

Table 3.10 Annual Sediment Transport at Ta Lai SGS
(Effective C.A. = 8,850 km²)

Year	Suspended Load (m ³ /year)	Bed Load * (m ³ /year)	Total Sediment Transport	
			(m ³ /year)	(mm/year)
1979	1,767,848	353,570	2,121,417	0.240
1980	1,338,554	267,711	1,606,264	0.181
1981	1,433,717	286,743	1,720,460	0.194
1982	1,307,618	261,524	1,569,142	0.177
1983	1,214,224	242,845	1,457,069	0.165
1984	1,763,784	352,757	2,116,540	0.239
1985	878,369	175,674	1,054,042	0.119
1986	1,771,191	354,238	2,125,429	0.240
1987	1,373,066	274,613	1,647,679	0.186
1988	680,571	136,114	816,685	0.092
1989	1,062,977	212,595	1,275,573	0.144
1990	1,804,779	360,956	2,165,735	0.245
1991	1,641,415	328,283	1,969,698	0.223
1992	1,456,726	291,345	1,748,071	0.198
1993	1,173,385	234,677	1,408,062	0.159
1994	2,004,847	400,969	2,405,817	0.272
1995	1,232,109	246,422	1,478,531	0.167
Average	1,406,187	281,237	1,687,424	0.191

* Note : Bed Load was calculated as 20 % of Suspended Load.

Table 3.11 Summary of Stratigraphy


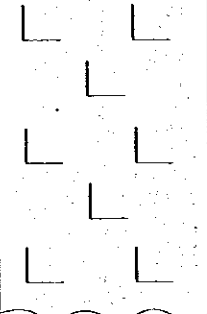
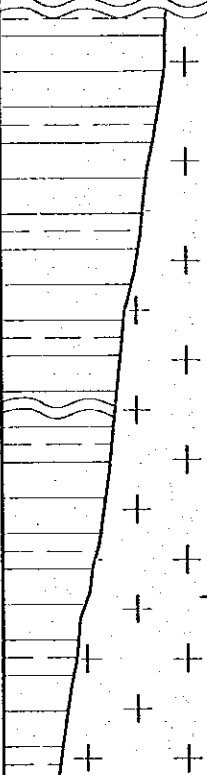
Era	Period	Series	Formation	Geologic Index	Lithology	Thickness (m)	Summary Description
CENOZOIC	QUATERNARY	HOLOCENE	TUC TRUNG	aQ _{IV}		1-5	Alluvium of river, stream: Sandy clay, clayey sand, sand, gravel. Residual soil: Clay with laterite or soft rock fragments
		PLEISTOCENE		BN-Q _{III}		50 - 150	Basalt of Tuc Trung formation: Olivine basalt, plagioclase basalt, porous and dense structure.
MESOZOIC	JURASSIC	MIDDLE	LA NGA	J ₂ ln		700 - 800	La Nga formation: Sandstone, shale interbedded with siltstone Ca Na Complex: Leucocratic granite, two mica granite with fine grained

Table 3.12 Engineering Grade Classification of Weathered Rock

Grade		Weathering	Description
PIDC2	ISRM		
IIB	I/Fr	Very Fresh	No visible sign of material weathering, very strong, shape of cores 0.3-1.0 m. Physical mechanical property is high and does not change by depth. The permeability is very low and does not change by depth.
IIA		Fresh	No visible sign of material weathering. Perhaps, slight discoloration on major discontinuity surfaces, very strong, shape of cores 0.3-1.0 m. Physical mechanical property is high and change by depth. The permeability is low and changes by depth.
IB	II/SW	Slightly weathered	All or some of the rock material may be discolored by weathering and may be somewhat weaker extremely then when fresh, hard rock shape of cores 0.05-0.1 m. Physico-mechanical property is high and decreases by depth. The permeability is high and changes by depth.
IA2	III/MW	Moderately weathered	< Half the rock material is decomposed and disintegrated to a soil. Fresh and discolored rock is present as either continuous framework or corestones.
IA1	IV/HW	Highly weathered	> Half the rock material is decomposed and disintegrated to a soil. Fresh and discolored rock is present as either continuous framework or corestones.
dQ - cQ	V/CW	Completely weathered	All rock material is decomposed and/or disintegrated to or soil. The original mass structure is still largely intact.

Term	Description
Fresh	No visible sign of weathering of the rock material.
Discolored	The color of the original fresh rock material is changed. The degree of change from the original color should be indicated. If the color change is confined to particular mineral constituents this should be mentioned.
Decomposed	The rock is weathered to the condition of a soil in which the original material fabric is still intact, but some or all of the mineral grains are decomposed.
Disintegrated	The rock is weathered to the condition of a soil in which the original fabric is still intact. The rock is friable, but the mineral grains are not decomposed.

The stages of weathering described above may be subdivided using qualifying terms, for example "slightly discolored", "moderately discolored", "highly discolored".

Table 3.13 Earthquake Intensity at Dong Nai No.3 and No.4 Damsite According to Cornell

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.

Table 3.14 Earthquake Intensity at Dong Nai No.3 and No.4 Damsite According to Kawasumi

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.

Table 3.15 Summary of Laboratory Test Result of Rock Material (Taken from Drilling Core)

Location	No.	Sample		Type of Rock	Absorption (%)	Bulk Density (g/cm ³)	Relative Density	Uniaxial Compressive Strength (kg/cm ²)	Poisson's ratio	Sound Velocity (m/s)	Soundness test (%)	Reduction in Alkalinity Rc (mmol/lit.)	Concentration of SiO ₂ , Sc (mmol/lit.)
		Drillhole	Depth (m) From To										
No.3 Damside Right bank	1	BD901U	57.00 57.27	Ss/SI (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>>SI (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>>SI (60°)	0.21	2.72	2.74	1.012	0.22	6.938	-	-	-
	5	BD903U	13.70 14.00	fine-Ss/SI (45°)	0.09	2.73	2.75	1.081	0.17	6.869	-	-	-
Left bank	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	-	-	-
	8	BD904U	5.75 6.00	SI-Ss (90°)	0.25	2.70	2.75	1.026	0.24	8.468	-	-	-
	9		19.63 19.94	Ss>>SI (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	SI(f-Ss)	0.19	2.77	2.80	1.446	0.09	6.247	-	-	-
	14		40.00 40.40	Ss>>SI(45°)	0.13	2.79	2.81	1.615	0.09	6.292	-	-	-
	15	BP911U	17.50 18.00	SI>>Ss(25°)	1.05	2.71	2.75	799	0.13	5.396	-	-	-
No.3 P/S	16		22.30 22.60	Ss(Massive)	0.21	2.69	2.74	1.171	0.18	5.888	-	-	-
	17	BQ912U	35.00 35.33	Ba (Slightly Porous)	1.51	2.48	2.93	1.148	0.08	5.152	-	-	-
Quarry (No.3)	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
	23	BD915D	69.00 69.40	Ss/SI (60°)	0.81	2.68	2.79	348	0.13	5.931	-	-	-
	24		70.00 70.65	Ss/SI (50°)	0.13	2.72	2.76	977	0.12	5.862	0.90	312.7	125.1
No.4 Damside Right bank	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	SI>>Ss (60°)	0.44	2.71	2.75	607	0.15	6.110	0.80	679.3	22.0
	27	BD917D	23.23 23.60	SI>Ss(60°)	0.20	2.73	2.78	619	0.10	6.246	-	-	-
	28		25.00 25.35	SI(50°)	0.51	2.72	2.75	545	0.07	5.670	-	-	-
	29		34.00 34.50	SI>Ss(60°)	0.25	2.74	2.77	498	0.21	6.154	-	-	-
	30	BD918D	19.20 19.60	SI>>Ss(50°)	0.19	2.76	2.81	389	0.06	6.018	-	-	-
	31		37.13 37.50	SI>>Ss (50°)	0.41	2.77	2.82	784	0.08	5.906	-	-	-
	32	BD919D	55.70 56.00	SI(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	SI>>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	-	-	-
Left bank	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: *; The failure is mainly influenced by the cleavage.

Table 3.16 Summary of Laboratory Test of Soil Materials of Dong Nai No.3 (1/2)

Sample No.	Depth (m)	Particle of grain size finer (mm): % passing											Dispersive ratio %	Atterberg Limits		Specific gravity Gs	
		3	2	1 ^{1/2}	3/4	3/8	No.4	No.10	No.40	No.200	Liquid Limit w _L (%)	Plastic Limit w _P (%)		Plasticity Index I _P (%)			
TP1U	-1	75	50	38.1	19.1	9.5	4.75	2.0	0.42	0.074	0.005	0.002	-	-	-	-	-
TP1U	-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2U	-1	100.0	86.0	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
TP2U	-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3U	-1	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
TP3U	-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4U	-1	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
TP4U	-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5U	-1	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
TP5U	-2	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	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
TP6U	-2	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	100.0	98.0	97.0	95.0	90.0	90.0	94.0	42.0	23.0	-	-	-	52.5	33.5	19.0	2.753
TP7U	-2	100.0	97.0	95.0	90.0	90.0	90.0	90.0	37.0	25.0	8.3	-	-	51.4	30.1	21.3	2.778
TP8U	-1	100.0	96.0	93.0	81.0	34.0	28.0	-	-	-	11.4	-	-	47.1	28.6	18.5	2.807
TP8U	-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9U	-1	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
TP9U	-2	100.0	94	100	94	80	72.0	66.0	60.0	28.0	23.0	-	-	50.9	30.4	20.5	2.778
TP10U	-1	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
TP10U	-2	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	100.0	95.0	85.0	85.0	68.0	51.0	39.0	30.0	21.0	18.5	-	-	58.1	38.8	19.3	2.9
TP12U	-1	100.0	95.0	85.0	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	100.0	94.0	90.0	76.0	57.0	45.0	33.0	25.0	11.8	10.0	-	-	50.5	30.7	19.8	2.9
TP13U	-2	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

Table 3.16 Summary of Laboratory Test of Soil Materials of Nong Nai No.3 (2/2)

Sample No.	Depth (m)	Specific gravity G _s	Natural moisture w _N %	Proctor compaction test			Triaxial Test (UU)		Triaxial Test (CU)					
				MDD ¹ ρ _d (g/cm ³)	OMC ² %	Permeability cm/sec	c _u (kgf/cm ²)	φ _u	c _{cu} (kgf/cm ²)	Total stress φ _{cu}	Effective stress c' (kgf/cm ²)	φ'		
TP1U	-1													
	-2													
TP2U	1.0-2.5	3.025	30.5	1.750	20.0	4.78 x 10 ⁻⁶	0.608	18° 33'	0.651	20° 48'	0.630	23° 06'		
	-2													
TP3U	1.0-2.5	2.909	20.4	1.725	20.5	8.82 x 10 ⁻⁷								
	-2													
TP4U	1.0-2.5	2.941	24.0	1.714	21.0	1.19 x 10 ⁻⁶								
	-2													
TP5U	1.0-2.5	2.887	26.7	1.725	20.2	5.20 x 10 ⁻⁶								
	-2													
TP6U	2.5-5.0	2.917	27.5	1.750	19.5	2.25 x 10 ⁻⁶	0.581	18° 18'	0.636	19° 49'	0.633	22° 33'		
	-2													
TP7U	1.0-2.5	2.898	21.7	1.685	21.4	1.17 x 10 ⁻⁶								
	-2													
TP8U	2.5-4.0	3.047	24.7	1.700	22.0	8.00 x 10 ⁻⁷								
	-2													
TP9U	1.0-2.5	2.753	28.2	1.590	22.8	7.06 x 10 ⁻⁷								
	-2													
TP10U	2.5-5.0	2.778	26.8	1.590	23.0	5.50 x 10 ⁻⁷	0.22	11° 07'	0.37	17° 23'	0.322	20° 50'		
	-2													
TP11U	1.0-2.5	2.807	24.7	1.675	20.5	3.32 x 10 ⁻⁷								
	-2													
TP12U	1.0-2.5	2.907	20.7	1.733	19.5	2.22 x 10 ⁻⁶								
	-2													
TP13U	2.5-5.0	2.778	31.3	1.670	19.8	8.90 x 10 ⁻⁷								
	-2													
TP14U	1.0-2.5	3.030	16.4	1.710	21.2	2.20 x 10 ⁻⁶								
	-2													
TP15U	2.5-5.0	2.919	24.4	1.714	20.5	2.56 x 10 ⁻⁶	0.599	17° 44'	0.614	20° 13'	0.59	23° 33'		
	-2													
TP16U	0.5-2.5	2.865	44.4	1.600	23.0	1.08 x 10 ⁻⁶								
	-2													
TP17U	1.0-3.0	2.887	22.5	1.650	21.2	8.9 x 10 ⁻⁷	0.364	14° 41'	0.512	17° 11'	0.478	20° 17'		
	-2													
TP18U	0.5-2.5	2.887	36.8	1.675	20.3	1.99 x 10 ⁻⁶								
	-2													
TP19U	2.5-5.0	3.004	34.4	1.690	20.5	1.29 x 10 ⁻⁶								

¹ : MDD is the abbreviation for Maximum Dry Density.

² : OMC is the abbreviation for Optimum Moisture Content.

