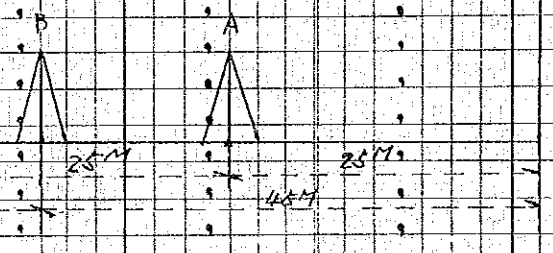
Sheets of observed levelling

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO ( )

Date: 1983. 5. 5	Weather: Fine	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
A		1.466	0.952	0.480		1983. 5. 5 9h 15m
B		1.418	0.938	0.480		9h 25m.
	(I)				(II)	



TOTAL CHECK RESULT	1/2 Δh	T_1 = ,°C T_2 = ,°C T_1 = ,°C

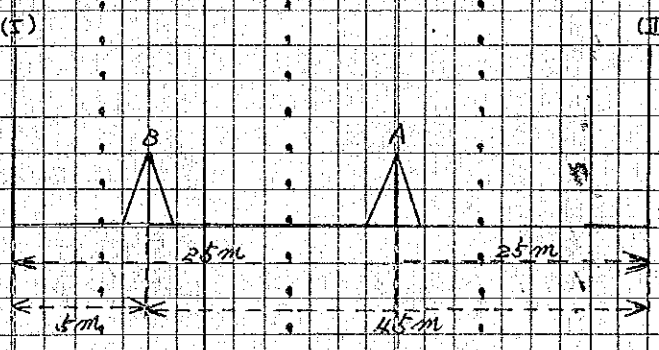
FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO ( )

Date: 1982. 5. 5	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
A		1.446	0.882	0.564		94.00
B		1.419	0.854	0.564		94.10m



TOTAL CHECK RESULT	1/2 Δh	T_1 = , °C T_2 = , °C T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 1983. 5. 5	Weather: fine	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
						1983. 5. 5 10h00
1	68	1.359	1.229	0.130		固 IKBM4
2	70	1.405	1.446		0.041	
3	70	1.443	1.982	0.461		
4	65	1.355	1.020	0.295		
5	68	1.093	1.413		0.315	
6	70	1.389	2.000		0.611	+0.131
7	65	1.946	1.471	0.485		
8	65	1.309	1.010	0.299		
9	60	1.256	1.365		0.109	
10	68	1.413	1.566		0.153	固 Z-(1) +1.370 −1.239 +0.131
11	70	1.497	1.114	0.383		
12	70	1.231	1.212	0.019		
13	65	1.393	1.629		0.236	
14	68	1.120	1.252		0.132	
15	65	1.396	1.502		0.106	
16	60	1.232	1.500		0.268	−0.203
17	65	1.262	1.672		0.410	
		x.xxx				
18	70	1.940	1.363	0.577	x.xxx	
19	65	1.400	1.379	0.021		
20	66	1.432	1.483		0.051	固 3 (2) +2.370 −2.442 −0.072
21	64	1.391	1.485		0.094	
22	65	1.594	1.406	0.188		
23	70	1.367	1.724		0.357	
24	70	1.412	1.662		0.250	
25	68	1.543	1.125	0.418		
26	70	1.374	1.550		0.176	+0.046
27	70	1.420	1.510	0.110		
28	72	1.540	1.285	0.255		
29	68	1.268	1.508		0.240	
30	60	1.629	1.547	0.082		固 4 (3) +2.433 −2.459 −0.026
31	64	1.045	1.136		0.091	
TOTAL	2029	43.849	43.966	3.433	3.550	
CHECK			−0.117	−0.117		
RESULT	1/2 Δh					

T_1 = °C
T_2 = °C
T_1 = °C

FROM TO ( ) = −

( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 1983. 6. 6	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	2029 m	43 m 849	43 m 966	3 m 433	3 m 350	+ 0.3346
32	60	1.341	1.561	.	0.220	
33	60	1.442	1.480	0.038	.	
34	64	1.306	1.132	0.174	.	표5 BM(4) 1.438m
TOTAL	2031	48.448	48.139	4.079	3.770	
CHECK	2029 / 2 / 4170		+ 0.309	+ 0.309		
RESULT	1/2 Δh 4.04				+ 0.309	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

KBM4 +0.131 — 1 +0.203 — 2 +0.046 — 3 +0.335 — 4
−0.146 +0.212 −0.049 −0.323
−0.015 +0.009 −0.013 +0.012

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (Ⅱ)

Date: 1983. 4. 6	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
×		×.888	×.888	.	.	図8
		.	.	.	.	
1	70	0.863	1.442	.	0.579	図5 ~~B4~~(4) 12h40m
2	66	1.400	1.472	.	0.072	
~~3~~	~~66~~	×.888	.	.	.	−0.323
3	70	1.370	1.285	0.085	.	
4	68	1.406	1.163	0.243	.	図4-(3)
5	70	1.486	1.589	.	0.103	
6	66	1.436	1.236	0.199	.	
7	70	1.373	1.498	.	0.125	
8	68	1.340	1.523	.	0.183	
9	70	1.382	1.321	0.061	.	−0.059
10	66	1.189	1.439	.	0.250	
11	70	1.476	1.403	0.073	.	
12	68	1.678	1.390	0.288	.	
13	60	1.604	1.582	.	0.022	
14	70	1.430	1.371	0.059	.	図3-(2)
15	70	1.426	1.448	.	.	
16	66	1.429	1.435	.	.	
17	70	1.423	1.339	.	.	
18	66	1.300	1.370	.	.	
19	66	1.600	1.400	.	.	
20	68	1.634	1.408	.	.	
21	70	1.497	1.324	.	.	
22	70	1.411	1.446	.	.	
23	66	1.430	1.442	.	.	
24	60	1.309	1.345	.	0.036	
25	70	1.446	1.430	0.016	.	
26	62	1.334	1.386	.	0.052	
27	70	1.105	1.278	.	0.173	
28	68	1.420	1.440	0.020	.	南測
29	60	1.481	1.441	0.040	.	
TOTAL	~~1,344~~ 1,289	27.927	28.334	1.244	1.837	T_1 = °C
CHECK			−0.407		−0.593	T_2 = °C
RESULT	1/2 Δh					T_1 = °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (Ⅱ)

Date: 1983. 8. 6	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	1.645 / 1.389	27 m 927	28 m 334	1 m 244	1 m 641	
21	70	1.627	1.598		0.071	+ 0.237
22	68	1.744	1.700	0.676		再測
23	70	1.367	1.349	0.015		
24	68	1.041	1.412		0.371	国2…(1)
25	70	1.442	1.352	0.190		
26	66	1.120	1.466		0.346	
27	70	1.465	1.429	0.036		
28	70	1.449	1.501		0.052	
29	66	1.702	1.443	0.259		− 0.146
30	60	1.115	1.100	0.015		
31	62	1.472	1.480		0.008	
32	65	1.335	1.148	0.187		
33	70	0.929	1.138		0.209	
34	66	1.065	1.280		0.215	国 1KBM4 15+430m
TOTAL	~~3267~~ 2191	47.442	47.733	2.622	2.913	
CHECK			− 0.291	− 0.291		
RESULT	1/2 Δh				− 0.316	

FROM TO ( ) = − 0.316 ( ) : S.P.

