

السيد العقيد/ رئيس الادارة المركزية للمنطقة الخامسة (غرب الدلتا)
" الهيئة العامة للطرق و الكباري "

الموضوع

عملية " استكمال تنفيذ أعمال الجسر الترابي لمشروع انشاء الخط الأول
لشبكة القطار الكهربائي السريع (العين السخنة - العاصمة الادارية -
العلمين - مطروح - الفيوم) بالأمر المباشر لتنفيذ المسافة من الكم
٥٢٢,٠٠ إلى الكم ٥٣٠,٠٠ بطول ٨ كم اتجاه الاسكندرية "

تحية طيبة وبعد...

الحاقاً بخطابنا المؤرخ ٢٠٢٣/٠٧/١٢ م ومرفقاته (مرفق صورة لسهولة الاستدلال) بخصوص طلب
مد فترة تنفيذ العملية بعاليه لمدة (٦) أشهر وفقاً للقرار الوزاري رقم ٢٣٠ المؤرخ ٢٢/٠٢/٢٠٢٣ م
تتشرف بالافادة أنه منذ استلام الموقع الخاص بالمشروع وكانت وما زالت هناك العديد من المعوقات التي تحول دون
تنفيذ المشروع خلال المدة المحددة له ، ونود فيما يلي أهم تلك المعوقات :-
- وجود منازل في المسار المحدد للمشروع ولم يتم اخلائها وازالتها حتى تاريخه .
- وجود أعمدة انارة تعوق حركة العمل بالمشروع حيث تم ازالة جانب منها ومتبقى جانب من تلك
الأعمدة لم يتم ازالتها حتى تاريخه .
- العوامل الجوية بالمنطقة الواقع بها المشروع من تقلبات مناخية (سيول وأمطار وعواصف رعدية)
والتي أدت إلى توقف العمل بالمشروع.
لذا نلتمس من سيادتكم التكرم بالموافقة على مد فترة تنفيذ المشروع لمدة (٦) أشهر أخرى ليصبح
تاريخ النهو الفعلي ٢٢/٠٤/٢٠٢٤ م .

ونحن اذ نشكركم على صادق تعاونكم معنا .

وتفضلوا بقبول وافر التقدير والاحترام...

رئيس مجلس الادارة

مهندس /
اسامة سالم

١٨٨٥ / ٣ / ٢٠٢٣

GARB (٢٤)
Monday, July 31, 2023
الرقم البريدي ١١٣١١



Contractor



Plate Load Test Results

Layer: EMBANKMENT -5.50
Station: 528+040 TO 528+120
Date: 17-07-23

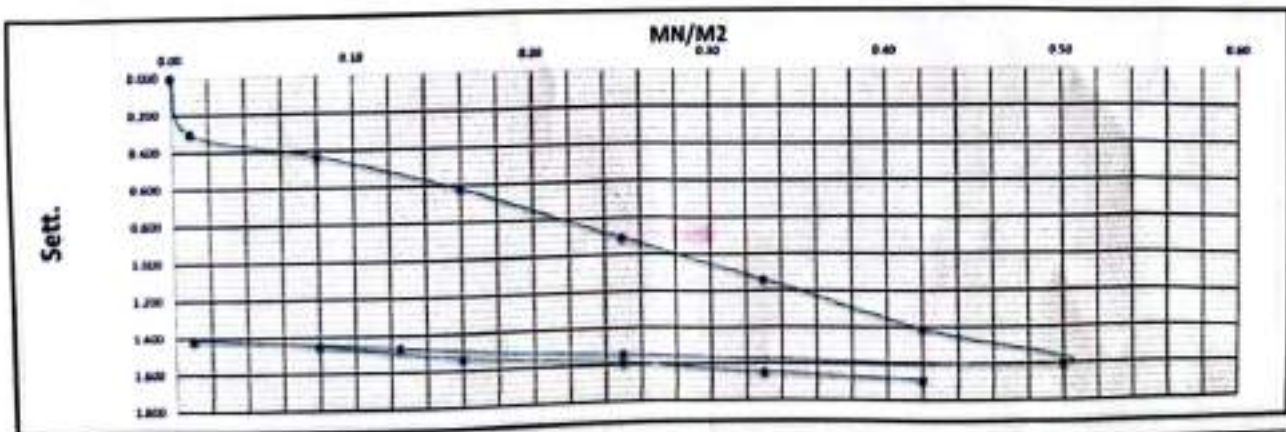
COMPANY	AGR COMPANY
Location	528+000

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	8.57	7.94		0.000	0.000		0.000
1.000	1.0	0.707	0.01	8.35	7.56		0.220	0.380		0.300
2.000	7.9	5.652	0.08	8.23	7.42		0.340	0.520		0.430
0.080	15.8	11.304	0.16	8.08	7.19		0.490	0.750		0.620
4.000	24.7	17.663	0.25	7.80	6.89		0.770	1.050		0.910
5.000	32.6	23.315	0.33	7.60	6.63		0.970	1.310		1.140
6.000	41.5	29.673	0.42	7.31	6.38		1.260	1.560		1.410
7.000	49.4	35.325	0.50	7.10	6.21		1.470	1.730		1.600
8.000	24.7	17.663	0.25	7.19	6.23		1.380	1.710		1.545
9.000	12.4	8.831	0.12	7.25	6.32		1.320	1.620		1.470
9.000	1.0	0.707	0.01	7.28	6.41		1.290	1.530		1.410
10.000	1.0	0.707	0.01	7.28	6.41		1.290	1.530		1.410
11.000	7.9	5.652	0.08	7.25	6.36		1.320	1.580		1.450
12.000	15.8	11.304	0.16	7.15	6.29		1.420	1.650		1.535
13.000	24.7	17.663	0.25	7.10	6.23		1.470	1.710		1.590
14.000	32.6	23.315	0.33	7.05	6.17		1.520	1.770		1.645
15.000	41.5	29.673	0.42	7.01	6.12		1.560	1.820		1.690

		σ	AS	IS
0.7 σ_1	0.35	1.24375	0.6475	0.2
0.3 σ_1	0.15	0.59625		
0.7 σ_2	0.35	1.655	0.165	0.2
0.3 σ_2	0.15	1.49		
D (mm)	300			
Ev ₁	69.50			
Ev ₂	172.73			
Area (Sq.m)	0.67965			

$E=2E+1$	3.93		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Mohamed Hamed
Sign :
مستشار السعودية / شركة - مشور

Consultant Engineer

Name : Hassan

Sign :



Plate Load Test Results

Company Name
Location
Test Date
Layer level

AGR

529+320

To

529+400

21-06-2023

UPPER EMBANKMENT -1.5

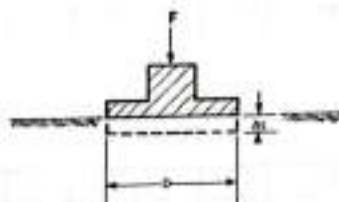
Station

529+360

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.96	19.96		0.040	0.040		0.040
2.000	17.1	5.652	0.08	19.44	19.68		0.560	0.320		0.440
0.080	34.2	11.304	0.16	19.20	19.51		0.800	0.490		0.645
4.000	53.3	17.663	0.25	18.96	19.30		1.040	0.700		0.870
5.000	70.5	23.315	0.33	18.77	19.24		1.230	0.760		0.995
6.000	89.8	29.673	0.42	18.50	19.04		1.500	0.960		1.230
7.000	106.8	35.325	0.50	18.28	18.93		1.720	1.070		1.395
8.000	53.4	17.663	0.25	18.33	18.96		1.670	1.040		1.355
9.000	26.7	8.831	0.12	18.41	19.00		1.590	1.000		1.295
9.000	2.1	0.707	0.01	18.63	19.15		1.370	0.850		1.110
10.000	2.1	0.707	0.01	18.63	19.15		1.370	0.850		1.110
11.000	17.1	5.652	0.08	18.58	19.11		1.420	0.890		1.155
12.000	34.2	11.304	0.16	18.54	19.08		1.460	0.920		1.190
13.000	53.3	17.663	0.25	18.47	19.03		1.530	0.970		1.250
14.000	70.5	23.315	0.33	18.38	18.98		1.620	1.020		1.320
15.000	89.8	29.673	0.42	18.29	18.92		1.710	1.080		1.395

		ν	AS	30
0.7 σ_1	0.35	1.08563	0.46625	0.2
0.3 σ_1	0.15	0.61938		
0.7 σ_2	0.35	1.33667	0.13666	0.2
0.3 σ_2	0.15	1.2		
D (mm)	300			
E_{v1}	96.51			
E_{v2}	329.24			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	3.41		
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$$E_v = 8.75 \cdot D \cdot \Delta \sigma / \Delta s$$

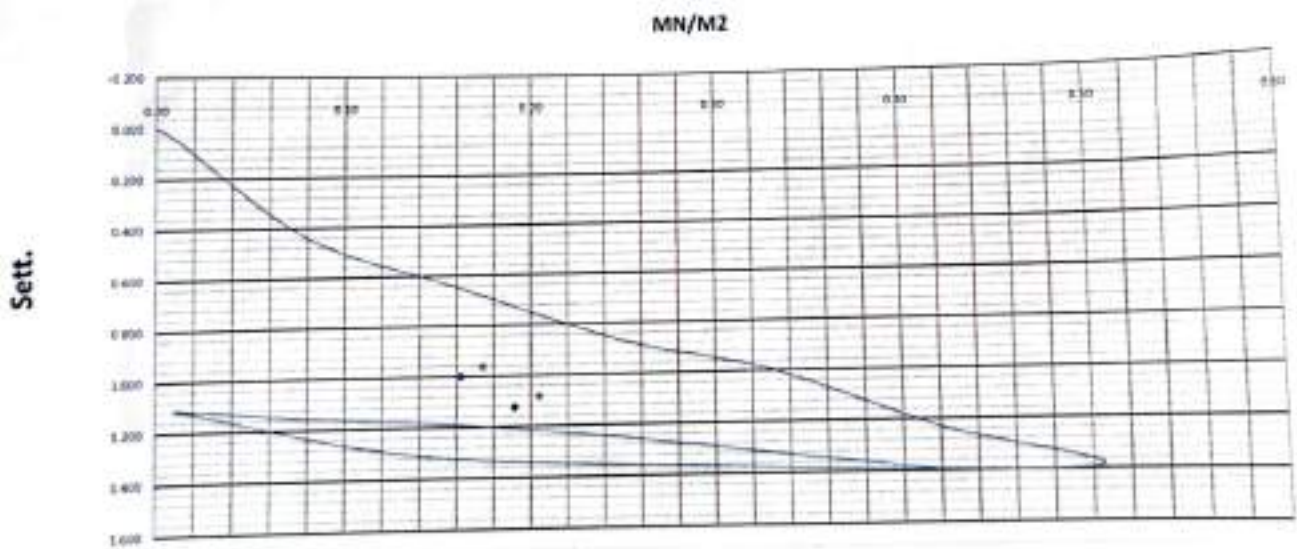
E_v = deformation modulus

D_s = load increment

D_s = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation, $\delta\sigma$ and $\delta\epsilon$ are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :



Plate Load Test Results

Company Name

AGR

Location

528+940

To

529+100

Test Date

21-06-2023

Layer level

FERMA

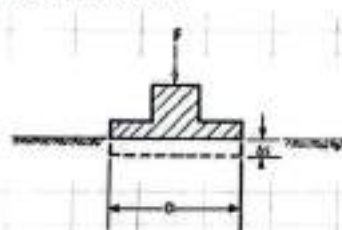
Station

529+020

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	kN/m ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.91	19.93		0.090	0.070		0.080
2.000	17.1	5.652	0.08	19.65	19.78		0.350	0.220		0.285
3.000	34.2	11.304	0.16	19.38	19.68		0.620	0.320		0.470
4.000	53.3	17.663	0.25	19.07	19.55		0.930	0.450		0.690
5.000	70.5	23.315	0.33	18.80	19.46		1.200	0.540		0.870
6.000	89.8	29.673	0.42	18.55	19.38		1.450	0.620		1.035
7.000	106.8	35.325	0.50	18.27	19.25		1.730	0.750		1.240
8.000	53.4	17.663	0.25	18.31	19.29		1.690	0.710		1.200
9.000	26.7	8.831	0.12	18.39	19.33		1.610	0.670		1.140
9.000	2.1	0.707	0.01	18.55	19.39		1.450	0.610		1.030
10.000	2.1	0.707	0.01	18.55	19.39		1.450	0.610		1.030
11.000	17.1	5.652	0.08	18.54	19.38		1.460	0.620		1.040
12.000	34.2	11.304	0.16	18.48	19.36		1.520	0.640		1.080
13.000	53.3	17.663	0.25	18.41	19.30		1.590	0.700		1.145
14.000	70.5	23.315	0.33	18.30	19.25		1.700	0.750		1.225
15.000	89.8	29.673	0.42	18.25	19.20		1.750	0.800		1.275

		σ	Δs	E_v
0.7 σ_1	0.35	0.85563	0.40875	0.2
0.3 σ_1	0.15	0.44688		
0.7 σ_2	0.35	1.23611	0.18611	0.2
0.3 σ_2	0.15	1.05		
D (mm)	300			
E_{v1}	110.05			
E_{v2}	241.79			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.20		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

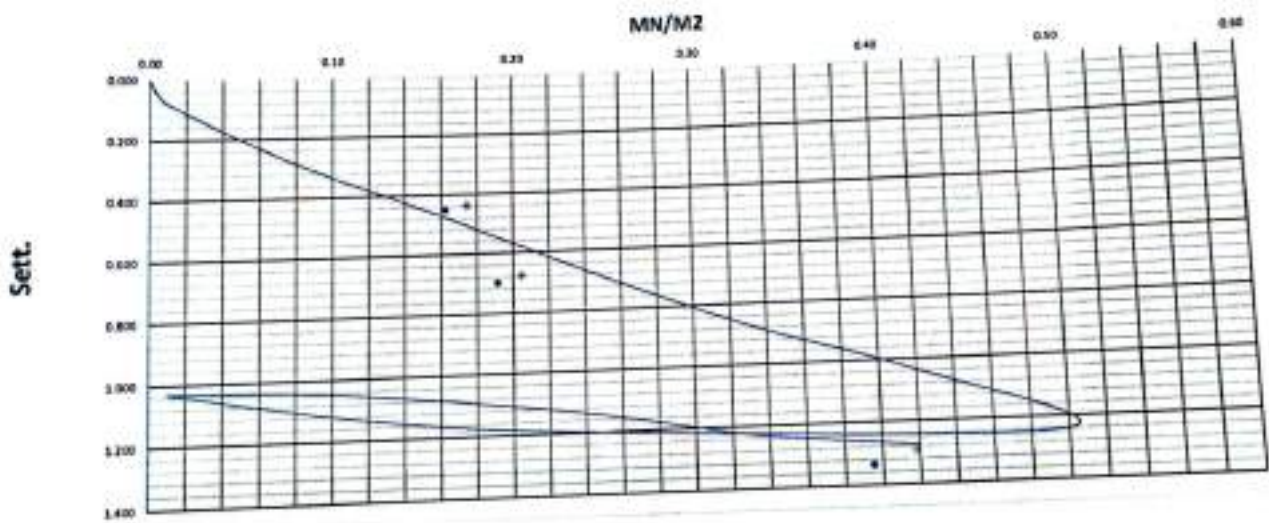
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δz are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Hassan

Sign :

23/6/2023



Plate Load Test Results

Company Name
Location
Test Date
Layer level

AGR

528+940

To

529+100

Station

529+069

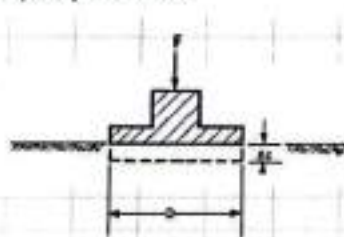
21-06-2023

FERMA

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

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D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MPa/psi	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.96	19.95		0.040	0.050		0.045
2.000	17.1	5.652	0.08	19.54	19.68		0.460	0.320		0.390
3.000	34.2	11.304	0.16	19.37	19.54		0.630	0.460		0.545
4.000	53.3	17.663	0.25	19.12	19.38		0.880	0.620		0.750
5.000	70.5	23.315	0.33	18.95	19.27		1.050	0.730		0.890
6.000	89.8	29.673	0.42	18.65	19.10		1.350	0.900		1.125
7.000	106.8	35.325	0.50	18.45	18.95		1.550	1.050		1.300
8.000	53.4	17.663	0.25	18.50	18.99		1.500	1.010		1.255
9.000	26.7	8.831	0.12	18.57	19.04		1.430	0.960		1.195
9.000	2.1	0.707	0.01	18.75	19.16		1.250	0.840		1.045
10.000	2.1	0.707	0.01	18.75	19.16		1.250	0.840		1.045
11.000	17.1	5.652	0.08	18.74	19.14		1.260	0.860		1.060
12.000	34.2	11.304	0.16	18.66	19.12		1.340	0.880		1.110
13.000	53.3	17.663	0.25	18.61	19.06		1.390	0.940		1.165
14.000	70.5	23.315	0.33	18.50	19.01		1.500	0.990		1.245
15.000	89.8	29.673	0.42	18.46	18.90		1.540	1.100		1.320

		s	AS	3s
0.7 σ_1	0.35	0.97187	0.44625	0.2
0.3 σ_1	0.15	0.52563		
0.7 σ_2	0.35	1.26167	0.13667	0.2
0.3 σ_2	0.15	1.075		
D (mm)	300			
E_{v1}	100.84			
E_{v2}	241.07			
Area (sq.m)	0.07065			