Table 3.17 Summary of Laboratory Test of Soil Materials of Nong Nai No.4 (1/2)

Sample No.	Depth (m)	Particle of grain size finer (mm); % passing													Dispersive ratio %	Atterberg Limits			Specific gravity Gs
		3	2	1 ^{1/2}	3/4	3/8	No.4	No.10	No.40	No.200	0.002	0.005	0.074	0.250		Liquid Limit WL (%)	Plastic Limit WP (%)	Plasticity Index IP (%)	
TP1D	2.0-2.5	75	50	38.1	19.1	9.5	100.0	97.0	92.0	60.0	29.5	27.6			78.5	44.9	33.6	2.853	
TP2D	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	
TP3D	2.0-2.5				100.0	91.5	74.0	51.0	35.5	28.0	15.5	13.0		6.5	59.6	35.7	23.9	2.981	
TP4D	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	43.2	25.8	2.972		
TP5D	2.0-2.5				100.0	95.0	89.0	84.0	76.0	56.0	28.5	25.5		2.1	72.6	41.0	31.6	2.920	
TP6D	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	
TP7D	2.0-2.5				100.0	97.0	96.0	92.0	71.0	37.0	32.0	28.0			77.5	43.9	33.6	2.922	
TP8D	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		69.9	42.3	27.6	2.840		
TP9D	2.0-2.5				100.0	95.0	89.0	84.0	76.0	56.0	28.5	25.5		8.2	79.6	45.4	34.2	2.845	
TP10D	4.5-5.0				100.0	95.8	84.8	73.5	60.5	52.0	44.0	27.0	14.0	12.0	67.6	41.5	26.1	2.917	
					100.0	93.0	88.5	80.5	75.0	63.0	44.5	29.5	15.5		69.0	43.2	25.8	2.945	
					100.0	98.0	92.0	84.0	74.0	56.0	31.0	28.0			76.9	41.2	35.7	2.880	
					100.0	99.0	95.0	90.0	80.0	65.0	45.0	35.0			74.5	41.4	33.1	2.884	
					100.0	99.0	95.0	90.0	80.0	65.0	45.0	35.0			73.4	43.1	30.3	2.842	
					100.0	95.8	84.8	73.5	60.5	52.0	44.0	27.0	14.0	12.0	81.2	45.1	36.1	2.879	
					100.0	91.5	73.0	60.4	49.0	31.0	15.0	13.0		8.5	65.2	38.7	26.5	3.012	
					100.0	91.5	73.0	60.4	49.0	31.0	15.0	13.0			56.0	31.6	24.4	3.050	

Table 3.17 Summary of Laboratory Test of Soil Materials of Dong Nai No.4 (2/2)

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

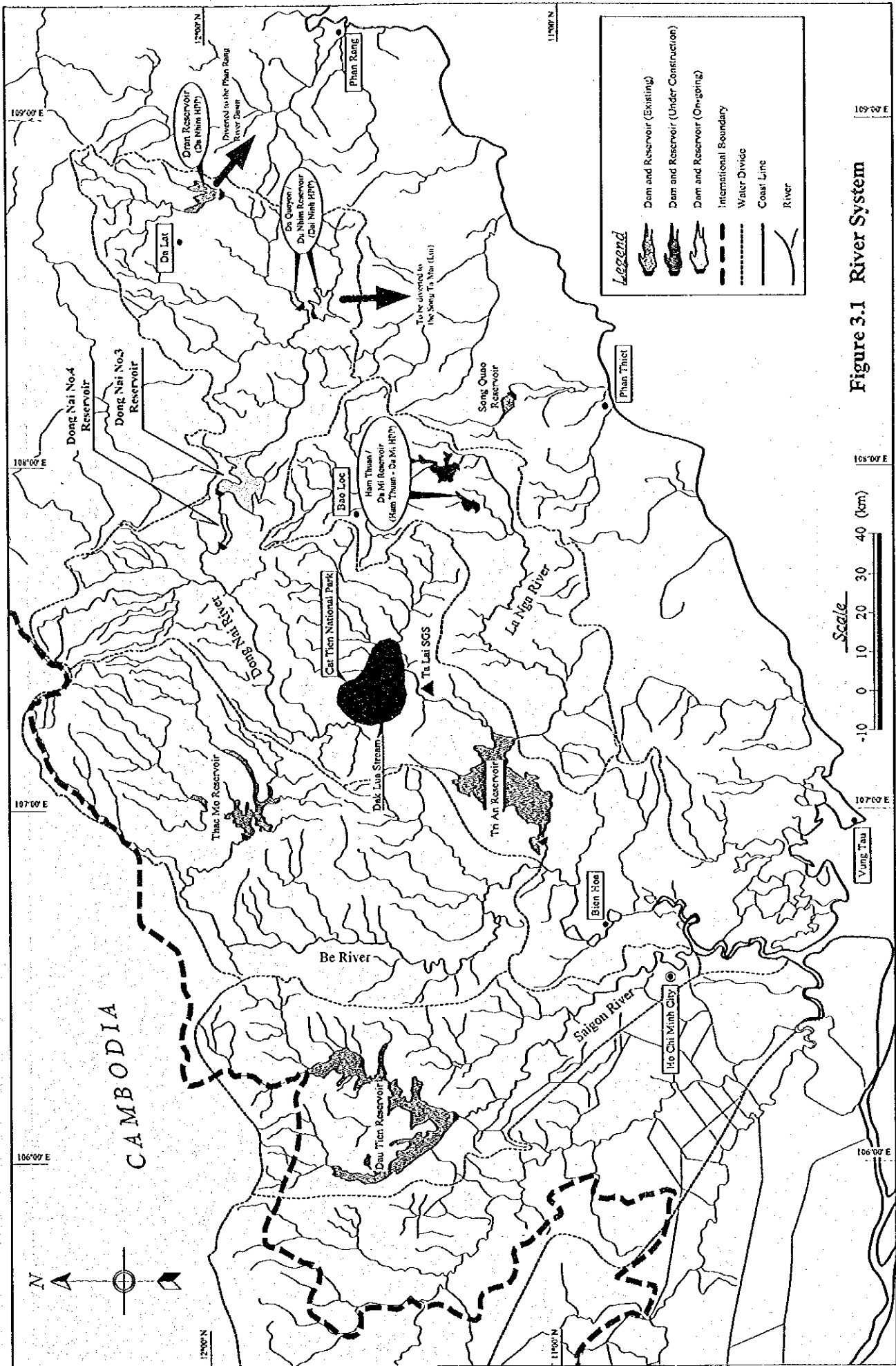
*1 : MDD is the abbreviation for Maximum Dry Density.

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

Table 3.18 Summary of Laboratory Test of Fine Concrete Aggregate (Sand material)

Location	Sample	Percent accumulative retained (%)							F.M.*	Specific gravity	Absorption	Clay lumps & friable particles	Soundness	Reduction in Alkalinity (Re) mmol/lit.	Concentration of SiO ₂ (Sc) mmol/lit.
		S	2.5	1.25	0.63	0.315	0.15	Pan							
Ste 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



