ATM8

Predictor	Coef	Stdev	t-ratio
Constant	3.5283	0.8805	4.01
ATM8	-0.06320	0.02617	-2.41

s = 1.195 R-sq = 14.3% R-sq(adj) = 11.8%

Analysis of Variance

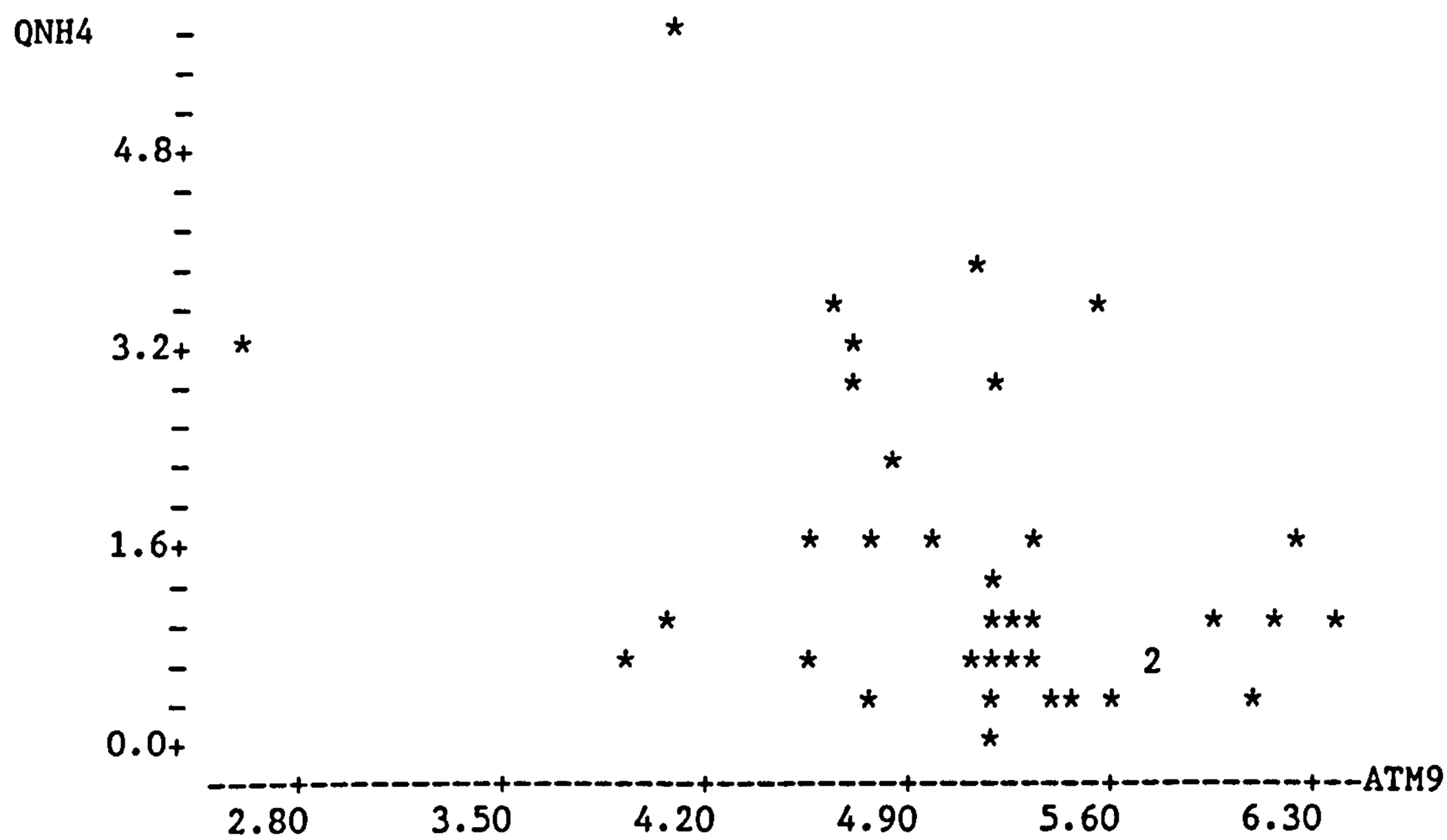
SOURCE	DF	SS	MS
Regression	1	8.327	8.327
Error	35	49.978	1.428
Total	36	58.305	

Unusual Observations

Obs.	ATM8	QNH4	Fit	Stdev.Fit	Residual	St.Resid
6	21.0	5.640	2.203	0.367	3.437	3.02R
35	40.1	3.500	0.996	0.273	2.504	2.15R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C114 and C108 = -0.344



Correlation of QNH4 and ATM9 = -0.435

The regression equation is
QNH4 = 5.38 - 0.769 ATM9

Predictor	Coef	Stdev	t-ratio
Constant	5.383	1.389	3.88
ATM9	-0.7690	0.2693	-2.86

s = 1.162 R-sq = 18.9% R-sq(adj) = 16.6%

Analysis of Variance

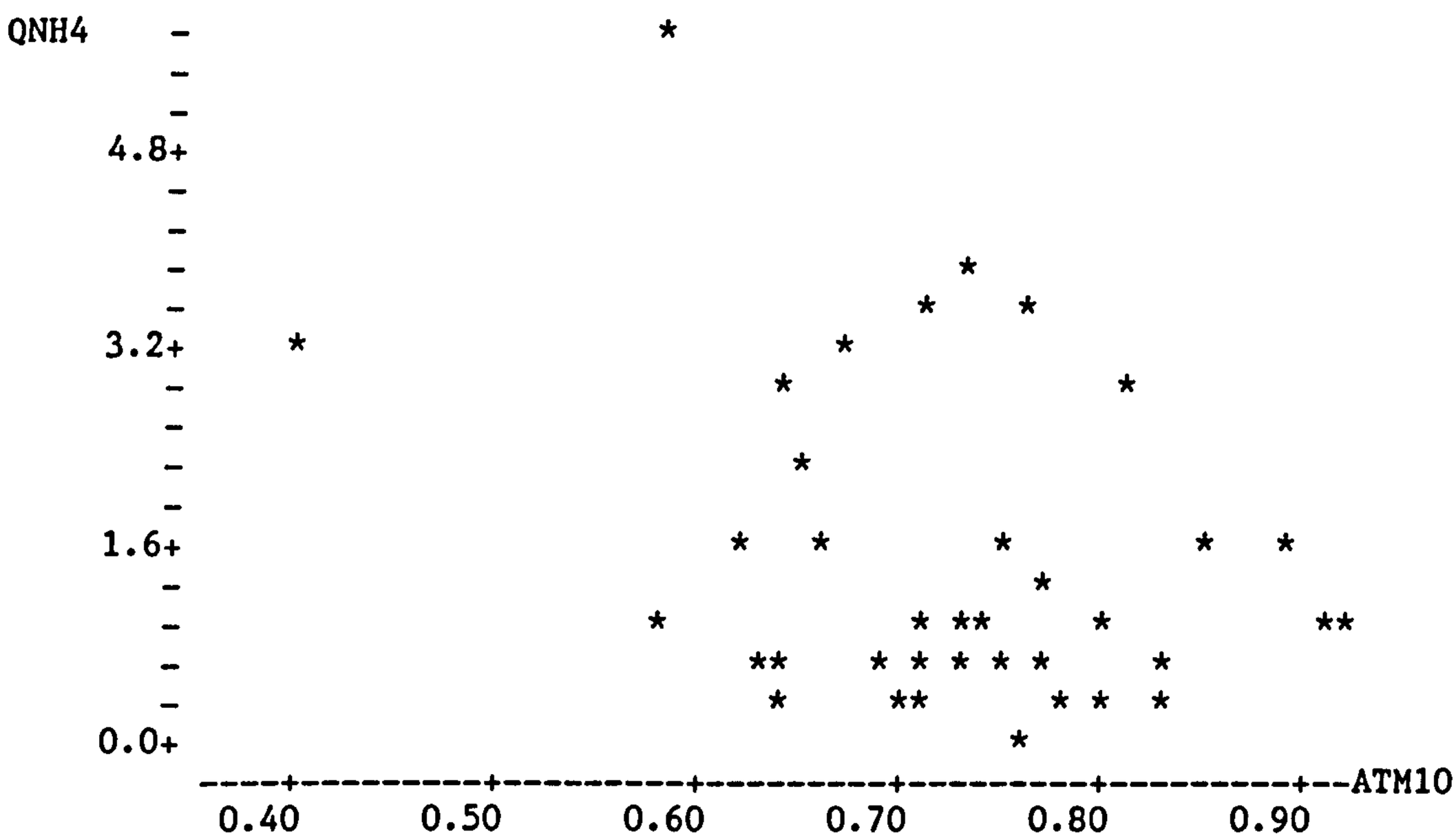
SOURCE	DF	SS	MS
Regression	1	11.014	11.014
Error	35	47.291	1.351
Total	36	58.305	

Unusual Observations

Obs.	ATM9	QNH4	Fit	Stdev.Fit	Residual	St.Resid
3	2.62	3.210	3.372	0.698	-0.162	-0.17 X
6	4.06	5.640	2.261	0.341	3.379	3.04R
23	5.12	3.760	1.444	0.191	2.316	2.02R
35	5.55	3.500	1.114	0.225	2.386	2.09R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C114 and C109 = -0.394



Correlation of QNH4 and ATM10 = -0.352

The regression equation is
QNH4 = 4.64 - 4.39 ATM10

Predictor	Coef	Stdev	t-ratio
Constant	4.641	1.448	3.21
ATM10	-4.390	1.976	-2.22

s = 1.208 R-sq = 12.4% R-sq(adj) = 9.9%

Analysis of Variance

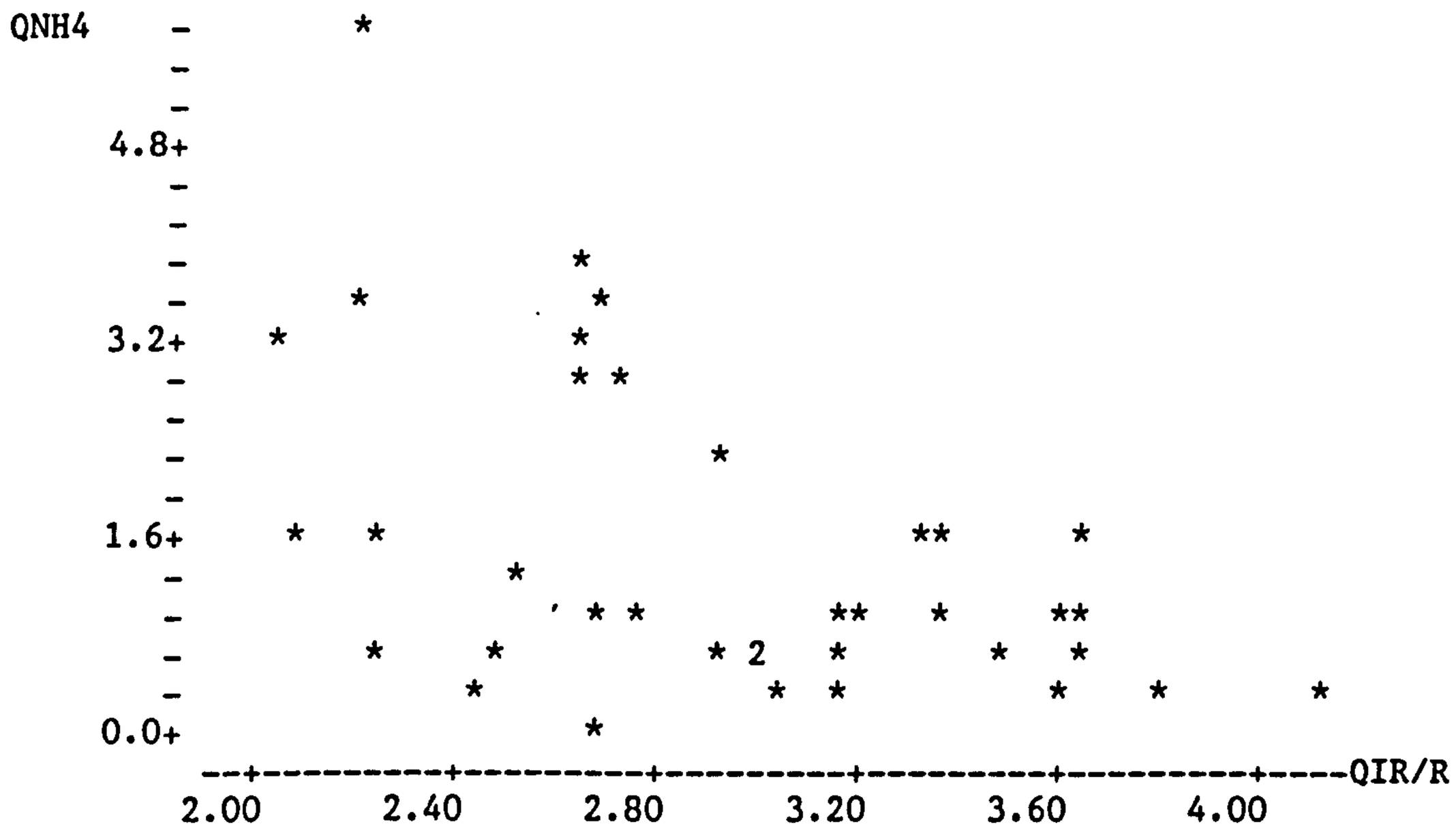
SOURCE	DF	SS	MS
Regression	1	7.204	7.204
Error	35	51.101	1.460
Total	36	58.305	

Unusual Observations

Obs.	ATM10	QNH4	Fit	Stdev.Fit	Residual	St.Resid
3	0.397	3.210	2.899	0.679	0.311	0.31 X
6	0.583	5.640	2.083	0.345	3.557	3.07R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C114 and C110 = -0.232



Correlation of QNH4 and QIR/R = -0.514

The regression equation is
QNH4 = 5.05 - 1.22 QIR/R

Predictor	Coef	Stdev	t-ratio
Constant	5.052	1.031	4.90
QIR/R	-1.2205	0.3445	-3.54

s = 1.107 R-sq = 26.4% R-sq(adj) = 24.3%

Analysis of Variance

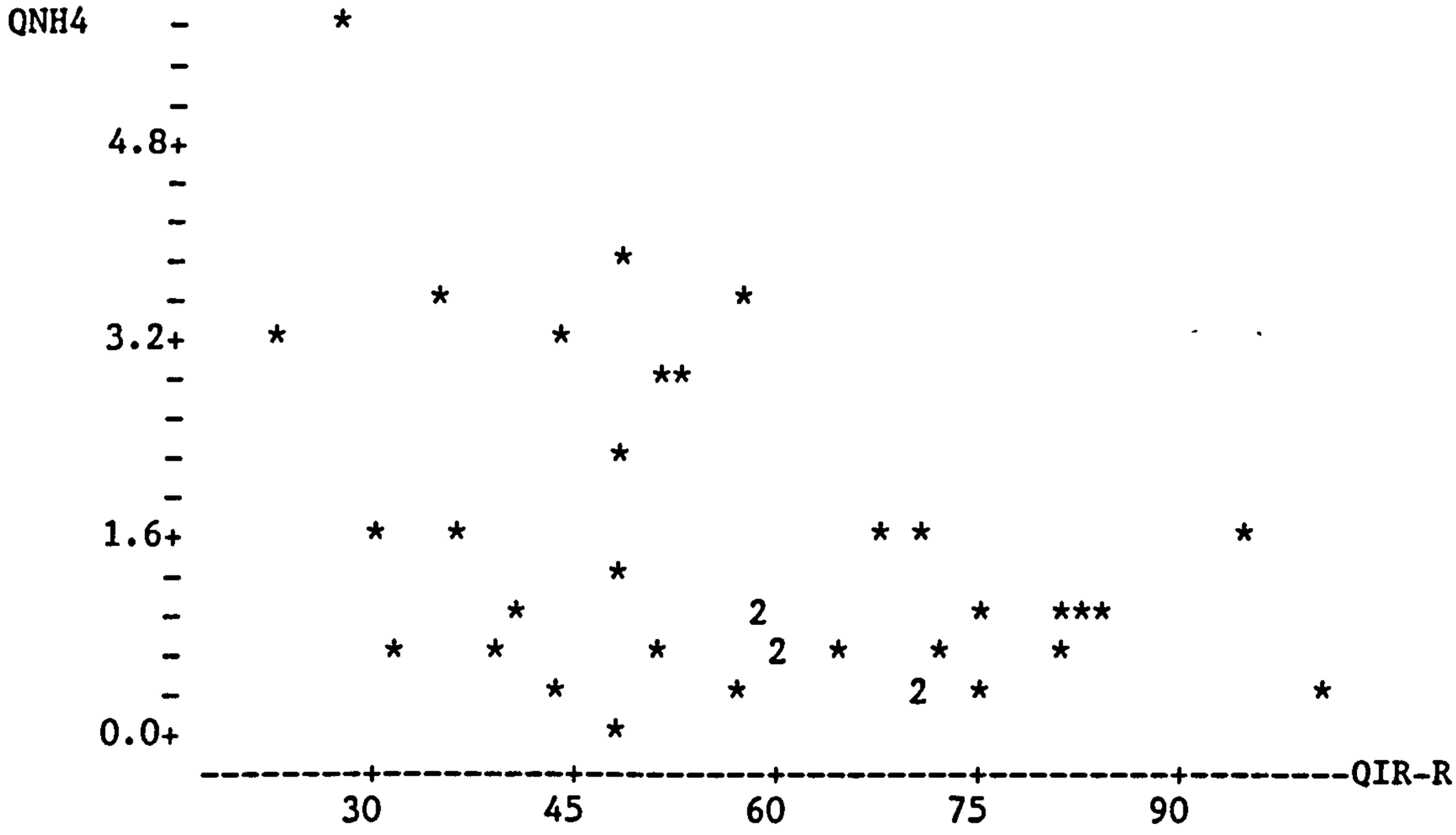
SOURCE	DF	SS	MS
Regression	1	15.393	15.393
Error	35	42.912	1.226
Total	36	58.305	

Unusual Observations

Obs.	QIR/R	QNH4	Fit	Stdev.Fit	Residual	St.Resid
6	2.18	5.640	2.387	0.320	3.253	3.07R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C114 and C146 = -0.466



Correlation of QNH4 and QIR-R = -0.486

The regression equation is
QNH4 = 3.32 - 0.0323 QIR-R

Predictor	Coef	Stdev	t-ratio
Constant	3.3195	0.5963	5.57
QIR-R	-0.032299	0.009821	-3.29

s = 1.128 R-sq = 23.6% R-sq(adj) = 21.4%

Analysis of Variance

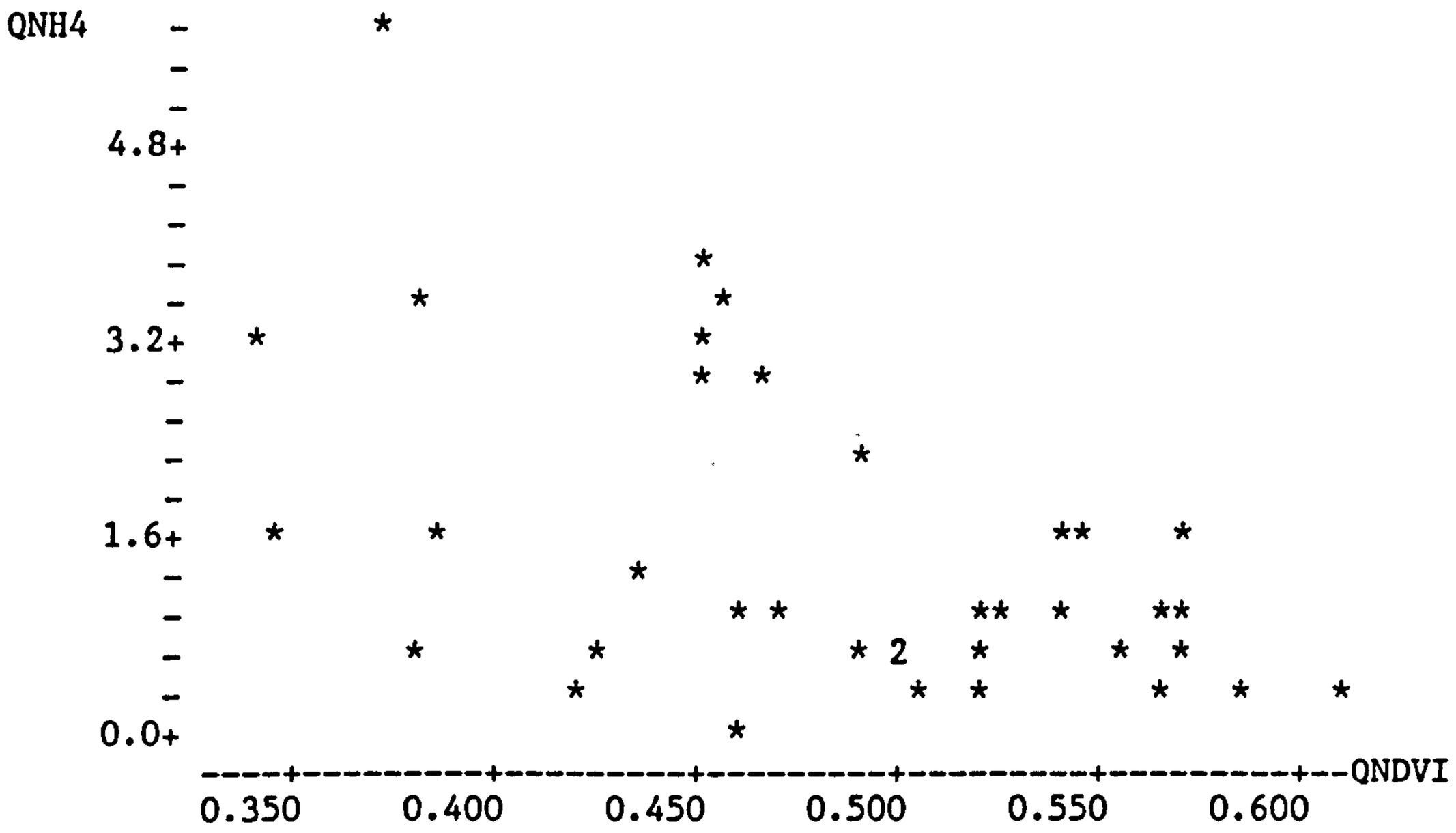
SOURCE	DF	SS	MS
Regression	1	13.764	13.764
Error	35	44.540	1.273
Total	36	58.305	

Unusual Observations

Obs.	QIR-R	QNH4	Fit	Stdev.Fit	Residual	St.Resid
6	27	5.640	2.459	0.357	3.181	2.97R
28	101	0.220	0.058	0.464	0.162	0.16 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C114 and C147 = -0.413



Correlation of QNH4 and QNDVI = -0.524

The regression equation is
QNH4 = 6.01 - 9.40 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	6.006	1.263	4.76
QNDVI	-9.401	2.582	-3.64

s = 1.099 R-sq = 27.5% R-sq(adj) = 25.4%

Analysis of Variance

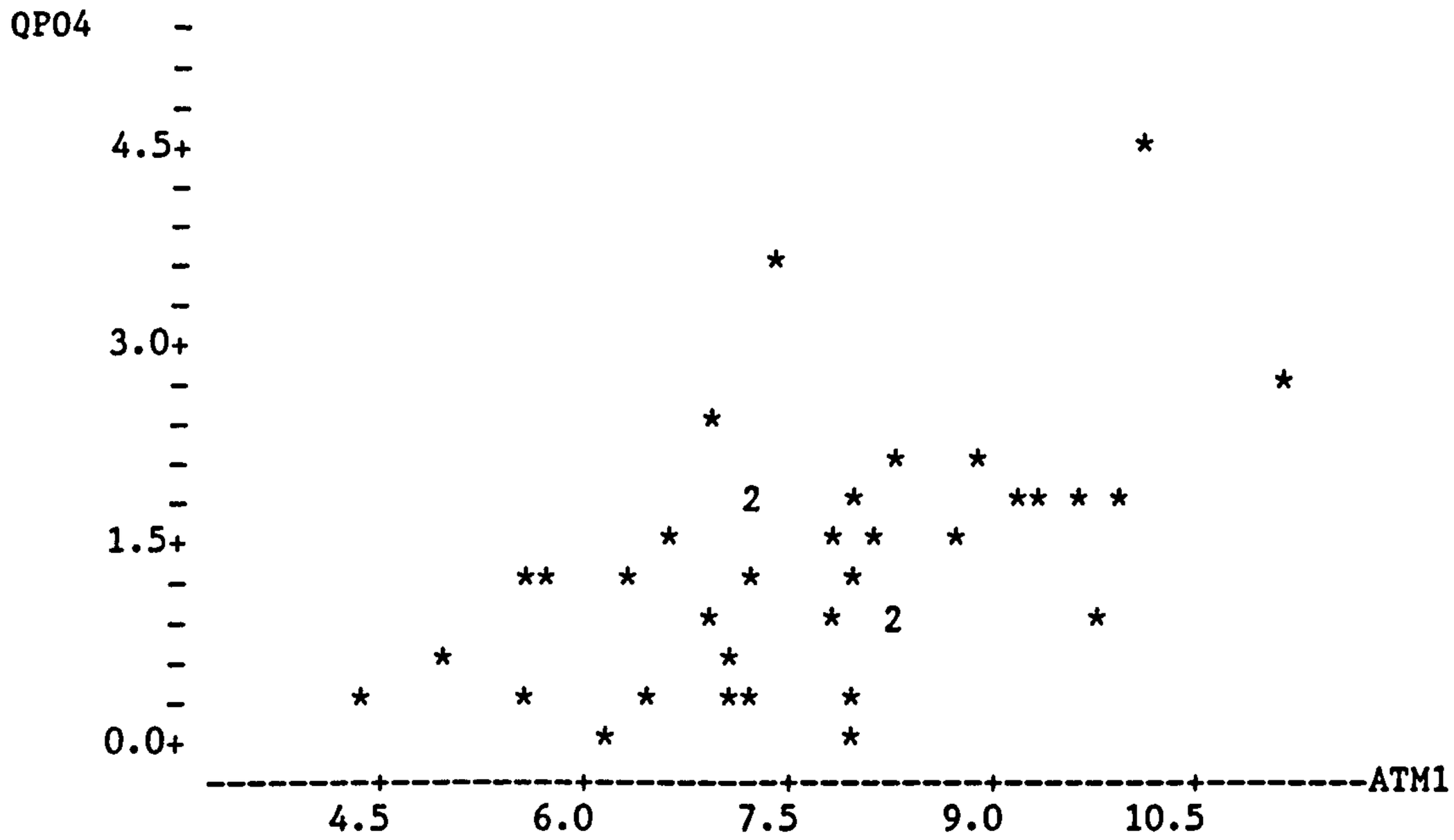
SOURCE	DF	SS	MS
Regression	1	16.017	16.017
Error	35	42.288	1.208
Total	36	58.305	

Unusual Observations

Obs.	QNDVI	QNH4	Fit	Stdev.Fit	Residual	St.Resid
6	0.372	5.640	2.510	0.341	3.130	3.00R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C114 and C148 = -0.466



Correlation of QP04 and ATM1 = 0.503

The regression equation is
QP04 = -1.09 + 0.320 ATM1

Predictor	Coef	Stdev	t-ratio
Constant	-1.0939	0.7212	-1.52
ATM1	0.32034	0.09293	3.45

s = 0.8313 R-sq = 25.3% R-sq(adj) = 23.2%

Analysis of Variance

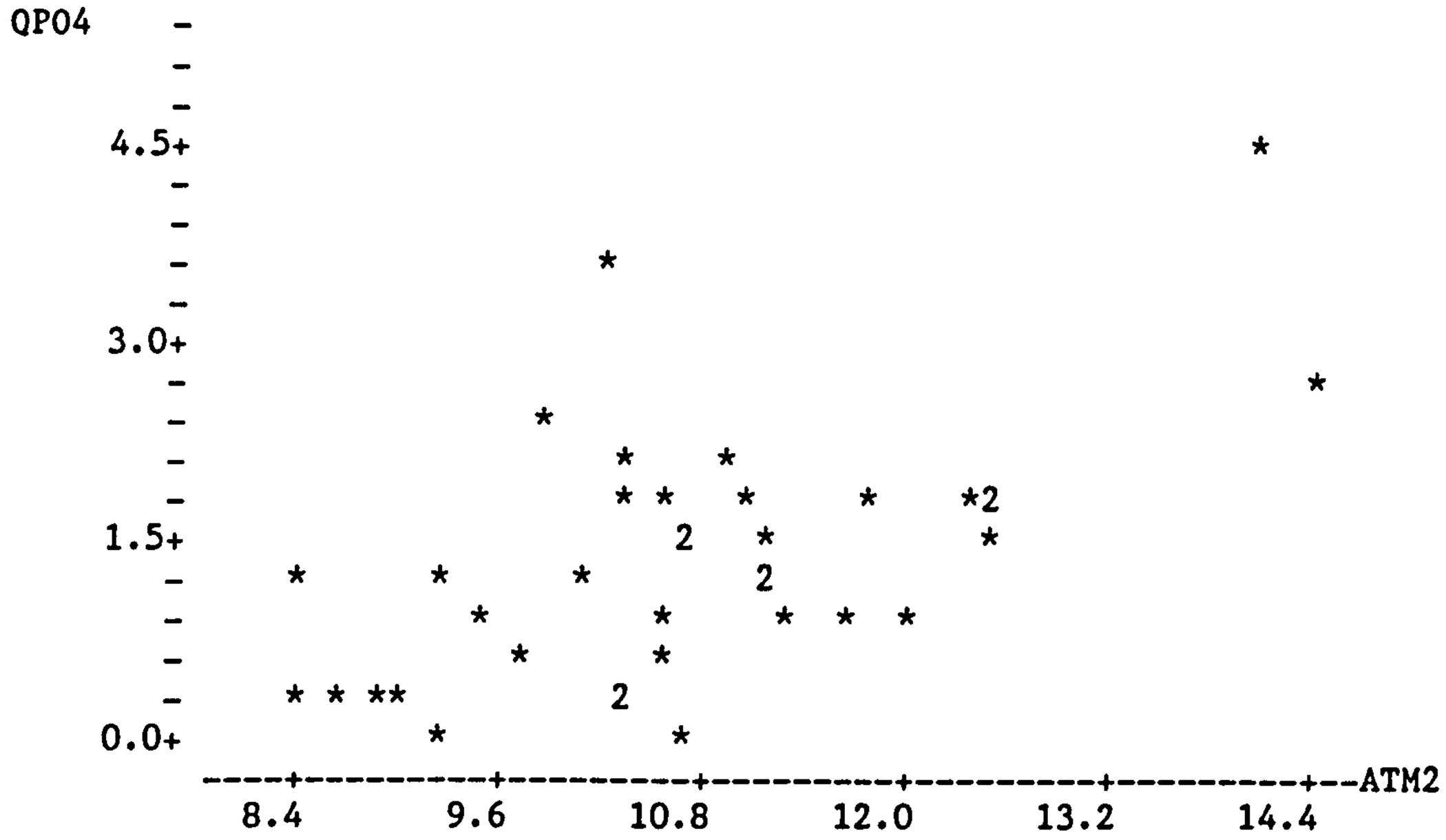
SOURCE	DF	SS	MS
Regression	1	8.2106	8.2106
Error	35	24.1870	0.6911
Total	36	32.3976	

Unusual Observations

Obs.	ATM1	QP04	Fit	Stdev.Fit	Residual	St.Resid
9	11.1	2.600	2.460	0.350	0.140	0.19 X
12	10.1	4.380	2.149	0.270	2.231	2.84R
34	7.4	3.700	1.263	0.139	2.437	2.97R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C116 and C101 = 0.491



Correlation of QP04 and ATM2 = 0.560

The regression equation is
QP04 = - 2.67 + 0.375 ATM2

Predictor	Coef	Stdev	t-ratio
Constant	-2.671	1.014	-2.63
ATM2	0.37520	0.09392	3.99

s = 0.7974 R-sq = 31.3% R-sq(adj) = 29.4%

Analysis of Variance

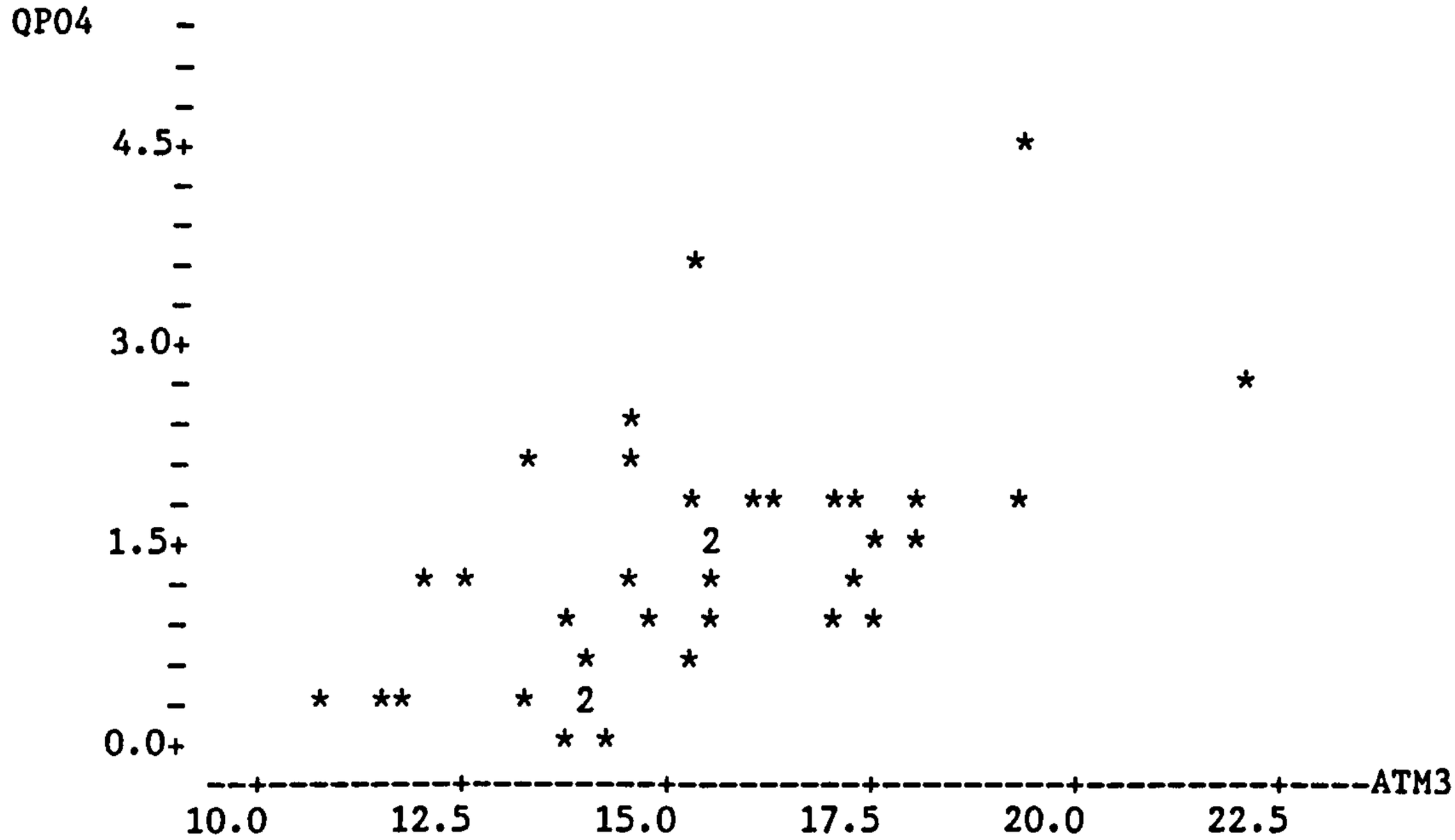
SOURCE	DF	SS	MS
Regression	1	10.146	10.146
Error	35	22.252	0.636
Total	36	32.398	

Unusual Observations

Obs.	ATM2	QP04	Fit	Stdev.Fit	Residual	St.Resid
9	14.4	2.600	2.741	0.373	-0.141	-0.20 X
12	14.0	4.380	2.583	0.336	1.797	2.49RX
34	10.2	3.700	1.159	0.139	2.541	3.24R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C116 and C102 = 0.476



Correlation of QP04 and ATM3 = 0.543

The regression equation is

QP04 = - 1.99 + 0.217 ATM3

Predictor	Coef	Stdev	t-ratio
Constant	-1.9856	0.8804	-2.26
ATM3	0.21750	0.05680	3.83

s = 0.8077 R-sq = 29.5% R-sq(adj) = 27.5%

Analysis of Variance

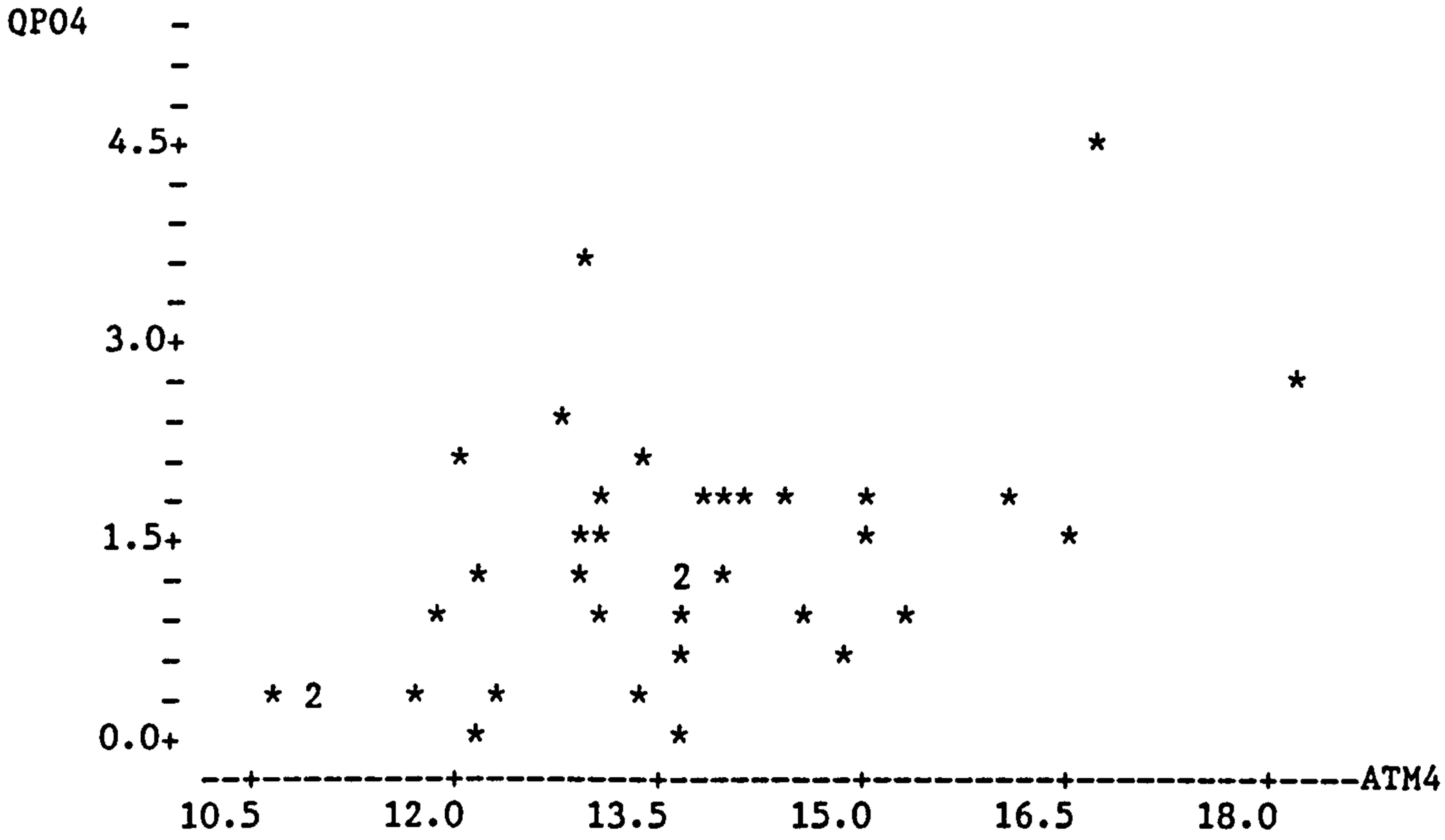
SOURCE	DF	SS	MS
Regression	1	9.5643	9.5643
Error	35	22.8333	0.6524
Total	36	32.3976	

Unusual Observations

Obs.	ATM3	QP04	Fit	Stdev.Fit	Residual	St.Resid
9	22.1	2.600	2.817	0.406	-0.217	-0.31 X
12	19.1	4.380	2.179	0.255	2.201	2.87R
34	15.4	3.700	1.358	0.133	2.342	2.94R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C116 and C103 = 0.539



Correlation of QP04 and ATM4 = 0.468

The regression equation is
QP04 = - 2.35 + 0.272 ATM4

Predictor	Coef	Stdev	t-ratio
Constant	-2.346	1.186	-1.98
ATM4	0.27179	0.08668	3.14

s = 0.8501 R-sq = 21.9% R-sq(adj) = 19.7%

Analysis of Variance

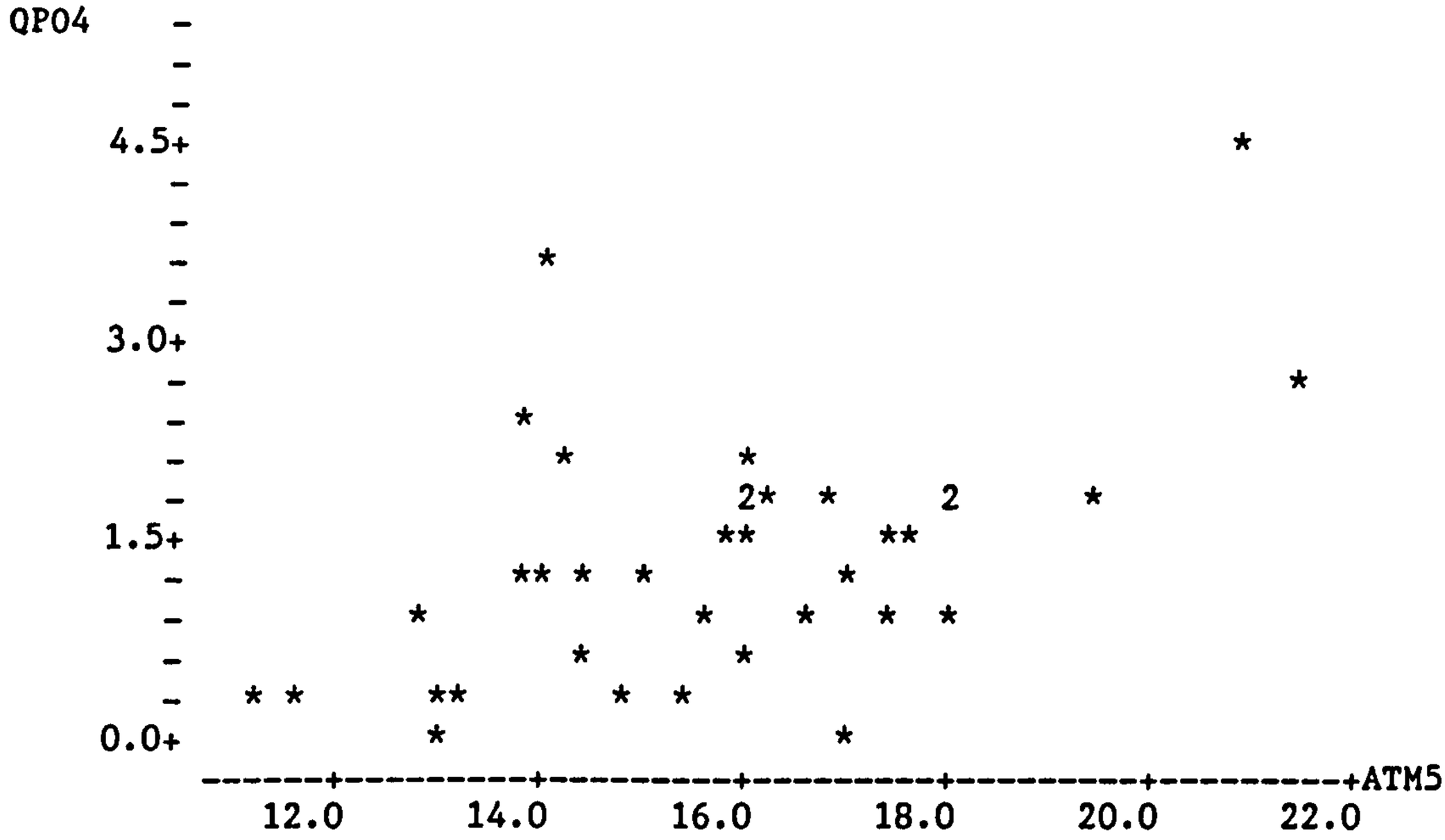
SOURCE	DF	SS	MS
Regression	1	7.1043	7.1043
Error	35	25.2932	0.7227
Total	36	32.3976	

Unusual Observations

Obs.	ATM4	QP04	Fit	Stdev.Fit	Residual	St.Resid
9	18.1	2.600	2.577	0.417	0.023	0.03 X
12	16.6	4.380	2.176	0.299	2.204	2.77R
34	12.9	3.700	1.158	0.152	2.542	3.04R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C116 and C104 = 0.377



Correlation of QP04 and ATM5 = 0.487

The regression equation is
QP04 = - 1.80 + 0.200 ATM5

Predictor	Coef	Stdev	t-ratio
Constant	-1.7975	0.9636	-1.87
ATM5	0.19992	0.06063	3.30

s = 0.8404 R-sq = 23.7% R-sq(adj) = 21.5%

Analysis of Variance

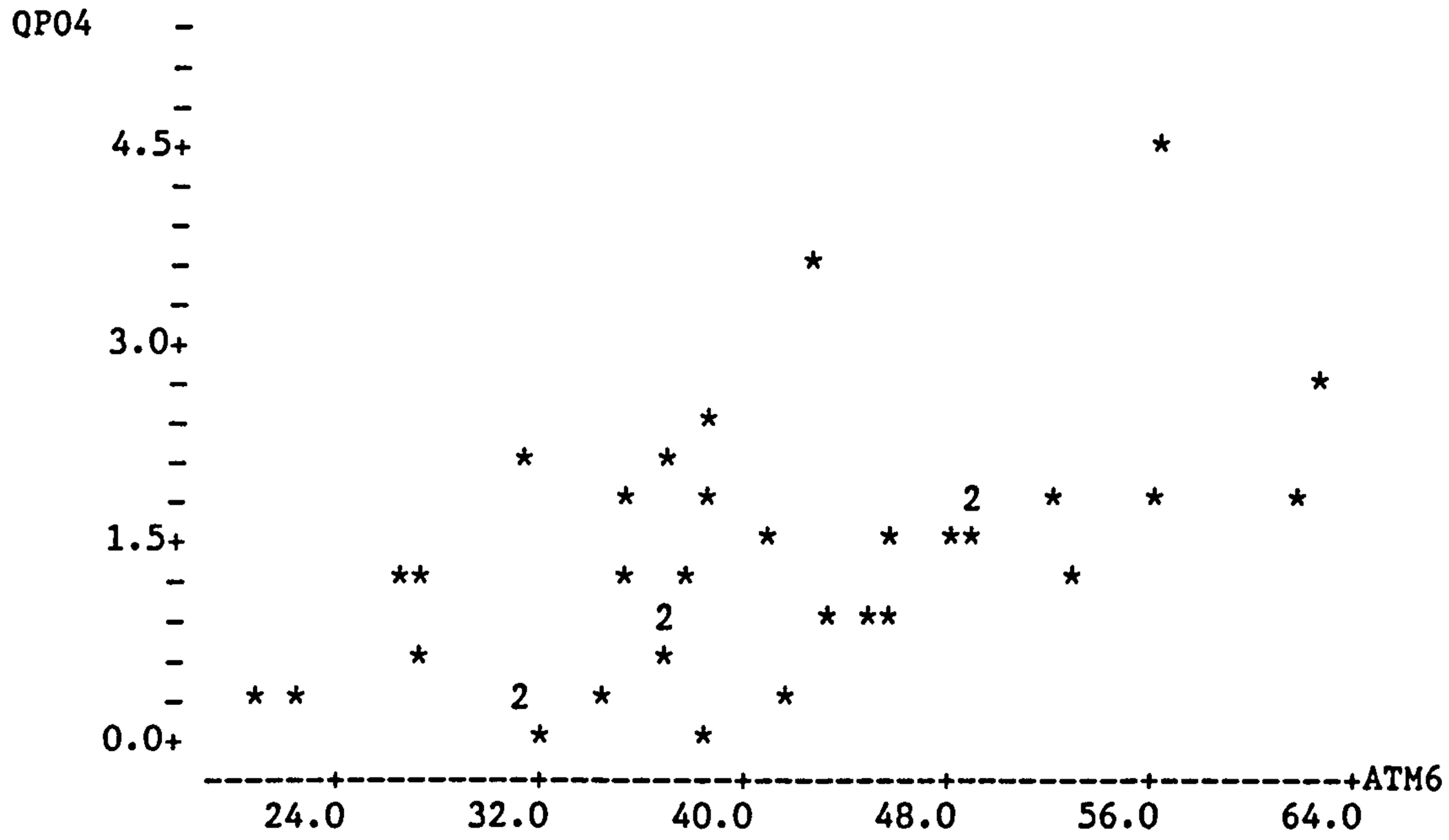
SOURCE	DF	SS	MS
Regression	1	7.6792	7.6792
Error	35	24.7184	0.7062
Total	36	32.3976	

Unusual Observations

Obs.	ATM5	QP04	Fit	Stdev.Fit	Residual	St.Resid
9	21.5	2.600	2.499	0.376	0.101	0.13 X
12	20.8	4.380	2.362	0.337	2.018	2.62R
34	14.0	3.700	1.010	0.172	2.690	3.27R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C116 and C105 = 0.409



Correlation of QP04 and ATM6 = 0.526

The regression equation is
QP04 = - 0.614 + 0.0485 ATM6

Predictor	Coef	Stdev	t-ratio
Constant	-0.6142	0.5528	-1.11
ATM6	0.04854	0.01327	3.66

s = 0.8184 R-sq = 27.7% R-sq(adj) = 25.6%

Analysis of Variance

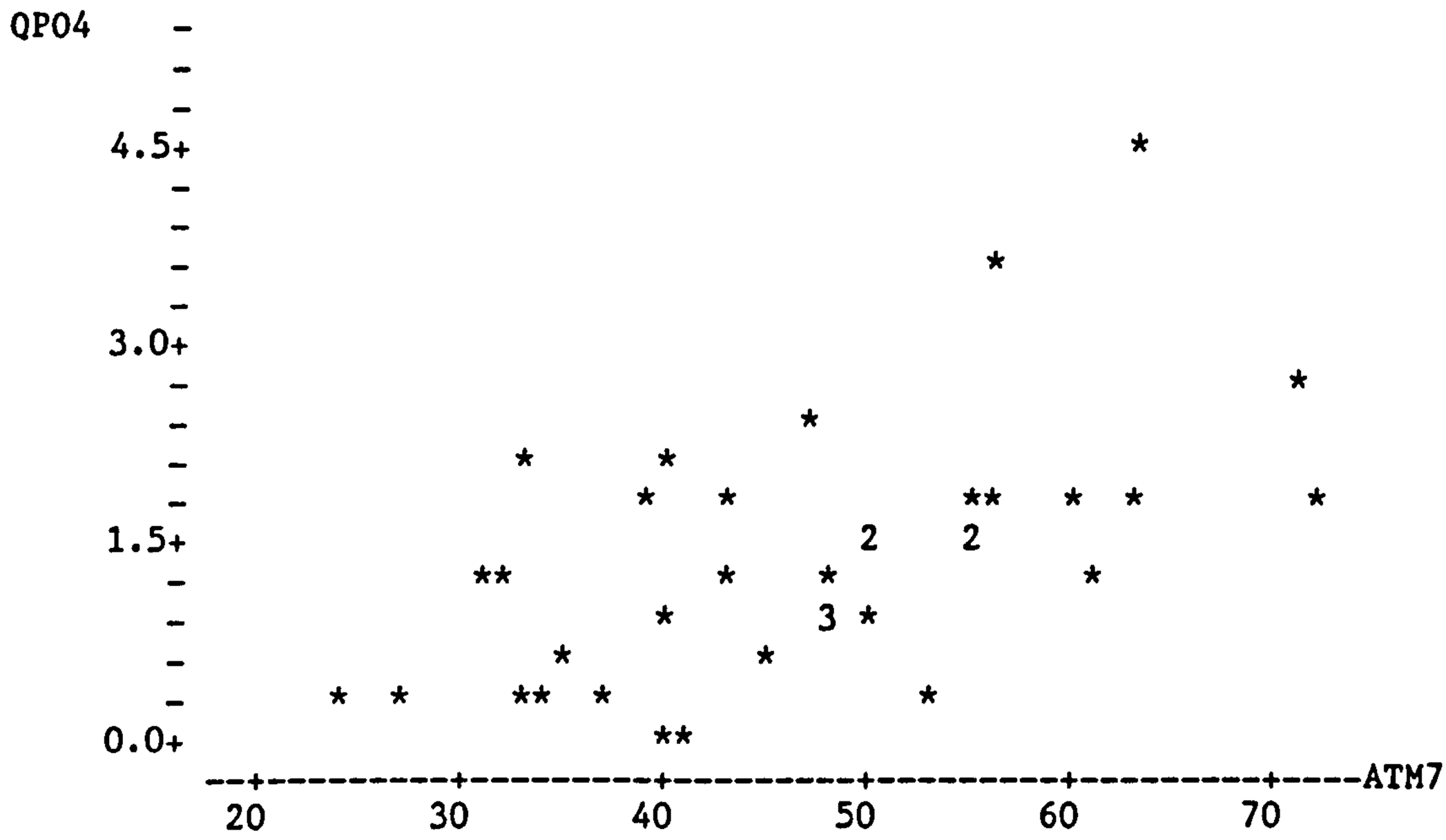
SOURCE	DF	SS	MS
Regression	1	8.9581	8.9581
Error	35	23.4395	0.6697
Total	36	32.3976	

Unusual Observations

Obs.	ATM6	QP04	Fit	Stdev.Fit	Residual	St.Resid
12	55.7	4.380	2.088	0.243	2.292	2.93R
34	42.1	3.700	1.427	0.136	2.273	2.82R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C116 and C106 = 0.530



Correlation of QP04 and ATM7 = 0.547

The regression equation is
QP04 = - 0.708 + 0.0441 ATM7

Predictor	Coef	Stdev	t-ratio
Constant	-0.7075	0.5474	-1.29
ATM7	0.04407	0.01139	3.87

s = 0.8053 R-sq = 29.9% R-sq(adj) = 27.9%

Analysis of Variance

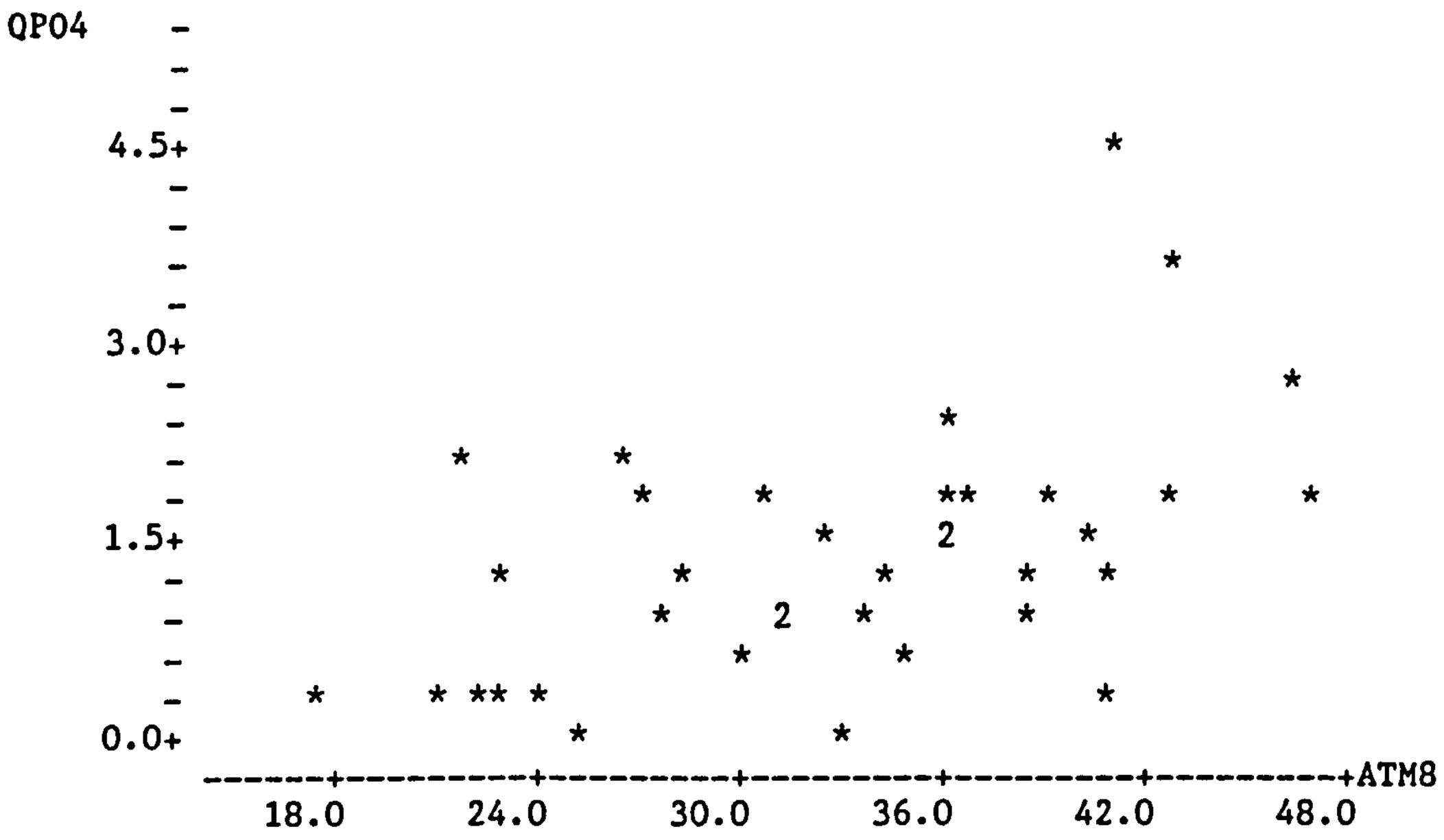
SOURCE	DF	SS	MS
Regression	1	9.7013	9.7013
Error	35	22.6963	0.6485
Total	36	32.3976	

Unusual Observations

Obs.	ATM7	QP04	Fit	Stdev.Fit	Residual	St.Resid
12	62.8	4.380	2.062	0.227	2.318	3.00R
34	55.7	3.700	1.749	0.168	1.951	2.48R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C116 and C107 = 0.527



Correlation of QP04 and ATM8 = 0.508

The regression equation is
QP04 = - 0.732 + 0.0634 ATM8

Predictor	Coef	Stdev	t-ratio
Constant	-0.7317	0.6104	-1.20
ATM8	0.06339	0.01814	3.49

s = 0.8285 R-sq = 25.9% R-sq(adj) = 23.7%

Analysis of Variance

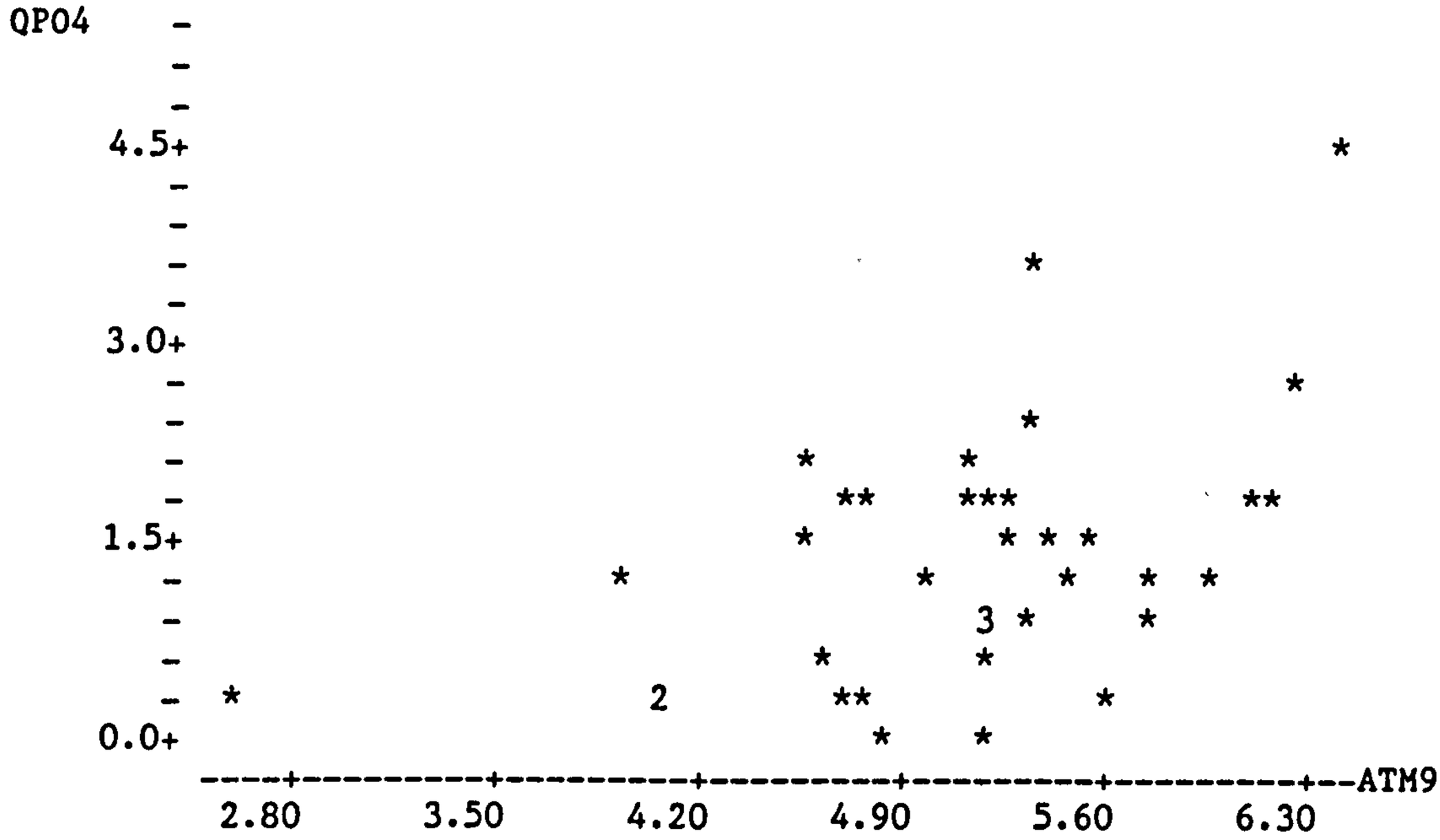
SOURCE	DF	SS	MS
Regression	1	8.3759	8.3759
Error	35	24.0216	0.6863
Total	36	32.3976	

Unusual Observations

Obs.	ATM8	QP04	Fit	Stdev.Fit	Residual	St.Resid
7	40.6	0.160	1.840	0.196	-1.680	-2.09R
12	41.1	4.380	1.873	0.203	2.507	3.12R
34	42.6	3.700	1.971	0.225	1.729	2.17R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C116 and C108 = 0.485



Correlation of QPO4 and ATM9 = 0.456

The regression equation is
QPO4 = - 1.72 + 0.601 ATM9

Predictor	Coef	Stdev	t-ratio
Constant	-1.722	1.023	-1.68
ATM9	0.6008	0.1985	3.03

s = 0.8565 R-sq = 20.8% R-sq(adj) = 18.5%

Analysis of Variance

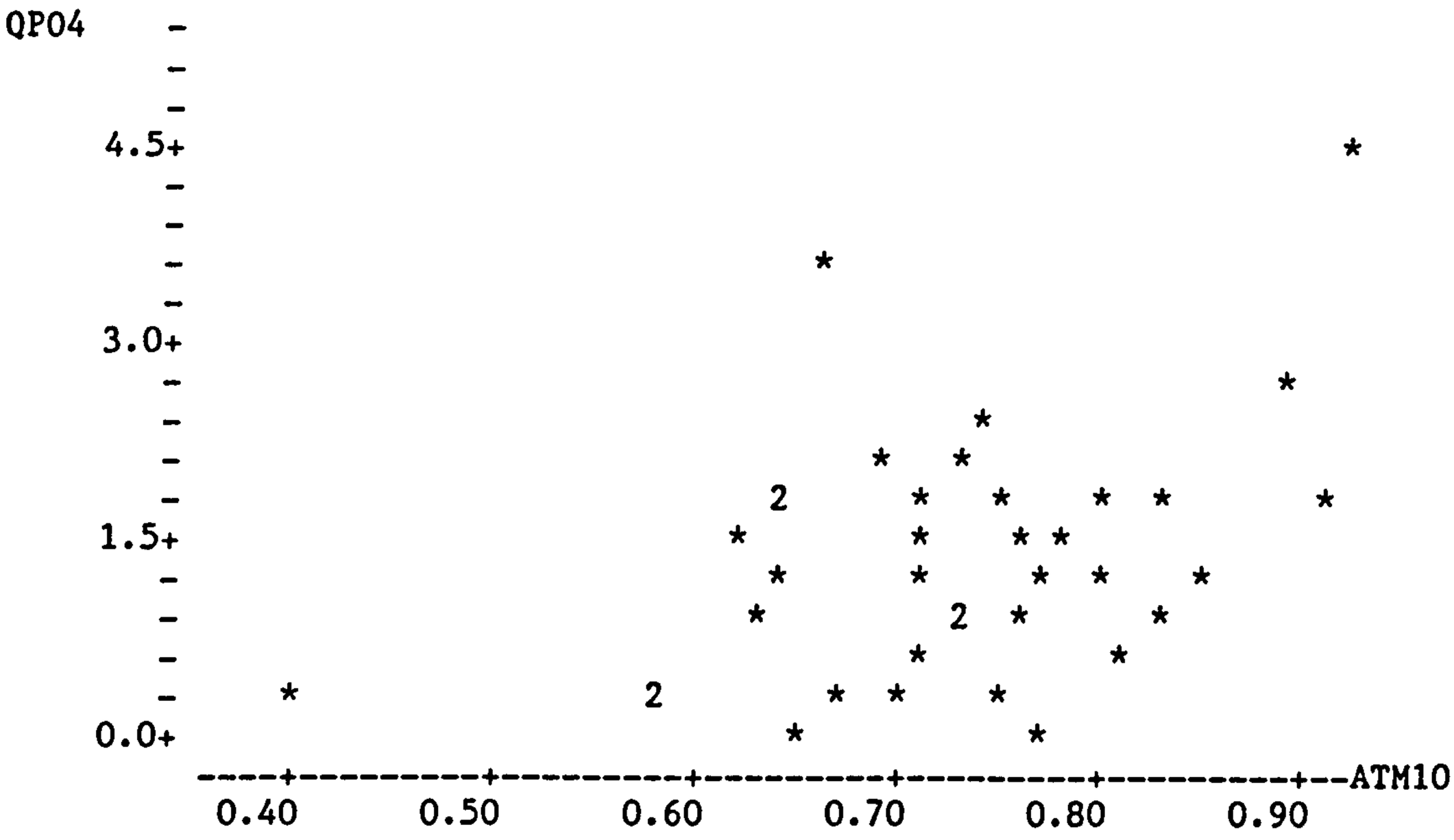
SOURCE	DF	SS	MS
Regression	1	6.7230	6.7230
Error	35	25.6746	0.7336
Total	36	32.3976	

Unusual Observations

Obs.	ATM9	QPO4	Fit	Stdev.Fit	Residual	St.Resid
3	2.62	0.340	-0.150	0.514	0.490	0.72 X
12	6.34	4.380	2.089	0.283	2.291	2.83R
34	5.33	3.700	1.478	0.147	2.222	2.63R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C116 and C109 = 0.356



Correlation of QP04 and ATM10 = 0.388

The regression equation is
QP04 = - 1.27 + 3.61 ATM10

Predictor	Coef	Stdev	t-ratio
Constant	-1.272	1.063	-1.20
ATM10	3.609	1.450	2.49

s = 0.8869 R-sq = 15.0% R-sq(adj) = 12.6%

Analysis of Variance

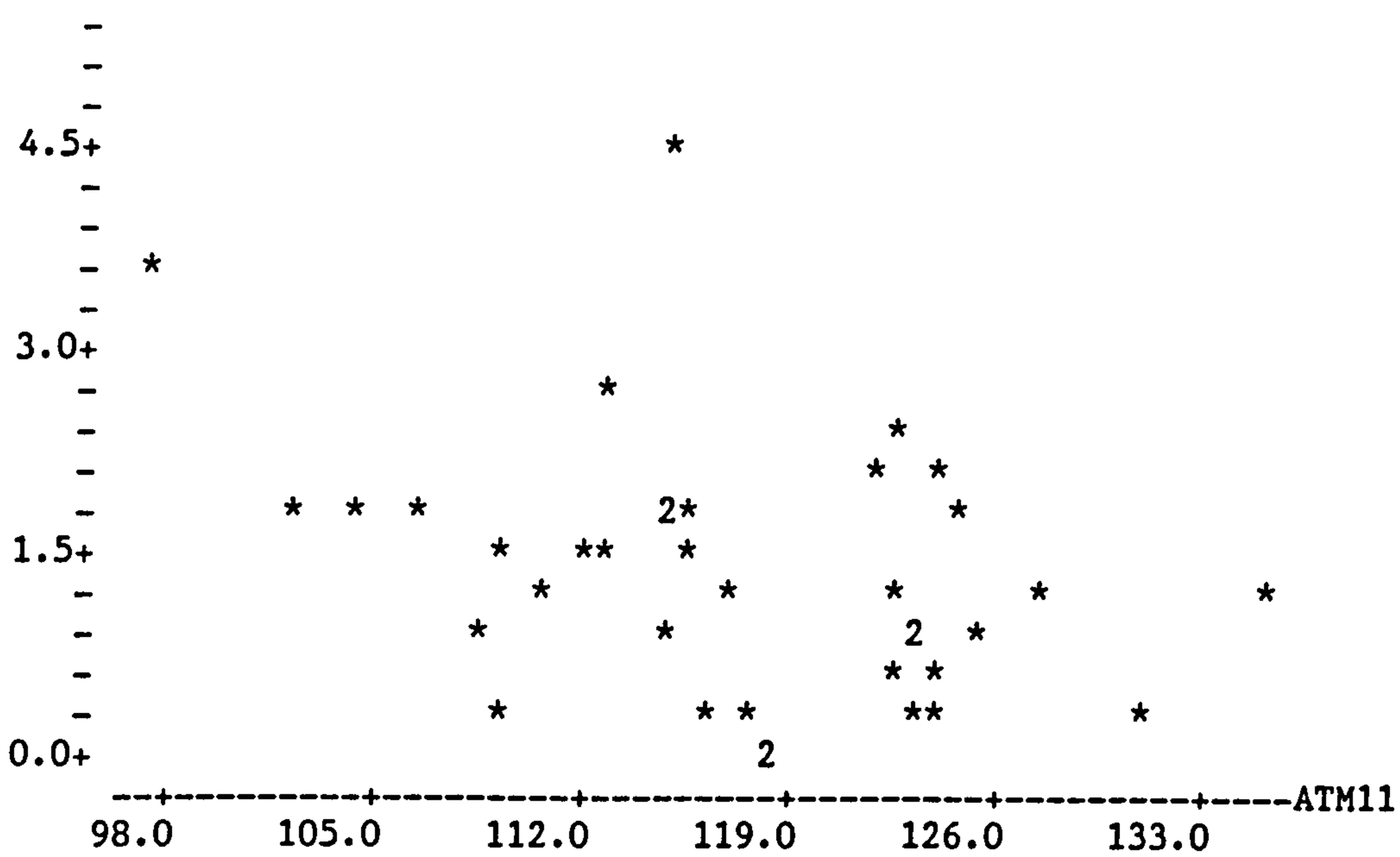
SOURCE	DF	SS	MS
Regression	1	4.8695	4.8695
Error	35	27.5280	0.7865
Total	36	32.3976	

Unusual Observations

Obs.	ATM10	QP04	Fit	Stdev.Fit	Residual	St.Resid
3	0.397	0.340	0.160	0.499	0.180	0.24 X
12	0.916	4.380	2.034	0.312	2.346	2.83R
34	0.665	3.700	1.127	0.171	2.573	2.96R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C116 and C110 = 0.275