E_{v2}/E_{v1}	2.38		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

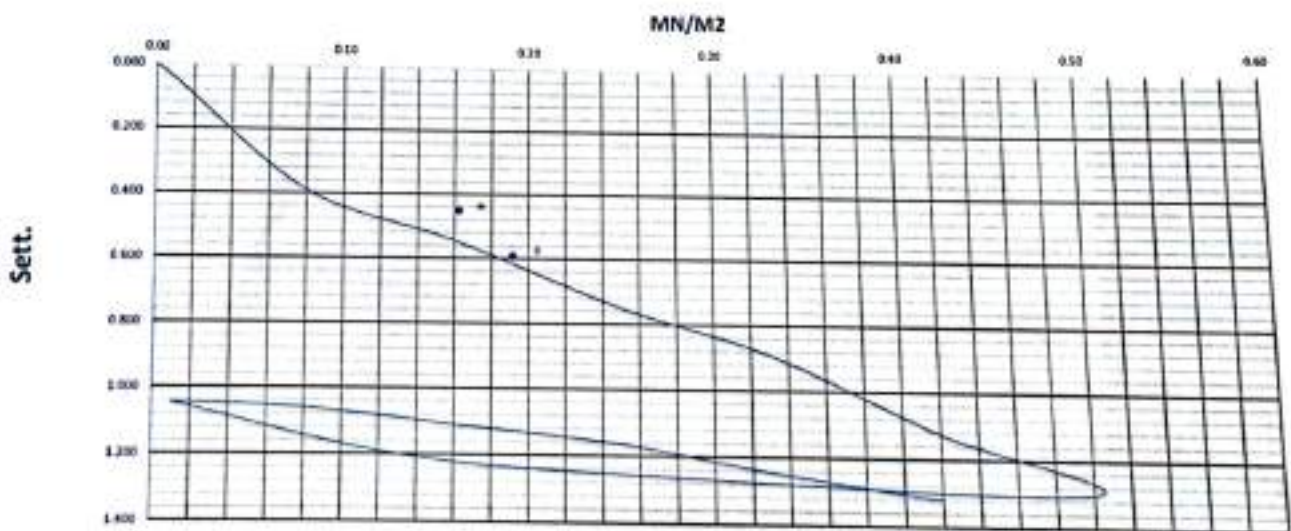
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δs and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign :

23/6/2023



Plate Load Test Results

Company Name

AGR

Location

528+940

To

529+100

Test Date

21-06-2023

Layer level

FERMA

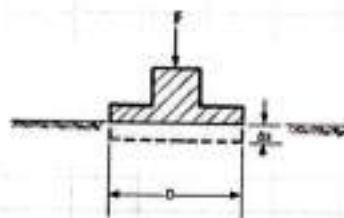
Station

528+970

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.90	19.98		0.100	0.020		0.060
2.000	17.1	5.652	0.08	19.69	19.92		0.310	0.080		0.195
3.000	34.2	11.304	0.16	19.41	19.74		0.590	0.260		0.425
4.000	53.3	17.663	0.25	19.10	19.59		0.900	0.410		0.655
5.000	70.5	23.315	0.33	18.88	19.44		1.120	0.560		0.840
6.000	89.8	29.673	0.42	18.70	19.37		1.300	0.630		0.965
7.000	106.8	35.325	0.50	18.53	19.24		1.470	0.760		1.115
8.000	53.4	17.663	0.25	18.63	19.28		1.370	0.720		1.045
9.000	26.7	8.831	0.12	18.74	19.33		1.260	0.670		0.965
9.000	2.1	0.707	0.01	18.88	19.41		1.120	0.590		0.855
10.000	2.1	0.707	0.01	18.88	19.41		1.120	0.590		0.855
11.000	17.1	5.652	0.08	18.87	19.40		1.130	0.600		0.865
12.000	34.2	11.304	0.16	18.83	19.38		1.170	0.620		0.895
13.000	53.3	17.663	0.25	18.71	19.33		1.290	0.670		0.980
14.000	70.5	23.315	0.33	18.63	19.28		1.370	0.720		1.045
15.000	89.8	29.673	0.42	18.54	19.25		1.460	0.750		1.105

		σ	Δs	$\sigma/\Delta s$
0.7 σ_1	0.35	0.83375	0.4375	0.2
0.3 σ_1	0.15	0.39625		
0.7 σ_2	0.35	1.05833	0.18333	0.2
0.3 σ_2	0.15	0.875		
D (mm)	300			
E_{v1}	102.86			
E_{v2}	245.46			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.39		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

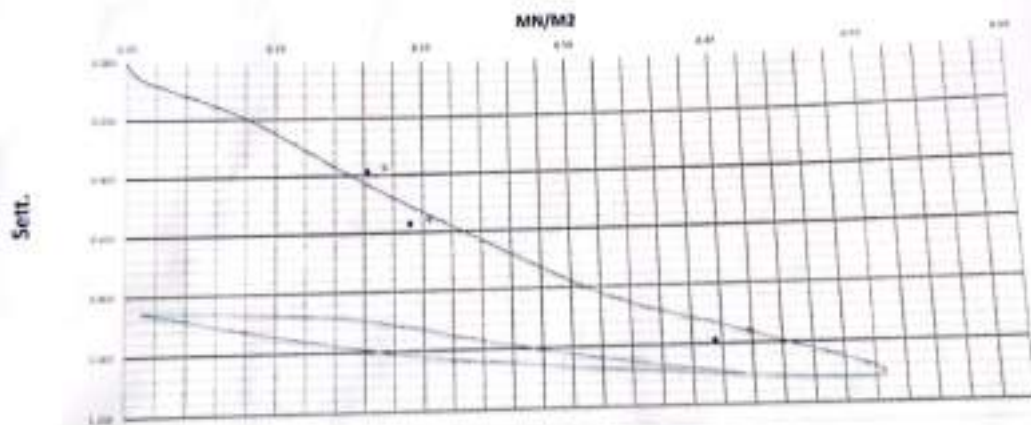
E_v = deformation modulus

D = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation J_{or} and J_1 are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist
Name :
Sign :

Lab. Engineer
Name :
Sign :



Consultant Engineer
Name : Hassan
Sign :

23/6/2023



Plate Load Test Results

Company Name

AGR

Location

529+400

To

529+500

Test Date

19-06-2023

Layer level

upper embankment -1.5

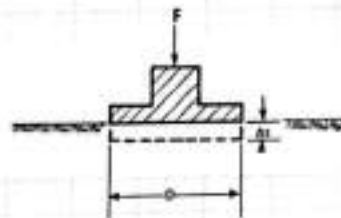
Station

529+440

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	N/mm ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.95	19.95		0.050	0.050		0.050
2.000	17.1	5.652	0.08	19.82	19.80		0.180	0.200		0.190
0.080	34.2	11.304	0.16	19.66	19.55		0.340	0.450		0.395
4.000	53.3	17.663	0.25	19.29	19.32		0.710	0.680		0.695
5.000	70.5	23.315	0.33	19.00	19.02		1.000	0.980		0.990
6.000	89.8	29.673	0.42	18.76	18.80		1.240	1.200		1.220
7.000	106.8	35.325	0.50	18.55	18.51		1.450	1.490		1.470
8.000	53.4	17.663	0.25	18.60	18.58		1.400	1.420		1.410
9.000	26.7	8.831	0.12	18.70	18.70		1.300	1.300		1.300
9.000	2.1	0.707	0.01	18.94	18.96		1.060	1.040		1.050
10.000	2.1	0.707	0.01	18.94	18.96		1.060	1.040		1.050
11.000	17.1	5.652	0.08	18.87	18.90		1.130	1.100		1.115
12.000	34.2	11.304	0.16	18.79	18.80		1.210	1.200		1.205
13.000	53.3	17.663	0.25	18.70	18.70		1.300	1.300		1.300
14.000	70.5	23.315	0.33	18.62	18.60		1.380	1.400		1.390
15.000	89.8	29.673	0.42	18.55	18.51		1.450	1.490		1.470

		σ	Δs	$\Delta \sigma$
0.7 σ_1	0.35	1.00125	0.63187	0.1
0.3 σ_1	0.15	0.34938		
0.7 σ_2	0.35	1.40778	0.22777	0.2
0.3 σ_2	0.15	1.18001		
D (mm)	300			
E_{v1}	71.22			
E_{v2}	197.57			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.77		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

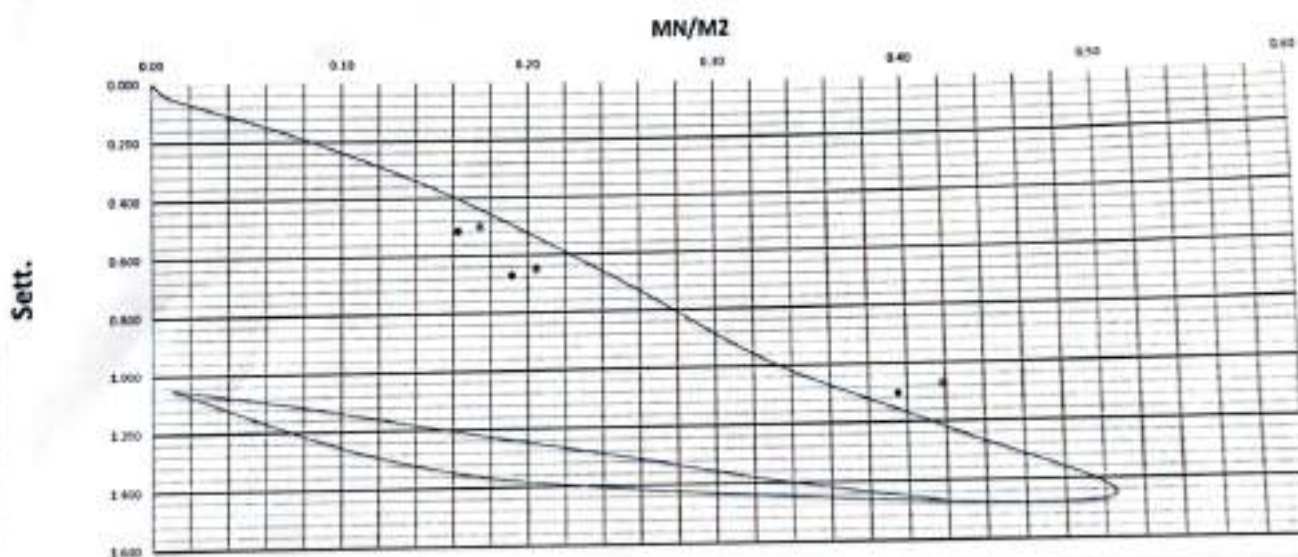
E_v = deformation modulus

D = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

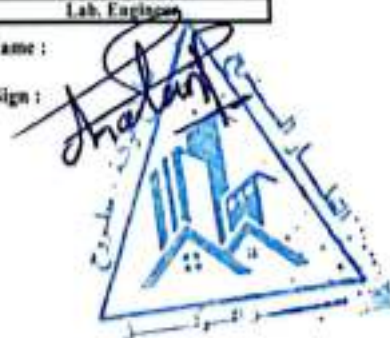
Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign :

20/6/2023

Plate Load Test Results

Company Name

AGR

Location

525+000

To

525+080

Test Date

17/6/2023

Layer level

-1.5

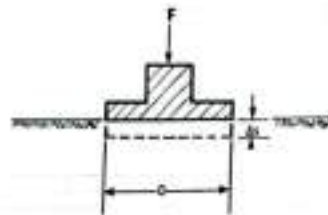
Station

525+050

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

s = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	kN/m ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	18.39	18.04		0.000	0.000		0.000
1.000	2.1	0.707	0.01	18.22	17.95		0.170	0.090		0.130
2.000	17.1	5.652	0.08	18.01	17.88		0.380	0.160		0.270
3.000	34.2	11.304	0.16	17.81	17.79		0.580	0.250		0.415
4.000	53.4	17.663	0.25	17.47	17.69		0.920	0.350		0.635
5.000	70.5	23.315	0.33	17.28	17.59		1.110	0.450		0.780
6.000	89.7	29.673	0.42	17.04	17.48		1.350	0.560		0.955
7.000	106.8	35.325	0.50	16.83	17.36		1.560	0.680		1.120
8.000	53.4	17.663	0.25	16.93	17.40		1.460	0.640		1.050
9.000	26.7	8.831	0.12	17.13	17.45		1.260	0.590		0.925
9.000	2.1	0.707	0.01	17.43	17.59		0.960	0.450		0.705
10.000	2.1	0.707	0.01	17.43	17.59		0.960	0.450		0.705
11.000	17.1	5.652	0.08	17.36	17.56		1.030	0.480		0.755
12.000	34.2	11.304	0.16	17.23	17.51		1.160	0.530		0.845
13.000	53.4	17.663	0.25	17.10	17.46		1.290	0.580		0.935
14.000	70.5	23.315	0.33	17.00	17.41		1.390	0.630		1.010
15.000	89.7	29.673	0.42	16.90	17.37		1.490	0.670		1.080

		s	Δs	Δs
0.7 σ_1	0.35	0.81062	0.41375	0.2
0.3 σ_1	0.15	0.39688		
0.7 σ_2	0.35	1.02556	0.22055	0.2
0.3 σ_2	0.15	0.80501		
D (mm)	300			
E_{v1}	108.76			
E_{v2}	204.03			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	1.88		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

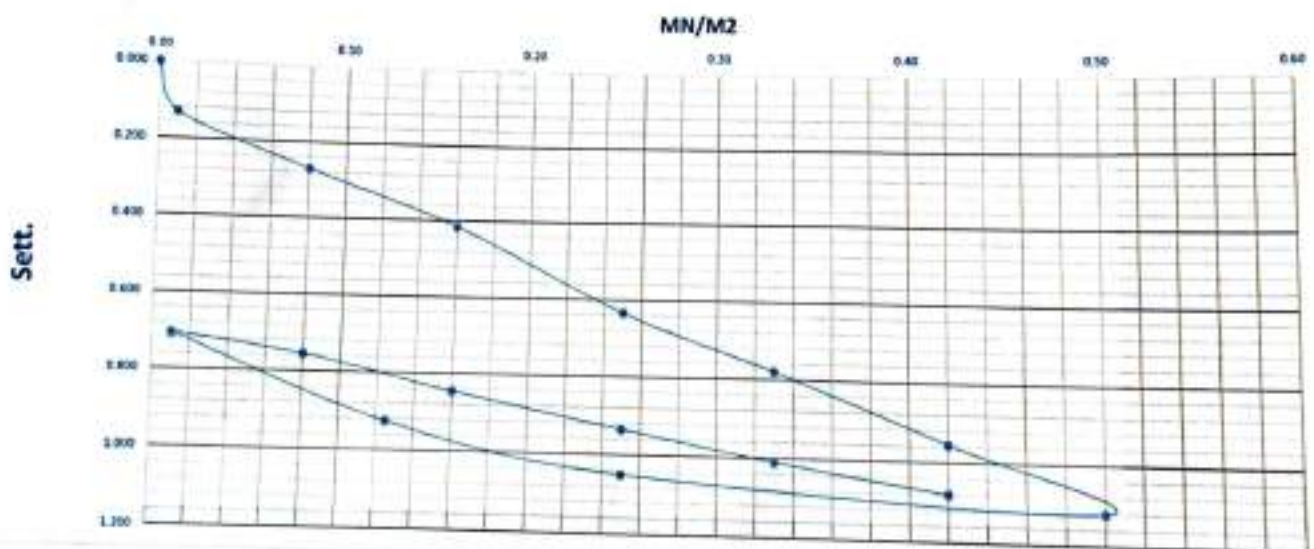
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δx are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign : 19/5/2023



Plate Load Test Results

Company Name

AGR

Location

529+400

To

529+500

Test Date

19-06-2023

Layer level

upper embankment -1.5

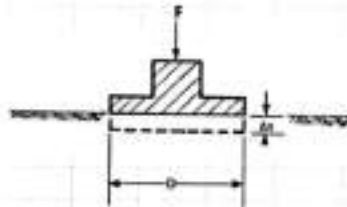
Station

529+480

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.96	19.90		0.040	0.100		0.070
2.000	17.1	5.652	0.08	19.85	19.72		0.150	0.280		0.215
3.000	34.2	11.304	0.16	19.68	19.40		0.320	0.600		0.460
4.000	53.3	17.663	0.25	19.41	19.10		0.590	0.900		0.745
5.000	70.5	23.315	0.33	19.35	18.83		0.650	1.170		0.910
6.000	89.8	29.673	0.42	19.11	18.51		0.890	1.490		1.190
7.000	106.8	35.325	0.50	19.01	18.19		0.990	1.810		1.400
8.000	53.4	17.663	0.25	19.08	18.25		0.920	1.750		1.335
9.000	26.7	8.831	0.12	19.18	18.38		0.820	1.620		1.220
9.000	2.1	0.707	0.01	19.44	18.66		0.560	1.340		0.950
10.000	2.1	0.707	0.01	19.44	18.66		0.560	1.340		0.950
11.000	17.1	5.652	0.08	19.40	18.54		0.600	1.460		1.030
12.000	34.2	11.304	0.16	19.36	18.47		0.640	1.530		1.085
13.000	53.3	17.663	0.25	19.22	18.38		0.780	1.620		1.200
14.000	70.5	23.315	0.33	19.16	18.28		0.840	1.720		1.280
15.000	89.8	29.673	0.42	19.10	18.17		0.900	1.830		1.365

		s	SS	So
0.7 σ_1	0.35	1.00625	0.57688	0.2
0.3 σ_1	0.15	0.42938		
0.7 σ_2	0.35	1.29889	0.18888	0.2
0.3 σ_2	0.15	1.11001		
D (mm)	300			
E_{v1}	78.01			
E_{v2}	238.25			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	3.05		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

