DATA BOOK
FOR
THE UPPER KRONG BUK IRRIGATION PROJECT
IN
THE UPPER SREPOK BASIN

THE REPUBLIC OF VIET-NAM

VOLUME-II

THE OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO

GOVERNMENT OF THE REPUBLIC OF VIET-NAM

DATA BOOK

FOR

THE UPPER KRONG BUK IRRIGATION PROJECT

IN

THE UPPER SREPOK BASIN

VOLUME – II

39年

THE OVERSEAS TECHNICAL COOPERATION AGENCY

TOKYO

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4. MAP OF AREA TRIANGULATION
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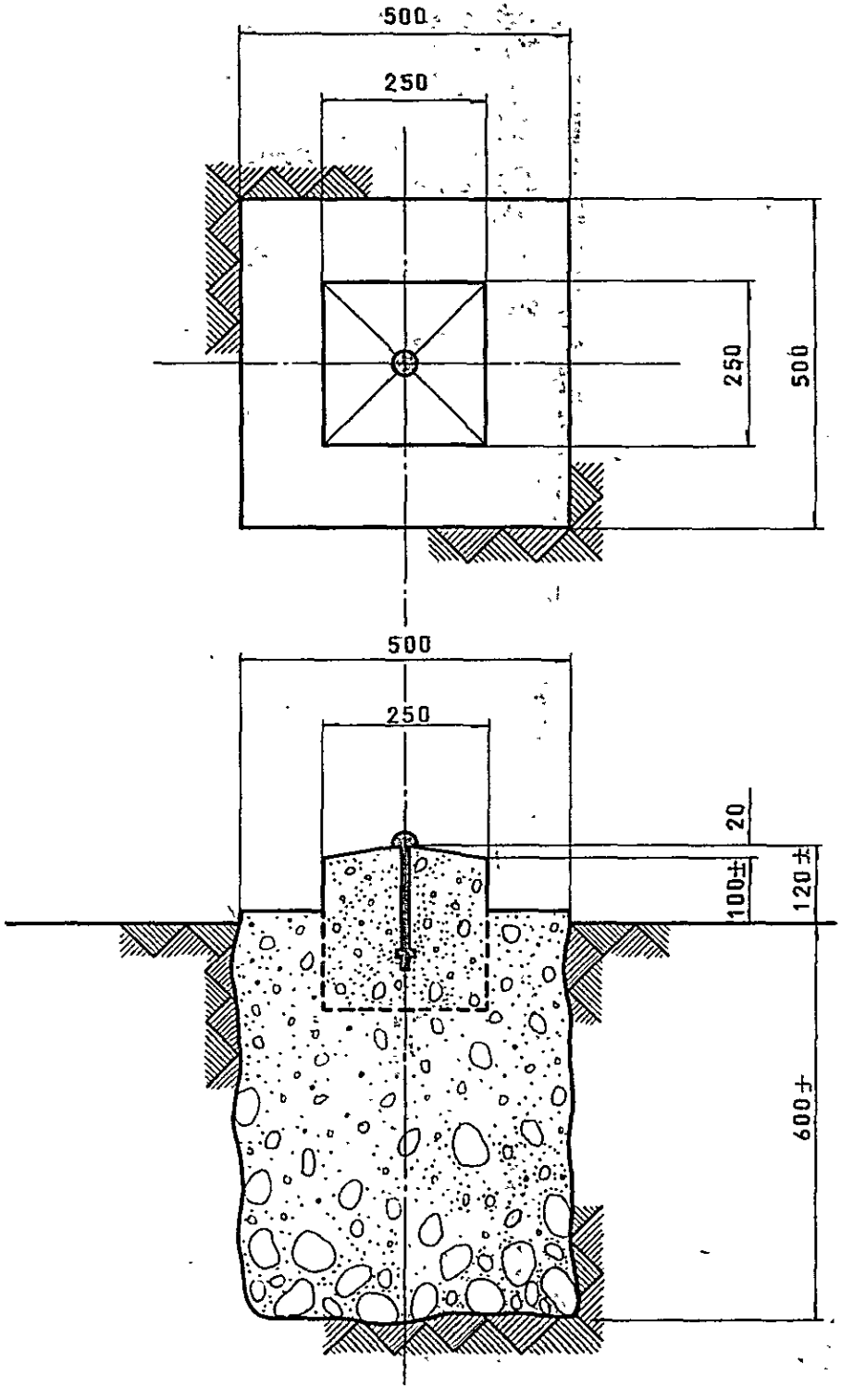
TYPICAL SIZE OF BENCH-MARK

Cast in place post



Unit in millimeters

LI

P

P

P

P

P

P

F

F

F

F

F

F

F

F

P-13

Ea Jung

P-12

Ea Tul

Ea Hlong

Hlong

P-11

P-10

P-9

P-8

P-7

P-6

Krong Nong

TP7

TP6

TP5

TP4

TP3

TP2

TP1

A-1

LM 200

A-2

A-3

A-4

A 5

A-6

A-7

C-18

C-17

C-16

C-15

C-14

C-13

C-12

C-11

C-10

C-9

C-8

C-7

C-6

C-5

C-4

C-3

C-2

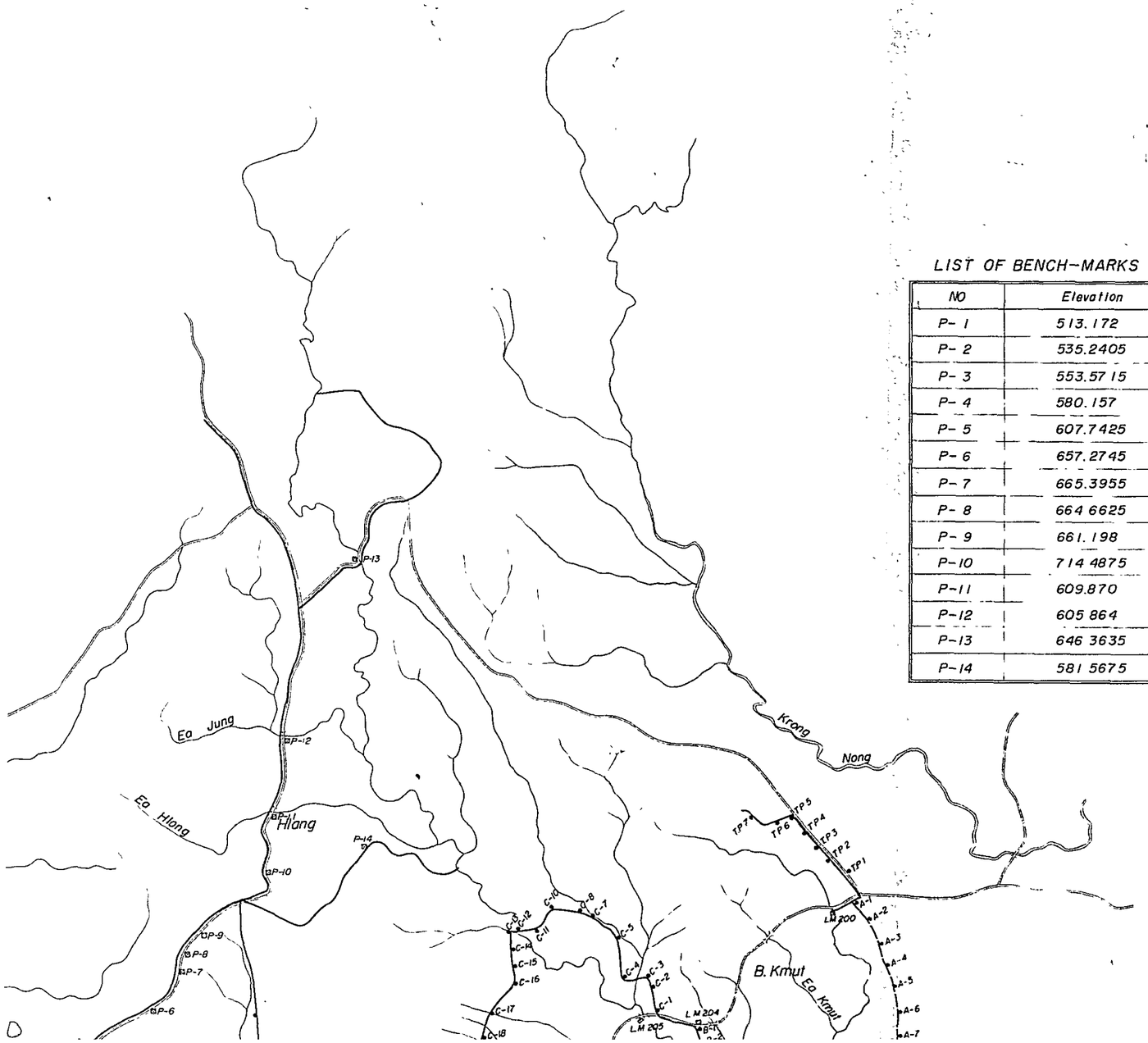
C-1

LM 205

LM 204

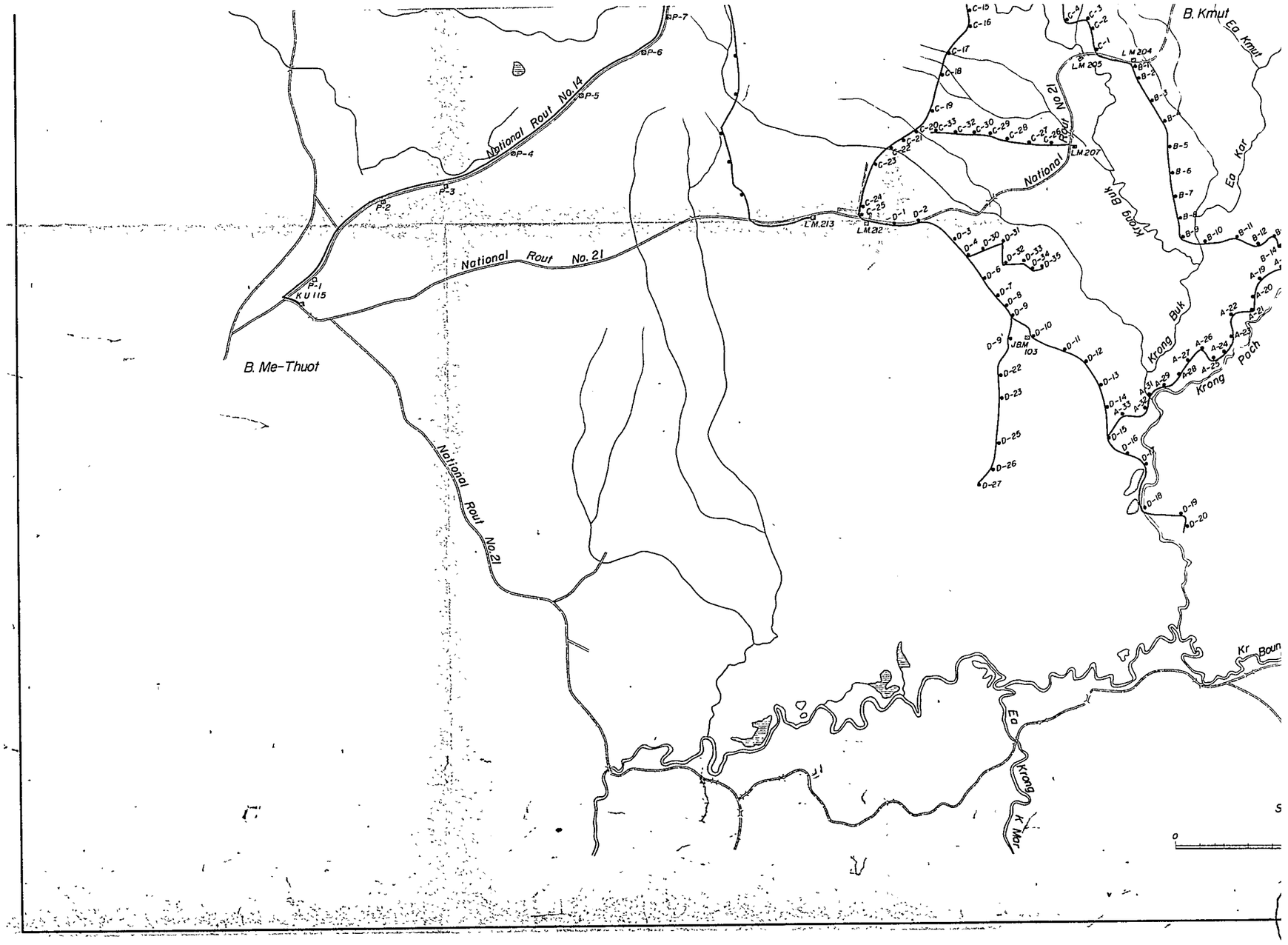
B. Kmut

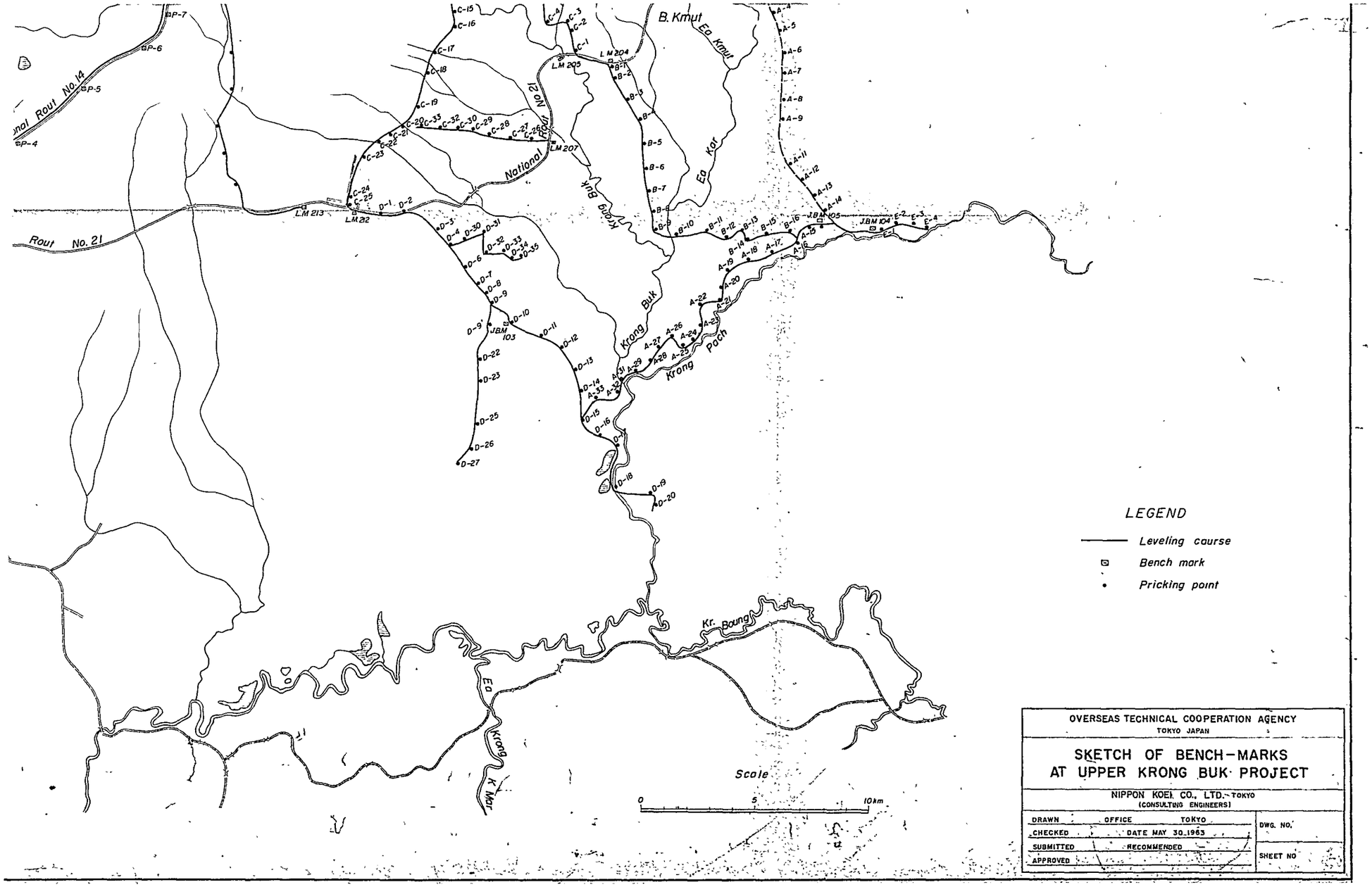
Ea Kmut



LIST OF BENCH-MARKS

NO	Elevation	No.	Elevation
P- 1	513. 172	So L.M. 200	474.3622
P- 2	535.2405	So. L.M 205	458 8897
P- 3	553.57 15	So L M 210	464.7367
P- 4	580. 157	So KU. 115	504 317
P- 5	607.7425	NKKB.M. 1	459.345
P- 6	657. 2745	J B M. 102	482 268
P- 7	665.3955	J.B M 103	453 836
P- 8	664 6625	J B M 104	451 602
P- 9	661. 198	J B M. 105	447.818
P-10	714 4875	J.B.M 106	442.791
P-11	609.870	J.B.M 107	442.834
P-12	605 864	So L M 213	565755
P-13	646 3635		
P-14	581 5675		


B. Me-Thuot
National Rout No. 14
National Rout No. 21
P-1
KU 115
P-2
P-3
P-4
P-5
P-6
P-7
LM.213
LM.22
C-24
C-25
D-1
D-2
C-23
C-22
C-21
C-20
C-33
C-32
C-30
C-29
C-28
C-27
C-26
C-19
C-18
C-17
C-16
C-15
LM 207
National Rout No 21
B. Kmut
Ea Kmut
LM 204
LM 205
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
B-10
B-11
B-12
Krong Buk
Ea Kar
D-3
D-4
D-30
D-31
D-32
D-33
D-34
D-35
D-6
D-7
D-8
D-9
D-9'
JBM 103
D-10
D-11
D-12
D-13
D-14
D-15
D-16
D-17
D-18
D-19
D-20
D-22
D-23
D-25
D-26
D-27
A-19
A-20
A-21
A-22
A-23
A-24
A-25
A-26
A-27
A-28
A-29
A-31
A-32
A-33
Krong Poch
Kr Boun
Ea Krong K Mar

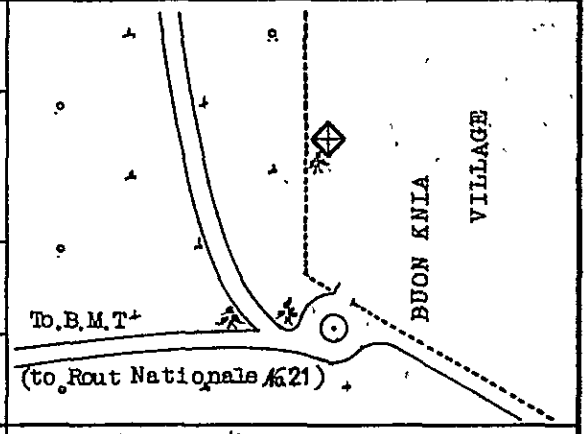
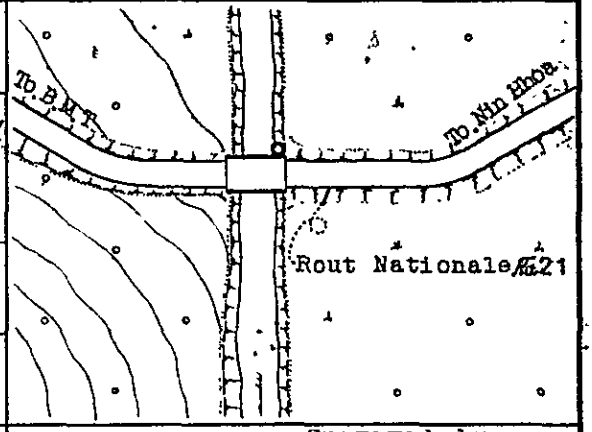
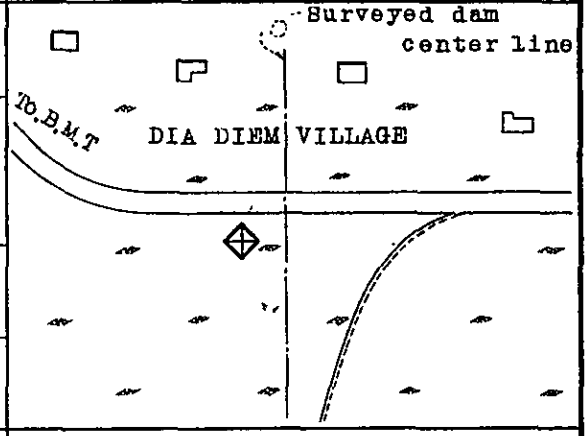
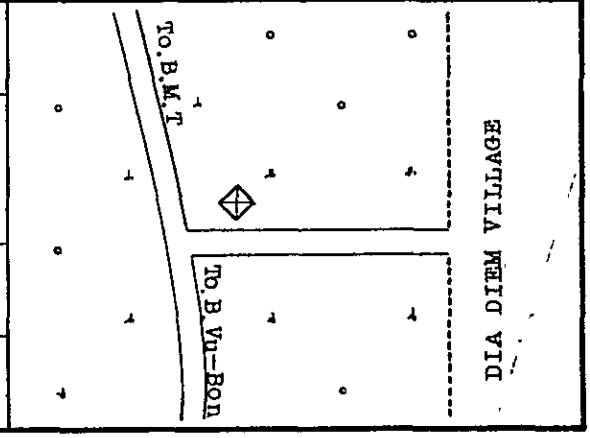


OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

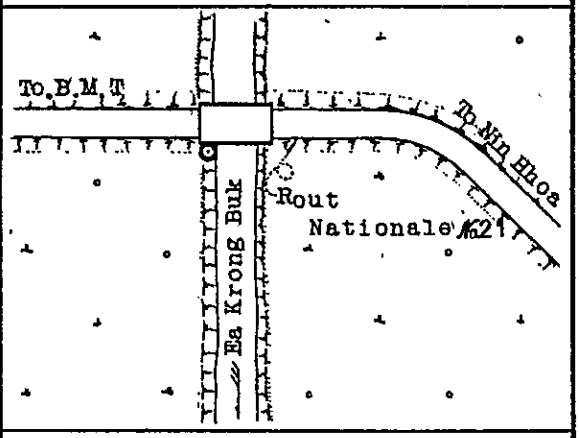
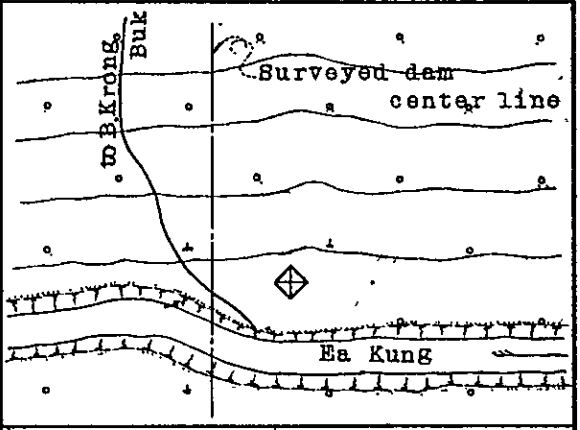
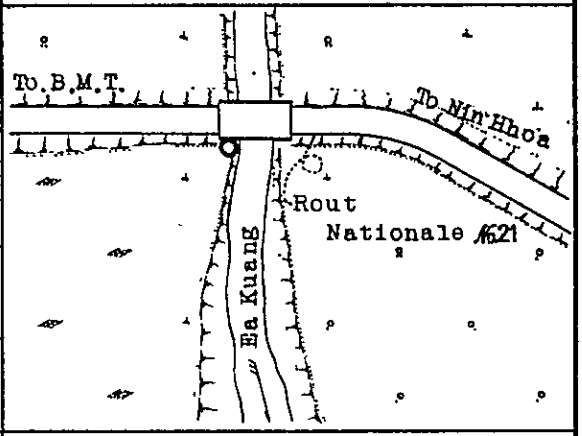
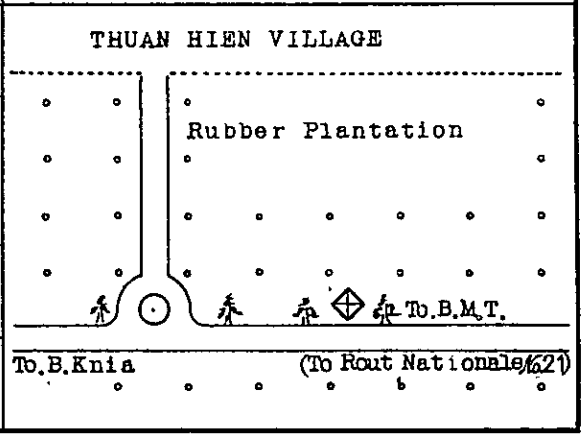
SKETCH OF BENCH-MARKS AT UPPER KRONG BUK PROJECT

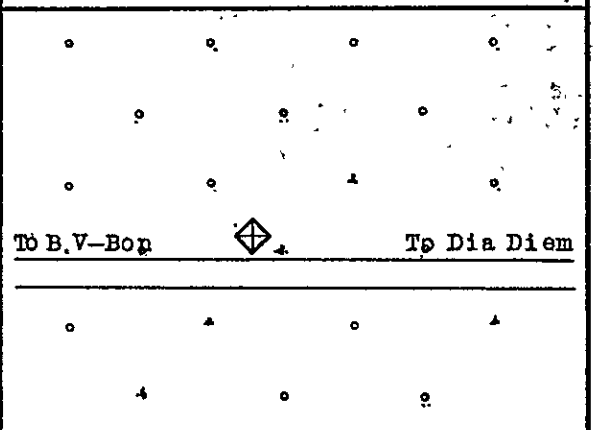
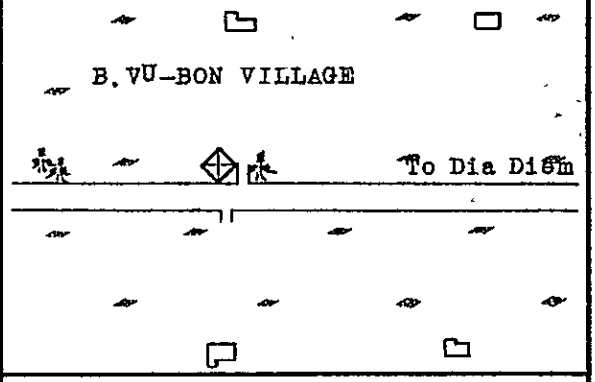
NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

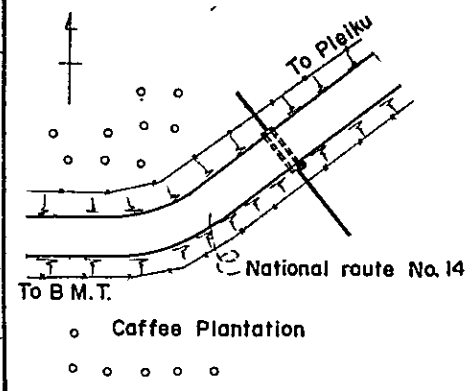
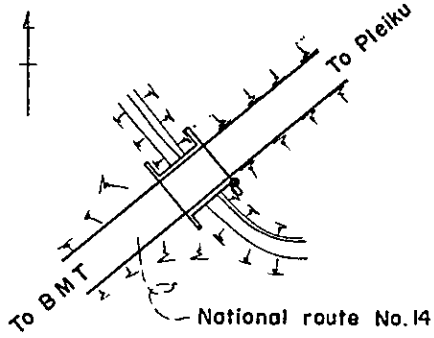
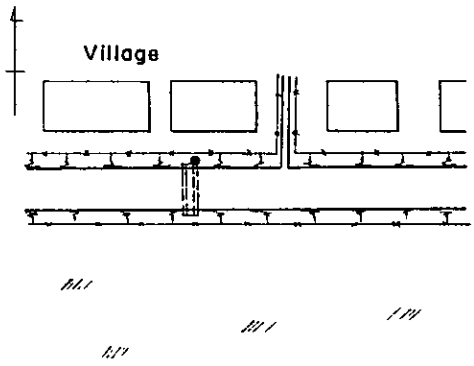
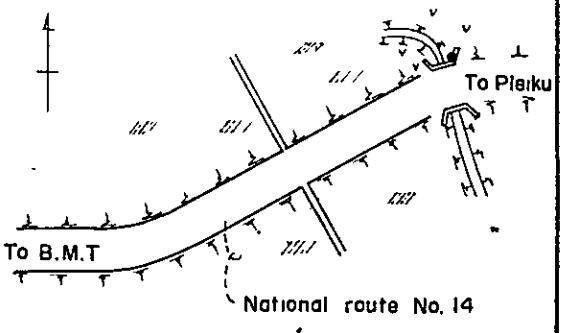
DRAWN	OFFICE TOKYO	DWG. NO.
CHECKED	DATE MAY 30,1963	
SUBMITTED	RECOMMENDED	SHEET NO
APPROVED		

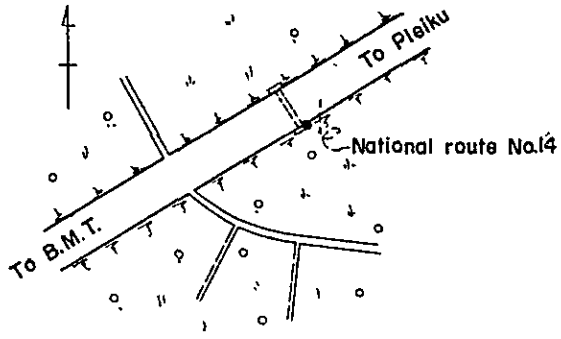
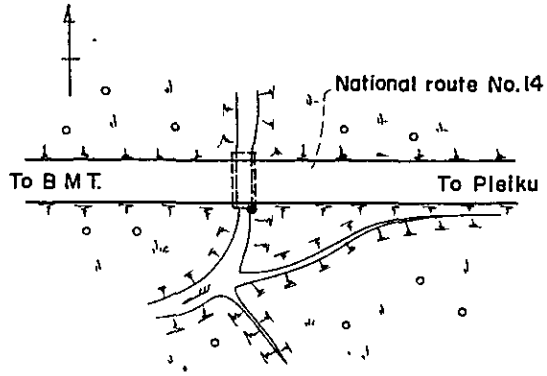
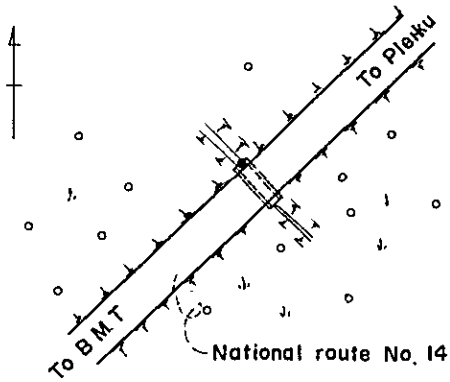
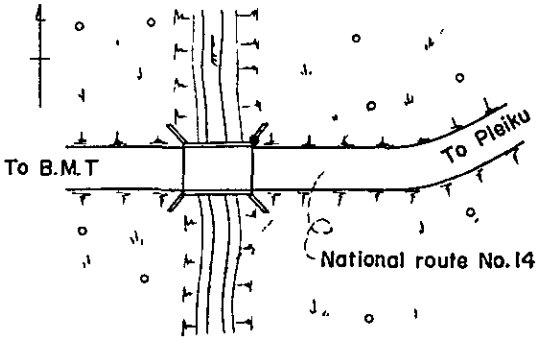
BM №	DESCRIPTIONS		SKETCH
J.B.M. 103	ELEVATION	453.836	
	LOCATION	Buon Knia	
	ESTABLISHED ON	28. April 1963	
	Concrete post cast in place		
So,L.M. 200	ELEVATION	474.3622	
J.B.M. 104	ELEVATION	451.602	
	LOCATION	Krong Pach Dam site (Dia Diem)	
	ESTABLISHED ON	26. April 1963	
	Concrete post cast in place		
J.B.M. 105	ELEVATION	447.818	
	LOCATION	Dia Dim	
	ESTABLISHED ON	26. April 1963	
	Concrete post cast in place		

RESULTS OF BENCH-MARKS

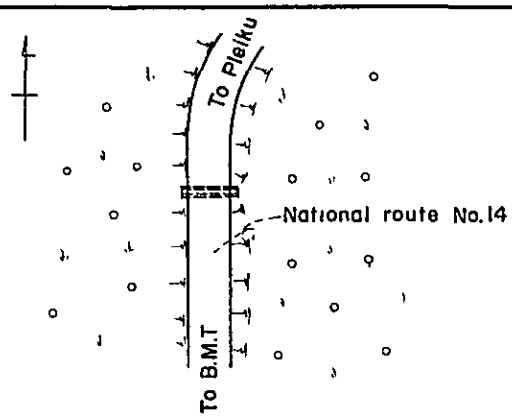
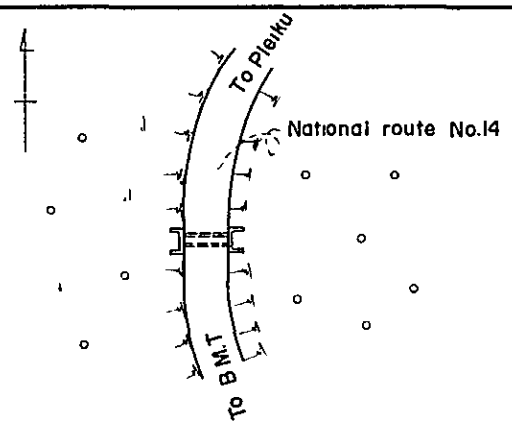
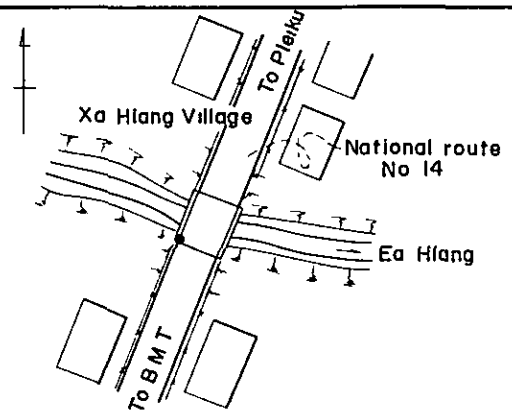
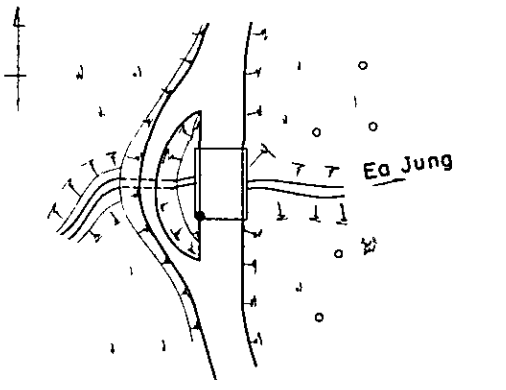
B M	DESCRIPTIONS		SKETCH
So,T.M. 205	ELEVATION	458.8897	
N.K.K. B.M. 1	ELEVATION	459.345	
	LOCATION	Krong Buk Dam site (B.Krong Buk)	
	ESTABLISHED ON	27. April 1963	
	Concrete post cast in Place		
So,LM. 210	ELEVATION	464.7367	
J.B.M. 102	ELEVATION	482.268	
	LOCATION	Thuan Hien	
	ESTABLISHED ON	28. April 1963	
	Concrete post cast in Place		

B M No.	DESCRIPTION		SKECH
J.B.M. 106	ELEVATION	442.791	
	LOCATION	Be Situated in the Scattered trees	
	ESTABLISHED ON	26.April 1963	
	Concrete Post cast in Place		
J.B.M. 107	ELEVATION	442.834	
	LOCATION	B,Vu-Bon	
	ESTABLISHED ON	25.April 1963	
	Concrete post cast in Place		

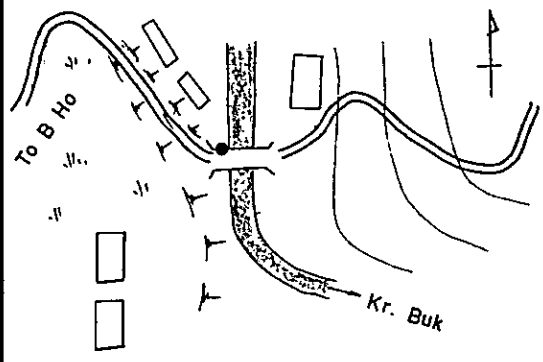
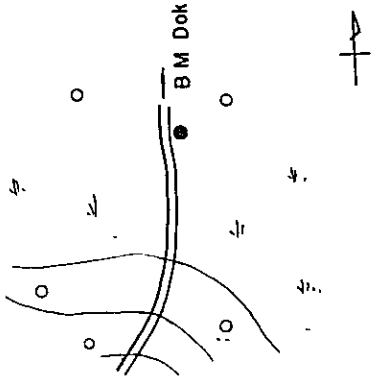
B. M. No.	DESCRIPTIONS		SKETCH
P – 1	ELEVATION	513.173	
	LOCATION		
	ESTABLISHED ON	23 – December – 1963	
	CARVED ELEVATION		
P – 2	ELEVATION	533.242	
	LOCATION		
	ESTABLISHED ON	23 – December – 1963	
	CARVED ELEVATION		
P – 3	ELEVATION	553.753	
	LOCATION		
	ESTABLISHED ON	24 – December – 1963	
	CARVED ELEVATION		
P – 4	ELEVATION	580 159	
	LOCATION		
	ESTABLISHED ON	24 – December – 1964	
	CARVED ELEVATION		

B. M. No.	DESCRIPTIONS		SKETCH
P – 5	ELEVATION	607.745	
	LOCATION		
	ESTABLISHED ON	24 – December – 1963	
	CARVED ELEVATION		
P – 6	ELEVATION	657.277	
	LOCATION		
	ESTABLISHED ON	24 – December – 1963	
	CARVED ELEVATION		
P – 7	ELEVATION	665.398	
	LOCATION		
	ESTABLISHED ON	27 – December – 1963	
	CARVED ELEVATION		
P – 8	ELEVATION	664 665	
	LOCATION		
	ESTABLISHED ON	27 – December – 1963	
	CARVED ELEVATION		

8

B. M. No.	DESCRIPTIONS		SKETCH
P – 9	ELEVATION	661.201	
	LOCATION		
	ESTABLISHED ON	30–December–1963	
	CARVED ELEVATION		
P – 10	ELEVATION	714.492	
	LOCATION		
	ESTABLISHED ON	30–December–1963	
	CARVED ELEVATION		
P – 11	ELEVATION	609.874	
	LOCATION		
	ESTABLISHED ON	5–January – 1964	
	CARVED ELEVATION		
P – 12	ELEVATION	605.868	
	LOCATION		
	ESTABLISHED ON	5–January – 1964	
	CARVED ELEVATION		

SKETCH OF BENCH MARK

B. M. No.	DESCRIPTIONS		SKETCH
P - 13	ELEVATION	646.363 M	
	LOCATION	On the wooden bridge	
	ESTABLISHED ON		
	CARVED ELEVATION		
P - 14	ELEVATION	588.515 M	
	LOCATION		
	ESTABLISHED ON	25 Jan 1964	
	CARVED ELEVATION		
	ELEVATION		
	LOCATION		
	ESTABLISHED ON		
	CARVED ELEVATION		
	ELEVATION		
	LOCATION		
	ESTABLISHED ON		
	CARVED ELEVATION		

1.0

N. K. Form No. 2625

RESULTS OF LEVELING

B.M.	DIFFERENCE OF ELEVATION				ELEVATION	REMARKS
	1	2	1 — 2	MEAN		
LM 205					458.8897	
TP	— 0.501	— 0.491	0.010	— 0.496	459.384	
NKKBM1	— 0.038	— 0.039	0.001	— 0.039	459.345	
LM 210					464.7367	
D — 2	+ 29.359	+ 29.352	0.007	+ 29.355	494.092	
〃 — 3	+ 0.372	+ 0.380	0.008	+ 0.376	494.468	
〃 — 4	— 6.529	— 6.533	0.004	— 6.531	487.937	
〃 — 5	— 7.073	— 7.079	0.006	— 7.076	480.861	
D — 6	+ 1.441	+ 1.443	0.002	+ 1.442	482.303	
JBM102	— 0.035	— 0.035	0.000	— 0.035	482.268	
D — 6					482.303	
〃 — 7	— 14.652	— 14.652	0.000	— 14.652	467.651	
〃 — 8	— 2.905	— 2.913	0.008	— 2.909	464.742	
D — 9	— 10.640	— 10.642	0.002	— 10.641	454.101	
JBM103	— 0.265	— 0.265	0.000	— 0.265	453.836	
LM 200					474.3622	
A — 1	+ 12.810	+ 12.811	0.001	+ 12.810	487.172	
〃 — 2	+ 12.215	+ 12.221	0.006	+ 12.218	499.390	
〃 — 3	— 20.265	— 20.216	0.004	— 20.263	479.127	
〃 — 4	— 13.656	— 13.646	0.001	— 13.651	465.476	
〃 — 5	— 4.256	— 4.249	0.007	— 4.253	461.223	
〃 — 6	— 0.830	— 0.841	0.011	— 0.836	460.387	
〃 — 7	— 3.109	— 3.138	0.029	— 3.124	457.263	
〃 — 8	+ 0.861	+ 0.833	0.028	+ 0.847	458.110	
〃 — 9	— 4.127	— 4.150	0.023	— 4.139	453.971	
〃 — 10	+ 0.351	+ 0.337	0.014	+ 0.344	454.315	
〃 — 12	+ 1.384	+ 1.391	0.007	+ 1.388	455.703	
〃 — 13	— 3.848	— 3.851	0.003	— 3.850	451.853	
A — 14	— 3.392	— 3.338	0.009	— 3.334	448.519	
JBM105	— 0.701	— 0.701	0.000	— 0.701	447.818	

B. M. No.	DIFFERENCE OF ELEVATION				ELEVATION	REMARKS
	1	2	1 - 2	MEAN		
A - 14					448.519	
No. 27	+ 5.638	+ 5.642	0.004	+ 5.640	454.159	
JBM 104	- 2.557	- 2.557	0.000	- 2.557	451.602	
A - 14					448.519	
" - 15	+ 1.018	+ 1.001	0.007	+ 1.010	449.529	
" - 16	- 5.366	- 3.380	0.014	- 5.373	446.156	
" - 17	- 2.292	- 2.294	0.002	- 2.293	443.863	
" - 18	+ 1.441	+ 1.436	0.005	+ 1.439	445.302	
A - 19	- 2.581	- 2.586	0.005	- 2.583	442.719	
JBM 106	+ 0.072	+ 0.071	0.001	+ 0.072	442.791	
A - 19					442.719	
" - 20	+ 0.011	+ 0.004	0.007	+ 0.008	442.727	
" - 21	- 1.075	- 1.065	0.001	- 1.070	441.657	
" - 22	- 1.065	- 1.599	0.006	- 1.602	440.055	
A - 23	+ 2.284	+ 2.290	0.006	+ 2.288	442.343	
JBM 107	+ 0.491	+ 0.491	0.000	+ 0.491	442.834	

RESULTS OF LEVELING

Course ... P

T. P. No.	DISTANCE	DIFFERENCE OF ELEVATION			ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
		1	2	MEAN				
KU-115							504.317	
Tem. B. M.		+ 0.461	+ 0.460	+ 0.460^{5}			504.377^{5}	
1		+ 2.558	+ 2.552	+ 2.555			507.332^{5}	
2		+ 5.839	+ 5.840	+ 5.839^{5}			513.172	P - 1
3		+ 7.790	+ 7.792	+ 7.791			520.963	
4		+ 9.400	+ 9.400	+ 9.400			530.363	
5		- 1.914	- 1.910	- 1.912			528.451	
6		+ 5.254	+ 5.251	+ 5.252^{5}			533.703^{5}	
7		+ 1.537	+ 1.537	+ 1.537			535.240^{5}	P - 2
8		+11.005	+11.013	+11.009			546.249^{5}	
9		+ 9.743	+ 9.743	+ 9.743			555.992^{5}	
10		- 2.422	- 2.420	- 2.421			553.571^{5}	P - 3
11		+12.474	+12.468	+12.471			566.042^{5}	
12		+ 8.146	+ 8.144	+ 8.145			574.187^{5}	
13		+ 6.514	+ 6.515	+ 6.514^{5}			580.702	
14		- 0.543	- 0.547	- 0.545			580.157	P - 4
15		+ 0.746	+ 0.741	+ 0.743^{5}			580.900^{5}	
16		+ 6.400	+ 6.403	+ 6.401^{5}			587.302	
17		+12.323	+12.317	+12.320			599.622	
18		- 3.940	- 3.939	- 3.939^{5}			595.682^{5}	
19		+ 1.441	+ 1.436	+ 1.438^{5}			597.121	
20		+ 4.743	+ 4.731	+ 4.737			601.858	
21		+ 5.887	+ 5.882	+ 5.884^{5}			607.742^{5}	P - 5
22		+ 8.099	+ 8.099	+ 8.099			615.841^{5}	
23		+24.645	+24.629	+24.637			640.478^{5}	
24		+17.797	+17.809	+17.803			658.281^{5}	
25		- 1.009	- 1.005	- 1.007			657.274^{5}	P - 6
26		+11.924	+11.942	+11.933			669.207^{5}	
27		- 3.811	- 3.813	- 3.812			665.395^{5}	P - 7
28		+ 9.259	+ 9.262	+ 9.260^{5}			674.656	
29		- 9.994	- 9.993	- 9.993^{5}			664.662^{5}	P - 8
30		+ 1.113	+ 1.106	+ 1.109^{5}			665.772	
31		- 4.568	- 4.580	- 4.574			661.198	P - 9
32		- 4.011	+ 4.007	+ 4.009			665.207	
33		+26.656	+26.673	+26.664^{5}			691.871^{5}	

RESULTS OF LEVELING

T. P. No.	DISTANCE	DIFFERENCE OF ELEVATION			ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
		1	2	MEAN				
33							691.871[5]	
34		+30.108	+30.095	+30.101[5]			721.973	
35		+44.906	+44.921	+44.913[5]			766.886[5]	
36		- 7.853	- 7.875	- 7.864			759.022[5]	
37		-44.547	-44.523	-44.535			714.487[5]	P - 10
38		-30.593	-30.609	-30.601			683.886[5]	
39		-34.256	-34.272	-34.264			649.622[5]	
40		-15.203	-15.209	-15.206			634.416[5]	
41		-24.539	-24.554	-24.546[5]			609.870	P - 11
42		+14.158	+14.156	+14.157			624.027	
43		+ 7.973	+ 7.975	+ 7.974			632.001	
44		- 6.071	- 6.065	- 6.068			625.933	
45		-20.069	-20.069	-20.069			605.864	P - 12
46		+34.314	+34.319	+34.316[5]			640.180[5]	
47		+ 9.253	+ 9.262	+ 9.257[5]			649.438	
48		+21.602	+21.600	+21.601			671.039	
49		+10.712	+10.719	+10.715[5]			681.754[5]	
50		+15.909	+15.916	+15.912[5]			697.667	
51		+28.185	+28.192	+28.188[5]			725.855[5]	
52		- 5.114	- 5.115	- 5.114[5]			720.741	
53		- 7.071	- 7.070	- 7.070[5]			713.670[5]	
55		- 3.500	- 3.490	- 3.495			710.175[5]	
56		+ 6.380	+ 6.381	+ 6.380[5]			716.556	
57		+22.202	+22.208	+22.205[5]			738.761[5]	
58		+23.518	+23.519	+23.518[5]			762.279[5]	
59		+14.502	+14.504	+14.503			776.782[5]	
60		+15.238	+15.235	+15.236[5]			792.019	

RESULTS OF LEVELING

T. P. No.	DISTANCE	DIFFERENCE OF ELEVATION			ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
		1	2	MEAN				
50							697.667	
50-1		-6.358	-6.351	-6.354[5]			691.213[5]	
-2		-32.255	-32.260	-32.257[5]			658.956	
-3		-12.594	-12.591	-12.592[5]			646.363[5]	P - 13
-4		+21.689	21.6[illegible]7	+21.688			668.051[5]	
-5		+19.671	+19.672	+19.671[5]			687.723	
-6		+ 5.543	+5.547	+ 5.545			693.268	
-7		+16.404	+16.406	+16.405			709.673	
-8		+22.009	+22.005	+22.007			731.680	
-9		+ 8.153	+ 8.148	+ 8.151[5]			739.831[5]	
-10		+ 1.709	+ 1.717	+ 1.713			741.544[5]	
-11		- 7.396	- 7.389	- 7.392[5]			734.152	
-12		- 3.330	- 3.329	- 3.329[5]			730.822[5]	
-13		- 6.662	- 6.669	- 6.695[5]			724.127	
-14		- 0.322	- 0.323	- 0.322[5]			723.804[5]	
-15		- 9.981	- 9.976	- 9.978[5]			713.826	
-16		- 1.641	- 1.644	- 1.642[5]			712.183[5]	
-17		-22.434	-22.424	-22.429			689.754[5]	

RESULTS OF LEVELING

T. P. No.	DISTANCE	DIFFERENCE OF ELEVATION			ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
		1	2	MEAN				
36							759.022[5]	
36-1		-40.952	-40.948	-40.950			718.072[5]	
-2		-63.418	-63.411	-63.414[5]			654.658	
-3		+ 6.026	+ 6.029	+ 6.027[5]			660.685[5]	
-4		-24.780	-24.784	-24.782			635.903[5]	
-5		+37.930	-37.934	-37.932			673.835	
-6		-42.198	-42.198	-42.198			631.637[5]	
-7		-10.048	-10.047	-10.047[5]			621.590	
-8		-16.560	-16.557	-16.558[5]			605.029[5]	
-9		-16.515	-16.517	-16.516			588.513[5]	
-10		-25.815	-25.805	-25.810			562.703[5]	
-11		+18.864	+18.864	+18.864			581.567[5]	P - 14
-12		-28.276	-28.275	-28.275[5]			553.292	
-13		-17.346	-17.351	-17.348[5]			535.943[5]	
-14		- 9.908	- 9.903	- 9.905[5]			526.038	

RESULTS OF LEVELING (PRICKING)

COURSE ..... A

T. P. No.	DIFFERENCE OF ELEVATION				ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
	1	2	1 - 2	MEAN				
IM. 200							474.362	
A- 1	+12.810	+12.811	0.001	+12.810			487.172	
A- 2	+12.215	+12.221	0.006	+12.218			499.390	
A- 3	-20.265	- 0.261	0.004	-20.263			479.127	
A- 4	-13.656	- 3.646	0.010	-13.651			465.476	
A- 5	- 4.256	- 4.249	0.007	- 4.253			461.223	
A- 6	- 0.830	- 0.841	0.011	- 0.836			460.387	
A- 7	- 3.109	- 3.138	0.029	- 3.124			457.263	
A- 8	+ 0.861	+ 0.833	0.028	+ 0.847			458.110	
A- 9	- 4.127	- 4.150	0.023	- 4.139			453.971	
A-10	+ 0.351	+ 0.337	0.014	+ 0.344			454.315	
A-12	+ 1.384	+ 1.391	0.007	+ 1.388			455.703	
A-13	- 3.848	- 3.851	0.003	- 3.850			451.853	
A-14	- 3.329	- 3.338	0.009	- 3.334			448.519	
A-15	+ 1.018	+ 1.001	0.017	+ 1.010			449.529	
A-16	- 3.366	- 3.380	0.014	- 3.373			446.156	
A-17	- 2.292	- 2.294	0.002	- 2.293			443.863	
A-18	+ 1.441	+ 1.436	0.005	+ 1.439			445.302	
A-19	- 2.581	- 2.586	0.005	- 2.583			442.719	
A-20	+ 0.011	+ 0.004	0.007	+ 0.008			442.727	
A-21	- 1.075	- 1.065	0.010	- 1.070			441.657	
A-22	- 1.605	- 1.599	0.006	- 1.605			440.055	
A-23	+ 2.284	+ 2.290	0.006	+ 2.284			442.343	
A-24	+ 1.084	+ 1.094	0.010	+ 1.094			443.442	
A-25	- 4.901	- 4.902	0.001	- 4.901			438.540	
A-26	+ 1.151	+ 1.134	0.017	+ 1.141			439.683	
A-27	- 1.840	- 1.838	0.002	- 1.830			437.844	
A-28	- 0.523	- 0.521	0.002	- 0.523			437.322	
A-29	+ 0.895	+ 0.894	0.001	+ 0.895			438.217	
A-31	- 0.066	- 0.066	0.000	- 0.066			438.151	
A-32	- 2.580	- 2.576	0.004	- 2.570			435.573	

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T. P. No.	DIFFERENCE OF ELEVATION				ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
	1	2	1 - 2	MEAN				
A 32							435.573	
A 33	+ 1.990	+ 1.999	0.009	+ 1.995			437.568	
D 15	+ 4.451	+ 4.464	0.013	+ 4.458			442.026	
	+41.946	+41.909		+41.842				
	-74.249	-74.301		-74.578				
	-32.303	-32.392	0.089	-32.336				

COURSE ..... B

T.P. No.	DIFFERENCE OF ELEVATION				ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
	1	2	1 - 2	MEAN				
LM 205							458.890	
O1	+11.210	11.203	0.007	+11.207	0.003	+11.204	470.094	
B1	- 0.266			- 0.266	4	- 0.270	469.824	
B2	- 3.862	3.850	0.012	- 3.856	3	- 3.859	465.965	
B3	- 2.877	2.867	0.010	- 2.872	4	- 2.876	463.089	
B4	+ 1.107	1.091	0.016	+ 1.099	3	+ 1.096	464.185	
B5	- 6.598	6.593	0.005	- 6.595	4	- 6.599	457.586	
B6	- 6.725	6.715	0.010	- 6.720	3	- 6.723	450.863	
B7	- 1.930	1.935	0.005	- 1.933	4	- 1.937	448.926	
B8	- 5.5.538	5.540	0.002	- 5.539	3	- 5.542	443.384	
B9	- 4.264	4.272	0.008	- 4.268	4	- 4.272	439.112	
T.P.	- 1.543			- 1.543	3	- 1.546	437.566	
B10	+ 1.636			+ 1.636	4	+ 1.632	439.198	
B11	+ 4.599			+ 4.599	3	+ 4.596	443.794	
B12	- 0.439			- 0.439	4	- 0.443	443.351	
B13	+ 4.089			+ 4.089	3	+ 4.086	447.437	
B14	- 0.002			- 0.002	4	- 0.006	447.431	
B15	- 0.258			- 0.258	3	- 0.261	447.170	
B16	+ 2.725			+ 2.725	4	+ 2.721	449.891	
A17	- 3.732			- 3.732	3	- 3.735	446.156	
				+25.355			446.156	..... A16
				-38.023			458.890	..... LM 205
				-12.668	0.066		-12.734	

COURSE ..... σ

T. P. No.	DIFFERENCE OF ELEVATION				ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
	1	2	1 - 2	MEAN				
O1							470.094	
O2	+26.022				0.005	+26.017	496.111	
O3	+ 0.697				5	+ 0.692	496.803	
O4	-34.626				4	-34.630	462.173	
O5	+ 9.510				5	+ 9.505	471.678	
O6	+20.913				5	+20.908	492.586	
O7	-22.650				5	-22.655	469.931	
O8	+ 3.026				5	+ 3.021	472.952	
O9	+ 4.988				4	+ 4.984	477.936	
O10	+26.646				5	+26.641	504.577	
O11	+ 8.718				5	+ 8.713	513.290	
O12	-28.275				5	-28.280	485.010	
O13	+17.345				5	+17.340	502.350	
O14	- 8.017				4	- 8.021	494.329	
O15	+25.478				5	+25.473	519.802	
O16	-26.804				5	-26.809	492.993	
O17	+19.106				5	+19.101	512.094	
O18	-16.429				5	-16.434	495.660	
O19	+33.012				4	+33.008	528.668	
O20	-36.833				5	-36.838	491.830	
				+195.461			491.830	
				-173.634			470.094	
				+ 21.827	0.091		+21.736	
					$3\sqrt{S}$	$=3\sqrt{19}$		
						$=0.03\times46$		
						$=0.120 > 0.091$ ..... Good		

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T. P. No.	DIFFERENCE OF ELEVATION				ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
	1	2	1 − 2	MEAN				
LM 207							449.202	
O-26	+ 6.195				0.003	+ 6.192	455.394	
O-27	+ 1.539				〃	+ 1.536	456.930	
O-28	+ 9.723				〃	+ 9.720	466.650	
O-29	+ 0.266				〃	+ 0.263	466.913	
O-30	− 0.960				〃	− 0.963	465.950	
O-31	+15.095				〃	+15.092	481.042	
O-32	+23.625				〃	+23.622	504.664	
O-20	−12.831				〃	−12.834	491.830	
O-21	+28.666				〃	+28.663	520.493	
O-22	+20.169				〃	+20.166	540.659	
O-23	+ 7.833				〃	+ 7.830	548.489	
O-24	− 4.241				〃	− 4.244	544.245	
O-25	+ 1.933				〃	+ 1.930	546.175	
LM 212	− 2.066				〃	− 2.069	544.106	
				+115.044			544.106	
				− 20.094			449.202	
				+ 19.946	0.042		+94.904	
				$3\sqrt{S}$ =	$3\sqrt{14}$			
				=	0.03×3.1			
				=	0.090 >	0.042 ……	Good	

2/

COURSE ..... D

T. P. No.	DIFFERENCE OF ELEVATION				ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
	1	2	1 - 2	MEAN				
LM 212							544.106	
D1	- 20.418			- 20.418	7	- 20.411	523.695	
D2	- 29.609			- 29.609	6	- 29.603	494.092	
D3	+ 0.372	0.380	0.008	+ 0.376	7	+ 0.383	494.475	
D4	- 6.529	6.533	0.004	- 6.531	7	- 6.524	487.951	
D5	- 7.073	7.079	0.006	- 7.076	7	- 7.069	480.882	
D6	+ 1.441	1.443	0.002	+ 1.442	6	+ 1.448	482.330	
D7	- 14.662	14.652	0.000	- 14.652	7	- 14.645	467.685	
D8	- 2.905	2.913	0.008	- 2.909	7	- 2.902	464.783	
D9	- 10.640	10.642	0.002	- 10.641	6	- 10.635	454.148	
D10	- 6.109			- 6.109	7	- 6.102	448.046	
D11	- 2.105			- 2.105	7	- 2.098	445.948	
D12	- 3.542			- 3.542	6	- 3.536	442.412	
D13	+ 1.198			+ 1.198	7	+ 1.205	443.617	
D14	+ 5.537			+ 5.537	7	+ 5.544	449.161	
D15	- 7.142			- 7.142	7	- 7.135	442.026	
				+ 8.553			442.026	..... D15
				-110.734			544.106	..... LM 212
				-102.181	0.101		-102.080	
				$3\sqrt{S}$	$= 3\sqrt{16}$			
					$= 0.03 \times 4$			
					$= 0.120 > 0.101$		.. Good	
D4							487.951	
D30	- 6.629	- 6.628	0.001	- 6.628			481.323	
D31	- 9.441	- 9.445	0.004	- 9.443			471.880	
D32	+ 3.708	+ 3.714	0.006	+ 3.711			475.591	

T. P. No.	DIFFERENCE OF ELEVATION				ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
	1	2	1 − 2	MEAM				
D33	−13.213	−13.212	0.001	−13.212			462.378	
D34	−10.096	−10.099	0.003	−10.098			452.281	
D35	− 3.172	− 3.173	0.002	− 3.172			449.109	
	+ 3.708	+ 3.714		− 3.711				
	−42.550	−42.557		−42.553				
	−38.842	−38.043	0.001	−38.842				
D15							442.026	
D16	− 8.213	− 8.205	0.008	− 8.209			433.817	
D17	+ 1.556	+ 1.557	0.001	+ 1.556			435.373	
D18	− 3.547	− 3.544	0.003	− 3.546			431.827	
D19	+ 3.591	+ 3.584	0.007	+ 3.588			435.415	
D20	+ 0.449	+ 0.448	0.001	+ 0.449			435.864	
C2−A	− 2.406	− 2.411	0.005	− 2.408			433.456	
	+ 5.596	+ 5.589		+ 5.593				
	−14.166	−14.160		−14.163				
	− 8.570	− 8.571	0.001	− 8.570				

T. P. No.	DIFFERENCE OF ELEVATION				ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
	1	2	1 - 2	MEAN				
D9							454.148	
D9′	- 3.688	- 3.684	0.004	- 3.686			450.462	
D21′	+ 7.663	+ 7.670	0.007	+ 7.666			468.128	
D21	-15.993	-15.992	0.001	-15.992			462.136	
D22	+ 2.957	+ 2.957	0.000	+ 2.957			465.093	
D23	- 1.450	- 1.452	0.002	- 1.451			463.642	
D24	+ 6.571	+ 6.563	0.008	+ 6.577			470.219	
D25	-11.271	-11.275	0.004	-11.273			458.946	
D26	- 6.532	- 6.542	0.000	- 6.537			452.409	
D27	- 2.645	- 2.653	0.008	- 2.649			449.760	
	+27.191	+27.190		+27.200				
	-31.579	-31.598		-31.588				
	- 4.388	- 4.408	0.020	- 4.388				

COURSE ..... E

T P. No.	DIFFERENCE OF ELEVATION				ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
	1	2	1-2	MEAN				
JBM 104							451.602	
E1	+ 4.745	+ 4.747	0.002	+ 4.746			456.348	
E2	+15.037	+15.040	0.003	+15.038			471.386	
E3	-24.829	-24.831	0.002	-24.830			446.556	
E4	+ 1.569	+ 1.566	0.003	+ 1.568			448.124	
△NOB -2	- 2.024	- 2.025	0.001	- 2.025			446.099	
	+21.351	+21.353		+21.352				
	-26.853	-26.856		-26.855				
	- 5.502	- 5.503	0.001	- 5.503				

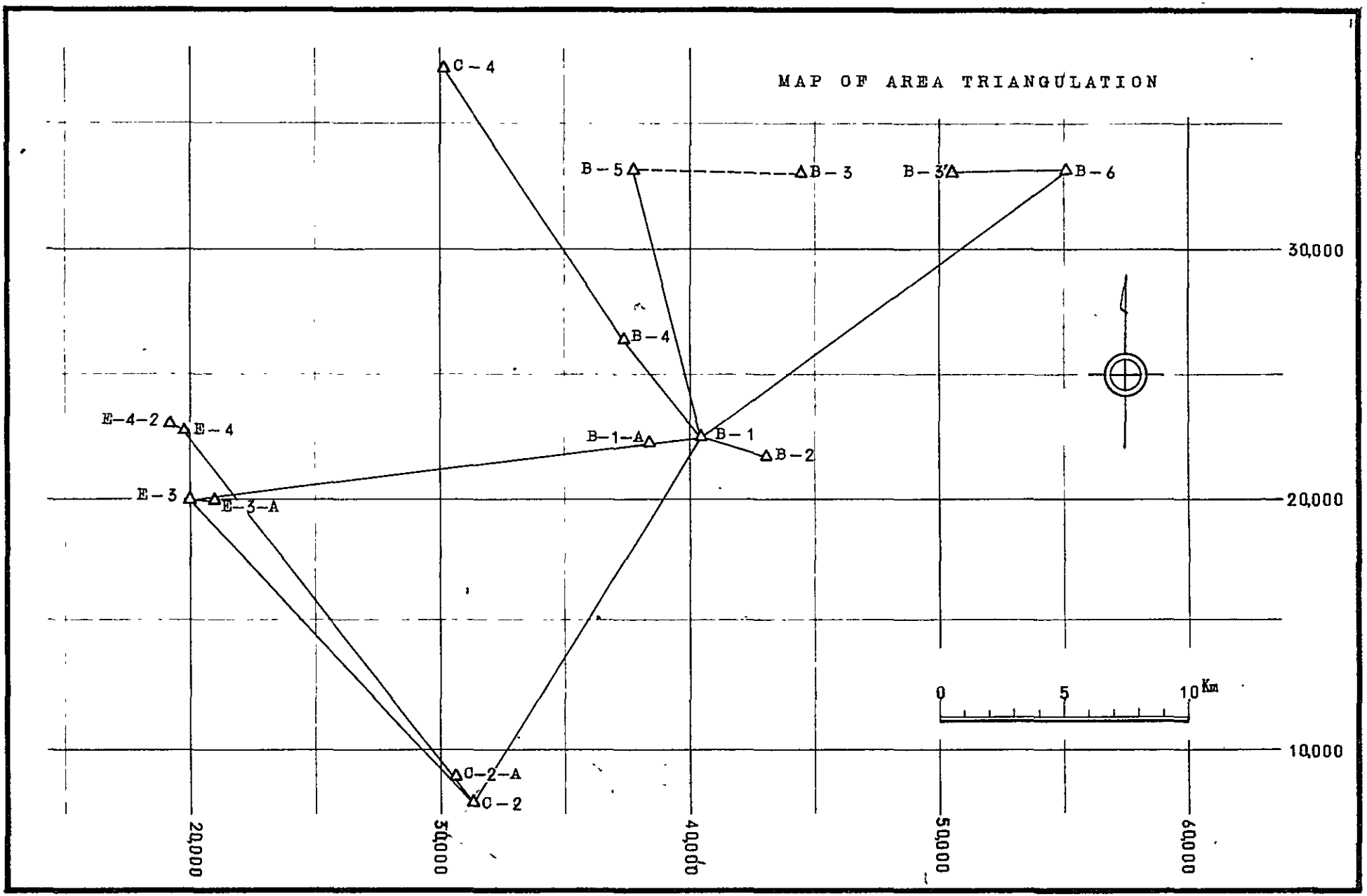
RESULTS OF LEVELING

Course - P

T. P. No.	DISTANCE	DIFFERENCE OF ELEVATION 1	2	MEAN	ADJUST	ADJUSTED DIFFERENCE	ELEVATION	REMARKS
3							520.963	
3-1		+8.891	+8.894	+ 8.892[5]			529.855[5]	
-2		-0.408	-0.396	- 0.402			529.453[5]	
-3		+9.951	+9.928	+ 9.939[5]			539.393	
-4		+2.100	+2.088	+ 2.094			541.487	
-5		+0.734	+0.734	+ 0.734			542.221	
P-10							714.487[5]	
T.P.1		+41.075			0.001	+41.074	755.561[5]	
2		-33.535			0.001	-33.536	722.025[5]	
3		-41.129			0.001	-41.130	680.895[5]	
4		-24.907			0	-24.907	655.988[5]	
5		- 8.213			0.001	- 8.214	647.774[5]	
6		- 4.381			0	- 4.381	643.393[5]	
7		- 0.170			0.001[5]	- 0.171[5]	643.222	
8		- 3.895			0.001	- 3.896	639.326	
9		-16.208			0	-16.208	623.118	
10		-13.113			0.001	-13.114	610.004	
11		-10.034			0.001	-10.035	599.969	
12		+ 9.195			0.001	- 9.194	609.163	
13		-28.494			0.001	-28.495	580.668	
L.M.213		-14.912			0.001	-14.913	565.755	
				50.270			714.487[5]	.. P-10
				-198.991			-565.755	..L.M.213
				148.721	0.011[5]		148.732[5]	
				3 $\sqrt{S}$ =	3 x	$\sqrt{14}$		
				=	0.03 x	3.74		
				=	0.112	> 0.011[5]	.... Good	

BASE POINTS DATA

POINT No.	COORDINATE		ELEVATION	REMARKS
	LAT. (X)	DEP. (Y)	H	
△No.B-1	+ 22.459.93	+ 40.543.76	589.20	
◇ B-1-A	+ 22.293.16	+ 38.400.98	450.47	
◇ B-2	+ 21.723.79	+ 43.084.09	446.10	
◇ B-3	+ 33.143.16	+ 44.452.04	465.05	
◇ B-3'	+ 33.097.96	+ 50.551.93	436.68	
◇ B-4	+ 26.419.16	+ 37.384.91	454.25	
◇ B-5	+ 33.213.13	+ 37.798.03	467.33	
◇ B-6	+ 33.146.00	+ 55.064.21	518.74	
◇ C-2	+ 7.874.21	+ 31.252.83	548.52	
◇ C-2-A	+ 8.925.29	+ 30.574.79	433.44	
◇ C-4	+ 37.091.78	+ 30.190.12	538.79	
◇ E-3	+ 20.000.00	+ 20.000.00	516.10	
◇ E-3-A	+ 20.041.47	+ 20.952.01	471.76	
◇ E-4	+ 22.667.92	+ 19.798.33	507.96	
◇ E-4-2	+ 22.933.06	+ 19.196.71	494.33	


MAP OF AREA TRIANGULATION
C – 4
B – 5
B – 3
B – 3'
B – 6
B – 4
E – 4 – 2
E – 4
B – 1 – A
B – 1
B – 2
E – 3
E – 3 – A
C – 2 – A
C – 2
30,000
20,000
10,000
20,000
30,000
40,000
50,000
60,000
0
5
10 Km

COMPUTATION OF TRIANGULATION

TRIANGULATION POINT	X = + Km 20 m 00000 cm	OBSERVER:	SKETCH
	Y = + 20,00000	RECORDER:	
ℳ E-3	H = 51610	COMPUTER:	

ANGLE / DIRECTION / STATION				1 MAGNETIC NORTH $O_1 = P_1$	2 ℳ B-1 $O_2 = P_2$	3 ℳ E-3-A $O_3 = P_3$	4 ℳ O-2 $O_4 = P_4$	5 $O_5 = P_5$
$B_0 = O_0$ / $B_0 = P_0$ / $O_0 = P_0$	HORIZONTAL ANGLE OBSERVATION	I	P.	0°0'0"	83°10'22"	87°30'17"	137°8'16"	
			L.	0	19	23	20	
		II	R.	0	23	15	18	
			L.	0	18	24	19	
		III	R.					
			L.					
	MEAN			0 0 0	83 10 20	87 30 20	137 8 18	
ECCENTRIC CORRECTION	ANGLE STATION							
	TARGET							
CORRECTION NUMBER TO ZERO								
SUMMATION OF CORRECTION								
DIRECTION ANGLE AT CENTRAL POINT								
INCLUDED ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
STANDARD ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
DIRECTION ANGLE								
DIRECTION ANGLE	APPROX. MEAN							
	MEAN							
SIDE LENGTH	APPROX.							
	MEAN							
SIDE LENGTH (FROM TO) ECCENTRIC POINT					-			
VERTICAL ANGLE				° ' "	+0°7'56"	-2°40'10"	+0°3'48"	
SKETCH OF TARGET								
TARGET HEIGHT				m cm	m cm 685	m cm 138	m cm 864	m cm
INSTRUMENT HEIGHT					138	138	138	
PAGE TO BE REFFERRED	HORIZONTAL ANGLE	OBSERVATION						
		ECCENTRICITY	I					
			II					
	VERTICAL ANGLE							
	TARGET HEIGHT							
	DIRECTION ANGLE SIDE LENGTH	APPROX						
		ACCURATE						
		ECCENTRIC POINT						

TAGET AND INSTRUMENT HEIGHT; HEIGHT FROM STONE (PEG) MARKER

B; CENTER OF ANGLE STATION O; CENTER OF STONE (PEG) MARKER P; CENTER OF TARGET

TRIANGULATION POINT	X= + 22,45993 (Km m cm)	OBSERVER:	SKETCH
	Y= 40,54376	RECORDER:	
№ B - 1	H= 58920	COMPUTER:	