Correlation of QP04 and ATM11 = -0.380

The regression equation is
QP04 = 6.55 - 0.0444 ATM11

Predictor	Coef	Stdev	t-ratio
Constant	6.548	2.143	3.06
ATM11	-0.04438	0.01825	-2.43

s = 0.8898 R-sq = 14.5% R-sq(adj) = 12.0%

Analysis of Variance

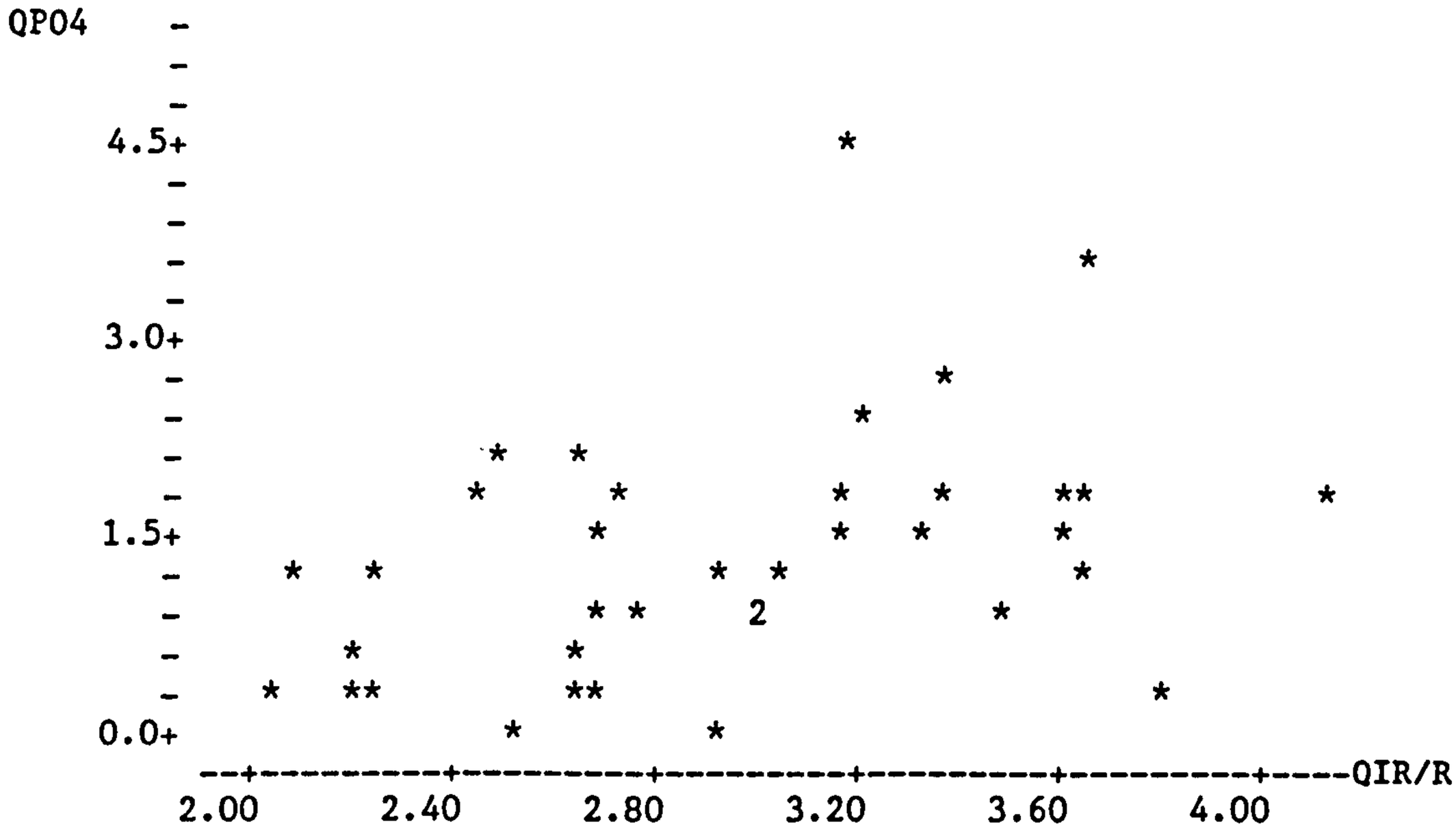
SOURCE	DF	SS	MS
Regression	1	4.6850	4.6850
Error	35	27.7126	0.7918
Total	36	32.3976	

Unusual Observations

Obs.	ATM11	QP04	Fit	Stdev.Fit	Residual	St.Resid
12	115	4.380	1.455	0.153	2.925	3.34R
18	135	1.310	0.545	0.361	0.765	0.94 X
34	97	3.700	2.243	0.396	1.457	1.83 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C116 and C111 = -0.353



Correlation of QP04 and QIR/R = 0.396

The regression equation is
QP04 = - 0.721 + 0.702 QIR/R

Predictor	Coef	Stdev	t-ratio
Constant	-0.7210	0.8226	-0.88
QIR/R	0.7018	0.2748	2.55

s = 0.8833 R-sq = 15.7% R-sq(adj) = 13.3%

Analysis of Variance

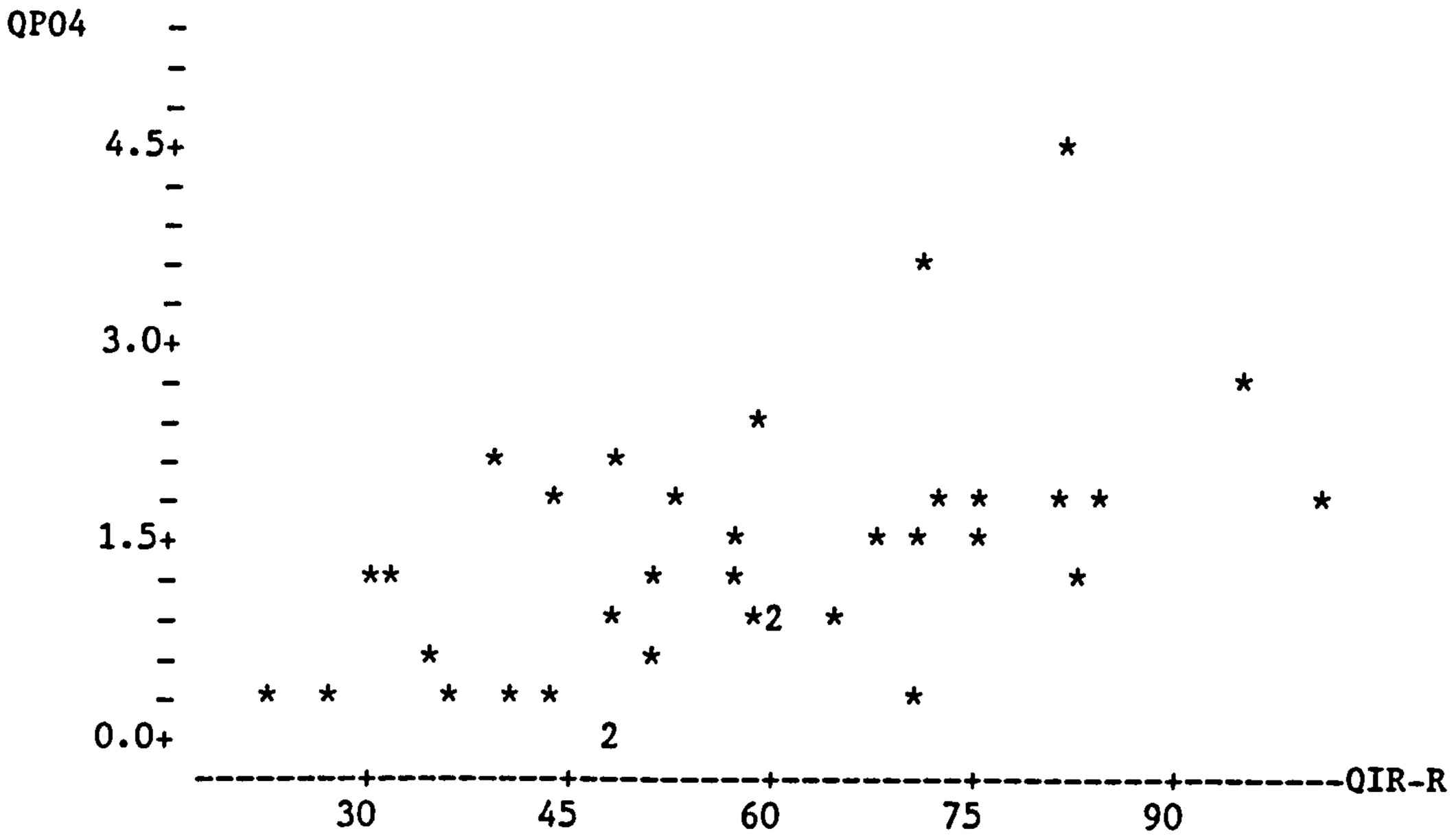
SOURCE	DF	SS	MS
Regression	1	5.0897	5.0897
Error	35	27.3079	0.7802
Total	36	32.3976	

Unusual Observations

Obs.	QIR/R	QP04	Fit	Stdev.Fit	Residual	St.Resid
7	3.82	0.160	1.957	0.279	-1.797	-2.14R
12	3.17	4.380	1.500	0.157	2.880	3.31R
34	3.63	3.700	1.828	0.238	1.872	2.20R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C116 and C146 = 0.418



Correlation of QP04 and QIR-R = 0.520

The regression equation is
QP04 = - 0.141 + 0.0258 QIR-R

Predictor	Coef	Stdev	t-ratio
Constant	-0.1405	0.4343	-0.32
QIR-R	0.025778	0.007153	3.60

s = 0.8217 R-sq = 27.1% R-sq(adj) = 25.0%

Analysis of Variance

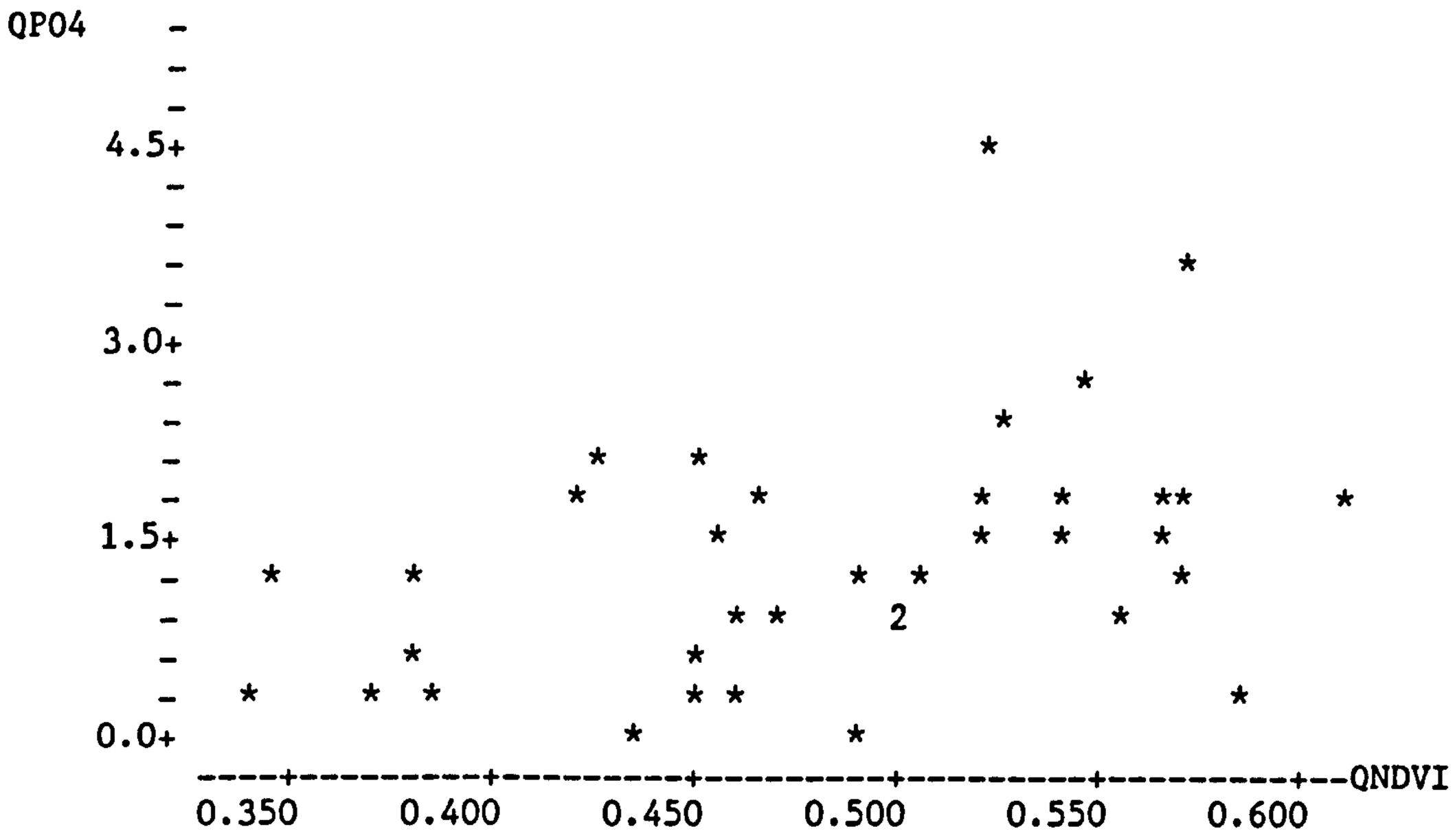
SOURCE	DF	SS	MS
Regression	1	8.7679	8.7679
Error	35	23.6296	0.6751
Total	36	32.3976	

Unusual Observations

Obs.	QIR-R	QP04	Fit	Stdev.Fit	Residual	St.Resid
12	81	4.380	1.949	0.215	2.431	3.06R
28	101	1.810	2.463	0.338	-0.653	-0.87 X
34	71	3.700	1.686	0.165	2.014	2.50R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C116 and C147 = 0.525



Correlation of QP04 and QNDVI = 0.405

The regression equation is
QP04 = - 1.27 + 5.42 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-1.275	1.010	-1.26
QNDVI	5.417	2.066	2.62

s = 0.8796 R-sq = 16.4% R-sq(adj) = 14.0%

Analysis of Variance

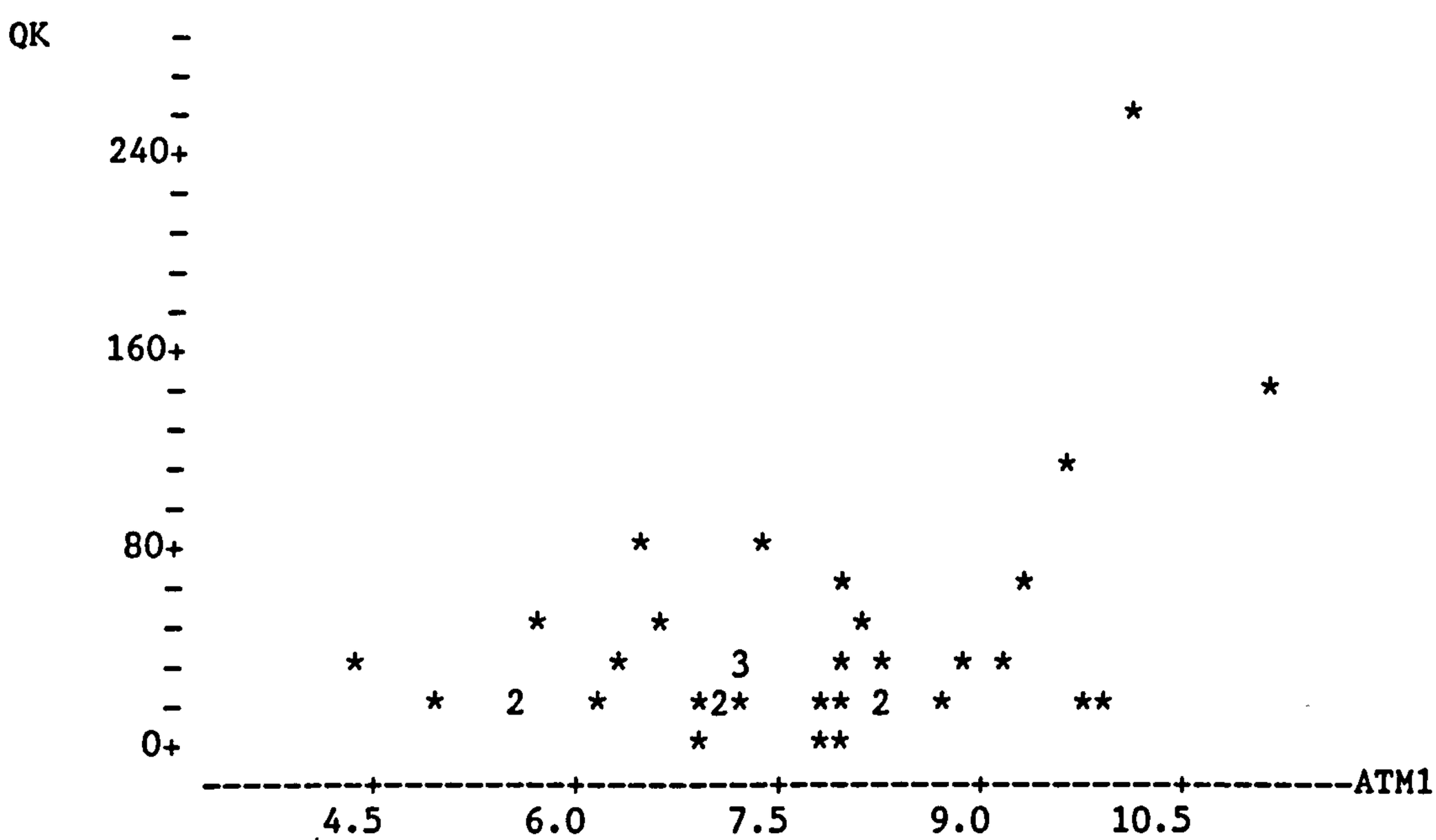
SOURCE	DF	SS	MS
Regression	1	5.3186	5.3186
Error	35	27.0790	0.7737
Total	36	32.3976	

Unusual Observations

Obs.	QNDVI	QP04	Fit	Stdev.Fit	Residual	St.Resid
7	0.585	0.160	1.892	0.253	-1.732	-2.06R
12	0.520	4.380	1.541	0.162	2.839	3.28R
34	0.568	3.700	1.803	0.226	1.897	2.23R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C116 and C148 = 0.418



Correlation of QK and ATM1 = 0.448

The regression equation is
QK = - 68.7 + 14.3 ATM1

Predictor	Coef	Stdev	t-ratio
Constant	-68.73	37.52	-1.83
ATM1	14.331	4.835	2.96

s = 43.25 R-sq = 20.1% R-sq(adj) = 17.8%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	16433	16433
Error	35	65471	1871
Total	36	81904	

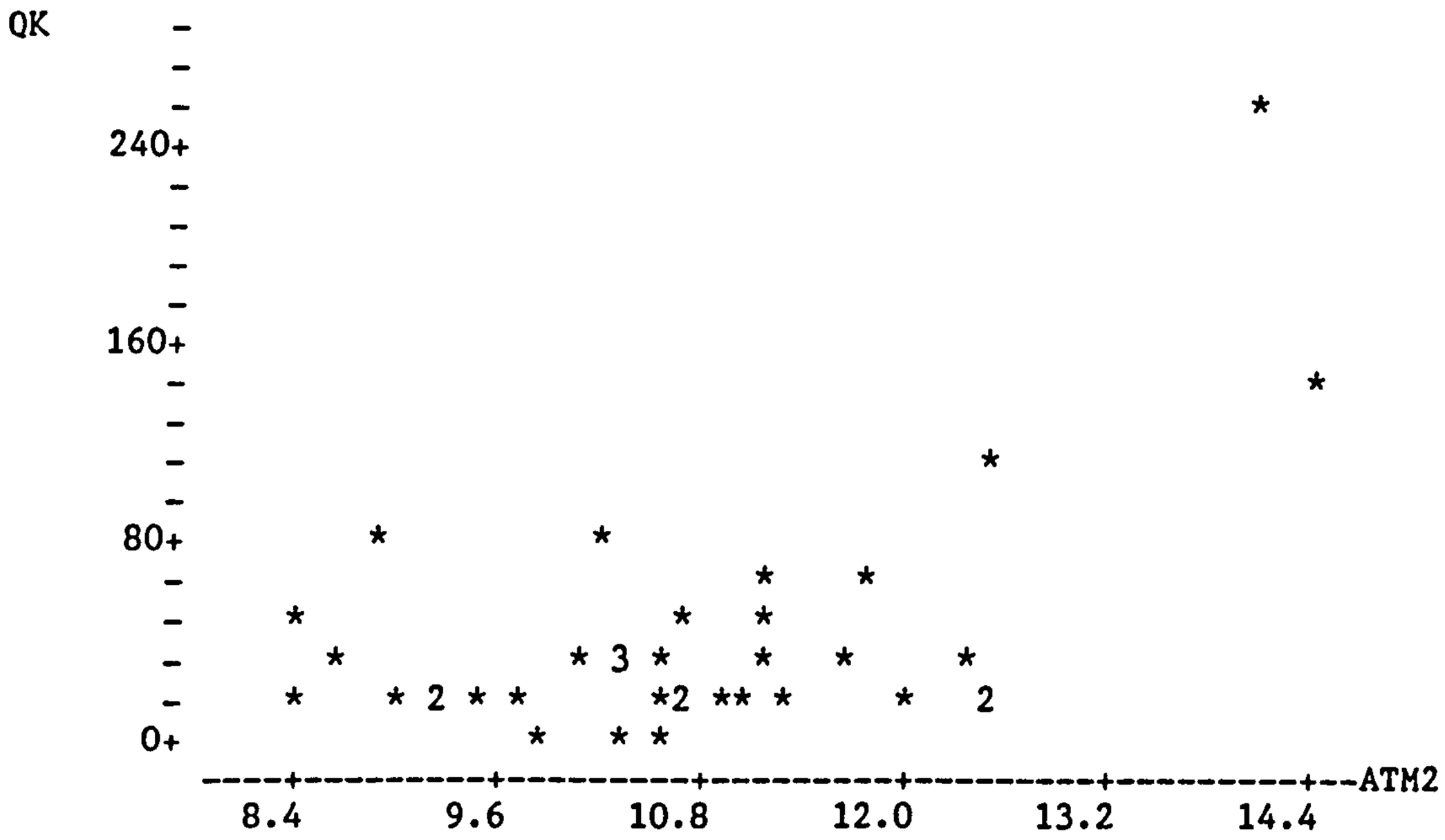
Unusual Observations

Obs.	ATM1	QK	Fit	Stdev.Fit	Residual	St.Resid
9	11.1	141.00	90.24	18.24	50.76	1.29 X
12	10.1	259.00	76.36	14.04	182.64	4.46R

R denotes an obs. with a large st. resid.

X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C117 and C101 = 0.245



Correlation of QK and ATM2 = 0.547

The regression equation is
QK = - 157 + 18.4 ATM2

Predictor	Coef	Stdev	t-ratio
Constant	-157.03	51.51	-3.05
ATM2	18.443	4.770	3.87

s = 40.49 R-sq = 29.9% R-sq(adj) = 27.9%

Analysis of Variance

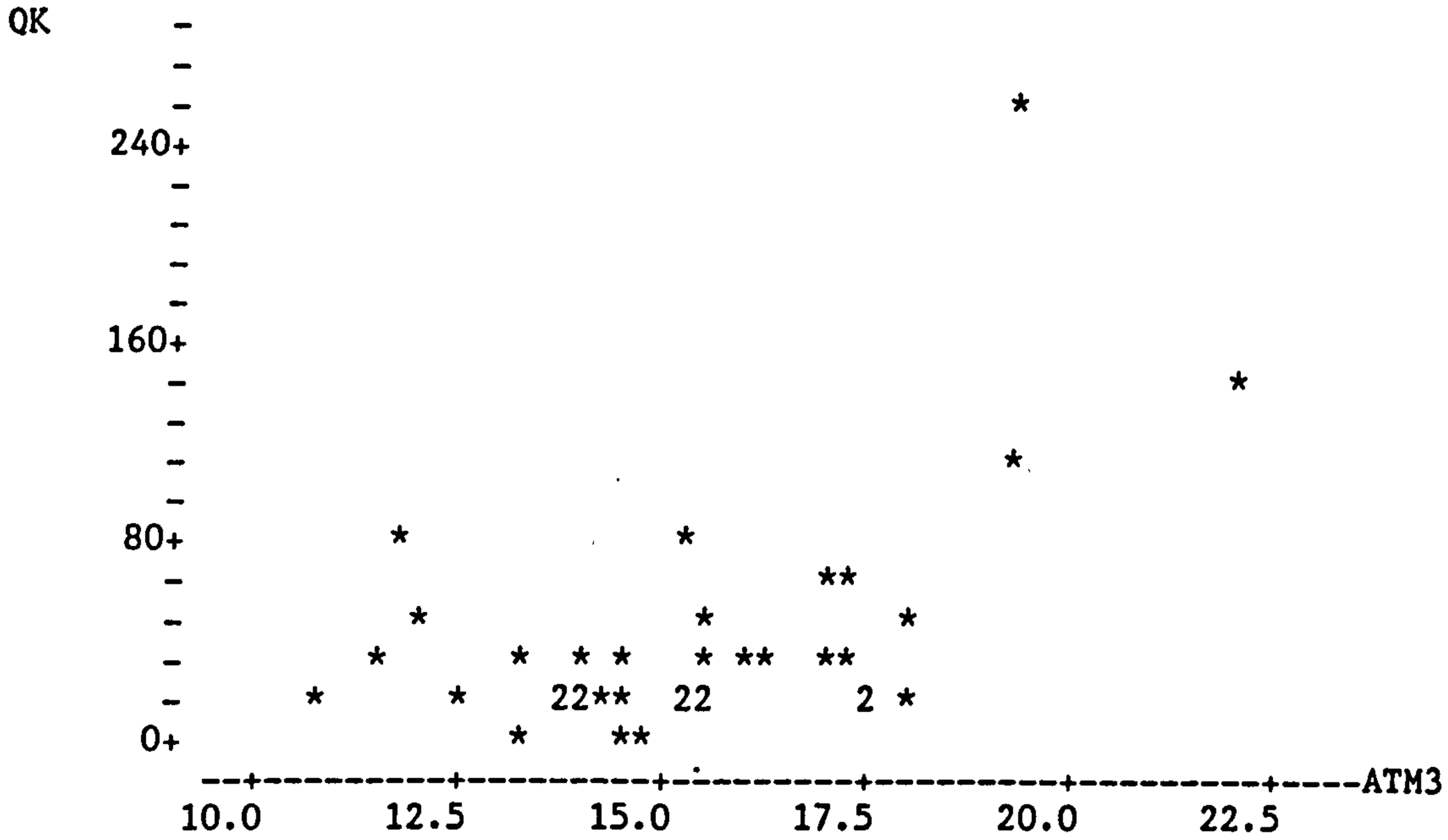
SOURCE	DF	SS	MS
Regression	1	24513	24513
Error	35	57390	1640
Total	36	81904	

Unusual Observations

Obs.	ATM2	QK	Fit	Stdev.Fit	Residual	St.Resid
9	14.4	141.00	108.99	18.93	32.01	0.89 X
12	14.0	259.00	101.21	17.06	157.79	4.30RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C117 and C102 = 0.306



Correlation of QK and ATM3 = 0.527

The regression equation is
QK = - 122 + 10.6 ATM3

Predictor	Coef	Stdev	t-ratio
Constant	-122.05	44.82	-2.72
ATM3	10.606	2.891	3.67

s = 41.11 R-sq = 27.8% R-sq(adj) = 25.7%

Analysis of Variance

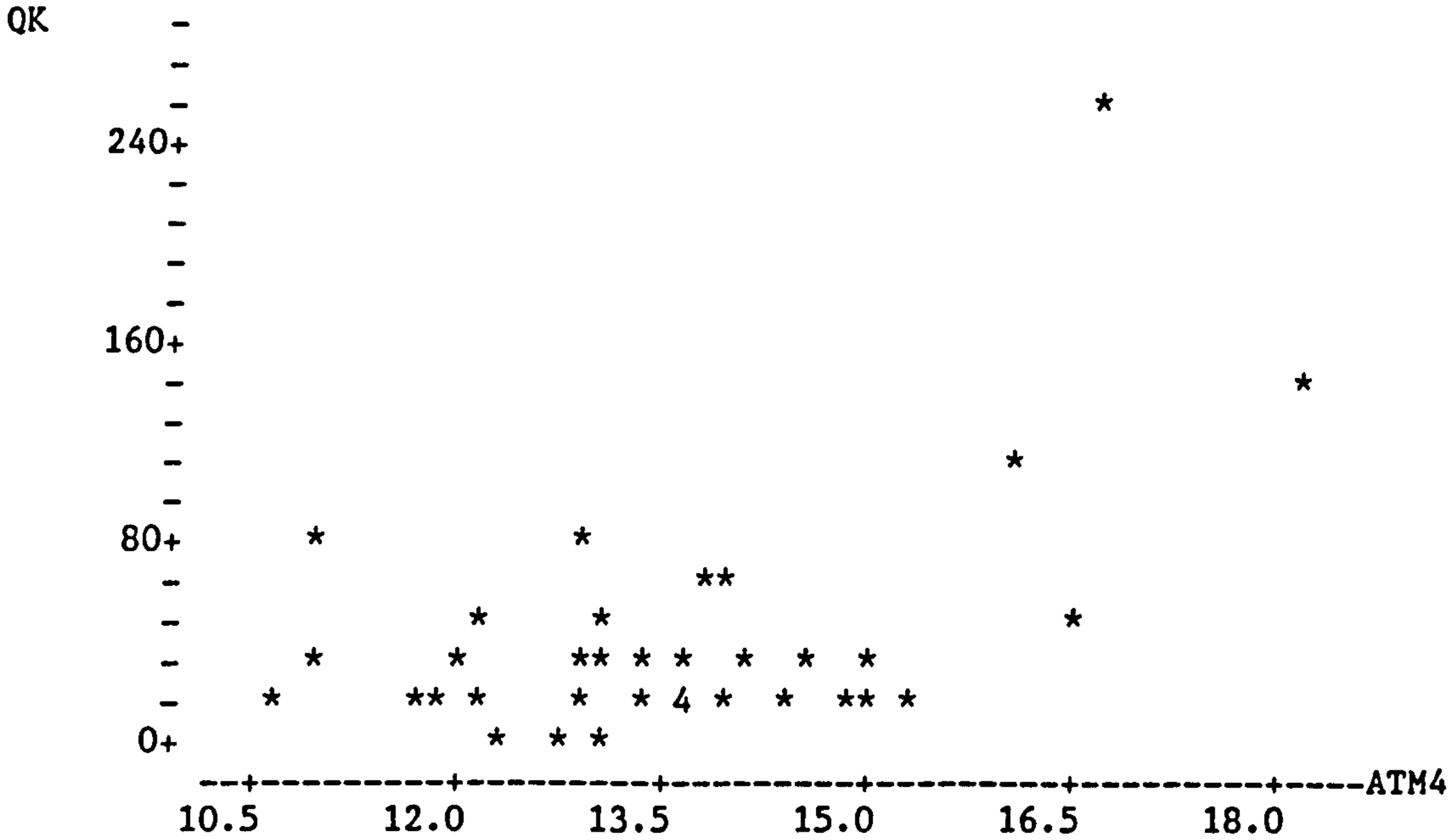
SOURCE	DF	SS	MS
Regression	1	22745	22745
Error	35	59159	1690
Total	36	81904	

Unusual Observations

Obs.	ATM3	QK	Fit	Stdev.Fit	Residual	St.Resid
9	22.1	141.00	112.16	20.68	28.84	0.81 X
12	19.1	259.00	81.03	12.96	177.97	4.56R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C117 and C103 = 0.421



Correlation of QK and ATM4 = 0.501

The regression equation is
QK = - 158 + 14.6 ATM4

Predictor	Coef	Stdev	t-ratio
Constant	-158.33	58.40	-2.71
ATM4	14.631	4.268	3.43

s = 41.86 R-sq = 25.1% R-sq(adj) = 23.0%

Analysis of Variance

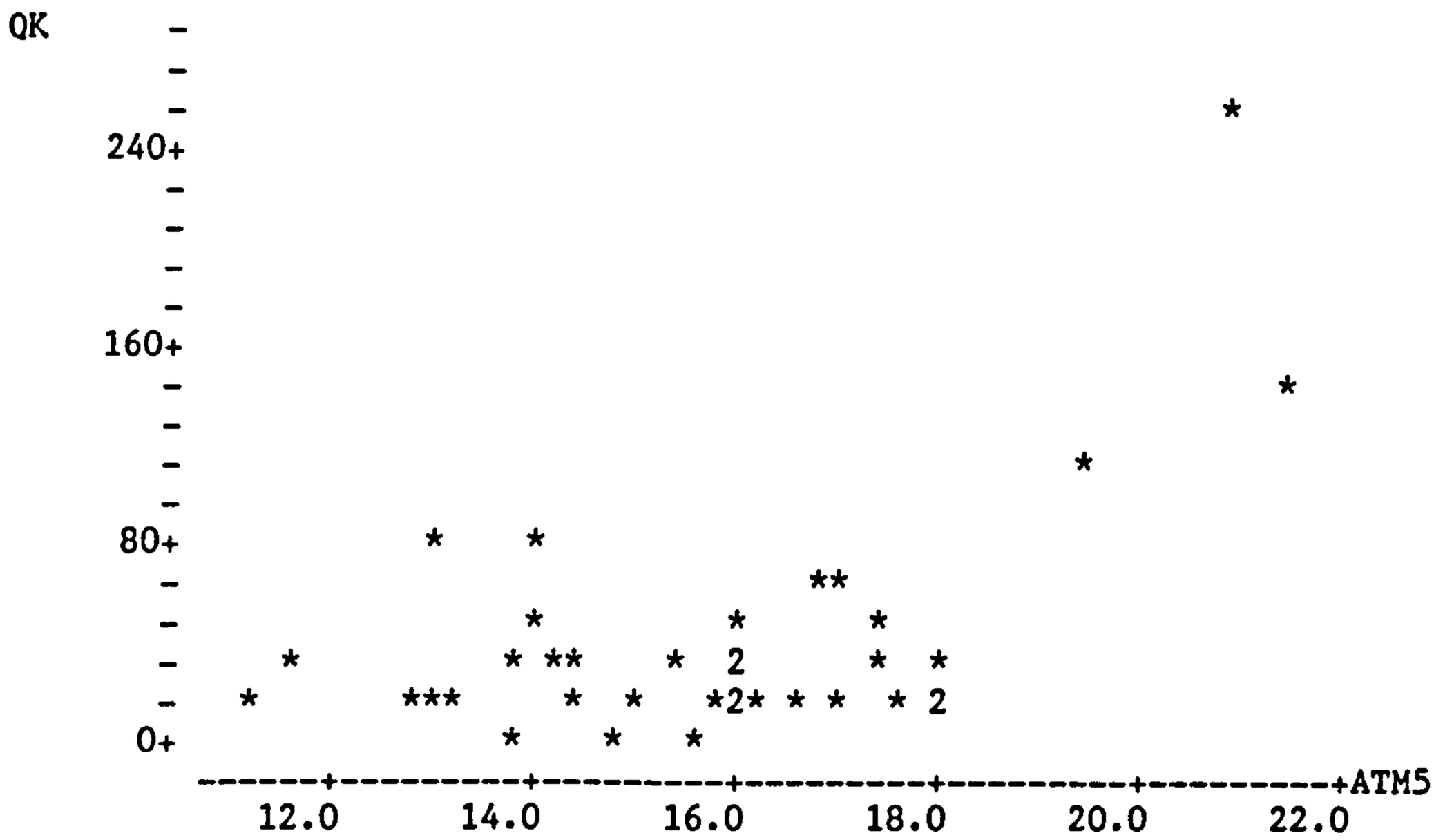
SOURCE	DF	SS	MS
Regression	1	20589	20589
Error	35	61315	1752
Total	36	81904	

Unusual Observations

Obs.	ATM4	QK	Fit	Stdev.Fit	Residual	St.Resid
9	18.1	141.00	106.70	20.51	34.30	0.94 X
12	16.6	259.00	85.08	14.72	173.92	4.44R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C117 and C104 = 0.298



Correlation of QK and ATM5 = 0.543

The regression equation is
QK = - 136 + 11.2 ATM5

Predictor	Coef	Stdev	t-ratio
Constant	-136.00	46.56	-2.92
ATM5	11.219	2.930	3.83

s = 40.61 R-sq = 29.5% R-sq(adj) = 27.5%

Analysis of Variance

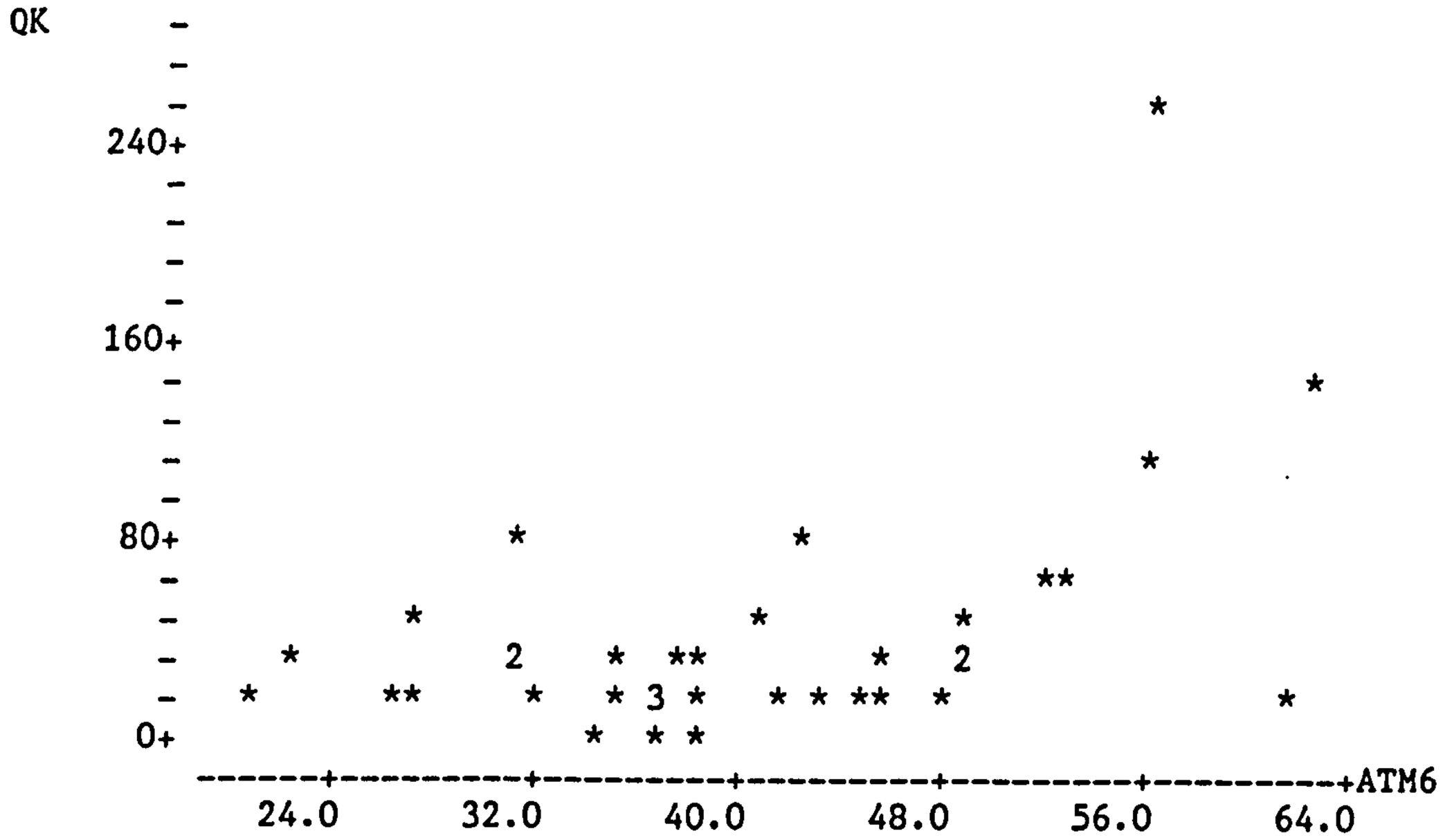
SOURCE	DF	SS	MS
Regression	1	24184	24184
Error	35	57719	1649
Total	36	81904	

Unusual Observations

Obs.	ATM5	QK	Fit	Stdev.Fit	Residual	St.Resid
9	21.5	141.00	105.12	18.16	35.88	0.99 X
12	20.8	259.00	97.42	16.30	161.58	4.34R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C117 and C105 = 0.291



Correlation of QK and ATM6 = 0.489

The regression equation is
QK = - 51.1 + 2.27 ATM6

Predictor	Coef	Stdev	t-ratio
Constant	-51.15	28.51	-1.79
ATM6	2.2675	0.6845	3.31

s = 42.21 R-sq = 23.9% R-sq(adj) = 21.7%

Analysis of Variance

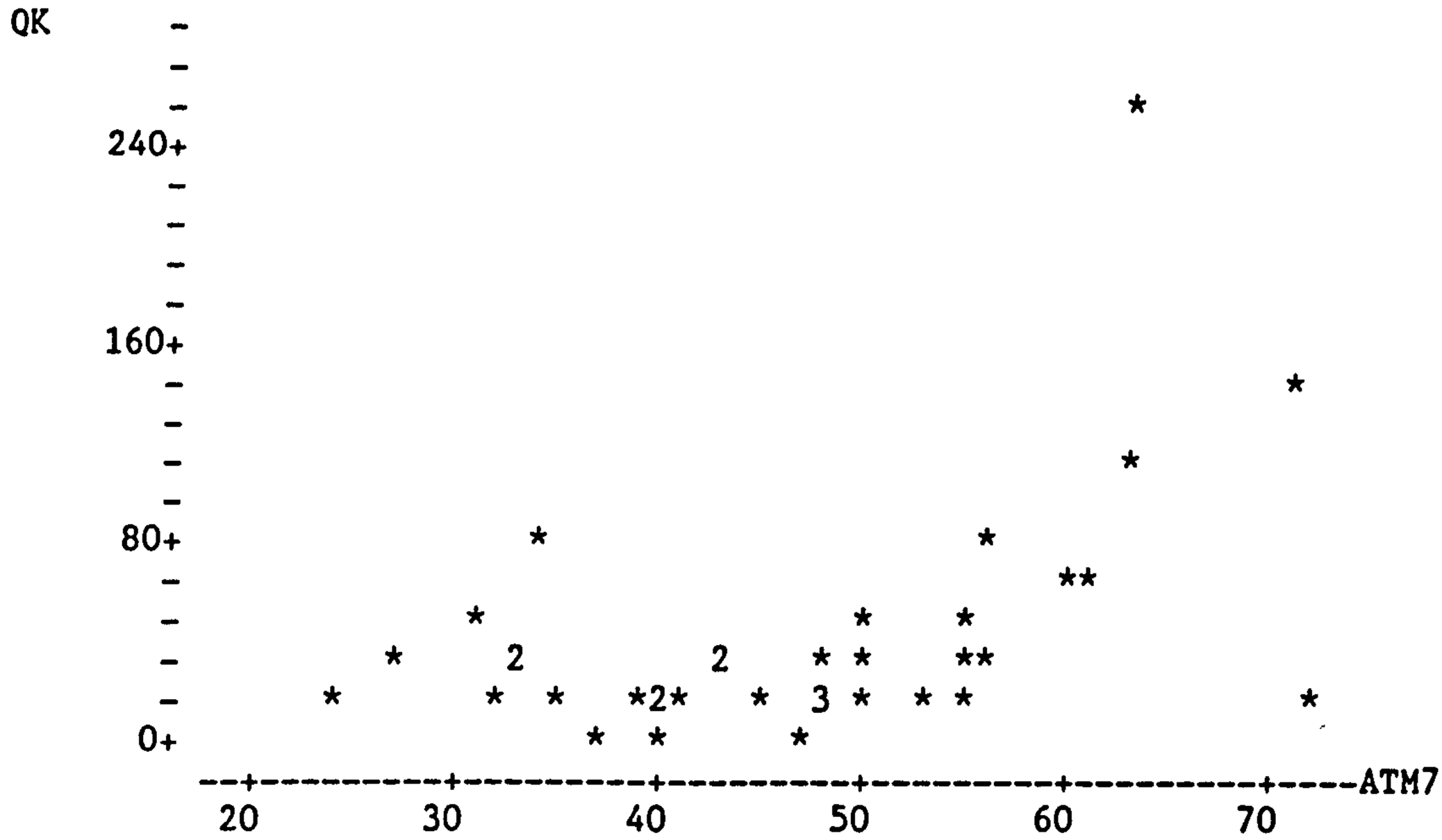
SOURCE	DF	SS	MS
Regression	1	19549	19549
Error	35	62354	1782
Total	36	81904	

Unusual Observations

Obs.	ATM6	QK	Fit	Stdev.Fit	Residual	St.Resid
12	55.7	259.00	75.10	12.55	183.90	4.56R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C117 and C106 = 0.406



Correlation of QK and ATM7 = 0.478

The regression equation is
QK = - 49.7 + 1.93 ATM7

Predictor	Coef	Stdev	t-ratio
Constant	-49.72	28.89	-1.72
ATM7	1.9347	0.6013	3.22

s = 42.50 R-sq = 22.8% R-sq(adj) = 20.6%

Analysis of Variance

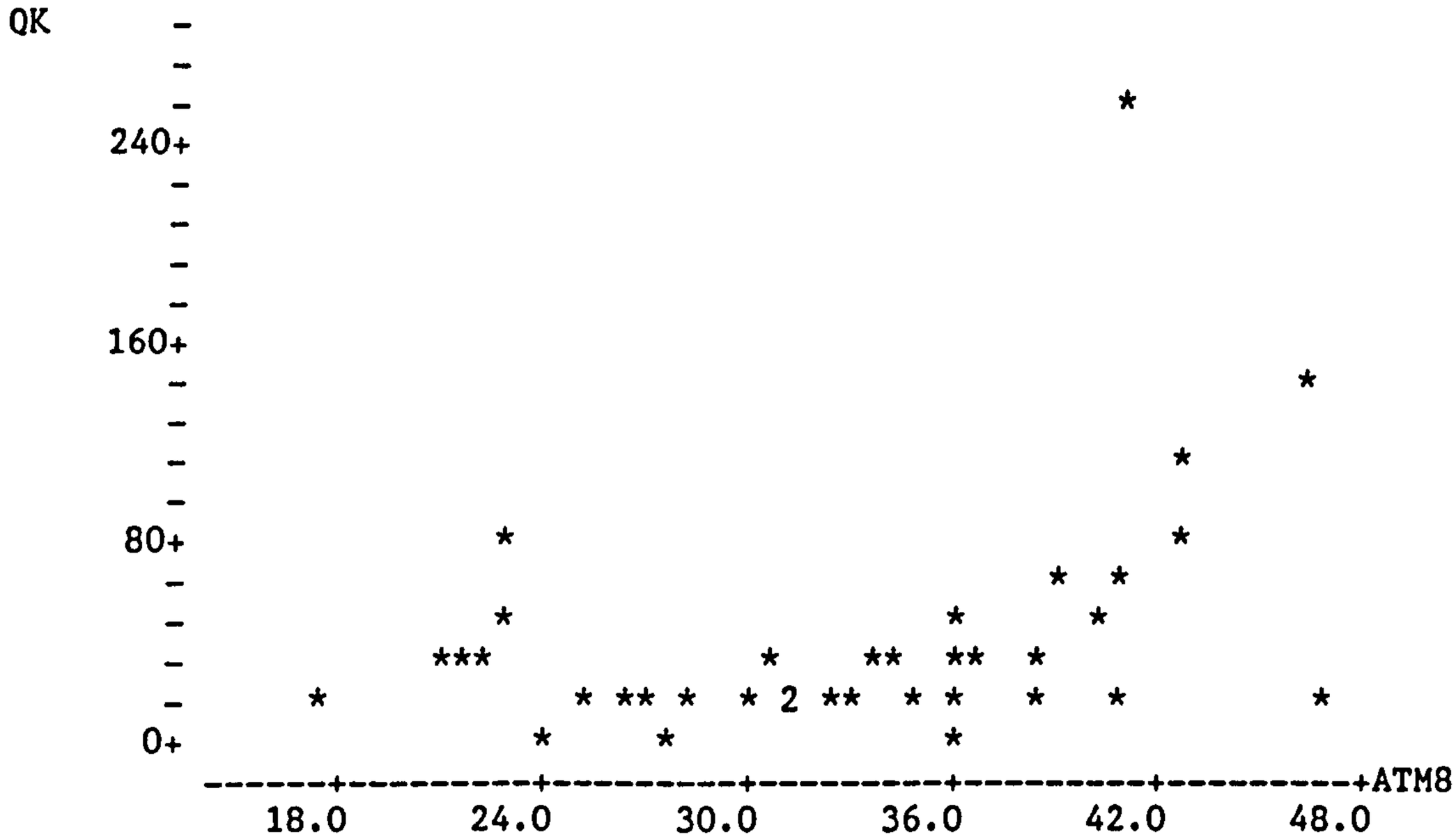
SOURCE	DF	SS	MS
Regression	1	18694	18694
Error	35	63209	1806
Total	36	81904	

Unusual Observations

Obs.	ATM7	QK	Fit	Stdev.Fit	Residual	St.Resid
12	62.8	259.00	71.84	12.00	187.16	4.59R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C117 and C107 = 0.437



Correlation of QK and ATM8 = 0.412

The regression equation is
QK = - 44.3 + 2.58 ATM8

Predictor	Coef	Stdev	t-ratio
Constant	-44.29	32.47	-1.36
ATM8	2.5844	0.9652	2.68

s = 44.07 R-sq = 17.0% R-sq(adj) = 14.6%

Analysis of Variance

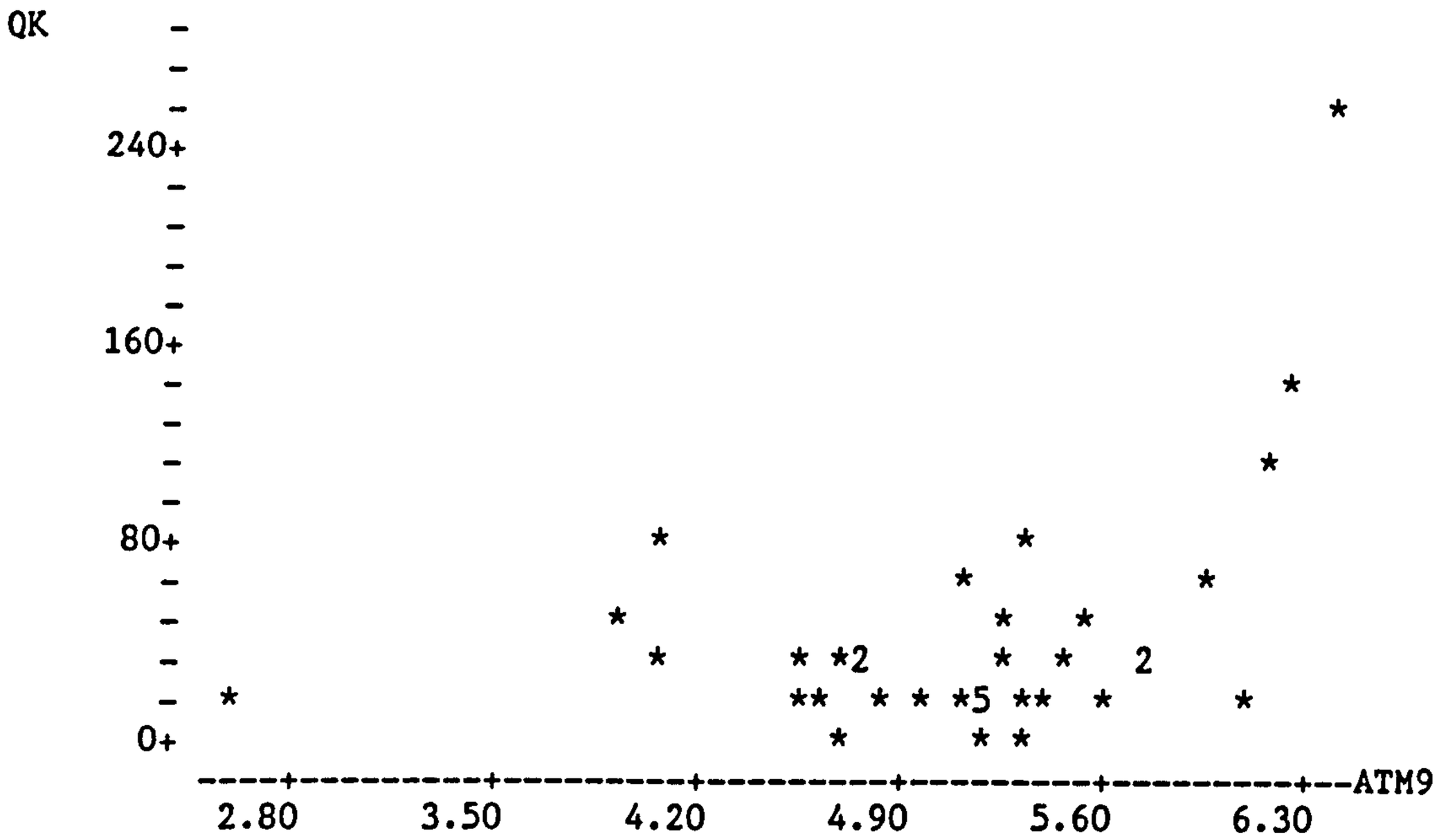
SOURCE	DF	SS	MS
Regression	1	13924	13924
Error	35	67980	1942
Total	36	81904	

Unusual Observations

Obs.	ATM8	QK	Fit	Stdev.Fit	Residual	St.Resid
12	41.1	259.00	61.92	10.80	197.08	4.61R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C117 and C108 = 0.401



Correlation of QK and ATM9 = 0.417

The regression equation is
QK = - 101 + 27.6 ATM9

Predictor	Coef	Stdev	t-ratio
Constant	-100.64	52.55	-1.92
ATM9	27.63	10.19	2.71

s = 43.98 R-sq = 17.4% R-sq(adj) = 15.0%

Analysis of Variance

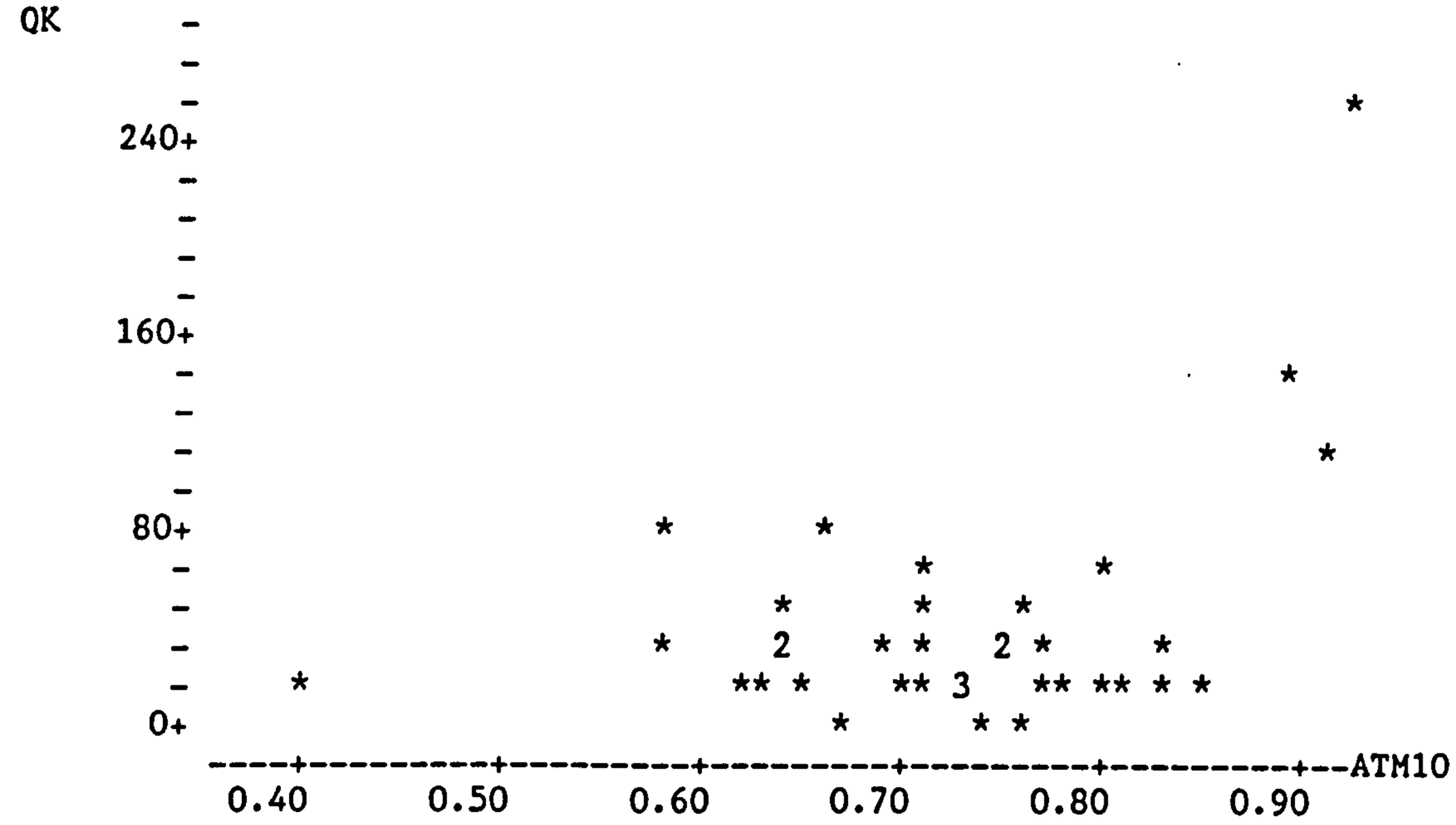
SOURCE	DF	SS	MS
Regression	1	14215	14215
Error	35	67689	1934
Total	36	81904	

Unusual Observations

Obs.	ATM9	QK	Fit	Stdev.Fit	Residual	St.Resid
3	2.62	9.20	-28.38	26.40	37.58	1.07 X
12	6.34	259.00	74.56	14.51	184.44	4.44R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C117 and C109 = 0.275



Correlation of QK and ATM10 = 0.402

The regression equation is
QK = - 96.0 + 188 ATM10

Predictor	Coef	Stdev	t-ratio
Constant	-95.96	53.08	-1.81
ATM10	187.97	72.45	2.59

s = 44.30 R-sq = 16.1% R-sq(adj) = 13.7%

Analysis of Variance

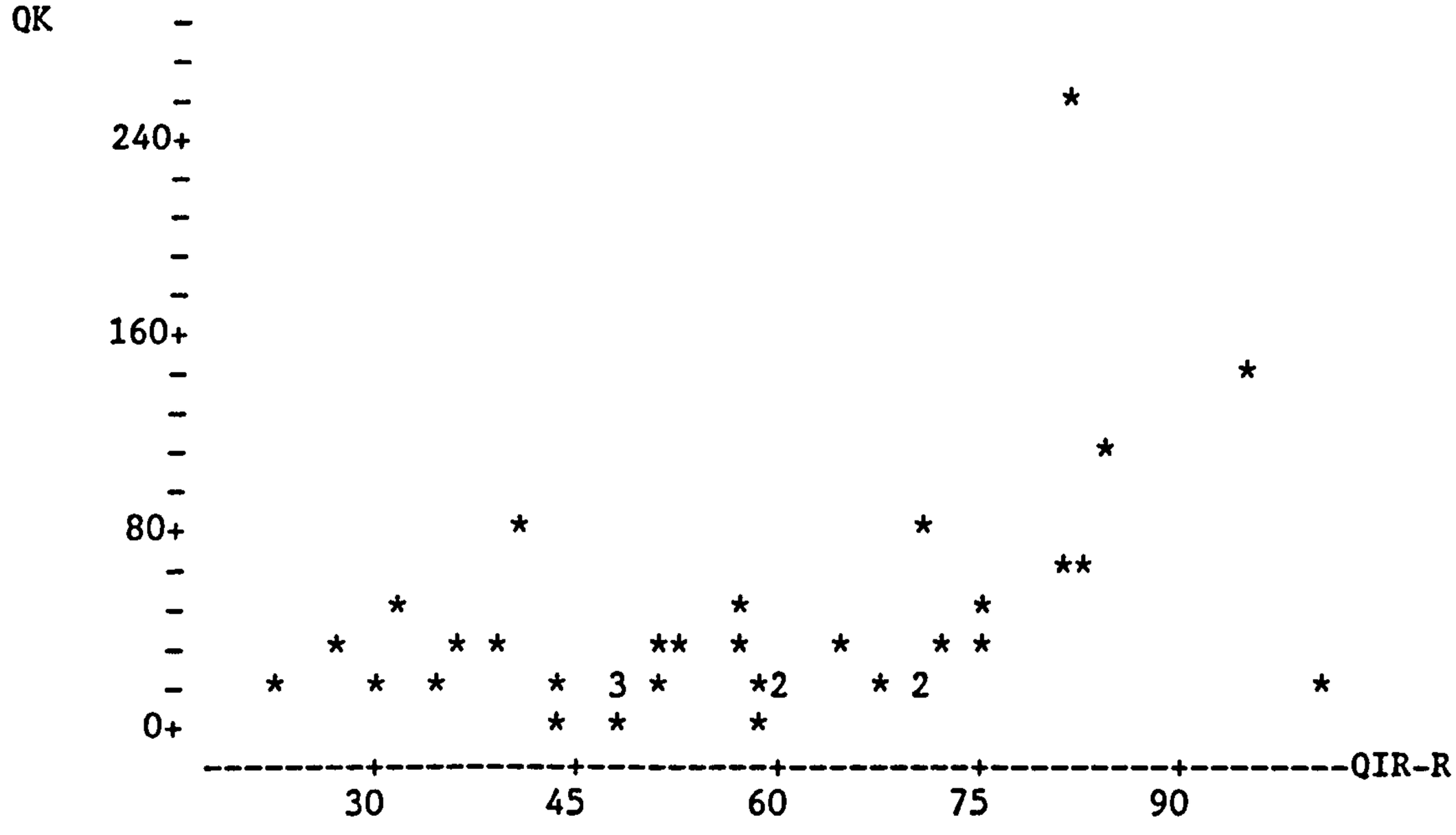
SOURCE	DF	SS	MS
Regression	1	13211	13211
Error	35	68692	1963
Total	36	81904	

Unusual Observations

Obs.	ATM10	QK	Fit	Stdev.Fit	Residual	St.Resid
3	0.397	9.20	-21.34	24.91	30.54	0.83 X
12	0.916	259.00	76.26	15.60	182.74	4.41R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C117 and C110 = 0.073



Correlation of QK and QIR-R = 0.448

The regression equation is
QK = - 23.9 + 1.12 QIR-R

Predictor	Coef	Stdev	t-ratio
Constant	-23.92	22.86	-1.05
QIR-R	1.1158	0.3765	2.96

s = 43.25 R-sq = 20.1% R-sq(adj) = 17.8%

Analysis of Variance

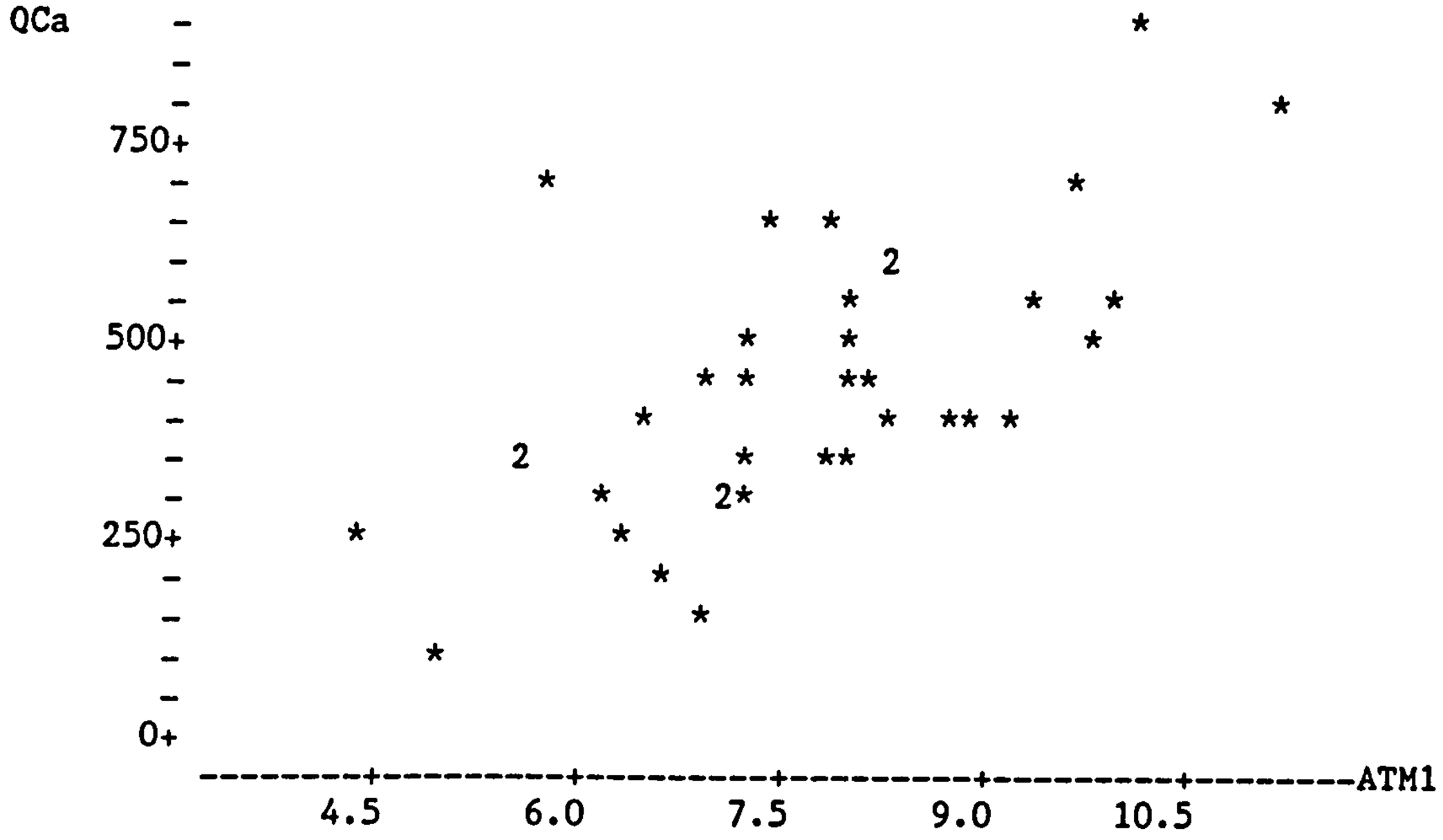
SOURCE	DF	SS	MS
Regression	1	16426	16426
Error	35	65478	1871
Total	36	81904	

Unusual Observations

Obs.	QIR-R	QK	Fit	Stdev.Fit	Residual	St.Resid
12	81	259.00	66.54	11.31	192.46	4.61R
28	101	16.20	88.76	17.78	-72.56	-1.84 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C117 and C147 = 0.412



Correlation of QCa and ATM1 = 0.629

The regression equation is
QCa = - 139 + 76.2 ATM1

Predictor	Coef	Stdev	t-ratio
Constant	-138.7	123.6	-1.12
ATM1	76.20	15.93	4.78

s = 142.5 R-sq = 39.5% R-sq(adj) = 37.8%

Analysis of Variance

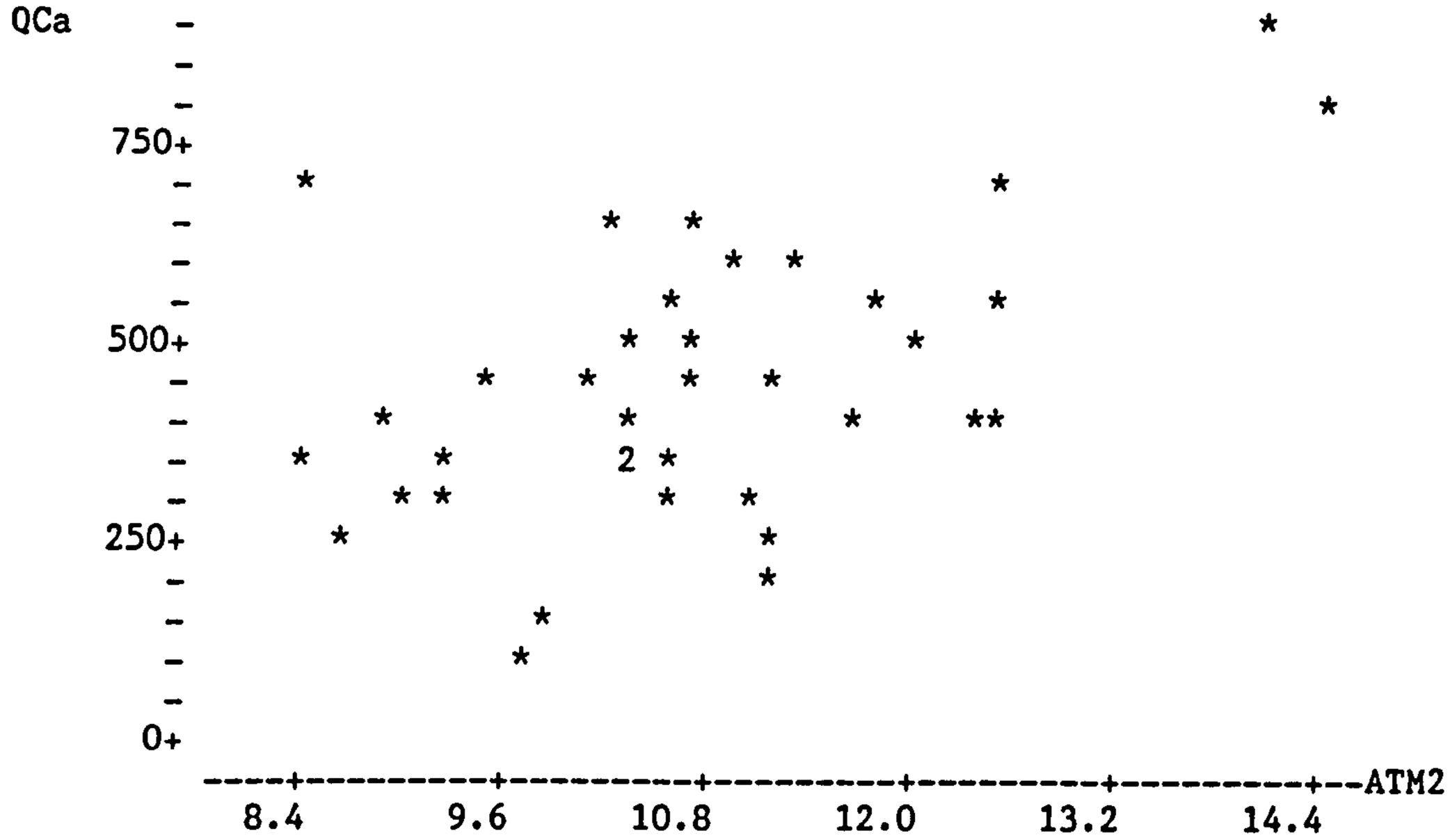
SOURCE	DF	SS	MS
Regression	1	464562	464562
Error	35	710696	20306
Total	36	1175258	

Unusual Observations

Obs.	ATM1	QCa	Fit	Stdev.Fit	Residual	St.Resid
8	5.7	714.0	295.5	38.5	418.5	3.05R
9	11.1	806.0	706.6	60.1	99.4	0.77 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C118 and C101 = 0.634



