表 3.13 ドンナイ第 3 および第 4 ダム地点の地震震度（コーネル式による）

Y/M/D	Latitude	Longitude	Depth (km)	Magnitude (Richter s)	Distance (km)		Intensity at the Site
					Epicentral	Focal	
1923/2/15	10.1	109.0	10	5.1	234.36	234.57	2.0
1923/5/2	10.1	109.0	17	5.1	234.36	234.97	2.0
1924/12/27	14.1	109.0	33	5.1	276.96	278.92	1.6
1926/7/15	14.1	109.0	33	5.1	276.96	278.92	1.6
1928/6/?	13.3	108.5	10	5.3	174.00	174.29	3.0
1950/?/?	13.1	109.3	15	4.8	213.97	214.49	1.8
1955/?/?	11.1	108.4	15	3.4	107.14	108.18	1.3
1960/?/?	11.1	109.1	15	4.1	167.19	167.86	1.3
1963/7/5	12.1	109.1	15	4.1	146.84	147.60	1.6
1963/7/7	11.9	109.4	15	4.1	178.11	178.74	1.2
1964/8/8	10.3	106.8	15	4.1	203.88	204.43	0.8
1964/10/26	11.5	106.6	15	2.7	139.49	140.30	0.0
1967/3/13	12.1	108.7	15	4.1	103.25	104.33	2.5
1970/4/12	13.4	108.9	13	5.3	206.64	207.05	2.6
1972/5/24	13.6	108.8	13	5.3	218.67	219.05	2.5
1977/5/5	10.6	108.3	15	2.7	148.96	149.71	0.0
1990/10/15	10.4	107.5	10	3.7	163.38	163.69	0.8
1990/10/18	10.3	107.4	10	2.3	176.52	176.81	0.0
1990/10/19	10.4	108.3	10	2.1	169.34	169.64	0.0
1991/6/?	10.6	107.9	10	4.1	138.62	138.98	1.8
1992/2/2	13.6	108.2	10	3.1	193.42	193.68	0.0

* Intensities are in the Modified Mercalli Scale.

表 3.14 ドンナイ第 3 および第 4 ダム地点の地震震度（川角式による）

Y/M/D	Latitude	Longitude	Depth (km)	Magnitude (Richter s)	Distance (km)		Intensity at the Site
					Epicentral	Focal	
1923/2/15	10.1	109.0	10	5.1	234.36	234.57	0.0
1923/5/2	10.1	109.0	17	5.1	234.36	234.97	0.0
1924/12/27	14.1	109.0	33	5.1	276.96	278.92	0.0
1926/7/15	14.1	109.0	33	5.1	276.96	278.92	0.0
1928/6/?	13.3	108.5	10	5.3	174.00	174.29	0.0
1950/?/?	13.1	109.3	15	4.8	213.97	214.49	0.0
1955/?/?	11.1	108.4	15	3.4	107.14	108.18	0.0
1960/?/?	11.1	109.1	15	4.1	167.19	167.86	0.0
1963/7/5	12.1	109.1	15	4.1	146.84	147.60	0.0
1963/7/7	11.9	109.4	15	4.1	178.11	178.74	0.0
1964/8/8	10.3	106.8	15	4.1	203.88	204.43	0.0
1964/10/26	11.5	106.6	15	2.7	139.49	140.30	0.0
1967/3/13	12.1	108.7	15	4.1	103.25	104.33	0.0
1970/4/12	13.4	108.9	13	5.3	206.64	207.05	0.0
1972/5/24	13.6	108.8	13	5.3	218.67	219.05	0.0
1977/5/5	10.6	108.3	15	2.7	148.96	149.71	0.0
1990/10/15	10.4	107.5	10	3.7	163.38	163.69	0.0
1990/10/18	10.3	107.4	10	2.3	176.52	176.81	0.0
1990/10/19	10.4	108.3	10	2.1	169.34	169.64	0.0
1991/6/?	10.6	107.9	10	4.1	138.62	138.98	0.0
1992/2/2	13.6	108.2	10	3.1	193.42	193.68	0.0

* Intensities are in the Modified Mercalli Scale.

表 3.15 岩石材料（ボーリング・コア）室内試験結果一覧表

Location	Sample No.	Drillhole	Depth (m) From	Depth (m) To	Type of Rock	Absorption (%)	Bulk Density (g/cm³)	Relative Density	Uniaxial Compressive Strength (kgf/cm²)	Poisson's ratio	Sound Velocity (m/s)	Soundness test (%)	Reduction in Alkalinity Rc (mmol/lit.)	Concentration of SiO_2 Sc (mmol/lit.)
No.3 Damsite Right bank	1	BD901U	57.00	57.27	Ss/Sl (80-90°)	0.19	2.71	2.73	1,094	0.24	6,818	1.00	816.5	0.0
	2		70.56	70.81	Ss	0.12	2.70	2.72	1,019	0.18	6,134	-	-	-
	3	BD902U	44.00	44.58	Ss>>Sl (40°)	0.08	2.66	2.70	2,211	0.21	6,933	1.30	724.4	12.7
	4		52.55	52.85	Ss>>Sl (60°)	0.21	2.72	2.74	1,012	0.22	6,938	-	-	-
	5	BD903U	13.70	14.00	fine-Ss/Sl (45°)	0.09	2.73	2.75	1,081	0.17	6,869	-	-	-
	6		26.00	26.35	Ss (55°)	0.06	2.71	2.76	1,078	0.09	6,356	-	-	-
	7		47.30	47.70	Ss	0.08	2.70	2.73	1,057	0.19	6,668	-	-	-
Left bank	8	BD904U	5.75	6.00	Sl-Ss (90°)	0.25	2.70	2.75	1,026	0.24	8,468	-	-	-
	9		19.63	19.94	Ss>>Sl (0°)	0.12	2.73	2.77	1,169	0.11	6,275	-	-	-
	10		43.61	43.88	Ss (Massive 90°)	0.07	2.68	2.72	964	0.19	5,619	-	-	-
	11	BD905U	50.50	50.85	Ss(60°)	0.16	2.71	2.75	1,179	0.11	5,823	-	-	-
	12		57.40	57.60	fine-Ss	0.18	2.76	2.79	1,763	0.10	6,523	-	-	-
	13	BD906U	30.50	30.80	Sl(f-Ss)	0.19	2.77	2.80	1,446	0.09	6,247	-	-	-
	14		40.00	40.40	Ss>>Sl(45°)	0.13	2.79	2.81	1,615	0.09	6,292	-	-	-
No.3 P/S	15	BP911U	17.50	18.00	Sl>>Ss(25°)	1.05	2.71	2.75	799	0.13	5,396	-	-	-
	16		22.30	22.60	Ss(Massive)	0.21	2.69	2.74	1,171	0.18	5,888	-	-	-
Quarry (No.3)	17	BQ912U	35.00	35.33	Ba (Slightly Porous)	1.51	2.48	2.93	1,148	0.08	5,152	-	-	-
	18		41.00	41.33	Ba (Massive)	2.05	2.56	2.89	1,038	0.02	4,676	-	-	-
	19	BQ913U	21.00	21.28	Ba (Porous)	2.11	2.23	2.60	418	0.04	4,915	0.23	227.5	110.5
	20		32.43	32.73	Ba (Massive)	1.07	2.62	2.91	922	0.05	3,663	0.42	305.2	78.4
	21	BQ914U	33.55	33.80	Ba (Porous)	2.66	2.53	2.63	865	0.15	4,940	-	-	-
	22		46.16	46.38	Ba (Massive)	1.25	2.65	2.90	1,017	0.23	4,738	0.86	223.4	46.7
No.4 Damsite Right bank	23	BD915D	69.00	69.40	Ss/Sl (60°)	0.81	2.68	2.79	348 *1	0.13	5,931	-	-	-
	24		70.00	70.65	Ss/Sl (50°)	0.13	2.72	2.76	977	0.12	5,862	0.90	312.7	125.1
	25	BD916D	64.80	65.05	Ss (Massive)	0.95	2.69	2.75	1,057	0.20	4,004	-	-	-
	26		72.65	73.00	Sl>>Ss (60°)	0.44	2.71	2.75	607 *1	0.15	6,110	0.80	679.3	22.0
	27	BD917D	23.23	23.60	Sl>Ss(60°)	0.20	2.73	2.78	619	0.10	6,246	-	-	-
	28		25.00	25.35	Sl(50°)	0.31	2.72	2.75	545	0.07	5,670	-	-	-
	29		34.00	34.50	Sl>Ss(60°)	0.25	2.74	2.77	498	0.21	6,154	-	-	-
Left bank	30	BD918D	19.20	19.60	Sl>>Ss(50°)	0.19	2.76	2.81	389	0.06	6,018	-	-	-
	31		37.13	37.50	Sl>>Ss (50°)	0.41	2.77	2.82	784	0.08	5,906	-	-	-
	32	BD919D	55.70	56.00	Sl(f-Ss)(60°)	0.24	2.74	2.79	770	0.15	6,182	-	-	-
	33		57.30	57.55	Ss(Massive)	0.14	2.72	2.76	1,343	0.10	6,201	-	-	-
	34	BD920D	74.00	74.30	Sl>>Ss (60°)	0.26	2.74	2.78	620	0.13	6,108	-	-	-
Quarry (No.4)	35	BQ921D	45.65	45.91	Ba (Massive)	0.91	2.70	2.76	1,221	0.21	4,669	1.40	205.3	197.6
	36		46.50	46.75	Ba (Slightly Porous)	1.17	2.70	2.88	1,027	0.09	4,428	-	-	-
	37	BQ922D	38.00	38.16	Ba (Extremely Porous & MW)	8.06	1.80	2.58	93	0.37	3,007	-	-	-
	38		40.50	40.65	Ba (Massive)	1.66	2.68	2.86	1,043	0.10	4,491	-	-	-
	39	BQ923D	37.30	37.60	Ba (Massive)	1.15	2.67	2.74	916	0.25	5,560	1.20	480.9	243.4
	40		39.23	39.50	Ba (Extremely Porous & M-HW)	8.38	1.80	2.64	83	0.39	2,810	97.34	621.0	0.0

Note: *1; The failue is mainly influenced by the cleavage.

表 3.16 ドンナイ第 3 ダム土質材料室内試験結果一覧表(1/2)

Sample No.		Depth	*Particle of grain size finer (mm); % passing*											Dispersive ratio	*Atteberg Limits*			Specific gravity
			3	2	$1^{1/2}$	3/4	3/8	No.4	No.10	No.40	No.200				Liquid Limit	Plastic Limit	Plasticity Index	
Test Pit No.	Sample	(m)	75	50	38.1	19.1	9.5	4.75	2.0	0.42	0.074	0.005	0.002	%	w_L (%)	w_P (%)	I_P (%)	Gs
TP1U	-1	-																
	-2	-																
TP2U	-1	1.0-2.5		100.0	92.2	81.7	64.3	44.8	34.5	26.6	20.4	9.0	7.0	-	65.5	40.0	25.5	3.025
	-2	-																
TP3U	-1	1.0-2.5	100.0	86.0	83.0	66.0	61.0	46.0	33.0	24.0	18.0	11.0	10.0	-	56.5	37.8	18.7	2.909
	-2	-																
TP4U	-1	1.0-2.5		100.0	98.0	87.0	82.0	64.0	55.0	44.0	34.0	16.0	11.0	-	64.0	41.0	23	2.941
	-2	-																
TP5U	-1	1.0-2.5			100.0	86.0	75.0	51.0	35.0	25.0	22.0	16.0	13.0	-	61.3	37.0	24.3	2.887
	-2	2.5-5.0			100.0	87.0	81.0	56.0	44.0	33.0	28.0	18.0	5.0	3.9	63.5	38.5	25.0	2.917
TP6U	-1	1.0-2.5		100.0	98.0	76.0	71.0	54.0	42.0	26.0	19.0	13.0	12.0	-	60.1	35.5	24.6	2.898
	-2	2.5-4.0		100.0	95.0	84.0	76.0	52.0	38.0	29.0	21.0	12.0	10.0	-	59.1	36.5	22.6	3.047
TP7U	-1	1.0-2.5						100.0	98.0	97.0	94.0	42.0	23.0	-	52.5	33.5	19.0	2.753
	-2	2.5-5.0						100.0	97.0	95.0	90.0	37.0	25.0	8.3	51.4	30.1	21.3	2.778
TP8U	-1	1.0-2.5						100.0	96.0	93.0	81.0	34.0	28.0	11.4	47.1	28.6	18.5	2.807
	-2	-																
TP9U	-1	1.0-2.5		100.0	90.0	77.3	65.8	51.6	40.9	30.0	21.6	10.0	8.0	-	62.9	35.7	27.2	2.907
	-2	2.5-5.0				100	94	80	72.0	66.0	60.0	28.0	23.0	-	50.9	30.4	20.5	2.778
TP10U	-1	1.0-2.5		100.0	95.0	75.0	68.0	49.0	36.0	27.0	21.0	13.0	11.0	-	58.1	38.0	20.1	3.030
	-2	2.5-5.0		100.0	96.0	72.0	65.0	49.0	36.0	28.0	23.0	12.0	10.0	3.4	49.2	31.3	17.9	2.919
TP11U	-1	0.5-2.5			100.0	95.0	85.0	68.0	51.0	39.0	30.0	21.0	18.5	-	58.1	38.8	19.3	2.9
TP12U	-1	1.0-3.0			100.0	95.0	85.0	68.0	51.0	42.0	37.0	22.0	20.0	3.3	59.0	33.7	25.3	2.9
TP13U	-1	0.5-2.5	100.0	94.0	90.0	76.0	57.0	45.0	33.0	25.0	20.0	11.8	10.0	-	50.5	30.7	19.8	2.9
	-2	2.5-5.0	100.0	94.0	90.0	76.0	55.0	44.0	34.0	26.0	21.0	14.8	13.5	-	52.4	31.1	21.3	3.0

表 3.16 ドンナイ第 3 ダム土質材料室内試験結果一覧表(2/2)

Sample No.		Depth	Specific gravity	Natural moisuture	Proctor compaction test			Triaxial Test (UU)		Triaxial Test (CU)			
					MDD*1	OMC*2	Permeability			Total stress		Effective stress	
Test Pit No.	Sample	(m)	Gs	w_N%	ρ_{dry} (g/cm³)	%	cm/sec	c_U (kgf/cm²)	ϕ_U	c_{CU} (kgf/cm²)	ϕ_{CU}	c' (kgf/cm²)	ϕ'
TP1U	-1	-											
	-2	-											
TP2U	-1	1.0-2.5	3.025	30.5	1.750	20.0	4.78×10^{-6}	0.608	18°33′	0.651	20°48′	0.630	23°06′
	-2	-											
TP3U	-1	1.0-2.5	2.909	20.4	1.725	20.5	8.82×10^{-7}						
	-2	-											
TP4U	-1	1.0-2.5	2.941	24.0	1.714	21.0	1.19×10^{-6}						
	-2	-											
TP5U	-1	1.0-2.5	2.887	26.7	1.725	20.2	5.20×10^{-6}						
	-2	2.5-5.0	2.917	27.5	1.750	19.5	2.25×10^{-6}	0.581	18°18′	0.636	19°49′	0.633	22°33′
TP6U	-1	1.0-2.5	2.898	21.7	1.685	21.4	1.17×10^{-6}						
	-2	2.5-4.0	3.047	24.7	1.700	22.0	8.00×10^{-7}						
TP7U	-1	1.0-2.5	2.753	28.2	1.590	22.8	7.06×10^{-7}						
	-2	2.5-5.0	2.778	26.8	1.590	23.0	5.50×10^{-7}	0.22	11°07′	0.37	17°23′	0.322	20°50′
TP8U	-1	1.0-2.5	2.807	24.7	1.675	20.5	3.32×10^{-7}						
	-2	-											
TP9U	-1	1.0-2.5	2.907	20.7	1.733	19.5	2.22×10^{-6}						
	-2	2.5-5.0	2.778	31.3	1.670	19.8	8.90×10^{-7}						
TP10U	-1	1.0-2.5	3.030	16.4	1.710	21.2	2.20×10^{-6}						
	-2	2.5-5.0	2.919	24.4	1.714	20.5	2.56×10^{-6}	0.599	17°44′	0.614	20°13′	0.59	23°33′
TP11U	-1	0.5-2.5	2.865	44.4	1.600	23.0	1.08×10^{-6}						
	-2	-											
TP12U	-1	1.0-3.0	2.887	22.5	1.650	21.2	8.9×10^{-7}	0.364	14°41′	0.512	17°11′	0.478	20°17′
	-2	-											
TP13U	-1	0.5-2.5	2.887	36.8	1.675	20.3	1.99×10^{-6}						
	-2	2.5-5.0	3.004	34.4	1.690	20.5	1.29×10^{-6}						

*1 : MDD is the abbreviation for Maximum Dry Dencity.