DIRECTION / ANGLE STATION				1 № C - 2 $O_1 == P_1$	2 № E - 3 $O_2 == P_2$	3 № B-1-A $O_3 == P_3$	4 № B - 4 $O_4 == P_4$	5 № C - 4 $O_5 == P_5$
$B_0 == C_0$ $B_0 == P_0$ $C_0 == P_0$	HORIZONTAL ANGLE OBSERVATION	I	R.	0° 0' 0"	50°40'15"	53° 3' 4"	108°55' 2"	117°13' 7"
			L.	0	22	3	1	7
		II	R.	0	20	6	2	0
			L.	0	20	6	3	6
		III	R.					
			L.					
	MEAN			0 0 0	50 40 19	53 3 5	108 55 2	112 13 5
ECCENTRIC CORRECTION	ANGLE STATION							
	TARGET							
CORRECTION NUMBER TO ZERO								
SUMMATION OF CORRECTION								
DIRECTION ANGLE AT CENTRAL POINT								
INCLUDED ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
STANDARD ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
DIRECTION ANGLE								
DIRECTION ANGLE	APPROX. MEAN							
	MEAN							
SIDE LENGTH	APPROX.							
	MEAN							
SIDE LENGTH (FROM TO) ECCENTRIC POINT								
VERTICAL ANGLE				-0°10'43"	-0°16' 0"	-3°42'18"	-1°29'34"	-0°19'58"
SKETCH OF TARGET								
TARGET HEIGHT				m cm 643	m cm 835	m cm 138	m cm 642	m cm 639
INSTRUMENT HEIGHT				139	138	138	138	138
PAGE TO BE REFFERRED	HORIZONTAL ANGLE	OBSERVATION						
		ECCENTRICITY	I					
			II					
	VERTICAL ANGLE							
	TARGET HEIGHT							
	DIRECTION ANGLE SIDE LENGTH	APPROX						
		ACCURATE						
		ECCENTRIC POINT						

TARGET AND INSTRUMENT HEIGHT: HEIGHT FROM STONE(PEG)MARKER

B; CENTER OF ANGLE STATION C; CENTER OF STONE(PEG)MARKER P; CENTER OF TARGET

TRIANGULATION POINT	X= + Km 22,45993 m cm	OBSERVER:	SKETCH
Mk B - 1	Y= + 40,54376	RECORDER:	
	H= 58920	COMPUTER:	

ANGLE / STATION \ DIRECTION				1 Mk B-5 $O_1 == P_1$	2 Mk B-6 $O_2 == P_2$	3 Mk B-2 $O_3 == P_3$	4 $O_4 == P_4$	5 $O_5 == P_5$
	HORIZONTAL ANGLE OBSERVATION	I	R.	133° 10' 39"	201° 9' 2"	253° 39' 43"	° ' "	° ' "
			L.	41	6	48		
		II	R.	39	4	41		
			L.	43	3	44		
		III	R.					
			L.					
	MEAN			133 10 40	201 9 4	253 39 44		
ECCENTRIC CORRECTION	ANGLE STATION							
	TARGET							
CORRECTION NUMBER TO ZERO								
SUMMATION OF CORRECTION								
DIRECTION ANGLE AT CENTRAL POINT								
INCLUDED ANGLE	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "		
STANDARD ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
DIRECTION ANGLE								
DIRECTION ANGLE	APPROX. MEAN							
	MEAN							
SIDE LENGTH	APPROX.							
	MEAN							
SIDE LENGTH (FROM TO) ECCENTRIC POINT								
VERTICAL ANGLE				- 0° 38' 42"	- 0° 16' 38"	- 2° 57' 8"	° ' "	° ' "
SKETCH OF TARGET								
TARGET HEIGHT				m cm 713	m cm 767	m cm 864	m cm	m cm
INSTRUMENT HEIGHT				138	138	138		
PAGE TO BE REFERRED	HORIZONTAL ANGLE	OBSERVATION						
		ECCENTRICITY	I					
			II					
	VERTICAL ANGLE							
	TARGET HEIGHT							
	DIRECTION ANGLE SIDE LENGTH	APPROX						
		ACCURATE						
		ECCENTRIC POINT						

TARGET AND INSTRUMENT HEIGHT: HEIGHT FROM STONE (PEG) MARKER

B; CENTER OF ANGLE STATION C; CENTER OF STONE (PEG) MARKER P; CENTER OF TARGET

TRIANGULATION POINT	+ Km 33 m 21 cm 13	OBSERVER:	SKETCH
	+ 37,79803	RECORDER:	
ℳ B - 5	46733	COMPUTER:	

ANGLE \ DIRECTION / STATION				1 ℳ B - 1 $O_1 == P_1$	2 ℳ B - 5 - 1 $O_2 == P_2$	3 $O_3 == P_3$	4 $O_4 == P_4$	5 $P_5 == P_5$
$B_0 == O_0$ $B_0 == P_0$ $O_0 == P_0$	HORIZONTAL ANGLE OBSERVATION	I	R.	0° 0' 0"	235° 19' 6"	° ' "	° ' "	° ' "
			L.	0	2			
		II	R.	0	2			
			L.	0	6			
		III	R.					
			L.					
	MEAN			0 0 0	235 19 4			
ECCENTRIC CORRECTION	ANGLE STATION							
	TARGET							
CORRECTION NUMBER TO ZERO								
SUMMATION OF CORRECTION								
DIRECTION ANGLE AT CENTRAL POINT								
INCLUDED ANGLE	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "		
STANDARD ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
DIRECTION ANGLE								
DIRECTION ANGLE	APPROX. MEAN							
	MEAN							
SIDE LENGTH	APPROX.							
	MEAN							
SIDE LENGTH (FROM TO) ECCENTRIC POINT								
VERTICAL ANGLE				+ 0° 36' 40"	+ 1° 12' 40"	° ' "	° ' "	° ' "
SKETCH OF TARGET								
TARGET HEIGHT				m cm 683	m cm 138	m cm	m cm	m cm
INSTRUMENT HEIGHT				138	138			
PAGE TO BE REFFERRED	HORIZONTAL ANGLE	OBSERVATION						
		ECCENTRICITY	I					
			II					
	VERTICAL ANGLE							
	TARGET HEIGHT							
	DIRECTION ANGLE SIDE LENGTH	APPROX						
		ACCURATE						
		ECCENTRIC POINT						

TARGET AND INSTRUMENT HEIGHT: HEIGHT FROM STONE (PEG) MARKER

B; CENTER OF ANGLE STATION O; CENTER OF STONE (PEG) MARKER P; CENTER OF TARGET

TRIANGULATION POINT	X = + 35,14600 Km m cm	OBSERVER:	SKETCH
	Y = 55,06421	RECORDER:	
№ B - 6	H = 51874	COMPUTER:	

ANGLE / DIRECTION / STATION				№ B - 1 $O_1 == P_1$	№ B - 3' $O_2 == P_2$	$O_3 == P_3$	$O_4 == P_4$	$O_5 == P_5$
$B_0 == O_0$ $B_0 == P_0$ $O_0 == P_0$	HORIZONTAL ANGLE OBSERVATION	I	R.	0 ° 0 ' 0 "	35 ° 44 ' 29 "	° ' "	° ' "	° ' "
			L.	0	29			
		II	R.	0	19			
			L.	0	25			
		III	R.					
			L.					
	MEAN			0 0 0	35 44 26			
ECCENTRIC CORRECTION	ANGLE STATION -							
	TARGET							
CORRECTION NUMBER TO ZERO								
SUMMATION OF CORRECTION								
DIRECTION ANGLE AT CENTRAL POINT								
INCLUDED ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
STANDARD ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
DIRECTION ANGLE								
DIRECTION ANGLE	APPROX .MEAN							
	MEAN							
SIDE LENGTH	APPROX							
	MEAN							
SIDE LENGTH(FROM TO) ECCENTRIC POINT								
VERTICAL ANGLE				+0°10' 12"	1° 3' 34"	° ' "	° ' "	° ' "
SKETCH OF TARGET								
TARGET HEIGET				m cm 685	m cm 138	m cm	m cm	m cm
INSTRUMENT HEIGHT				138	138			
PAGE TO BE REFFERRED	HORIZONTAL ANGLE	OBSERVATION						
		ECCENTRIOITY	I					
			II					
	VERTICAL ANGLE							
	TARGET HEIGHT							
	DIRECTION ANGLE SIDE LENGTH	APPROX						
		ACCURATE						
		ECCENTRIC POINT						

TARGET AND INSTRUMENT HEIGHT:HEIGHT FROM STONE(PEG)MARKER

B;CENTER OF ANGLE STATION O;CENTER OF STONE(PEG)MARKER P;CENTER OF TARGET

TRIANGULATION POINT	X= + Km 7,8 m 7 4 2 1 cm	OBSERVER:	SKETCH
	Y= + 31,25283	RECORDER:	
№ 0 - 2	H= 54852	COMPUTER:	

ANGLE / STATION \ DIRECTION				1 №E-3 $O_1 == P_1$	2 №E-4 $O_2 == P_2$	3 №0-2-A $O_3 == P_3$	4 №B-1 $O_4 == P_4$	5 $O_5 == P_5$
$B_0 == O_0$ $B_0 == P_0$ $O_0 == P_0$	HORIZONTAL ANGLE OBSERVATION	I	R.	0° 0' 0"	5° 6'46"	10° 2' 9"	75°21'39"	° ' "
			L.	0	44	5	31	
		II	R.	0	41	16	27	
			L.	0	37	8	29	
		III	R.					
			L.					
	MEAN			0 0 0	5 6 42	10 2 10	75 21 32	
ECCENTRIC CORRECTION	ANGLE STATION							
	TARGET							
CORRECTION NUMBER TO ZERO								
SUMMATION OF CORRECTION								
DIRECTION ANGLE AT CENTRAL POINT								
INCLUDED ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
STANDARD ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
DIRECTION ANGLE								
DIRECTION ANGLE	APPROX. MEAN							
	MEAN							
SIDE LENGTH	APPROX.							
	MEAN							
SIDE LENGTH (FROM TO) ECCENTRIC POINT								
VERTICAL ANGLE				- 0° 9'30"	- 5°15'58"	- 0°11'14"	+0° 4'58"	° ' "
SKETCH OF TARGET								
TARGET HEIGHT				m cm 835	m cm 138	m cm 526	m cm 683	m cm
INSTRUMENT HEIGHT				138	138	138	138	
PAGE TO BE REFFERRED	HORIZONTAL ANGLE	OBSERVATION						
		ECCENTRICITY	I					
			II					
	VERTICAL ANGLE							
	TARGET HEIGHT							
	DIRECTION ANGLE SIDE LENGTH	APPROX						
		ACCURATE						
		ECCENTRIC POINT						

TARGET AND INSTRUMENT HEIGHT: HEIGHT FROM STONE(PEG)MARKER

B; CENTER OF ANGLE STATION O; CENTER OF STONE(PEG)MARKER P; CENTER OF TARGET

TRIANGULATION POINT	X= + Km 22 m 6792 cm	OBSERVER:	SKETCH
	Y= + 19,79833	RECORDER:	
No E - 4	H=	COMPUTER:	

ANGLE / STATION \ DIRECTION				1 No 0 - 2 $O_1 == P_1$	2 No E-4-1 $O_2 == P_2$	3 $O_3 == P_3$	4 $O_4 == P_4$	5 $O_5 == P_5$
$B_0 == O_0$ $B_0 == P_0$ $O_0 == P_0$	HORIZONTAL ANGLE OBSERVATION	I	R.	0° 0' 0"	138°49'53"	° ' "	° ' "	° ' "
			L.	0	55			
		II	R.	0	48			
			L.	0	43			
		III	R.					
			L.					
	MEAN			0 0 0	138 48 50			
ECCENTRIC CORRECTION	ANGLE STATION							
	TARGET							
CORRECTION NUMBER TO ZERO								
SUMMATION OF CORRECTION								
DIRECTION ANGLE AT CENTRAL POINT								
INCLUDED ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
STANDARD ANGLE				° ' "	° ' "	° ' "	° ' "	° ' "
DIRECTION ANGLE								
DIRECTION ANGLE	APPROX.MEAN							
	MEAN							
SIDE LENGTH	APPROX.							
	MEAN							
SIDE LENGTH(FROM TO) ECCENTRIC POINT								
VERTICAL ANGLE				- 0° 2' 44"	- 0° 25' 6"	° ' "	° ' "	° ' "
SKETCH OF TARGET								
TARGET HEIGHT				m cm 643	m cm 138	m cm	m cm	m cm
INSTRUMENT HEIGHT				133	133			
PAGE TO BE REFFERRED	HORIZONTAL ANGLE	OBSERVATION						
		ECCENTRICITY	I					
			II					
	VERTICAL ANGLE							
	TARGET HEIGHT							
	DIRECTION ANGLE SIDE LENGTH	APPROX						
		ACCURATE						
		ECCENTRIC POINT						

TARGET AND INSTRUMENT HEIGHT:HEIGHT FROM STONE(PEG)MARKER

B;CENTER OF ANGLE STATION O;CENTER OF STONE(PEG)MARKER P;CENTER OF TARGET

COMPUTATION OF TRAVERSING

ANGLE STATION		DIRECTION	DIRECTION ANGLE / INCLUDED ANGLE / DIRECTION ANGLE	CORRECTION / INCLUDED ANGLE / DIRECTION ANGLE	ELEMENT OF COMPUTATION: SAIDE LENGHT (Sn) / CORRECTION OF DIRECTION ANGLE (αn)	COORDINATE DIFFERENCE (ΔX ΔY): log Sn / (log) cos. αn / log ΔX	log Sn / (log) sin. αn / log ΔY	CORRECTION: Δxn / CORRECTION OF Δx / CORRECTED OF Δxn	Δyn / CORRECTION OF Δy / CORRECTED OF Δyn	CORRECTED COORDINATE: LAT. (X) / Δxn / X	DEP. (Y) / Δyn / Y	ANGLE STATION
№E – 5		MAGNETIC NORTH	° ′ ″						m cm			
		№C – 2			18543 m 25 cm			– 12 126 15	+ 11 253 22	+ 20 km 000 m 00 cm	+ 20 km 000 m 00 cm	№E – 5
			157 8 18		157° 8′ 18″	732998	680231	+ 56	– 39			
			180 0 0					– 12 125 79	+ 11 252 83	– 12 125 79	+ 11 252 83	
№C – 2		№E – 5	317° 8′ 18″									
		№B – 1	75 21 32	4″	12293 m 29 cm			+ 14 585 28	+ 2 291 25	+ 7 874 21	+ 31 252 65	№C – 2
			32 29 50		32° 29′ 54″	845407	537275	+ 44	– 32			
			180 0 0					+ 14 585 72	+ 2 290 93	+ 14 585 72	+ 9 290 93	
№B – 1		№C – 2	212° 29′ 50″									
		№E – 5	50 46 19	4″	20689 m 82 cm			– 2 460 00	– 20 543 05	+ 22 459 93	+ 40 543 76	№B – 1
			263 10 9		265° 10′ 17″	118899	992905	+ 7	– 71			
			180 0 0					– 2 459 93	– 20 543 76	– 2 459 93	– 20 543 76	
№E – 3		№B – 1	83° 10′ 9″									
		№C – 2	53 57 58	5″						+ 20 000 00	+ 20 000 00	№E – 3
			157 8 7		157° 8′ 18″							
			180 0 0									
			180 0 0									
			180 0 0									
			180 0 0									
			180 0 0									
KNOWN DIRECTION ANGLE			157° 8′ 18″	(Sn)= 54 km 526 m 54 cm			(Δx) or (Δy)	– 0 m 87 cm	+ 1 m 42 cm			
CLOSUR ERROR			Ea = 11″				Dx or Dy	0 00	0 00			
							CLOSURE ERROR	– 0 87	+ 1 42			
									CLOSING POINT №E–5	+ 20 km 000 m 00 cm	+ 20 km 000 m 00 cm	
ACCURACY	CLOSUR ERROR	DIRECTION ANGLE		n =	TOLERANCE		GOOD „NOT	STARTING POINT №E–5		+ 20 000 00	+ 20 000 00	
1/32742		COORDINATE		(Sn)=	TOLERANCE		GOOD „NOT	KNOWN COORDINATE				

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ANGLE STATION		DIRECTION	DIRECTION ANGLE / INCLUDED ANGLE / DIRECTION ANGLE	CORRECTION INCLUDED ANGLE / DIRECTION ANGLE	ELEMENT OF COMPUTATION: SAIDE LENGHT (Sn) / CORRECTION OF DIRECTION ANGLE (αn)	COORDINATE DIFFERENCE (ΔX): log Sn / (log)cos.αn / log Δx	COORDINATE DIFFERENCE (ΔY): log Sn / (log)sin.αn / log Δy	CORRECTION: Δxn / CORRECTION OF Δx / CORRECTED OF Δxn	CORRECTION: Δyn / CORRECTION OF Δy / CORRECTED OF Δyn	CORRECTED COORDINATE: LAT.(X) / Δxn / X	CORRECTED COORDINATE: DEP.(Y) / Δyn / Y	ANGLE STATION
								m cm	m cm			
№ B – 1		№ C – 2	212° 29′ 54″									
		№ C – 4	112 15 5		12924m 53cm							
			324 42 59		324° 42′ 59″	816303	577624	+ 14 631 85	– 10 353 64	+ 14 631 85	– 10 353 64	№ B – 1
			180 0 0									
										+ 37 091 78	+ 30 190 12	
												№ C – 4
			180 0 0									
			180 0 0									
№ C – 2		№ E – 5	317° 8′ 18″							+ 7 874 21	+ 31 252 85	
		№ C – 2 – A	10 2 18		1250m 80cm							№ C – 2
			327 10 28		327° 10′ 28″	840325	542083	+ 1 051 08	– 678 04	+ 1 051 08	– 678 04	
			180 0 0									
										+ 8 925 29	+ 30 574 79	
												№ C – 2 – A
			180 0 0									
			180 0 0									
№ C – 2		№ E – 5	317° 8′ 18″							+ 7 874 21	+ 31 252 85	
		№ E – 4	5 6 42		18709m 87cm							№ C – 2
			322 15 0		322° 15′ 0″	790690	612217	+ 14 793 71	– 11 454 50	+ 14 793 71	– 11 454 50	
			180 0 0									
										+ 22 667 92	+ 19 798 33	
												№ E – 4
			180 0 0									

KNOWN DIRECTION ANGLE		(Sn)=		(Δx)or(Δy)					
CLOSUR ERROR				Dx or Dy					
							CLOSING POINT		
ACCURACY	CLOSUR ERROR	DIRECTION ANGLE		n =	TOLERANCE		GOOD.NOT	STARTING POINT	
		COORDINATE		(Sn)=	TOLERANCE		GOOD.NOT	KNOWN COORDINATE	

ANGLE STATION		DIRECTION	DIRECTION ANGLE / INCLUDED ANGLE / DIRECTION ANGLE	CORRECTION: INCLUDED ANGLE / DIRECTION ANGLE	ELEMENT OF COMPUTATION: SAIDE LENGHT (Sn) / CORRECTION OF DIRECTION ANGLE (αn)	COORDINATE DIFFERENCE (ΔX ΔY): log Sn / (log)cos.αn / log Δx	log Sn / (log) sin.αn / log Δy	CORRECTION: Δxn / CORRECTION OF Δx / CORRECTED OF Δxn	Δyn / CORRECTION OF Δy / CORRECTED OF Δyn	CORRECTED COORDINATE: LAT.(X) Δxn X	DEP.(Y) Δyn Y	ANGLE STATION
Nn B – 1		Nn C – 2	212 29 54					m cm	m cm			
		Nn B – 2	253 39 44		2.644 m 84 cm					+ 22 Km 459 m 93 cm	+ 40 Km 543 m 36 cm	Nn B – 1
			106 9 38		106 9 38	278530	960486					
			180 0 0					– 736 14	+ 2 540 33	– 736 14	+ 2 540 33	
										+ 21 725 79	+ 43 084 09	Nn B – 2
			180 0 0									
			180 0 0									
			180 0 0									
			180 0 0									
			180 0 0									
			180 0 0									
KNOWN DIRECTION ANGLE				(Sn)=			(ΔX) or (Δy)					
CLOSUR ERROR							Dx or Dy					
							GLOSURE ERROR					

								CLOSING POINT
ACCURACY	CLOSUR ERROR	DIRECTION ANGLE		n =	TOLERANCE		GOOD, NOT	STARTING POINT
		COORDINATE		(Sn)=	TOLERANCE		GOOD, NOT	KNOWN COORDINATE

ANGLE STATION		DIRECTION	DIRECTION ANGLE / INCLUDED ANGLE / DIRECTION ANGLE	CORRECTION: INCLUDED ANGLE / DIRECTION ANGLE	ELEMENT OF COMPUTATION: SAIDE LENGHT (Sn) / CORRECTION OF DIRECTION ANGLE (αn)	COORDINATE DIFFERENCE (Δx Δy): log Sn (log)cos.αn log Δx	log Sn (log)sin.αn log Δy	CORRECTION: Δxn / CORRECTION OF Δx / CORRECTED OF Δxn	Δyn / CORRECTION OF Δy / CORRECTED OF Δyn	CORRECTED COORDINATE: LAT.(X) Δxn X	DEP.(Y) Δyn Y	ANGLE STATION
№B-5			165 40 35						m cm			
		№B-1	235 19 4		309 m 39 cm							
		№B-5-1	40 59 59		40 59 38	754776	655982					
			180 0 0					+ 235 52	+ 202 95	+ 235 52	+ 202 95	
№B-5-1		№B-5	220 59 39									№B-5
		№B-5-2	170 12 14		459 m 20 cm					+ 33 446 65	+ 58 000 98	
			31 11 53		31 11 53	855382	577998					№B-5-1
			180 0 0					+ 392 79	+ 257 86	+ 392 29	+ 257 86	
№B-5-2		№B-5-1	211 11 53									
		№B-5-3	232 14 55		1443 m 64 cm					+ 33 839 44	+ 38 238 84	№B-5-2
			83 26 48		83 26 48	114128	993466					
			180 0 0					+ 164 76	+ 1 454 21	+ 164 76	+ 1 454 21	
№B-5-3		№B-5-2	263 26 48									
		№B-5-4	161 32 46		229 m 45 cm					+ 34 004 20	+ 39 673 05	№B-5-3
			64 59 34		64 59 34	422732	906254					
			180 0 0					+ 96 99	+ 207 92	+ 96 99	+ 207 92	
№B-5-4		№B-5-3	244 59 34									
		№B-5-5	195 45 8		826 m 94 cm					+ 34 101 19	+ 39 880 97	№B-5-4
			78 42 42		78 42 42	195746	980655					
			180 0 0					+ 161 87	+ 810 94	+ 161 87	+ 810 94	
№B-5-5		№B-5-4	258 42 42									
		№B-5-6	216 51 32		573 m 85 cm					+ 34 263 06	+ 40 691 91	№B-5-5
			115 34 14		115 34 14	431622	902055					
			180 0 0					— 247 68	+ 517 65	— 247 68	+ 517 65	
№B-5-6		№B-5-5	295 54 14									
		№B-5-7	153 50 1		334 m 62 cm					+ 34 015 38	+ 41 209 54	№B-5-6
			89 24 15		89 24 15	010399	999946					
			180 0 0					+ 3 48	+ 334 60	+ 3 48	+ 334 60	
№B-5-7		№B-5-6	269 24 15									
		№B-5-8	179 8 19		499 m 08 cm					+ 34 018 86	+ 41 544 14	№B-5-7
			88 32 34		88 32 34	025431	999676					
			180 0 0					+ 12 69	+ 498 92	+ 12 69	+ 498 92	
	KNOWN DIRECTION ANGLE			(Sn)=			(Δx) or (Δy)					
	CLOSUR ERROR						Dx or Dy			+ 34 031 55	+ 42 045 08	№B-5-8
							CLOSURE ERROR					
										CLOSING POINT		
	ACCURACY	CLOSUR ERROR	DIRECTION ANGLE		n =	TOLERANCE		GOOD.NOT		STARTING POINT		
			COORDINATE		(Sn)=	TOLEANCE		GOOD.NOT		KNOWN COORDINATE		

COMPUTATION OF TRRERSING

ANGLE STATION		DIRECTION	DIRECTION ANGLE / INCLUDED ANGLE / DIRECTION ANGLE	CORRECTION: INCLUDED ANGLE / DIRECTION ANGLE	ELEMENT OF COMPUTATION: SAIDE LENGHT (Sn) / CORRECTION OF DIRECTION ANGLE (αn)	COORDINATE DIFFERENCE (ΔX): log Sn / (log) cos.αn / log ΔX	COORDINATE DIFFERENCE (ΔY): log Sn / (log) sin.αn / log ΔY	CORRECTION: Δxn / CORRECTION OF Δx / CORRECTED OF Δxn	CORRECTION: Δyn / CORRECTION OF Δy / CORRECTED OF Δyn	CORRECTED COORDINATE: LAT.(X) Δxn X	CORRECTED COORDINATE: DEP.(Y) Δyn Y	ANGLE STATION
№8-5-8		№8-5-7	268 32 34									
			204 43 29		229 m 61 cm							№8-5-9
		№8-5-9	113 16 3		113 16 3	395024	918670					
			180 0 0					— 90 70	+ 210 94	— 90 m 70 cm	+ 210 m 94 cm	
№8-5-9		№8-5-8	293 16 3									
			160 19 52		240 m 54 cm					+ 33 940 85	+ 42 254 00	№8-5-9
		№8-5-10	93 35 55		93 35 55	062766	998028					
			180 0 0					— 15 10	+ 240 07	— 15 10	+ 240 07	
№8-5-10		№8-5-9	275 35 55									
			190 22 44		874 m 26 cm					+ 33 925 75	+ 42 494 07	№8-5-10
		№8-5-11	103 58 39		103 58 39	241541	978590					
			180 0 0					— 211 17	+ 848 37	— 211 17	+ 848 37	
№8-5-11		№8-5-10	283 58 39									
			169 52 41		610 m 25 cm					+ 33 714 58	+ 43 542 44	№8-5-11
		№8-5-12	93 51 20		93 51 20	067241	997737					
			180 0 0					— 41 03	+ 608 85	— 41 03	+ 608 85	
№8-5-12		№8-5-11	275 51 20									
			201 41 44		166 m 16 cm					+ 33 673 55	+ 43 951 29	№8-5-12
		№8-5-13	115 33 4		115 33 4	431516	902201					
			180 0 0					— 71 67	+ 149 91	— 71 67	+ 149 91	
№8-5-13		№8-5-12	295 33 4									
			200 36 49		387 m 17 cm					+ 55 601 88	+ 44 103 20	№8-5-13
		№8-5-14	156 9 53		136 9 53	721334	622588					
			180 0 0					— 279 28	+ 268 15	— 279 28	+ 268 15	
№8-5-14		№8-5-13	316 9 53									
			199 5 41		197 m 58 cm					+ 33 322 60	+ 44 569 35	№8-5-14
		№8-5	155 15 34		155 15 34	908212	418510					
			180 0 0					— 179 44	+ 82 69	— 179 44	+ 82 69	
										+ 33 143 16	+ 44 452 04	№8-5
			180 0 0									

KNOWN DIRECTION ANGLE		(Sn) =		(Δx) or (Δy)	
CLOSUR ERROR				Dx or Dy	
				DLOSURE ERROR	

								CLOSING POINT	
ACCURACY	CLOSUR ERROR	DIRECTION ANGLE		n =	TOLERANCE		GOOD.NOT	STARTING POINT	
		COORDINATE		(Sn) =	TOLEANCE		GOOD.NOT	KNOWN COORDINATE	

ANGLE STATION		DIRECTION	DIRECTION ANGLE / INCLUDED ANGLE / DIRECTION ANGLE	CORRECTION / INCLUDED ANGLE / DIRECTION ANGLE	ELEMENT OF COMPUTATION / SAIDE LENGHT (Sn) / CORRECTION OF DIRECTION ANGLE (αn)	COORDINATE DIFFERENCE (ΔX / ΔY) log Sn / (log) cos.αn / log Δx	log Sn / (log) sin.αn / log Δy	CORRECTION Δxn / CORRECTION OF Δx / CORRECTED OF Δxn	Δyn / CORRECTION OF Δy / CORRECTED OF Δyn	CORRECTED COORDINATES LAT. (X) / Δxn / X	DEP. (Y) / Δyn / Y	ANGLE STATION
№B-1		№O-2	212° 29′ 54″									
		№B-5	135 10 40		11098m 21cm					+ 22km 459m 95cm	+ 40km 545m 76cm	№B-1
			345 40 54		345° 40′ 34″	968913	247405					
			180 0 0					+ 10 753 28	− 2 745 75	+ 10 753 20	− 2 745 75	
										+ 33 215 13	+ 57 798 03	№B-5
			180 0 0									
			180 0 0									
№B-1		№O-2	212° 29′ 54″									
		№B-1-A	53 5 5		2149m 26cm					+ 22 459 93	+ 40 543 76	№B-1
			265 32 59		265° 32′ 59″	077594	996985					
			180 0 0					− 166 77	− 2 142 78	− 166 77	− 2 142 78	
										+ 22 293 16	+ 38 400 98	№B-1-A
			180 0 0									
			180 0 0									
№B-1		№O-2	212° 29′ 54″									
		№B-6	201 9 4		18026m 75cm					+ 22 459 93	+ 40 545 76	№B-1
			53 38 58		55° 38′ 55″	592724	806405					
			180 0 0					+ 10 686 07	+ 14 520 45	+ 10 686 07	+ 14 520 45	
№B-6		№B-1	233° 58′ 58″									
		№B-5′	35 44 26		4512m 54cm					+ 33 146 00	+ 55 064 21	№B-6
			269 23 24		269° 23′ 24″	010646	999945					
			180 0 0					− 48 04	− 4 512 28	− 48 04	− 4 512 28	
	KNOWN DIRECTION ANGLE			(Sn)=								
	CLOSUR ERROR									+ 33 097 96	+ 50 551 93	№B-5′
									CLOSING POINT			
	ACCURACY	CLOSUR ERROR	DIRECTION ANGLE		n =	TOLERANCE		GOOD.NOT	STARTING POINT			
			COORDINATE		(Sn)=	TOLEANCE		GOOD.NOT	KNOWN COORDINATE			

ANGLE STATION		DIRECTION	DIRECTION ANGLE / INCLUDED ANGLE / DIRECTION ANGLE	CORRECTION / INCLUDED ANGLE / DIRECTION ANGLE	ELEMENT OF COMPUTATION: SAIDE LENGHT (Sn) / CORRECTION OF DIRECTION ANGLE (αn)	COORDINATE DIFFERENCE (Δ X / Δ Y): log Sn / (log) cos.αn / log Δx	log Sn / (log) sin.αn / log Δy	CORRECTION: Δxn / CORRECTION OF Δx / CORRECTED OF Δxn	Δyn / CORRECTION OF Δy / CORRECTED OF Δyn	CORRECTED COORDINATE: LAT.(X) / Δxn / X	DEP.(Y) / Δyn / Y	ANGLE STATION
№E-5		MAGNETIC NORTH	0 0 0						m cm			
		№E-5-A	87 30 20		952m91cm					+ 20 000 00	+ 20 000 00	№E-5
			87 30 20		87 30 20	043523	999152					
			180 0 0					+ 41 47	+ 952 01	+ 41 47	+ 952 01	
										+ 20 041 47	+ 20 952 01	№E-5-A
			180 0 0									
			180 0 0									
№E-4		№C-2	142 15 0									
		№E-4-1	138 48 50		306m71cm					+ 22 667 92	+ 19 798 35	№E-4
			281 3 50		281 3 50	19.1903	981.14					
			180 0 0					+ 58 86	− 301 01	+ 58 86	− 301 01	
№E-4-1		№E-4	101 3 50									
		№E-4-2	205 23 38		364m58cm					+ 22 726 78	+ 19 497 32	№E-4-1
			304 27 28		304 27 28	565795	824543					
			180 0 0					+ 206 28	− 300 61	+ 206 28	− 300 61	
										+ 22 933 06	+ 19 196 71	№E-4-2
			180 0 0									
№B-1		№C-2	212 29 54									
		№B-4	108 55 2		5064m95cm					+ 22 459 95	+ 40 545 74	№B-1
			321 24 56		321 24 56	784690	623467					
			180 0 0					+ 3 959 23	− 3 158 85	+ 3 959 23	− 3 158 85	
										+ 26 419 16	+ 37 384 91	№B-4
			180 0 0									
	KNOWN DIRECTION ANGLE			(Sn) =			(Δx) or (Δy)					
	CLOSUR ERROR						Dx or Dy					
							CLOSURE ERROR					
										CLOSING POINT		
	ACCURACY	CLOSUR ERROR	DIRECTION ANGLE		n =	TOLERANCE	GOOD, NOT			STARTING POINT		
			COORDINATE		(Sn) =	TOLERANCE	GOOD, NOT			KNOWN COORDINATE		

Elevation computation

Unknown point (1)	N o B−1		N o C−2		
Known point (2)	NoB−1−A		NoC−2−A		
Method of survey					
Vertical angle θ	° ′ ″ + 3 49 34	° ′ ″ − 5 42 18	° ′ ″ −5 25 52	° ′ ″ − 5 15 58	° ′ ″
Side length	m cm 2149 26	m cm	m cm	m	m cm
log tan θ	066878	064754	095076	092170	
log S					
log h					
Difference of height h	m cm + 143 74	m cm + 139 17	m cm + 118 92	m cm + 115 29	m cm
Earth's curvature and refraction k	+ 0 32	− 0 32	+ 0 11	− 0 11	
Instrument height i	+ 1 38	− 1 38	+ 1 38	− 1 38	
Target height f	− 6 83	+ 1 38	− 5 45	+ 1 38	
El. of known point H_1	+ ,450 471	+ ,	+ ,433 44	+ ,	+ ,
El. of unknown point H_2	, 589 08	, 589 32	,548 42	, 548 62	,
Mean	,	,	,	,	,
Correction value					
Determined value	m cm ,589 20	m cm ,	m cm ,548 52	m cm ,	m cm ,
Unknown point (1)	N o B − 6				
Known point (2)	N o B − 5'				
Method of survey					
Vertical angle θ	° ′ ″ + 1 4 8	° ′ ″ − 1 3 54	° ′ ″	° ′ ″	° ′ ″
Side length	m cm 4 512 5%	m cm	m cm	m cm	m cm
log tan θ	018657	018493	-		
log S					
log h					
Difference of height h	+ 84m 19cm	+ 85m 45cm	m cm	m cm	m cm
Earth's curvature and refraction K	+ 1 39	+ 1 39			
Instrument height i	+ 1 38	+ 1 38			
Target height f	− 4 91	+ 1 38			
El. of known point H_1	+ ,518 73	+ ,518 74	+ ,	+ ,	+ ,
El. of unknown point H_2	,	,	,	,	,
Mean	,	,	,	,	,
Correction value					
Determined value	m cm ,518 74	m cm ,	m cm ,	m cm ,	m cm ,

Note $H_2 = \pm S \tan\theta \pm K \mp (f - i) + H_1$

SURVEY STATION №E-3-A (MASTER: №3, INSTRUMENT)
№E-3 (REMORTR: №2, INSTRUMENT)

ACCURATE READING

	№	CAVITY	A+ / A−	A+1−(A−) / U	A+R− / A−R	(A+R)−(A−R) / V	(U+V)/2 / W	W/2 +50
	1	2.0	585 / 420	165	425 / 925	500	332	666
	2	4.0	595 / 435	160	435 / 920	515	338	669
	3	6.0	595 / 440	155	445 / 935	510	332	666
	4	8.0	600 / 425	175	430 / 925	510	342	671
	5	10.0	600 / 420	180	420 / 920	500	340	670
	6	12.0	590 / 425	165	425 / 925	500	332	666
	7	14.0	600 / 435	165	440 / 925	515	340	670
	8	16.0	600 / 425	175	430 / 925	505	340	670
	9	18.0	610 / 410	200	410 / 920	490	345	672
	10	20.0	590 / 410	180	405 / 920	485	332	666
	11							
	12							
							MEAN =	6686

M	Drybulb (tc)	Wetbulb (tc′)	Crysal temperature
I	° ′ 31.0	° ′ 24.0	
H	30.5	24.0	
MEAN	30.8	24.0	
tc−tc′	6.8	dp	mHg

BEGINNING TIME 10 h 21 m

APPROX. READING I

A+/B	A+/0	A+/D	A+/A−
590 / 530	950	250	420
060	640	340	170

mμs
T_1 = 0635850

ENDING TIME 10 h 28 m

APPROX. READING II

A+/B	A+/0	A+/D	A+/A−
590 / 530	950	250	410
060	640	340	180

mμs
T_1 = 0635900

COMPUTATTON OF DISTANCE (№E−3−A) ~ (№E−3)

α (E−3 ~ E−3−A) =	− 2° 40′ 10″
α' =	160 2
0.291α' =	46 6
0.291D(Km) =	44m5
H (E−3) =	516 1
H (E−3−A) =	471 6

	e		n′		D	
e′ =	22.2	I =	259	(Km)Do =	954m37	
A =	3.4	=	99	D n =	0.34	
B =	0.1	III =	0	D =	954.03	
C =	0	$n' 10^3$ =	358	$\cos\alpha$ =	0.998915	
e =	18.7	n′ =	0.358	D $\cos\alpha$ =	952.99	
				dD_1 =	08	
				dD_2 =		
				S =	952.91	

K = (IKI<5)
$T'/10^7$ = (T<2×10⁴)
$\Delta T-\pi$ = (ΔT=0)
T′ = mμs
ΔT = 0.
T = 0636686

REMARKS

Instrument height
M = 138
R = 138

44

COMPUTATION OF TELLUROMETER

SURVEY STATION № B-1-A (MASTER; №3, INSTRUMENT) / № B-1' (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	$\frac{A+}{A-}$	A+1-(A-) U	$\frac{A+R}{A-R}$	(A+R)-(A-R) V	(U+V)/2 W	$\frac{W}{2}+50$
1	2.0	75.0 / 29.0	46.0	26.5 / 76.5	50.0	48.0	74.0
2	4.0	75.5 / 28.0	47.5	28.0 / 78.5	49.5	48.5	74.2
3	6.0	76.5 / 28.0	48.5	28.0 / 76.5	51.5	50.0	75.0
4	8.0	76.0 / 28.0	28.0	28.0 / 76.5	51.5	49.8	74.9
5	10.0	75.5 / 28.5	47.0	28.0 / 76.5	51.5	49.2	74.6
6	12.0	75.5 / 28.0	47.5	28.0 / 76.0	52.0	49.8	74.9
7	14.0	75.5 / 27.5	48.0	28.5 / 76.5	52.0	50.0	75.0
8	16.0	76.5 / 28.0	48.5	28.0 / 75.5	52.5	50.5	75.2
9	18.0	75.5 / 27.0	48.5	27.0 / 76.5	50.5	49.5	74.8
10	20.0	76.5 / 28.0	48.5	28.0 / 76.5	51.5	50.0	75.0
11		———		———			
12		———		———			
						MEAN =	74.76

M	Drybulb (tc)	Wetbulb (tc')	Crystal temperature
I	32.5	27.0	
H	31.5	25.5	
MEAN	32.0	26.2	
tc-tc'	5.8	dp	mmHg

BEGINNING TIME 11h 18m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A-
75.0 / 59.0	29.0	37.0	28.0
16.0	46.0	38.0	47.0

$T_1 = 14373.50$ mμs

ENDING TIME 11h 27m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A-
75.0 / 59.0	29.0	37.0	28.0
16.0	46.0	38.0	47.0

$T_1 = 14374.50$ mμs

COMPUTATION OF DISTANCE (№B-1-A) ~ (№ B-1)

α (B-1~ / B-1-A) =	- 3° 42' 18"
α' =	222 3
0.291 α' =	64 7
0.291D(Km) =	139m4
H (B-1-A) =	450 5
H (B-1) =	589 9

	e
e' =	+ 25.2
A =	- 2.9
B =	- 0.1
C =	- 0
e =	22.2

	n'
I =	258
=	118
III =	0
$n'10^3$ =	376
n' =	0.376

	D
(Km)Do =	2154m72
D m =	0.82
D =	2153.91
cosα =	997.10
Dcosα =	2149.41
dD_1 =	0.15
dD_2 =	
S =	2149.26

K =	(|K|< 5)
T'/10^7 =	(T'<2×10^4)
$\Delta T-\pi$ =	(ΔT = 0)
T' =	mμs
ΔT =	0.
T =	14374.76

REMARKS

Instrument height
M = 1.38
R = 1.38

SURVEY STATION №B-2 (MASTER; №5, INSTRUMENT)
№B-1 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)−(A−R) V	(U+V)1/2 W	W/2+50
1	2.0	845 / 195	650	200 / 690	510	580	790
2	4.0	830 / 210	620	210 / 705	505	562	781
3	6.0	825 / 215	610	215 / 715	500	555	778
4	8.0	825 / 215	610	205 / 700	505	558	779
5	10.0	845 / 190	655	195 / 690	505	580	790
6	12.0	845 / 175	670	185 / 690	495	582	791
7	14.0	840 / 180	660	185 / 680	505	582	791
8	16.0	840 / 195	645	205 / 690	515	580	790
9	18.0	835 / 200	635	205 / 685	520	578	789
10	20.0	845 / 190	655	195 / 685	510	582	791
11		———		———			
12		———		———			
						MEAN =	785

M	Drybulb (tc)	wetbulb (tc′)	Crystal temperature
I	° 27.0	° 24.0	
H	27.5	24.0	
MEAN	27.2	24.0	
tc−tc′	3.2	dp	mmHg

BEGINNING TIME h m

APPROX I READING

A+/B	A+/C	A+/D	A+/A−
840 / 650	70	150	200
190	770	690	640

T_1 = 1768200 mμs

ENDING TIME 9 h 44 m

APPROX II READING

A+/B	A+/C	A+/D	A+/A−
840 / 660	80	160	180
180	760	680	660

T_1 = 1768300 mμs

COMPUTATION OF DISTANCE (№B-2) ~ (№B-1)

α (B-1 ~ B-2) =	− 3° 6′ 33″
α′ =	1865
0.291α′ =	543
0291D (Km) =	+ 143m8
H (№B-2) =	4461
H (№B-1) =	5899

	e	n′	D
e′ =	+ 22.1	I = 2620	(Km)Do = 2649m97
A =	− 16	= 1130	D n = 0.99
B =	− 00	II = 0	D = 2648.98
C =	− 00	n′10³ = 375	cosα = 0998528
e =	20.6	n′ = 0.375	Dcosα = 2645.08
			dD_1 = 0.24
			dD_2 =
			S = 2644.84

K = (IKI<5)

T′/10⁷ = (T<2×10⁴)

△T−π = (△T = 0)

T′ = mμs

△T = 0.

T = 1767870.1

REMARKS

Instrument height
M = 1.38
R = 1.38

K6

SURVEY STATION №B-3 (MASTER; №3, INSTRUMENT)
№B-5-14 (REMORTR; №2, INSTRUMENT)

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)(A−R) V	(U+V)/2 W	W/2+50
1	2.0	120 / 860	260	860 / 380	480	370	185
2	4.0	115 / 855	260	850 / 360	490	375	188
3	6.0	115 / 850	265	855 / 370	485	375	188
4	8.0	110 / 860	250	860 / 380	480	365	182
5	10.0	105 / 850	255	865 / 375	490	372	186
6	12.0	110 / 855	255	860 / 370	490	372	186
7	14.0	115 / 850	265	855 / 365	490	378	189
8	16.0	120 / 855	265	850 / 360	490	378	189
9	18.0	120 / 860	260	855 / 365	490	375	188
10	20.0	125 / 860	265	855 / 360	495	380	190
11		———		———			
12		———		———			1871
					MEAN =		

M	Drybulb (tc)	Wetbulb (tc')	Crystal temperature
I	° ′ 320	° ′ 210	
H	310	210	
MEAN	315	210	
tc−tc'	105	dp	mmHg

BEGINNING TIME 15h 20m

A+/B	A+/C	A+/D	A+/A−
120 / 110	60	850	870
010	060	270	250

T_1 = 0131259 mμs

ENDING TIME 15h 29m

A+/B	A+/C	A+/D	A+/A−
125 / 120	20	860	865
005	055	265	260

T_1 = 0131300 mμs

COMPUTATION OF DISTANCE (№B-3) ~ (№B-5-14)

α (B-5-14)~B-3	+ 0° 44′ 10″
α′ −	44 2
0.291α′ −	12 9
0.291D(Km) −	+ 2 m 5
H (B-3) −	465 0
H (B-5-14) −	467 5

	e		n′		D	
e′ −	18.5	I −	258	(Km)Do −	197.67	
A −	5.3	−	70	D n −	0.06	
B −	0.1	II −	0	D −	197.61	
C −	0	$n'10^3$ −	328	cosα −	0.999917	
e −	131	n′ −	0328	Dcosα −	197.59	
				dD_1 −	01	
				dD_2 −		
				S −	197.58	

K −	(IKI<5)
T/10Z −	(T<2×10⁴)
△T−π−	(△T=0)
T′ −	mμs
△T −	0.
T −	0131871 1

REMARKS

Instrument height
M = 1.38
R = 1.38

SURVEY STATION № B－4 (MASTER; №3, INSTRUMENT)
№ B－1 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)−(A−R) V	(U+V)/2 W	W/2+50
1	2.0	105 / 855	250	850 / 405	445	348	174
2	4.0	105 / 870	235	880 / 425	455	345	172
3	6.0	115 / 870	745	865 / 410	455	350	175
4	8.0	125 / 870	255	870 / 410	460	358	179
5	10.0	120 / 870	250	865 / 410	455	352	176
6	12.0	115 / 860	255	860 / 410	450	352	176
7	14.0	115 / 855	260	870 / 395	475	368	184
8	16.0	125 / 850	275	855 / 395	460	368	184
9	18.0	120 / 835	285	845 / 390	455	370	185
10	20.0	115 / 850	265	855 / 395	460	362	181
11							
12							
						MEAN =	1786

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	26.0	23.0	
H	26.0	24.0	
MEAN	26.0	23.5	
tc−tc′	2.5	dp	mmHg

BEGINNING TIME 8h 48m

APPROX. READING I

A+ B	A+ 0	A+ D	A+ A−
110 / 750	700	300	850
360	410	810	260

mμs
T1 = 33813.00

ENDING TIME 8h 55m

APPROX. READING II

A+ B	A+ 0	A+ D	A+ A−
110 / 780	730	300	840
330	380	810	270

mμs
T1 = 33813.50

COMPUTATION OF DISTANCE (№ B－4) ～ (№ B－1)

α (№B−1 ～ №B−4) −	− 1° 33′ 0″
α′ −	93 0
0.291 α′ −	27 1
0.291 D(Km) −	137m 3
H (B−4) −	454 3
H (B−1) −	591 6

	e		n′		D	
e′ −	+ 21.5	I −	263	(Km) Do −	5069m17	
				D n −	1.90	
A −	− 1.2	−	112	D −	5067.27	
				cosα −	999634	
B −	− 0	III −	0	Dcosα −	5065.42	
				dD1 −	0.47	
0 −	− 0	n′10³ −	375	dD2 −		
e −	20.3	n′ −	0.375	S −	5064.95	

K − (|K|<5)

T′/10⁷ − (T<2×10⁴)

ΔT−π − (ΔT=0)

T′ − mμs

ΔT − 0.

T − 33817.86

REMARKS

Instrument height
M − 1.38
R − 1.38

GB

SURVEY STATION № B - 5 (MASTER: №3, INSTRUMENT)
№ B - 1 (REMORTR: №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A + / A −	A+1−(A−) / U	A + R / A − R	(A+R) − (A−R) / V	(U+V)/2 / W	W/2 +50
1	2.0	815 / 165	65.0	165 / 685	48.0	565	78.2
2	4.0	810 / 180	63.0	185 / 690	49.5	562	78.1
3	6.0	825 / 170	65.5	175 / 680	49.5	575	78.8
4	8.0	820 / 170	65.0	175 / 685	49.0	570	78.5
5	10.0	825 / 170	65.5	170 / 680	49.0	572	78.6
6	12.0	830 / 150	68.0	150 / 675	47.5	578	78.9
7	14.0	830 / 160	67.0	165 / 675	49.0	580	79.0
8	16.0	815 / 160	65.5	165 / 670	49.5	575	78.8
9	18.0	815 / 150	66.5	150 / 655	49.5	580	79.0
10	20.0	815 / 150	66.5	150 / 655	49.5	580	79.0
11		———		———			
12		———		———			
						MEAN =	78.68

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	° ′ 30.0	° ′ 24.5	
II	30.0	25.0	
MEAN	30.0	24.8	
tc−tc′	5.2	dp	mmH9O

BEGINNING TIME 10h 13m

APPROX. READING I

A+ B	A+ 0	A+ D	A+ A−
810 / 7.0	40.0	74.0	16.0
74.0	41.0	07.0	65.0

$T_1 = 74082.50$ mμs

ENDING TIME 10h 20m

APPROX. READING II

A+ B	A+ 0	A+ D	A+ A−
810 / 10.0	41.0	74.0	15.0
71.0	40.0	07.0	66.0

$T_1 = 74083.00$ mμs

COMPUTATION OF DISTANCE (№ B - 5) ~ (№ B - 1)

α (B-1 ~ B-5) −	− 0° 40′ 29″
α' −	40 5
0.291 α' −	11 8
0.291D(Km) −	131 m 0
H (B-5) −	467 3
H (B-1) −	598 3

	e		n′		D	
e′	+ 23.2	I −	260	(Km) Do −	1110412	
A −	− 2.6	−	109	D n −	4.10	
B −	− 0.1	III −	0	D −	1110002	
O −	− 0	n′10³ −	369	cosα −	999931	
				Dcosα −	1109925	
				dD_1 −	104	
e −	20.5	n −	0.369	dD_2 −		
				S −	1109821	

K −	(IKI<5)
T′/10⁷ −	(T<2×10⁴)
ΔT−π −	(ΔT−0)
T′ −	mμs
ΔT −	0.
T −	74078.68

REMARKS

Instrument height
M −1.38
R −1.38

№B-5-1 (MASTER: №3, INSTRUMENT)

SURVEY STATION №B - 5 (REMORTR:№2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A + / A −	A+1−(A−) / U	A + R / A − R	(A+R)−(A−R)	(U+V)/2 / W	W/2 +50
1	2.0	560 / 470	9.0	460 / 950	510	300	650
2	4.0	580 / 470	11.0	485 / 950	535	372	661
3	6.0	605 / 480	12.5	490 / 950	540	332	666
4	8.0	565 / 450	11.5	465 / 960	505	310	655
5	10.0	575 / 460	11.5	470 / 970	500	308	654
6	12.0	545 / 450	9.5	465 / 960	505	300	650
7	14.0	565 / 460	10.5	460 / 965	495	300	650
8	16.0	555 / 440	11.5	440 / 955	485	300	650
9	18.0	545 / 455	9.0	460 / 960	500	295	648
10	20.0	565 / 460	10.5	455 / 955	500	302	651
11	18.0	570 / 455	11.5	450 / 960	490	302	651
12							
						MEAN =	653.5

M	Drybulb (tc)	Wetbulb (tc′)	Cystal temperature
I	24.0°	22.0°	
H	25.0	22.0	
MEAN	24.5	22.0	
tc−tc′	2.5	dp	0 mHp

BEGINNING TIME 8 h 5 m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A−
575 / 560	410	590	480
015	165	985	095

$T_1 = 02054.751$ mμs

ENDING TIME 8 h 20 m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A−
580 / 575	435	625	445
005	145	955	135

$T_1 = 02056.75$ mμs

CONPUTATION OF DISTANCE (№B-5-1) ~ (№B-5)

α(№B-5 / №B-5-1) =	+ 1° 12′ 40″
α' =	+ 72 7
0.291α' =	+ 21 2
0.291D(Km) =	+ 6 m 6
H (B-5) =	467 3
H (B-5-1) =	473 9

	e		n′		D
e′ =	+ 19.6	I =	+ 264	(Km)Do =	309.59
A =	− 1.2		+103	D n =	− 0.11
B =	− 0.0	III =	− 0	D =	309.48
C =	− 0.0	$n'10^3$ =	−367	cos α =	0.999777
e =	18.4	n′ =	0.367	D cos α =	309.41
				dD₁ =	− 0.02
				dD₂ =	
				S =	309.39

$T'/10^7$ = K (|K|<5)

(T<2×10⁴)

$\Delta T - \pi$ = (ΔT=0) mμs

T′ = .

ΔT = 0.

T = 02065.35

REMARKS

Instrument height

M = 1.4m

R = 1.58

SURVEY STATION №B5-1 (MASTER; №3, INSTRUMENT)
№B15-2 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

	№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)/(A−R) V	(U+V)/2 W	W/2+50
	1	2.0	58.0 / 46.0	12.0	46.0 / 98.0	48.0	30.0	65.0
	2	4.0	56.5 / 45.0	11.5	46.5 / 97.0	49.5	30.5	65.2
	3	6.0	57.0 / 46.0	11.0	47.0 / 98.0	49.0	30.0	65.0
	4	8.0	56.5 / 45.0	11.5	45.0 / 97.0	48.0	29.8	64.9
	5	10.0	56.5 / 47.0	9.5	47.0 / 98.0	49.0	29.2	64.6
	6	12.0	56.0 / 46.0	10.0	47.0 / 99.0	48.0	29.0	64.5
	7	14.0	56.5 / 46.0	10.5	46.0 / 97.5	48.5	29.5	64.8
	8	16.0	56.5 / 47.0	9.5	48.0 / 99.0	49.0	29.2	64.6
	9	18.0	57.5 / 48.0	9.5	48.5 / 98.0	49.5	29.5	64.8
	10	20.0	57.0 / 47.0	10.0	47.5 / 99.0	48.5	29.2	64.6
	11							
	12							
							MEAN =	64.80

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	25.5°	22.5°	
II	25.0	22.0	
MEAN	25.2	22.2	
tc−tc′	3.0	dp	0 mmHg

BEGINNING TIME 8 h 50 m

APPROX. READING I

A+B	A+C	A+D	A+A−
57.5 / 61.0	29.0	62.0	46.0
96.5	28.5	95.5	11.5

$T_1 = 03055.75$ mμs

ENDING TIME 9 h 10 m

APPROX. READING II

A+B	A+C	A+D	A+A−
58.0 / 56.0	28.0	54.0	47.0
02.0	30.0	04.0	11.0

$T_1 = 03055.50$ mμs

COMPUTATION OF DISTANCE (№B5-1) ~ (№B5-2)

α (B-5-2 / B-5-1) −	0° 1′ 32″
α' −	1′ 5″
0.291α' −	0′ 4″
0.291D(Km) −	0 m 2
H (B-5-1) −	473 9
H (B-5-2) −	473 7

e		n′		D	
e′ −	+19.9	I −	+264	(Km)Do −	459.40 m
A −	− 1.5	−	+101	D n −	− 0.17
B −	− 0.0	III −	− 0	D −	459.23
C −	− 0.0			cos α −	1.000.00
		$n'10^3$ −	−365	Dcosα −	459.23
e −	18.4	n′ −	0.365	dD_1 −	− 0.03
				dD_2 −	
				S −	459.20

K − (|K|<5)

T′/10⁷ − (T<2×10⁻⁴)

Δ T−π − (ΔT=0)

T′ − mμs

ΔT − 0.

T − 03064.80

REMARKS

Instrument height
M = 1.38
R = 1.38

51

SURVEY STATION №B5-3 (MASTER; №3, INSTRUMENT)
№B5-2 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)−(A+R) V	(U+V)/2 W	W/2+50
1	2.0	505 / 525	98.0	570 / 7.0	44.0	71.0	35.5
2	4.0	510 / 530	98.0	510 / 10.0	41.0	69.5	34.8
3	6.0	510 / 540	97.0	540 / 8.5	45.5	71.2	35.6
4	8.0	510 / 540	97.0	530 / 8.0	45.0	71.0	35.5
5	10.0	505 / 530	97.5	525 / 7.5	45.0	71.2	35.6
6	12.0	490 / 540	95.0	550 / 11.0	44.0	69.5	34.8
7	14.0	505 / 540	96.5	540 / 9.0	45.0	70.8	35.4
8	16.0	510 / 535	97.5	525 / 8.0	44.5	71.0	35.5
9	18.0	520 / 530	99.0	525 / 7.5	45.0	72.0	36.0
10	20.0	505 / 525	98.0	515 / 7.5	44.0	76.0	35.5
11	.	———		———			
12		———		———			
						MEAN =	35.42

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	28.0°	24.0°	
H	30.0	25.0	
MEAN	29.0	24.5	
tc − tc′	4.5	dp	0 mmHg

BEGINNING TIME 9 h 50 m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A−
51			
420	530	810	540
090	980	700	970

T_1 = 09648.50 mμs

ENDING TIME 10 h 3 m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A−
515			
420	540	850	525
095	975	665	990

T_1 = 09649.50 mμs

COMPUTATION OF DISTANCE (№B-5-3) ~ (№B-5-2)

α ($^{B-5-2}_{B-5-3}$) −	0° 21′ 54″
α' −	21 9
0.291 α' −	6 4
0.291 D(Km) −	9 m 2
H (B-5-2) −	473 7
H (B-5-3) −	464 5

	e
e′ −	+22.8
A −	− 2.2
B −	− 0
C −	− 0
e −	20.5

	n′
I −	+260
−	+110
III −	− 0
$n'10^3$ −	−370
n′ −	0.370

	D
(Km) Do −	1444.51
D n −	− 0.53
D −	1443.78
cos α −	0.999980
D cos α −	1443.75
dD_1 −	− 0.11
dD_2 −	
S −	1443.64

K −	(IKI<5)
T′/10^7 −	(T<2×10^4)
ΔT − π −	(ΔT = 0)
T′ −	mμs .
ΔT −	0.
T −	09635.42

REMARKS

Instrument height
M = 1.38
R = 1.38

52

SURVEY STATION №B5-3 (MASTER; №3, INSTRUMENT)
№B5-4 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)/(A−R) V	(U+V)/2 W	W/2+50
1	2.0	42.0 / 63.0	79.0	60.5 / 14.0	46.5	62.8	31.4
2	4.0	41.0 / 62.0	79.0	61.0 / 14.0	47.0	63.0	31.5
3	6.0	41.5 / 59.0	82.5	58.0 / 12.0	46.0	64.2	32.1
4	8.0	40.0 / 58.0	82.0	57.5 / 13.0	44.5	63.2	31.6
5	10.0	40.5 / 58.0	82.5	58.5 / 14.0	44.5	63.5	31.8
6	12.0	40.0 / 57.0	83.0	55.5 / 12.5	44.0	63.5	31.8
7	14.0	40.5 / 56.5	84.0	57.0 / 13.0	44.0	64.0	32.0
8	16.0	39.5 / 56.0	83.5	56.0 / 12.5	43.5	63.5	31.8
9	18.0	39.0 / 56.0	83.0	57.0 / 14.0	43.0	63.0	31.5
10	20.0	40.5 / 55.5	85.0	54.5 / 12.0	41.5	63.2	31.6
11		———		———			
12		———		———			
						MEAN =	31.71

M.	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	29.5°	24.0°	
II	30.0	24.0	
MEAN	29.8	24.0	
tc−tc′	5.8	dp	0 mmHg

BEGINNING TIME 10h 15m

APPROX. READING I

A+/B	A+/0	A+/D	A+/A−
43.0 / 46.0	31.0	87.0	62.0
97.0	12.0	56.0	81.0

T₁ = 01540.50 mμs

ENDING TIME 10h 35m

APPROX. READING II

A+/B	A+/0	A+/D	A+/A−
40.5 / 40.0	27.0	88.0	56.0
00.5	13.5	52.5	84.5

T₁ = 01542.20 mμs

COMPUTATION OF DISTANCE (№B-5-3) ~ (№B-5-4)

α ($\overset{B-5-4}{\sim B-5-3}$) =	1° 22′ 2″
α' =	82 0
0.291 α' =	23 9
0.291D(Km) =	5m 5
H (B-5-3) =	464 5
H (B-5-4) =	459 0

	e		n′		D	
e′ =	+222	I =	+260	(Km)Do =	229m60	
A =	− 29		+102	D n =	− 0.08	
B =	− 0.0	III =	− 0	D =	229.52	
0 =	− 0.0	$n'10^3$ =	−362	cos α =	0.999716	
e =	19.2	n′ =	0.362	Dcos α =	229.45	
				dD_1 =	− 0.02	
				dD_2 =		
				S =	229.43	

K =	(IKI<5)
T′/10^7 =	(T<2×10^4)
△T−π =	(△T−0) mμs
T′ =	.
△T =	0.
T =	01531.71

REMARKS

Instrument height
M = 1.38
R = 1.38

f-3

SURVEY STATION №B5-5 (MASTER: №3; INSTRUMENT)
№B5-4 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) / U	A+R / A−R	(A+R)−(A−R) / V	(U+V)/2 / W	W/2+50
1	2.0	190 / 850	34.0	850 / 400	45.0	39.5	19.8
2	4.0	195 / 845	35.0	850 / 410	44.0	39.5	19.8
3	6.0	190 / 840	35.0	845 / 410	43.5	39.2	19.6
4	8.0	185 / 835	35.0	855 / 415	44.0	39.5	19.8
5	10.0	180 / 850	33.0	860 / 420	44.0	38.5	19.2
6	12.0	205 / 860	34.5	845 / 400	44.5	39.5	19.8
7	14.0	190 / 840	35.0	840 / 410	43.0	39.0	19.5
8	16.0	190 / 830	36.0	850 / 425	42.5	39.2	19.6
9	18.0	170 / 820	35.0	860 / 440	42.0	38.5	19.2
10	20.0	190 / 830	36.0	840 / 400	44.0	40.0	20.0
11		———		———			
12		———		———			
						MEAN =	19.63

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	32.0°	25.0°	
H	32.0	25.5	
MEAN	32.0	25.2	
tc−tc′	6.8	dp	0 mmHg

BEGINNING TIME 11h 5m

APPROX. READING I

A+/B	A+/0	A+/D	A+/A−
195 / 110	615	640	845
085	580	555	350

mμs
T₁ = 055175.0

ENDING TIME 11h 18m

APPROX. READING II

A+/B	A+/0	A+/D	A+/A−
190 / 115	595	630	830
075	595	560	360

mμs
T₁ = 055180.0

COMPUTATION OF DISTANCE (№B-5-5) ~ (№B-5-4)

α (B-5-4 ~B-5-5) =	0° 43′ 20″
α′ =	43 3
0.291α′ =	12 6
0.291D(Km) =	10m 4
H (B-5-4) =	459 0
H (B-5-5) =	448 6

e′ =	+23.8	I =	+258	(Km)Do =	827.37
A =	− 3.4		+108	D n =	− 0.30
B =	− 0.0	II =	− 0	D =	827.07
0 =	− 0.0	n′10³ =	−366	cos α =	0.999921
e =	20.3	n′ =	0.366	Dcos α =	827.00
				dD₁ =	0.06
				dD₂ =	
				S =	826.94

e n′ D

K =	(IKI<5)
T/10⁷ =	(T<2×10⁴)
ΔT−π =	(ΔT=0)
T′ =	mμs
ΔT =	0.
T =	055196.3

REMARKS

Instrument height
M = 1.38
R = 1.38

5-4

SURVEY STATION　№ B 5 - 7 (MASTER; №3, INSTRUMENT)
№ B 5 - 6 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

	№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)−(A−R) V	(U+V)/2 W	W/2 + 50
	1	2.0	47.5 / 58.0	89.5	58.0 / 10.5	47.5	68.5	34.2
	2	4.0	48.0 / 57.5	90.5	59.0 / 11.5	47.5	69.0	34.5
	3	6.0	49.0 / 56.0	91.0	58.5 / 11.5	47.0	69.0	34.5
	4	8.0	48.5 / 57.0	91.5	56.5 / 10.5	46.0	68.8	34.4
	5	10.0	48.5 / 58.0	90.5	59.0 / 11.5	47.5	69.0	34.5
	6	12.0	48.5 / 59.0	89.5	59.5 / 11.5	48.0	68.8	34.4
	7	14.0	49.5 / 57.5	92.0	57.5 / 10.0	47.5	69.8	34.9
	8	16.0	50.0 / 56.0	94.0	56.0 / 9.5	46.5	70.2	35.1
	9	18.0	49.5 / 55.5	94.0	56.0 / 9.0	47.0	70.5	35.2
	10	20.0	49.0 / 56.0	93.0	56.0 / 10.0	46.0	69.5	34.8
	11							
	12							
							MEAN =	34.65

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	34.5°	24.5°	
II	35.0	23.5	
MEAN	34.8	24.0	
tc − tc′	10.8	dp	mmHg

BEGINNING TIME 13 h 56 m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A−
48.0 / 44.0	25.0	22.0	58.0
04.0	23.0	26.0	9.0

T_1 = 02245.00 mμs

APPROX. READING II

A+/B	A+/C	A+/D	A+/A−
49.0 / 46.0	27.0	24.0	56.0
03.0	22.0	25.0	93.0

T_1 = 02246.50 mμs

ENDING TIME 14 h 4 m

COMPUTATION OF DISTANCE (№B - 5 - 7) ~ (№B - 5 - 6)

α ($^{B-5-6}_{\sim B-5-7}$) −	0° 12′ 44″
α' −	12 7
0.291 α' −	3 7
0.291D(Km) −	1 m 2
H (B-5-6) −	455 6
H (B-5-7) −	456 8

	e		n′		D	
e′ −	+222	I −	+255	(Km) Do −	334.97 m	
A −	− 5.4	−	+ 86	D n −	− 0.11	
B −	− 0.2	III −	− 0	D −	334.86	
C −	− 0.0	$n'10^3$ −	−341	cos α −	0.999993	
e −	1-6.6	n′ −	0.341	D cos α −	334.86	
				dD_1 −	− 0.24	
				dD_2 −		
				S −	334.62	

K −	(IKI<5)
T′/10^7 −	(T<2×10^4)
△T−π −	(△T=0)
T′ −	mμs
△T −	0.
T −	02234.65

REMARKS

Instrument height
M = 1.38
R = 1.38

5-6

SURVEY STATION　№B-5-5 (MASTER; №3, INSTRUMENT)
№B-5-6 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)−(A−R) V	(U+V)/2 W	W/2+50
1	2.0	43.0 / 59.5	83.5	60.0 / 15.5	44.5	64.0	32.0
2	4.0	42.5 / 59.5	83.0	60.5 / 15.5	45.0	64.0	32.0
3	6.0	43.0 / 60.0	83.0	60.0 / 15.0	45.0	64.0	32.0
4	8.0	43.0 / 59.5	83.5	59.0 / 13.0	46.0	64.8	32.4
5	10.0	43.0 / 58.0	85.0	58.0 / 12.5	45.5	65.2	32.6
6	12.0	43.0 / 59.0	84.0	59.0 / 13.5	45.5	64.8	32.4
7	14.0	44.5 / 58.0	86.5	58.5 / 13.0	45.5	66.0	33.0
8	16.0	45.0 / 58.0	87.0	59.0 / 12.5	46.5	66.8	33.4
9	18.0	44.5 / 57.0	87.5	58.5 / 13.0	45.5	66.5	33.2
10	20.0	43.0 / 58.0	85.0	57.0 / 12.5	44.5	64.8	32.4
11		———		———			
12		———		———			
						MEAN =	32.54

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	33.0°	25.0°	
II	33.0	24.5	
MEAN	33.0	24.8	
tc−tc′	8.2	dp	0 mmHg

BEGINNING TIME 11h 44m

APPROX. READING I

A+/B	A+/0	A+/D	A+/A−
43.0 / 39.0	5.0	55.0	59.0
04.0	38.0	88.0	84.0

T_1 = 0 38 42.00 mμs

ENDING TIME 11h 52m

APPROX. READING II

A+/B	A+/0	A+/D	A+/A−
43.0 / 38.0	5.0	56.0	57.0
05.0	38.0	87.0	86.0

T_1 = 0 38 43.00 mμs

COMPUTATION OF DISTANCE (№B-5-5) ～ (№B-5-6)

α (B-5-6 ～B-5-5) −	0° 42′ 6″
α' −	42 1
0.291 α' −	12 2
0.291D(Km) −	7m 0
H (B-5-5) −	448 6
H (B-5-6) −	455 6

e		n′		D	
e′ −	+23.2	I −	+257	(Km) Do −	574.48
A −	− 4.1	−	+ 99	D n −	− 0.20
B −	− 0.0	III −	− 0	D −	574.28
C −	− 0.0	$n'10^3$ −	−356	cos α −	0.999925
e −	19.0	n′ −	0.356	Dcos α −	574.24
				dD_1 −	− 0.41
				dD_2 −	
				S −	573.83

K −	(IKI<5)
T′/10^7 −	(T<2×10^4)
△T−π −	(△T−0) mμs
T′ −	.
△T −	0.
T −	0 38 32.54

REMARKS

Instrument height
M = 1.38
R = 1.38

55

SURVEY STATION　№ B 5 - 7 (MASTER; №3, INSTRUMENT)
　　№ B 5 - 8 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) / U	A+R / A−R	(A+R)−(A−R) / V	(U+V)/2 / W	W/2+50
1	2.0	40.0 / 63.5	76.5	63.0 / 13.0	50.0	63.2	31.6
2	4.0	39.5 / 7	75.5	65.0 / 15.0	50.0	62.8	31.4
3	6.0	39.0 / 63.0	76.0	64.0 / 15.0	49.0	62.5	31.2
4	8.0	39.0 / 63.0	76.0	63.0 / 14.0	49.0	62.5	31.2
5	10.0	39.0 / 63.0	76.0	64.0 / 14.0	50.0	63.0	31.5
6	12.0	39.0 / 62.5	76.5	63.0 / 13.5	49.5	63.0	31.5
7	14.0	38.5 / 62.0	76.5	64.0 / 15.0	49.0	62.8	31.4
8	16.0	38.0 / 61.5	76.5	63.0 / 15.5	47.5	62.0	31.0
9	18.0	39.0 / 62.0	77.0	62.5 / 15.0	47.5	62.2	31.1
10	20.0	38.5 / 63.0	75.5	63.0 / 14.5	48.5	62.0	31.0
11		———		———			
12		———		———			
						MEAN =	31.29

M	Drybulb (tc)	Wetbulb (tc')	Crystal temperature
I	35.0°	25.5°	
II	35.0	24.0	
MEAN	35.0	24.8	
tc−tc'	10.2	dp	mmHg

BEGINNING TIME 14h 21m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A−
40.0 / 38.5	8.0	6.5	63.0
01.5	32.0	33.5	77.0

mμs
T₁ = 03338.50

ENDING TIME 14h 37m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A−
39.0 / 39.0	5.0	3.5	62.0
00.0	34.0	35.5	77.0

mμs
T₁ = 03338.50

COMPUTATION OF DISTANCE (№B-5-7) ～ (№B-5-8)

α (B-5-8 ～ B-5-7) −	0° 54' 30"
α' −	54 5
0.2911α' −	15 9
0.2911D(Km) −	7m 9
H (B-5-7) −	456 8
H (B-5-8) −	448 9

e		n'		D	
e' −	+23.2	I −	+255	(Km)Do −	−499m55
A −	− 5.1	−	+ 94	D n −	− 0.17
B −	− 0.1	III −	− 0	D −	499.18
C −	− 0.0	n'10³ −	−349	cosα −	0.999874
				D cosα −	499.12
				dD₁ −	− 0.04
				dD₂ −	
e −	18.0	n' −	0.349	S −	499.08

K −	(|K|<5)
T'/10⁷ −	(T<2×10⁴)
ΔT−π −	(ΔT=0)
T' −	mμs
ΔT −	0.
T −	03331.29

REMARKS

Instrument height
M − 1.38
R − 1.38

57

SURVEY STATION №B5-9 (MASTER; №3, INSTRUMENT)
№B5-8 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)−(A−R) V	(U+V)/2 W	W/2+50
1	2.0	47.0 / 58.0	84.0	59.0 / 9.0	50.0	67.0	33.5
2	4.0	42.5 / 59.0	83.5	60.0 / 10.0	50.0	66.8	33.4
3	6.0	42.0 / 59.0	83.0	60.0 / 9.0	51.0	67.0	33.5
4	8.0	41.0 / 58.0	83.0	59.0 / 10.0	49.0	66.0	33.0
5	10.0	40.5 / 58.0	82.5	60.0 / 9.5	50.5	66.5	33.2
6	12.0	41.0 / 57.5	83.5	59.0 / 10.0	49.0	66.2	33.1
7	14.0	40.5 / 57.0	83.5	59.0 / 9.5	49.5	66.5	33.2
8	16.0	40.0 / 56.0	84.0	57.5 / 9.0	48.5	66.2	33.1
9	18.0	40.0 / 56.5	83.5	58.0 / 9.0	49.0	66.2	33.1
10	20.0	41.0 / 57.0	84.0	58.0 / 8.5	49.5	66.8	33.4
11							
12						MEAN =	33.25

M	Drybulb (tc) °C	Wetbulb (tc′) °C	Crystal temperature
I	34.5	22.0	
II	35.0	23.0	
MEAN	34.8	22.5	
tc−tc′	12.3	dp	mmHg

BEGINNING TIME 14h 58m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A−
43.0 / 40.0	27.0	89.0	58.0
03.0	16.0	54.0	85.0

T_1 = 0154250 mμs

ENDING TIME 15h 9m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A−
41.5 / 40.0	30.5	90.0	57.0
01.5	11.0	51.5	84.5

T_2 = 0154225 mμs

COMPUTATION OF DISTANCE (№B-5-9) ~ (№B-5-8)

α ($\overset{B-5-8}{\sim}_{B-5-9}$) =	1° 49′ 4″
α' =	109 1
0.291 α' =	31 7
0.291 D(Km) =	7 m 3
H (B-5-8) =	448 9
H (B-5-9) =	441 6

e		n′		D	
e′ =	+20.2	I =	+255	(Km) Do =	229.83 m
A =	− 6.2	=	+ 72	D n =	− 0.08
B =	− 0.2	III =	− 0	D =	229.75
C =	− 0.0	$n' \times 10^3$ =	−327	cos α =	0.999497
e =	13.8	n′ =	0.327	D cos α =	229.63
				dD_1 =	− 0.02
				dD_2 =	
				S =	229.61

K =	(IKI<5)
T′/10^7 =	(T<2×10^4)
ΔT−π =	(ΔT=0) mμs
T′ =	
ΔT =	0.
T =	0153325

REMARKS

Instrument height
M = 1.38
R = 1.38

SURVEY STATION №B5-10 (MASTER; №3, INSTRUMENT)
№B5-11 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)−(A−R) V	(U+V)/2 W	W/2 +50
1	2.0	46.5 / 56.0	90.5	57.0 / 8.0	49.0	69.8	34.9
2	4.0	47.0 / 57.5	89.5	57.0 / 7.5	49.5	69.5	34.8
3	6.0	47.0 / 58.0	89.0	58.0 / 8.0	50.0	69.5	34.8
4	8.0	46.0 / 57.0	89.0	57.5 / 7.5	50.0	69.5	34.8
5	10.0	45.0 / 56.5	88.5	57.5 / 7.0	50.5	69.5	34.8
6	12.0	46.0 / 57.0	89.0	58.0 / 7.5	50.5	69.8	34.8
7	14.0	47.0 / 58.0	89.0	58.5 / 8.0	50.5	69.8	34.9
8	16.0	47.5 / 57.5	90.0	57.0 / 7.0	50.0	70.0	35.0
9	18.0	48.0 / 58.0	90.0	57.0 / 6.5	50.5	70.2	35.1
10	20.0	48.5 / 58.0	90.5	57.5 / 7.0	50.5	70.5	35.2
11							
12							
						MEAN =	34.92

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	35°0′	24°5′	
II	35 5	23 0	
MEAN	35 2	23 8	
tc−tc′	11.4	dp	mmHg

BEGINNING TIME 15h 37m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A−
46.0 / 41.0	87.0	63.0	56.0
05.0	59.0	83.0	90.0

T_1 = 05845.00 mμs

ENDING TIME 15h 52m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A−
48.0 / 42.0	90.5	65.0	58.0
06.0	57.5	83.0	90.0

T_1 = 05845.00 mμs

COMPUTATION OF DISTANCE (№B-5-10) ~ (№B-5-11)

α ($^{B-5-11}_{B-5-10}$) =	0° 20′ 5″
α' =	20 1
0.291 α' =	5 8
0.291D(Km) =	5m 1
H (B-5-10) =	436 6
H (B-5-11) =	441 7

	e		n′		D	
e′ =	+21.9	I =	+255	(Km) Do =	874.63	
				D n =	− 0.30	
A =	− 5.7		+ 83	D =	874.33	
				cos α =	0.999983	
B =	− 0.2	III =	− 0	D cos α =	874.32	
				dD_1 =	− 0.06	
0 =	− 0.0	$n' 10^3$ =	−338	dD_2 =		
e =	16.0	n′ =	0.338	S =	874.26	

K =	(IKI<5)
T′/10^7 =	(T<2×10^4)
ΔT−π =	(ΔT=0)
T′ =	mμs
ΔT =	0.
T =	05834.92

REMARKS

Instrument height
M = 1.38
R = 1.38

57

№ B5-12 (MASTER; №3, INSTRUMENT)

SURVEY STATION № B5-11 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) / U	A+R / A−R	(A+R)−(A−R) / V	(U+V)/2 / W	W/2 +50
1	2.0	75.5 / 30.0	45.5	31.0 / 81.5	49.5	47.5	73.8
2	4.0	74.0 / 30.0	44.0	30.0 / 81.0	49.0	46.5	73.2
3	6.0	74.0 / 34.0	44.0	30.0 / 82.0	48.0	46.0	73.0
4	8.0	73.5 / 29.5	44.0	30.0 / 81.0	49.0	46.5	73.2
5	10.0	74.5 / 30.5	44.0	30.0 / 82.0	48.0	46.0	73.0
6	12.0	75.0 / 31.0	44.0	30.0 / 81.5	48.5	46.2	73.1
7	14.0	74.0 / 30.5	43.5	29.5 / 81.0	48.5	46.0	73.0
8	16.0	73.0 / 31.0	42.0	30.5 / 82.0	48.5	45.2	72.6
9	18.0	73.5 / 30.5	43.0	31.0 / 82.0	49.0	46.0	73.0
10	20.0	74.0 / 31.0	43.0	30.0 / 81.5	48.5	45.8	72.9
11		———		———			
12		———		———			
						MEAN=	73.08

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	35.0°	24.0°	
II	35.5	23.5	
MEAN	35.2	23.8	
tc−tc′	11.4	dp	mmHg

BEGINNING TIME 16h 12m

APPROX. I READING

A+/B	A+/C	A+/D	A+/A−
75.0 / 70.0	31.5	68.0	29.5
05.0	43.5	07.0	45.5

mμs

T_1 = 0407275

ENDING TIME 14h 24m

APPROX. II READING

A+/B	A+/C	A+/D	A+/A−
75.0 / 71.0	33.5	69	30.0
04.0	41.5	06.0	45.0

mμs

T_1 = 0407250

COMPUTATION OF DISTANCE (№B-5-12) ~ (№B-5-11)

α (B-5-11 ~ B-5-12) =	0° 47′ 0″
α' =	47 0
0.291 α' =	13 7
0.291D(Km) =	8m4
H (B-5-12) =	4548
H (B-5-11) =	4464

	e		n′		D
e′ =	+219	I =	+255	(Km)Do =	6105m4
A =	− 5.7		+ 83	D n =	− 0.21
B =	− 0.2	III =	− 0	D =	6103
0 =	− 0.0	$n'10^3$ =	−338	cosα =	0.999907
e =	160	n′ =	0.338	Dcosα =	6102
				dD_1 =	− 0.04
				dD_2 =	
				S =	6102

K = (IKI<5)

T′/10^7 = (T<2×10^4)

△T−π = (△T=0)

mμs

T′ =

△T = 0.