T_1 = ,°C
T_2 = ,°C
T_1 = ,°C

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO ( )

再測

Date:	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
1		1.040	1.417		0.013	---(2)
2		1.261	1.253	0.008		
3		1.269	1.684		0.415	
4		1.233	1.238		0.005	
5		1.606	1.340	0.266		
6		1.414	1.141	0.273		+0.212
7		1.126	0.891	0.235		
8		1.370	1.427		0.057	
9		1.388	1.476		0.088	
10		1.326	1.429		0.103	---(1/2)
TOTAL		13.707	13.495	0.892	0.680	T_1 = ,°C
CHECK			+0.212	+0.212		T_2 = ,°C
RESULT	1/2 Δh				+0.212	T_1 = ,°C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 5/7	Weather: fine	File page No.
Instrument: Nikon AE-5 No 520577	Rods:	
Observer: KAZUYOSHI·KOIKE	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
1	65	1.131	1.412	0.119		BM3 10h10m
2	75	1.409	1.334	0.075		
3	65	1.408	2.024		0.616	
4	65	1.746	1.369	0.378		
5	65	1.356	1.418		0.062	−0.038
6	65	1.397	1.435		0.038	
7	75	1.560	1.704		0.144	
8	75	1.491	1.414	0.077		……(1)
9	65	1.334	1.334	0.000		
10	65	1.469	1.468	0.001		
11	65	1.487	1.131	0.356		
12	55	0.944	1.114		0.170	
13	55	1.504	1.314	0.190		+0.180
14	60	1.060	1.241		0.181	
15	55	1.334	1.348	0.016		
16	75	1.301	1.341		0.040	……(2)
17	70	1.356	1.312	0.044		
18	65	1.283	1.388		0.105	
19	65	1.536	1.497	0.039		
20	65	1.470	1.411	0.059		+0.098 −0.040
21	60	1.485	1.342		0.067	
22	65	1.307	1.355		0.048	
23	50	1.470	1.341	0.129		
24	55	1.386	1.456		0.070	……(3)
25	57	1.430	1.397	0.033		
26	55	1.397	1.240	0.157		
27	60	1.248	1.396		0.148	
28	65	1.351	1.302	0.049		
29	65	1.371	1.313	0.058		+0.038
30	75	1.567	1.721		0.154	
31	65	1.487	1.380	0.087		
32	55	1.398	1.345	0.053		……(4)
TOTAL	1908	44.444	44.172	2.111	1.839	
CHECK			+0.272	+0.272		
RESULT	1/2 Δh					

T_1 = ,°C
T_2 = ,°C
T_1 = ,°C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 5/7	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
	1908	44.444	44.172	0.272	1.939	....(4)
33	46	0.801	1.139		0.338	
34	56	1.340	1.002	0.338		
35	48	1.371	1.487		0.116	
36	45	1.453	1.456		0.004	−0.560
37	52	1.403	1.403		0.071	
38	43	1.348	1.370		0.022	
39	50	1.416	1.457		0.041	
40	47	1.101	1.127		0.026	BM. 2 14.809 m
TOTAL	2278	54.485	54.777	2.449	2.737	
CHECK	2456		−0.288	0.288		
RESULT	4834 1/2 Δh				−0.288	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

BM3 −0.314(1) +0.180(2) +0.098(3) +0.308(4) −0.560 BM2
+0.313 −0.189 −0.101 −0.311 +0.570 (ΣΔh)
−0.001 −0.009 −0.003 −0.003 +0.010

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 5/7	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
1	48	1.210	1.116	0.094		BM2 14k10m
2	50	1.410	1.473		0.063	BM 1.510
3	64	1.384	1.304	0.080		前視 1.030
4	64	1.447	1.353	0.094		
5	65	1.837	1.723	0.114		+0.570
6	58	1.407	1.233	0.174		
7	54	0.983	1.346		0.363	
8	66	1.133	0.777	0.356		....(4)
9	43	1.070	1.313		0.243	
10	64	1.181	1.344	0.157		
11	46	1.346	1.423		0.077	
12	65	1.376	1.326	0.050		
13	68	1.372	1.312		0.060	-0.315
14	60	1.372	1.322	0.050		
15	62	1.347	1.434		0.087	
16	60	1.481	1.541		0.060	....(3)
17	20	1.324	1.232	0.092		
18	50	1.378	1.563		0.185	
19	65	1.481	1.311	0.170		-0.101
20	60	1.334	1.282	0.052		
21	60	1.050	0.929	0.121		
22	68	1.054	1.191		0.137	
	68	1.338				
23	63	1.378	1.531		0.153	
24	68	1.034	1.161		0.127	....(2)
25	76	1.334	1.034	0.300		
26	60	1.312	1.293		0.019	
27	60	1.210	1.108	0.102		
28	58	1.334	1.474		0.140	
29	60	1.106	1.125		0.019	-0.189
30	65	1.061	1.268		0.207	
31	65	1.034	1.034		0.000	
TOTAL	1914	41.085	40.999	2.035	1.949	T_1 = ,°C
CHECK			+0.086	+0.086		T_2 = ,°C
RESULT	1/2 Σh					T_1 = ,°C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 5/7	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	1945 m	41.085 m	40.998 m	2.023 m	1.936 m	
32	65	1.307	1.426		0.118	....(1)
33	75	1.480	1.040	0.440		
34	55	0.867	1.296		0.429	
35	65	1.681	1.579	0.102		
36	66	1.317	1.161	0.156		
37	68	1.451	1.036	0.415		~~+0.056~~ +0.313
38	65	1.127	1.283		0.156	
39	85	1.334	1.364		0.030	
40	76	1.271	1.356		0.085	BM U 18.003 m
TOTAL	2455	53.810	53.458	3.126	2.774	
CHECK			+0.352	+0.352		
RESULT	1/2 Δh				+0.352	

T_1 = ,°C
T_2 = ,°C
T_1 = ,°C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (1)

Date: 1983. 6. 7	Weather: fine	File page No.
Instrument: NikonAE5 No.618999	Rods:	
Observer: Masahisa CHIBA	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						10.10m
1	70	1.300	1.220	0.080	.	BM3
2	70	1.420	1.481	.	0.061	
3	70	1.281	1.485	.	0.204	
4	70	1.652	1.432	0.220	.	
5	63	1.422	1.315	0.107	.	+0.334
6	72	1.472	1.324	0.148	.	
7	68	1.281	1.274	0.007	.	
8	70	1.399	1.362	0.037	.	...(1)
9	68	1.447	1.322	.	0.075	
10	60	1.288	1.556	.	0.268	
11	60	1.461	1.375	0.086	0.088	
12	70	1.590	1.454	0.136	.	+0.054
13	68	1.335	1.216	0.119	.	
14	63	1.401	1.223	.	0.172	
15	60	1.275	1.446	0.329	.	
16	70	1.381	1.382	.	0.101	..(2)
17	68	1.449	1.395	0.154	.	
18	60	1.462	1.502	0.040	.	
19	65	1.364	1.359	0.005	.	
20	70	1.350	1.693	.	0.343	-0.010
21	68	1.500	1.219	0.281	.	
22	60	1.276	1.267	0.009	.	
23	60	1.348	1.314	0.034	.	
24	65	1.426	1.626	.	0.200	..(3)
25	76	1.468	1.212	0.256	.	
26	78	1.080	1.483	.	0.403	
27	65	1.482	1.646	.	0.164	
28	68	1.444	1.315	0.129	.	-0.200
29	65	1.371	1.389	.	0.018	
30	68	1.460	1.401	0.059	.	
31	70	1.479	1.272	0.207	.	
32	70	0.977	1.283	.	0.306	...(4)
TOTAL	2092	45.481	45.303	2.493	2.315	T_1 = ,°C
CHECK			+0.178	+0.178		T_2 = ,°C
RESULT	1/2 Δh					T_1 = ,°C

FROM TO ( ) = — ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (/)

Date: 1983. 5. 7	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	1092m	45m481	47m303	2m493	2m315	
33	18	1.459	1.450	0.109	.	
34	20	1.482	1.400	0.082	.	
35	30	1.426	1.362	0.164	.	
36	28	1.332	1.355	.	0.023	+0.167
37	40	1.372	1.462	.	0.090	
38	30	1.397	1.441	.	0.044	
39	30	1.444	1.421	0.023	.	
40	41	1.462	1.516	.	0.054	(+)
41	28	1.398	1.482	0.213	.	
42	30	1.303	1.420	0.083	.	
43	28	1.491	1.606	.	0.115	
44	40	1.387	1.706	.	0.319	130 −0.226
45	40	1.364	1.440	.	0.076	
46	28	1.396	0.983	0.413	.	
47	30	1.309	1.465	.	0.156	
48	64	1.607	1.680	.	0.073	KBM 4 12h30m
TOTAL	3105	69.307	69.092	3.680	3.465	
CHECK	3153		+0.215	+0.215		
RESULT	6258 1/2 Δh				+0.215	

T_1 = °C
T_2 = °C
T_1 = °C

FROM TO ( ) = − ( ) : S.P.