*2 : OMC is the abbreviation for Optimum Moisture Content.

表 3.17 ドンナイ第４ダム土質材料室内試験結果一覧表(1/2)

Sample No.		Depth	*Particle of grain size finer (mm); % passing*											Dispersive ratio	*Atteberg Limits*			Specific gravity
			3	2	$1^{1/2}$	3/4	3/8	No.4	No.10	No.40	No.200				Liquid Limit	Plastic Limit	Plasticity Index	
Test Pit No.	Sample	(m)	75	50	38.1	19.1	9.5	4.75	2.0	0.42	0.074	0.005	0.002	%	w_L (%)	w_P (%)	I_P (%)	Gs
TP1D	-1	2.0-2.5						100.0	97.0	92.0	60.0	29.5	27.6		78.5	44.9	33.6	2.853
	-2	4.5-5.0			100.0	96.0	89.5	78.5	66.0	42.2	34.0	14.0	11.0		62.5	37.0	25.5	2.946
TP2D	-1	2.0-2.5						100.0	99.0	94.0	72.0	40.5	37.5		69.8	40.5	29.3	2.905
	-2	4.5-5.0				100.0	91.5	74.0	5.1	35.5	28.0	15.5	13.0	6.5	59.6	35.7	23.9	2.981
TP3D	-1	2.0-2.5						100.0	98.0	94.0	75.0	42.0	38.0		69.0	43.2	25.8	2.972
	-2	4.5-5.0	92.0	81.0	77.0	69.0	61.0	51.0	43.0	35.6	28.2	14.0	12.0		62.0	37.2	24.8	3.067
TP4D	-1	2.0-2.5							100.0	96.0	80.0	45.0	40.0	2.1	72.6	41.0	31.6	2.920
	-2	4.5-5.0				100.0	95.0	89.0	84.0	76.0	56.0	28.5	25.5		69.1	42.7	26.4	3.010
TP5D	-1	2.0-2.5							100.0	95.0	74.0	38.5	33.6		76.0	43.0	33.0	2.899
	-2	4.5-5.0					100.0	97.0	96.0	92.0	71.0	37.0	32.0		77.5	43.9	33.6	2.922
TP6D	-1	2.0-2.5					100.0	98.0	96.0	90.0	63.0	32.0	28.0		69.9	42.3	27.6	2.840
	-2	4.5-5.0							100.0	93.0	63.0	27.0	22.6	8.2	79.6	45.4	34.2	2.845
TP7D	-1	2.0-2.5			100.0	82.2	79.4	71.5	60.9	43.0	27.0	16.0	13.0		67.6	41.5	26.1	2.917
	-2	4.5-5.0	100.0	93.0	89.0	83.5	80.5	75.0	63.0	44.5	29.5	15.5	12.0		69.0	43.2	25.8	2.945
TP8D	-1	2.0-2.5							100.0	95.0	75.0	42.5	39.5		76.9	41.2	35.7	2.880
	-2	4.5-5.0						100.0	98.0	92.0	74.0	34.5	31.0		74.5	41.4	33.1	2.884
TP9D	-1	2.0-2.5						100.0	99.0	95.0	73.0	34.0	29.6		73.4	43.1	30.3	2.842
	-2	4.5-5.0							100.0	93.0	72.0	36.0	31.6	9.1	81.2	45.1	36.1	2.879
TP10D	-1	2.0-2.5		100.0	95.8	84.8	73.5	60.5	52.0	44.0	27.0	14.0	12.0		65.2	38.7	26.5	3.012
	-2	4.5-5.0			100.0	91.5	73.0	60.4	49.0	41.0	31.0	15.0	13.0	8.5	56.0	31.6	24.4	3.050

表 3.17 ドンナイ第４ダム土質材料室内試験結果一覧表(2/2)

Sample No.		Depth	Specific gravity	Natural moisuture	Proctor compaction test			Triaxial Test (UU)		Triaxial Test (CU)			
					MDD*1	OMC*2	Permeability			Total stress		Efffective stress	
Test Pit No.	Sample	(m)	Gs	w_N%	ρ_{dry} (g/cm^3)	%	cm/sec	c_U (kgf/cm^2)	ϕ_U	c_{CU} (kgf/cm^2)	ϕ_{CU}	c' (kgf/cm^2)	ϕ'
TP1D	-1	2.0-2.5	2.853	39.1	1.340	34.5	3.18×10^{-6}						
	-2	4.5-5.0	2.946	23.0	1.498	29.0	3.13×10^{-6}						
TP2D	-1	2.0-2.5	2.905	38.6	1.326	37.3	2.25×10^{-6}						
	-2	4.5-5.0	2.981	37.5	1.455	29.4	5.68×10^{-6}	0.381	16°32′	0.453	19°36′	0.448	22°31′
TP3D	-1	2.0-2.5	2.972	38.4	1.382	34.0	2.30×10^{-6}						
	-2	4.5-5.0	3.067	26.8	1.602	26.0	5.10×10^{-6}						
TP4D	-1	2.0-2.5	2.920	40.5	1.369	35.5	4.09×10^{-7}	0.309	13°49′	0.306	16°34′	0.274	19°45′
	-2	4.5-5.0	3.010	37.3	1.375	34.9	1.80×10^{-6}						
TP5D	-1	2.0-2.5	2.899	41.8	1.325	37.0	7.20×10^{-7}						
	-2	4.5-5.0	2.922	40.3	1.313	36.4	9.90×10^{-7}						
TP6D	-1	2.0-2.5	2.840	39.4	1.338	34.4	5.31×10^{-7}						
	-2	4.5-5.0	2.845	34.4	1.332	35.5	2.50×10^{-6}	0.271	15°47′	0.28	18°51′	0.272	21°10′
TP7D	-1	2.0-2.5	2.917	38.1	1.450	30.7	2.94×10^{-6}						
	-2	4.5-5.0	2.945	38.0	1.401	33.5	5.50×10^{-6}						
TP8D	-1	2.0-2.5	2.880	40.1	1.325	36.0	6.82×10^{-7}						
	-2	4.5-5.0	2.884	40.9	1.350	34.5	2.20×10^{-6}						
TP9D	-1	2.0-2.5	2.842	41.0	1.365	34.0	7.97×10^{-7}						
	-2	4.5-5.0	2.879	37.0	1.331	35.6	6.73×10^{-7}	0.297	14°37′	0.296	17°37′	0.273	20°28′
TP10D	-1	2.0-2.5	3.012	36.5	1.612	25.3	1.64×10^{-5}						
	-2	4.5-5.0	3.050	28.1	1.675	23.5	3.53×10^{-5}	0.563	16°51′	0.616	19°44′	0.612	22°40′

*1 : MDD is the abbreviation for Maximum Dry Dencity.

*2 : OMC is the abbreviation for Optimum Moisture Content.

表 3.18 コンクリート細骨材（砂材料）室内試験結果一覧表

Location	Sample	Percent accumulative retained (%)							F.M.*	Specific gravity	Absorption	Clay lumps & friable particles	Soundness	Reduction in Alkalinity (Rc) mmol/lit.	Concentration of SiO2 (Sc) mmol/lit.
		5	2.5	1.25	0.63	0.315	0.15	Pan							
Sre Pok	SP1	2	15	50	78	95	99	100	3.4	2.64	0.8	0.6	1.23	228.0	88.17
	SP2	1	4	20	62	95	99	100	2.8	2.65	1.2	0.4	1.43	383.0	9.14
	SP3	1	5	24	58	91	99	100	2.8	2.65	1.1	0.4	1.46	257.8	15.29
Quang Phu	QP1	1	4	34	76	97	99	100	3.1	2.63	1.7	0.1	1.21	283.0	59.78
	QP2	1	3	14	39	73	93	100	2.2	2.64	2.7	0.8	0.74	285.7	46.25
	QP3	0	0	5	26	71	95	100	2.0	2.65	3.0	0.6	0.77	372.5	0.00

* : F.M.; Finess modulus

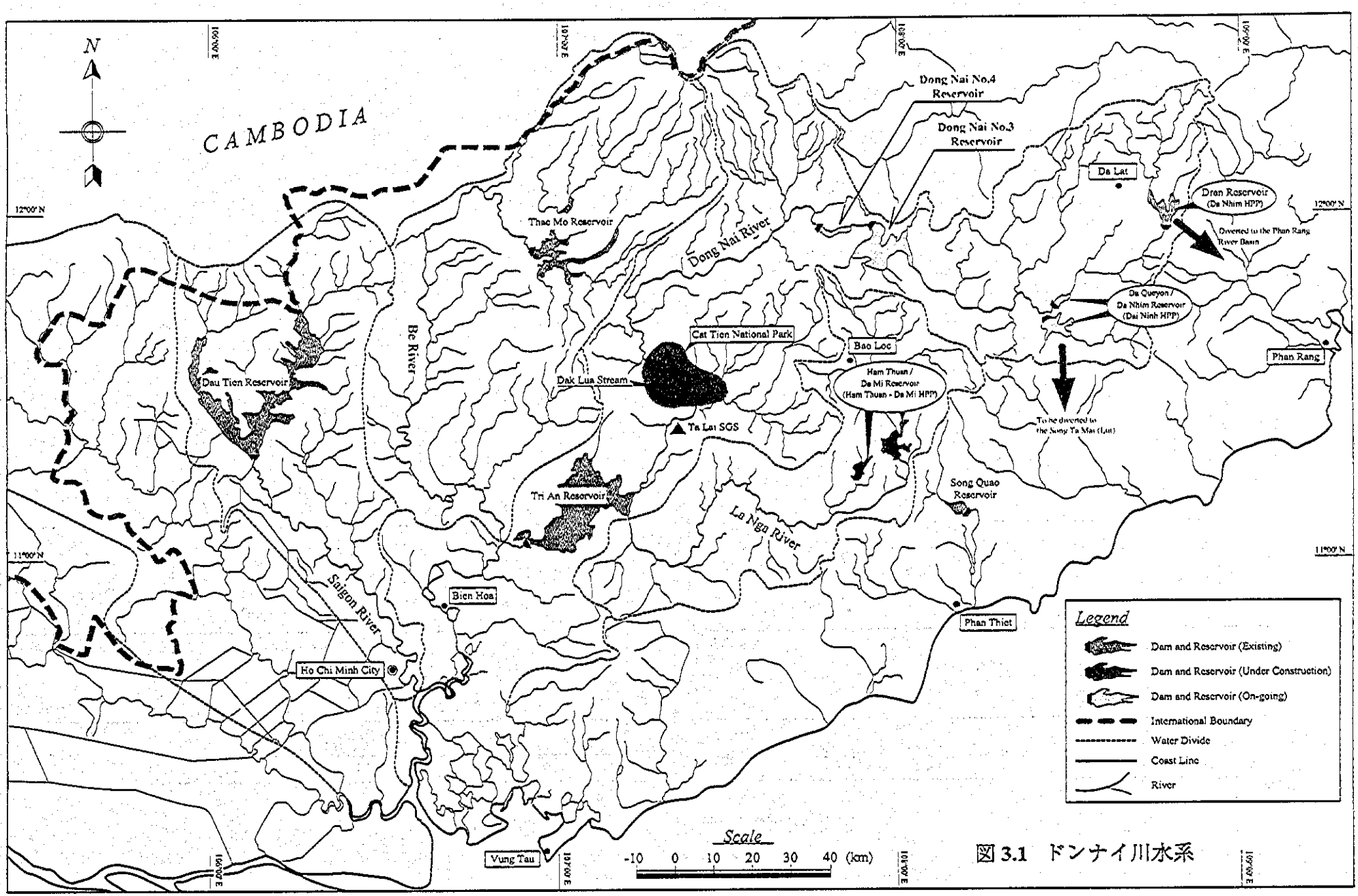

N
CAMBODIA
Dong Nai No.4 Reservoir
Dong Nai No.3 Reservoir
Da Lat
Dran Reservoir (Da Nhim HPP)
Diverted to the Phan Rang River Basin
Thac Mo Reservoir
Dong Nai River
Da Queyon / Da Nhim Reservoir (Dai Ninh HPP)
Cat Tien National Park
Bao Loc
Phan Rang
Dau Tieng Reservoir
Be River
Dak Lua Stream
Ham Thuan / Da Mi Reservoir (Ham Thuan - Da Mi HPP)
To be diverted to the Song Ta Mat (Lat)
Ta Lai SGS
Tri An Reservoir
Song Quao Reservoir
La Nga River
Saigon River
Bien Hoa
Phan Thiet
Ho Chi Minh City
Vung Tau
Legend
Dam and Reservoir (Existing)
Dam and Reservoir (Under Construction)
Dam and Reservoir (On-going)
International Boundary
Water Divide
Coast Line
River
Scale
-10 0 10 20 30 40 (km)