T = 0407308

REMARKS

Instrument hight

M = 1.38

R = 1.38

60

SURVEY STATION №B5-13 (MASTER; №5, INSTRUMENT)
№B5-14 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)−(A−R) V	(U+V)/2 W	W/2+50
1	2.0	97.0 / 9.0	88.0	9.0 / 60.0	49.0	68.5	84.2
2	4.0	97.0 / 9.0	88.0	8.5 / 59.0	49.5	68.8	84.4
3	6.0	98.0 / 9.0	89.0	9.0 / 59.5	49.5	69.2	84.6
4	8.0	97.0 / 9.0	88.0	9.0 / 60.5	48.5	68.2	84.1
5	10.0	98.0 / 8.5	89.5	8.5 / 60.0	48.5	69.0	84.5
6	12.0	96.0 / 9.0	87.0	9.0 / 60.0	49.0	68.0	84.0
7	14.0	97.0 / 8.0	89.0	9.0 / 59.5	49.5	69.2	84.6
8	16.0	96.5 / 7.5	89.0	8.0 / 59.0	49.0	69.0	84.5
9	18.0	97.0 / 8.0	89.0	7.5 / 58.5	49.0	69.0	84.5
10	20.0	96.5 / 7.5	89.0	8.0 / 59.0	49.0	69.0	84.5
11		———		———			
12		———		———			
						MEAN =	84.39

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	° ′ 34.0	° ′ 23.0	
H	32.0	22.0	
MEAN	33.0	32.5	
tc−tc′	10.5	dp	mmHg

BEGINNING TIME h m 16 48

APPROX. READING I

A+B	A+C	A+D	A+A−
96.0 / 99.0	69.0	38.0	9.0
97.0	27.0	58.0	87.0

mμs
$T_1 = 0259.3501$

ENDING TIME h m

APPROX. READING II

A+B	A+C	A+D	A+A−
97.0 / 99.0	71.0	39.0	8.5
98.0	26.0	58.0	88.5

mμs
$T_1 = 0259.425$

K = (|K|<5)
T′/10⁷ = (T<2×10⁴)
ΔT−π = (ΔT−0)

mμs
T′ =
ΔT = 0.
T = 0258.439

COMPUTATION OF DISTANCE (№B-5-13) ~ (№B-5-14)

α (B-5-14 ~B-5-13) =	° ′ ″ − 0 59 8
α' =	59 1
0.291 α' =	17 2
0.291D(Km) =	6 m 7
H (B-5-14) =	467 5
H (B-5-13) =	460. 8

e		n′		D	
e′ =	20.2	I =	257	(Km) D_0 =	38 m 59
A =	5.3	=	77	D n =	0.13
B =	0.1	III =	334	D =	38726
C =	0	n′ 103 =	1334	cos α =	0.999852
e =	14.8	n′ =	0.334	D cos α =	38720
				dD_1 =	03
				dD_2 =	
				S =	38717

REMARKS

Instrument height
M = 1.38
R = 1.38

SURVEY STATION　№ B－6 (MASTER; №3, INSTRUMENT)
№ B－1 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A + / A −	A+1−(A−) U	A + R / A − R	(A+R)−(A−R) V	(U+V)/2 W	W/2+50
1	2.0	405 / 635	770	645 / 160	485	628	314
2	4.0	400 / 640	760	655 / 180	475	618	309
3	6.0	405 / 645	760	645 / 185	460	610	305
4	8.0	395 / 650	745	650 / 170	480	1112	306
5	10.0	415 / 645	770	650 / 165	485	628	314
6	12.0	415 / 645	770	650 / 170	480	625	312
7	14.0	410 / 645	765	650 / 170	480	622	311
8	16.0	410 / 645	765	650 / 165	485	625	312
9	18.0	415 / 650	765	650 / 165	485	625	312
10	20.0	415 / 645	770	645 / 165	480	625	312
11		———		———			
12		———		———			
						MEAN =	3107

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
	° ′	° ′	
I	32.5	25.0	
H	34.0	26.0	
MEAN	33.2	25.5	
tc−tc′	7.7	dp	mmHg

BEGINNING TIME 11h 51m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A−
410 / 220	380	7.0	640
190	030	340	770

$T_1 = 12033850$ mμs

ENDING TIME 11h 58m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A−
410 / 210	380	8.0	640
200	030	330	770

$T_1 = 12033850$ mμs

COMPUTATION OF DISTANCE (№ B－6) ～ (№ B－1)

$a\ (^{B-1}_{B-6})$ −	° ′ ″ − 0 17 52
a' −	17 9
$0.291a'$ −	5 2
$0.291D(Km)$ −	− 93m8
H (B－1) −	589 9
H (s－6) −	496 1

	e		n′		D	
e′ −	+ 24.2	I −	257	(Km)Do −	18037m18	
A −	− 33.9	−	105	D n −	6.53	
B −	− 0.1	III −	0	D −	18030.65	
C −	− 0	$n'10^3$ −	362	$\cos\alpha$ −	9999.87	
e −	202	n′ −	0362	Dcosα −	18030.42	
				dD_1 −	1.67	
				dD_2 −		
				S −	18028.75	

K − (IKI< 5)

T′/10^7 − (T<2×10^4)

△T−π − (△T − 0) mμs

T′ − ·

△T − 0.

T − 12035107

REMARKS

Instrument height
M −1.38
R −1.38

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№ B - 6 (MASTER; №3, INSTRUMENT)

SURVEY STATION № B - 3′ (REMORTR; №2, INSTRUMENT)

	№	CAVITY	A + / A −	A+1−(A−) / U	A + R / A − R	(A+R) / (A−R) / V	(U+V)/2 / W	W/2 +50
	1	2.0	17.0 / 81.0	36.0	83.0 / 33.0	50.0.	43.0	21.5
	2	4.0	18.0 / 80.0	38.0	79.0 / 31.0	48.0	43.0	21.5
	3	6.0	26.0 / 79.0	47.0	84.0 / 29.0	55.0	51.0	25.5
	4	8.0	25.0 / 83.0	42.0	82.0 / 34.0	48.0	45.0	22.5
	5	10.0	21.0 / 82.0	39.0	79.5 / 31.0	48.5	43.8	21.9
	6	12.0	21.5 / 79.0	42.5	79.0 / 34.5	44.5	43.5	21.8
	7	14.0	25.0 / 18.0	47.0	80.0 / 32.0	48.0	47.5	23.8
	8	16.0	24.0 / 79.0	45.0	78.0 / 38.0	40.0	42.5	21.2
	9	18.0	26.0 / 80.0	46.0	79.0 / 33.5	45.5	45.8	22.9
	10	20.0	22.0 / 79.5	42.5	77.0 / 36.0	41.0	41.8	20.9
	11		———		———			
	12		———		———			
							MEAN −	22.35

M	Drybulb	Wetbulb	Crystal temperature
I	36.5	26.5	
H	36.5	26.0	
MEAN	36.0	26.2	
tc − tc′	9.8	dp	mmHg

BEGINNING TIME 15h 35m

A+ / B	A+ / 0	A+ / D	A+ / A−
16.5 / 79.0	16.0	6.0	79.0
37.5	00.5	10.5	37.0

$T_1 = 30118.50$ mμs

ENDING TIME 15h 50m

A+ / B	A+ / 0	A+ / D	A+ / A−
220.0 / 91.0	21.	8.0	80.0
31.0	01.0	14.0	42.0

$T_1 = 30121.00$ mμs

COMPUTATION OF DISTANCE (№ B - 6) ~ (№ B - 3)

α (B-6 ~B-3) −	− 1° 3′ 34″
α′ −	63 6
0.291α′ −	18 5
0.291D(Km) −	+ 83 m 5
H (B-3) −	436 7
H (B-6) −	520 2

e		n′		D	
e′ −	+ 25.2	I −	254	(Km) Do −	45153 m 23
A −	− 4.93	−	103	D n −	161
B −	− 0.1	III −	0	D′ −	45136.2
0 −	− 0			cosα −	99982.9
		n′10³ −	357	Dcosα −	45128.5
				dD₁ −	0.31
				dD₂ −	
e −	20.2	n′ −	0357	S −	45125.4

K − (IKI<5)

T′/10⁷ − (T<2×10⁴)

ΔT−π − (ΔT=0)

T′ − mμs

ΔT − 0.

T − 30122.35

REMARKS

Instrument height

M −1.38

R −1.38

SURVEY STATIOM №0-2 (MASTER; №3, INSTRUMENT)
№C-2-A (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) U	A+R / A−R	(A+R)−(A−R) V	(U+V)/2 W	W/2+50
1	2.0	965 / 105	860	110 / 605	505	682	841
2	4.0	965 / 110	855	/ 600	505	680	840
3	6.0	965 / 95	870	95 / 595	500	685	842
4	8.0	945 / 100	845	115 / 605	510	678	839
5	10.0	925 / 120	805	125 / 615	510	658	829
6	12.0	925 / 125	800	130 / 620	510	655	828
7	14.0	925 / 135	790	140 / 635	505	648	824
8	16.0	925 / 130	795	130 / 630	500	648	824
9	18.0	925 / 125	800	125 / 625	500	650	825
10	20.0	925 / 125	800	125 / 625	500	650	825
11							
12							
						MEAN =	833.17

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	28.0°	23.5°	
H	28.5	24.0	
MEAN	28.2	23.8	
tc−tc′	4.4	dp	mmHg

BEGINNING TIME 9h 53m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A−
960 / 880	150	580	100
080	810	380	860

T1 = 0839300 mμs

ENDING TIME 9h 58m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A−
930 / 840	120	550	138
090	810	380	800

T1 = 0839000 mμs

COMPUTATION OF DISTANCE (№0-2) ~ (№0-2-1)

α (№0-A ~ №0-2)	+ 5 14 47
α′	314 8
0.291α′	91 6
0.291D(Km)	115 m 1m
H (0-2-A)	433 4
H (0-2)	548 5

	e		n′		D	
e′	+ 21.9	I	+ 261	(Km) Do	1256.61	
A	− 2.2		+ 106	D n	046	
B	− 0.1	III	0	D	1256.15	
C	0	n′10³	367	cosα	99581.0	
e	19.6	n′	0.367	Dcosα	1250.89	
				dD1	0.09	
				dD2		
				S	1250.80	

K = (IKI<5)

T′/10⁷ = (T<2×10⁴)

Δτ−π = (Δτ=0)

T′ = mμs

ΔT = 0.

T = 8380.17

REMARKS

Instrument height

M =

R =

SURVEY STATION　№ 0 - 2 (MASTER; №3, INSTRUMENT)
№ B - 1 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A-	A+1-(A-) U	A+R / A-R	(A+R)/(A-R) V	(U+V)/2 W	W/2+50
1	2.0	205 / 860	345	865 / 365	500	422	211
2	4.0	200 / 860	340	865 / 365	500	420	210
3	6.0	210 / 840	370	845 / 380	465	418	209
4	8.0	215 / 850	365	830 / 365	465	415	208
5	10.0	225 / 830	395	830 / 375	455	425	212
6	12.0	220 / 845	375	835 / 360	475	425	212
7	14.0	210 / 845	375	830 / 375	455	415	208
8	16.0	215 / 835	380	830 / 370	460	420	210
9	18.0	220 / 835	385	820 / 360	460	422	211
10	20.0	225 / 835	390	825 / 365	460	425	212
11							
12							
						MEAN =	2103

M	Drybulb (tc)	Wetbulb (tc')	Crystal temperature
I	37.5	27.0	
H	36.0	26.0	
MEAN	36.8	26.5	
tc-tc'	10.3	dp	0 mmHg

BEGINNING TIME 15h 20m

APPROX. READING I

A+/B	A+/C	A+/D	A+/A-
210 / 4.0	67.0	79.0	86.0
17.0	54.0	42.0	35.0

$T_1 = 11541750$ mμs

ENDING TIME 15h 29m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A-
220 / 6.0	67.0	79.0	83.0
16.0	55.0	43.0	39.0

$T_1 = 11541950$ mμs

COMPUTATION OF DISTANCE (№ 0 - 2) ~ (№ B - 1)

α (B-1 ~ 0-2) =	- 0° 11' 44"
α' =	11 7
0.291 α' =	3 4
0.291 D(Km) =	- 58 m 8
H (B - 1) =	589 9
H (0 - 2) =	531 1

	e		n'		D
e' =	+ 25.7	I =	254	(Km) Do =	17301円8
A =	- 5.2	=	104	D n =	6.19
B =	- 0.2	III =	0	D =	17294.99
0 =	- 203	$n' 10^3$ =	358	cos α =	999994
e =		n' =	0.358	Dcos α =	17294.89
				dD_1 =	1.60
				dD_2 =	
				S =	17293.29

K = (IKI<5)

T'/10^7 = (T<2×10^4)

$\Delta T - \pi$ = mμs ($\Delta T = 0$)

T' =

ΔT = 0.

T = 11541950

REMARKS

Instrument height
M = 1.38
R = 1.38

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SURVEY STATION № 0 − 2 (MASTER; №3, INSTRUMENT) / № E − 3 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A + / A −	A+1−(A−) / U	A + R / A − R	(A+R)−(A−R) / V	(U+V)/2 / W	W/2 + 50
1	2.0	9.0 / 95.0	14.0	96.5 / 50.0	46.5	30.2	15.1
2	4.0	9.5 / 96.5	13.0	97.0 / 50.0	47.0	30.0	15.0
3	6.0	9.5 / 97.0	12.5	98.5 / 50.5	48.0	30.2	15.1
4	8.0	10.0 / 97.5	12.5	99.0 / 50.5	48.5	30.5	15.2
5	10.0	10.0 / 98.0	12.0	99.0 / 51.0	48.0	30.0	15.0
6	12.0	10.5 / 98.0	12.5	98.5 / 50.5	48.0	30.2	15.1
7	14.0	11.0 / 98.0	13.0	98.5 / 51.0	47.5	30.2	15.1
8	16.0	11.5 / 98.0	13.5	98.5 / 51.0	47.5	30.5	15.2
9	18.0	11.5 / 97.6	14.0	98.0 / 50.5	47.5	30.8	15.4
10	20.0	11.5 / 97.5	14.0	98.0 / 50.5	47.5	30.8	15.4
11		———		———			
12		———		———			
						MEAN =	15.16

M	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	32.0°	25.0°	
H	31.5	25.5	
MEAN	31.8	25.2	
tc−tc′	6.6	dp	mmHg

BEGINNING TIME h m

READING I	A+/B	A+/C	A+/D	A+/A−
	08.0 / 00.0	7.0	70.	95.0
APPROX.	08.0	01.0	38.0	13.0

$T_1 = 11040650$ mμs

ENDING TIME h m

READING II	A+/B	A+/C	A+/D	A+/A−
	11.0 / 3.0	11.0	70.0	98.0
APPROX.	08.0	00.0	41.0	13.0

$T_1 = 11040650$ mμs

COMPUTATION OF DISTANCE (№. 0−2) ~ (№ E−3)

α ($\sim^{E-3}_{0-2}$) =	+ 0° 2′ 39″
α' =	2 6
0.291 α' =	0 8
0.291 D(Km) =	13m2
H (E − 3) =	516 1
H (0 − 2) =	529 3

	e		n′		D	
e =	+ 23.8	I =	+ 264	(Km) D_0 =	16550m82	
A =	− 3.3	−	+ 112	D n =	6.22	
B =	− 0.1	M =	0	D =	16544.60	
0 =	0.0	$n'10^3$ =	3.76	cos α =	1000000.00	
e =	20.4	n′ =	0.376	D cos α =	16544.60	
				dD_1 =	1.37	
				dD_2 =		
				S =	16543.23	

K = (|K|<5)

T′/10^7 = (T<2×10^4) (ΔT = 0)

mμs

T′ =

ΔT = 0.

T = 11041516

REMARKS

Instrument height

M = 1.38

R = 1.38

SURVEY STATION №0-2 (MASTER; №3, INSTRUMENT)
№E-4 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) / U	A+R / A−R	(A+R)−(A−R) / V	(U+V)/2 / W	W/2+50
1	20	78.5 / 27.5	5.10	28.0 / 77.5	5.05	5.08	75.4
2	40	78.0 / 28.5	4.95	29.5 / 77.5	5.20	5.08	75.4
3	60	78.0 / 28.5	4.95	29.5 / 78.0	5.15	5.05	75.2
4	8.0	78.5 / 29.0	4.95	29.5 / 78.0	5.15	5.05	75.2
5	10.0	78.5 / 29.0	4.95	29.5 / 78.0	5.15	5.05	75.2
6	12.0	77.5 / 29.0	4.85	29.0 / 78.0	5.10	4.98	74.9
7	14.0	77.0 / 29.0	4.80	29.0 / 78.0	5.10	4.95	74.8
8	16.0	76.5 / 28.5	4.80	28.5 / 78.5	5.00	4.90	74.5
9	18.0	75.5 / 28.5	4.70	28.5 / 78.5	5.00	4.85	74.2
10	20.0	75.5 / 28.5	4.70	28.5 / 78.0	5.05	4.88	74.4 / 74.4
11		———		———			
12		———		———			
						MEAN =	74.92

M	Drybulb (tc)	Wet bulb (tc′)	Crystal temperature
I	33°5′	25°5′	
II	33.5	26.0	
MEAN	33.5	25.8	
tc−tc′	7.7	dp	mH₂O

BEGINNING TIME 12h 25m

APPROX. READING I

A+ B	A+ 0	A+ D	A+ A−
78.0 / 57.0	32.0	92.0	27.0
21.0	46.0	86.0	51.0

T₁ = 12487550 mμs

ENDING TIME h m

APPROX. READING II

A+ B	A+ 0	A+ D	A+ A−
75.0 / 54.0	30.0	90.0	28.0
21.0	45.0	85.0	47.0

T₁ = 12487350 mμs

COMPUTATION OF DISTANCE ( ) ~ ( )

α (0-2~) E-4 =	− 0° 11′ 57″
α′ =	11 9
0.291α′ =	3 5
0.291D(Km) =	+ 65m5
H (E-4) =	508 0
H (0-2) =	573 5

	e	n′	D
e′ =	+ 24.7	I =	+ 256
A =	− 3.9	II =	+ 108
B =	0.1	III =	0
0 =	0	n′10³ =	364
e =	20.7	n′ =	0.364

(Km)D₀ =	1871828 / 6.81
D n =	1871147
D =	999994
cos α =	1871136
D cos α =	1.49
dD₁ =	0
dD₂ =	
S =	1870987

K = (|K|<5)
T′/10⁷ = (T<2×10⁴)
ΔT−π = (ΔT=0)

T′ = mμs
ΔT = 0.
T = 124874.92

REMARKS

Instrument height
M = 138
R = 138

SURVEY STATION № 0 - 4 (MASTER; №3, INSTRUMENT)
№ B - 1 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A + / A −	A+1−(A−) U	A + R / A − R	(A+R)−(A−R) V	(U+V)/2 W	W/2+50
1		460 / 625	835	620 / 120	500	668	334
2		470 / 620	850	615 / 115	500	675	338
3		475 / 615	860	615 / 110	505	682	341
4		475 / 615	860	610 / 110	500	680	340
5		480 / 615	865	610 / 115	495	680	340
6		480 / 615	865	615 / 120	495	680	340
7		470 / 625	845	625 / 125	500	672	336
8		465 / 625	840	620 / 125	495	668	334
9		465 / 630	835	625 / 120	505	670	335
10		460 / 630	830	625 / 115	510	670	335
11		———		———			
12		———		———			
						MEAN=	333

M	Drybulb (tc)	Wetbulb (tc')	Crystal temperature
I	35.5 °F	26.0 °F	
II	36.5	25.5	
MEAN	36.0	25.8	
tc−tc'	10.2	dp	mmHg

BEGINNING TIME h 15 m 55

APPROX. READING I

A+/B	A+/C	A+/D	A+/A−
46 26	52.	75.	62.
200	940	710	840

T₁ = 11964200 mμs

ENDING TIME h m

APPROX. READING II

A+/B	A+/C	A+/D	A+/A−
47 27	520	75	63
200	950	720	840

T₁ = 11964200 mμs

COMPUTATION OF DISTANCE (№0 - 4) ~ (№B - 1)

α (№B-1 ~ №0-4) =	+ 0° 5' 20"
α' =	53
0.291 α' =	15
0.291 D(Km) =	+ 26m9
H (№0-4) =	538 8
H (№B-1) =	565 7

e' =	+24.7
A =	− 5.1
B =	− 0.1
C =	0
e =	19.5

I =	+ 254
=	+ 99
III =	0
n'10³ =	353
n' =	0.353

(Km) Do =	17932765
D n =	6.33
D =	1792632
cos α =	999 989
D cos α =	1792612
dD₁ =	159
dD₂ =	0
S =	1792453

K =	(IKI<5)
T'/10⁷ =	(T<2×10⁴)
ΔT−π =	(ΔT=0)
T' =	mμs .
ΔT =	0.
T =	11963373

REMARKS

Instrument height
M = 1.38
R = 1.38

SURVEY STATION — № E−3 (MASTER; №3, INSTRUMENT)
№ B−1 (REMORTR; №2, INSTRUMENT)

ACCURATE READING

№	CAVITY	A+ / A−	A+1−(A−) / U	A+R / A−R	(A+R)−(A−R) / V	(U+V)/2 / W	W/2 + 50
1	2.0	94.0 / 10.0	84.0	12.0 / 27.5	84.5	84.2	92.1
2	4.0	94.0 / 10.5	83.5	11.5 / 27.5	84.0	83.8	91.9
3	6.0	93.5 / 11.0	82.5	10.5 / 27.5	83.0	82.8	91.4
4	8.0	93.5 / 11.5	82.0	11.0 / 27.0	84.0	83.0	91.5
5	10.0	93.0 / 12.0	81.0	11.5 / 27.5	84.0	82.5	91.2
6	12.0	93.5 / 11.5	82.0	11.5 / 27.0	84.5	83.2	91.6
7	14.0	94.0 / 10.5	83.5	11.0 / 26.5	84.5	84.0	92.0
8	16.0	94.0 / 10.5	83.5	11.5 / 27.0	84.5	84.0	92.0
9	18.0	94.5 / 11.0	83.5	11.0 / 27.5	83.5	83.5	91.8
10	20.0	94.5 / 11.5	83.0	11.0 / 27.5	83.5	83.2	91.6
11		———		———			
12		———		———			
						MEAN =	91.71

M.	Drybulb (tc)	Wetbulb (tc′)	Crystal temperature
I	35.0	25.5	
H	35.5	25.5	
MEAN	35.2	25.5	
tc−tc′	9.7	dp	mm Hg

BEGINNING TIME 14h 35m

APPROX. I READING

A+ / B	A+ / 0	A+ / D	A+ / A−
94.0 / 61.0	12.0	88.0	9.0
33.0	82.0	06.0	85.0

$T_1 = 13809250$ mμs

ENDING TIME 14h 42m

APPROX. II READING

A+ / B	A+ / 0	A+ / D	A+ / A−
95.0 / 63.0	14.0	89.0	11.0
32.0	81.0	06.0	84.0

$T_1 = 13809250$ mμs

COMPUTATION OF DISTANCE (№ E−3) ~ (№ B−1)

α (№B1 / №E3) =	− 0° 17′ 10″
α' ( ) =	17 2
0.291 α' =	5 0
0.291 D(Km) =	+ 103 m 5
H (№E−3) =	516 1
H (№B−1) =	619 6

e		n′		D	
e′ =	+ 24.2	I =	255	(Km) D_0 =	20699m43
A =	− 4.9	=	100	D n =	7.35
B =	− 0.2	III =	0	D =	20692.08
0 =	− 0	$n'10^3$ =	355	cos α =	0.999988
e =	19.1	n′ =	0.355	D cos α =	20691.83
				d D_1 =	2.01
				d D_2 =	
				S =	20689.82

K = (|K|<5)
T′/10⁷ = (T<2×10⁷)
ΔT − π = (ΔT = 0) mμs
T′ = .
T = 0.
T = 138091.711

REMARKS

Instrument height
M = 1.38
R = 1.38

II, II SURVEY MAPS

C O N T E N T S

1. THE SURVEYED AND INVESTIGATED AREA OF THE OVERALL UPPER KRONG BUK PROJECT

2. PLAN AND PROFILE OF KRONG ANA DAM SITE
PLAN AND PROFILE OF KRONG BOUNG DAM SITE

3. PLAN OF KRONG BOUNG SUPPLEMENT DAM SITE

4. PROFILE OF KRONG BOUNG SUPPLEMENT DAM SITE

5. PLAN AND PROFILE OF LOWER KRONG PACH DAM SITE

6. PLAN OF UPPER KRONG PACH DAM SITE

7. PROFILE OF UPPER KRONG PACH DAM SITE

8. SECTION OF UPPER KRONG PACH DAM SITE

9. PLAN AND PROFILE OF UPPER KRONG PACH SUPPLEMENT DAM SITE

10. PLAN OF LOWER KRONG BUK DAM SITE

11. PROFILE OF LOWER KRONG BUK DAM SITE

12. SECTION OF LOWER KRONG BUK DAM SITE

13. PROFILE OF B. MLANG DAM SITE

14. PLAN OF UPPER KRONG BUK A DAM SITE

15. PROFILE OF UPPER KRONG BUK A DAM SITE

16. PLAN OF UPPER KRONG BUK B DAM SITE

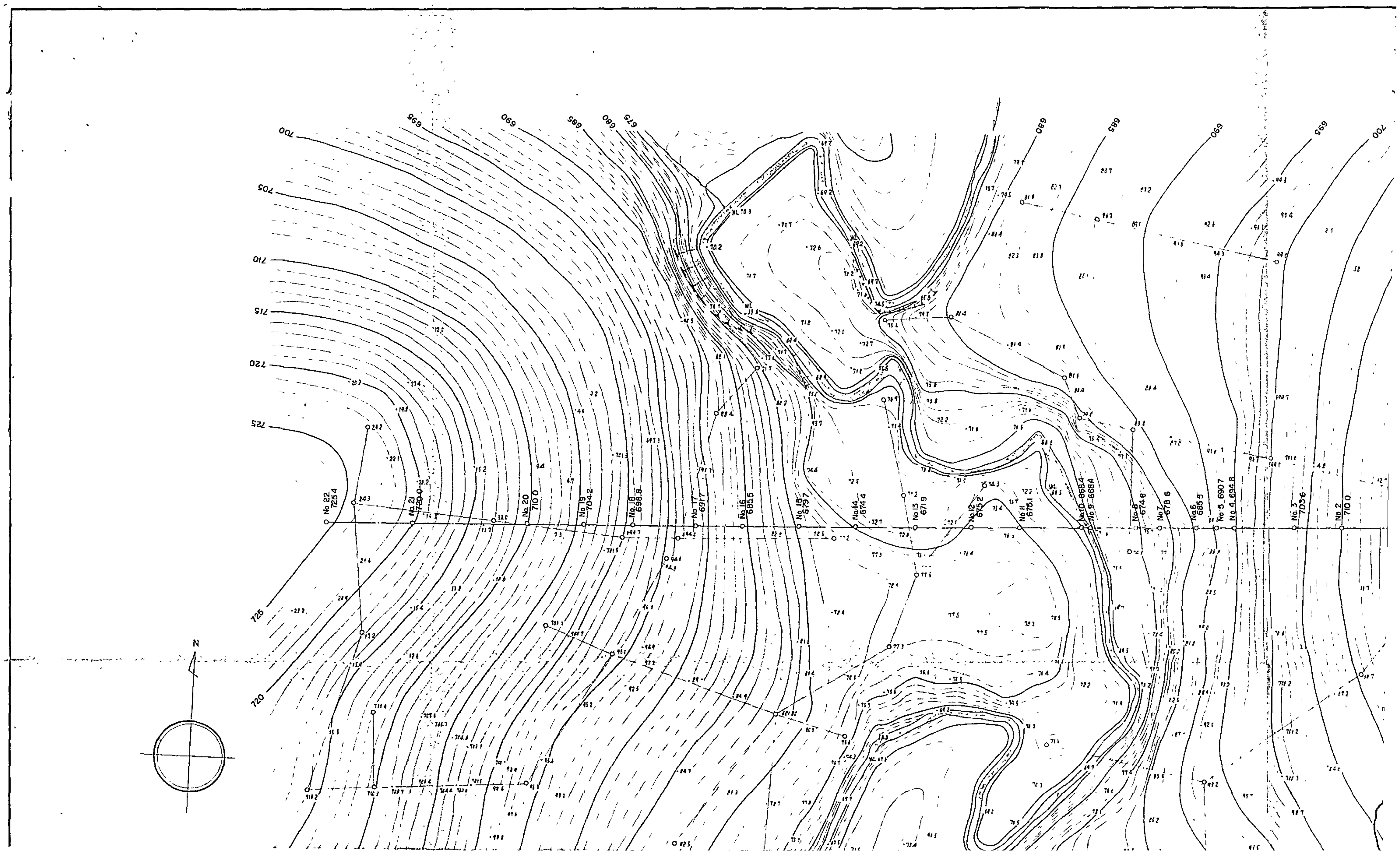
17. PROFILE OF UPPER KRONG BUK B DAM SITE

18. PLAN AND PROFILE OF EA JUNG DAM SITE

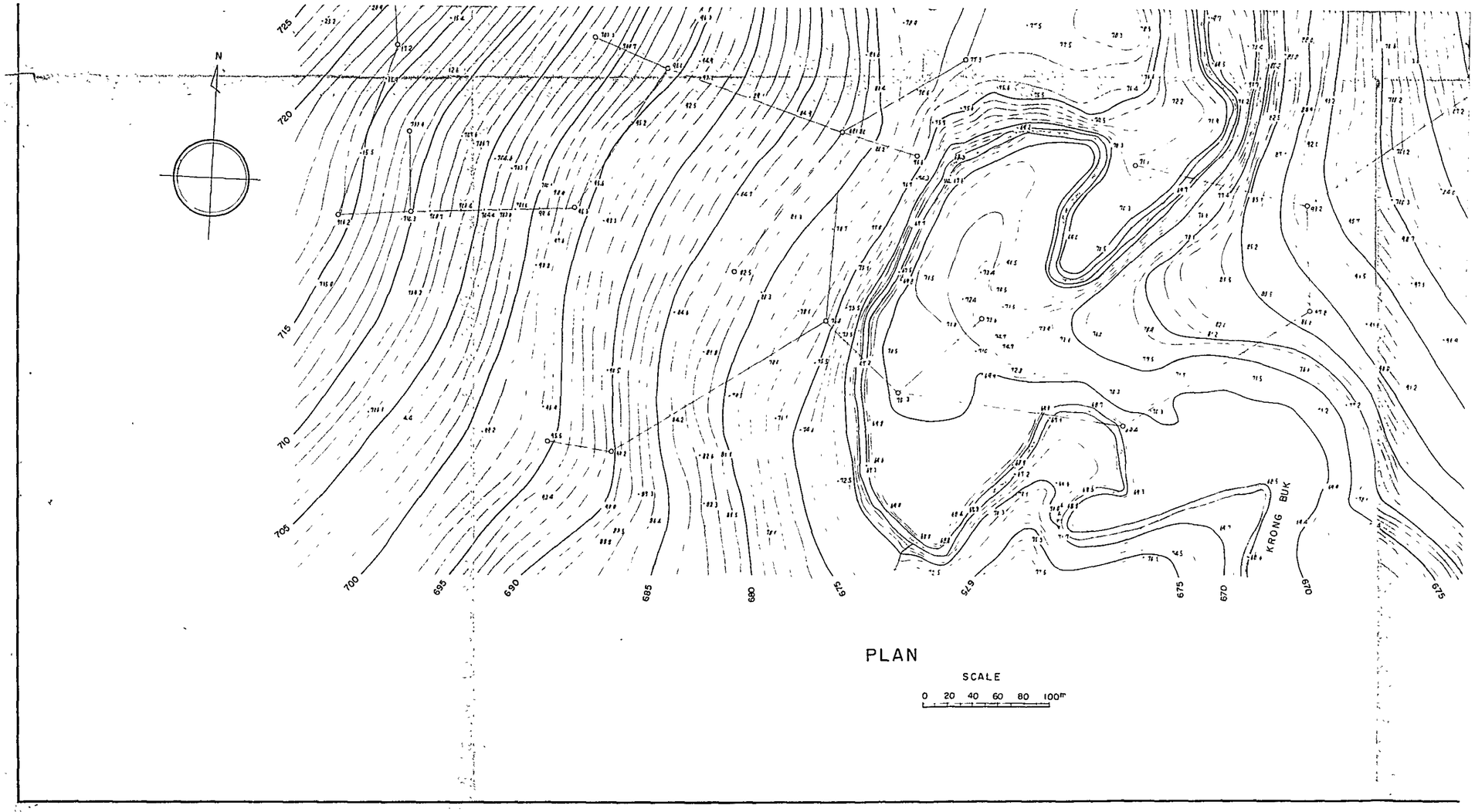
19. PLAN AND PROFILE OF EA HLANG DAM SITE

20. PLAN OF EA KMUT DAM SITE

21. PROFILE OF EA KMUT DAM SITE


N
700
705
710
715
720
725
695
690
685
680
675
No.22 725.4
No.21 720.0
No.20 710.0
No.19 704.2
No.18 698.8
No.17 691.7
No.16 685.5
No.15 679.7
No.14 674.4
No.13 671.9
No.12 675.2
No.11 675.1
No.10 668.4
No.9 668.4
No.8 674.8
No.7 678.6
No.6 685.5
No.5 690.7
No.4 694.8
No.3 703.6
No.2 710.0

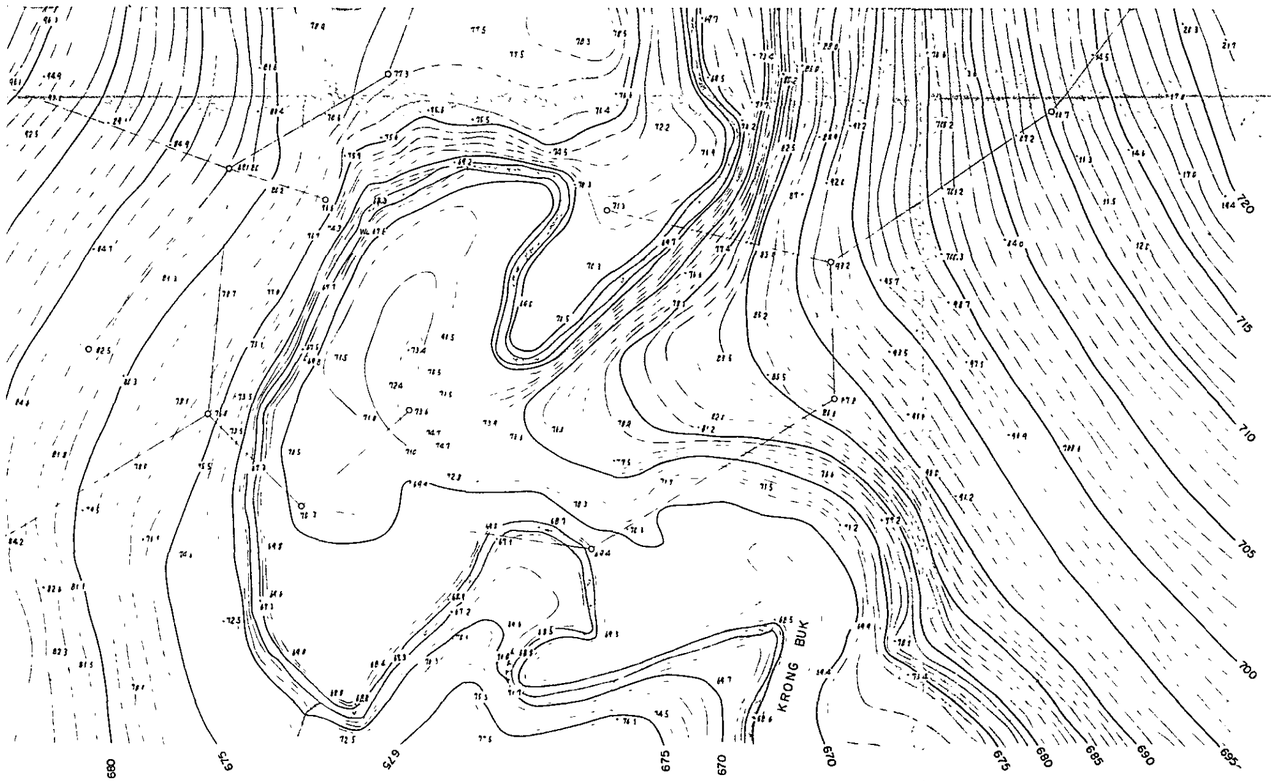
No 20 710.0
No 19 704.2
No 18 698.8
No 17 691.7
No 16 685.5
No 15 679.7
No 14 674.4
No 13 671.9
No 12 675.2
No 11 675.1
No 10 668.3
No 9 668.4
No 8 674.8
No 7 679.6
No 6 685.5
No 5 690.7
No 4 694.8
No 3 703.6
No 2 710.0
No 1 720.0
No 0 723.1



PLAN

SCALE

0 20 40 60 80 100ft



PLAN

SCALE

0 20 40 60 80 100m

OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN	
KRONG BUK PROJECT, UPPER SREPOK VIET - NAM PLAN OF UPPER KRONG BUK A DAM SITE	
NIPPON KOEI CO., LTD. TOKYO (CONSULTING ENGINEERS)	
DRAWN OFFICE TOKYO CHECKED DATE SUBMITTED RECOMMENDED APPROVED	DWG NO. SHEET NO.

To Pleiku

9

8

B Ho

Krong Buk

Ea Jung

11

Ea Tul

Krong Nong

Ea Hlong

10

Hlong

B. Kmut

Ea Kmut

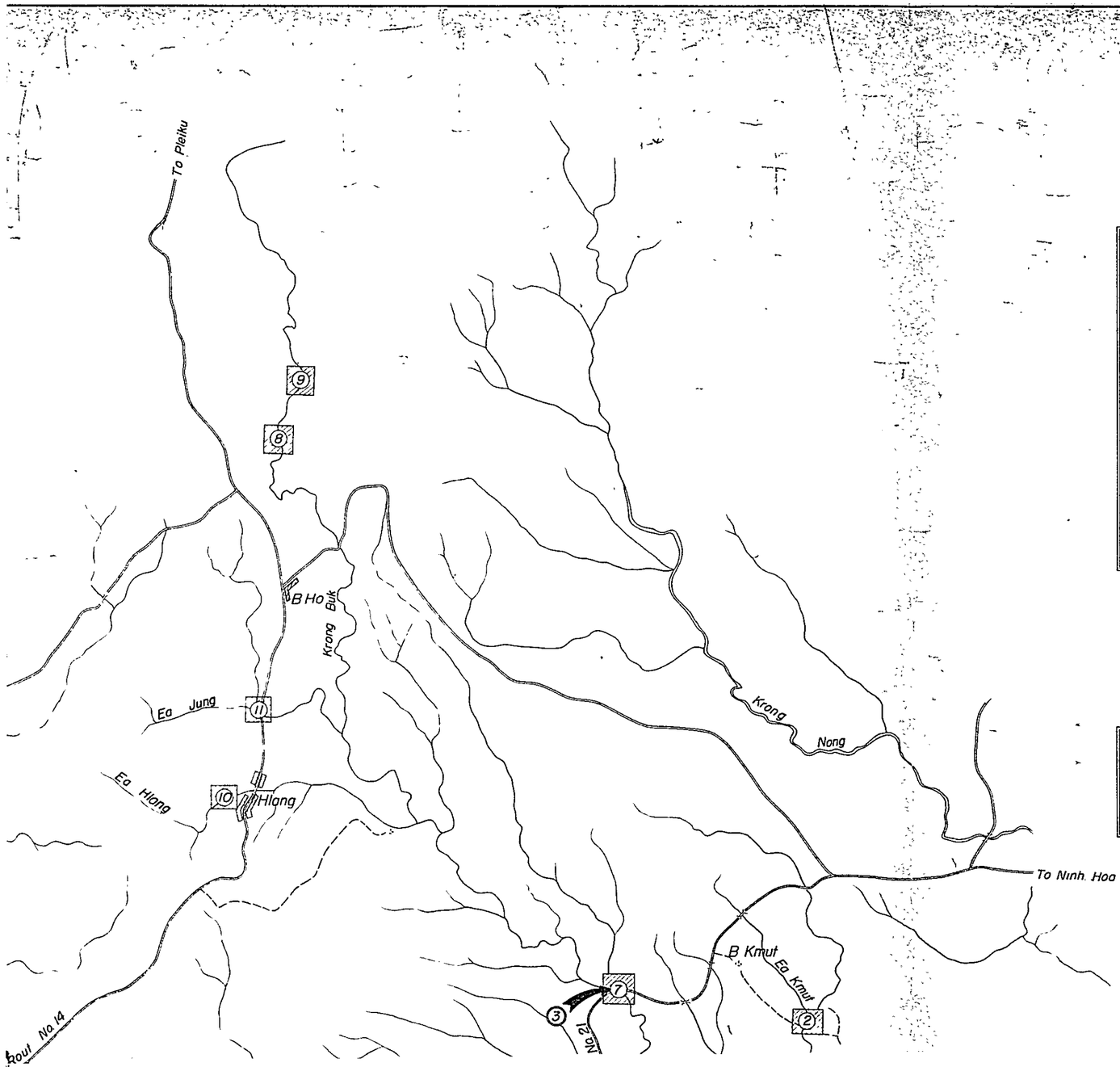
7

3

2

No 21

Pout No 14

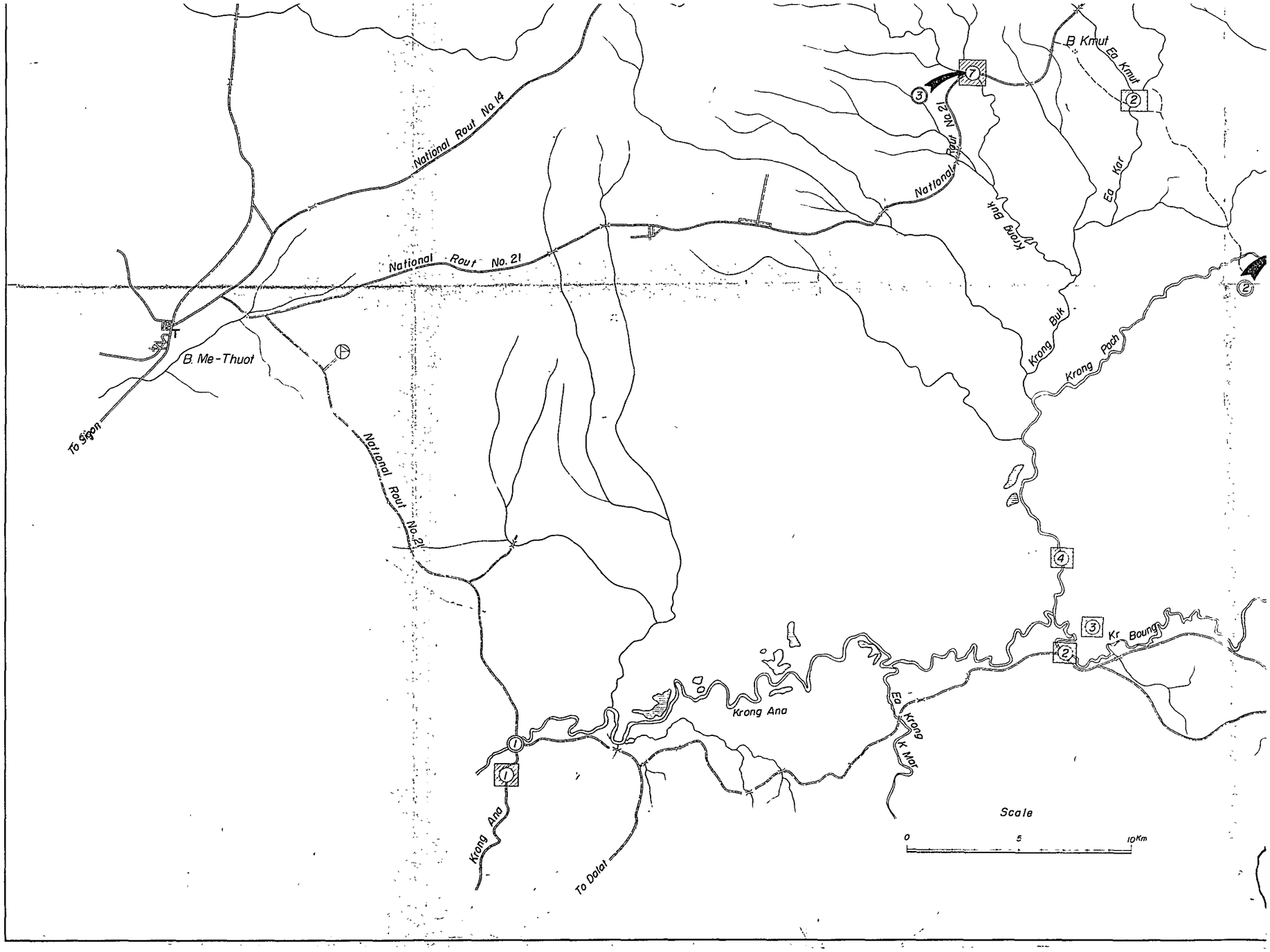


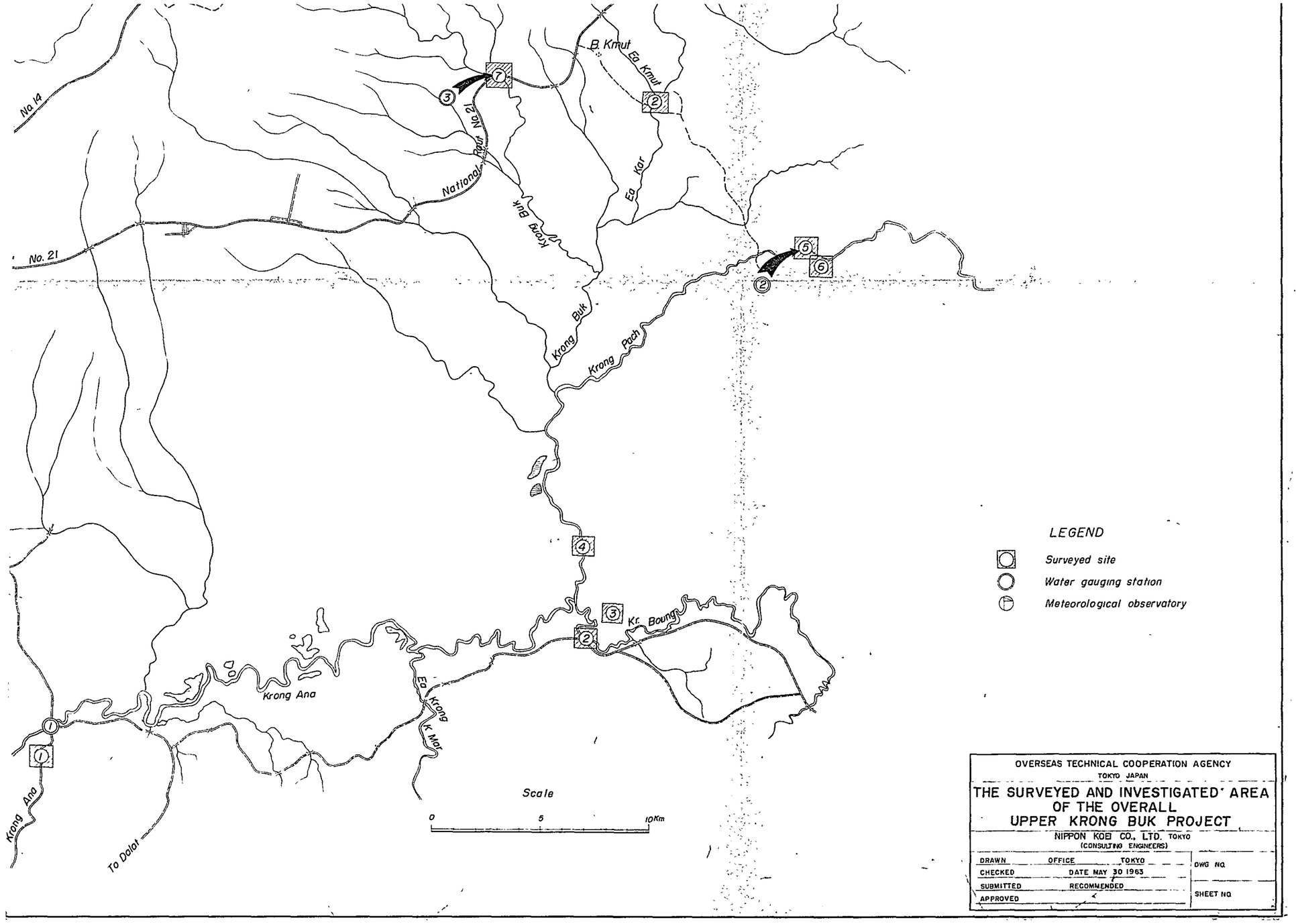
Surveyed site

No.	Name of surveyed site
(1)	Krong Ana dam site
(2)	Krong Boung dam site
(3)	Krong Boung supplement dam site
(4)	Lower Krong Pach dam site
(5)	Krong Pach dam site
(6)	Krong Pach supplement dam site
(7)	Lower Krong Buk dam site
(8)	Upper Krong Buk a dam site
(9)	Upper Krong Buk dam site
(10)	Ea Hlang dam site
(11)	Ea Jung dam site
(12)	Ea Kmut dam site

Water gauging station

No	Name of water gauging station
(1)	Kana water gauging station
(2)	Krong Pach water gauging station
(3)	Krong Buk water gauging station


National Rout No. 14
National Rout No. 21
B. Me-Thuot
To Giapn
National Rout No. 21
B. Kmut Ea Kmut
National Rout No. 21
Krong Buk
Ea Kar
Krong Buk
Krong Pach
Kr. Boung
Krong Ana
Ea Krong K Mar
Krong Ana
To Dalat
Scale
0
5
10Km

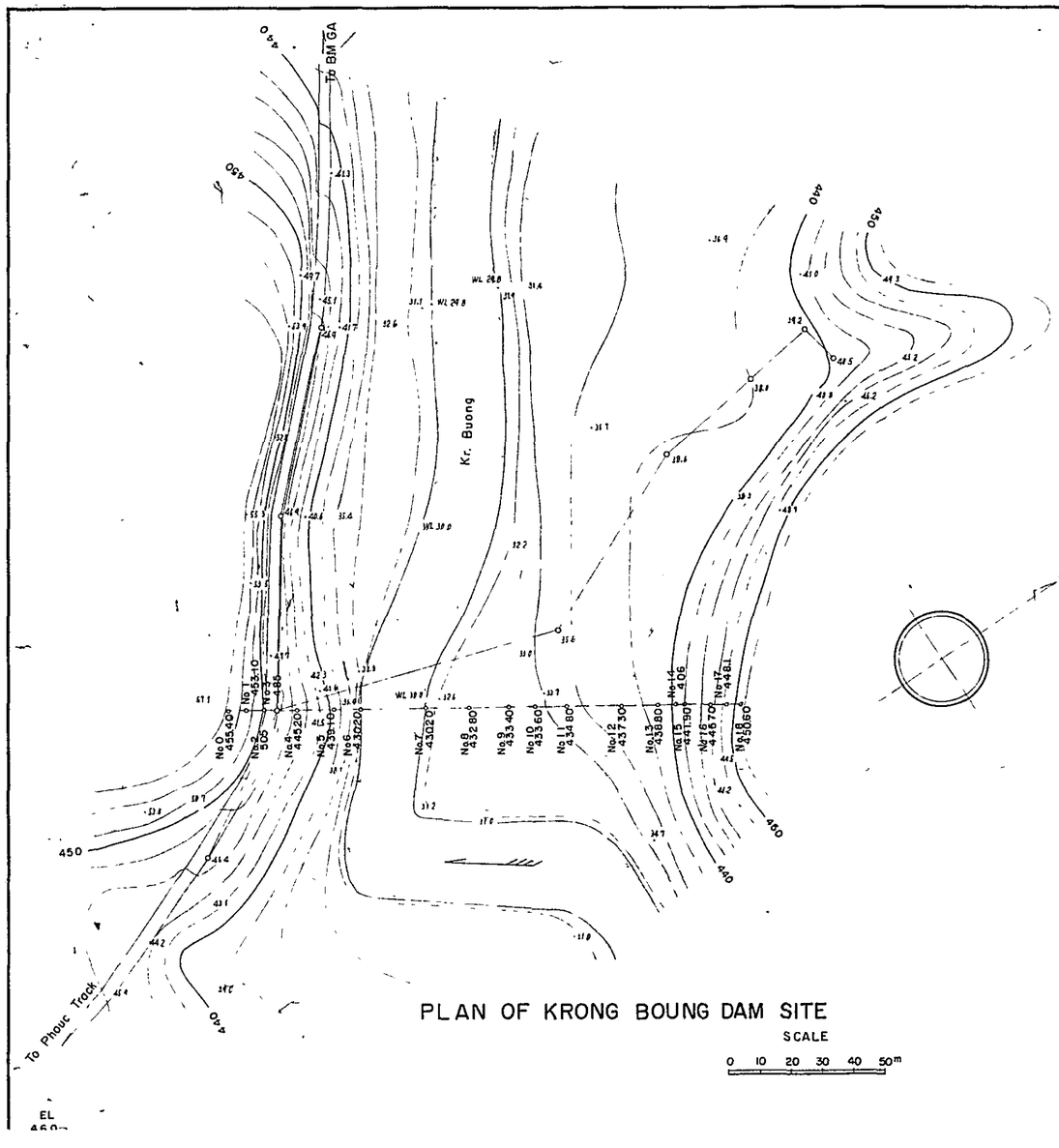


OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

THE SURVEYED AND INVESTIGATED AREA OF THE OVERALL UPPER KRONG BUK PROJECT

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

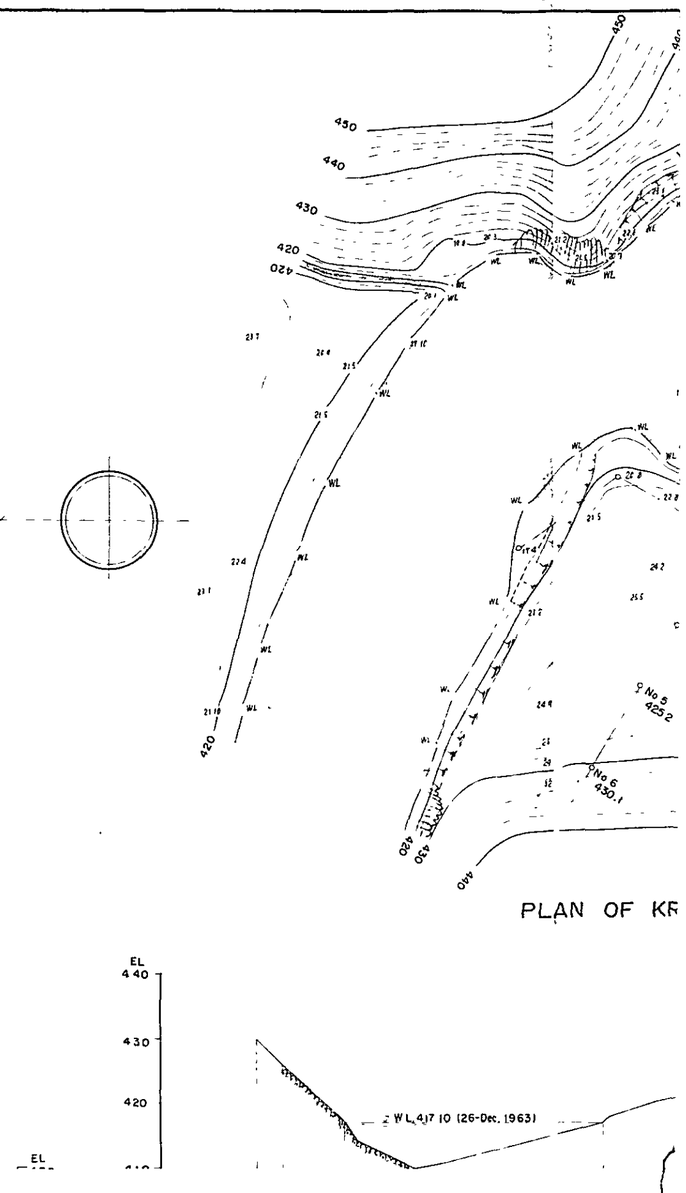
DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE MAY 30 1963	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		