BM3 +0.324 / −0.386 — +0.054 / −0.044 — 2 — −0.010 / +0.019 — 3 — −0.200 / +0.221 — 4 — +0.167 / −0.147 — 5 — −0.130 / +0.127 — KBM4

−0.002 ±0.000 +0.009 +0.021 +0.020 −0.003

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (Z)

Date: 1983. 5. 7	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						海.15m
1	65	1.572	1.561	0.011	.	---KBM 4
2	75	1.424	1.312	0.112	.	
3	60	1.411	1.232	.	0.291	
4	50	1.430	1.276	0.154	.	+0.127
5	55	1.415	0.990	0.425	.	
6	70	1.294	1.149	0.145	.	
7	72	1.399	1.547	.	0.148	
8	68	1.196	1.495	.	0.301	---(5)
9	70	1.240	1.560	0.180	.	
10	65	1.375	1.492	.	0.117	
11	50	1.605	1.532	0.073	.	
12	70	1.452	1.335	0.117	.	−0.147
13	64	1.489	1.388	0.101	.	
	X	X.XXX	.	.	.	
14	68	1.222	1.411	.	0.189	
15	70	1.364	1.281	0.083	.	
16	65	1.119	1.514	.	0.395	---(4)
17	48	1.386	1.085	0.301	.	
18	70	1.178	1.398	.	0.220	
19	65	1.401	1.283	0.118	.	
20	64	1.179	1.361	.	0.182	+0.221
21	63	1.537	1.561	.	0.024	
22	48	1.543	1.321	0.222	.	
23	70	1.242	1.005	0.247	.	
24	70	1.325	1.576	.	0.251	---(3)
25	70	1.680	1.495	0.185	.	
26	40	1.472	1.344	0.128	.	
27	40	1.082	1.449	.	0.367	
28	60	1.631	1.501	0.130	.	
29	55	1.355	1.070	0.185	.	+0.019
30	45	1.541	1.445	0.096	.	
31	70	1.242	1.282	.	0.040	
TOTAL	1967	43.359	42.841	3.053	2.535	
CHECK			+0.518	+0.518		
RESULT	1/2 Δh				.	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (2)

Date: 1983. 5. 7	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	1969m	43m 359	42m 841	3m 053	2m 535	
32	40	1.321	1.315	0.006	.	
33	42	1.175	1.236	.	0.061	
34	30	1.236	1.479	.	0.243	(2)
35	70	1.331	1.542	0.189	.	
36	70	1.205	1.404	.	0.199	
37	68	1.220	1.402	.	0.182	
38	63	1.421	1.554	.	0.133	−0.054
39	72	1.468	1.409	0.059	.	
40	78	1.345	1.182	0.163	.	
41	70	1.355	1.374	.	0.019	
42	68	1.369	1.306	0.063	.	(1)
43	72	1.392	1.740	.	0.348	
		1.495	1.438	.	.	
44	78	.	1.429	0.166	.	
45	60	1.495	1.440	.	0.145	
46	70	1.275	1.100	0.175	.	
47	65	1.065	1.260	.	0.195	−0.336
48	70	1.445	1.126	0.319	.	
49	72	1.115	1.242	.	0.127	
50	66	1.188	1.369	.	0.181	BM3 16h00m
TOTAL	3153	68.785	68.944	4.185	4.344	
CHECK			−0.170	−0.170		
RESULT	1/2 Δh				−0.170	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = — ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 5/8	Weather: fine	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
1	53	0.971	1.304		0.333	……(2) 10h30m ~~……(2)~~
2	76	1.431	1.465		0.034	
3	68	1.282	1.282	0.000		
4	66	1.341	1.408		0.067	
5	71	1.340	1.118	0.222		
6	62	1.541	1.580		0.039	−0.273
7	64	1.477	1.489		0.012	
8	57	1.472	1.212	0.260		
9	53	1.091	1.564		0.473	
10	62	1.262	1.286	0.008		
11	58	1.318	1.358	0.040		
12	50	1.415	1.270	0.145		……(1)
13	53	1.267	1.224		0.043	
14	56	1.304	1.220	0.084		
15	53	1.222	1.222	0.111		
16	54	1.311	1.301	0.010		
17	53	1.327	1.310	0.007		+4.897
18	53	1.208	1.328		0.130	
19	53	1.241	0.793	0.448		
20	50	1.576	0.678	0.898		
21	50	1.227	0.679	0.548		……~~BM~~(1)-1
22	50	0.406	4.116		3.710	
23	41	0.835	1.047		0.212	(工事中の橋)
24	56	1.312	1.428	0.084		
25	50	1.344	1.264	0.120		
26	54	1.323	1.307	0.016		
27	52	1.272	1.281		0.009	−4.358
28	54	1.340	1.571		0.231	
29	58	1.374	1.351	0.023		
30	56	1.386	1.377	0.009		
31	57	1.541	1.380	0.161		
32	61	1.135	1.984		0.849	……(1)
TOTAL	1686	44.036	43.984	6.348	6.307	T_1 = ,°C
CHECK			+0.052	+0.052		T_2 = ,°C
RESULT	1/2 Δh					T_1 = ,°C

FROM TO ( ) = — ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 5/8	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	1680m	44.m034	43.m984	6.m394	6.m307	
33	60	[illegible]	1.327	0.874	.	
34	48	1.720	1.576	0.144	.	
35	60	0.941	1.596	.	−0.655	
36	50	1.707	2.408	.	0.671	
37	50	1.675	1.110	0.565	.	
38	50	1.580	1.040	0.540	.	
39	60	1.186	1.356	.	0.170	+0.656
40	60	1.507	1.360	0.147	.	
41	70	1.353	1.531	.	0.178	
42	70	1.312	1.264	0.048	.	
43	70	0.903	1.583	.	0.680	
44	60	1.491	1.331	0.160	.	
45	35	1.344	1.513	0.181	.	
46	10	1.807	1.183	0.424	.	...(2)
47	60	1.156	1.516	.	0.360	
48	70	1.330	1.322	.	0.012	
49	70	1.330	1.313	0.017	.	
50	65	1.333	1.304	0.029	.	
51	70	1.367	1.773	0.594	.	−0.406
52	70	1.040	0.815	0.225	.	
53	70	0.815	1.111	.	0.296	
54	65	1.433	1.365	0.068	.	
55	10	1.386	1.377	.	0.051	
56	4	1.390	1.390	0.000	.	BM. 2 15h 10m (227)
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
TOTAL	3010	76.938	76.532	9.905	9.499	T_1 = °C
CHECK	3009		+0.202	+0.202		T_2 = °C
RESULT	1/2 Δh				+0.203	T_1 = °C

FROM TO ( ) = − ( ) : S.P.