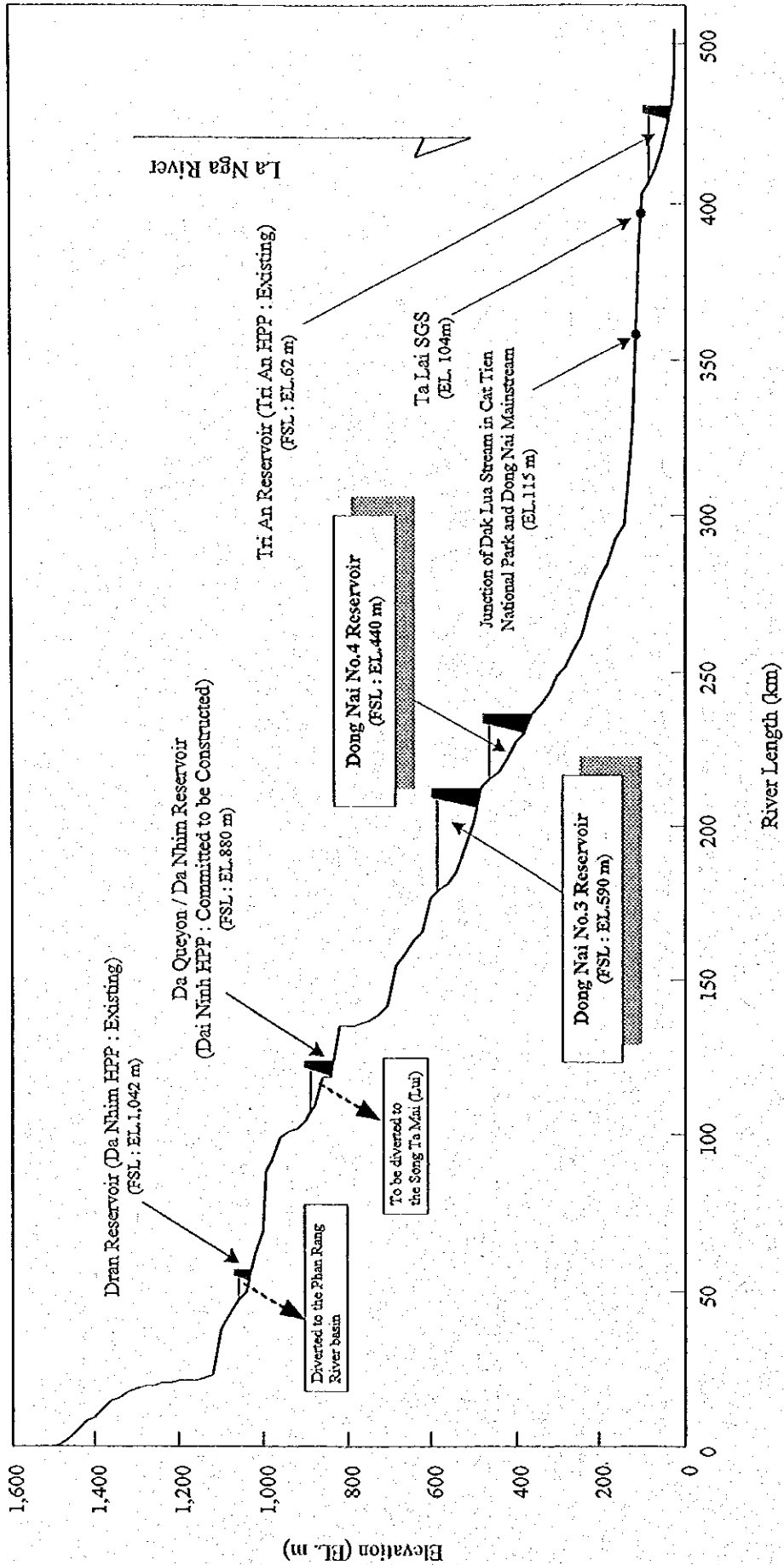


Figure 3.2 River Profile of Dong Nai Mainstream in Its Upper and Middle Reaches

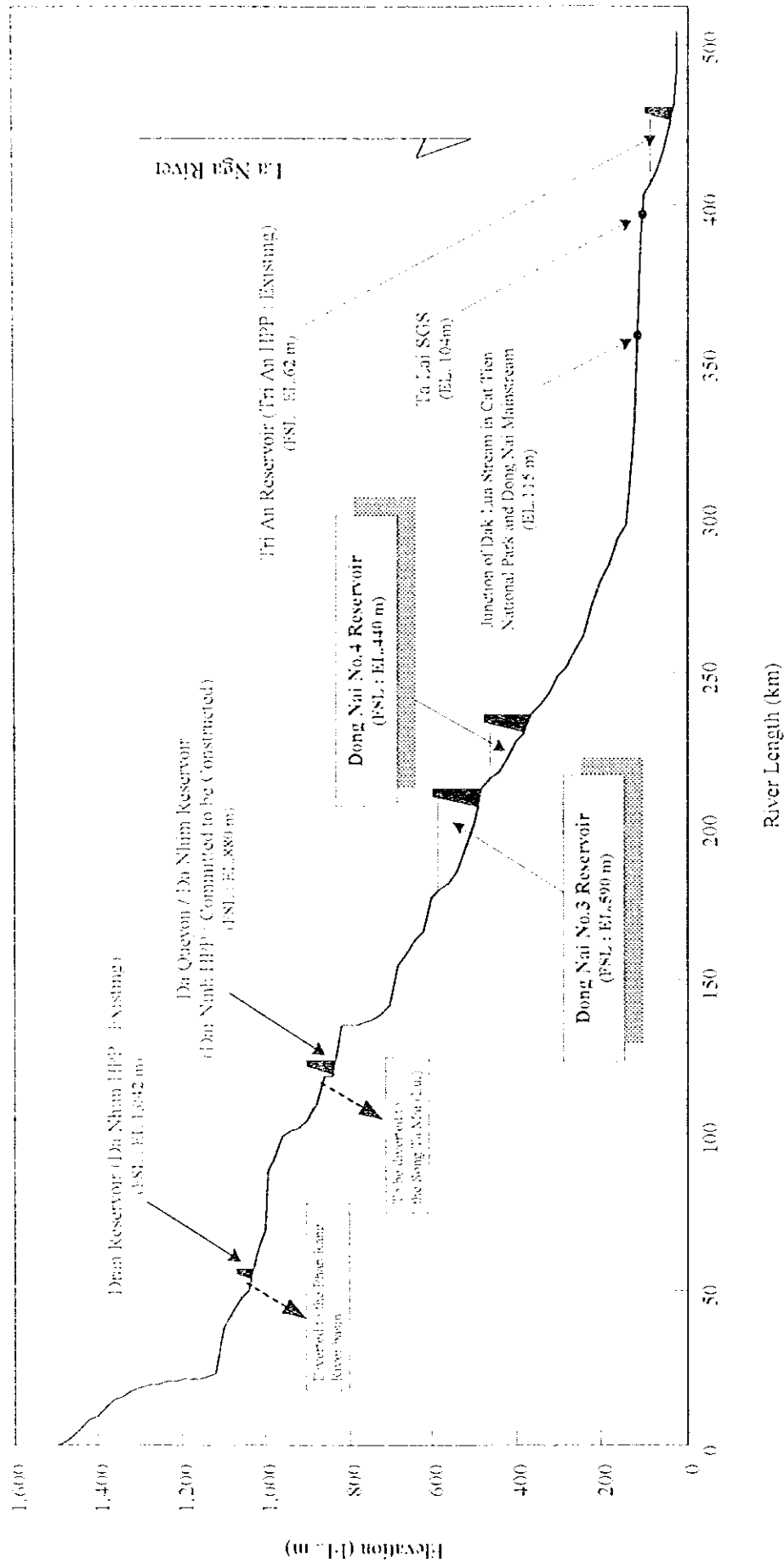
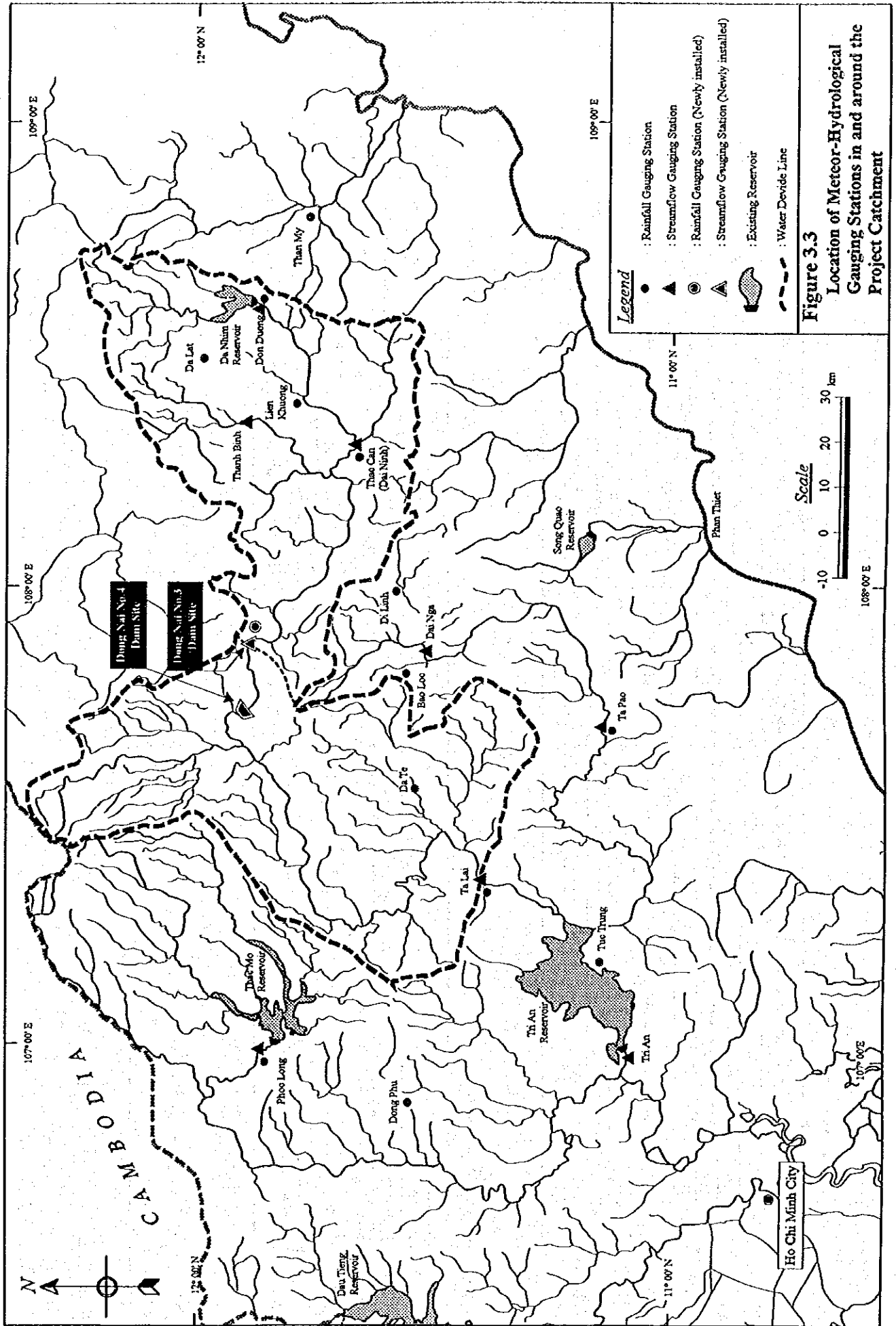
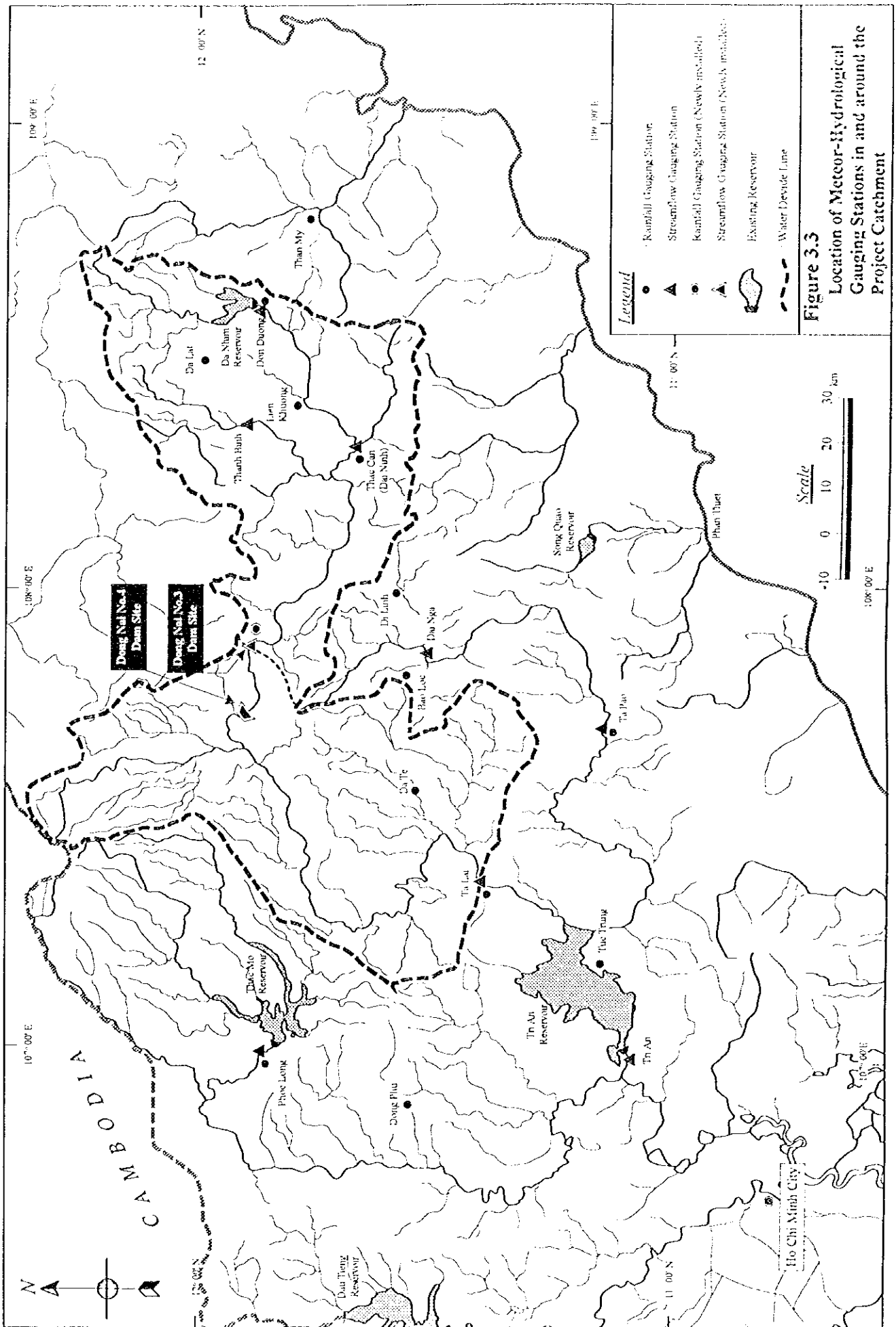


Figure 3.2 River Profile of Dong Nai Mainstream in Its Upper and Middle Reaches





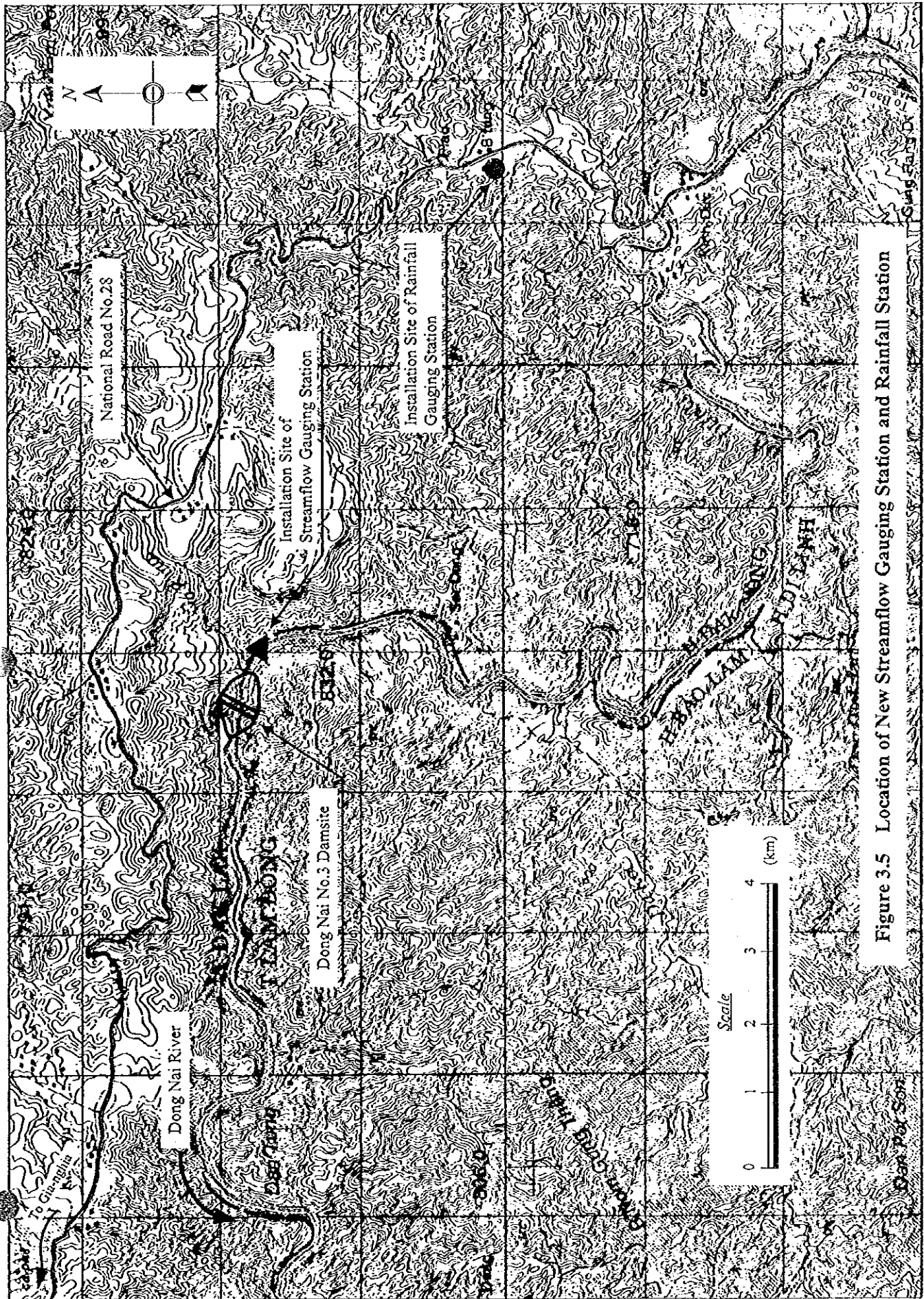
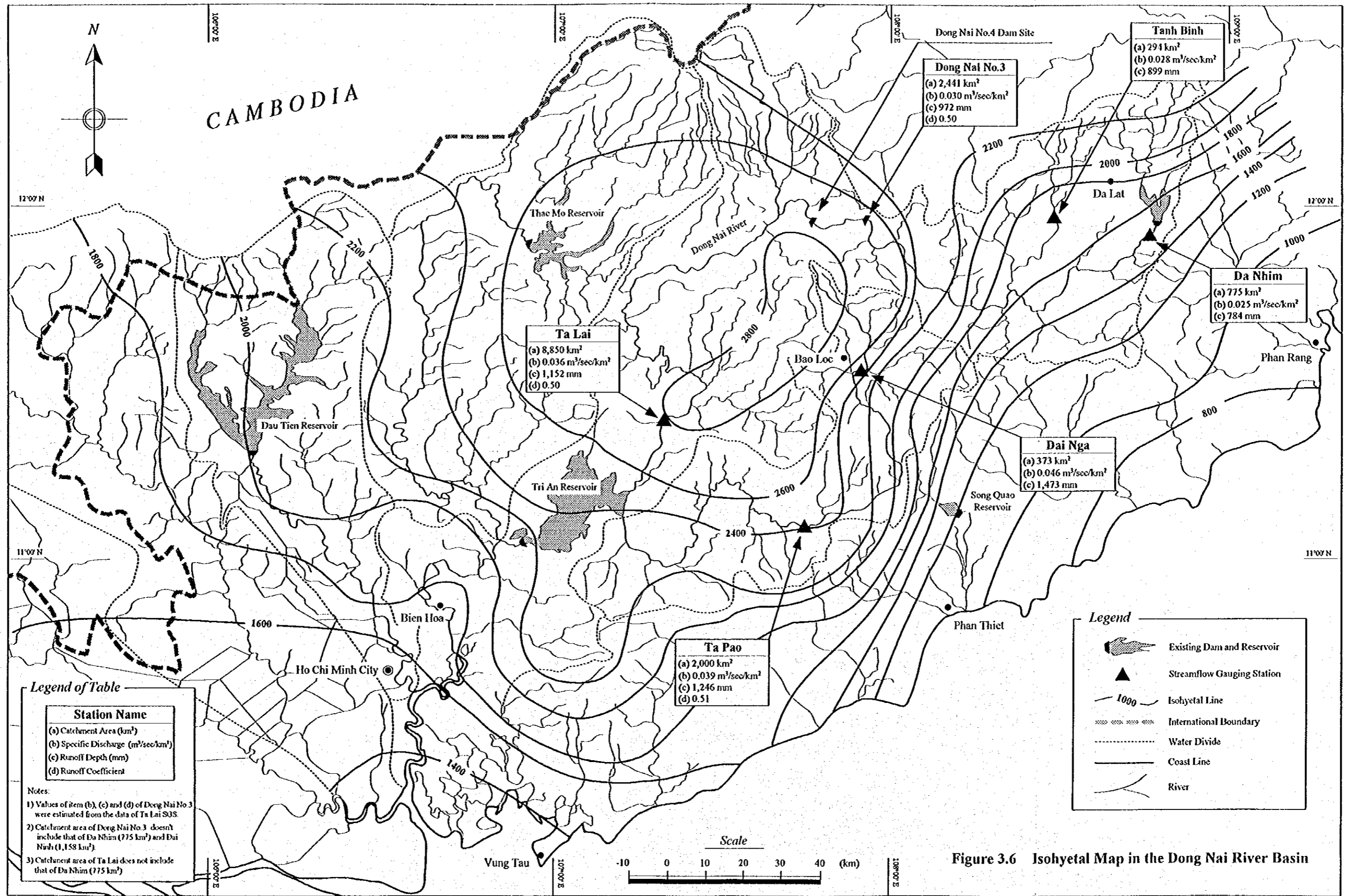