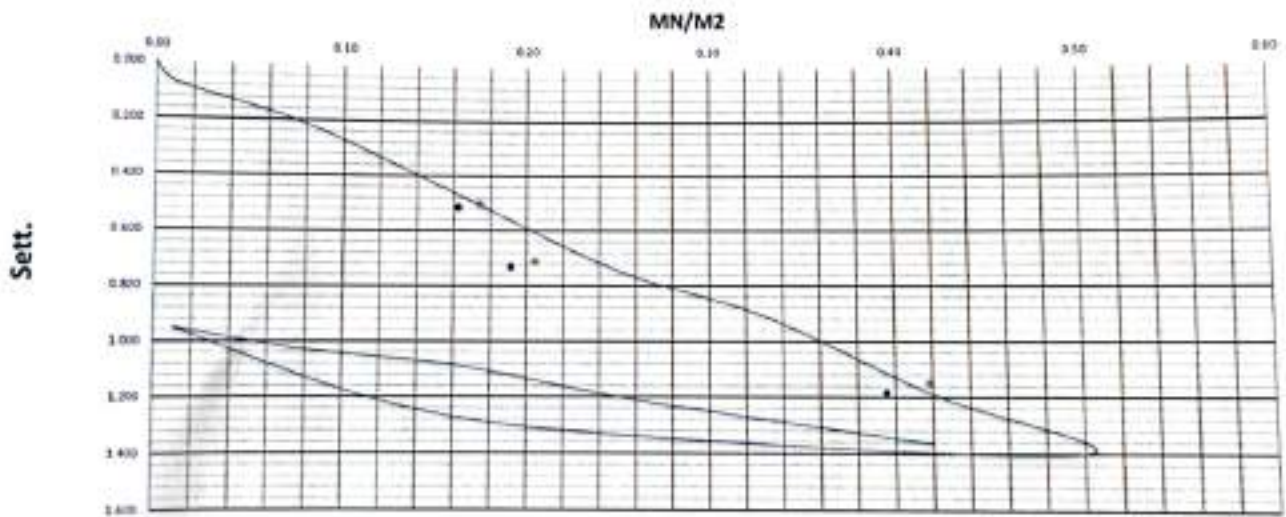
E_v = deformation modulus

D_s = load increment

D_s = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δx are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign :

20/10/2023



Plate Load Test Results

Company Name
Location
Test Date
Layer level

AGR

526+200

19-06-2023

p.s.g +0.5

To

526+280

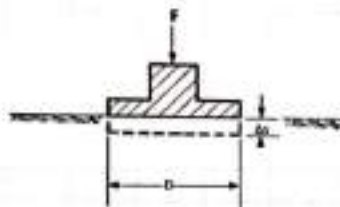
Station

526+220

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MPa	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.74	19.95		0.260	0.050		0.155
2.000	17.1	5.652	0.08	19.30	19.85		0.700	0.150		0.425
3.000	34.2	11.304	0.16	19.10	19.70		0.900	0.300		0.600
4.000	53.3	17.663	0.25	18.90	19.60		1.100	0.400		0.750
5.000	70.5	23.315	0.33	18.70	19.50		1.300	0.500		0.900
6.000	89.8	29.673	0.42	18.56	19.38		1.440	0.620		1.030
7.000	106.8	35.325	0.50	18.47	19.18		1.530	0.820		1.175
8.000	53.4	17.663	0.25	18.52	19.20		1.480	0.800		1.140
9.000	26.7	8.831	0.12	18.54	19.25		1.460	0.750		1.105
9.000	2.1	0.707	0.01	18.63	19.42		1.370	0.580		0.975
10.000	2.1	0.707	0.01	18.63	19.42		1.370	0.580		0.975
11.000	17.1	5.652	0.08	18.60	19.39		1.400	0.610		1.005
12.000	34.2	11.304	0.16	18.58	19.36		1.420	0.640		1.030
13.000	53.3	17.663	0.25	18.55	19.30		1.450	0.700		1.075
14.000	70.5	23.315	0.33	18.51	19.26		1.490	0.740		1.115
15.000	89.8	29.673	0.42	18.48	19.19		1.520	0.810		1.165

		σ	ΔS	$\Delta \sigma$
0.7 σ_1	0.35	0.90313	0.325	0.2
0.3 σ_1	0.15	0.57813		
0.7 σ_2	0.35	1.12611	0.09111	0.2
0.3 σ_2	0.15	1.035		
D (mm)	300			
E_{v1}	138.46			
E_{v2}	493.92			
Area (Sq.m)	0.07065			

$E = 2E_v$	1.57		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

E_v = deformation modulus

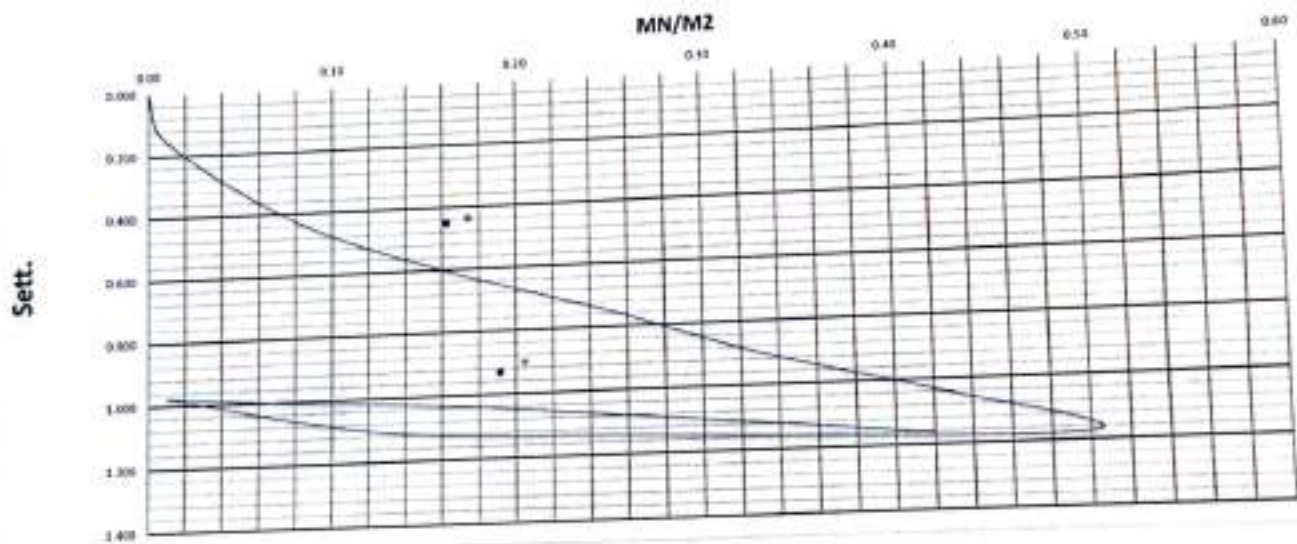
D_v = load increment

D_s = settlement increment

D = diameter of the plate, generally 0.30 m



For this calculation $\Delta\sigma$ and $\Delta\epsilon$ are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :



Lab. Engineer

Name :

Sign :

Handwritten signature of the Lab. Engineer.

Consultant Engineer

Name : Hassan

Sign :

Handwritten signature of Hassan, dated 23/6/2023.



Plate Load Test Results

Company Name

AGR

Location

526+200

To

526+280

Test Date

19-06-2023

Layer level

p.s.g +0.5

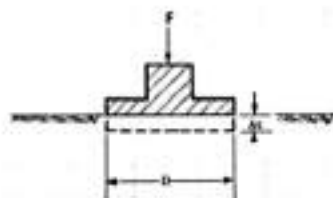
Station

526+200

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg Sett.
Stage No.	Bar	kN	MPa/ksi	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.80	19.75		0.200	0.250		0.225
2.000	17.1	5.652	0.08	19.66	19.60		0.340	0.400		0.370
3.000	34.2	11.304	0.16	19.59	19.39		0.410	0.610		0.510
4.000	53.3	17.663	0.25	19.51	19.21		0.490	0.790		0.640
5.000	70.5	23.315	0.33	19.48	19.12		0.520	0.880		0.700
6.000	89.8	29.673	0.42	19.46	19.02		0.540	0.980		0.760
7.000	106.8	35.325	0.50	19.38	18.91		0.620	1.090		0.855
8.000	53.4	17.663	0.25	19.39	18.96		0.610	1.040		0.825
9.000	26.7	8.831	0.12	19.41	19.00		0.590	1.000		0.795
9.000	2.1	0.707	0.01	19.49	19.08		0.510	0.920		0.715
10.000	2.1	0.707	0.01	19.49	19.08		0.510	0.920		0.715
11.000	17.1	5.652	0.08	19.48	19.07		0.520	0.930		0.725
12.000	34.2	11.304	0.16	19.45	19.06		0.550	0.940		0.745
13.000	53.3	17.663	0.25	19.42	19.02		0.580	0.980		0.780
14.000	70.5	23.315	0.33	19.40	19.00		0.600	1.000		0.800
15.000	89.8	29.673	0.42	19.38	18.95		0.620	1.050		0.835

		σ	Δs	$\Delta \sigma$
0.7 σ_1	0.35	0.47687	0.18438	0.2
0.3 σ_1	0.15	0.4925		
0.7 σ_2	0.35	0.80778	0.07278	0.2
0.3 σ_2	0.15	0.735		
D (mm)	300			
E_v	244.97			
E_v	418.33			
Area (Sq.m)	0.07065			

E_s	2.53		
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$$E_s = 4.75 \cdot D \cdot \Delta \sigma / \Delta s$$

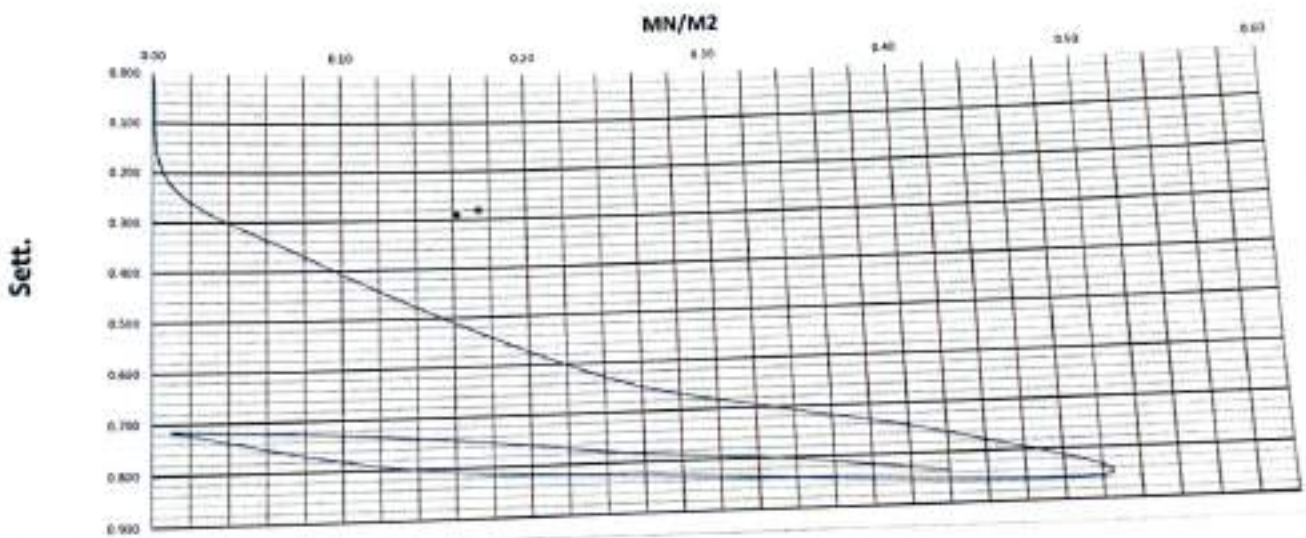
E_s = deformation modulus

D_s = load increment

D_s = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

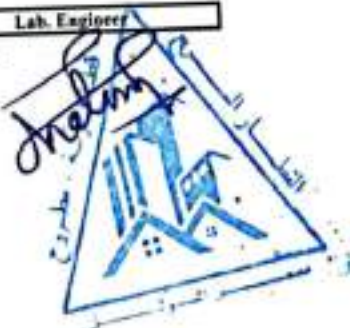
Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Hassan
23/6/2023

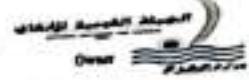


Plate Load Test Results

Company Name
Location
Test Date
Layer level

AGR

526+200

To

526+280

19-06-2023

p.s.g +0.5

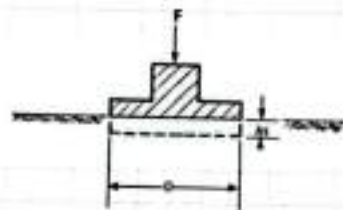
Station

526+240

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Leading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	KN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.85	19.92		0.150	0.080		0.115
2.000	17.1	5.652	0.08	19.42	19.74		0.580	0.260		0.420
3.000	34.2	11.304	0.16	19.22	19.61		0.780	0.390		0.585
4.000	53.3	17.663	0.25	19.14	19.52		0.860	0.480		0.670
5.000	70.5	23.315	0.33	19.06	19.45		0.940	0.550		0.745
6.000	89.8	29.673	0.42	19.03	19.34		0.970	0.660		0.815
7.000	106.8	35.325	0.50	18.97	19.31		1.030	0.690		0.860
8.000	53.4	17.663	0.25	19.01	19.35		0.990	0.650		0.820
9.000	26.7	8.831	0.12	19.07	19.41		0.930	0.590		0.760
9.000	2.1	0.707	0.01	19.36	19.54		0.640	0.460		0.550
10.000	2.1	0.707	0.01	19.36	19.54		0.640	0.460		0.550
11.000	17.1	5.652	0.08	19.28	19.48		0.720	0.520		0.620
12.000	34.2	11.304	0.16	19.22	19.42		0.780	0.580		0.680
13.000	53.3	17.663	0.25	19.12	19.39		0.880	0.610		0.745
14.000	70.5	23.315	0.33	19.06	19.36		0.940	0.640		0.790
15.000	89.8	29.673	0.42	18.99	19.32		1.010	0.680		0.845

		σ	Δs	$\sigma/\Delta s$
0.7 σ_1	0.35	0.77562	0.21125	0.2
0.3 σ_1	0.15	0.56438		
0.7 σ_2	0.35	0.80222	0.11222	0.2
0.3 σ_2	0.15	0.69001		
D (mm)	300			
E_{v1}	213.03			
E_{v2}	401.02			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	1.88		
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$$E_v = 8.75 \cdot D \cdot \Delta \sigma / \Delta s$$

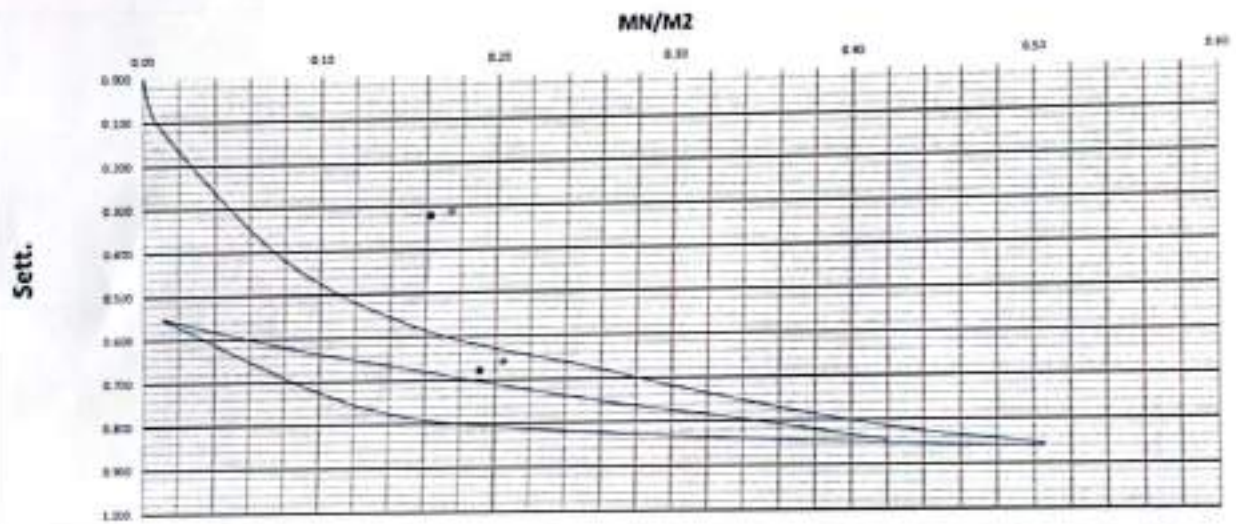
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δ_0 and Δ_1 are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Hassan
23/6/2023



