

## DAFTAR PUSTAKA

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# LAMPIRAN

**FOTO CORE BOX TITIK BH-01 DAN BH-02**





**Tabel 1.** Foto *core box* titik BH-01



No.	Depth (m)	Core Box
1	0-5	
2	5-10	
3	10-15	
4	15-20	
5	20-25	



No.	Depth (m)	Core Box
6	25-26	

Tabel 2. Foto core box titik BH-02

No.	Depth (m)	Core Box
1	0-5	
2	5-10	
3	10-15	
4	15-20	

No.	Depth (m)	Core Box
5	20-25	
6	25-26	

### PERHITUNGAN CSR DAN CRR<sub>7,5</sub> TITIK BH-01

Berat Jenis Tanah : 25 kN/m<sup>2</sup> (0-2m) dan 24.6 kN/m<sup>2</sup> (2-26m)  
 Berat Jenis Tanah Kering : 17.2 kN/m<sup>2</sup> (0-2m) dan 17.1 kN/m<sup>2</sup> (2-26m)  
 Berat Jenis Air : 9.81 kN/m<sup>2</sup>  
 Muka Air Tanah : 0,3 m

*Peak Ground Acceleration* : 0.3238 g  
*Finest Content* 0-2m (23%) :  $\alpha = 4.09, \beta = 0.88$   
*Finest Content* 2-26m (15%):  $\alpha = 2.68, \beta = 0.928088473$

**Tabel 3.** Hasil perhitungan nilai CSR dan CRR<sub>7,5</sub> titik BH-01

Depth (m)	$\sigma_v$ (kN/m <sup>2</sup> )	$\mu$ (kN/m <sup>2</sup> )	$\sigma'_v$ (kN/m <sup>2</sup> )	rd	CSR	N <sub>SPT</sub>	C <sub>N</sub>	C <sub>E</sub>	C <sub>B</sub>	C <sub>R</sub>	C <sub>S</sub>	(N1) <sub>60</sub>	(N1) <sub>60CS</sub>	CRR <sub>7,5</sub>
2.00	50	19.62	30.38	0.9847	0.034782092	60	1.5	0.5	1	0.8	1	35.11	39.2022	0.09342
4.00	98.4	39.24	59.16	0.9694	0.034605049	9	1.2	0.5	1	0.85	1	4.70	7.03495	0.08795
6.00	147.6	58.86	88.74	0.9541	0.034058879	31	1.1	0.5	1	0.85	1	13.89	15.5629	0.16576
8.00	196.8	78.48	118.32	0.9388	0.033512709	50	0.9	0.5	1	0.95	1	21.92	23.0235	0.25731
10.00	246	98.1	147.9	0.9070	0.032377532	74	0.8	0.5	1	0.95	1	28.87	29.4653	0.43422
12.00	295.2	117.72	177.48	0.8536	0.030471292	52	0.7	0.5	1	1	1	19.23	20.5212	0.222
14.00	344.4	137.34	207.06	0.8002	0.028565051	38	0.7	0.5	1	1	1	12.78	14.5373	0.15544
16.00	393.6	156.96	236.64	0.7468	0.026658811	60	0.6	0.5	1	1	1	18.51	19.851	0.21356
18.00	442.8	176.58	266.22	0.6934	0.02475257	60	0.6	0.5	1	1	1	17.09	18.5356	0.19791
20.00	492	196.2	295.8	0.6400	0.022846329	29	0.5	0.5	1	1	1	7.67	9.79604	0.11133
22.00	541.2	215.82	325.38	0.5866	0.020940089	60	0.5	0.5	1	1	1	14.82	16.429	0.17475
24.00	590.4	235.44	354.96	0.5520	0.019704959	60	0.5	0.5	1	1	1	13.90	15.5724	0.16586
26.00	639.6	255.06	384.54	0.5360	0.019133801	60	0.4	0.5	1	1	1	13.08	14.8163	0.15822

### PERHITUNGAN CSR DAN CRR<sub>7,5</sub> TITIK BH-02

Berat Jenis Tanah : 23.1 kN/m<sup>2</sup> (0-2m) dan 24.6 kN/m<sup>2</sup> (2-26m)  
 Berat Jenis Tanah Kering : 19.1 kN/m<sup>2</sup> (0-2m) dan 17.1 kN/m<sup>2</sup> (2-26m)  
 Berat Jenis Air : 9.81 kN/m<sup>2</sup>  
 Muka Air Tanah : 0,4 m

