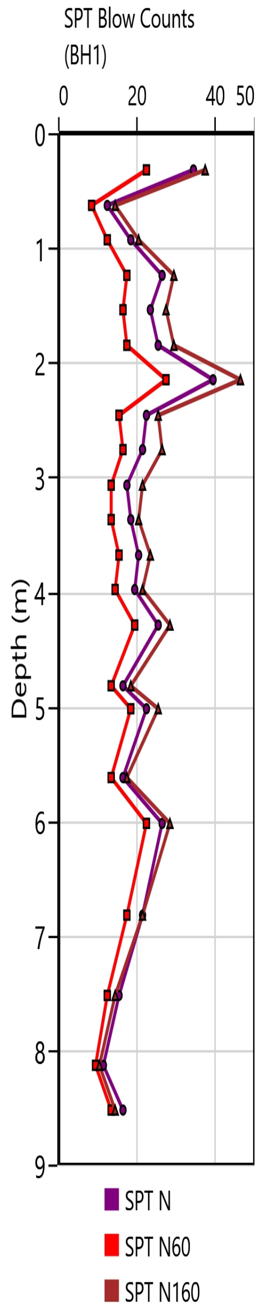
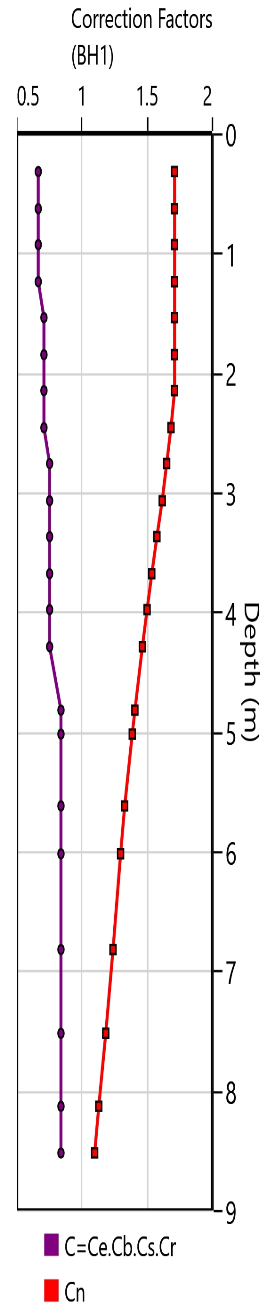
Project:	**Job No. :**	**Location:**	**Client:**
Sample project	123456	Sample location	Sample Client

Borehole:	BH1	**Overburden correction:**	Tokimatsu and Yoshimi (1983)
B(m) = L(m):	1.50	**Ce:**	1.00
FS:	3	**Cb:**	1.05
Allowable settlement (mm):	25.00	**Cs:**	0.83
Groundwater level (m):	1.50	**Apply water level correction:**	False

Thickness(m)	Unit weight (kPa)	Soil type	OCR	Cu
3.00	16.50	Fine	1.00	1.00
2.60	18.70	Fine	1.00	1.00
1.60	17.50	Fine	0.50	0.50
2.00	21.00	Coarse	1.00	1.00

Depth(m)	N	Cr	C = Cs.Cb.Cr.Ce	Cn	N60	(N1)60
0.30	34	0.75	0.65	1.70	22	37
0.61	12	0.75	0.65	1.70	8	14
0.91	18	0.75	0.65	1.70	12	20
1.22	26	0.75	0.65	1.70	17	29
1.52	23	0.80	0.70	1.70	16	27
1.83	25	0.80	0.70	1.70	17	29
2.13	39	0.80	0.70	1.70	27	46
2.44	22	0.80	0.70	1.67	15	25
2.74	21	0.85	0.74	1.64	16	26
3.05	17	0.85	0.74	1.60	13	21
3.35	18	0.85	0.74	1.56	13	20
3.66	20	0.85	0.74	1.53	15	23
3.96	19	0.85	0.74	1.49	14	21
4.27	25	0.85	0.74	1.45	19	28
4.80	16	0.95	0.83	1.40	13	18
5.00	22	0.95	0.83	1.37	18	25
5.60	16	0.95	0.83	1.32	13	17
6.00	26	0.95	0.83	1.29	22	28
6.80	21	0.95	0.83	1.23	17	21
7.50	15	0.95	0.83	1.17	12	14
8.11	11	0.95	0.83	1.12	9	10
8.50	16	0.95	0.83	1.09	13	14





Parameter	Reference	Value	Note	Formula
Overburden correction factor (Cn)	Gibbs & Holtz (1959)	1.70	Unit of effective stress psi Effective stress (psi) = 11.67	$Cn = \frac{50}{(10+\sigma'_{V0})}$
	Bazaraa (1967)	0.98	Unit of effective stress in ksf Effective stress (ksf) = 1.68	$(\sigma'_{V0} \leq 1.5) \Rightarrow Cn = (\frac{4}{1+2\sigma'_{V0}}), (\sigma'_{V0} > 1.5) \Rightarrow Cn = (\frac{4}{3.25+0.5\sigma'_{V0}})$
	Peck et al. (1974)	1.07	Unit of effective stress in kg/cm2 Effective stress (kg/cm2) = 0.82	$Cn = 0.77log_{10}\left(\frac{20}{\sigma'_{V0}}\right)$
	Seed (1976)	1.11	Unit of effective stress in kg/cm2 Effective stress (kg/cm2) = 0.82	$Cn = 1 - 1.25log_{10}(\sigma'_{V0})$
	Tokimatsu &Yoshimi (1983)	1.12	Unit of effective stress in kg/cm2 Effective stress (kg/cm2) = 0.82	$Cn = \frac{1.7}{(0.7+\sigma'_{V0})}$
	Liao & Whitman (1986)	1.10	Unit of effective stress in kg/cm2 Effective stress (kg/cm2) = 0.82	$Cn = (\frac{1}{\sigma'_{V0}})^{0.5}$