Correlation of QCa and ATM2 = 0.508

The regression equation is
QCa = - 253 + 64.9 ATM2

Predictor	Coef	Stdev	t-ratio
Constant	-252.6	200.8	-1.26
ATM2	64.85	18.59	3.49

s = 157.9 R-sq = 25.8% R-sq(adj) = 23.7%

Analysis of Variance

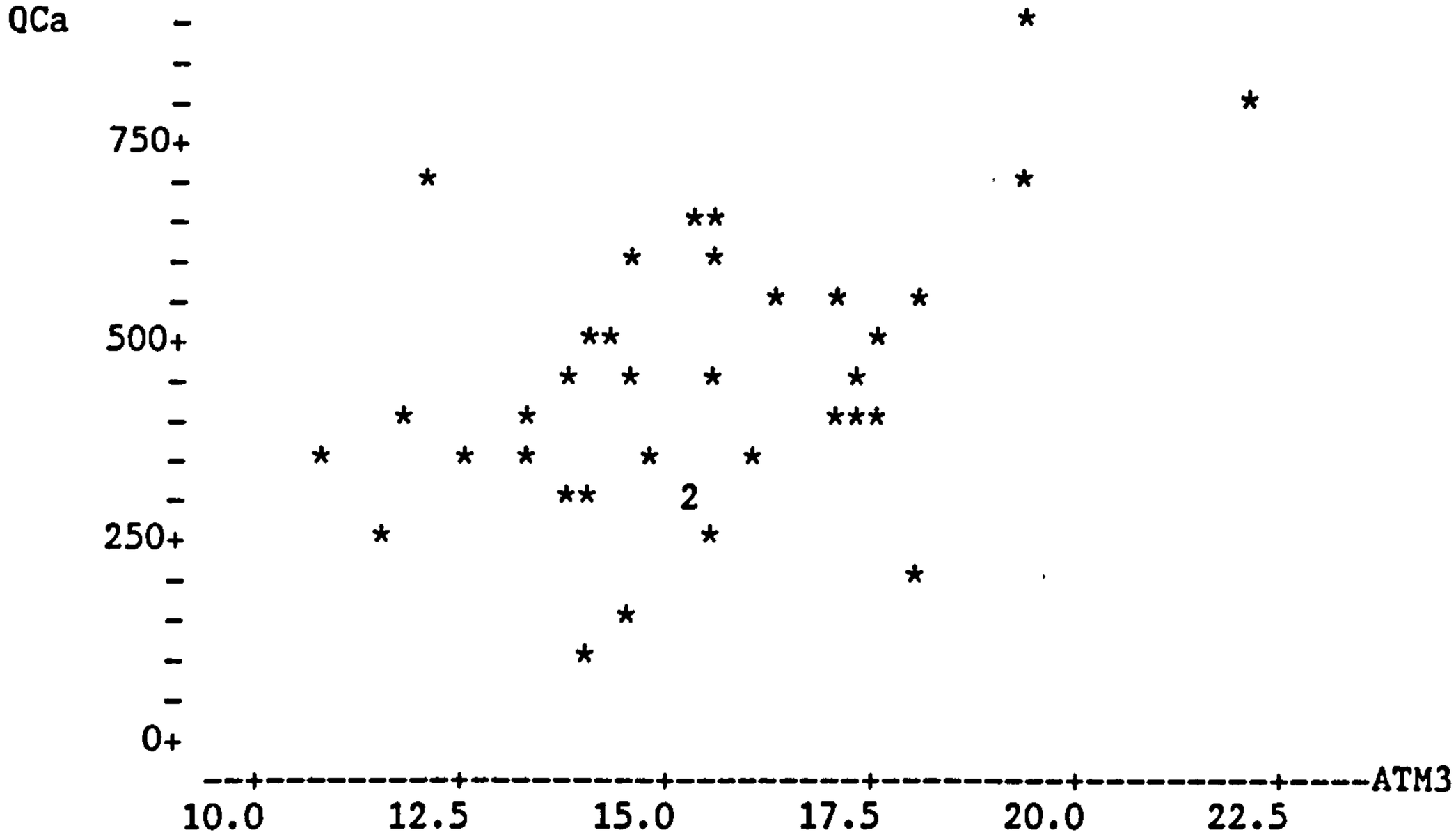
SOURCE	DF	SS	MS
Regression	1	303141	303141
Error	35	872117	24918
Total	36	1175258	

Unusual Observations

Obs.	ATM2	QCa	Fit	Stdev.Fit	Residual	St.Resid
8	8.4	714.0	294.6	49.6	419.4	2.80R
9	14.4	806.0	682.9	73.8	123.1	0.88 X
12	14.0	891.0	655.6	66.5	235.4	1.64 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C118 and C102 = 0.427



Correlation of QCa and ATM3 = 0.444

The regression equation is
QCa = - 77 + 33.9 ATM3

Predictor	Coef	Stdev	t-ratio
Constant	-77.3	178.9	-0.43
ATM3	33.89	11.54	2.94

s = 164.1 R-sq = 19.8% R-sq(adj) = 17.5%

Analysis of Variance

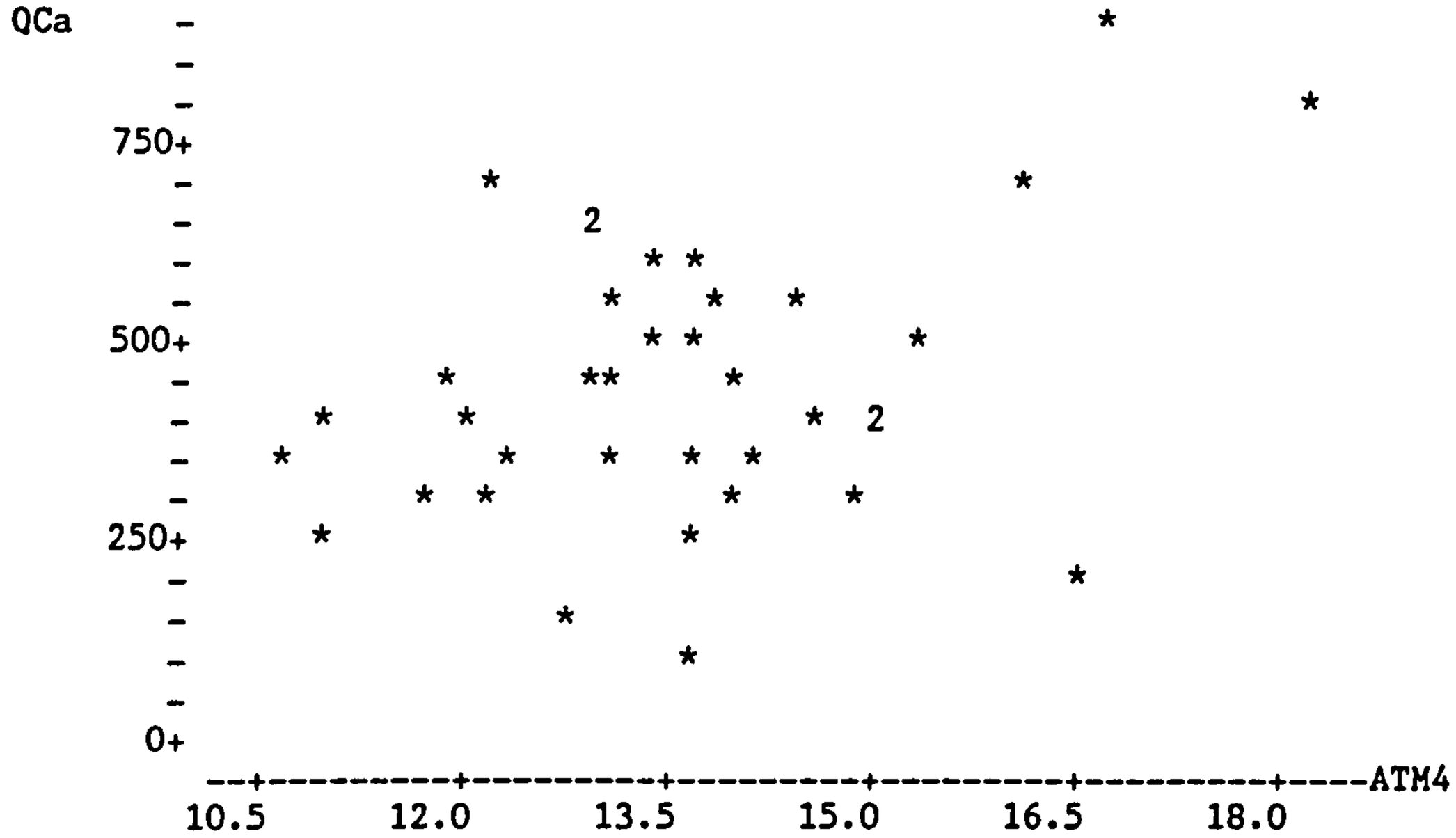
SOURCE	DF	SS	MS
Regression	1	232188	232188
Error	35	943070	26945
Total	36	1175258	

Unusual Observations

Obs.	ATM3	QCa	Fit	Stdev.Fit	Residual	St.Resid
8	11.9	714.0	326.5	47.7	387.5	2.47R
9	22.1	806.0	671.0	82.6	135.0	0.95 X
12	19.1	891.0	571.6	51.7	319.4	2.05R
35	17.9	189.0	528.9	40.1	-339.9	-2.14R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C118 and C103 = 0.382



Correlation of QCa and ATM4 = 0.341

The regression equation is
QCa = - 70 + 37.7 ATM4

Predictor	Coef	Stdev	t-ratio
Constant	-69.9	240.4	-0.29
ATM4	37.67	17.57	2.14

s = 172.3 R-sq = 11.6% R-sq(adj) = 9.1%

Analysis of Variance

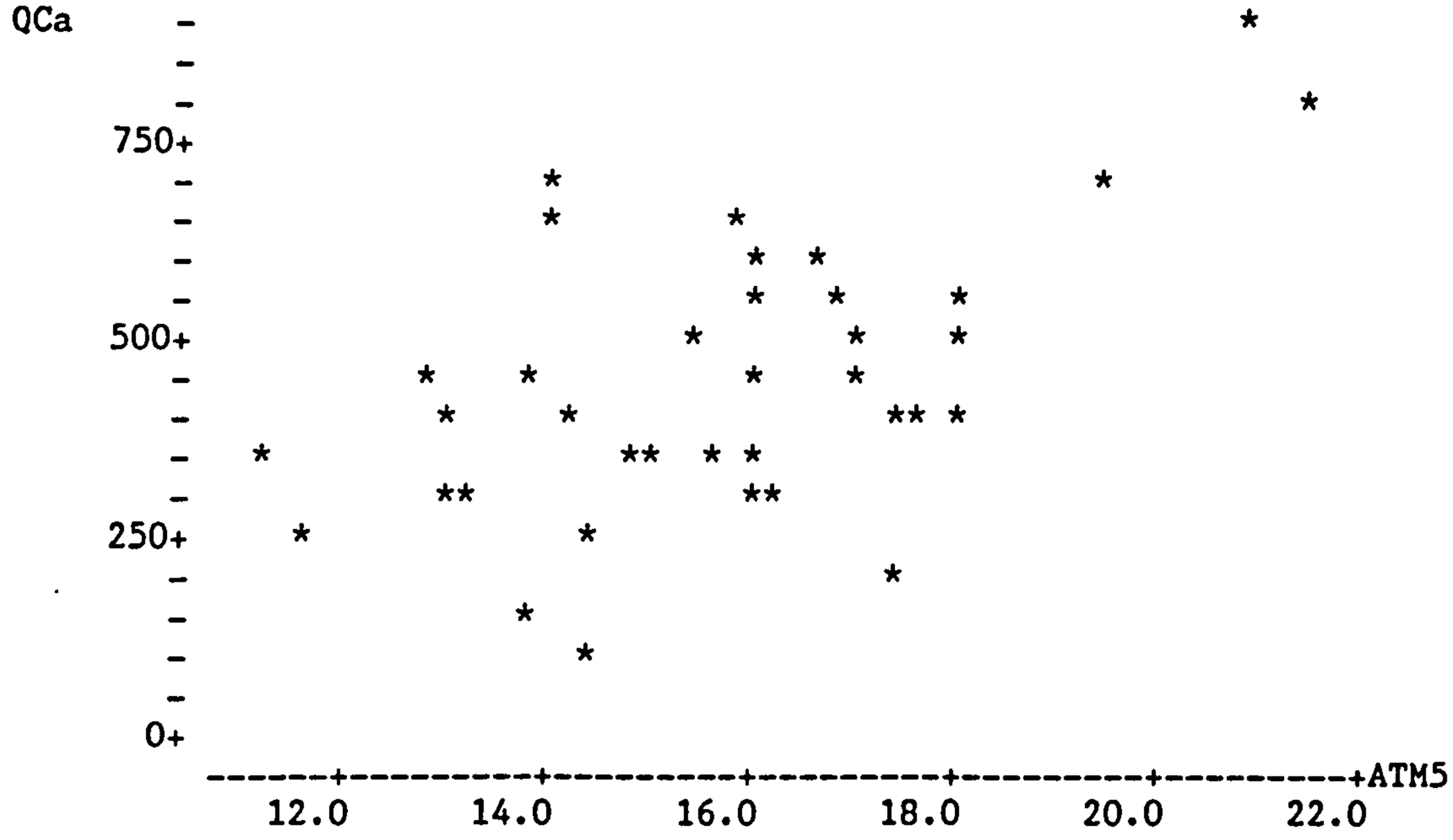
SOURCE	DF	SS	MS
Regression	1	136496	136496
Error	35	1038761	29679
Total	36	1175258	

Unusual Observations

Obs.	ATM4	QCa	Fit	Stdev.Fit	Residual	St.Resid
9	18.1	806.0	612.5	84.4	193.5	1.29 X
12	16.6	891.0	556.8	60.6	334.2	2.07R
35	16.5	189.0	553.1	59.1	-364.1	-2.25R
36	13.7	78.0	445.5	28.4	-367.5	-2.16R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C118 and C104 = 0.225



Correlation of QCa and ATM5 = 0.537

The regression equation is
QCa = - 218 + 42.0 ATM5

Predictor	Coef	Stdev	t-ratio
Constant	-218.1	177.3	-1.23
ATM5	41.96	11.16	3.76

s = 154.6 R-sq = 28.8% R-sq(adj) = 26.8%

Analysis of Variance

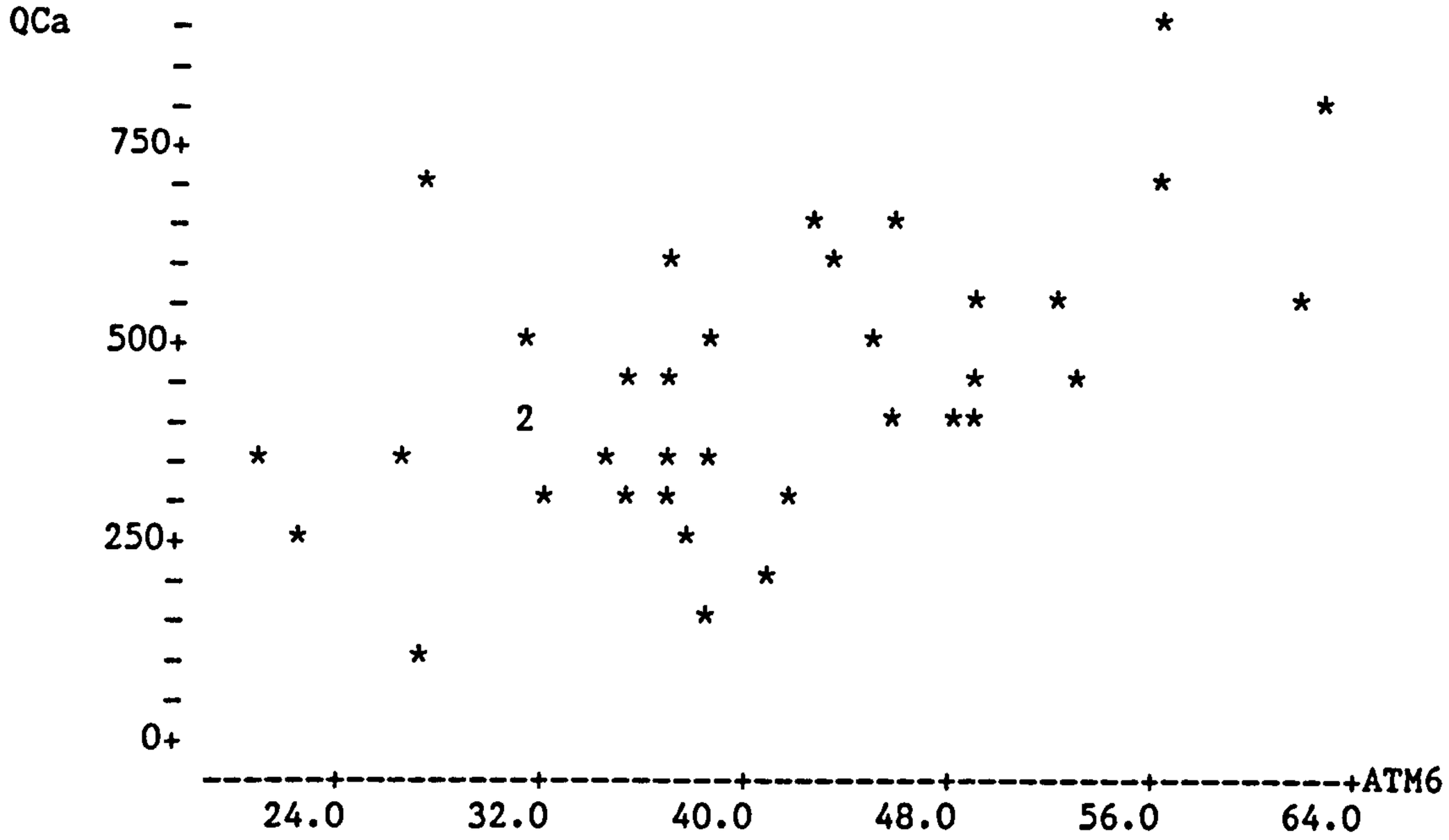
SOURCE	DF	SS	MS
Regression	1	338347	338347
Error	35	836911	23912
Total	36	1175258	

Unusual Observations

Obs.	ATM5	QCa	Fit	Stdev.Fit	Residual	St.Resid
8	13.9	714.0	367.0	32.3	347.0	2.29R
9	21.5	806.0	683.8	69.1	122.2	0.88 X
35	17.5	189.0	515.1	32.0	-326.1	-2.16R
36	14.4	78.0	387.6	29.2	-309.6	-2.04R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C118 and C105 = 0.429



Correlation of QCa and ATM6 = 0.548

The regression equation is
QCa = 53 + 9.64 ATM6

Predictor	Coef	Stdev	t-ratio
Constant	52.5	103.5	0.51
ATM6	9.638	2.485	3.88

s = 153.3 R-sq = 30.1% R-sq(adj) = 28.1%

Analysis of Variance

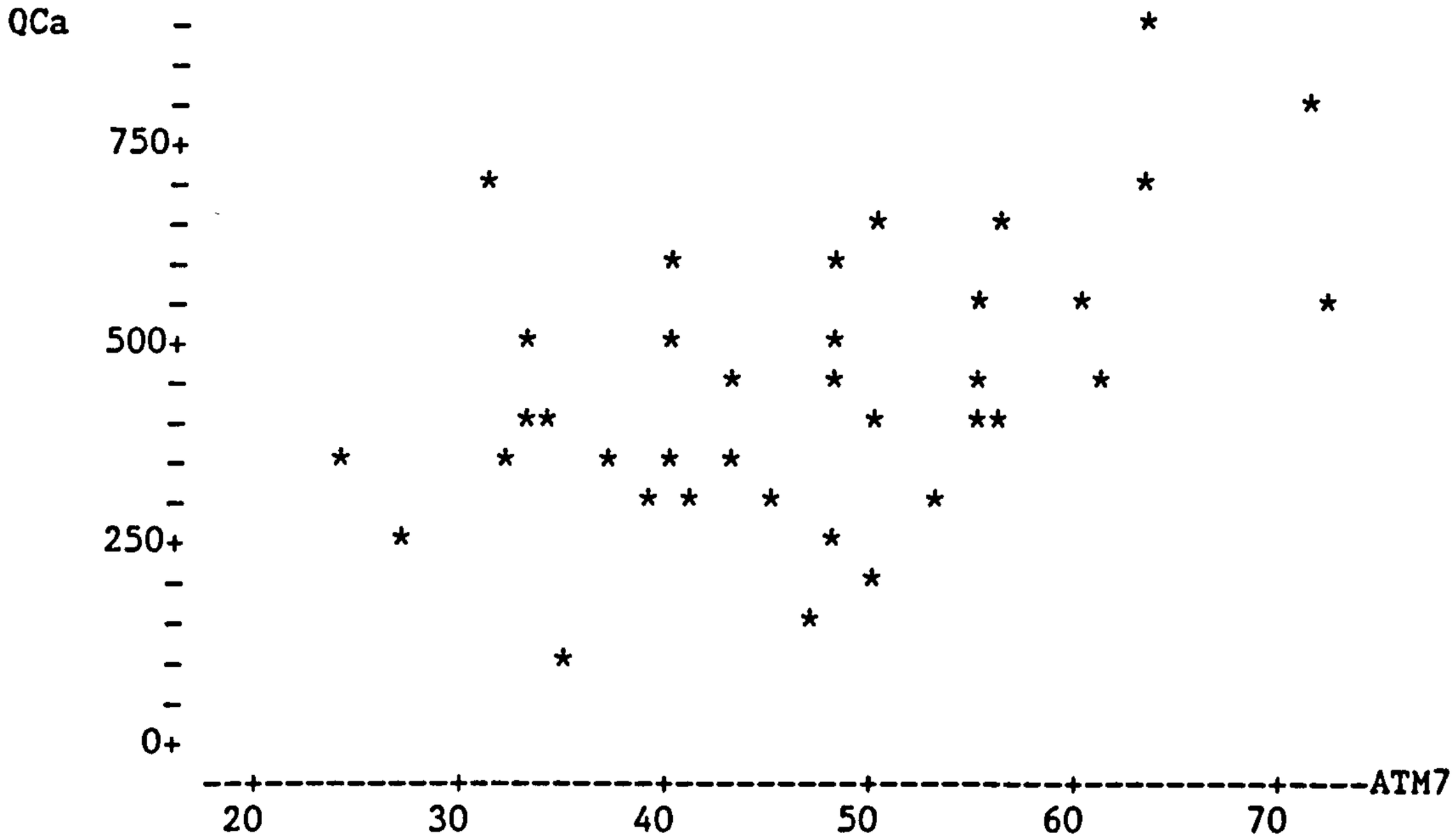
SOURCE	DF	SS	MS
Regression	1	353183	353183
Error	35	822075	23488
Total	36	1175258	

Unusual Observations

Obs.	ATM6	QCa	Fit	Stdev.Fit	Residual	St.Resid
8	27.2	714.0	314.7	41.4	399.3	2.71R
12	55.7	891.0	589.2	45.6	301.8	2.06R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C118 and C106 = 0.516



Correlation of QCa and ATM7 = 0.464

The regression equation is
QCa = 110 + 7.11 ATM7

Predictor	Coef	Stdev	t-ratio
Constant	110.3	110.4	1.00
ATM7	7.114	2.297	3.10

s = 162.3 R-sq = 21.5% R-sq(adj) = 19.3%

Analysis of Variance

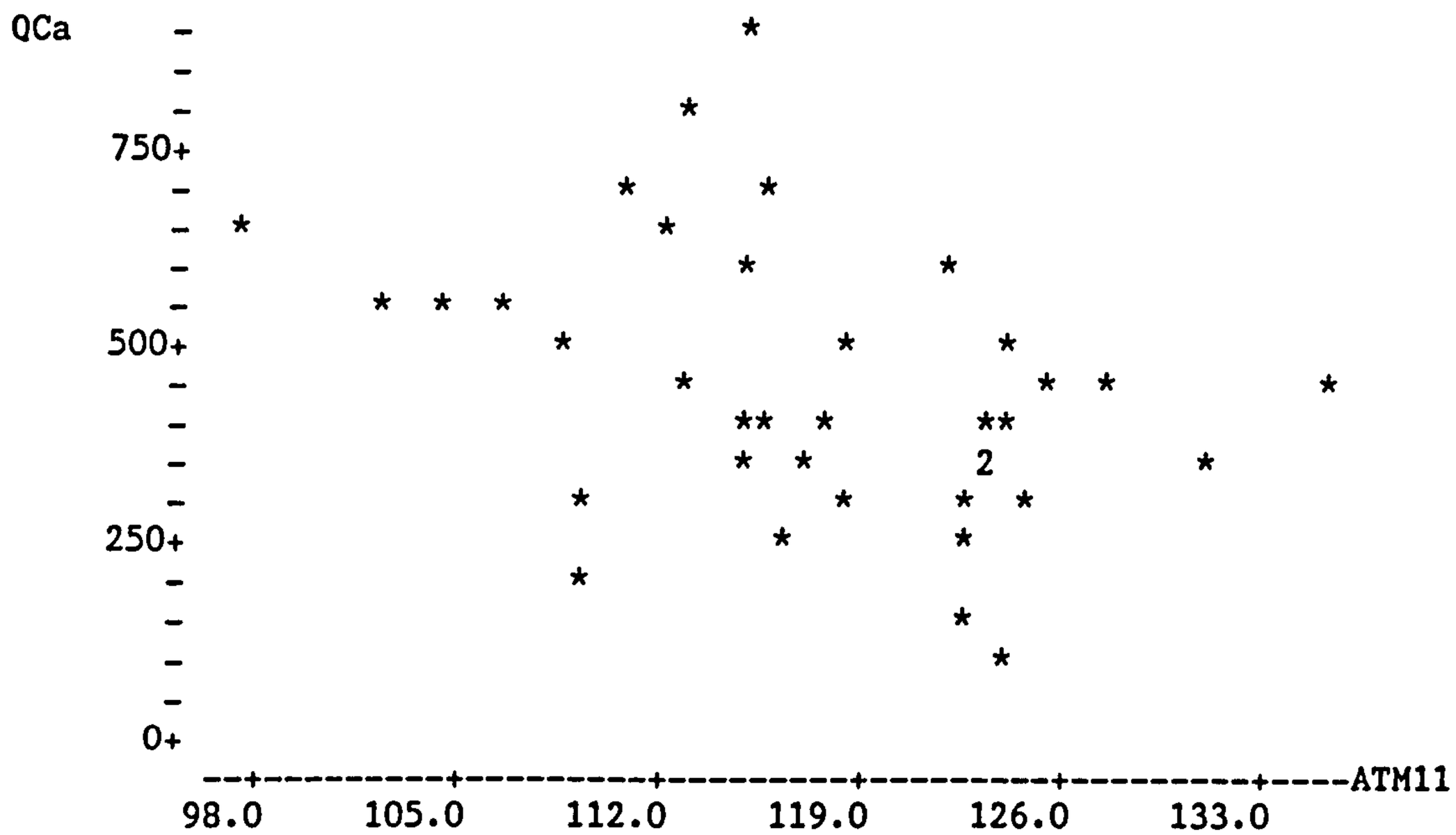
SOURCE	DF	SS	MS
Regression	1	252793	252793
Error	35	922465	26356
Total	36	1175258	

Unusual Observations

Obs.	ATM7	QCa	Fit	Stdev.Fit	Residual	St.Resid
8	31.0	714.0	331.2	44.6	382.8	2.45R
12	62.8	891.0	557.3	45.8	333.7	2.14R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C118 and C107 = 0.416



Correlation of QCa and ATM11 = -0.372

The regression equation is
QCa = 1410 - 8.26 ATM11

Predictor	Coef	Stdev	t-ratio
Constant	1410.3	409.7	3.44
ATM11	-8.264	3.488	-2.37

s = 170.1 R-sq = 13.8% R-sq(adj) = 11.4%

Analysis of Variance

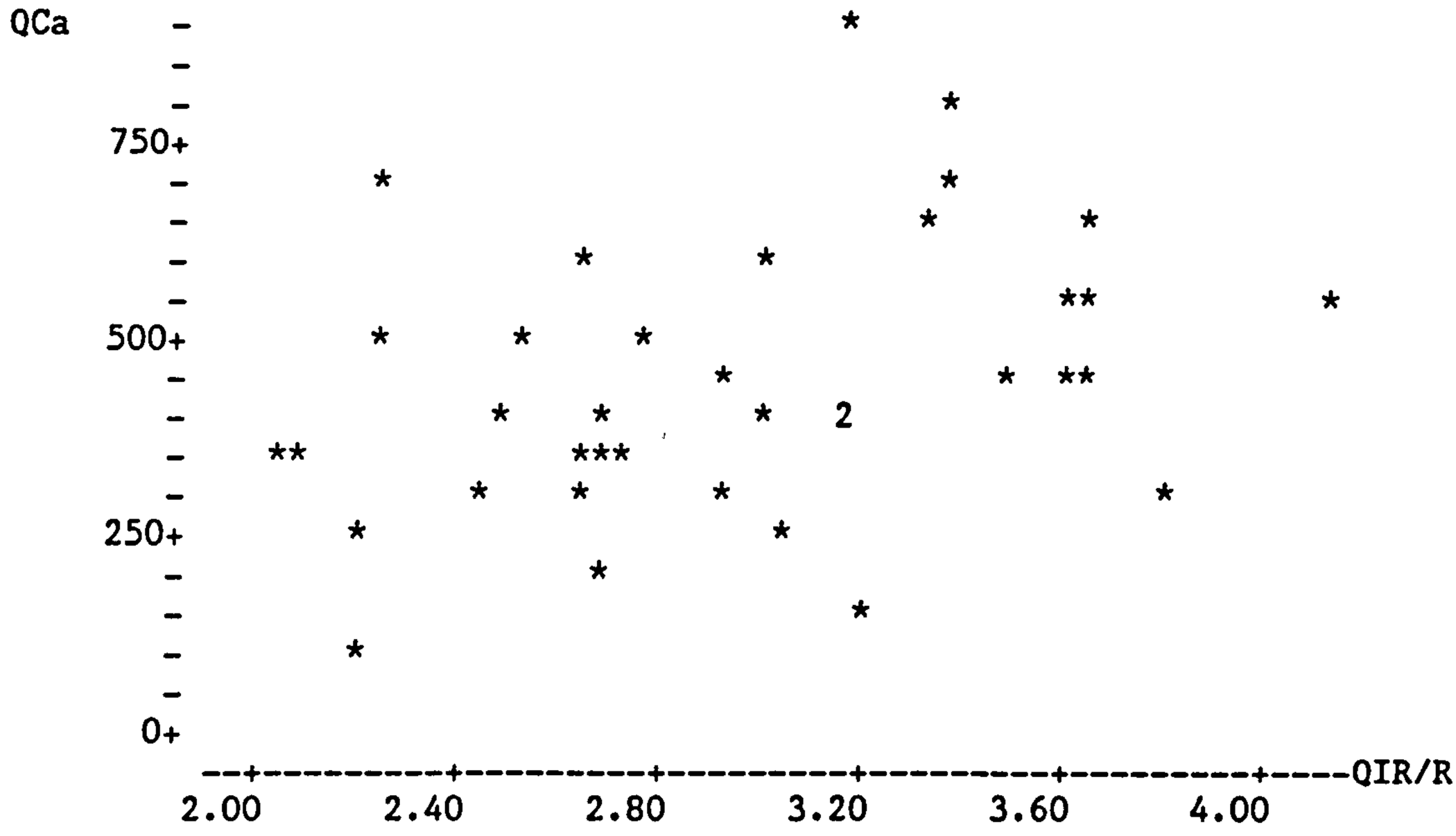
SOURCE	DF	SS	MS
Regression	1	162413	162413
Error	35	1012845	28938
Total	36	1175258	

Unusual Observations

Obs.	ATM11	QCa	Fit	Stdev.Fit	Residual	St.Resid
12	115	891.0	462.0	29.2	429.0	2.56R
18	135	458.0	292.6	69.0	165.4	1.06 X
34	97	655.0	608.7	75.7	46.3	0.30 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C118 and C111 = -0.389



Correlation of QCa and QIR/R = 0.342

The regression equation is
QCa = 102 + 115 QIR/R

Predictor	Coef	Stdev	t-ratio
Constant	102.0	160.4	0.64
QIR/R	115.37	53.57	2.15

s = 172.2 R-sq = 11.7% R-sq(adj) = 9.2%

Analysis of Variance

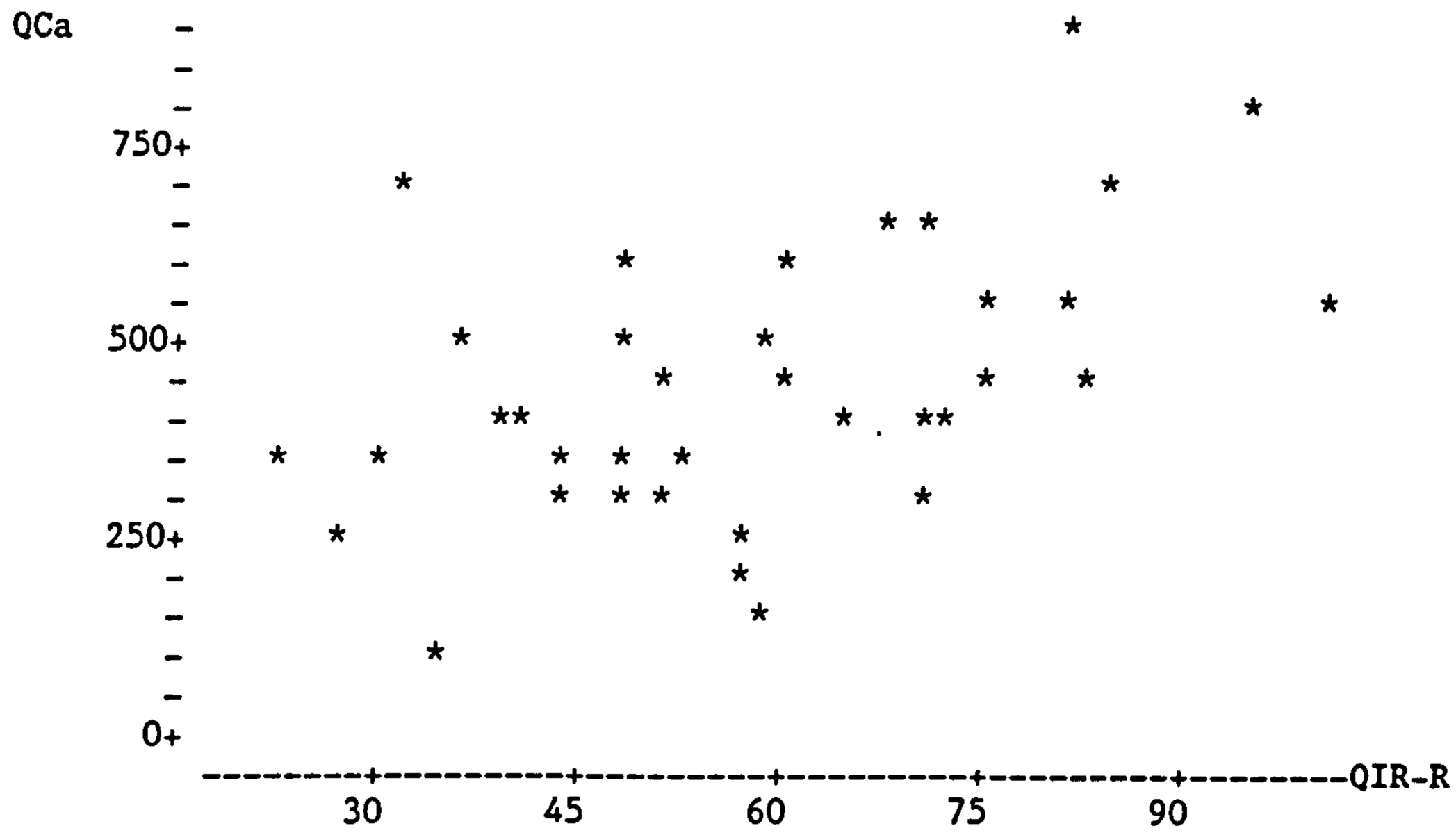
SOURCE	DF	SS	MS
Regression	1	137531	137531
Error	35	1037727	29649
Total	36	1175258	

Unusual Observations

Obs.	QIR/R	QCa	Fit	Stdev.Fit	Residual	St.Resid
8	2.24	714.0	360.0	47.4	354.0	2.14R
12	3.17	891.0	467.2	30.6	423.8	2.50R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C118 and C146 = 0.373



Correlation of QCa and QIR-R = 0.486

The regression equation is
QCa = 177 + 4.58 QIR-R

Predictor	Coef	Stdev	t-ratio
Constant	177.38	84.66	2.10
QIR-R	4.585	1.394	3.29

s = 160.2 R-sq = 23.6% R-sq(adj) = 21.4%

Analysis of Variance

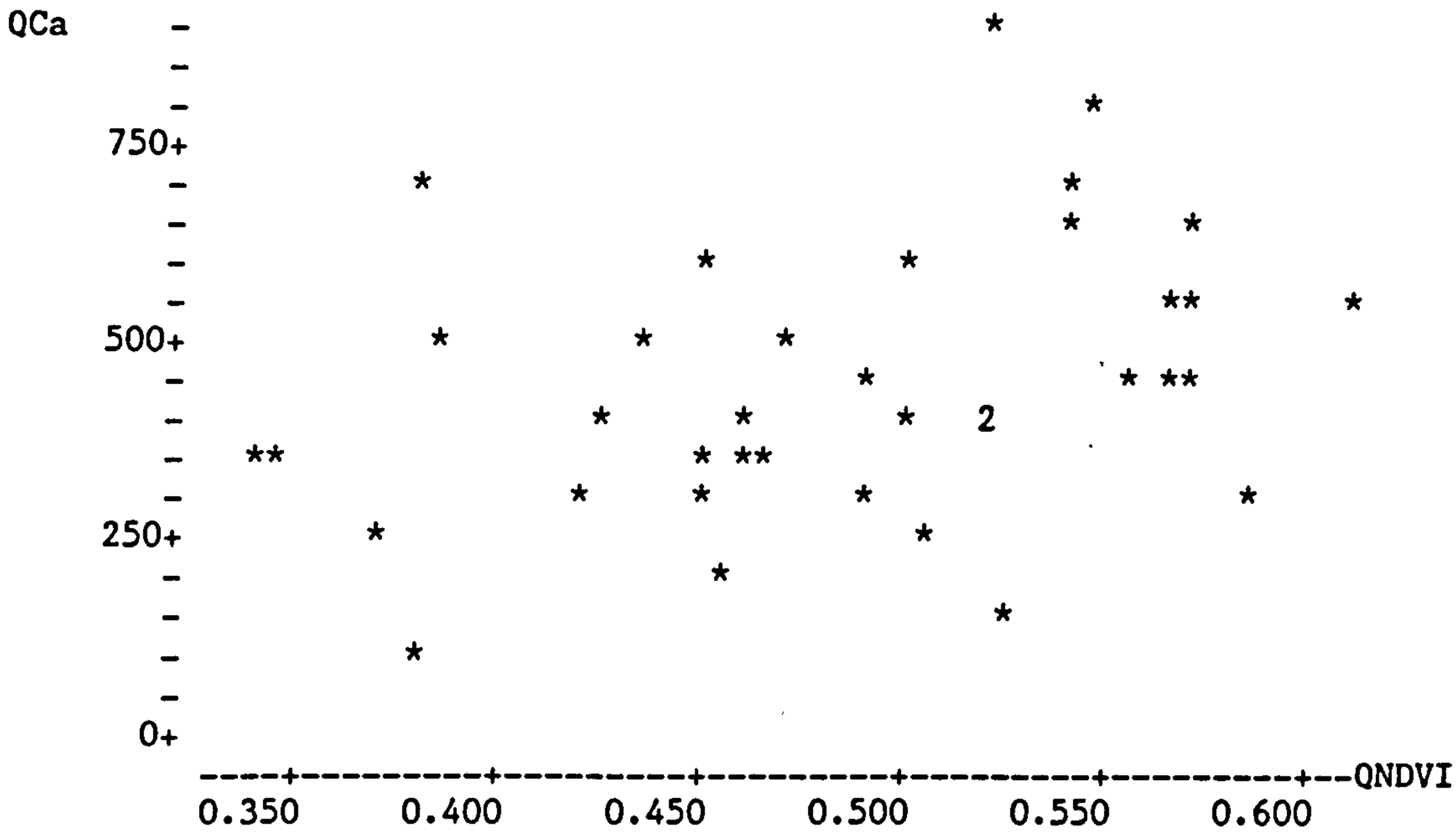
SOURCE	DF	SS	MS
Regression	1	277343	277343
Error	35	897915	25655
Total	36	1175258	

Unusual Observations

Obs.	QIR-R	QCa	Fit	Stdev.Fit	Residual	St.Resid
8	32	714.0	325.0	44.2	389.0	2.53R
12	81	891.0	549.1	41.9	341.9	2.21R
28	101	558.0	640.4	65.8	-82.4	-0.56 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C118 and C147 = 0.478



Correlation of QCa and QNDVI = 0.340

The regression equation is
QCa = 22 + 867 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	22.3	197.9	0.11
QNDVI	867.1	404.7	2.14

s = 172.3 R-sq = 11.6% R-sq(adj) = 9.1%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	136248	136248
Error	35	1039010	29686
Total	36	1175258	

Unusual Observations

Obs.	QNDVI	QCa	Fit	Stdev.Fit	Residual	St.Resid
8	0.382	714.0	353.6	50.0	360.4	2.19R
12	0.520	891.0	473.0	31.8	418.0	2.47R

R denotes an obs. with a large st. resid.

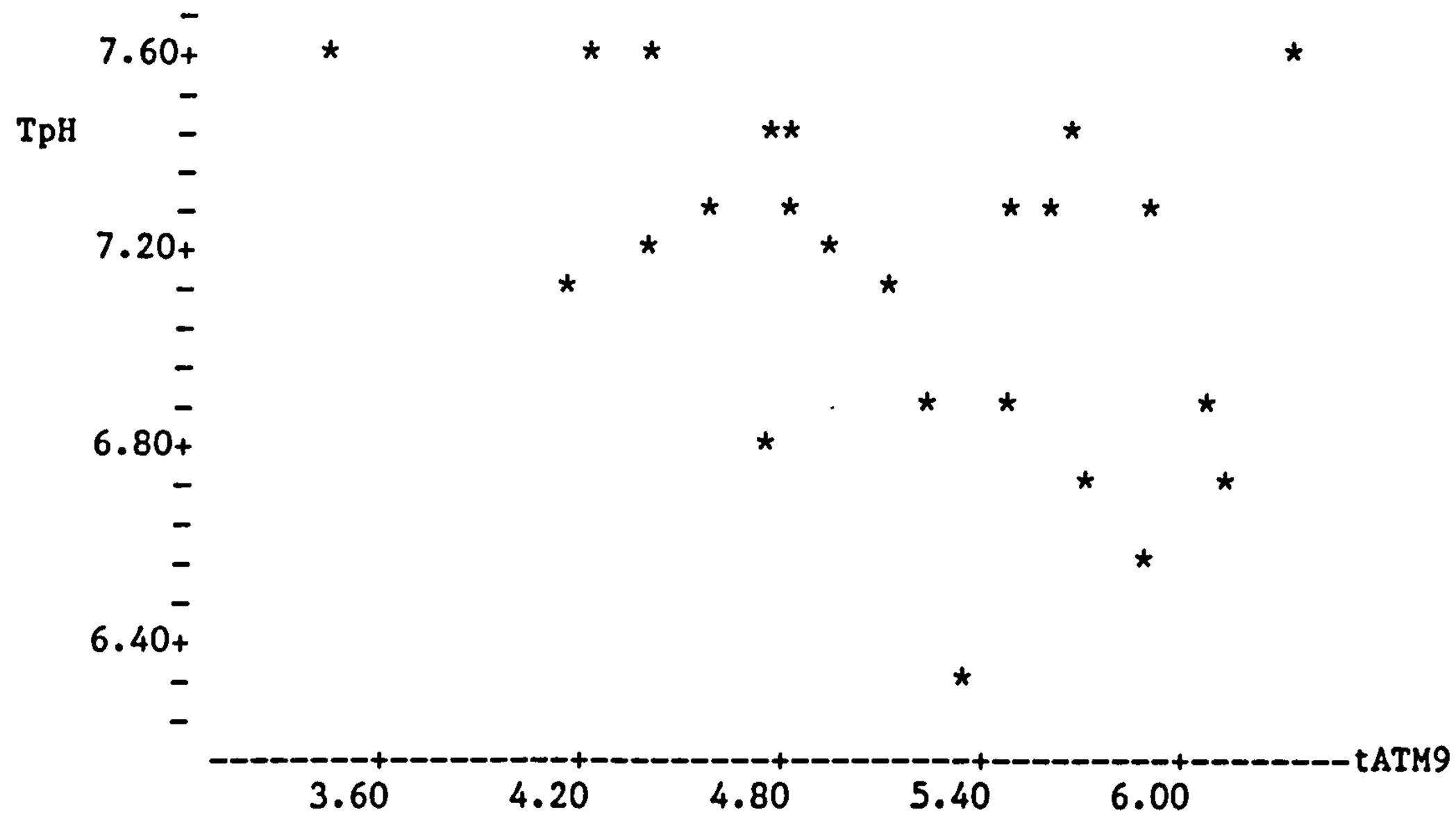
SPEARMAN RANK Correlation of C118 and C148 = 0.373

APPENDIX 3

CRYMLYN BOG STUDY

RELATING AIRBORNE SCANNER DATA TO FIELD-MEASURED VARIABLES

REGRESSION RESULTS AND SCATTER PLOTS TRANSECT SAMPLES



Correlation of TpH and tATM9 = -0.419

The regression equation is
TpH = 8.18 - 0.203 tATM9

Predictor	Coef	Stdev	t-ratio
Constant	8.1772	0.4842	16.89
tATM9	-0.20252	0.09360	-2.16

s = 0.3276 R-sq = 17.5% R-sq(adj) = 13.8%

Analysis of Variance

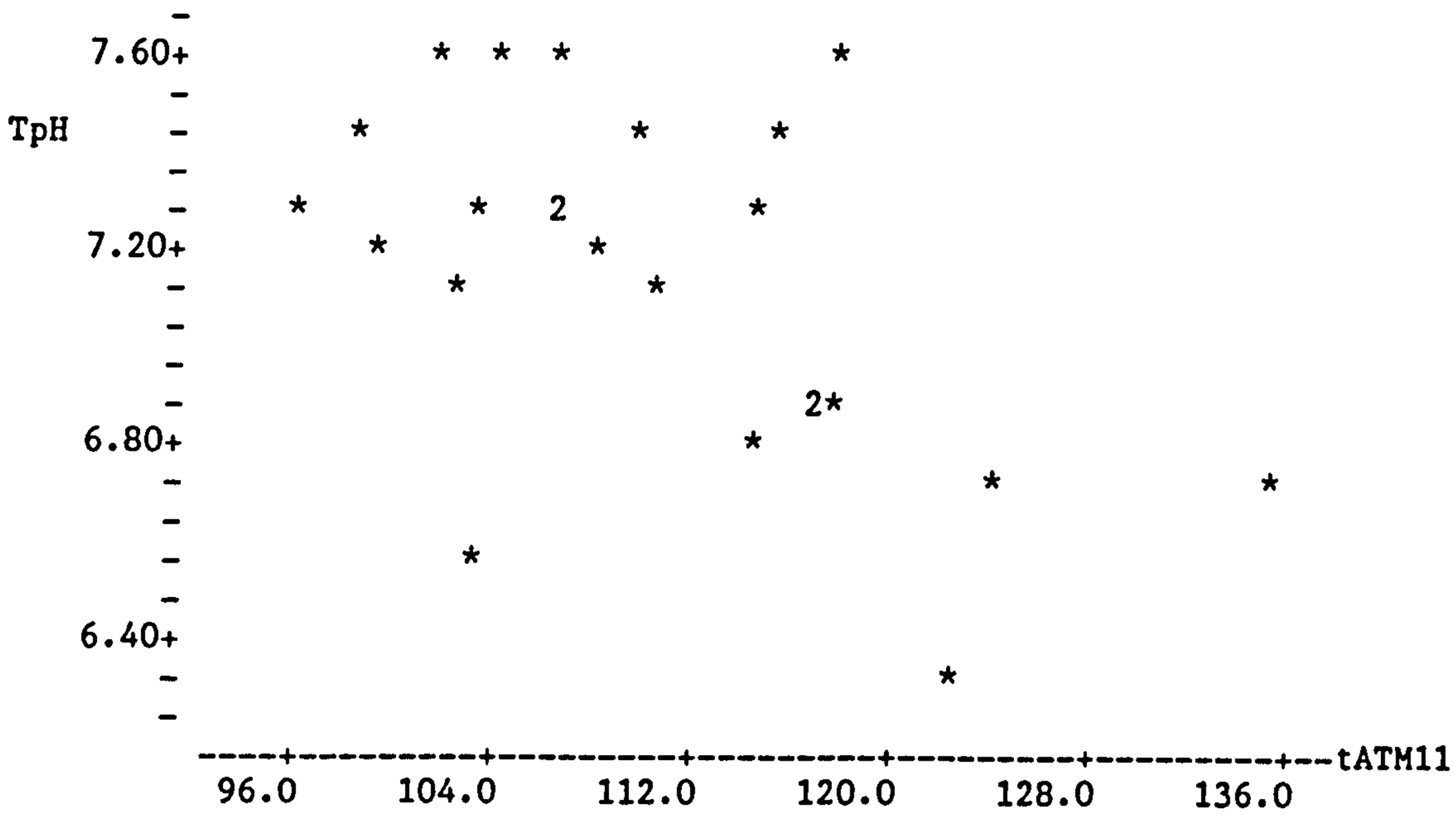
SOURCE	DF	SS	MS
Regression	1	0.5026	0.5026
Error	22	2.3617	0.1074
Total	23	2.8643	

Unusual Observations

Obs.	tATM9	TpH	Fit	Stdev.Fit	Residual	St.Resid
6	6.32	7.5900	6.8974	0.1304	0.6926	2.30R
10	3.43	7.5600	7.4828	0.1722	0.0772	0.28 X
22	5.33	6.3400	7.0986	0.0695	-0.7586	-2.37R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C131 and C127 = -0.386



Correlation of TpH and tATM11 = -0.546

The regression equation is
TpH = 9.44 - 0.0208 tATM11

Predictor	Coef	Stdev	t-ratio
Constant	9.4358	0.7539	12.52
tATM11	-0.020778	0.006799	-3.06

s = 0.3023 R-sq = 29.8% R-sq(adj) = 26.6%

Analysis of Variance

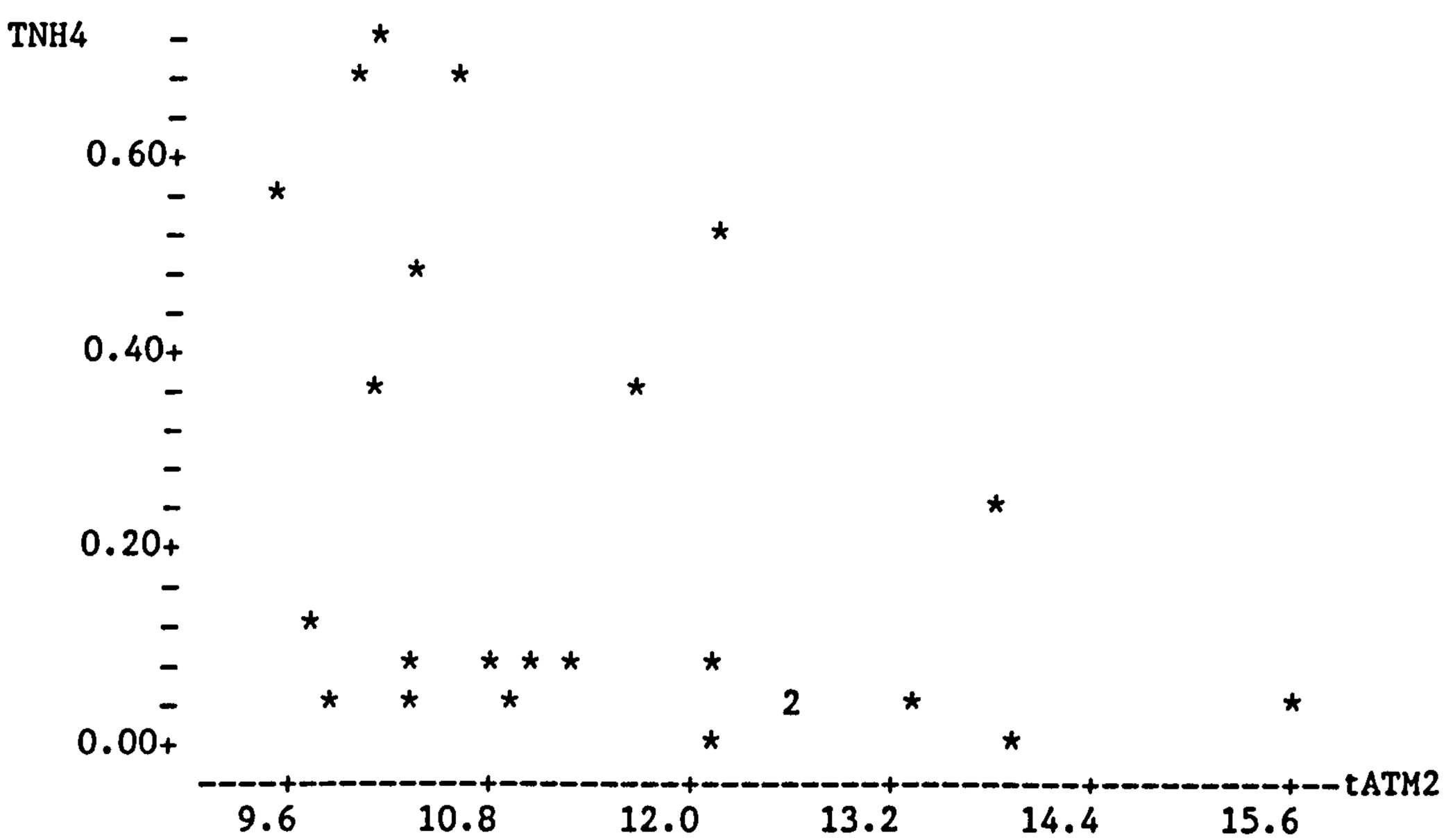
SOURCE	DF	SS	MS
Regression	1	0.85352	0.85352
Error	22	2.01078	0.09140
Total	23	2.86430	

Unusual Observations

Obs.	tATM11	TpH	Fit	Stdev.Fit	Residual	St.Resid
6	118	7.5900	6.9944	0.0779	0.5956	2.04R
20	135	6.6900	6.6255	0.1792	0.0645	0.26 X
24	104	6.5800	7.2852	0.0780	-0.7052	-2.41R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C131 and C129 = -0.455



Correlation of TNH4 and tATM2 = -0.409

The regression equation is
TNH4 = 0.963 - 0.0647 tATM2

Predictor	Coef	Stdev	t-ratio
Constant	0.9625	0.3553	2.71
tATM2	-0.06468	0.03076	-2.10

s = 0.2329 R-sq = 16.7% R-sq(adj) = 13.0%

Analysis of Variance

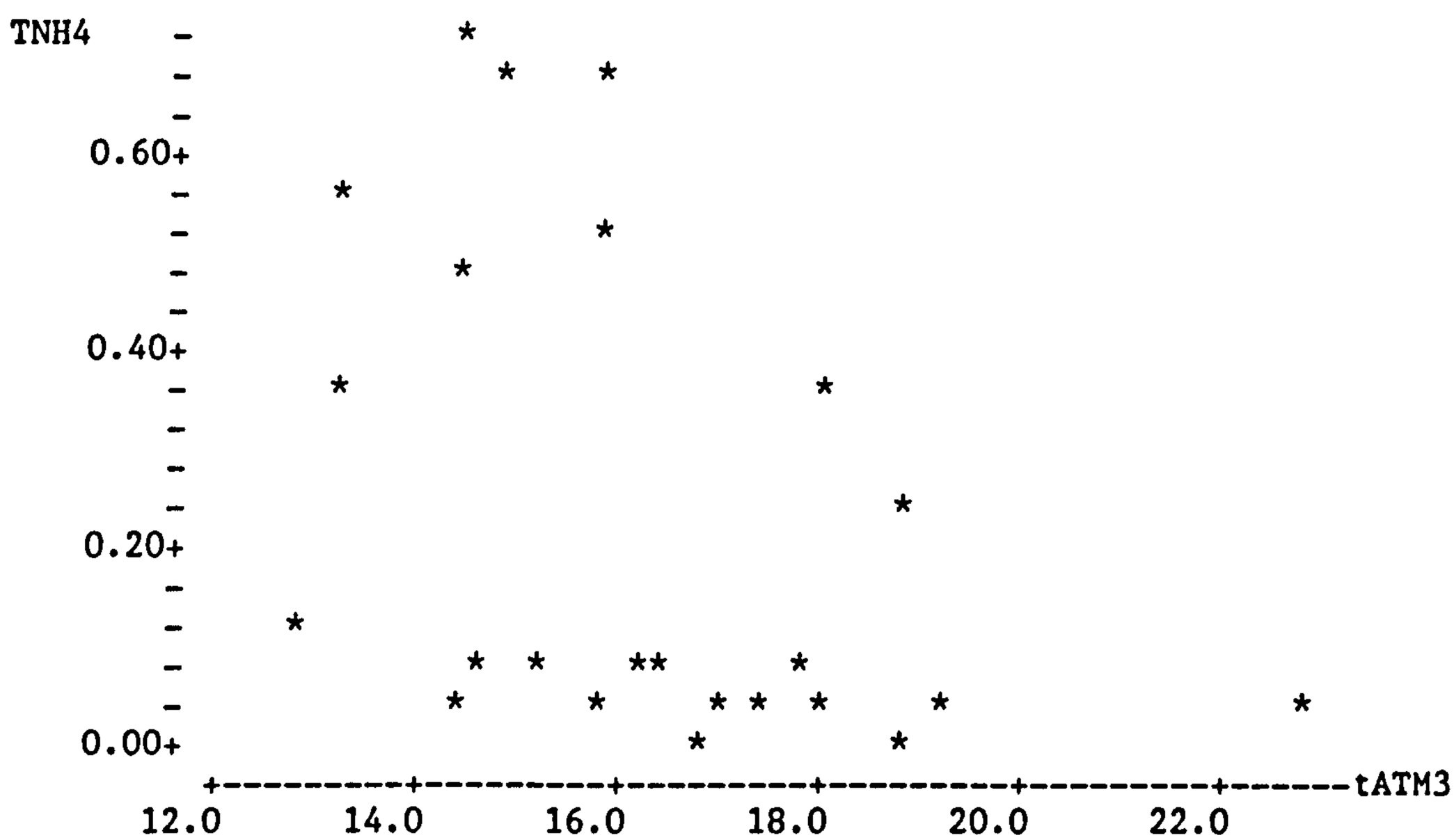
SOURCE	DF	SS	MS
Regression	1	0.23996	0.23996
Error	22	1.19384	0.05427
Total	23	1.43380	

Unusual Observations

Obs.	tATM2	TNH4	Fit	Stdev.Fit	Residual	St.Resid
6	15.6	0.0500	-0.0468	0.1364	0.0968	0.51 X

X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C132 and C120 = -0.491



Correlation of TNH4 and tATM3 = -0.423

The regression equation is
TNH4 = 0.971 - 0.0459 tATM3

Predictor	Coef	Stdev	t-ratio
Constant	0.9707	0.3454	2.81
tATM3	-0.04591	0.02099	-2.19

s = 0.2314 R-sq = 17.9% R-sq(adj) = 14.1%

Analysis of Variance

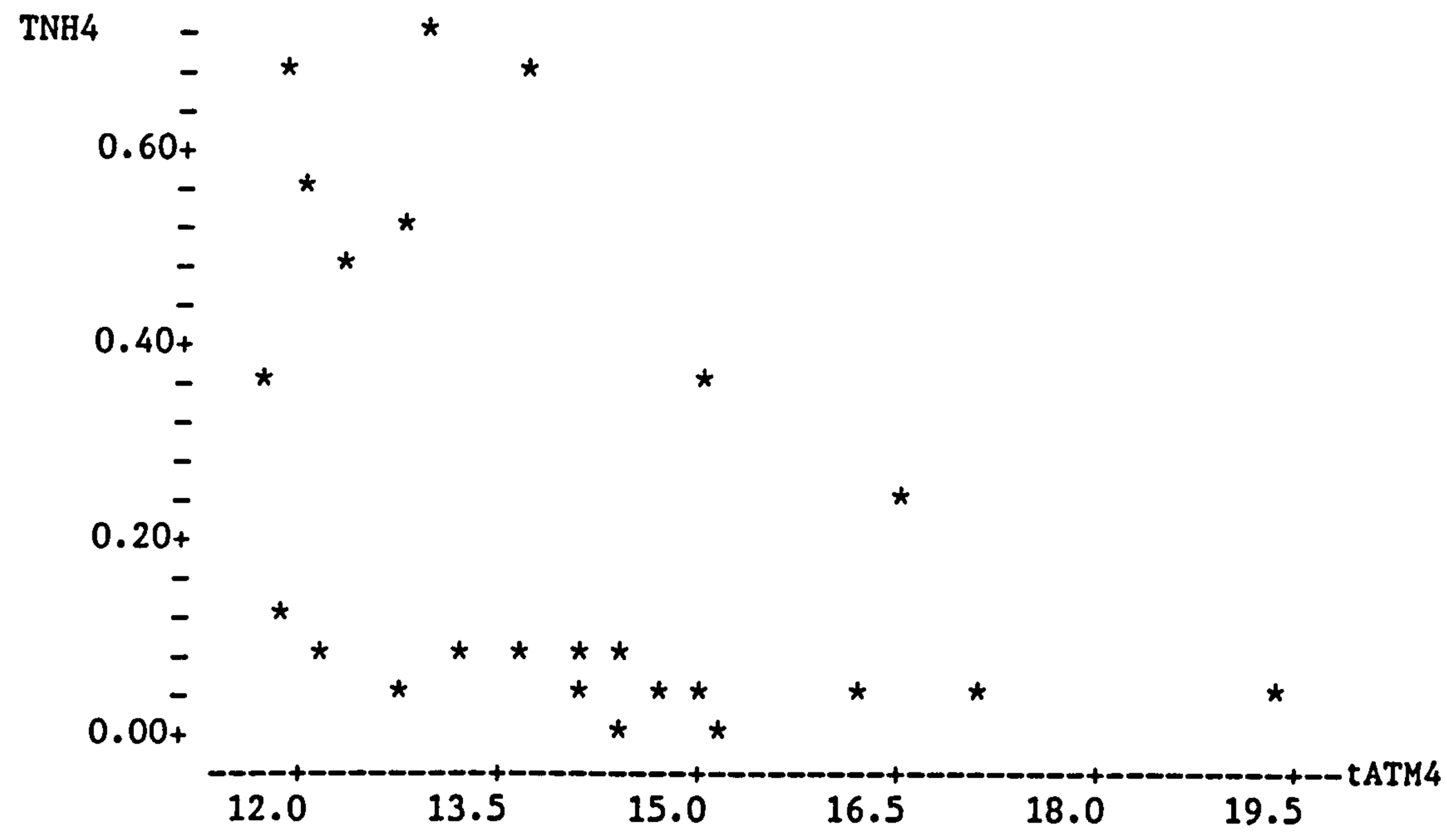
SOURCE	DF	SS	MS
Regression	1	0.25620	0.25620
Error	22	1.17760	0.05353
Total	23	1.43380	

Unusual Observations

Obs.	tATM3	TNH4	Fit	Stdev.Fit	Residual	St.Resid
6	22.7	0.0500	-0.0721	0.1425	0.1221	0.67 X

X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C132 and C121 = -0.520



Correlation of TNH4 and tATM4 = -0.474

The regression equation is
TNH4 = 1.10 - 0.0626 tATM4

Predictor	Coef	Stdev	t-ratio
Constant	1.1004	0.3505	3.14
tATM4	-0.06259	0.02476	-2.53

s = 0.2247 R-sq = 22.5% R-sq(adj) = 19.0%

Analysis of Variance

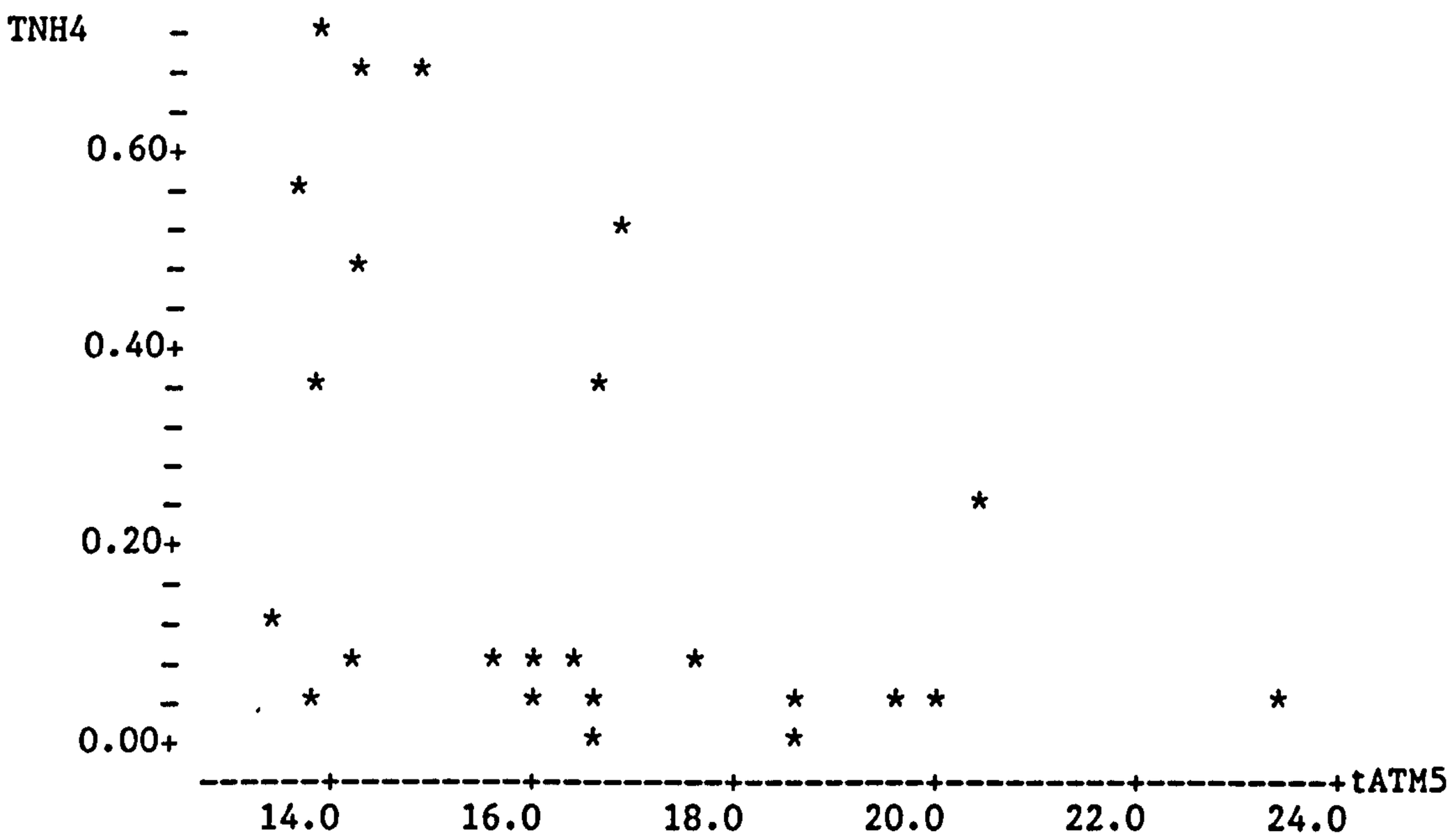
SOURCE	DF	SS	MS
Regression	1	0.32274	0.32274
Error	22	1.11105	0.05050
Total	23	1.43380	

Unusual Observations

Obs.	tATM4	TNH4	Fit	Stdev.Fit	Residual	St.Resid
6	19.3	0.0500	-0.1073	0.1381	0.1573	0.89 X
23	13.6	0.6900	0.2503	0.0472	0.4397	2.00R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C132 and C122 = -0.586



Correlation of TNH4 and tATM5 = -0.464

The regression equation is
TNH4 = 0.959 - 0.0448 tATM5

Predictor	Coef	Stdev	t-ratio
Constant	0.9591	0.3032	3.16
tATM5	-0.04481	0.01822	-2.46

s = 0.2261 R-sq = 21.6% R-sq(adj) = 18.0%

Analysis of Variance

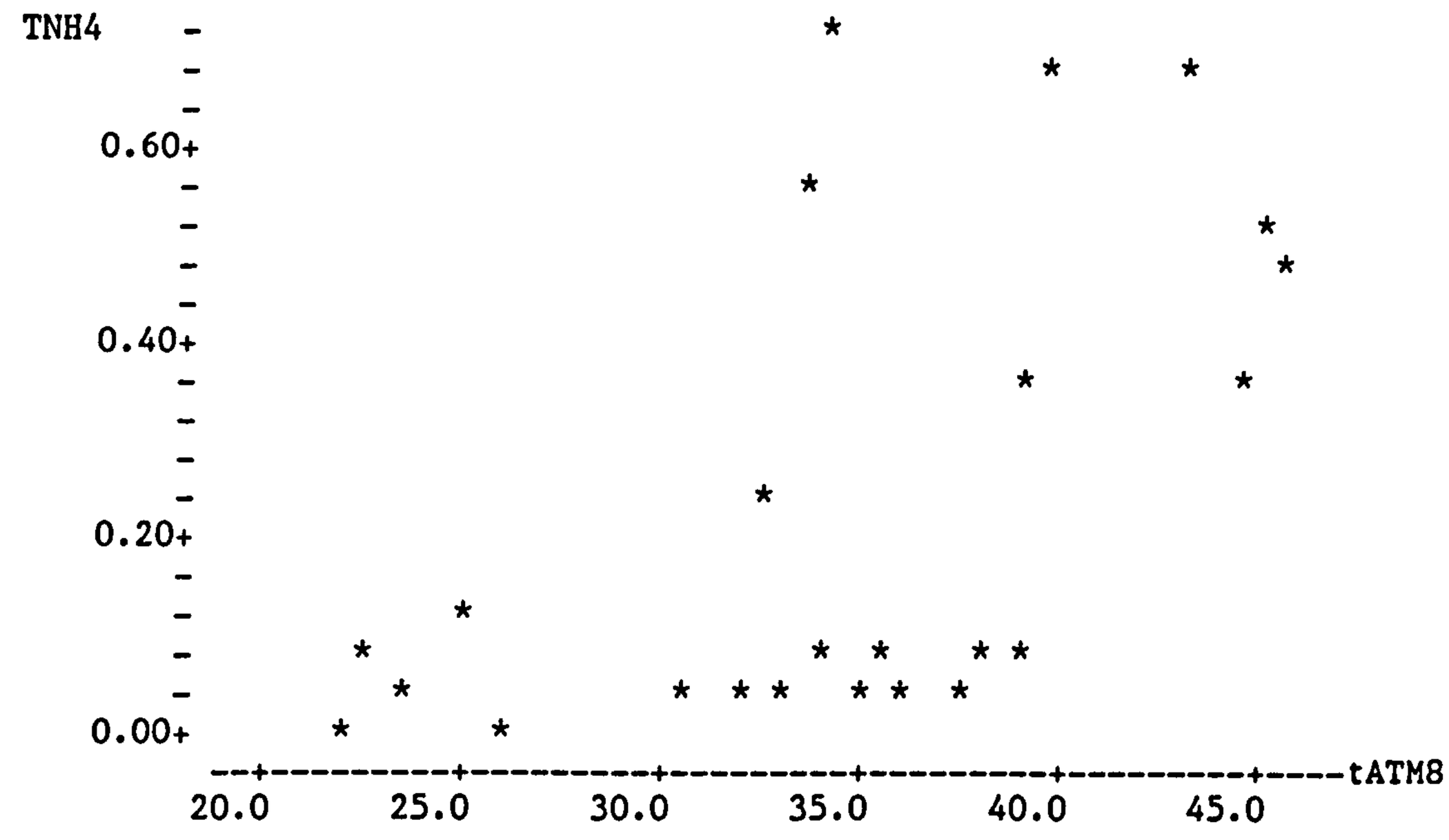
SOURCE	DF	SS	MS
Regression	1	0.30927	0.30927
Error	22	1.12452	0.05111
Total	23	1.43380	

Unusual Observations

Obs.	tATM5	TNH4	Fit	Stdev.Fit	Residual	St.Resid
6	23.4	0.0500	-0.0875	0.1340	0.1375	0.75 X