図 3.1 ドンナイ川水系

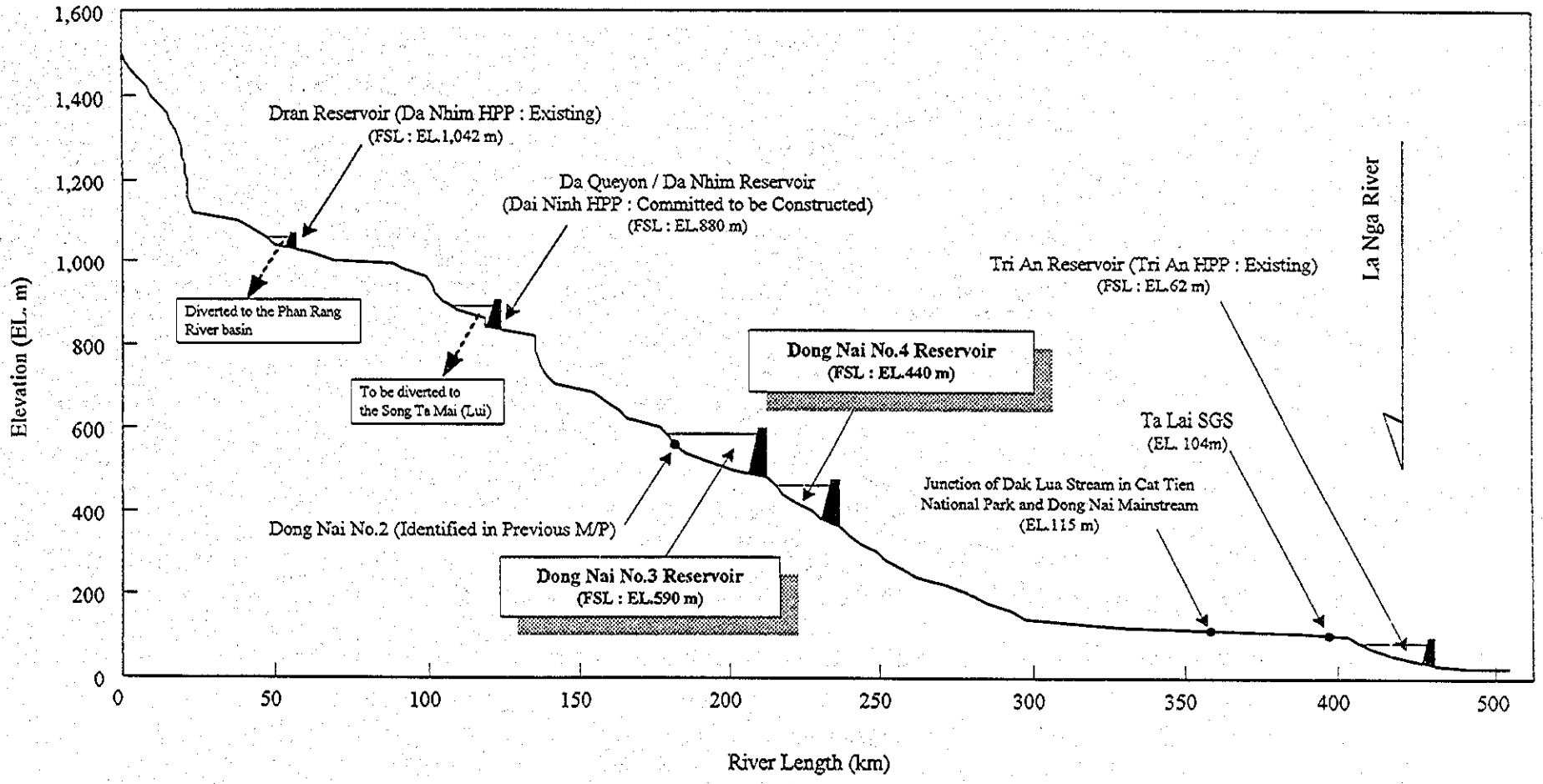


図 3.2　ドンナイ川上中流域における河川縦断図

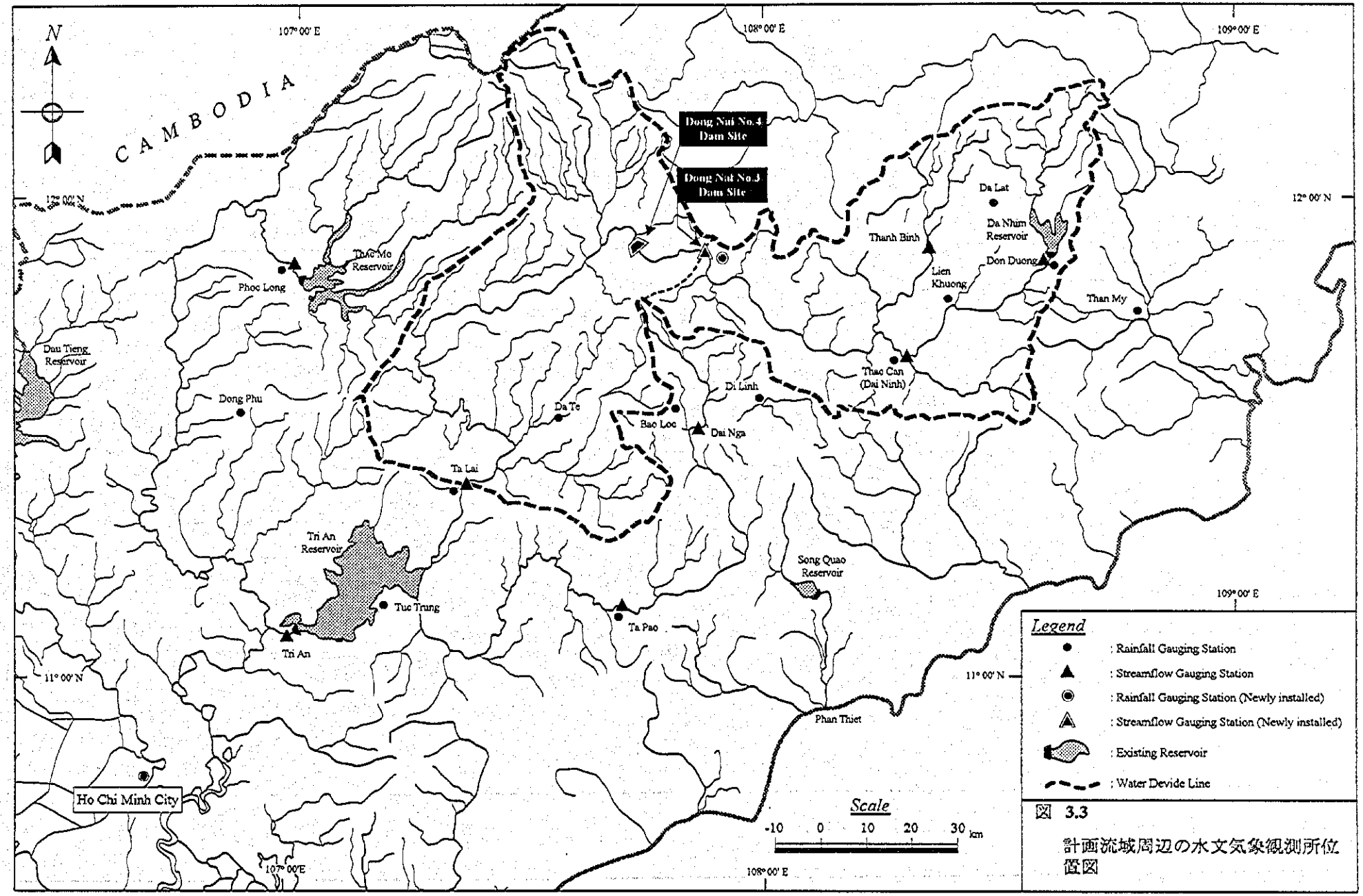
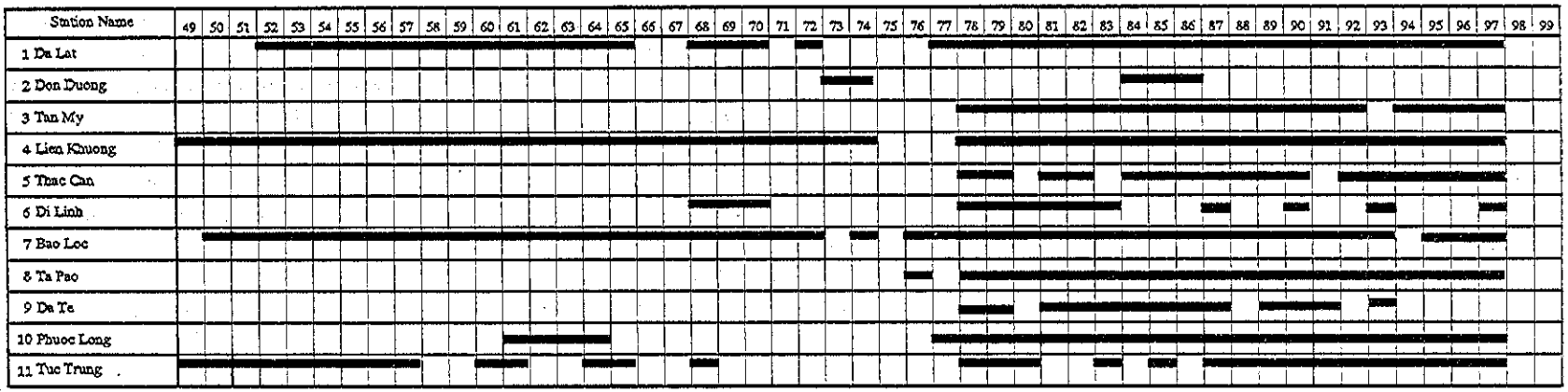


図 3.3

計画流域周辺の水文気象観測所位置図

(1) Daily Rainfall Records



(2) Mean Daily Discharge Records

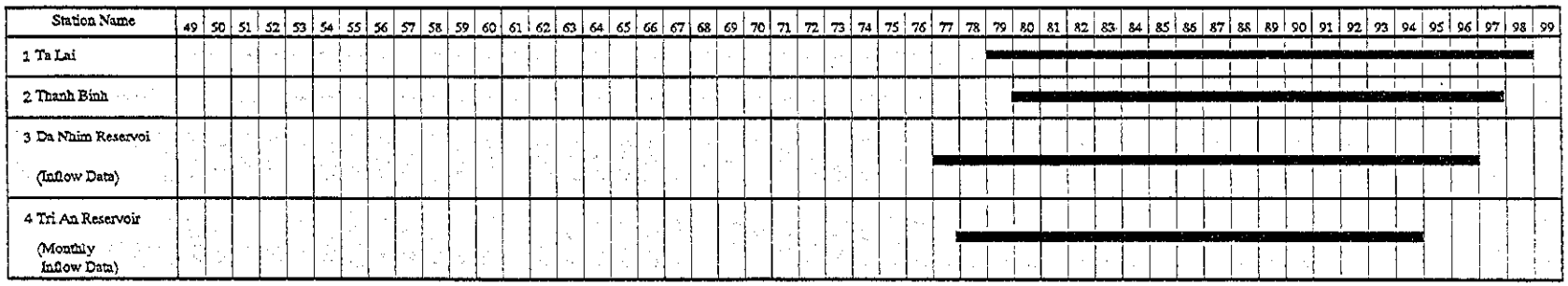


図 3.4　プロジェクトに関わる流量及び降雨資料の利用可能期間

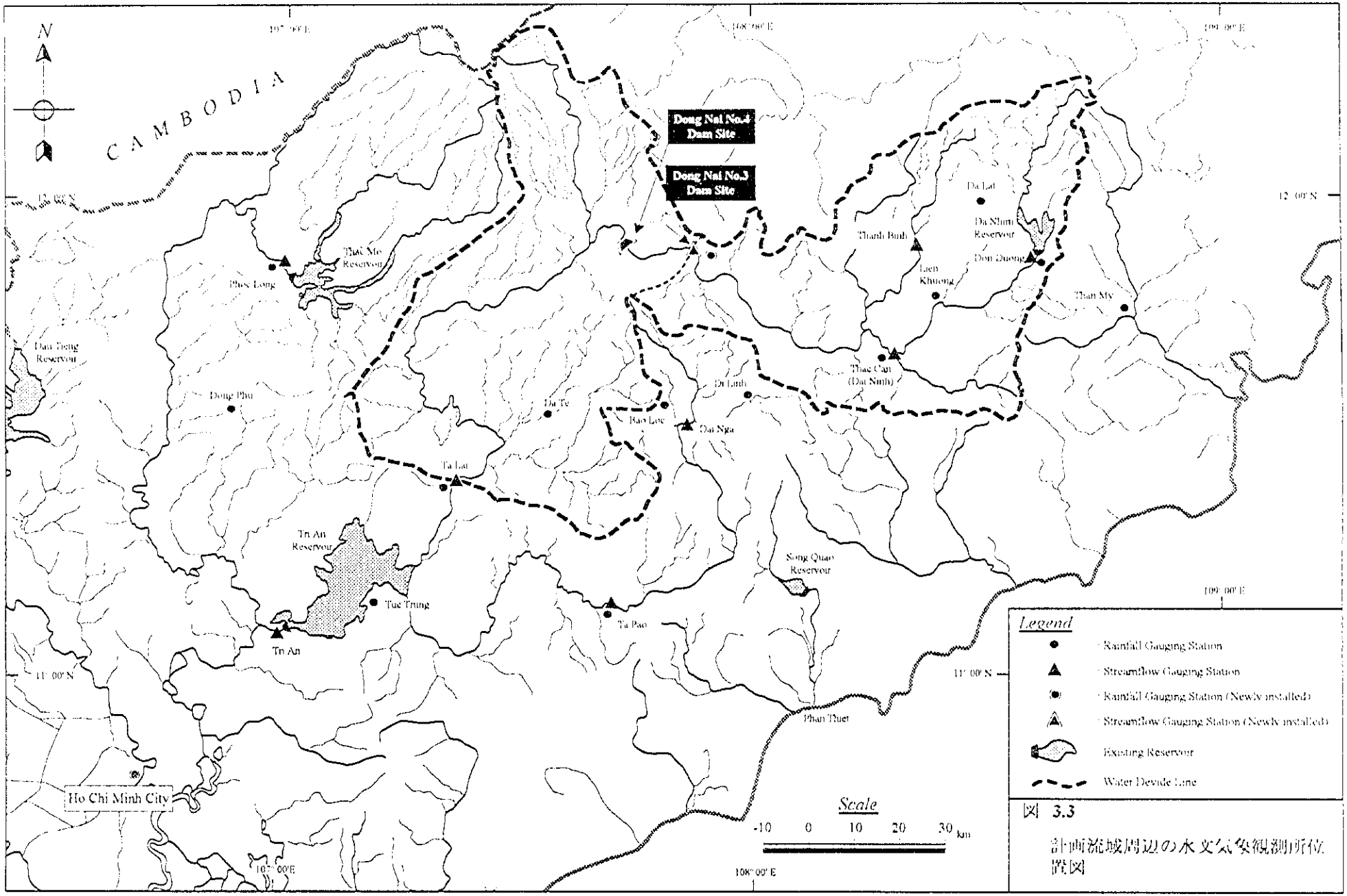
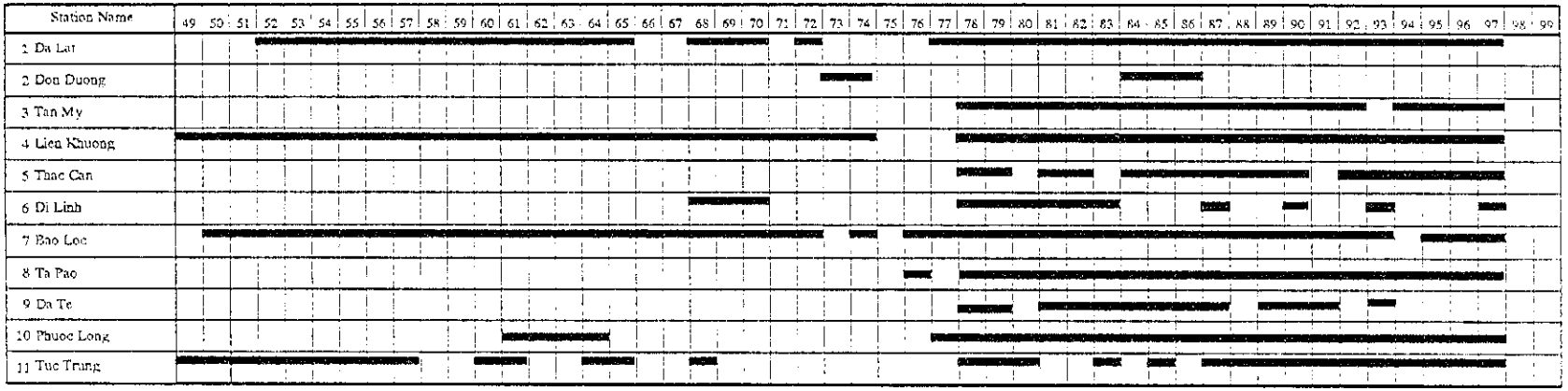