	Skempton (1986)	1.10	Unit of effective stress in kg/cm2 Effective stress (kg/cm2) = 0.82	$Cn = (\frac{2}{1+\sigma'_{V0}})(NCMediumLooseFineSands)$
	Skempton (1986)	1.06	Unit of effective stress in kg/cm2 Effective stress (kg/cm2) = 0.82	$Cn = (\frac{3}{2+\sigma'_{V0}})(NCDenseCoarseSand)$
	Skempton (1986)	1.12	Unit of effective stress in kg/cm2 Effective stress (kg/cm2) = 0.82	$Cn = (\frac{1.7}{0.7+\sigma'_{V0}})(OCFineSands)$
Allowable Bearing Capacity (kPa)	Teng (1969)	620.74	Based on shear failure criteria (FS = 3) N = Average corrected spt blow count (Gibbz and Holtz 1948) to 1B depth below footing B(m) = 1.50 N = 19 Rw = 0.59 R'w = 0.50	$Qa(kPa) = 0.1570464(2N^2BR_w + 6(100 + N^2)D_fR'_w)/FS$
	Meyerhof Method	814.23	Based on shear failure criteria (FS = 3) B(m) = 1.50 N = Average uncorrected spt blow count to 1.5B depth below footing N = 14 CW1 = 0.50 CW2 = 0.59	$Qa(kPa) = 314.0928(NB/10(C_{w1} + C_{w2}D_f/B))/FS$
	General Terzaghi formula	795.64	Based on shear failure criteria (FS = 3) B(m) = 1.50 Friction angle (Hatanaka and Uchida 1996) = 33.37 Nq (Bowels 1986) = 27.27 Nγ (Hansen 1970) = 25.95	$Qa(kPa) = (\overline{q}N_q + 0.5B\gamma N_\gamma)/FS$
	Terzaghi and Peck (1948)	212.29	Based on allowable settlement (25.00mm) B(m) = 1.50 N = Average uncorrected spt blow count to 1B depth below footing N = 14 Cw = 1.00 Cd = 0.75	$(B <= 1.22) \Rightarrow Qa(kPa) = 0.4713\frac{NS_e}{C_wC_d}, (B > 1.22) \Rightarrow Qa(kPa) = 0.3142\frac{NS_e}{C_wC_d}\left(\frac{3.28B+1}{3.28B}\right)^2$
	Modified Meyerhof (1965)	423.48	Based on allowable settlement (25.00mm) B(m) = 1.50 N = Average uncorrected spt blow count to 1B depth below footing N = 14 Cd = 1.33	$(B <= 1.22) \Rightarrow Qa(kPa) = 0.9426NS_eC_d, (B > 1.22) \Rightarrow Qa(kPa) = 0.6283NS_eC_d\left(\frac{3.28B+1}{3.28B}\right)^2$
	Anagnostopoulos et al. (1991)	412.35	Based on allowable settlement (25.00mm) B(m) = 1.50 N = Average uncorrected spt blow count to 1B depth below footing N = 14	$Qa(kPa) = \left(\frac{SN^{1.2}}{2.37B^{0.7}}\right)^{1/0.87}$
	Burland and Burbidge (1985)	357.73	Based on allowable settlement (25.00mm) B(m) = 1.50 N = Average corrected spt blow count to 1.4*Br*(B/Br)^0.75 depth below footing Br = 0.3m N = 12	$Qa(kPa) = \frac{SN^{1.4}}{1.706B^{0.7}}$
Relative Density (Dr) (%)	Marcuson & Beiganousky (1977a)	57.15	Fine sand effective stress in psi = 11.67 OCR = 1.00	$Dr = 8.6 + 0.83((N + 10.4 - 3.2OCR - 0.24\sigma'_{V0})/0.0045)^{0.5}$