Figure 3.5 Location of New Streamflow Gauging Station and Rainfall Station



Legend of Table

Station Name
(a) Catchment Area (km ²)
(b) Specific Discharge (m ³ /sec/km ²)
(c) Runoff Depth (mm)
(d) Runoff Coefficient

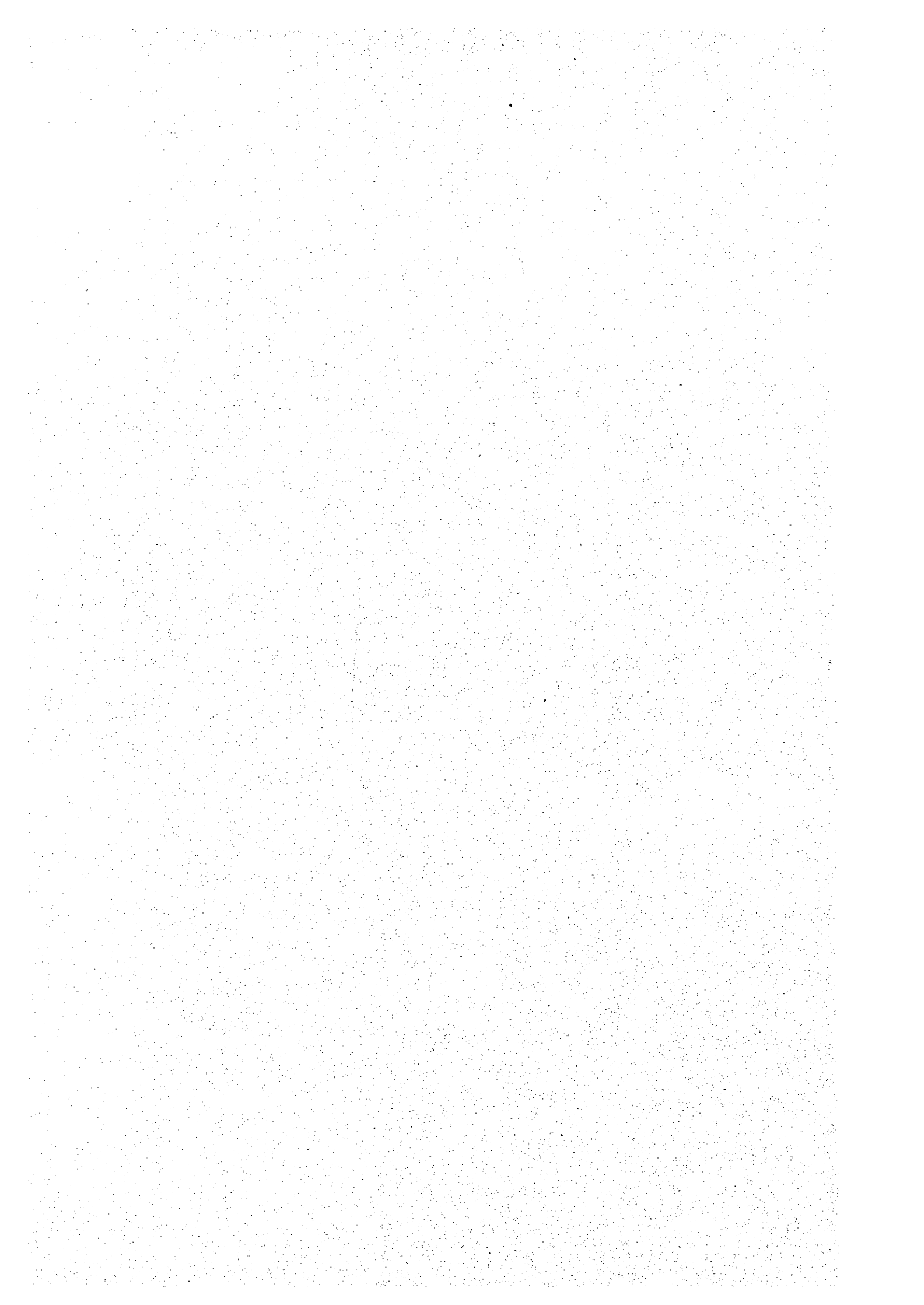
Notes:

- 1) Values of item (b), (c) and (d) of Dong Nai No.3 were estimated from the data of Ta Lai SJS.
- 2) Catchment area of Dong Nai No.3 doesn't include that of Da Nhim (775 km²) and Dai Nga (1,158 km²).
- 3) Catchment area of Ta Lai does not include that of Da Nhim (775 km²).

Legend

- Existing Dam and Reservoir
- Streamflow Gauging Station
- Isohyetal Line
- International Boundary
- Water Divide
- Coast Line
- River

Figure 3.6 Isohyetal Map in the Dong Nai River Basin



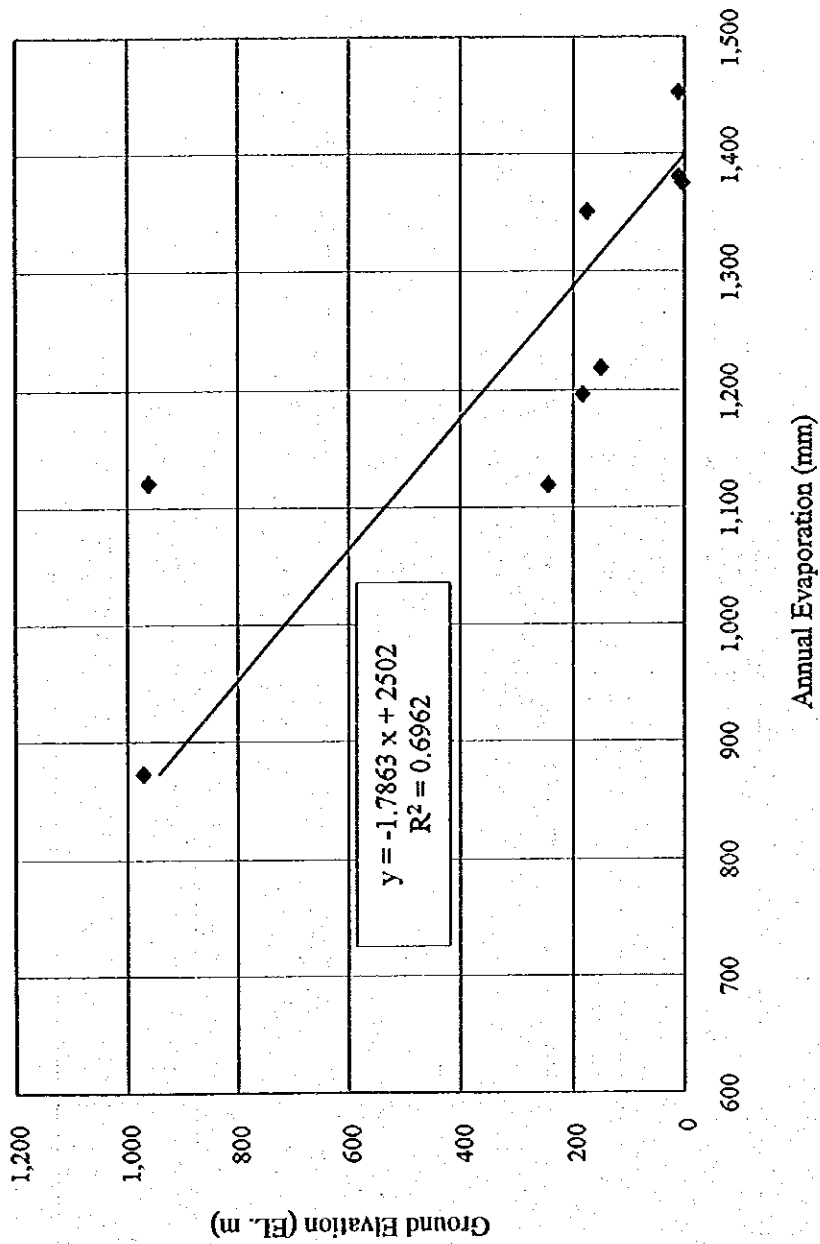


Figure 3.7 Correlation Analyses between Annual Evaporation and Ground Elevation

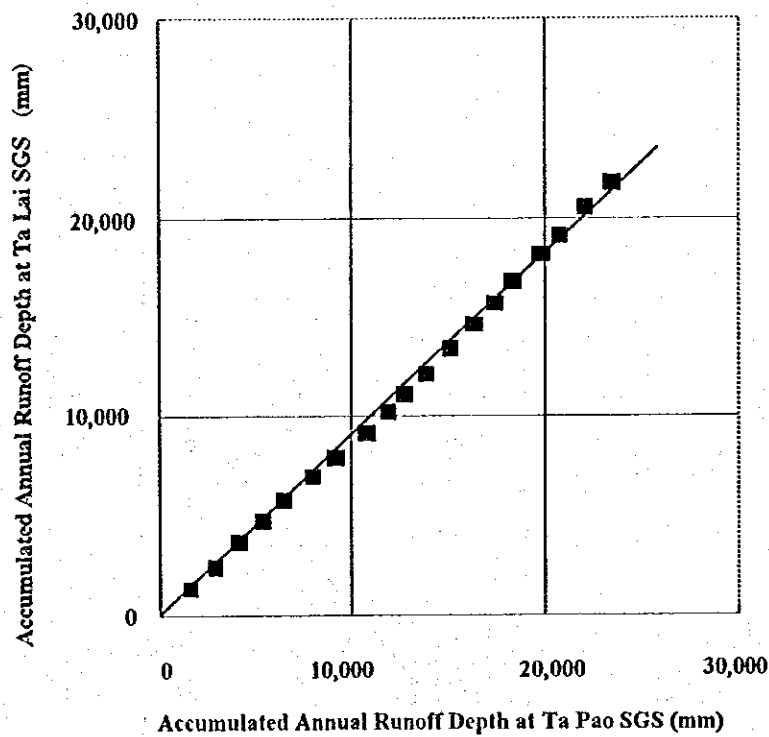


Figure 3.8 Double Mass Curve of Runoff Depth at Ta Lai SGS and Ta Pao SGS

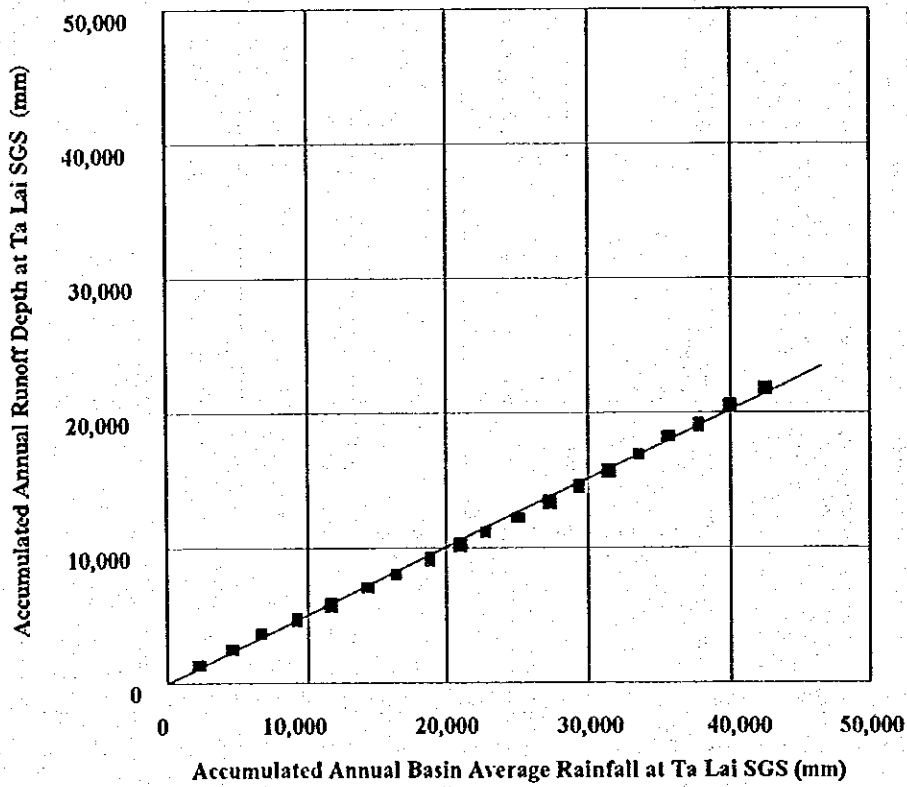


Figure 3.9 Double Mass Curve of Annual Runoff Depth at Ta Lai SGS and Annual Basin Average Rainfall for Catchment of Ta Lai SGS