(2) −0.273 (1) +4.693 (1) −4.318 (1) +0.656 (2) −0.406 BM2

+0.257 −4.686 +4.366 −0.672 +0.388

−0.016 +0.007 (BM) −0.002 −0.016 −0.018 (227)

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 5/8	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
1	5	1.309	1.391	0.018		BM2 15h 20m
2	10	1.332	1.317	0.014		(エスク)
3	60	1.406	1.062	0.344		
4	70	1.309	1.470		0.161	
5	72	1.324	1.244	0.110		
6	72	1.121	1.390		0.269	+0.388
7	70	1.232	1.244		0.012	
8	68	1.418	1.252	0.166		
9	68	1.396	1.410		0.014	
10	65	1.415	1.225	0.190		..... (2)
11	63	0.781	1.463		0.682	
12	62	1.286	0.937	0.349		
13	60	1.246	1.245	0.001		
14	70	1.473	1.090	0.383		
15	58	1.504	1.894		0.390	
16	62	1.483	1.254	0.229		−0.672
17	55	0.944	1.543		0.598	
18	63	2.004	0.943	1.062		
19	70	0.896	1.494		0.609	
20	50	2.007	1.300	0.707		
21	75	1.093	1.228		0.135	
22	74	0.903	1.702		0.799	..... (1) 16h 05m
23	70	2.009	1.178	0.831		5/19 h 40m
24	70	1.124	1.221		0.097	
25	70	1.271	1.369		0.098	
26	59	1.267	1.422		0.155	
27	58	1.579	1.339	0.240		
28	63	1.508	1.550		0.042	+4.346
29	62	1.414	1.461		0.047	
30	58	1.380	1.562		0.182	
31	40	1.021	0.519	0.502		
32	12	4.034	0.680	3.414		(ハ-1ボ4 (橋)
TOTAL	1887	45.831	41.749	8.381	4.299	T_1 = ,°C
CHECK			+4.082	+4.082		T_2 = ,°C
RESULT	1/2 Δh				+0.045	T_1 = ,°C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 5. 19	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	1887m	45m 831	41m 729	8m 081	4m 299	
33	10	0.497	4.463	.	3.966	
34	30	0.952	1.486	.	0.534	
35	40	1.083	1.552	.	0.469	
36	50	1.365	1.293	0.072	.	
37	75	1.303	1.266	0.037	.	−4.686
38	85	1.365	1.365	0.000	.	
39	95	1.371	1.377	.	0.006	
40	40	1.374	1.353	.	0.029	
41	40	1.460	1.251	0.209	.	
42	10	1.393	1.393	0.000	.	(1)
43	30	1.144	1.301	.	0.157	
44	35	1.336	1.330	.	0.096	
45	60	1.385	1.041	0.494	.	
46	80	1.376	1.374	.	0.098	
47	95	1.310	1.321	.	0.011	
48	55	1.340	1.117	0.133	.	+0.265
49	63	0.875	1.290	.	0.415	
50	71	1.362	1.374	.	0.012	
51	60	1.484	1.451	0.033	.	
52	70	1.360	1.283	0.077	.	
53	70	1.330	1.425	.	0.095	
54	73	1.350	0.938	0.412	.	(2) 11h 12m
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
TOTAL	3003	73.276	73.453	9.848	10.195	
CHECK			−0.347	−0.347		
RESULT	1/2 Σh				−0.347	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = −− ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (1)

Date: 1983. 5. 8	Weather: fine	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						10h 30m
1	74	1.160	1.275	.	0.115	(2)
2	68	0.900	1.334	.	0.434	
3		1.484	.	.	.	
3	78	1.521	1.460	0.061	.	−0.262
4	70	1.347	1.326	0.021	.	
5	74	1.351	1.325	.	0.024	
6	68	1.405	1.180	0.225	.	(3)
7	74	1.173	1.620	.	0.447	
8	70	1.335	1.331	0.004	.	
9	68	1.493	0.904	0.588	.	
10	68	0.962	1.380	.	0.418	+0.053
11	72	1.427	1.260	0.167	.	
12	70	1.185	1.293	.	0.108	
13	70	1.572	1.460	0.112	.	
14	72	1.560	1.405	0.155	.	(4)
15	70	1.276	1.212	0.064	.	
16	72	1.656	1.981	.	0.325	
17	60	1.206	1.451	.	0.245	+1.480
18	72	1.617	1.435	0.182	.	
19	76	1.343	1.402	.	0.060	
20	54	2.719	0.855	1.864	.	BH 10 11h 12h 40m
TOTAL	1380	28.300	27.029	3.447	2.176	
CHECK	1459					
	2839		+1.271	+1.271		
RESULT	1/2 Δh				+1.271	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

(2) −0.262 (3) +0.053 (4) +1.480 pg.114
0 0 0
+0.271 −0.051 −1.479
+0.009 +0.002 +0.001

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (2)

Date: 1983, 6, 8	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
1	60	0.572	2.178		1.606	BM NO. 114 13h40m
2	60	1.178	1.351		0.173	
3	48	1.299	1.302		0.003	
4	60	1.360	1.414		0.054	
5	58	1.658	1.420	0.238		−1.479
6	84	1.400	1.363	0.037		
7	60	1.360	1.411		0.051	
8	60	1.414	1.300	0.114		(4)
9	60	1.338	1.423		0.084	
10	60	1.360	1.369		0.009	
11	60	1.329	1.340		0.011	
12	60	1.317	1.401		0.084	水面 − 0.05
13	44	1.442	1.440	0.002		
14	44	1.489	1.445	0.044		−0.051
15	44	0.920	1.219		0.299	
16	60	1.345	1.470		0.125	
17	60	1.403	1.256	0.147		
18	44	1.545	1.321	0.224		(3)
19	48	1.345	1.434		0.089	
20	44	1.370	1.470		0.100	
21	60	1.300	1.314		0.014	
22	42	1.375	0.903	0.472		+0.271
23	40	0.948	0.800	0.148		
24	48	1.408	1.378		0.030	
25	60	1.130	1.346		0.216	(1)
26	44	1.421	1.280	0.141		(2) 16h00m
TOTAL	1459	33.867	30.121	1.836	3.982	
CHECK			−1.259		−1.259	
RESULT	1/2 Δh				+1.219	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 5. 10	Weather: Claudy	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
1	10	1.712	1.272	0.440	.	BM 1 9h50m
2	60	1.044	1.756	.	0.692	
3	70	1.644	1.732	.	0.088	
4	70	1.350	1.524	.	0.174	+1.528
5	67	1.368	1.222	0.146	.	
6	20	2.327	0.424	1.903	.	NO 112
7	78	0.340	1.860	.	1.517	
8	78	1.180	1.114	.	0.071	
9	70	1.094	1.372	.	0.278	
10	75	1.440	1.428	0.012	.	−1.688
11	72	1.328	1.276	.	0.052	
12	72	1.562	1.419	0.143	.	(1)
13	65	1.306	1.256	0.050	.	
14	45	1.119	0.713	0.406	.	+0.748
15	50	1.100	1.096	0.004	.	
16	11	1.040	0.752	0.288	.	NO 111
17	70	0.903	1.324	.	0.421	
18	72	1.466	1.210	0.246	.	
19	70	1.088	1.440	.	0.352	−0.135
20	70	1.509	1.365	0.144	.	
21	80	1.426	0.960	0.466	.	
22	75	1.110	1.221	.	0.108	(2)
23	80	1.411	1.175	0.236	.	
24	78	0.881	0.527	0.354	.	
25	85	1.226	0.709	0.517	.	−0.207
26	87	0.972	2.462	.	1.490	
		XXX	X	.	.	
27	78	1.411	1.223	0.188	.	
28	75	1.209	1.281	.	0.072	(3)
29	45	2.015	1.255	0.760	.	
30	60	1.290	1.210	.	0.037	+1.664
31	70	1.015	1.008	0.007	.	
TOTAL	2062	40.705	39.729	6.363	5.387	
CHECK			+0.976	+0.976		
RESULT	1/2 Δh					

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 5. 10	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	206m	40.m705	39.m729	6.m363	5.m387	
32	50	0.970	1.021		0.051	
33	25	1.293	1.478		0.205	
34	15	2.402	0.912	1.490		....No 110 12h 20m
TOTAL	2152	45.350	43.440	7.853	5.943	
CHECK	2188					
	4340		+1.910	+1.910		
RESULT	1/2 Δh				+1.910	

T_1 = ,°C
T_2 = ,°C
T_1 = ,°C

FROM TO ( ) = −

( ) : S.P.