	Marcuson & Beiganousky (1977b)	55.76	Coarse sand effective stress in psi = 11.67 OCR = 1.00Cu = 1.00	$Dr = 12.2 + 0.75(222N + 2311 - 711OCR - 53\sigma'_{V0} - 50Cu^2)^{0.5}$
	Marcuson (1978)	55.84	NC effective stress in psi = 11.67 Cu = 1.00	$Dr = 11.7 + 0.76(222N + 1600 - 53\sigma'_{V0} - 50Cu^2)^{0.5}$

Parameter	Reference	Value	Note	Formula
Relative Density (Dr) (%)	Borowczyk & Frankowski (1981)	57.73		$Dr = 100(0.118 + 0.44logN)$
	Borowczyk & Frankowski (1981)	50.16	Effective stress in tons/m2 = 9.02	$Dr = 100\frac{(N)^{0.5}}{4.188+0.639(\sigma'_{v0})^{0.606}}$
	Tokimatsu & Yoshimi (1983)	56.11	Clean sands Effective stress in kg/cm2 = 0.82	$Dr = 16(N_1)^{0.5}, Cn = \frac{1.7}{0.7+\sigma'_{v0}}$
	Skempton (1986)	40.82	Dr > 35	$Dr = 100((N_1)60/60)^{0.5}$
	Skempton (1986)	56.02	0.5< Effective stress <1.5 kg/cm2, 40<Dr<90Effective stress in kg/cm2 = 0.82	$Dr = 100(N/(17 + 22\sigma'_{v0}))^{0.5}$
	Yoshida et al. (1988)	46.69	Fine Sand Effective stress in kPa = 80.45	$Dr = 22(N)^{0.57} * (\sigma'_{v0})^{-0.14}$
	Yoshida et al. (1988)	38.20	Gravel Content 25% Effective stress in kPa = 80.45	$Dr = 22(N)^{0.57} * (\sigma'_{v0})^{-0.14}$
	Yoshida et al. (1988)	40.59	Gravel Content 50% Effective stress in kPa = 80.45	$Dr = 22(N)^{0.57} * (\sigma'_{v0})^{-0.14}$
	Yoshida et al. (1988)	44.50	All soils Effective stress in kPa = 80.45	$Dr = 22(N)^{0.57} * (\sigma'_{v0})^{-0.14}$
	Kulhawy & Mayne (1990)	40.82	Normally consolidated, unaged sands	$Dr = 100((N_1)60/60)^{0.5}$
	Hatanaka & Feng (2006)	58.82	N1 = N(98/σ')0.5 ,σ' in kPa = 80.45	$0 \leq N1 \leq 25 \Rightarrow Dr = 1.55N1 + 40, 25 < N1 < 50 \Rightarrow Dr = 0.84N1 + 57.8$
Friction Angle (Phi) (deg)	Meyerhof (1956)	30.14		$\phi' = (10N)/35 + 27°$
	Kishida (1967)	29.83		$\phi' = (20N)^{0.5} + 27°$
	Muromachi et al. (1974)	31.61		$\phi' = 3.5(N)^{0.5} + 20°$
	Muromachi et al. (1974)	38.59	Effective stress in MN/m2 = 0.08	$\phi' = (N/\sigma'_{v0})^{0.5} + 26.9°$
	Shioi & Fukui (1982)	27.85		$\phi' = (20N)^{0.5} + 27°$
	Kulhawy & Mayne (1990)	32.41		$\phi' = (15.4(N_1)_{60})^{0.5} + 20°$
	Bergado et al. (1993)	35.19		$\phi' = (12N)^{0.5} + 23.7°$
	Hatanaka & Uchida (1996)	33.37		$\phi' = 3.5((N_1)_{60})^{0.5} + 22.3°$