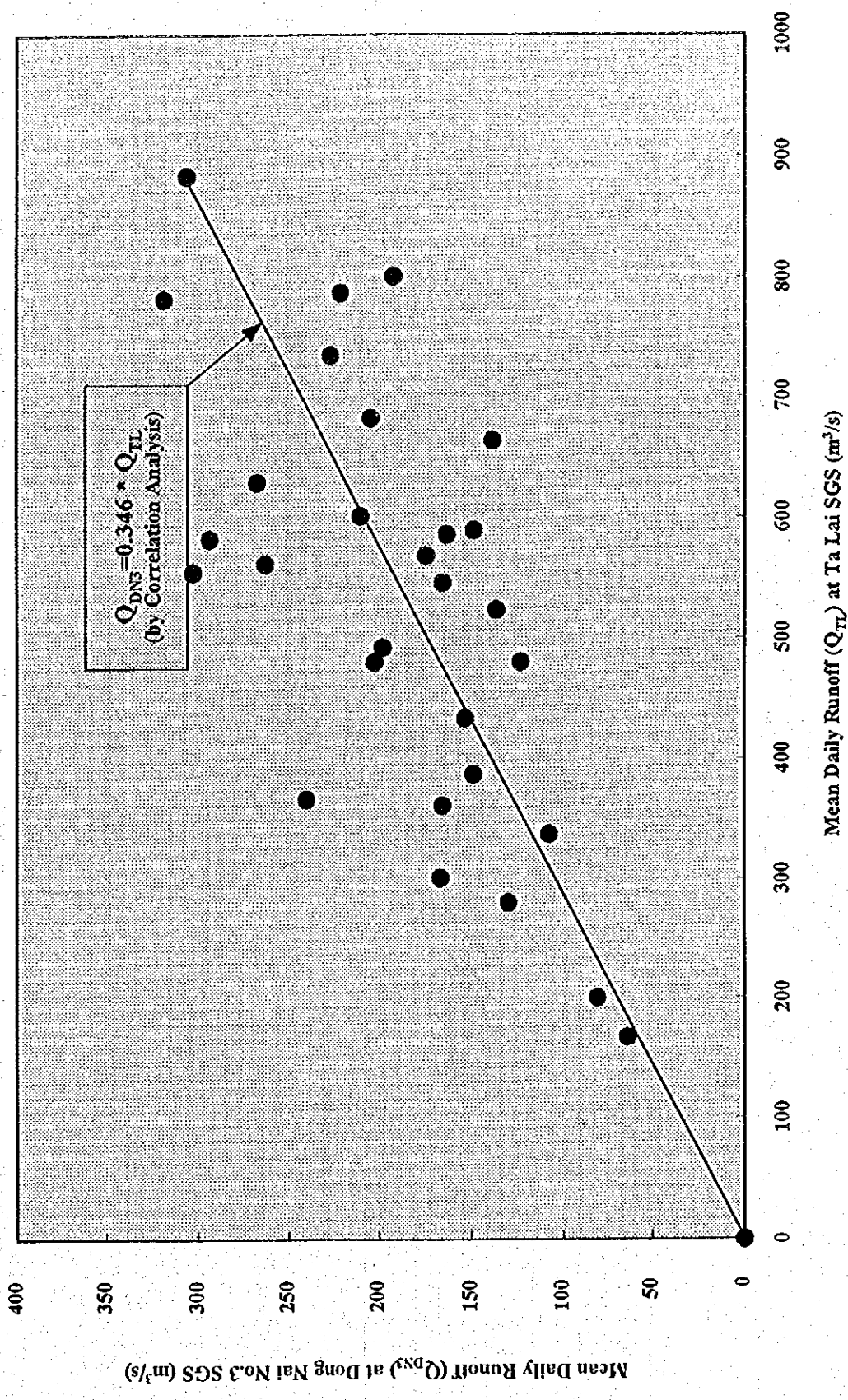


Figure 3.10 Relation of Runoff Records between Ta Lai SGS and Dong Nai No.3 SGS

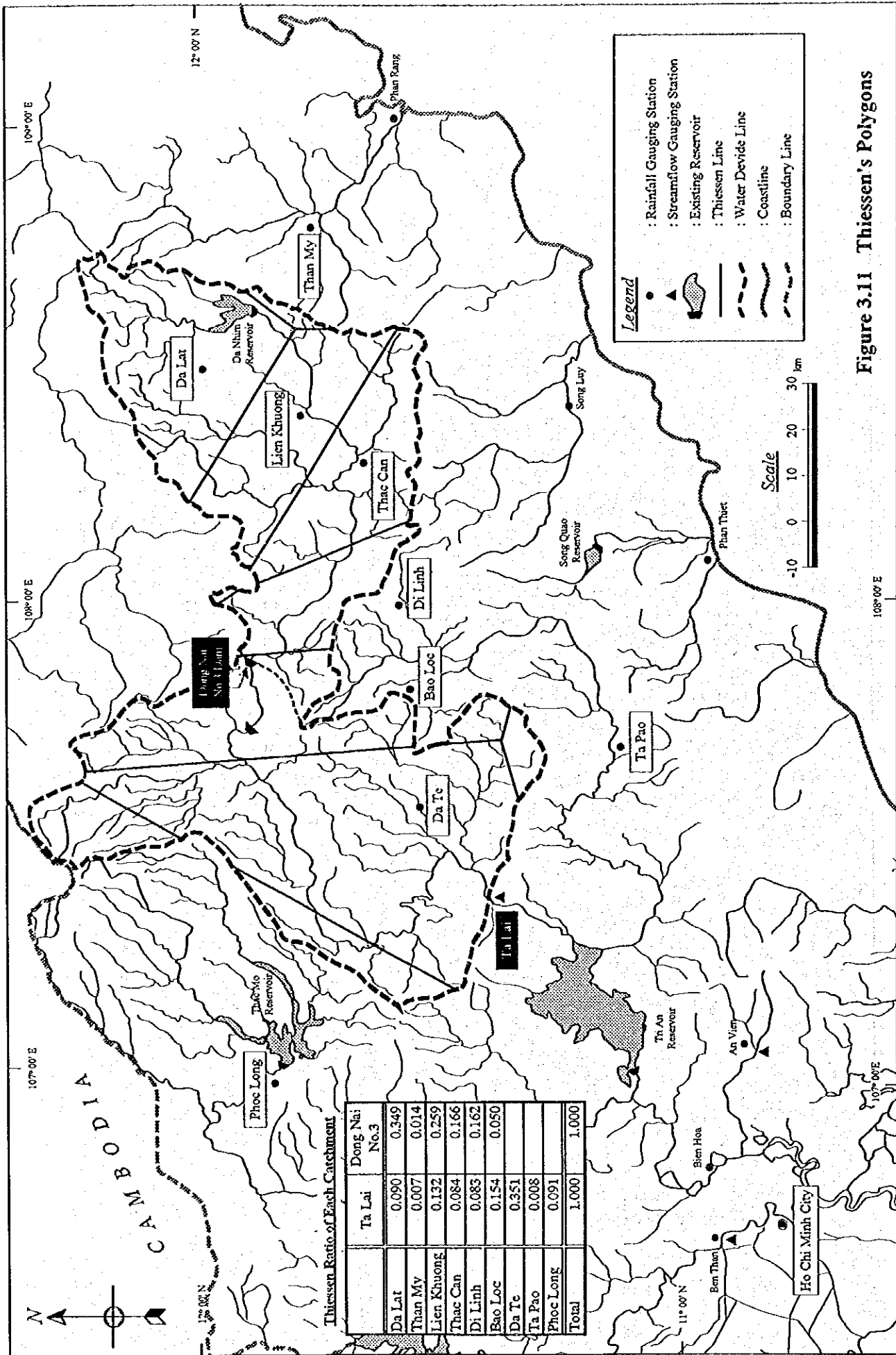


Figure 3.11 Thiessen's Polygons

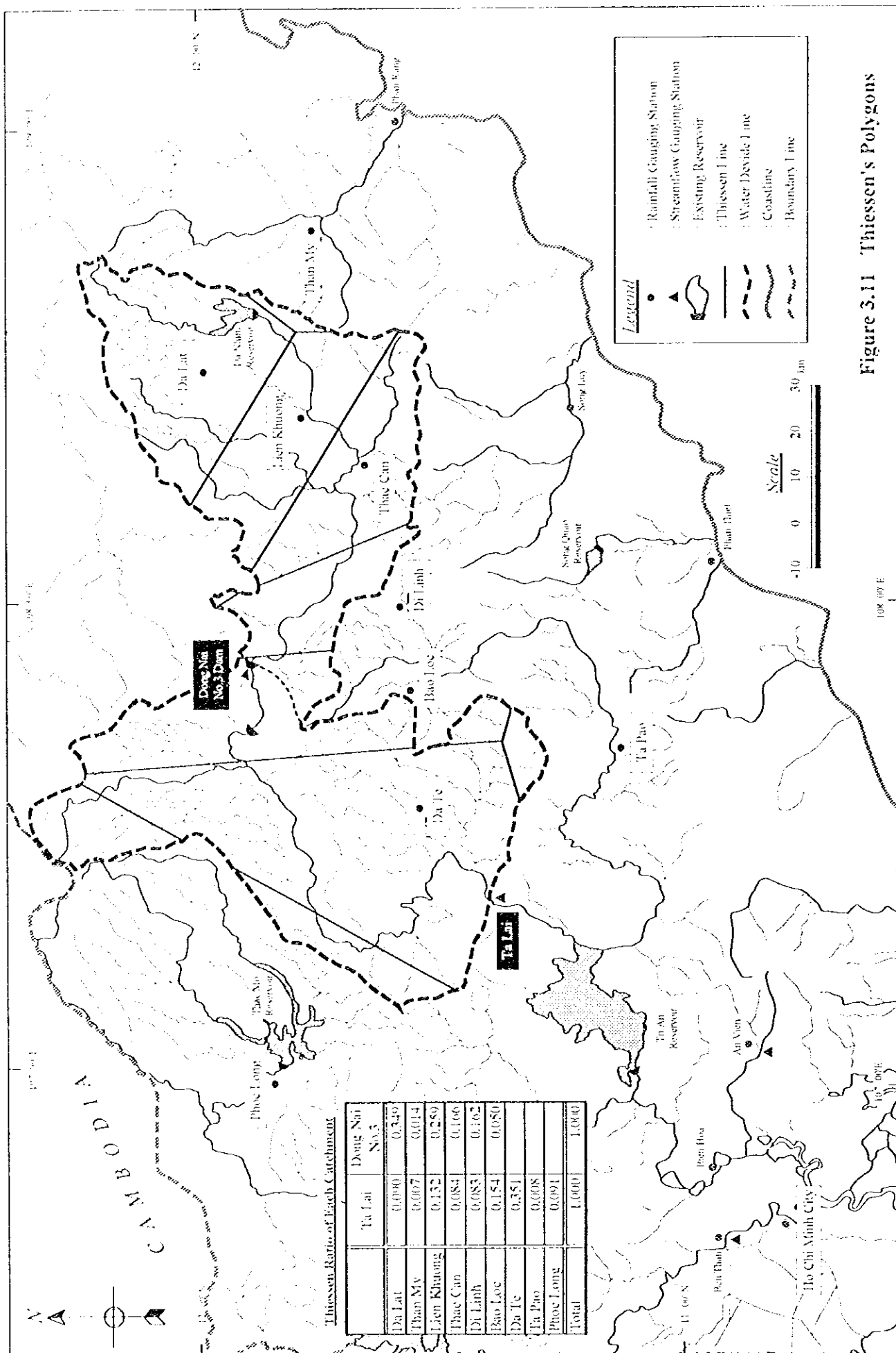


Figure 3.11 Thiessen's Polygons

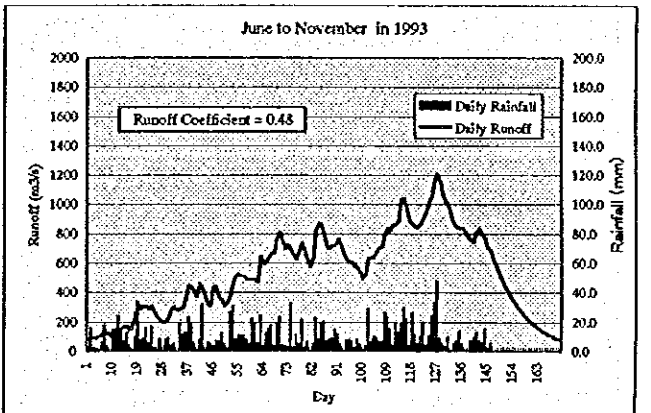
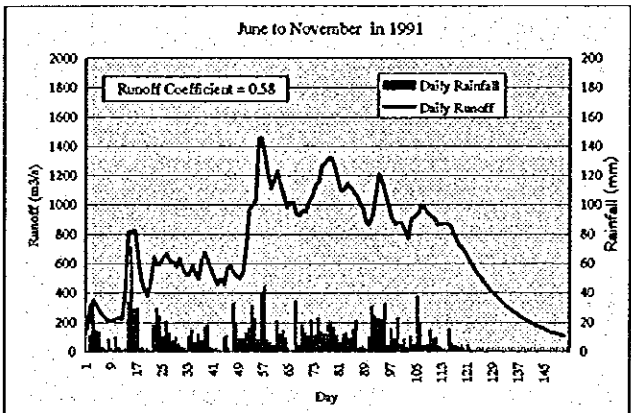
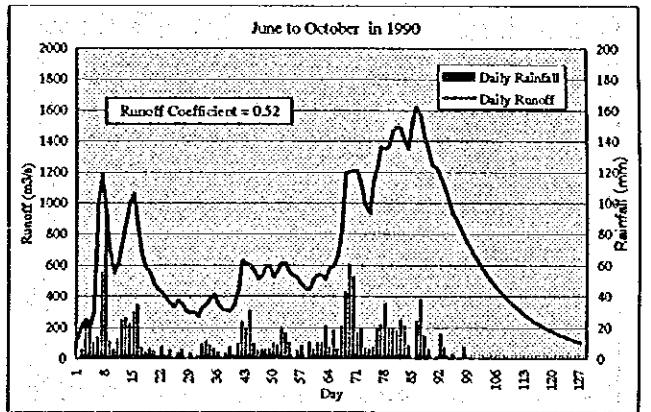
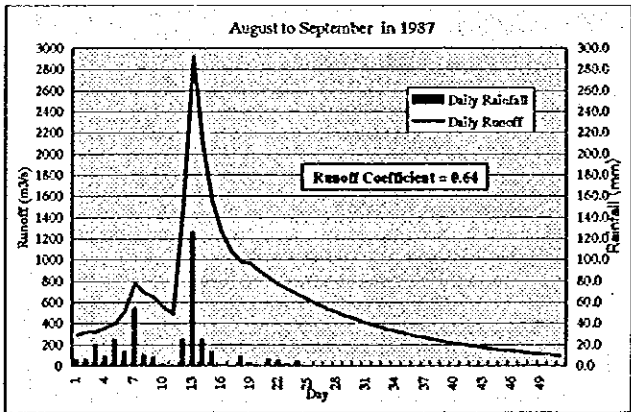