Plate Load Test Results

Company Name

AGR

Location

526+100

To

526+200

Station

526+120

Test Date

19-06-2023

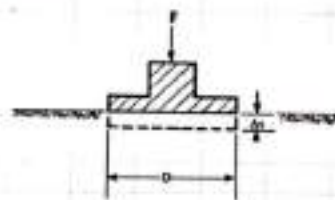
Layer level

p.s.g +0.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.90	19.80		0.100	0.200		0.150
2.000	17.1	5.652	0.08	19.75	19.30		0.250	0.700		0.475
3.000	34.2	11.304	0.16	19.59	19.19		0.410	0.810		0.610
4.000	53.3	17.663	0.25	19.48	19.10		0.520	0.900		0.710
5.000	70.5	23.315	0.33	19.38	19.04		0.620	0.960		0.790
6.000	89.8	29.673	0.42	19.34	19.00		0.660	1.000		0.830
7.000	106.8	35.325	0.50	19.26	18.91		0.740	1.090		0.915
8.000	53.4	17.663	0.25	19.27	18.92		0.730	1.080		0.905
9.000	26.7	8.831	0.12	19.31	18.95		0.690	1.050		0.870
9.000	2.1	0.707	0.01	19.39	19.00		0.610	1.000		0.805
10.000	2.1	0.707	0.01	19.39	19.04		0.610	0.960		0.785
11.000	17.1	5.652	0.08	19.38	19.02		0.620	0.980		0.800
12.000	34.2	11.304	0.16	19.36	19.00		0.640	1.000		0.820
13.000	53.3	17.663	0.25	19.32	18.98		0.680	1.020		0.850
14.000	70.5	23.315	0.33	19.30	18.96		0.700	1.040		0.870
15.000	89.8	29.673	0.42	19.28	18.94		0.720	1.060		0.890

		σ	ΔS	$\Delta \sigma$
$0.7 \sigma_1$	0.35	0.75563	0.1625	0.2
$0.3 \sigma_1$	0.15	0.59312		
$0.7 \sigma_2$	0.35	0.87444	0.05944	0.2
$0.3 \sigma_2$	0.15	0.815		
D (mm)	300			
E_{v1}	276.92			
E_{v2}	757.03			
Area (Sqmm)	0.07065			

E_{v1}/E_{v2}	2.73		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

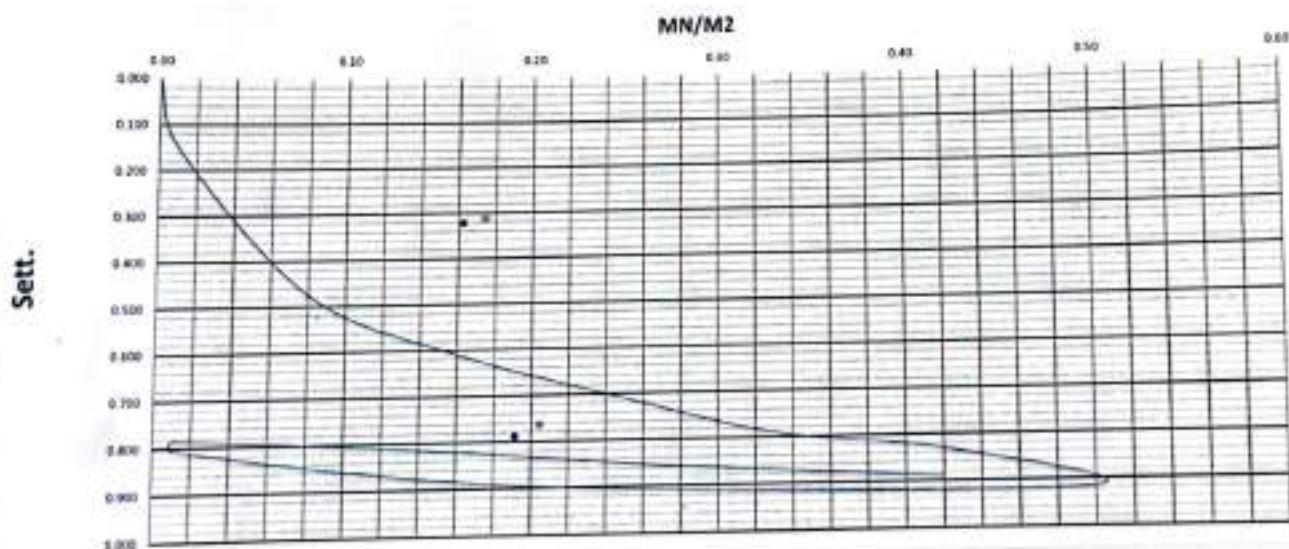
E_v = deformation modulus

D = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

Hassa
25/6/2023

Plate Load Test Results

Company Name
Location
Test Date
Layer level

AGR

526+100

To

526+200

19-06-2023

p.s.g +0.5

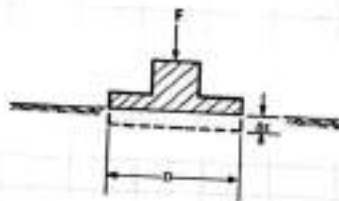
Station

526+185

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa/SEI	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.91	19.94		0.090	0.060		0.075
2.000	17.1	5.652	0.08	19.46	19.68		0.540	0.320		0.430
3.000	34.2	11.304	0.16	19.30	19.58		0.700	0.420		0.560
4.000	53.3	17.663	0.25	19.12	19.51		0.880	0.490		0.685
5.000	70.5	23.315	0.33	18.95	19.48		1.050	0.520		0.785
6.000	89.8	29.673	0.42	18.85	19.44		1.150	0.560		0.855
7.000	106.8	35.325	0.50	18.71	19.30		1.290	0.700		0.995
8.000	53.4	17.663	0.25	18.75	19.32		1.250	0.680		0.965
9.000	26.7	8.831	0.12	18.81	19.38		1.190	0.620		0.905
9.000	2.1	0.707	0.01	18.86	19.40		1.140	0.600		0.870
10.000	2.1	0.707	0.01	18.86	19.40		1.140	0.600		0.870
11.000	17.1	5.652	0.08	18.85	19.39		1.150	0.610		0.880
12.000	34.2	11.304	0.16	18.83	19.38		1.170	0.620		0.895
13.000	53.3	17.663	0.25	18.81	19.37		1.190	0.630		0.910
14.000	70.5	23.315	0.33	18.78	19.35		1.220	0.650		0.935
15.000	89.8	29.673	0.42	18.71	19.32		1.290	0.680		0.985

		σ	$\Delta \sigma$	Δs
0.7 σ_1	0.35	0.7325	0.18875	0.2
0.3 σ_1	0.15	0.54375		
0.7 σ_2	0.35	0.94611	0.05611	0.2
0.3 σ_2	0.15	0.89		
D (mm)	300			
E_{v1}	238.41			
E_{v2}	801.99			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	3.36		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

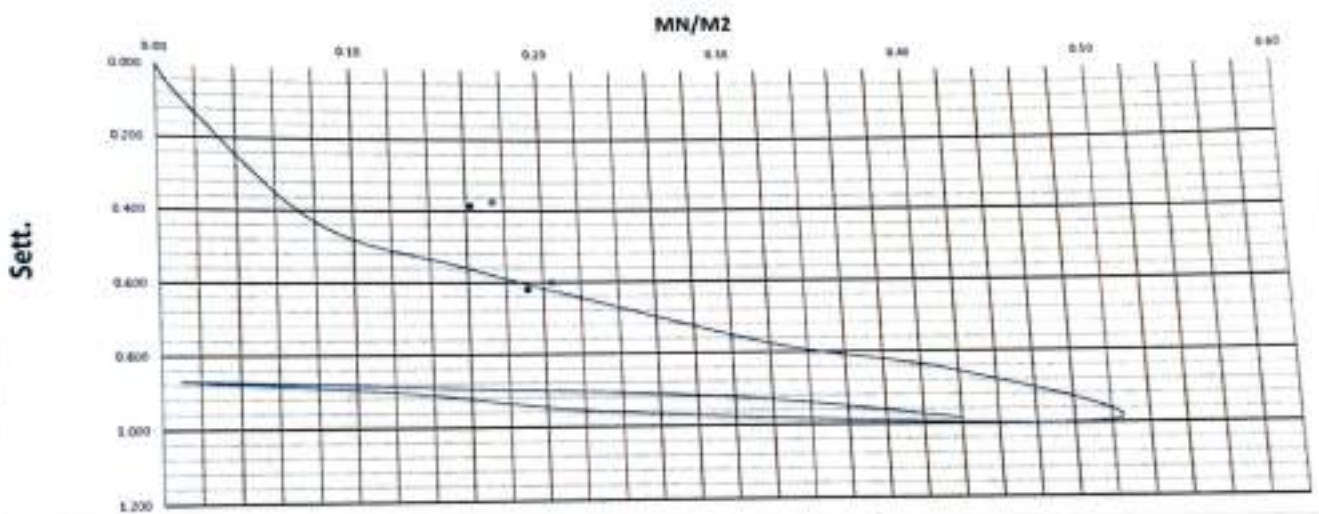
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and $\Delta\epsilon$ are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Hassan
23/6/2023



Plate Load Test Results

Company Name
Location
Test Date
Layer level

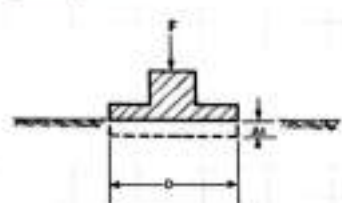
AGR
526+100 To 526+200
19-06-2023
p.s.g +0.5

Station 526+185

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load
 Δs = settlement
 D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 8 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.63	19.74		0.370	0.260		0.315
2.000	17.1	5.652	0.08	19.30	19.35		0.700	0.650		0.675
3.000	34.2	11.304	0.16	19.08	19.25		0.920	0.750		0.835
4.000	53.3	17.663	0.25	18.97	19.20		1.030	0.800		0.915
5.000	70.5	23.315	0.33	18.85	19.18		1.150	0.820		0.985
6.000	89.8	29.673	0.42	18.78	19.12		1.220	0.880		1.050
7.000	106.8	35.325	0.50	18.65	19.10		1.350	0.900		1.125
8.000	53.4	17.663	0.25	18.69	19.12		1.310	0.880		1.095
9.000	26.7	8.831	0.12	18.74	19.15		1.260	0.850		1.055
9.000	2.1	0.707	0.01	18.82	19.22		1.180	0.780		0.980
10.000	2.1	0.707	0.01	18.82	19.22		1.180	0.780		0.980
11.000	17.1	5.652	0.08	18.80	19.21		1.200	0.790		0.995
12.000	34.2	11.304	0.16	18.76	19.19		1.240	0.810		1.025
13.000	53.3	17.663	0.25	18.75	19.17		1.250	0.830		1.040
14.000	70.5	23.315	0.33	18.72	19.15		1.280	0.850		1.065
15.000	89.8	29.673	0.42	18.67	19.13		1.330	0.870		1.100

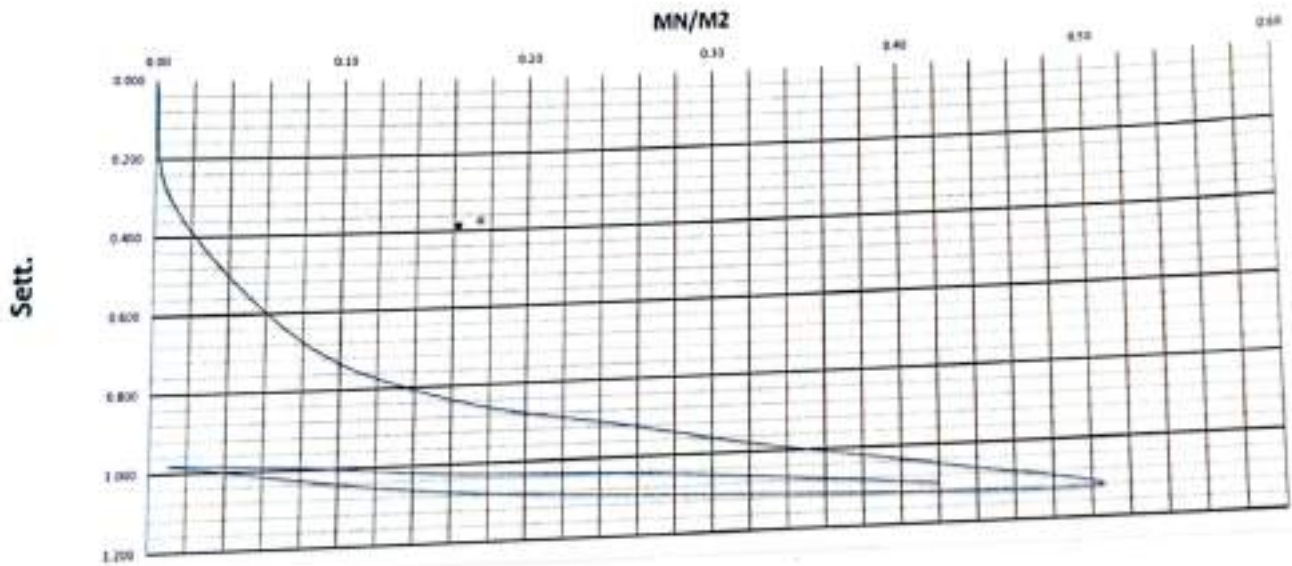
		s	Δs	Δs
0.7 σ_1	0.35	0.98437	0.16937	0.1
6.3 σ_1	0.15	0.815		
0.7 σ_2	0.35	1.07278		
0.3 σ_2	0.15	1.01	0.06278	0.1
D (mm)	300			
E_{v1}	265.68			
E_{v2}	716.83			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.70		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

- E_v = deformation modulus
- $\Delta \sigma$ = load increment
- Δs = settlement increment
- D = diameter of the plate, generally 0.30 m

For this calculation, $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign : 23/6/2023



Plate Load Test Results

Company Name

AGR

Location

526+100

To

526+200

Station

526+145

Test Date

19-06-2023

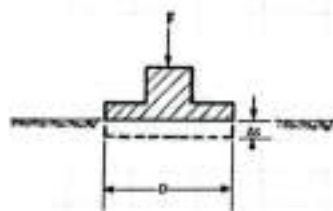
Layer level

p.s.g +0.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	N/M ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.95	19.98		0.050	0.020		0.035
2.000	17.1	5.652	0.08	19.54	19.75		0.460	0.250		0.355
3.000	34.2	11.304	0.16	19.30	19.58		0.700	0.420		0.560
4.000	53.3	17.663	0.25	19.15	19.48		0.850	0.520		0.685
5.000	70.5	23.315	0.33	19.04	19.43		0.960	0.570		0.765
6.000	89.8	29.673	0.42	19.00	19.40		1.000	0.600		0.800
7.000	106.8	35.325	0.50	18.92	19.36		1.080	0.640		0.860
8.000	53.4	17.663	0.25	18.94	19.38		1.060	0.620		0.840
9.000	26.7	8.831	0.12	19.00	19.39		1.000	0.610		0.805
9.000	2.1	0.707	0.01	19.08	19.43		0.920	0.570		0.745
10.000	2.1	0.707	0.01	19.08	19.43		0.920	0.570		0.745
11.000	17.1	5.652	0.08	19.07	19.42		0.930	0.580		0.755
12.000	34.2	11.304	0.16	19.04	19.41		0.960	0.590		0.775
13.000	53.3	17.663	0.25	18.98	19.39		1.020	0.610		0.815
14.000	70.5	23.315	0.33	18.96	19.38		1.040	0.620		0.830
15.000	89.8	29.673	0.42	18.94	19.36		1.060	0.640		0.850

		γ	SS	Δs
0.7 σ_1	0.35	0.7475	0.21313	0.2
0.3 σ_1	0.15	0.53438		
0.7 σ_2	0.35	0.83444	0.06944	0.2
0.3 σ_2	0.15	0.765		
D (mm)	300			
E_{v1}	211.14			
E_{v2}	648.01			
Area (Sq.m)	0.07065			

E_{v1}/E_{v2}	3.07		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

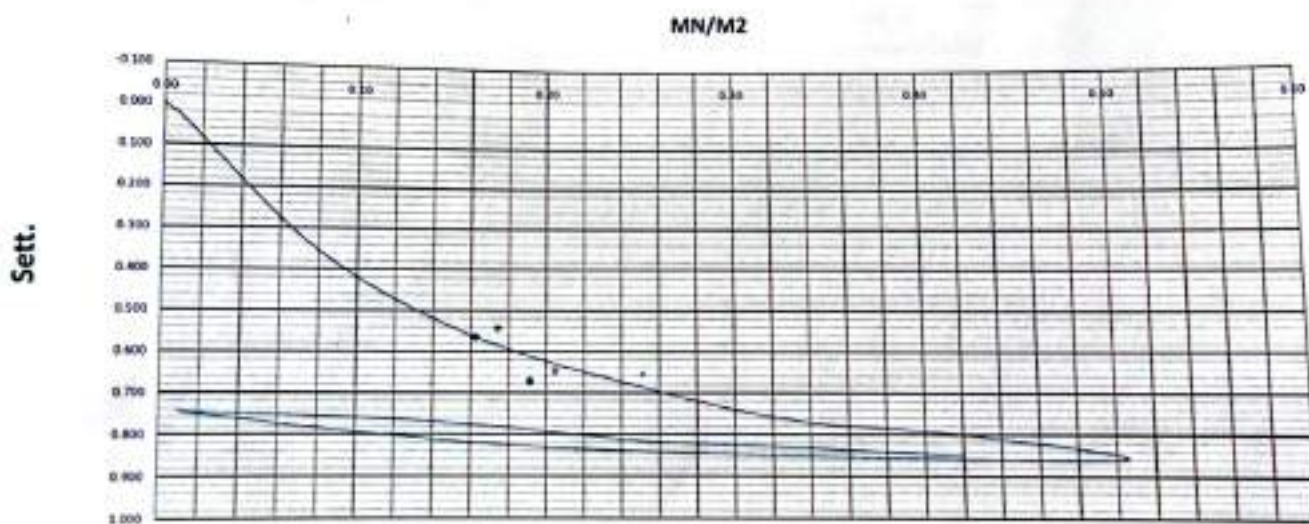
E_v = deformation modulus

D_s = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δs and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