X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C132 and C123 = -0.504



Correlation of TNH4 and tATM8 = 0.564

The regression equation is
TNH4 = - 0.472 + 0.0202 tATM8

Predictor	Coef	Stdev	t-ratio
Constant	-0.4718	0.2206	-2.14
tATM8	0.020164	0.006287	3.21

s = 0.2107 R-sq = 31.9% R-sq(adj) = 28.8%

Analysis of Variance

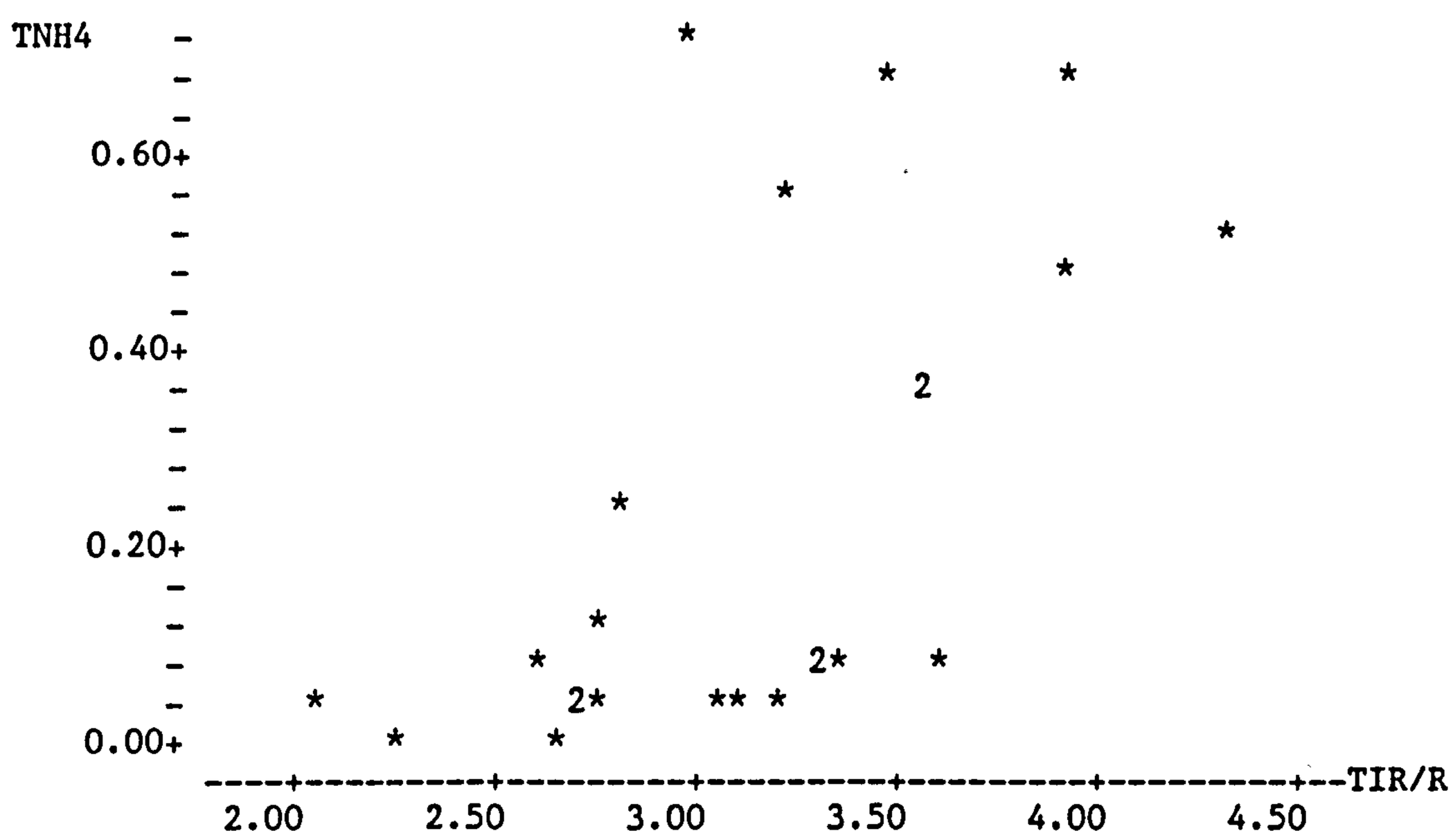
SOURCE	DF	SS	MS
Regression	1	0.45682	0.45682
Error	22	0.97697	0.04441
Total	23	1.43380	

Unusual Observations

Obs.	tATM8	TNH4	Fit	Stdev.Fit	Residual	St.Resid
20	34.0	0.7100	0.2146	0.0431	0.4954	2.40R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C132 and C126 = 0.565



Correlation of TNH4 and TIR/R = 0.593

The regression equation is
TNH4 = - 0.646 + 0.278 TIR/R

Predictor	Coef	Stdev	t-ratio
Constant	-0.6457	0.2546	-2.54
TIR/R	0.27801	0.08045	3.46

s = 0.2055 R-sq = 35.2% R-sq(adj) = 32.2%

Analysis of Variance

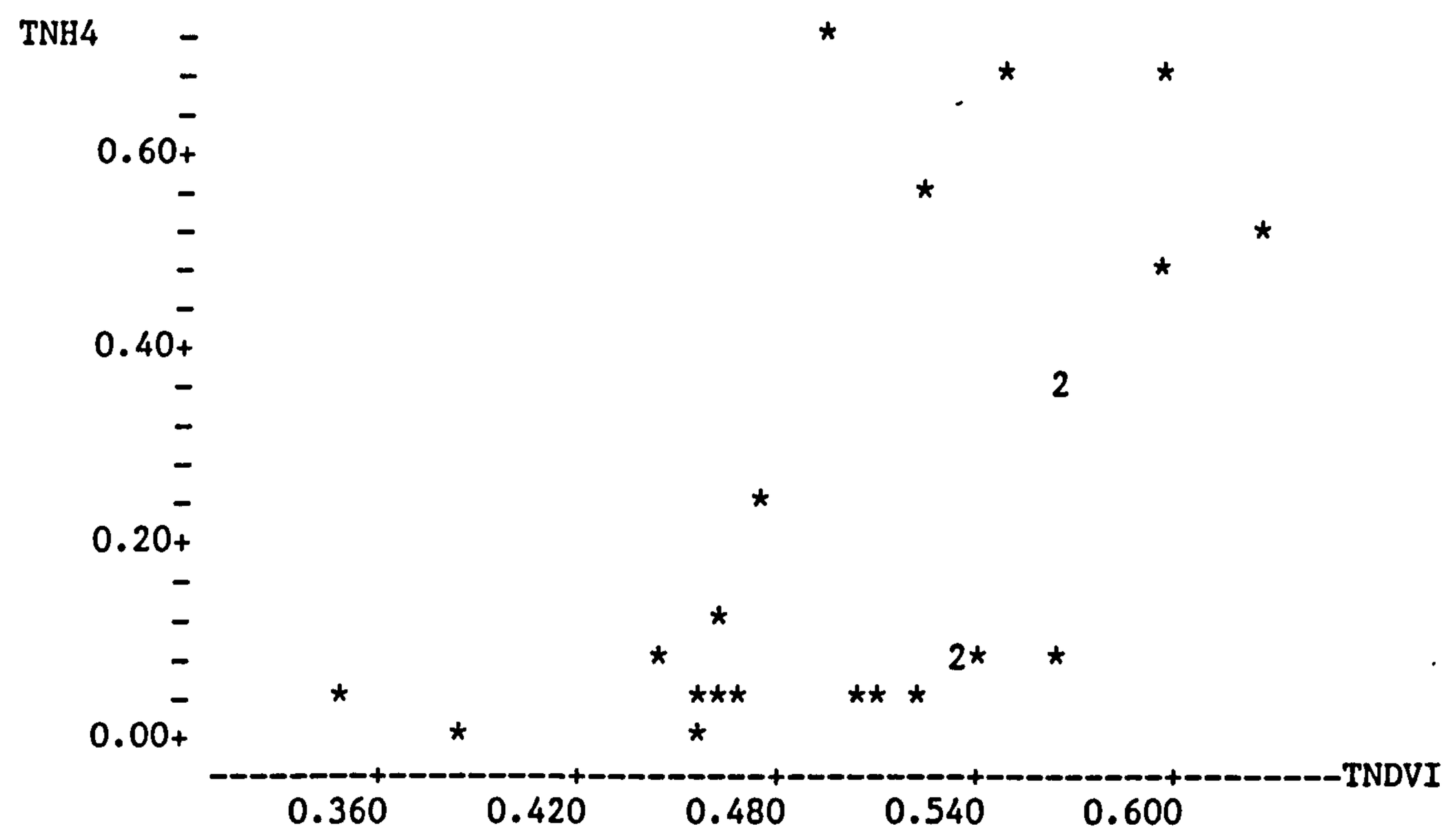
SOURCE	DF	SS	MS
Regression	1	0.50446	0.50446
Error	22	0.92934	0.04224
Total	23	1.43380	

Unusual Observations

Obs.	TIR/R	TNH4	Fit	Stdev.Fit	Residual	St.Resid
20	2.93	0.7100	0.1675	0.0448	0.5425	2.70R
24	4.31	0.5300	0.5519	0.1042	-0.0219	-0.12 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C132 and C151 = 0.653



Correlation of TNH4 and TNDVI = 0.567

The regression equation is
TNH4 = - 0.883 + 2.18 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-0.8830	0.3448	-2.56
TNDVI	2.1805	0.6752	3.23

s = 0.2103 R-sq = 32.2% R-sq(adj) = 29.1%

Analysis of Variance

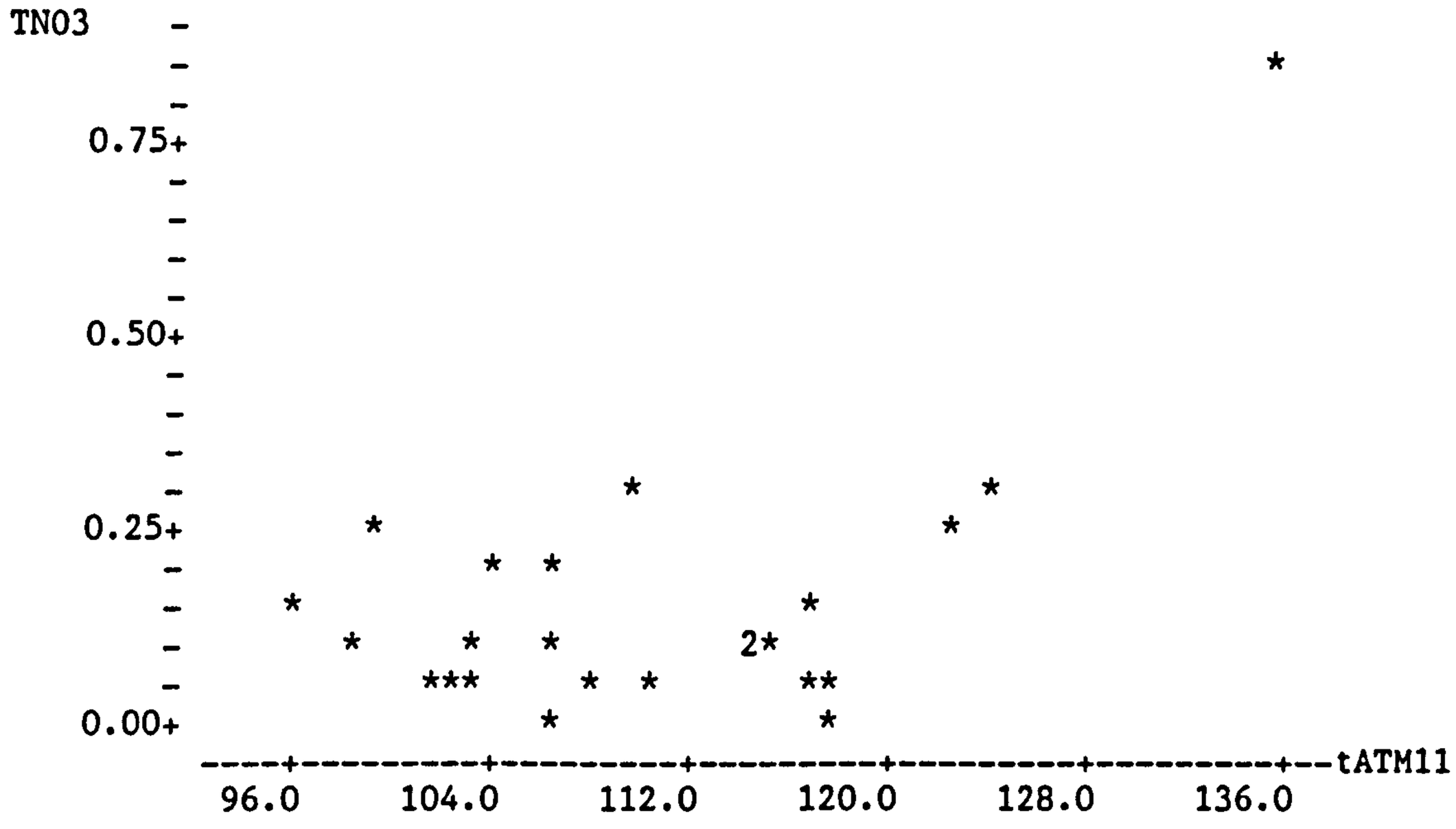
SOURCE	DF	SS	MS
Regression	1	0.46114	0.46114
Error	22	0.97265	0.04421
Total	23	1.43380	

Unusual Observations

Obs.	TNDVI	TNH4	Fit	Stdev.Fit	Residual	St.Resid
1	0.349	0.0200	-0.1228	0.1151	0.1428	0.81 X
20	0.490	0.7100	0.1865	0.0443	0.5235	2.55R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C132 and C153 = 0.653



Correlation of TNO3 and tATM11 = 0.554

The regression equation is
TNO3 = - 0.971 + 0.0101 tATM11

Predictor	Coef	Stdev	t-ratio
Constant	-0.9705	0.3598	-2.70
tATM11	0.010121	0.003245	3.12

s = 0.1443 R-sq = 30.7% R-sq(adj) = 27.5%

Analysis of Variance

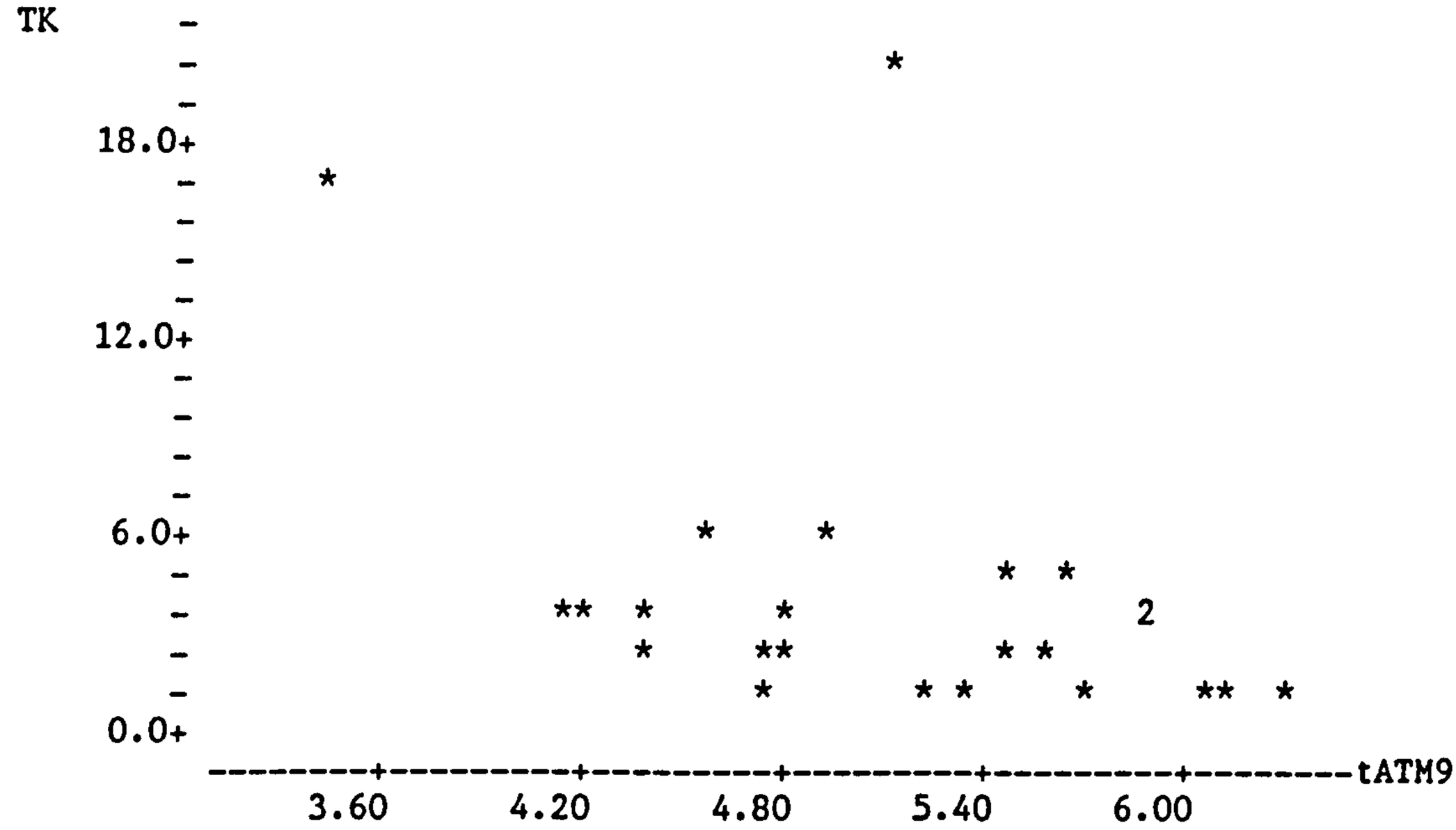
SOURCE	DF	SS	MS
Regression	1	0.20250	0.20250
Error	22	0.45790	0.02081
Total	23	0.66040	

Unusual Observations

Obs.	tATM11	TNO3	Fit	Stdev.Fit	Residual	St.Resid
20	135	0.8300	0.3983	0.0855	0.4317	3.72RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C133 and C129 = 0.103



Correlation of TK and tATM9 = -0.404

The regression equation is
TK = 17.3 - 2.58 tATM9

Predictor	Coef	Stdev	t-ratio
Constant	17.330	6.436	2.69
tATM9	-2.581	1.244	-2.07

s = 4.355 R-sq = 16.4% R-sq(adj) = 12.6%

Analysis of Variance

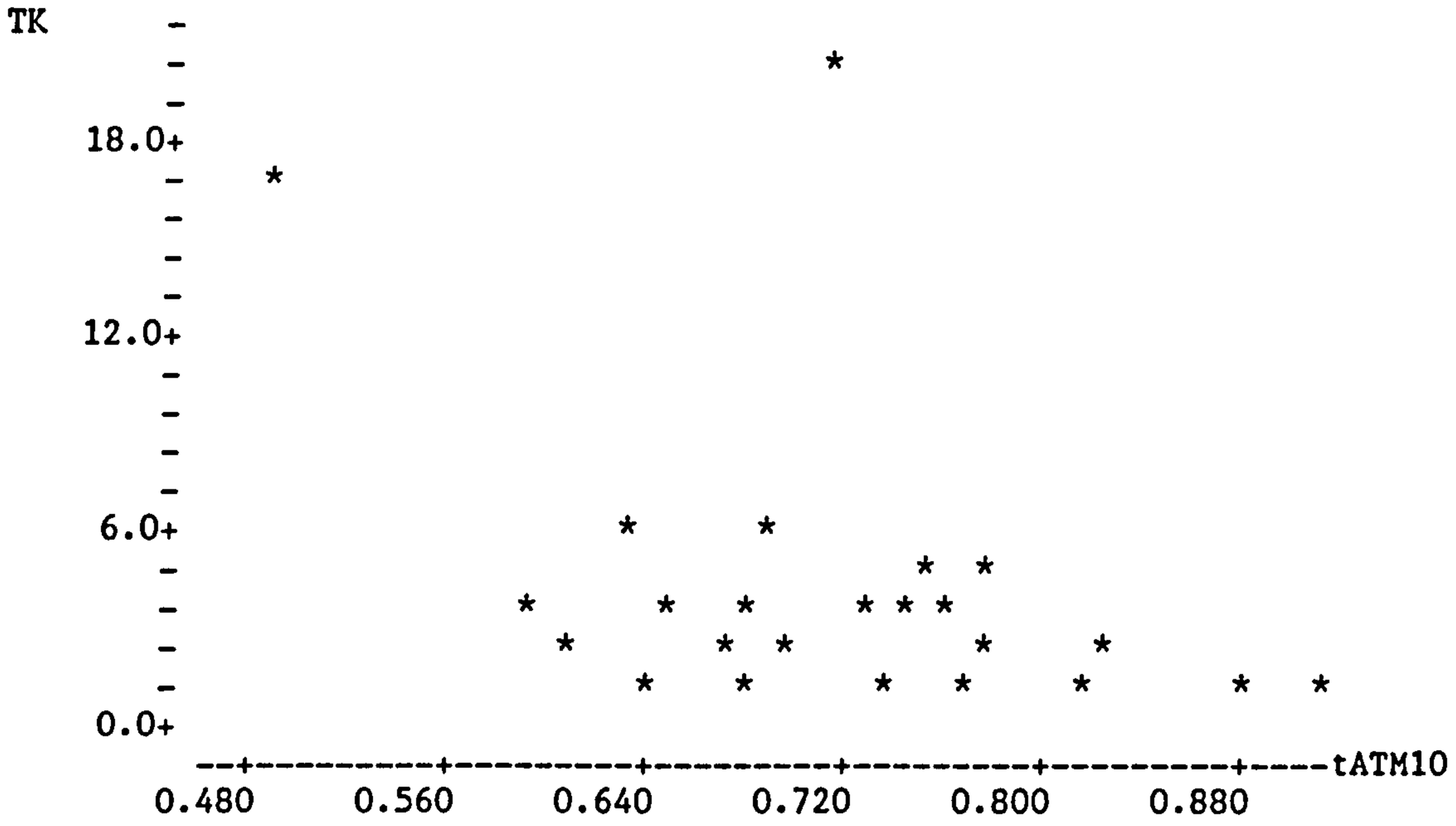
SOURCE	DF	SS	MS
Regression	1	81.60	81.60
Error	22	417.30	18.97
Total	23	498.90	

Unusual Observations

Obs.	tATM9	TK	Fit	Stdev.Fit	Residual	St.Resid
9	5.10	20.000	4.169	0.889	15.831	3.71R
10	3.43	17.000	8.482	2.288	8.518	2.30RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C134 and C127 = -0.372



Correlation of TK and tATM10 = -0.437

The regression equation is
TK = 19.6 - 21.6 tATM10

Predictor	Coef	Stdev	t-ratio
Constant	19.570	6.841	2.86
tATM10	-21.574	9.467	-2.28

s = 4.283 R-sq = 19.1% R-sq(adj) = 15.4%

Analysis of Variance

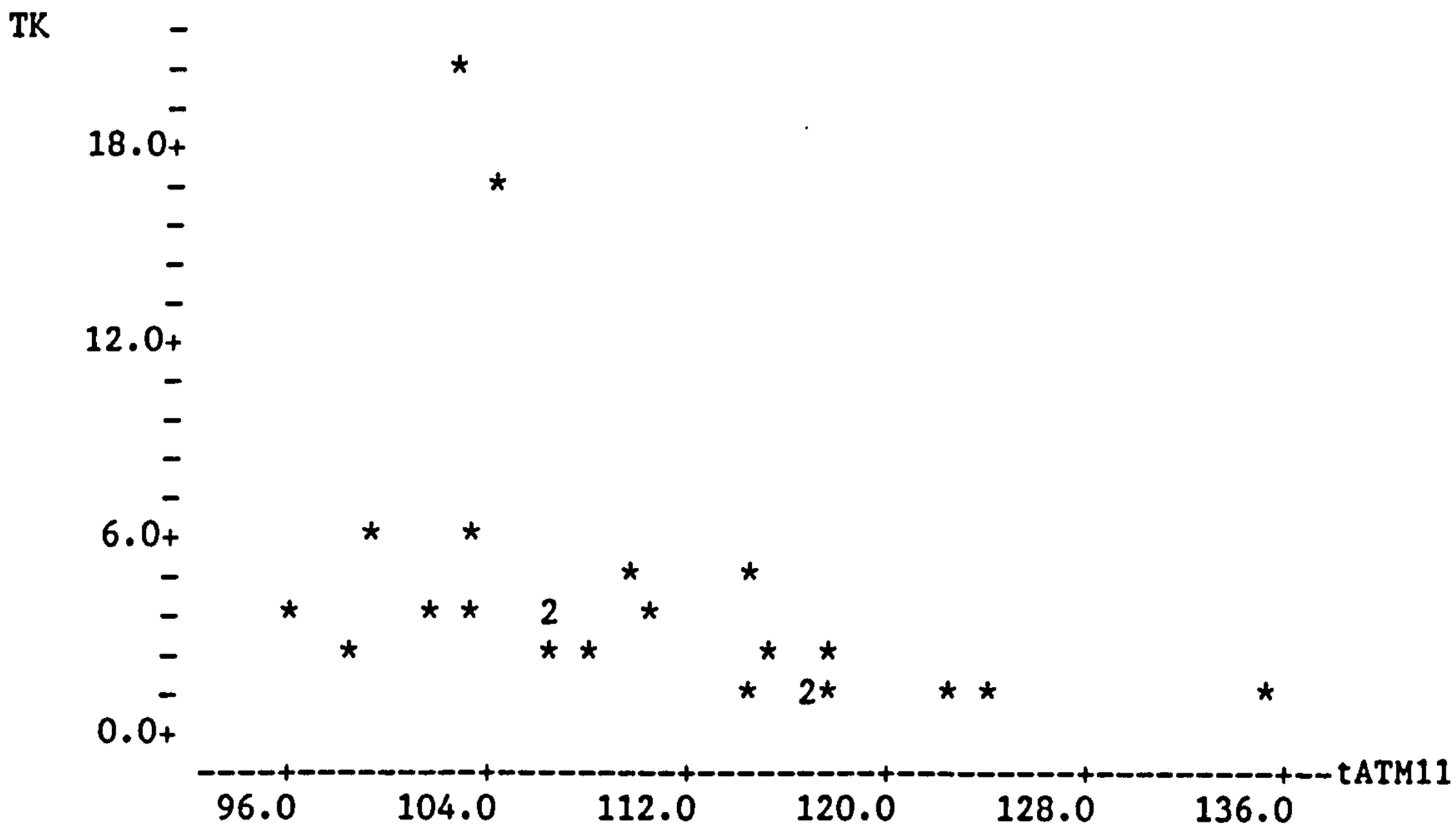
SOURCE	DF	SS	MS
Regression	1	95.28	95.28
Error	22	403.62	18.35
Total	23	498.90	

Unusual Observations

Obs.	tATM10	TK	Fit	Stdev.Fit	Residual	St.Resid
9	0.708	20.000	4.285	0.878	15.715	3.75R
10	0.484	17.000	9.119	2.366	7.881	2.21RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C134 and C128 = -0.363



Correlation of TK and tATM11 = -0.406

The regression equation is
TK = 26.6 - 0.204 tATM11

Predictor	Coef	Stdev	t-ratio
Constant	26.64	10.85	2.45
tATM11	-0.20385	0.09789	-2.08

s = 4.352 R-sq = 16.5% R-sq(adj) = 12.7%

Analysis of Variance

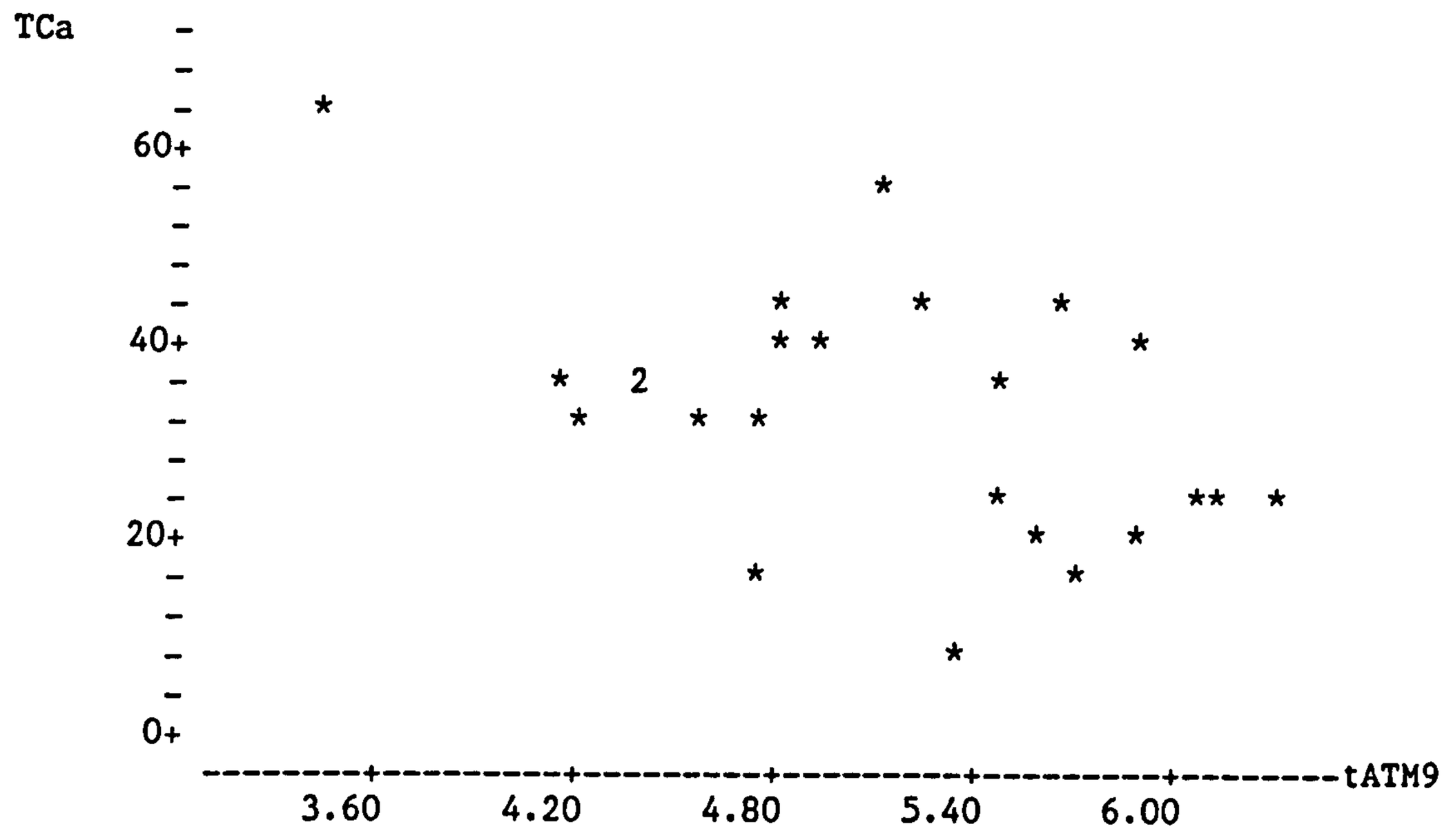
SOURCE	DF	SS	MS
Regression	1	82.15	82.15
Error	22	416.75	18.94
Total	23	498.90	

Unusual Observations

Obs.	tATM11	TK	Fit	Stdev.Fit	Residual	St.Resid
9	103	20.000	5.741	1.185	14.259	3.40R
10	104	17.000	5.385	1.079	11.615	2.75R
20	135	1.500	-0.935	2.580	2.435	0.69 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C134 and C129 = -0.671



Correlation of TCa and tATM9 = -0.505

The regression equation is
TCa = 78.9 - 9.03 tATM9

Predictor	Coef	Stdev	t-ratio
Constant	78.87	17.00	4.64
tATM9	-9.029	3.287	-2.75

s = 11.51 R-sq = 25.5% R-sq(adj) = 22.2%

Analysis of Variance

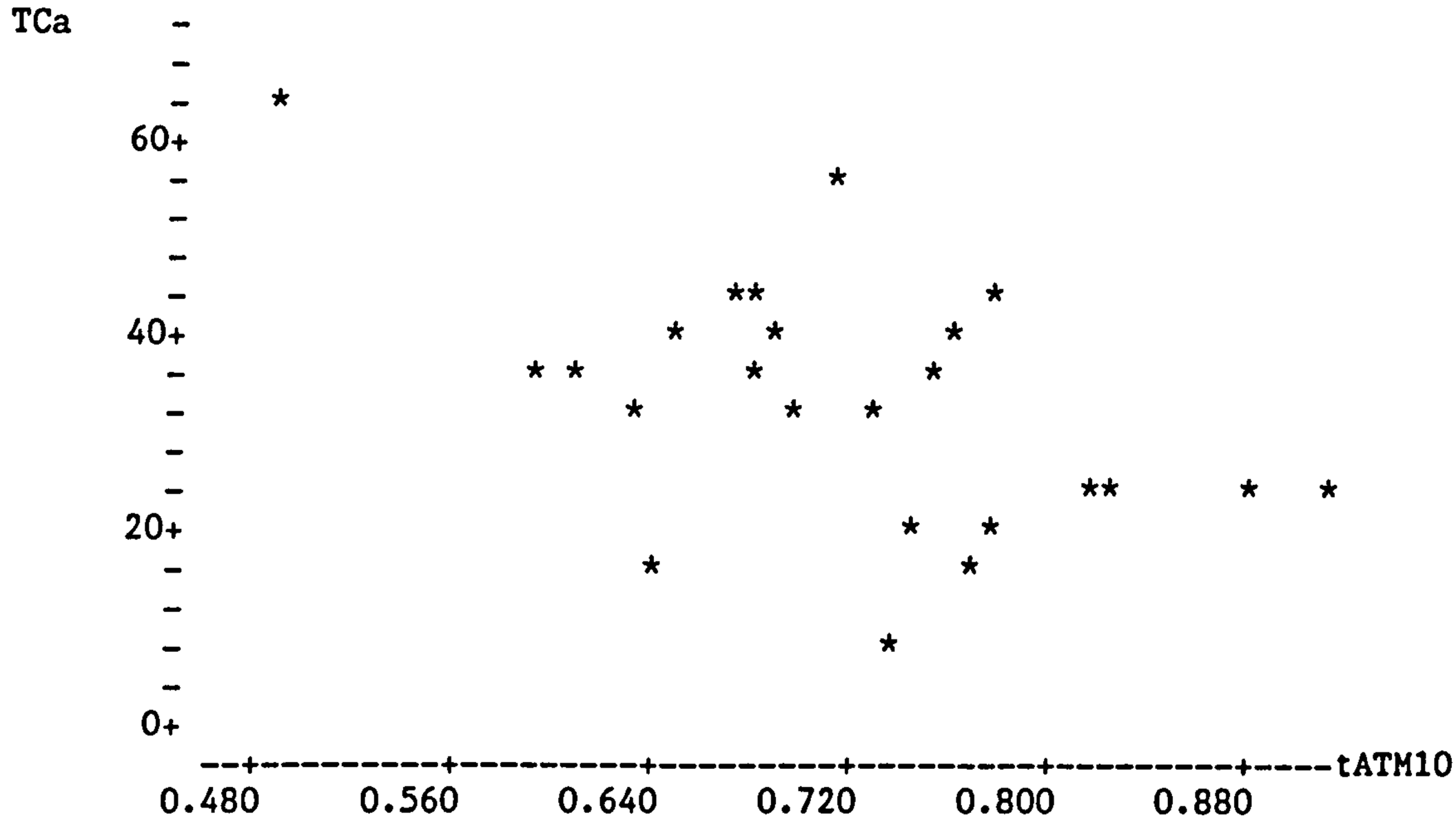
SOURCE	DF	SS	MS
Regression	1	999.0	999.0
Error	22	2912.7	132.4
Total	23	3911.7	

Unusual Observations

Obs.	tATM9	TCa	Fit	Stdev.Fit	Residual	St.Resid
10	3.43	64.30	47.91	6.05	16.39	1.67 X
22	5.33	7.60	30.78	2.44	-23.18	-2.06R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C135 and C127 = -0.339



Correlation of TCa and tATM10 = -0.543

The regression equation is
TCa = 86.4 - 75.0 tATM10

Predictor	Coef	Stdev	t-ratio
Constant	86.39	17.89	4.83
tATM10	-75.04	24.75	-3.03

s = 11.20 R-sq = 29.5% R-sq(adj) = 26.3%

Analysis of Variance

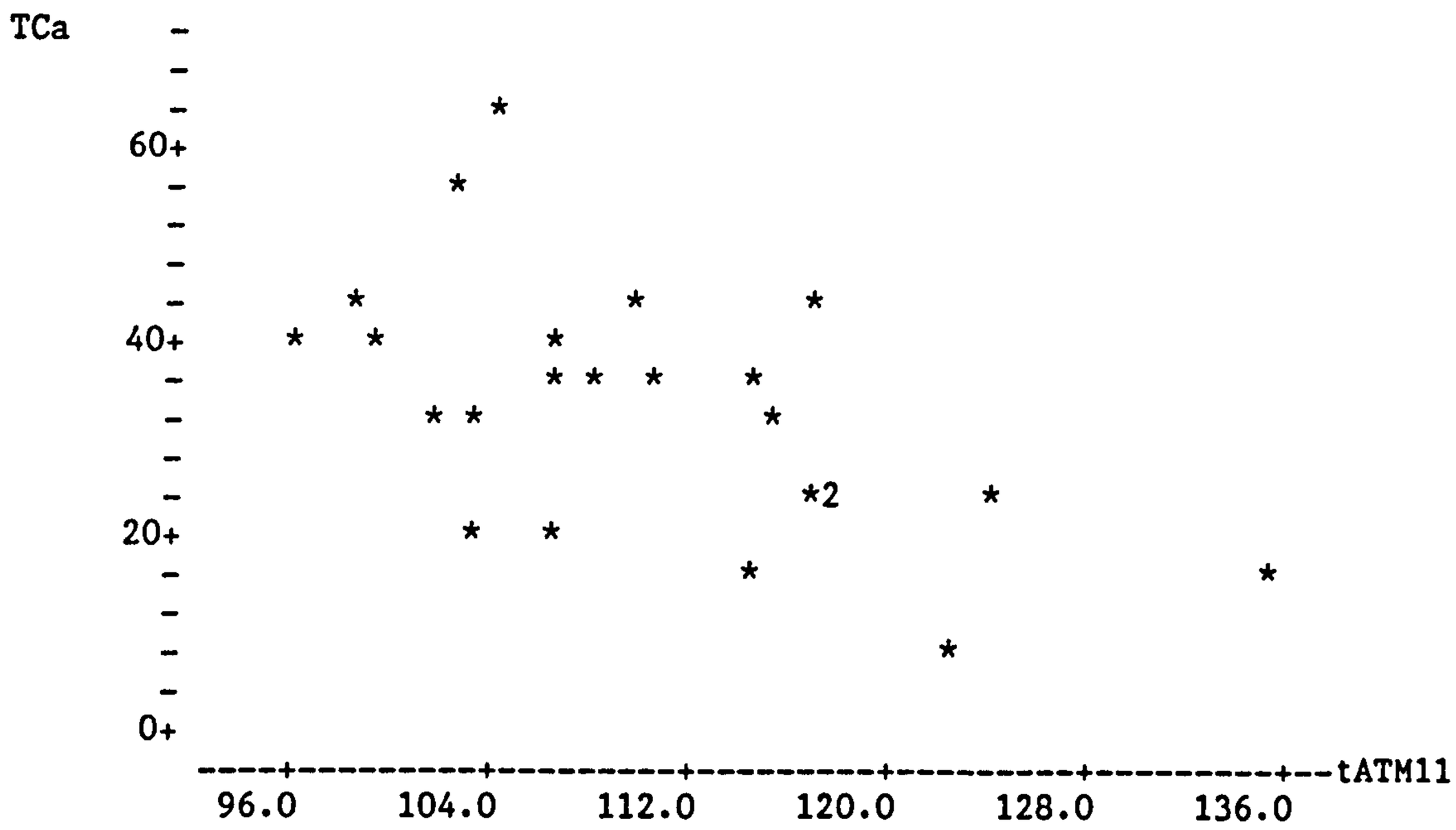
SOURCE	DF	SS	MS
Regression	1	1152.7	1152.7
Error	22	2759.0	125.4
Total	23	3911.7	

Unusual Observations

Obs.	tATM10	TCa	Fit	Stdev.Fit	Residual	St.Resid
9	0.708	55.30	33.22	2.29	22.08	2.01R
10	0.484	64.30	50.04	6.19	14.26	1.53 X
21	0.643	16.50	38.14	2.93	-21.64	-2.00R
22	0.736	7.60	31.17	2.33	-23.57	-2.15R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C135 and C128 = -0.423



Correlation of TCa and tATM11 = -0.582

The regression equation is
TCa = 123 - 0.818 tATM11

Predictor	Coef	Stdev	t-ratio
Constant	123.05	27.05	4.55
tATM11	-0.8184	0.2439	-3.36

s = 10.85 R-sq = 33.8% R-sq(adj) = 30.8%

Analysis of Variance

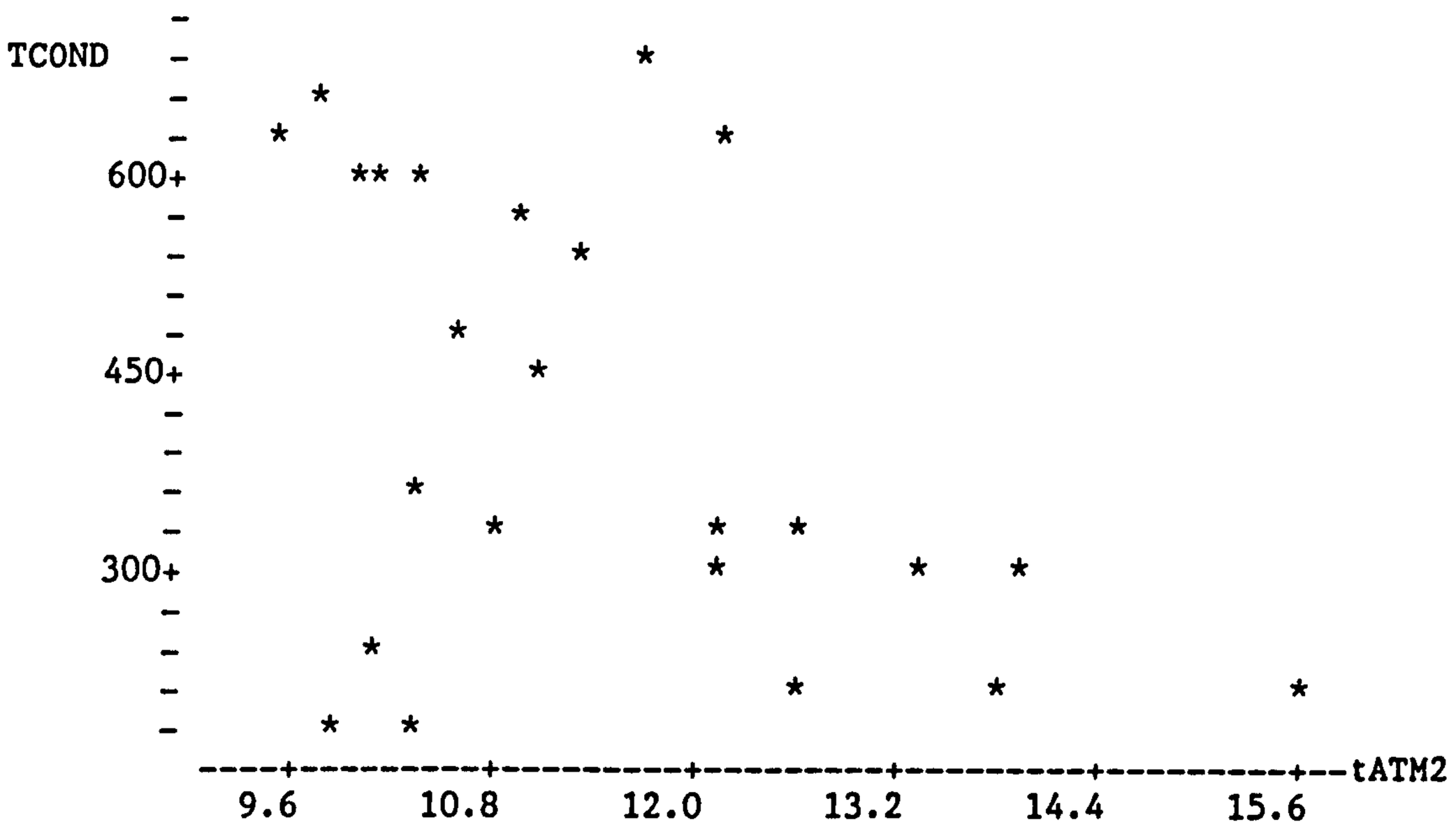
SOURCE	DF	SS	MS
Regression	1	1324.1	1324.1
Error	22	2587.6	117.6
Total	23	3911.7	

Unusual Observations

Obs.	tATM11	TCa	Fit	Stdev.Fit	Residual	St.Resid
10	104	64.30	37.73	2.69	26.57	2.53R
20	135	16.20	12.36	6.43	3.84	0.44 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C135 and C129 = -0.565



Correlation of TCOND and tATM2 = -0.450

The regression equation is
TCOND = 985 - 50.0 tATM2

Predictor	Coef	Stdev	t-ratio
Constant	985.0	244.4	4.03
tATM2	-49.96	21.16	-2.36

s = 160.3 R-sq = 20.2% R-sq(adj) = 16.6%

Analysis of Variance

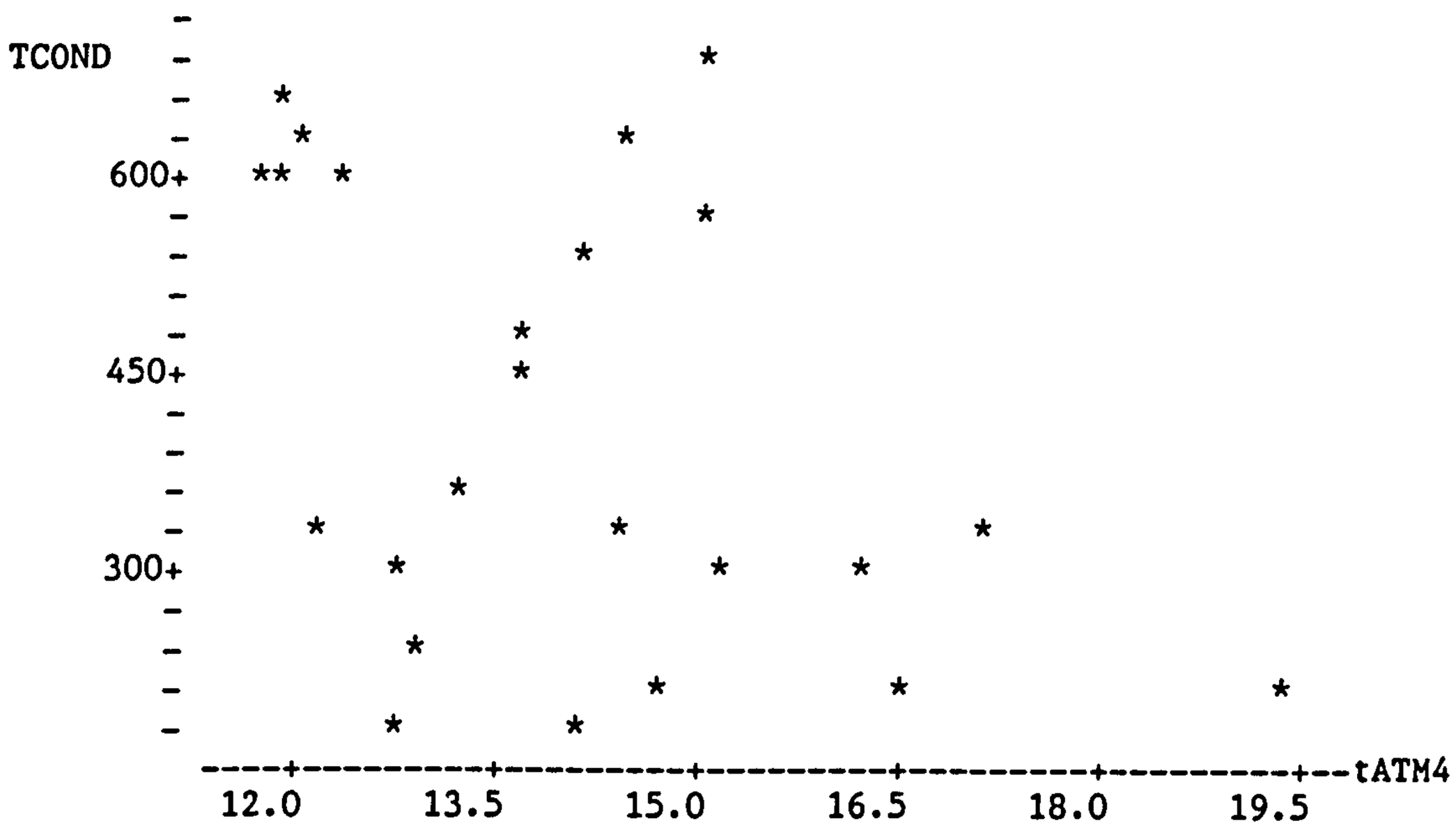
SOURCE	DF	SS	MS
Regression	1	143176	143176
Error	22	564981	25681
Total	23	708157	

Unusual Observations

Obs.	tATM2	TCOND	Fit	Stdev.Fit	Residual	St.Resid
6	15.6	211.0	205.3	93.9	5.7	0.04 X
22	9.8	185.0	496.1	48.0	-311.1	-2.03R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C136 and C120 = -0.380



Correlation of TCOND and tATM4 = -0.423

The regression equation is
TCOND = 963 - 39.2 tATM4

Predictor	Coef	Stdev	t-ratio
Constant	963.4	253.5	3.80
tATM4	-39.22	17.91	-2.19

s = 162.6 R-sq = 17.9% R-sq(adj) = 14.2%

Analysis of Variance

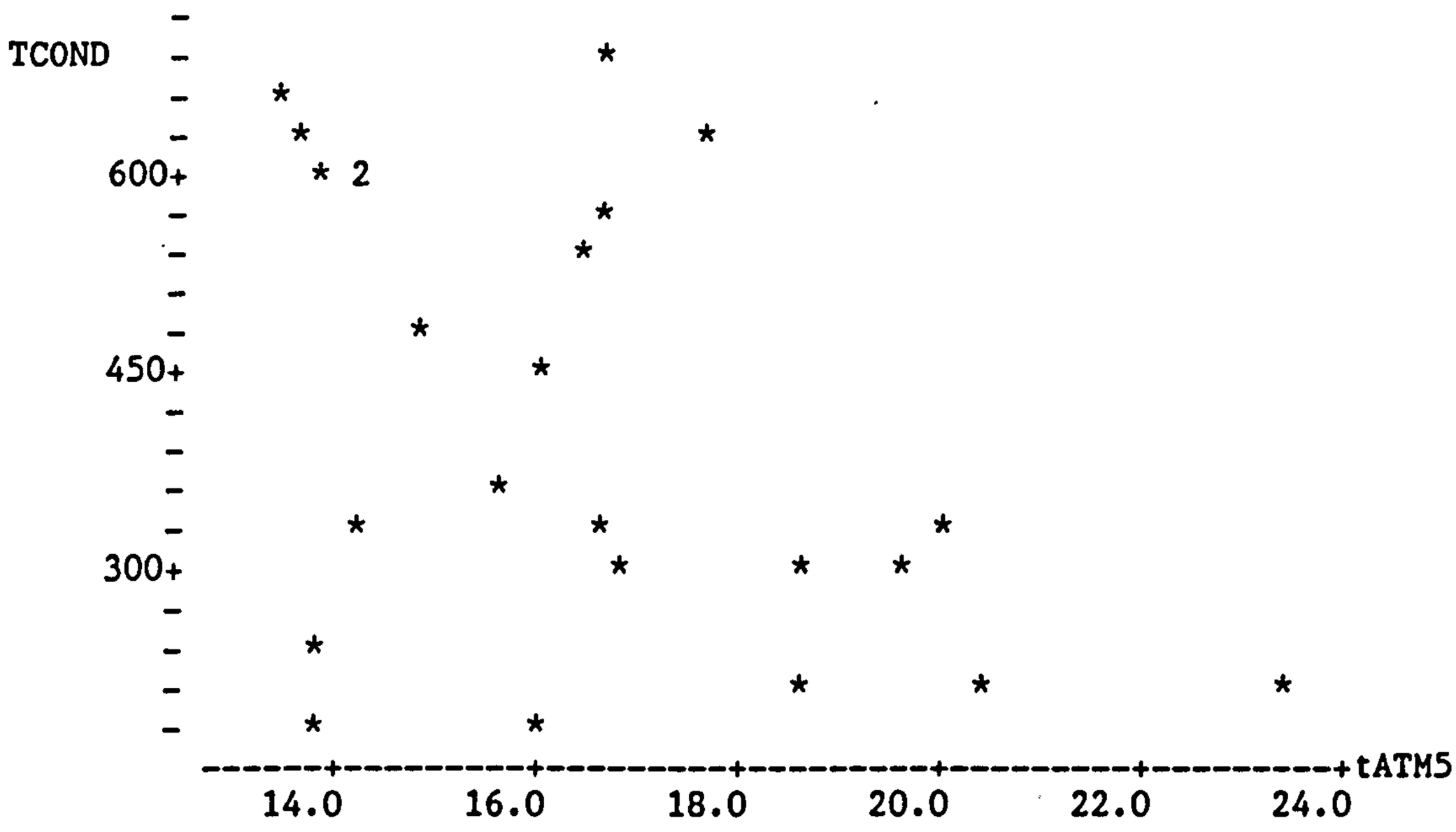
SOURCE	DF	SS	MS
Regression	1	126734	126734
Error	22	581423	26428
Total	23	708157	

Unusual Observations

Obs.	tATM4	TCOND	Fit	Stdev.Fit	Residual	St.Resid
6	19.3	211.0	206.6	99.9	4.4	0.03 X
18	15.0	698.0	376.7	37.1	321.3	2.03R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C136 and C122 = -0.386



Correlation of TCOND and tATM5 = -0.448

The regression equation is
TCOND = 913 - 30.4 tATM5

Predictor	Coef	Stdev	t-ratio
Constant	913.1	215.0	4.25
tATM5	-30.40	12.92	-2.35

s = 160.4 R-sq = 20.1% R-sq(adj) = 16.5%

Analysis of Variance

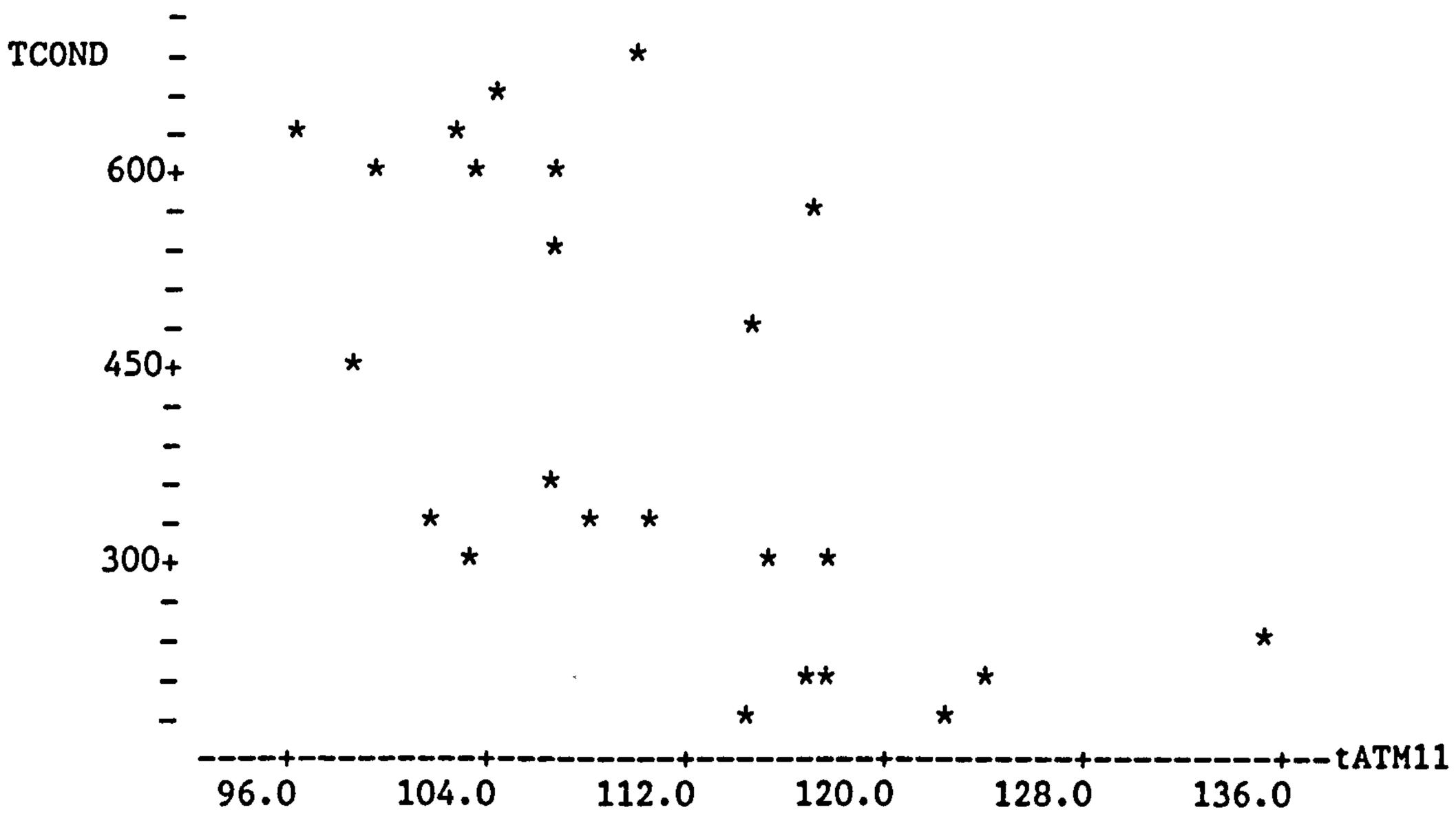
SOURCE	DF	SS	MS
Regression	1	142358	142358
Error	22	565799	25718
Total	23	708157	

Unusual Observations

Obs.	tATM5	TCOND	Fit	Stdev.Fit	Residual	St.Resid
6	23.4	211.0	203.0	95.1	8.0	0.06 X
22	13.8	185.0	492.2	46.9	-307.2	-2.00R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C136 and C123 = -0.412



Correlation of TCOND and tATM11 = -0.625

The regression equation is
TCOND = 1720 - 11.8 tATM11

Predictor	Coef	Stdev	t-ratio
Constant	1720.2	349.3	4.92
tATM11	-11.828	3.150	-3.75

s = 140.1 R-sq = 39.1% R-sq(adj) = 36.3%

Analysis of Variance

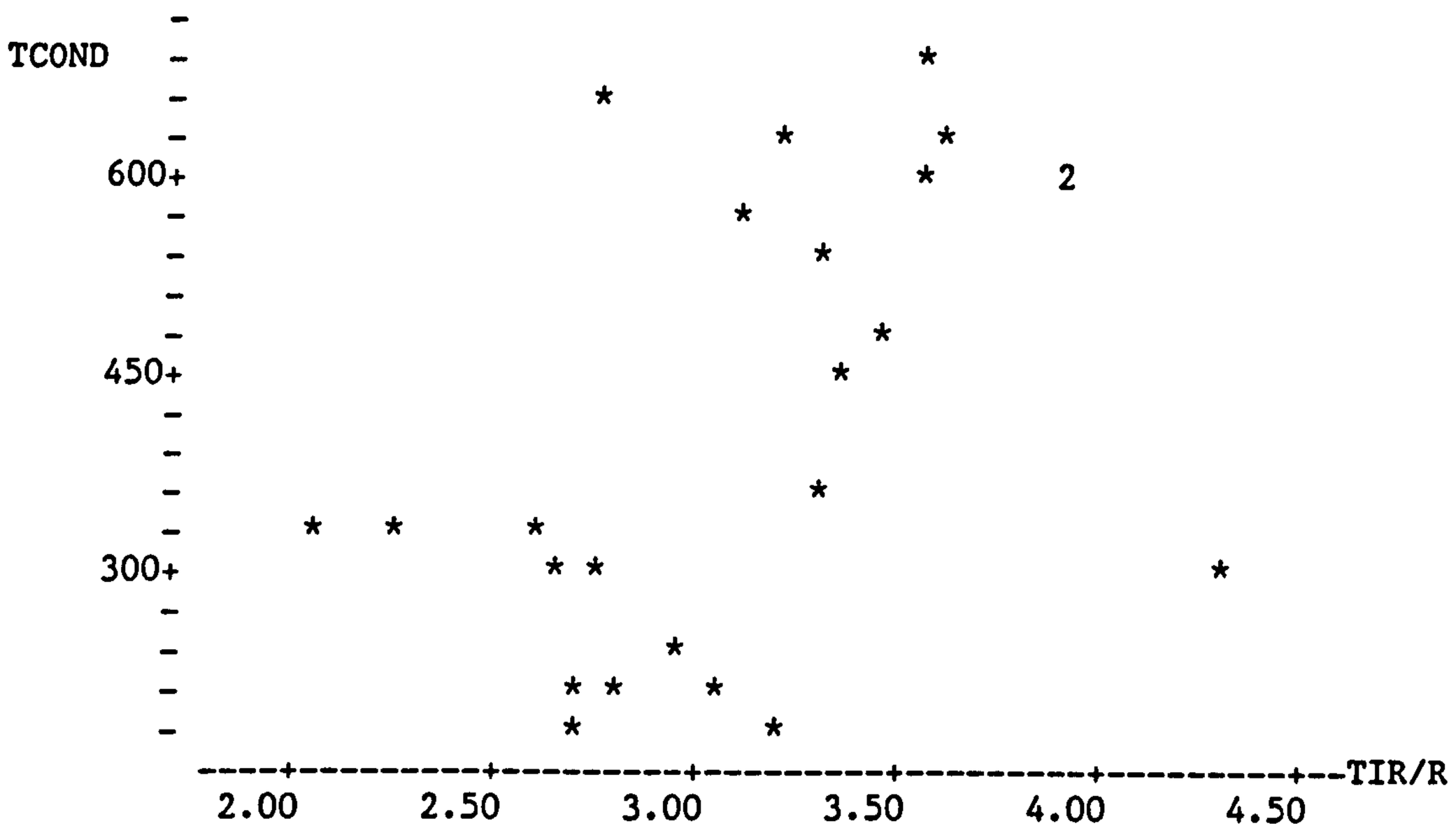
SOURCE	DF	SS	MS
Regression	1	276584	276584
Error	22	431573	19617
Total	23	708157	

Unusual Observations

Obs.	tATM11	TCOND	Fit	Stdev.Fit	Residual	St.Resid
20	135	228.0	120.4	83.0	107.6	0.95 X

X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C136 and C129 = -0.671



Correlation of TCOND and TIR/R = 0.461

The regression equation is
TCOND = - 61 + 152 TIR/R

Predictor	Coef	Stdev	t-ratio
Constant	-60.8	197.2	-0.31
TIR/R	151.82	62.32	2.44

s = 159.2 R-sq = 21.2% R-sq(adj) = 17.7%

Analysis of Variance

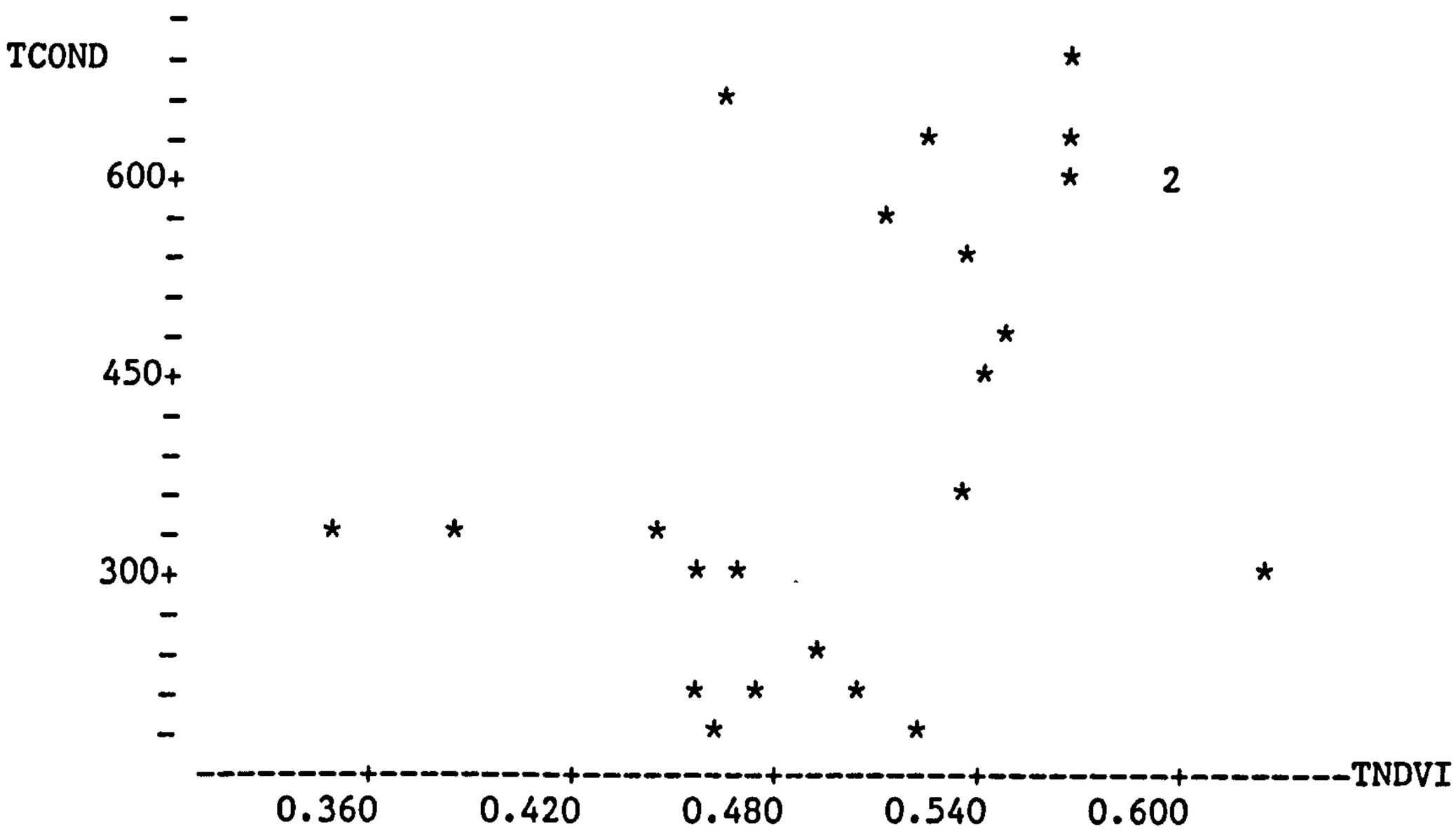
SOURCE	DF	SS	MS
Regression	1	150430	150430
Error	22	557727	25351
Total	23	708157	

Unusual Observations

Obs.	TIR/R	TCOND	Fit	Stdev.Fit	Residual	St.Resid
24	4.31	291.0	593.1	80.8	-302.1	-2.20RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C136 and C151 = 0.471



Correlation of TCOND and TNDVI = 0.462

The regression equation is
TCOND = - 220 + 1250 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-220.3	260.9	-0.84
TNDVI	1249.6	510.8	2.45

s = 159.1 R-sq = 21.4% R-sq(adj) = 17.8%

Analysis of Variance

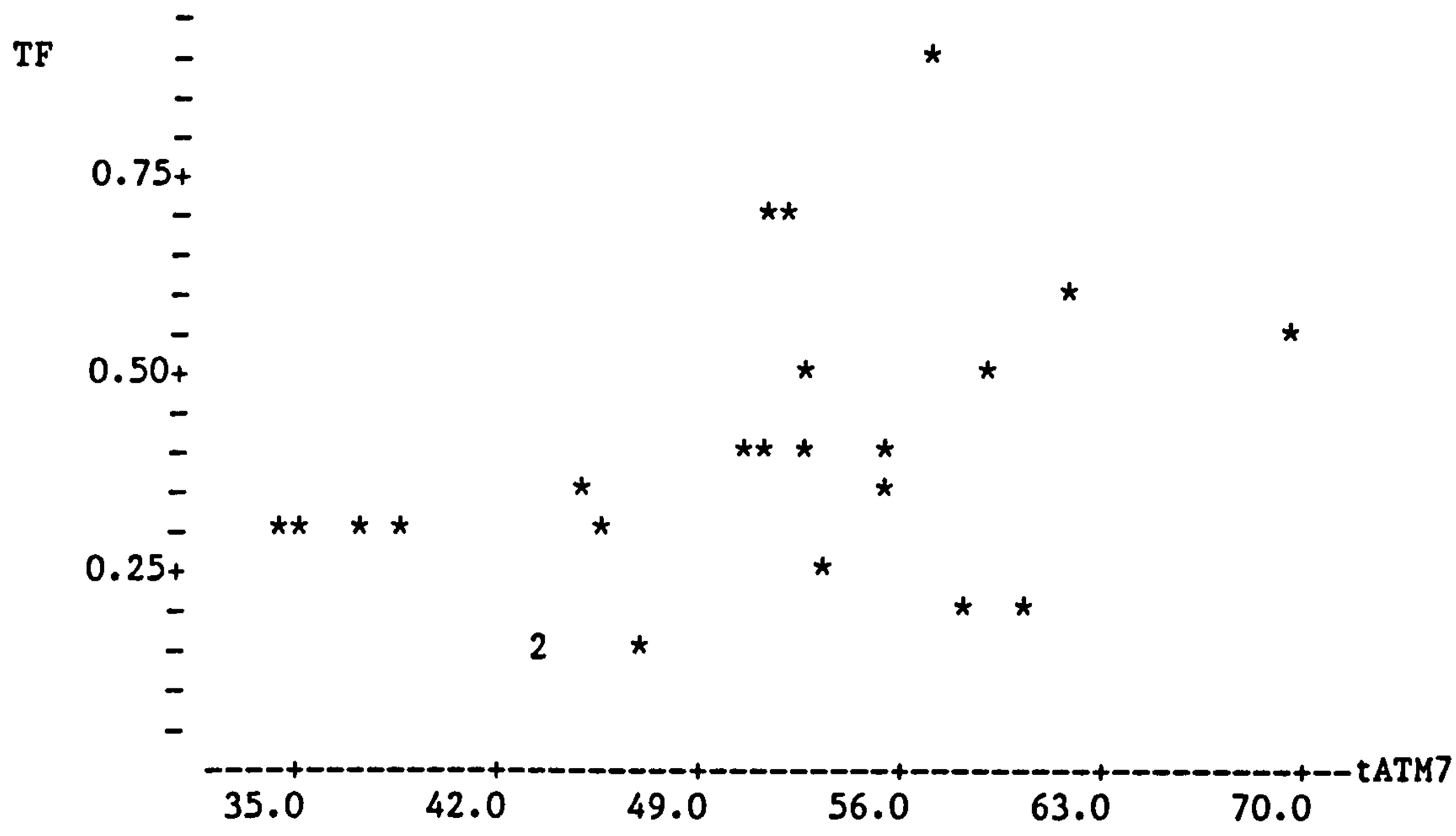
SOURCE	DF	SS	MS
Regression	1	151450	151450
Error	22	556707	25305
Total	23	708157	

Unusual Observations

Obs.	TNDVI	TCOND	Fit	Stdev.Fit	Residual	St.Resid
1	0.349	326.0	215.4	87.1	110.6	0.83 X

X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C136 and C153 = 0.471



Correlation of TF and tATM7 = 0.421

The regression equation is
TF = - 0.065 + 0.00905 tATM7

Predictor	Coef	Stdev	t-ratio
Constant	-0.0651	0.2123	-0.31
tATM7	0.009054	0.004154	2.18

s = 0.1772 R-sq = 17.8% R-sq(adj) = 14.0%

Analysis of Variance

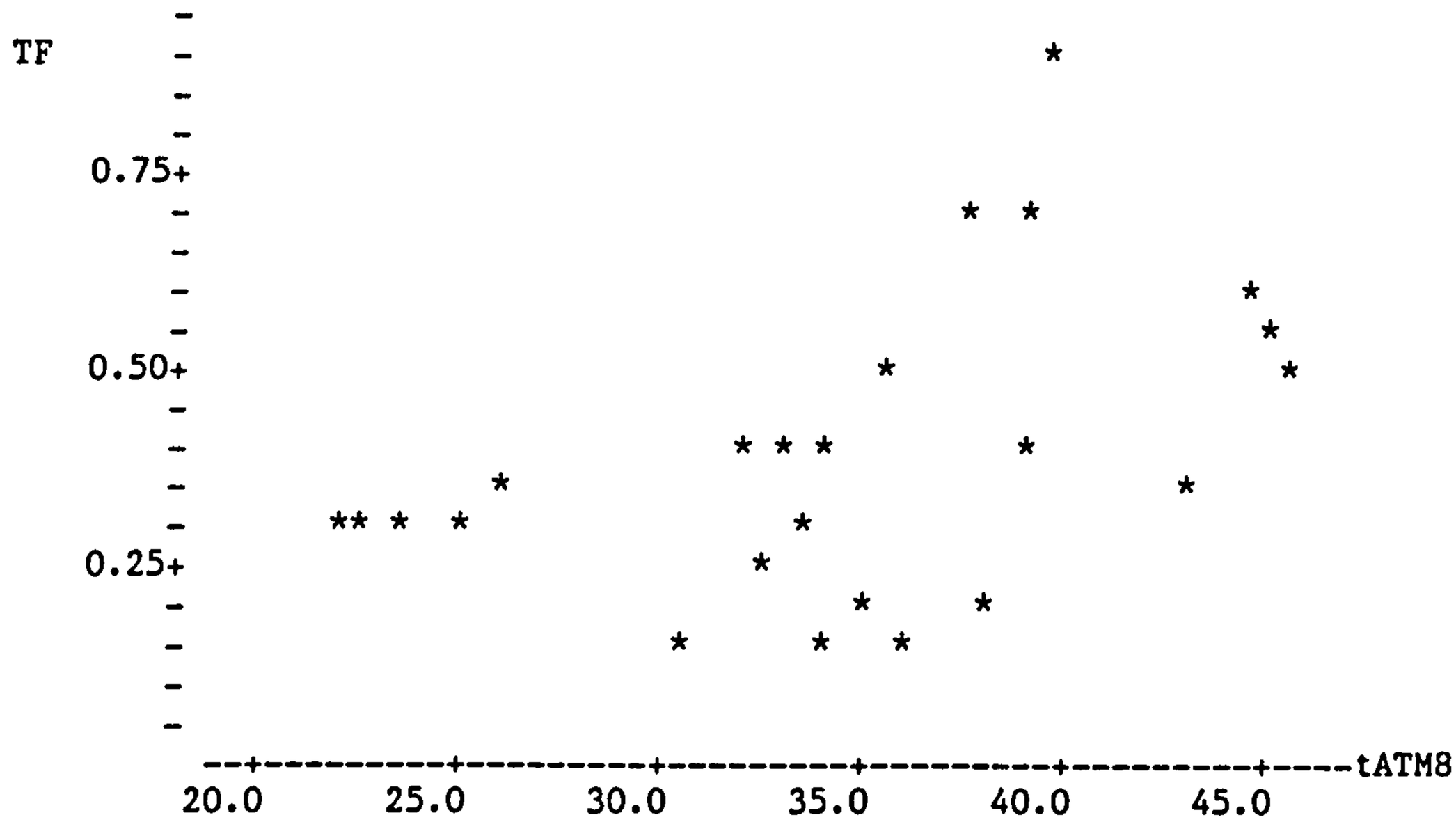
SOURCE	DF	SS	MS
Regression	1	0.14916	0.14916
Error	22	0.69083	0.03140
Total	23	0.83998	