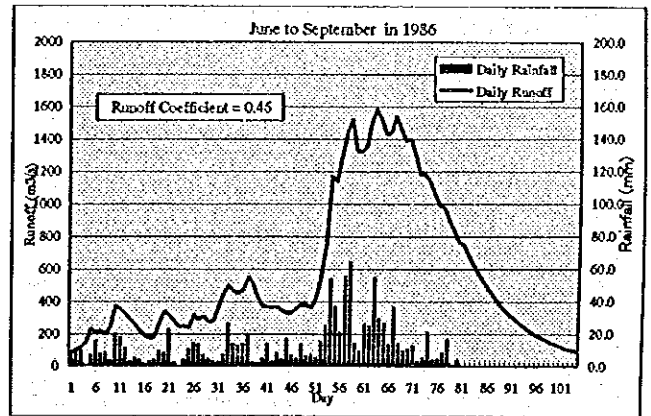
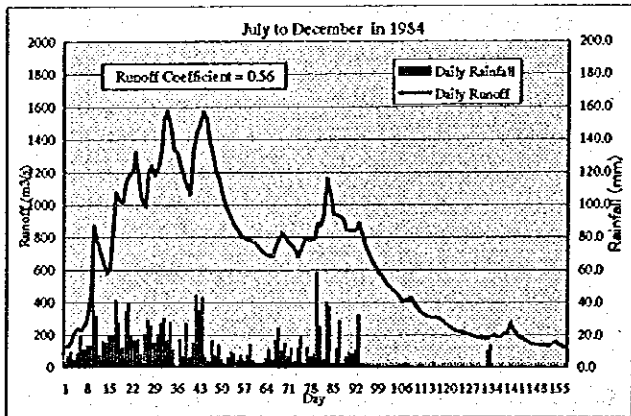
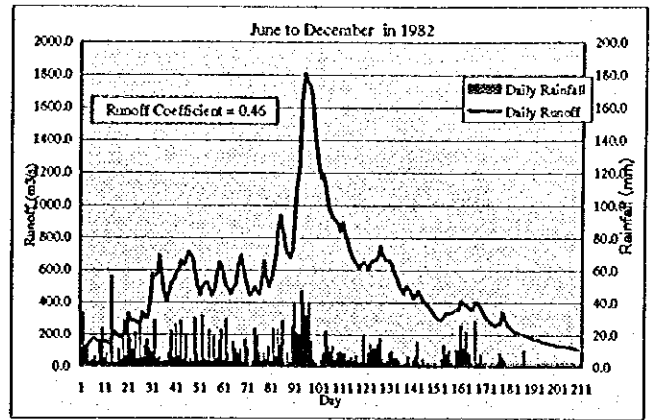
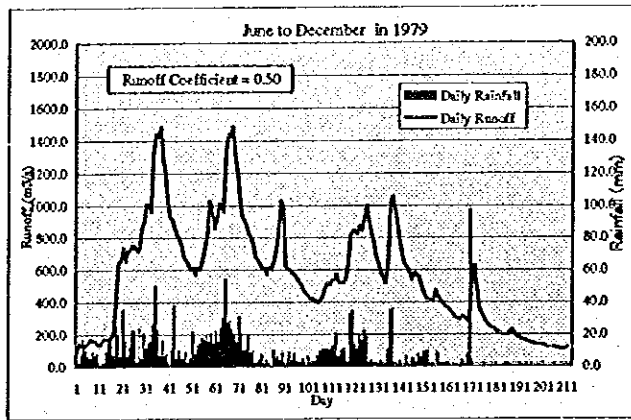


Figure 3.12 Major Flood at Ta Lai SGS used for calculation of Runoff Coefficient

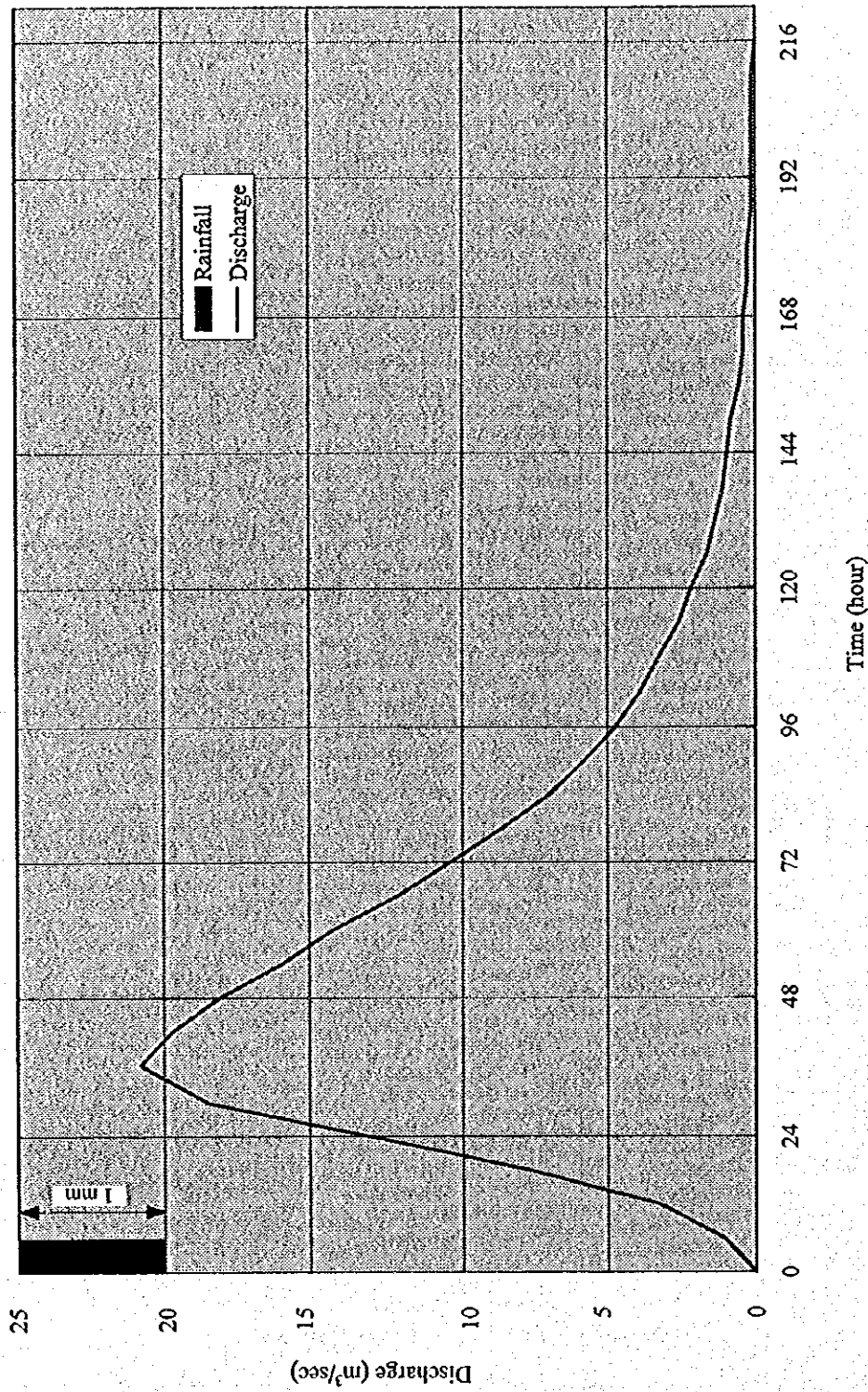
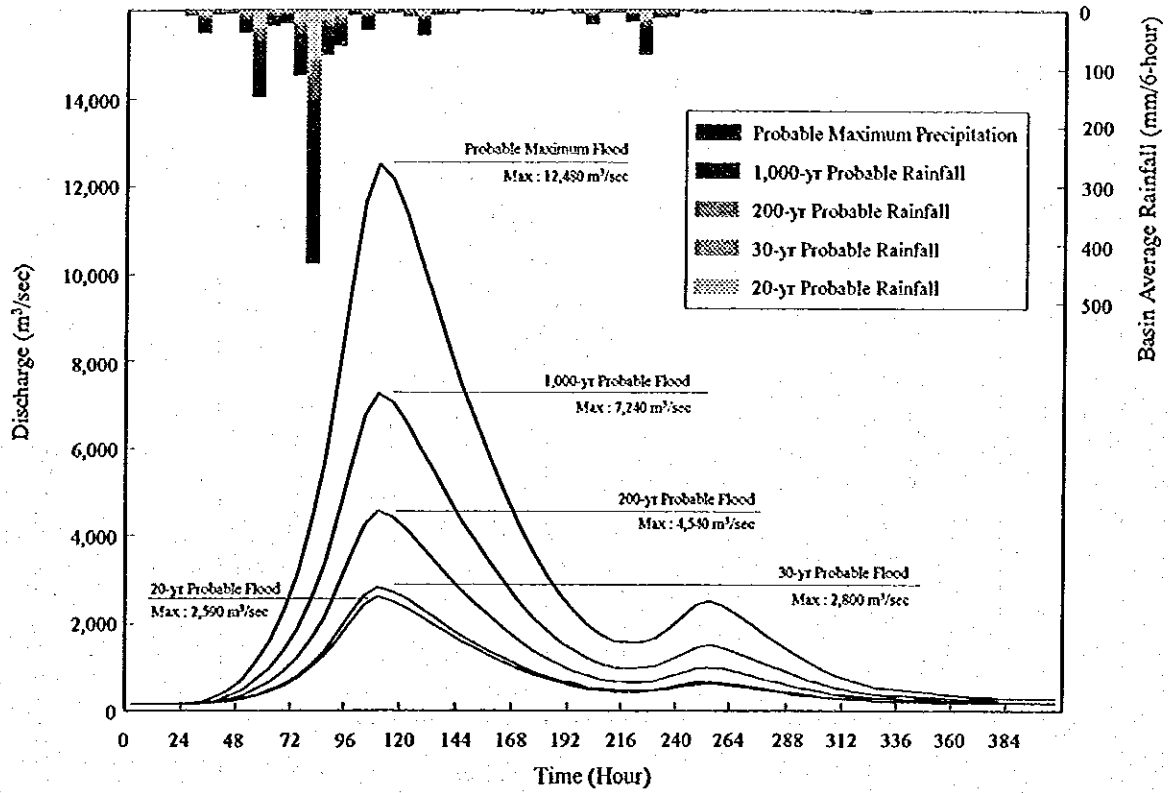
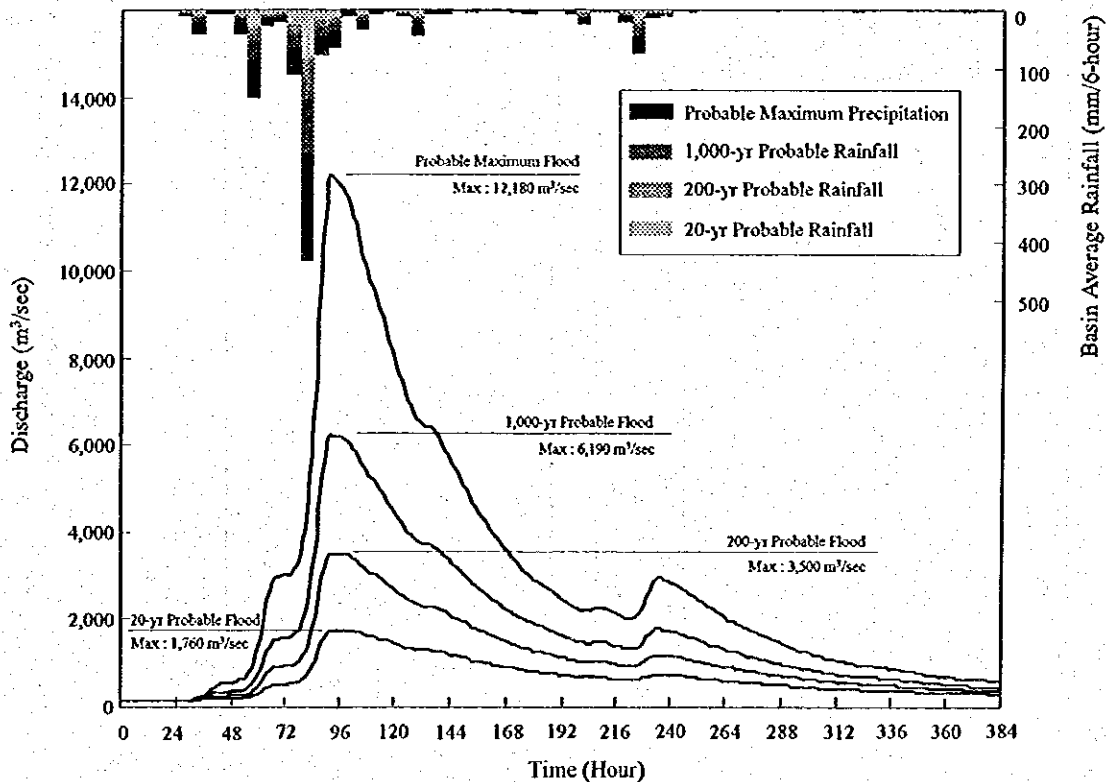


Figure 3.13 Unitgraph at Dong Nai No.3 Dam



(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)