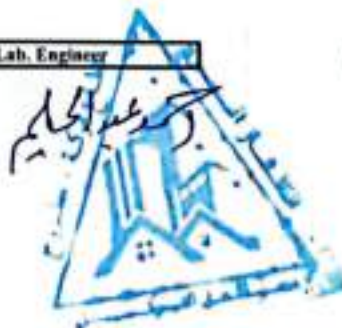
Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Hassan

Sign :

23/5/2023

Plate Load Test Results

Company Name

AGR

Location

529+900

To

530+000

Test Date

15/6/2023

Layer level

Ferma

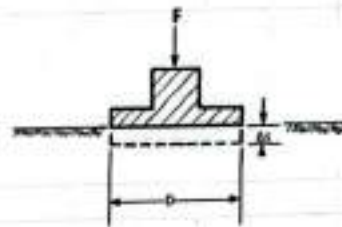
Station

529+970

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.38	8.50		0.000	0.000		0.000
1.000	2.1	0.707	0.01	7.26	8.07		0.120	0.430		0.275
2.000	17.1	5.652	0.08	7.14	7.49		0.240	1.010		0.625
0.080	34.2	11.304	0.16	6.95	7.19		0.430	1.310		0.870
4.000	53.4	17.663	0.25	6.85	6.73		0.530	1.770		1.150
5.000	70.5	23.315	0.33	6.73	6.44		0.650	2.060		1.355
6.000	89.7	29.673	0.42	6.61	6.15		0.770	2.350		1.560
7.000	106.8	35.325	0.50	6.28	5.69		1.100	2.810		1.955
8.000	53.4	17.663	0.25	6.49	5.79		0.890	2.710		1.800
9.000	26.7	8.831	0.12	6.53	5.84		0.850	2.640		1.755
9.000	2.1	0.707	0.01	6.68	6.55		0.700	1.950		1.325
10.000	2.1	0.707	0.01	6.68	6.55		0.700	1.950		1.325
11.000	17.1	5.652	0.08	6.64	6.50		0.740	2.000		1.370
12.000	34.2	11.304	0.16	6.62	6.38		0.760	2.120		1.440
13.000	53.4	17.663	0.25	6.55	6.12		0.830	2.380		1.605
14.000	70.5	23.315	0.33	6.50	6.01		0.880	2.490		1.685
15.000	89.7	29.673	0.42	6.45	5.91		0.930	2.590		1.760

		σ	Δs	$\Delta \sigma$
0.7 σ_1	0.35	1.21438	0.375	0.2
0.3 σ_1	0.15	0.83938		
0.7 σ_2	0.35	1.70167		
0.3 σ_2	0.15	1.415	0.28666	0.2
D (mm)	300			
E_{v1}	120.00			
E_{v2}	156.98			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	1.31		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

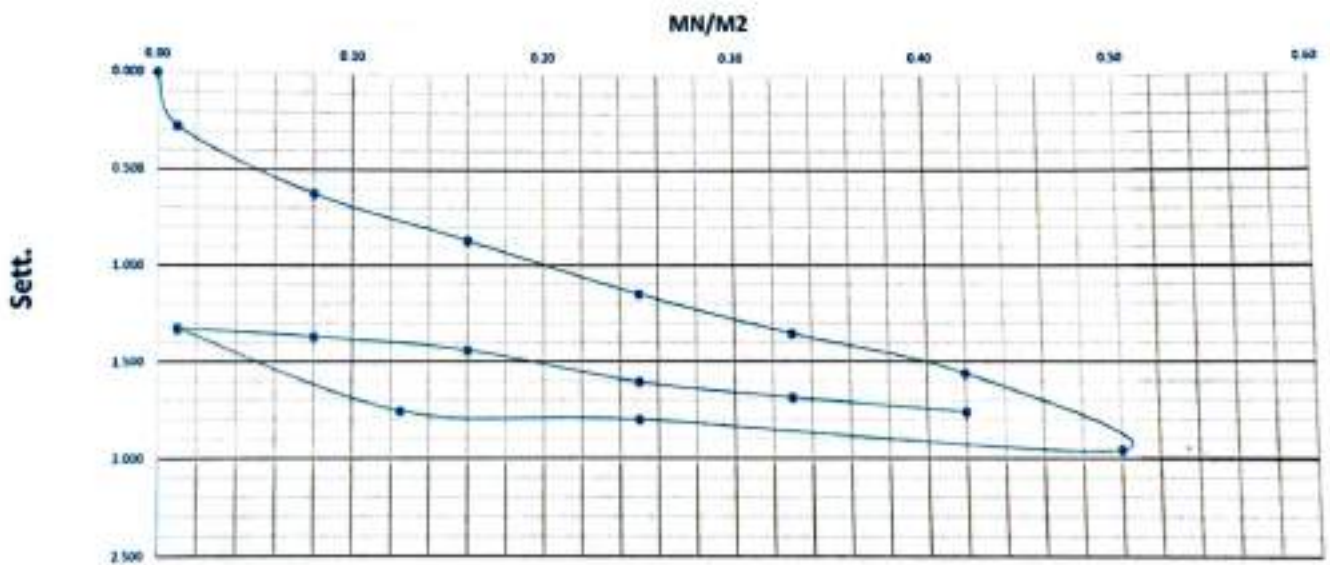
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δx are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Hassan
2023

Plate Load Test Results

Company Name

AGR

Location

529+900

To

530+000

Station

529+920

Test Date

15/6/2023

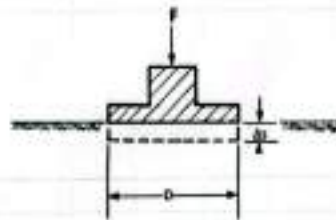
Layer level

Ferma

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

s = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	8.23	6.52		0.000	0.000		0.000
1.000	2.1	0.707	0.01	7.81	6.07		0.420	0.450		0.435
2.000	17.1	5.652	0.08	7.65	5.88		0.580	0.640		0.610
3.000	34.2	11.304	0.16	7.30	5.73		0.930	0.790		0.860
4.000	53.4	17.663	0.25	7.11	5.46		1.120	1.060		1.090
5.000	70.5	23.315	0.33	6.91	5.27		1.320	1.250		1.285
6.000	89.7	29.673	0.42	6.68	5.14		1.550	1.380		1.465
7.000	106.8	35.325	0.50	6.20	4.97		2.028	1.550		1.789
8.000	53.4	17.663	0.25	6.52	5.04		1.710	1.480		1.595
9.000	26.7	8.831	0.12	6.85	5.11		1.380	1.410		1.395
9.000	2.1	0.707	0.01	7.30	5.57		0.930	0.950		0.940
10.000	2.1	0.707	0.01	7.30	5.57		0.930	0.950		0.940
11.000	17.1	5.652	0.08	7.22	5.34		1.010	1.180		1.095
12.000	34.2	11.304	0.16	7.18	5.12		1.050	1.400		1.225
13.000	53.4	17.663	0.25	7.11	4.89		1.120	1.630		1.375
14.000	70.5	23.315	0.33	7.07	4.55		1.160	1.970		1.565
15.000	89.7	29.673	0.42	7.05	4.29		1.180	2.230		1.705

		s	AS	s_e
0.7 σ_1	0.35	1.18154	0.35279	0.2
0.3 σ_1	0.15	0.82875		
0.7 σ_2	0.35	1.59611	0.3461	0.2
0.3 σ_2	0.15	1.25002		
D (mm)	300			
E_{v1}	127.56			
E_{v2}	130.02			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	1.02		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

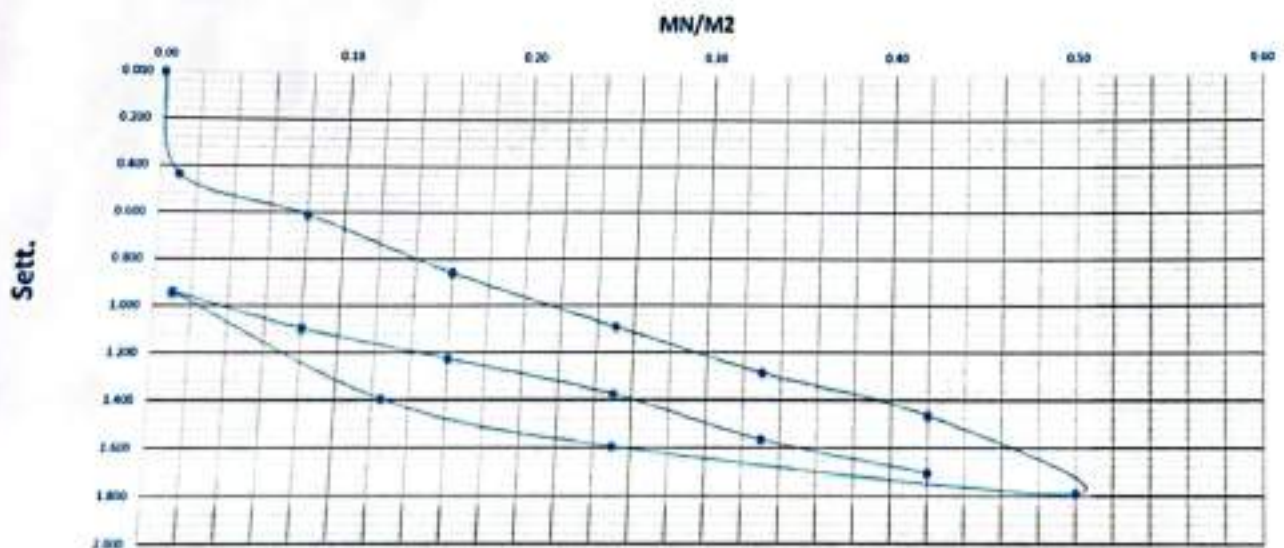
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation δ_r and δ_s are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

16/6/2023 Hassan



Plate Load Test Results

Company Name

AGR

Location

527+000

To

527+060

Test Date

15/6/2023

Station

527+020

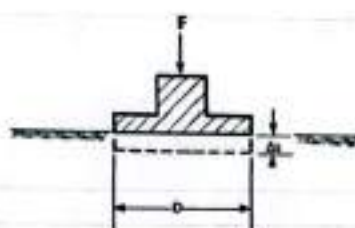
Layer level

Ferma

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

s = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	5.81	6.67		0.000	0.000		0.000
1.000	2.1	0.707	0.01	5.74	6.16		0.070	0.510		0.290
2.000	17.1	5.652	0.08	5.56	6.06		0.250	0.610		0.430
0.080	34.2	11.304	0.16	5.34	5.99		0.470	0.680		0.575
4.000	53.4	17.663	0.25	4.97	5.71		0.840	0.960		0.900
5.000	70.5	23.315	0.33	4.80	5.53		1.010	1.140		1.075
6.000	89.7	29.673	0.42	4.42	5.41		1.390	1.260		1.325
7.000	106.8	35.325	0.50	4.11	5.22		1.700	1.450		1.575
8.000	53.4	17.663	0.25	4.32	5.28		1.490	1.390		1.440
9.000	26.7	8.831	0.12	4.70	5.34		1.110	1.330		1.220
9.000	2.1	0.707	0.01	5.10	5.86		0.710	0.810		0.760
10.000	2.1	0.707	0.01	5.10	5.86		0.710	0.810		0.760
11.000	17.1	5.652	0.08	5.00	5.70		0.810	0.970		0.890
12.000	34.2	11.304	0.16	4.95	5.43		0.860	1.240		1.050
13.000	53.4	17.663	0.25	4.85	5.22		0.960	1.450		1.205
14.000	70.5	23.315	0.33	4.78	4.98		1.030	1.690		1.360
15.000	89.7	29.673	0.42	4.75	4.72		1.060	1.950		1.505

		s	SS	Se
0.7 σ_1	0.35	1.10625	0.54938	0.2
0.3 σ_1	0.15	0.55638		
0.7 σ_2	0.35	1.39222	0.37221	0.2
0.3 σ_2	0.15	1.02001		
D (mm)	300			
E_{v1}	81.91			
E_{v2}	120.90			
Area (Sq.m)	0.07065			

E_{s1}/E_{s2}	1.48		
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$$E_s = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

E_s = deformation modulus

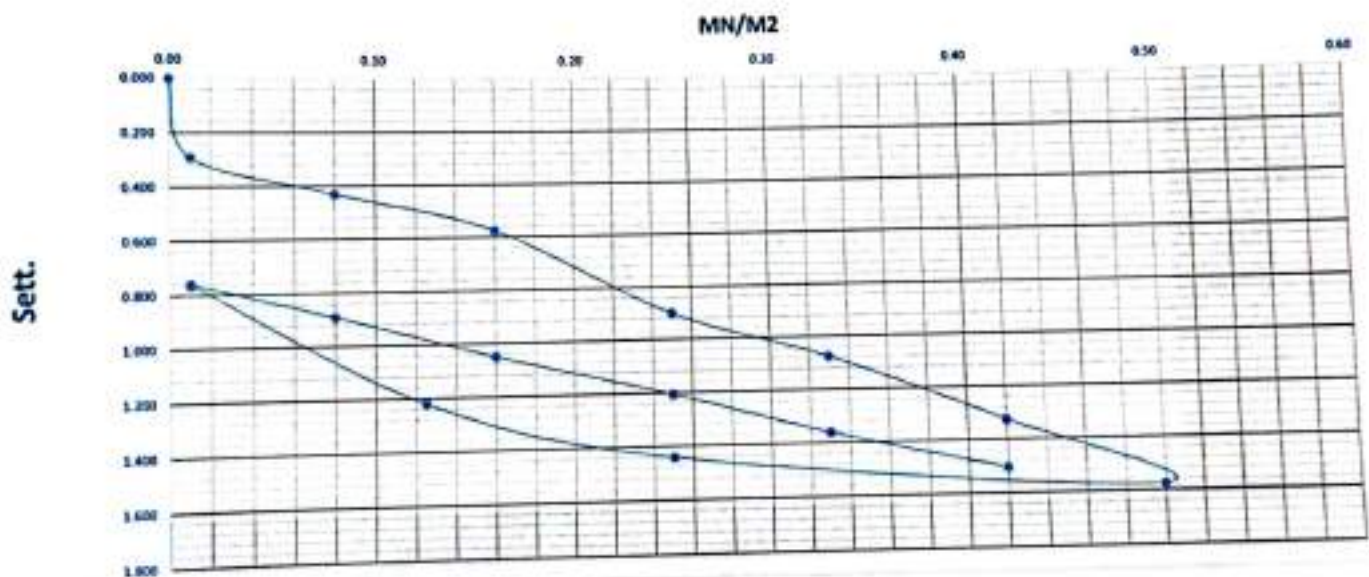
$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m



For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign : 23/6/2023

Plate Load Test Results

Company Name
Location
Taste Date
Layer level

AGR
526+100
19-06-2023
p.s.g +0.5

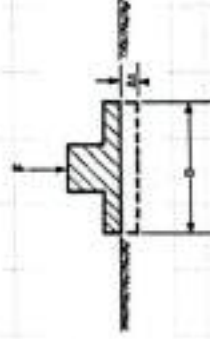
To 526+200

Station 526+129

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load
 Δs = settlement
 D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.80$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable and (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading Stage No.	Load Bar	Load KN	Settle mm	Dial 1 mm	Dial 2 mm	Dial 3 mm	Sett. 1 mm	Sett. 2 mm	Sett. 3 mm	Avg. Sett. mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.90	19.86		0.100	0.200		0.150
2.000	17.1	5.652	0.08	19.75	19.30		0.250	0.700		0.475
3.000	34.2	11.304	0.16	19.59	19.19		0.410	0.810		0.610
4.000	53.3	17.663	0.25	19.48	19.10		0.520	0.960		0.710
5.000	70.5	23.315	0.33	19.38	19.04		0.620	0.960		0.790
6.000	89.8	29.673	0.42	19.34	19.00		0.660	1.000		0.830
7.000	106.8	35.325	0.50	19.26	18.91		0.740	1.090		0.915
8.000	53.4	17.663	0.25	19.27	18.92		0.730	1.080		0.905
9.000	26.7	8.831	0.12	19.31	18.95		0.690	1.050		0.870
10.000	2.1	0.707	0.01	19.39	19.00		0.610	1.000		0.805
11.000	2.1	0.707	0.01	19.39	19.04		0.610	0.960		0.785
12.000	17.1	5.652	0.08	19.38	19.02		0.620	0.980		0.800
13.000	34.2	11.304	0.16	19.36	19.00		0.640	1.000		0.820
14.000	53.3	17.663	0.25	19.32	18.98		0.680	1.020		0.850
15.000	70.5	23.315	0.33	19.30	18.96		0.700	1.040		0.870
16.000	89.8	29.673	0.42	19.28	18.94		0.720	1.060		0.890

0.7 e_1	0.35	0.75563	US	1m
0.3 e_1	0.15	0.59312		
0.7 e_2	0.35	0.87444		
0.3 e_2	0.15	0.815		
D (mm)	300			
E_{v1}	276.93			
E_{v2}	757.03			
Area (kg/m)	0.07965			

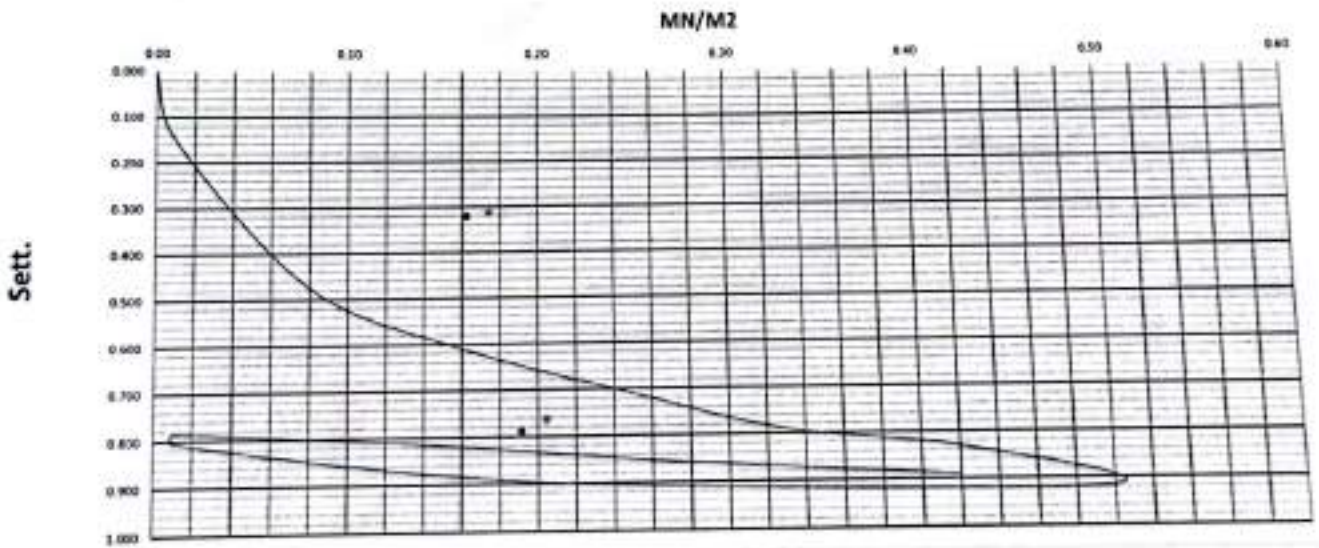
E_{v1}	2.71	
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$$E_v = 6.75 \cdot D \cdot \Delta s / \Delta s$$

- E_v = deformation modulus
- D = load increment
- Δs = settlement increment
- D = diameter of the plate, generally 0.30 m

1

For this calculation $\Delta\sigma$ and Δx are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .



Lab. Specialist

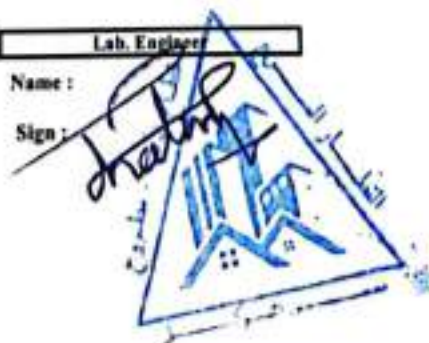
Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign :

23/6/2023



Plate Load Test Results

Company Name
Location
Test Date
Layer level

AGR

526+100

To

526+200

Station

526+145

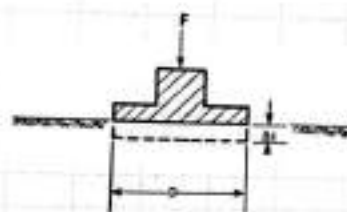
19-06-2023

p.s.g +0.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.95	19.98		0.050	0.020		0.035
2.000	17.1	5.652	0.08	19.54	19.75		0.460	0.250		0.355
3.000	34.2	11.304	0.16	19.30	19.58		0.700	0.420		0.560
4.000	53.3	17.663	0.25	19.15	19.48		0.850	0.520		0.685
5.000	70.5	23.315	0.33	19.04	19.43		0.960	0.570		0.765
6.000	89.8	29.673	0.42	19.00	19.40		1.000	0.600		0.800
7.000	106.8	35.325	0.50	18.92	19.36		1.080	0.640		0.860
8.000	53.4	17.663	0.25	18.94	19.38		1.060	0.620		0.840
9.000	26.7	8.831	0.12	19.00	19.39		1.000	0.610		0.805
9.000	2.1	0.707	0.01	19.08	19.43		0.920	0.570		0.745
10.000	2.1	0.707	0.01	19.08	19.43		0.920	0.570		0.745
11.000	17.1	5.652	0.08	19.07	19.42		0.930	0.580		0.755
12.000	34.2	11.304	0.16	19.04	19.41		0.960	0.590		0.775
13.000	53.3	17.663	0.25	18.98	19.39		1.020	0.610		0.815
14.000	70.5	23.315	0.33	18.96	19.38		1.040	0.620		0.830
15.000	89.8	29.673	0.42	18.94	19.36		1.060	0.640		0.850

		σ	ΔS	$\Delta \sigma$
0.7 σ_1	0.35	0.7475	0.21313	0.2
0.3 σ_1	0.15	0.53438		
0.7 σ_2	0.35	0.83444		
0.3 σ_2	0.15	0.765		
D (mm)	300			
E_{v1}	211.14			
E_{v2}	648.01			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	3.07		
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$$E_s = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

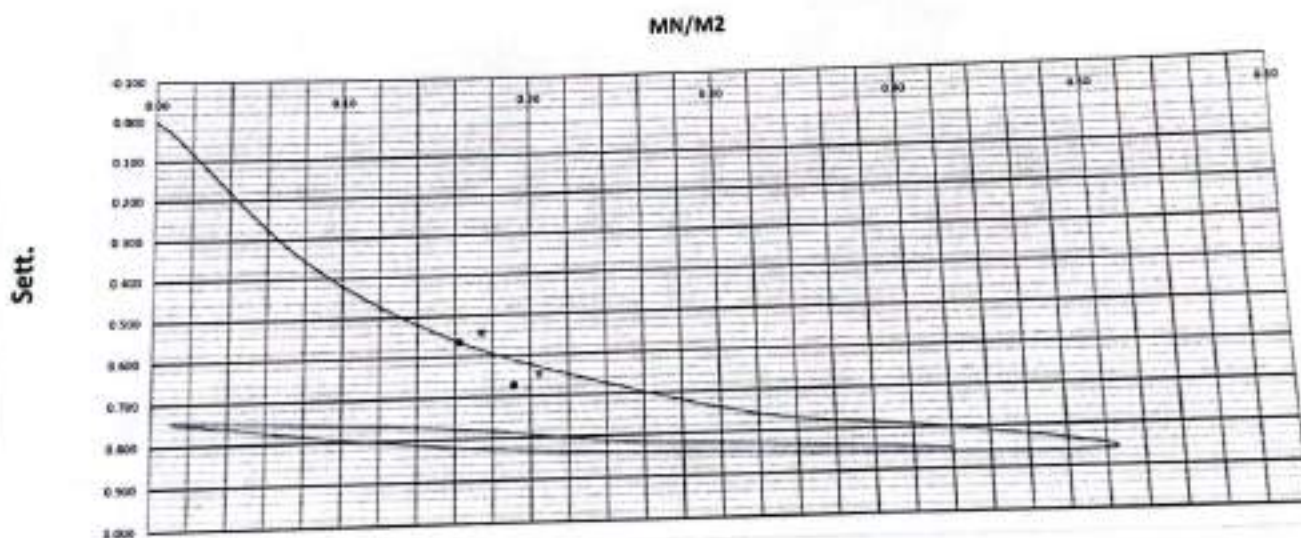
E_s = deformation modulus

D_s = load increment

D_s = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δx and Δt are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

23/5/2023



Plate Load Test Results

Company Name

AGR

Location

526+100

To

526+200

Test Date

19-06-2023

Layer level

p.s.g +0.5

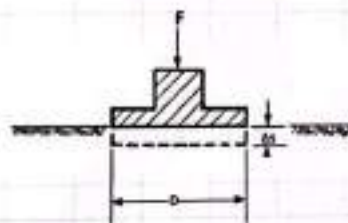
Station

526+165

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MIN/SEC	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.63	19.74		0.370	0.260		0.315
2.000	17.1	5.652	0.08	19.30	19.35		0.700	0.650		0.675
3.000	34.2	11.304	0.16	19.08	19.25		0.920	0.750		0.835
4.000	53.3	17.663	0.25	18.97	19.20		1.030	0.800		0.915
5.000	70.5	23.315	0.33	18.85	19.18		1.150	0.820		0.985
6.000	89.8	29.673	0.42	18.78	19.12		1.220	0.880		1.050
7.000	106.8	35.325	0.50	18.65	19.10		1.350	0.900		1.125
8.000	53.4	17.663	0.25	18.69	19.12		1.310	0.880		1.095
9.000	26.7	8.831	0.12	18.74	19.15		1.260	0.850		1.055
9.000	2.1	0.707	0.01	18.82	19.22		1.180	0.780		0.980
10.000	2.1	0.707	0.01	18.82	19.22		1.180	0.780		0.980
11.000	17.1	5.652	0.08	18.80	19.21		1.200	0.790		0.995
12.000	34.2	11.304	0.16	18.76	19.19		1.240	0.810		1.025
13.000	53.3	17.663	0.25	18.75	19.17		1.250	0.830		1.040
14.000	70.5	23.315	0.33	18.72	19.15		1.280	0.850		1.065
15.000	89.8	29.673	0.42	18.67	19.13		1.330	0.870		1.100

		σ	Δs	$\Delta \sigma$
0.7 σ_1	0.35	0.98437	0.16937	0.2
0.3 σ_1	0.15	0.815		
0.7 σ_2	0.35	1.07278	0.06278	0.2
0.3 σ_2	0.15	1.01		
D (mm)	300			
E_{v1}	265.68			
E_{v2}	716.83			
Area (sq.m)	0.07065			

E_{v2}/E_{v1}	2.70		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

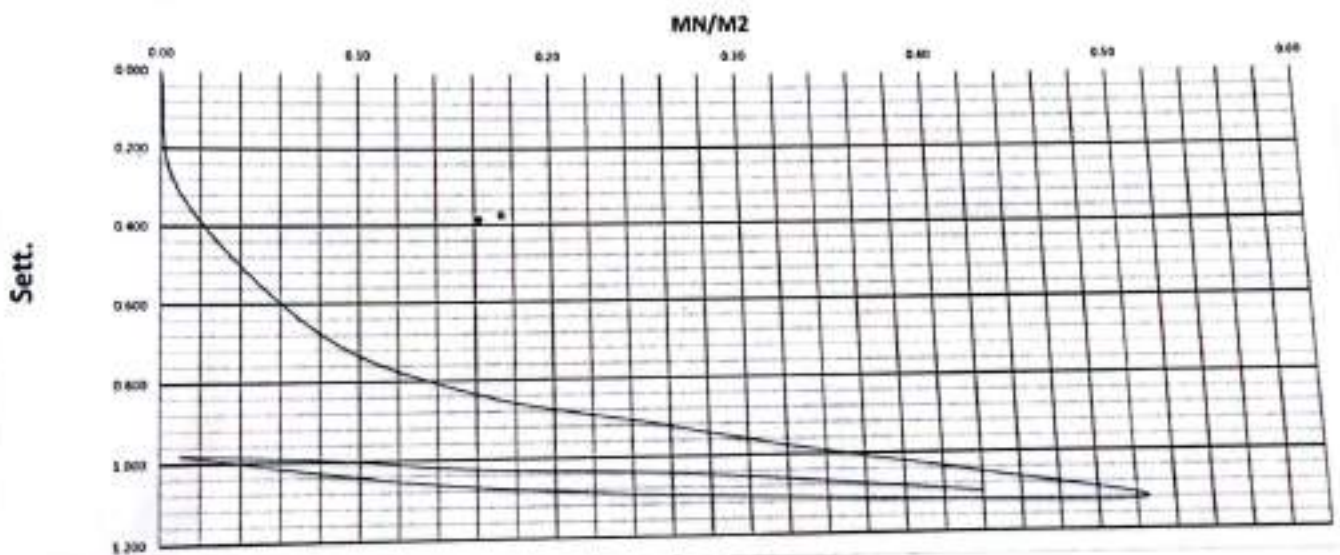
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Handwritten signature of Lab. Engineer

Consultant Engineer

Name :

Sign :

Handwritten signature of Consultant Engineer

Plate Load Test Results

Company Name

AGR

Location

526+100

To

526+200

Station

526+185

Test Date

19-06-2023

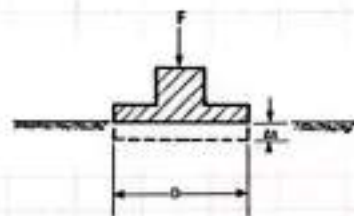
Layer level

p.s.g +0.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.91	19.94		0.090	0.060		0.075
2.000	17.1	5.652	0.08	19.46	19.68		0.540	0.320		0.430
3.000	34.2	11.304	0.16	19.30	19.58		0.700	0.420		0.560
4.000	53.3	17.663	0.25	19.12	19.51		0.880	0.490		0.685
5.000	70.5	23.315	0.33	18.95	19.48		1.050	0.520		0.785
6.000	89.8	29.673	0.42	18.85	19.44		1.150	0.560		0.855
7.000	106.8	35.325	0.50	18.71	19.30		1.290	0.700		0.995
8.000	53.4	17.663	0.25	18.75	19.32		1.250	0.680		0.965
9.000	26.7	8.831	0.12	18.81	19.38		1.190	0.620		0.905
10.000	2.1	0.707	0.01	18.86	19.40		1.140	0.600		0.870
11.000	2.1	0.707	0.01	18.86	19.40		1.140	0.600		0.870
12.000	17.1	5.652	0.08	18.85	19.39		1.150	0.610		0.880
13.000	34.2	11.304	0.16	18.83	19.38		1.170	0.620		0.895
14.000	53.3	17.663	0.25	18.81	19.37		1.190	0.630		0.910
15.000	70.5	23.315	0.33	18.78	19.35		1.220	0.650		0.935
16.000	89.8	29.673	0.42	18.71	19.32		1.290	0.680		0.985

		σ	Δs	$\Delta \sigma$
0.7 σ_1	0.35	0.7325	0.18875	0.2
0.3 σ_1	0.15	0.54375		
0.7 σ_2	0.35	0.94611	0.05611	0.2
0.3 σ_2	0.15	0.89		
D (mm)	300			
E_{v1}	218.41			
E_{v2}	891.99			
Area (Sq.m)	0.07065			

E_s/E_v	3.36		
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$$E_s = 8.75 \cdot D \cdot \Delta \sigma / \Delta s$$

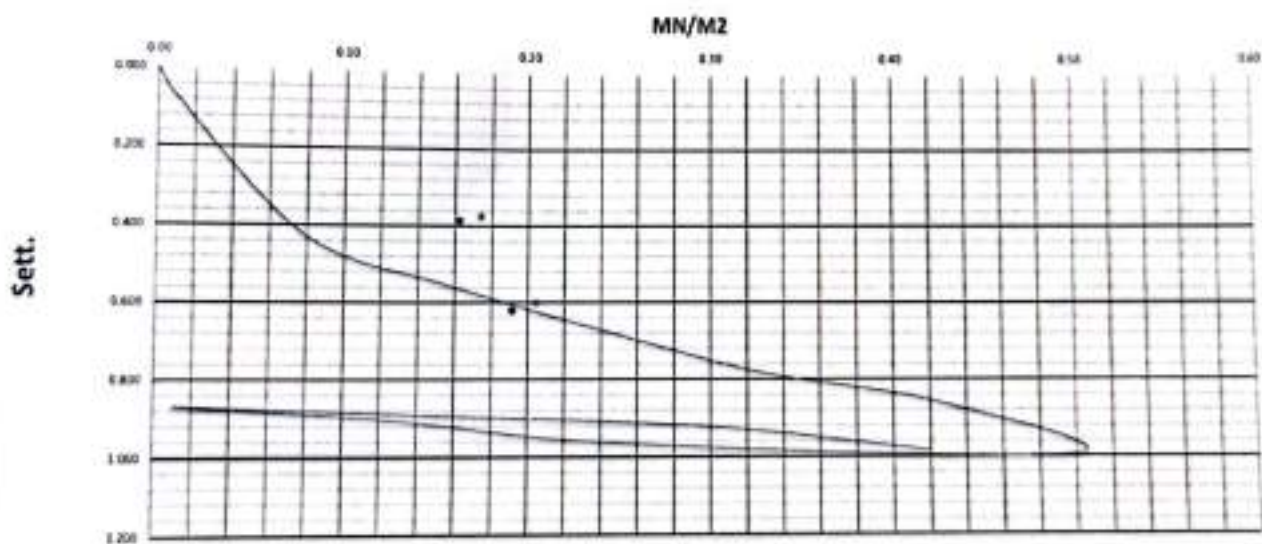
E_s = deformation modulus

D = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δx and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign :

23/6 2023

Plate Load Test Results

Company Name

AGR

Location

526+380

To

526+460

Station

526+400

Test Date

15/6/2023

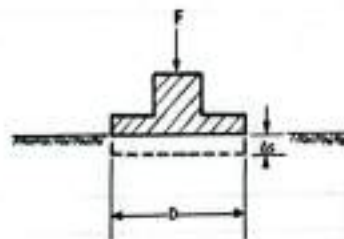
Layer level

Ferma

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 5 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	KN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	10.93	11.08		0.000	0.000		0.000
1.000	2.1	0.707	0.01	10.89	11.01		0.040	0.070		0.055
2.000	17.1	5.652	0.08	10.78	10.73		0.152	0.350		0.251
0.080	34.2	11.304	0.16	10.61	10.30		0.320	0.780		0.550
4.000	53.4	17.663	0.25	10.43	9.91		0.500	1.170		0.835
5.000	70.5	23.315	0.33	10.34	9.74		0.590	1.340		0.965
6.000	89.7	29.673	0.42	10.21	9.51		0.720	1.570		1.145
7.000	106.8	35.325	0.50	10.11	9.37		0.820	1.710		1.265
8.000	53.4	17.663	0.25	10.18	9.46		0.750	1.620		1.185
9.000	26.7	8.831	0.12	10.31	9.67		0.620	1.410		1.015
9.000	2.1	0.707	0.01	10.46	9.93		0.470	1.150		0.810
10.000	2.1	0.707	0.01	10.46	9.93		0.470	1.150		0.810
11.000	17.1	5.652	0.08	10.43	9.85		0.500	1.230		0.865
12.000	34.2	11.304	0.16	10.35	9.70		0.580	1.380		0.980
13.000	53.4	17.663	0.25	10.28	9.57		0.650	1.510		1.080
14.000	70.5	23.315	0.33	10.20	9.47		0.730	1.610		1.170
15.000	89.7	29.673	0.42	10.13	9.40		0.800	1.680		1.240

		s	AS	mm
0.7 σ_1	0.35	1.04	0.52737	0.2
0.3 σ_1	0.15	0.51263		
0.7 σ_2	0.35	1.18556	0.26555	0.2
0.3 σ_2	0.15	0.92001		
D (mm)	300			
E_{v1}	85.33			
E_{v2}	109.46			
Area (Sq.m)	0.07065			

E_{s2}/E_{s1}	1.99		
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$$E_s = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

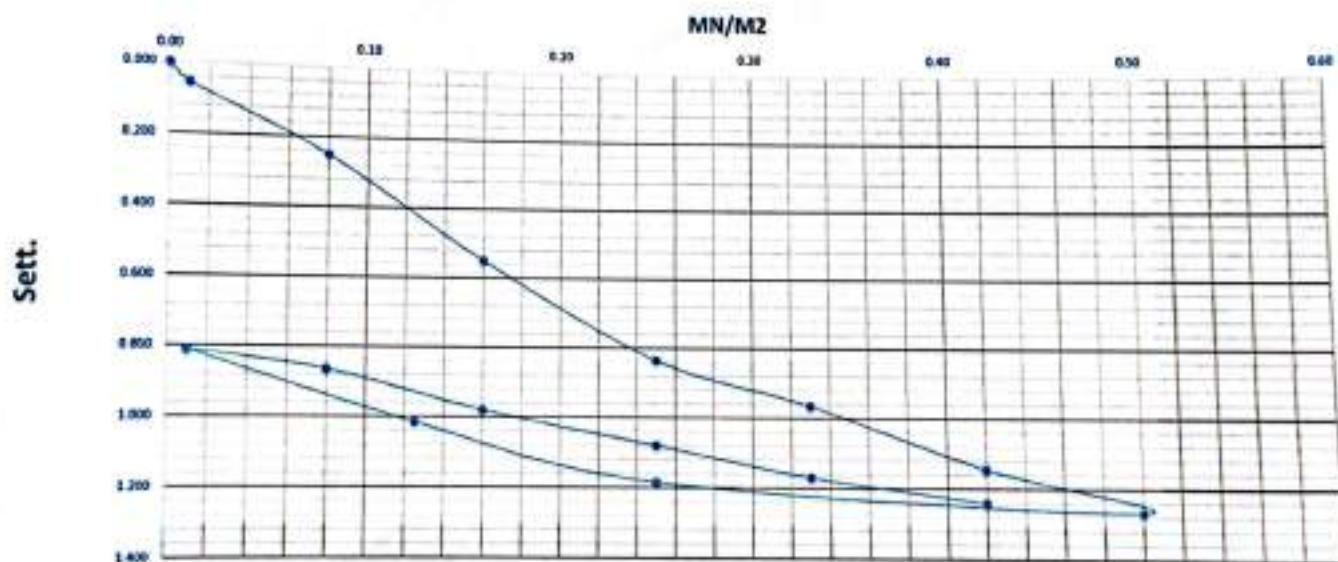
E_s = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign : 23/6/2023

Plate Load Test Results

Company Name

AGR

Location

526+380

To

526+460

Test Date

15/6/2023

Layer level

Ferma

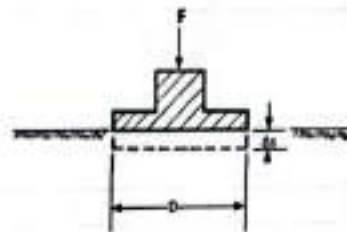
Station

526+450

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	10.18	12.11		0.000	0.000		0.000
1.000	2.1	0.707	0.01	10.15	11.67		0.030	0.440		0.235
2.000	17.1	5.652	0.08	10.09	11.29		0.090	0.820		0.455
3.000	34.2	11.304	0.16	10.00	11.01		0.180	1.100		0.640
4.000	53.4	17.663	0.25	9.82	10.79		0.360	1.320		0.840
5.000	70.5	23.315	0.33	9.72	10.66		0.460	1.450		0.955
6.000	89.7	29.673	0.42	9.57	10.45		0.610	1.660		1.135
7.000	106.8	35.325	0.50	9.49	10.32		0.690	1.790		1.240
8.000	53.4	17.663	0.25	9.56	10.42		0.620	1.690		1.155
9.000	26.7	8.831	0.12	9.65	10.58		0.530	1.530		1.030
9.000	2.1	0.707	0.01	9.79	10.83		0.390	1.280		0.835
10.000	2.1	0.707	0.01	9.79	10.83		0.390	1.280		0.835
11.000	17.1	5.652	0.08	9.75	10.77		0.430	1.340		0.885
12.000	34.2	11.304	0.16	9.67	10.64		0.510	1.470		0.990
13.000	53.4	17.663	0.25	9.61	10.50		0.570	1.610		1.090
14.000	70.5	23.315	0.33	9.56	10.43		0.620	1.680		1.150
15.000	89.7	29.673	0.42	9.50	10.34		0.680	1.770		1.225

		σ	Δs	Δs
0.7 σ_1	0.35	1.04313	0.42625	0.2
0.3 σ_1	0.15	0.61688		
0.7 σ_2	0.35	1.16667	0.23166	0.2
0.3 σ_2	0.15	0.93501		
D (mm)	300			
E_{v1}	105.57			
E_{v2}	194.25			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	1.84		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

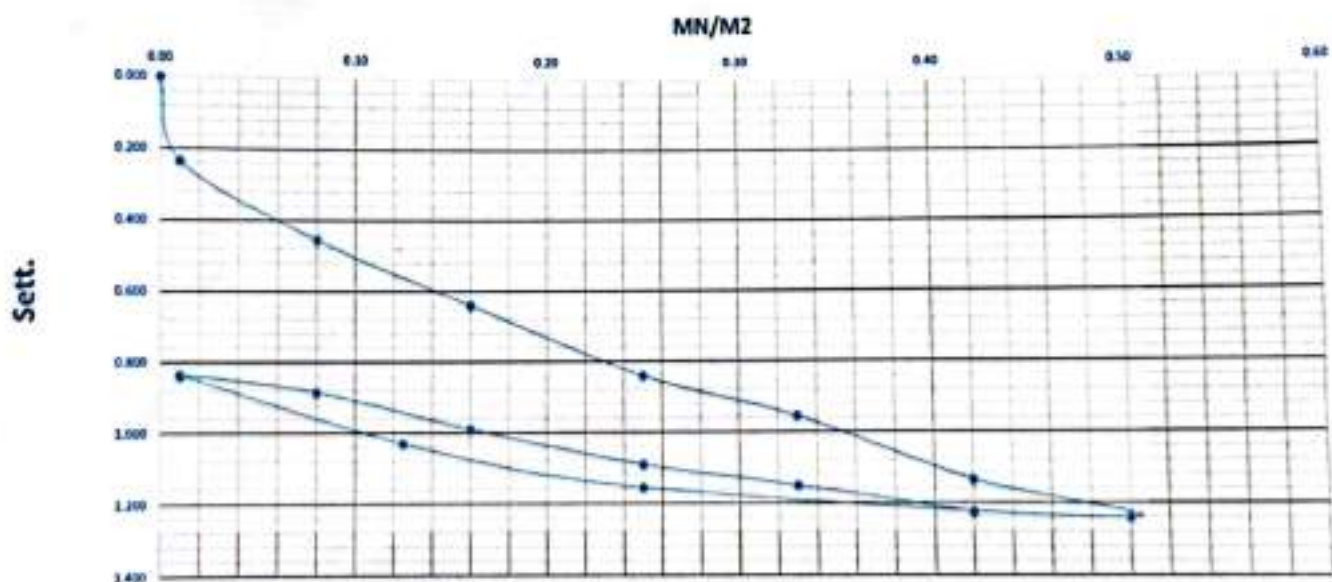
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δx and Δx are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign : 23/10/2023



Contractor



Director



Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT -1.5

529+520 TO 529+620

13-06-23

COMPANY	AGR COMPANY
Location	529+600

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.30	7.80		0.000	0.000		0.000
1.000	1.0	0.707	0.01	7.10	7.56		0.200	0.240		0.220
2.000	7.9	5.652	0.08	7.03	7.49		0.270	0.310		0.290
0.080	15.8	11.304	0.16	6.91	7.34		0.390	0.460		0.425
4.000	24.7	17.663	0.25	6.77	7.17		0.530	0.630		0.580
5.000	32.6	23.315	0.33	6.61	6.98		0.690	0.820		0.755
6.000	41.5	29.673	0.42	6.43	6.77		0.870	1.030		0.950
7.000	49.4	35.325	0.50	6.30	6.60		1.000	1.200		1.100
8.000	24.7	17.663	0.25	6.33	6.70		0.970	1.100		1.035
9.000	12.4	8.831	0.12	6.40	6.80		0.900	1.000		0.950
9.000	1.0	0.707	0.01	6.48	6.90		0.820	0.900		0.860
10.000	1.0	0.707	0.01	6.48	6.90		0.820	0.900		0.860
11.000	7.9	5.652	0.08	6.45	6.87		0.850	0.930		0.890
12.000	15.8	11.304	0.16	6.43	6.83		0.870	0.970		0.920
13.000	24.7	17.663	0.25	6.39	6.76		0.910	1.040		0.975
14.000	32.6	23.315	0.33	6.35	6.70		0.950	1.100		1.025
15.000	41.5	29.673	0.42	6.30	6.63		1.000	1.170		1.085

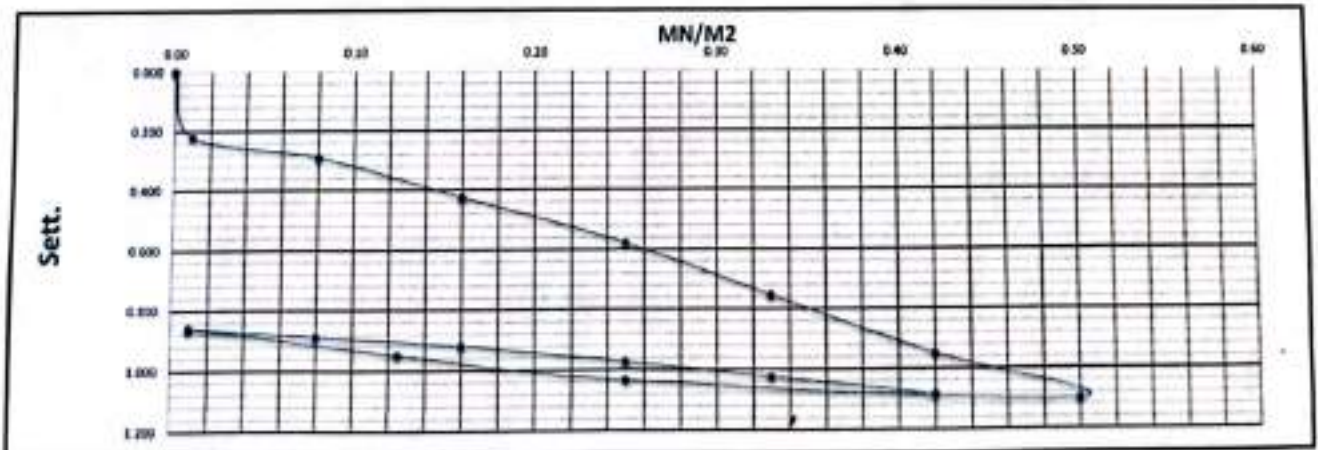
	σ_1	σ_2	σ_3	σ_4	σ_5	σ_6
0.7 σ_1	0.35	0.81875				0.41043
0.3 σ_1	0.15	0.40813				
0.7 σ_2	0.35	1.03833				0.11833
0.3 σ_2	0.15	0.92				
D (mm)	300					
E_{v1}	109.59					
E_{v2}	380.29					
Area (Sq.m)	0.07065					

$E_{v1} \times 1$	3.47		
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LOAD

UN LOAD

RE LOAD



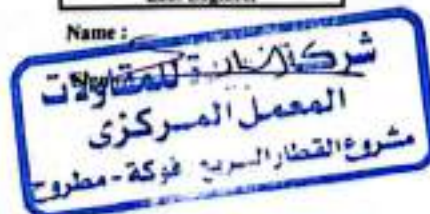
Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :



Consultant Engineer

Name :

Sign :

Hassan



Contractor

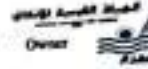


Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT -1.50

527+700

TO

527+840

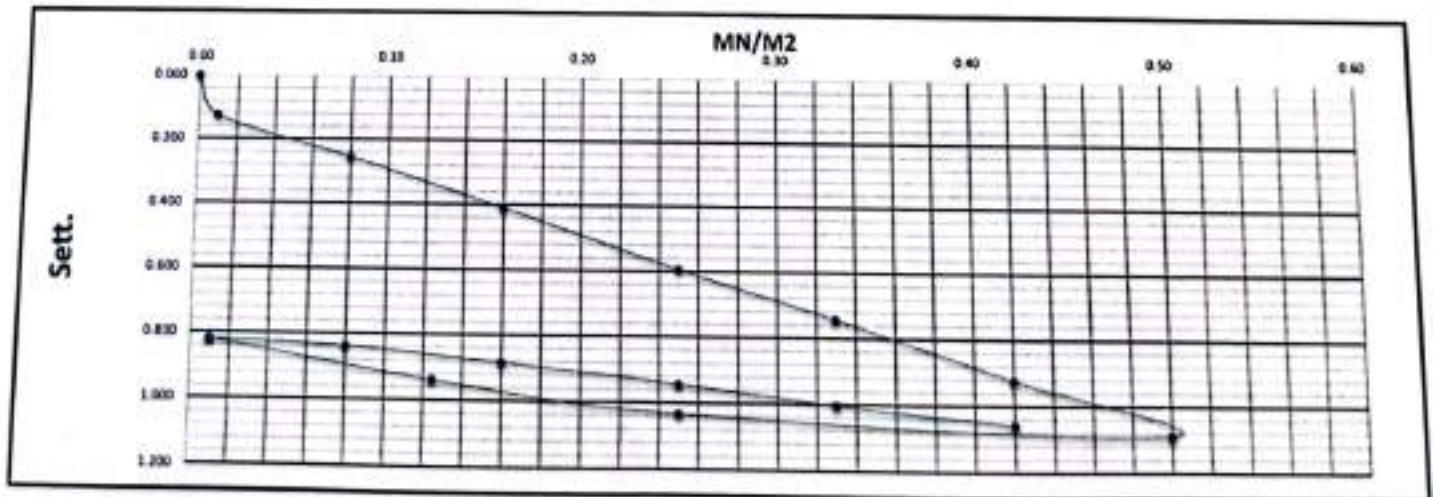
12-06-23

COMPANY	AGR COMPANY
Location	527+740

Loading	Lead	Lead	Screw	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.49	5.40		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.38	5.26		0.110	0.140		0.125
2.000	7.9	5.652	0.08	6.28	5.10		0.210	0.300		0.255
0.080	15.8	11.304	0.16	6.17	4.90		0.320	0.500		0.410
4.000	24.7	17.663	0.25	6.05	4.65		0.440	0.750		0.595
5.000	32.6	23.315	0.33	5.93	4.47		0.560	0.930		0.745
6.000	41.5	29.673	0.42	5.79	4.25		0.700	1.150		0.925
7.000	49.4	35.325	0.50	5.66	4.05		0.830	1.350		1.090
8.000	24.7	17.663	0.25	5.71	4.11		0.780	1.290		1.035
9.000	12.4	8.831	0.12	5.79	4.22		0.700	1.180		0.940
9.000	1.0	0.707	0.01	5.88	4.37		0.610	1.030		0.820
10.000	1.0	0.707	0.01	5.88	4.37		0.610	1.030		0.820
11.000	7.9	5.652	0.08	5.87	4.34		0.620	1.060		0.840
12.000	15.8	11.304	0.16	5.83	4.29		0.660	1.110		0.885
13.000	24.7	17.663	0.25	5.78	4.22		0.710	1.180		0.945
14.000	32.6	23.315	0.33	5.73	4.15		0.760	1.250		1.005
15.000	41.5	29.673	0.42	5.68	4.09		0.810	1.310		1.060