BM1 — +1.528 / −1.529 — No 112 — −1.688 (1) / +1.688 — +0.748 / −0.753 — No 111 — −0.135 (2) / +0.143 — −0.207 (3) / +0.207 — +1.664 / −1.672 — No 110

−0.001 ±0 −0.005 +0.008 ±0 −0.008

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 5. 10	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
1	16	0.867	0.367		1.495	....No.110 13h10m.
2	24	1.338	1.430		0.092	
3	50	1.348	1.072	0.276		
4	75	1.315	1.014	0.301		-1.872
5	65	1.184	1.037		0.193	
6	70	1.570	1.130		0.440	....(3)
7	75	1.227	1.067	0.160		
8	80	1.421	1.508		0.087	
9	80	1.332	1.397		0.065	
10	75	1.406	1.424		0.019	+0.207
11	85	1.220	1.164	0.056		
12	50	1.260	1.405		0.145	
13	32	1.509	1.187	0.322		
14	10	1.387	1.392		0.005	....(2)
~~15~~		~~1.417~~	~~1.340~~	~~0.177~~		
~~16~~		~~0.948~~	~~1.390~~		~~0.442~~	
185	52	1.361	1.200	0.161		
186	65	1.090	1.465	0.375		
17	60	1.340	1.200	0.143		+0.143
18	63	1.297	1.133	0.164		
19	65	1.101	1.135		0.034	
20	50	1.190	1.321		0.131	
21	52	1.142	1.424		0.282	
22	35	1.291	0.814	0.477		....No.111
23	10	0.824	0.997		0.173	
24	50	0.518	1.021		0.503	-0.753
25	65	1.152	1.430		0.278	
26	68	1.340	1.039	0.301		....(1)
27	73	1.387	1.417		0.130	
28	73	1.150	1.095	0.055		
29	74	1.144	1.085	0.059		+1.688
30	74	1.141	1.005	0.136		
TOTAL	1716	36.666	38.621	2.521	4.476	
CHECK			−1.955		−1.955	
RESULT	1/2 Δh					

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 5. 10	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	1716m	36.m666	38.m621	2.m521	4.m476	
31	80	1.101	1.380	.	0.279	
32	81	2.464	0.617	1.847	.	No 112
33	24	0.811	2.083	.	1.272	
34	70	1.164	1.494	.	0.330	
35	70	1.265	1.072	0.193	.	−1.529
36	95	1.346	0.940	0.406	.	
37	60	1.058	1.310	.	0.252	
38	11	1.483	1.254	0.229	.	BM 1 15h 50m
TOTAL	2188	46.868	48.794	5.196	7.112	
CHECK			−1.916	−1.916		
RESULT	1/2 Δh				−1.916	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (1)

Date: 1983. 5. 10	Weather: cloudy	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						96.50m
1	60	1.320	1.288	0.032	.	BM 1
2	70	1.430	1.261	0.169	.	
3	64	1.429	1.238	0.219	.	
4	74	1.102	1.425	.	0.323	+1.869
5	64	1.802	1.492	0.310	.	
6	70	1.340	1.520	.	0.180	
7	65	2.295	1.734	0.561	.	
8	70	1.383	0.814	0.569	.	NO (113)
9	60	0.814	2.230	.	1.416	
10	70	1.267	1.329	.	0.062	
11	62	1.801	1.464	0.337	.	
12	58	1.096	0.859	0.237	.	~~+0.138~~
13	64	1.318	1.360	.	0.042	−1.295
14	72	1.602	1.221	0.381	.	
15	70	1.605	1.232	0.373	.	
16	70	0.788	1.945	.	1.157	(1)
17	68	1.498	0.700	0.798	.	
18	70	1.242	0.892	0.350	.	
19	70	1.080	1.339	.	0.259	
20	78	0.468	1.092	.	0.624	−0.254
21	70	1.642	1.214	0.428	.	
22	65	1.460	1.405	0.055	.	
23	64	1.405	1.692	.	0.287	
24	68	1.025	1.740	.	0.715	(2)
25	68	1.432	1.432	.	.	
		.	1.322	0.110	.	
26	70	1.372	1.240	0.132	.	
27	72	1.200	0.800	.	0.600	
28	80	1.720	1.088	0.632	.	+1.333
29	70	1.329	1.675	0.044	.	
30	72	1.788	1.562	0.226	.	
31	68	2.089	1.670	0.419	.	
TOTAL	2076	43.472	43.619	6.518	5.665	
CHECK			+0.847	+0.853		
RESULT	1/2 Δh				.	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = — ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (1)

Date: 1983. 5. 10	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	20785	4.3472	4.6192	6.5198	4.6665	12240
32	48	1.339	0.979	2.300	.	NO 114
TOTAL	2124	44.751	43.498	8.818	4.665	
CHECK	2198					
	4319		+ 1.153	+ 1.153		
RESULT	1/2 Δh				+ 1.153	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

BM1 +1.369 NO 113 −1.395 −0.254 +1.333 NO 114
−1.361 +1.391 +0.240 −1.328
+0.008 −0.004 −0.014 +0.005

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (2)

Date: 1983. 5. 10	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						132 30
1	48	0.964	1.264	.	0.301	NO 114
2	62	1.728	1.765	.	0.037	
3	70	1.306	1.489	.	0.183	
4	68	0.961	0.960	0.001	.	
5	70	1.258	1.287	.	0.029	
6	68	1.183	1.313	.	0.130	−1,328
7	72	1.261	1.297	.	0.036	
8	80	1.249	1.382	.	0.133	
9	62	1.285	1.331	.	0.046	
10	58	1.000	1.006	.	0.006	(2)
11	74	1.297	1.094	0.203	.	
12	70	1.829	1.120	0.709	.	
13	60	1.519	1.412	0.107	.	
14	64	0.907	1.075	.	0.168	+0,240
15	58	1.435	1.875	.	0.440	
16	62	1.968	1.109	0.859	.	
17	72	1.171	1.845	.	0.674	
18	80	1.783	2.239	.	0.456	(1)
19	74	2.000	1.275	0.725	.	
20	68	1.425	1.380	0.045	.	
21	78	0.900	1.615	.	0.715	
22	64	1.230	1.341	0.289	.	+1,291
23	68	1.351	1.207	0.144	x.xxx	
24	60	1.107	1.569	.	0.462	
25	64	1.402	0.240	1.162	.	
26	58	1.000	0.997	0.003	.	NO 113
27	80	0.436	1.414	.	0.978	
28	72	1.415	1.263	0.152	.	
29	68	1.407	1.461	.	0.054	
30	65	1.400	1.446	.	0.046	−1,361
31	70	1.136	1.143	.	0.007	
32	68	1.378	1.780	.	0.402	
TOTAL	2055	42.401	43.533	4.599	3.731	T_1 = °C
CHECK			−1.132	−1.132		T_2 = °C
RESULT	1/2 Δh				.	T_1 = °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (2)

Date: 1983. 5. 10	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	205.5m	4.401m	4.833m	4.599m	5.731m	16h 10m
23	72	1.695	1.466	0.229	.	
24	68	1.566	1.521	.	0.245	--- BM 1
TOTAL	215.5m	4.662	4.820	4.828	5.985	
CHECK			−1.158	1.158		
RESULT	1/2 Δh				−1.158	