	Duncan (2004)	45.00	Gravel, Cu>4 Dr based on Kulhawy & Mayne(1990) = 40.82 Effective stress in kPa = 80.45	$\phi' = 44 + (10Dr)/100 - (7 + 2Dr/100) * Log(\sigma'_{v0}/100)$
	Duncan (2004)	38.44	Sand, Cu<6 Dr based on Kulhawy & Mayne(1990) = 40.82 Effective stress in kPa = 80.45	$\phi' = 44 + (10Dr)/100 - (7 + 2Dr/100) * Log(\sigma'_{v0}/100)$
	Duncan (2004)	43.44	Sand, Cu>6 Dr based on Kulhawy & Mayne(1990) = 40.82 Effective stress in kPa = 80.45	$\phi' = 44 + (10Dr)/100 - (7 + 2Dr/100) * Log(\sigma'_{v0}/100)$
	Hettiarachchi & Brown (2009)	21.94	Loose sand Effective stress in kPa = 80.45	$\phi' = 0.383tan^{-1}((0.2N60)/(\sigma'_{v0}/100) - 0.68) * 180/\pi$
	Hettiarachchi & Brown (2009)	29.46	Dense sand Effective stress in kPa = 80.45	$\phi' = 0.383tan^{-1}((0.2N60)/((0.5\sigma'_{v0})/100) - 0.68 * 0.25) * 180/\pi$
	Schmertmann (1975)	34.04	Effective stress in kPa = 80.45	$\phi' = tan^{-1}(N_{60}/(12.2 + \frac{20.3*\sigma'_{v0}}{100}))^{0.34} * 180/\pi$
	Shioi and Fukui (1954)	24.73	General case	$\phi' = 20 + 0.45 * N_{70}$
	Shioi and Fukui (1954)	28.75	For roads and bridges	$\phi' = 15 + (18 * N_{70})^{0.5}$
	Shioi and Fukui (1954)	30.78	For buildings	$\phi' = 20 + 0.45 * N_{70}$
	Terzaghi, Peck and Mesri (1996)	23.00	Fine-grained sands	$\phi' = 20 + N_{60}/3$
	Terzaghi, Peck and Mesri (1996)	22.25	Coarse-grained sands	$\phi' = 20 + N_{60}/3$
Elastic Modulus (Es) (MPa)	Webb (1969)	13.94	Sand	$E_s(MPa) = 0.1072517801 * 5(N + 15)$
	Webb (1969)	5.72	Clayey sand	$E_s(MPa) = 0.1072517801 * 10/3(N + 5)$
	Denver (1982)	23.22	Sand	$E_s(MPa) = 7 * (N)^{0.5}$
	Wrench & Nowatzki (1986)	18.67	Partially saturated gravels	$E_s(MPa) = 2.22N^{0.888}$
	Bowles (1988)	20.40	Gravelly sand and gravel	$E_s(MPa) = 1.2(N + 6)$
	Bowles (1988)	8.32	Clayey sand	$E_s(MPa) = 0.32(N + 15)$
	Bowles (1988)	5.10	Silty sand	$E_s(MPa) = 1.2(N + 6)$
	Jones & Rust (1989)	17.60	Residual	$E_s(MPa) = 1.6N$
	Papadopoulos (1992)	16.30	Sand	$E_s(MPa) = 7.5 + 0.8N$
	Decourt (1994)	22.50	Saprolite	$E_s(MPa) = 2.5N_{60}$

Parameter	Reference	Value	Note	Formula
Elastic Modulus (Es) (MPa)	AASHTO (1996)	7.00	Clean fine to medium sands and slightly silty sands	$E_s(MPa) = 700/1000N1_{60}$
	AASHTO (1996)	10.00	Coarse sands and sands with little gravel	$E_s(MPa) = 1000/1000N1_{60}$