Figure 3.14 Hydrograph of Probable Floods and PMF at Dong Nai No.3 Dam Site

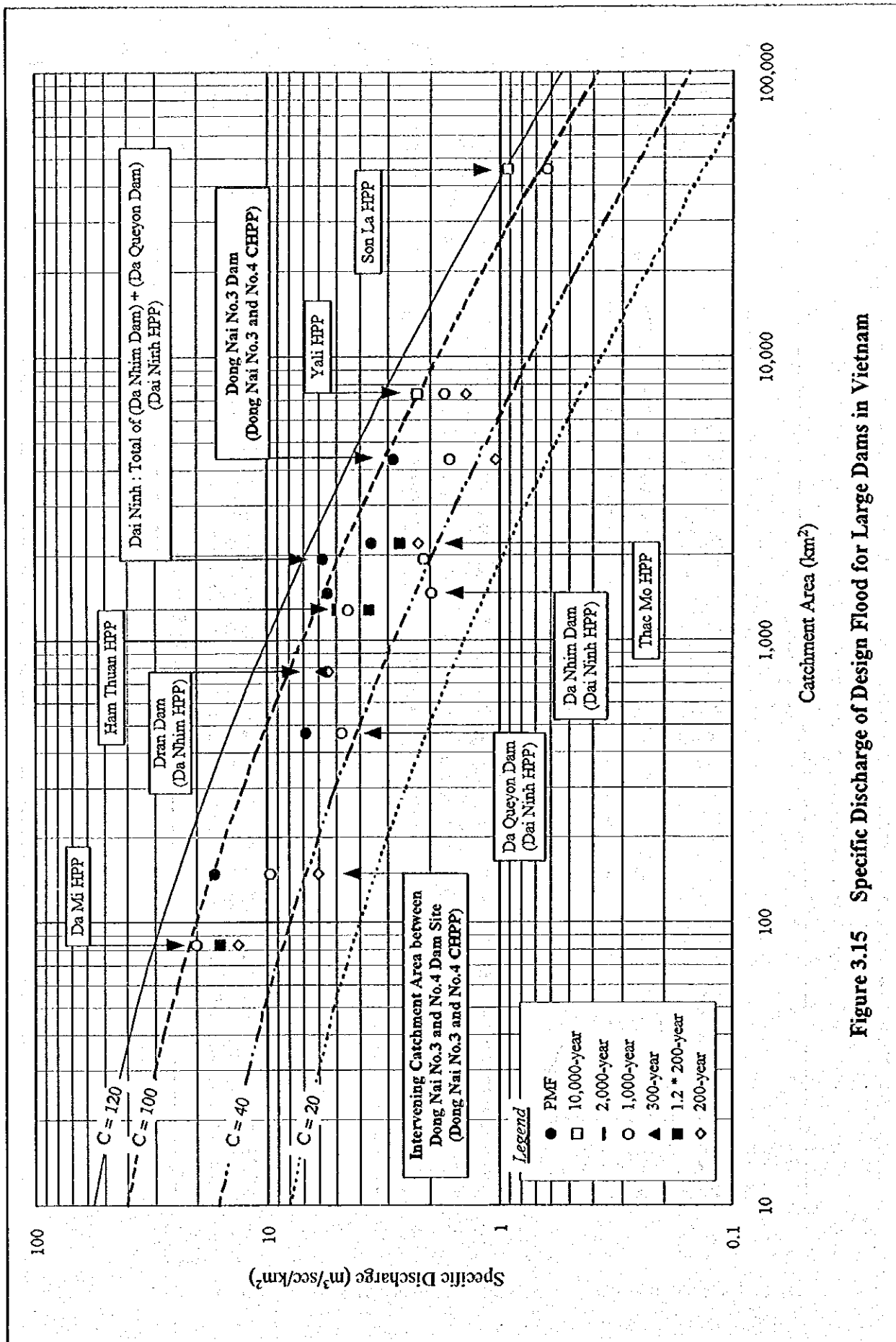


Figure 3.15 Specific Discharge of Design Flood for Large Dams in Vietnam

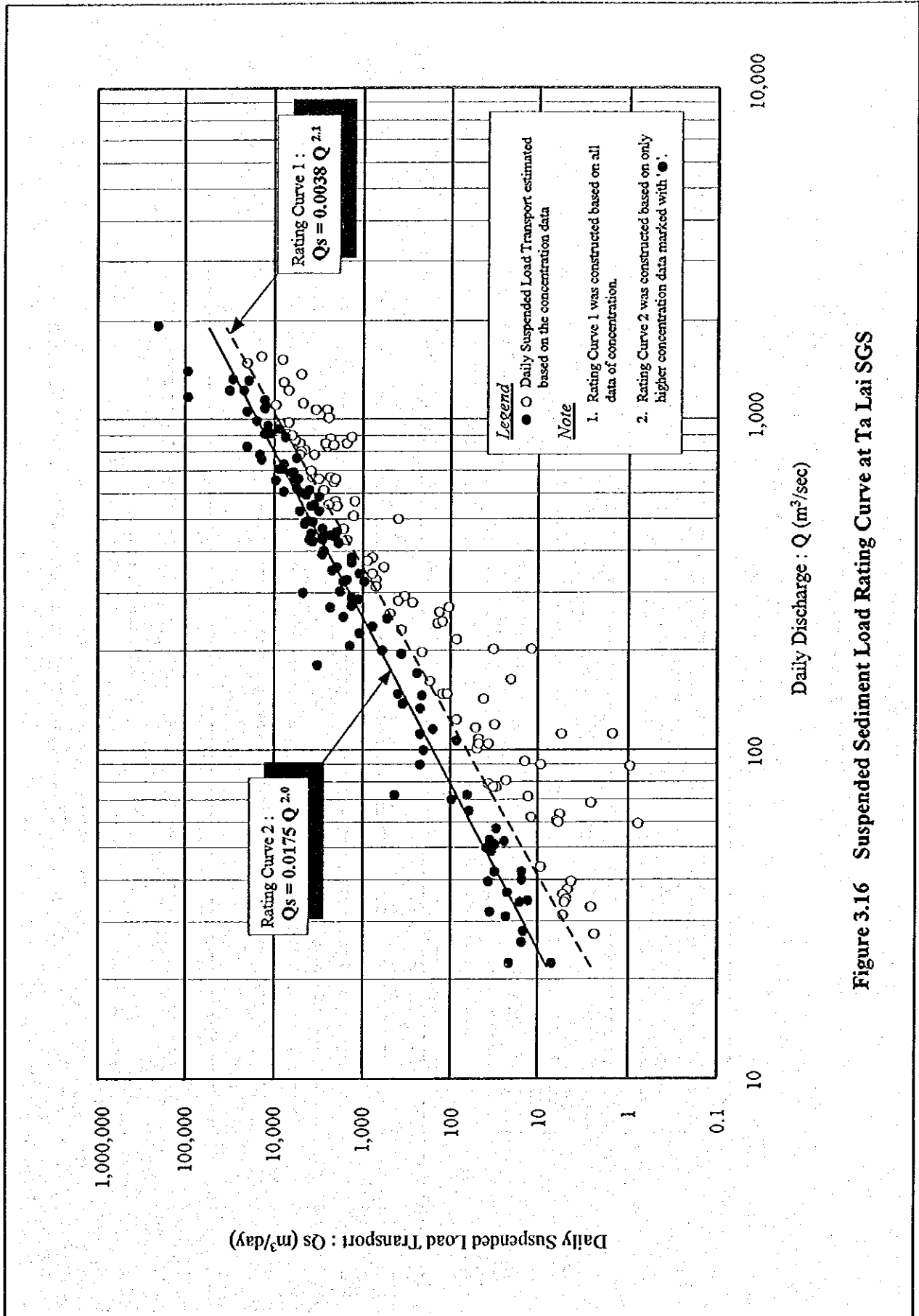


Figure 3.16 Suspended Sediment Load Rating Curve at Ta Lai SGS

Legend
 ■ Denudation Rates adopted in large dams in Vietnam

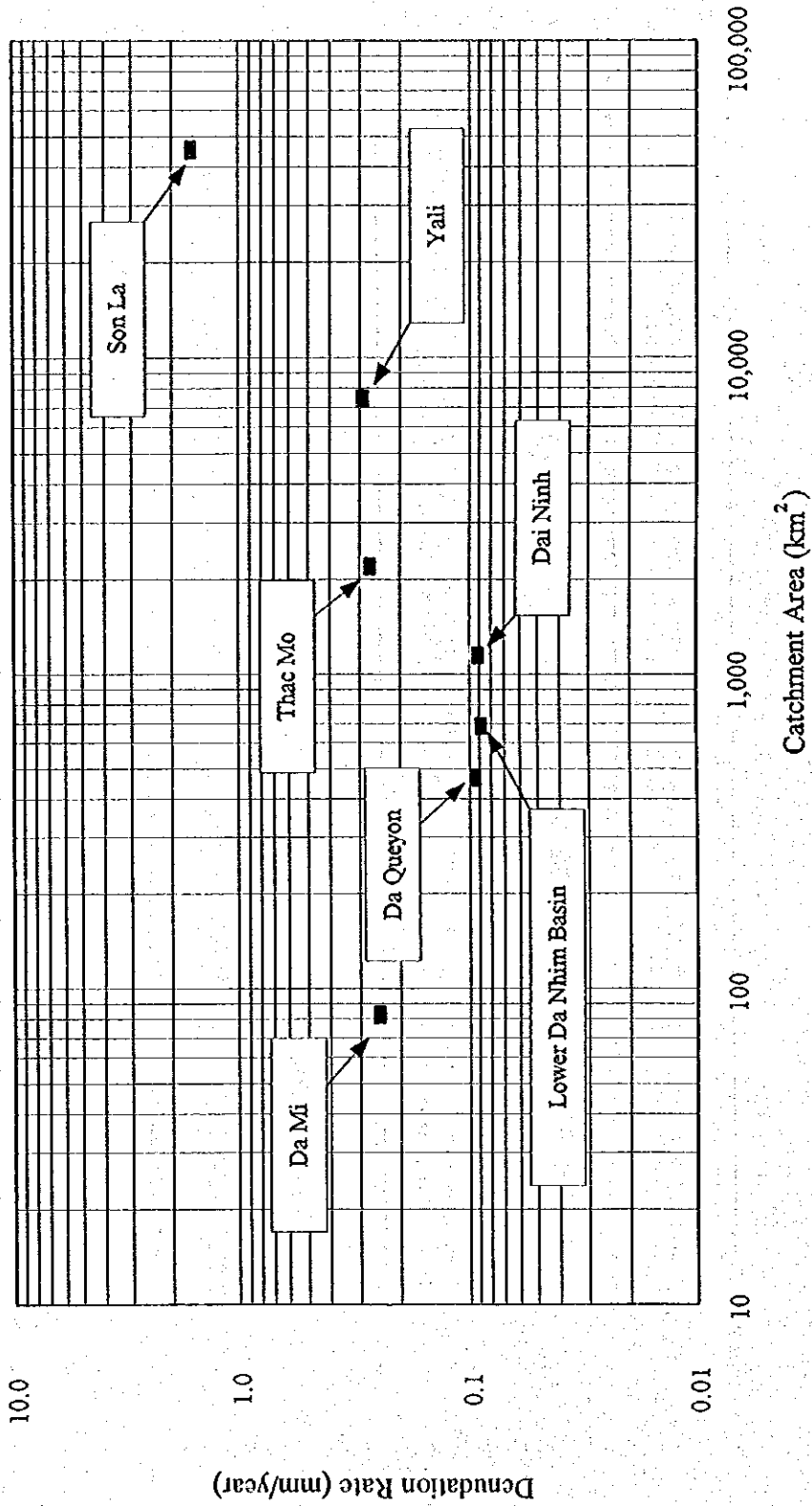
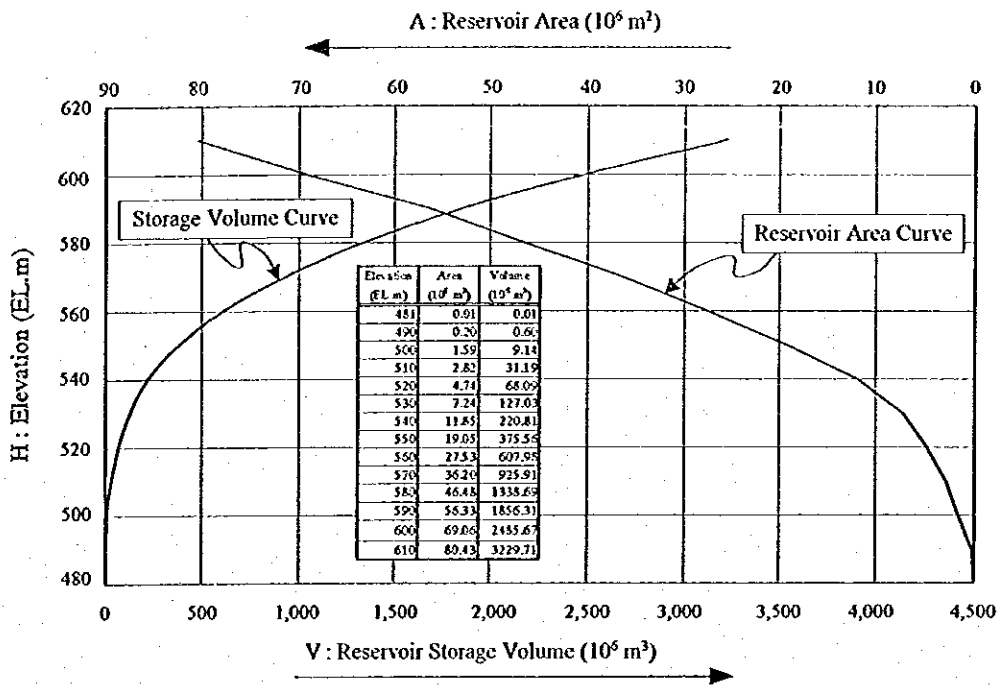
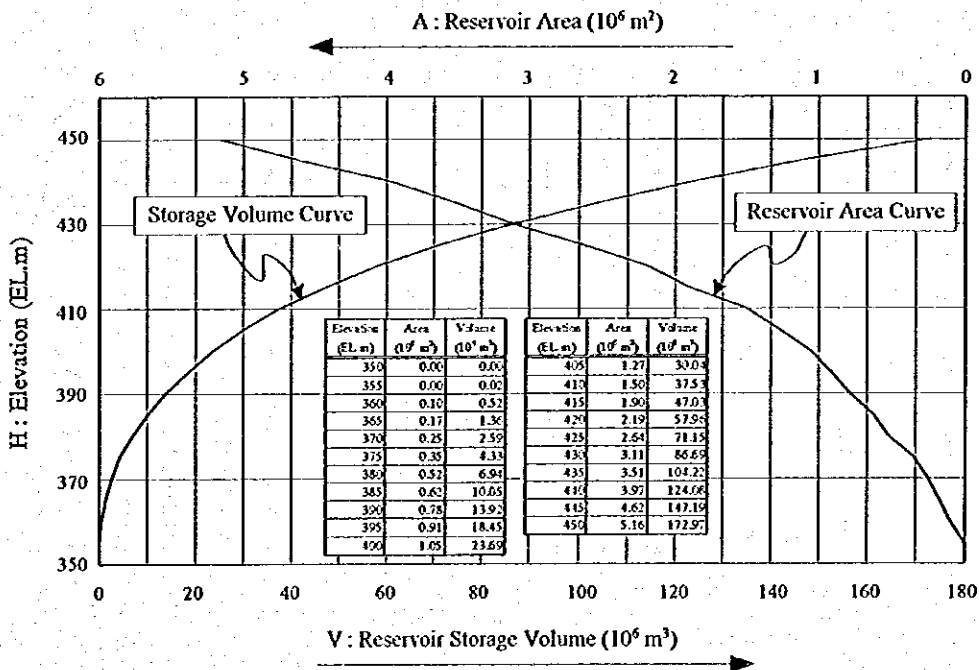