*Peak Ground Acceleration* : 0.3238 g  
*Finest Content* 0-6m (23%) :  $\alpha = 0.01$   $\beta = 0.98$   
*Finest Content* 6-26m (15%):  $\alpha = 3.37$   $\beta = 0.909$

**Tabel 4.** Hasil perhitungan nilai CSR dan CRR<sub>7,5</sub> titik BH-02

Depth (m)	$\sigma_v$ (kN/m <sup>2</sup> )	$\mu$ (kN/m <sup>2</sup> )	$\sigma'_v$ (kN/m <sup>2</sup> )	rd	CSR	NSPT	C <sub>N</sub>	C <sub>E</sub>	C <sub>B</sub>	C <sub>R</sub>	C <sub>S</sub>	(N1) <sub>60</sub>	(N1) <sub>60CS</sub>	CRR <sub>7,5</sub>
2.00	46.2	19.62	26.58	0.9847	0.036733344	17	1.5	0.5	1	0.8	1	10.21	9.98332	0.11297
4.00	92.4	39.24	53.16	0.9694	0.036162591	27	1.3	0.5	1	0.85	1	14.58	14.2563	0.15267
6.00	108	58.86	49.14	0.9541	0.045004094	28	1.3	0.5	1	0.85	1	15.48	17.4439	0.18565
8.00	144	78.48	65.52	0.9388	0.044282406	14	1.2	0.5	1	0.95	1	7.89	10.5395	0.11791
10.00	180	98.1	81.9	0.907	0.042782427	21	1.1	0.5	1	0.95	1	10.87	13.2525	0.14295
12.00	216	117.72	98.28	0.8536	0.040263594	25	1.0	0.5	1	1	1	12.60	14.825	0.15831
14.00	252	137.34	114.66	0.8002	0.037744761	19	0.9	0.5	1	1	1	8.91	11.4676	0.12629
16.00	288	156.96	131.04	0.7468	0.035225928	60	0.9	0.5	1	1	1	26.29	27.2766	0.34628
18.00	324	176.58	147.42	0.6934	0.032707095	60	0.8	0.5	1	1	1	24.68	25.8121	0.30888
20.00	360	196.2	163.8	0.64	0.030188261	47	0.8	0.5	1	1	1	18.22	19.9345	0.2146
22.00	396	215.82	180.18	0.5866	0.027669428	47	0.7	0.5	1	1	1	17.22	19.0305	0.20367
24.00	432	235.44	196.56	0.552	0.026037376	60	0.7	0.5	1	1	1	20.85	22.3281	0.24676
26.00	468	255.06	212.94	0.536	0.025282669	60	0.7	0.5	1	1	1	19.82	21.3953	0.23356



### PERHITUNGAN CRR DAN FK TITIK BH-01

**Tabel 5.** Hasil perhitungan nilai CRR dan FK titik BH-01 pada kekuatan gempa 5-7,5 M

Depth (m)	Cyclic Resistance Ratio (CRR)					Faktor Keamanan (FK)				
	CRR <sub>5</sub>	CRR <sub>5,5</sub>	CRR <sub>6</sub>	CRR <sub>6,5</sub>	CRR <sub>7,5</sub>	FK <sub>5</sub>	FK <sub>5,5</sub>	FK <sub>6</sub>	FK <sub>6,5</sub>	FK <sub>7,5</sub>
2.00	0.2637761	0.2065919	0.1653985	0.1347536	0.093420432	7.583676	5.939607	4.755277	3.874225	2.685877
4.00	0.2483403	0.1945025	0.1557196	0.126868	0.087953589	7.176418	5.620638	4.499909	3.666171	2.541640
6.00	0.4680348	0.3665692	0.293477	0.239102	0.165761819	13.741931	10.762810	8.616756	7.020253	4.866919
8.00	0.7265187	0.5690163	0.4555571	0.371152	0.257307923	21.678900	16.979118	13.593561	11.074962	7.677921
10.00	0.7918657	0.6201966	0.4965323	0.4045354	0.280451581	24.457258	19.155155	15.335706	12.494325	8.661920
12.00	0.6268217	0.4909327	0.393043	0.3202204	0.221998689	20.570894	16.111318	12.898796	10.508922	7.285503
14.00	0.4388997	0.3437504	0.2752082	0.2242179	0.155443175	15.364919	12.033949	9.634436	7.849379	5.441726
16.00	0.6030078	0.4722814	0.3781107	0.3080548	0.213564609	22.619455	17.715770	14.183328	11.555458	8.011033
18.00	0.5588004	0.4376577	0.3503908	0.2854708	0.197907884	22.575450	17.681305	14.155735	11.532977	7.995448
20.00	0.3143313	0.2461872	0.1970986	0.1605804	0.111325317	13.758501	10.775788	8.627146	7.028718	4.872788
22.00	0.4934111	0.3864442	0.3093891	0.2520658	0.174749248	23.562991	18.454756	14.774964	12.037476	8.345201
24.00	0.4683085	0.3667836	0.2936487	0.2392418	0.165858746	23.766020	18.613770	14.902272	12.141196	8.417107
26.00	0.4467351	0.3498872	0.2801213	0.2282208	0.158218222	23.347956	18.286339	14.640128	11.927623	8.269043