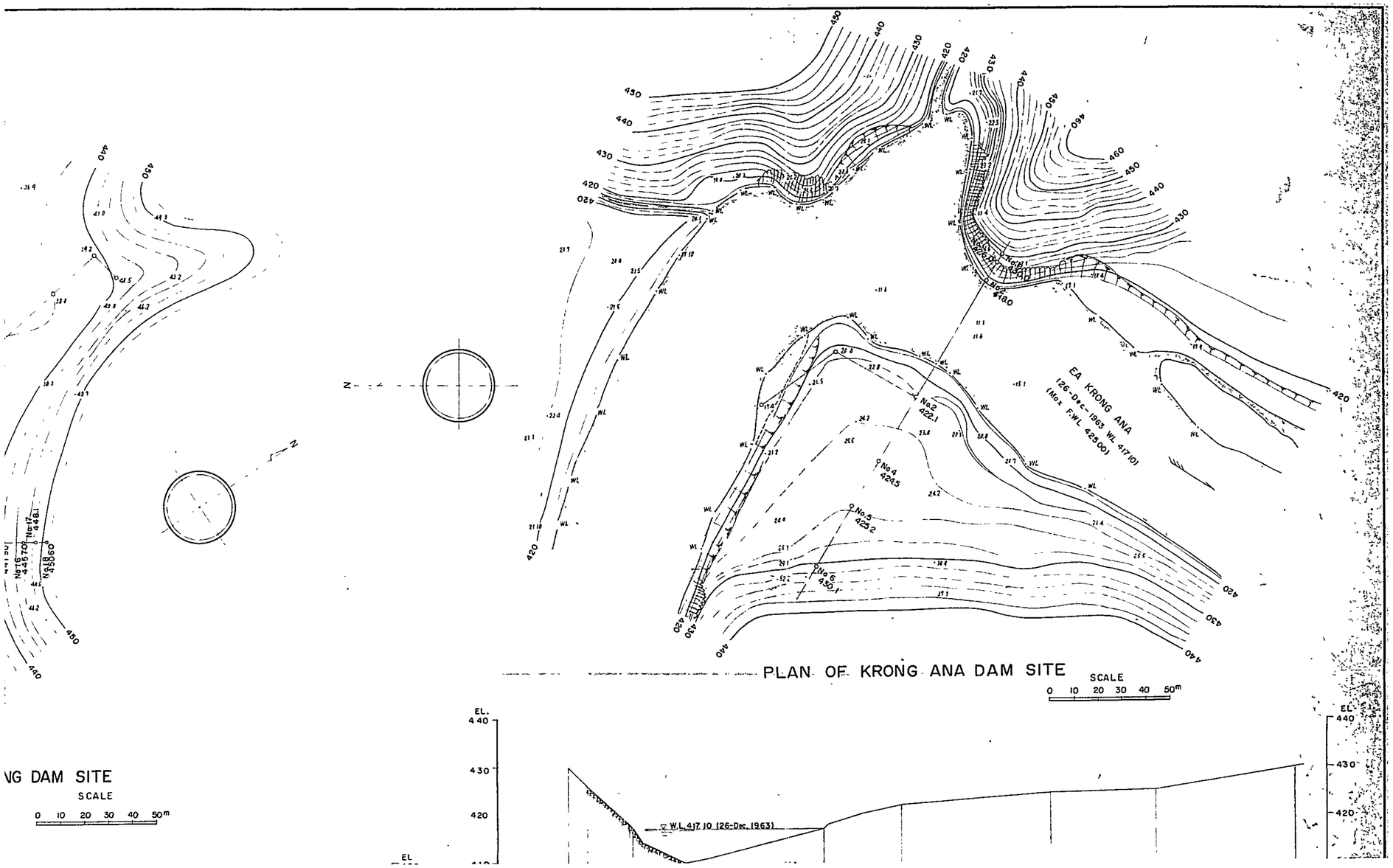
PLAN OF KRONG BOUNG DAM SITE

SCALE

0 10 20 30 40 50m



PLAN OF KR



PLAN OF KRONG ANA DAM SITE

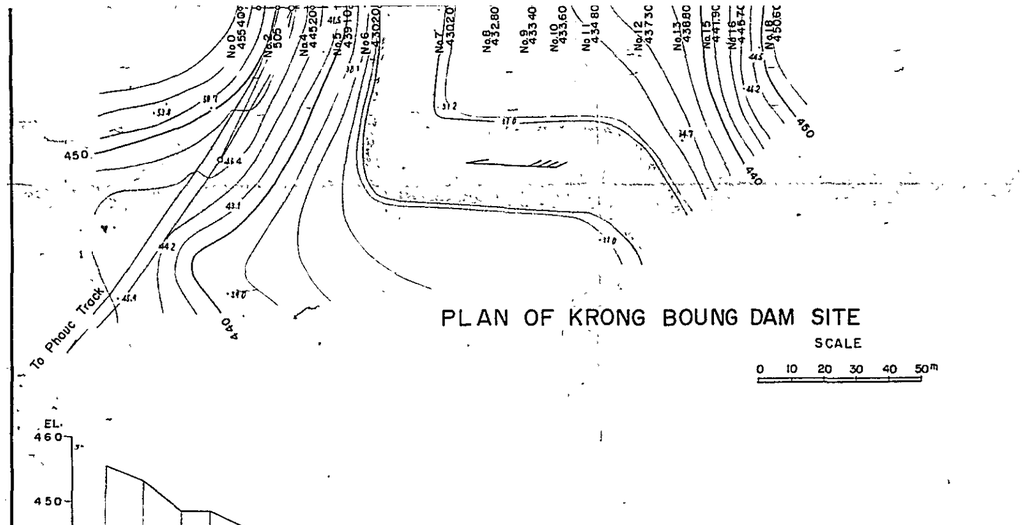
SCALE

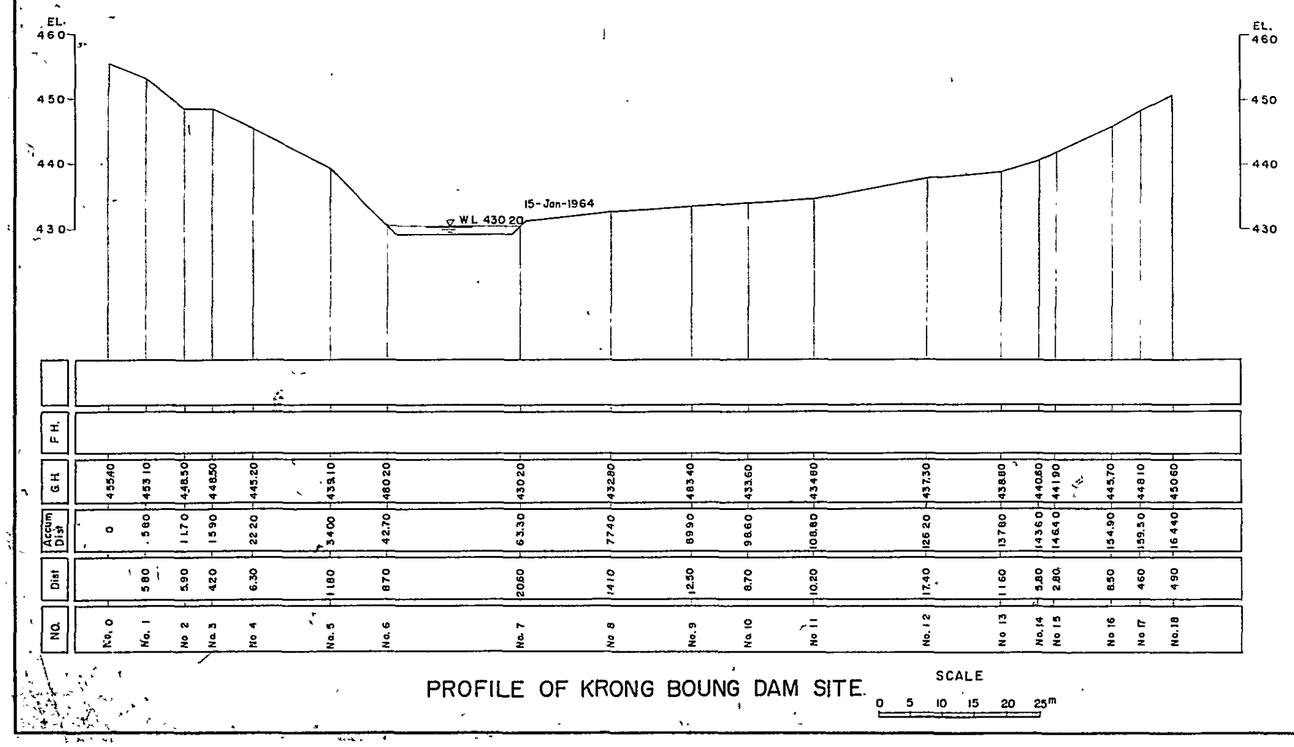
0 10 20 30 40 50m

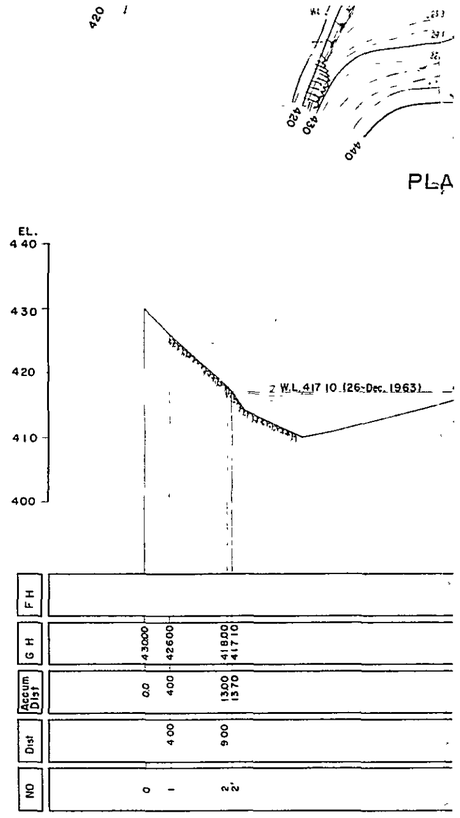
NG DAM SITE

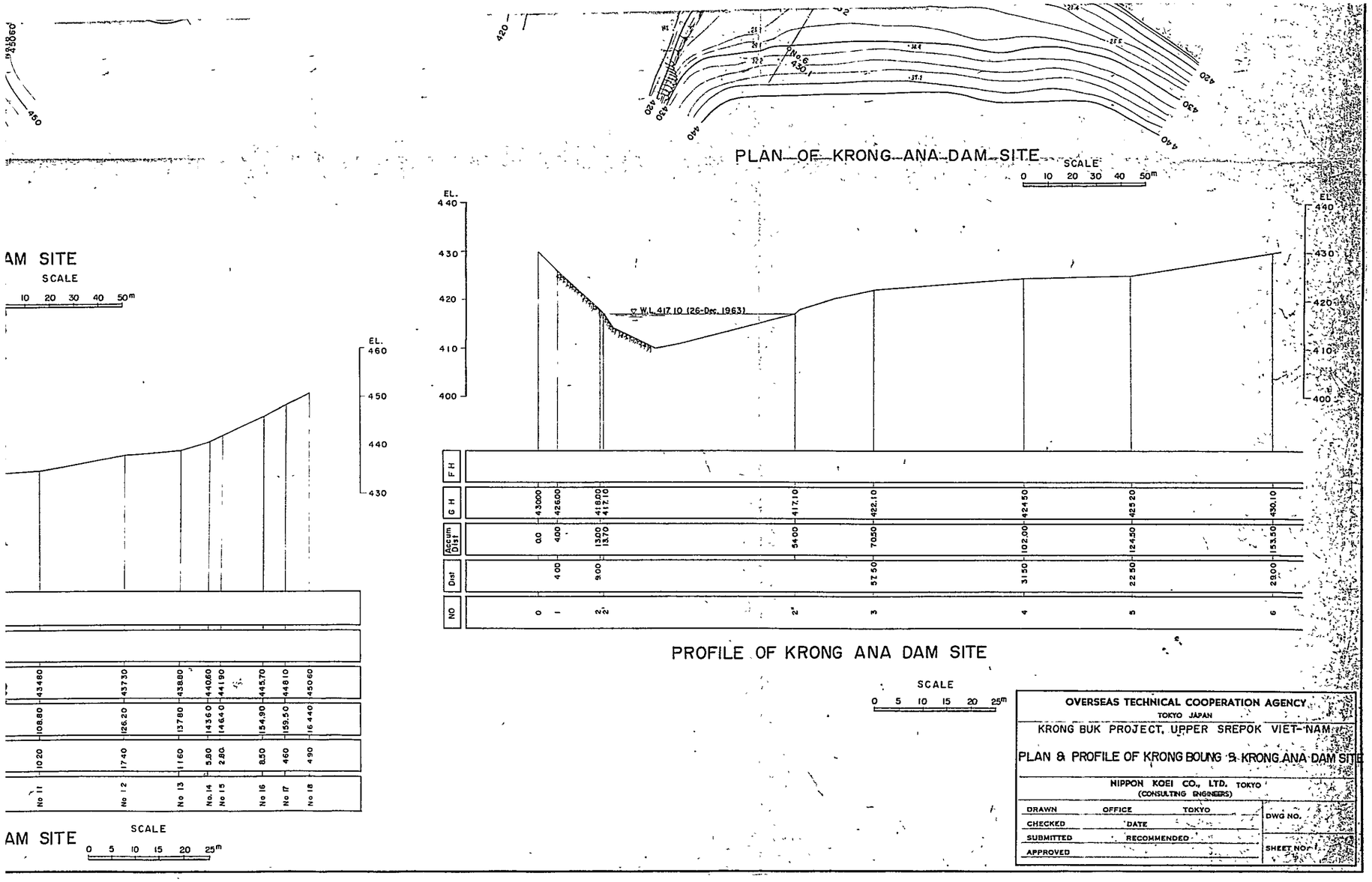
SCALE

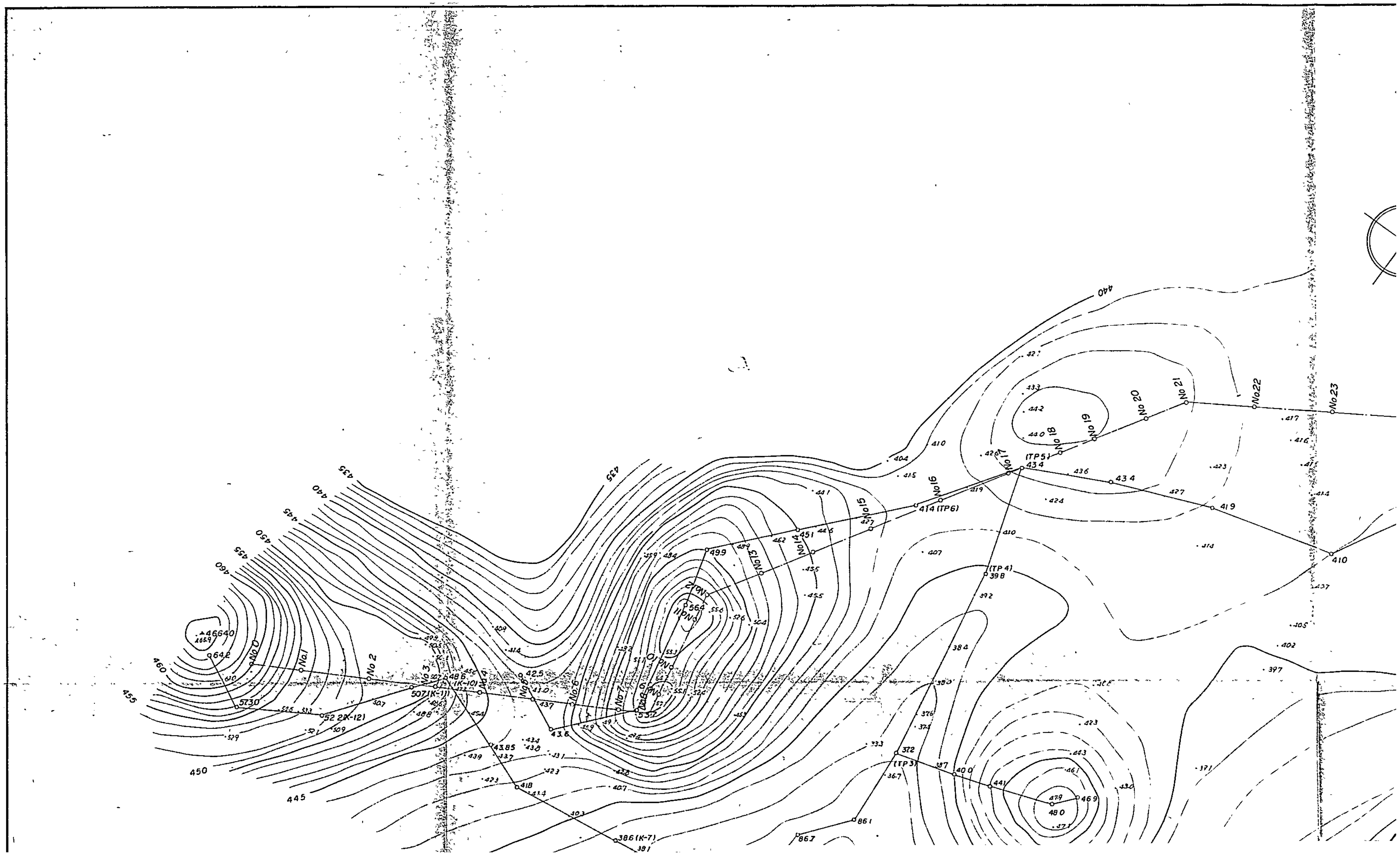
0 10 20 30 40 50m

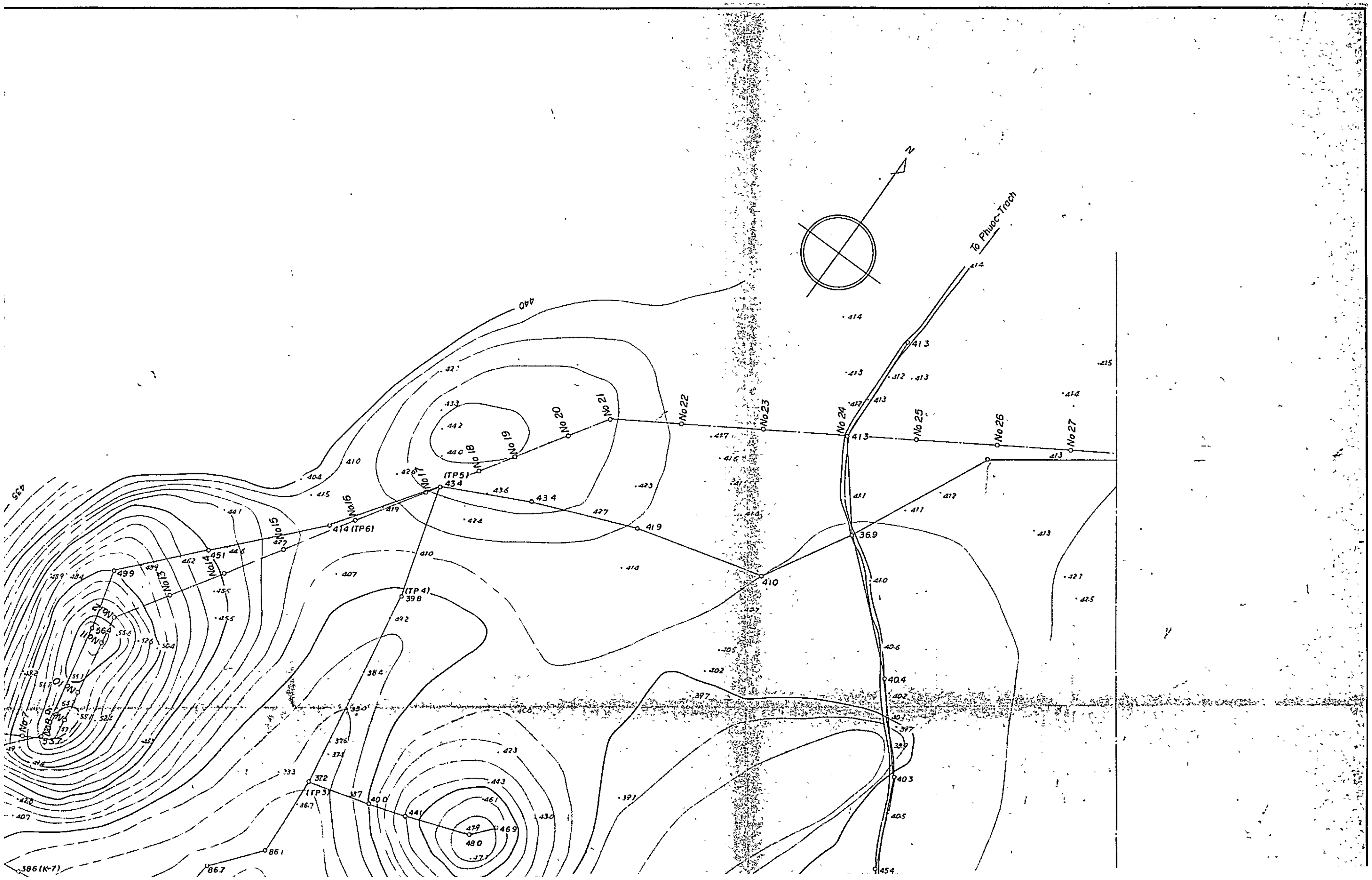

No.0 455400
No.1 453105
No.2 448500
No.3 448500
No.4 445200
No.5 439105
No.6 435020
No.7 430220
No.8 432800
No.9 433400
No.10 433600
No.11 434800
No.12 437300
No.13 438800
No.15 441900
No.16 445740
No.18 450600
450
440
To Phouc Track
PLAN OF KRONG BOUNG DAM SITE
SCALE
0 10 20 30 40 50m

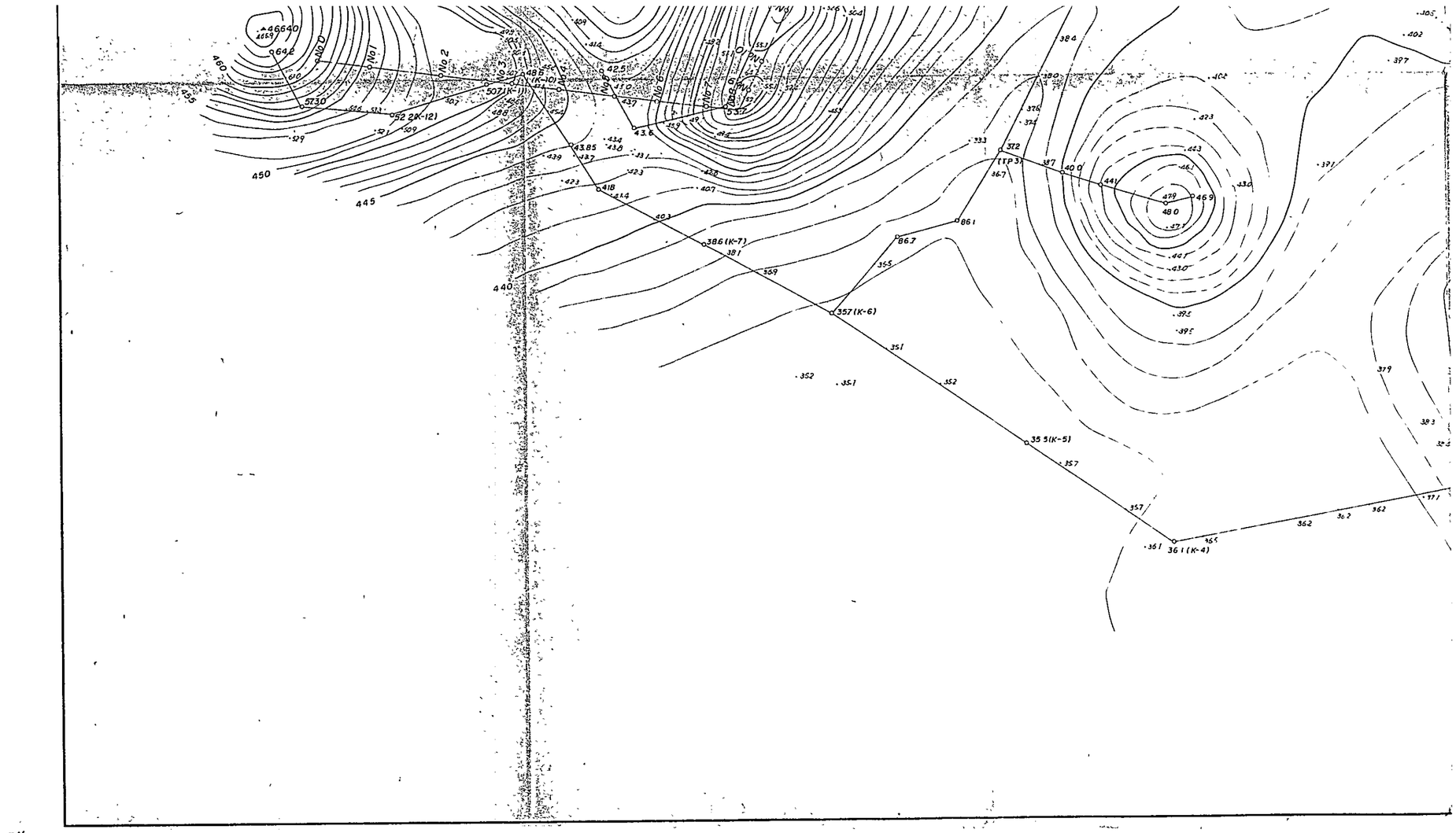

EL.
460
450
440
430
15-Jan-1964
WL 430 20
F.H.
G.H. 455 40 453 10 448 50 448 50 445 20 439 10 435 20 430 20 432 80 433 40 433 60 434 80 437 30 438 80 440 80 441 90 445 70 448 10 450 60
Accum Dist 0 5 80 11 70 15 90 22 20 34 00 42 70 63 30 77 40 89 90 98 60 108 80 126 20 137 80 143 60 146 40 154 90 159 50 164 40
Dist 5 80 5 90 4 20 6 30 11 80 8 70 20 60 14 10 12 50 8 70 10 20 17 40 11 60 5 80 2 80 8 50 4 60 4 90
NO. No. 0 No. 1 No 2 No. 3 No 4 No. 5 No. 6 No. 7 No 8 No. 9 No. 10 No 11 No. 12 No 13 No. 14 No 15 No 16 No 17 No. 18
PROFILE OF KRONG BOUNG DAM SITE.
SCALE
0 5 10 15 20 25m


420
430
440
PLA
EL.
440
430
420
410
400
W.L. 417 10 (26-Dec. 1963)
F H
G H 430 00 426 00 418 00 417 10
Accum Dist 0 0 400 1300 1370
Dist 400 900
NO 0 1 2 2'
PROFILE O

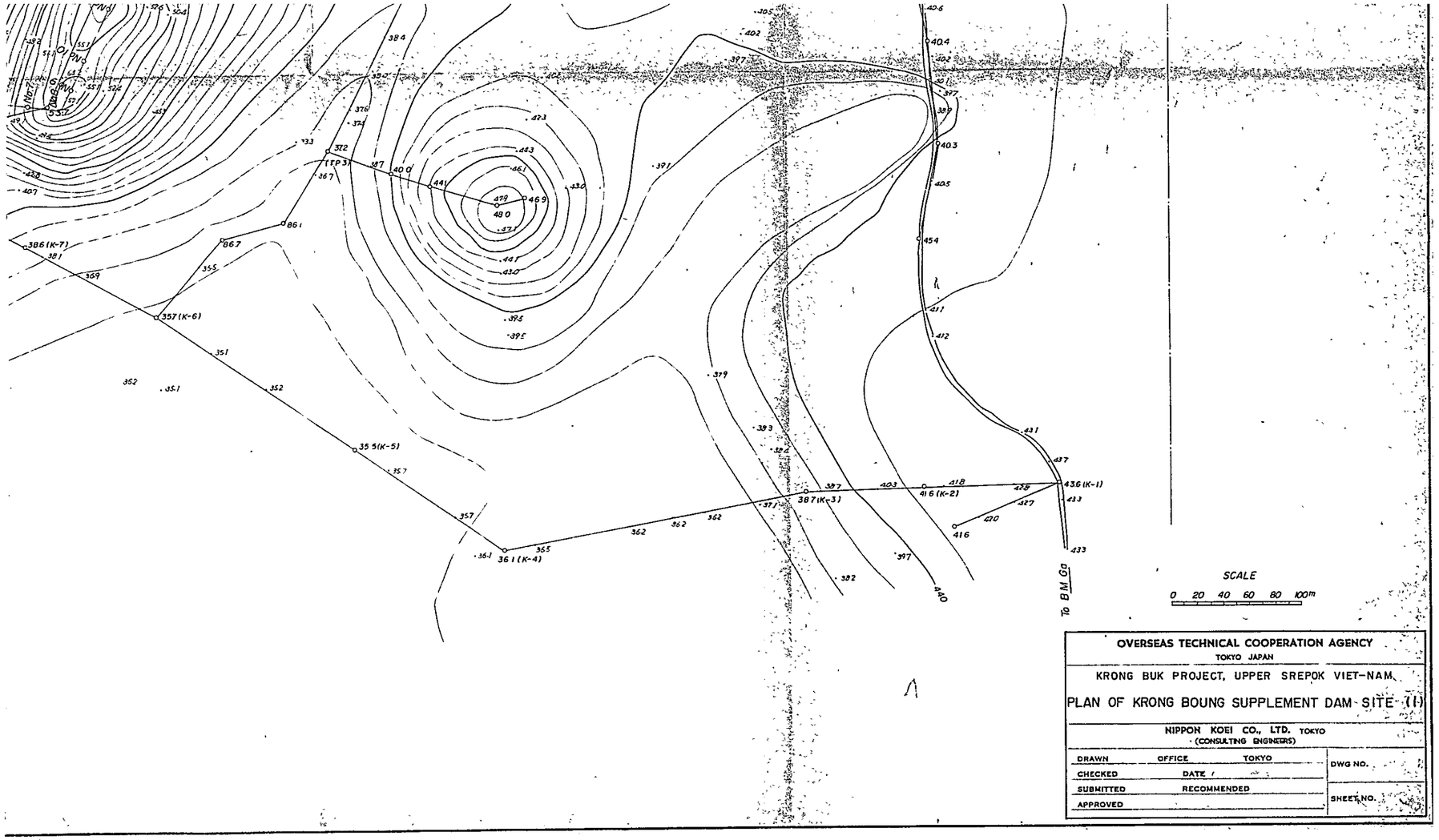

PLAN OF KRONG ANA DAM SITE
SCALE
0 10 20 30 40 50m
W.L. 417.10 (26-Dec. 1963)
EL.
440
430
420
410
400
F H
G H
Accum Dist
Dist
NO
43.000
426.00
418.00
417.10
417.10
422.10
424.50
423.20
430.10
0.0
4.00
13.00
13.70
54.00
70.50
102.00
124.50
153.50
4.00
9.00
57.50
31.50
22.50
23.00
0
1
2½
2'
3
4
5
6
AM SITE
SCALE
10 20 30 40 50m
EL.
460
450
440
430
43.480
43.730
43.880
44.060
44.190
44.570
44.810
45.060
108.80
126.20
137.80
143.60
146.40
154.90
159.50
164.40
10.20
17.40
11.60
5.80
2.80
8.50
4.60
4.90
No 11
No 12
No 13
No.14
No 15
No 16
No 17
No 18
AM SITE
SCALE
0 5 10 15 20 25m
PROFILE OF KRONG ANA DAM SITE
SCALE
0 5 10 15 20 25m
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN
KRONG BUK PROJECT, UPPER SREPOK VIET-NAM
PLAN & PROFILE OF KRONG BOUNG & KRONG ANA DAM SITE
NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)
DRAWN
OFFICE TOKYO
CHECKED
DATE
SUBMITTED
RECOMMENDED
APPROVED
DWG NO.
SHEET NO.


No.0
No.1
No 2
No 3
No 14
No 15
No 16
No 17
No 18
No 19
No 20
No 21
No 22
No 23
(TP3)
(TP 4)
(TP5)
414 (TP6)
386 (K-7)
507 (K-11)
(K-10)
440
435
450
455
460
445


To Phuoc-Trach
N
No 14
No 15
No 16
No 17
No 18
No 19
No 20
No 21
No 22
No 23
No 24
No 25
No 26
No 27
(TP 5)
(TP 6)
(TP 4)
(TP 3)
386 (K-7)
440


46640
465.9
64.2
No 0
No 1
No 2
No 3
No 4
No 5
No 6
No 7
No 8
No 9
573.0
52 2(K-12)
507(K-11)
48.6
(K-10)
42.5
43.0
43.7
43.6
55.7
43.85
418
386 (K-7)
357 (K-6)
35 5(K-5)
36 1 (K-4)
86.7
86 1
372
(TP 3)
400
441
479
480
469
460
455
450
445
440

214



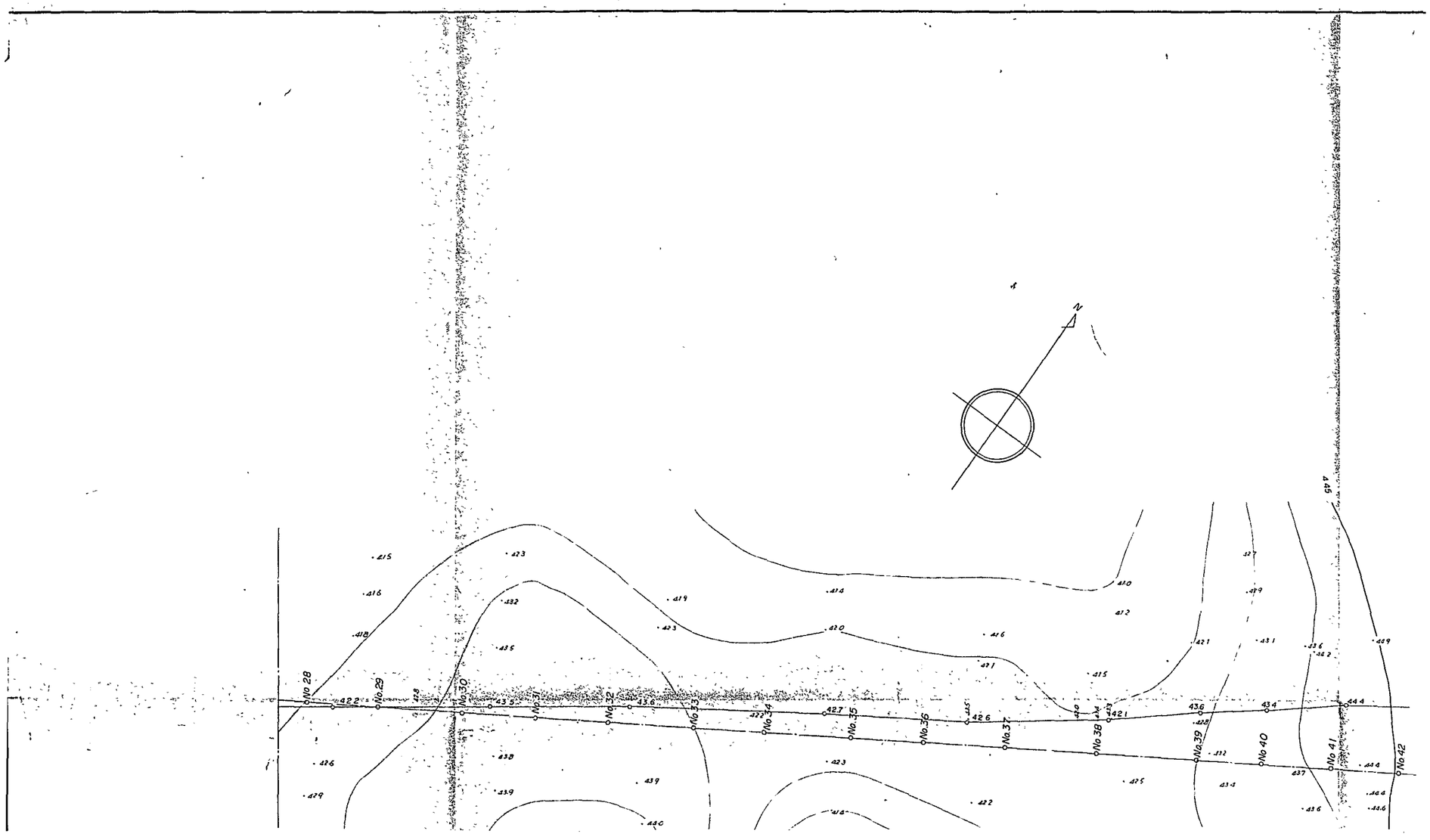
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

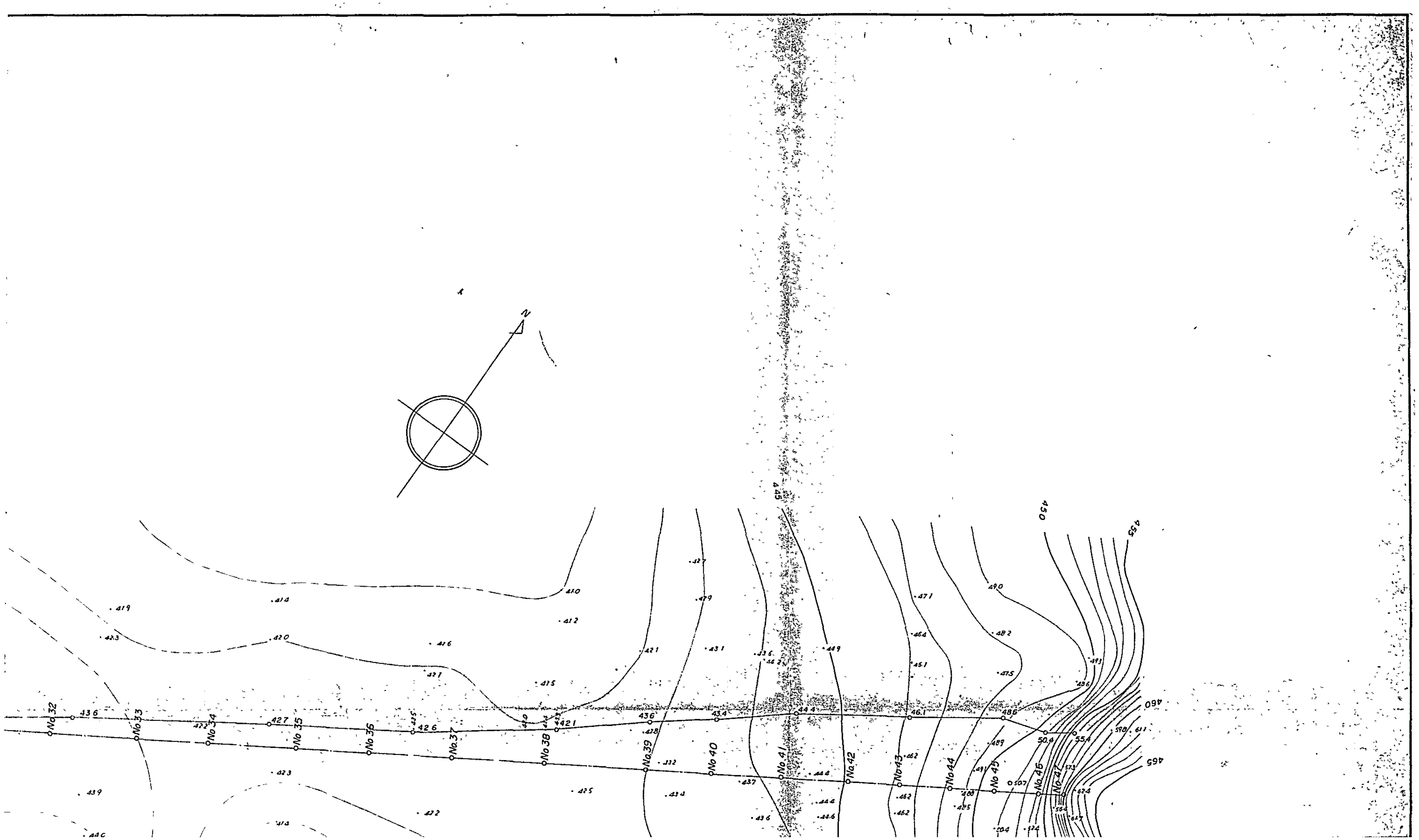
KRONG BUK PROJECT, UPPER SREPOK VIET-NAM

PLAN OF KRONG BOUNG SUPPLEMENT DAM SITE (I)

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

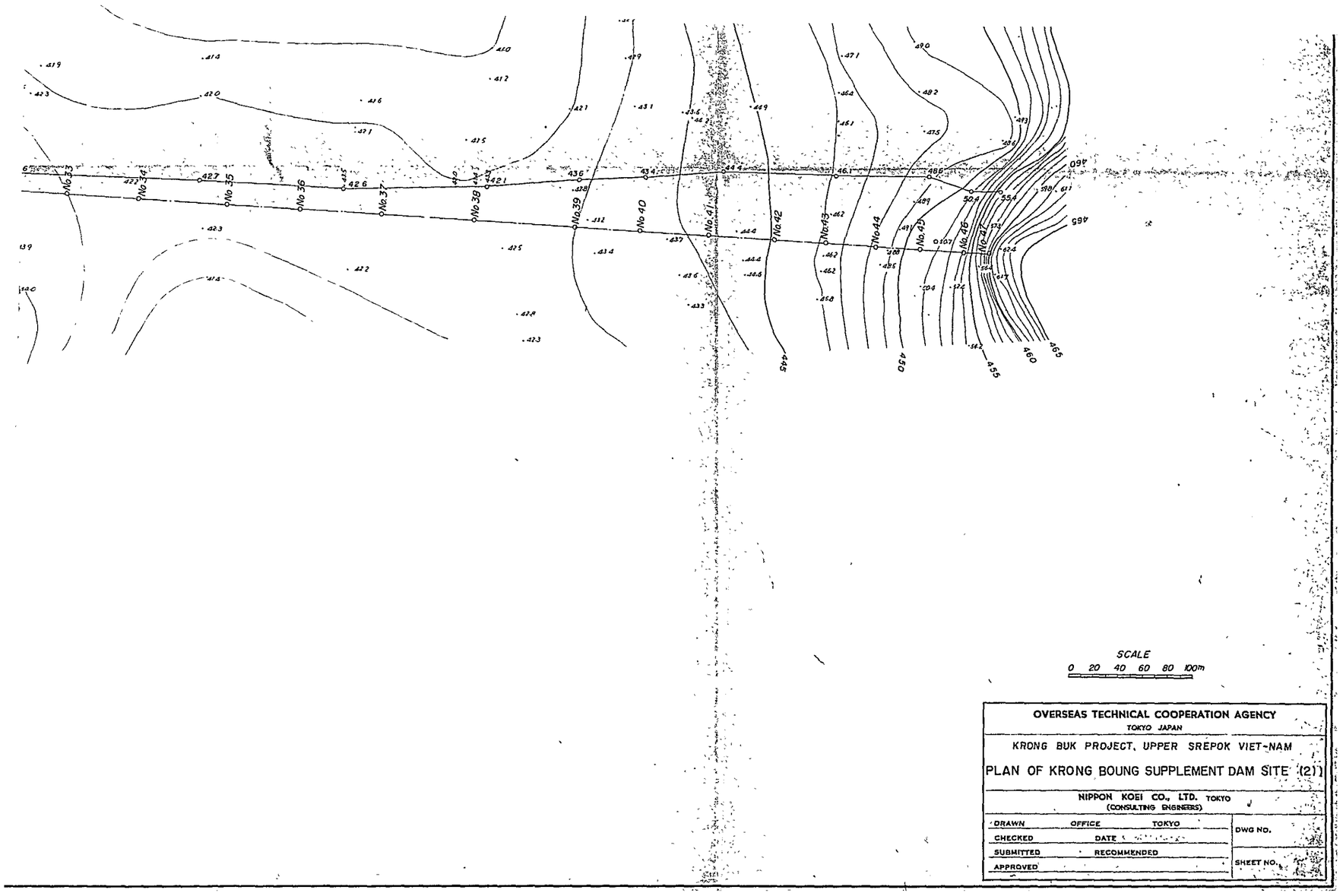
DRAWN	OFFICE TOKYO		DWG NO.
CHECKED	DATE /		
SUBMITTED	RECOMMENDED		SHEET NO.
APPROVED			


N
No 28
No 29
No 30
No 31
No 32
No 33
No 34
No 35
No 36
No 37
No 38
No 39
No 40
No 41
No 42



N
No 32
No 33
No 34
No 35
No 36
No 37
No 38
No 39
No 40
No 41
No 42
No 43
No 44
No 45
No 46
No 47
450
455
460
465

No 28
No 29
No 30
No 31
No 32
No 33
No 34
No 35
No 36
No 37
No 38
No 39
No 40
No 41
No 42



SCALE
0 20 40 60 80 100m

OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

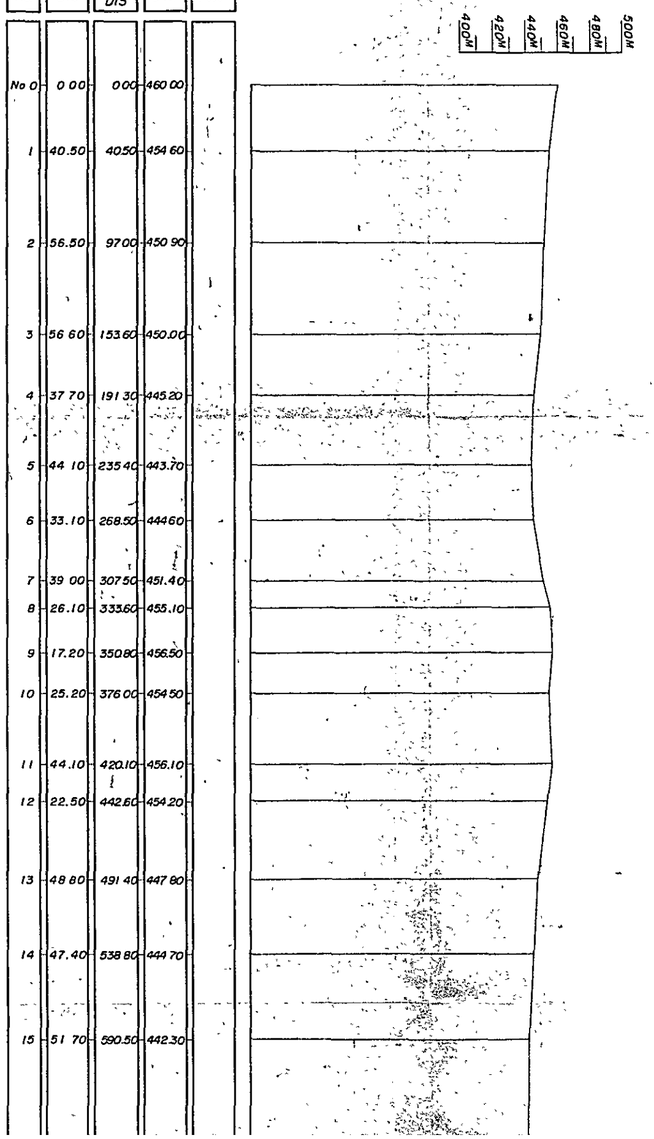
KRONG BUK PROJECT, UPPER SREPOK VIET-NAM

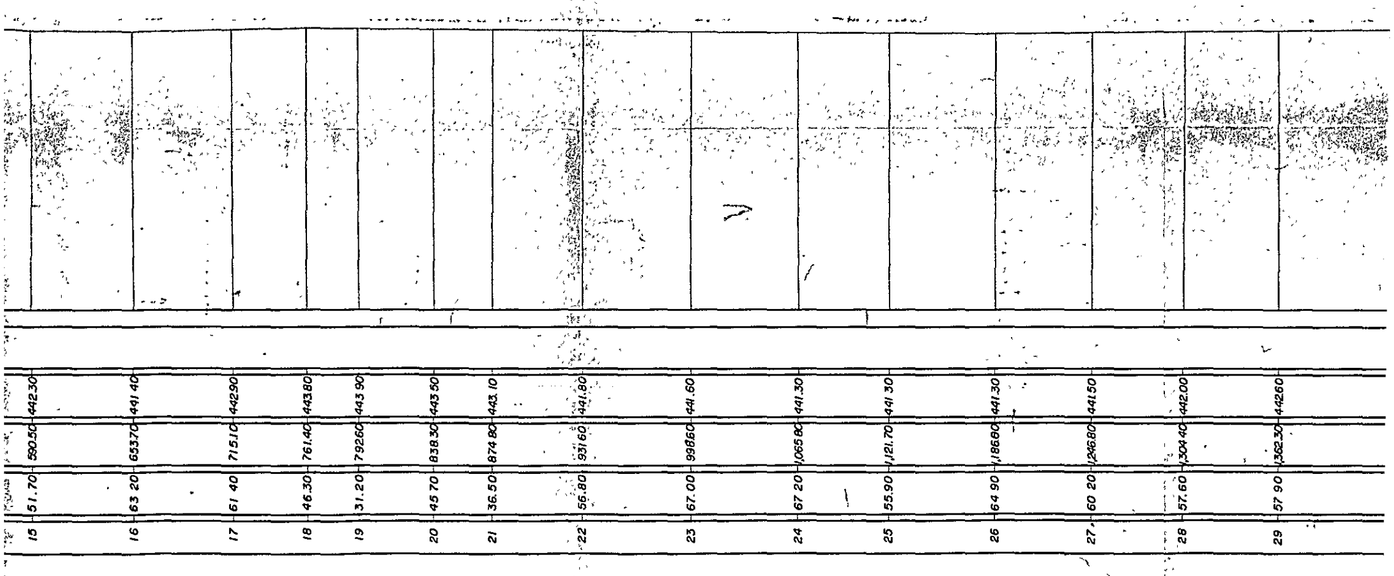
PLAN OF KRONG BOUNG SUPPLEMENT DAM SITE (2)

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

DRAWN OFFICE TOKYO		DWG NO.
CHECKED DATE		
SUBMITTED RECOMMENDED		SHEET NO.
APPROVED		

No.	DIS	Acum DIS	G.H.	F.H
No 0	0 00	000	460 00	
1	40.50	4050	454 60	
2	56.50	9700	450 90	
3	56 60	153 60	450.00	
4	37 70	191 30	445.20	
5	44 10	235 40	443.70	
6	33.10	268.50	444 60	
7	39 00	307 50	451.40	
8	26.10	333 60	455.10	
9	17.20	350 80	456.50	
10	25.20	376 00	454 50	
11	44.10	420.10	456.10	
12	22.50	442.60	454.20	
13	48 80	491 40	447 80	
14	47.40	538 80	444 70	
15	51 70	590.50	442.30	



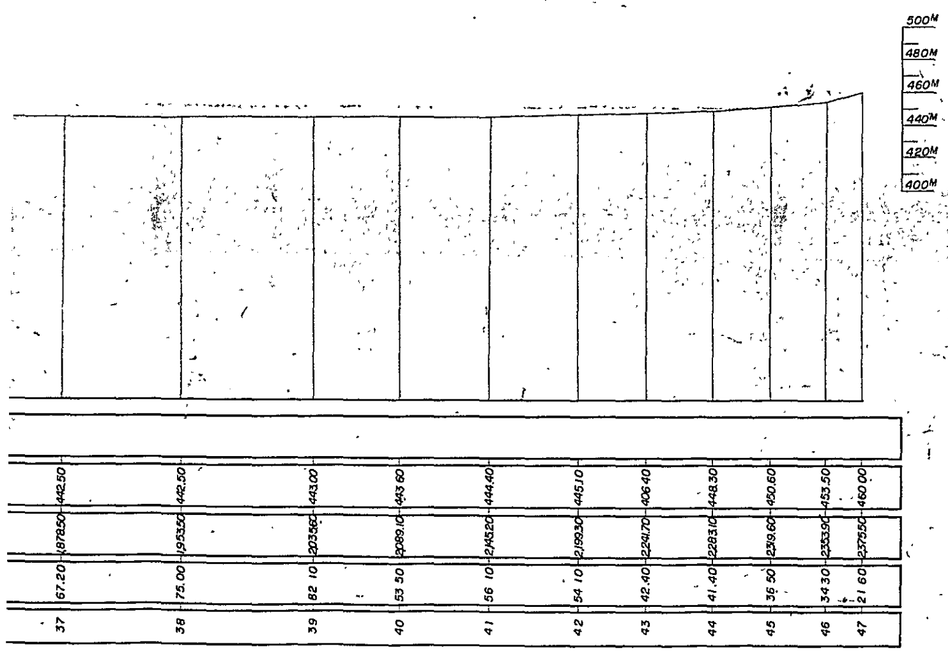


PROFILE

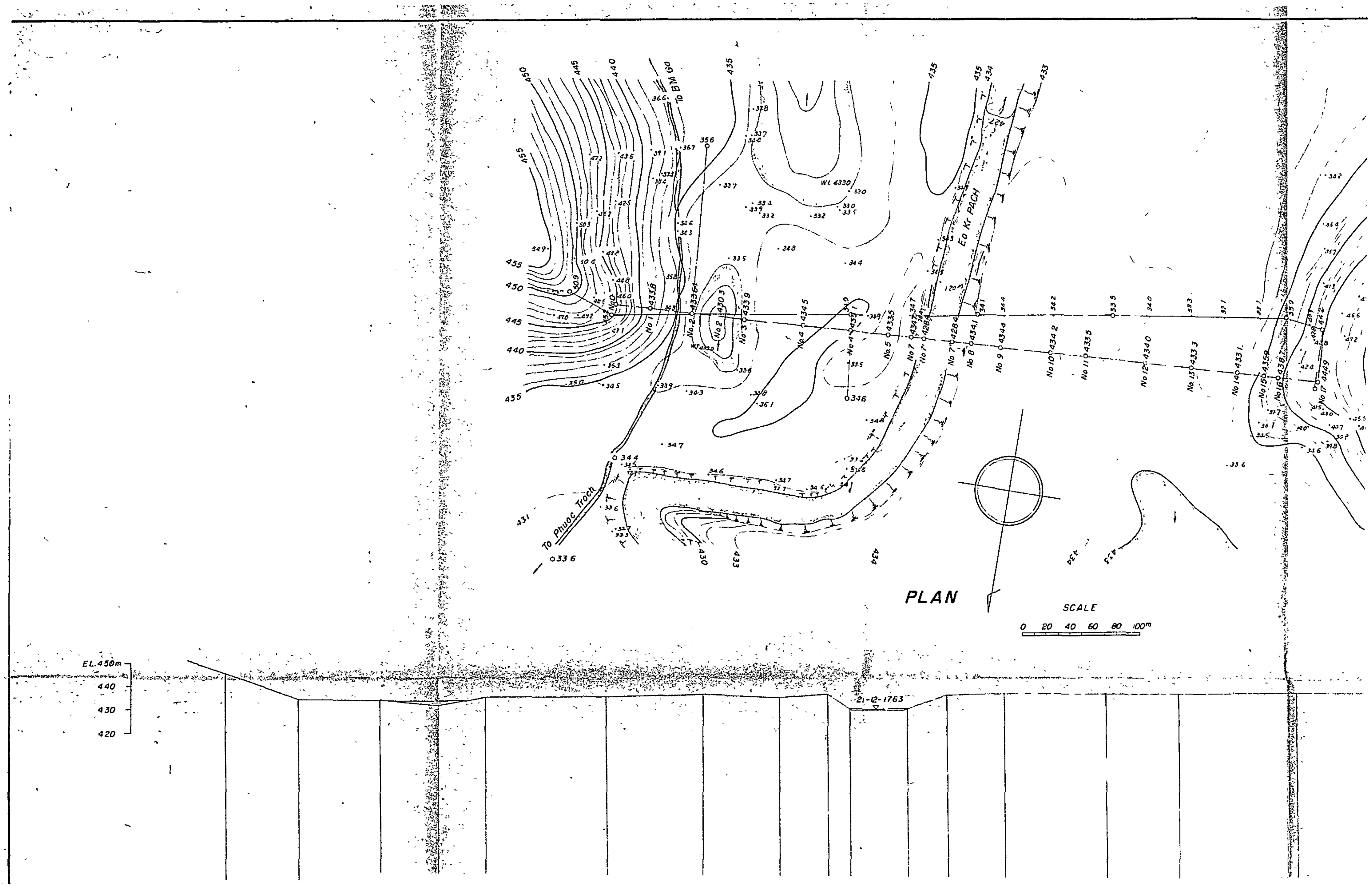
SCALE

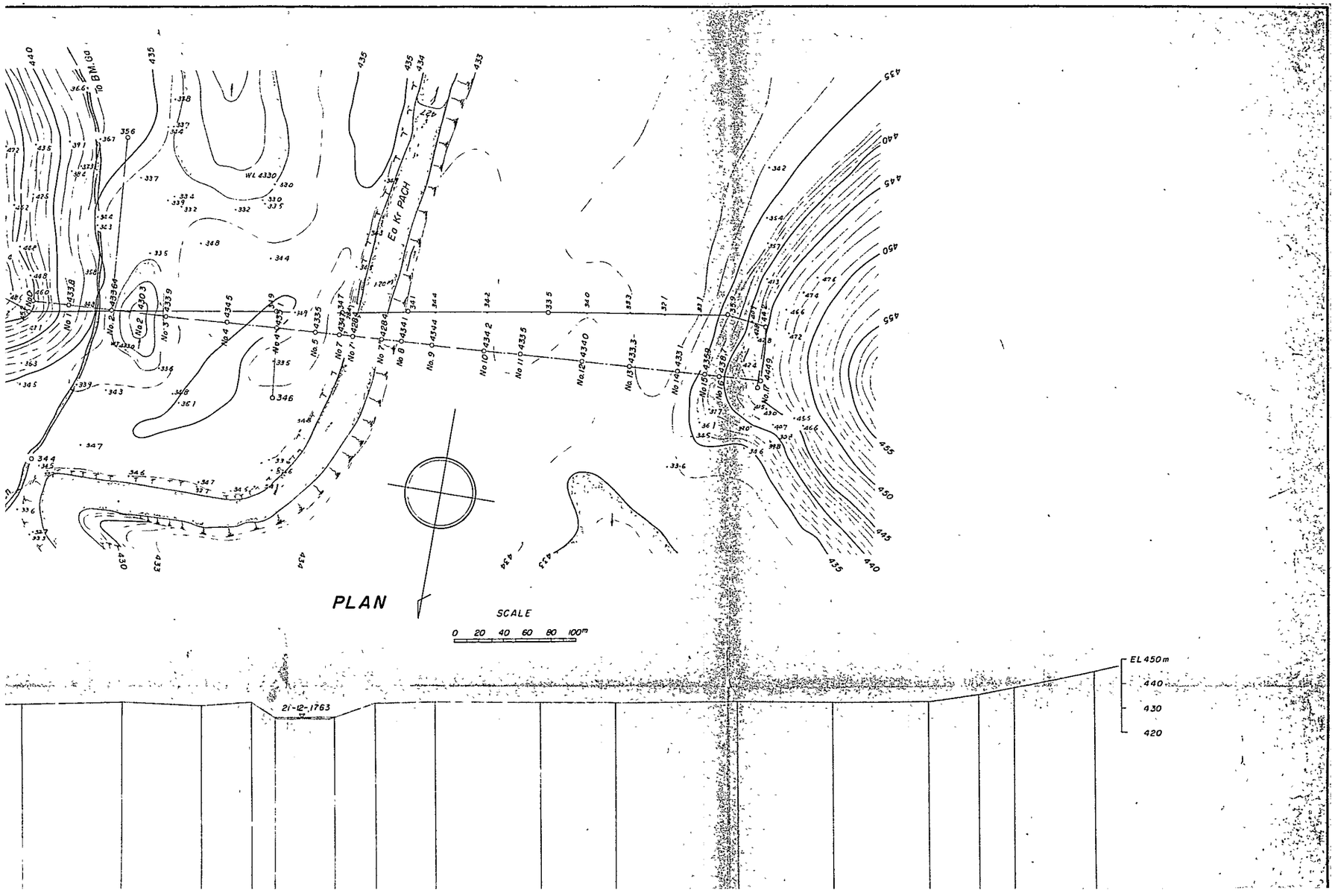
0 20 40 60 80 100M

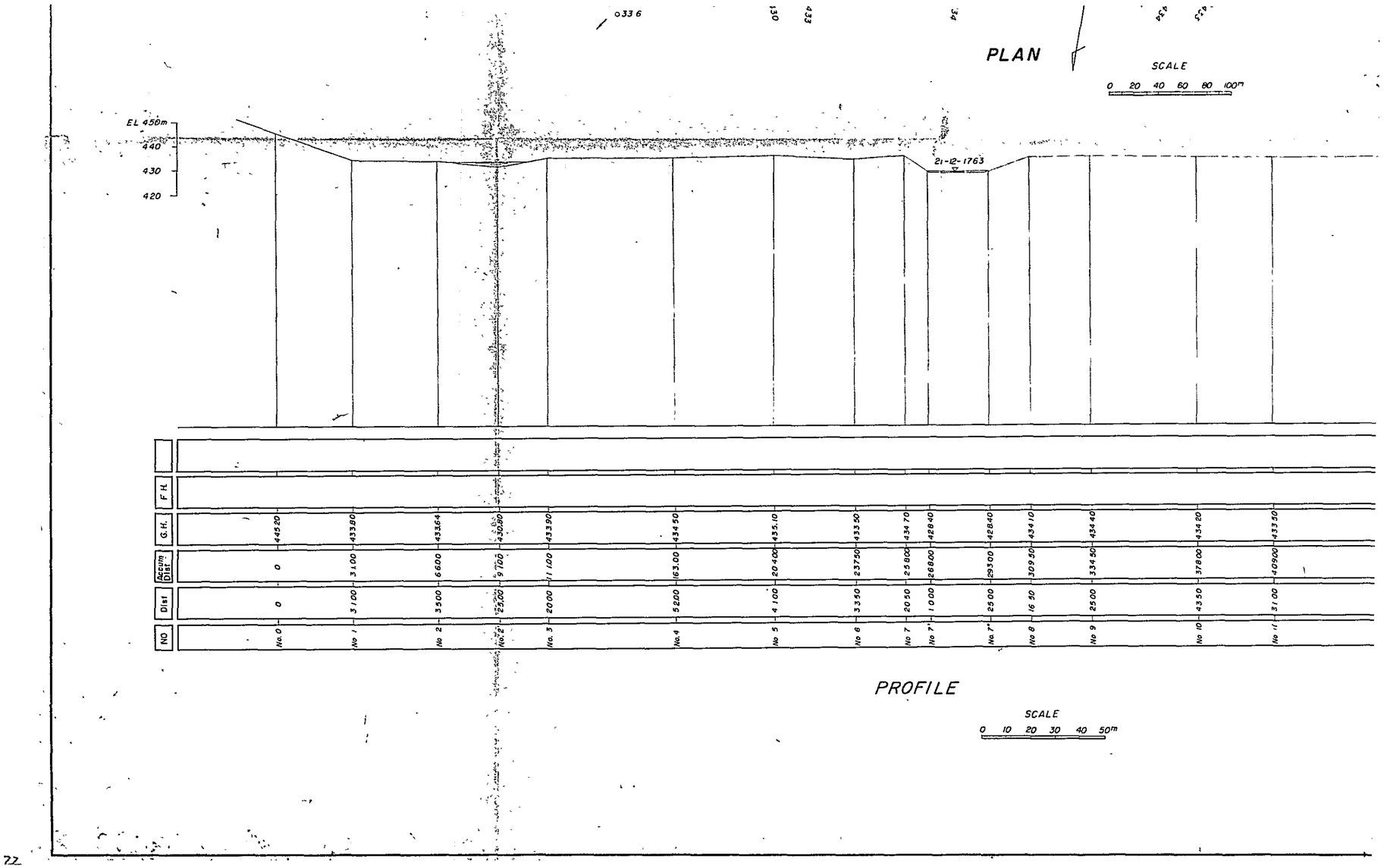
39	82.10	203360	443.00	
38	75.00	195350	442.50	
37	67.20	187850	442.50	
36	59 10	1811.30	442.40	
35	71.60	173220	442.40	
34	58 30	168060	442.80	
33	70.40	162230	443.00	
32	60 40	1551.90	443 40	
31	59 60	1491 50	443.50	
30	69 60	1431 90	443 10	
29	57.90	136230	442.60	
28	57.60	130440	442.00	



OVERSEAS TECHNICAL COOPERATION AGENCY	
KRONG BUK PROJECT, UPPER SREPOK VIET-NAM PROFILE OF KRONG BOUNG SUPPLEMENT DAMSITE	
NIPPON KOEI CO., LTD, TOKYO (CONSULTING ENGINEERS)	
DRAWN OFFICE TOKYO CHECKED DATE SUBMITTED RECOMMENDED APPROVED	DWG NO SHEET NO.


PLAN
SCALE
0 20 40 60 80 100m
To BM G0
Ea Kr PACH
To Phuoc Troch
EL.450m
440
430
420
21-12-1763

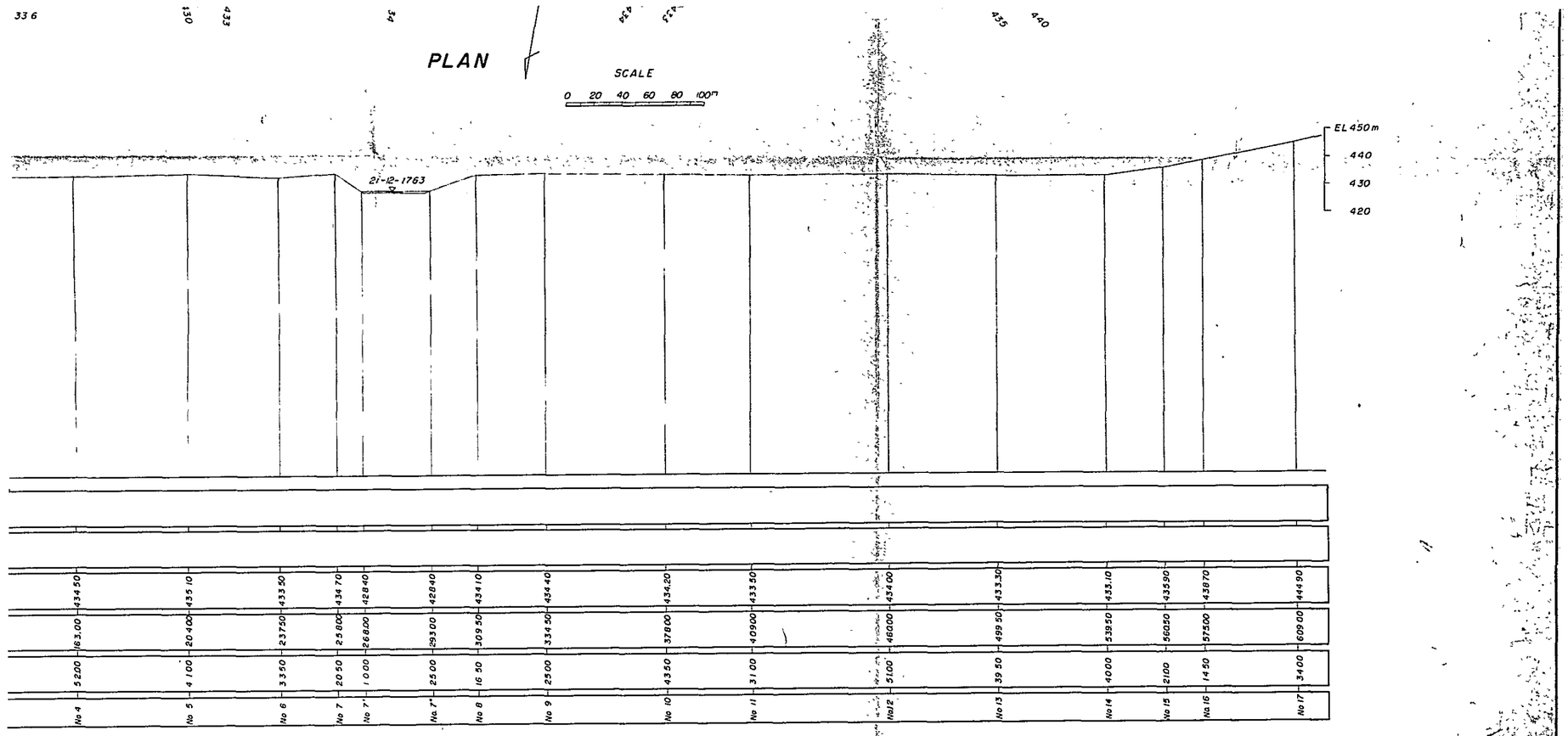

To BM.60
WL 4330
Eo Kr PACH
No 1
No 2
No 3
No 4
No 5
No 6
No 7
No 8
No 9
No 10
No 11
No 12
No 13
No 14
No 15
No 16
No 17
PLAN
SCALE
0 20 40 60 80 100m
21-12-1763
EL 450m
440
430
420



NO	Dist	Accum Dist	G.H.	F.H.	
No 0	0	0	443.80		
No 1	31.00	31.00	433.80		
No 2	35.00	66.00	433.64		
No 2'	23.00	97.00	430.80		
No 3	20.00	117.00	433.50		
No 4	52.00	169.00	434.50		
No 5	41.00	210.00	435.10		
No 6	33.50	243.50	433.50		
No 7	20.50	264.00	434.70		
No 7'	10.00	274.00	428.40		
No 7"	25.00	299.00	428.40		
No 8	16.50	315.50	434.10		
No 9	25.00	340.50	434.40		
No 10	43.50	384.00	434.20		
No 11	31.00	415.00	433.50		

PROFILE

SCALE
0 10 20 30 40 50m



PROFILE

SCALE
0 10 20 30 40 50m

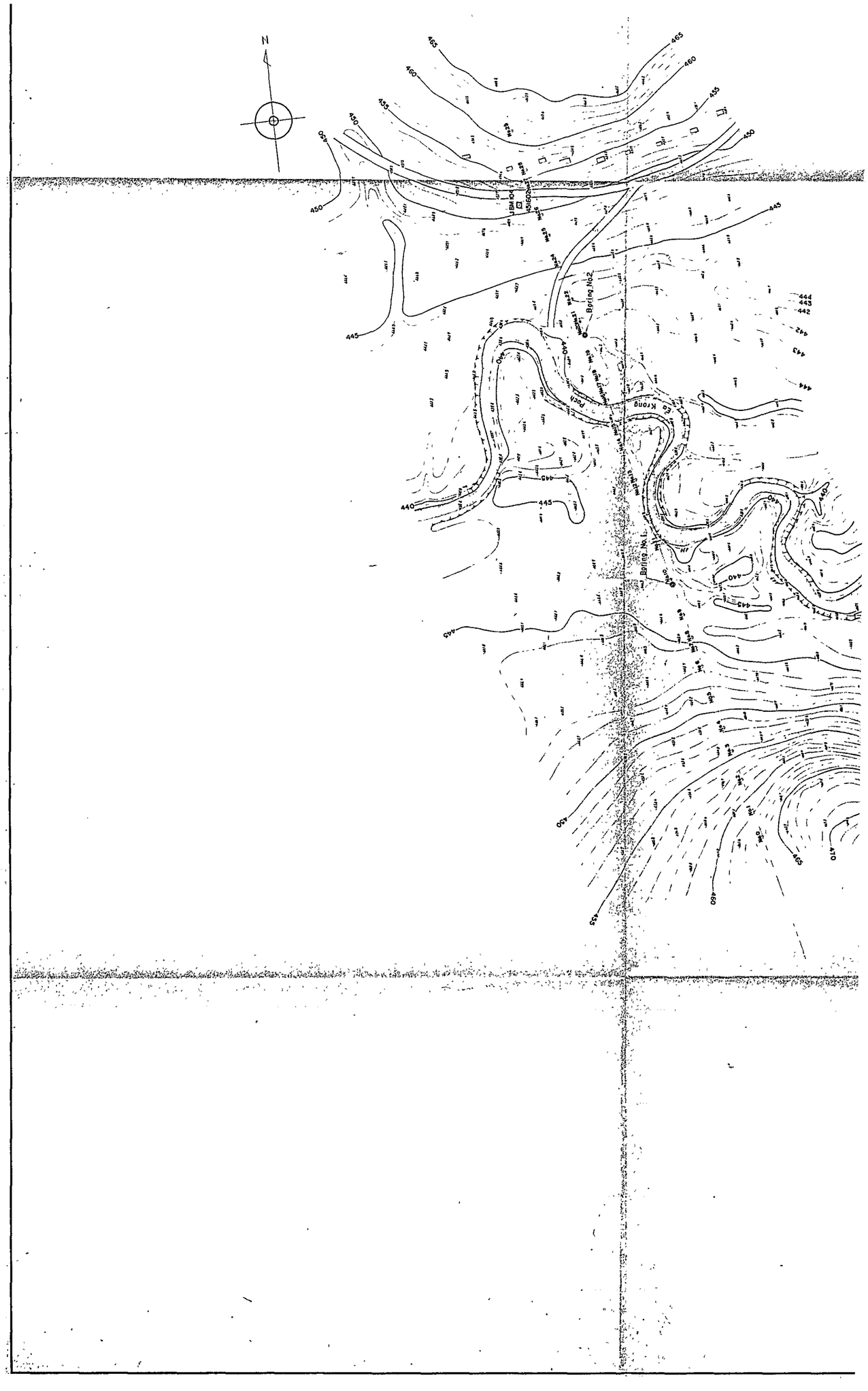
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

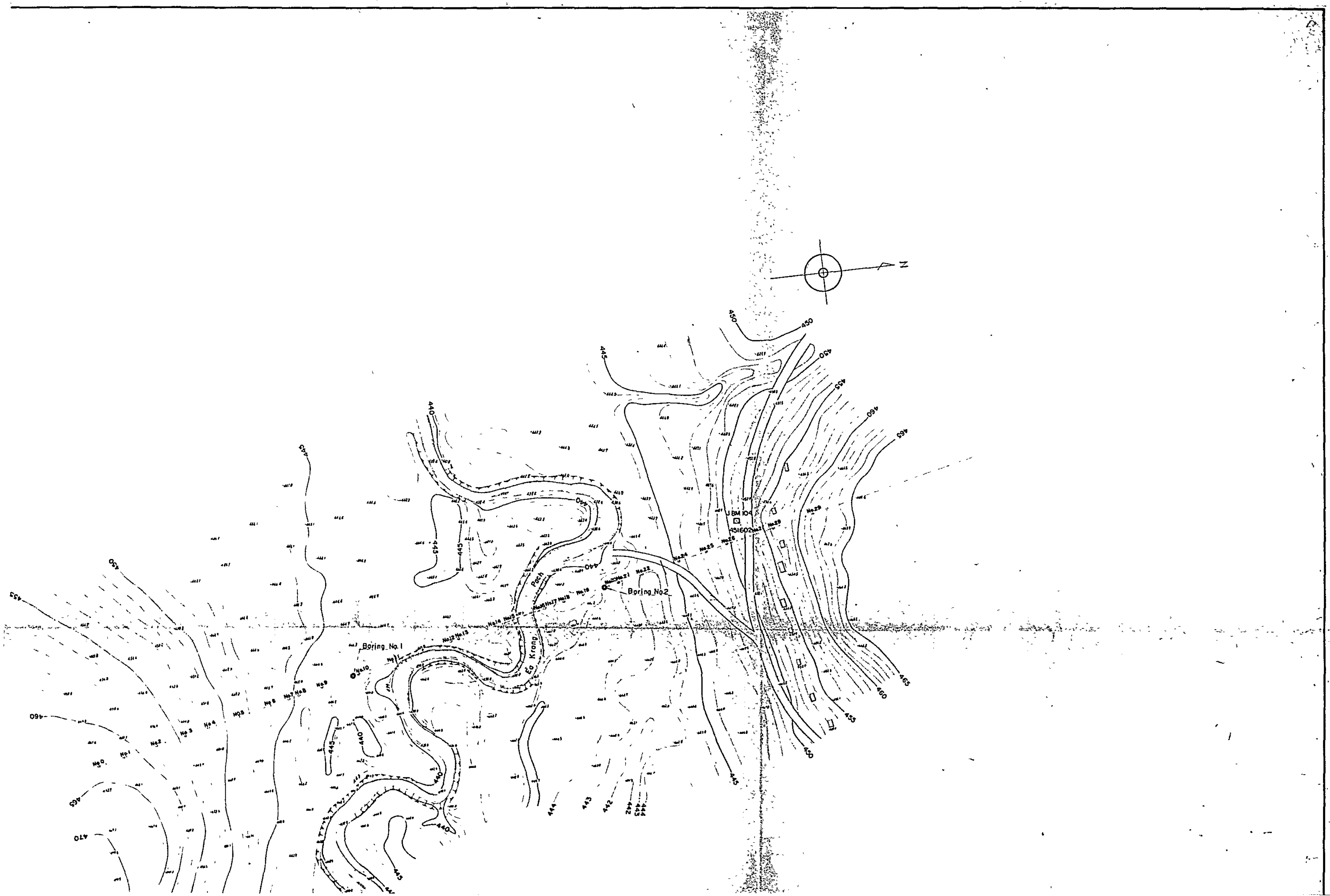
KRONG BUK PROJECT, UPPER-SREPOK VIET-NAM