T_1 = ,°C
T_2 = ,°C
T_1 = ,°C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 1983. 5. 12	Weather: Cludy.	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						NO 109 10h 10m
1	72	1.260	0.642	0.618	.	
2	78	2.140	0.740	1.400	.	
3	76	0.864	2.422	.	1.547	
4	70	2.040	1.755	1.085	.	+0.209
5	78	1.466	1.018	0.448	.	
6	80	0.406	1.491	.	1.085	
7	78	1.370	1.040	0.330	.	
8	82	1.132	2.072	.	0.940	--- (3)
9	84	1.451	0.626	0.825	.	
10	78	1.306	1.103	0.203	.	
11	82	1.319	1.303	0.016	.	-0.278
12	62	1.436	1.386	.	0.050	
13	78	0.466	1.480	.	1.014	
14	84	1.192	1.140	0.052	.	--- (2)
15	80	1.302	1.180	0.122	.	
16	78	1.328	1.321	.	0.007	+0.520
17	82	1.382	1.355	0.027	.	~~-0.149~~
18	78	1.522	1.502	0.020	.	
19	80	1.415	1.441	.	0.026	
20	80	1.315	1.431	.	0.116	--- (1)
21	62	1.302	1.325	.	0.023	
22	82	1.325	1.325	0.010	.	
23	78	1.391	1.426	.	0.035	+1.606
24	68	1.390	1.624	.	0.234	
25	92	1.272	1.230	0.042	.	
26	22	2.582	0.636	1.946	.	NO 110 12h 10m
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
TOTAL	1881	36.715	34.653	2.444	4.487	
CHECK	1923					
	3804		+2.047	+2.047		
RESULT	1/2 Δh				+2.047	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = — ( ) : S.P.

NO 109 ○ +0.209 (3) −0.199 +0.010 −0.278 (2) +0.290 +0.007 +0.520 (1) −0.516 +0.004 +1.606 NO 110 ○ −1.600 +0.006

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 1983. 5. 12	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						13h 10m
1	40	0.637	2.672		2.035	NO 110
2	44	1.481	1.446	0.035		
3	74	1.495	1.100	0.395		
4	84	1.192	1.361		0.169	−1.600
5	72	1.419	1.455		0.036	
6	50	1.280	1.372	0.008		(1)
7	56	1.412	1.475		0.063	
8	80	1.498	1.203	0.295		
9	78	1.015	1.382		0.367	−0.516
10	80	1.120	1.426		0.306	
11	78	1.400	1.534		0.134	
12	68	1.419	1.426		0.007	(2)
13	67	1.532	1.665		0.133	
14	82	1.435	1.365	0.070		
15	80	1.998	1.236	0.762		
16	68	1.353	1.579		0.226	
17	64	1.637	0.850	0.787		+0.285
18	52	0.712	0.806		0.094	
19	48	1.090	1.955		0.865	
20	40	1.000	1.013		0.013	(3)
21	80	1.020	0.439	0.581		
22	78	0.740	1.223		0.483	
23	80	1.042	1.309		0.267	
24	72	1.641	1.346	0.305		−0.199
25	68	0.935	1.039		0.104	
26	80	1.190	1.239		0.049	
27	60	1.402	1.192	0.210		
28	80	0.642	1.314		0.672	NO 109 16h 00m
TOTAL	1923	35.661	37.491	3.920	2.090	T_1 = °C
CHECK			−2.030	−2.030		T_2 = °C
RESULT	1/2 Δh				−2.030	T_1 = °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 5. 12	Weather: fine	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
1	54	1.247	1.397	.	0.140	NO 109 10h 20m
2	62	1.513	1.451	0.062	.	
3	74	1.378	0.974	0.404	.	
4	65	1.228	0.979	0.249	.	
5	57	1.099	1.330	.	0.191	+1.721
6	60	1.086	1.247	.	0.162	
7	68	1.460	1.525	.	0.065	
	×	×.878	0.464	.	.	
8	40	1.968	.	1.504	.	(4) 8'
9	56	0.629	1.241	.	0.612	
10	61	1.113	0.721	0.392	.	
11	62	0.953	1.377	.	0.424	
12	45	1.006	1.092	.	0.086	
13	61	0.806	0.823	.	0.017	
14	65	1.100	1.234	.	0.134	
15	66	1.004	1.341	.	0.337	
16	74	1.451	0.888	0.560	.	+0.596
17	66	0.810	1.070	.	0.260	
18	68	1.340	0.726	0.614	.	
19	75	0.827	1.746	.	0.919	
20	68	1.532	1.406	.	0.134	
21	58	1.346	1.020	0.326	.	
22	56	1.980	0.346	1.634	.	NO 108
23	72	0.782	2.093	.	1.311	
24	70	1.426	0.547	0.879	.	
25	65	0.700	0.709	.	0.009	
26	68	0.466	1.560	.	1.094	
27	71	1.089	1.210	.	0.121	−0.854
28	72	1.171	1.150	0.021	.	
29	68	1.203	1.189	0.014	.	
30	72	1.504	0.828	0.676	.	
31	70	1.241	0.893	.	0.348	
TOTAL	1960	36.337	35.397	7.358	6.418	
CHECK			+0.940	+0.940		
RESULT	1/2 Δh				.	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

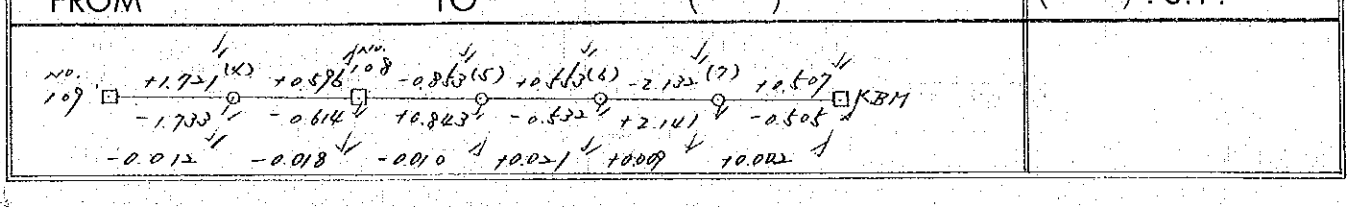
Date: 5. 12	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	1960m	36.337	35.397	7.358	6.418	
32	60	1.246	0.743	0.524	.	....(5)
33	64	0.910	1.447	.	0.537	
34	74	1.287	1.025	0.262	.	
35	72	0.552	1.305	.	0.753	
36	66	1.300	1.336	.	0.106	
37	72	1.081	1.208	0.123	.	
38	68	1.329	1.058	0.271	.	+0.553
39	80	1.094	1.336	.	0.242	
40	70	1.299	1.290	.	0.001	
41	73	1.315	1.225	0.090	.	
42	73	1.067	1.054	0.013	.	
43	76	1.611	0.355	1.256	.	
44	42	1.151	0.974	0.177	.	....(6)
45	78	0.874	1.295	.	0.421	
46	68	1.179	1.151	0.028	.	
47	75	0.813	1.590	.	0.777	
48	80	1.389	1.970	.	0.581	−2.132
49	74	0.955	1.154	.	0.199	
50	71	1.371	1.313	0.058	.	
51	74	2.046	1.449	0.597	.	
52	76	1.622	1.438	0.184	.	
53	63	1.040	1.610	.	0.570	
54	68	1.277	1.728	.	0.451	....(7)
55	61	0.861	0.530	0.331	.	
56	74	0.966	1.297	.	0.331	
57	74	1.485	1.180	0.305	.	+0.507
58	74	1.374	1.090	0.201	.	
59	74	1.488	2.022	.	0.534	....BM
60	76	1.892	1.356	0.536	.	....KBM
		.	.	.	.	
		.	.	.	.	
		.	.	.	.	
TOTAL	3890	72.371	71.979	12.314	11.922	
CHECK	3858 / 7748		+0.392	+0.392		
RESULT	1/2 Δh				+0.392	

T_1 = ,°C
T_2 = ,°C
T_1 = ,°C

FROM TO ( ) = −

( ) : S.P.



FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO ( )

Date: 1980. 7. 13	Weather: Fine	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
(7)		1.481				
BM5			1.270	0.211		
BM5		1.847				
(7)			1.636		0.211	

TOTAL CHECK RESULT	1/2 Δh				

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 5. 14	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						$10^h 30^m$
1	35	1.374	1.911	.	0.537	KBM
2	36	2.053	1.508	0.545	.	
3	35	1.254	1.488	.	.	
4	38	.	1.531	.	0.356	−0.505
4K	35	1.365	1.420	.	0.147	
5	35	1.384	1.180	0.204	.	
6	60	0.534	0.913	.	0.379	....(7)
7	55	1.485	0.879	0.606	.	
8	60	1.457	1.170	0.287	.	
9	60	1.083	0.889	0.194	.	
10	56	1.330	1.144	0.074	.	
11	56	1.209	1.708	.	0.499	
12	63	1.163	1.127	0.036	.	
13	56	1.185	1.241	.	0.446	
14	67	1.340	0.943	0.397	.	
15	58	1.343	1.335	0.008	.	+0.141
16	60	1.332	0.711	0.621	.	
17	53	1.111	1.081	0.030	.	
18	50	1.185	0.778	0.307	.	
19	10	1.184	0.971	0.213	.	
20	10	1.113	1.113	0.000	.	....(6)
21	45	0.970	1.416	.	0.446	
22	50	0.842	1.880	.	1.038	
23	48	1.126	0.967	0.159	.	
24	49	1.500	1.455	0.045	.	
25	49	0.938	1.055	.	0.117	
26	51	1.458	0.856	0.602	.	−0.502
27	53	0.963	0.878	0.085	.	
28	53	1.354	1.072	0.282	.	
29	48	1.398	1.417	.	0.231	
30	54	1.311	1.470	.	0.159	
31	51	1.478	1.814	0.164	.	
TOTAL	1571	48.400	37.610	5.070	4.280	
CHECK			10.790	10.790		
RESULT	1/2 Δh				.	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 5. 14	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	1537 m	38.m 403	37.m 613	5.m 073	4.m 283	
32	53	1.060	1.146	.	0.086	
33	52	1.478	1.725	.	0.247	
34	42	1.601	0.794	0.807	.	
35	60	1.506	1.675	.	0.169	
36	62	0.878	0.869	0.009	.	....(5)
37	53	0.613	0.726	.	0.113	
38	60	0.646	1.531	.	0.885	
39	48	1.000	1.669	.	0.669	
40	49	1.080	1.174	0.086	.	
41	52	1.091	1.103	0.289	.	
42	48	1.131	1.161	.	0.040	
43	47	1.204	1.511	.	0.307	
44	47	1.280	1.286	.	0.006	+0.843
45	53	1.392	1.502	.	0.110	
46	51	1.488	0.970	0.518	.	
47	45	1.174	0.817	0.357	.	
48	46	0.948	1.393	.	0.445	
49	50	1.691	0.915	0.776	.	
50	41	1.703	0.660	1.072	.	....NO.108
51	45	0.504	2.003	.	1.499	
52	43	0.884	1.358	.	0.473	
53	43	1.292	1.397	.	0.105	
54	48	1.116	1.460	.	0.344	
55	47	1.344	1.000	0.344	.	
56	47	1.191	1.262	.	0.071	
57	45	1.383	1.494	.	0.111	
58	46	1.406	1.181	0.227	.	−0.614
59	52	1.323	1.371	.	0.148	
60	48	1.416	1.099	0.317	.	
61	49	1.087	0.709	0.378	.	
62	49	0.920	0.901	0.019	.	
63	45	1.294	1.440	.	0.146	
TOTAL	3166	77.644	77.315	10.176	9.847	
CHECK			+0.329	+0.329		
RESULT	1/2 Δh				.	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 5. 14	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	3168m	77m 844	77m 315	10m 176	9m 847	
64	52	1.506	0.974	0.532	.	
65	43	1.450	1.235	.	0.215	
66	49	1.076	0.647	0.429	.	
67	40	0.881	1.560	.	0.679	
68	30	1.501	0.594	0.907	.	……(4)
69	51	0.643	1.309	.	0.666	
70	53	1.042	1.187	.	0.145	
71	48	1.489	1.420	0.069	.	
72	49	1.227	0.771	0.456	.	
73	52	0.739	1.942	.	10.220	−1.733
74	45	1.314	1.554	.	0.240	
75	47	1.307	1.307	0.000	.	
76	48	1.379	1.403	.	0.024	
77	43	1.128	1.088	0.040	.	
78	42	1.392	1.392	0.000	.	……NO.108 16h05m
TOTAL	3858	95.745	96.145	13.639	13.039	
CHECK			−0.400	−0.400		
RESULT	1/2 Δh				−0.400	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 1983. 5. 14	Weather: fine	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
						10h 20m
1	60	1.116	0.744	0.376	.	KBM
2	68	1.052	1.866	.	0.814	
3	78	1.976	1.758	0.218	.	
4	72	1.399	1.511	.	0.112	
5	72	1.716	1.465	0.251	.	+0.246
6	80	1.498	1.302	0.196	.	
7	78	1.810	1.865	.	0.055	
8	72	1.440	1.254	0.186	.	(1)
9	80	1.115	1.386	.	0.271	
10	74	1.542	1.461	0.081	.	
11	76	1.408	1.850	.	0.442	
12	70	1.450	1.473	.	0.023	−0.356
13	72	1.621	1.474	0.146	.	
14	74	1.112	1.197	.	0.085	
15	72	1.480	1.311	0.169	.	
16	70	1.121	1.242	.	0.121	(2)
17	64	1.468	1.539	.	0.071	
18	70	1.388	1.402	.	0.114	
19	64	1.530	1.461	.	0.011	
20	72	1.602	1.822	.	0.220	
21	64	1.766	1.387	0.379	.	−0.426
22	64	1.472	1.614	.	0.142	
23	70	1.472	1.705	.	0.233	
24	74	1.465	1.400	0.165	.	
25	72	1.070	1.142	.	0.072	
26	78	1.312	1.519	.	0.207	(3)
27	80	1.628	1.366	0.262	~~0.262~~	
28	78	1.340	1.483	.	0.143	
29	64	1.343	1.399	.	0.056	
30	60	1.351	1.444	.	0.093	+0.195
31	72	1.482	1.352	0.130	.	
32	68	1.329	1.410	.	0.081	
TOTAL	2227	46.146	46.863	2.749	3.466	
CHECK			−0.707	−0.707		
RESULT	1/2 Δh				.	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE (   )   FROM   TO   (ェ)

Date: 1983. 5. 14	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	2282 m	46 m 156	46 m 863	2 m 559	3 m 266	
33	74	1.619	1.552	0.067		
34	32	1.300	~~[illegible]~~			--- NO 107-1 13h10m
			1.001	0.299		
TOTAL	2388	49.075	49.416	2.925	3.266	T₁ = ,°C
CHECK	2387 / 4775		− 0.341	− 0.341		T₂ = ,°C
RESULT	1/2 Δh				− 0.341	T₁ = ,°C

FROM   TO   (   ) = −   (   ) : S.P.