### PERHITUNGAN CRR DAN FK TITIK BH-02

**Tabel 6.** Hasil perhitungan nilai CRR dan FK titik BH-02 pada kekuatan gempa 5-7,5 M

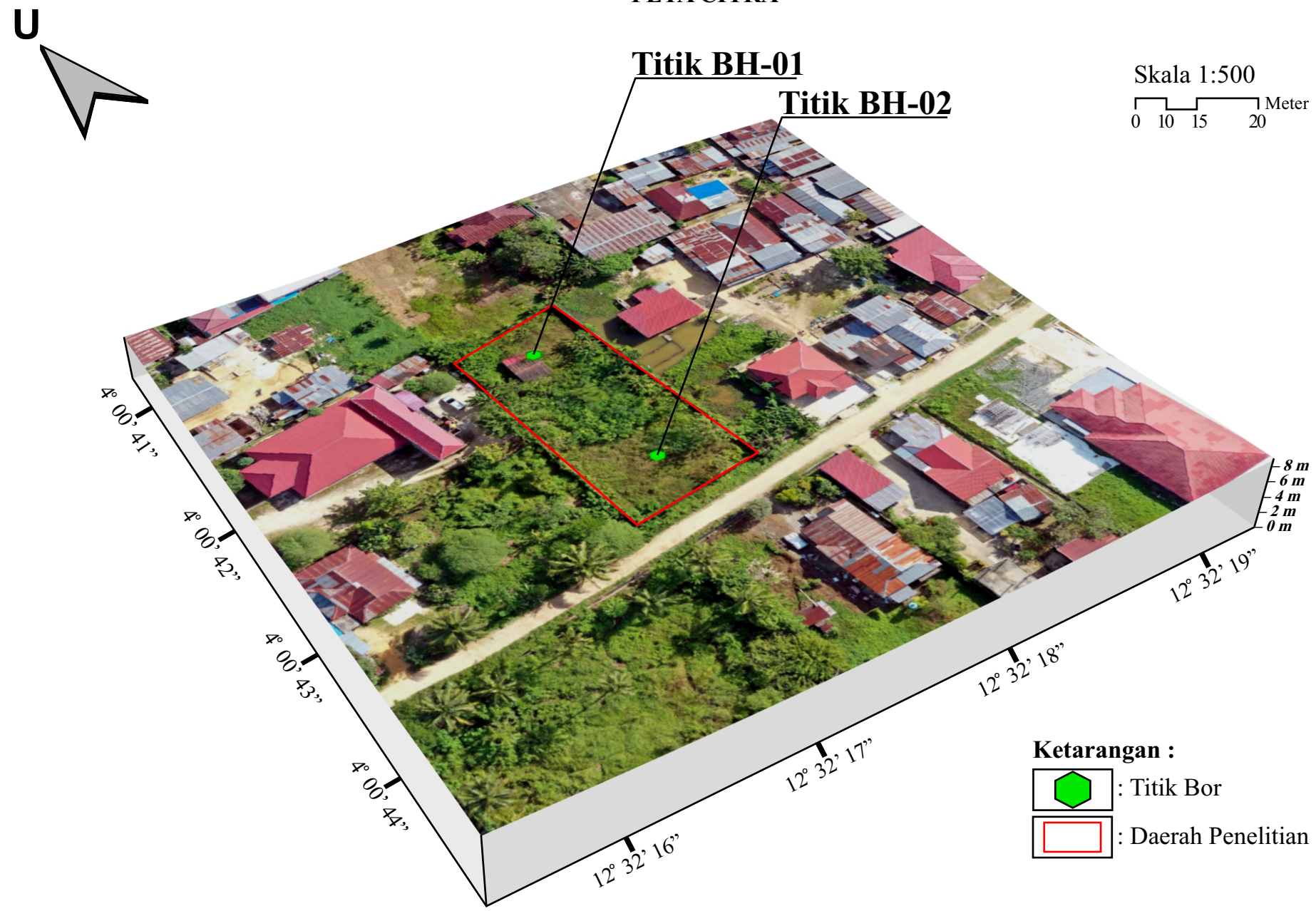
Depth (m)	Cyclic Resistance Ratio (CRR)					Faktor Keamanan (FK)				
	CRR <sub>5</sub>	CRR <sub>5,5</sub>	CRR <sub>6</sub>	CRR <sub>6,5</sub>	CRR <sub>7,5</sub>	FK <sub>5</sub>	FK <sub>5,5</sub>	FK <sub>6</sub>	FK <sub>6,5</sub>	FK <sub>7,5</sub>
2.00	0.3189802	0.2498283	0.2000137	0.1629554	0.1129718	8.683670	6.801132	5.445018	4.436171	3.075457
4.00	0.431077	0.3376235	0.270303	0.2202216	0.1526726	11.920522	9.336265	7.474657	6.089761	4.221839
6.00	0.5241989	0.4105575	0.3286943	0.2677942	0.1856532	11.647806	9.122671	7.303653	5.950441	4.125252
8.00	0.3329105	0.2607386	0.2087486	0.1700719	0.1179055	7.517896	5.888087	4.714030	3.840620	2.662580
10.00	0.4036287	0.3161258	0.2530918	0.2061992	0.1429514	9.434450	7.389150	5.915788	4.819718	3.341358
12.00	0.4469808	0.3500796	0.2802754	0.2283463	0.1583052	11.101364	8.694693	6.961012	5.671284	3.931721
14.00	0.3565744	0.2792724	0.2235868	0.1821609	0.1262864	9.446990	7.398971	5.923651	4.826124	3.345799
16.00	0.9777281	0.7657658	0.6130757	0.4994858	0.3462777	27.755922	21.738699	17.404104	14.179492	9.830193
18.00	0.8721261	0.6830574	0.5468589	0.4455375	0.3088771	26.664738	20.884074	16.719887	13.622046	9.443733
20.00	0.6059215	0.4745634	0.3799377	0.3095433	0.2145966	20.071428	15.720131	12.585610	10.253763	7.108609
22.00	0.5750771	0.4504058	0.360597	0.293786	0.2036725	20.783845	16.278103	13.032325	10.617712	7.360923
24.00	0.6967475	0.5456992	0.4368893	0.355943	0.246764	26.759512	20.958301	16.779314	13.670463	9.477299
26.00	0.6594795	0.5165105	0.4135207	0.3369041	0.2335649	26.084251	20.429431	16.355897	13.325496	9.238144