図 3.3

計画流域周辺の水文気象観測所位置図

(1) Daily Rainfall Records



(2) Mean Daily Discharge Records

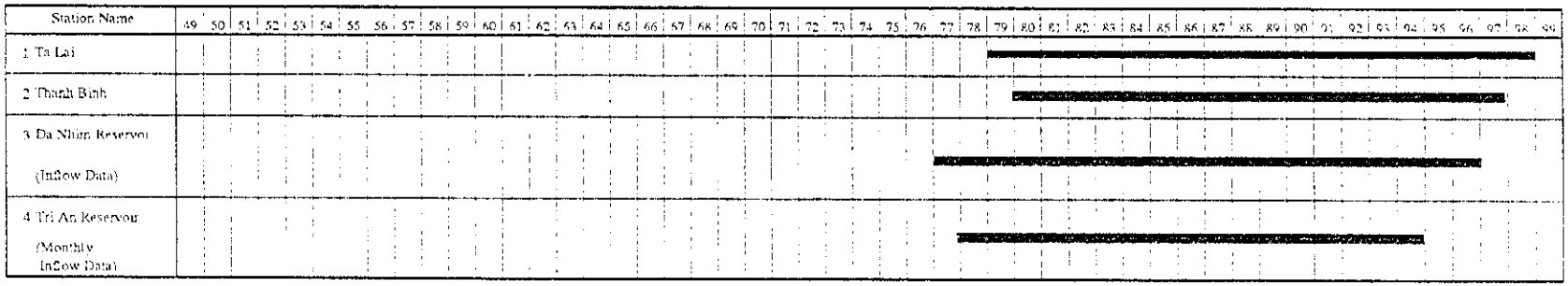


図 3.4　プロジェクトに関わる流量及び降雨資料の利用可能期間

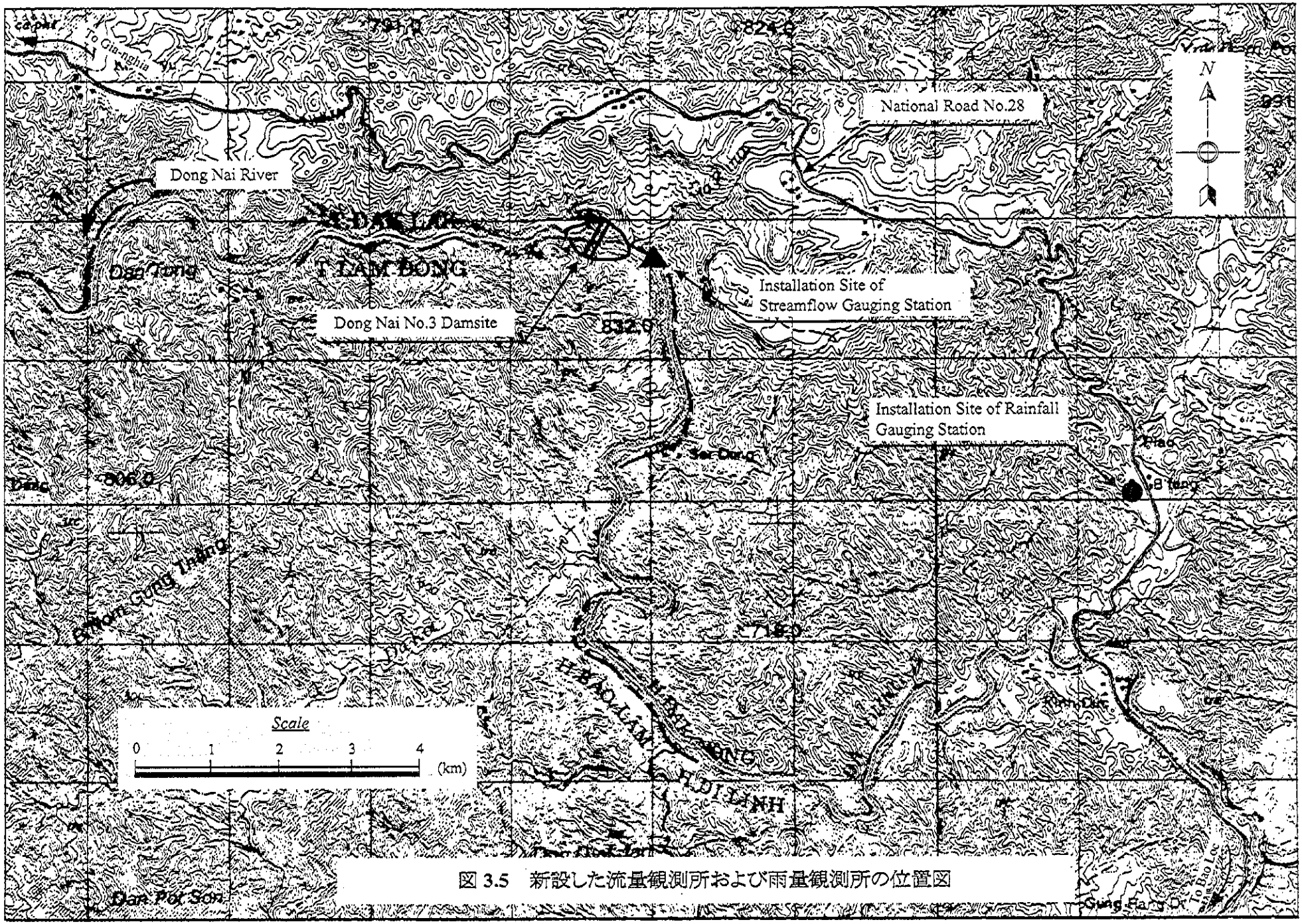


図 3.5　新設した流量観測所および雨量観測所の位置図

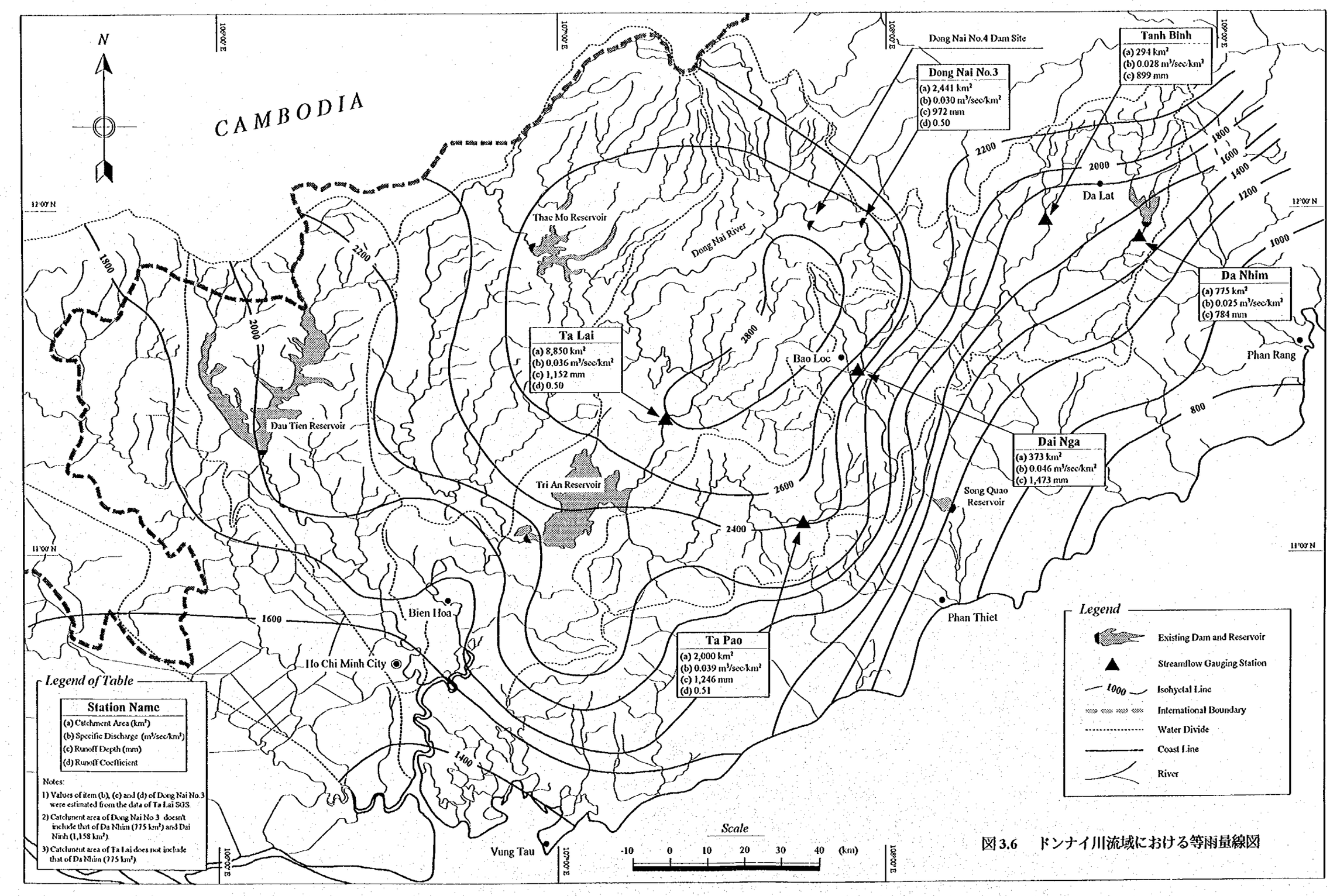


図 3.6　ドンナイ川流域における等雨量線図

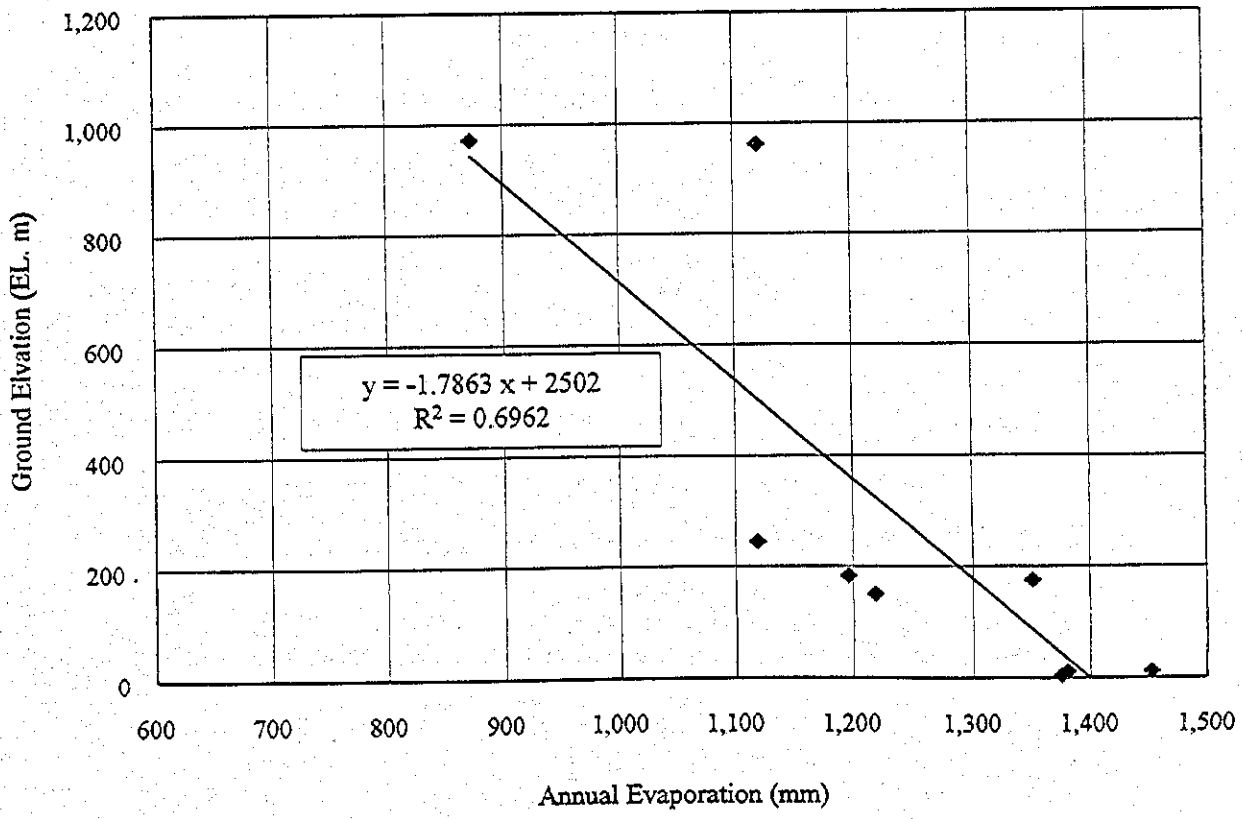


図 3.7　年間蒸発量と標高に関わる相関解析の結果

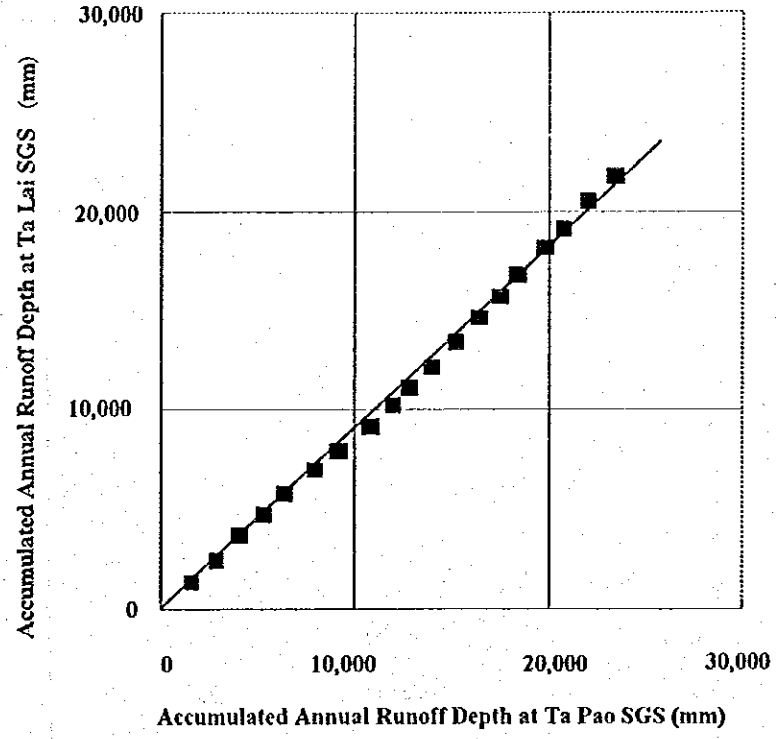


図 3.8　タライ及びTa Pao流量観測所における流出高に関わるダブルマスカーブ