PLAN & PROFILE OF LOWER KRONG PACH

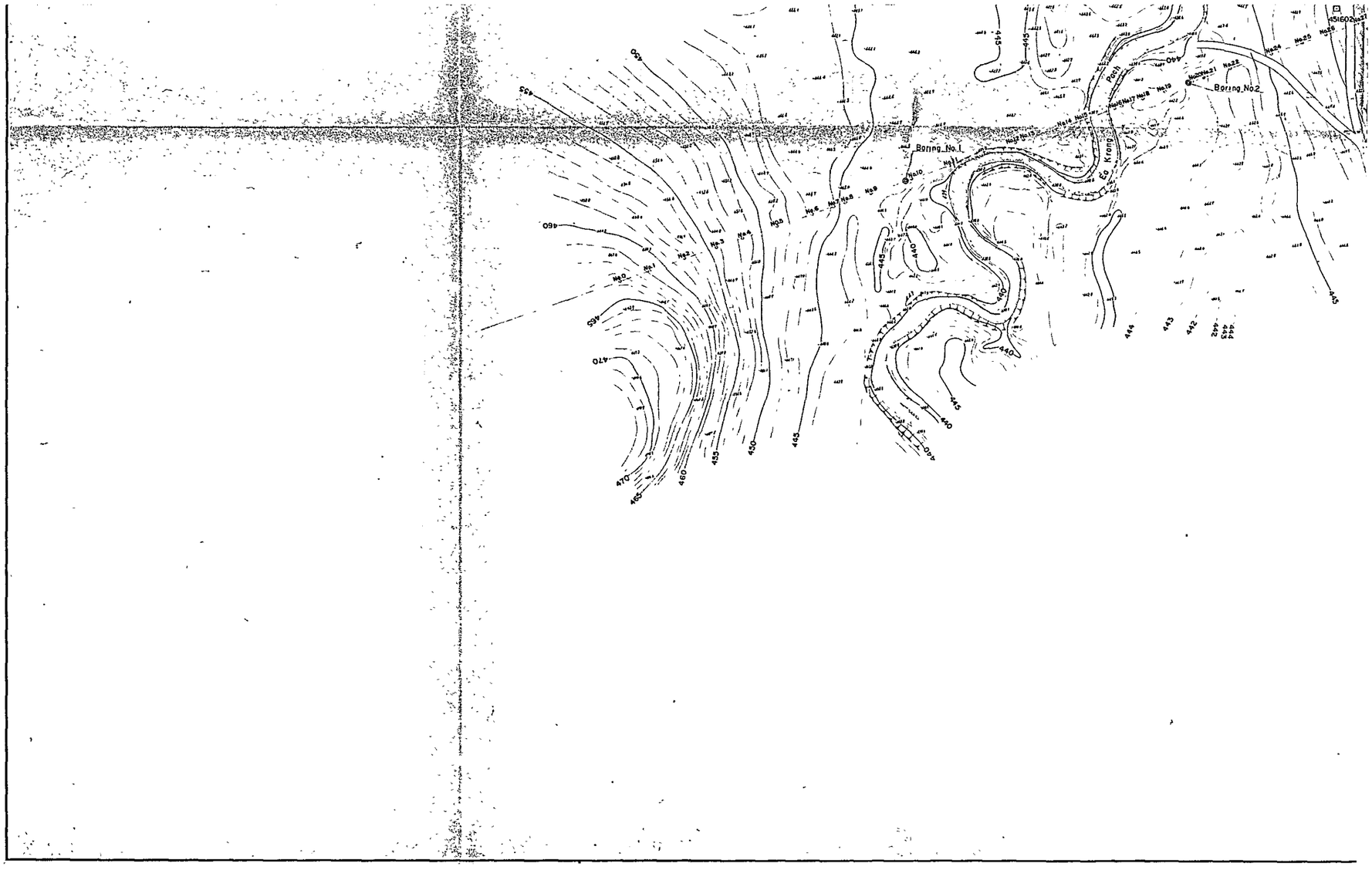
NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

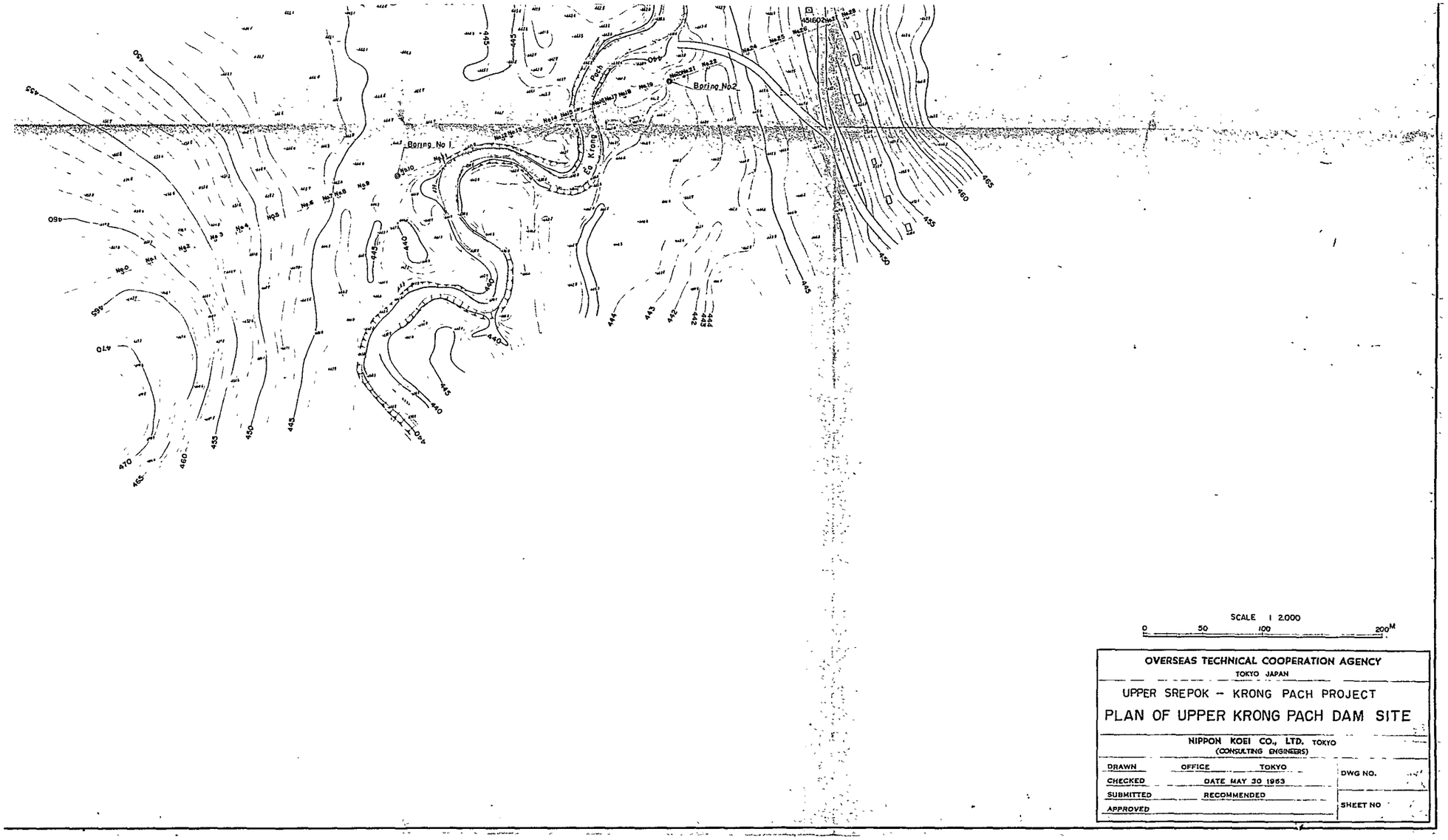
DRAWN	OFFICE TOKYO		DWG NO.
CHECKED	DATE		
SUBMITTED	RECOMMENDED		SHEET NO.
APPROVED			


N
Boring No.2
Boring No.1
Road



N
Boring No.1
Boring No.2
Ea Krong Pach
BM 104
451.602


Boring No.1
Boring No.2
Khlong
Path



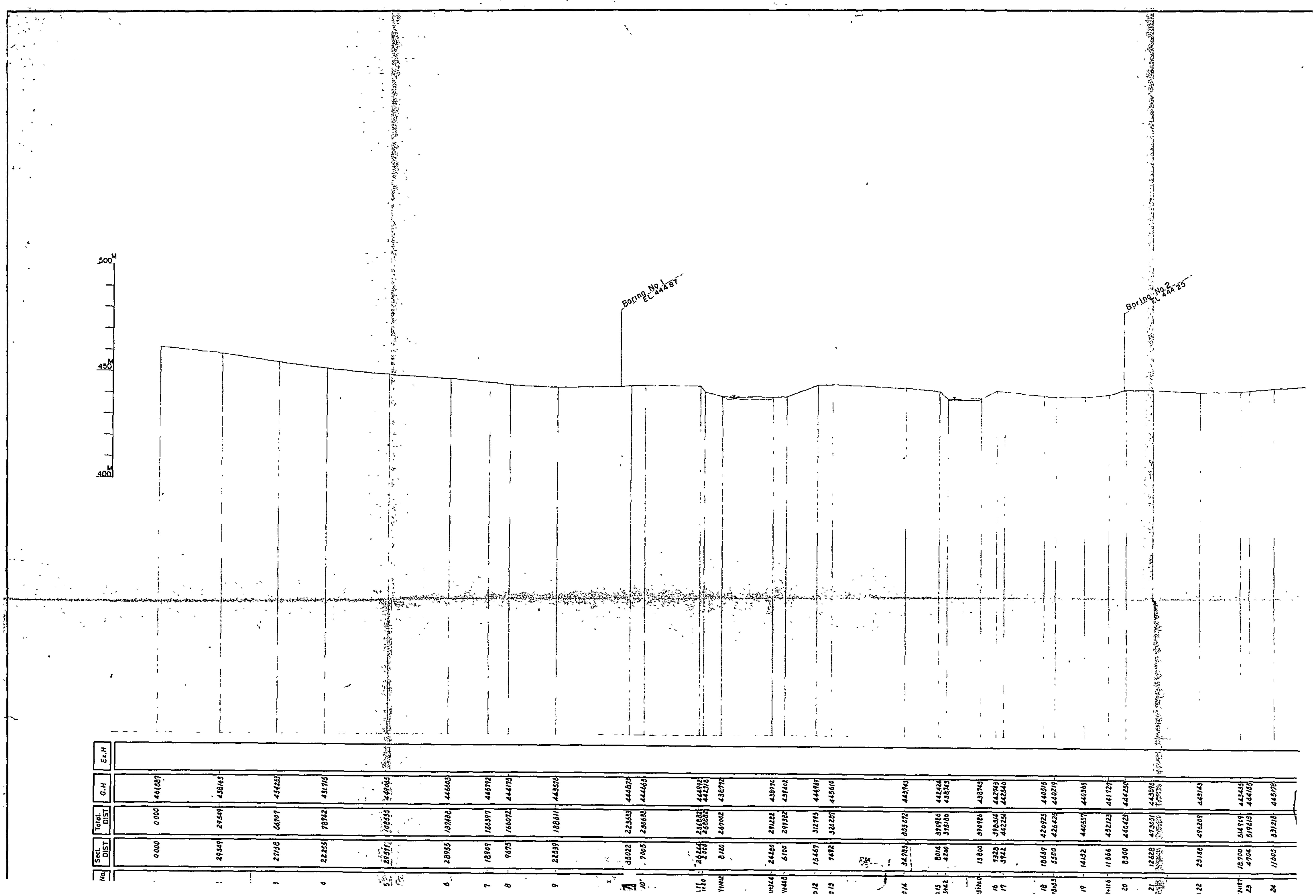
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

UPPER SREPOK – KRONG PACH PROJECT

PLAN OF UPPER KRONG PACH DAM SITE

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE MAY 30 1963	
SUBMITTED	RECOMMENDED	SHEET NO
APPROVED		


500M
450M
400M
Boring No.1 EL 444.87
Boring No.2 EL 444.25
E.L.H
G.H
Total DIST
Sect. DIST
No

Boring No.1
EL 444.87
Boring No.2
EL 444.25
500M
450M
400M

CURVE	STA.No.	Sect DIST	Total DIST	G.H	Ex.H
	NO 1	0000	0000	461587	
	NO 2	29549	29549	458165	
	NO 3	27158	56707	454253	
	NO 4	22255	78962	451715	
	NO 5	29571	108533	449065	
	NO 6	28955	137488	446603	
	NO 7	18909	156397	445792	
	NO 8	9675	166072	444175	
	NO 9	22539	188611	443576	
	[illegible]	35022	223633	444873	
	NO 10'	7005	230638	444663	
	NO 11	26244	256882	444992	
	NO11+20	2000	258882	442718	
	NO11+101.2	8120	267002	438772	
	NO11+344	24280	291282	438770	
	NO11+405	6100	297382	439602	
	NO 12	15467	312793	444969	
	NO 13	7492	320287	445610	
	NO 14	34785	355072	443943	
	NO 15	8014	370986	442424	
	NO15+42	4200	375186	438743	
	NO15+200	15800	390986	438743	
	NO 16	7328	398314	442743	
	NO 17	3942	402256	442546	
	NO 18	18669	420923	440515	
	NO18+55	5500	426425	440219	
	NO 19	14132	440557	440369	
	NO19+116	11566	452123	441727	
	NO 20	8300	460423	444250	
	NO 21	12628	473051	443896	
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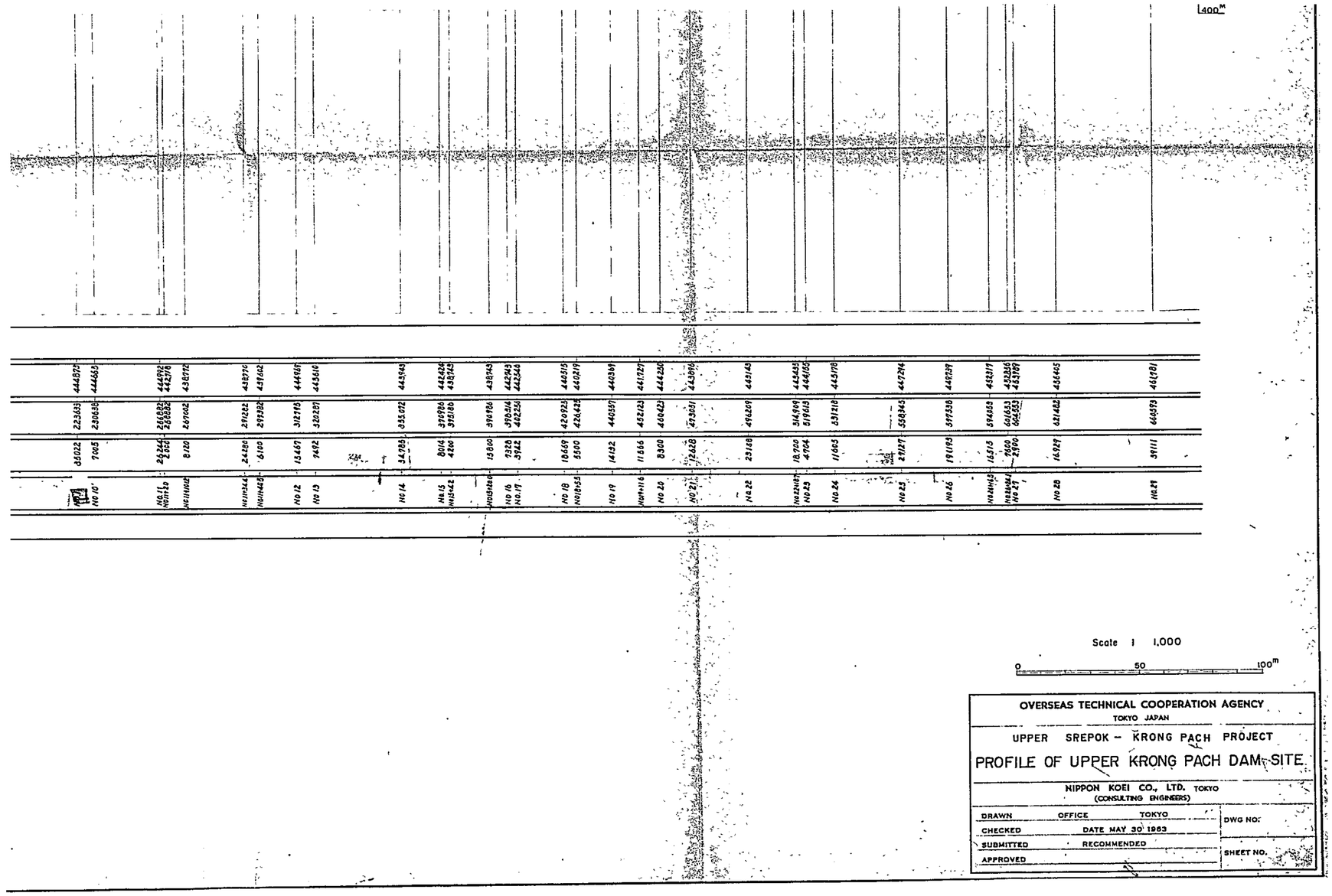


OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

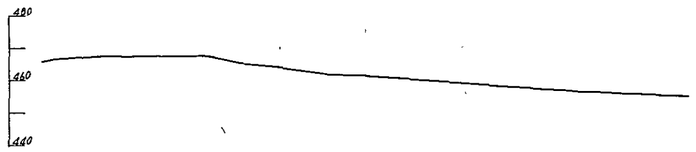
UPPER SREPOK – KRONG PACH PROJECT

PROFILE OF UPPER KRONG PACH DAM SITE

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

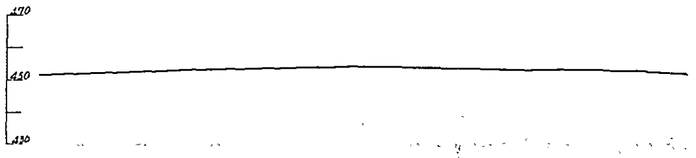
DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE MAY 30 1963	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		

NO. 1
GH 461.59



NO 2
GH 458.17

NO 3
GH 454.25

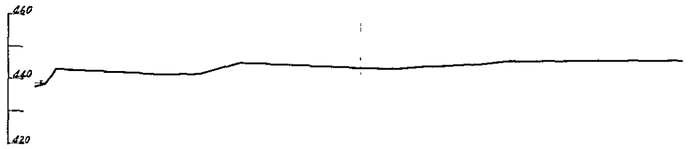


NO 4
GH 451.72

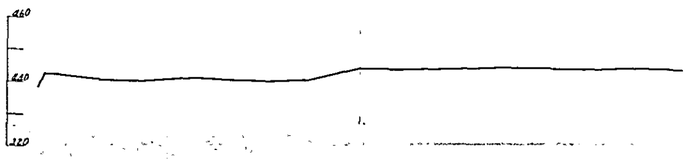
NO 5
GH 449.07

NO 6
GH 444.18

NO 9
GH 443.58

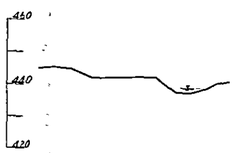


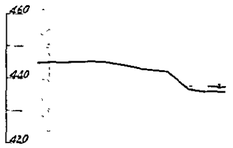
NO 10
GH 444.22

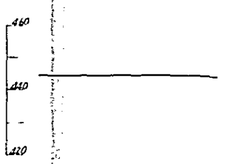


NO 11
GH 444.99

NO 11+34.40
GH 438.97







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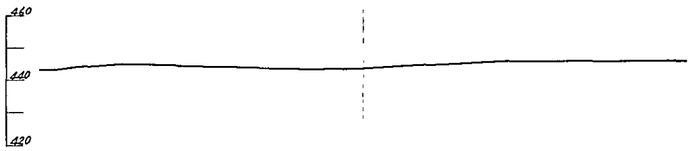
GH. 444.18



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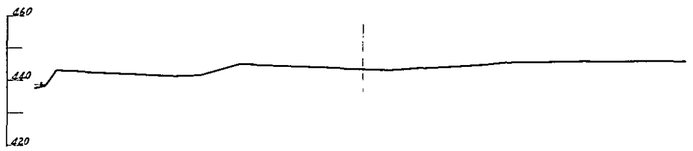
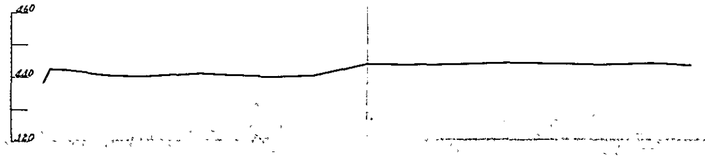
GH 443.58



NO. 10
GH. 444.82



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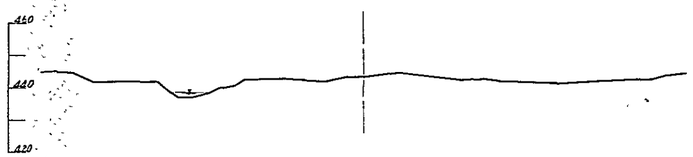
GH. 444.99

NO 11+34.40
GH. 439.77

NO. 12
GH. 443.94



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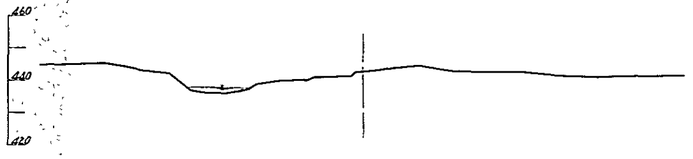

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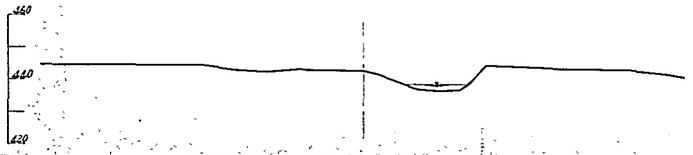
GH. 442.74



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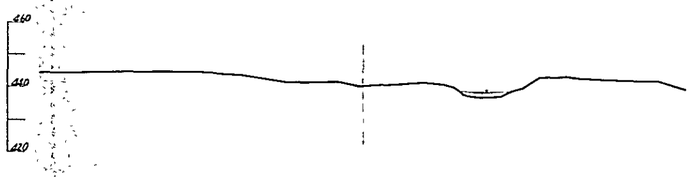

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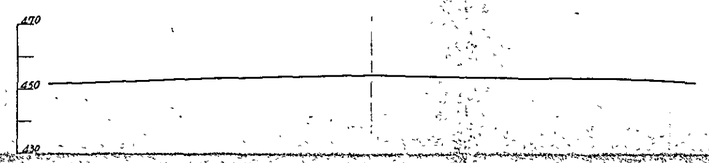
GH. 440.97

NO 3
GH 454.25



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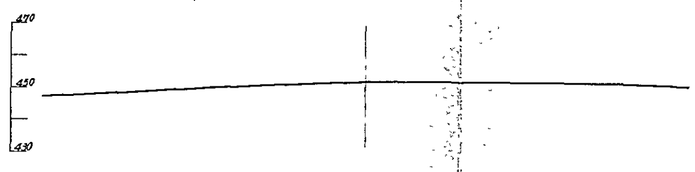
GH 451.72



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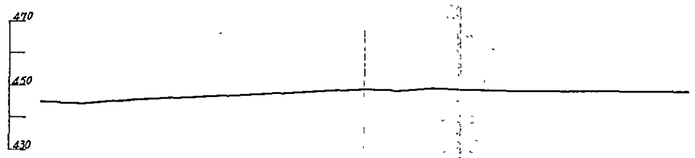
GH 449.07



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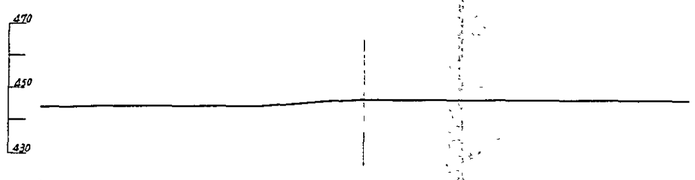

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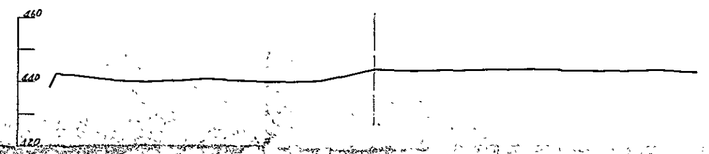
GH 444.22



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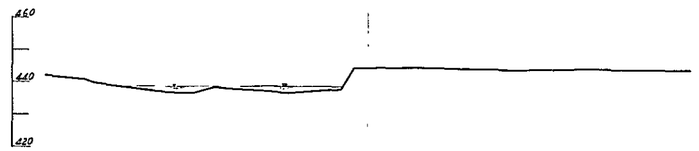
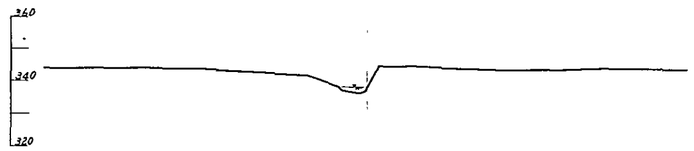
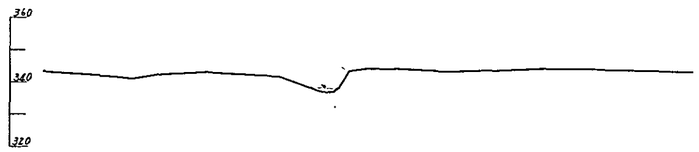
GH 444.97

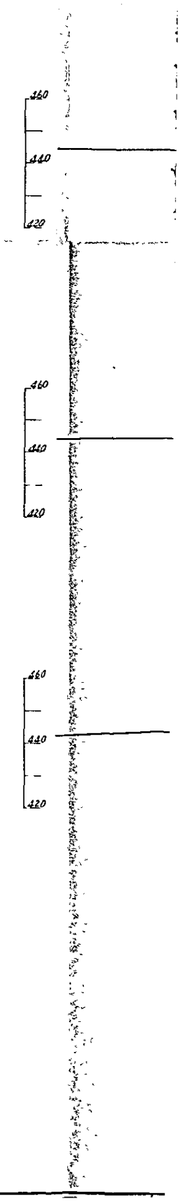


NO 11+34.40
GH 438.97



NO 12
GH 444.97





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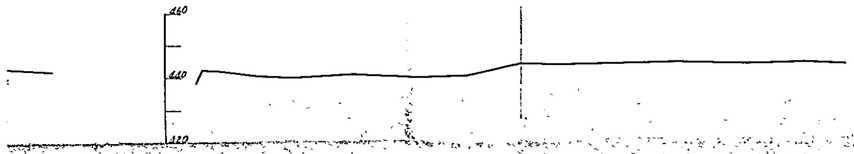
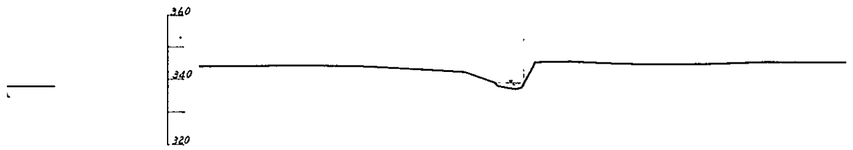
GH. 444.82



NO. 11
GH. 444.99

NO 11+34.40
GH 438.97



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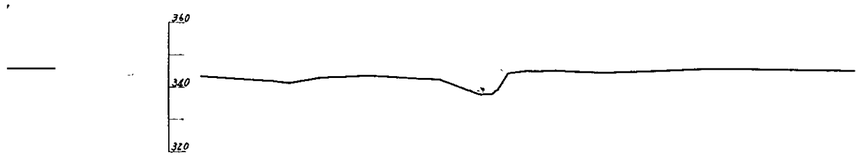

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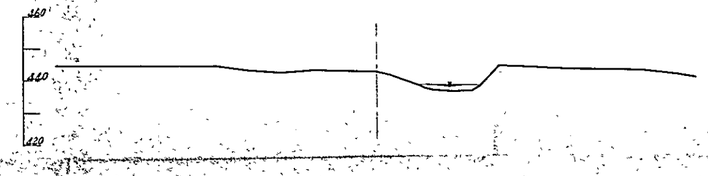
GH. 442.94



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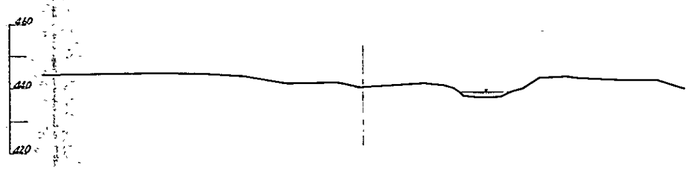
GH 440.52



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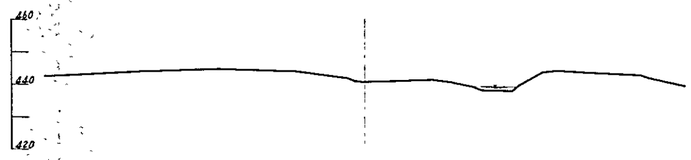
GH 440.97

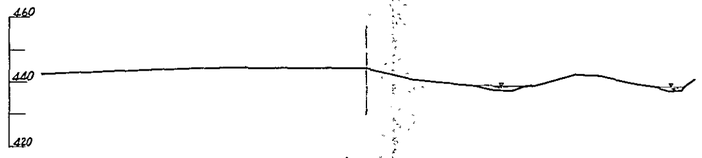


SCALE : 1 : 1,000

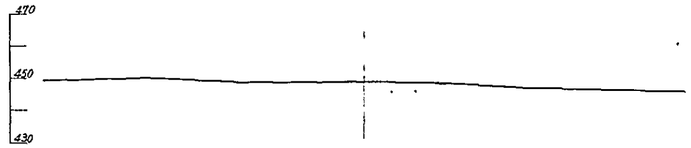
0 10 50 100 M

OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN	
UPPER SREPOK – KRONG PACH PROJECT	
SECTION OF UPPER KRONG PACH DAM SITE (I)	
NIPPON KOEI CO., LTD. TOKYO (CONSULTING ENGINEERS)	
DRAWN OFFICE TOKYO	DWG NO.
CHECKED DATE MAY 30 1963	
SUBMITTED RECOMMENDED	SHEET NO
APPROVED	

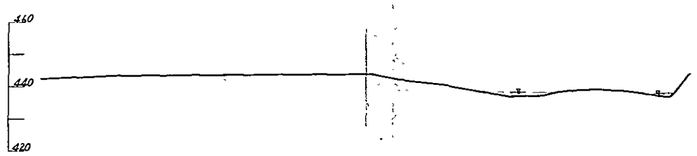
NO 20
GH 444.28



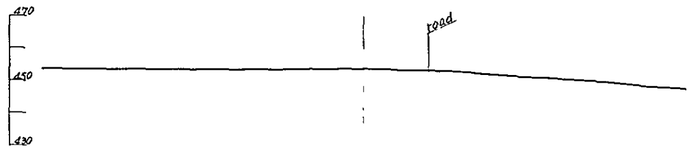
NO 26
GH 449.74



NO. 21
GH. 443.90



NO 27
GH 453.99



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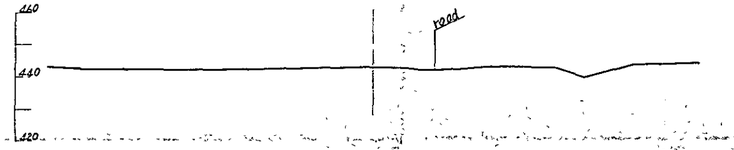
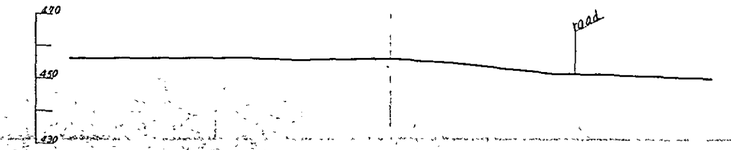


NO 28
GH 456.41



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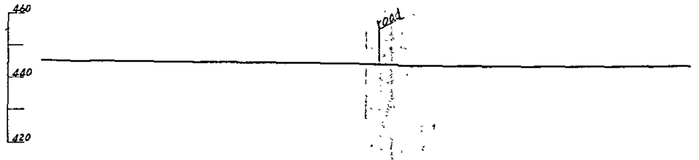
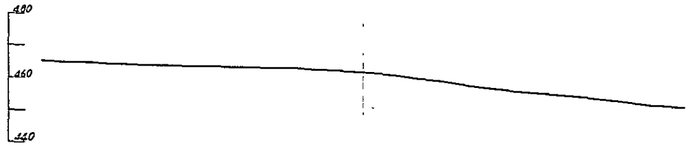


NO 29
GH 461.78



NO 24
GH 445.18

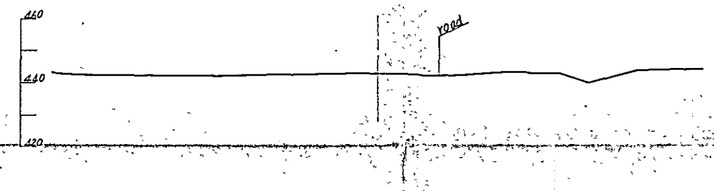
NO 26
GH 449.74

NO 27
GH 453.99

NO 28
GH 456.41

NO 29
GH 461.78

NO.22
GH 443.14



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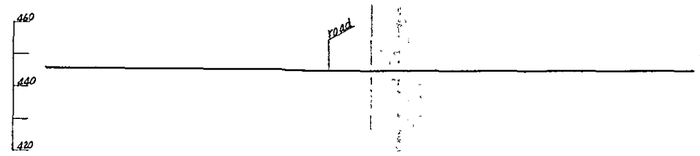
GH 444.16

NO.24
GH 445.18



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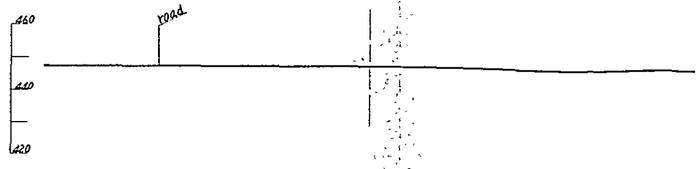
GH 447.29



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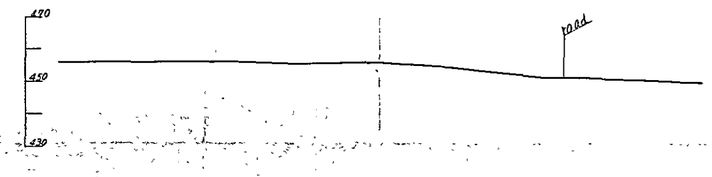

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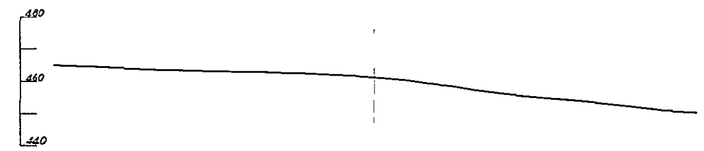
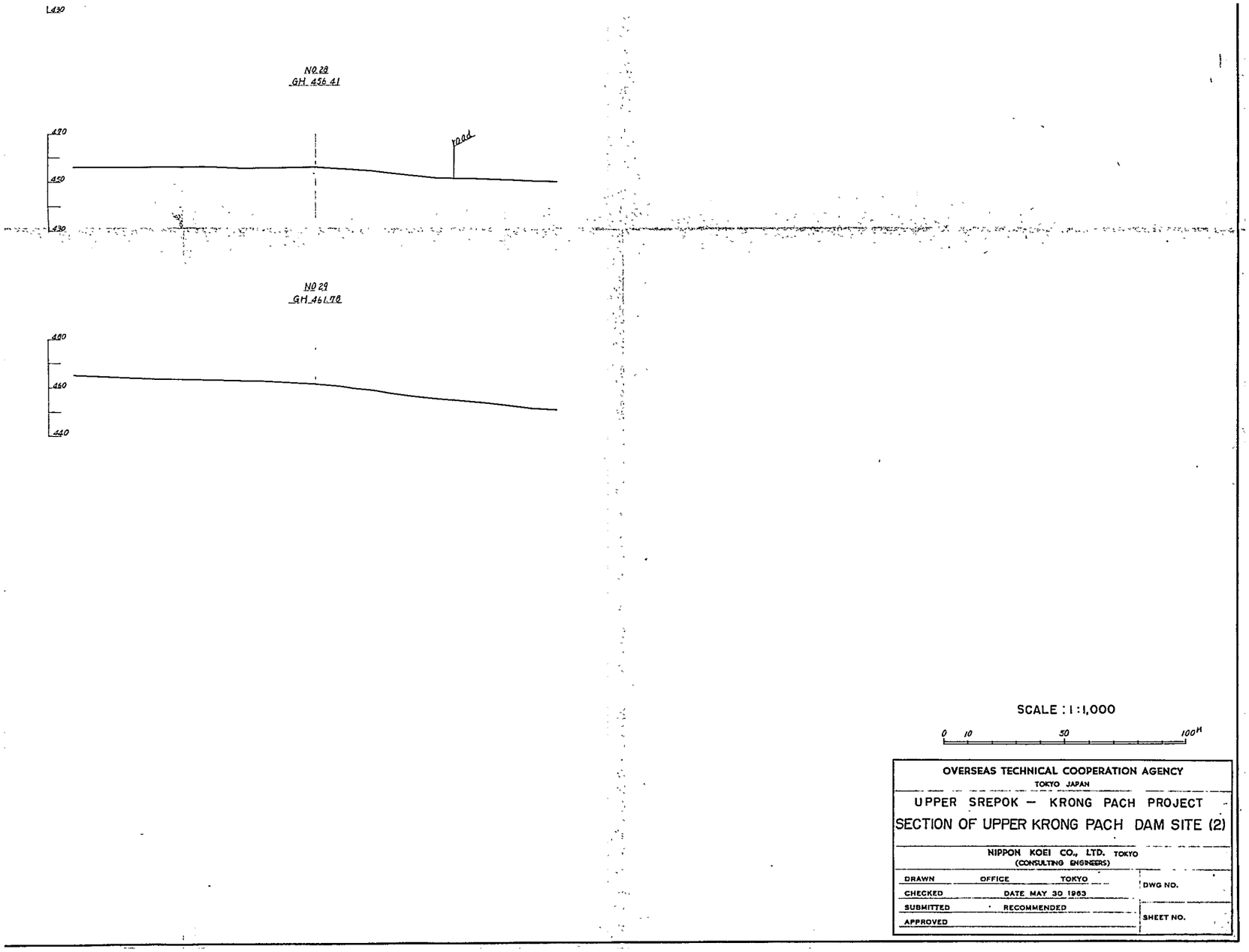




SCALE : 1 : 1,000

0 10 50 100M

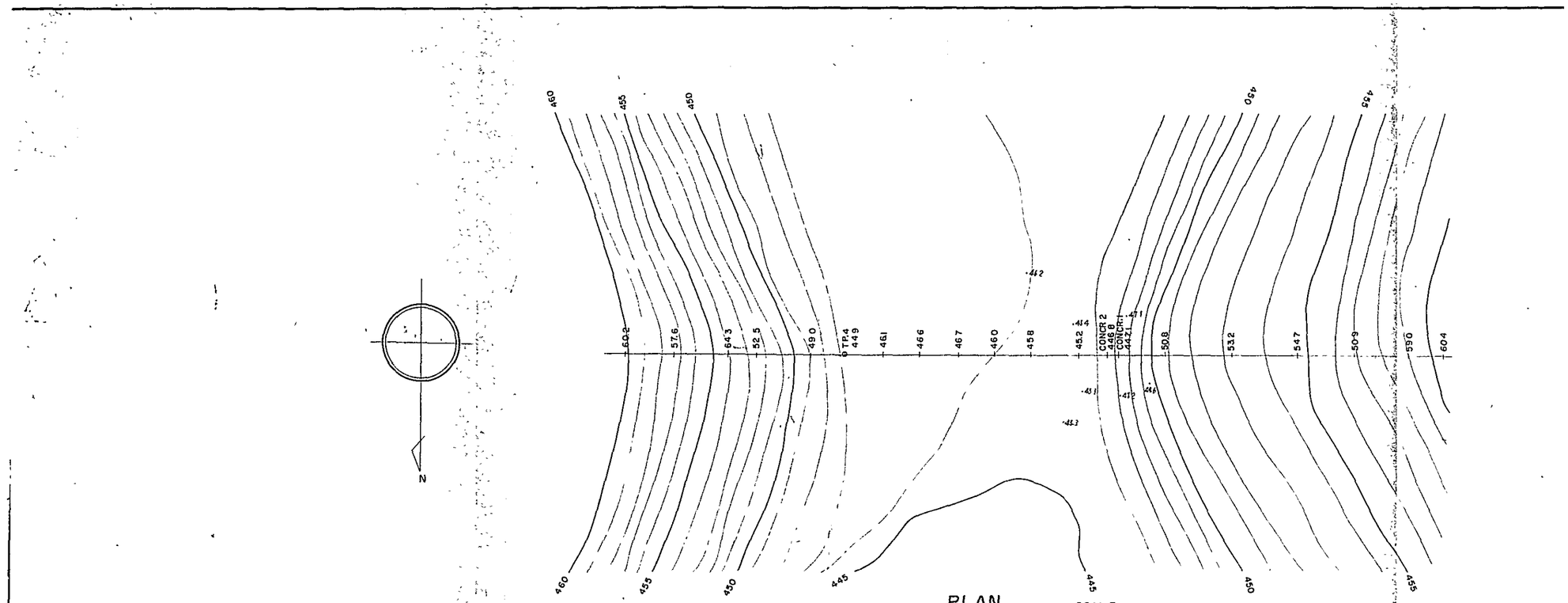
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

UPPER SREPOK — KRONG PACH PROJECT

SECTION OF UPPER KRONG PACH DAM SITE (2)

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE MAY 30 1963	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		


N
PLAN
SCALE
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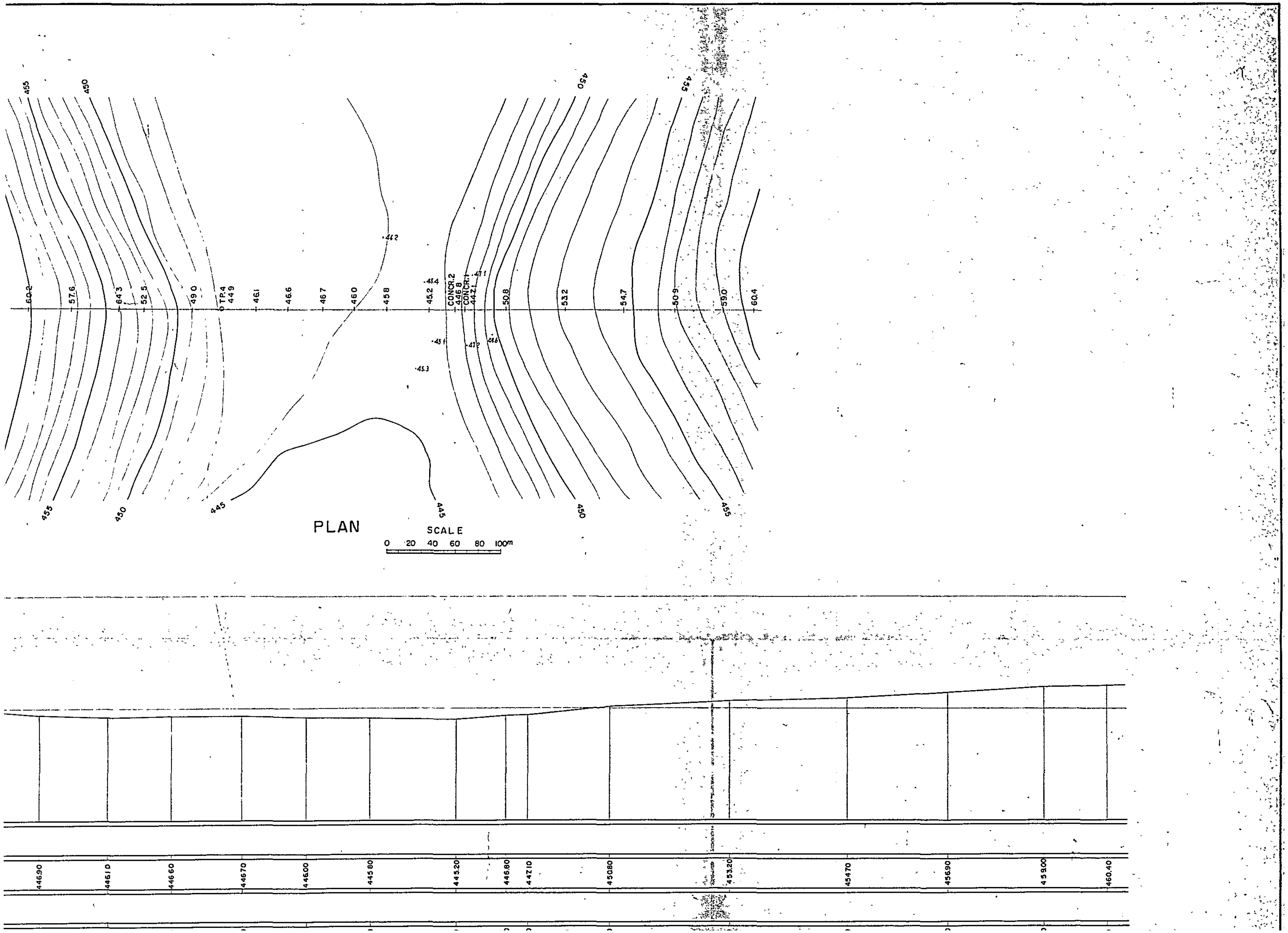
EL 500
490
480
470
460
450
440
430
420
410
F.H
G.H.


PLAN
SCALE
0 20 40 60 80 100m
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446.60
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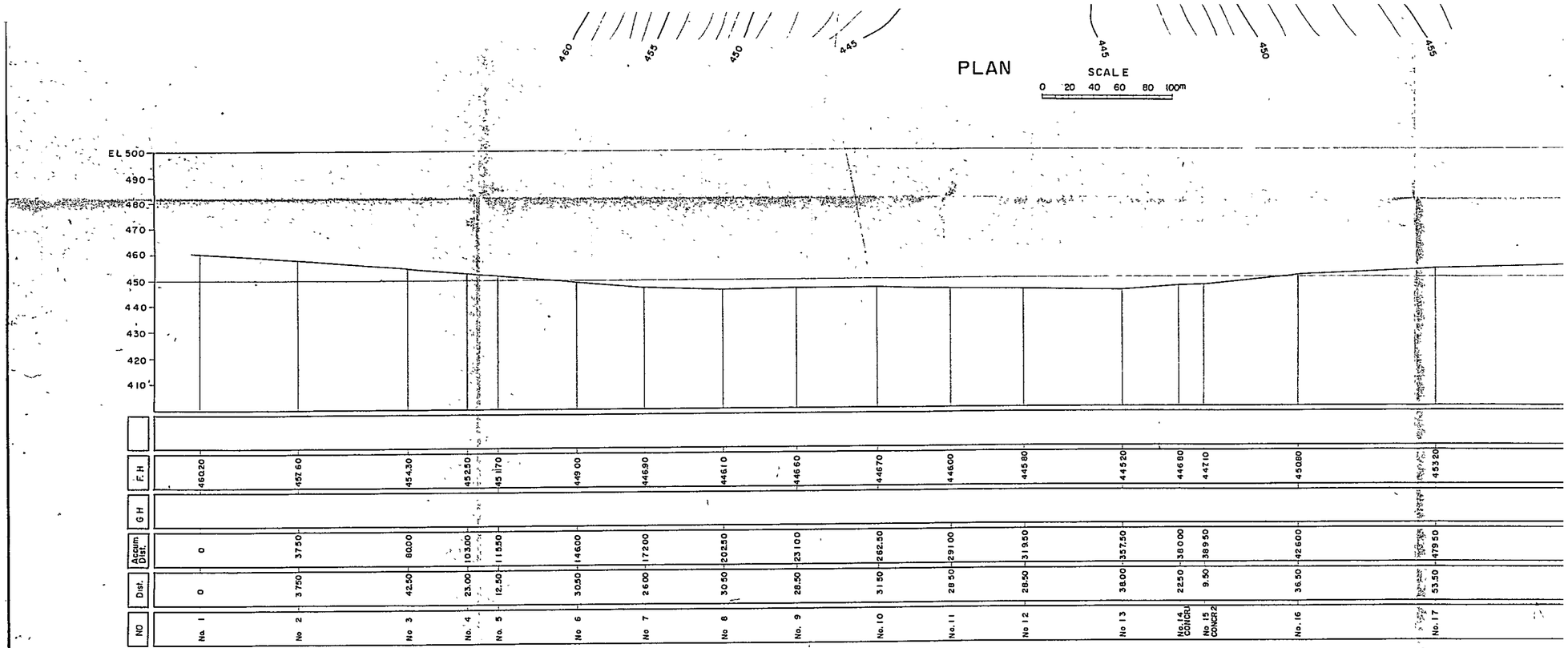
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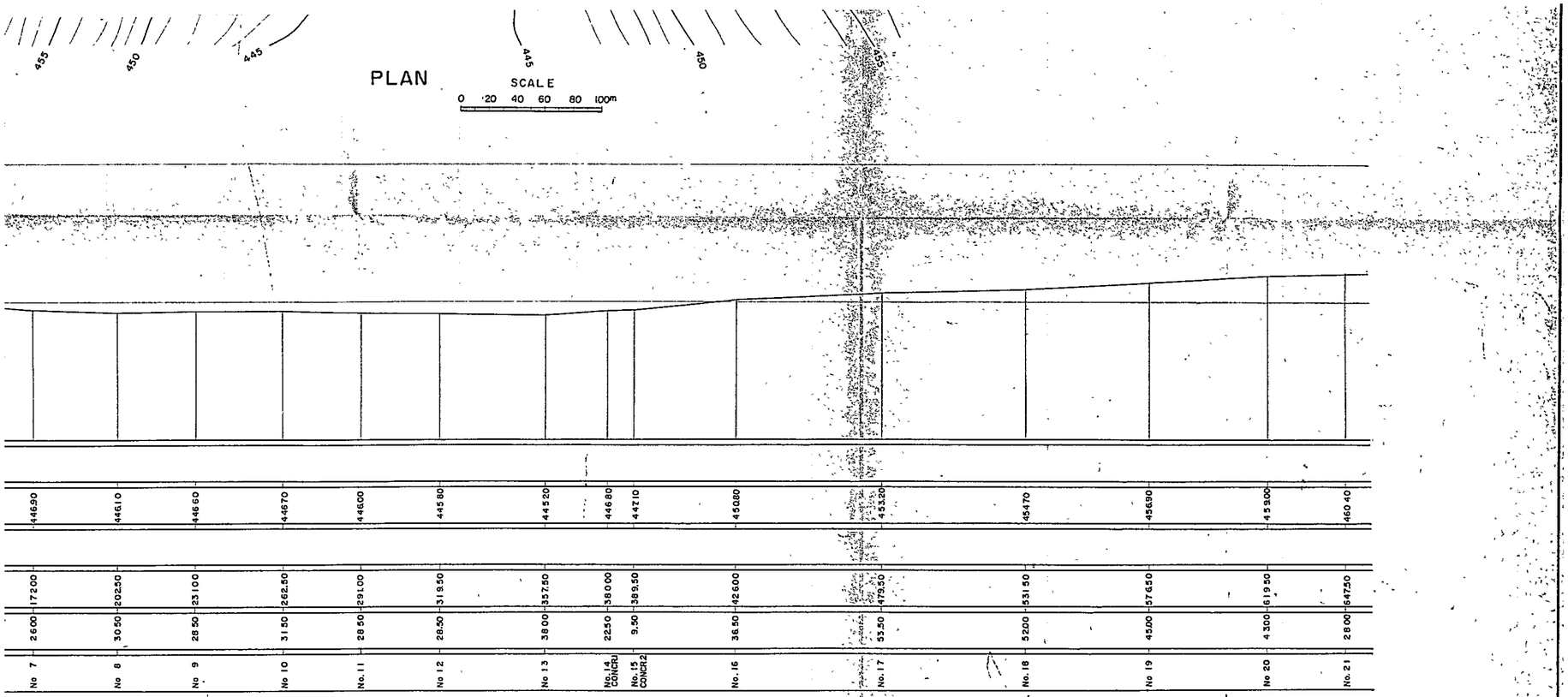
455
450
445
PLAN
SCALE
0 20 40 60 80 100m
445
450
455
EL 500
490
480
470
460
450
440
430
420
410
F. H
G H
Accum Dist.
Dist.
NO
460.20
457.60
454.30
452.50
451.70
449.00
446.90
446.10
446.60
446.70
446.00
445.80
445.20
446.80
447.10
450.80
453.20
0
3750
4250
2300
1250
3050
2600
3050
2850
3150
2850
2850
3800
2250
950
3650
5350
0
3750
8000
10300
11550
14600
17200
20250
23100
26250
29100
31950
35750
38000
38950
42600
47950
No 1
No 2
No 3
No. 4
No. 5
No 6
No 7
No 8
No. 9
No.10
No.11
No 12
No 13
No.14 CONCRU
No.15 CONCR2
No.16
No.17
PROFILE
SCALE
0 10 20 30 40 50m

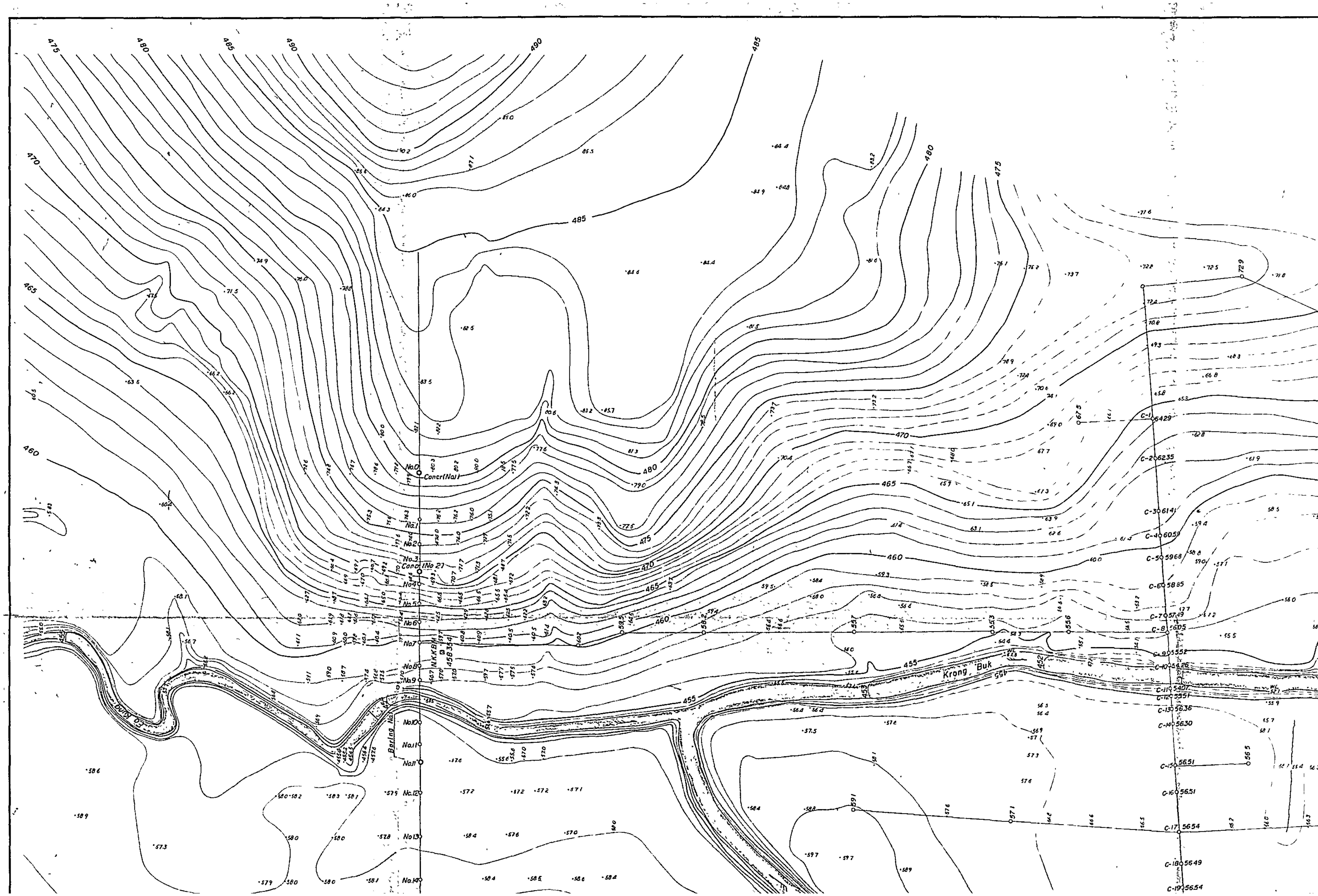


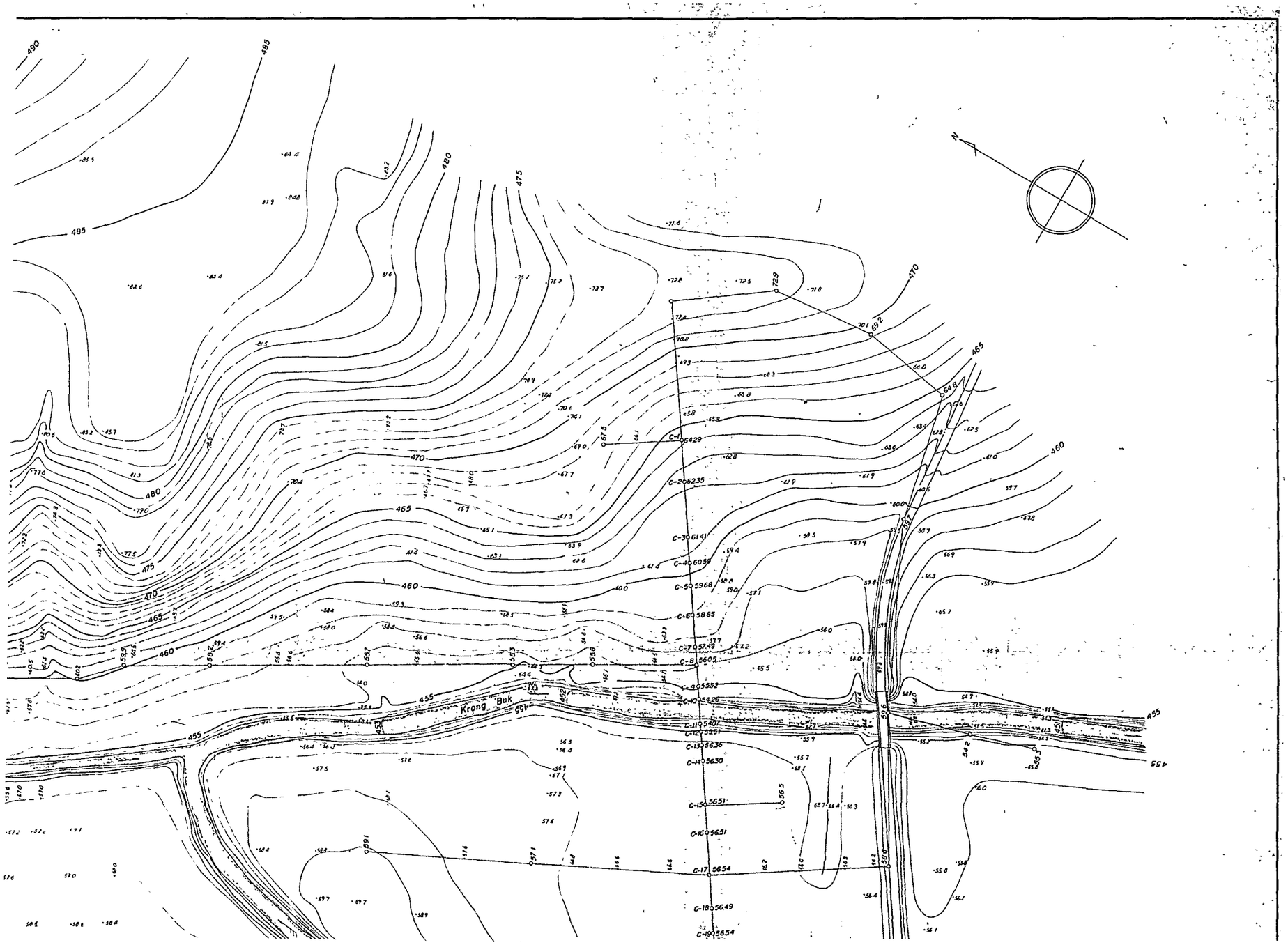
PROFILE

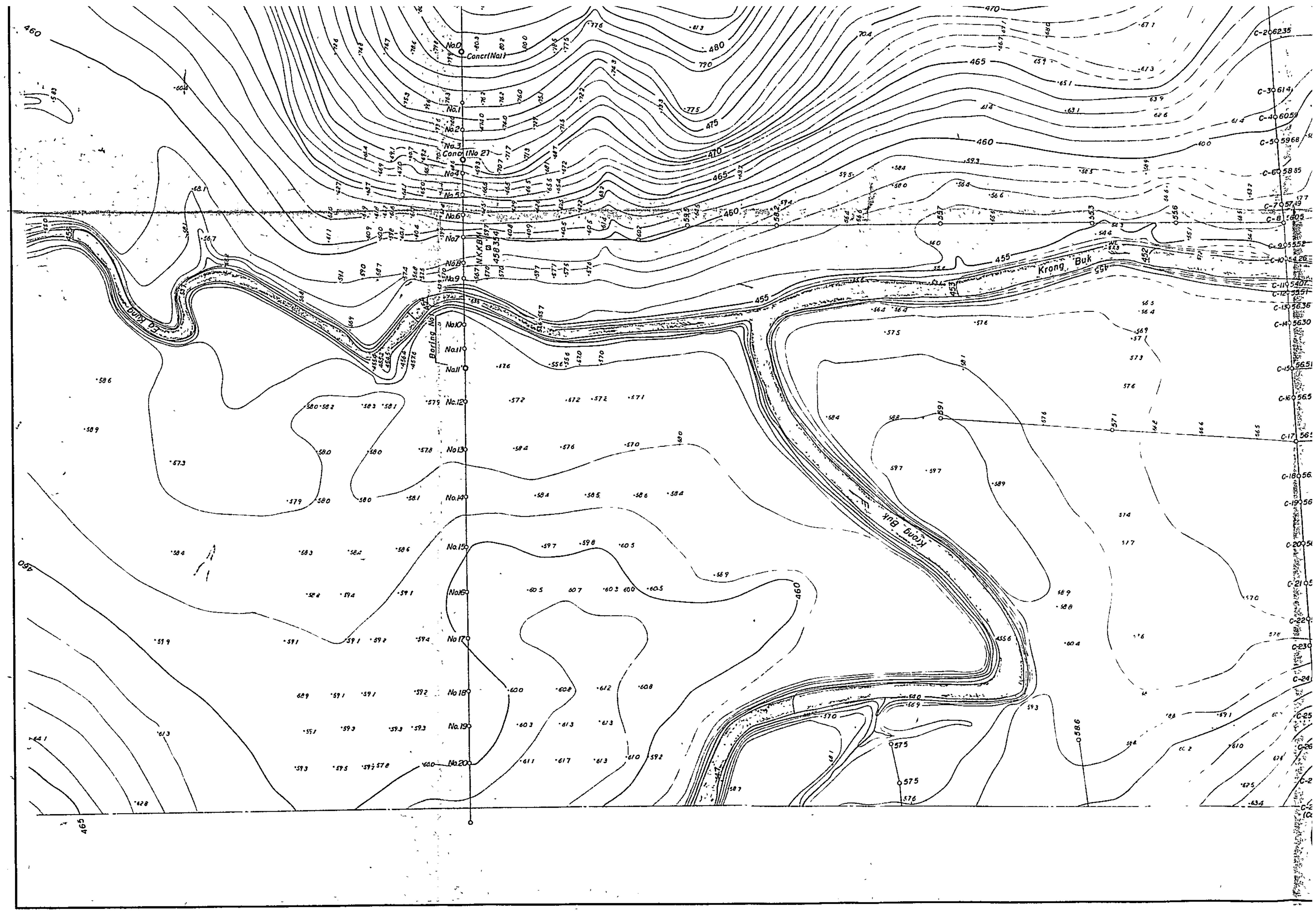
SCALE

0 10 20 30 40 50m

OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN	
KRONG BUK PROJECT, UPPER SREPOK VIET – NAM PLAN & PROFILE OF UPPER KRONG PACH No.1 SUPPLEMENT DAMSITE	
NIPPON KOEI CO., LTD. TOKYO (CONSULTING ENGINEERS)	
DRAWN OFFICE TOKYO CHECKED DATE SUBMITTED RECOMMENDED APPROVED	DWG NO. SHEET NO.