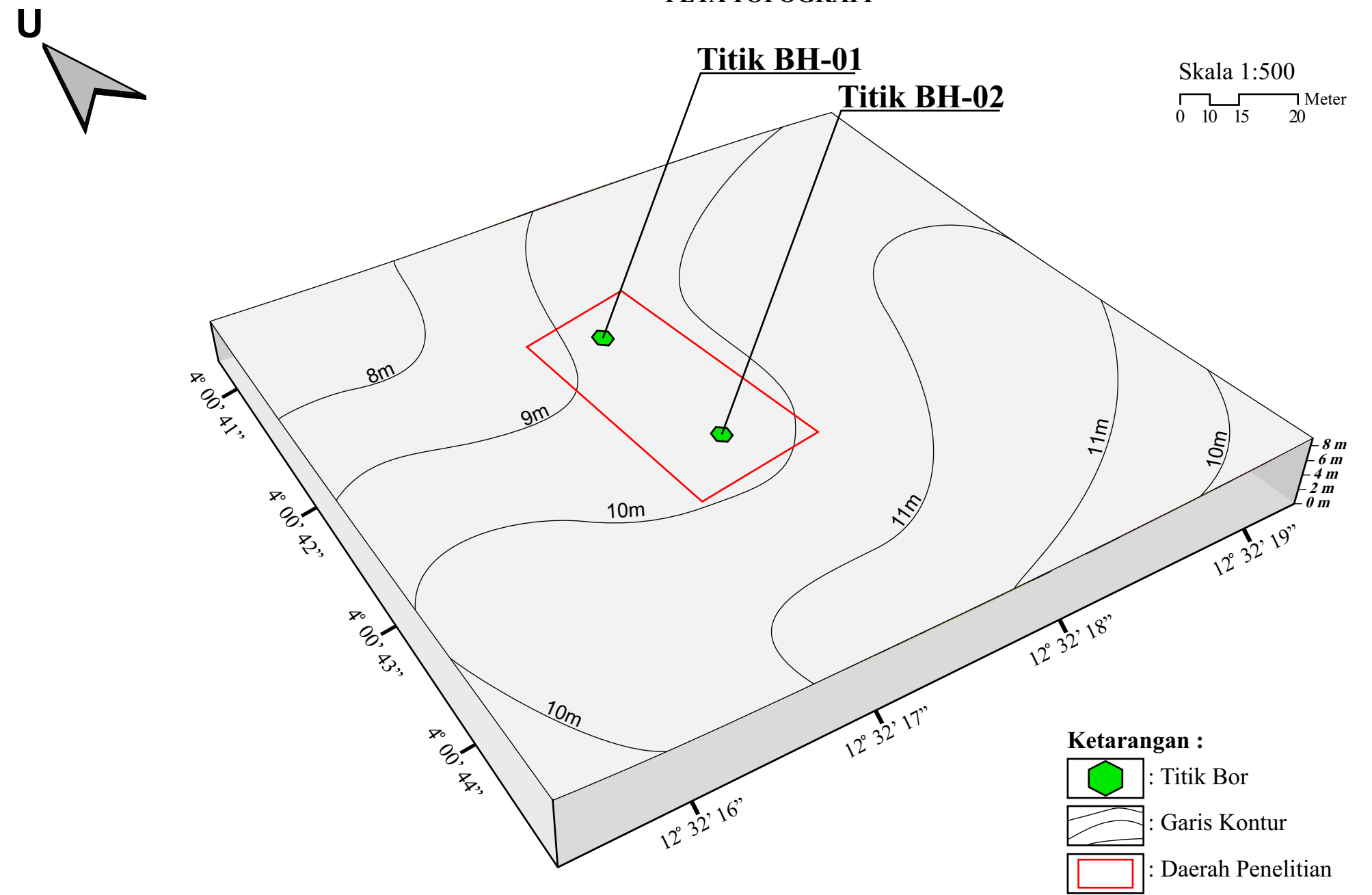
# ANALISIS POTENSI LIKUIFAKSI PADA DAERAH ANDUONOHU, KOTA KENDARI, PROVINSI SULAWESITENGGARA