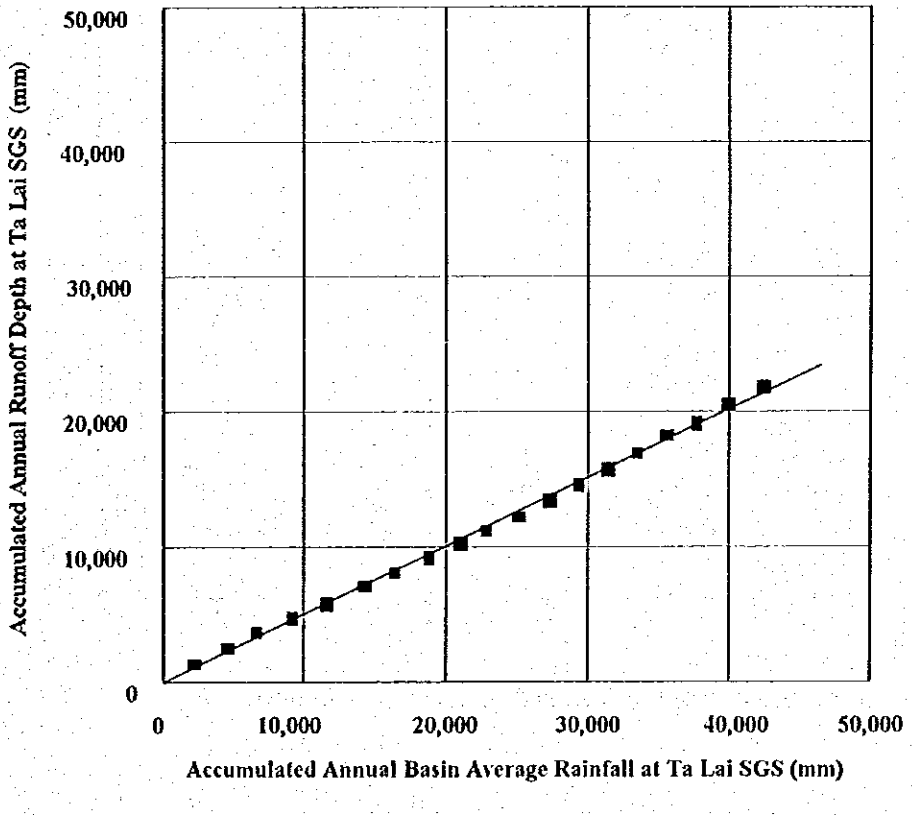


図 3.9　タライ流量観測所における流域平均降雨量と流出高に関わるダブルマスカーブ

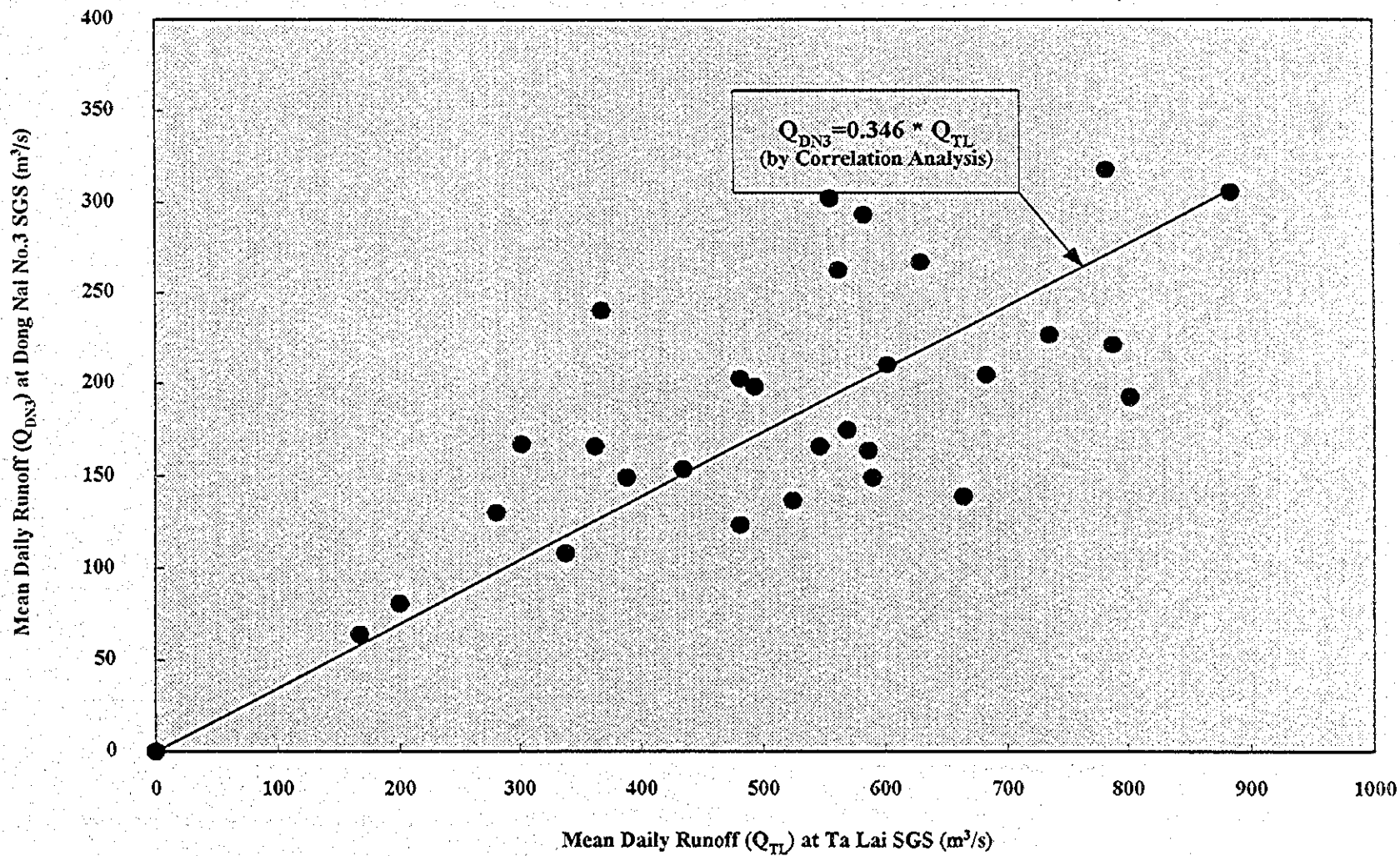
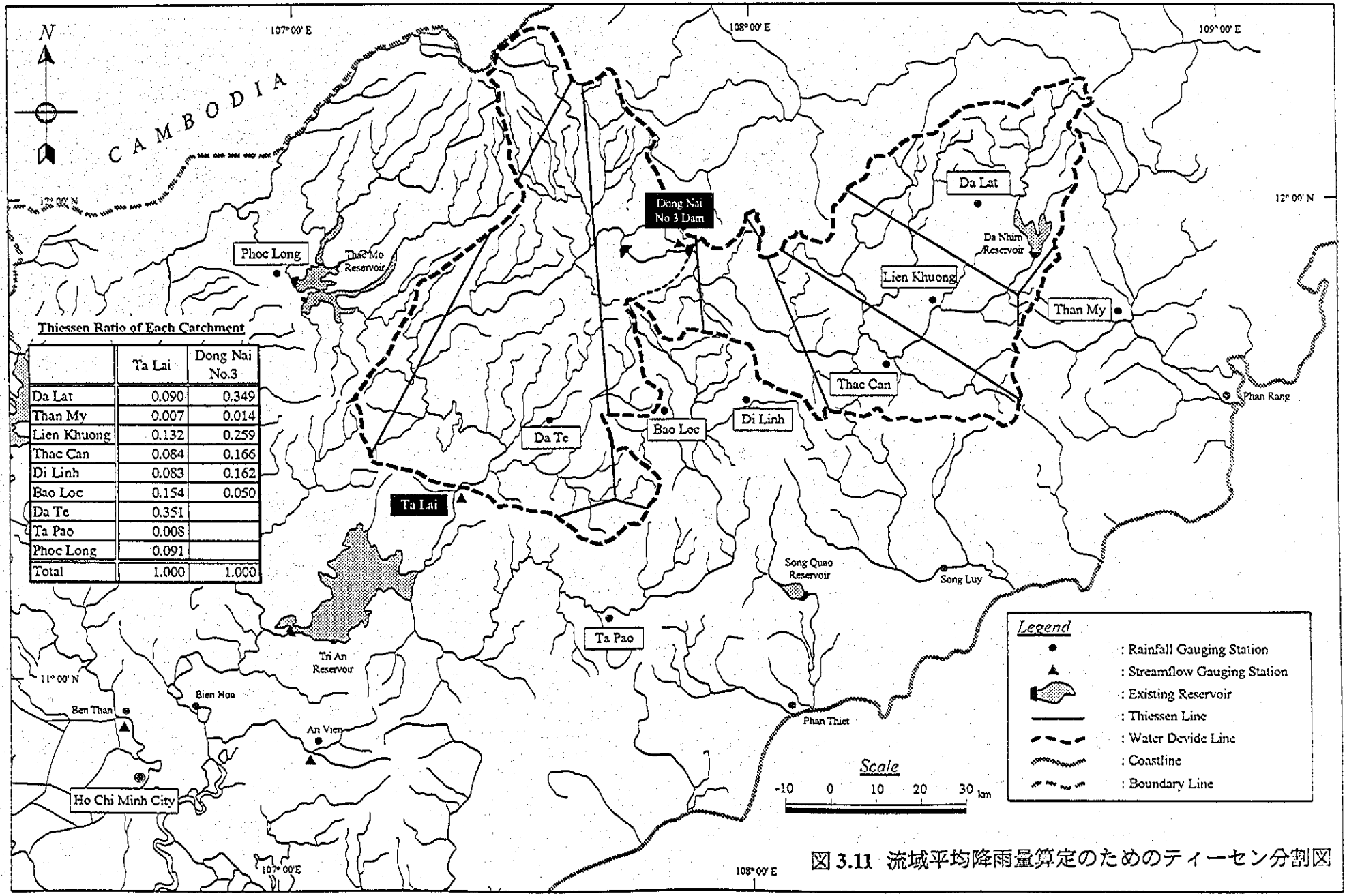


図 3.10　ドンナイ第3ダム地点付近の新設流量観測所及びタライ流量観測所における5日平均流量の関係



	Ta Lai	Dong Nai No.3
Da Lat	0.090	0.349
Than My	0.007	0.014
Lien Khuong	0.132	0.259
Thac Can	0.084	0.166
Di Linh	0.083	0.162
Bao Loc	0.154	0.050
Da Te	0.351	
Ta Pao	0.008	
Phoc Long	0.091	
Total	1.000	1.000