475
480
485
490
470
465
460
455
Concr(No.1)
Concr(No.2)
No.0
No.1
No.2
No.3
No.4
No.5
No.6
No.7
No.8
No.9
No.10
No.11
No.12
No.13
No.14
Boring No.1
Krong Buk
C-1
C-2
C-3
C-4
C-5
C-6
C-7
C-8
C-9
C-10
C-11
C-12
C-13
C-14
C-15
C-16
C-17
C-18
C-19


N
Krong Buk
C-1 5429
C-2 06235
C-3 06141
C-4 06059
C-5 05968
C-6 05885
C-7 05749
C-8 5605
C-9 05552
C-10 05426
C-11 05402
C-12 05351
C-13 05636
C-14 05630
C-15 5651
C-16 05651
C-17 5654
C-18 05649
C-19 5654



Krong Buk
Krong Buk
Concr (No1)
Concr (No 2)
Boring No
No.0
No.1
No.2
No.3
No.4
No.5
No.6
No.7
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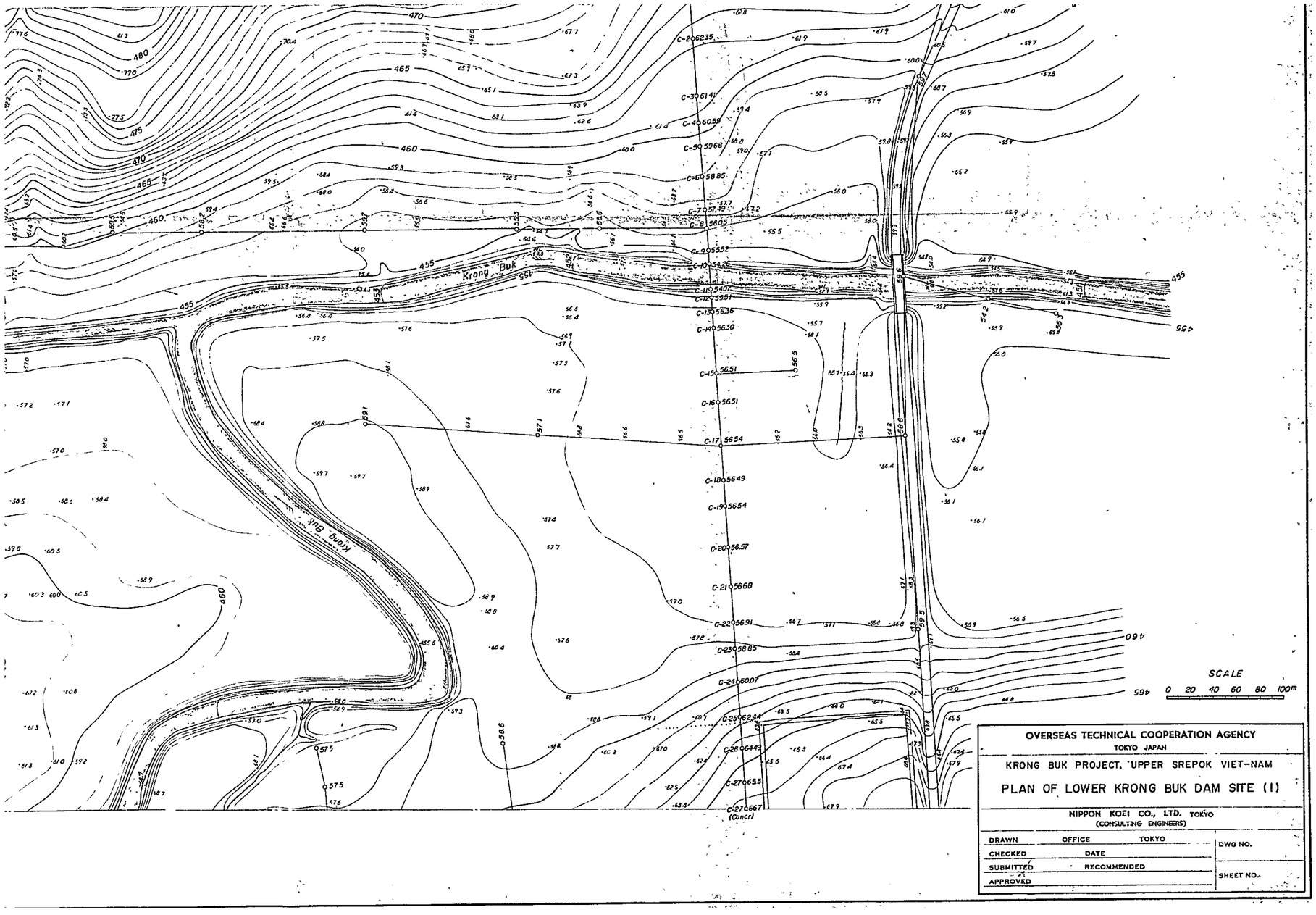

OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

KRONG BUK PROJECT, UPPER SREPOK VIET-NAM

PLAN OF LOWER KRONG BUK DAM SITE (1)

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

DRAWN	OFFICE TOKYO		DWG NO.
CHECKED	DATE		
SUBMITTED	RECOMMENDED		SHEET NO.
APPROVED			

Boring No.2
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No.37
No.38
No.39
No.40
No.41
No.42
No.43
No.44
No.45
TP10
TP11
TP12
TP13
TP14
TP15
TP16
Krong Buk
Krong Buk

Krona Buk
TP10
TP11
TP12
TP13
TP14
TP15
TP16
C-28
C-29
ALL B PUMP
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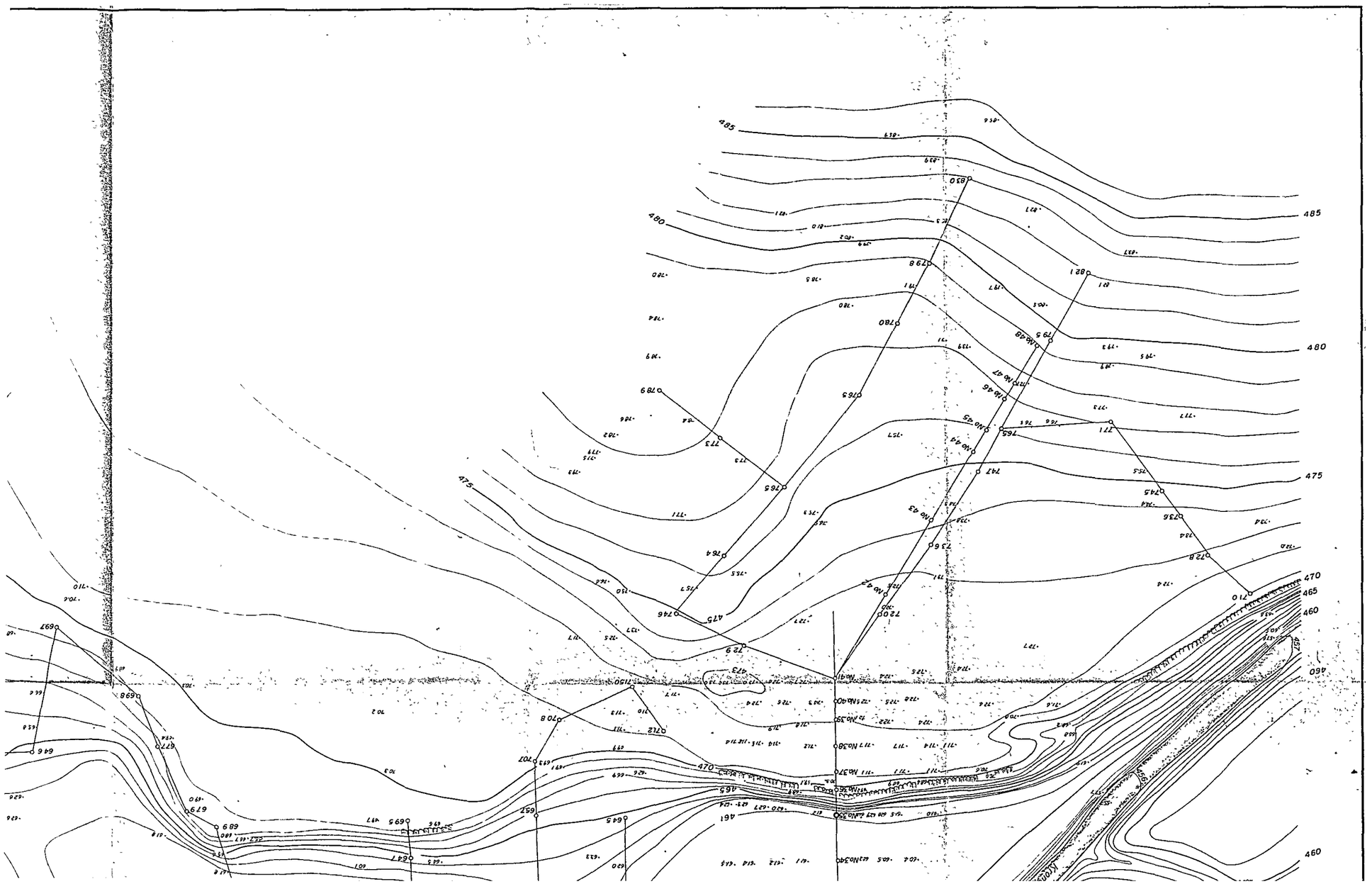
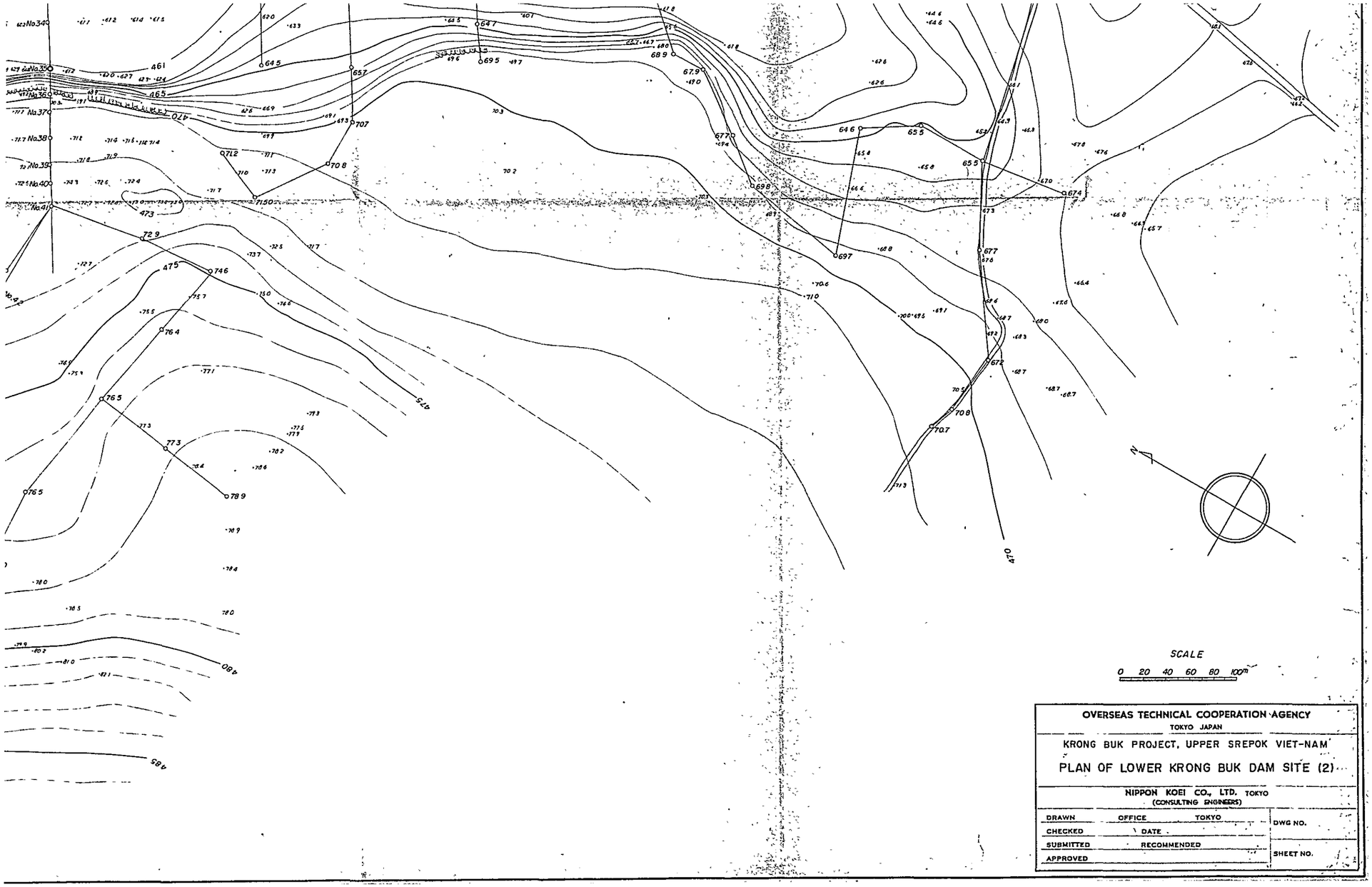
998
1000





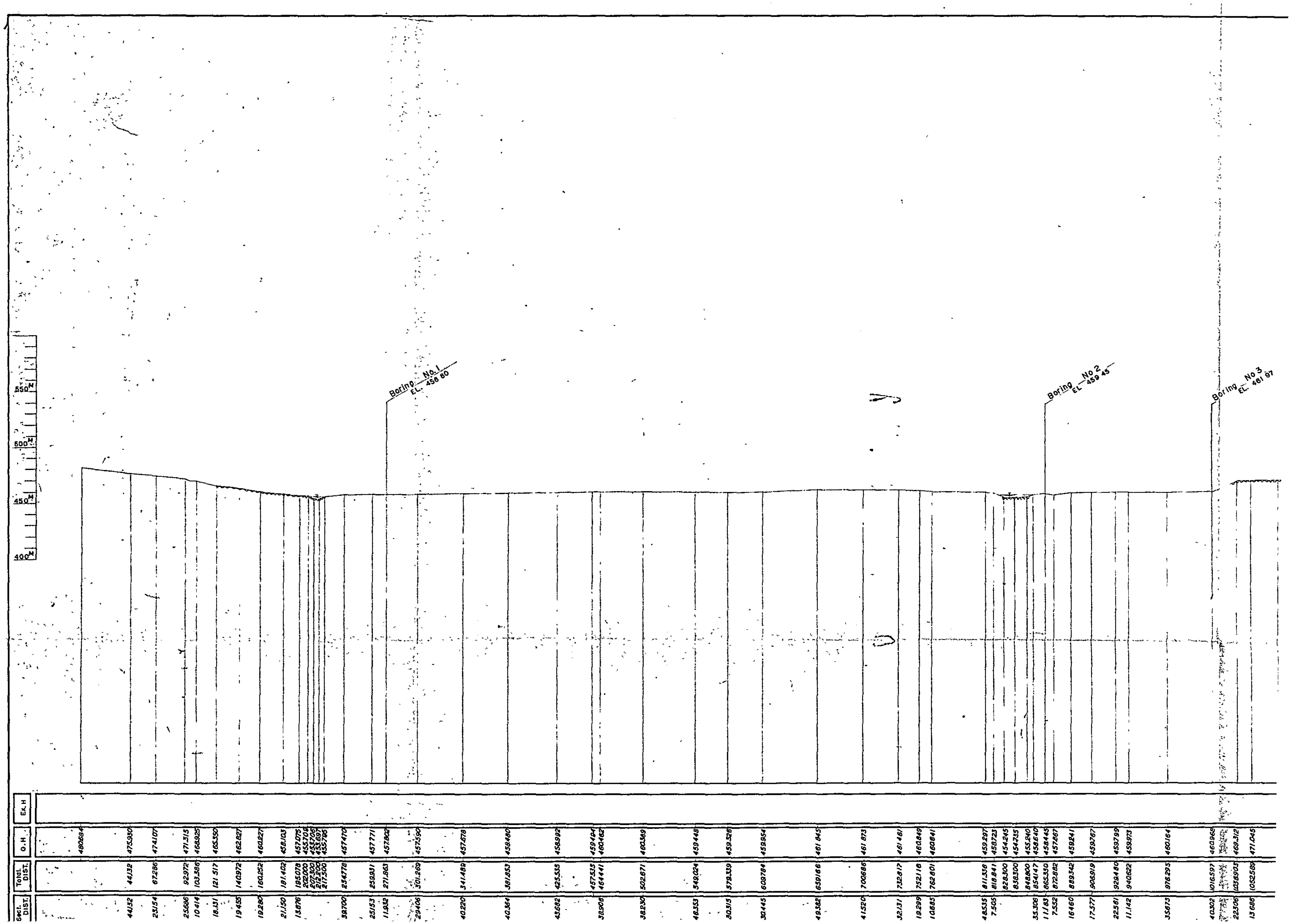
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

KRONG BUK PROJECT, UPPER SREPOK VIET-NAM

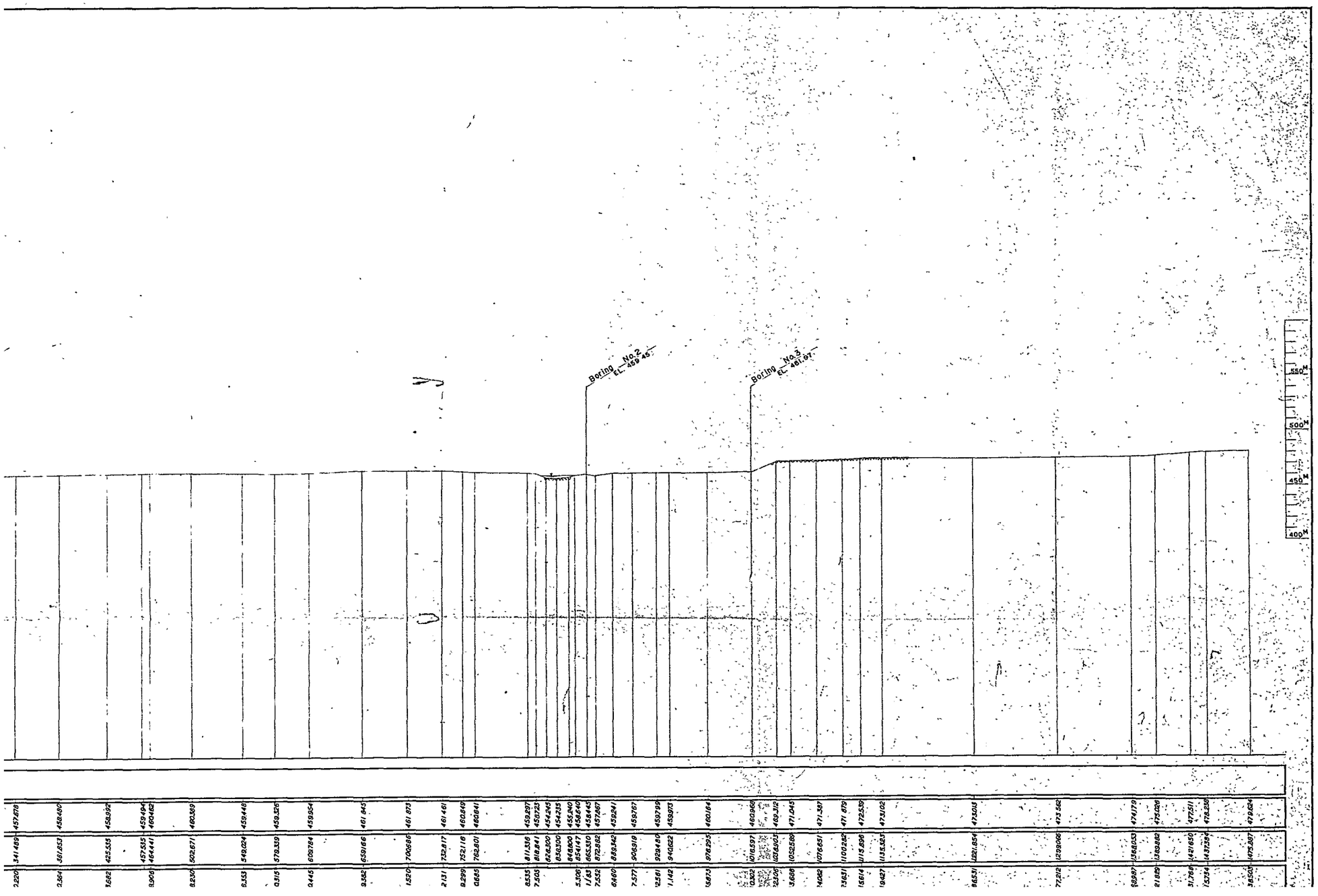
PLAN OF LOWER KRONG BUK DAM SITE (2)

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

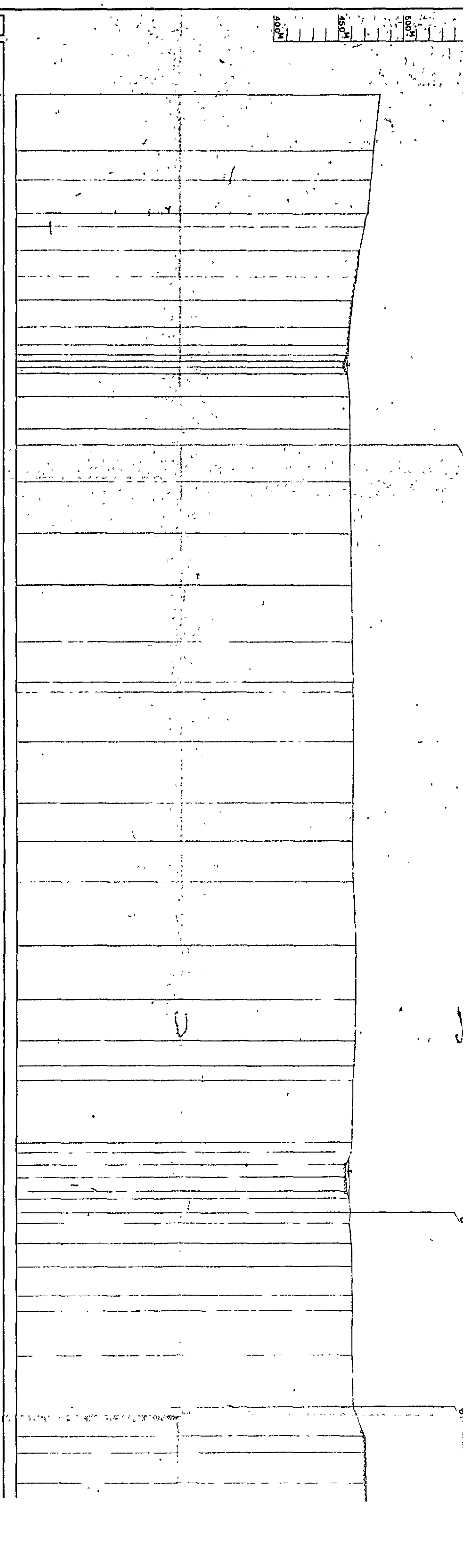
DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		

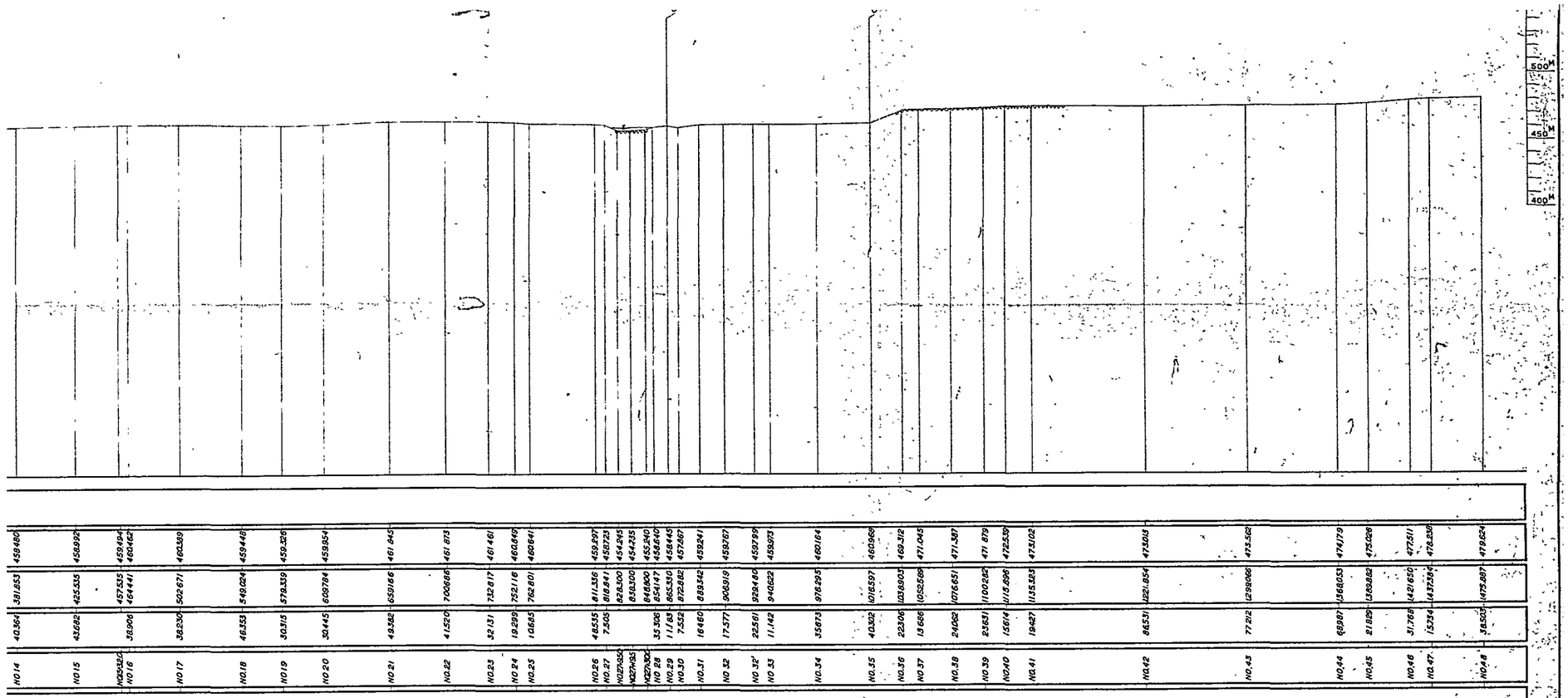


Boring No. 1 EL. 456.80
Boring No 2 EL. 459.45
Boring No 3 EL. 461.97
550M
500M
450M
400M
Ex. H
O. H.
Total DIST.
Sect. DIST.


Boring No.2
EL. 459.45
Boring No.3
EL. 461.97
550M
500M
450M
400M

CURVE	STA. No.	Sect. DIST.	Total. DIST.	G. H	Ex. H
	NO 0			480684	
	NO. 1	44132	44132	475930	
	NO. 2	23154	67286	474107	
	NO 3	25686	92972	471.315	
	NO 4	10414	103386	468925	
	NO. 5	18.131	121 517	465350	
	NO. 6	19455	140972	462827	
	NO. 7	19280	160252	460227	
	NO. 8	21150	181.402	458 103	
	NO 9	13876	195078	457075	
	NO9+70		202000	455709	
	NO9+125		207300	453706	
	NO9+172		212200	453.697	
	NO9 225		217500	455795	
	NO 10	38700	234778	457470	
	NO.11	25153	259931	457 771	
	NO 11'	11.932	271.863	457802	
	NO 12	29406	301.269	457590	
	NO.13	40220	341 489	457.678	
	NO 14	40364	381.853	458480	
	NO 15	43682	425535	458992	
	NO15+320		457535	459494	
	NO 16	38906	464441	460462	
	NO.17	38230	502671	460389	
	NO 18	46353	549024	459448	
	NO.19	30315	579339	459326	
	NO 20	30445	609784	459954	
	NO 21	49382	659166	461 845	
	NO.22	41520	700686	461 873	
	NO.23	32131	732 817	461 461	
	NO 24	19.299	752116	460849	
	NO 25	10685	762 801	460641	
	NO.26	48535	811.336	459.297	
	NO 27	7.505	818.841	458723	
	NO27+950		828300	454245	
	NO27+195		838300	454735	
	NO27+300		848800	455.240	
	NO. 28	35 306	854147	458640	
	NO 29	11.183	865330	458445	
	NO.30	7.552	872882	457867	
	NO 31	16460	889342	459241	
	NO 32	17.577	906919	459767	
	NO 32'	22561	929480	459799	
	NO 33	11.142	940622	459973	
	NO 34	35673	976295	460.164	
	NO 35	40302	1016597	460968	
	NO.36	22306	1038903	469.312	
	NO 37	13686	1052589	471.045	
	NO 38	24062	1076651	471.387	





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NO15	43.682	425.535	458.992
NO15+32.0		457.535	459.494
NO16	38.906	464.441	460.462
NO17	38.230	502.671	460.389
NO.18	46.353	549.024	459.448
NO19	30.315	579.339	459.326
NO20	30.445	609.784	459.954
NO21	49.382	659.166	461.845
NO.22	41.520	700.686	461.873
NO.23	32.131	732.817	461.461
NO 24	19.299	752.116	460.849
NO.25	10.685	762.801	460.641
NO.26	48.535	811.336	459.297
NO.27	7.505	818.841	458.723
NO27+9.50		828.300	454.245
NO27+19.5		838.300	454.735
NO27+30.0		848.800	455.240
NO 28	35.306	854.147	458.640
NO.29	11.183	865.330	458.445
NO.30	7.552	872.882	457.867
NO.31	16.460	889.342	459.241
NO 32	17.577	906.919	459.767
NO 32'	22.561	929.480	459.799
NO 33	11.142	940.622	459.973
NO.34	35.673	976.295	460.164
NO.35	40.302	1016.597	460.968
NO.36	22.306	1038.905	469.312
NO 37	13.686	1052.589	471.045
NO.38	24.062	1076.651	471.387
NO 39	23.631	1100.282	471.879
NO.40	15.614	1115.896	472.539
NO.41	19.427	1135.323	473.102
NO.42	86.531	1221.854	473.013
NO.43	77.212	1299.066	473.562
NO.44	68.987	1368.053	474.179
NO.45	21.829	1389.882	475.026
NO.46	31.768	1421.650	477.511
NO.47	15.734	1437.384	478.238
NO.48	38.503	1475.887	479.624

Scale 1 : 2,000

0 100 200m

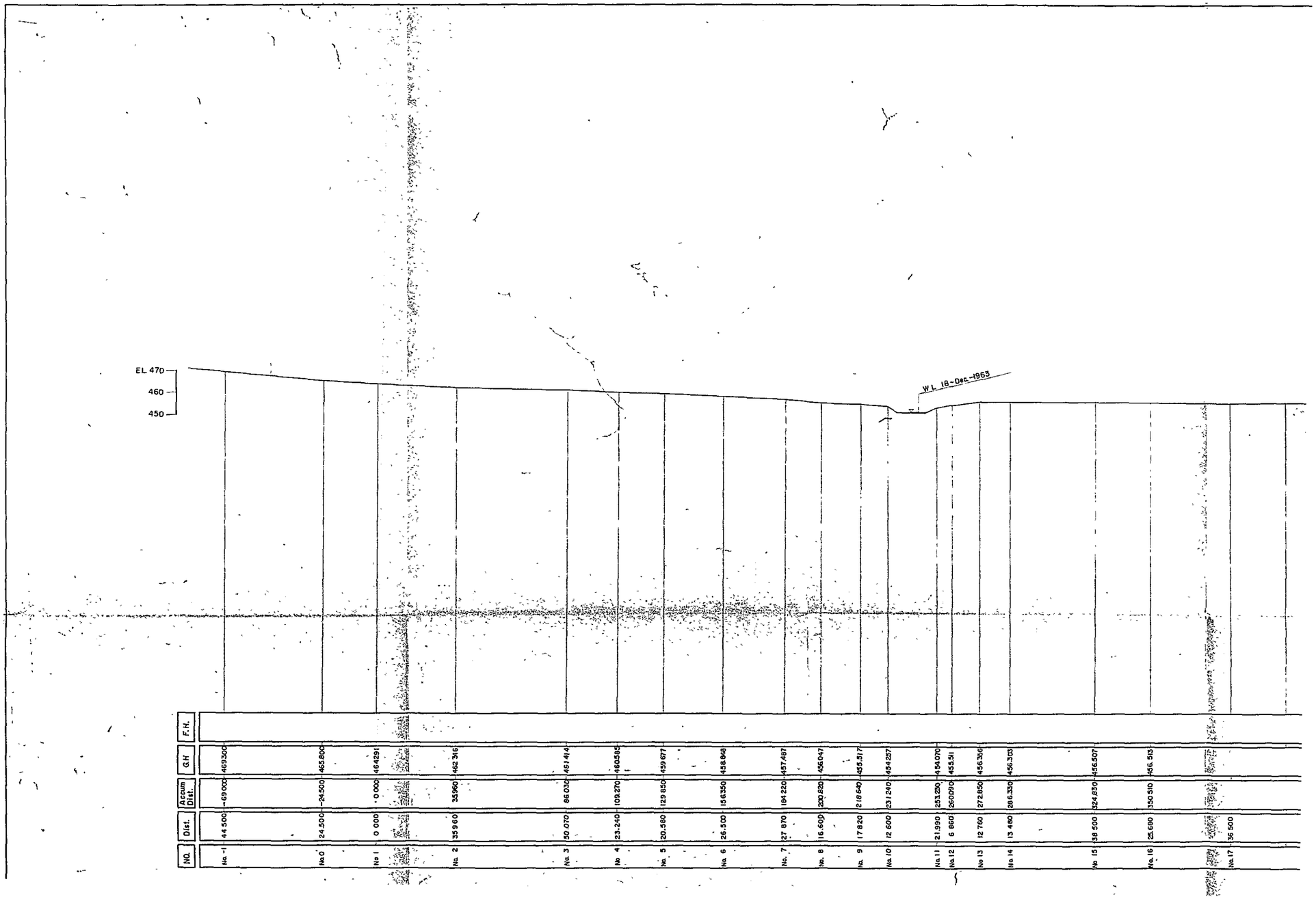
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

KRONG BUK PROJECT, UPPER SREPOK VIET - NAM

PROFILE OF LOWER KRONG BUK DAM SITE (I)

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

DRAWN	OFFICE TOKYO		DWG NO
CHECKED	DATE MAY 30 1963		
SUBMITTED	RECOMMENDED		SHEET NO
APPROVED			



NO.	Dist.	Accum Dist.	G.H.	F.H.
No -1	44.500	69.000	469.300	
No 0	24.500	24.500	465.800	
No 1	0.000	0.000	464.291	
No 2	35.960	33.960	462.316	
No 3	50.070	86.030	461.414	
No 4	23.240	109.270	460.585	
No 5	20.580	129.850	459.677	
No 6	26.500	156.350	458.848	
No 7	27.870	184.220	457.487	
No 8	16.600	200.820	456.047	
No 9	17.820	218.640	455.517	
No 10	12.600	231.240	454.257	
No 11	21.990	253.230	454.070	
No 12	6.860	260.090	455.91	
No 13	12.760	272.850	456.356	
No 14	13.480	286.330	456.303	
No 15	38.500	324.830	456.507	
No 16	25.680	350.510	456.513	
No 17	36.500			

EL 470
460
450
No 14
13 460
286.330
456.303
No 15
38 500
324.830
456.507
No. 16
25.680
350.510
456.513
No 17
36 500
No 21
35.030
509.670
456.684
No. 22
30.140
539.810
456.910
No. 23
23.080
562.890
458.250
No. 24
28.120
591.010
460.074
No. 25
30.010
621.020
462.439
No. 26
27.550
648.570
464.486
No. 27
28.680
677.250
465.506
Conc.
29.780
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No. 28
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731.830
466.393
No. 29
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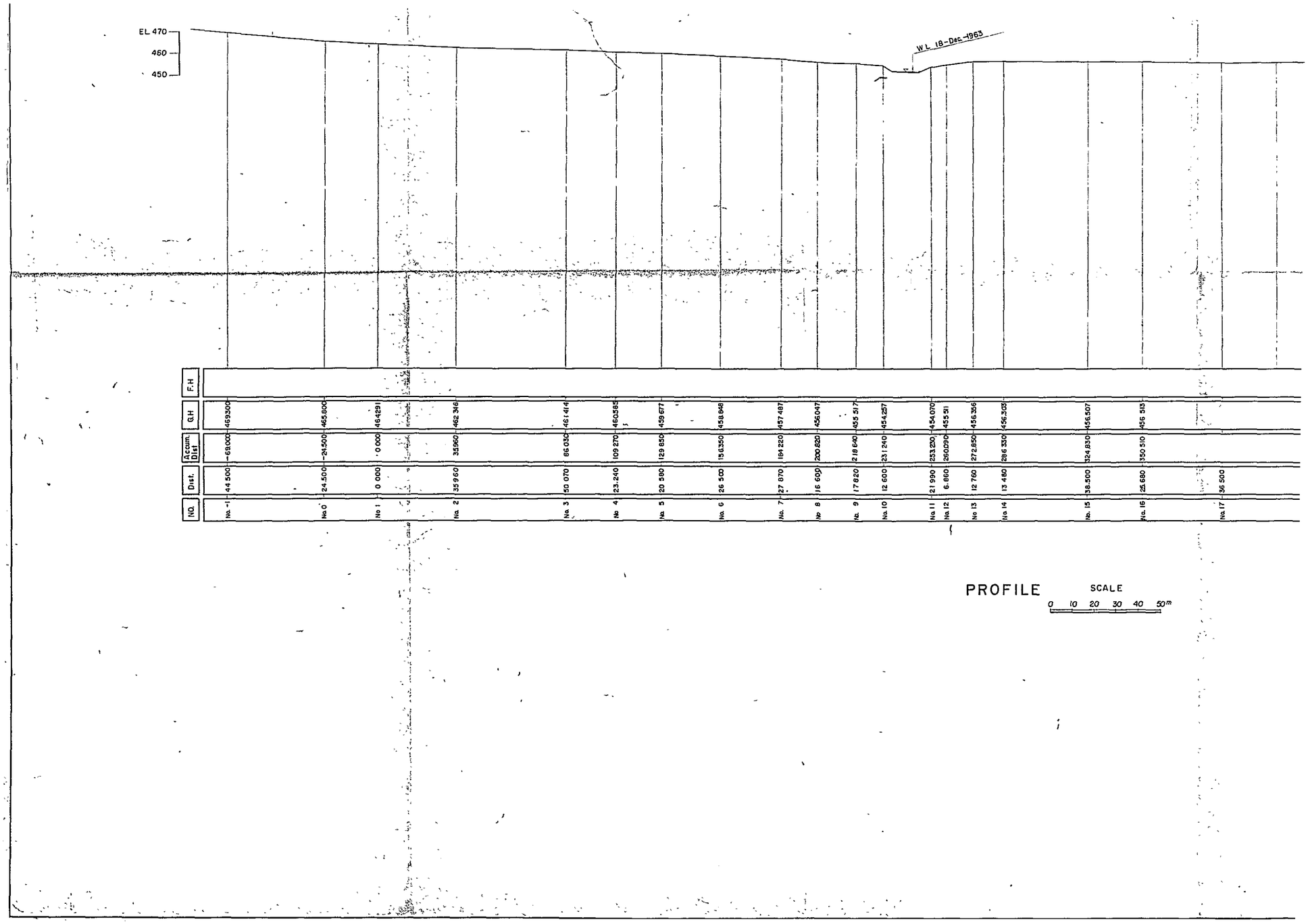
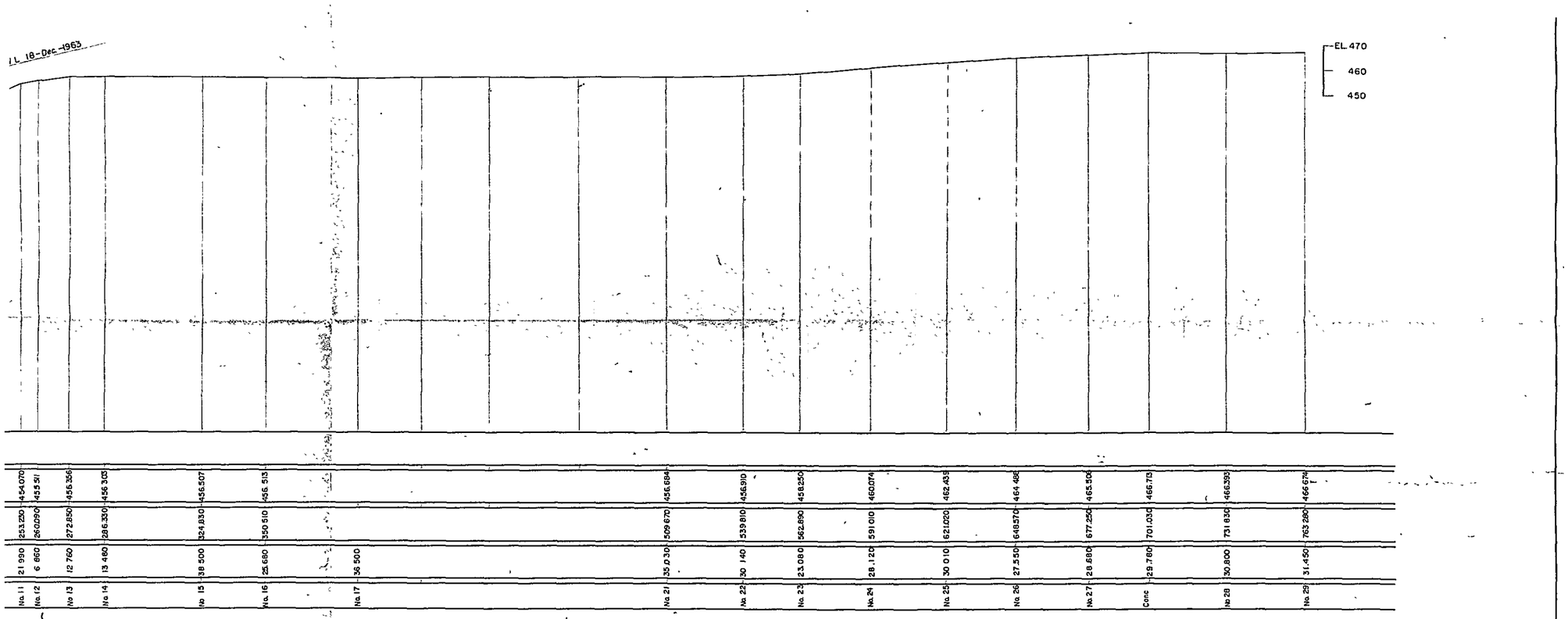
763.280
466.674



NO.	Dist.	Accum. Dist	G.H	F.H
No -1	44 500	69 000	469 500	
No 0	24 500	24 500	465 800	
No 1	0 000	0 000	464 291	
No 2	35 960	35 960	462 346	
No 3	50 070	86 030	461 414	
No 4	23 240	109 270	460 585	
No 5	20 580	129 850	459 677	
No 6	26 500	156 350	458 848	
No 7	27 870	184 220	457 487	
No 8	16 600	200 820	456 047	
No 9	17 820	218 640	455 517	
No 10	12 600	231 240	454 257	
No 11	21 990	253 230	454 070	
No 12	6 860	260 090	455 51	
No 13	12 760	272 850	456 356	
No 14	13 480	286 330	456 303	
No 15	38 500	324 830	456 507	
No 16	25 680	350 510	456 513	
No 17	35 500			

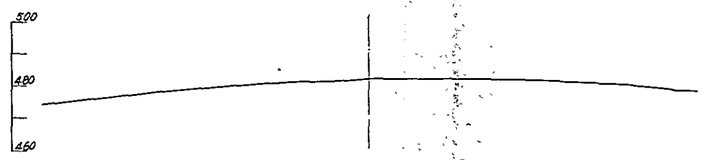
PROFILE SCALE 0 10 20 30 40 50m



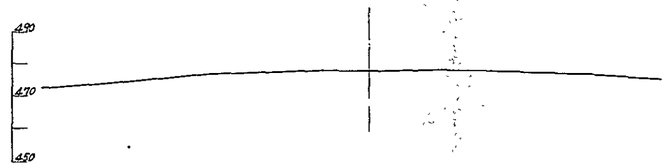
PROFILE SCALE 0 10 20 30 40 50m

OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN	
KRONG BUK PROJECT, UPPER SREPOK VIET - NAM	
PROFILE OF LOWER KRONG BUK DAM SITE (2)	
NIPPON KOEI CO., LTD TOKYO (CONSULTING ENGINEERS)	
DRAWN OFFICE TOKYO	DWG NO.
CHECKED DATE	
SUBMITTED RECOMMENDED	SHEET NO.
APPROVED	

No.0
GH. 481.68



No.1
GH. 476.93



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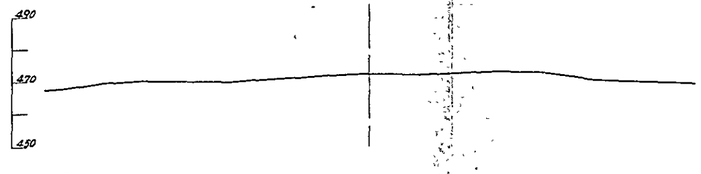
GH. 475.11

No.3
GH. 472.32



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GH. 469.93

No.6
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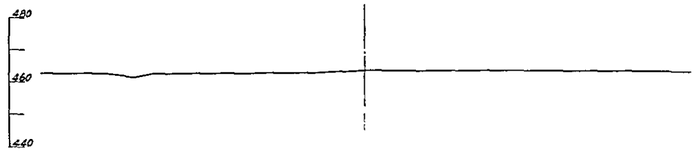
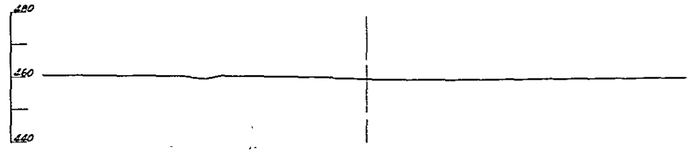
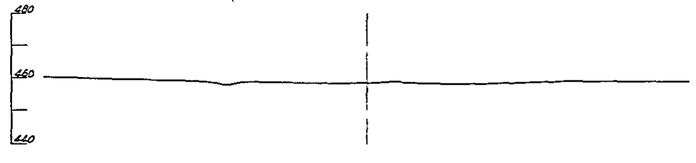


No.7
GH. 461.23

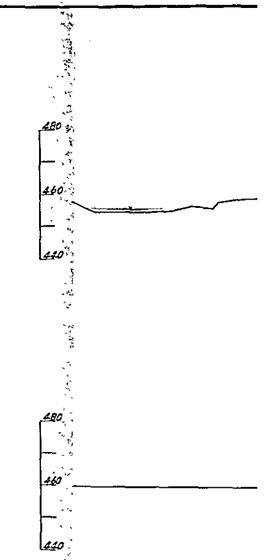
No.8
GH. 459.10

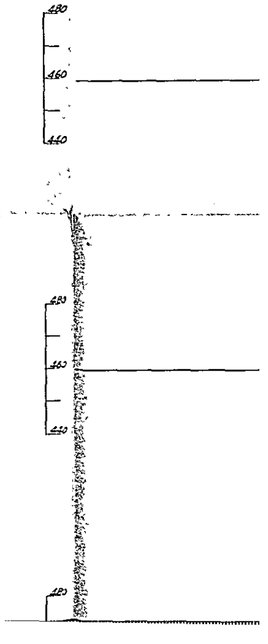


No.9
GH. 457.28



No.9+17.20
GH. 454.32





No. 6.
GH. 463.83

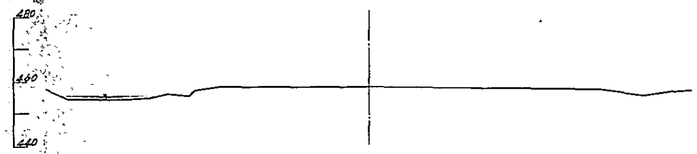
No. 7
GH. 461.23

No. 8.
GH. 459.10

No. 9
GH. 457.08

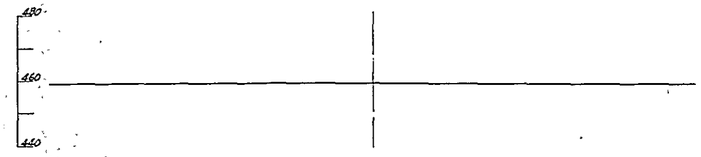
No. 9+17.20.
GH. 454.72

No. 11.
GH. 458.77

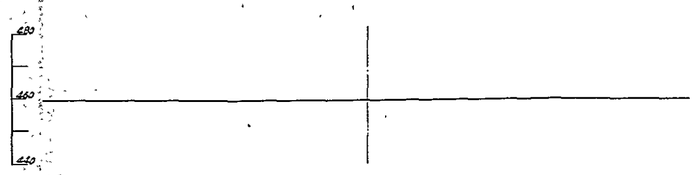


No. 12.
GH. 458.59

No. 14.
GH. 459.48

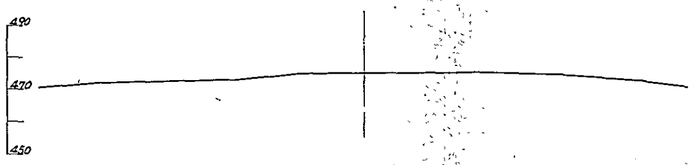


No. 15.
GH. 459.99

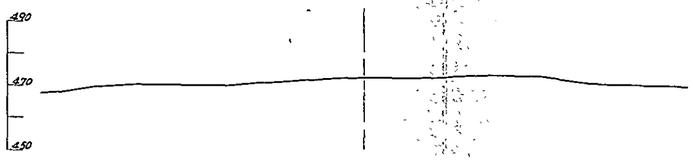


No. 16.
GH. 461.56

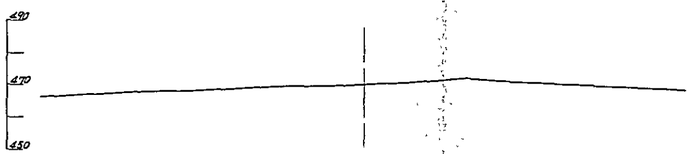
No. 2
GH. 475.11



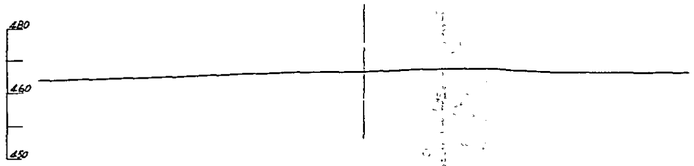
No. 3
GH. 472.32



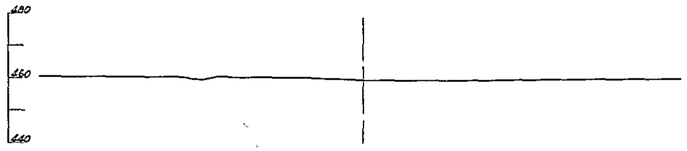
No. 4
GH. 469.93



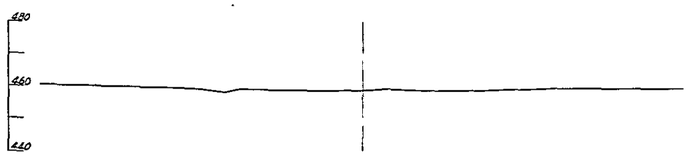
No. 5
GH. 466.35



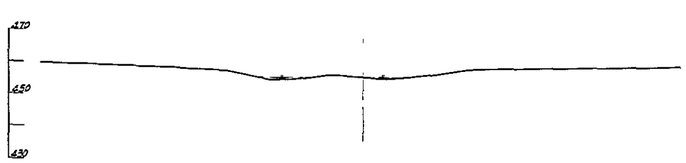
No. 8
GH. 459.10



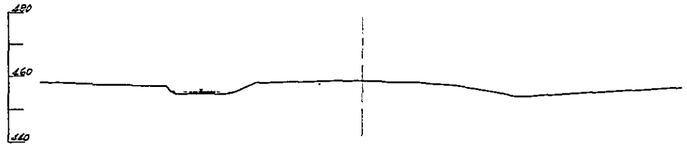
No. 9
GH. 458.98



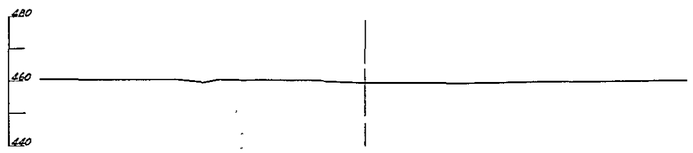
No. 9+17.20
G.H. 454.72



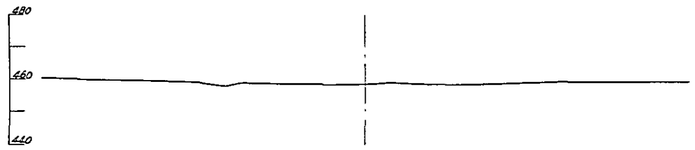
No. 10
GH. 452.47



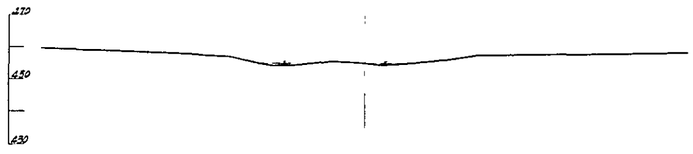
No.8
GH. 459.10



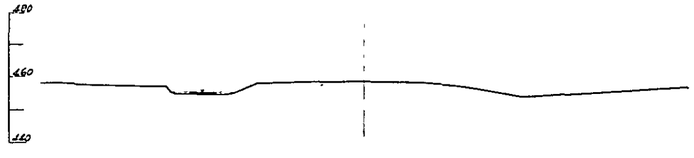
No.9
GH. 458.08



No 9+12.20.
GH. 454.72

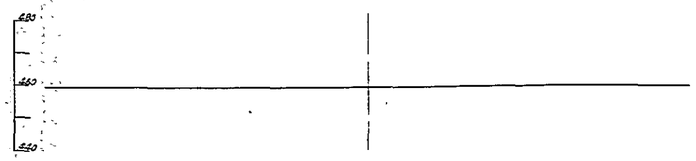


No.10
GH. 452.47



No.14
GH. 459.48

No.15
GH. 459.99



No.16.
GH. 461.46

Scale 1 : 1,000

0 50 100m

OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

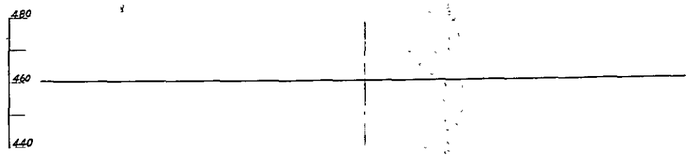
UPPER SREPOK – KRONG BUK PROJECT

SECTION OF LOWER KRONG BUK DAM SITE (I)

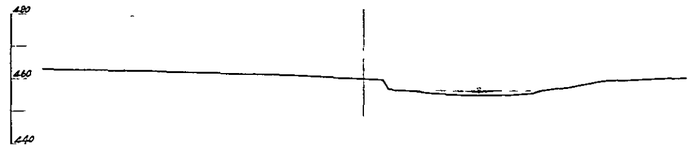
NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

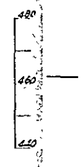
DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE MAY 30 1963	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		

No 18
GH 460.43

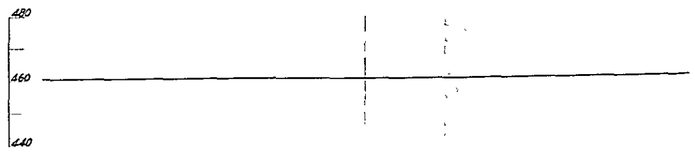


No 27
GH 459.72





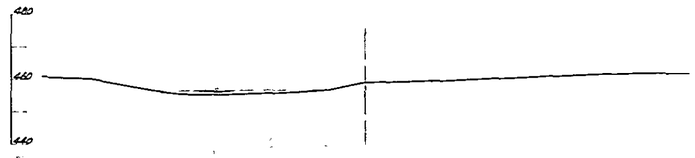
No.20
GH 460.95

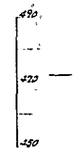


No 27 + 12.50
GH 455.74

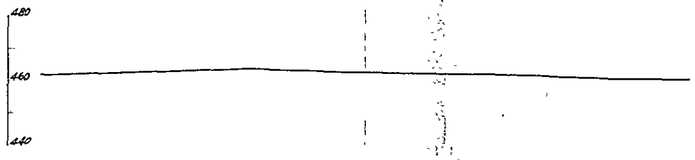
No.21
GH 462.85

No.28
GH 458.64

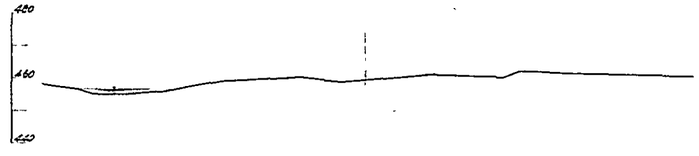


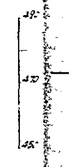


No.23
GH 462.46



No.30
GH 458.87



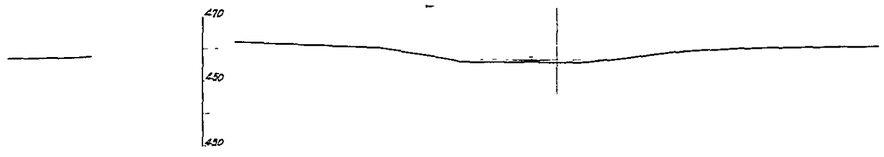


No.25
GH 461.64

No.32
GH 462.27

No 27.
GH. 449.72

No 27+12.50
GH. 455.14



No.28
GH. 458.64

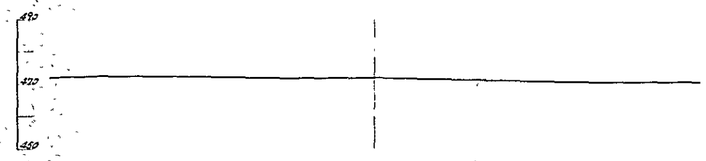
No.30
GH. 458.27

No.32
GH. 462.72

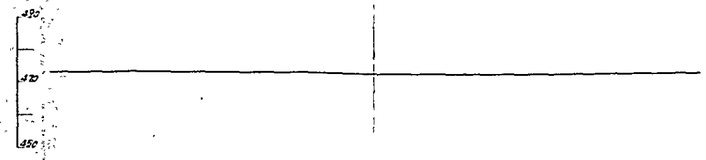
No.35
GH. 461.97

No.36
GH. 472.31

No.37
GH. 472.05

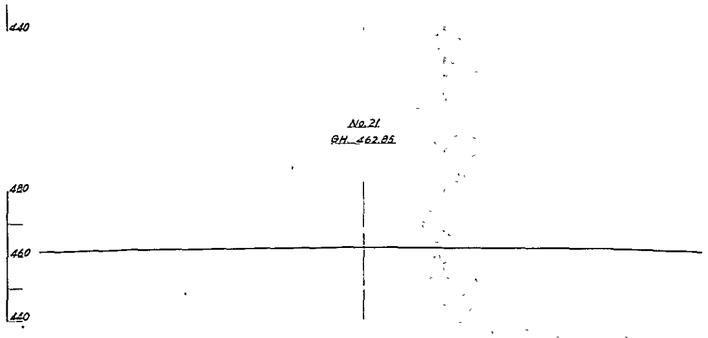


No.39
GH. 472.88

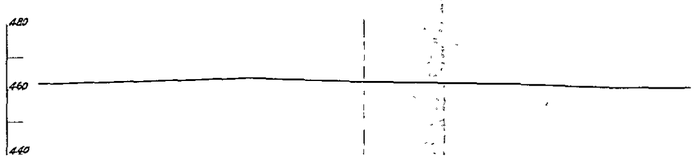


No.41
GH. 474.10

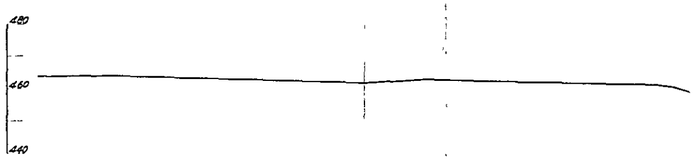
No.21.
GH 462.85.



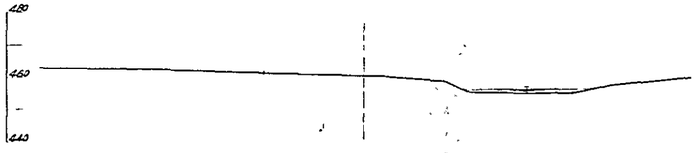
No.23
GH 462.46



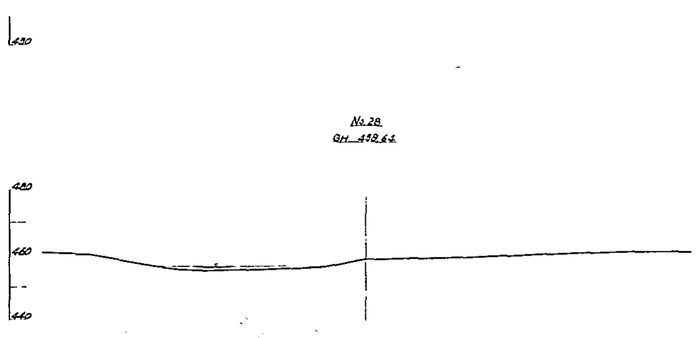
No.25
GH 461.64



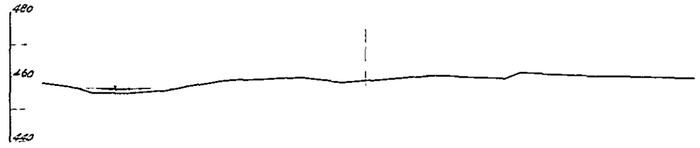
No.26
GH 460.30



No.28
GH 458.64

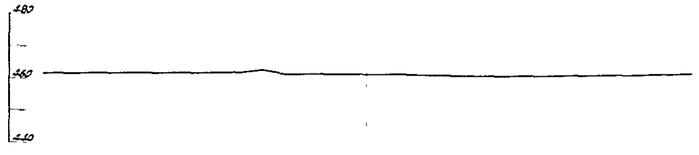


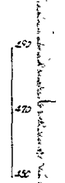
No.30
GH 458.87



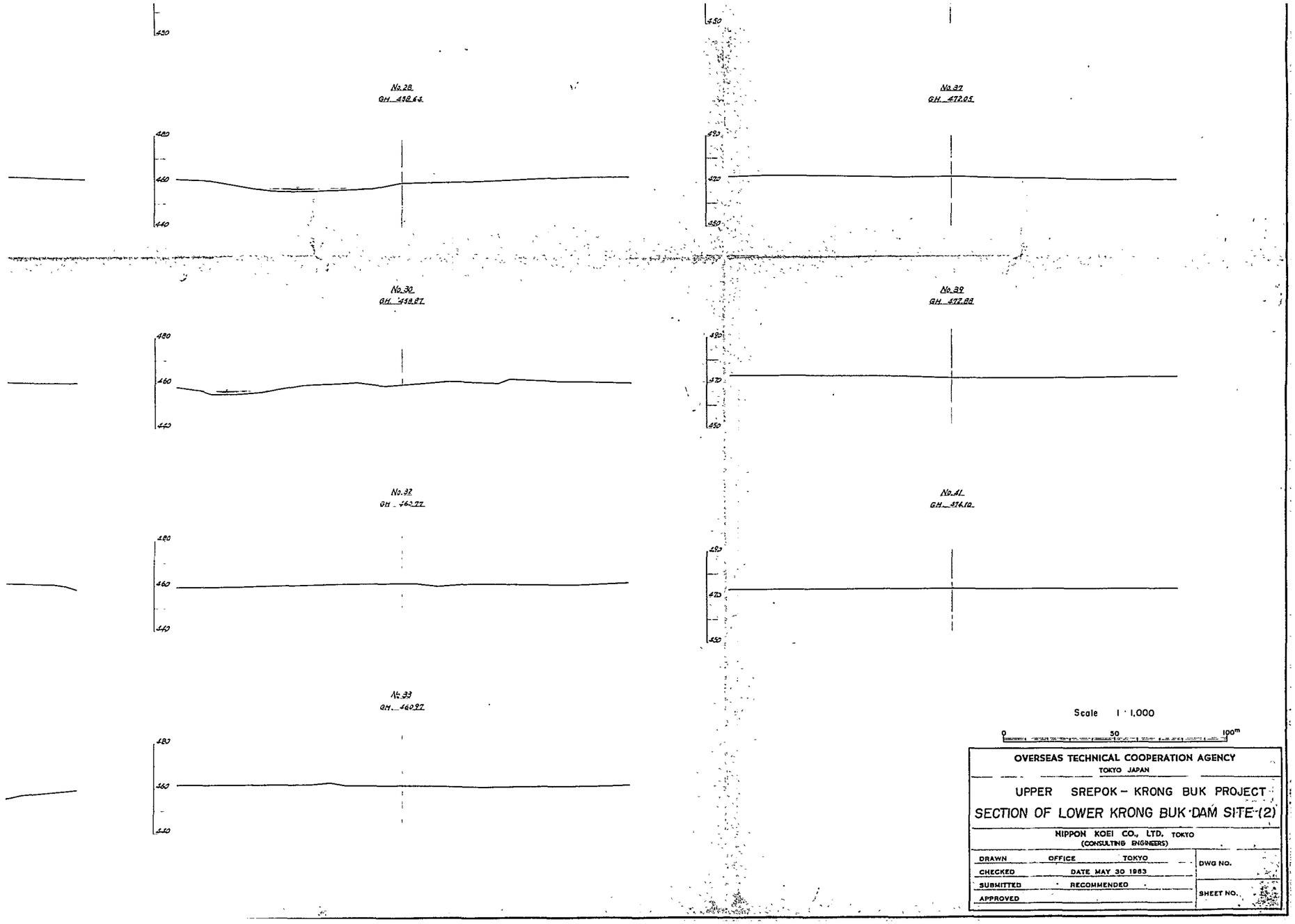
No.32
GH 460.77

No.33
GH 460.97





38



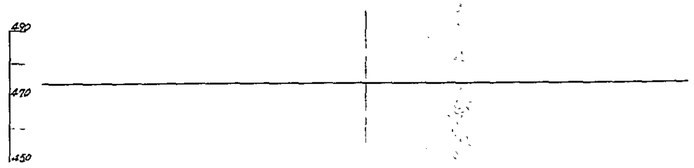
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

UPPER SREPOK – KRONG BUK PROJECT
SECTION OF LOWER KRONG BUK DAM SITE (2)

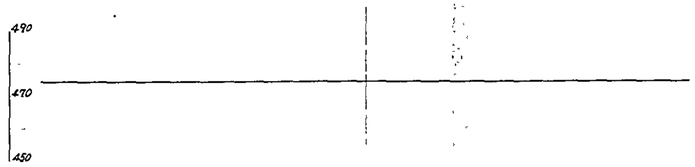
NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE MAY 30 1963	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		

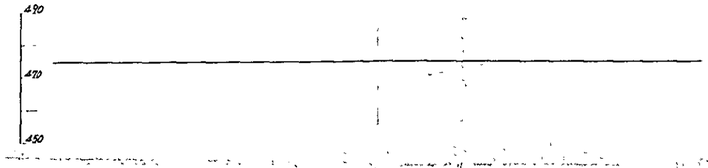
No. 42
GH. 474.01



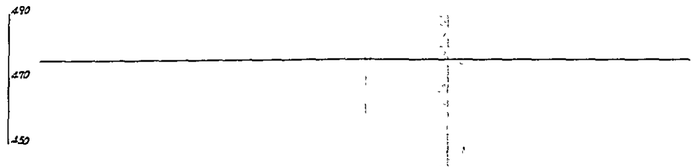
No. 43
GH. 474.56



No. 44
GH 475.18

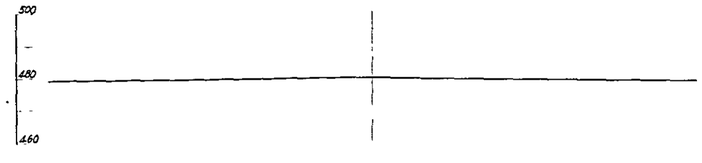


No. 45
GH 476.03

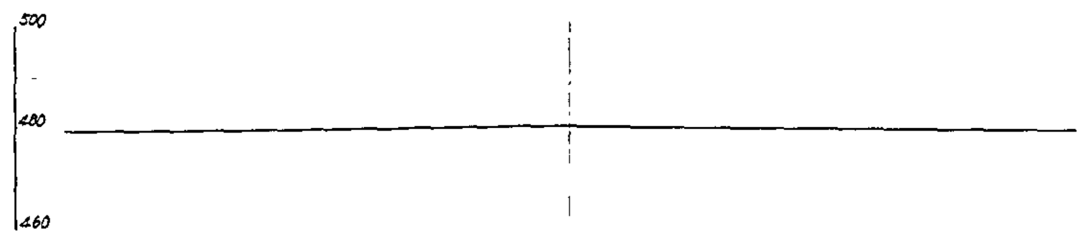


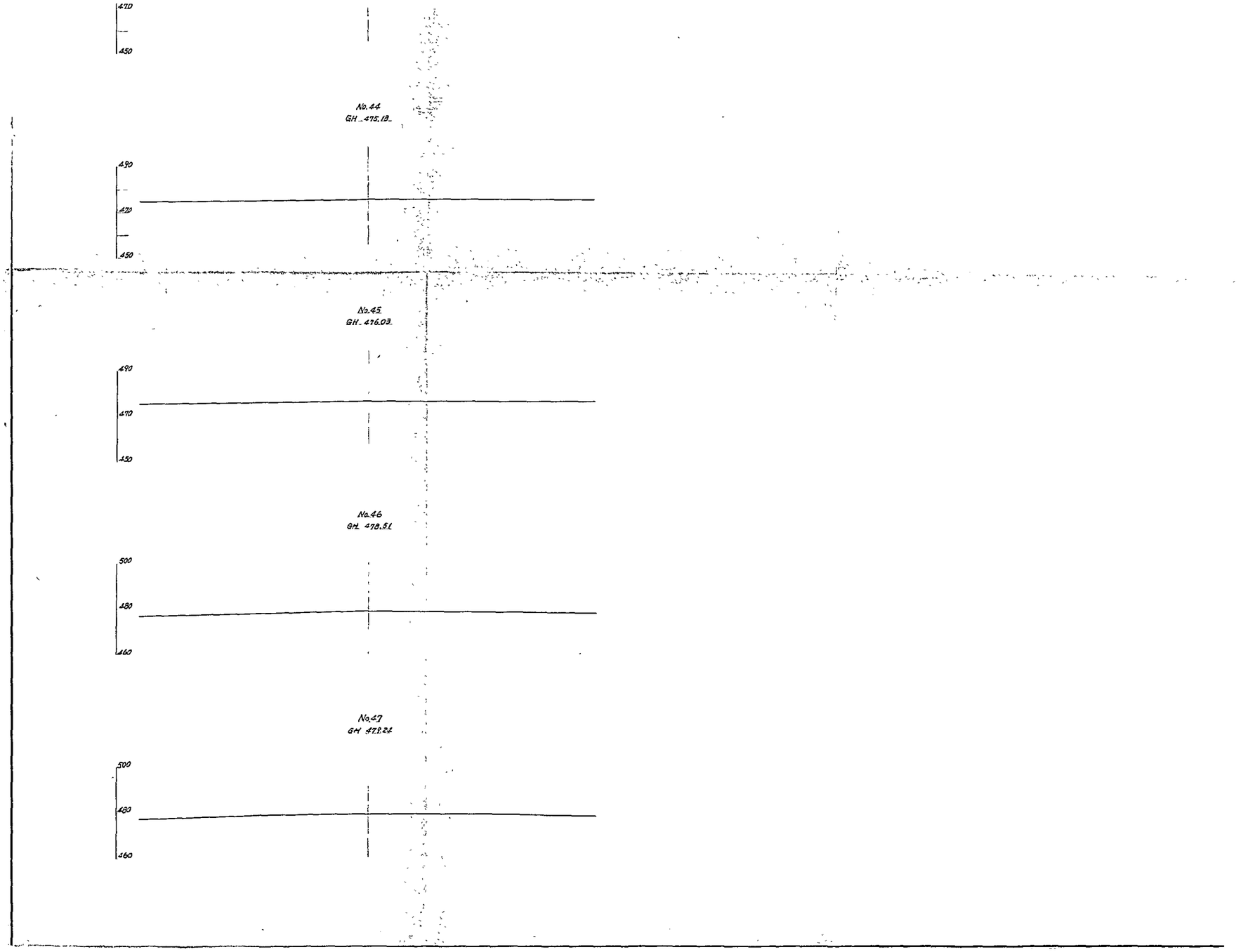
No. 46
GH 478.51

No. 48
GH. 480.62



No 4B
G.H. 480.62




470
450
No. 44
GH _ 475.13_
490
470
450
No.45
GH _ 476.03_
490
470
450
No.46
GH 478.51
500
480
460
No.47
GH 477.22
500
480
460

Scale 1 : 1,000

0 50 100m

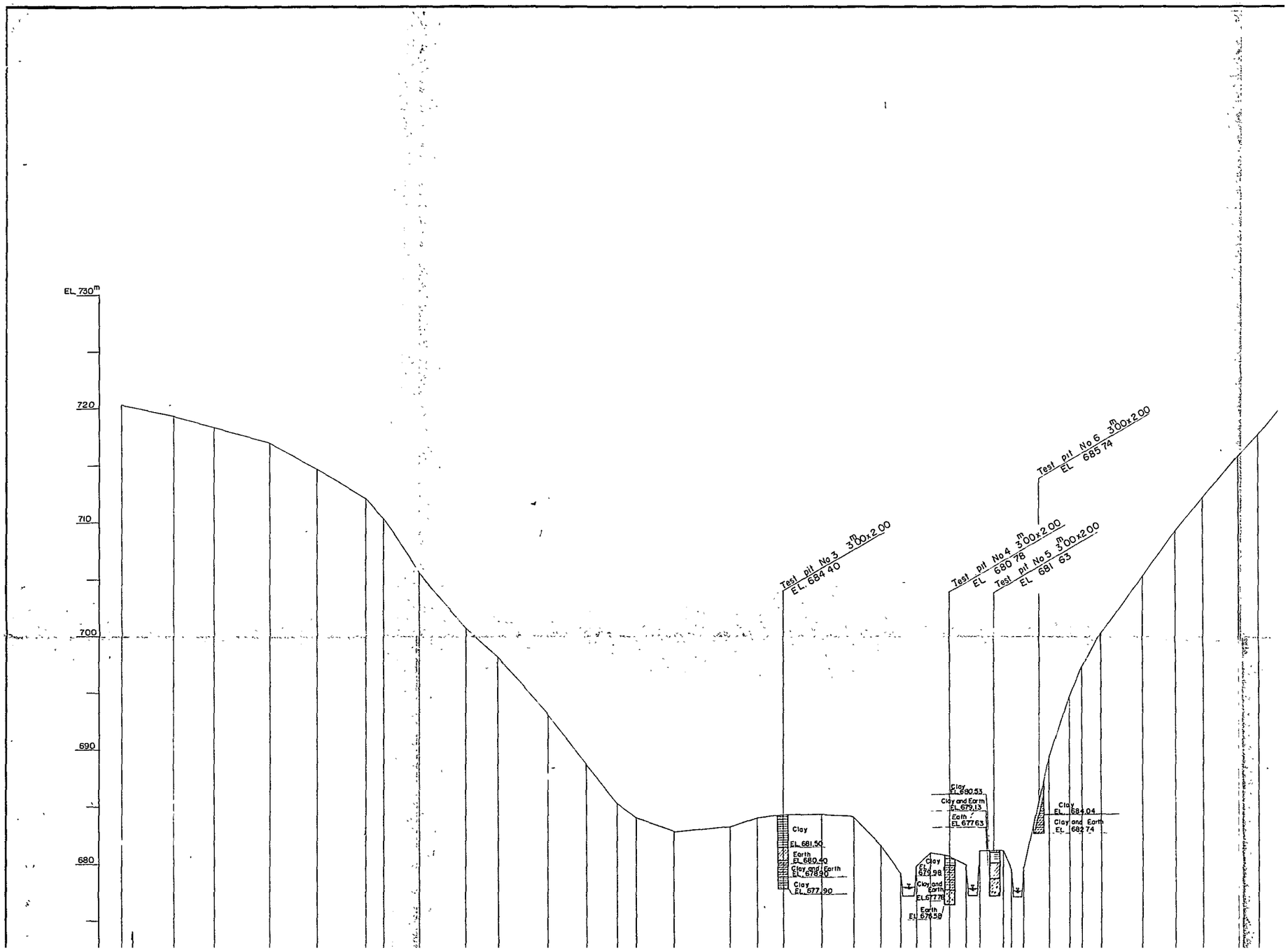
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