Figure 3.17 Chachment Area versus Denudation Rate in Vietnam



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



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

Figure 3.18 Storage and Area Curves of Dong Nai No.3 and No.4 Reservoirs

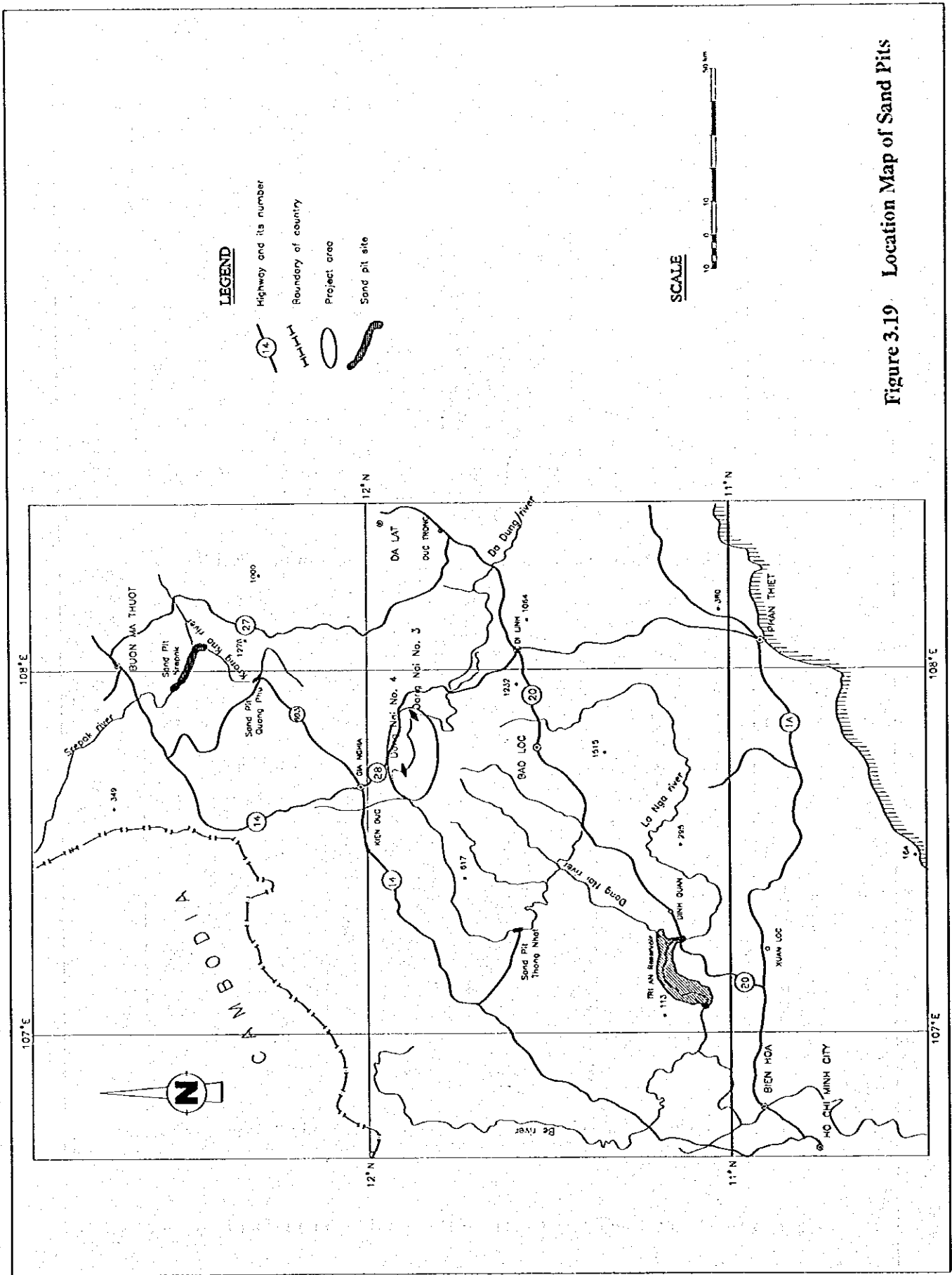


Figure 3.19 Location Map of Sand Pits

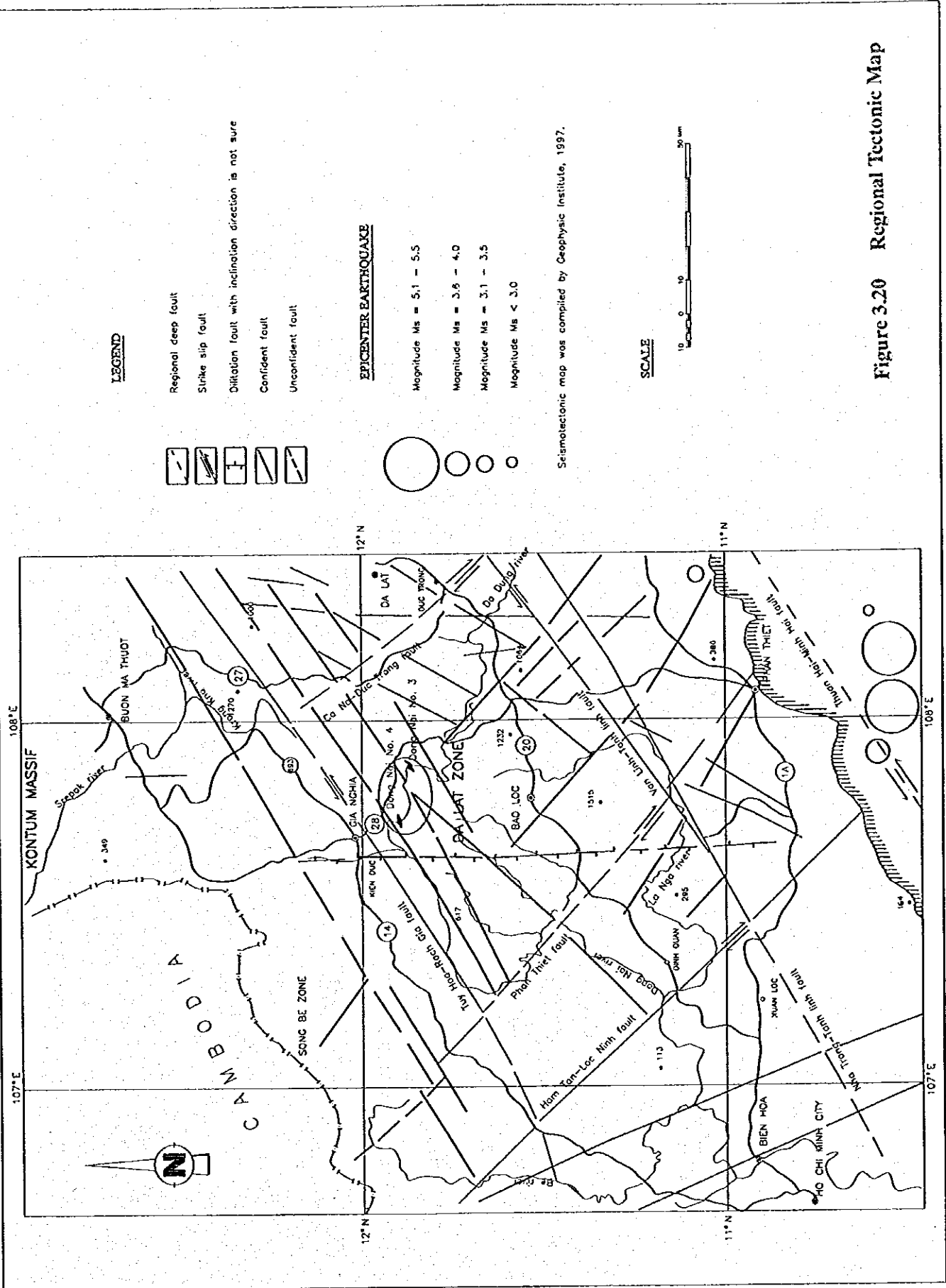
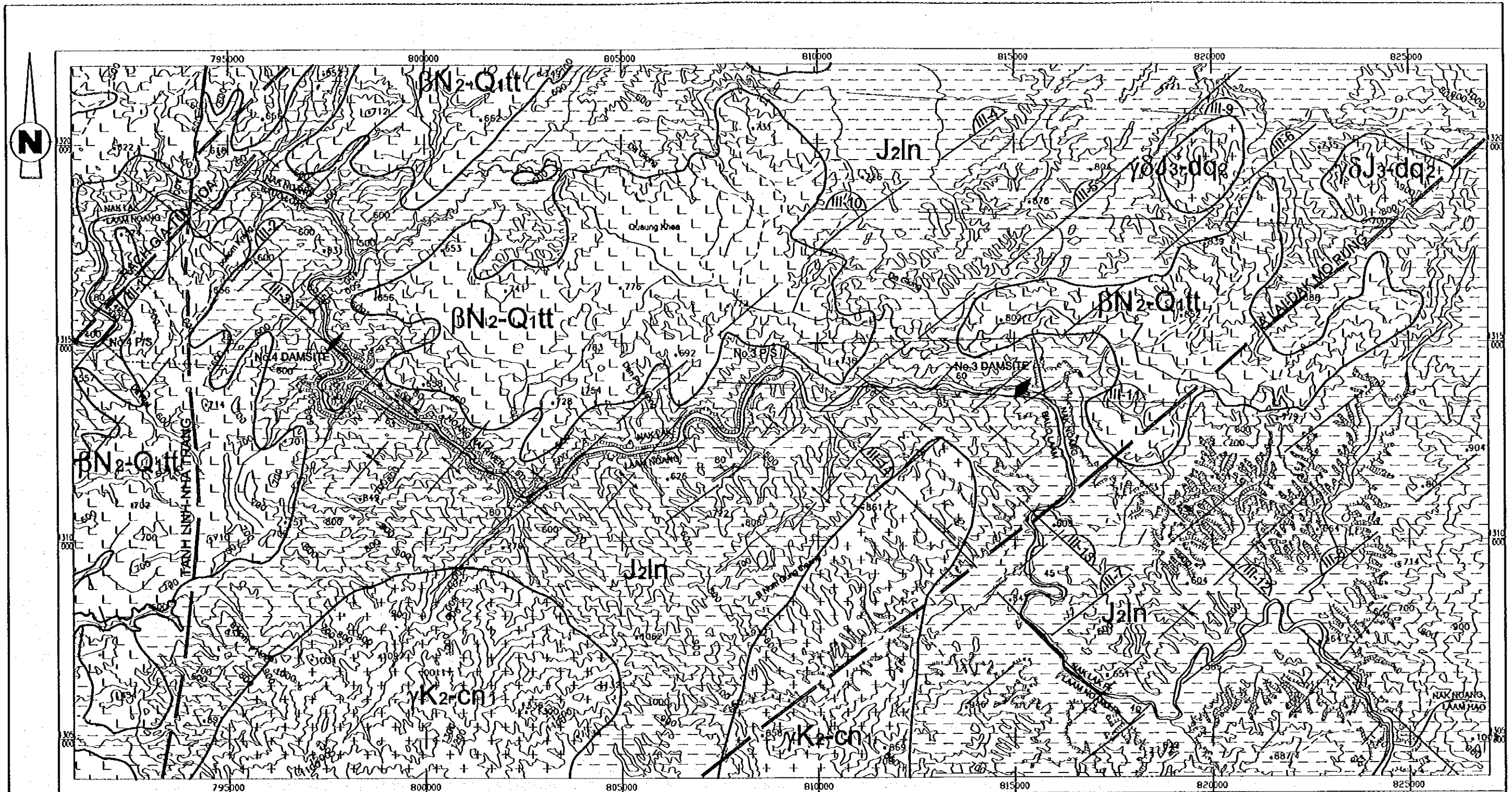


Figure 3.20 Regional Tectonic Map



LEGEND

Symbol	Rock Unit (Member)	Corresponding formation in regional geologic map.	Age	Boundary of strata	Reservoir area
	Riverbed-Deposit (Unconformity)		(Quaternary)		
	Basalt Lava (BN2-Q1tt) (Unconformity)	Tuo trung formation	Cenozoic (Pliocene-Pleistocene)		
	Granite (γK2-CN1)	Cana formation	(Lower Cretaceous)		
	Biotite hornblende granodiorite (γδJ3-dq2)	Ninhquan formation	Mesozoic (Upper Jurassic)		
	Sandstone, siltstone, shale, hornfels (J2In)	Langa formation	(Middle Jurassic)		



Figure 3.21 Geologic Map of Project Area