図 3.11 流域平均降雨量算定のためのティーセン分割図

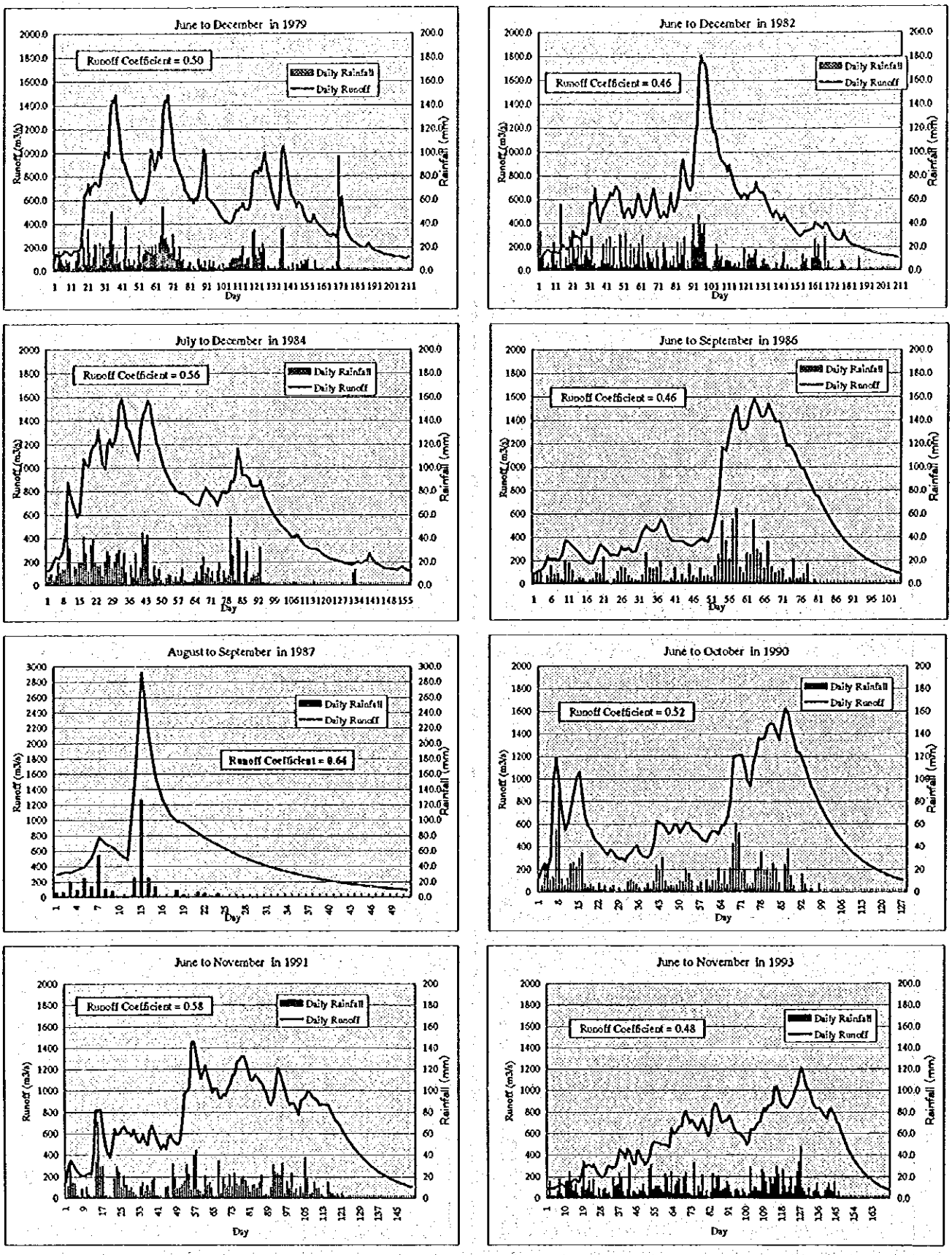


図 3.12 流出係数算定に用いられたタライ流量観測所における洪水記録

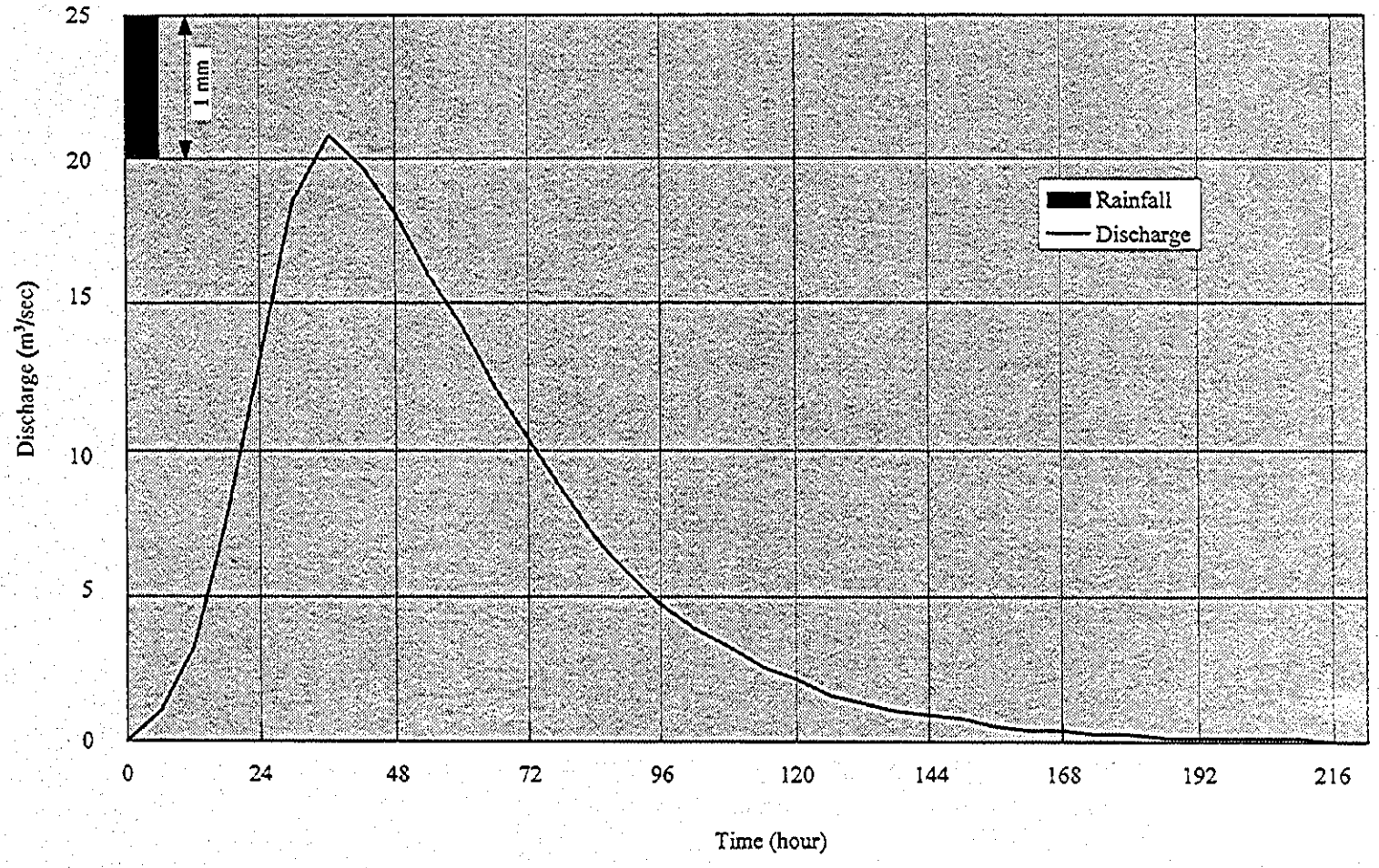
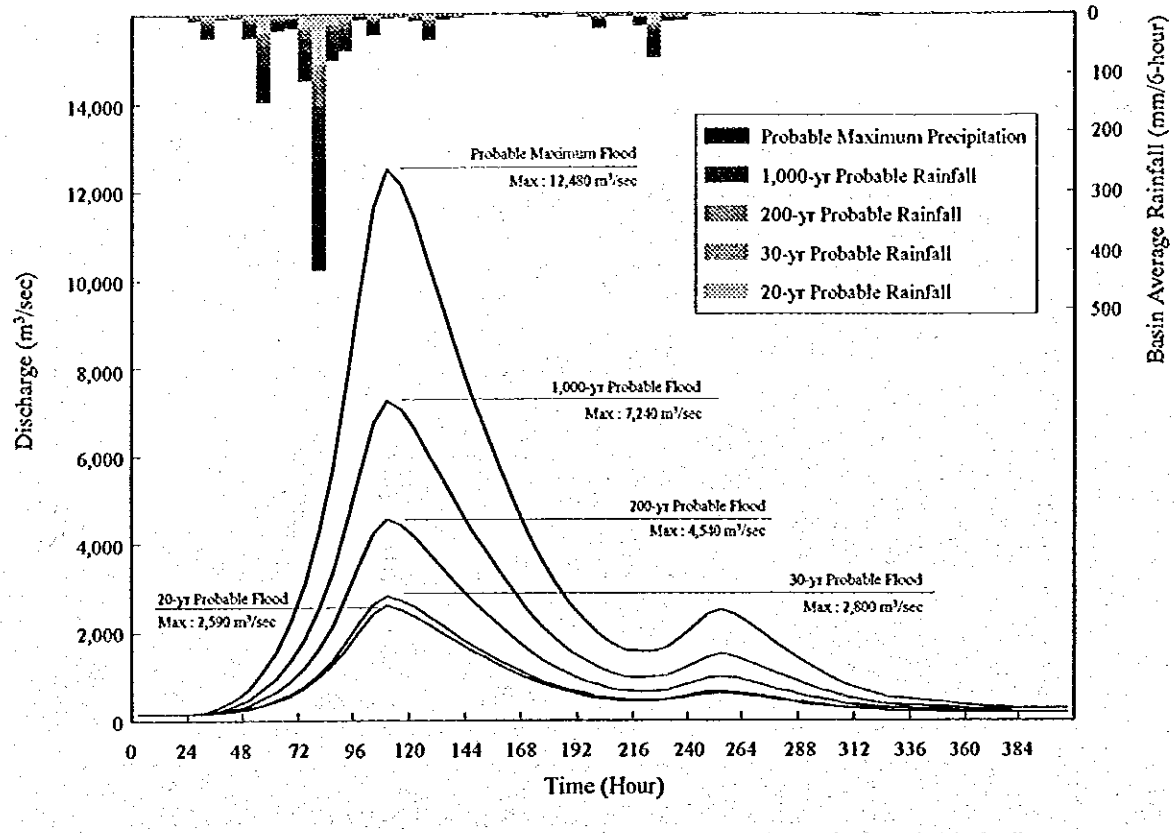
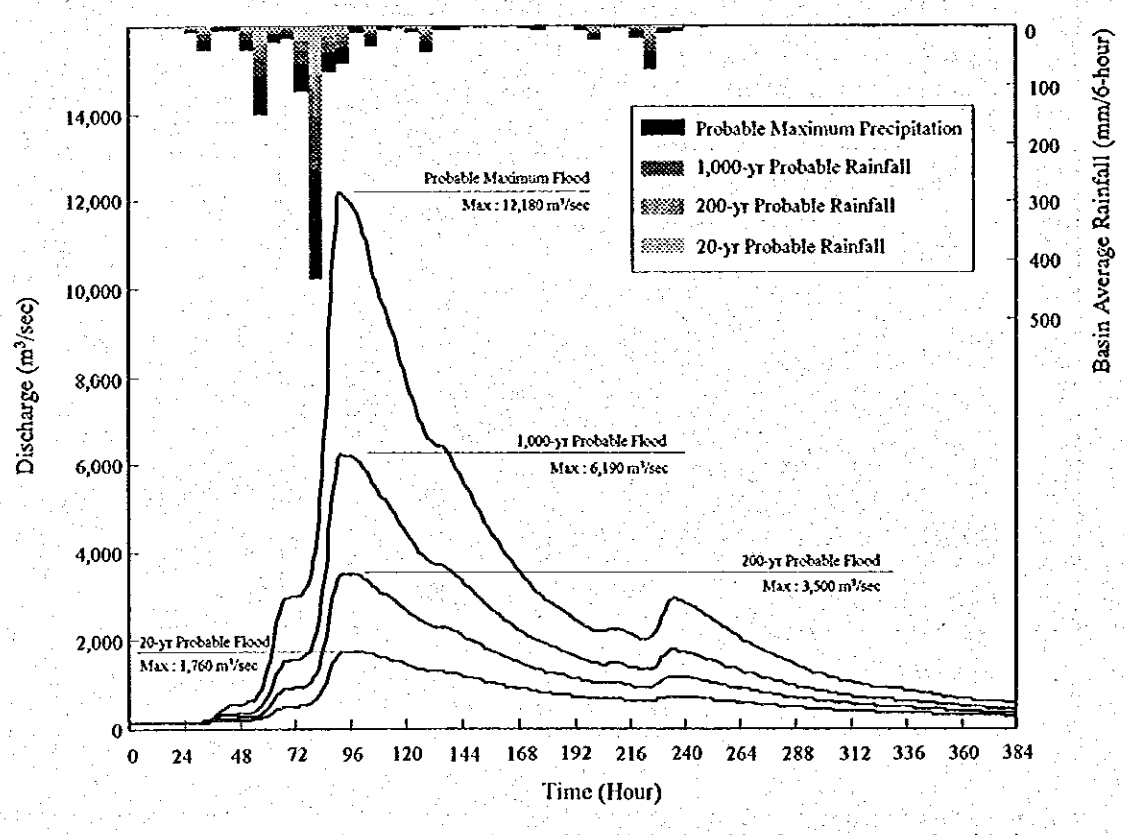


図 3.13 ドンナイ第３ダム地点のユニットハイドログラフ



(1) Probable Floods at Dong Nai No.3 Site (Calculated by Unit Graph Method)



(2) Probable Floods at Dong Nai No.3 Site (Calculated by Storage Function Method)