Unusual Observations

Obs.	tATM7	TF	Fit	Stdev.Fit	Residual	St.Resid
15	56.4	0.9000	0.4459	0.0441	0.4541	2.65R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C138 and C125 = 0.437



Correlation of TF and tATM8 = 0.462

The regression equation is
TF = - 0.044 + 0.0126 tATM8

Predictor	Coef	Stdev	t-ratio
Constant	-0.0437	0.1814	-0.24
tATM8	0.012627	0.005170	2.44

s = 0.1733 R-sq = 21.3% R-sq(adj) = 17.8%

Analysis of Variance

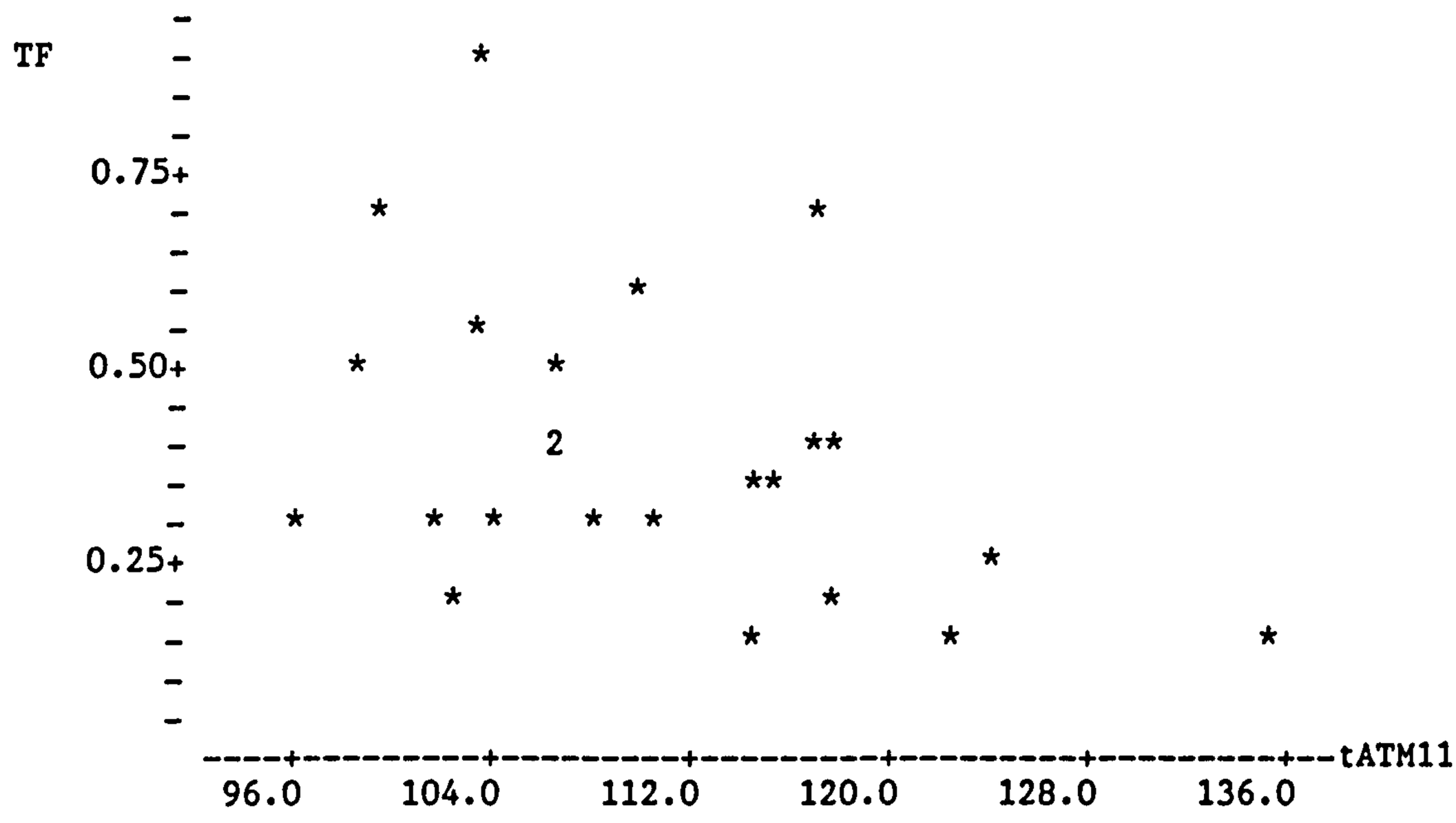
SOURCE	DF	SS	MS
Regression	1	0.17915	0.17915
Error	22	0.66083	0.03004
Total	23	0.83998	

Unusual Observations

Obs.	tATM8	TF	Fit	Stdev.Fit	Residual	St.Resid
15	39.4	0.9000	0.4535	0.0437	0.4465	2.66R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C138 and C126 = 0.519



Correlation of TF and tATM11 = -0.406

The regression equation is
TF = 1.32 - 0.00838 tATM11

Predictor	Coef	Stdev	t-ratio
Constant	1.3167	0.4452	2.96
tATM11	-0.008378	0.004015	-2.09

s = 0.1785 R-sq = 16.5% R-sq(adj) = 12.7%

Analysis of Variance

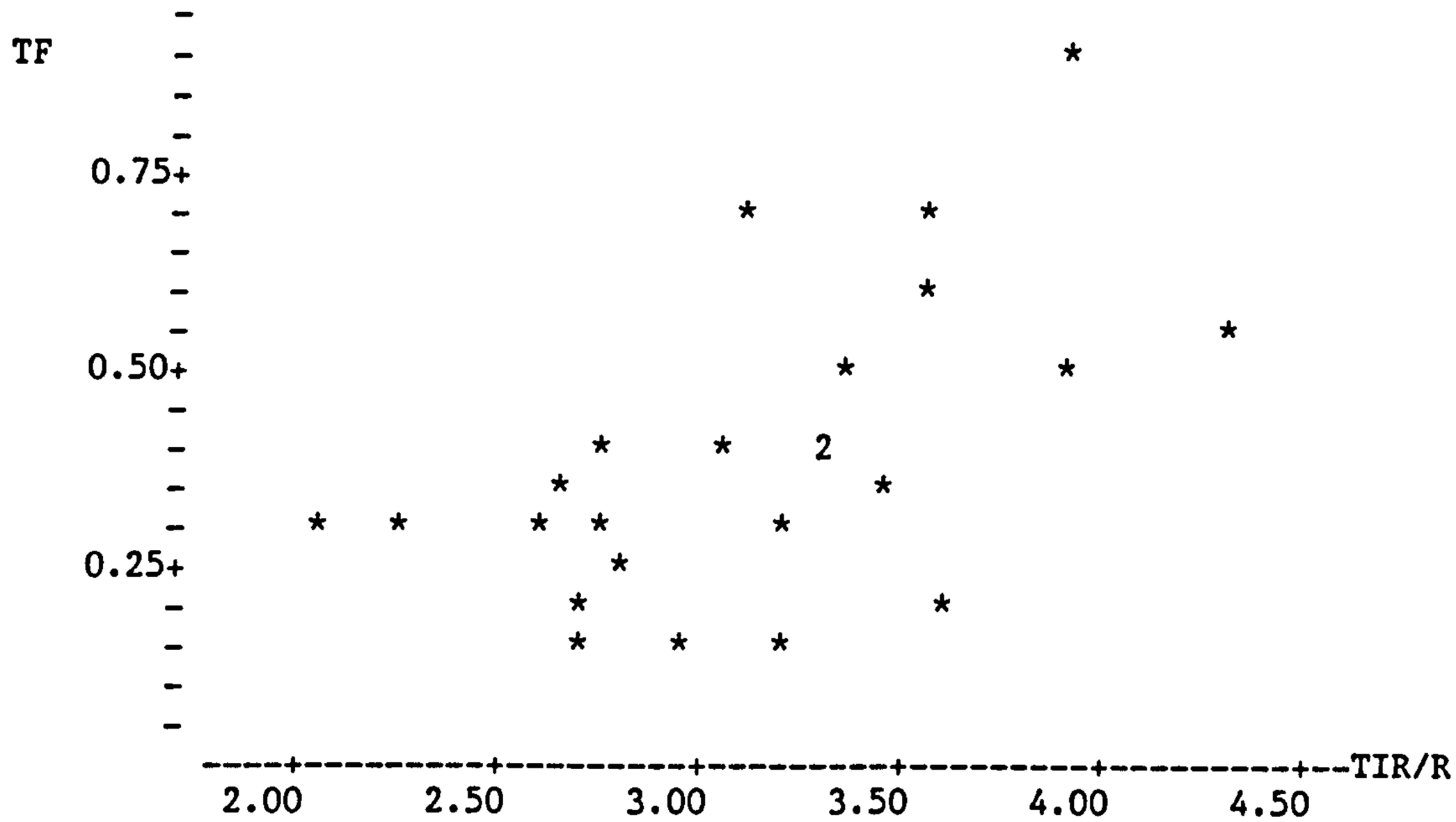
SOURCE	DF	SS	MS
Regression	1	0.13876	0.13876
Error	22	0.70122	0.03187
Total	23	0.83998	

Unusual Observations

Obs.	tATM11	TF	Fit	Stdev.Fit	Residual	St.Resid
15	104	0.9000	0.4496	0.0460	0.4504	2.61R
17	117	0.7000	0.3407	0.0437	0.3593	2.08R
20	135	0.1600	0.1836	0.1058	-0.0236	-0.16 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C138 and C129 = -0.364



Correlation of TF and TIR/R = 0.562

The regression equation is

TF = - 0.239 + 0.202 TIR/R

Predictor	Coef	Stdev	t-ratio
Constant	-0.2386	0.2002	-1.19
TIR/R	0.20166	0.06326	3.19

s = 0.1616 R-sq = 31.6% R-sq(adj) = 28.5%

Analysis of Variance

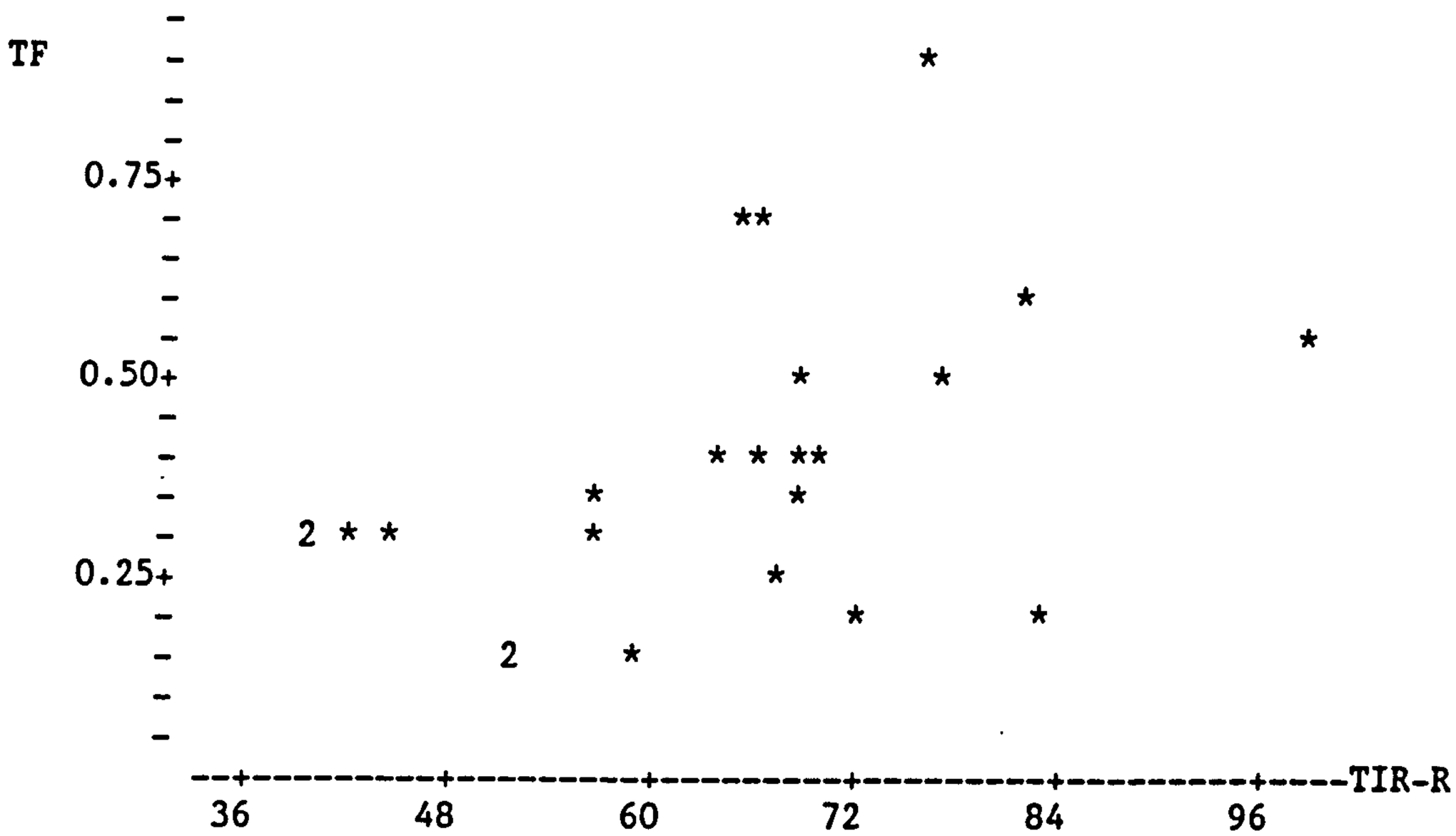
SOURCE	DF	SS	MS
Regression	1	0.26542	0.26542
Error	22	0.57456	0.02612
Total	23	0.83998	

Unusual Observations

Obs.	TIR/R	TF	Fit	Stdev.Fit	Residual	St.Resid
15	3.92	0.9000	0.5511	0.0601	0.3489	2.33R
17	3.08	0.7000	0.3816	0.0331	0.3184	2.01R
24	4.31	0.5500	0.6300	0.0820	-0.0800	-0.57 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C138 and C151 = 0.550



Correlation of TF and TIR-R = 0.446

The regression equation is
TF = 0.016 + 0.00588 TIR-R

Predictor	Coef	Stdev	t-ratio
Constant	0.0162	0.1644	0.10
TIR-R	0.005883	0.002519	2.33

s = 0.1749 R-sq = 19.9% R-sq(adj) = 16.2%

Analysis of Variance

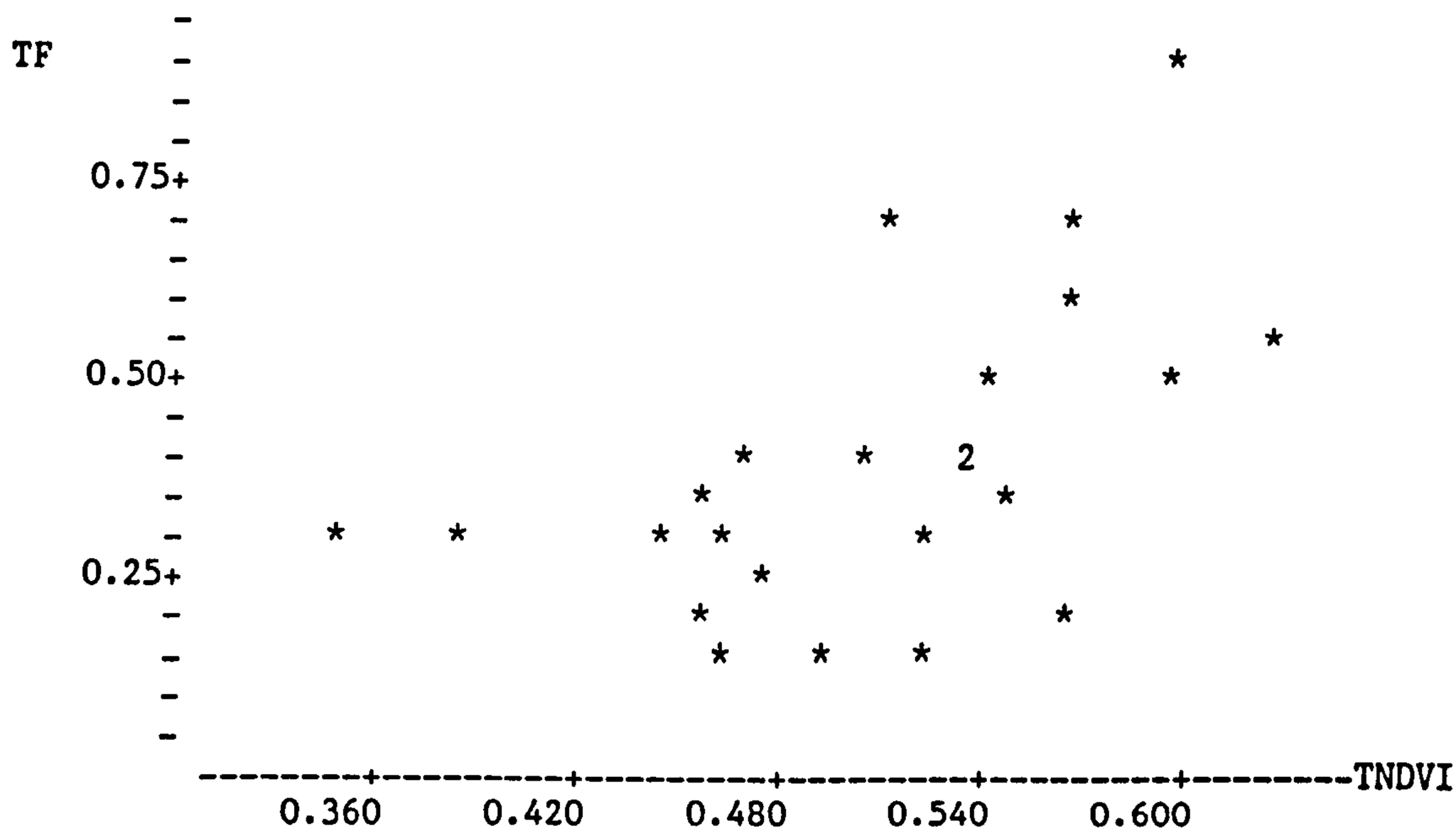
SOURCE	DF	SS	MS
Regression	1	0.16682	0.16682
Error	22	0.67316	0.03060
Total	23	0.83998	

Unusual Observations

Obs.	TIR-R	TF	Fit	Stdev.Fit	Residual	St.Resid
15	76.0	0.9000	0.4631	0.0472	0.4369	2.59R
24	97.8	0.5500	0.5918	0.0932	-0.0418	-0.28 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C138 and C152 = 0.448



Correlation of TF and TNDVI = 0.525

The regression equation is
TF = - 0.392 + 1.54 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-0.3915	0.2728	-1.43
TNDVI	1.5437	0.5342	2.89

s = 0.1664 R-sq = 27.5% R-sq(adj) = 24.2%

Analysis of Variance

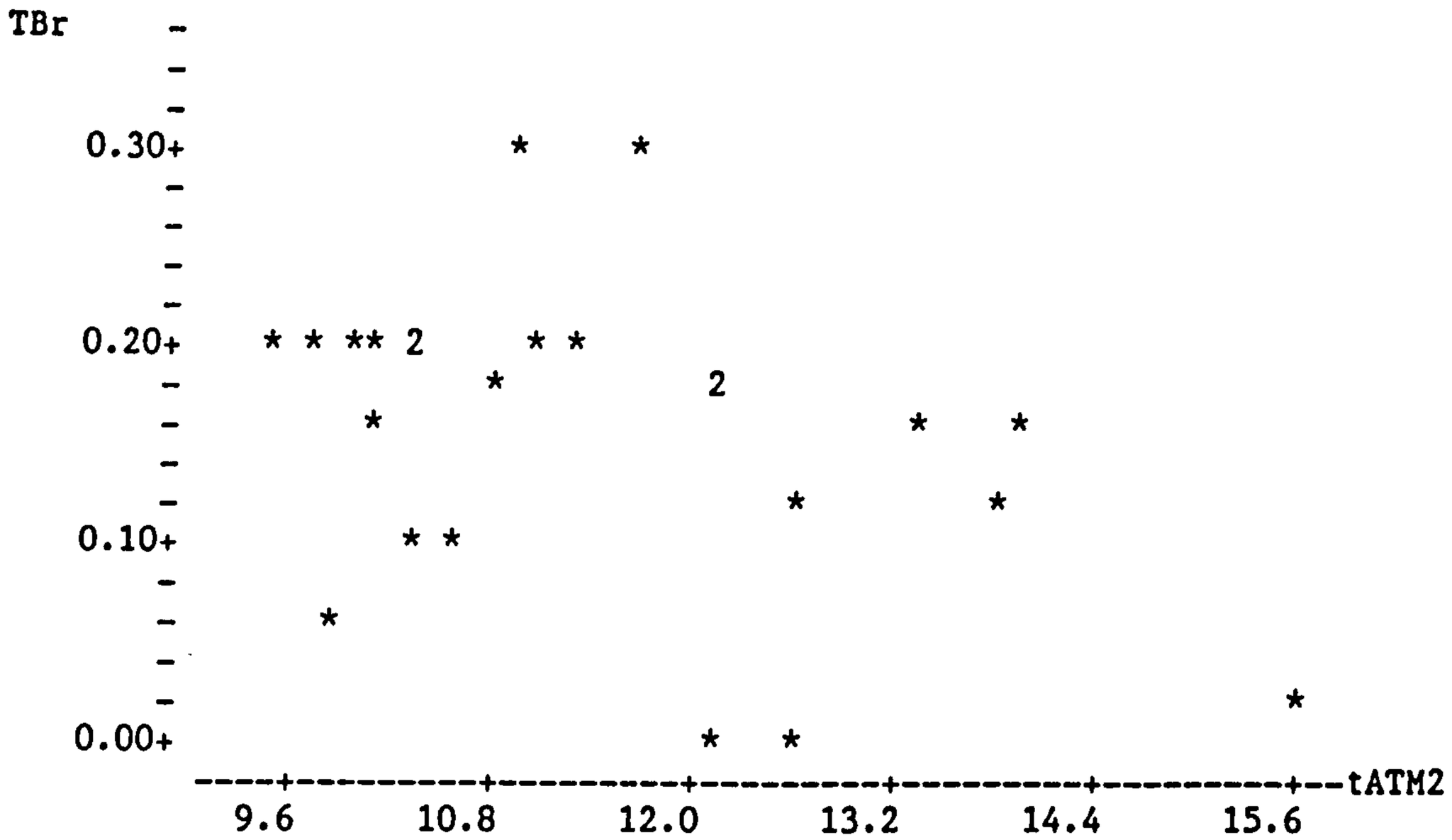
SOURCE	DF	SS	MS
Regression	1	0.23113	0.23113
Error	22	0.60885	0.02768
Total	23	0.83998	

Unusual Observations

Obs.	TNDVI	TF	Fit	Stdev.Fit	Residual	St.Resid
1	0.349	0.3000	0.1467	0.0911	0.1533	1.10 X
15	0.593	0.9000	0.5242	0.0573	0.3758	2.41R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C138 and C153 = 0.550



Correlation of TBr and tATM2 = -0.418

The regression equation is
TBr = 0.398 - 0.0212 tATM2

Predictor	Coef	Stdev	t-ratio
Constant	0.3982	0.1136	3.51
tATM2	-0.021242	0.009830	-2.16

s = 0.07444 R-sq = 17.5% R-sq(adj) = 13.8%

Analysis of Variance

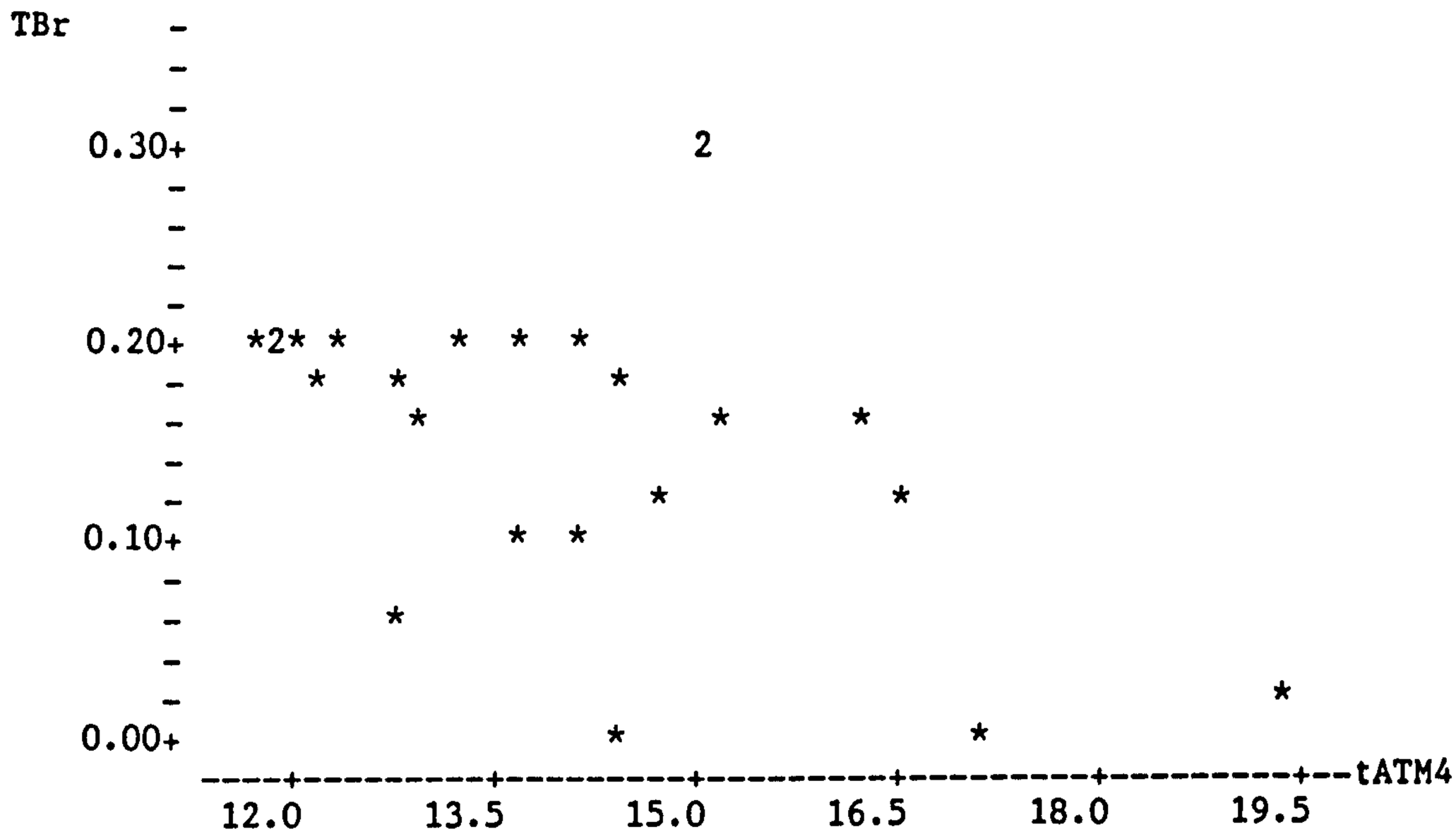
SOURCE	DF	SS	MS
Regression	1	0.025879	0.025879
Error	22	0.121921	0.005542
Total	23	0.147800	

Unusual Observations

Obs.	tATM2	TBr	Fit	Stdev.Fit	Residual	St.Resid
6	15.6	0.0100	0.0667	0.0436	-0.0567	-0.94 X
18	11.6	0.3000	0.1509	0.0153	0.1491	2.05R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C139 and C120 = -0.416



Correlation of TBr and tATM4 = -0.470

The regression equation is
TBr = 0.434 - 0.0199 tATM4

Predictor	Coef	Stdev	t-ratio
Constant	0.4344	0.1128	3.85
tATM4	-0.019911	0.007970	-2.50

s = 0.07234 R-sq = 22.1% R-sq(adj) = 18.6%

Analysis of Variance

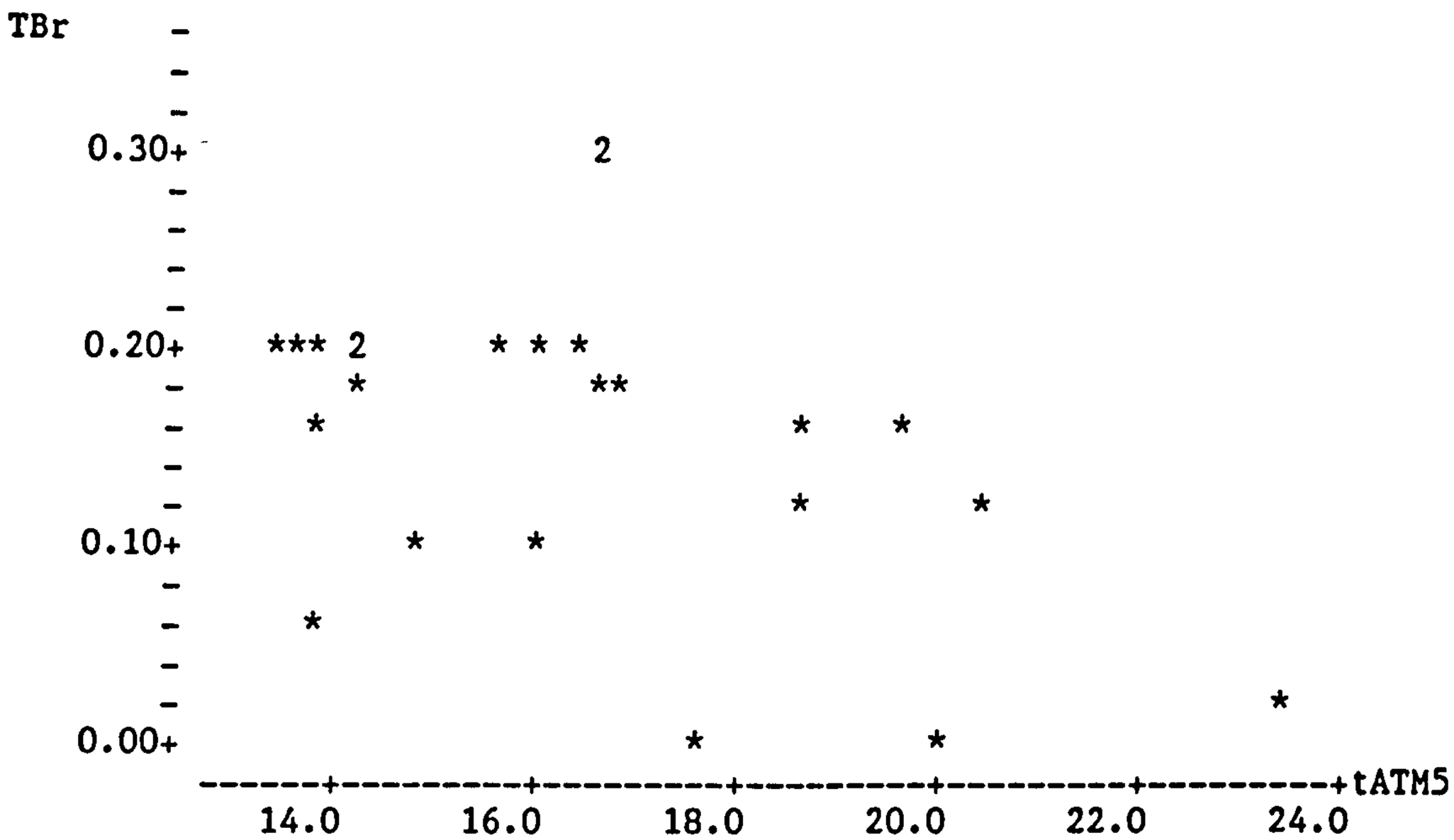
SOURCE	DF	SS	MS
Regression	1	0.032661	0.032661
Error	22	0.115139	0.005234
Total	23	0.147800	

Unusual Observations

Obs.	tATM4	TBr	Fit	Stdev.Fit	Residual	St.Resid
6	19.3	0.0100	0.0502	0.0445	-0.0402	-0.70 X
9	14.4	0.0000	0.1483	0.0150	-0.1483	-2.10R
17	15.0	0.3000	0.1365	0.0165	0.1635	2.32R
18	15.0	0.3000	0.1365	0.0165	0.1635	2.32R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C139 and C122 = -0.439



Correlation of TBr and tATM5 = -0.472

The regression equation is
TBr = 0.395 - 0.0146 tATM5

Predictor	Coef	Stdev	t-ratio
Constant	0.39533	0.09691	4.08
tATM5	-0.014612	0.005824	-2.51

s = 0.07227 R-sq = 22.2% R-sq(adj) = 18.7%

Analysis of Variance

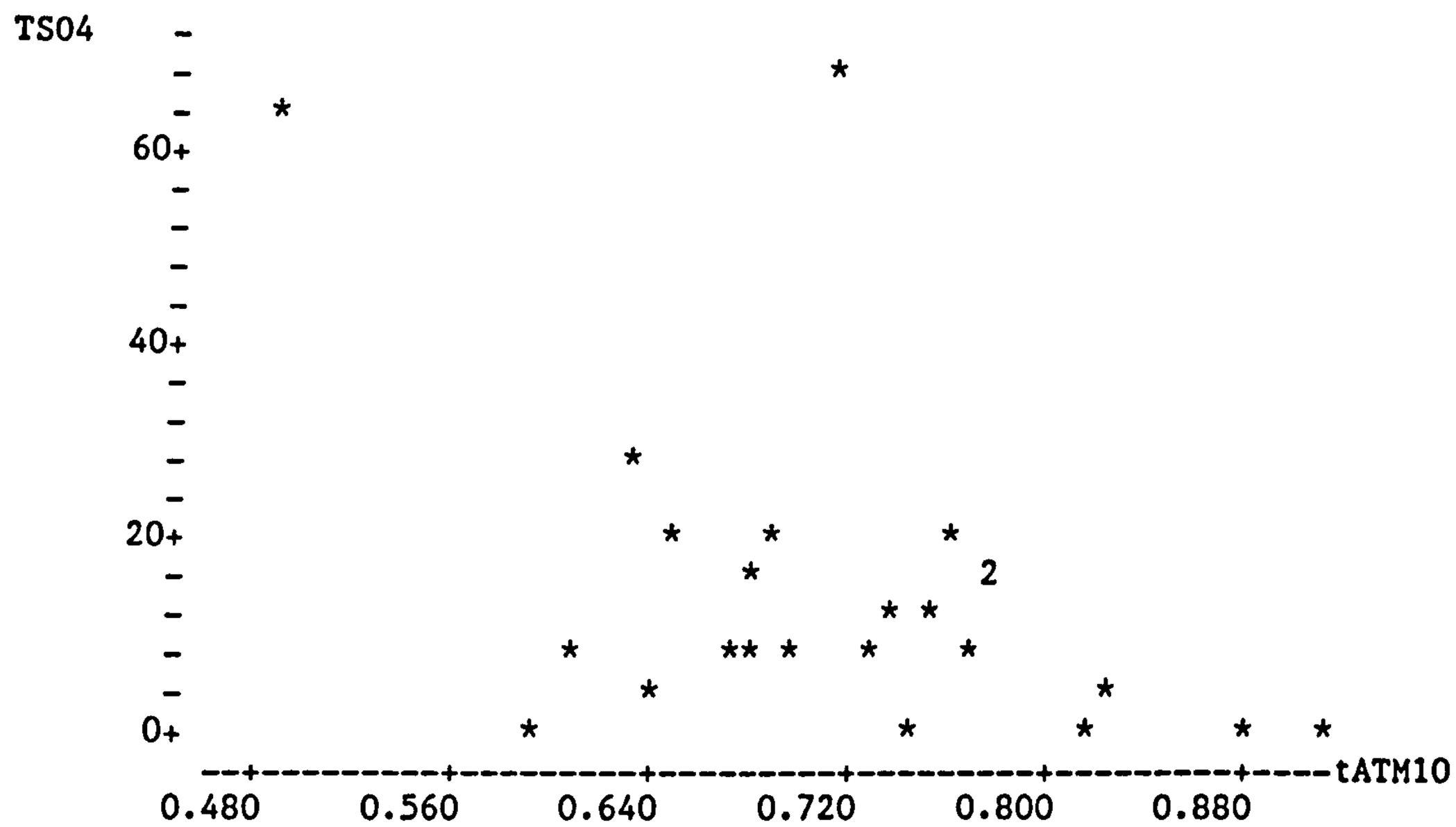
SOURCE	DF	SS	MS
Regression	1	0.032884	0.032884
Error	22	0.114916	0.005223
Total	23	0.147800	

Unusual Observations

Obs.	tATM5	TBr	Fit	Stdev.Fit	Residual	St.Resid
6	23.4	0.0100	0.0541	0.0428	-0.0441	-0.76 X
17	16.6	0.3000	0.1529	0.0148	0.1471	2.08R
18	16.7	0.3000	0.1515	0.0148	0.1485	2.10R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C139 and C123 = -0.452



Correlation of TSO4 and tATM10 = -0.470

The regression equation is
TSO4 = 76.4 - 85.9 tATM10

Predictor	Coef	Stdev	t-ratio
Constant	76.35	24.84	3.07
tATM10	-85.93	34.37	-2.50

s = 15.55 R-sq = 22.1% R-sq(adj) = 18.6%

Analysis of Variance

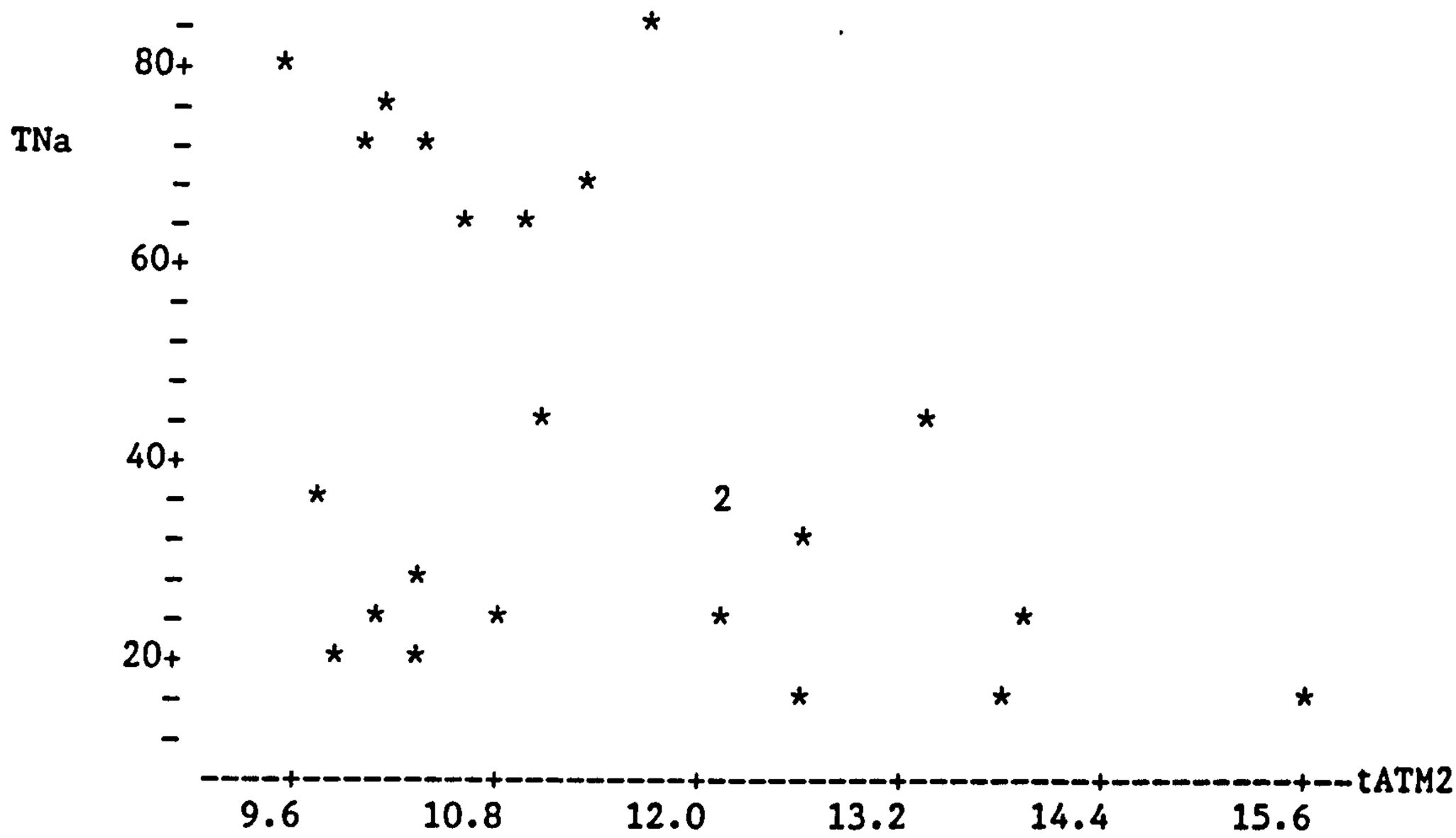
SOURCE	DF	SS	MS
Regression	1	1511.5	1511.5
Error	22	5320.7	241.8
Total	23	6832.2	

Unusual Observations

Obs.	tATM10	TSO4	Fit	Stdev.Fit	Residual	St.Resid
9	0.708	67.20	15.47	3.19	51.73	3.40R
10	0.484	62.30	34.72	8.59	27.58	2.13RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C140 and C128 = -0.353



Correlation of TNa and tATM2 = -0.443

The regression equation is
TNa = 117 - 6.50 tATM2

Predictor	Coef	Stdev	t-ratio
Constant	116.73	32.38	3.61
tATM2	-6.503	2.803	-2.32

s = 21.23 R-sq = 19.7% R-sq(adj) = 16.0%

Analysis of Variance

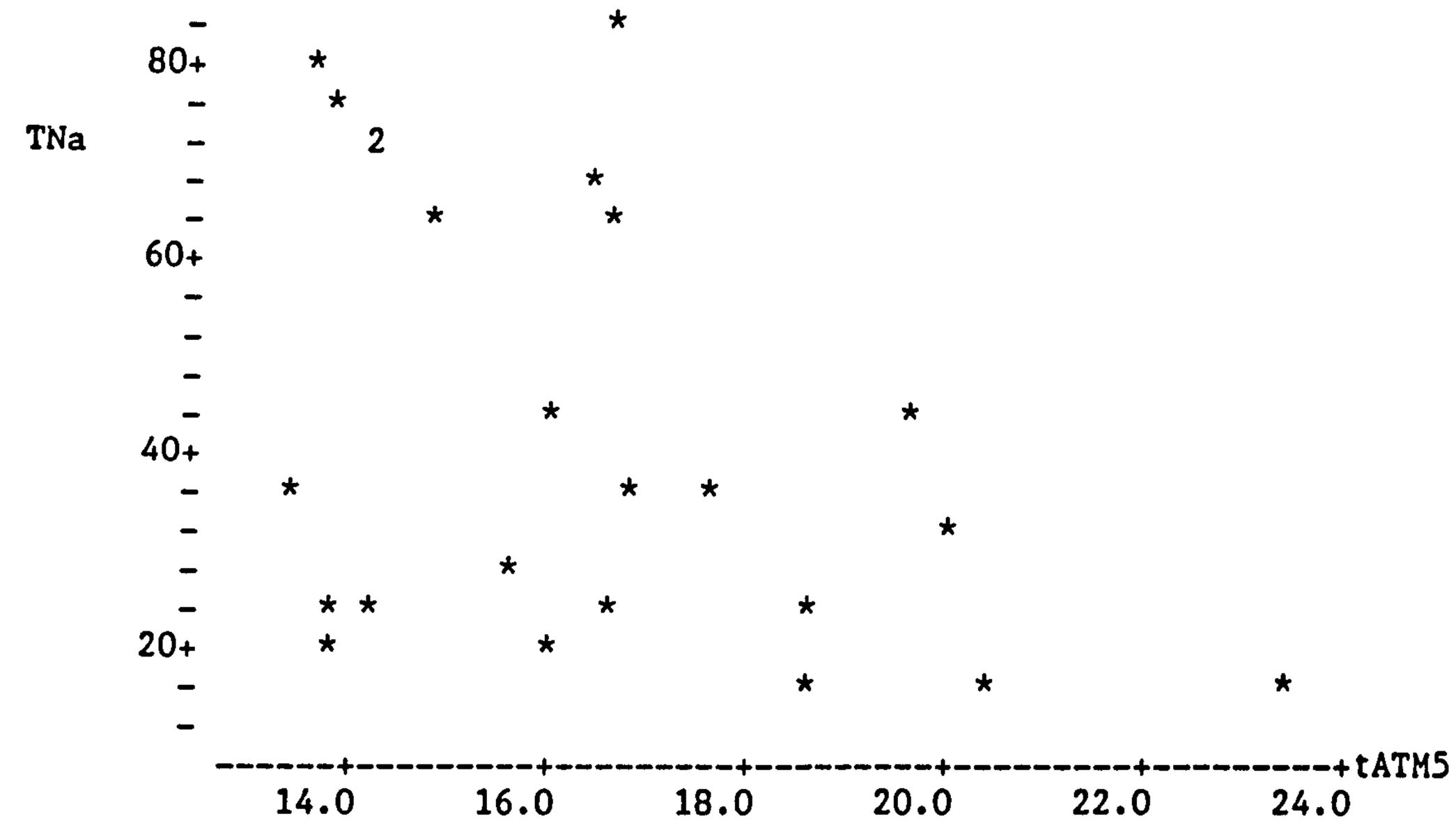
SOURCE	DF	SS	MS
Regression	1	2425.2	2425.2
Error	22	9913.8	450.6
Total	23	12339.0	

Unusual Observations

Obs.	tATM2	TNa	Fit	Stdev.Fit	Residual	St.Resid
6	15.6	17.00	15.26	12.43	1.74	0.10 X
18	11.6	84.00	41.04	4.37	42.96	2.07R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C141 and C120 = -0.399



Correlation of TNa and tATM5 = -0.425

The regression equation is
TNa = 105 - 3.81 tATM5

Predictor	Coef	Stdev	t-ratio
Constant	104.88	28.74	3.65
tATM5	-3.805	1.727	-2.20

s = 21.44 R-sq = 18.1% R-sq(adj) = 14.3%

Analysis of Variance

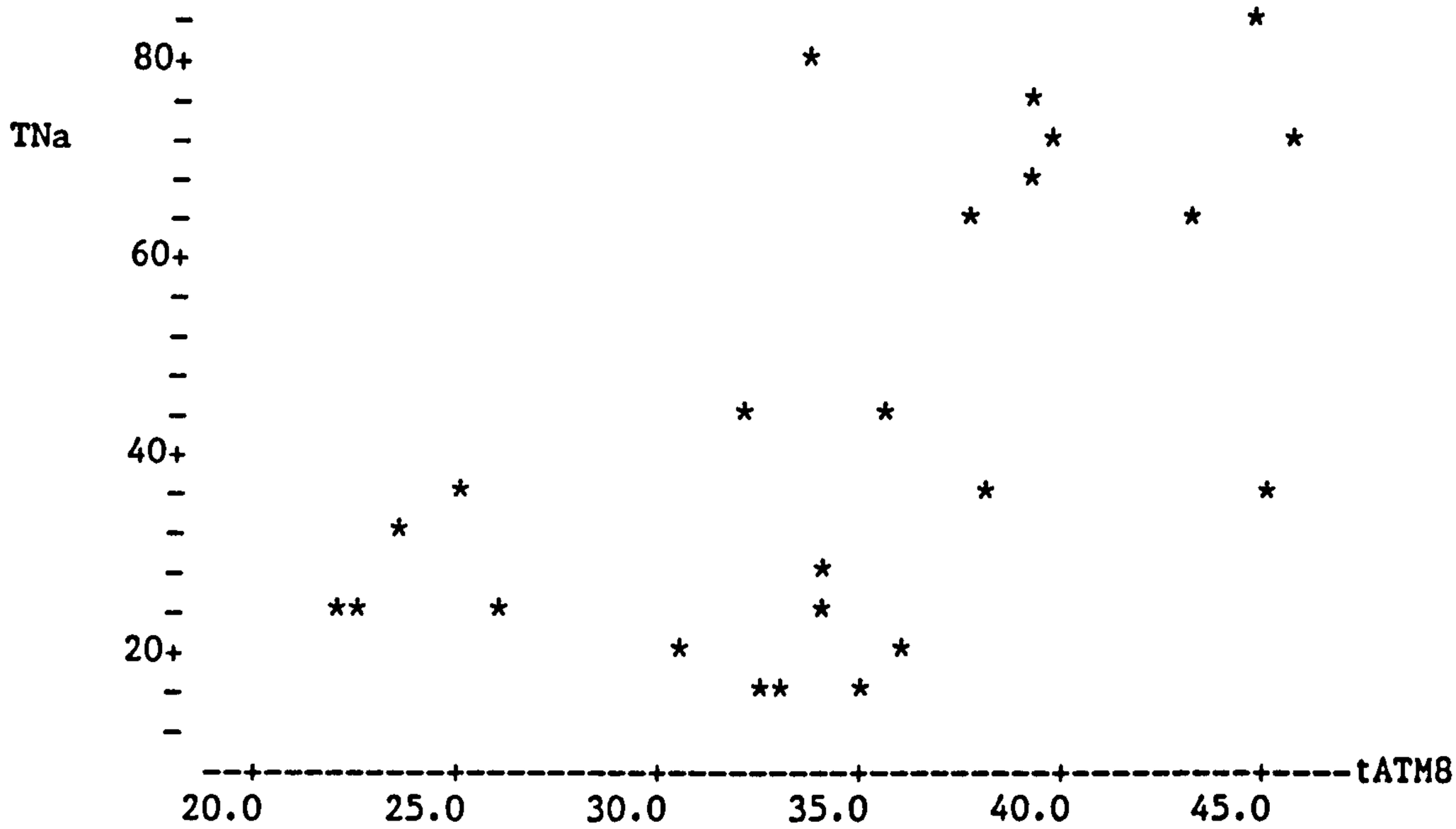
SOURCE	DF	SS	MS
Regression	1	2230.0	2230.0
Error	22	10108.9	459.5
Total	23	12339.0	

Unusual Observations

Obs.	tATM5	TNa	Fit	Stdev.Fit	Residual	St.Resid
6	23.4	17.00	16.01	12.71	0.99	0.06 X
18	16.7	84.00	41.37	4.40	42.63	2.03R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C141 and C123 = -0.405



Correlation of TNa and tATM8 = 0.581

The regression equation is
TNa = - 24.0 + 1.93 tATM8

Predictor	Coef	Stdev	t-ratio
Constant	-24.02	20.17	-1.19
tATM8	1.9269	0.5748	3.35

s = 19.27 R-sq = 33.8% R-sq(adj) = 30.8%

Analysis of Variance

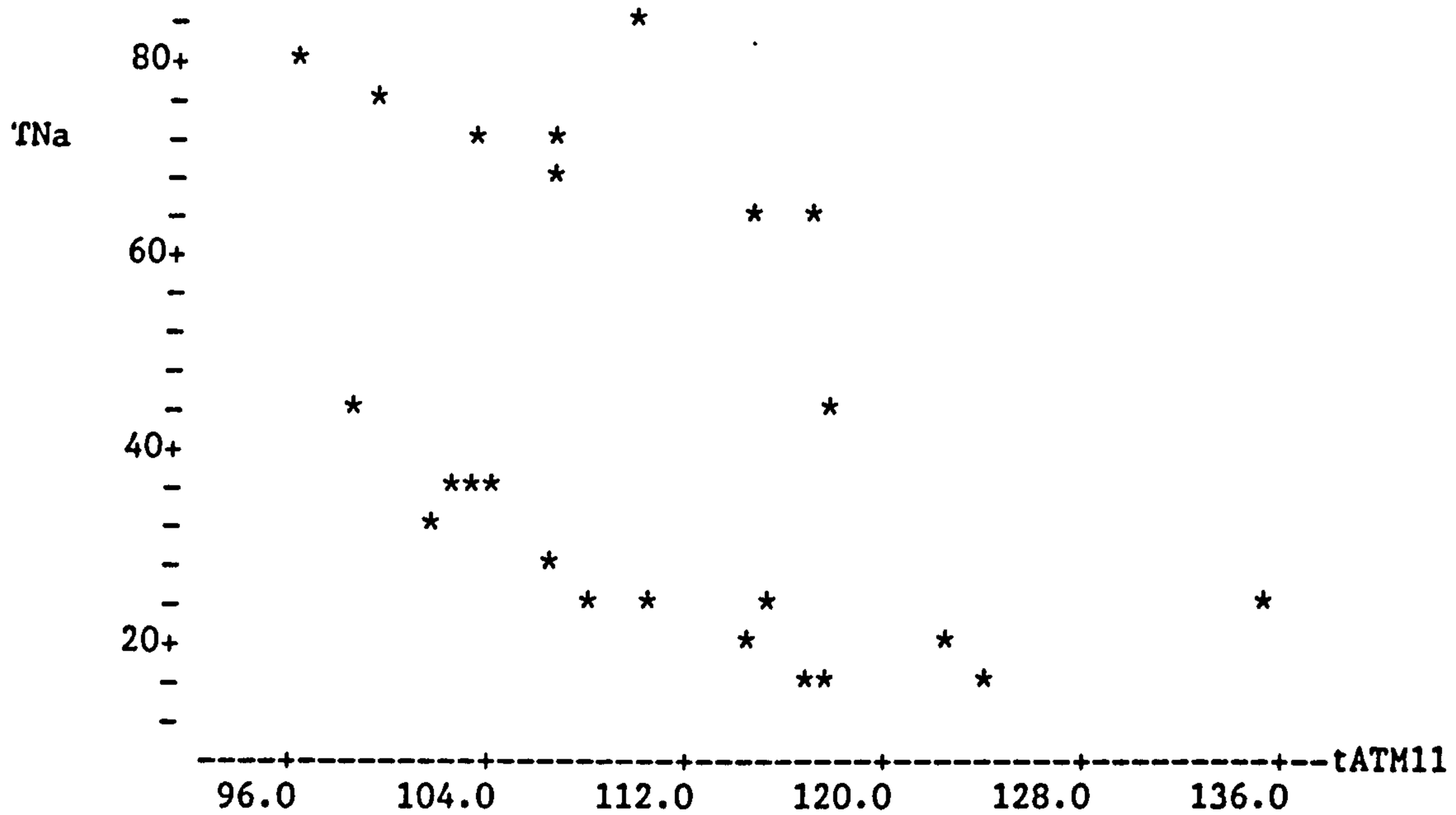
SOURCE	DF	SS	MS
Regression	1	4171.9	4171.9
Error	22	8167.1	371.2
Total	23	12339.0	

Unusual Observations

Obs.	tATM8	TNa	Fit	Stdev.Fit	Residual	St.Resid
13	33.7	81.00	40.91	3.95	40.09	2.13R

R denotes an obs. with a large st. resid.

SPEARMAN RANK Correlation of C141 and C126 = 0.570



Correlation of TNa and tATM11 = -0.499

The regression equation is
TNa = 180 - 1.25 tATM11

Predictor	Coef	Stdev	t-ratio
Constant	180.07	51.18	3.52
tATM11	-1.2468	0.4616	-2.70

s = 20.52 R-sq = 24.9% R-sq(adj) = 21.5%

Analysis of Variance

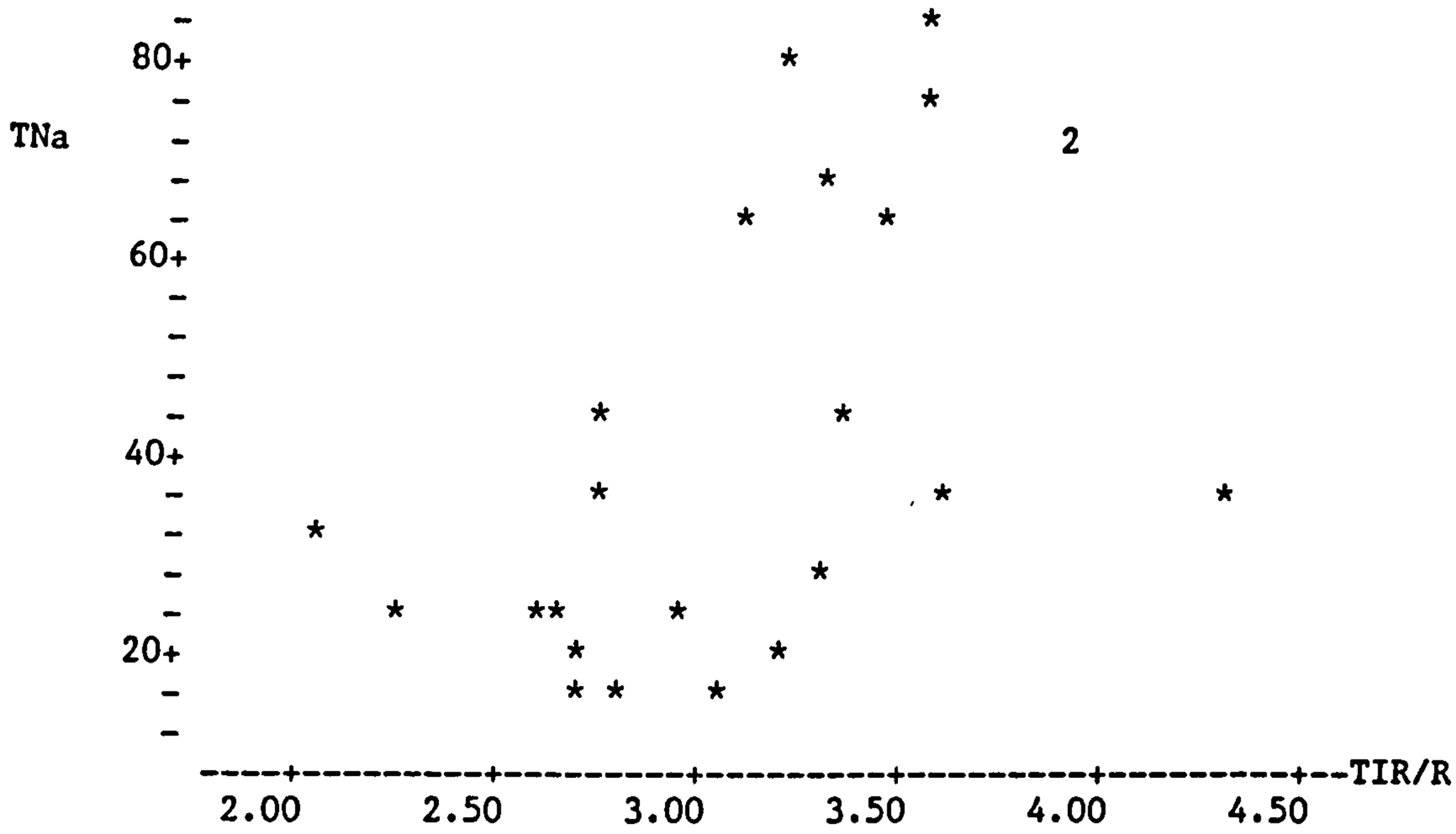
SOURCE	DF	SS	MS
Regression	1	3073.1	3073.1
Error	22	9265.8	421.2
Total	23	12339.0	

Unusual Observations

Obs.	tATM11	TNa	Fit	Stdev.Fit	Residual	St.Resid
18	110	84.00	43.55	4.22	40.45	2.01R
20	135	24.00	11.45	12.16	12.55	0.76 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C141 and C129 = -0.616



Correlation of TNa and TIR/R = 0.542

The regression equation is
TNa = - 31.2 + 23.5 TIR/R

Predictor	Coef	Stdev	t-ratio
Constant	-31.22	24.66	-1.27
TIR/R	23.549	7.793	3.02

s = 19.91 R-sq = 29.3% R-sq(adj) = 26.1%

Analysis of Variance

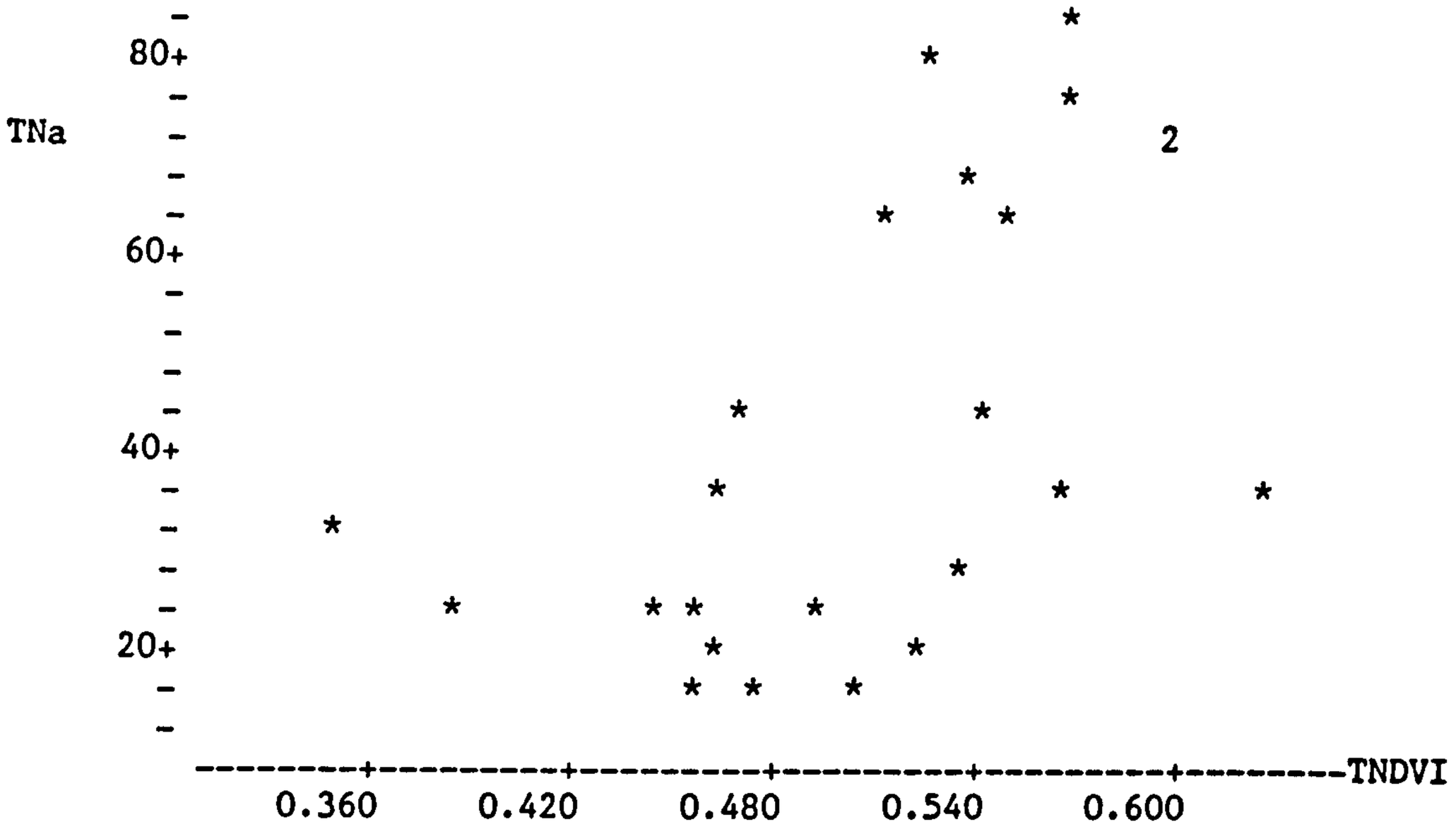
SOURCE	DF	SS	MS
Regression	1	3619.5	3619.5
Error	22	8719.5	396.3
Total	23	12339.0	

Unusual Observations

Obs.	TIR/R	TNa	Fit	Stdev.Fit	Residual	St.Resid
24	4.31	36.00	70.23	10.10	-34.23	-1.99 X

X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C141 and C151 = 0.612



Correlation of TNa and TNDVI = 0.536

The regression equation is

TNa = - 54.6 + 191 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-54.64	32.78	-1.67
TNDVI	191.26	64.19	2.98

s = 19.99 R-sq = 28.8% R-sq(adj) = 25.5%

Analysis of Variance

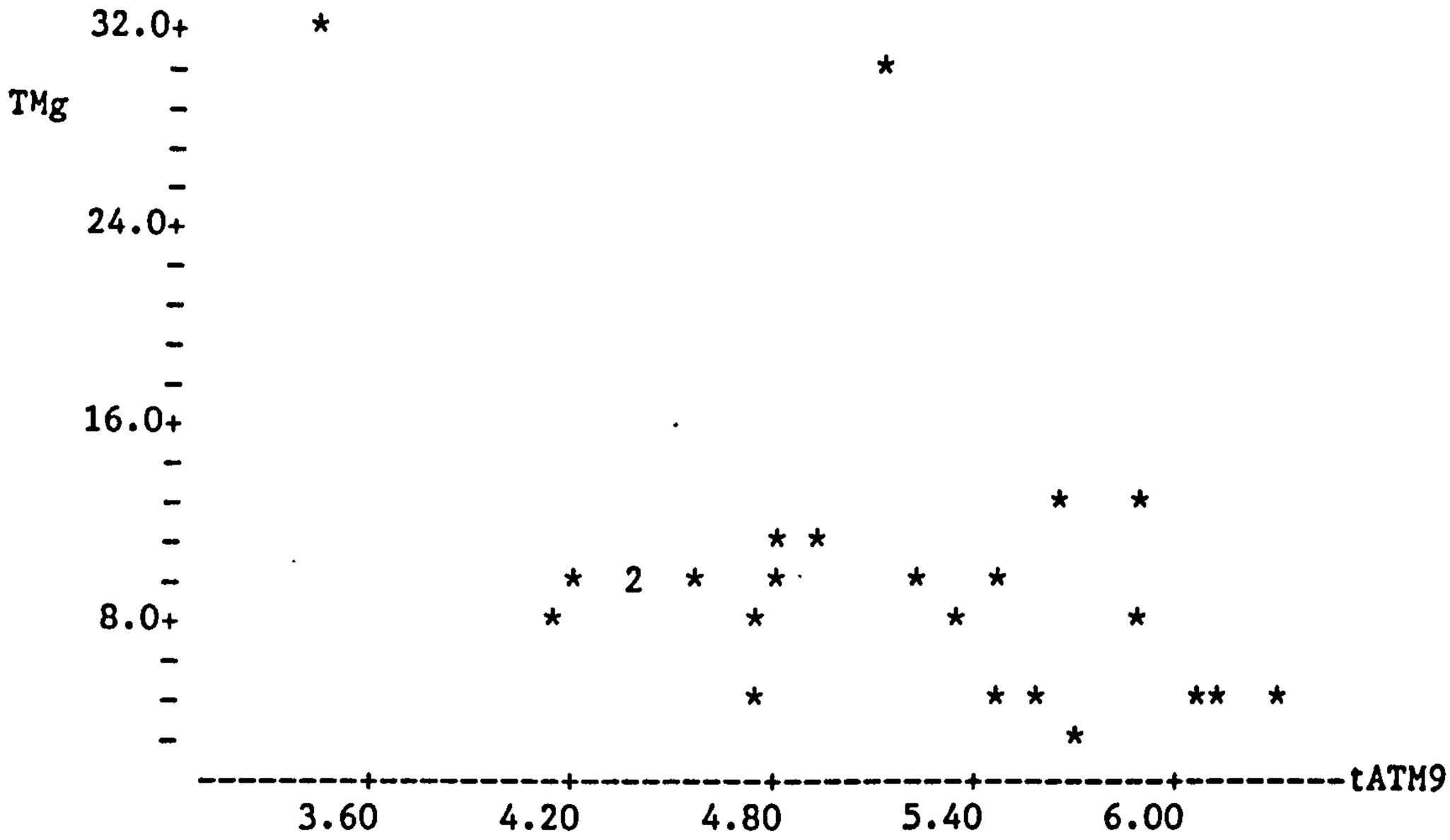
SOURCE	DF	SS	MS
Regression	1	3548.1	3548.1
Error	22	8790.9	399.6
Total	23	12339.0	

Unusual Observations

Obs.	TNDVI	TNa	Fit	Stdev.Fit	Residual	St.Resid
1	0.349	33.00	12.04	10.94	20.96	1.25 X

X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C141 and C153 = 0.612



Correlation of TMg and tATM9 = -0.467

The regression equation is
TMg = 32.9 - 4.48 tATM9

Predictor	Coef	Stdev	t-ratio
Constant	32.941	9.367	3.52
tATM9	-4.481	1.811	-2.47

s = 6.338 R-sq = 21.8% R-sq(adj) = 18.2%

Analysis of Variance

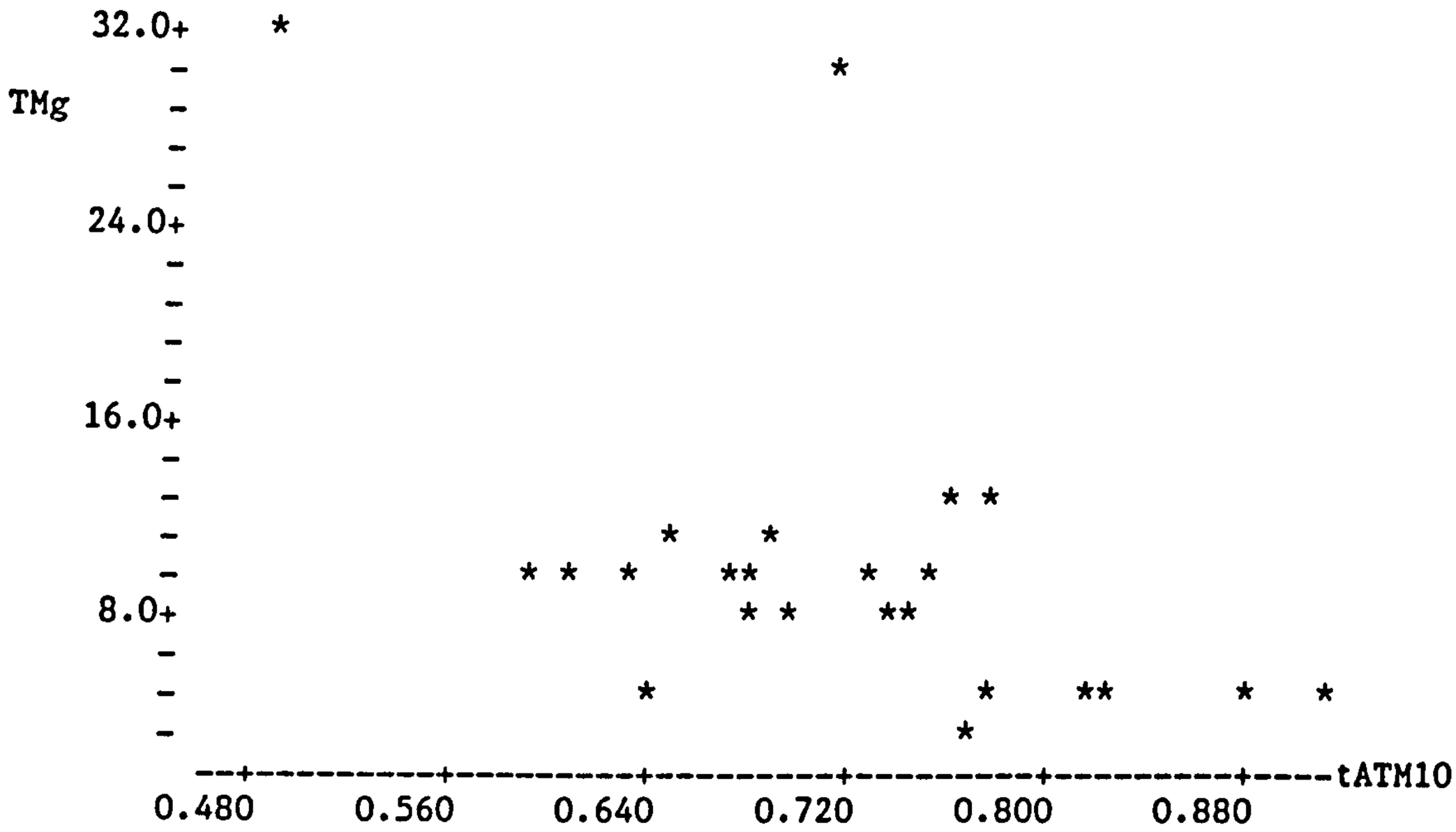
SOURCE	DF	SS	MS
Regression	1	246.07	246.07
Error	22	883.83	40.17
Total	23	1129.90	