	AASHTO (1996)	12.00	Sandy gravels	$E_s(MPa) = 1000/1000N1_{60}$
	Chaplin (1963)	8.50	Sand	$E_s(MPa) = (44N_{60})^{0.75} * 95.76/1000$
	D'Appolonia et al (1970)	33.00	Sand (normally consolidated)	$E_s(MPa) = (220 + 11N1_{60}) * 100/1000$
	Farrent (1963)	5.75		$E_s(MPa) = (7.5 * 8/9 * N_{60} * 95.76)/1000$
	Kulhawy and Mayne (1990)	4.50	Sands with fines	$E_s(MPa) = (5 * 100 * N_{60})/1000$
	Kulhawy and Mayne (1990)	9.00	Clean sands (normally consolidated)	$E_s(MPa) = (10 * 100 * N_{60})/1000$
	Kulhawy and Mayne (1990)	13.50	Clean sands (over consolidated)	$E_s(MPa) = (10 * 100 * N_{60})/1000$
	Mezenbach (1961)	8.17	Fine-grained sand (above water level)	$E_s(MPa) = 100(52 + 3.3N_{60})/1000$
	Mezenbach (1961)	11.51	Fine-grained sand (below water level)	$E_s(MPa) = 100(52 + 3.3N_{60})/1000$
	Mezenbach (1961)	7.95	Sand (medium)	$E_s(MPa) = 100(52 + 3.3N_{60})/1000$
	Mezenbach (1961)	13.25	Coarse-grained sand	$E_s(MPa) = 100(38 + 10.5N_{60})/1000$
	Mezenbach (1961)	14.92	Sand and gravel	$E_s(MPa) = 100(38 + 10.5N_{60})/1000$
	Mezenbach (1961)	6.87	Silty sand	$E_s(MPa) = 100(52 + 3.3N_{60})/1000$
	Schultze and Muhs (1967)	30.24	Sand	$E_s(MPa) = 0.1 * (0.00231839(N1_{60})^3 - 0.489236(N1_{60})^2 + 34.619(N1_{60}) + 2.78904)$
Shear Wave Velocity (Vs) (m/s)	Imai (1977)	178.25	Alluvial sand	$Vs(m/s) = 80.6(N)^{0.331}$
	Imai (1977)	210.88	Dilluvial sand	$Vs(m/s) = 97.2(N)^{0.323}$
	Imai (1977)	204.17	All	$Vs(m/s) = 91(N)^{0.337}$
	Schmertmann (1978)	165.00	Fine sands above water table	$Vs(m/s) = 15(N)$
	Ohta & Goto (1978)	192.55	All	$Vs(m/s) = 91(N)^{0.337}$
	Ohta & Goto (1978)	198.86	Sands	$Vs(m/s) = 91(N)^{0.337}$
	Ohta & Goto (1978)	174.71	Gravels	$Vs(m/s) = 80.6(N)^{0.331}$
	Ohta & Goto (1978)	193.33	Clays	$Vs(m/s) = 91(N)^{0.337}$
	Imai & Tonouchi (1982)	205.95	All	$Vs(m/s) = 91(N)^{0.337}$
	Seed et al. (1983)	185.73	Sands	$Vs(m/s) = 56(N)^{0.5}$
	Sykora & Stokoe (1983)	214.48	Granular	$Vs(m/s) = 107(N)^{0.29}$
	Seed et al. (1985)	192.90	Sands & silty sands	$\phi' = (12N)^{0.5} + 23.7°$
	Towhata & Ronteix (1988)	176.50	Alluvial sand	$Vs(m/s) = 80(N)^{0.33}$
	Jamiolkowski et al. (1988)	126.89	Holocene fine sand	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1)(f_G = 1.09)$
	Jamiolkowski et al. (1988)	124.57	Holocene Medium sand	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1)(f_G = 1.09)$