図 3.14　単位図法及び貯留関数法により推定された確率洪水ハイドログラフ

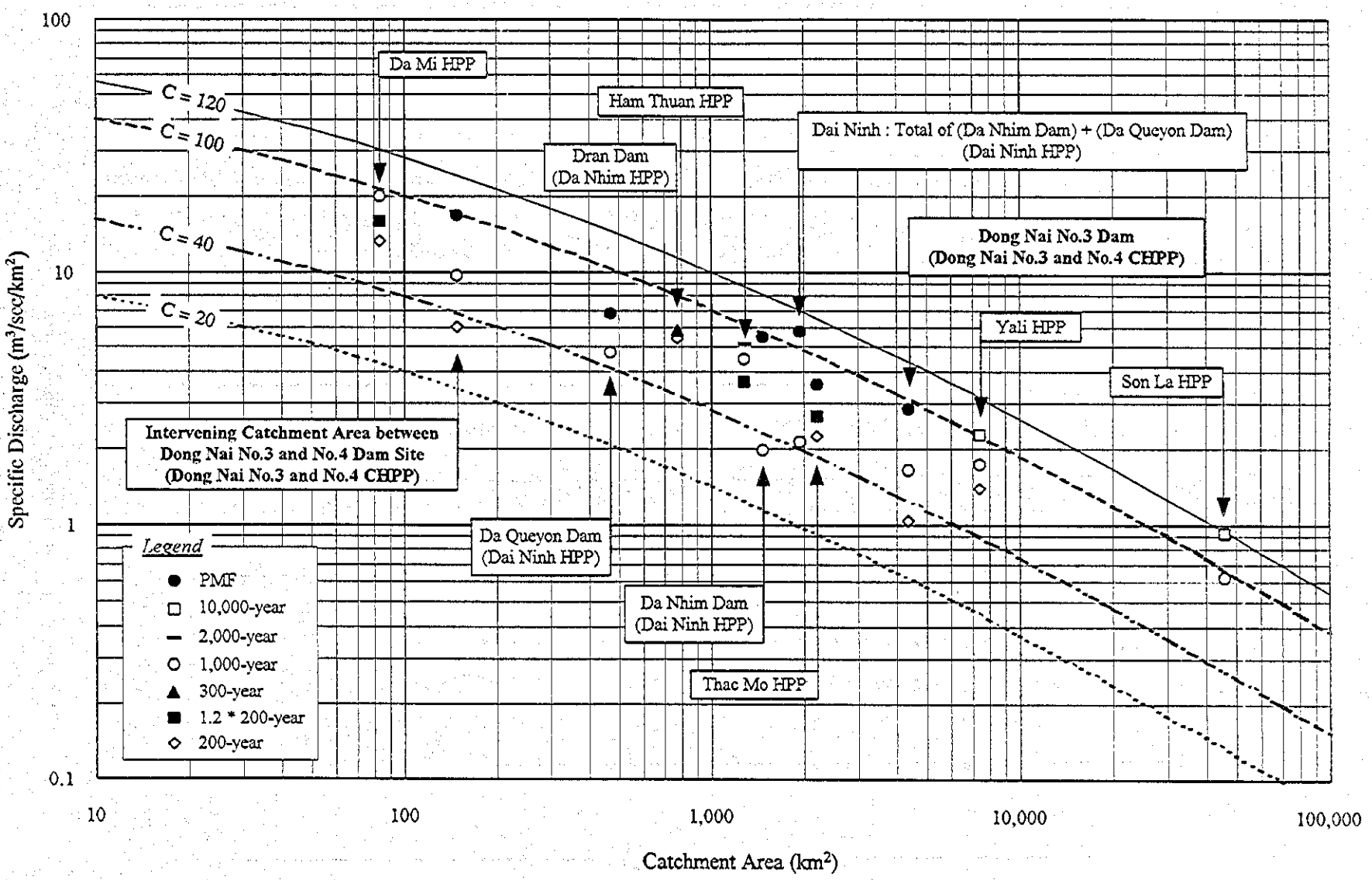


図 3.15　ヴィエトナム国における大規模ダムプロジェクトで採用された設計洪水流量の比流量

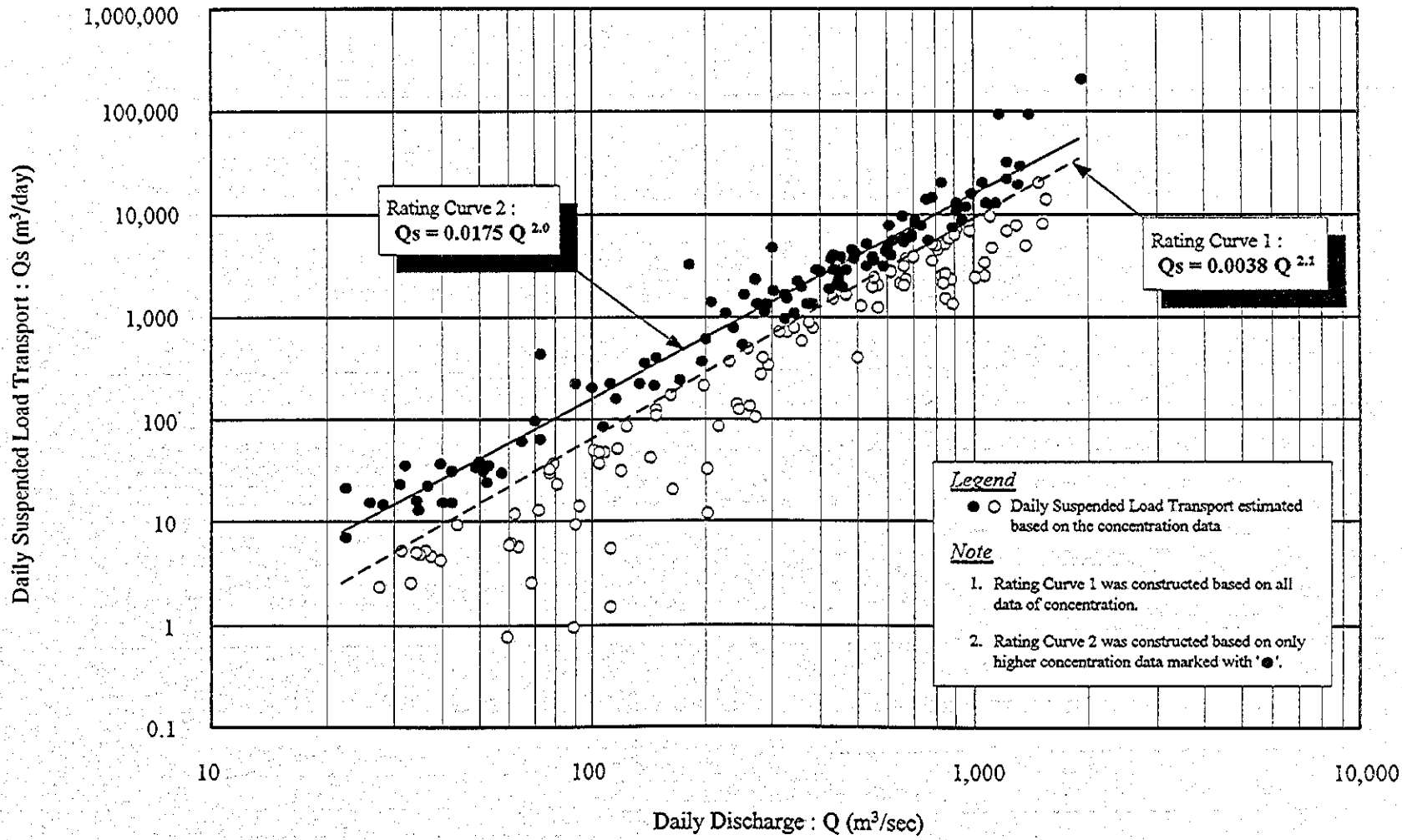


図 3.16 タライ流量観測所における流量—堆砂量曲線

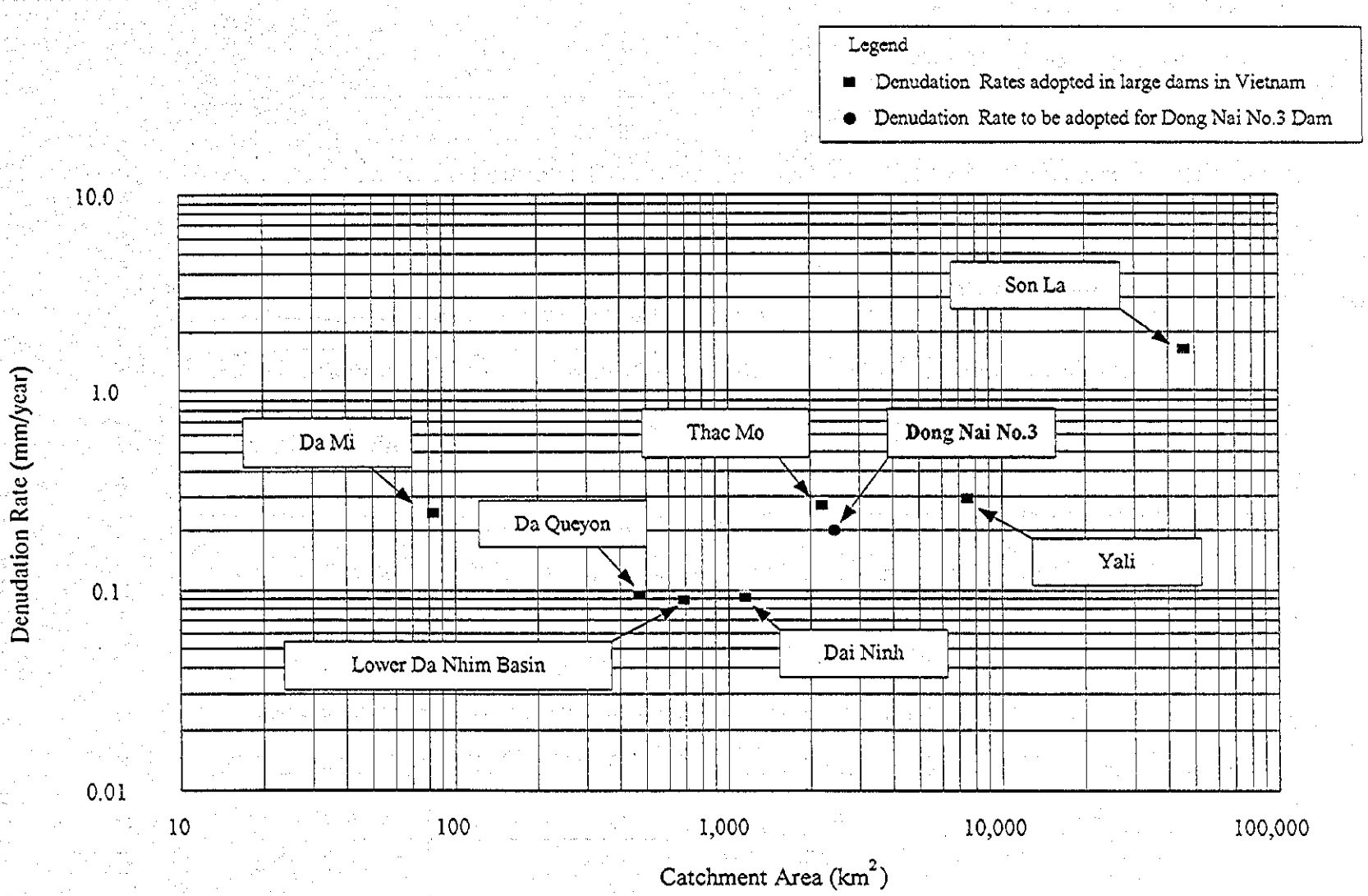
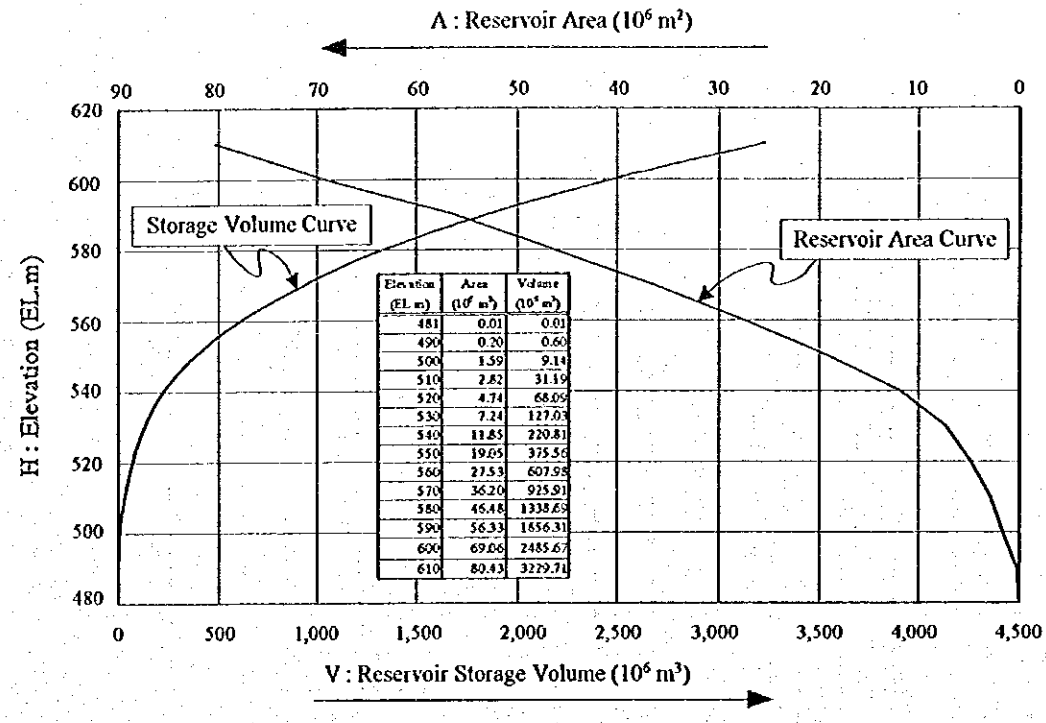
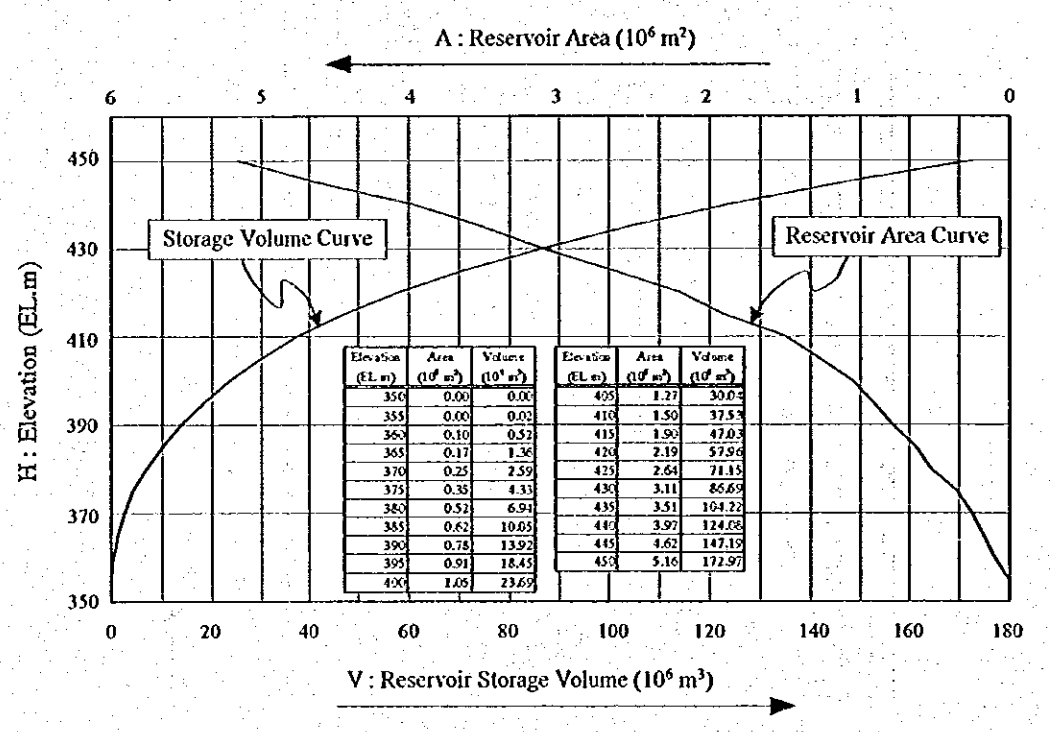


図 3.17 ヴィエトナム国の各プロジェクトで採用された表面浸食率と流域面積の関係



Elevation (EL.m)	Area (10^6 m^2)	Volume (10^6 m^3)
481	0.01	0.01
490	0.20	0.60
500	1.59	9.14
510	2.82	31.19
520	4.74	68.09
530	7.24	127.03
540	11.85	220.81
550	19.05	375.56
560	27.53	607.95
570	36.20	925.91
580	46.48	1338.69
590	56.33	1856.31
600	69.06	2485.67
610	80.43	3229.74

(1) Reservoir Storage Volume and Reservoir Area Curve of Dong Nai No.3



Elevation (EL.m)	Area (10^6 m^2)	Volume (10^6 m^3)
350	0.00	0.00
355	0.00	0.02
360	0.10	0.52
365	0.17	1.36
370	0.25	2.59
375	0.35	4.33
380	0.52	6.94
385	0.62	10.05
390	0.78	13.92
395	0.91	18.45
400	1.05	23.69

Elevation (EL.m)	Area (10^6 m^2)	Volume (10^6 m^3)
405	1.27	30.02
410	1.50	37.53
415	1.93	47.03
420	2.19	57.96
425	2.64	71.15
430	3.11	86.69
435	3.51	104.22
440	3.97	124.08
445	4.62	147.19
450	5.16	172.97