Unusual Observations

Obs.	tATM9	TMg	Fit	Stdev.Fit	Residual	St.Resid
9	5.10	30.80	10.09	1.29	20.71	3.34R
10	3.43	31.30	17.58	3.33	13.72	2.54RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C142 and C127 = -0.402



Correlation of TMg and tATM10 = -0.529

The regression equation is
TMg = 38.1 - 39.3 tATM10

Predictor	Coef	Stdev	t-ratio
Constant	38.147	9.713	3.93
tATM10	-39.30	13.44	-2.92

s = 6.082 R-sq = 28.0% R-sq(adj) = 24.7%

Analysis of Variance

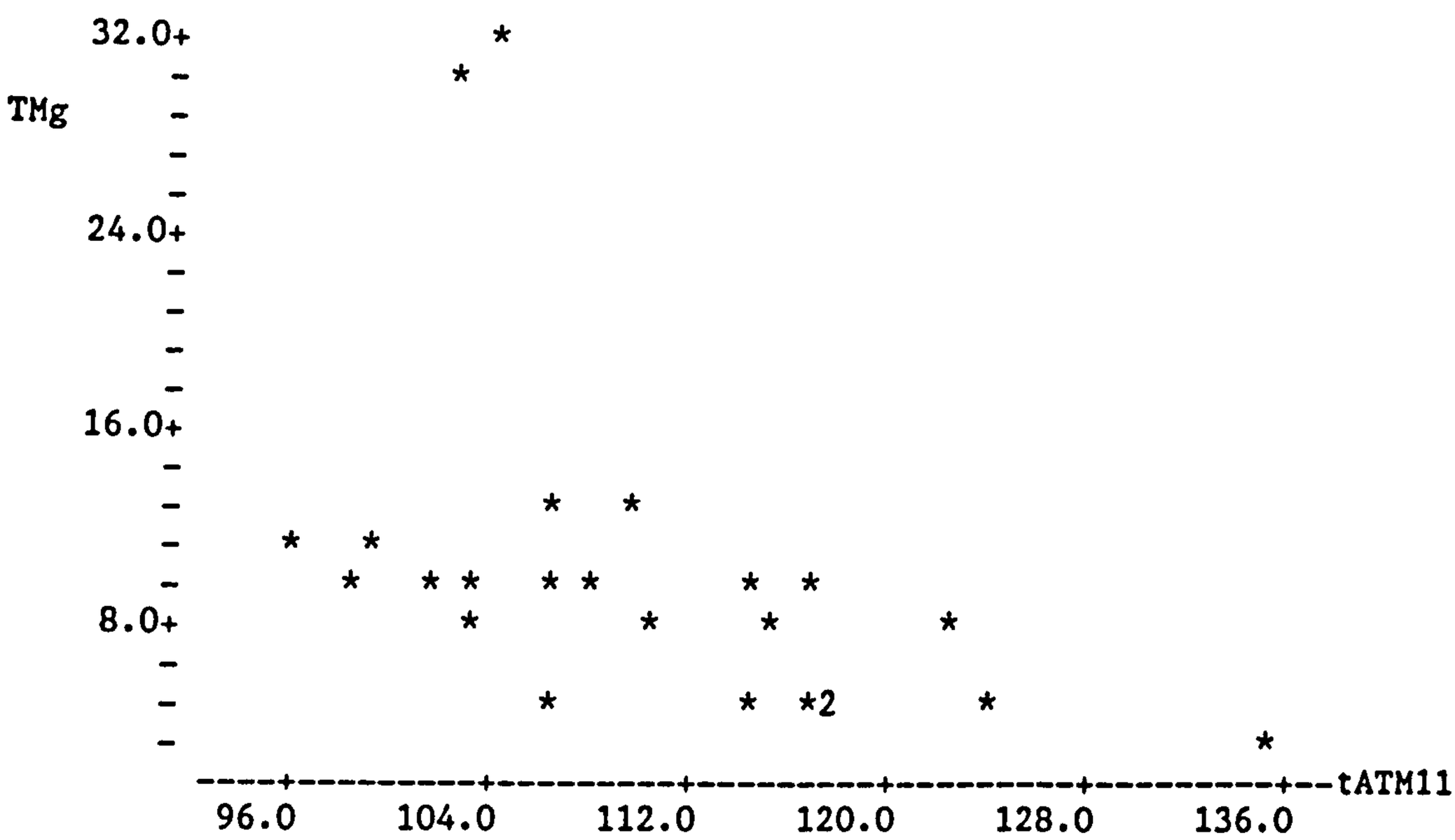
SOURCE	DF	SS	MS
Regression	1	316.16	316.16
Error	22	813.74	36.99
Total	23	1129.90	

Unusual Observations

Obs.	tATM10	TMg	Fit	Stdev.Fit	Residual	St.Resid
9	0.708	30.80	10.30	1.25	20.50	3.44R
10	0.484	31.30	19.11	3.36	12.19	2.40RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

SPEARMAN RANK Correlation of C142 and C128 = -0.484



Correlation of TMg and tATM11 = -0.465

The regression equation is
TMg = 48.8 - 0.352 tATM11

Predictor	Coef	Stdev	t-ratio
Constant	48.84	15.82	3.09
tATM11	-0.3516	0.1427	-2.46

s = 6.344 R-sq = 21.6% R-sq(adj) = 18.1%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	244.40	244.40
Error	22	885.50	40.25
Total	23	1129.90	

Unusual Observations

Obs.	tATM11	TMg	Fit	Stdev.Fit	Residual	St.Resid
9	103	30.80	12.80	1.73	18.00	2.95R
10	104	31.30	12.18	1.57	19.12	3.11R
20	135	3.95	1.28	3.76	2.67	0.52 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

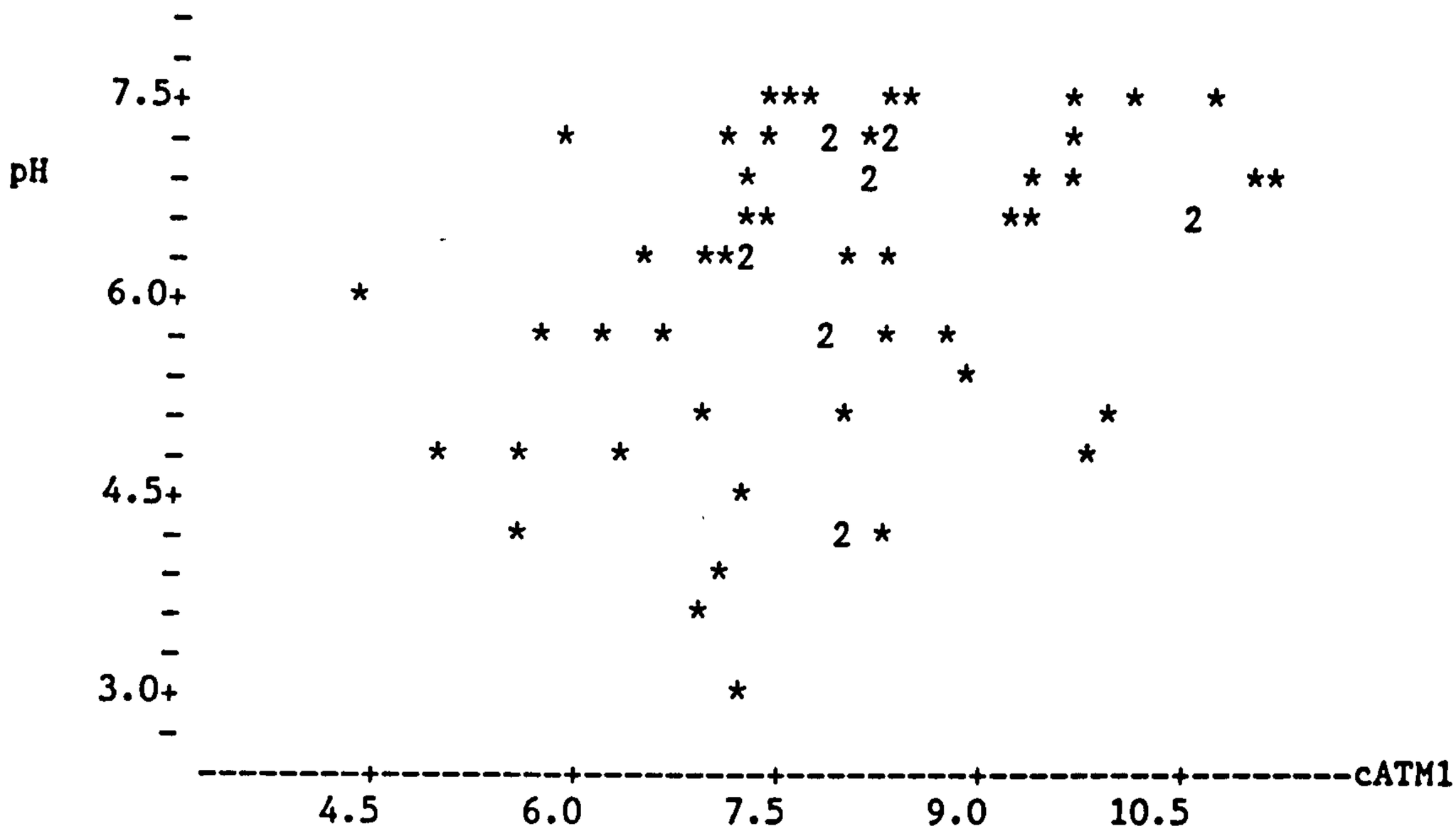
SPEARMAN RANK Correlation of C142 and C129 = -0.694

APPENDIX 4

CRYMLYN BOG STUDY

RELATING AIRBORNE SCANNER DATA TO FIELD-MEASURED VARIABLES

REGRESSION RESULTS AND SCATTER PLOTS ALL FIELD SAMPLES COMBINED



The regression equation is
pH = 3.94 + 0.280 cATM1

Predictor	Coef	Stdev	t-ratio
Constant	3.9393	0.7802	5.05
cATM1	0.28009	0.09713	2.88

s = 1.102 R-sq = 12.4% R-sq(adj) = 10.9%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	10.092	10.092
Error	59	71.606	1.214
Total	60	81.698	

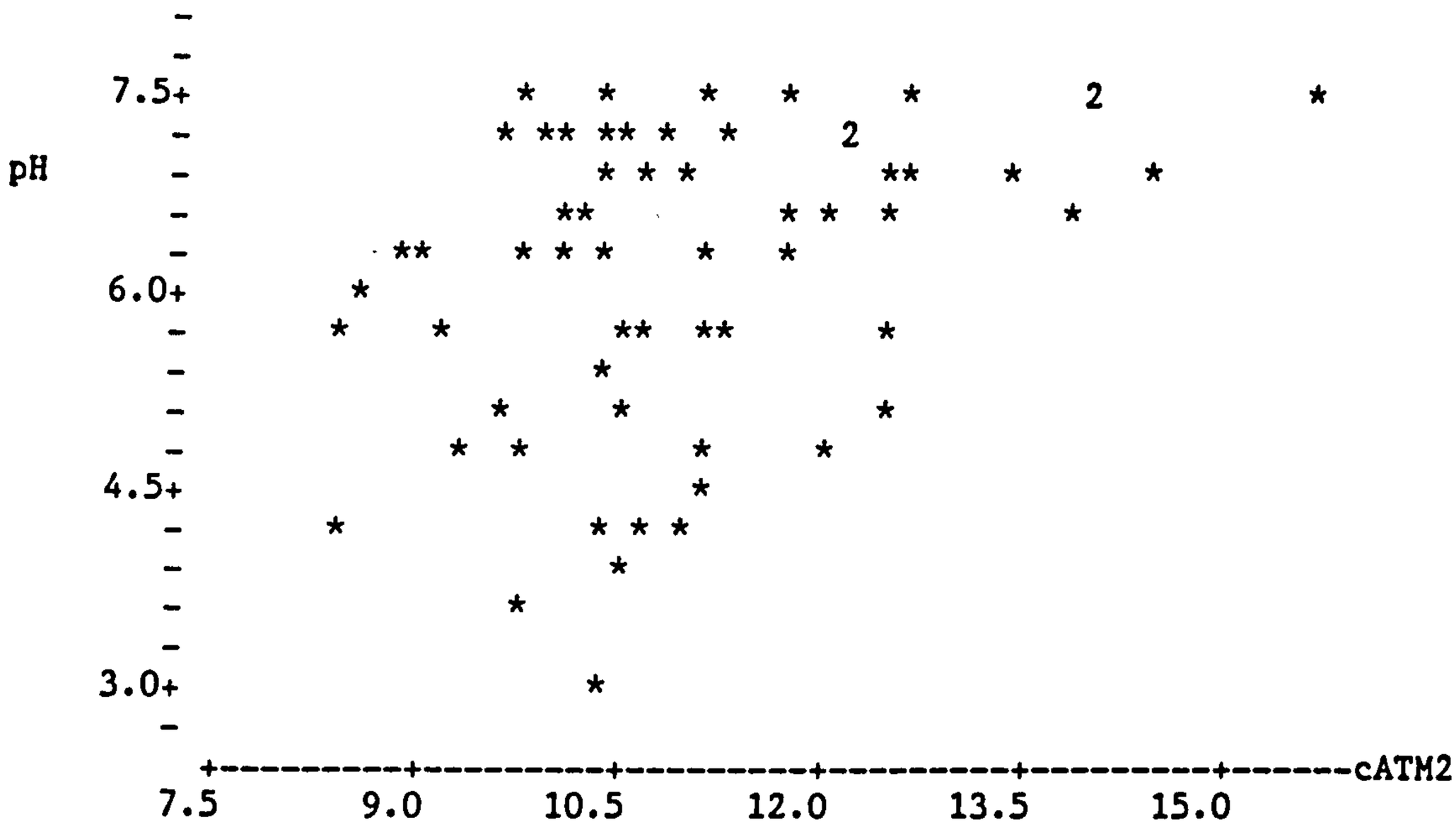
Unusual Observations

Obs.	cATM1	pH	Fit	Stdev.Fit	Residual	St.Resid
6	4.4	5.930	5.167	0.369	0.763	0.73 X
16	7.2	3.140	5.961	0.156	-2.821	-2.59R
19	6.9	3.510	5.865	0.173	-2.355	-2.16R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and cATM1 = 0.351

SPEARMAN RANK Correlation = 0.380



The regression equation is
pH = 3.02 + 0.284 cATM2

Predictor	Coef	Stdev	t-ratio
Constant	3.025	1.036	2.92
cATM2	0.28432	0.09333	3.05

s = 1.094 R-sq = 13.6% R-sq(adj) = 12.1%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	11.105	11.105
Error	59	70.593	1.196
Total	60	81.698	

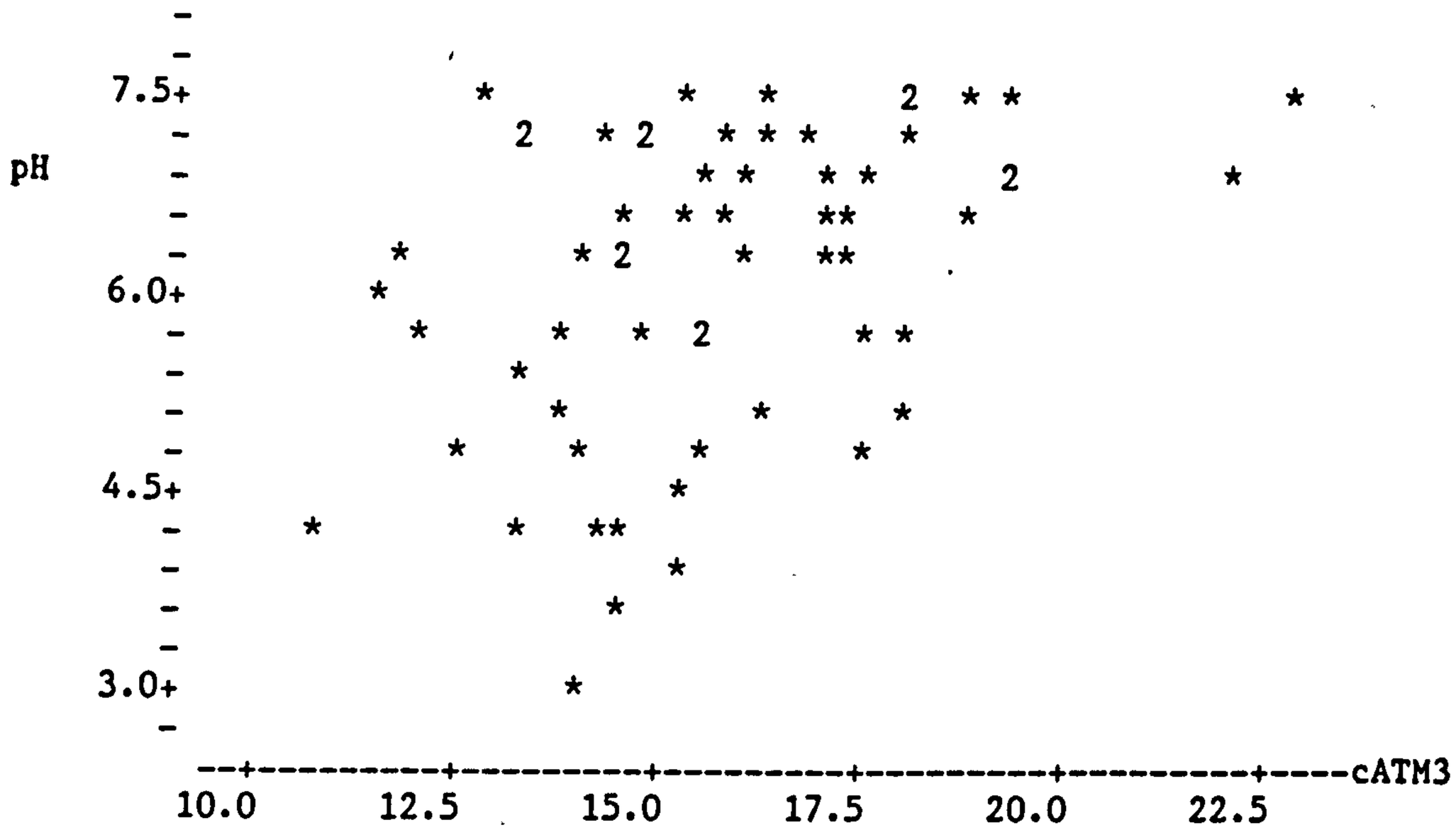
Unusual Observations

Obs.	cATM2	pH	Fit	Stdev.Fit	Residual	St.Resid
9	14.4	7.000	7.126	0.349	-0.126	-0.12 X
16	10.4	3.140	5.975	0.152	-2.835	-2.62R
19	9.8	3.510	5.807	0.180	-2.297	-2.13R
43	15.6	7.590	7.461	0.452	0.129	0.13 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and cATM2 = 0.369

SPEARMAN RANK Correlation = 0.348



The regression equation is
pH = 3.00 + 0.200 cATM3

Predictor	Coef	Stdev	t-ratio
Constant	3.0049	0.9289	3.24
cATM3	0.20034	0.05848	3.43

s = 1.075 R-sq = 16.6% R-sq(adj) = 15.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	13.555	13.555
Error	59	68.142	1.155
Total	60	81.698	

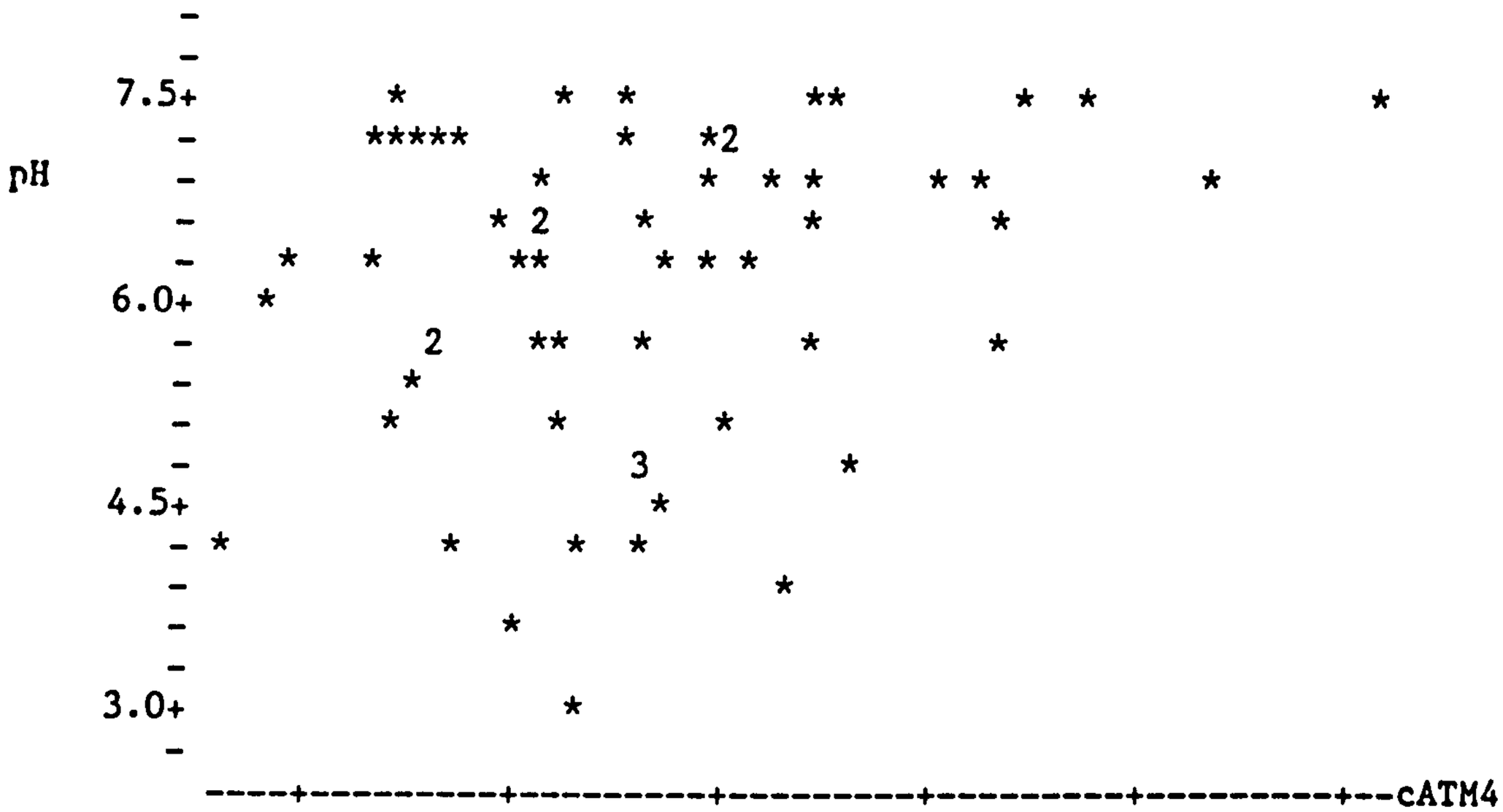
Unusual Observations

Obs.	cATM3	pH	Fit	Stdev.Fit	Residual	St.Resid
9	22.1	7.000	7.429	0.397	-0.429	-0.43 X
16	13.9	3.140	5.791	0.173	-2.651	-2.50R
19	14.4	3.510	5.896	0.157	-2.386	-2.24R
43	22.7	7.590	7.555	0.432	0.035	0.04 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and cATM3 = 0.407

SPEARMAN RANK Correlation = 0.413



The regression equation is
pH = 3.77 + 0.173 cATM4

Predictor	Coef	Stdev	t-ratio
Constant	3.766	1.171	3.22
cATM4	0.17335	0.08439	2.05

s = 1.137 R-sq = 6.7% R-sq(adj) = 5.1%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	5.453	5.453
Error	59	76.245	1.292
Total	60	81.698	

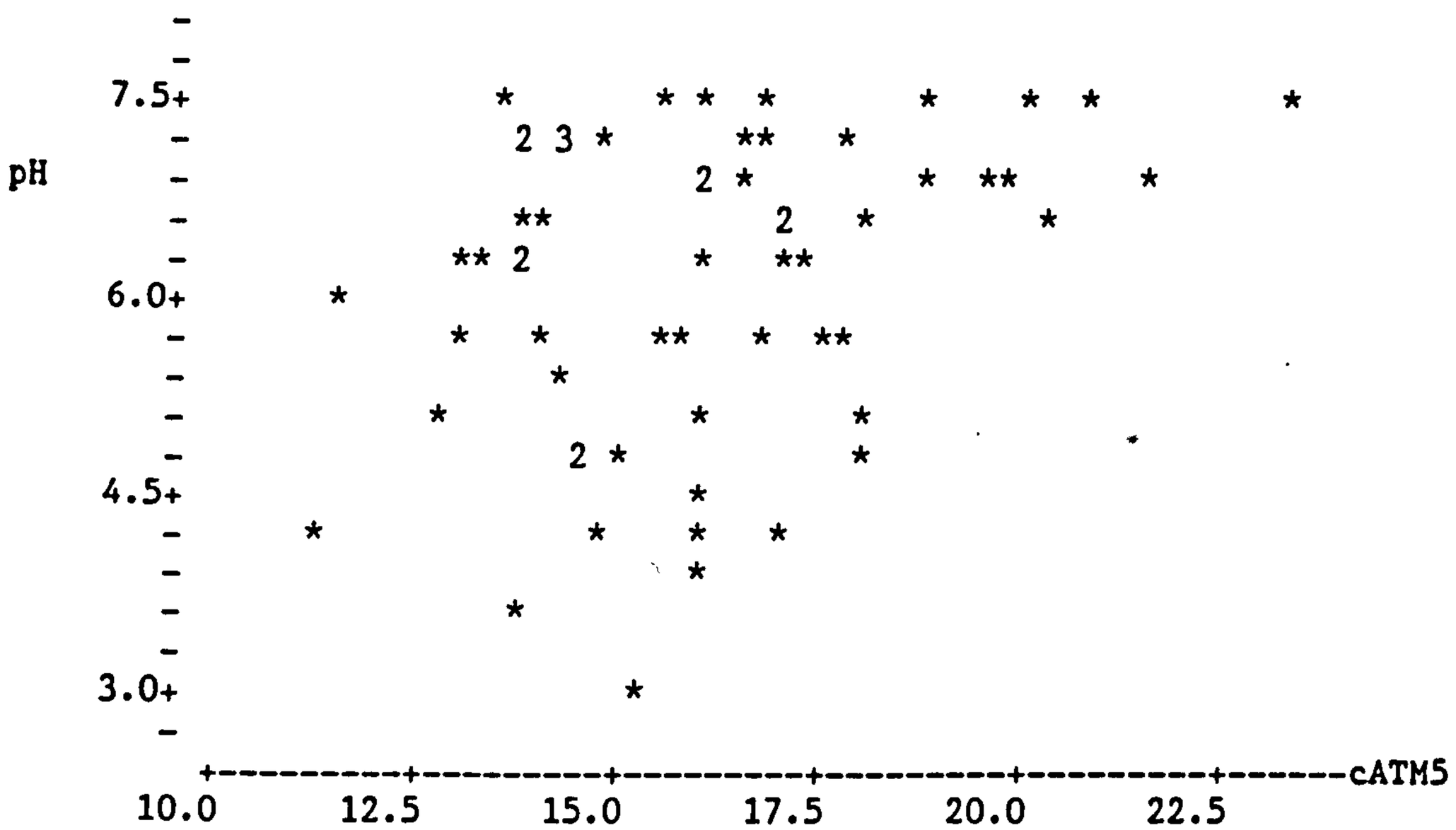
Unusual Observations

Obs.	cATM4	pH	Fit	Stdev.Fit	Residual	St.Resid
4	14.9	4.020	6.343	0.173	-2.323	-2.07R
9	18.1	7.000	6.906	0.395	0.094	0.09 X
16	13.3	3.140	6.069	0.151	-2.929	-2.60R
19	12.8	3.510	5.984	0.167	-2.474	-2.20R
43	19.3	7.590	7.111	0.489	0.479	0.47 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and cATM4 = 0.258

SPEARMAN RANK Correlation = 0.222



The regression equation is
pH = 3.83 + 0.145 cATM5

Predictor	Coef	Stdev	t-ratio
Constant	3.8295	0.9659	3.96
cATM5	0.14505	0.05966	2.43

s = 1.122 R-sq = 9.1% R-sq(adj) = 7.6%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	7.441	7.441
Error	59	74.257	1.259
Total	60	81.698	

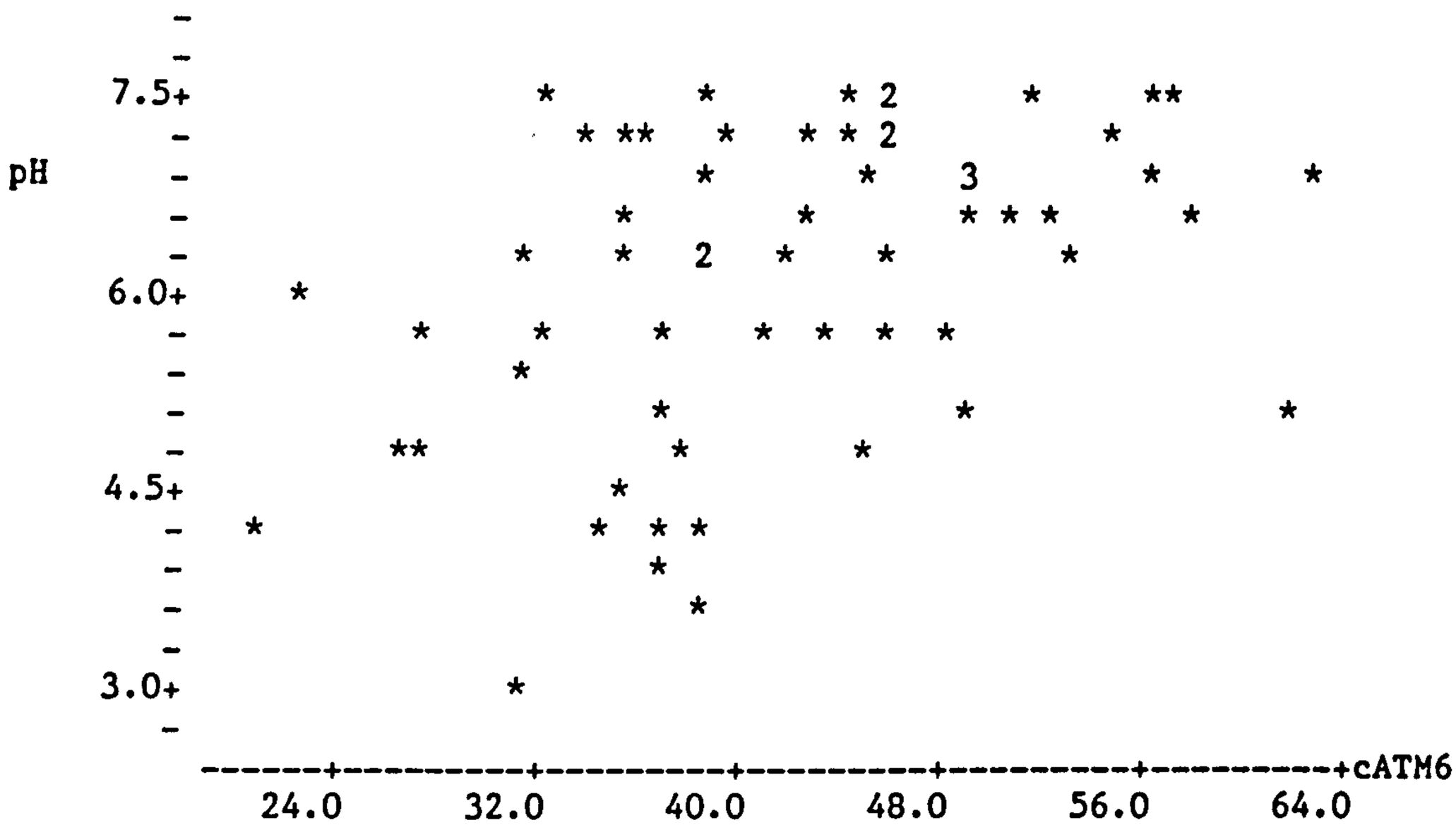
Unusual Observations

Obs.	cATM5	pH	Fit	Stdev.Fit	Residual	St.Resid
9	21.5	7.000	6.947	0.357	0.053	0.05 X
16	15.3	3.140	6.051	0.150	-2.911	-2.62R
19	13.8	3.510	5.838	0.193	-2.328	-2.11R
43	23.4	7.590	7.217	0.461	0.373	0.36 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and cATM5 = 0.302

SPEARMAN RANK Correlation = 0.255



The regression equation is
pH = 3.90 + 0.0540 cATM6

Predictor	Coef	Stdev	t-ratio
Constant	3.8979	0.6328	6.16
cATM6	0.05400	0.01481	3.65

s = 1.063 R-sq = 18.4% R-sq(adj) = 17.0%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	15.030	15.030
Error	59	66.667	1.130
Total	60	81.698	

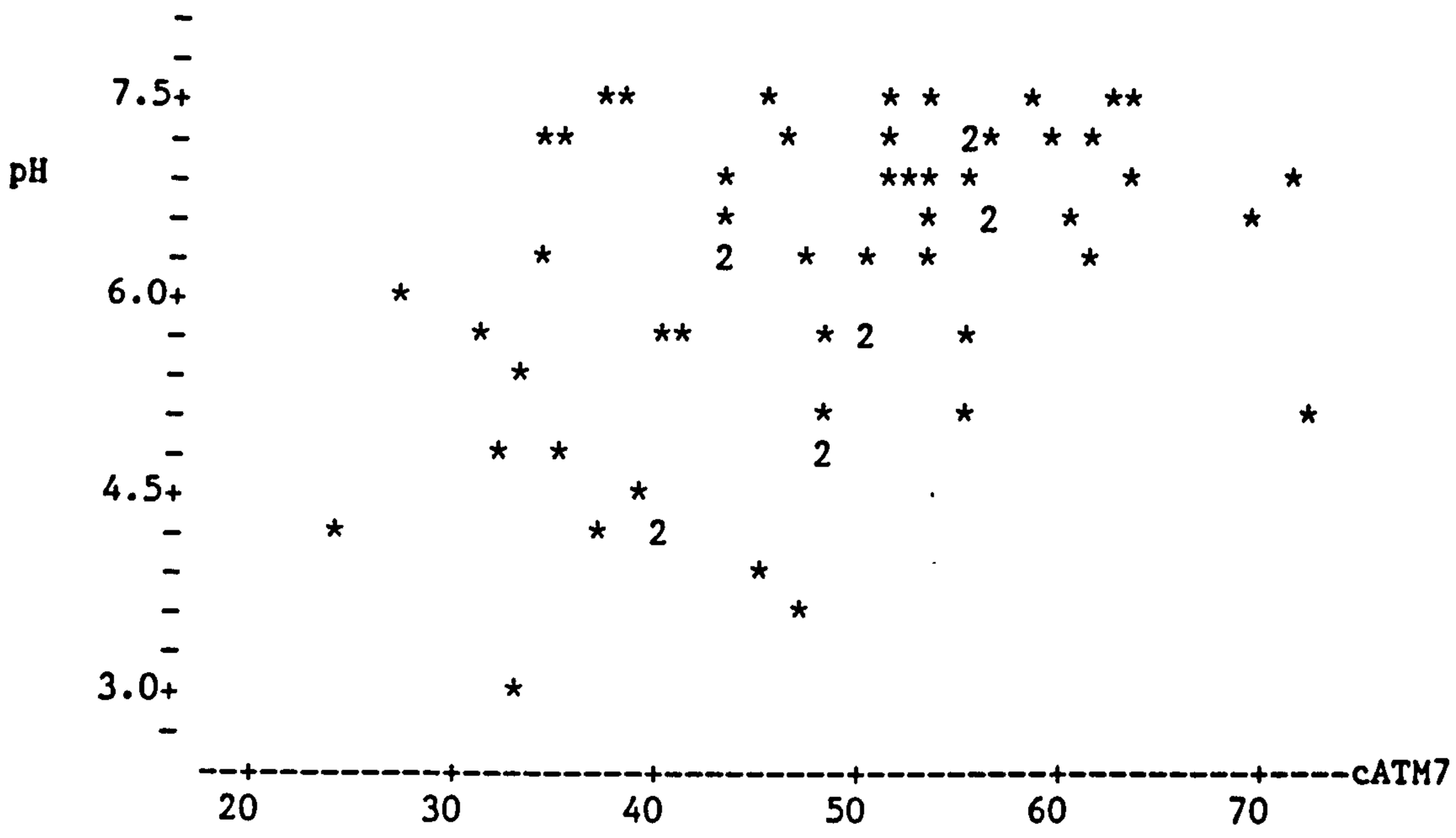
Unusual Observations

Obs.	cATM6	pH	Fit	Stdev.Fit	Residual	St.Resid
3	20.8	4.130	5.021	0.339	-0.891	-0.88 X
9	62.7	7.000	7.283	0.339	-0.283	-0.28 X
16	31.3	3.140	5.590	0.206	-2.450	-2.35R
19	38.1	3.510	5.957	0.146	-2.447	-2.32R
28	61.7	4.980	7.228	0.325	-2.248	-2.22R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and cATM6 = 0.429

SPEARMAN RANK Correlation = 0.440



The regression equation is
pH = 3.95 + 0.0457 cATM7

Predictor	Coef	Stdev	t-ratio
Constant	3.9539	0.6269	6.31
cATM7	0.04571	0.01272	3.59

s = 1.066 R-sq = 17.9% R-sq(adj) = 16.6%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	14.662	14.662
Error	59	67.036	1.136
Total	60	81.698	

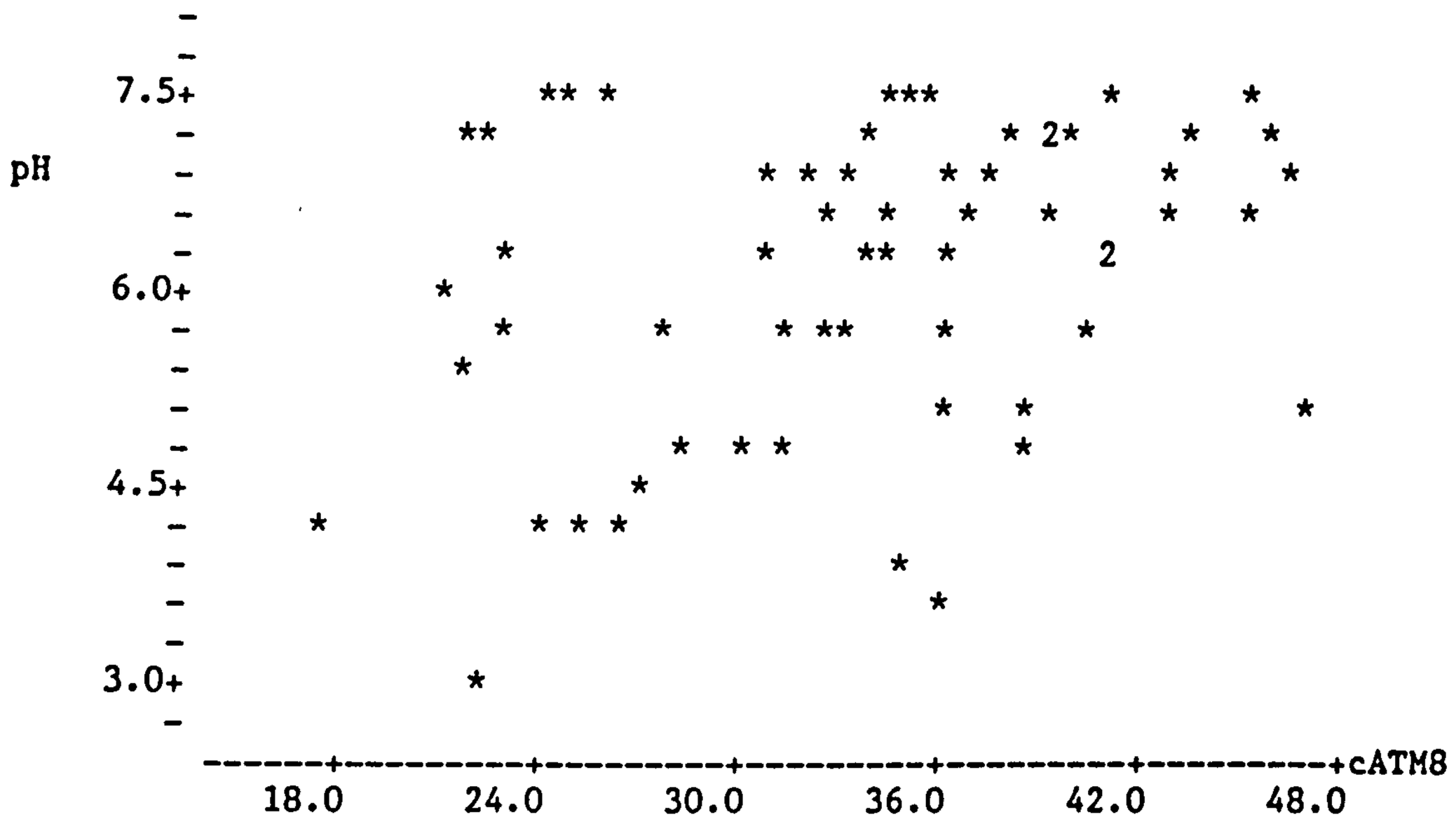
Unusual Observations

Obs.	cATM7	pH	Fit	Stdev.Fit	Residual	St.Resid
3	23.7	4.130	5.039	0.339	-0.909	-0.90 X
16	32.9	3.140	5.457	0.237	-2.317	-2.23R
19	46.8	3.510	6.094	0.137	-2.584	-2.44R
28	71.8	4.980	7.234	0.331	-2.254	-2.22R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and cATM7 = 0.424

SPEARMAN RANK Correlation = 0.438



The regression equation is
pH = 4.39 + 0.0527 cATM8

Predictor	Coef	Stdev	t-ratio
Constant	4.3886	0.6665	6.58
cATM8	0.05275	0.01948	2.71

s = 1.110 R-sq = 11.1% R-sq(adj) = 9.5%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	9.033	9.033
Error	59	72.665	1.232
Total	60	81.698	

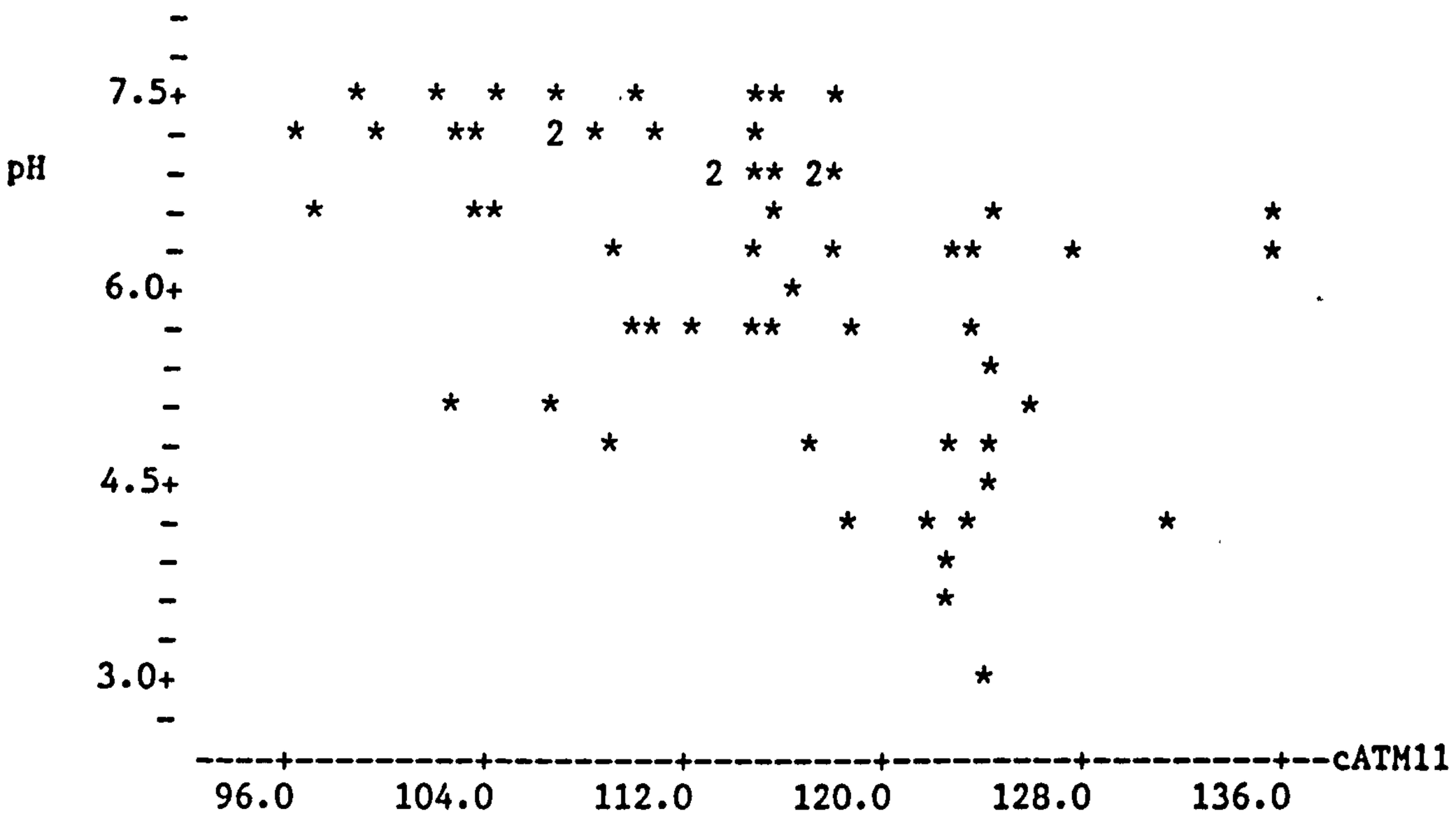
Unusual Observations

Obs.	cATM8	pH	Fit	Stdev.Fit	Residual	St.Resid
4	35.1	4.020	6.239	0.146	-2.219	-2.02R
16	22.3	3.140	5.567	0.259	-2.427	-2.25R
19	35.8	3.510	6.275	0.149	-2.765	-2.51R

R denotes an obs. with a large st. resid.

Correlation of pH and cATM8 = 0.333

SPEARMAN RANK Correlation = 0.304



The regression equation is
pH = 13.3 - 0.0622 cATM11

Predictor	Coef	Stdev	t-ratio
Constant	13.278	1.670	7.95
cATM11	-0.06221	0.01453	-4.28

s = 1.028 R-sq = 23.7% R-sq(adj) = 22.4%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	19.358	19.358
Error	59	62.339	1.057
Total	60	81.698	

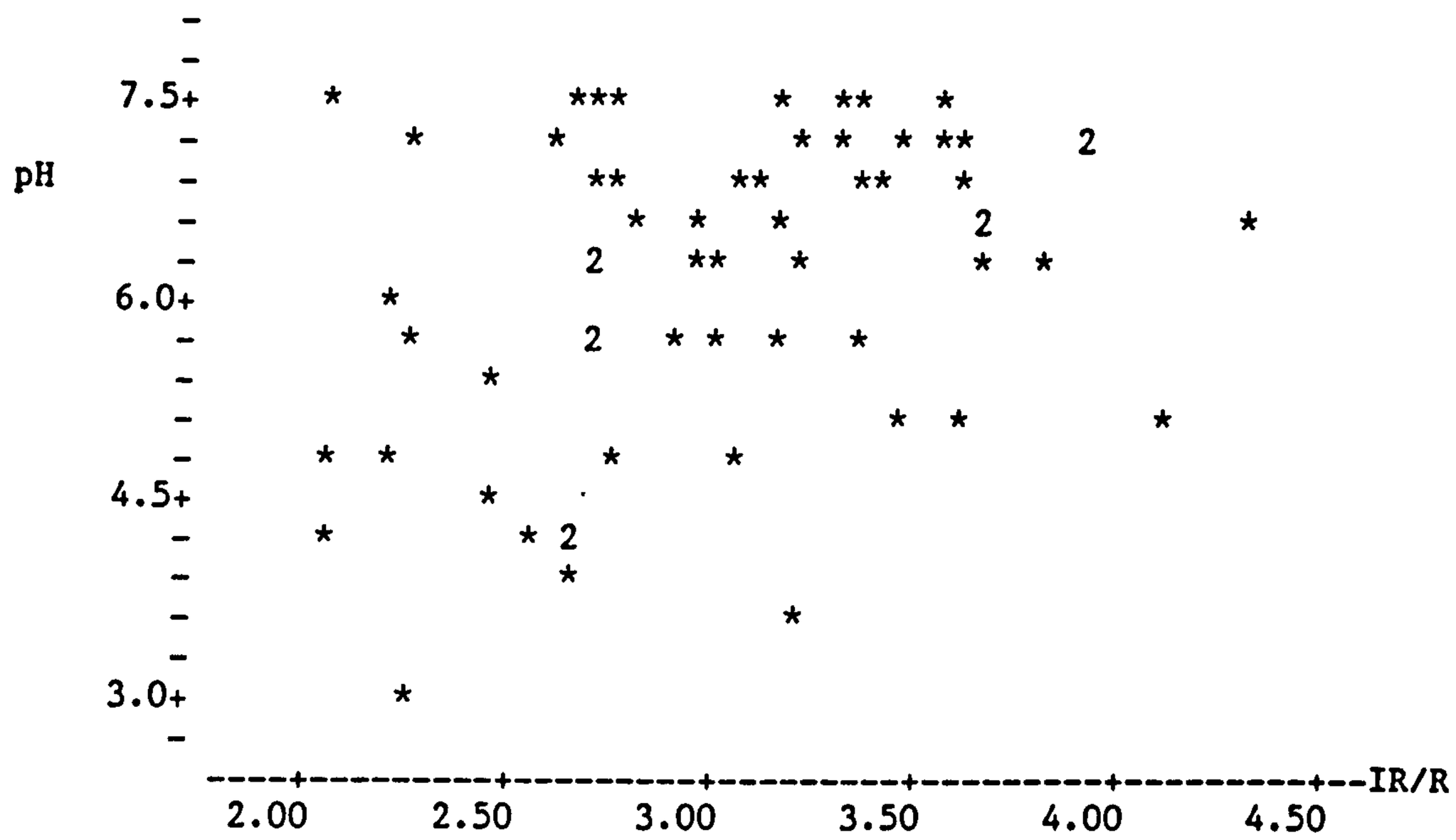
Unusual Observations

Obs.	cATM11	pH	Fit	Stdev.Fit	Residual	St.Resid
16	124	3.140	5.564	0.190	-2.424	-2.40R
18	135	6.340	4.864	0.328	1.476	1.51 X
19	123	3.510	5.658	0.175	-2.148	-2.12R
57	135	6.690	4.864	0.328	1.826	1.87 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and cATM11 = -0.487

SPEARMAN RANK Correlation = -0.541



The regression equation is
pH = 3.84 + 0.765 IR/R

Predictor	Coef	Stdev	t-ratio
Constant	3.8450	0.8107	4.74
IR/R	0.7651	0.2648	2.89

s = 1.101 R-sq = 12.4% R-sq(adj) = 10.9%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	10.129	10.129
Error	59	71.569	1.213
Total	60	81.698	

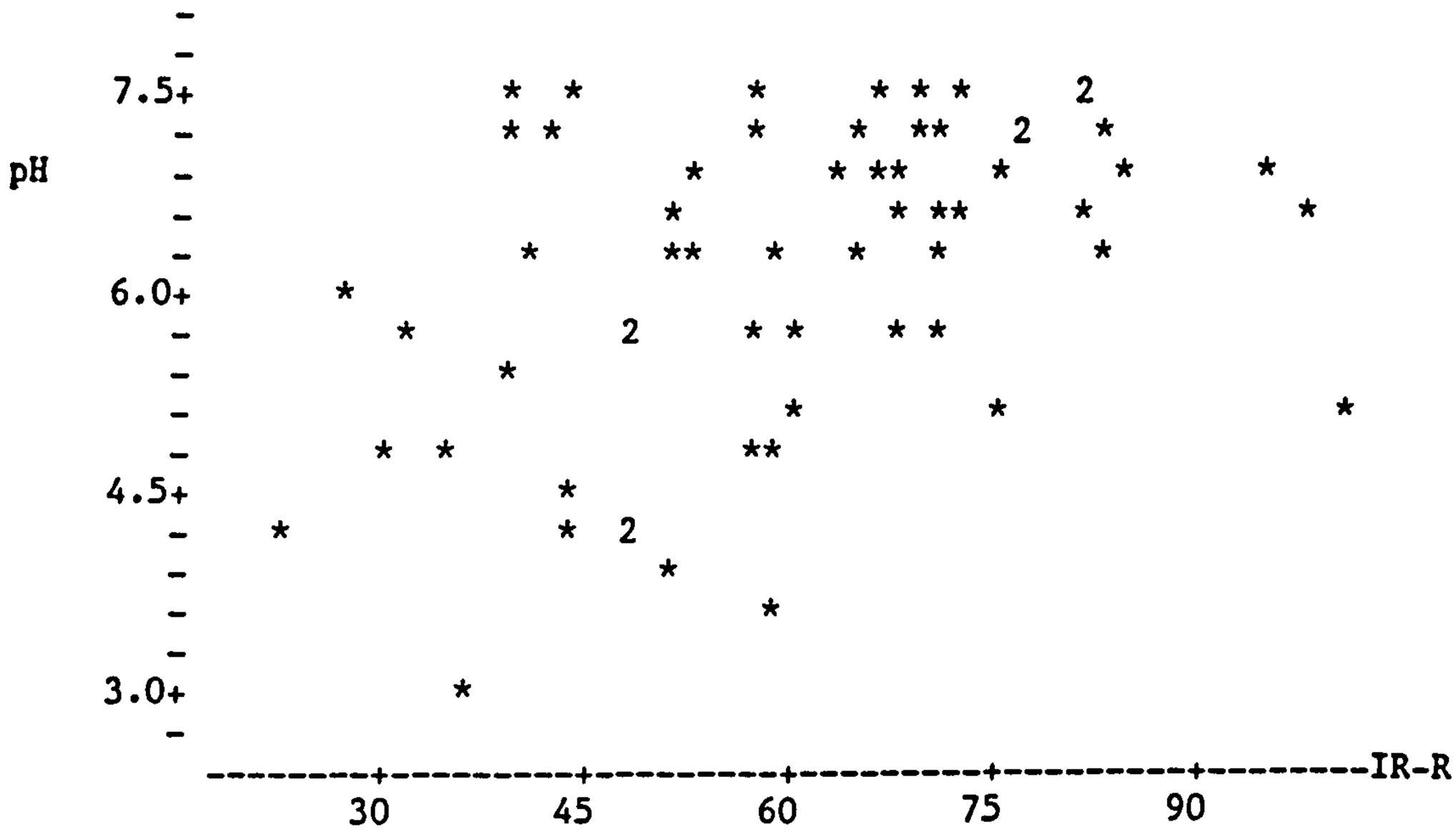
Unusual Observations

Obs.	IR/R	pH	Fit	Stdev.Fit	Residual	St.Resid
16	2.24	3.140	5.562	0.248	-2.422	-2.26R
19	3.19	3.510	6.285	0.148	-2.775	-2.54R
38	2.07	7.620	5.429	0.287	2.191	2.06R
61	4.31	6.580	7.141	0.370	-0.561	-0.54 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and IR/R = 0.352

SPEARMAN RANK Correlation = 0.342



The regression equation is
pH = 4.48 + 0.0279 IR-R

Predictor	Coef	Stdev	t-ratio
Constant	4.4788	0.4906	9.13
IR-R	0.027860	0.007846	3.55

s = 1.068 R-sq = 17.6% R-sq(adj) = 16.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	14.385	14.385
Error	59	67.312	1.141
Total	60	81.698	

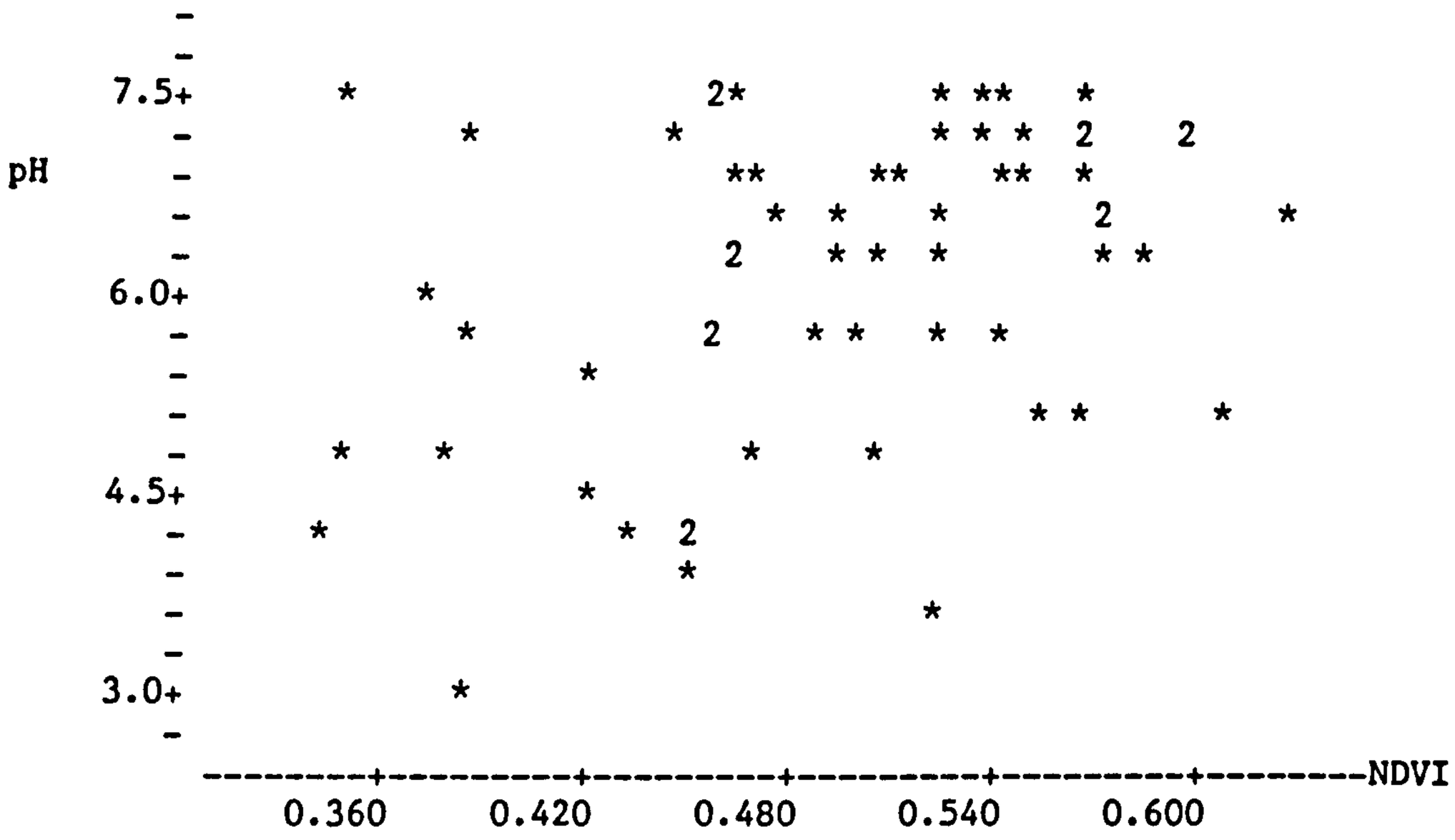
Unusual Observations

Obs.	IR-R	pH	Fit	Stdev.Fit	Residual	St.Resid
16	36	3.140	5.471	0.236	-2.331	-2.24R
19	58	3.510	6.104	0.137	-2.594	-2.45R
28	101	4.980	7.292	0.349	-2.312	-2.29RX

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of pH and IR-R = 0.420

SPEARMAN RANK Correlation = 0.421



The regression equation is
pH = 3.07 + 6.26 NDVI

Predictor	Coef	Stdev	t-ratio
Constant	3.069	1.018	3.02
NDVI	6.255	2.045	3.06

s = 1.093 R-sq = 13.7% R-sq(adj) = 12.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	11.182	11.182
Error	59	70.515	1.195
Total	60	81.698	

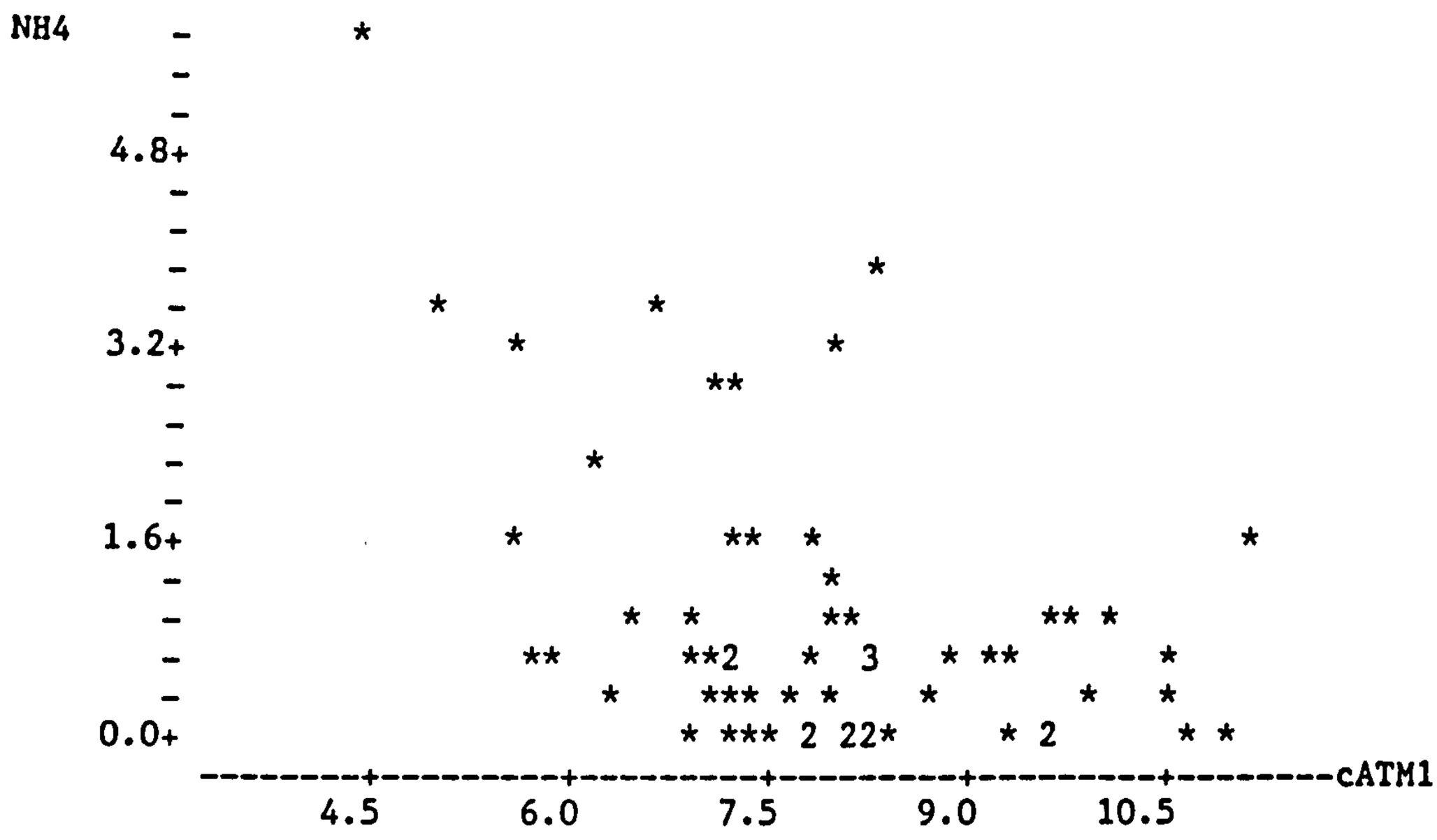
Unusual Observations

Obs.	NDVI	pH	Fit	Stdev.Fit	Residual	St.Resid
16	0.384	3.140	5.468	0.264	-2.328	-2.19R
19	0.523	3.510	6.338	0.153	-2.828	-2.61R
38	0.349	7.620	5.249	0.327	2.371	2.27R

R denotes an obs. with a large st. resid.