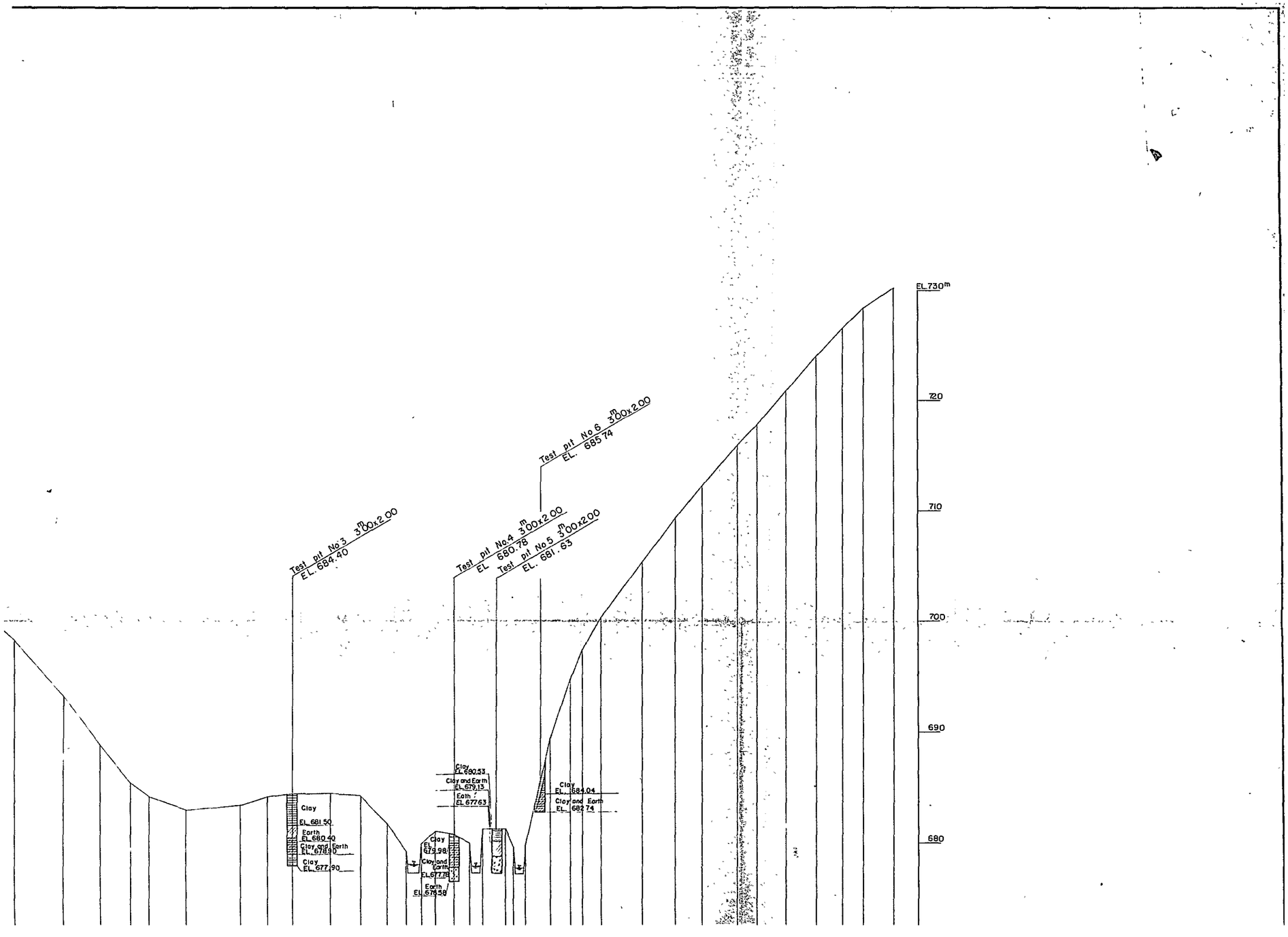
UPPER SREPOK – KRONG BUK PROJECT

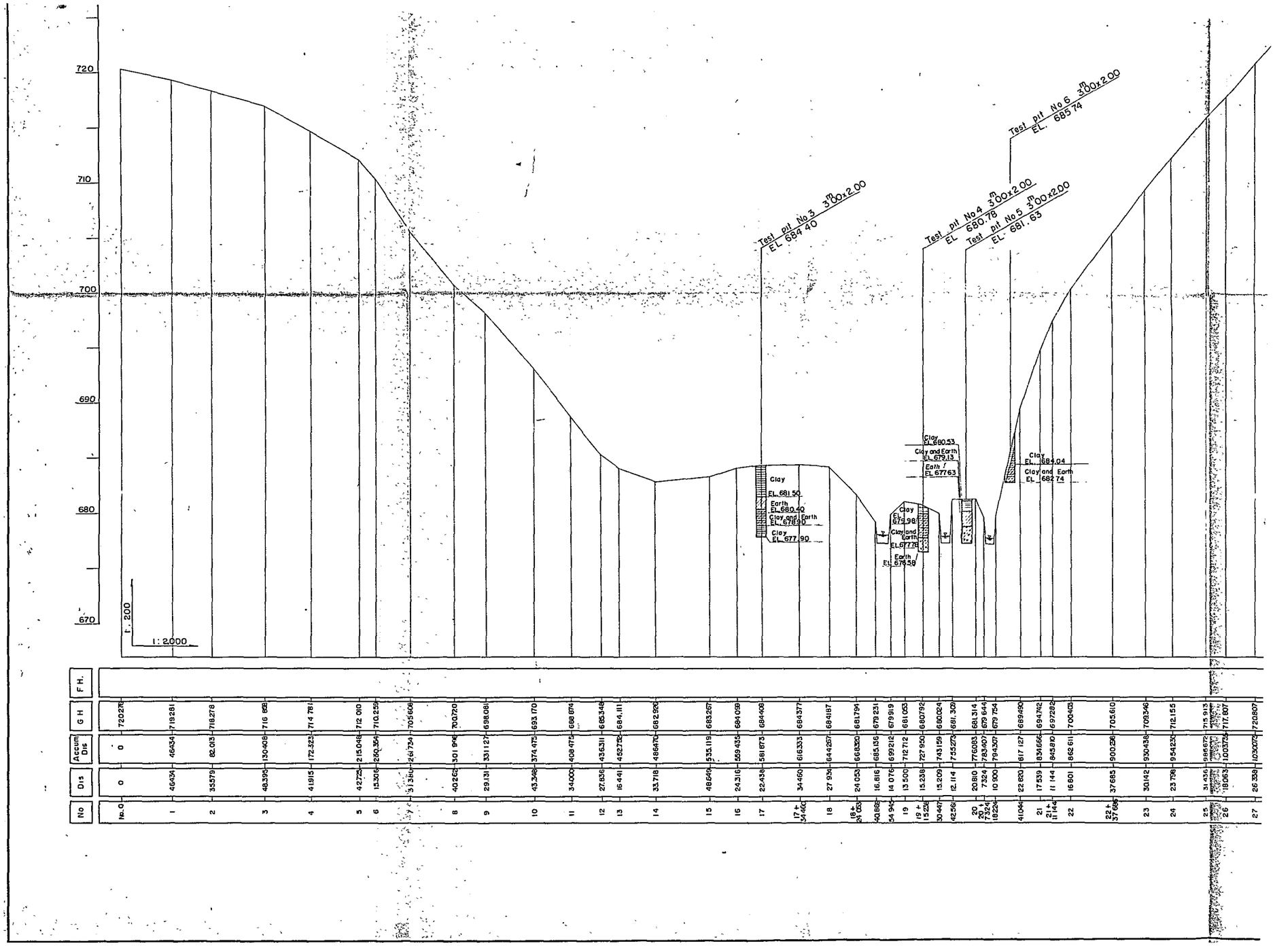
SECTION OF LOWER KRONG BUK DAM SITE (3)

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

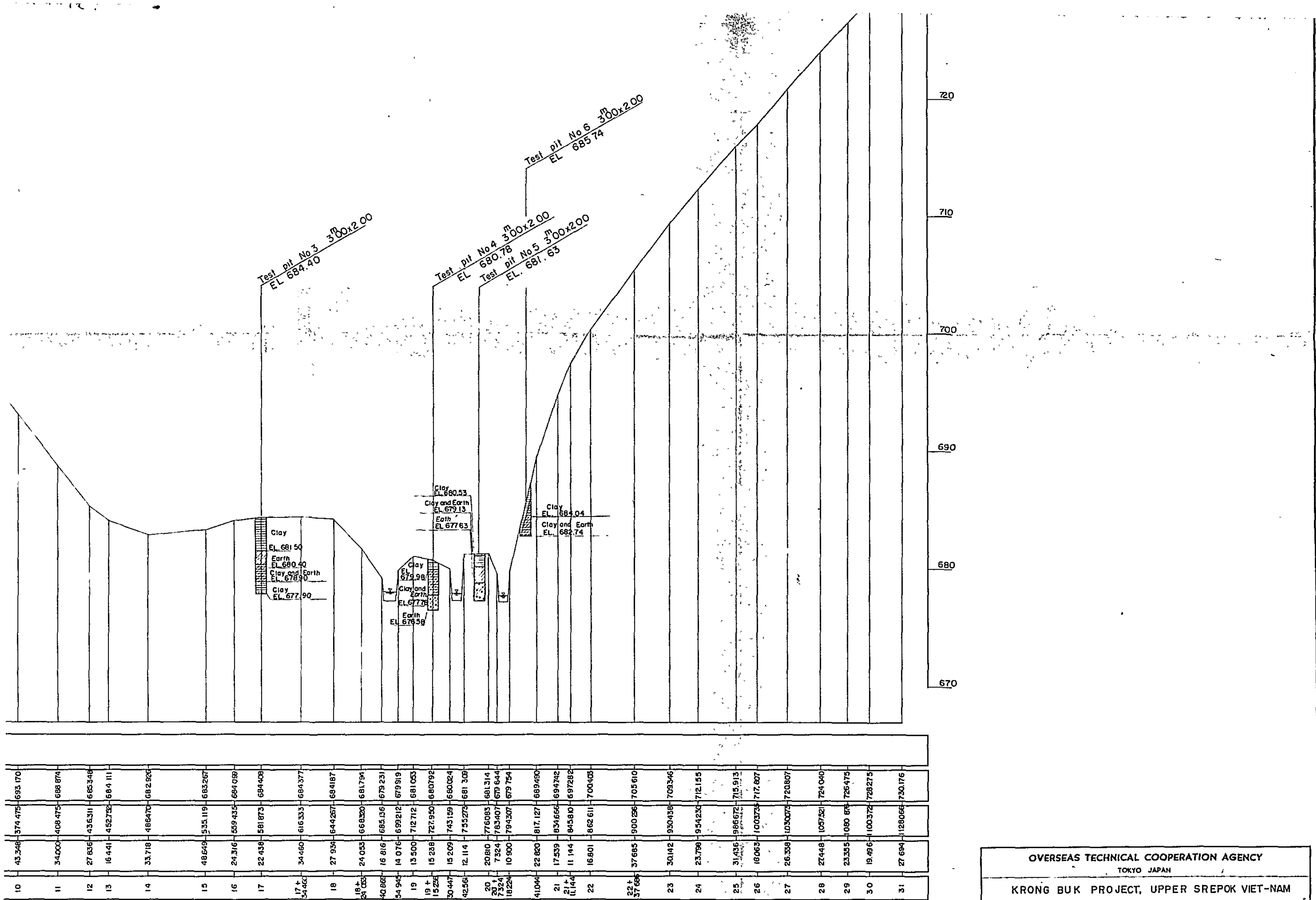
DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE MAY 30 1963	
SUBMITTED	RECOMMENDED	SHEET NO
APPROVED		


EL. 730m
720
710
700
690
680
Test pit No 3 300x200
EL. 684 40
Test pit No 4 300x200
EL 680 78
Test pit No 5 300x200
EL 681 63
Test pit No 6 300x200
EL 685 74
Clay
EL. 681.50
Earth
EL 680.40
Clay and Earth
EL. 678.90
Clay
EL. 677.90
Clay
EL 680.53
Clay and Earth
EL 679.13
Earth
EL 677.63
Clay
EL 679.98
Clay and Earth
EL 677.78
Earth
EL 676.58
Clay
EL. 684.04
Clay and Earth
EL. 682.74


EL 730m
720
710
700
690
680
Test pit No 6 3.00x2.00
EL. 685.74
Test pit No 3 3.00x2.00
EL. 684.40
Test pit No 4 3.00x2.00
EL 680.78
Test pit No 5 3.00x2.00
EL. 681.63
Clay
EL. 681.50
Earth
EL. 680.40
Clay and Earth
EL. 678.90
Clay
EL. 677.90
Clay
EL. 680.53
Clay and Earth
EL. 679.13
Earth
EL. 677.63
Clay
EL. 679.98
Clay and Earth
EL. 677.78
Earth
EL. 676.58
Clay
EL. 684.04
Clay and Earth
EL. 682.74



No	Dis	Accum Dis	G H	F H.
No.0	0	0	720276	
1	46434	46434	719281	
2	35579	82.013	718.278	
3	48.395	130408	716 858	
4	41.915	172.323	714 781	
5	42.725	215.048	712 010	
6	15.306	230.354	710.259	
7	31.380	261.734	705.608	
8	40.262	301 996	700.720	
9	29.131	331127	698.081	
10	43.348	374.475	693 170	
11	34.000	408 475	688 874	
12	27.836	436.311	685.348	
13	16.441	452.752	684.111	
14	33.718	486.470	682.926	
15	48.649	535.119	683.267	
16	24.316	559.435	684 059	
17	22.438	581.873	684408	
17 + 34.460	34.460	616.333	684377	
18	27 934	644.267	684187	
18 + 24 053	24 053	668.320	681.794	
40.868	16.816	685.136	679 231	
54 945	14 076	699.212	679.919	
19	13 500	712 712	681 053	
19 + 15.238	15.238	727 950	680792	
30.447	15.209	743 159	680.024	
42.561	12.114	755.273	681. 308	
20	20.810	776.083	681.314	
20 + 7.324	7324	783.407	679 644	
18.224	10 900	794.307	679 754	
41.044	22 820	817 127	689.490	
21	17.539	834.666	694.742	
21 + 11 144	11 144	845.810	697.282	
22	16.801	862 611	700.403	
22 + 37.685	37.685	900.296	705.610	
23	30.142	930.438	709.346	
24	23 798	954.236	712.155	
25	31 436	985.672	715 913	
26	18.063	1.003.735	717.807	
27	26 338	1.030.073	720.807	

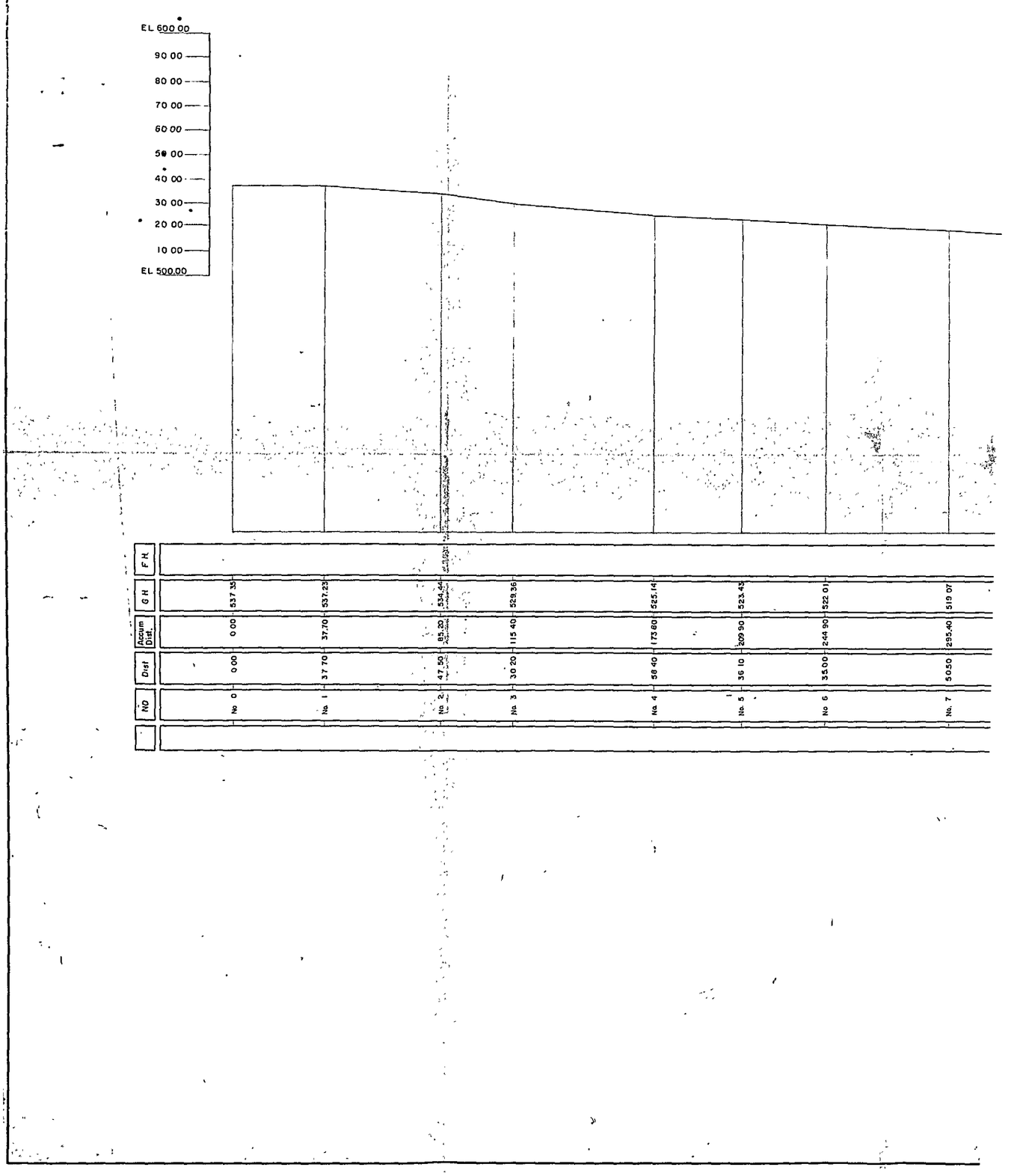


OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

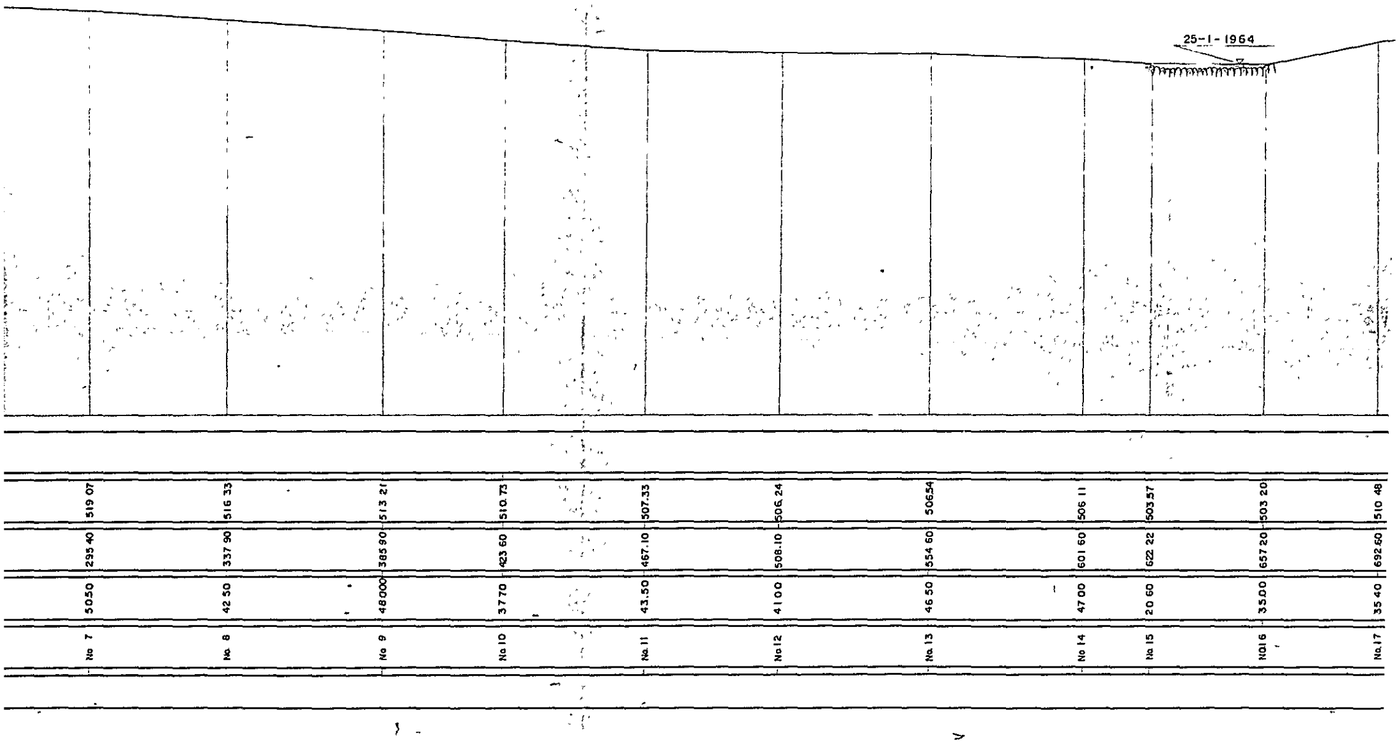
KRONG BUK PROJECT, UPPER SREPOK VIET-NAM
GEOLOGICAL SECTION OF UPPER KRONG BUK DAM SITE

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

DRAWN K. Watabe	OFFICE TOKYO	DWG NO. 6
CHECKED	DATE MAY 30 1963	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		



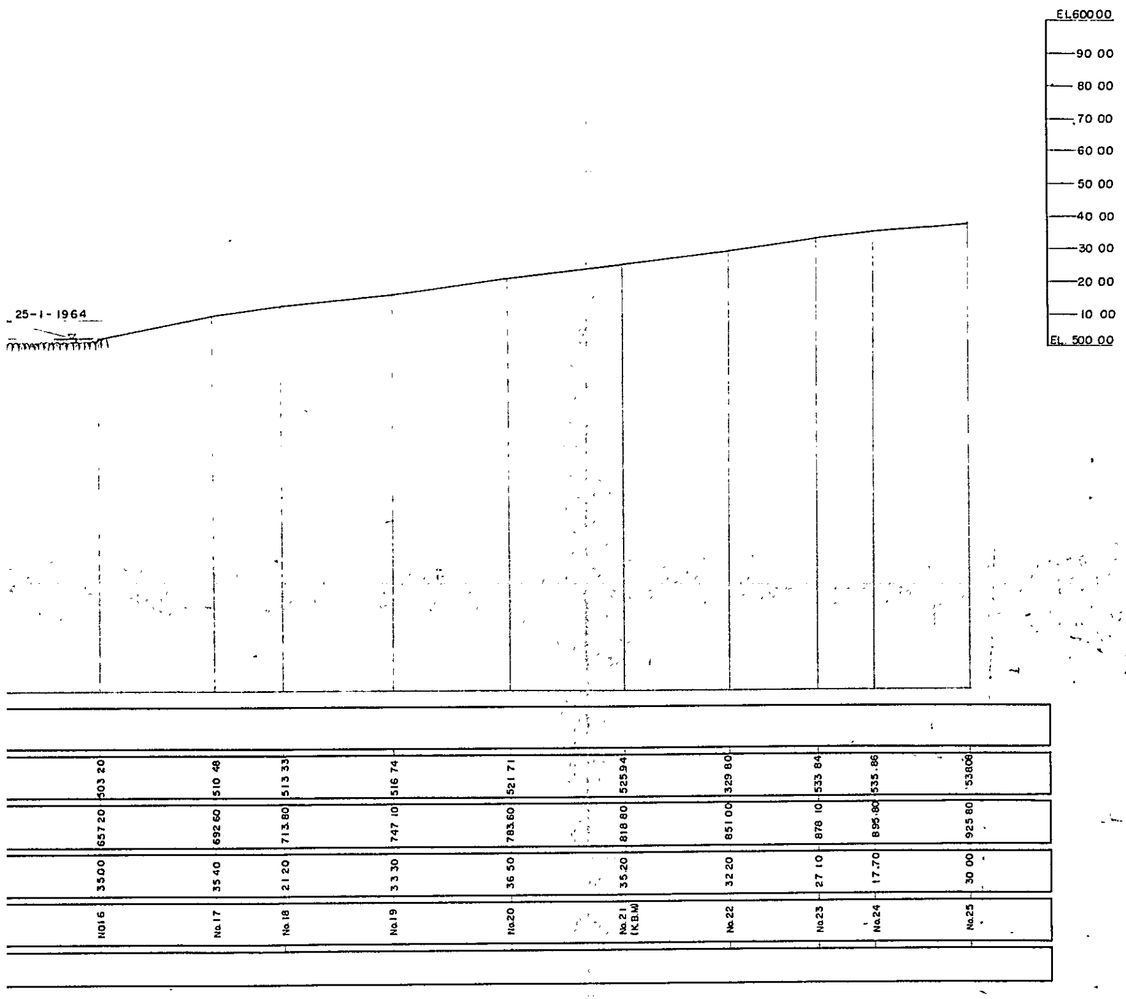
	F.R.	G.H	Accum Dist.	Dist	NO
		537.33	0.00	0.00	No 0
		537.23	37.70	37.70	No 1
		534.44	85.20	47.50	No 2
		528.36	115.40	30.20	No 3
		525.14	175.80	58.40	No 4
		523.43	209.90	36.10	No 5
		522.01	244.90	35.00	No 6
		519.07	295.40	50.50	No. 7



PROFILE

SCALE

0 10 20 30 40 50m

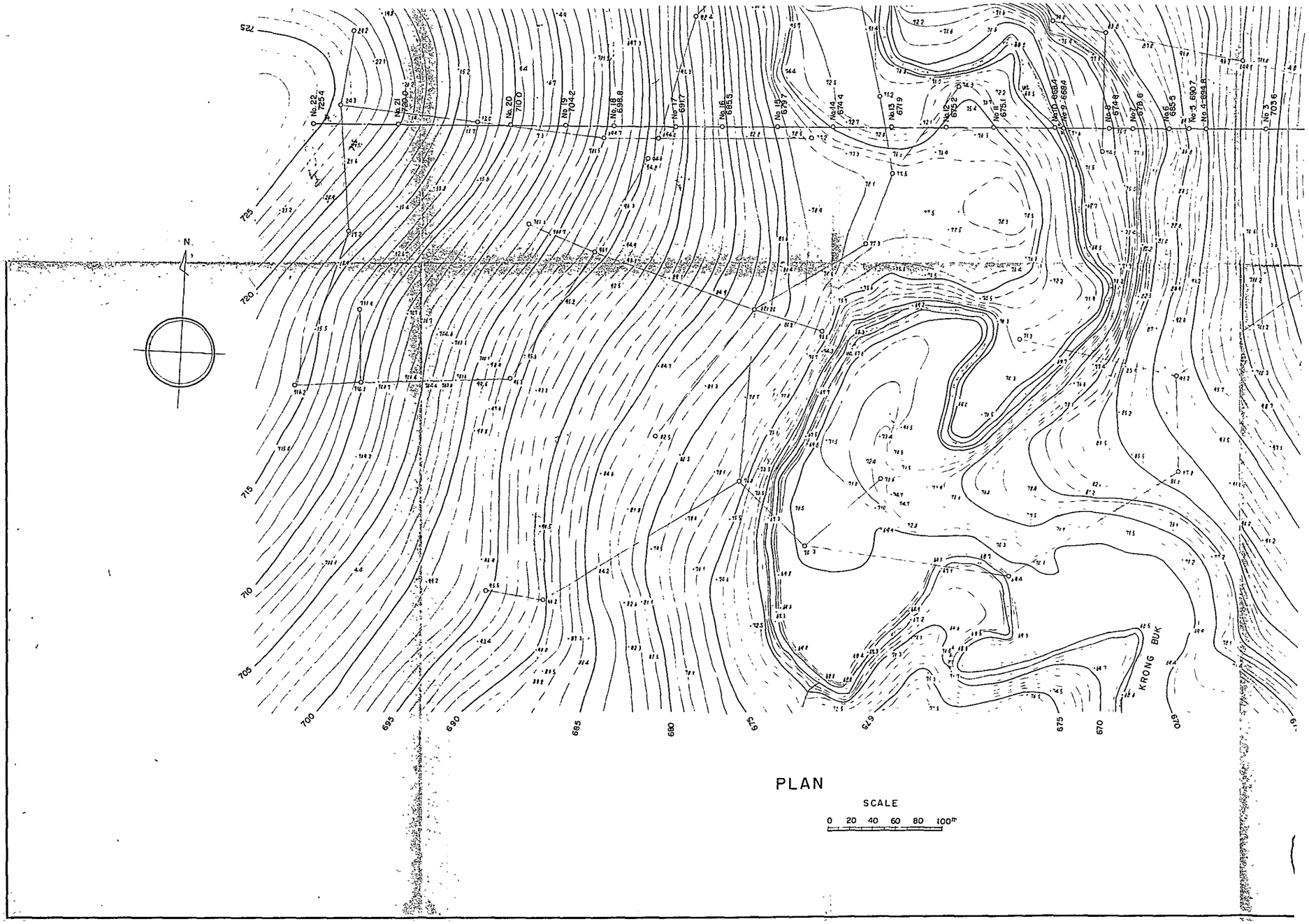


	No16	No17	No18	No19	No20	No21 (K.B.M)	No22	No23	No24	No25
	35.00	35.40	21.20	33.30	36.50	35.20	32.20	27.10	17.70	30.00
	657.20	692.60	713.80	747.10	783.60	818.80	851.00	878.10	895.80	925.80
	503.20	510.48	513.33	516.74	521.71	525.94	529.80	533.84	535.86	538.08

OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN	
KRONG BUK PROJECT, UPPER SREPOK VIET – NAM	
PROFILE OF B MLANG DAM SITE	
NIPPON KOEI CO., LTD. TOKYO (CONSULTING ENGINEERS)	
DRAWN / OFFICE: TOKYO	DWG NO.
CHECKED / DATE	
SUBMITTED / RECOMMENDED	SHEET NO

№ 22
725.4
№ 21
720.0
№ 20
710.0
№ 19
704.2
№ 18
698.8
№ 17
691.7
№ 16
685.5
№ 15
678.1
№ 14
674.4
№ 13
671.9
№ 12
673.2
№ 11
675.1
№ 10 6684
№ 9 6684
№ 8
674.8
№ 7
678.6
№ 6
685.5
№ 5 6907
№ 4 694.8
№ 3
703.6
№ 2
N

No.20 710.0
No.19 704.2
No.18 698.8
No.17 691.7
No.16 685.5
No.15 679.7
No.14 674.4
No.13 671.9
No.12 675.2
No.11 675.1
No.10 668.4
No.9 668.4
No.8 674.8
No.7 678.6
No.6 685.5
No.5 690.7
No.4 694.8
No.3 703.6
No.2 710.0
No.1 720.0
No.0 723.1


No.22 725.4
No.21 720.2
No.20 710.0
No.19 704.2
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No.17 691.7
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No.14 674.4
No.13 671.9
No.12 672.2
No.11 675.1
No.10 688.4
No.9 688.4
No.8 674.8
No.7 678.6
No.6 685.5
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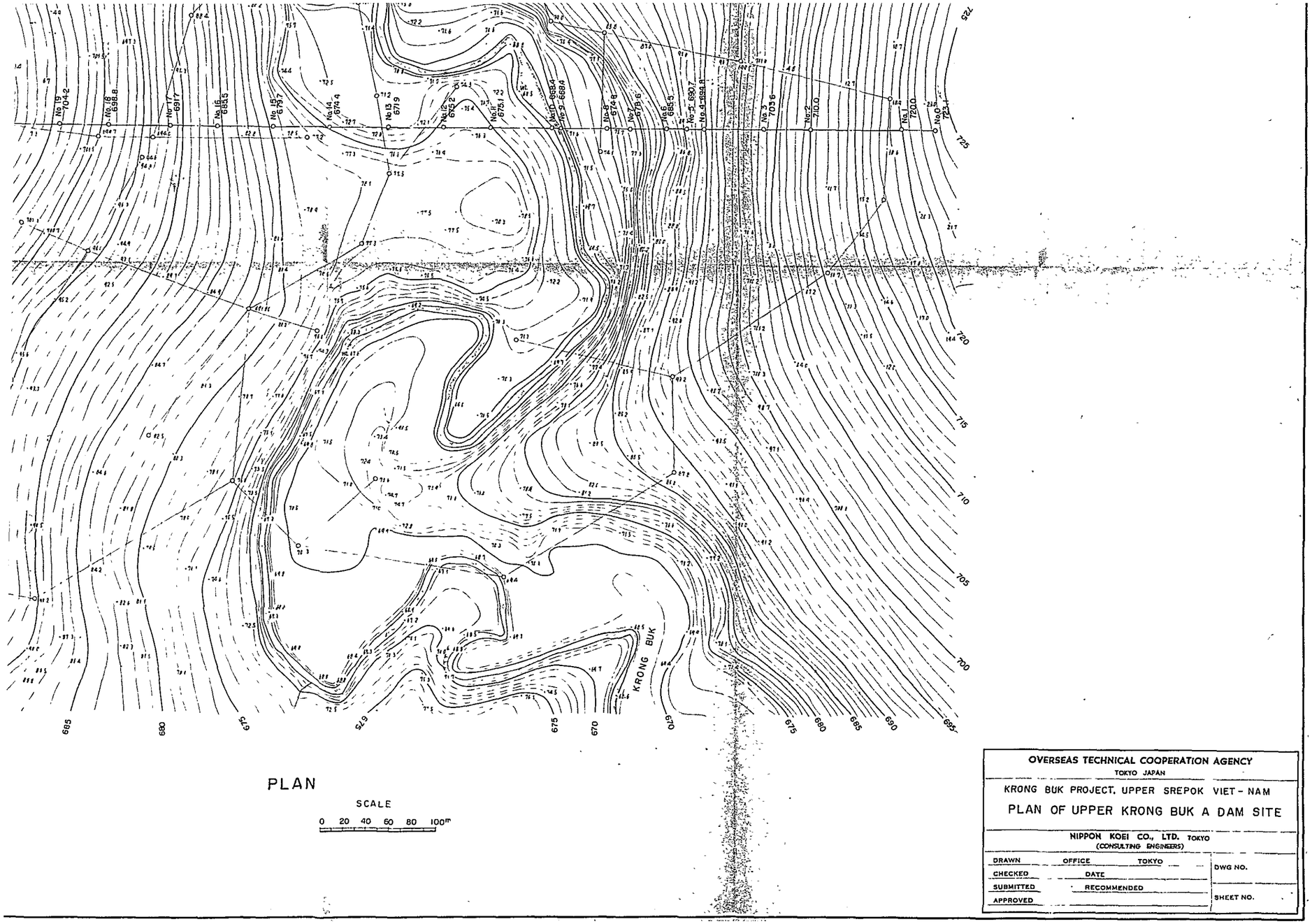
No.4 694.8
No.3 703.6
KRONG BUK
N
PLAN
SCALE
0 20 40 60 80 100m



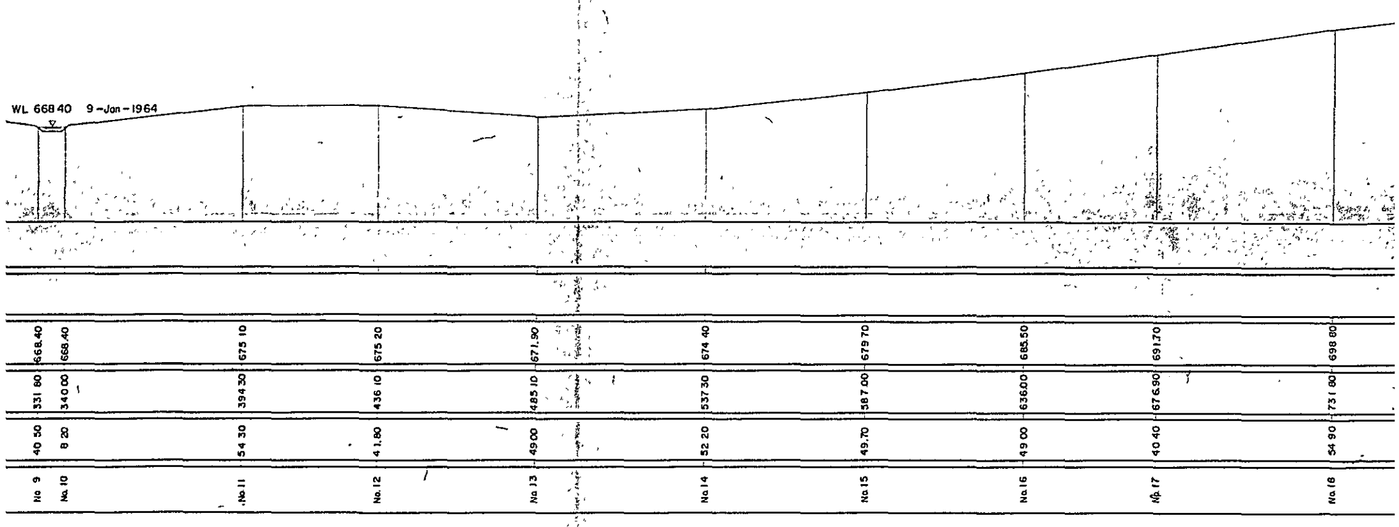
PLAN

SCALE

0 20 40 60 80 100m

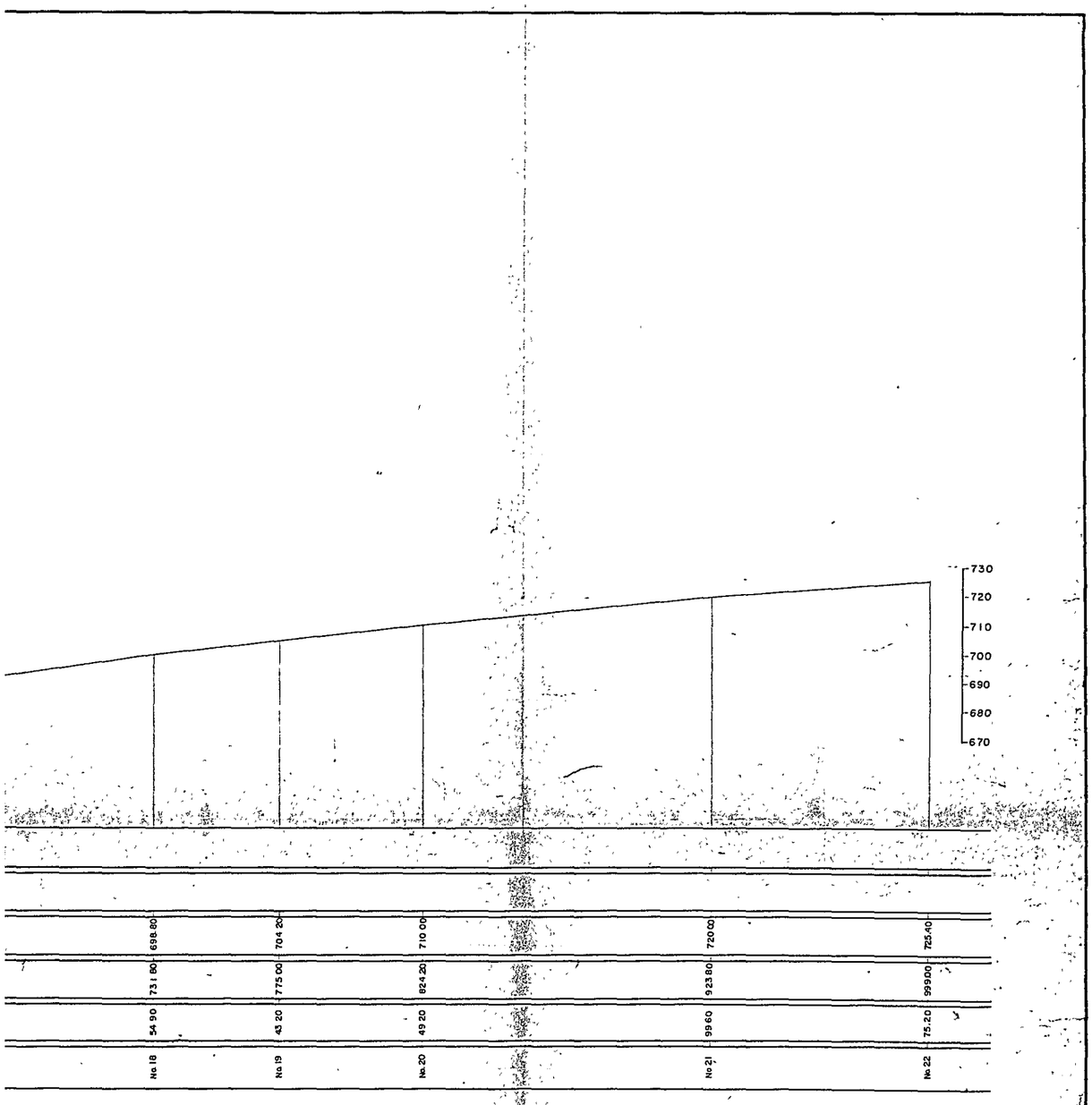
OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN	
KRONG BUK PROJECT, UPPER SREPOK VIET - NAM	
PLAN OF UPPER KRONG BUK A DAM SITE	
NIPPON KOEI CO., LTD. TOKYO (CONSULTING ENGINEERS)	
DRAWN OFFICE TOKYO	DWG NO.
CHECKED DATE	
SUBMITTED RECOMMENDED	SHEET NO.
APPROVED	

WL 668 40 9-Jan-1964
730
720
710
700
690
680
670
NO.
Dist.
Accum Dist.
G.L.
F.L.
No. 0 0 0 723 10
No. 1 29 40 29 40 720 00
No. 2 80 90 110 30 710 00
No. 3 41 80 152.10 703 60
No. 4 53 10 205 20 694 80
No. 5 15 80 221 00 690 70
No. 6 17 60 238 60 685 50
No. 7 31 80 270 40 678 60
No. 8 20 90 291 30 674 80
No. 9 40 50 331 80 668 40
No. 10 8 20 340 00 668 40

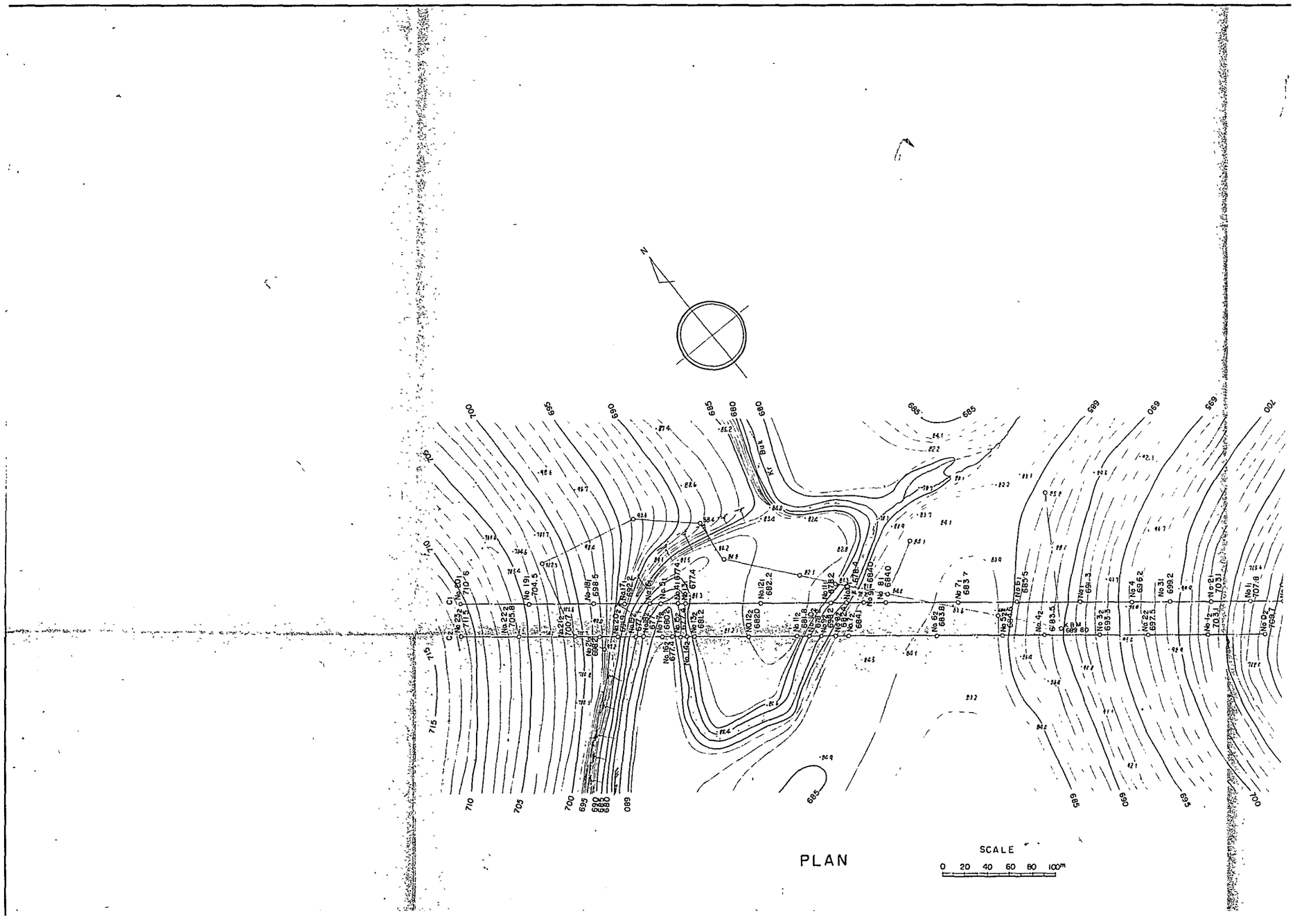


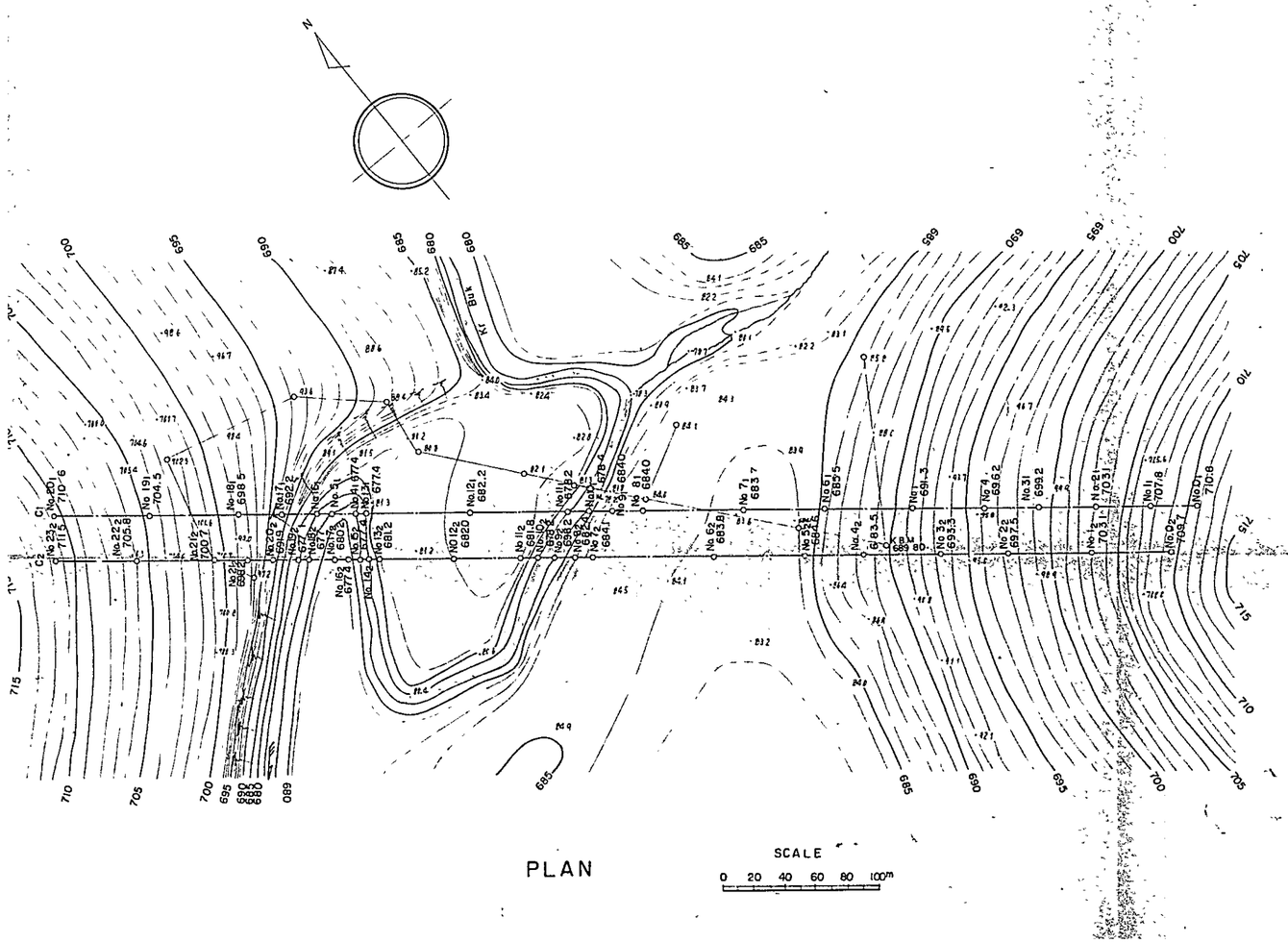
PROFILE SCALE

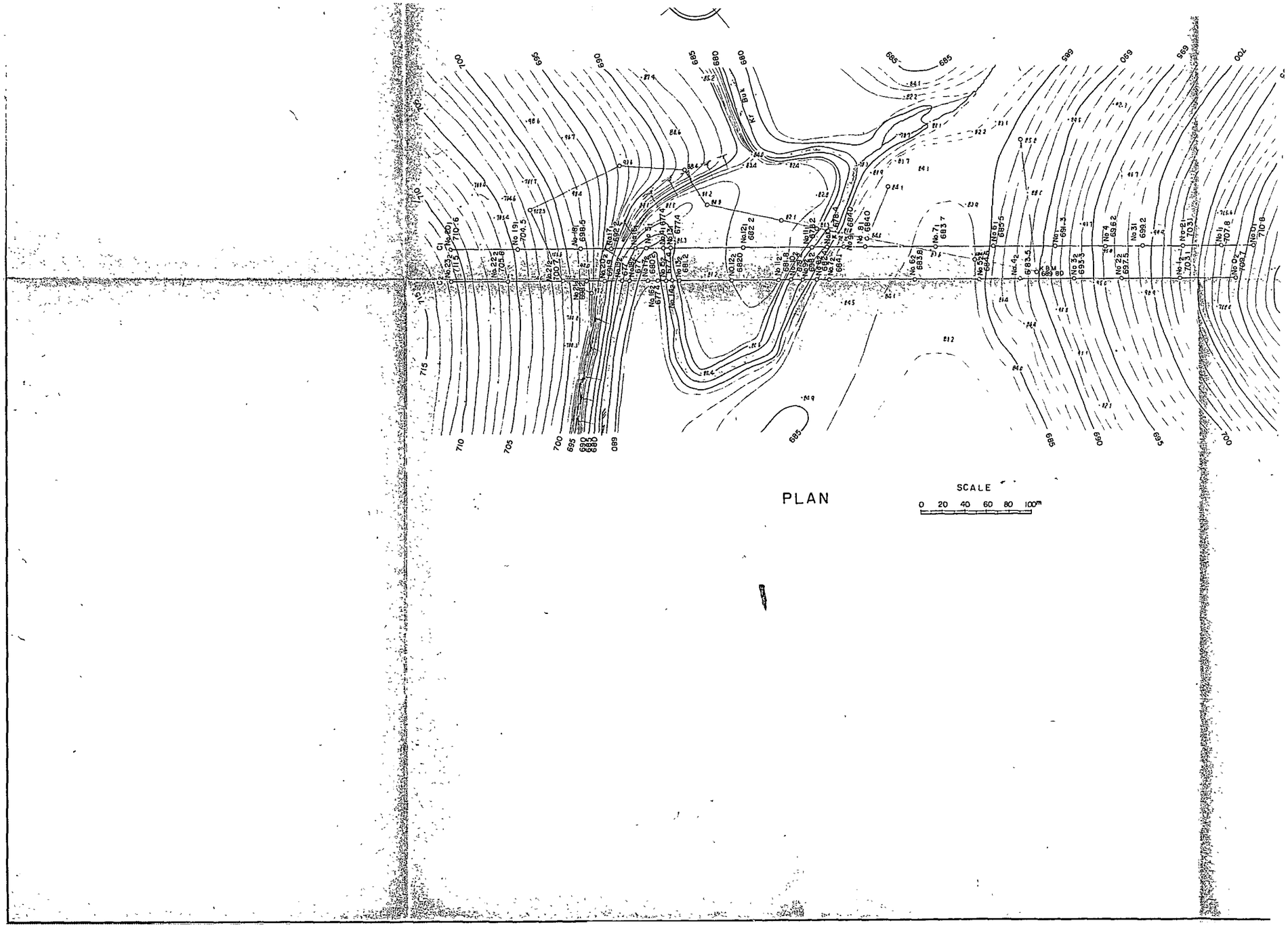
0 10 20 30 40 50m



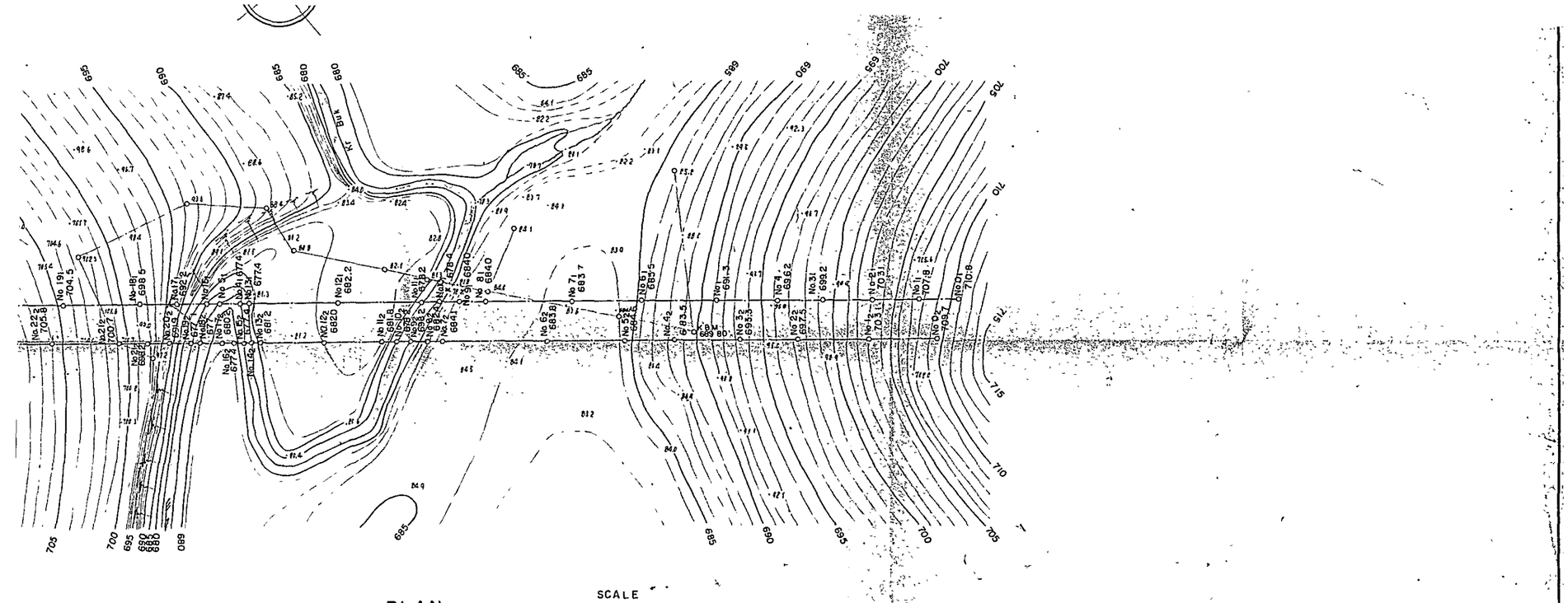
OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN	
KRONG BUK PROJECT, UPPER SREPOK VIET – NAM PROFILE OF UPPER KRONG BUK A DAM SITE	
NIPPON KOEI CO., LTD. TOKYO (CONSULTING ENGINEERS)	
DRAWN / OFFICE TOKYO CHECKED / DATE SUBMITTE / RECOMMENDED APPROVED	DWG. NO SHEET NO.


N
PLAN
SCALE
0 20 40 60 80 100m


N
PLAN
SCALE
0 20 40 60 80 100m



PLAN



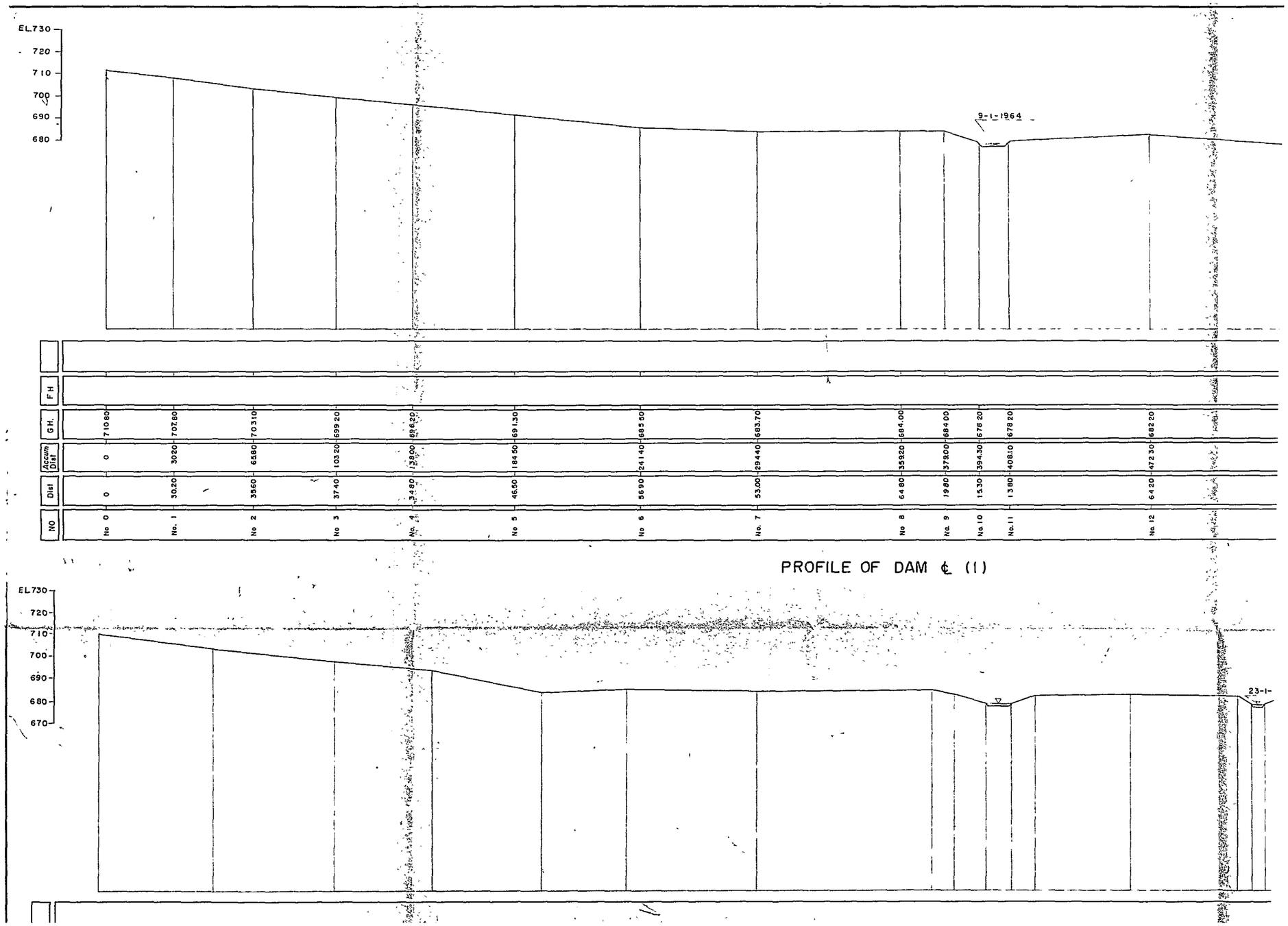
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

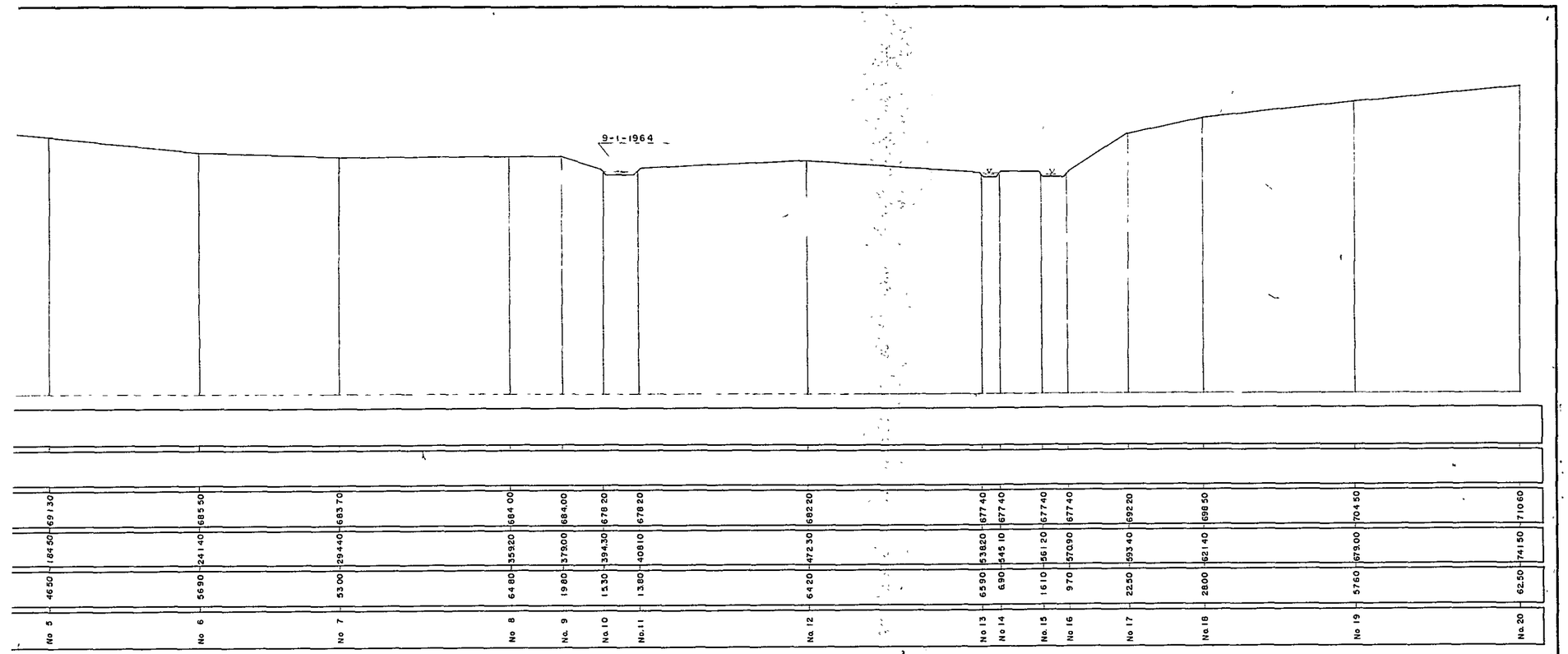
KRONG BUK PROJECT, UPPER -SREPOK VIET – NAM

PLAN OF UPPER KRONG BUK B DAM SITE

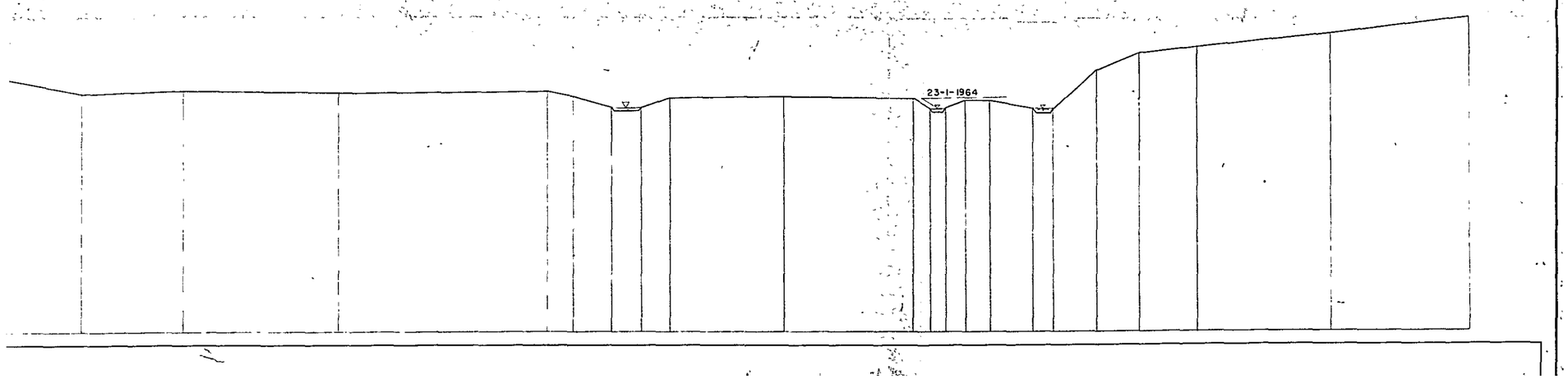
NIPPON KOEI CO., LTD. TOKYO
(CONSULTNG ENGINEERS)

DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE MAY 30 1983	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		


EL.730
720
710
700
690
680
9-1-1964
F H
G H.
Accum Dist
Dist
NO
No 0
No. 1
No 2
No 3
No. 4
No 5
No 6
No. 7
No 8
No 9
No 10
No. 11
No 12
PROFILE OF DAM ℄ (1)
EL730
720
710
700
690
680
670
23-1-

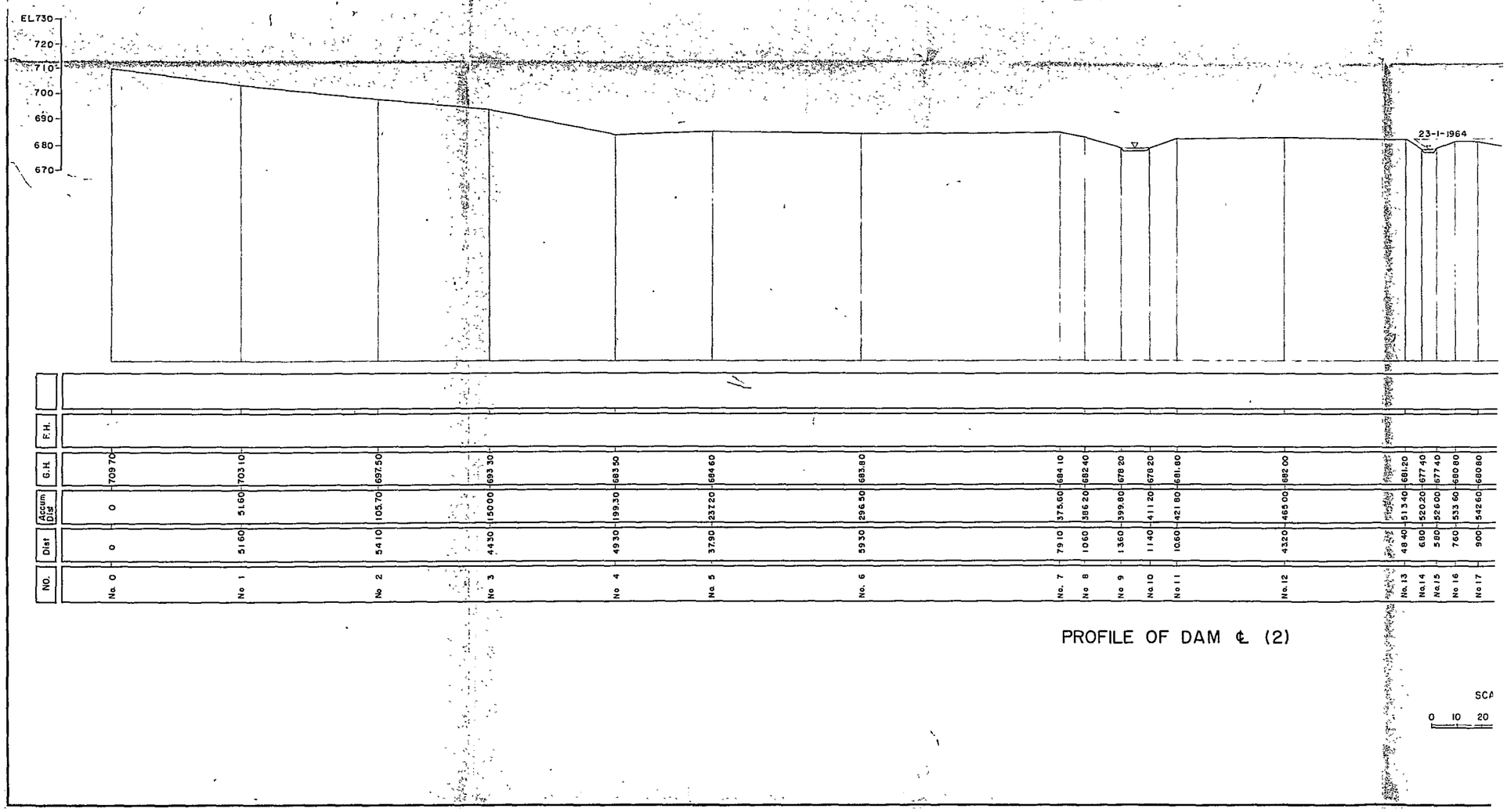


PROFILE OF DAM ℄ (I)



NO.	Dist	Accum Dist	G.H.	F.H.
No 0	0	0	710 80	
No. 1	30 20	30 20	707 80	
No 2	35 60	65 80	703 10	
No. 3	37 40	103 20	699 20	
No. 4	34 80	138 00	696 20	
No 5	46 50	184 50	691 30	
No. 6	56 90	241 40	685 50	
No 7	53 00	294 40	683 70	
No. 8	64 80	359 20	684 00	
No. 9	19 80	379 00	684 00	
No. 10	15 30	394 30	678 20	
No 11	13 80	408 10	678 20	
No. 12	64 20	472 30	682 20	
No 13	65 90	538 20	677 40	
No. 14	6 90	545 10	677 40	

PROFILE OF DAM ℄ (1)



NO.	Dist	Accum Dist	G.H.	F.H.
No. 0	0	0	709 70	
No 1	51 60	51 60	703 10	
No 2	54 10	105 70	697 50	
No 3	44 30	150 00	693 30	
No 4	49 30	199 30	683 50	
No 5	37 90	237 20	684 60	
No. 6	59 30	296 50	683 80	
No. 7	79 10	375 60	684 10	
No 8	10 60	386 20	682 40	
No 9	13 60	399 80	678 20	
No 10	11 40	411 20	678 20	
No 11	10 60	421 80	681 80	
No 12	43 20	465 00	682 00	
No. 13	48 40	513 40	681 20	
No. 14	6 80	520 20	677 40	
No. 15	5 80	526 00	677 40	
No 16	7 60	533 60	680 80	
No 17	9 00	542 60	680 80	

PROFILE OF DAM ℄ (2)

SCA

0 10 20

	No 5	No 6	No 7	No. 8	No. 9	No.10	No 11	No 12	No 13	No.14	No 15	No 16	No 17	No 18	No 19	No.20
	46.50	56.90	53.00	64.80	19.00	15.30	13.80	64.20	65.90	6.90	16.10	9.70	22.50	28.00	57.60	62.50
	184.50	241.40	294.40	359.20	379.00	394.30	408.10	472.30	538.20	545.10	561.20	570.90	593.40	621.40	679.00	741.50
	691.30	685.50	683.70	684.00	684.00	678.20	678.20	682.20	677.40	677.40	677.40	677.40	692.20	698.50	704.50	710.60

PROFILE OF DAM ℄ (1)