(1) Reservoir Storage Volume and Reservoir Area Curve of Dong Nai No.4

図 3.18　ドンナイ第3及び第4貯水池における水位－貯水容量曲線

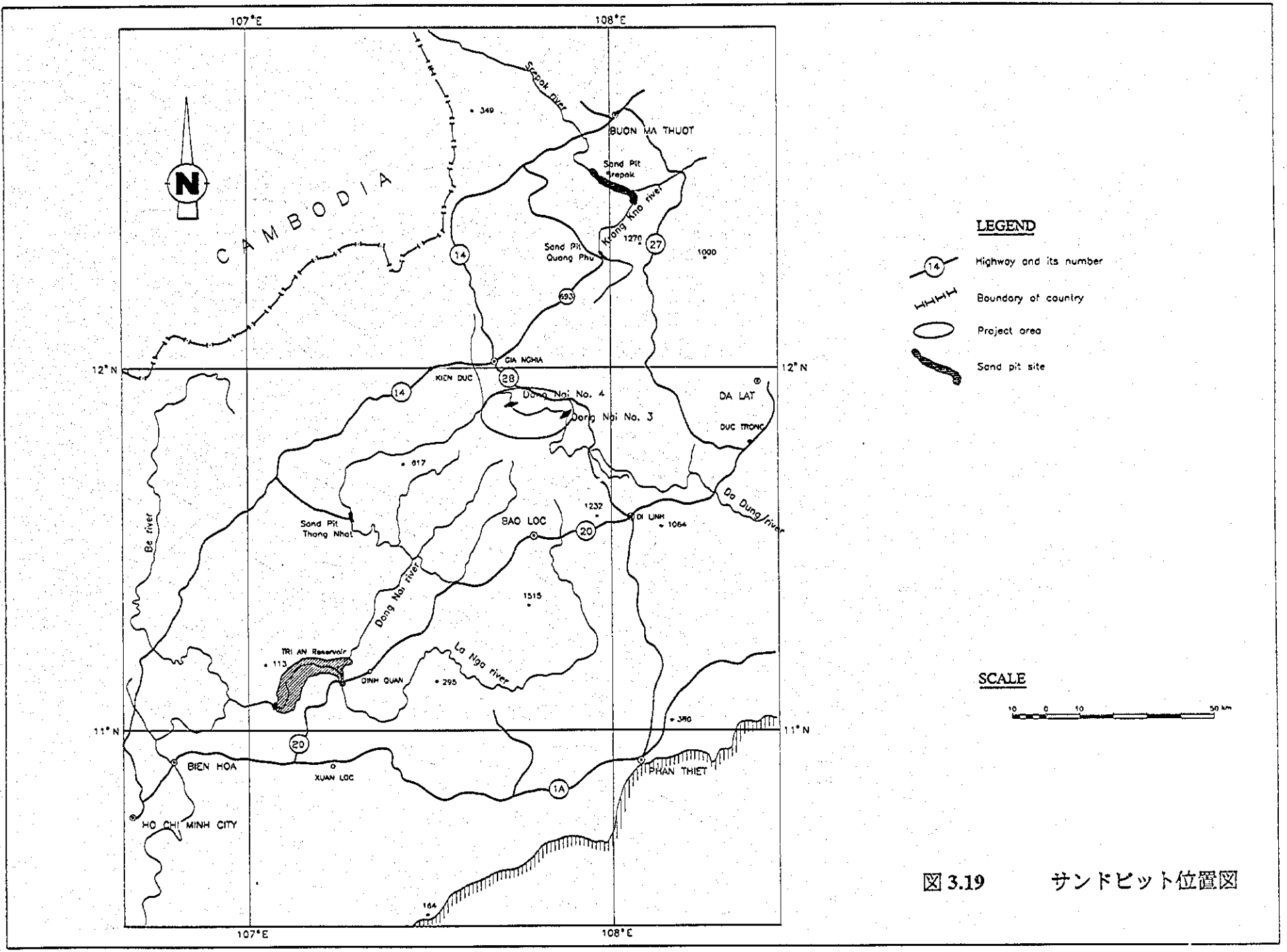


図 3.19　　サンドピット位置図

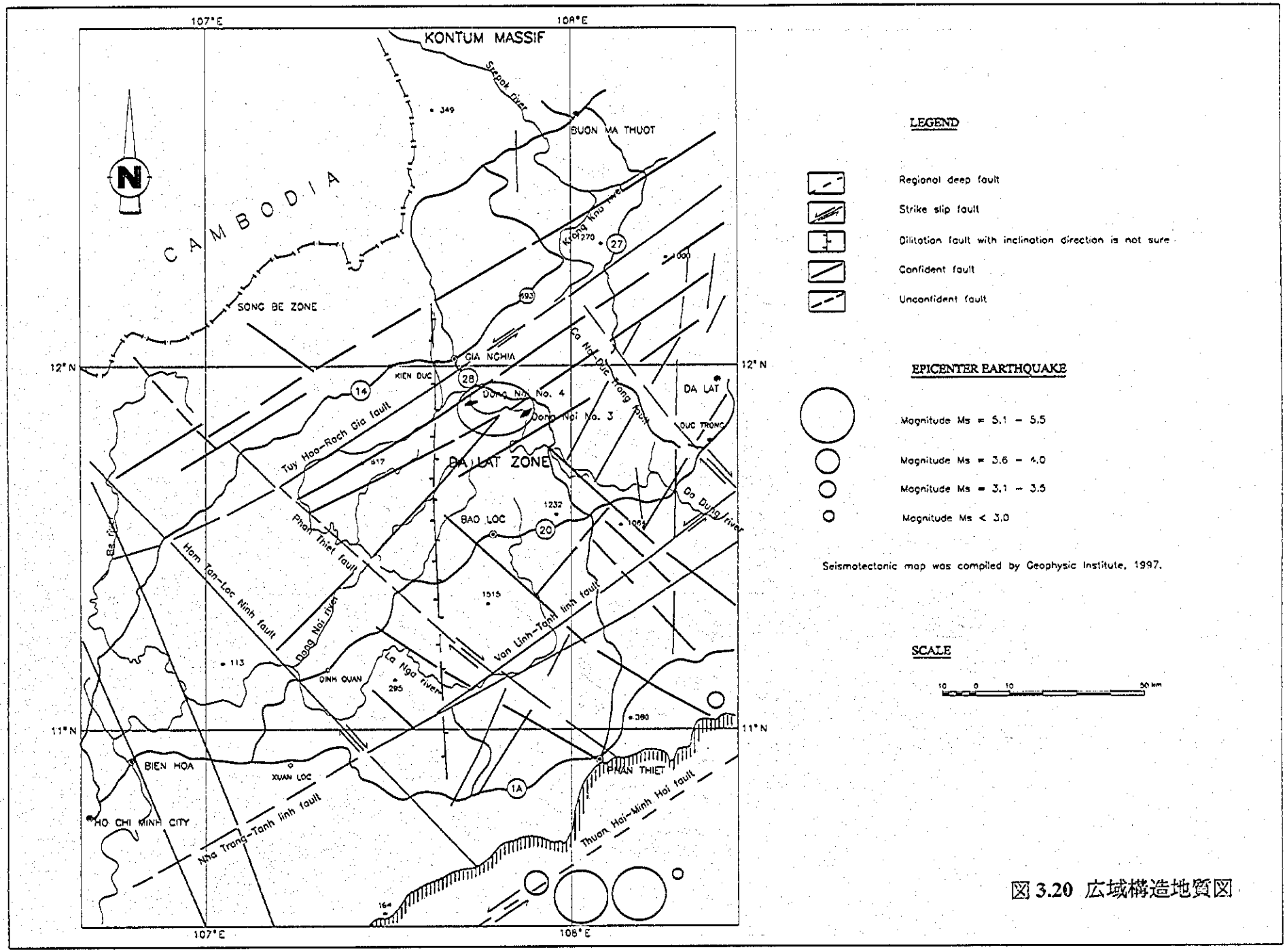
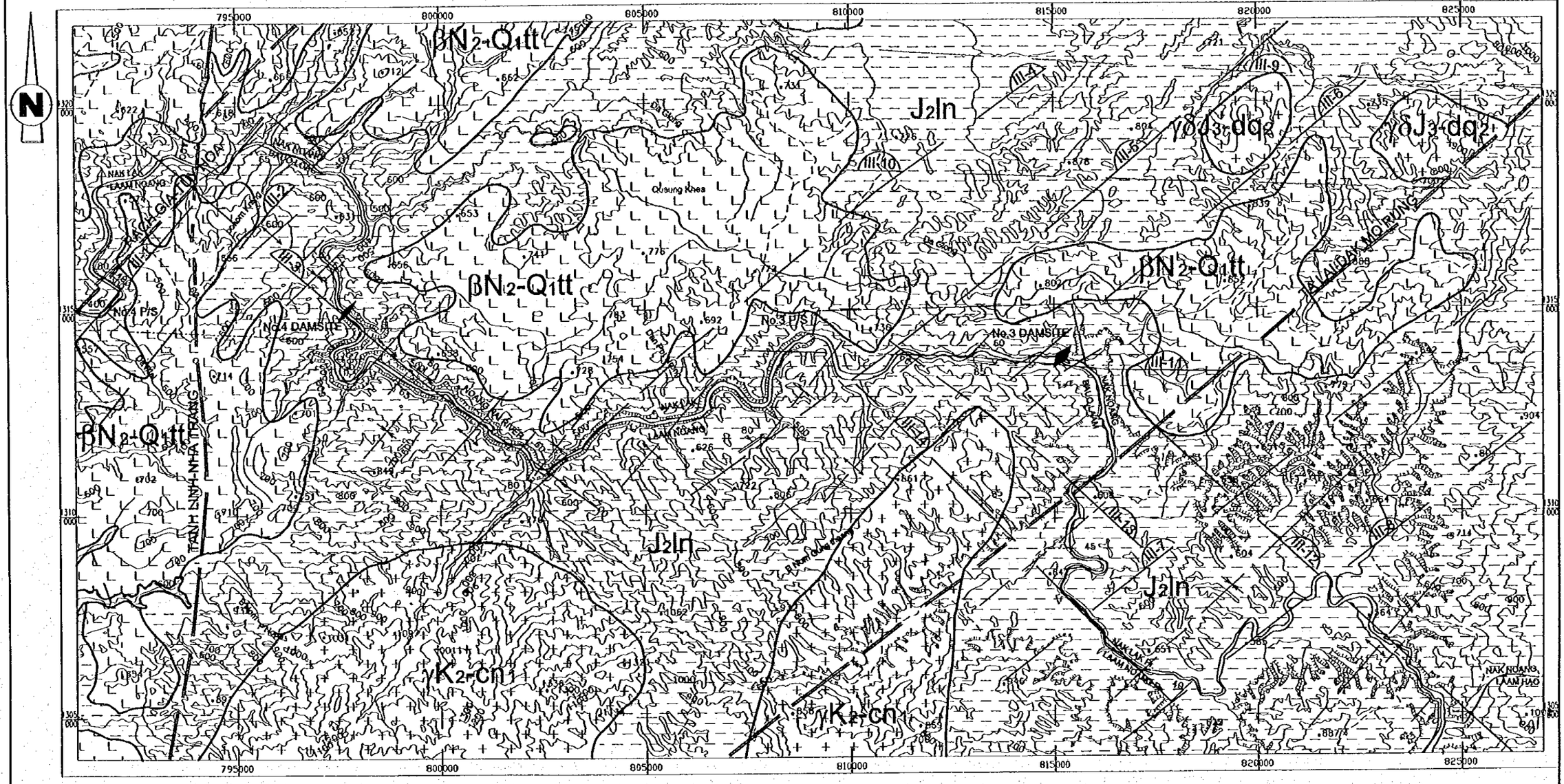


図 3.20 広域構造地質図



LEGEND

Symbol	Rock Unit (Member)	Correspoding formation in regional geologic map.
	Riverbed-Deposit	
	(Unconformity)	
	Basalt Lava (βN2-Q1tt)	Tuc trung formation
	(Unconformity)	
	Granite (γK2-Cn1)	Cana formation
	Biotite horblende granodiorite (γδJ3-dq2)	Ninhquan formation
	Sandstone,siltstone shale, hornfels (J2ln)	Langa formation

Age	
Cenozoic	(Quaternary)
	(Pliocene-Pliotocene)
Mesozoic	(Lower Cretaceous)
	(Upper Jurassic)
	(Middle Jurassic)

- Boundary of strata
- Fault
- Strike and dip of fault
- Strike and dip of sedimentary rock
- Synclinal axis
- Anticlinal axis

Reservoir area

0.0 5.0 km

図 3.21 計画地域地質図

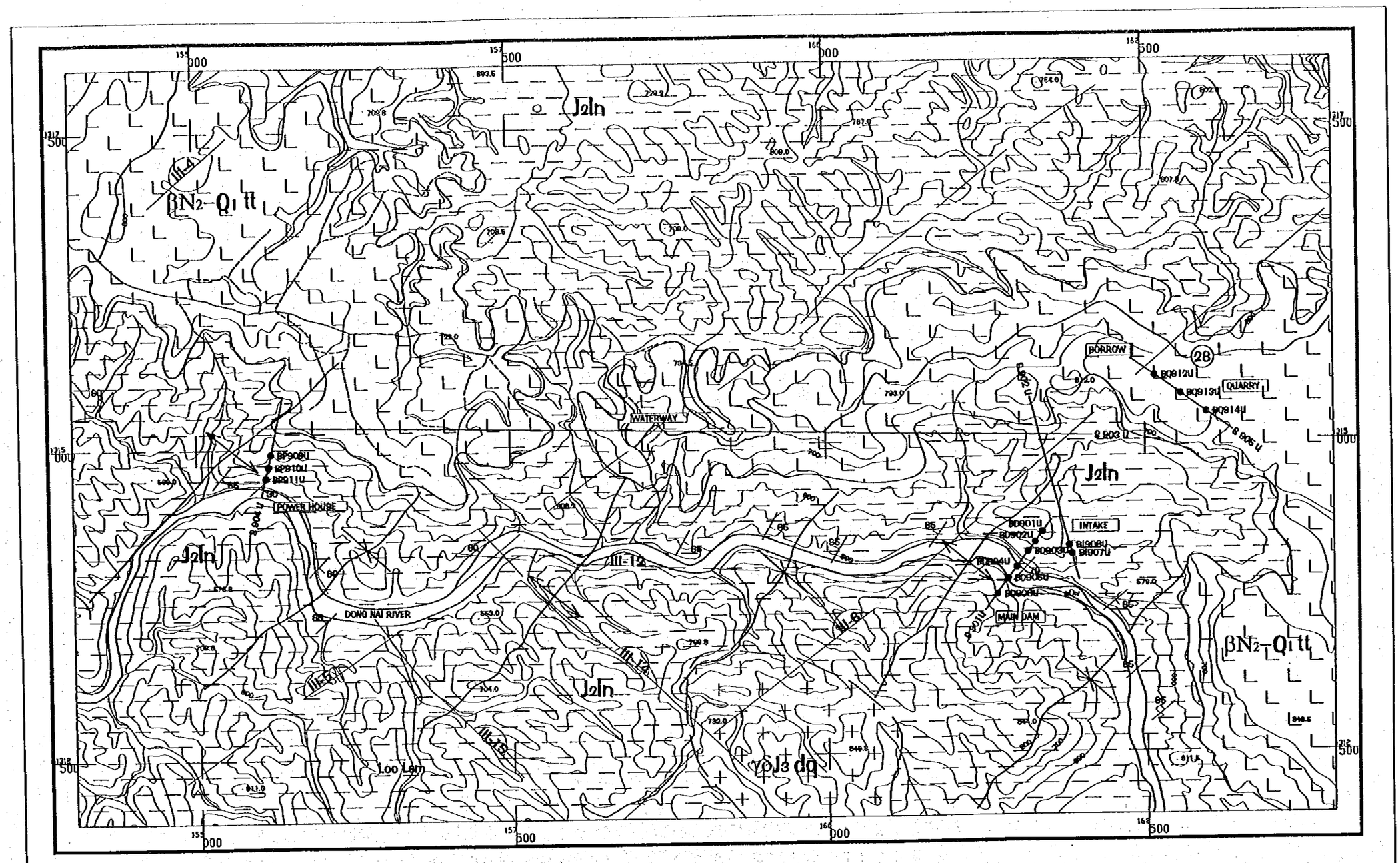


図 3.22　ドンナイ第３計画地域地質図