## PETA 3D DAERAH PENELITIAN

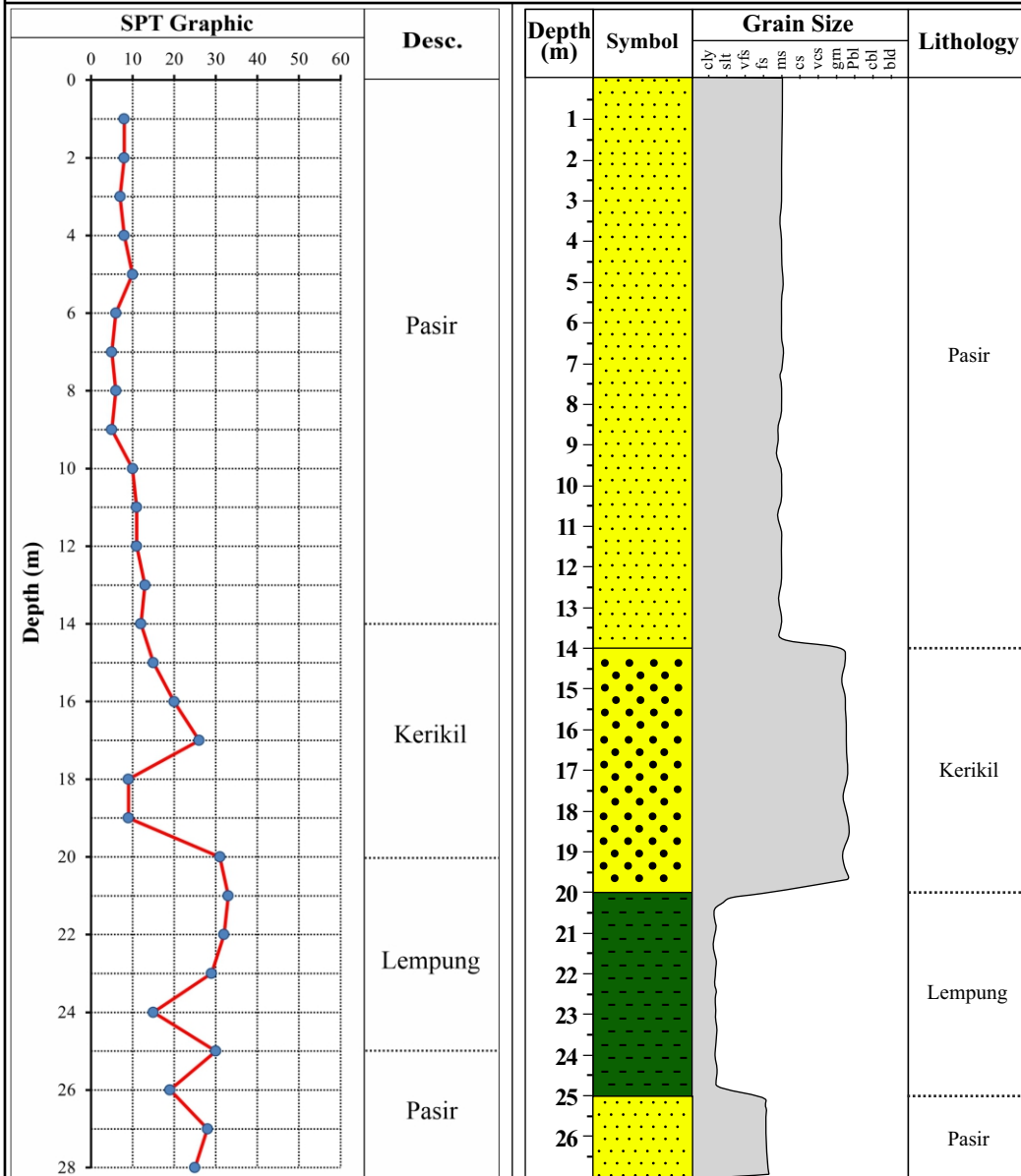
PETA CITRA



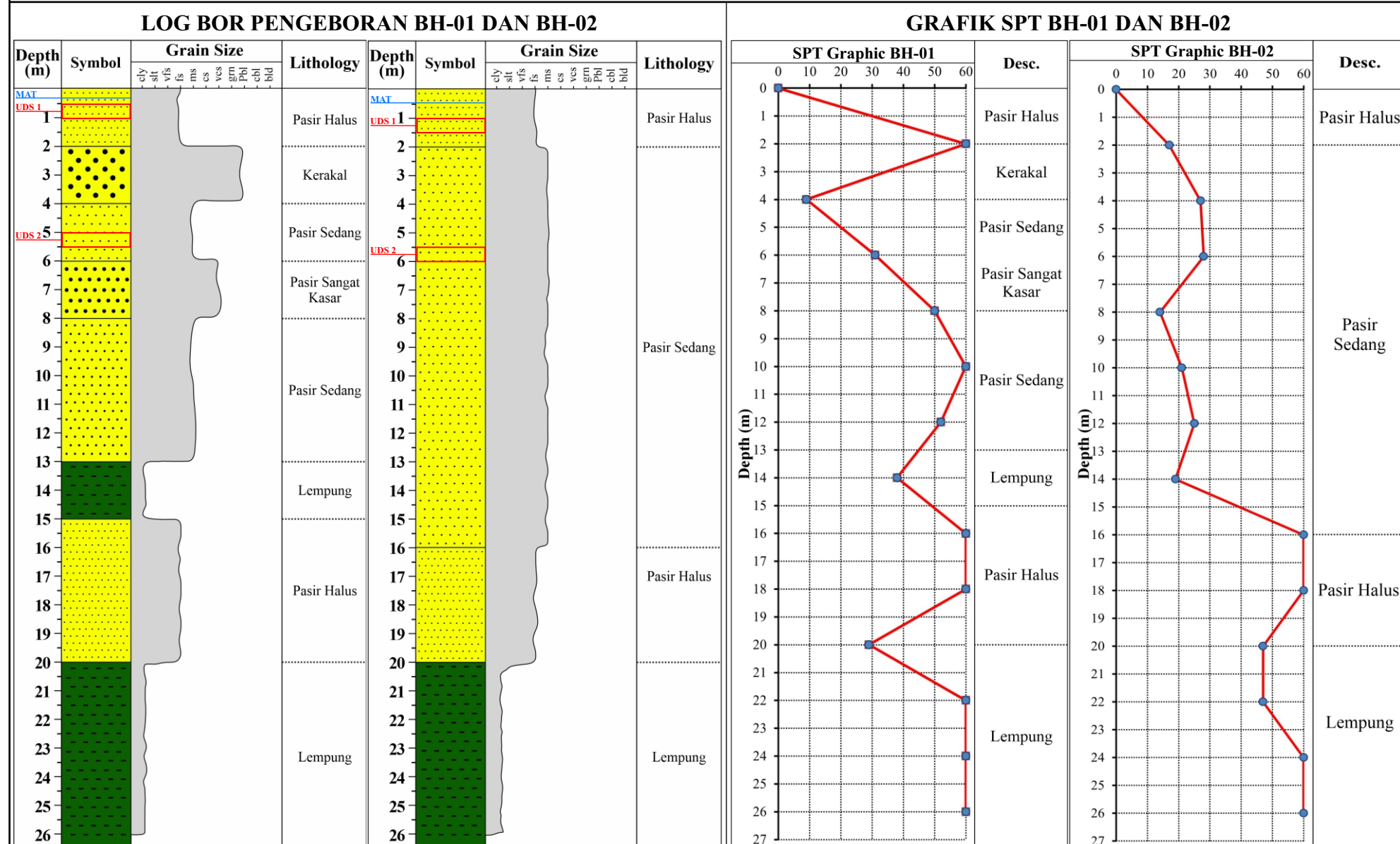
PETA TOPOGRAFI



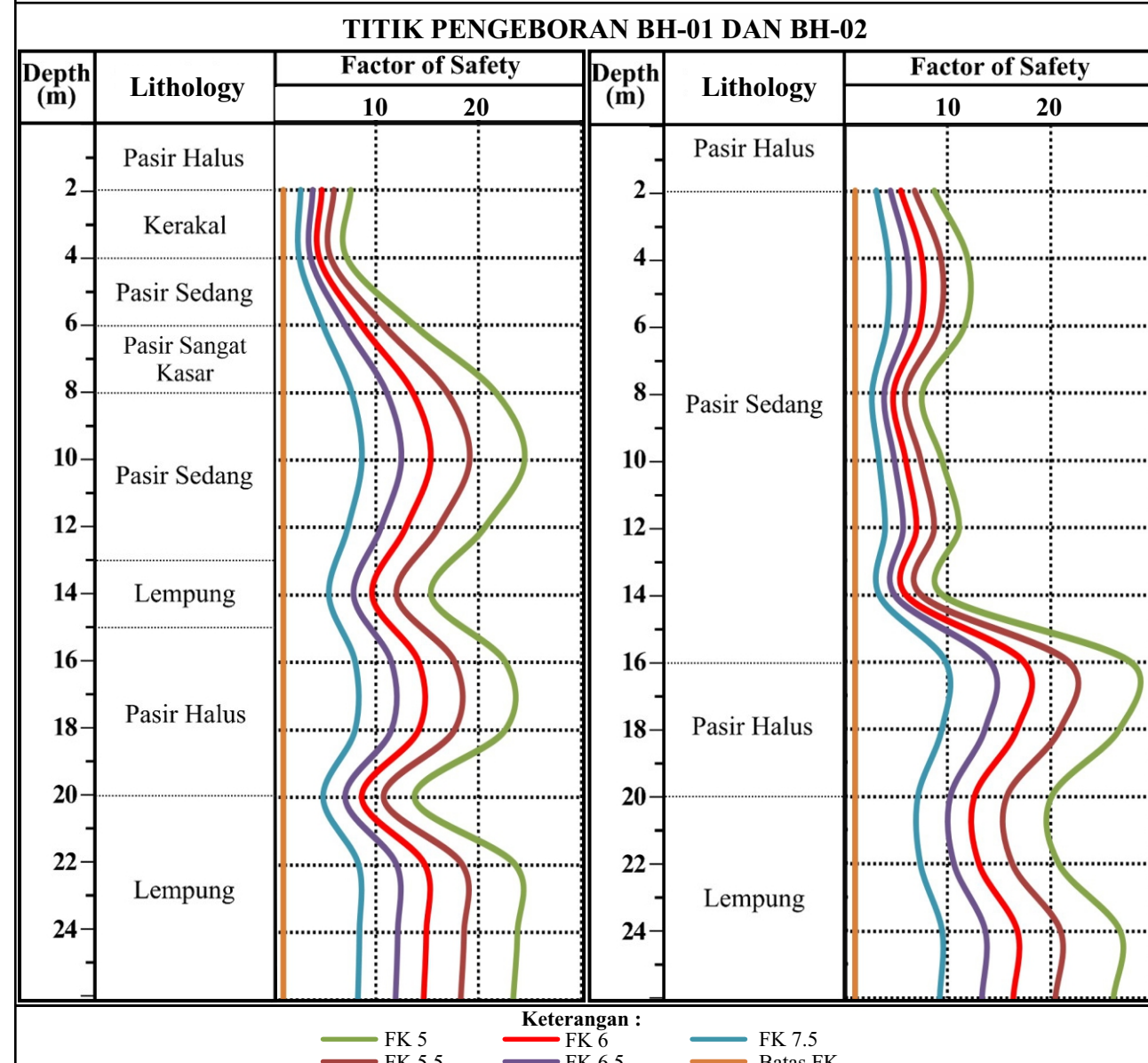
### DATA HASIL PENGEBORAN DAERAH BALAROA, KOTA PALU



### DATA HASIL PENGEBORAN DAERAH ANDUONOHU, KOTA KENDARI



### GRAFIK FAKTOR KEAMANAN DAERAH ANDUONOHU, KOTA KENDARI



#### Analisis Daerah Balaroa, Kota Palu

Data SPT	Pengeboran
Nilai SPT berkisar antara 9-32 pada kedalaman 0-28m.	Litologi terdiri dari pasir, kerikil, dan lempung.