	Jamiolkowski et al. (1988)	132.72	Holocene coarse sand	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1)(f_G = 1.09)$
	Jamiolkowski et al. (1988)	168.80	Holocene sand and gravel	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1)(f_G = 1.09)$
	Jamiolkowski et al. (1988)	168.80	Holocene gravel	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1)(f_G = 1.09)$
	Jamiolkowski et al. (1988)	164.96	Pleistocene fine sand	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1.3)(f_G = 1.09)$
	Jamiolkowski et al. (1988)	161.94	Pleistocene Medium sand	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1.3)(f_G = 1.09)$
	Jamiolkowski et al. (1988)	172.53	Pleistocene cene coarse sand	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1.3)(f_G = 1.09)$
	Jamiolkowski et al. (1988)	219.45	Pleistocene sand and gravel	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1.3)(f_G = 1.09)$
	Jamiolkowski et al. (1988)	219.45	Pleistocene gravel	$Vs(m/s) = 53.5(N60)^{0.17}(Z)^{0.193}f_af_G, (f_a = 1.3)(f_G = 1.09)$
	Yoshida et al. (1988)	47.14	Fine sand Effective stress in kPa = 80.45	$Vs(m/s) = 49(N_1)^{0.25}(\sigma'_{V0})^{-0.14}$
	Yoshida et al. (1988)	53.88	Gravel content 25% Effective stress in kPa = 80.45	$Vs(m/s) = 49(N_1)^{0.25}(\sigma'_{V0})^{-0.14}$
	Yoshida et al. (1988)	57.73	Gravel content 35% Effective stress in kPa = 80.45	$Vs(m/s) = 49(N_1)^{0.25}(\sigma'_{V0})^{-0.14}$
	Yoshida et al. (1988)	52.92	All Effective stress in kPa = 80.45	$Vs(m/s) = 49(N_1)^{0.25}(\sigma'_{V0})^{-0.14}$
	Lee (1992)	212.91	Sandy soils	$Vs(m/s) = 104.7(N)^{0.296}$

Parameter	Reference	Value	Note	Formula
Shear Wave Velocity (Vs) (m/s)	Kalteziotis et al. (1992)	163.24	Noncohesive Greece	$Vs(m/s) = 80.6(N)^{0.331}$
	Veijayaratnam et al. (1993)	203.38	Misc. soils from Singapore	$Vs(m/s) = 80(N)^{0.33}$
	Raptakis et al. (1994)	230.58	Loose sands and silts	$Vs(m/s) = 123(N_{60})^{0.286}$
	Raptakis et al. (1994)	168.33	Medium and dense Sands	$Vs(m/s) = 104.7(N)^{0.296}$
	Raptakis et al. (1994)	256.04	Gravelly soil mixtures	$Vs(m/s) = 123(N_{60})^{0.286}$
	Athanasopoulos (1994)	233.53	Gravelly soils	$Vs(m/s) = 85.3(N)^{0.42}$
	Akino & Sahara (1994)	184.40	Sand and rock	$E_s(MPa) = 7 * (N)^{0.5}$
	Pitilakis et al. (1998)	214.40	Silts and sands	$Vs(m/s) = 104.7(N)^{0.296}$