Correlation of pH and NDVI = 0.370

SPEARMAN RANK Correlation = 0.342



The regression equation is
NH4 = 3.89 - 0.370 cATM1

Predictor	Coef	Stdev	t-ratio
Constant	3.8936	0.7392	5.27
cATM1	-0.37003	0.09203	-4.02

s = 1.044 R-sq = 21.5% R-sq(adj) = 20.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	17.614	17.614
Error	59	64.278	1.089
Total	60	81.891	

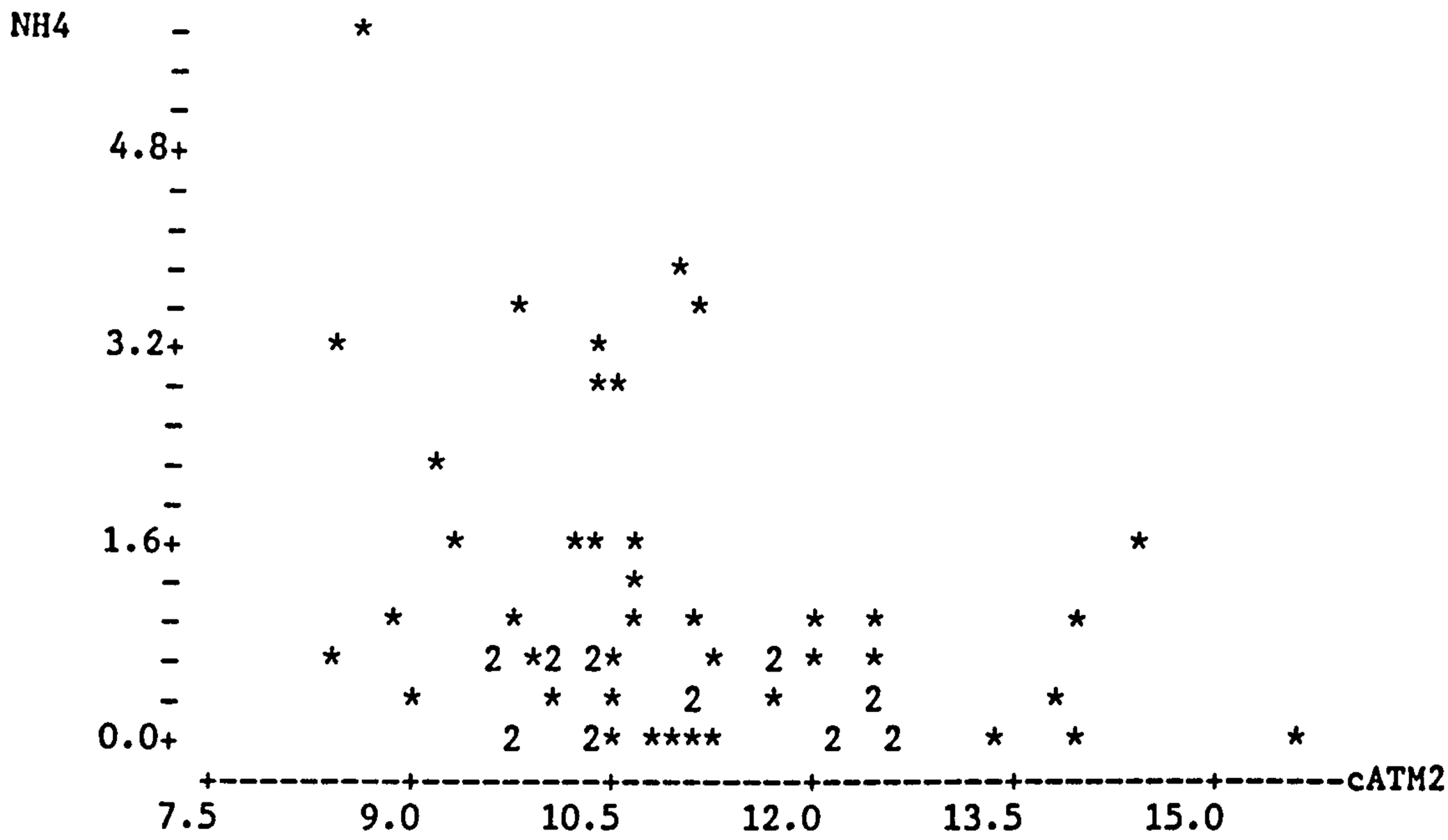
Unusual Observations

Obs.	cATM1	NH4	Fit	Stdev.Fit	Residual	St.Resid
6	4.4	5.640	2.271	0.350	3.369	3.43RX
13	7.9	3.070	0.966	0.134	2.104	2.03R
23	8.2	3.760	0.864	0.136	2.896	2.80R
35	6.7	3.500	1.427	0.175	2.073	2.01R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and cATM1 = -0.464

SPEARMAN RANK Correlation = -0.361



The regression equation is
NH4 = 4.05 - 0.280 cATM2

Predictor	Coef	Stdev	t-ratio
Constant	4.054	1.040	3.90
cATM2	-0.28032	0.09366	-2.99

s = 1.098 R-sq = 13.2% R-sq(adj) = 11.7%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	10.795	10.795
Error	59	71.096	1.205
Total	60	81.891	

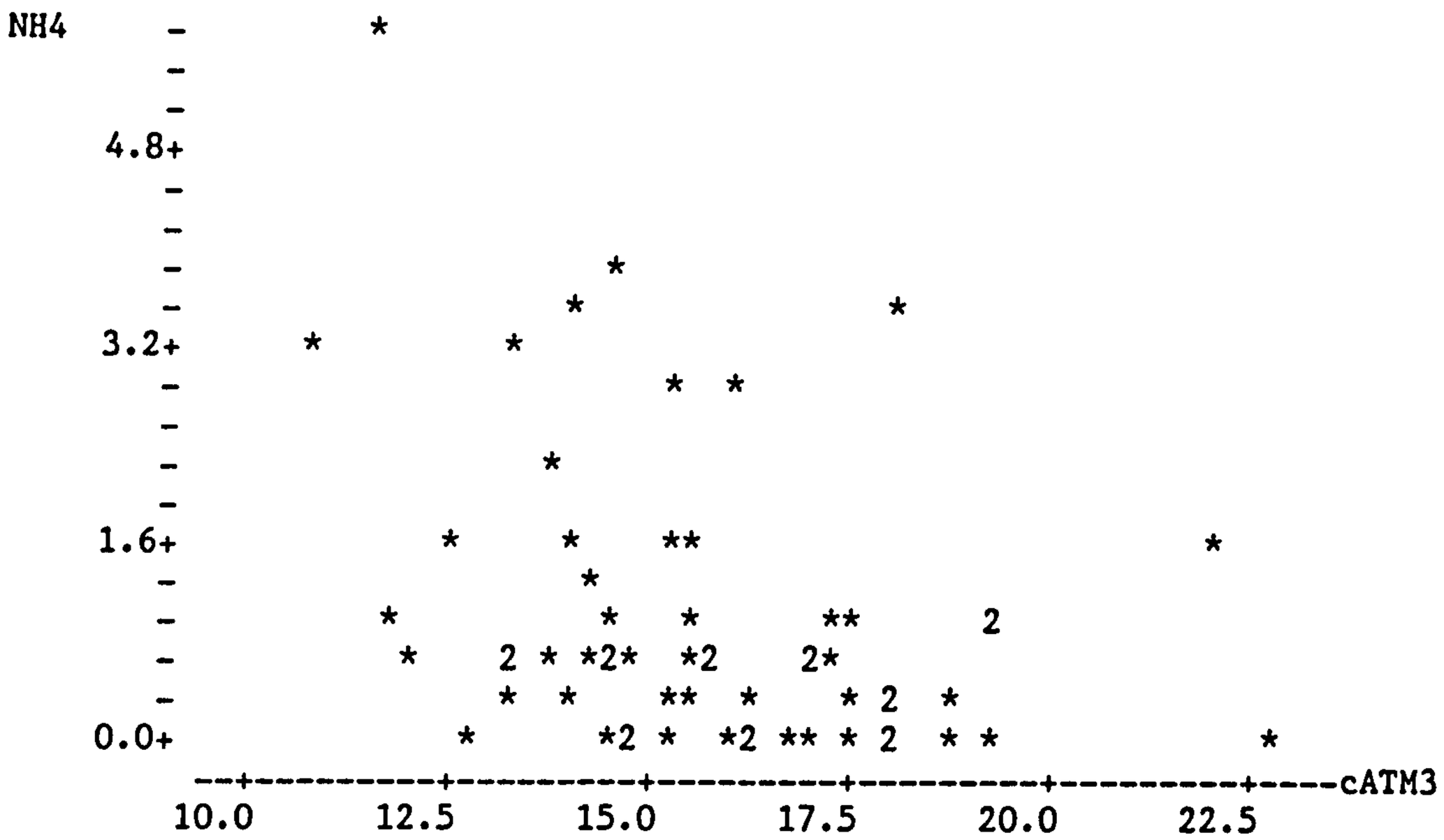
Unusual Observations

Obs.	cATM2	NH4	Fit	Stdev.Fit	Residual	St.Resid
6	8.6	5.640	1.642	0.265	3.998	3.75R
9	14.4	1.440	0.010	0.350	1.430	1.37 X
23	10.9	3.760	1.003	0.141	2.757	2.53R
35	11.1	3.500	0.932	0.141	2.568	2.36R
36	9.7	3.670	1.334	0.186	2.336	2.16R
43	15.6	0.050	-0.321	0.454	0.371	0.37 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and cATM2 = -0.363

SPEARMAN RANK Correlation = -0.381



The regression equation is
NH4 = 3.66 - 0.171 cATM3

Predictor	Coef	Stdev	t-ratio
Constant	3.6619	0.9546	3.84
cATM3	-0.17134	0.06010	-2.85

s = 1.105 R-sq = 12.1% R-sq(adj) = 10.6%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	9.915	9.915
Error	59	71.976	1.220
Total	60	81.891	

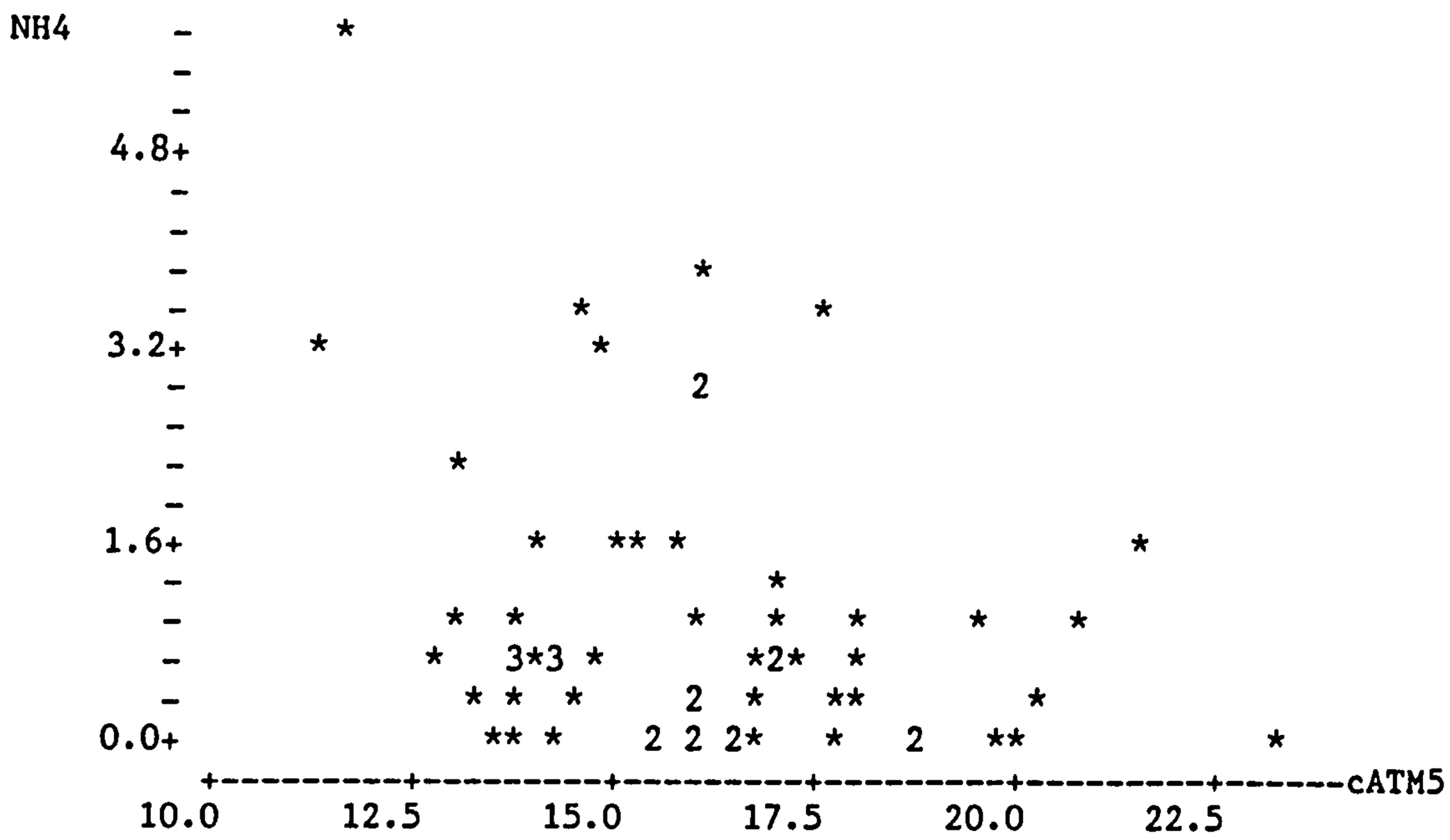
Unusual Observations

Obs.	cATM3	NH4	Fit	Stdev.Fit	Residual	St.Resid
6	11.6	5.640	1.674	0.285	3.966	3.72R
9	22.1	1.440	-0.122	0.408	1.562	1.52 X
23	14.5	3.760	1.171	0.158	2.589	2.37R
35	17.9	3.500	0.597	0.193	2.903	2.67R
36	13.9	3.670	1.279	0.178	2.391	2.19R
43	22.7	0.050	-0.229	0.444	0.279	0.28 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and cATM3 = -0.348

SPEARMAN RANK Correlation = -0.380



The regression equation is
NH4 = 3.28 - 0.144 cATM5

Predictor	Coef	Stdev	t-ratio
Constant	3.2756	0.9679	3.38
cATM5	-0.14398	0.05978	-2.41

s = 1.124 R-sq = 9.0% R-sq(adj) = 7.4%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	7.331	7.331
Error	59	74.560	1.264
Total	60	81.891	

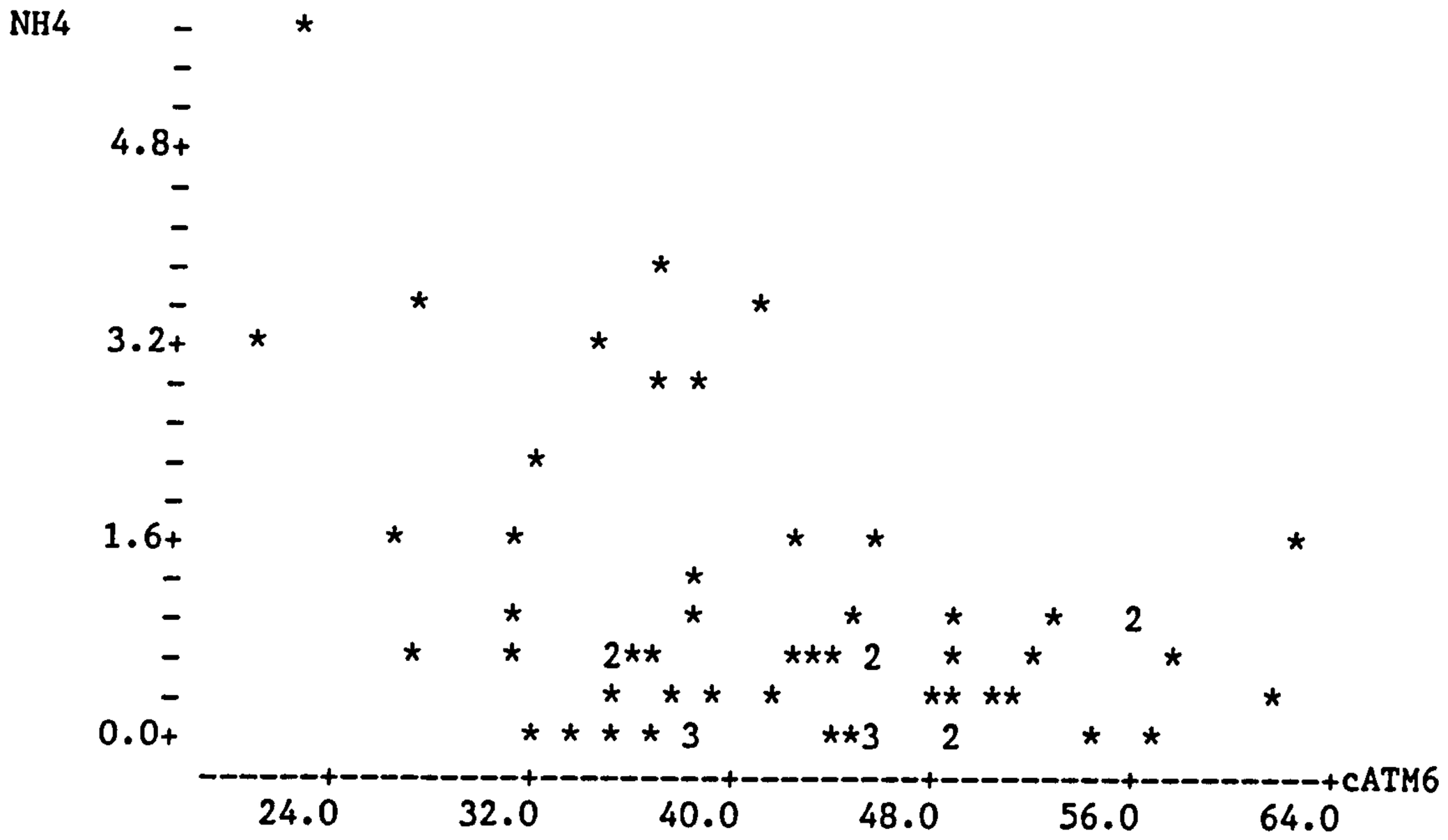
Unusual Observations

Obs.	cATM5	NH4	Fit	Stdev.Fit	Residual	St.Resid
6	11.6	5.640	1.607	0.301	4.033	3.72R
9	21.5	1.440	0.181	0.358	1.259	1.18 X
23	16.0	3.760	0.972	0.144	2.788	2.50R
35	17.5	3.500	0.760	0.168	2.740	2.47R
36	14.4	3.670	1.198	0.172	2.472	2.23R
43	23.4	0.050	-0.087	0.462	0.137	0.13 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and cATM5 = -0.299

SPEARMAN RANK Correlation = -0.262



The regression equation is
NH4 = 3.27 - 0.0551 cATM6

Predictor	Coef	Stdev	t-ratio
Constant	3.2690	0.6309	5.18
cATM6	-0.05507	0.01476	-3.73

s = 1.060 R-sq = 19.1% R-sq(adj) = 17.7%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	15.631	15.631
Error	59	66.260	1.123
Total	60	81.891	

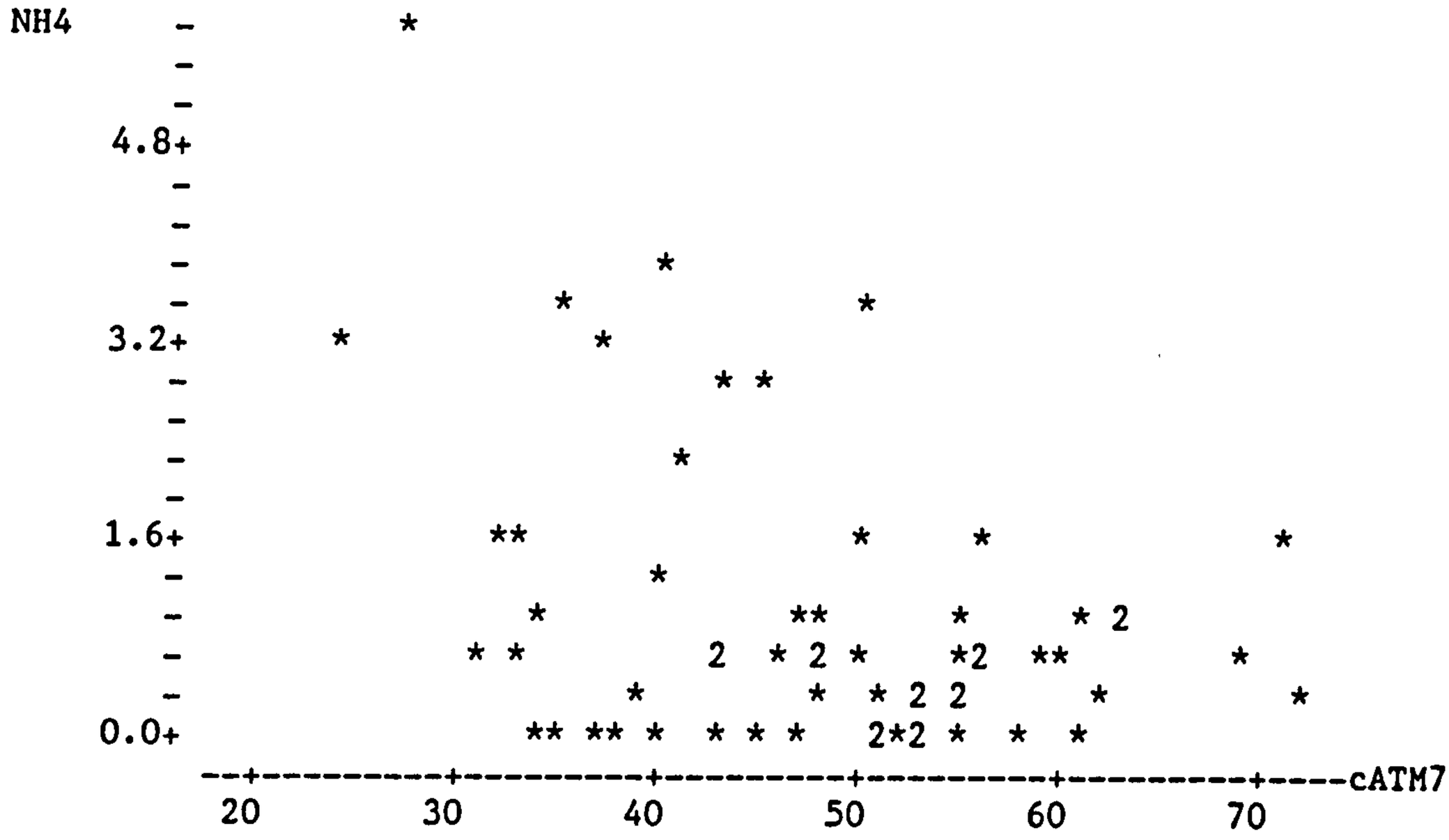
Unusual Observations

Obs.	cATM6	NH4	Fit	Stdev.Fit	Residual	St.Resid
3	20.8	3.210	2.123	0.338	1.087	1.08 X
6	22.5	5.640	2.032	0.315	3.608	3.57R
9	62.7	1.440	-0.184	0.338	1.624	1.62 X
23	37.1	3.760	1.226	0.152	2.534	2.42R
35	40.8	3.500	1.021	0.136	2.479	2.36R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and cATM6 = -0.437

SPEARMAN RANK Correlation = -0.301



The regression equation is
NH4 = 3.00 - 0.0422 cATM7

Predictor	Coef	Stdev	t-ratio
Constant	2.9997	0.6379	4.70
cATM7	-0.04220	0.01295	-3.26

s = 1.085 R-sq = 15.3% R-sq(adj) = 13.8%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	12.497	12.497
Error	59	69.394	1.176
Total	60	81.891	

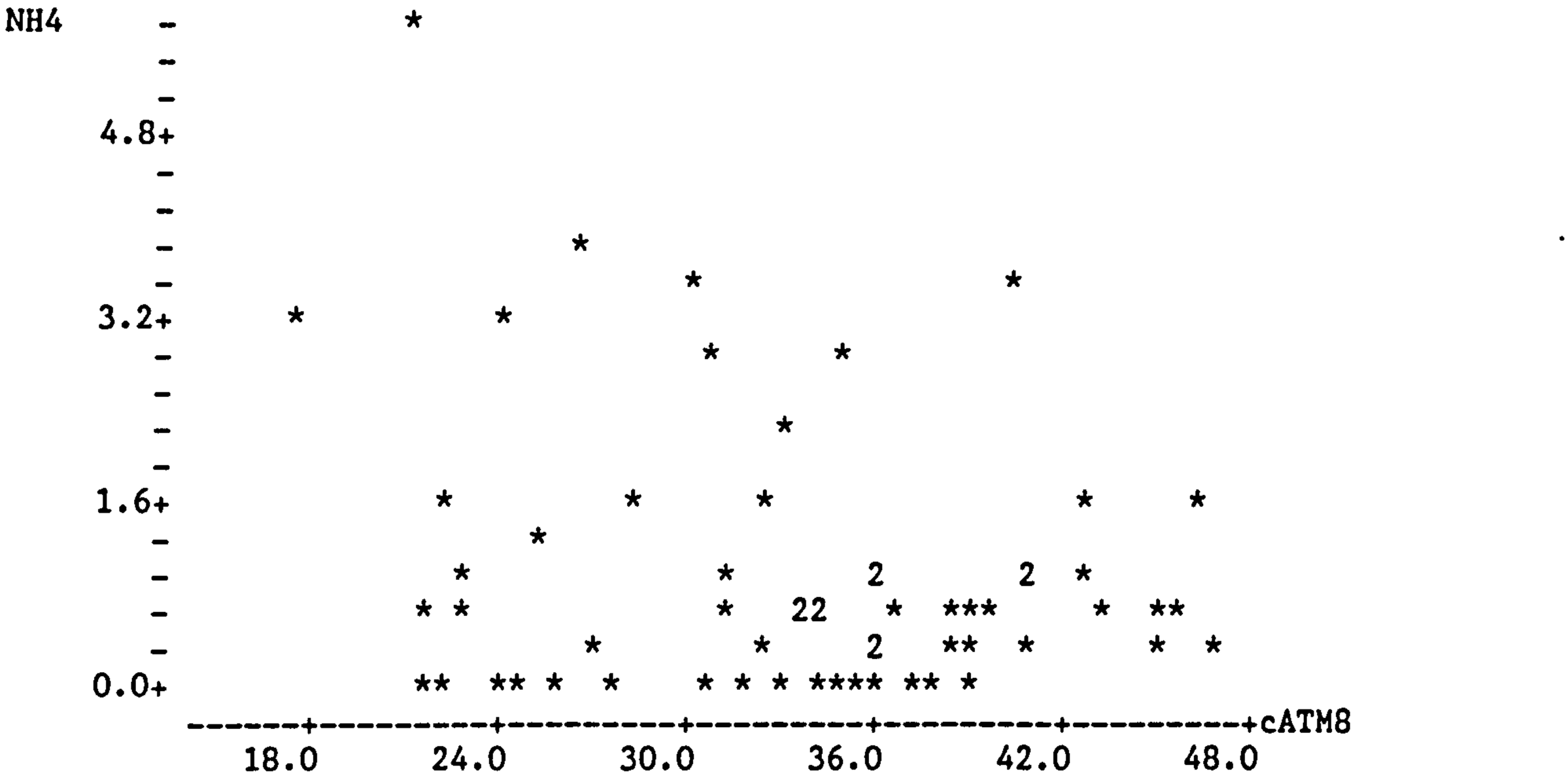
Unusual Observations

Obs.	cATM7	NH4	Fit	Stdev.Fit	Residual	St.Resid
3	23.7	3.210	1.998	0.345	1.212	1.18 X
6	26.7	5.640	1.873	0.310	3.767	3.62R
23	40.2	3.760	1.303	0.172	2.457	2.29R
35	50.5	3.500	0.869	0.142	2.631	2.45R
36	34.9	3.670	1.525	0.220	2.145	2.02R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and cATM7 = -0.391

SPEARMAN RANK Correlation = -0.214



The regression equation is
NH4 = 2.39 - 0.0426 cATM8

Predictor	Coef	Stdev	t-ratio
Constant	2.3932	0.6816	3.51
cATM8	-0.04256	0.01992	-2.14

s = 1.135 R-sq = 7.2% R-sq(adj) = 5.6%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	5.881	5.881
Error	59	76.011	1.288
Total	60	81.891	

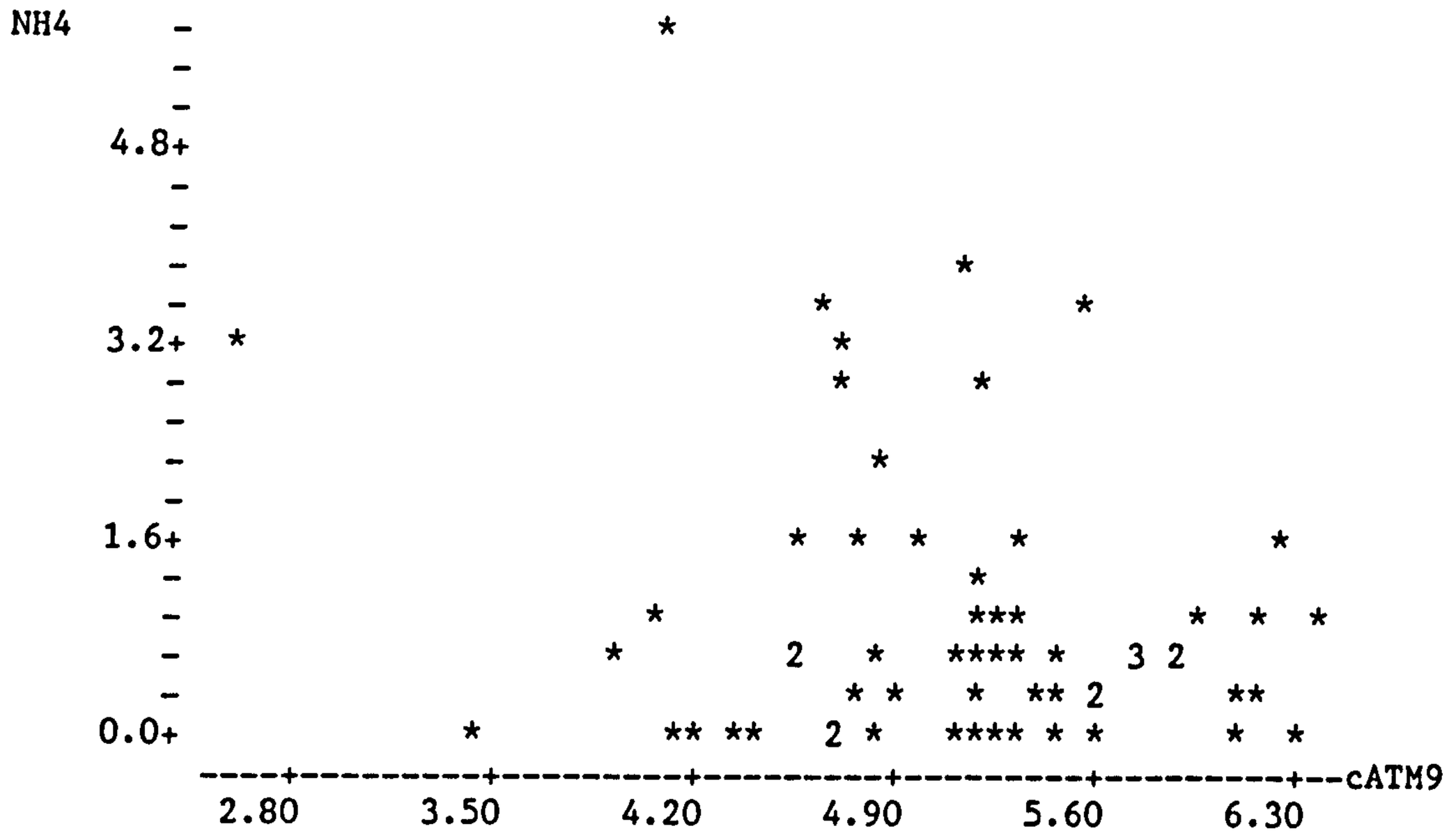
Unusual Observations

Obs.	cATM8	NH4	Fit	Stdev.Fit	Residual	St.Resid
6	21.0	5.640	1.501	0.288	4.139	3.77R
23	26.5	3.760	1.267	0.201	2.493	2.23R
35	40.1	3.500	0.688	0.196	2.812	2.52R
36	30.1	3.670	1.113	0.160	2.557	2.28R

R denotes an obs. with a large st. resid.

Correlation of NH4 and cATM8 = -0.268

SPEARMAN RANK Correlation = -0.083



The regression equation is
NH4 = 3.22 - 0.440 cATM9

Predictor	Coef	Stdev	t-ratio
Constant	3.220	1.054	3.06
cATM9	-0.4399	0.2041	-2.16

s = 1.134 R-sq = 7.3% R-sq(adj) = 5.7%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	5.976	5.976
Error	59	75.916	1.287
Total	60	81.891	

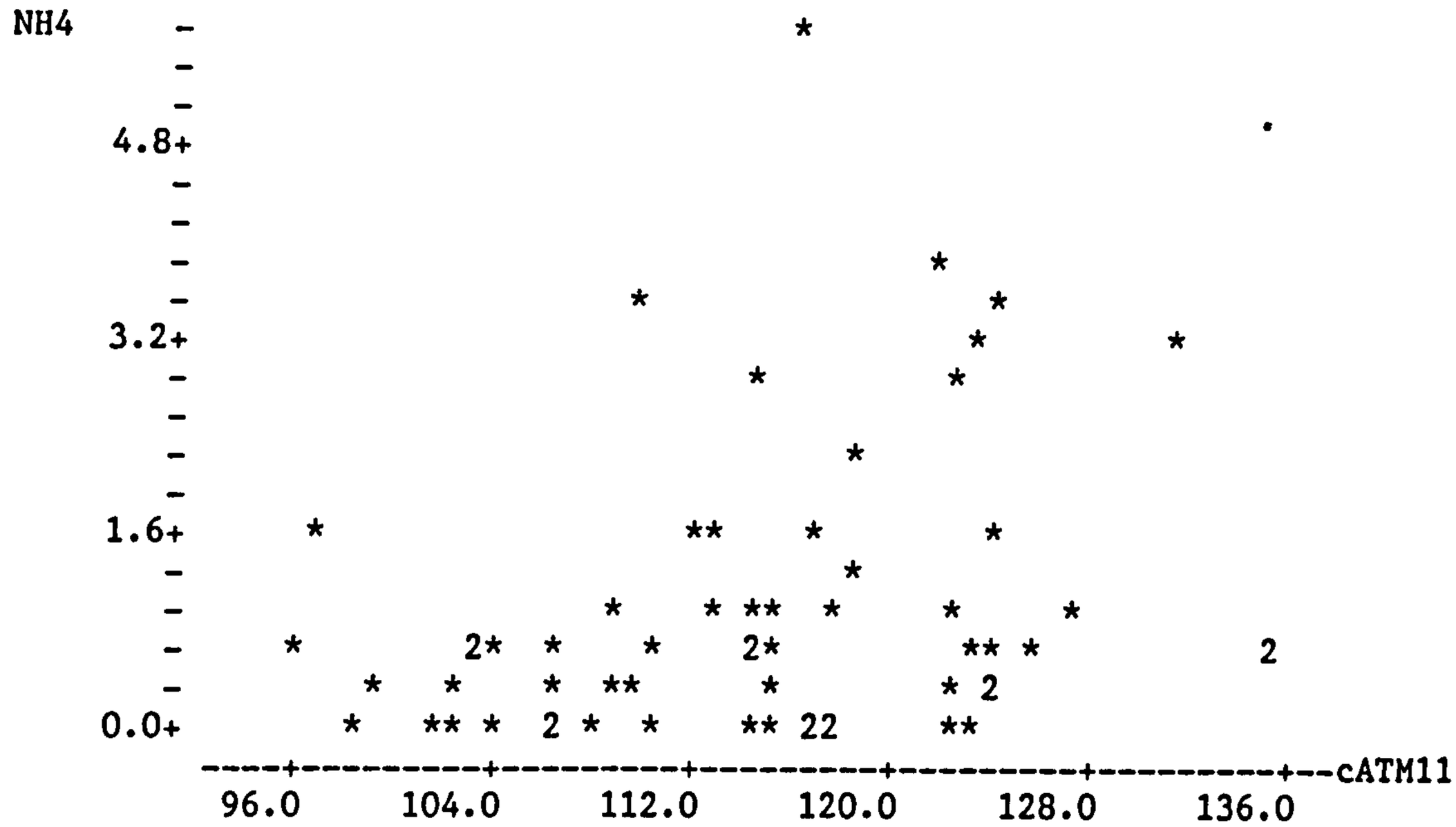
Unusual Observations

Obs.	cATM9	NH4	Fit	Stdev.Fit	Residual	St.Resid
3	2.62	3.210	2.069	0.530	1.141	1.14 X
6	4.06	5.640	1.434	0.259	4.206	3.81R
23	5.12	3.760	0.967	0.145	2.793	2.48R
35	5.55	3.500	0.778	0.171	2.722	2.43R
36	4.60	3.670	1.195	0.179	2.475	2.21R
47	3.43	0.110	1.712	0.373	-1.602	-1.50 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and cATM9 = -0.270

SPEARMAN RANK Correlation = -0.096



The regression equation is
NH4 = - 2.81 + 0.0330 cATM11

Predictor	Coef	Stdev	t-ratio
Constant	-2.813	1.849	-1.52
cATM11	0.03303	0.01609	2.05

s = 1.138 R-sq = 6.7% R-sq(adj) = 5.1%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	5.457	5.457
Error	59	76.434	1.295
Total	60	81.891	

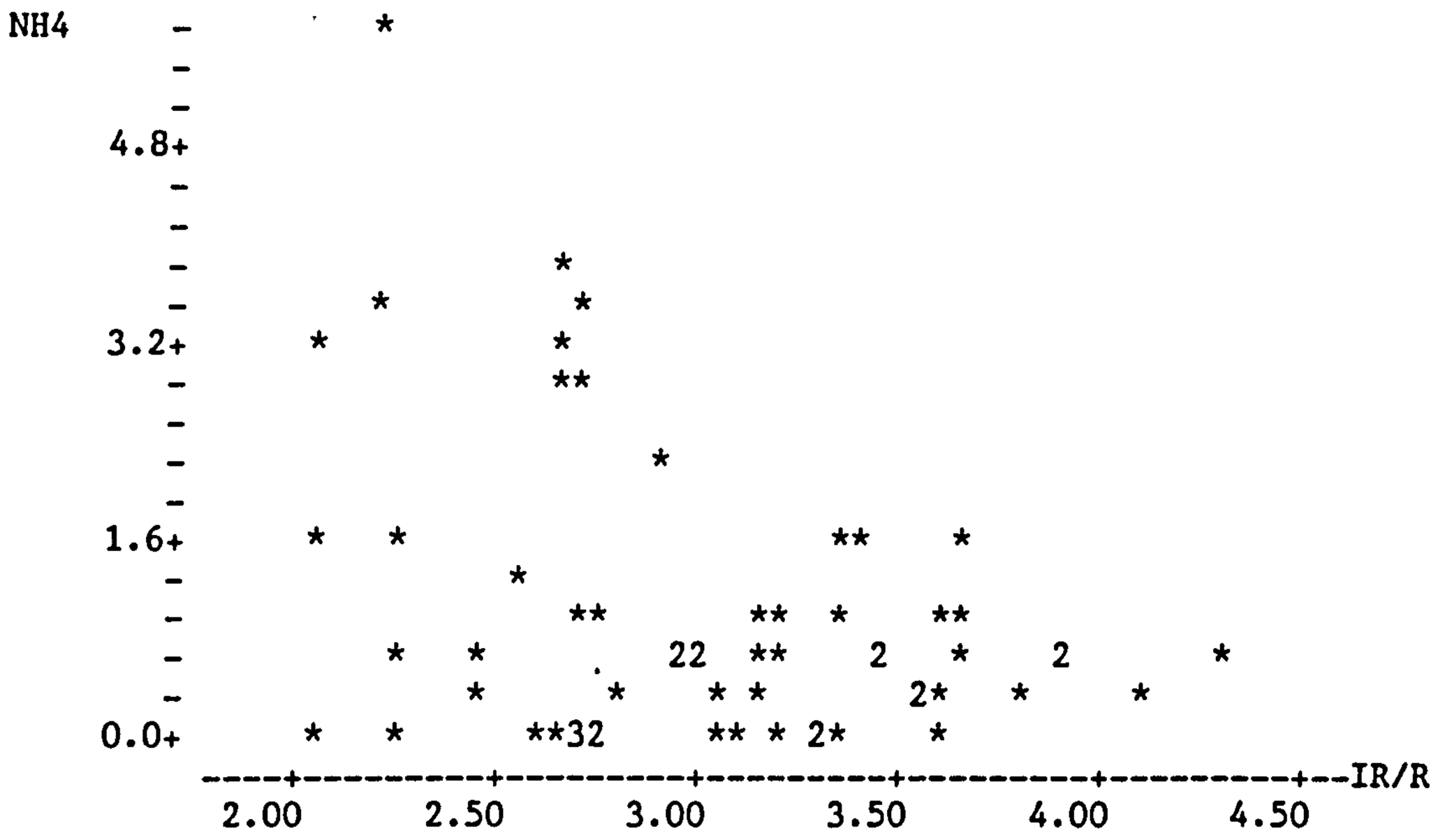
Unusual Observations

Obs.	cATM11	NH4	Fit	Stdev.Fit	Residual	St.Resid
6	116	5.640	1.026	0.148	4.614	4.09R
18	135	0.480	1.654	0.364	-1.174	-1.09 X
23	122	3.760	1.200	0.184	2.560	2.28R
35	109	3.500	0.795	0.169	2.705	2.40R
36	124	3.670	1.282	0.211	2.388	2.13R
57	135	0.710	1.654	0.364	-0.944	-0.88 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and cATM11 = 0.258

SPEARMAN RANK Correlation = 0.281



The regression equation is
NH4 = 3.40 - 0.805 IR/R

Predictor	Coef	Stdev	t-ratio
Constant	3.3986	0.8056	4.22
IR/R	-0.8053	0.2631	-3.06

s = 1.094 R-sq = 13.7% R-sq(adj) = 12.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	11.221	11.221
Error	59	70.670	1.198
Total	60	81.891	

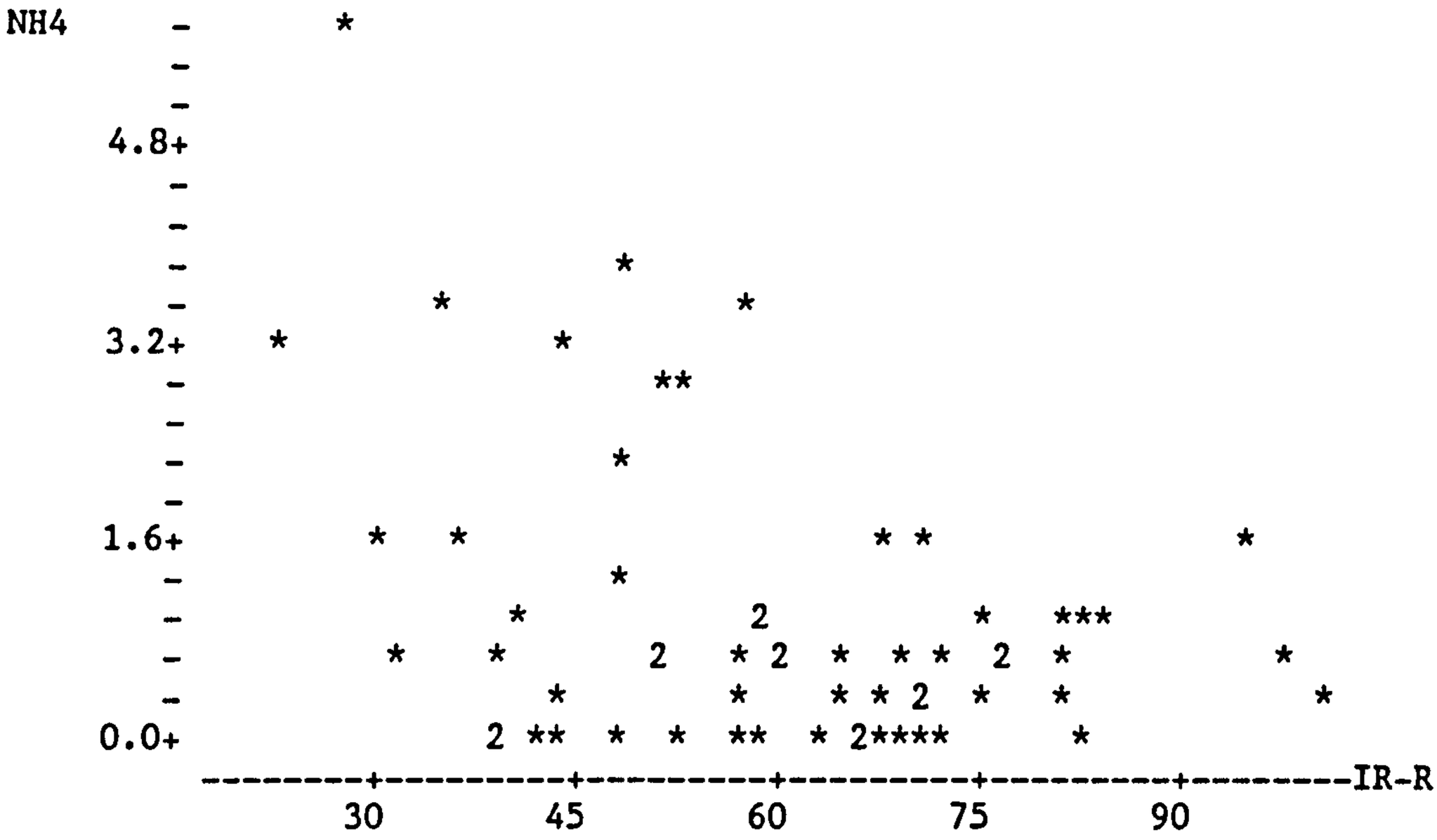
Unusual Observations

Obs.	IR/R	NH4	Fit	Stdev.Fit	Residual	St.Resid
6	2.18	5.640	1.640	0.260	4.000	3.76R
23	2.64	3.760	1.273	0.172	2.487	2.30R
35	2.68	3.500	1.237	0.165	2.263	2.09R
61	4.31	0.530	-0.070	0.368	0.600	0.58 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and IR/R = -0.370

SPEARMAN RANK Correlation = -0.172



The regression equation is
NH4 = 2.60 - 0.0272 IR-R

Predictor	Coef	Stdev	t-ratio
Constant	2.6038	0.4938	5.27
IR-R	-0.027199	0.007896	-3.44

s = 1.075 R-sq = 16.7% R-sq(adj) = 15.3%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	13.711	13.711
Error	59	68.180	1.156
Total	60	81.891	

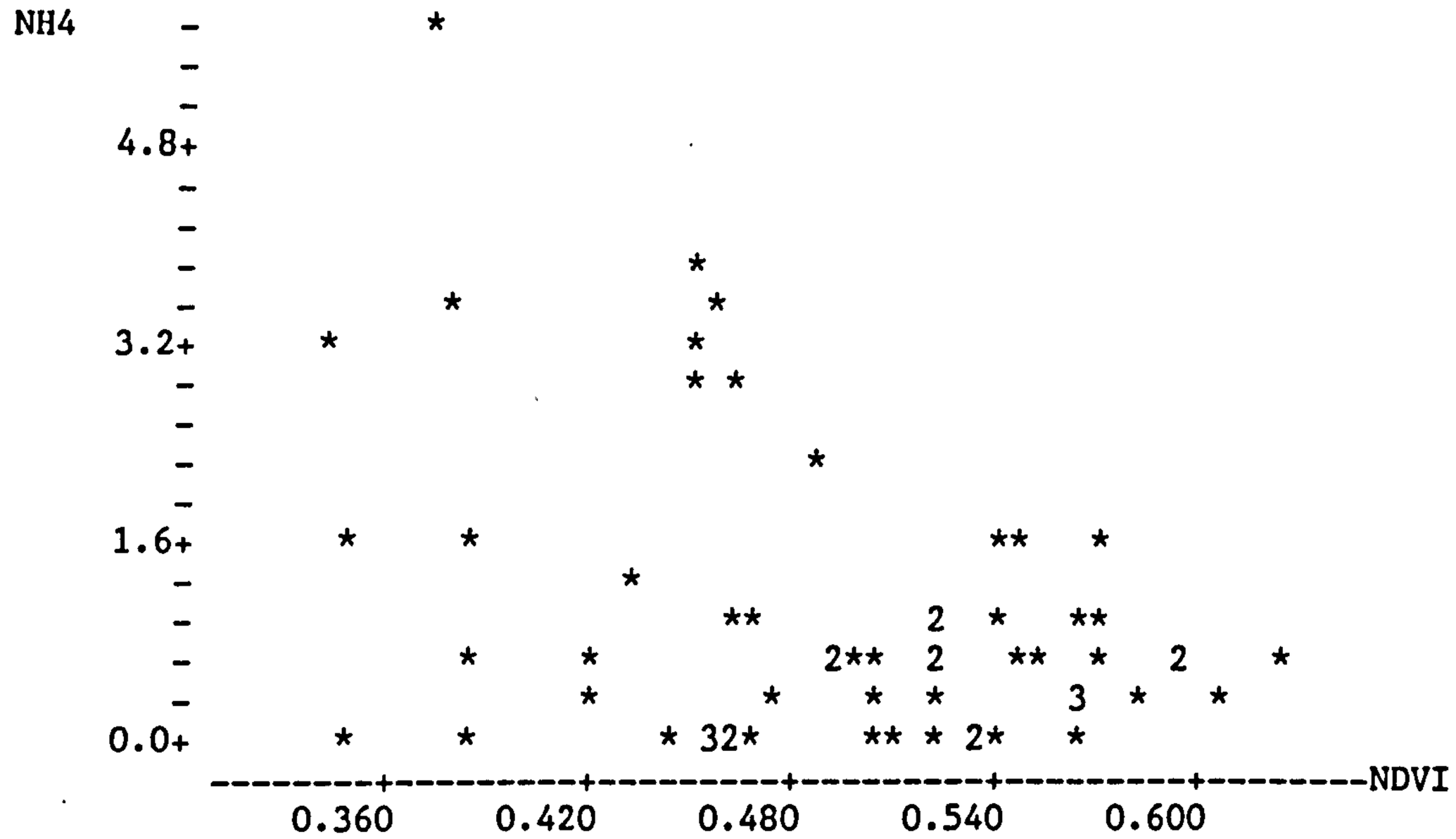
Unusual Observations

Obs.	IR-R	NH4	Fit	Stdev.Fit	Residual	St.Resid
6	27	5.640	1.879	0.298	3.761	3.64R
23	48	3.760	1.298	0.167	2.462	2.32R
28	101	0.220	-0.143	0.351	0.363	0.36 X
35	57	3.500	1.045	0.139	2.455	2.30R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NH4 and IR-R = -0.409

SPEARMAN RANK Correlation = -0.214



The regression equation is
NH4 = 4.25 - 6.66 NDVI

Predictor	Coef	Stdev	t-ratio
Constant	4.251	1.008	4.22
NDVI	-6.656	2.026	-3.28

s = 1.083 R-sq = 15.5% R-sq(adj) = 14.0%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	12.660	12.660
Error	59	69.231	1.173
Total	60	81.891	

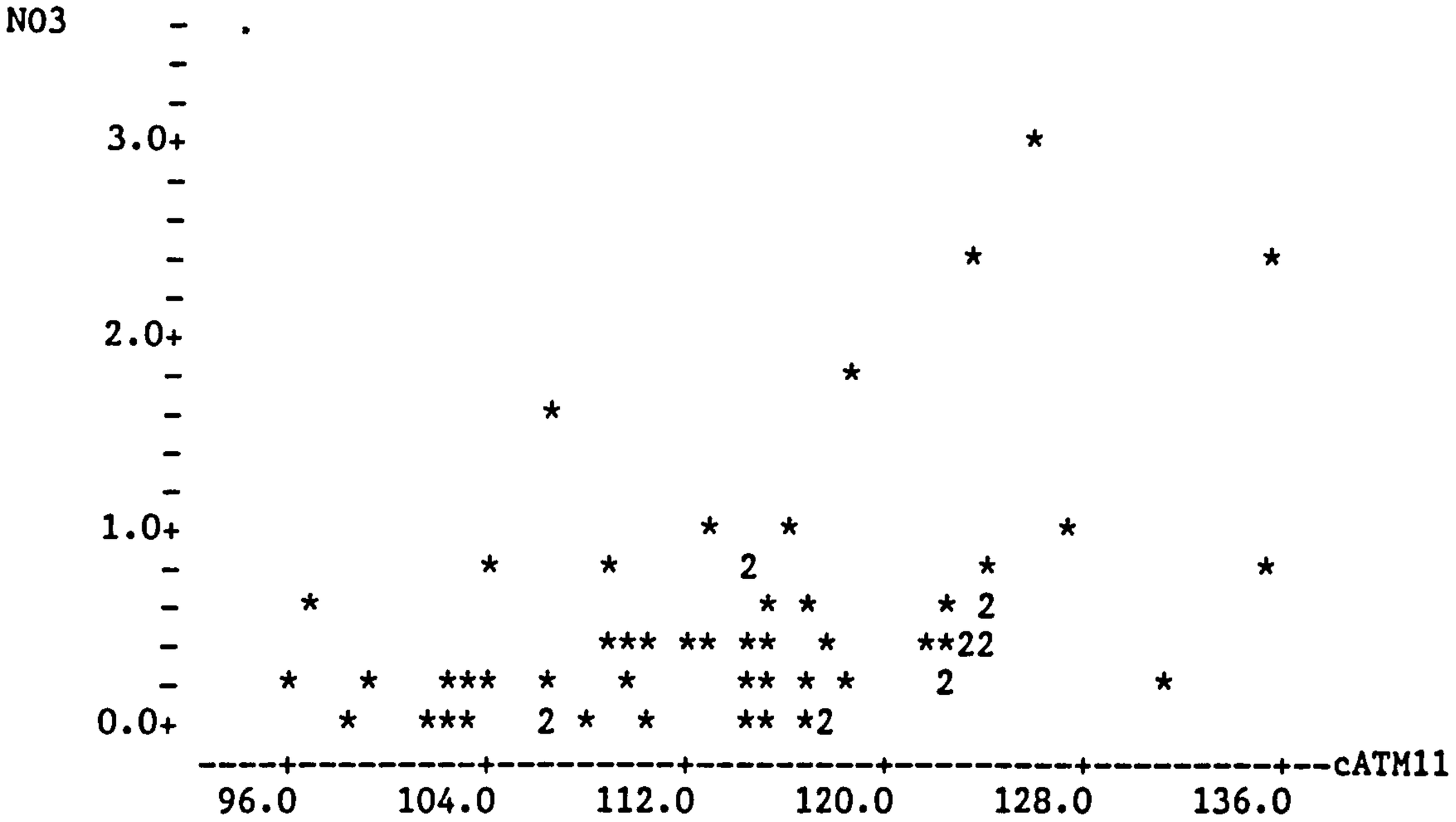
Unusual Observations

Obs.	NDVI	NH4	Fit	Stdev.Fit	Residual	St.Resid
6	0.372	5.640	1.777	0.282	3.863	3.69R
23	0.450	3.760	1.253	0.163	2.507	2.34R
35	0.457	3.500	1.208	0.156	2.292	2.14R

R denotes an obs. with a large st. resid.

Correlation of NH4 and NDVI = -0.393

SPEARMAN RANK Correlation = -0.172



The regression equation is
NO3 = - 2.43 + 0.0256 cATM11

Predictor	Coef	Stdev	t-ratio
Constant	-2.4257	0.9271	-2.62
cATM11	0.025622	0.008068	3.18

s = 0.5706 R-sq = 14.6% R-sq(adj) = 13.1%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	3.2836	3.2836
Error	59	19.2108	0.3256
Total	60	22.4944	

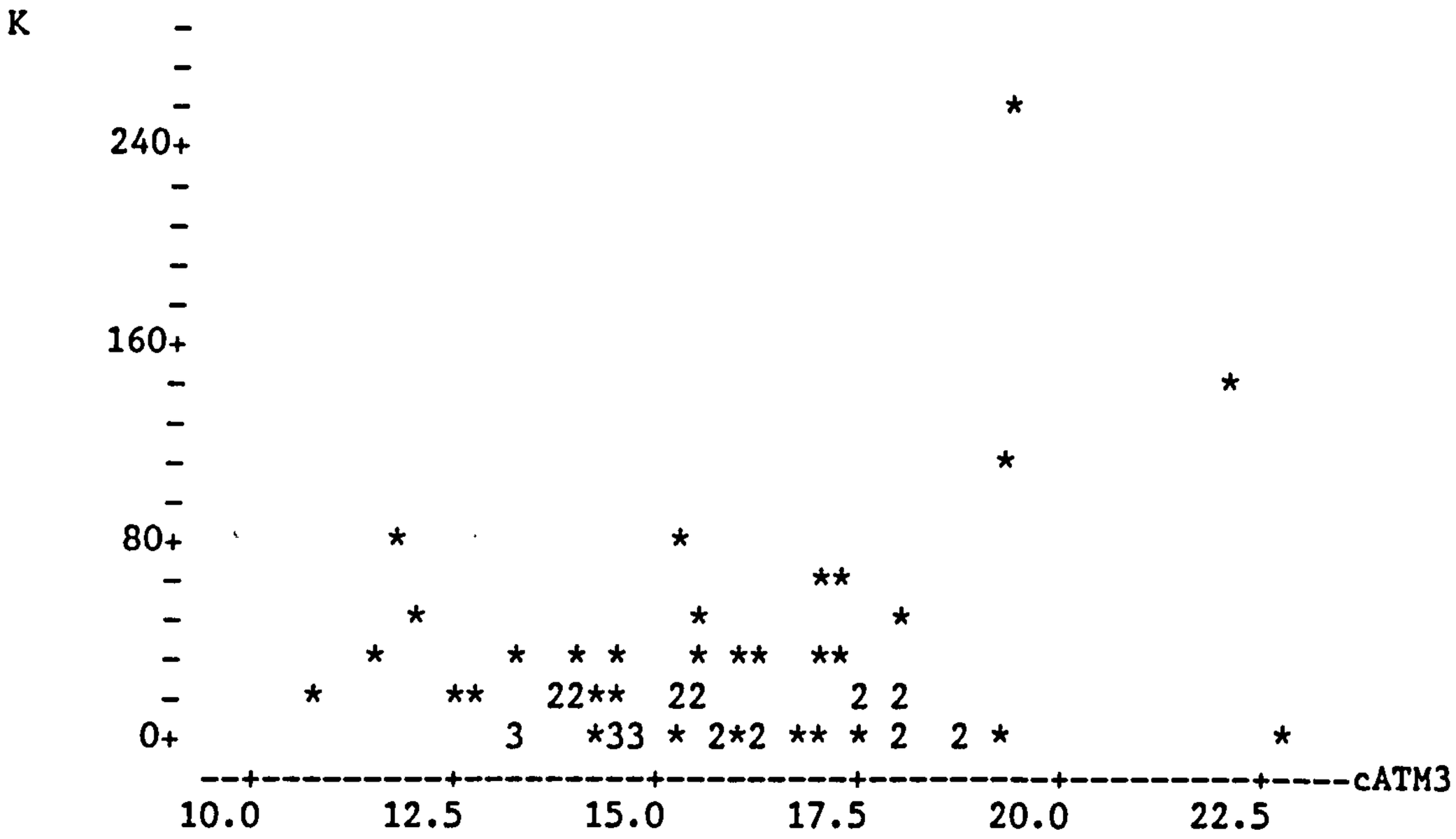
Unusual Observations

Obs.	cATM11	NO3	Fit	Stdev.Fit	Residual	St.Resid
1	126	3.0800	0.7898	0.1146	2.2902	4.10R
13	124	2.4800	0.7386	0.1027	1.7414	3.10R
18	135	2.3300	1.0396	0.1823	1.2904	2.39RX
22	118	1.8100	0.5977	0.0782	1.2123	2.14R
30	106	1.6900	0.2966	0.0991	1.3934	2.48R
57	135	0.8300	1.0396	0.1823	-0.2096	-0.39 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of NO3 and cATM11 = 0.382

SPEARMAN RANK Correlation = 0.389



The regression equation is
K = - 47.0 + 4.66 cATM3

Predictor	Coef	Stdev	t-ratio
Constant	-47.03	34.56	-1.36
cATM3	4.659	2.176	2.14

s = 39.98 R-sq = 7.2% R-sq(adj) = 5.6%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	7332	7332
Error	59	94315	1599
Total	60	101647	

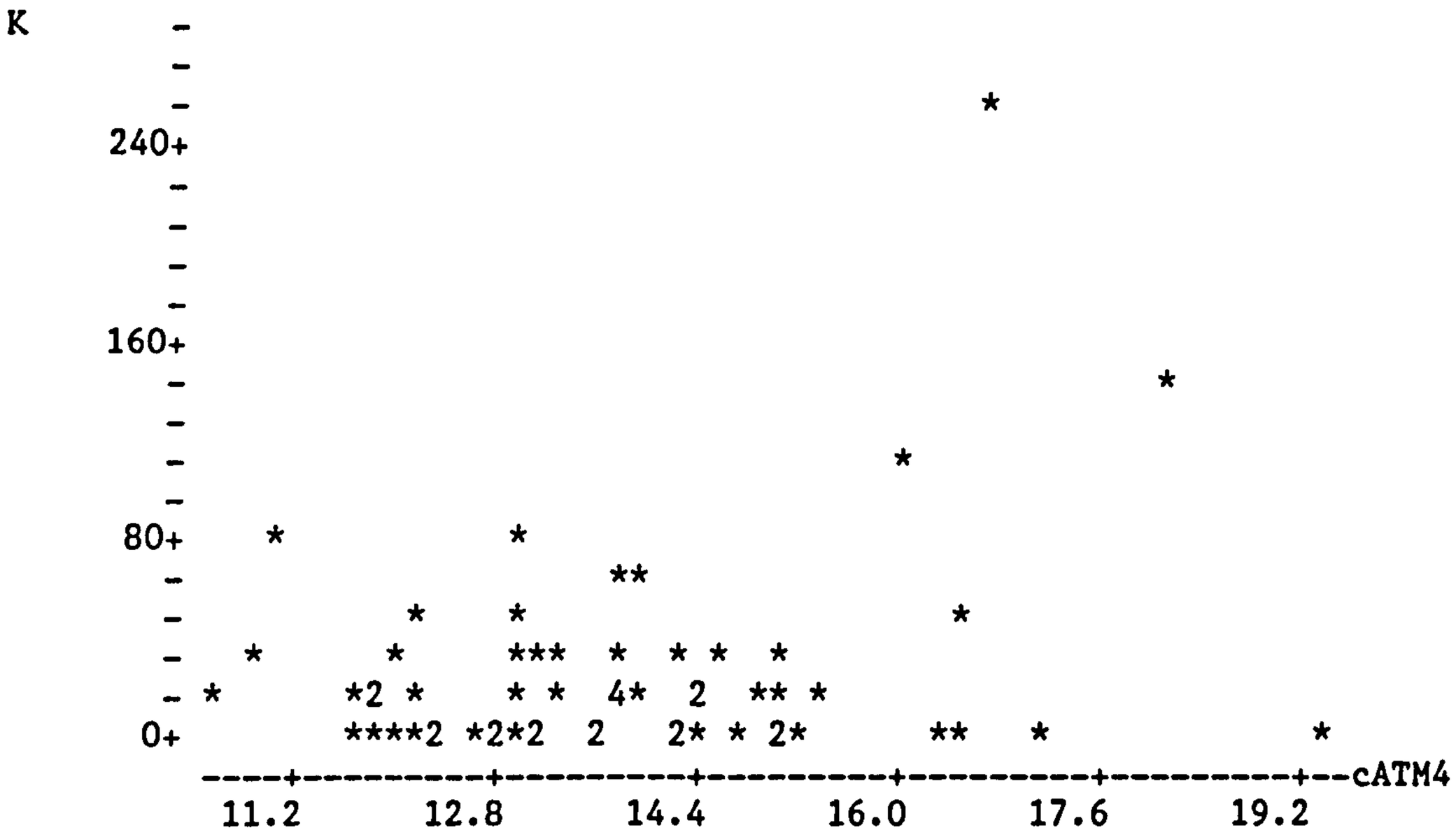
Unusual Observations

Obs.	cATM3	K	Fit	Stdev.Fit	Residual	St.Resid
9	22.1	141.00	55.86	14.78	85.14	2.29RX
12	19.1	259.00	42.18	9.06	216.82	5.57R
43	22.7	1.00	58.79	16.07	-57.79	-1.58 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of K and cATM3 = 0.269

SPEARMAN RANK Correlation = -0.064



The regression equation is
K = - 58.7 + 6.17 cATM4

Predictor	Coef	Stdev	t-ratio
Constant	-58.70	41.26	-1.42
cATM4	6.166	2.975	2.07

s = 40.07 R-sq = 6.8% R-sq(adj) = 5.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	6900	6900
Error	59	94748	1606
Total	60	101647	

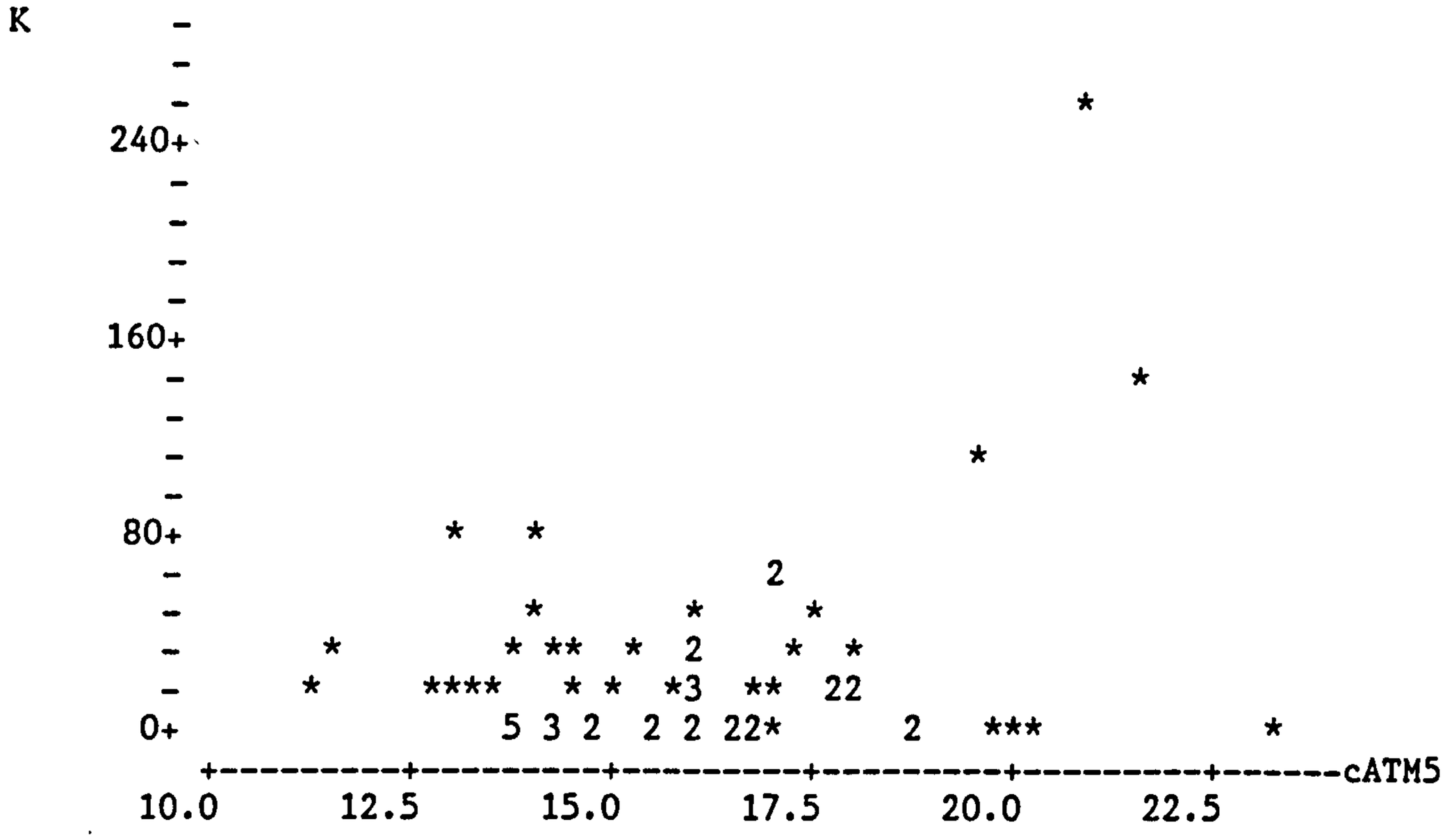
Unusual Observations

Obs.	cATM4	K	Fit	Stdev.Fit	Residual	St.Resid
9	18.1	141.00	52.99	13.92	88.01	2.34RX
12	16.6	259.00	43.88	9.97	215.12	5.54R
43	19.3	1.00	60.28	17.24	-59.28	-1.64 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of K and cATM4 = 0.261

SPEARMAN RANK Correlation = -0.043



The regression equation is
K = - 51.7 + 4.86 cATM5

Predictor	Coef	Stdev	t-ratio
Constant	-51.71	34.24	-1.51
cATM5	4.863	2.114	2.30

s = 39.76 R-sq = 8.2% R-sq(adj) = 6.7%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	8365	8365
Error	59	93282	1581
Total	60	101647	

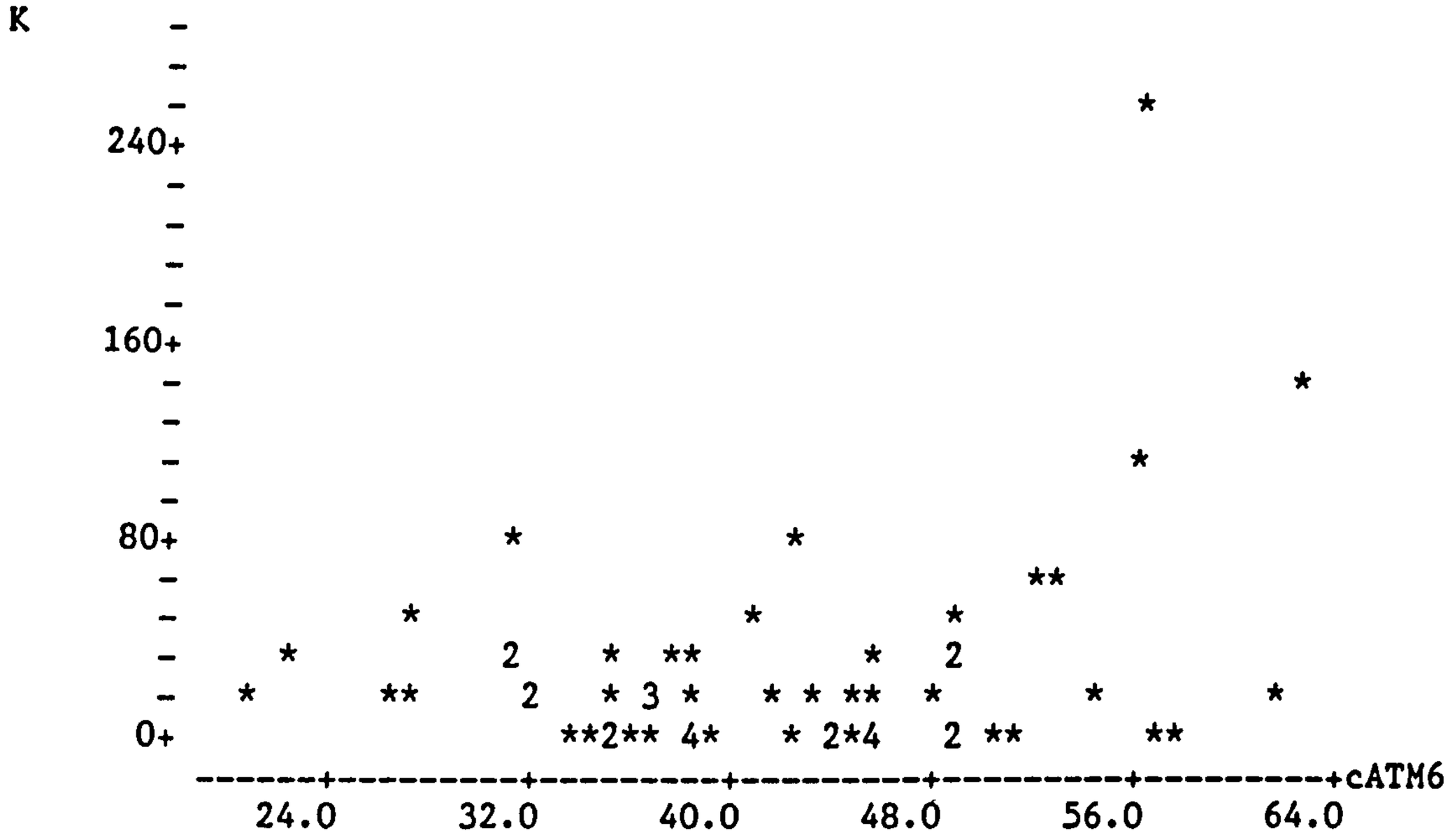
Unusual Observations

Obs.	cATM5	K	Fit	Stdev.Fit	Residual	St.Resid
9	21.5	141.00	52.82	12.66	88.18	2.34RX
12	20.8	259.00	49.48	11.34	209.52	5.50R
43	23.4	1.00	61.88	16.34	-60.88	-1.68 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of K and cATM5 = 0.287

SPEARMAN RANK Correlation = -0.034



The regression equation is
K = - 29.0 + 1.32 cATM6

Predictor	Coef	Stdev	t-ratio
Constant	-29.04	23.59	-1.23
cATM6	1.3224	0.5519	2.40

s = 39.62 R-sq = 8.9% R-sq(adj) = 7.3%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	9015	9015
Error	59	92633	1570
Total	60	101647	

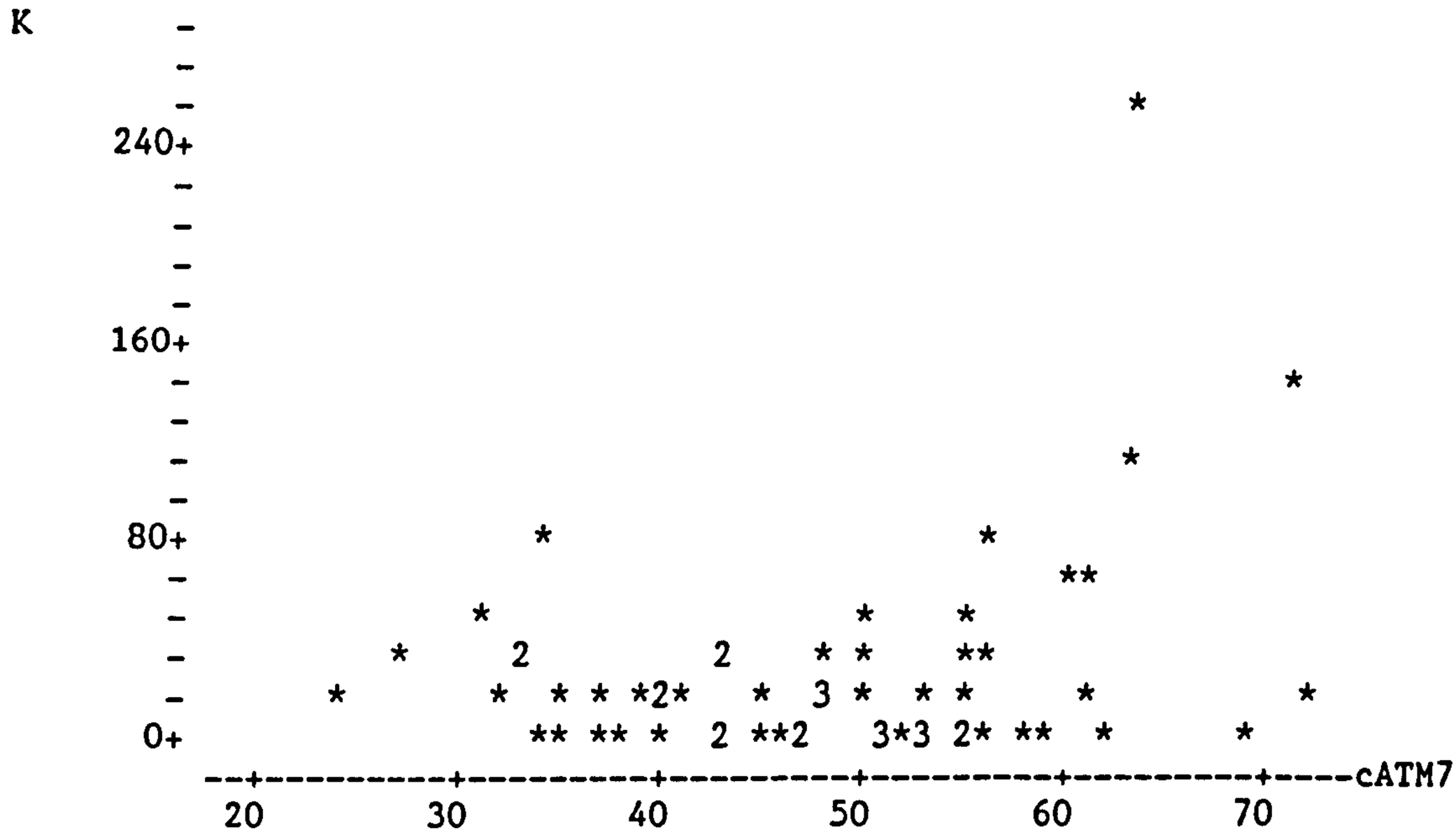
Unusual Observations

Obs.	cATM6	K	Fit	Stdev.Fit	Residual	St.Resid
3	20.8	9.20	-1.52	12.62	10.72	0.29 X
9	62.7	141.00	53.87	12.63	87.13	2.32RX
12	55.7	259.00	44.59	9.21	214.41	5.56R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of K and cATM6 = 0.298

SPEARMAN RANK Correlation = -0.005



The regression equation is
K = - 26.7 + 1.10 cATM7

Predictor	Coef	Stdev	t-ratio
Constant	-26.73	23.37	-1.14
cATM7	1.1000	0.4743	2.32

s = 39.74 R-sq = 8.4% R-sq(adj) = 6.8%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	8491	8491
Error	59	93156	1579
Total	60	101647	