23-1-1964

	No 4	No 5	No 6	No. 7	No. 8	No. 9	No.10	No.11	No.12	No 13	No.14	No.15	No 16	No 17	No 18	No 19	No 20	No.21	No.22	No 23
	49.30	37.90	59.30	79.10	10.60	13.60	11.40	10.60	43.20	48.40	6.80	5.80	7.60	9.00	16.20	7.60	15.90	16.20	21.80	50.70	52.20
	199.30	232.20	296.50	375.60	386.20	399.80	411.20	421.80	465.00	513.40	520.20	526.00	533.60	542.60	558.80	566.40	582.30	598.50	620.30	671.00	723.20
	683.50	684.60	683.80	684.10	682.40	678.20	678.20	681.80	682.00	681.20	677.40	677.40	680.80	680.60	677.10	677.10	691.90	698.20	700.70	705.80	711.50

PROFILE OF DAM ℄ (2)

SCALE

0 10 20 30 40 50m

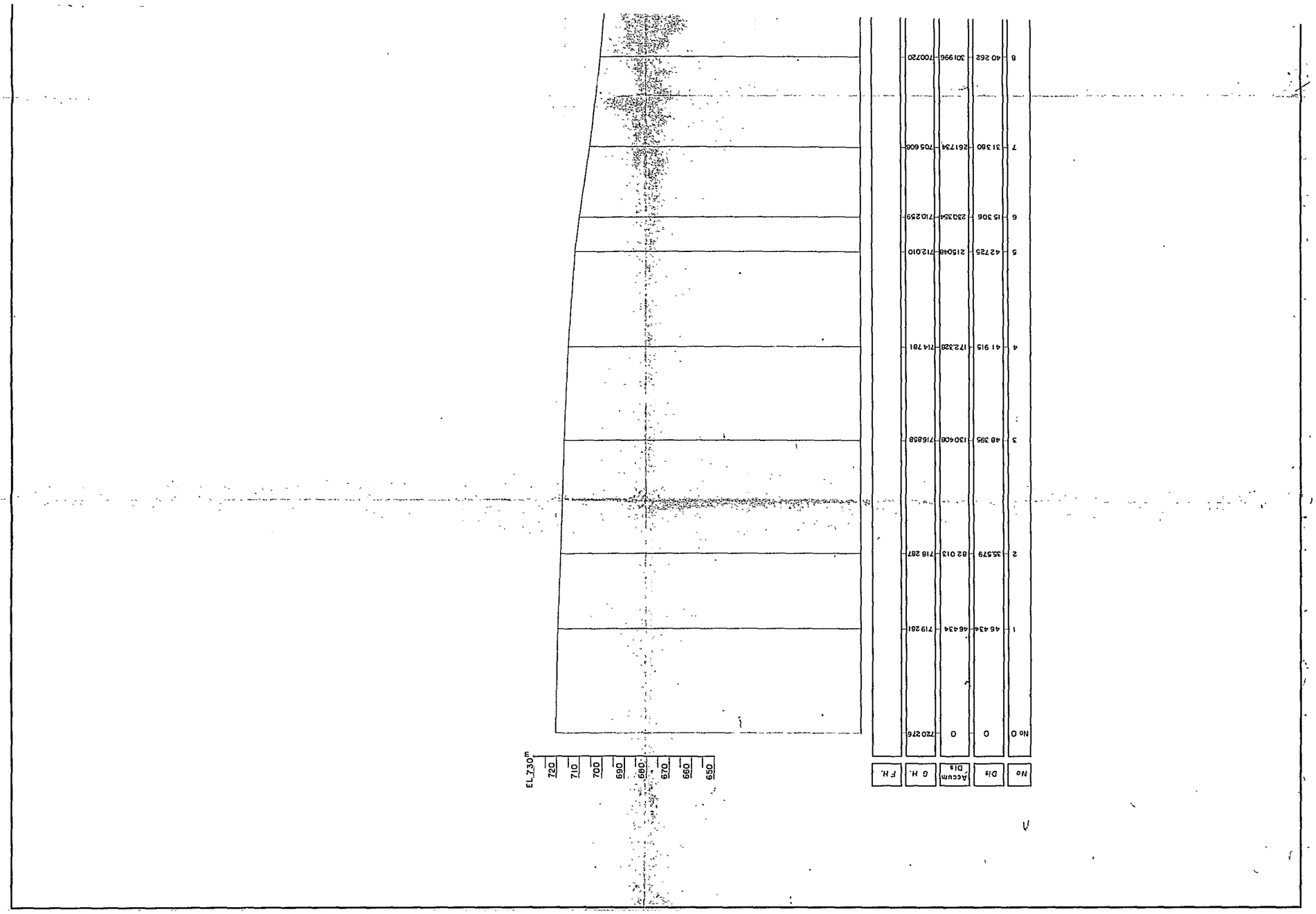
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

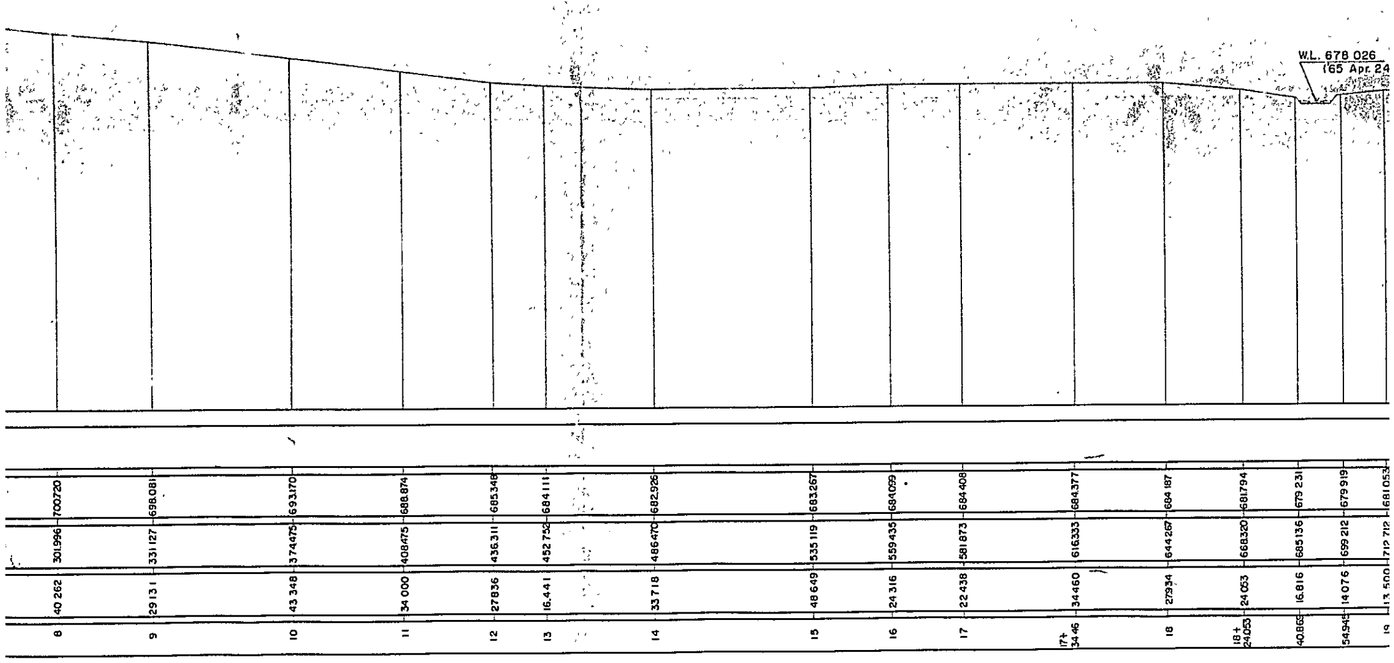
KRONG BUK PROJECT, PROJECT, UPPER SPEPOK VIET NAM

PROFILE OF UPPER KRONG BUK B DAM SITE

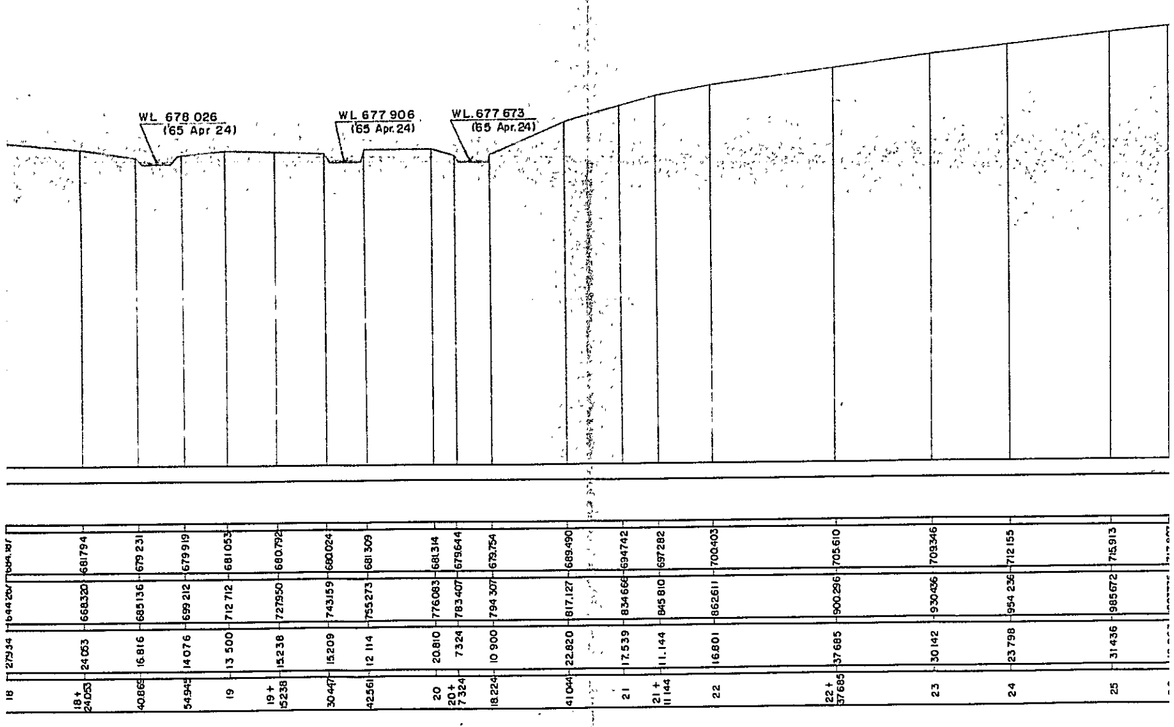
NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		


EL_Z30m
720
710
700
690
680
670
660
650
No
Dis
Accum Dis
G H.
F H.
No 0 0 720276
1 46 434 46 434 719 281
2 35 579 82 013 718 287
3 48 395 130 408 716 858
4 41 915 172 328 714 781
5 42 725 215 048 712 010
6 15 306 230 354 710 259
7 31 380 261 734 705 606
8 40 262 301 996 700 720



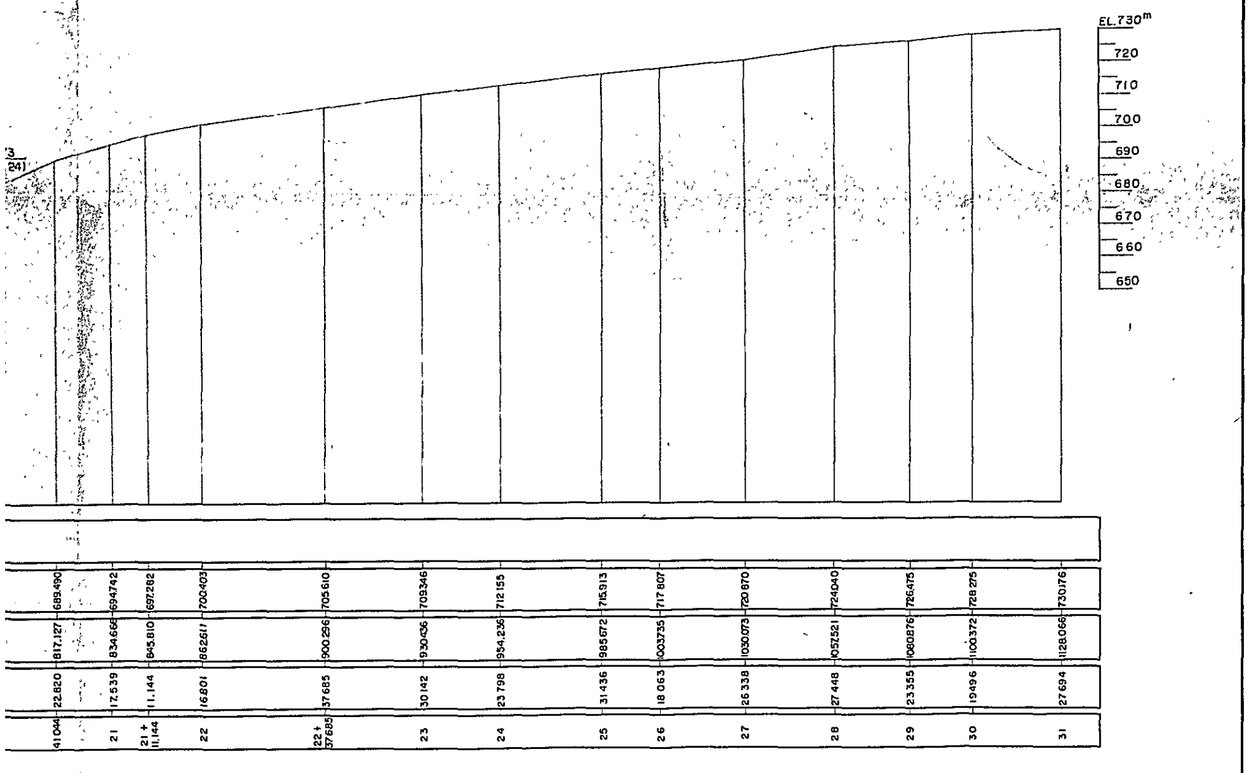
PROFILE OF DAM ℄ (3)



3)

SCALE 1 1000

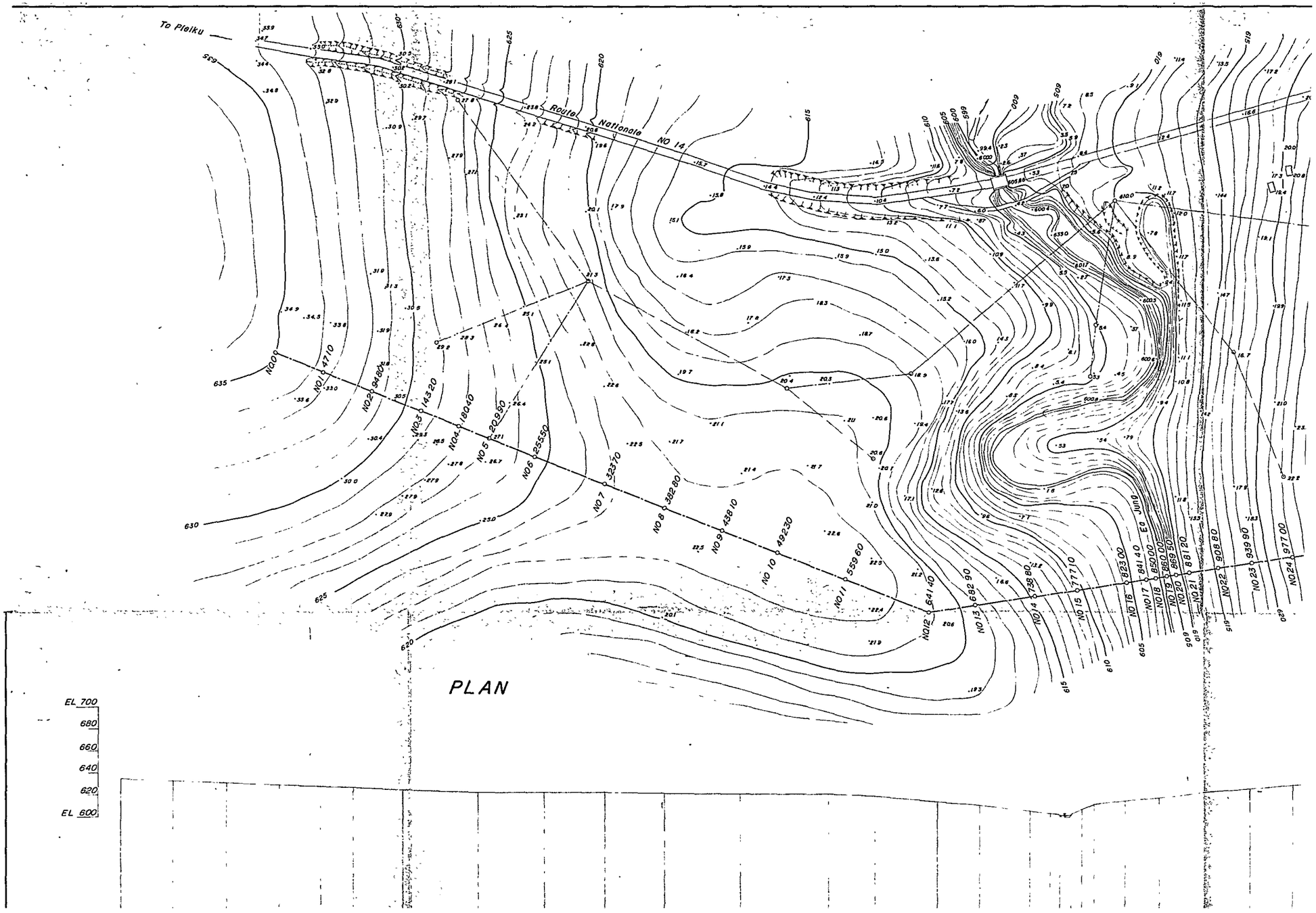
0 50 100m



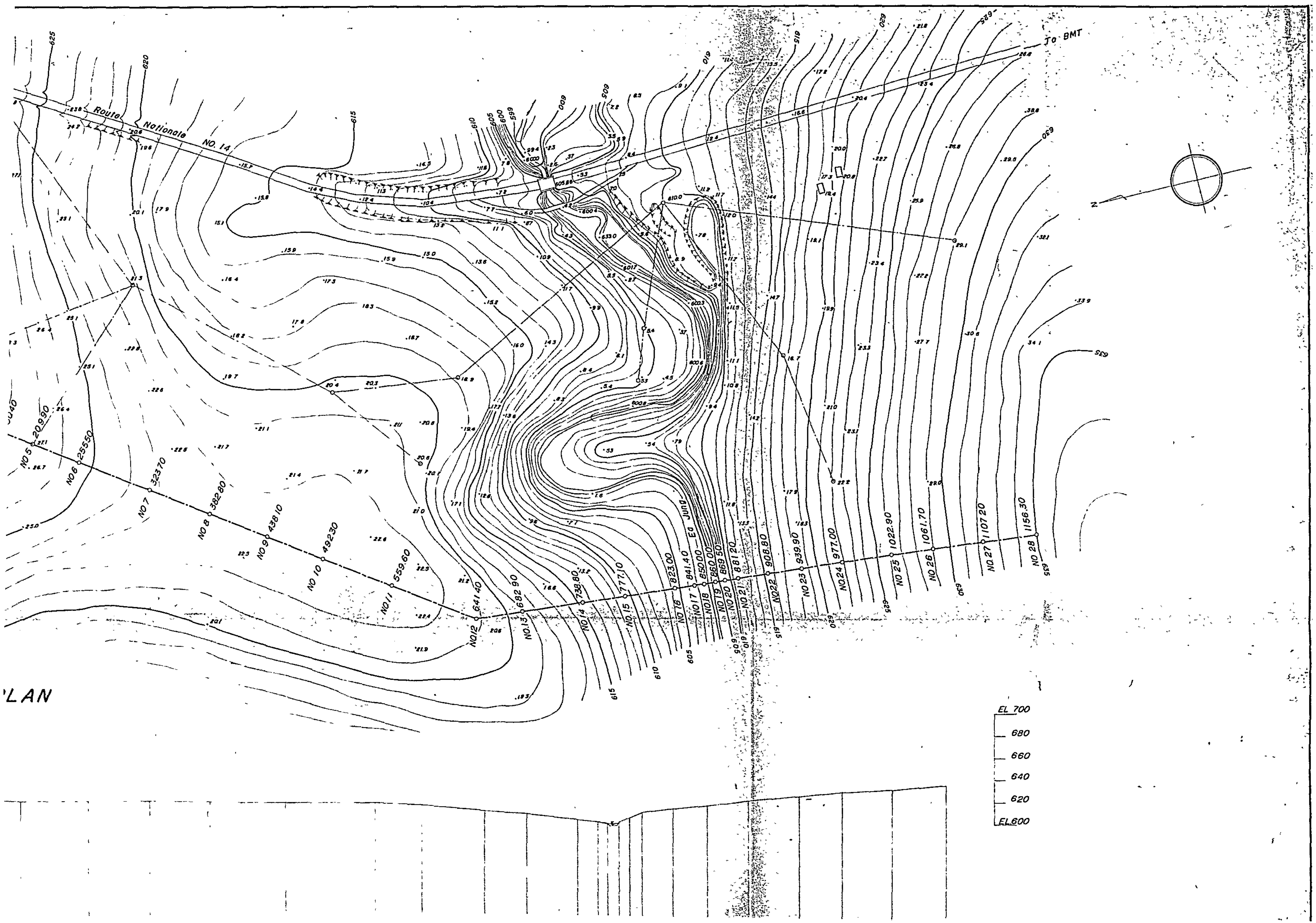
SCALE 1 1000

0 50 100m

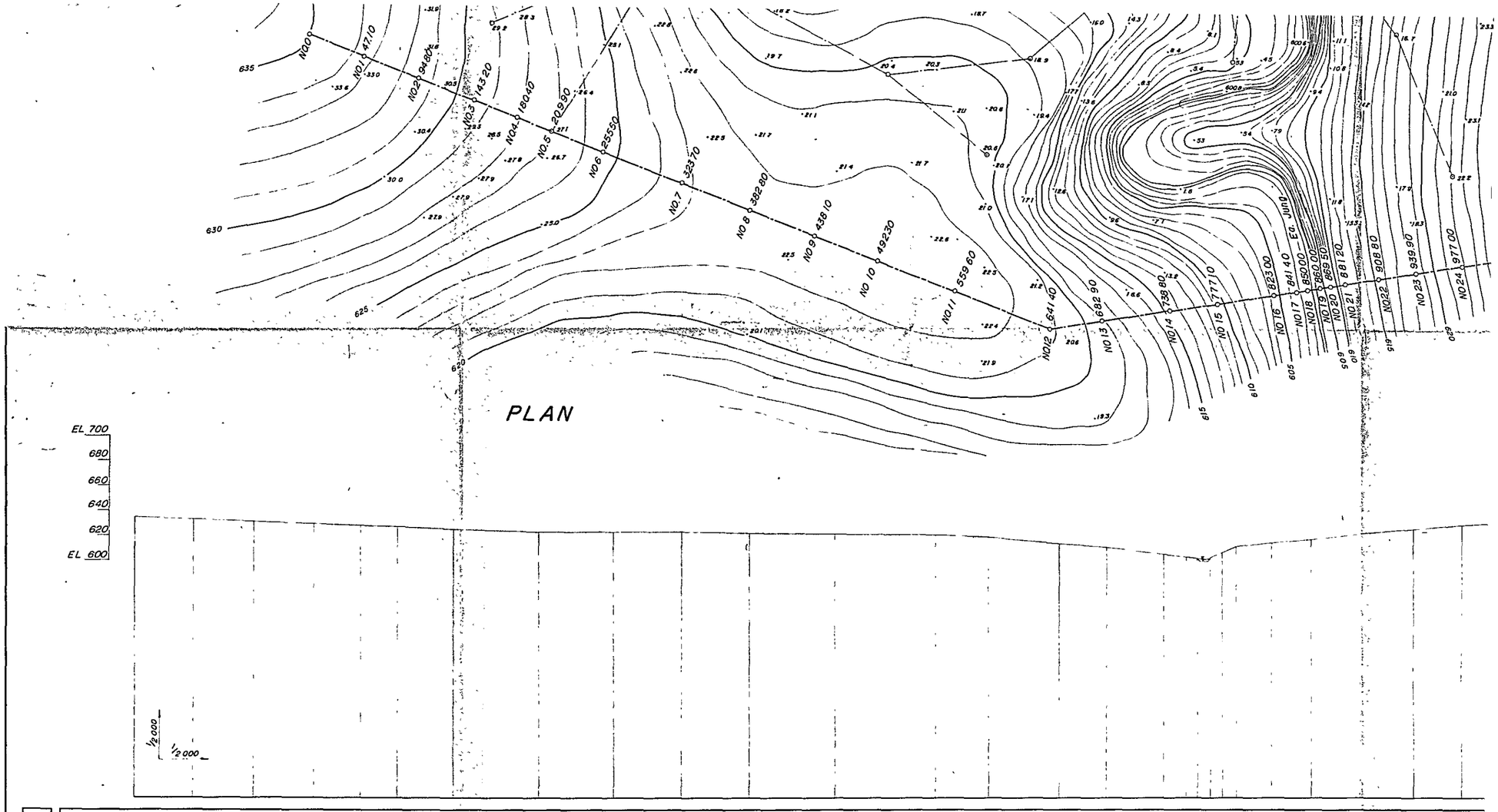
OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN	
KRONG BUK PROJECT, UPPER SREPOK VIET-NAM	
PROFILE OF UPPER KRONG BUK DAM SITE	
NIPPON KOEI CO., LTD. TOKYO (CONSULTING ENGINEERS)	
DRAWN OFFICE TOKYO CHECKED DATE SUBMITTED RECOMMENDED APPROVED	DWG NO SHEET NO


To Pleiku
Route Nationale NO 14
NO 1 4710
NO 2 9480
NO 3 14320
NO 4 18040
NO 5 20950
NO 6 25550
NO 7 32570
NO 8 38280
NO 9 43810
NO 10 49230
NO 11 55960
NO 12 64140
NO 13 69290
NO 14 73980
NO 15 77710
NO 16 82300
NO 17 84140
NO 18 86500
NO 19 86950
NO 20 88170
NO 21
NO 22 90880
NO 23 93990
NO 24 97700
EL 700
680
660
640
620
EL 600

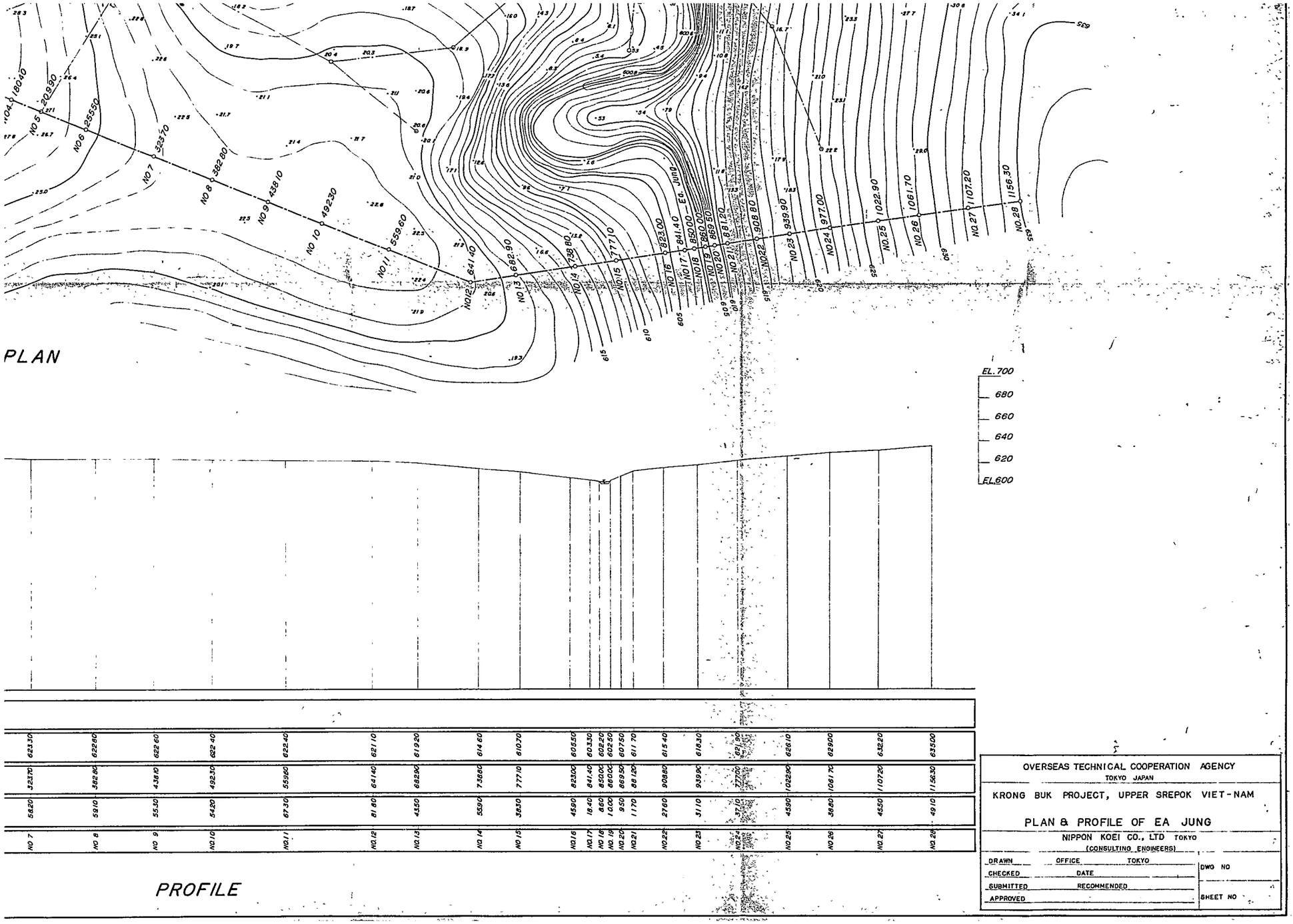
PLAN


Route Nationale NO. 14
To BMT
Ea Jung
NO 5 20990
NO 6 25550
NO 7 32370
NO 8 38280
NO 9 43810
NO 10 49230
NO 11 559.60
NO 12 641.40
NO 13 682.90
NO 14 738.80
NO 15 777.10
NO 16 823.00
NO 17 841.40
NO 18 850.00
NO 19 860.00
NO 20 869.50
NO 21 881.20
NO 22 908.80
NO 23 939.90
NO 24 977.00
NO 25 1022.90
NO 26 1061.70
NO 27 1107.20
NO 28 1156.30
EL 700
680
660
640
620
EL 600

PLAN



	NO 0	NO 1	NO 2	NO 3	NO 4	NO 5	NO 6	NO 7	NO 8	NO 9	NO 10	NO 11	NO 12	NO 13	NO 14	NO 15	NO 16	NO 17	NO 18	NO 19	NO 20	NO 21	NO 22	NO 23	NO 24	NO 25	NO 26
NO	000	47 10	94 80	143 20	180 40	209 50	255 50	323 70	382 80	438 10	492 30	559 60	641 40	698 80	738 80	777 10	823 00	841 40	850 00	869 50	881 20	908 80	939 90	977 00			
P D	000	47 10	47 70	48 40	37 20	29 50	45 60	58 20	59 10	55 30	54 20	67 30	81 60	43 50	55 90	38 50	45 90	18 40	8 60	10 00	9 50	11 70	27 60	31 10	37 10	45 90	38 60
A D	000	47 10	94 80	143 20	180 40	209 50	255 50	323 70	382 80	438 10	492 30	559 60	641 40	698 80	738 80	777 10	823 00	841 40	850 00	869 50	881 20	908 80	939 90	977 00	1037 00	1022 90	1061 70
G H	635 00	633 40	631 40	627 50	629 10	627 10	625 40	623 30	622 80	622 60	622 40	622 40	621 10	619 20	614 60	610 70	605 50	603 30	602 20	602 50	601 70	611 70	615 40	619 30	621 90	626 10	629 00
F H																											



623.30	622.80	622.60	622.40	622.40	622.10	619.20	614.60	610.70	605.50	603.30	602.20	602.50	601.70	615.40	618.30	621.90	626.10	629.00	632.20	633.00								
323.70	382.80	438.10	492.30	559.60	641.40	682.90	738.80	777.10	823.00	841.40	850.00	860.00	869.50	908.80	939.90	977.00	1022.90	1061.70	1107.20	1156.30								
54.20	59.10	55.30	54.20	67.30	81.80	41.50	55.90	38.30	45.90	18.40	8.60	10.00	9.50	11.70	27.60	31.10	45.90	38.80	45.50	49.10								
NO 7	NO 8	NO 9	NO 10	NO 11	NO 12	NO 13	NO 14	NO 15	NO 16	NO 17	NO 18	NO 19	NO 20	NO 21	NO 22	NO 23	NO 24	NO 25	NO 26	NO 27	NO 28							

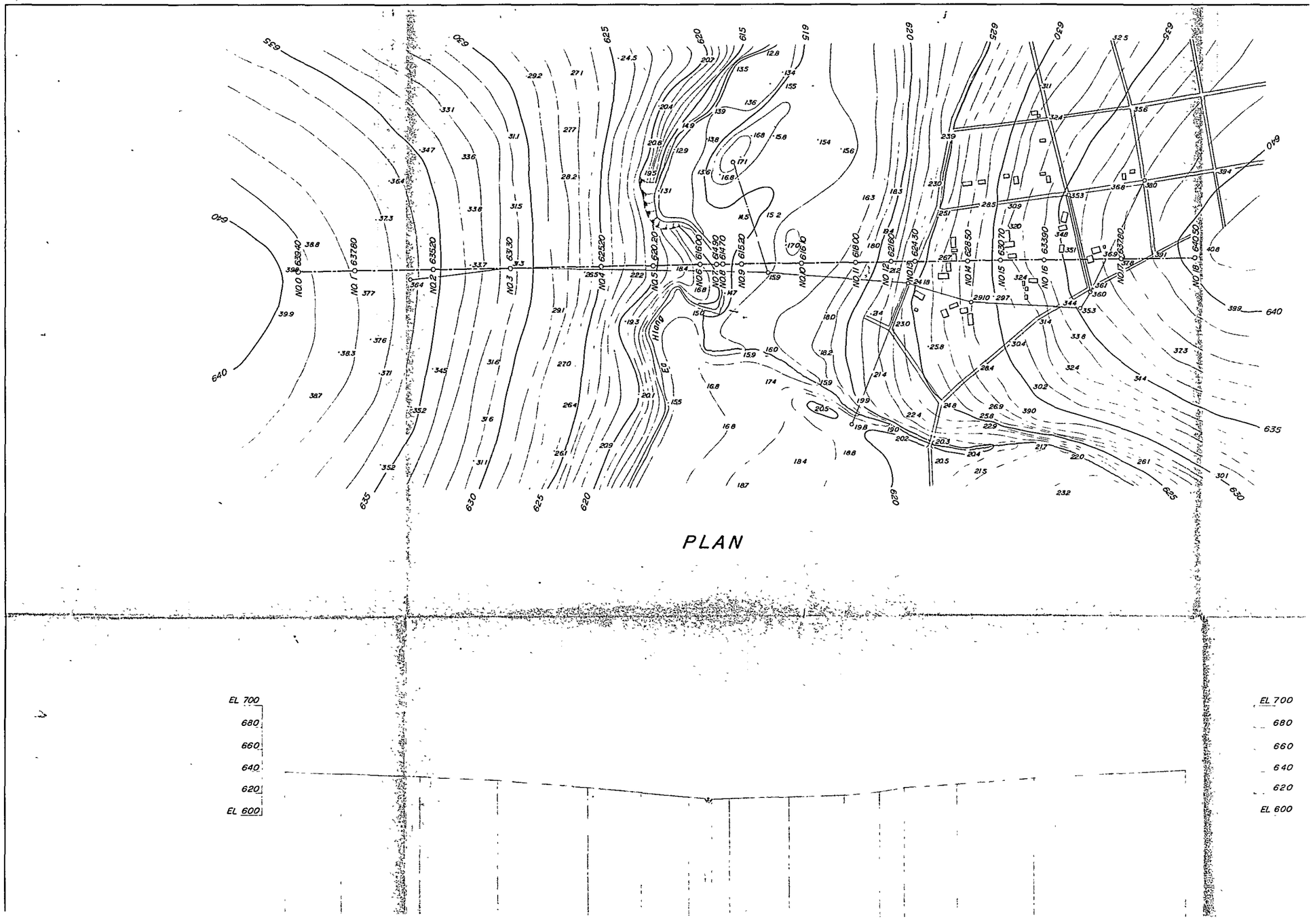
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

KRONG BUK PROJECT, UPPER SREPOK VIET-NAM

PLAN & PROFILE OF EA JUNG

NIPPON KOEI CO., LTD TOKYO
(CONSULTING ENGINEERS)

DRAWN	OFFICE TOKYO		DWG NO
CHECKED	DATE		
SUBMITTED	RECOMMENDED		
APPROVED			SHEET NO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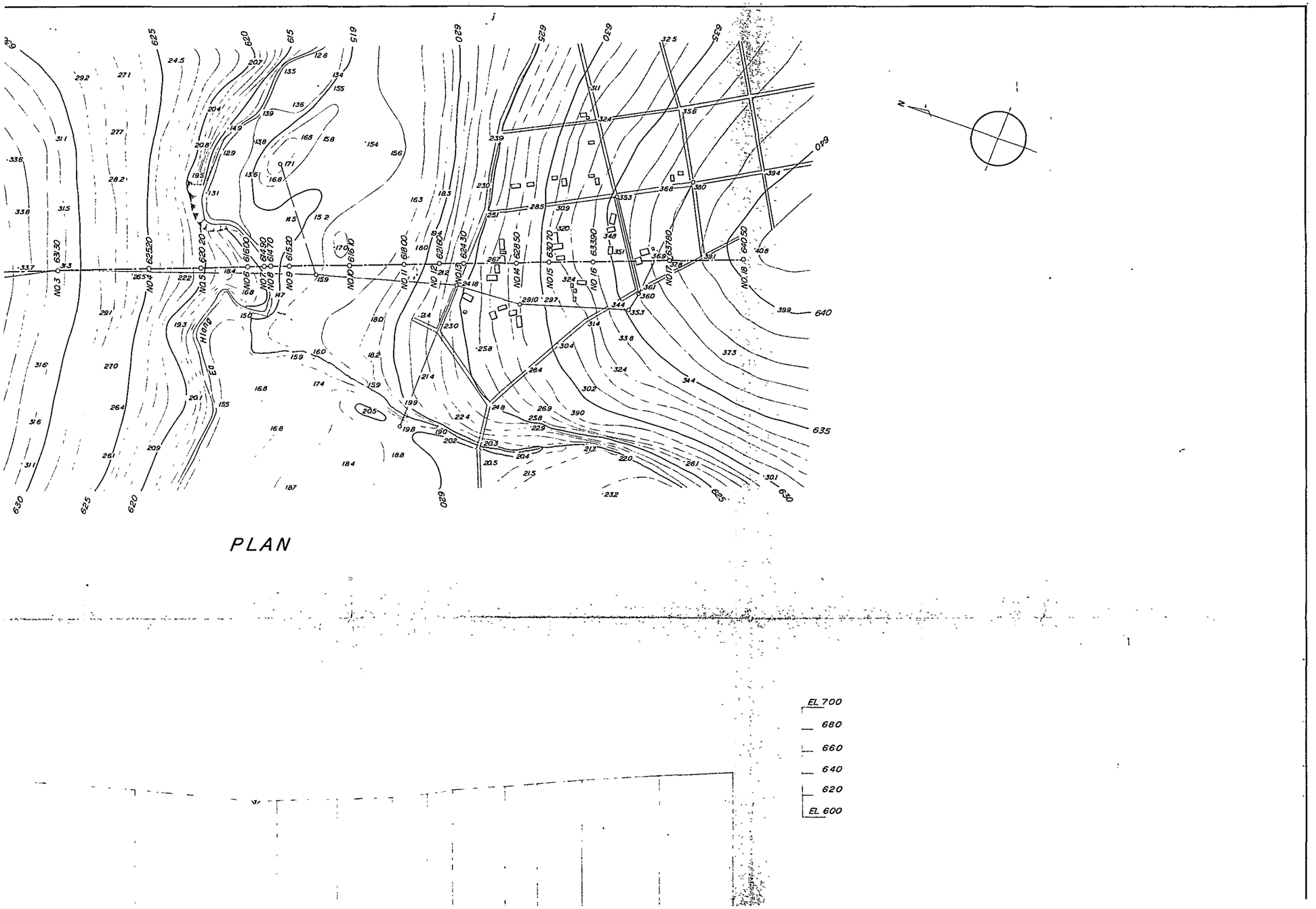
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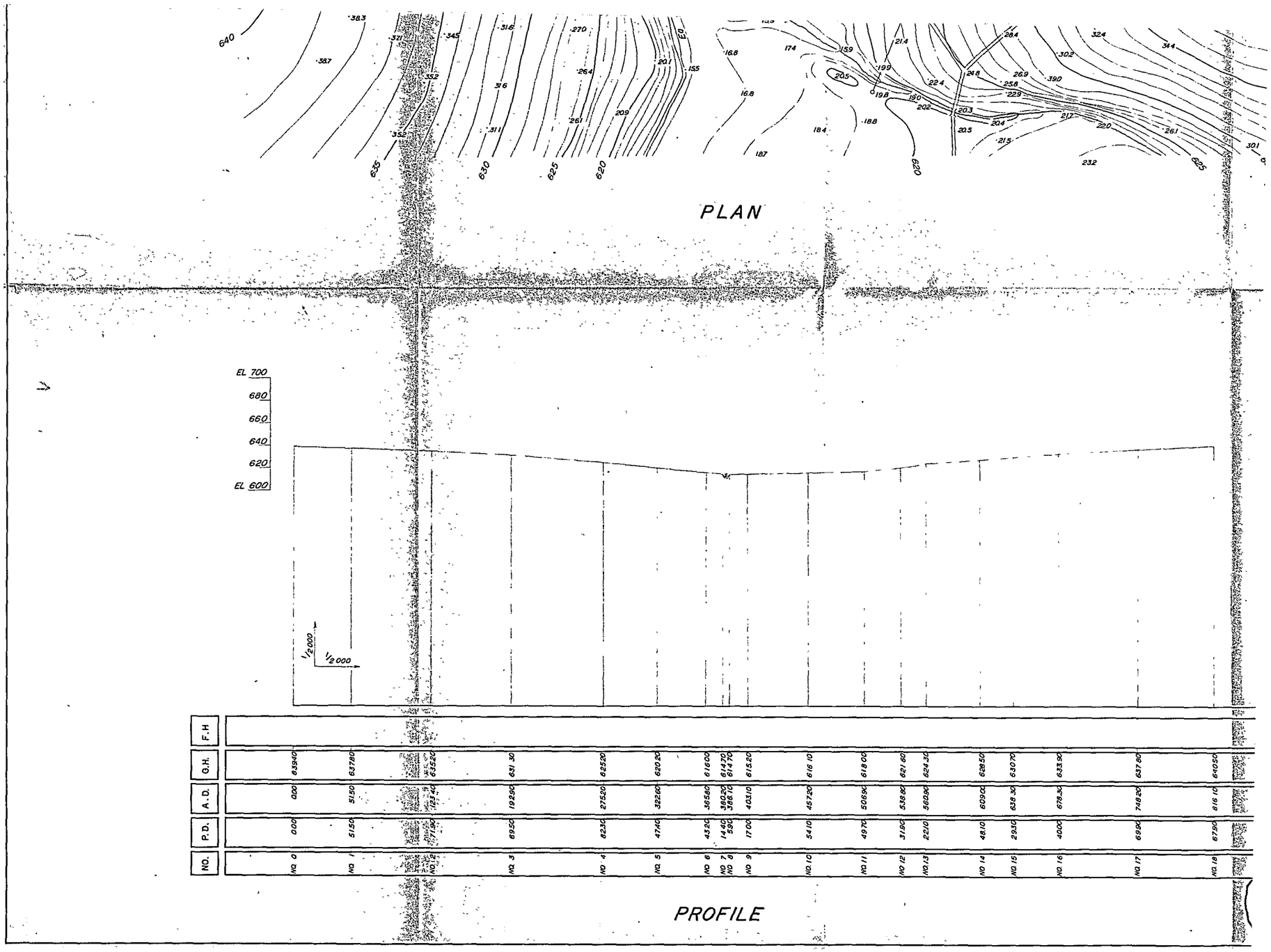
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A.D.
P.D.
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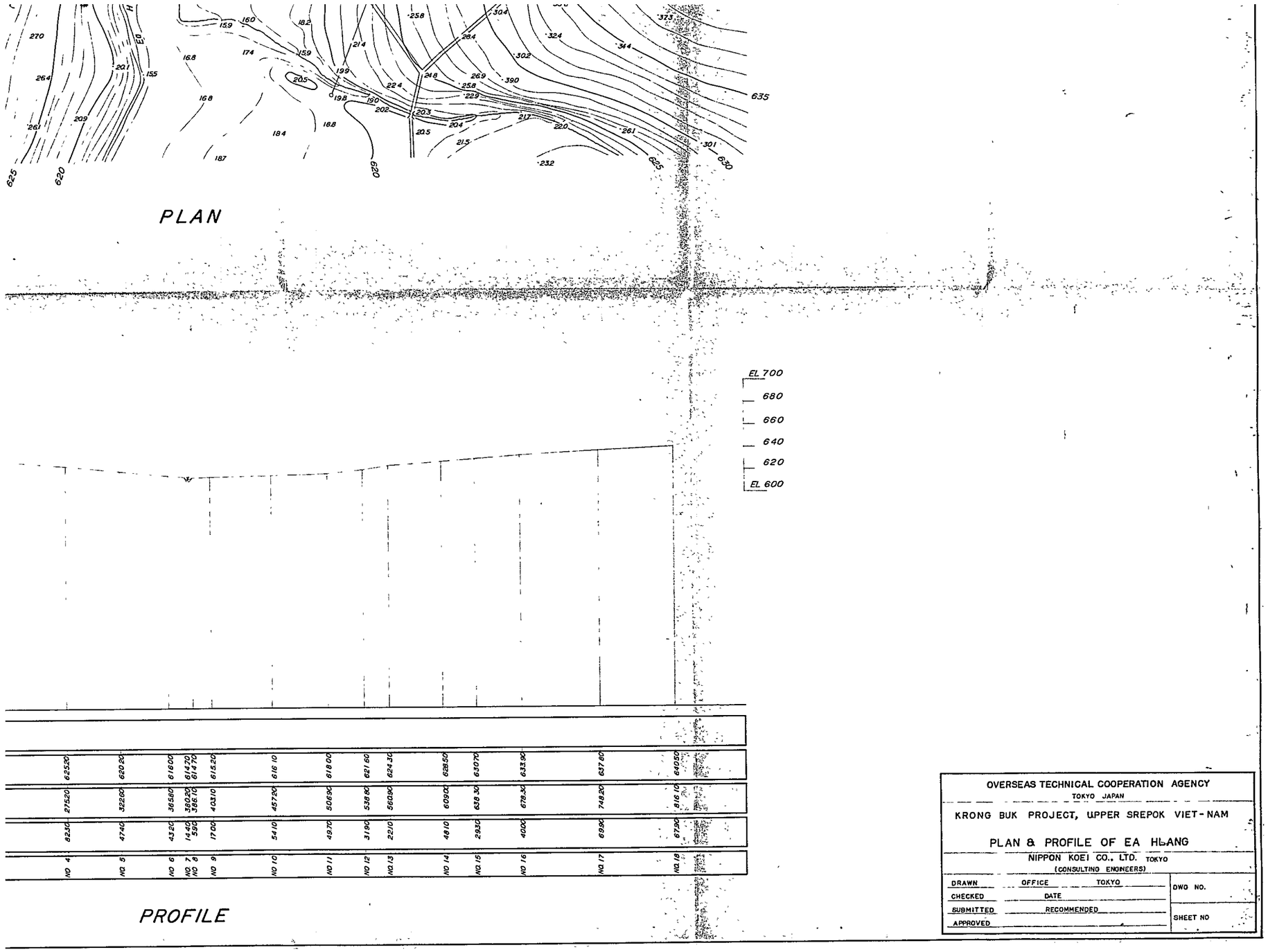


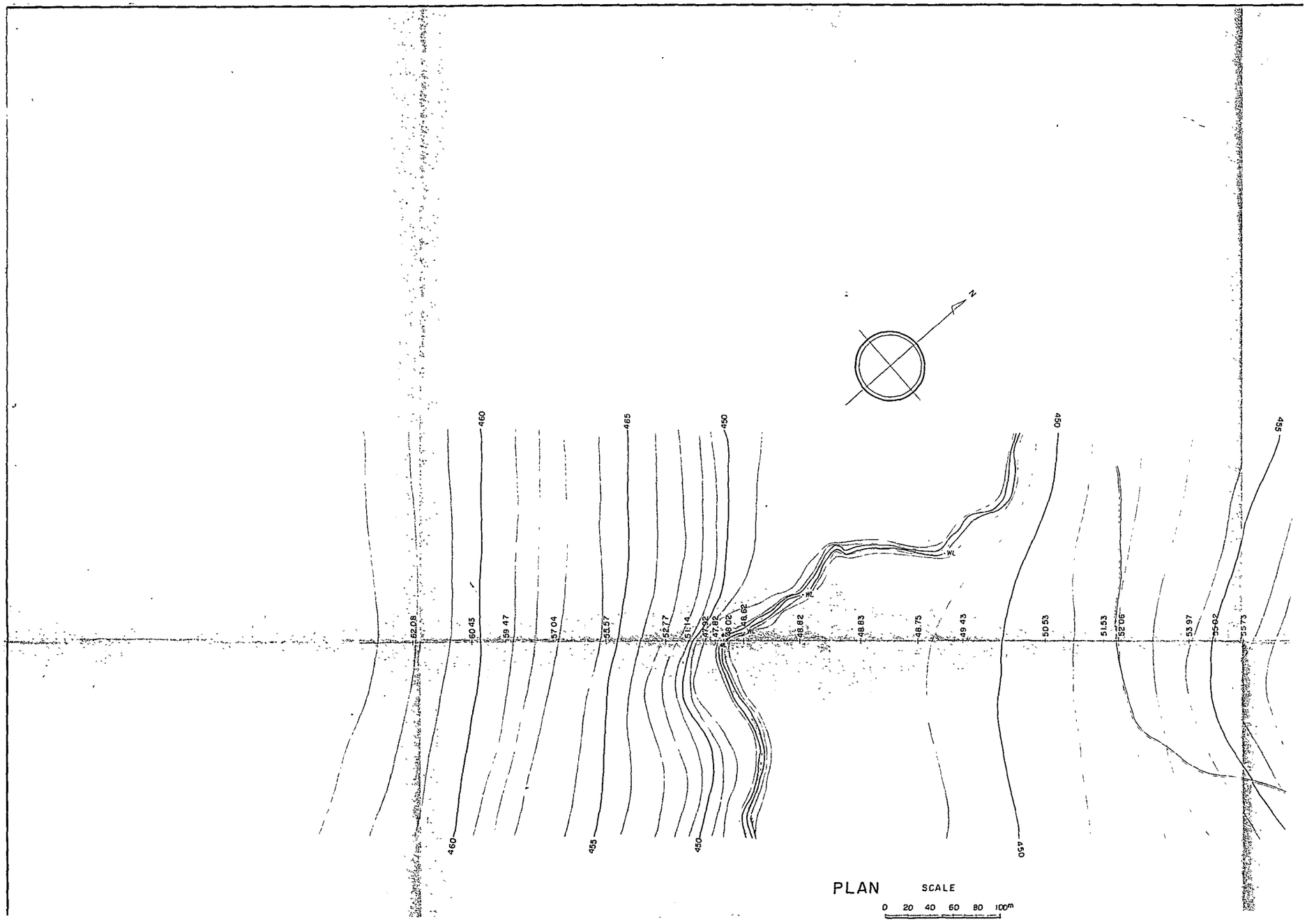
OVERSEAS TECHNICAL COOPERATION AGENCY
TOKYO JAPAN

KRONG BUK PROJECT, UPPER SREPOK VIET-NAM

PLAN & PROFILE OF EA HLANG

NIPPON KOEI CO., LTD. TOKYO
(CONSULTING ENGINEERS)

DRAWN	OFFICE TOKYO		DWG NO.
CHECKED	DATE		
SUBMITTED	RECOMMENDED		SHEET NO
APPROVED			



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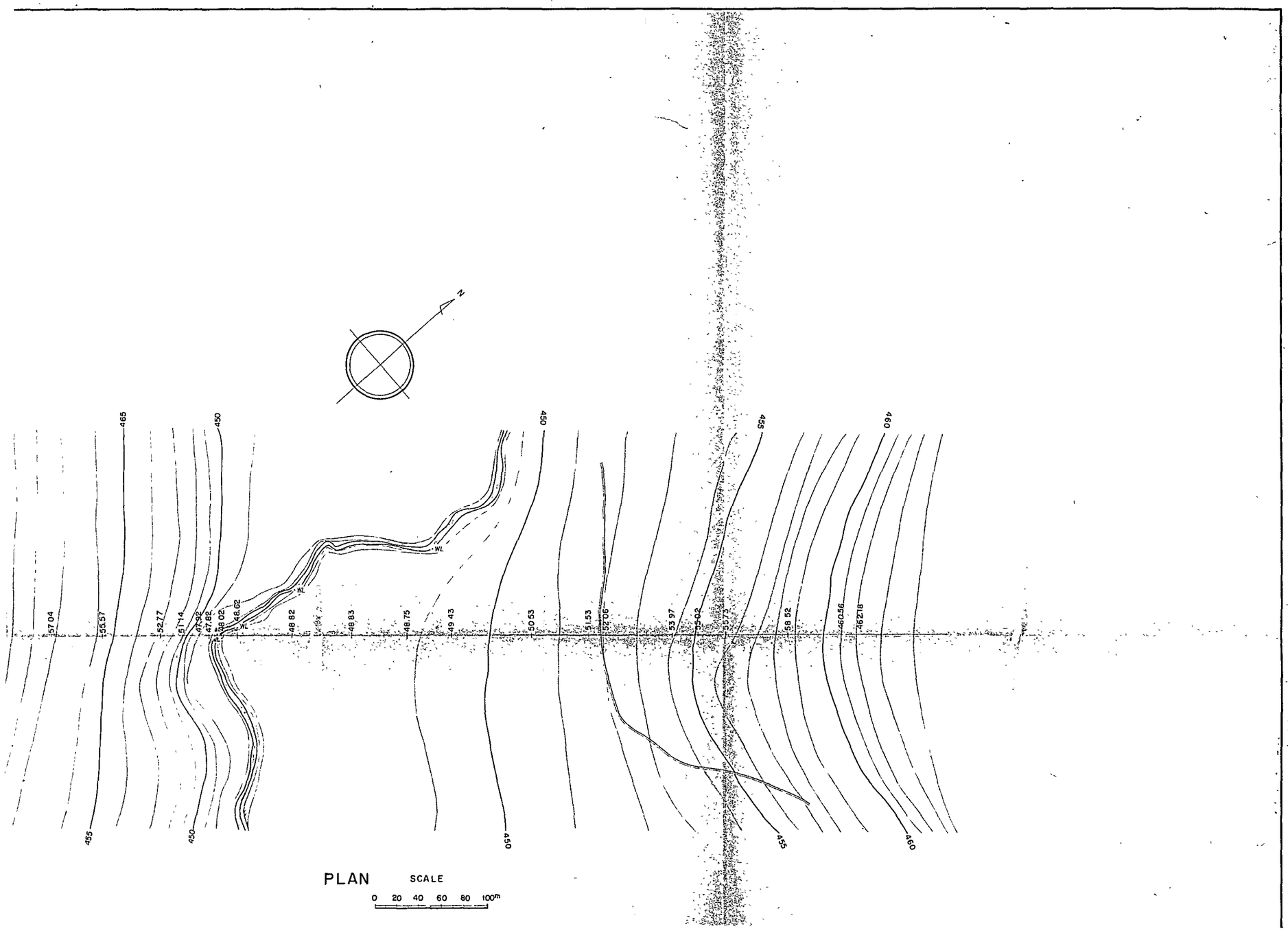

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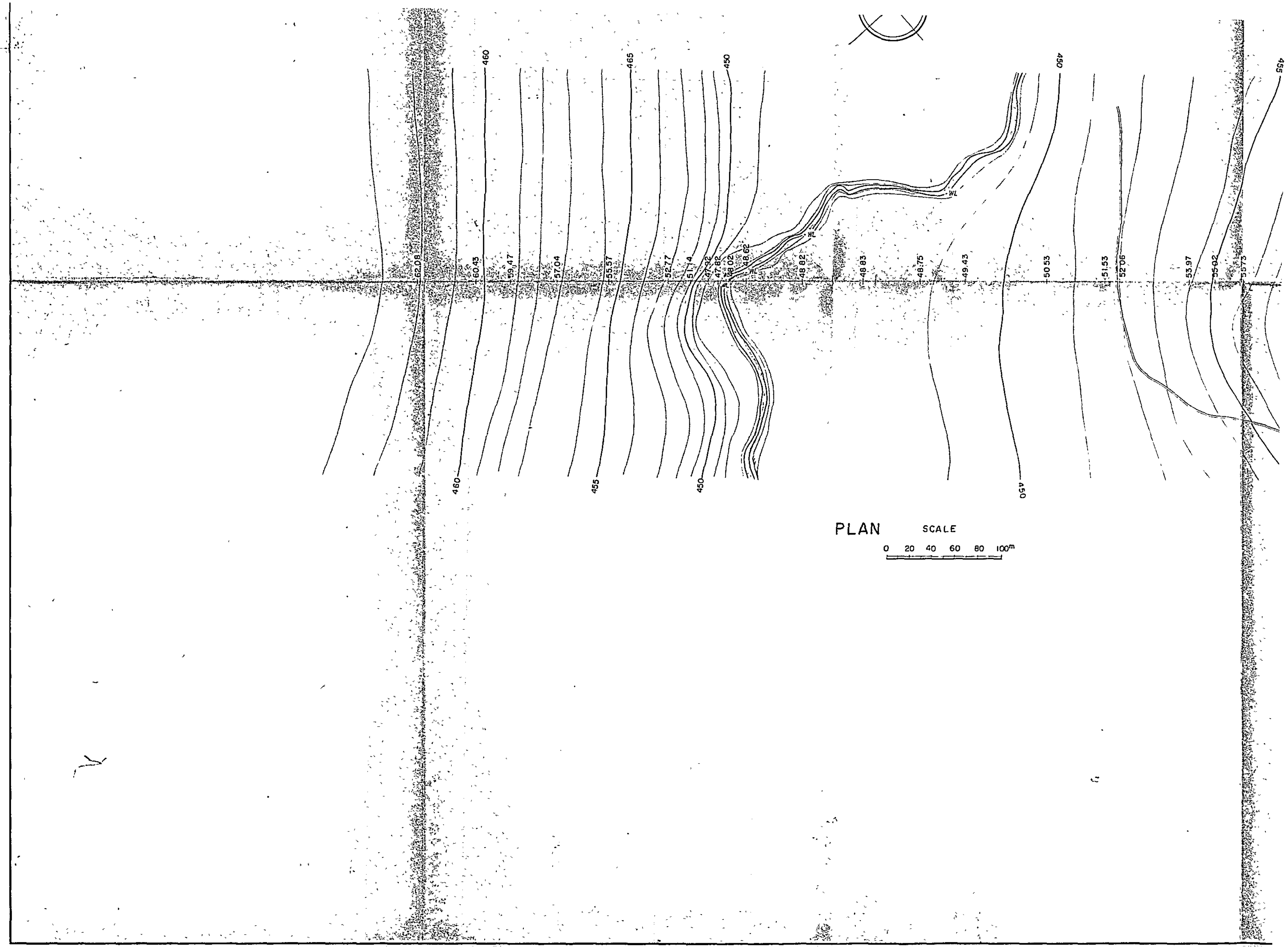
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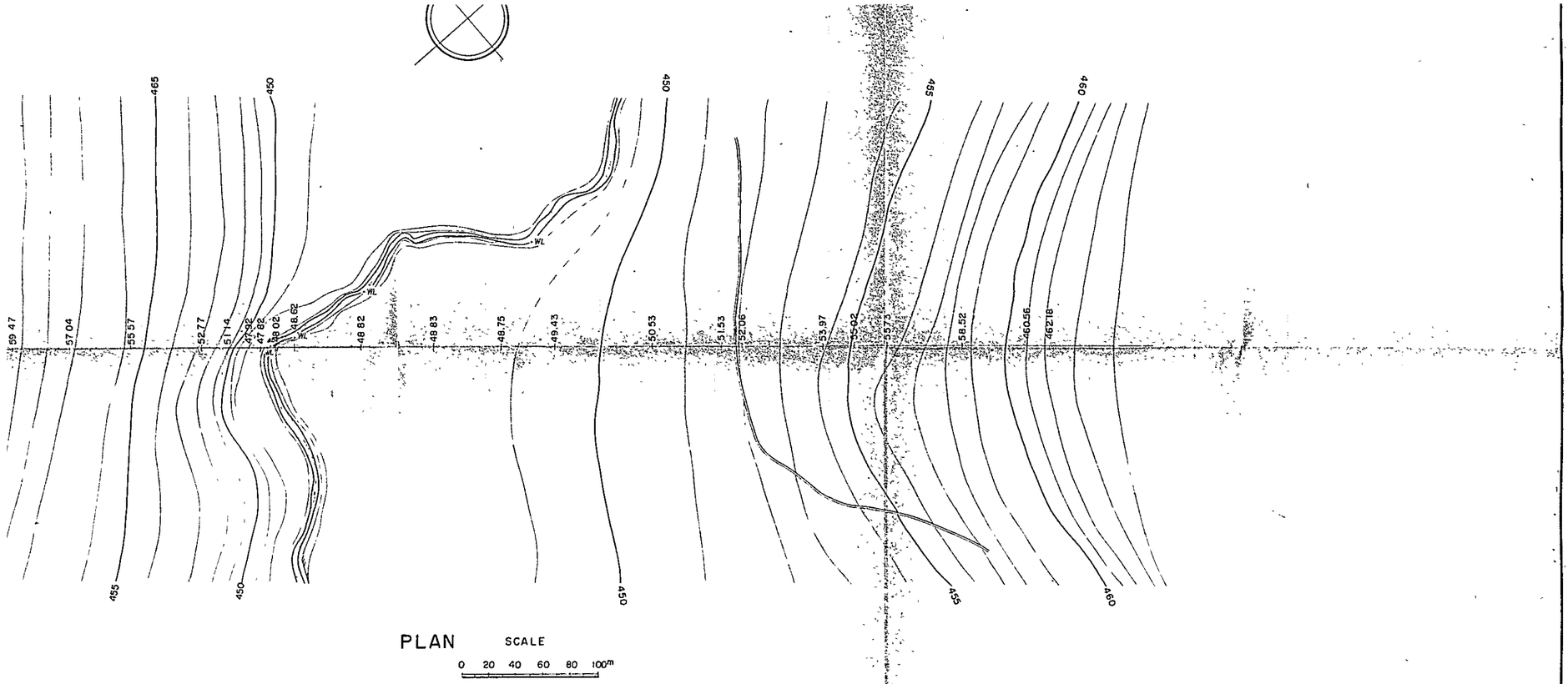

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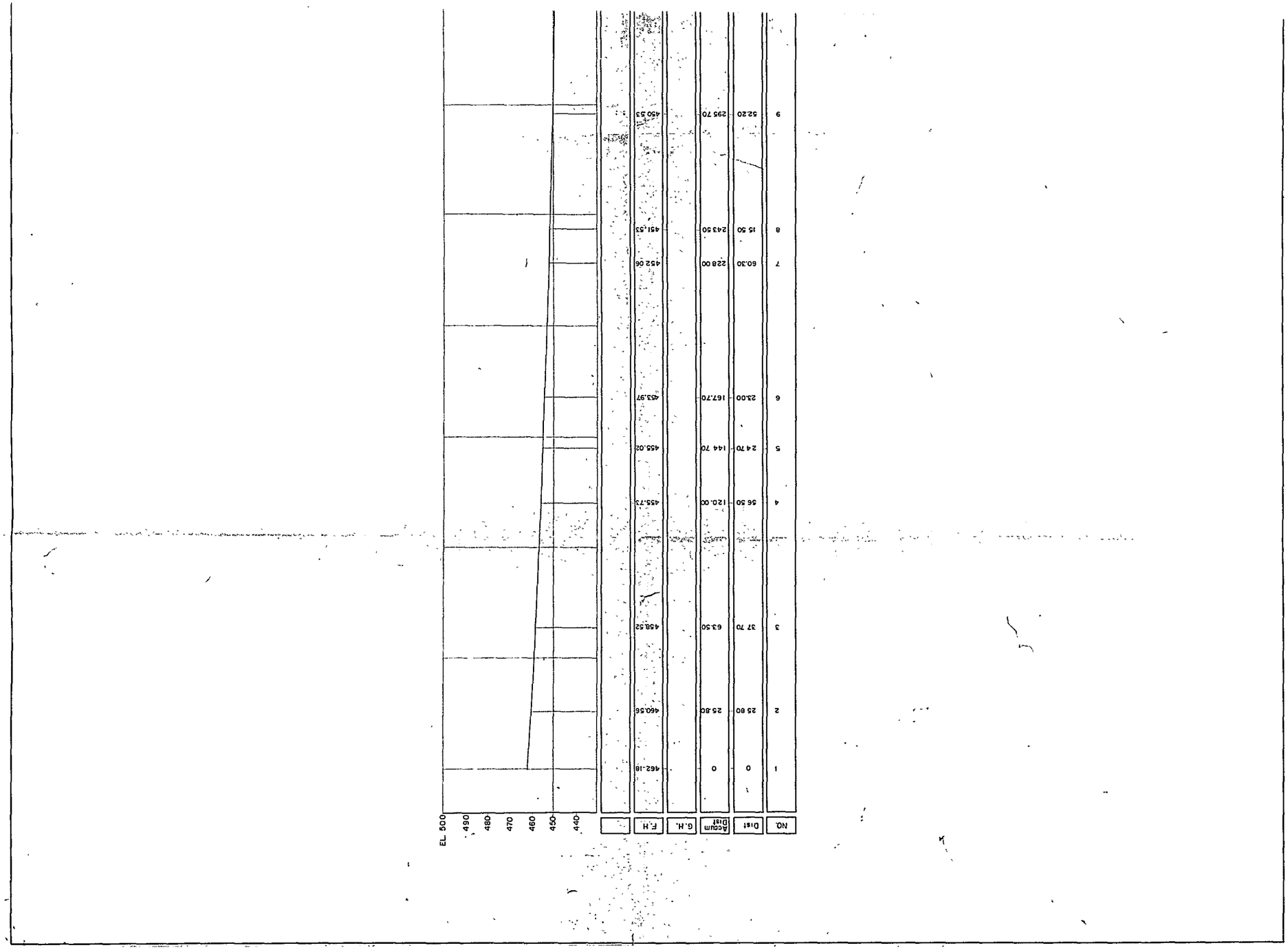
OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN		
KRONG BUK PROJECT, UPPER SREPOK VIET - NAM		
PLAN OF EA KMUT DAM SITE		
NIPPON KOEI CO., LTD. TOKYO (CONSULTING ENGINEERS)		
DRAWN	OFFICE TOKYO	DWG NO.
CHECKED	DATE	
SUBMITTED	RECOMMENDED	SHEET NO.
APPROVED		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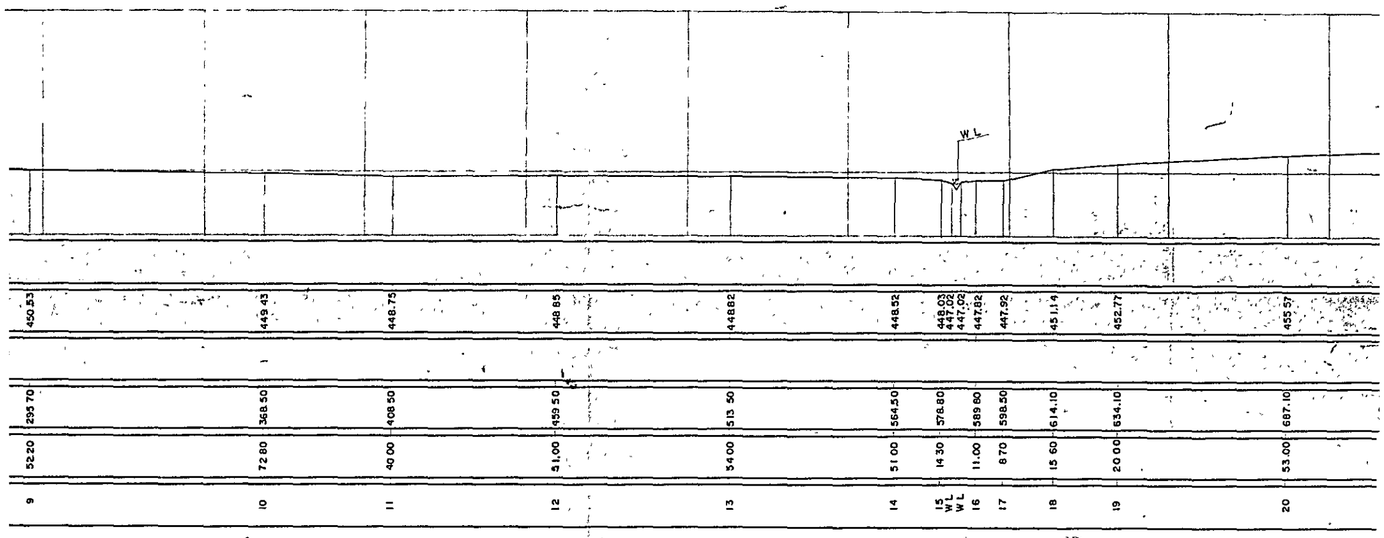

PROFILE

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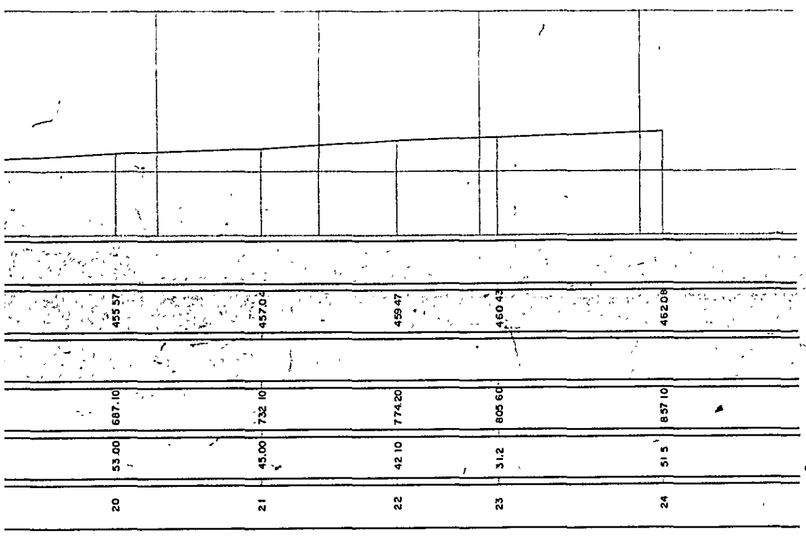

OVERSEAS TECHNICAL COOPERATION AGENCY TOKYO JAPAN	
KRONG BUK PROJECT, UPPER SREPOK VIET-NAM PROFILE OF EA KMUT DAM SITE	
NIPPON KOEI CO., LTD TOKYO (CONSULTING ENGINEERS)	
DRAWN OFFICE TOKYO CHECKED DATE SUBMITTED RECOMMENDED APPROVED	DWG. NO. SHEET NO.