	Rollins et al. (1998)	162.06	Holocene gravels	$Vs(m/s) = 85.3(N)^{0.42}$
	Rollins et al. (1998)	266.64	Pleistocene gravels	$Vs(m/s) = 132(N_{60})^{0.32}$
	Rollins et al. (1998)	177.25	Holocene gravels Effective stress in kPa = 80.45	$Vs(m/s) = 53(N_{60})^{0.19}(\sigma'_{V0})^{0.18}$
	Rollins et al. (1998)	282.87	Pleistocene gravels Effective stress in kPa = 80.45	$Vs(m/s) = 115(N_{60})^{0.17}(\sigma'_{V0})^{0.12}$
	Hasancebi & Ulusay (2007)	205.54	Sands	$Vs(m/s) = 123(N_{60})^{0.286}$
	Dikmen (2009)	161.06	Sands	$Vs(m/s) = 91(N)^{0.337}$
	Uma Maheswari et al. (2010)	189.73	Sands	$Vs(m/s) = 104.7(N)^{0.296}$
	Esfehanizadeh et al. (2015)	242.25	Sands	$\phi' = (N/\sigma'_{V0})^{0.5} + 26.9°$
	Fatehnia et al. (2015)	180.61	Sands	$Vs(m/s) = 97.2(N)^{0.323}$
	Kirar et al. (2016)	225.58	Sandy	$Vs(m/s) = 104.7(N)^{0.296}$
	Gautam (2017)	183.04	Sand	$Vs(m/s) = 97.2(N)^{0.323}$
Shear Modulus (Gmax) (MPa)	Ohsaki & Iwasaki (1973)	74.64	All	$Gmax(MPa) = 11.5(N)^{0.78}$
	Ohsaki & Iwasaki (1973)	58.11	Cohesionless	$Gmax(MPa) = 6.1(N)^{0.94}$
	Imai (1977)	52.21	Alluvial sand	$Gmax(MPa) = 9.4(N)^{0.715}$
	Imai (1977)	80.79	Diluvial sand	$\phi' = 3.5((N_1)_{60})^{0.5} + 22.3°$
	Imai (1977)	70.26	All	$\phi' = 3.5((N_1)_{60})^{0.5} + 22.3°$
	Imai & Tonouchi (1982)	71.49	All	$Gmax(MPa) = 14(N)^{0.68}$
	Seed et al. (1983)	68.20	Sands	$Gmax(MPa) = 6.2(N)$
	Stroud (1989)	77.00	Data from Imai & Tonouchi(1982)	$Gmax(MPa) = 7(N)$
	Decourt (1994)	266.99	Lateritic soils	$Gmax(MPa) = 11.5(N)^{0.78}$
	Hirayama (1994)	55.00	Misc. soils	$Gmax(MPa) = 7(N)$
	Pinto & Abramento (1997)	128.94	Gneissic residual soil	$Gmax(MPa) = 11.5(N)^{0.78}$
	Barros & Pinto (1997)	271.94	Lateritic soils	$Gmax(MPa) = 55.2(N)^{0.665}$
	Barros & Pinto (1997)	81.30	Saprolitic soils	$Gmax(MPa) = 56 + 2.3(N)$
	Barros & Pinto (1997)	119.62		$Gmax(MPa) = 55.2(N)^{0.665}$
	Barros & Pinto (1997)	119.30		$Gmax(MPa) = 56 + 2.3(N)$
	Viana da Fonseca et al. (1998)	101.78	Granitic saprolite	$Gmax(MPa) = 98 + 0.42(N_{60})$
	Viana da Fonseca et al. (1998)	92.08		$Gmax(MPa) = 14(N)^{0.68}$
	Anbazhagan & Sitharam (2010)	90.86	Mixed soils	$Gmax(MPa) = 11.5(N)^{0.78}$
	Anbazhagan & Sitharam (2010)	108.49		$Gmax(MPa) = 29.2(N_1)_{60}^{0.57}$
	Anbazhagan et al. (2012)	82.98	All soils	$Gmax(MPa) = 55.2(N)^{0.665}$