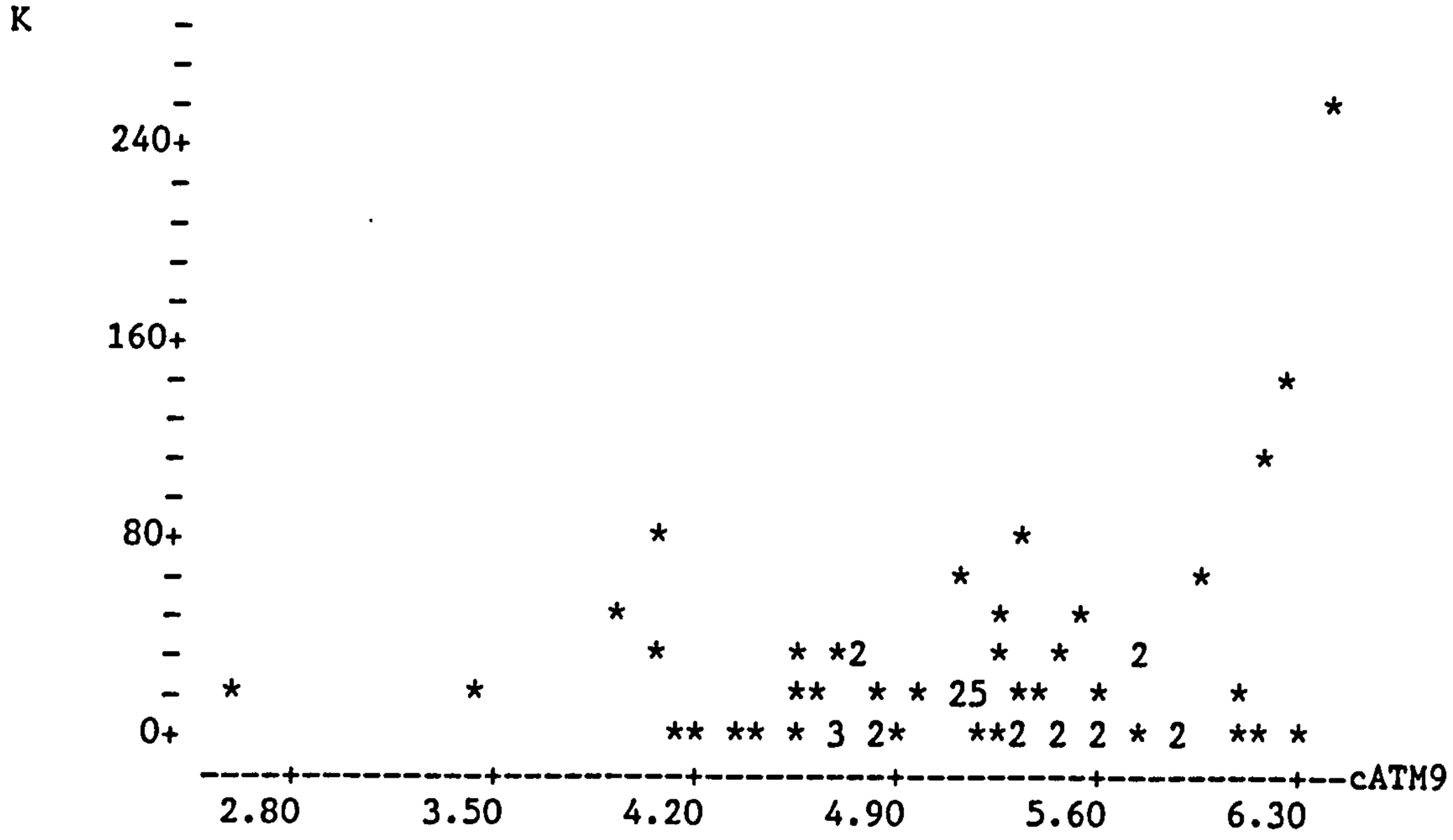
Unusual Observations

Obs.	cATM7	K	Fit	Stdev.Fit	Residual	St.Resid
3	23.7	9.20	-0.63	12.62	9.83	0.26 X
9	71.1	141.00	51.44	12.03	89.56	2.36R
12	62.8	259.00	42.39	8.65	216.61	5.59R

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of K and cATM7 = 0.289

SPEARMAN RANK Correlation = 0.058



The regression equation is
K = - 52.4 + 15.4 cATM9

Predictor	Coef	Stdev	t-ratio
Constant	-52.44	37.16	-1.41
cATM9	15.370	7.196	2.14

s = 39.99 R-sq = 7.2% R-sq(adj) = 5.6%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	7296	7296
Error	59	94352	1599
Total	60	101647	

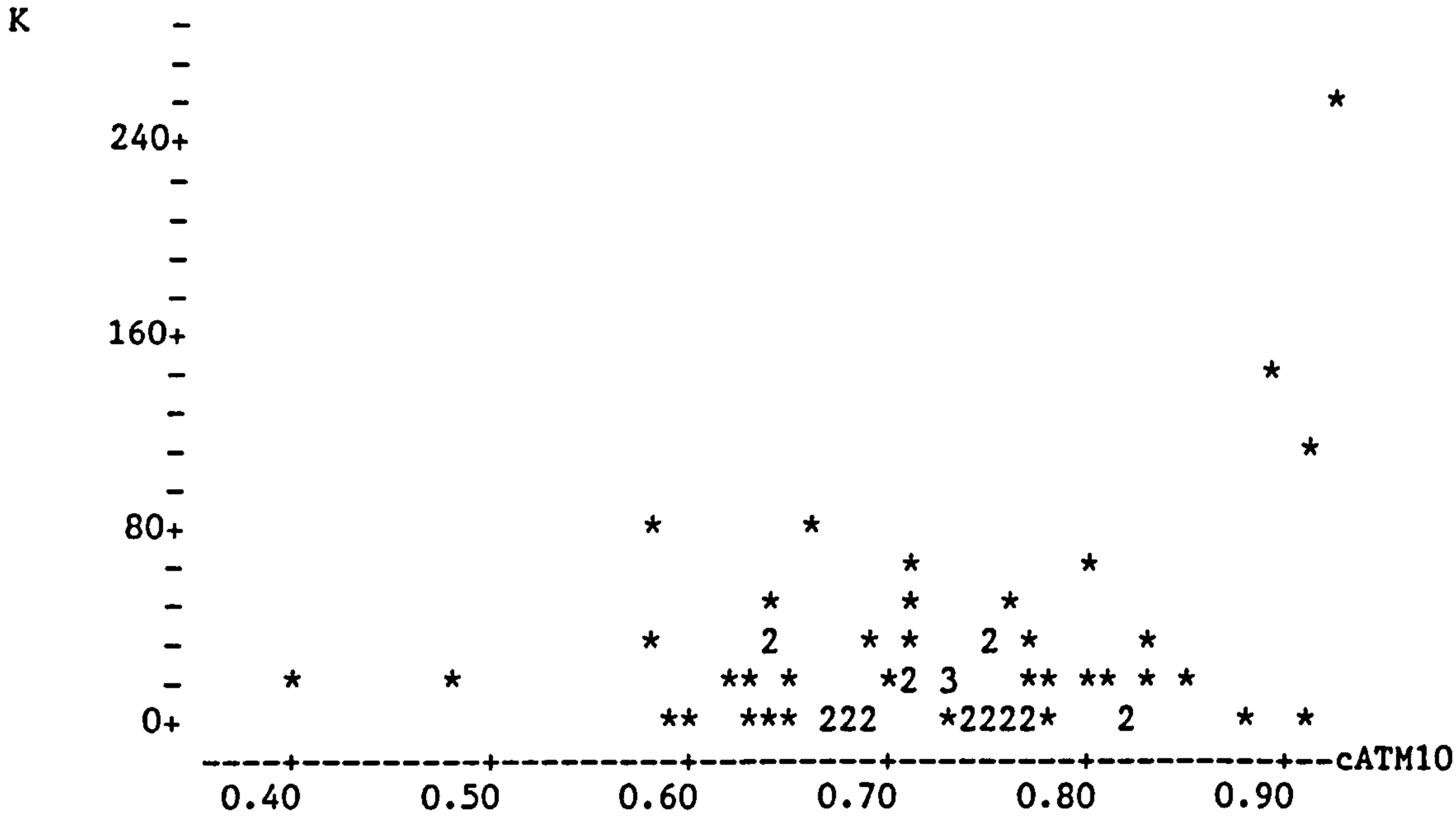
Unusual Observations

Obs.	cATM9	K	Fit	Stdev.Fit	Residual	St.Resid
3	2.62	9.20	-12.24	18.69	21.44	0.61 X
9	6.23	141.00	43.30	9.52	97.70	2.52R
12	6.34	259.00	45.04	10.21	213.96	5.53R
47	3.43	17.00	0.26	13.16	16.74	0.44 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of K and cATM9 = 0.268

SPEARMAN RANK Correlation = 0.008



The regression equation is
K = - 61.9 + 122 cATM10

Predictor	Coef	Stdev	t-ratio
Constant	-61.87	38.00	-1.63
cATM10	121.89	52.15	2.34

s = 39.71 R-sq = 8.5% R-sq(adj) = 6.9%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	8615	8615
Error	59	93033	1577
Total	60	101647	

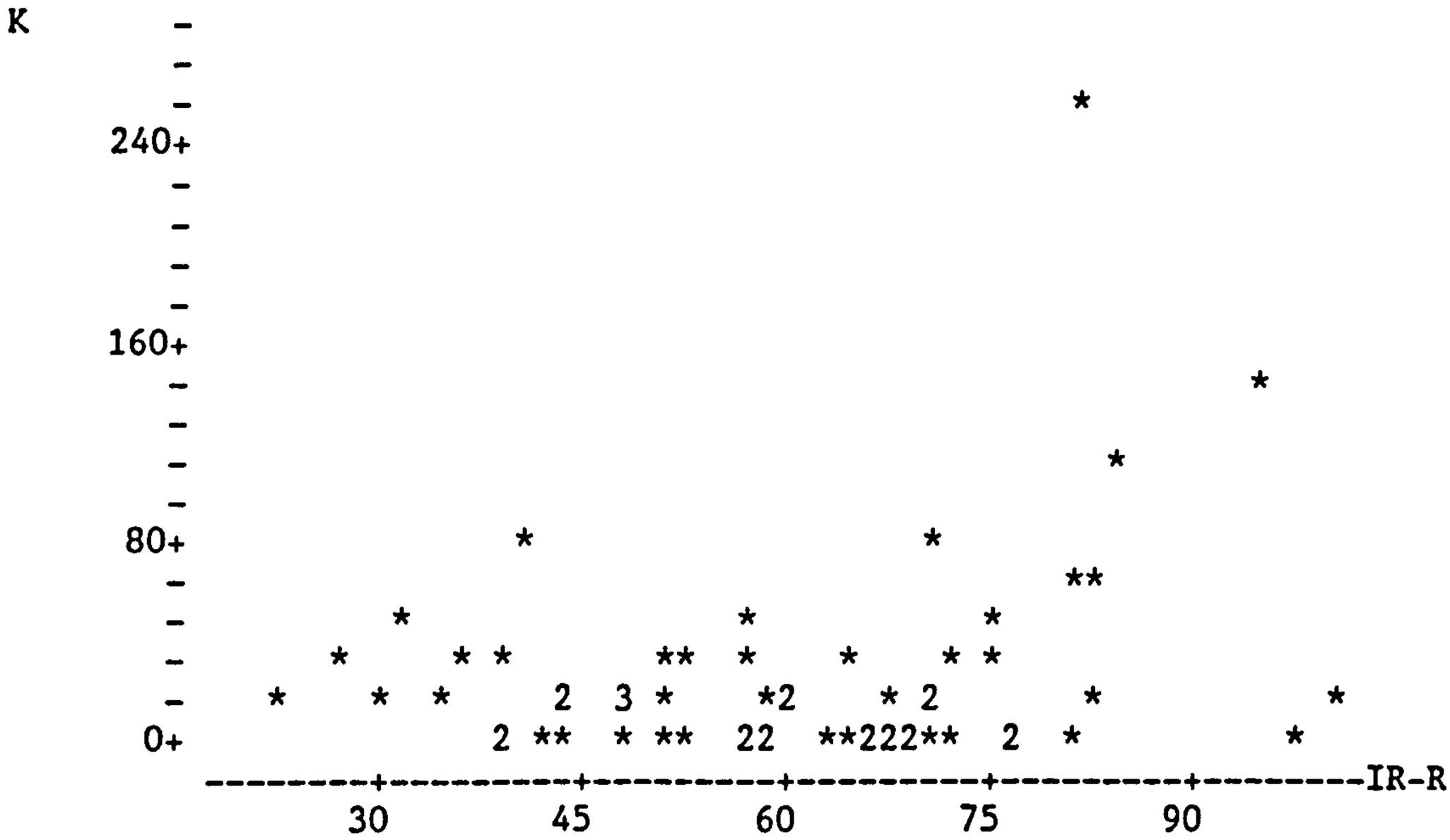
Unusual Observations

Obs.	cATM10	K	Fit	Stdev.Fit	Residual	St.Resid
3	0.397	9.20	-13.48	17.71	22.68	0.64 X
9	0.889	141.00	46.47	10.07	94.53	2.46R
12	0.916	259.00	49.80	11.32	209.20	5.50R
47	0.484	17.00	-2.82	13.40	19.82	0.53 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of K and cATM10 = 0.291

SPEARMAN RANK Correlation = -0.011



The regression equation is
K = - 11.7 + 0.631 IR-R

Predictor	Coef	Stdev	t-ratio
Constant	-11.74	18.36	-0.64
IR-R	0.6311	0.2936	2.15

s = 39.97 R-sq = 7.3% R-sq(adj) = 5.7%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	1	7382	7382
Error	59	94265	1598
Total	60	101647	

Unusual Observations

Obs.	IR-R	K	Fit	Stdev.Fit	Residual	St.Resid
9	94	141.00	47.68	11.24	93.32	2.43R
12	81	259.00	39.43	8.02	219.57	5.61R
28	101	16.20	51.99	13.06	-35.79	-0.95 X

R denotes an obs. with a large st. resid.
X denotes an obs. whose X value gives it large influence.

Correlation of K and IR-R = 0.269

SPEARMAN RANK Correlation = 0.068

APPENDIX 5

CRYMLYN BOG STUDY

RELATING AIRBORNE SCANNER DATA TO FIELD-MEASURED VARIABLES

MULTIVARIATE LINEAR REGRESSION RESULTS QUADRAT SAMPLES

The regression equation is

QpH = 29.5 + 0.053 ATM1 - 0.747 ATM2 + 1.12 ATM3 - 3.64 ATM4 + 1.27 ATM5
- 0.103 ATM6 + 0.295 ATM7 + 0.293 ATM8 + 0.33 ATM9 - 2.29 ATM10
- 0.0269 ATM11 - 14.6 QIR/R + 47.2 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	29.45	11.28	2.61
ATM1	0.0534	0.3028	0.18
ATM2	-0.7468	0.5675	-1.32
ATM3	1.1245	0.5950	1.89
ATM4	-3.643	1.276	-2.85
ATM5	1.2712	0.8763	1.45
ATM6	-0.1034	0.4382	-0.24
ATM7	0.2950	0.5409	0.55
ATM8	0.2926	0.4446	0.66
ATM9	0.331	1.162	0.28
ATM10	-2.293	6.619	-0.35
ATM11	-0.02694	0.03001	-0.90
QIR/R	-14.582	5.781	-2.52
QNDVI	47.20	23.27	2.03

s = 0.8726 R-sq = 56.5% R-sq(adj) = 31.9%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	22.7268	1.7482
Error	23	17.5128	0.7614
Total	36	40.2396	

SOURCE	DF	SEQ SS
ATM1	1	5.1998
ATM2	1	0.6731
ATM3	1	4.5173
ATM4	1	2.5320
ATM5	1	1.0190
ATM6	1	0.0891
ATM7	1	3.6982
ATM8	1	0.0633
ATM9	1	0.0211
ATM10	1	0.0515
ATM11	1	0.0007
QIR/R	1	1.7287
QNDVI	1	3.1330

Unusual Observations

Obs.	ATM1	QpH	Fit	Stdev.Fit	Residual	St.Resid
19	6.9	3.510	5.006	0.455	-1.496	-2.01R

R denotes an obs. with a large st. resid.

The regression equation is

QNH4 = 29.1 - 0.382 ATM1 - 0.177 ATM2 - 0.486 ATM3 + 0.60 ATM4 - 1.18 ATM5
+ 0.412 ATM6 + 0.196 ATM7 - 0.087 ATM8 + 2.52 ATM9 - 16.7 ATM10
- 0.0291 ATM11 - 8.16 QIR/R - 2.4 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	29.07	14.04	2.07
ATM1	-0.3820	0.3768	-1.01
ATM2	-0.1766	0.7061	-0.25
ATM3	-0.4856	0.7404	-0.66
ATM4	0.598	1.588	0.38
ATM5	-1.181	1.090	-1.08
ATM6	0.4124	0.5453	0.76
ATM7	0.1962	0.6731	0.29
ATM8	-0.0874	0.5533	-0.16
ATM9	2.516	1.446	1.74
ATM10	-16.664	8.237	-2.02
ATM11	-0.02914	0.03734	-0.78
QIR/R	-8.158	7.193	-1.13
QNDVI	-2.41	28.96	-0.08

s = 1.086 R-sq = 53.5% R-sq(adj) = 27.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	31.188	2.399
Error	23	27.117	1.179
Total	36	58.305	

SOURCE	DF	SEQ SS
ATM1	1	13.256
ATM2	1	1.692
ATM3	1	0.192
ATM4	1	1.549
ATM5	1	0.101
ATM6	1	2.309
ATM7	1	1.277
ATM8	1	2.933
ATM9	1	0.129
ATM10	1	1.892
ATM11	1	0.153
QIR/R	1	5.697
QNDVI	1	0.008

Unusual Observations

Obs.	ATM1	QNH4	Fit	Stdev.Fit	Residual	St.Resid
6	4.4	5.640	4.160	0.886	1.480	2.36R
8	5.7	0.660	2.543	0.716	-1.883	-2.31R
23	8.2	3.760	1.444	0.446	2.316	2.34R
33	6.3	0.270	2.182	0.734	-1.912	-2.39R

R denotes an obs. with a large st. resid.

The regression equation is

QNO3 = - 0.72 + 0.163 ATM1 + 0.071 ATM2 - 0.479 ATM3 - 0.15 ATM4 + 0.324 ATM5
+ 0.209 ATM6 - 0.279 ATM7 + 0.253 ATM8 + 1.49 ATM9 - 10.8 ATM10
+ 0.0252 ATM11 - 0.05 QIR/R - 5.3 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-0.720	8.967	-0.08
ATM1	0.1629	0.2407	0.68
ATM2	0.0711	0.4511	0.16
ATM3	-0.4794	0.4730	-1.01
ATM4	-0.147	1.014	-0.14
ATM5	0.3241	0.6965	0.47
ATM6	0.2087	0.3483	0.60
ATM7	-0.2795	0.4300	-0.65
ATM8	0.2525	0.3534	0.71
ATM9	1.4933	0.9236	1.62
ATM10	-10.804	5.261	-2.05
ATM11	0.02520	0.02385	1.06
QIR/R	-0.046	4.595	-0.01
QNDVI	-5.35	18.50	-0.29

s = 0.6936 R-sq = 33.6% R-sq(adj) = 0.0%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	5.6002	0.4308
Error	23	11.0651	0.4811
Total	36	16.6653	

SOURCE	DF	SEQ SS
ATM1	1	0.0001
ATM2	1	0.4524
ATM3	1	0.1255
ATM4	1	0.1805
ATM5	1	0.1775
ATM6	1	0.3568
ATM7	1	0.0016
ATM8	1	1.7105
ATM9	1	0.0103
ATM10	1	1.8079
ATM11	1	0.6350
QIR/R	1	0.1018
QNDVI	1	0.0402

Unusual Observations

Obs.	ATM1	QNO3	Fit	Stdev.Fit	Residual	St.Resid
1	6.9	3.080	1.792	0.426	1.288	2.35R
3	5.6	0.150	0.858	0.606	-0.708	-2.10R
30	7.9	1.690	0.388	0.366	1.302	2.21R

R denotes an obs. with a large st. resid.

The regression equation is

QPO4 = 4.6 + 0.256 ATM1 + 0.446 ATM2 + 0.331 ATM3 - 1.38 ATM4 + 0.635 ATM5
- 0.252 ATM6 + 0.142 ATM7 + 0.156 ATM8 - 0.69 ATM9 + 3.17 ATM10
- 0.0288 ATM11 - 3.07 QIR/R + 11.9 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	4.62	10.96	0.42
ATM1	0.2560	0.2940	0.87
ATM2	0.4463	0.5511	0.81
ATM3	0.3306	0.5778	0.57
ATM4	-1.376	1.239	-1.11
ATM5	0.6354	0.8510	0.75
ATM6	-0.2521	0.4256	-0.59
ATM7	0.1418	0.5253	0.27
ATM8	0.1559	0.4318	0.36
ATM9	-0.693	1.128	-0.61
ATM10	3.170	6.428	0.49
ATM11	-0.02882	0.02914	-0.99
QIR/R	-3.074	5.614	-0.55
QNDVI	11.93	22.60	0.53

s = 0.8474 R-sq = 49.0% R-sq(adj) = 20.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	15.8823	1.2217
Error	23	16.5153	0.7181
Total	36	32.3976	

SOURCE	DF	SEQ SS
ATM1	1	8.2106
ATM2	1	1.9681
ATM3	1	0.1216
ATM4	1	0.2207
ATM5	1	0.4359
ATM6	1	0.4118
ATM7	1	3.0482
ATM8	1	0.3927
ATM9	1	0.2077
ATM10	1	0.1197
ATM11	1	0.5184
QIR/R	1	0.0268
QNDVI	1	0.2002

Unusual Observations

Obs.	ATM1	QPO4	Fit	Stdev.Fit	Residual	St.Resid
12	10.1	4.380	3.070	0.604	1.310	2.20R
19	6.9	2.350	0.849	0.442	1.501	2.08R

R denotes an obs. with a large st. resid.

The regression equation is

QK = 1090 + 8.6 ATM1 - 13.8 ATM2 + 18.1 ATM3 - 146 ATM4 + 59.8 ATM5 - 7.6 ATM6
+ 20.3 ATM7 + 12.3 ATM8 + 27.3 ATM9 - 246 ATM10 - 0.56 ATM11
- 660 QIR/R + 1655 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	1089.6	489.8	2.22
ATM1	8.62	13.15	0.66
ATM2	-13.84	24.64	-0.56
ATM3	18.12	25.84	0.70
ATM4	-145.87	55.41	-2.63
ATM5	59.76	38.05	1.57
ATM6	-7.57	19.03	-0.40
ATM7	20.35	23.49	0.87
ATM8	12.25	19.31	0.63
ATM9	27.32	50.45	0.54
ATM10	-245.7	287.4	-0.85
ATM11	-0.558	1.303	-0.43
QIR/R	-659.6	251.0	-2.63
QNDVI	1655	1010	1.64

s = 37.89 R-sq = 59.7% R-sq(adj) = 36.9%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	48888	3761
Error	23	33016	1435
Total	36	81904	

SOURCE	DF	SEQ SS
ATM1	1	16433
ATM2	1	8365
ATM3	1	136
ATM4	1	2
ATM5	1	1126
ATM6	1	37
ATM7	1	9391
ATM8	1	670
ATM9	1	703
ATM10	1	100
ATM11	1	504
QIR/R	1	7570
QNDVI	1	3851

Unusual Observations

Obs.	ATM1	QK	Fit	Stdev.Fit	Residual	St.Resid
12	10.1	259.00	163.98	27.00	95.02	3.58R
17	6.4	80.00	16.30	21.08	63.70	2.02R
28	9.9	16.20	76.56	28.44	-60.36	-2.41R

R denotes an obs. with a large st. resid.

The regression equation is

QCa = 2864 + 91.9 ATM1 - 116 ATM2 + 50.0 ATM3 - 402 ATM4 + 259 ATM5 - 65.4 ATM6
+ 94.3 ATM7 - 2.2 ATM8 + 106 ATM9 - 1047 ATM10 - 0.94 ATM11
- 1176 QIR/R + 1775 QNDVI

Predictor	Coef	Stdev	t-ratio
Constant	2864	1726	1.66
ATM1	91.90	46.32	1.98
ATM2	-116.32	86.82	-1.34
ATM3	49.96	91.03	0.55
ATM4	-401.7	195.2	-2.06
ATM5	258.6	134.1	1.93
ATM6	-65.36	67.04	-0.97
ATM7	94.26	82.76	1.14
ATM8	-2.21	68.03	-0.03
ATM9	106.3	177.8	0.60
ATM10	-1047	1013	-1.03
ATM11	-0.943	4.591	-0.21
QIR/R	-1176.2	884.4	-1.33
QNDVI	1775	3560	0.50

s = 133.5 R-sq = 65.1% R-sq(adj) = 45.4%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	765354	58873
Error	23	409904	17822
Total	36	1175258	

SOURCE	DF	SEQ SS
ATM1	1	464562
ATM2	1	7880
ATM3	1	3126
ATM4	1	215
ATM5	1	88799
ATM6	1	5
ATM7	1	88764
ATM8	1	40770
ATM9	1	11416
ATM10	1	4022
ATM11	1	1853
QIR/R	1	49511
QNDVI	1	4432

Unusual Observations

Obs.	ATM1	QCa	Fit	Stdev.Fit	Residual	St.Resid
16	7.2	521.0	292.6	76.6	228.4	2.09R

R denotes an obs. with a large st. resid.

APPENDIX 6

CRYMLYN BOG STUDY

RELATING AIRBORNE SCANNER DATA TO FIELD-MEASURED VARIABLES

MULTIVARIATE LINEAR REGRESSION RESULTS TRANSECT SAMPLES

The regression equation is

TpH = 1.84 - 0.087 tATM1 + 0.493 tATM2 - 0.044 tATM3 + 0.556 tATM4
- 0.189 tATM5 - 0.175 tATM6 + 0.115 tATM7 - 0.097 tATM8
+ 0.135 tATM9 - 3.78 tATM10 - 0.0190 tATM11 + 0.40 TIR/R
+ 8.90 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	1.843	4.763	0.39
tATM1	-0.0871	0.1127	-0.77
tATM2	0.4935	0.2232	2.21
tATM3	-0.0437	0.2358	-0.19
tATM4	0.5557	0.5018	1.11
tATM5	-0.1894	0.3390	-0.56
tATM6	-0.1750	0.1563	-1.12
tATM7	0.1146	0.1932	0.59
tATM8	-0.0973	0.1481	-0.66
tATM9	0.1349	0.3882	0.35
tATM10	-3.784	2.635	-1.44
tATM11	-0.01901	0.01062	-1.79
TIR/R	0.402	1.405	0.29
TNDVI	8.904	6.705	1.33

s = 0.2452 R-sq = 79.0% R-sq(adj) = 51.7%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	2.26314	0.17409
Error	10	0.60115	0.06012
Total	23	2.86430	

SOURCE	DF	SEQ SS
tATM1	1	0.03796
tATM2	1	0.41836
tATM3	1	0.00718
tATM4	1	0.01882
tATM5	1	0.03128
tATM6	1	0.00145
tATM7	1	0.04942
tATM8	1	0.96495
tATM9	1	0.26907
tATM10	1	0.17812
tATM11	1	0.16439
TIR/R	1	0.01611
TNDVI	1	0.10602

Unusual Observations

Obs.	tATM1	TpH	Fit	Stdev.Fit	Residual	St.Resid
22	6.9	6.3400	6.6840	0.1816	-0.3440	-2.09R

R denotes an obs. with a large st. resid.

The regression equation is

TNH4 = - 2.74 - 0.0569 tATM1 + 0.073 tATM2 + 0.131 tATM3 + 0.069 tATM4
- 0.017 tATM5 - 0.220 tATM6 + 0.217 tATM7 - 0.167 tATM8
+ 0.244 tATM9 - 0.57 tATM10 + 0.0107 tATM11 + 1.49 TIR/R
- 4.82 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-2.740	3.885	-0.71
tATM1	-0.05685	0.09192	-0.62
tATM2	0.0731	0.1821	0.40
tATM3	0.1309	0.1923	0.68
tATM4	0.0689	0.4093	0.17
tATM5	-0.0166	0.2765	-0.06
tATM6	-0.2201	0.1275	-1.73
tATM7	0.2173	0.1576	1.38
tATM8	-0.1672	0.1208	-1.38
tATM9	0.2438	0.3167	0.77
tATM10	-0.575	2.149	-0.27
tATM11	0.010681	0.008663	1.23
TIR/R	1.488	1.146	1.30
TNDVI	-4.815	5.469	-0.88

s = 0.2000 R-sq = 72.1% R-sq(adj) = 35.8%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	1.03378	0.07952
Error	10	0.40001	0.04000
Total	23	1.43380	

SOURCE	DF	SEQ SS
tATM1	1	0.12178
tATM2	1	0.13731
tATM3	1	0.01159
tATM4	1	0.06605
tATM5	1	0.01307
tATM6	1	0.32606
tATM7	1	0.15722
tATM8	1	0.00161
tATM9	1	0.05179
tATM10	1	0.00089
tATM11	1	0.06101
TIR/R	1	0.05439
TNDVI	1	0.03100

Unusual Observations

Obs.	tATM1	TNH4	Fit	Stdev.Fit	Residual	St.Resid
22	6.9	0.0400	0.3429	0.1481	-0.3029	-2.25R

R denotes an obs. with a large st. resid.

The regression equation is

TNO3 = - 1.93 - 0.0258 tATM1 + 0.197 tATM2 - 0.247 tATM3 + 0.428 tATM4
- 0.312 tATM5 + 0.0409 tATM6 + 0.011 tATM7 - 0.0312 tATM8
- 0.123 tATM9 + 0.74 tATM10 + 0.0144 tATM11 + 0.199 TIR/R
- 0.37 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-1.928	2.776	-0.69
tATM1	-0.02583	0.06567	-0.39
tATM2	0.1971	0.1301	1.52
tATM3	-0.2475	0.1374	-1.80
tATM4	0.4276	0.2924	1.46
tATM5	-0.3124	0.1976	-1.58
tATM6	0.04088	0.09107	0.45
tATM7	0.0110	0.1126	0.10
tATM8	-0.03116	0.08629	-0.36
tATM9	-0.1235	0.2263	-0.55
tATM10	0.744	1.536	0.48
tATM11	0.014448	0.006189	2.33
TIR/R	0.1994	0.8190	0.24
TNDVI	-0.366	3.907	-0.09

s = 0.1429 R-sq = 69.1% R-sq(adj) = 28.9%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	0.45623	0.03509
Error	10	0.20416	0.02042
Total	23	0.66040	

SOURCE	DF	SEQ SS
tATM1	1	0.04735
tATM2	1	0.00593
tATM3	1	0.00254
tATM4	1	0.01609
tATM5	1	0.11196
tATM6	1	0.06411
tATM7	1	0.05556
tATM8	1	0.01593
tATM9	1	0.01455
tATM10	1	0.00785
tATM11	1	0.11307
TIR/R	1	0.00109
TNDVI	1	0.00018

Unusual Observations

Obs.	tATM1	TNO3	Fit	Stdev.Fit	Residual	St.Resid
20	7.2	0.8300	0.5690	0.1037	0.2610	2.66R
22	6.9	0.2400	0.4623	0.1058	-0.2223	-2.31R

R denotes an obs. with a large st. resid.

The regression equation is

TK = 50.3 + 1.97 tATM1 + 3.74 tATM2 - 4.63 tATM3 + 8.23 tATM4 - 9.90 tATM5
+ 0.84 tATM6 + 2.08 tATM7 - 1.33 tATM8 - 7.86 tATM9 + 26.8 tATM10
- 0.054 tATM11 - 24.5 TIR/R + 50 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	50.34	89.27	0.56
tATM1	1.968	2.112	0.93
tATM2	3.737	4.183	0.89
tATM3	-4.632	4.419	-1.05
tATM4	8.231	9.404	0.88
tATM5	-9.898	6.354	-1.56
tATM6	0.843	2.929	0.29
tATM7	2.079	3.621	0.57
tATM8	-1.333	2.775	-0.48
tATM9	-7.859	7.276	-1.08
tATM10	26.80	49.38	0.54
tATM11	-0.0541	0.1990	-0.27
TIR/R	-24.54	26.34	-0.93
TNDVI	49.9	125.7	0.40

s = 4.595 R-sq = 57.7% R-sq(adj) = 2.7%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	287.74	22.13
Error	10	211.15	21.12
Total	23	498.90	

SOURCE	DF	SEQ SS
tATM1	1	0.20
tATM2	1	48.34
tATM3	1	1.45
tATM4	1	4.16
tATM5	1	0.41
tATM6	1	0.32
tATM7	1	35.71
tATM8	1	150.95
tATM9	1	22.73
tATM10	1	2.09
tATM11	1	1.81
TIR/R	1	16.25
TNDVI	1	3.33

Unusual Observations

Obs.	tATM1	TK	Fit	Stdev.Fit	Residual	St.Resid
9	9.6	20.000	9.760	2.830	10.240	2.83R

R denotes an obs. with a large st. resid.

The regression equation is

TCa = 129 + 4.79 tATM1 + 13.7 tATM2 - 6.1 tATM3 + 18.6 tATM4 - 20.1 tATM5
- 1.56 tATM6 + 5.38 tATM7 - 2.32 tATM8 - 0.7 tATM9 - 114 tATM10
- 0.727 tATM11 - 62.0 TIR/R + 225 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	128.6	216.1	0.60
tATM1	4.791	5.114	0.94
tATM2	13.70	10.13	1.35
tATM3	-6.10	10.70	-0.57
tATM4	18.56	22.77	0.81
tATM5	-20.14	15.38	-1.31
tATM6	-1.563	7.092	-0.22
tATM7	5.380	8.768	0.61
tATM8	-2.323	6.720	-0.35
tATM9	-0.71	17.62	-0.04
tATM10	-113.8	119.6	-0.95
tATM11	-0.7268	0.4820	-1.51
TIR/R	-62.04	63.78	-0.97
TNDVI	225.5	304.3	0.74

s = 11.13 R-sq = 68.4% R-sq(adj) = 27.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	2673.8	205.7
Error	10	1238.0	123.8
Total	23	3911.7	

SOURCE	DF	SEQ SS
tATM1	1	117.0
tATM2	1	57.9
tATM3	1	1.8
tATM4	1	63.8
tATM5	1	0.3
tATM6	1	12.1
tATM7	1	41.2
tATM8	1	1371.9
tATM9	1	346.5
tATM10	1	221.3
tATM11	1	280.4
TIR/R	1	91.6
TNDVI	1	68.0

Unusual Observations

Obs.	tATM1	TCa	Fit	Stdev.Fit	Residual	St.Resid
24	10.5	19.30	30.15	9.99	-10.85	-2.22R

R denotes an obs. with a large st. resid.

The regression equation is

TCOND = 1333 + 51.6 tATM1 + 116 tATM2 - 52 tATM3 + 170 tATM4 - 204 tATM5
+ 8.2 tATM6 + 11 tATM7 + 17.5 tATM8 - 123 tATM9 + 59 tATM10
- 12.6 tATM11 - 707 TIR/R + 3622 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	1333	2527	0.53
tATM1	51.58	59.78	0.86
tATM2	116.1	118.4	0.98
tATM3	-51.8	125.1	-0.41
tATM4	169.6	266.2	0.64
tATM5	-204.4	179.9	-1.14
tATM6	8.15	82.91	0.10
tATM7	10.7	102.5	0.10
tATM8	17.46	78.56	0.22
tATM9	-122.5	206.0	-0.59
tATM10	59	1398	0.04
tATM11	-12.619	5.635	-2.24
TIR/R	-706.8	745.6	-0.95
TNDVI	3622	3557	1.02

s = 130.1 R-sq = 76.1% R-sq(adj) = 45.0%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	538955	41458
Error	10	169202	16920
Total	23	708157	

SOURCE	DF	SEQ SS
tATM1	1	94852
tATM2	1	49357
tATM3	1	12277
tATM4	1	31708
tATM5	1	411
tATM6	1	45257
tATM7	1	13790
tATM8	1	123728
tATM9	1	54437
tATM10	1	2287
tATM11	1	82816
TIR/R	1	10488
TNDVI	1	17548

The regression equation is

TCl = - 71 + 6.95 tATM1 + 4.25 tATM2 + 0.95 tATM3 + 12.6 tATM4 - 6.4 tATM5
- 0.98 tATM6 - 3.71 tATM7 + 1.98 tATM8 + 19.5 tATM9 - 93.8 tATM10
- 0.836 tATM11 + 56.4 TIR/R - 117 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-71.0	152.9	-0.46
tATM1	6.952	3.617	1.92
tATM2	4.251	7.165	0.59
tATM3	0.947	7.569	0.13
tATM4	12.59	16.11	0.78
tATM5	-6.43	10.88	-0.59
tATM6	-0.981	5.016	-0.20
tATM7	-3.714	6.202	-0.60
tATM8	1.977	4.753	0.42
tATM9	19.50	12.46	1.57
tATM10	-93.77	84.58	-1.11
tATM11	-0.8361	0.3409	-2.45
TIR/R	56.41	45.11	1.25
TNDVI	-116.9	215.2	-0.54

s = 7.870 R-sq = 68.0% R-sq(adj) = 26.3%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	1313.73	101.06
Error	10	619.42	61.94
Total	23	1933.15	

SOURCE	DF	SEQ SS
tATM1	1	6.38
tATM2	1	107.31
tATM3	1	0.24
tATM4	1	10.31
tATM5	1	173.36
tATM6	1	156.48
tATM7	1	318.60
tATM8	1	3.58
tATM9	1	16.31
tATM10	1	48.16
tATM11	1	369.13
TIR/R	1	85.62
TNDVI	1	18.26

Unusual Observations

Obs.	tATM1	TCl	Fit	Stdev.Fit	Residual	St.Resid
19	8.3	52.50	40.76	5.84	11.74	2.22R
24	10.5	15.10	22.36	7.07	-7.26	-2.10R

R denotes an obs. with a large st. resid.

The regression equation is

TF = - 2.15 + 0.0353 tATM1 - 0.067 tATM2 + 0.085 tATM3 - 0.217 tATM4
+ 0.303 tATM5 + 0.033 tATM6 - 0.158 tATM7 + 0.129 tATM8
- 0.199 tATM9 - 0.17 tATM10 - 0.00244 tATM11 + 0.74 TIR/R
+ 1.69 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	-2.146	3.704	-0.58
tATM1	0.03534	0.08763	0.40
tATM2	-0.0670	0.1736	-0.39
tATM3	0.0848	0.1834	0.46
tATM4	-0.2168	0.3902	-0.56
tATM5	0.3032	0.2636	1.15
tATM6	0.0329	0.1215	0.27
tATM7	-0.1577	0.1503	-1.05
tATM8	0.1288	0.1151	1.12
tATM9	-0.1986	0.3019	-0.66
tATM10	-0.174	2.049	-0.08
tATM11	-0.002438	0.008259	-0.30
TIR/R	0.739	1.093	0.68
TNDVI	1.689	5.214	0.32

s = 0.1907 R-sq = 56.7% R-sq(adj) = 0.5%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	0.47646	0.03665
Error	10	0.36352	0.03635
Total	23	0.83998	

SOURCE	DF	SEQ SS
tATM1	1	0.00071
tATM2	1	0.10914
tATM3	1	0.01942
tATM4	1	0.06887
tATM5	1	0.03541
tATM6	1	0.01445
tATM7	1	0.09508
tATM8	1	0.00112
tATM9	1	0.10661
tATM10	1	0.00003
tATM11	1	0.00182
TIR/R	1	0.01998
TNDVI	1	0.00382

The regression equation is

TBr = 1.53 + 0.0079 tATM1 + 0.0256 tATM2 + 0.0199 tATM3 - 0.109 tATM4
+ 0.008 tATM5 + 0.0152 tATM6 - 0.0125 tATM7 + 0.0356 tATM8
+ 0.030 tATM9 - 0.825 tATM10 - 0.00130 tATM11 - 0.425 TIR/R
- 0.04 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	1.532	1.793	0.85
tATM1	0.00788	0.04243	0.19
tATM2	0.02561	0.08403	0.30
tATM3	0.01987	0.08878	0.22
tATM4	-0.1090	0.1889	-0.58
tATM5	0.0081	0.1276	0.06
tATM6	0.01524	0.05884	0.26
tATM7	-0.01253	0.07274	-0.17
tATM8	0.03557	0.05575	0.64
tATM9	0.0304	0.1462	0.21
tATM10	-0.8245	0.9920	-0.83
tATM11	-0.001301	0.003999	-0.33
TIR/R	-0.4247	0.5291	-0.80
TNDVI	-0.039	2.524	-0.02

s = 0.09231 R-sq = 42.3% R-sq(adj) = 0.0%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	0.062591	0.004815
Error	10	0.085209	0.008521
Total	23	0.147800	

SOURCE	DF	SEQ SS
tATM1	1	0.013958
tATM2	1	0.013406
tATM3	1	0.000132
tATM4	1	0.014493
tATM5	1	0.001092
tATM6	1	0.000897
tATM7	1	0.000027
tATM8	1	0.000057
tATM9	1	0.002831
tATM10	1	0.008789
tATM11	1	0.001220
TIR/R	1	0.005686
TNDVI	1	0.000002

Unusual Observations

Obs.	tATM1	TBr	Fit	Stdev.Fit	Residual	St.Resid
9	9.6	0.0000	0.1650	0.0568	-0.1650	-2.27R

R denotes an obs. with a large st. resid.

The regression equation is

TSO4 = 32 + 10.7 tATM1 + 8.2 tATM2 - 14.1 tATM3 + 38.9 tATM4 - 35.5 tATM5
+ 2.4 tATM6 + 4.0 tATM7 - 4.3 tATM8 - 20.0 tATM9 + 85 tATM10
- 0.568 tATM11 - 56 TIR/R + 380 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	32.4	350.4	0.09
tATM1	10.659	8.291	1.29
tATM2	8.18	16.42	0.50
tATM3	-14.08	17.35	-0.81
tATM4	38.91	36.92	1.05
tATM5	-35.53	24.94	-1.42
tATM6	2.37	11.50	0.21
tATM7	3.95	14.22	0.28
tATM8	-4.32	10.90	-0.40
tATM9	-20.05	28.57	-0.70
tATM10	84.5	193.9	0.44
tATM11	-0.5678	0.7814	-0.73
TIR/R	-55.8	103.4	-0.54
TNDVI	380.1	493.3	0.77

s = 18.04 R-sq = 52.4% R-sq(adj) = 0.0%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	3577.7	275.2
Error	10	3254.5	325.4
Total	23	6832.2	

SOURCE	DF	SEQ SS
tATM1	1	209.1
tATM2	1	949.8
tATM3	1	14.1
tATM4	1	19.7
tATM5	1	21.6
tATM6	1	5.6
tATM7	1	251.5
tATM8	1	1475.0
tATM9	1	214.4
tATM10	1	12.6
tATM11	1	154.7
TIR/R	1	56.3
TNDVI	1	193.2

Unusual Observations

Obs.	tATM1	TSO4	Fit	Stdev.Fit	Residual	St.Resid
9	9.6	67.20	31.51	11.11	35.69	2.51R

R denotes an obs. with a large st. resid.

The regression equation is

TNa = 91 + 4.14 tATM1 + 1.6 tATM2 + 6.5 tATM3 - 9.5 tATM4 + 4.2 tATM5
+ 0.7 tATM6 - 7.0 tATM7 + 10.1 tATM8 - 15.8 tATM9 + 76 tATM10
- 1.65 tATM11 - 45.9 TIR/R + 359 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	91.1	305.4	0.30
tATM1	4.143	7.226	0.57
tATM2	1.62	14.31	0.11
tATM3	6.53	15.12	0.43
tATM4	-9.49	32.17	-0.29
tATM5	4.15	21.74	0.19
tATM6	0.73	10.02	0.07
tATM7	-7.03	12.39	-0.57
tATM8	10.111	9.495	1.06
tATM9	-15.85	24.89	-0.64
tATM10	76.5	169.0	0.45
tATM11	-1.6461	0.6810	-2.42
TIR/R	-45.87	90.12	-0.51
TNDVI	359.3	429.9	0.84

s = 15.72 R-sq = 80.0% R-sq(adj) = 53.9%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	9867.3	759.0
Error	10	2471.7	247.2
Total	23	12339.0	

SOURCE	DF	SEQ SS
tATM1	1	1898.3
tATM2	1	533.6
tATM3	1	525.2
tATM4	1	429.3
tATM5	1	3.0
tATM6	1	1746.6
tATM7	1	2227.9
tATM8	1	221.4
tATM9	1	666.3
tATM10	1	7.0
tATM11	1	1401.6
TIR/R	1	34.4
TNDVI	1	172.7

Unusual Observations

Obs.	tATM1	TNa	Fit	Stdev.Fit	Residual	St.Resid
15	7.8	73.00	55.20	13.31	17.80	2.13R

R denotes an obs. with a large st. resid.

The regression equation is

TMg = 59 + 3.39 tATM1 + 8.02 tATM2 - 9.12 tATM3 + 19.3 tATM4 - 18.5 tATM5
+ 1.95 tATM6 + 1.95 tATM7 - 1.69 tATM8 - 5.71 tATM9 - 8.1 tATM10
- 0.247 tATM11 - 26.3 TIR/R + 63 TNDVI

Predictor	Coef	Stdev	t-ratio
Constant	59.4	120.6	0.49
tATM1	3.390	2.853	1.19
tATM2	8.024	5.651	1.42
tATM3	-9.123	5.970	-1.53
tATM4	19.33	12.70	1.52
tATM5	-18.545	8.584	-2.16
tATM6	1.953	3.957	0.49
tATM7	1.945	4.892	0.40
tATM8	-1.686	3.749	-0.45
tATM9	-5.709	9.830	-0.58
tATM10	-8.11	66.71	-0.12
tATM11	-0.2474	0.2689	-0.92
TIR/R	-26.32	35.58	-0.74
TNDVI	63.3	169.8	0.37

s = 6.208 R-sq = 65.9% R-sq(adj) = 21.6%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	744.52	57.27
Error	10	385.38	38.54
Total	23	1129.90	

SOURCE	DF	SEQ SS
tATM1	1	14.17
tATM2	1	100.86
tATM3	1	1.53
tATM4	1	4.05
tATM5	1	0.36
tATM6	1	0.21
tATM7	1	114.59
tATM8	1	368.93
tATM9	1	77.85
tATM10	1	4.75
tATM11	1	33.69
TIR/R	1	18.16
TNDVI	1	5.36

Unusual Observations

Obs.	tATM1	TMg	Fit	Stdev.Fit	Residual	St.Resid
9	9.6	30.80	17.21	3.82	13.59	2.78R

R denotes an obs. with a large st. resid.

APPENDIX 7

CRYMLYN BOG STUDY

RELATING AIRBORNE SCANNER DATA TO FIELD-MEASURED VARIABLES

MULTIVARIATE LINEAR REGRESSION RESULTS ALL FIELD SAMPLES COMBINED

The regression equation is

pH = 4.29 - 0.038 cATM1 + 0.026 cATM2 + 0.942 cATM3 - 1.34 cATM4 + 0.968 cATM5
- 0.453 cATM6 + 0.243 cATM7 - 0.056 cATM8 - 0.188 cATM9
- 1.19 cATM10 - 0.0379 cATM11 - 1.59 IR/R + 20.5 NDVI

s = 0.9606 R-sq = 46.9% R-sq(adj) = 32.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	38.3255	2.9481
Error	47	43.3720	0.9228
Total	60	81.6976	

The regression equation is

NH4 = 21.8 - 0.218 cATM1 - 0.329 cATM2 + 0.053 cATM3 - 0.831 cATM4
+ 0.060 cATM5 - 0.002 cATM6 + 0.333 cATM7 - 0.014 cATM8
+ 1.17 cATM9 - 8.86 cATM10 + 0.0107 cATM11 - 4.33 IR/R - 18.5 NDVI

s = 0.9905 R-sq = 43.7% R-sq(adj) = 28.1%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	35.7790	2.7522
Error	47	46.1124	0.9811
Total	60	81.8914	

The regression equation is

NO3 = - 2.96 + 0.002 cATM1 + 0.028 cATM2 - 0.299 cATM3 + 0.131 cATM4
+ 0.080 cATM5 + 0.189 cATM6 - 0.245 cATM7 + 0.161 cATM8
+ 0.392 cATM9 - 3.60 cATM10 + 0.0251 cATM11 + 0.53 IR/R - 1.21 NDVI

s = 0.5932 R-sq = 26.5% R-sq(adj) = 6.1%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	5.9541	0.4580
Error	47	16.5403	0.3519
Total	60	22.4944	

The regression equation is

K = 689 + 2.10 cATM1 - 14.6 cATM2 + 18.2 cATM3 - 89.9 cATM4 + 33.5 cATM5
- 0.4 cATM6 + 9.1 cATM7 + 9.5 cATM8 - 17.7 cATM9 + 24 cATM10
- 0.007 cATM11 - 395 IR/R + 856 NDVI

s = 37.35 R-sq = 35.5% R-sq(adj) = 17.7%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	36091	2776
Error	47	65557	1395
Total	60	101647	

The regression equation is

Ca = 3862 + 31.6 cATM1 - 196 cATM2 + 61 cATM3 - 367 cATM4 + 125 cATM5
+ 31.2 cATM6 + 34.3 cATM7 + 29.3 cATM8 - 53 cATM9 + 328 cATM10
+ 3.53 cATM11 - 1662 IR/R + 2265 NDVI

s = 230.1 R-sq = 31.2% R-sq(adj) = 12.2%

Analysis of Variance

SOURCE	DF	SS	MS
Regression	13	1130596	86969
Error	47	2487769	52931
Total	60	3618364	

APPENDIX 8

GLYDERAU STUDY
(CHAPTER 4)

CORRESPONDENCE TABLES BETWEEN THE
N.C.C. 1984 FIELD SURVEY MAP
AND THE SIXTEEN CLASSMAPS PRODUCED FROM
THE LANDSAT THEMATIC MAPPER (TM) DATA

TABLES 4.11 a TO p.

TABLES 4.11 a to p

The normalised correspondence tables (Congalton, 1991)
between the NCC 1984 Field survey map
and the sixteen Thematic Mapper classmaps

Classes refer to Level II, Table 4.1

	PRE-Classification MEDIAN filter			
	0	3x3	5x5	7x7
0	a	e	i	m
POST 3x3	b	f	j	n
Classification 5x5	c	g	k	o
MAJORITY-MODE filter 7x7	d	h	l	p

TABLE 4.11 a

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: NONE
POST-CLASSIFICATION FILTER: NONE

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.3	0.1	0.1	0.5	0.1	0.3	0.4	0.1	0.2	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	0.1	32.1	3.6	1.6	18.3	2.5	12.4	8.9	2.6	10.5	4.9	2.5
3	-	-	13.8	24.9	4.6	6.0	-	14.1	16.9	4.3	9.6	5.7	-
4	-	2.5	8.2	3.3	45.7	11.2	2.5	6.2	0.2	8.4	1.1	5.7	4.9
5	-	-	10.9	0.7	3.4	58.4	0.8	8.3	4.8	7.8	1.2	1.5	2.3
6	-	-	2.0	-	2.4	3.1	75.6	-	-	0.4	-	0.6	15.9
7	-	-	13.3	8.2	0.5	8.3	-	38.5	16.7	3.3	8.5	2.0	0.8
8	-	0.3	4.9	3.8	0.3	3.9	-	10.0	68.1	0.8	6.4	1.4	0.2
9	-	-	10.7	2.6	4.0	17.0	1.4	19.2	3.3	33.7	0.9	3.4	3.7
10	-	-	9.0	6.1	0.8	2.5	-	4.0	9.7	0.7	63.9	3.3	-
11	-	-	11.7	7.2	6.2	5.1	0.4	8.9	5.4	5.3	4.8	42.7	2.2
12	-	-	10.1	-	9.8	8.9	10.1	5.4	0.3	6.5	-	7.1	41.8

TABLE 4.11 b

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: NONE
POST-CLASSIFICATION FILTER: MEDIAN 3*3

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.2	0.1	0.1	0.6	0.1	0.4	0.4	0.1	0.2	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	29.1	3.5	1.6	21.5	2.9	14.4	9.8	2.1	9.9	3.2	1.9
3	-	-	10.6	21.9	7.9	8.3	-	17.5	21.1	2.2	7.5	3.0	-
4	-	1.6	3.9	3.0	53.0	13.7	2.0	7.5	0.2	6.7	1.1	4.0	3.3
5	-	-	7.2	0.5	3.0	65.4	0.8	9.5	5.0	5.9	1.1	0.8	0.8
6	-	-	0.7	-	1.7	3.3	80.6	0.1	-	0.4	0.1	0.1	13.1
7	-	-	10.4	6.9	0.6	9.2	-	43.4	18.6	2.1	7.3	0.9	0.5
8	-	0.2	3.3	1.5	0.3	3.9	-	10.0	75.2	0.6	4.3	0.7	-
9	-	-	7.1	1.3	3.7	19.7	1.9	23.9	3.9	32.7	0.9	2.8	2.0
10	-	-	5.8	5.1	1.0	3.0	-	4.5	11.8	0.4	66.8	1.6	-
11	-	-	6.8	6.2	8.4	6.1	0.4	13.2	6.8	4.0	3.7	42.9	1.3
12	-	-	6.3	-	10.9	10.1	8.4	7.1	0.6	7.6	0.2	7.1	41.6

TABLE 4.11 c

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: NONE
POST-CLASSIFICATION FILTER: MEDIAN 5*5

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.2	0.1	0.1	0.6	0.1	0.4	0.5	0.1	0.2	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	26.4	3.7	1.8	24.4	3.4	15.8	10.6	1.4	8.9	2.2	1.4
3	-	-	9.1	20.0	9.9	11.0	-	19.3	22.5	0.7	7.5	-	-
4	-	-	1.6	1.8	59.3	17.4	1.2	8.6	-	6.7	1.1	1.6	0.7
5	-	-	3.7	0.3	2.6	70.4	0.5	11.2	5.6	4.2	0.7	0.5	0.1
6	-	-	-	-	1.1	3.1	84.4	0.1	-	0.6	-	-	10.8
7	-	-	8.4	6.4	0.5	9.5	-	47.2	21.0	2.0	4.5	0.4	0.2
8	-	0.1	2.0	0.4	0.3	4.4	-	8.3	81.5	0.6	2.2	0.2	-
9	-	-	4.4	0.5	3.1	21.3	2.4	28.2	4.3	31.8	0.8	2.2	1.1
10	-	-	4.1	2.8	0.9	3.9	-	5.6	13.3	0.4	68.6	0.4	-
11	-	-	4.2	4.0	10.7	5.1	0.4	16.2	9.1	4.7	3.3	41.3	0.9
12	-	-	2.4	0.3	11.7	11.4	6.3	11.2	0.5	6.8	-	4.4	44.9

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND
CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: NONE
POST-CLASSIFICATION FILTER: MEDIAN 7*7

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	0	0.2	0.1	0.1	0.6	0.1	0.5	0.5	0.1	0.2	0.1	-
1	-	100	-	-	-	-	-	-	-	-	-	-	-
2	-	0	24.6	3.5	1.8	26.6	3.7	16.8	11.1	1.1	8.5	1.4	1.0
3	-	0	7.3	17.7	9.6	17.5	-	19.1	22.8	0.4	5.6	-	-
4	-	0	1.9	0.8	62.2	17.9	1.1	10.4	-	4.7	-	0.9	-
5	-	0	2.4	-	1.8	73.6	0.4	11.9	5.5	3.5	0.7	0.2	-
6	-	0	-	-	0.2	2.1	88.7	-	-	0.9	-	-	8.0
7	-	0	6.4	6.2	0.6	9.6	-	50.8	21.8	1.4	3.3	-	-
8	-	0	1.2	0.2	0.2	4.6	-	7.3	85.0	0.6	0.9	-	-
9	-	0	3.2	0.3	2.4	21.2	2.6	30.9	5.2	31.3	0.8	1.7	0.6
10	-	0	3.3	1.8	0.2	3.7	-	5.5	14.4	0.7	70.3	-	-
11	-	0	1.5	5.6	9.9	6.1	0.8	19.9	10.4	4.9	3.2	37.6	-
12	-	0	-	0.2	9.8	12.2	6.6	16.1	0.3	6.8	-	2.8	45.1

TABLE 4.11 d

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND
CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: 3*3
POST-CLASSIFICATION FILTER: NONE

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.3	0.2	0.1	0.4	0.1	0.3	0.3	0.2	0.2	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	0.2	27.6	6.5	2.4	18.3	2.6	10.1	9.1	5.1	9.8	4.6	3.7
3	-	1.5	13.3	36.3	2.5	7.8	-	13.6	12.2	1.7	7.0	4.1	-
4	-	1.5	7.0	3.3	48.9	15.9	1.6	6.5	0.3	7.0	0.8	4.7	2.5
5	-	-	11.0	1.5	6.0	55.0	0.5	7.0	3.0	9.9	2.7	1.1	2.3
6	-	-	0.8	-	3.7	1.2	72.2	-	-	0.2	-	0.9	20.8
7	-	0.2	12.4	10.6	0.7	7.3	-	41.9	14.3	3.8	5.7	2.5	0.7
8	-	0.3	5.6	11.2	0.1	2.4	-	6.0	67.0	0.9	4.9	1.6	0.1
9	-	0.4	10.3	7.5	6.8	16.0	1.5	14.2	3.9	29.5	1.9	3.8	4.3
10	-	0.1	6.7	6.9	1.0	2.5	-	6.2	19.5	1.6	51.1	4.4	0.2
11	-	-	6.3	9.6	10.3	6.5	-	9.9	3.1	5.5	4.5	42.5	1.9
12	-	-	7.4	0.8	12.5	8.5	12.0	2.7	1.4	6.5	2.2	8.2	37.7

TABLE 4.11.e

Normalised correspondence table
between the NCC 1984 Field survey map
and one of the Thematic Mapper classmaps.
Classes refer to Level II, Table 4.1

TABLE 4.11 f

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 3*3
POST-CLASSIFICATION FILTER: MEDIAN 3*3

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.3	0.2	0.1	0.5	0.1	0.3	0.4	0.2	0.2	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	24.7	6.5	2.6	21.9	2.8	11.6	9.6	4.4	9.6	2.9	3.5
3	-	0.4	11.6	37.3	4.0	10.9	-	15.9	9.9	0.9	7.9	1.4	-
4	-	0.5	3.5	2.3	54.5	20.2	0.9	7.7	0.1	5.4	0.8	3.6	0.5
5	-	-	7.9	0.9	5.1	61.5	0.4	8.4	3.8	7.9	2.4	0.4	1.1
6	-	-	0.2	-	3.2	1.6	76.7	-	-	0.1	-	0.9	17.4
7	-	-	9.8	9.4	0.2	8.2	-	48.3	14.9	2.4	4.3	1.8	0.6
8	-	0.2	4.4	10.9	-	2.7	-	6.4	69.8	0.6	3.8	1.0	-
9	-	0.1	7.0	7.0	7.3	18.6	1.6	17.6	4.5	28.4	1.7	3.2	2.9
10	-	0.1	5.6	4.8	1.1	2.3	-	7.1	19.5	1.5	55.9	2.3	-
11	-	-	2.1	8.5	12.4	8.8	-	11.8	4.8	6.0	3.2	41.1	1.2
12	-	-	3.6	0.5	11.7	10.6	11.4	4.3	1.6	5.1	1.7	7.9	41.6

TABLE 4.11 g

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 3*3
POST-CLASSIFICATION FILTER: MEDIAN 5*5

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.2	0.2	0.1	0.6	0.1	0.4	0.4	0.1	0.2	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	22.7	6.4	2.4	24.5	3.0	13.3	10.1	4.2	8.7	1.7	3.2
3	-	-	8.9	38.4	5.3	12.5	-	17.3	9.5	0.7	7.4	-	-
4	-	-	1.2	1.1	57.9	25.8	-	6.0	0.3	4.1	0.6	3.0	-
5	-	-	5.4	0.4	3.7	66.5	0.4	10.5	4.4	6.1	1.8	0.2	0.5
6	-	-	-	-	1.6	2.1	80.3	-	-	0.2	-	0.7	15.0
7	-	-	8.0	8.7	0.2	7.9	-	53.4	15.5	1.9	2.8	1.3	0.3
8	-	0.1	3.7	9.8	0.1	3.1	-	7.0	72.3	0.4	3.2	0.4	-
9	-	-	4.4	6.8	7.6	19.7	1.8	21.4	4.9	27.1	1.7	2.7	2.0
10	-	-	4.7	2.8	0.9	2.0	-	6.8	20.7	2.1	59.1	0.9	-
11	-	-	0.2	6.5	11.3	11.7	-	13.7	6.0	6.7	2.8	40.1	1.0
12	-	-	0.9	0.6	9.8	13.0	9.3	6.0	2.1	4.3	0.3	7.8	45.9

TABLE 4.11 h

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 3*3
POST-CLASSIFICATION FILTER: MEDIAN 7*7

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.2	0.2	0.1	0.6	0.1	0.4	0.4	0.1	0.1	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	21.1	6.6	2.1	27.2	3.3	14.3	10.3	3.9	7.8	0.9	2.6
3	-	-	7.0	36.5	6.9	14.8	-	19.3	8.1	1.7	5.6	-	-
4	-	-	0.9	0.5	56.1	31.9	-	5.6	0.1	4.3	-	0.7	-
5	-	-	3.3	0.3	2.6	68.4	0.5	13.0	5.3	5.1	1.4	-	0.1
6	-	-	-	-	1.0	1.5	82.7	-	-	0.1	-	0.6	14.1
7	-	-	5.7	7.5	0.2	8.0	-	59.4	15.0	1.1	2.2	0.8	0.1
8	-	0.1	2.9	9.1	-	3.8	-	6.9	74.9	0.1	1.9	0.2	-
9	-	-	2.6	6.0	7.8	20.5	2.3	23.9	5.5	25.9	1.7	2.4	1.3
10	-	-	4.3	1.9	0.7	2.1	-	6.7	21.6	2.3	60.1	0.2	-
11	-	-	-	5.8	10.2	12.3	-	16.2	7.4	8.9	1.4	37.9	-
12	-	-	-	0.2	10.6	13.1	10.4	6.8	1.6	4.3	0.3	7.0	45.7

TABLE 4.11 i

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 5*5
POST-CLASSIFICATION FILTER: NONE

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.4	0.2	0.1	0.5	0.1	0.2	0.3	0.2	0.2	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	0.1	31.9	6.5	1.9	17.4	2.1	8.6	9.2	4.4	9.1	4.6	4.2
3	-	1.9	16.7	39.3	1.5	5.4	-	16.4	10.4	2.6	3.8	2.1	-
4	-	3.3	10.3	2.7	47.7	14.8	1.6	4.4	0.6	7.4	0.8	4.8	1.7
5	-	0.1	13.9	1.5	6.0	55.1	0.5	4.2	1.6	11.9	2.6	0.8	1.7
6	0.1	-	1.2	-	3.2	1.3	71.7	-	-	0.2	-	0.7	21.7
7	-	0.2	15.3	11.4	0.8	7.8	-	41.8	12.4	5.2	3.2	1.5	0.5
8	-	0.5	6.4	13.3	-	3.6	-	5.5	65.3	1.5	3.3	0.6	-
9	-	0.2	12.5	6.7	5.3	15.8	1.6	10.6	3.1	34.4	1.1	4.2	4.4
10	-	-	8.5	6.6	0.2	2.4	-	4.4	16.6	0.3	58.0	2.9	0.1
11	0.3	-	12.8	5.8	8.4	6.8	-	8.0	2.3	7.1	6.0	41.5	1.0
12	-	-	10.6	1.4	12.5	6.3	10.3	1.6	2.1	4.0	0.9	6.2	44.1

TABLE 4.11]

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 5*5
POST-CLASSIFICATION FILTER: MEDIAN 3*3

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.4	0.2	0.1	0.5	0.1	0.3	0.3	0.2	0.1	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	30.0	7.0	2.1	19.9	2.2	9.4	9.8	3.6	8.3	3.4	4.1
3	-	0.5	13.7	43.6	2.2	7.4	-	17.4	10.9	2.0	1.7	0.6	-
4	-	2.2	7.2	2.6	53.6	16.7	0.7	5.4	0.7	5.6	0.8	4.3	0.3
5	-	0.1	10.6	1.7	5.9	60.5	0.6	5.0	1.8	10.3	1.9	0.4	1.1
6	-	-	0.1	-	3.1	1.9	75.4	-	-	0.1	-	0.2	19.3
7	-	-	13.2	11.2	0.5	9.5	-	45.3	13.1	4.1	1.8	1.0	0.4
8	-	0.4	5.5	13.2	-	4.1	-	5.7	67.6	1.0	2.3	0.3	-
9	-	0.1	9.6	6.6	5.2	17.7	1.5	12.7	3.8	34.4	1.0	3.5	3.8
10	-	-	6.5	5.6	0.3	2.7	-	4.7	16.9	0.3	61.1	1.8	-
11	-	-	8.3	5.8	10.6	7.5	-	10.1	2.8	7.3	6.1	40.8	0.7
12	-	-	6.8	1.9	13.4	9.3	8.7	2.1	2.1	2.5	0.5	5.7	47.0

TABLE 4.11 k

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 5*5
POST-CLASSIFICATION FILTER: MEDIAN 5*5

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.3	0.2	0.1	0.6	0.1	0.3	0.3	0.1	0.1	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	28.1	7.6	2.0	22.8	2.5	9.9	10.2	3.0	7.6	2.3	3.9
3	-	-	11.6	46.7	2.7	8.9	-	19.9	8.4	1.1	0.7	-	-
4	-	0.2	4.4	2.2	55.8	21.3	-	6.8	0.5	4.2	0.7	3.9	-
5	-	-	7.8	1.7	5.0	65.8	0.6	5.5	2.6	9.3	1.1	0.1	0.6
6	-	-	-	-	1.7	2.5	77.5	-	-	0.1	-	-	18.3
7	-	-	11.5	10.7	0.1	11.0	-	48.5	13.5	3.5	0.5	0.5	0.3
8	-	0.3	4.5	13.1	-	4.6	-	6.1	69.6	0.4	1.3	-	-
9	-	-	7.4	6.4	5.0	18.9	1.7	14.8	4.3	34.0	1.0	3.1	3.3
10	-	-	5.7	4.2	0.2	2.7	-	5.1	17.5	0.5	63.0	1.1	-
11	-	-	5.3	4.9	12.5	9.1	-	10.4	4.2	8.8	6.1	38.5	0.2
12	-	-	4.1	2.7	14.6	10.6	5.7	3.2	0.2	1.9	0.6	5.2	51.3

TABLE 4.11 1

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 5*5
POST-CLASSIFICATION FILTER: MEDIAN 7*7

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.3	0.2	0.1	0.6	0.1	0.4	0.4	0.1	0.1	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	26.6	8.2	1.9	24.9	2.7	10.7	10.6	2.7	6.6	1.5	3.5
3	-	-	9.1	48.3	3.1	11.9	-	19.1	7.2	1.0	0.4	-	-
4	-	-	3.3	1.9	54.7	25.2	-	10.0	0.7	1.7	-	2.5	-
5	-	-	5.0	1.8	3.6	71.5	0.6	6.5	3.2	7.3	0.4	-	0.2
6	-	-	-	-	0.2	2.8	79.4	-	-	-	-	-	17.6
7	-	-	9.6	10.5	0.1	12.1	-	51.6	13.1	2.8	0.2	-	-
8	-	0.1	3.9	12.9	-	5.1	-	6.5	70.8	0.1	0.5	-	-
9	-	-	5.3	5.8	4.8	20.5	2.0	16.8	4.8	34.0	0.9	2.7	2.5
10	-	-	5.0	3.8	0.3	2.7	-	5.1	18.5	0.1	64.2	0.2	-
11	-	-	2.5	3.8	14.1	11.7	-	11.8	4.7	10.2	4.2	36.9	-
12	-	-	0.3	4.0	16.0	12.7	1.9	2.5	0.2	2.5	0.2	4.9	54.9

TABLE 4.11 m

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 7*7
POST-CLASSIFICATION FILTER: NONE

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.4	0.3	0.1	0.5	0.1	0.3	0.3	0.1	0.1	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	0.1	-	33.6	8.0	1.6	15.8	1.8	11.2	7.7	5.0	5.7	5.4	4.1
3	-	2.0	11.5	57.8	3.5	4.2	-	8.1	3.8	1.5	5.6	2.1	-
4	-	-	10.2	2.5	52.9	4.7	-	10.2	0.9	11.8	0.6	4.8	1.5
5	-	0.1	9.1	2.1	1.5	62.9	0.1	10.1	2.5	7.6	0.5	2.2	1.3
6	1.0	-	2.3	-	3.2	-	78.3	-	-	-	-	0.2	14.9
7	-	0.1	13.4	15.3	0.8	6.9	-	47.3	10.8	2.6	2.6	0.2	0.1
8	-	0.3	3.6	12.9	0.2	3.9	-	5.0	71.2	0.8	1.7	0.5	-
9	-	-	7.9	2.8	7.3	15.1	0.4	18.9	2.1	37.6	0.3	4.2	3.5
10	-	-	6.5	5.3	0.1	1.7	-	3.3	12.2	0.1	68.3	2.5	-
11	0.7	-	9.5	12.8	5.9	7.8	-	10.5	6.8	5.5	1.1	39.2	0.2
12	-	-	6.6	0.9	8.2	5.7	9.2	12.0	0.2	5.4	0.9	5.5	45.3

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND
CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 7*7
POST-CLASSIFICATION FILTER: MEDIAN 3*3

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.3	0.3	0.1	0.5	0.1	0.4	0.3	0.1	0.1	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	32.2	8.5	1.6	17.6	2.0	12.3	7.7	4.7	5.4	4.2	3.8
3	-	1.4	8.5	64.0	4.8	3.3	-	7.5	4.4	1.7	3.5	0.9	-
4	-	-	4.9	2.2	58.9	5.8	-	11.9	0.3	11.6	0.7	3.5	0.2
5	-	-	7.1	2.0	1.3	67.2	0.1	10.7	2.3	6.7	0.3	1.6	0.7
6	0.1	-	1.4	-	3.9	-	82.2	-	-	0.1	-	0.2	12.1
7	-	-	11.9	15.9	0.5	6.9	-	50.6	10.2	2.0	2.1	-	-
8	-	0.3	2.9	12.5	0.1	4.4	-	5.0	73.0	0.6	1.0	0.3	-
9	-	-	5.6	2.2	6.5	16.6	0.5	21.8	2.3	38.0	0.3	3.5	2.9
10	-	-	5.7	4.9	0.2	2.0	-	3.2	13.2	0.1	68.9	1.8	-
11	-	-	7.6	14.5	7.5	8.4	-	10.6	7.7	4.8	0.4	38.4	-
12	-	-	3.5	0.9	8.4	6.8	6.8	15.2	0.2	4.7	0.8	5.5	47.2

TABLE 4.11 n

Normalised correspondence table
between the NCC 1984 Field survey map
and one of the Thematic Mapper classmaps.
Classes refer to Level II, Table 4.1

TABLE 4.11 o

Normalised correspondence table
between the NCC 1984 Field survey map
and one of the Thematic Mapper classmaps.
Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND
CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 7*7
POST-CLASSIFICATION FILTER: MEDIAN 5*5

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	-	0.3	0.3	0.1	0.5	0.1	0.4	0.3	0.1	0.1	0.1	0.1
1	-	100.0	-	-	-	-	-	-	-	-	-	-	-
2	-	-	31.1	8.9	1.5	19.4	2.2	13.4	7.8	4.0	5.0	3.2	3.5
3	-	-	7.2	65.7	7.3	5.1	-	7.0	4.2	1.2	2.3	-	-
4	-	-	2.5	2.3	60.8	7.8	-	14.3	0.5	10.6	-	1.2	-
5	-	-	5.6	1.8	0.8	70.7	0.1	11.4	2.3	5.9	0.2	0.9	0.3
6	-	-	0.2	-	3.7	-	85.6	-	-	0.2	-	0.3	10.0
7	-	-	10.0	16.2	0.4	7.9	-	52.4	10.2	1.4	1.4	-	-
8	-	0.2	2.6	12.4	0.1	4.6	-	4.6	74.4	0.3	0.6	0.2	-
9	-	-	4.1	1.7	5.8	17.1	0.6	24.2	2.4	38.1	0.3	3.1	2.4
10	-	-	4.7	3.5	0.2	2.4	-	3.3	14.2	0.1	70.8	0.8	-
11	-	-	3.1	16.0	8.5	10.7	-	11.7	7.0	4.7	0.7	37.6	-
12	-	-	2.2	1.7	7.6	8.2	5.2	17.6	-	2.4	0.2	5.1	49.8

TABLE 4.11 p

Normalised correspondence table between the NCC 1984 Field survey map and one of the Thematic Mapper classmaps. Classes refer to Level II, Table 4.1

CONFUSION MATRIX: NCC 1984 VEGETATION SURVEY AND CLASSIFIED LANDSAT 5 TM DATA 22 JULY 1984

PRE-CLASSIFICATION FILTER: MEDIAN 7*7
POST-CLASSIFICATION FILTER: MEDIAN 7*7

Cell values normalised by row.

PREDICTED CLASS: CLASSIFIED LANDSAT TM DATA.

NCC CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12
0	97.6	0	0.2	0.3	0.1	0.6	0.1	0.4	0.3	0.1	0.1	0.1	0.1
1	-	100	-	-	-	-	-	-	-	-	-	-	-
2	-	0	30.1	9.1	1.6	20.9	2.5	14.0	7.9	3.3	4.7	2.7	3.2
3	-	0	5.6	66.9	10.2	6.2	-	6.5	3.6	-	1.0	-	-
4	-	0	1.4	2.0	61.4	8.7	-	16.6	1.5	7.9	-	0.5	-
5	-	0	4.3	1.3	0.3	73.2	-	12.4	2.5	5.4	0.1	0.4	0.1
6	-	0	-	-	2.8	-	89.6	-	-	0.2	-	0.5	6.9
7	-	0	7.4	15.9	0.4	9.8	-	54.3	9.8	1.2	1.1	-	-
8	-	0	2.0	12.4	0.1	5.1	-	4.5	75.6	-	0.4	-	-
9	-	0	2.9	1.3	5.2	17.7	0.7	26.6	2.4	38.3	0.3	2.7	1.9
10	-	0	4.4	2.8	0.2	2.2	-	3.3	15.1	0.3	71.7	0.1	-
11	-	0	0.3	16.4	10.1	10.2	-	12.9	7.2	5.8	0.4	36.9	-
12	-	0	1.1	2.8	6.8	8.1	3.6	19.6	-	1.3	-	4.4	52.2