KBM +0.246 1 −0.356 2 −0.426 3 +0.195 no. 107-1
−0.259 +0.365 +0.428 −0.195
−0.013 +0.009 +0.002 ±0.000

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 1983. 5. 14	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
						NO 107-1 HUNDOM
1	58	1.017	1.319	.	0.302	
2	68	1.826	1.785	0.041	.	
3	60	1.390	1.494	.	0.105	
4	70	1.427	0.782	0.645	.	
5	70	0.980	1.392	.	0.412	−0.195
6	80	1.680	1.652	0.028	.	
7	72	1.520	1.334	0.185	.	
8	80	1.244	1.470	.	0.226	(3)
9	80	1.433	1.220	0.213	.	
10	72	1.369	1.413	.	0.044	
11	78	1.412	1.582	.	0.170	
12	74	1.470	1.461	0.009	.	
13	78	1.462	1.172	0.290	.	+0.428
14	68	1.423	1.721	.	0.298	
15	70	1.535	1.231	0.304	.	
16	72	1.360	1.560	.	0.200	
17	60	1.287	1.402	.	0.115	
18	70	1.765	1.426	0.339	.	(2)
19	80	1.223	1.094	0.128	.	
20	62	1.222	1.467	.	0.245	
21	78	1.088	0.942	0.146	.	
22	70	1.544	1.400	.	0.145	+0.365
23	74	1.299	1.074	0.225	.	
24	72	1.467	1.457	0.010	.	
25	76	1.478	1.478	0.000	.	
26	68	1.226	0.980	0.246	.	(1)
27	74	1.306	1.428	.	0.118	
28	78	1.725	1.739	.	0.014	
29	72	1.312	1.615	.	0.303	
30	68	1.585	1.499	.	0.114	
31	72	1.485	1.080	0.405	.	−0.259
32	70	1.272	1.409	.	0.137	
TOTAL	2275	42.453	44.136	3.314	2.997	
CHECK			+0.317	+0.317		
RESULT	1/2 Δh				.	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (Ⅱ)

Date: 1983. 8. 14	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	2278	44m 483	44m 136	3m 347	2m 997	
33	60	1.780	2.060	0.280		
34	42	1.347	1.018	0.332		-KBM 16h00m
TOTAL	2387	47.440	47.217	3.646	3.307	
CHECK		+0.339	+0.339			
RESULT	1/2 Δh				+0.339	

T_1 = ,°C
T_2 = ,°C
T_1 = ,°C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (x)

Date: 1983. 5. 15	Weather: pine	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						10h30m
1	42	0.431	1.646	.	1.215	NO 106
2	64	1.391	1.167	.	0.176	
3	68	1.339	1.432	.	0.193	
4	68	1.220	1.419	.	0.199	-2.014
5	74	1.268	1.411	.	0.143	
6	78	1.327	1.421	.	0.186	
7	74	1.443	1.102	0.341	.	
8	74	1.217	1.370	.	0.243	--- (4)
9	80	1.335	1.404	.	0.069	
10	82	1.385	1.387	.	0.002	
11	74	1.455	1.412	0.043	.	
12	72	1.340	1.441	.	0.101	
13	78	1.411	1.380	0.031	.	
14	78	1.010	1.692	.	0.682	-0.147
15	42	1.496	1.498	.	0.002	
16	74	1.271	1.448	.	0.177	
17	86	1.720	1.410	0.310	.	
18	68	1.160	1.450	.	0.290	
19	42	1.212	0.820	0.392	.	
20	30	1.000	1.000	0.000	.	--- NO 107-1 12h40m
TOTAL	1358	24.189	27.750	1.117	3.678	
CHECK	1358					
	2783		-3.561	-3.561		
RESULT	1/2 Δh				-2.561	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = — ( ) : S.P.

NO 106 — -2.014 — 4 — -0.147 — NO 107-1
+2.010 +0.141
-0.004 -0.006

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (II)

Date: 1983. 6. 15	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST. (m)	SCALE BACK-SIGHT (m)	SCALE FORE-SIGHT (m)	DIFFERENCE + (m)	DIFFERENCE − (m)	REMARKS
						NO 107-1 13h00
1	72	0.822	0.906		0.084	
2	62	0.982	1.315		0.333	
3	62	1.486	1.212	0.276		
4	70	1.324	1.998		0.674	
5	74	1.996	1.548	0.448		
6	82	1.460	1.415	0.045		
7	76	1.450	1.046	0.494		+0.541
8	80	1.391	1.387	0.004		
9	72	1.429	1.449	0.020		
10	64	1.420	1.401	0.019		
11	70	1.369	1.352	0.017		
12	68	1.424	1.429		0.004	(4)
13	62	1.347	1.451		0.104	
14	72	1.449	1.396	0.053		
15	70	1.326	1.380		0.054	
16	74	1.441	1.402	0.039		
17	81	1.400	1.240	0.160		
18	68	1.449	1.248	0.201		+2.010
19	72	1.400	1.251	0.149		
20	64	1.442	1.319	0.123		
21	28	1.624	0.635	1.056		
22	12	1.498	1.498	0.000		NO 106 16h00m
TOTAL	1085	32.070	29.419	3.651	1.044	
CHECK			+2.651	+2.651		
RESULT	1/2 Δh				+2.651	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = − ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 5. 15	Weather: Fine	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	m	m	m	m	m	
1	64	0.359	1.394		1.047	No. 106 10h 14m
2	63	1.157	1.205		0.048	
3	67	1.191	1.402		0.211	
4	66	1.327	2.018		0.691	
5	70	1.254	2.022		0.768	-1.337
6	72	1.267	1.188	0.079		
7	68	1.353	1.453		0.098	
8	71	1.311	0.447	0.864		(1)
9	60	0.186	1.353		0.746	
10	65	1.377	1.070	0.307		
11	66	1.391	1.390	0.001		
12	72	1.315	1.324		0.009	-0.708
13	66	1.240	1.378		0.138	
14	69	1.198	1.362		0.164	
15	64	1.414	1.357	0.143		
16	67	1.312	1.616		0.304	(2)
17	74	1.774	1.289	0.486		
18	70	1.334	1.332		0.002	-0.077
19	65	1.326	1.397	0.071		
20	87	1.153	1.762		0.609	No. 105
21	90	1.307	1.188	0.119		
22	83	1.347	1.191	0.156		
23	70	1.311	1.326	0.015		
24	65	1.111	1.586		0.475	
25	71	1.470	1.816	0.346		+0.712
26	70	1.389	1.368	0.021		
27	68	1.311	1.351		0.040	
28	66	1.384	1.524	0.140		(3)
29	65	1.151	1.370		0.219	
30	74	1.340	1.385		0.045	
31	73	1.159	1.329		0.170	
32	70	1.287	1.101		0.186	
TOTAL	2190	41.437	43.613	3.377	1.140	
CHECK			-2.176	-2.176		
RESULT	1/2 Δh					

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = — ( ) : S.P.

FIELD SHEETS OF SECOND ORDER LEVELING

ROUTE ( ) FROM TO (I)

Date: 5. 15	Weather:	File page No.
Instrument:	Rods:	
Observer:	Checked:	

PT.	DIST.	SCALE BACK-SIGHT	SCALE FORE-SIGHT	DIFFERENCE +	DIFFERENCE −	REMARKS
	2190 m	41.437 m	40.613 m	0.377 m	5.453 m	
32	72	1.481	1.067	0.364		
33	70	1.541	1.236	0.305		+0.052
34	71	1.140	1.260		0.120	
35	70	1.367	1.196	0.171		
36	60	1.354	1.056	0.298		..... No 104 13h55m
TOTAL	2536	48.270	49.428	4.515	5.673	
CHECK	2579					
	5115		−1.158	−1.158		
RESULT	1/2 Δh				−1.158	

T_1 = , °C
T_2 = , °C
T_1 = , °C

FROM TO ( ) = −− ( ) : S.P.

No. 106 □ −1.337 (1) ○ −0.708 (2) ○ −0.077 No 105 □ +0.712 (3) ○ +0.252 □ No 104

+1.332 +0.708 +0.082 −0.714 −0.247

−0.005 ±0 +0.005 −0.002 +0.005