Berdasarkan kondisi geologi dan hasil perhitungan pada daerah Balaroa, Kota Palu, nilai faktor keamanan pada kekuatan gempa 7,5M berada di bawah 1 di kedalaman 0-19m.	

#### Analisis Daerah Anduonohu, Kota Kendari

Pengeboran	Data SPT	Faktor Keamanan
Litologi pada titik BH-01 dan BH-02 adalah kerakal, pasir sangat kasar, pasir sedang, pasir halus, dan lempung.	Nilai SPT kedua titik BH-01 dan BH-02 berkisar antara 10-60 pada kedalaman 0-26m	Nilai faktor keamanan dihitung menggunakan besar kekuatan gempa 6,5-8,5M. Nilai terendah dengan kekuatan gempa 7,5M pada BH-01 adalah 2,5 pada BH-02 adalah 2,6.

#### Tabel Perbandingan Daerah Balaroa dan Anduonohu

No	Parameter	Balaroa, Palu	Anduonohu, Kendari
1	Nilai PGA	Nilai berkisar 0,72-0,82 g	Nilai berkisar 0,3-0,4 g
2	Jenis Tanah	Termasuk Tanah Lunak	Termasuk Tanah Sedang
3	Densitas Tanah	Tanah kering 17kN/m <sup>3</sup> dan tanah basah 19,5kN/m <sup>3</sup>	Tanah kering 19kN/m <sup>3</sup> dan tanah basah 25kN/m <sup>3</sup>