	σ_1	σ_2	σ_3	SS	Se
0.7 σ_1	0.35	0.78063		0.39	0.2
0.3 σ_2	0.15	0.39063			
0.7 σ_2	0.35	1.01722		0.15722	0.2
0.3 σ_3	0.15	0.86			
D (mm)	300				
Ev ₁	115.38				
Ev ₂	186.22				
Area (Sq.m)	0.87865				

Ev3/Ev1	1.48		
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LOAD
UN LOAD
RE LOAD

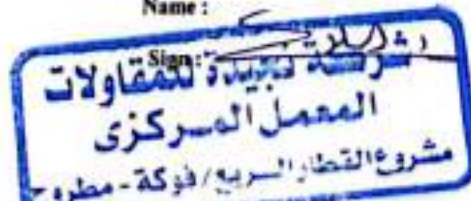
Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :



Consultant Engineer

Name :

Sign :

Hassan



Contractor



Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT	-1.50	
527+700	TO	527+840
12-06-23		

COMPANY	AGR COMPANY
Location	527+780

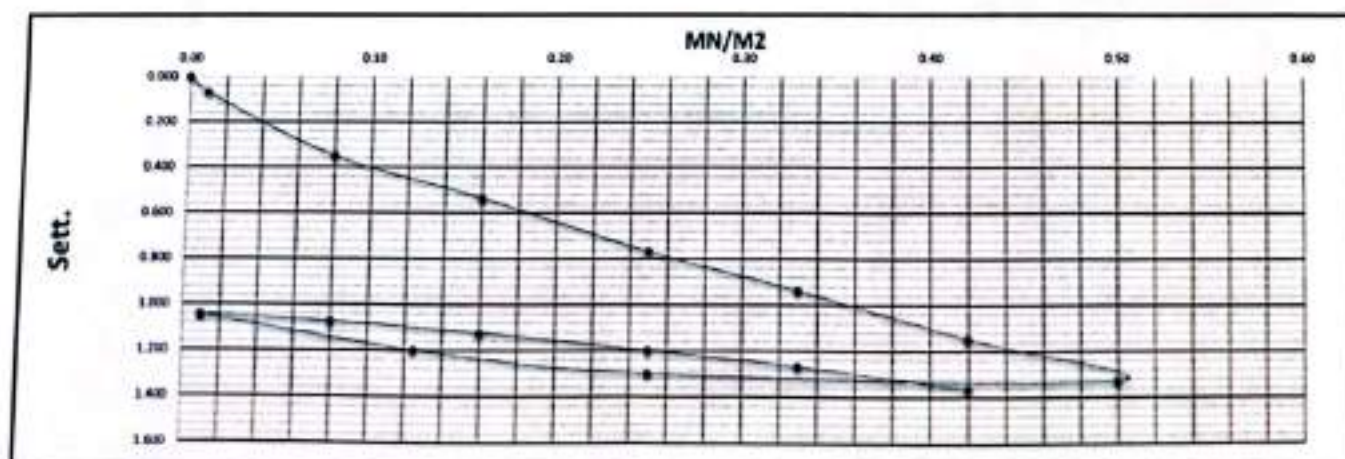
Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.20	6.93		0.000	0.000		0.000
1.000	1.0	0.707	0.01	7.11	6.88		0.090	0.050		0.070
2.000	7.9	5.652	0.08	6.75	6.68		0.450	0.250		0.350
0.080	15.8	11.304	0.16	6.49	6.57		0.710	0.360		0.535
4.000	24.7	17.663	0.25	6.20	6.39		1.000	0.540		0.770
5.000	32.6	23.315	0.33	6.01	6.24		1.190	0.690		0.940
6.000	41.5	29.673	0.42	5.80	6.03		1.400	0.900		1.150
7.000	49.4	35.325	0.50	5.57	5.90		1.630	1.030		1.330
8.000	24.7	17.663	0.25	5.61	5.92		1.590	1.010		1.300
9.000	12.4	8.831	0.12	5.72	6.01		1.480	0.920		1.200
9.000	1.0	0.707	0.01	5.89	6.15		1.310	0.780		1.045
10.000	1.0	0.707	0.01	5.89	6.15		1.310	0.780		1.045
11.000	7.9	5.652	0.08	5.85	6.13		1.350	0.800		1.075
12.000	15.8	11.304	0.16	5.78	6.10		1.420	0.830		1.125
13.000	24.7	17.663	0.25	5.68	6.05		1.520	0.880		1.200
14.000	32.6	23.315	0.33	5.60	5.99		1.600	0.940		1.270
15.000	41.5	29.673	0.42	5.44	5.96		1.760	0.970		1.365

	s	SS	se
0.7 σ_1	0.35	0.9925	0.48063
0.3 σ_1	0.15	0.51188	
0.7 σ_1	0.35	1.29111	0.18611
0.3 σ_1	0.15	1.105	
D (mm)	300		
E_{v1}	93.43		
E_{v2}	241.79		
Area (Sq.m)	0.07045		

E_{v2}/E_{v1}	2.58		
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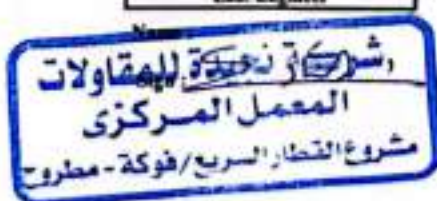
LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :
Sign :

Lab. Engineer



Consultant Engineer

Name : Hassan
Sign :

Plate Load Test Results

Company Name

AGR

Location

529+600

To

529+700

Station

529+650

Test Date

06-06-2023

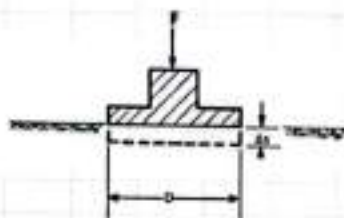
Layer level

-1.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MPa	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.95	19.99		0.050	0.010		0.030
2.000	17.1	5.652	0.08	19.89	19.90		0.110	0.100		0.105
3.000	34.2	11.304	0.16	19.81	19.79		0.190	0.210		0.200
4.000	53.3	17.663	0.25	19.72	19.64		0.280	0.360		0.320
5.000	70.5	23.315	0.33	19.70	19.55		0.300	0.450		0.375
6.000	89.8	29.673	0.42	19.64	19.45		0.360	0.550		0.455
7.000	106.8	35.325	0.50	19.59	19.30		0.410	0.700		0.555
8.000	53.4	17.663	0.25	19.62	19.40		0.380	0.600		0.490
9.000	26.7	8.831	0.12	19.68	19.50		0.320	0.500		0.410
9.000	2.1	0.707	0.01	19.78	19.69		0.220	0.310		0.265
10.000	2.1	0.707	0.01	19.78	19.69		0.220	0.310		0.265
11.000	17.1	5.652	0.08	19.73	19.65		0.270	0.350		0.310
12.000	34.2	11.304	0.16	19.70	19.56		0.300	0.440		0.370
13.000	53.3	17.663	0.25	19.68	19.50		0.320	0.500		0.410
14.000	70.5	23.315	0.33	19.62	19.41		0.380	0.590		0.485
15.000	89.8	29.673	0.42	19.59	19.33		0.410	0.670		0.540

		σ	Δs	E_s
0.7 σ_1	0.35	0.3675	0.17937	0.1
0.3 σ_2	0.15	0.18813		
0.7 σ_3	0.35	0.49722	0.14222	0.2
0.3 σ_4	0.15	0.355		
D (mm)	300			
E_{v1}	250.87			
E_{v2}	316.42			
Area (Sq.m)	0.07065			

$E = 2/E_s$	1.26		
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$$E_s = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

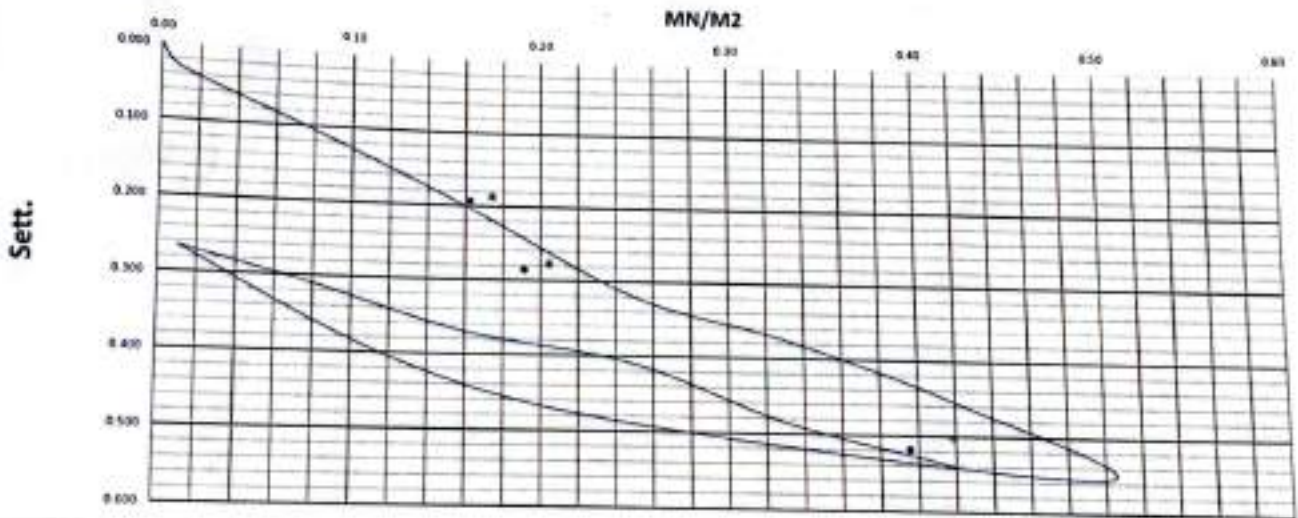
E_s = deformation modulus

D_s = load increment

D_s = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and $\Delta\epsilon$ are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : mohamed elsaied

Sign :

m. elsaied



Contractor



Owner



Plate Load Test Results

Layer:
Station:
Date:

-1.5

529+160

TO

529+300

05-06-23

COMPANY

AGR

Location

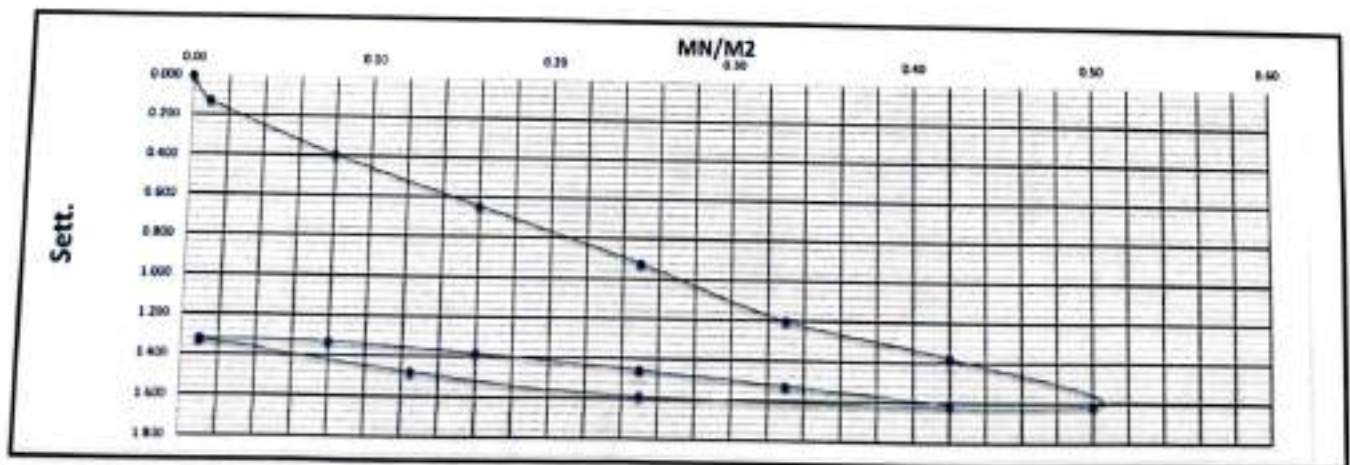
529+180

Leading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPH/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.24	7.66		0.000	0.000		0.000
1.000	1.0	0.707	0.01	7.09	7.56		0.150	0.100		0.125
2.000	7.9	5.652	0.08	6.78	7.33		0.460	0.330		0.395
0.080	15.8	11.304	0.16	6.48	7.13		0.760	0.530		0.645
4.000	24.7	17.663	0.25	6.14	6.91		1.100	0.750		0.925
5.000	32.6	23.315	0.33	5.82	6.67		1.420	0.990		1.205
6.000	41.5	29.673	0.42	5.63	6.51		1.610	1.150		1.380
7.000	49.4	35.325	0.50	5.42	6.25		1.820	1.410		1.615
8.000	24.7	17.663	0.25	5.46	6.26		1.780	1.400		1.590
9.000	12.4	8.831	0.12	5.61	6.33		1.630	1.330		1.480
9.000	1.0	0.707	0.01	5.81	6.44		1.430	1.220		1.325
10.000	1.0	0.707	0.01	5.81	6.44		1.430	1.220		1.325
11.000	7.9	5.652	0.08	5.80	6.43		1.440	1.230		1.335
12.000	15.8	11.304	0.16	5.73	6.40		1.510	1.260		1.385
13.000	24.7	17.663	0.25	5.63	6.35		1.610	1.310		1.460
14.000	32.6	23.315	0.33	5.54	6.30		1.700	1.360		1.530
15.000	41.5	29.673	0.42	5.44	6.24		1.800	1.420		1.610

	α_1	α_2	α_3	α_4	α_5
0.7	0.35	1.17438	0.50063	0.2	
0.3	0.15	0.61375			
0.7	0.35	1.54778	0.20278	0.2	
0.3	0.15	1.345			
D (mm)	300				
E_{v1}	80.27				
E_{v2}	211.92				
Area (Sq.m)	0.97665				

E_{v2}/E_{v1}	2.76		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

شركة نزيهة للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name :

Sign :

Hassan
[Signature]



Contractor



المشرف العام
Oversight

Plate Load Test Results

Layer:
Station:
Date:

-1.5

529+160

TO

529+300

05-06-23

COMPANY

AGR

Location

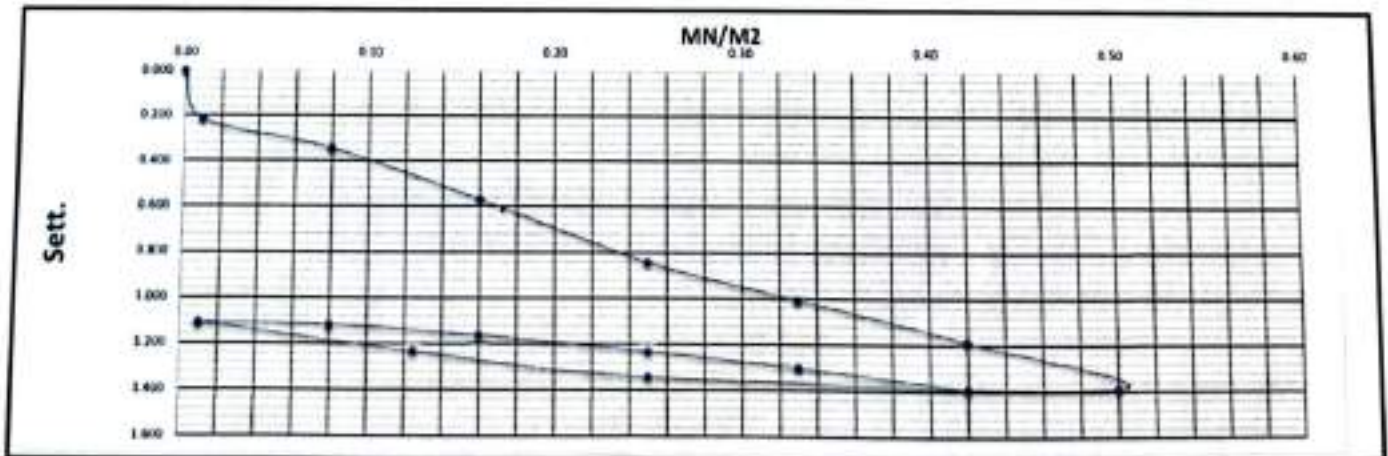
529+260

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.29	7.35		0.000	0.000		0.000
1.000	1.0	0.707	0.01	7.05	7.16		0.240	0.190		0.215
2.000	7.9	5.652	0.08	6.90	7.05		0.390	0.300		0.345
0.080	15.8	11.304	0.16	6.65	6.85		0.640	0.500		0.570
4.000	24.7	17.663	0.25	6.34	6.61		0.950	0.740		0.845
5.000	32.6	23.315	0.33	6.14	6.48		1.150	0.870		1.010
6.000	41.5	29.673	0.42	5.94	6.32		1.350	1.030		1.190
7.000	49.4	35.325	0.50	5.72	6.14		1.570	1.210		1.390
8.000	24.7	17.663	0.25	5.78	6.17		1.510	1.180		1.345
9.000	12.4	8.831	0.12	5.92	6.25		1.370	1.100		1.235
9.000	1.0	0.707	0.01	6.08	6.34		1.210	1.010		1.110
10.000	1.0	0.707	0.01	6.08	6.34		1.210	1.010		1.110
11.000	7.9	5.652	0.08	6.07	6.33		1.220	1.020		1.120
12.000	15.8	11.304	0.16	6.01	6.30		1.280	1.050		1.165
13.000	24.7	17.663	0.25	5.91	6.26		1.380	1.090		1.235
14.000	32.6	23.315	0.33	5.83	6.20		1.460	1.150		1.305
15.000	41.5	29.673	0.42	5.72	6.13		1.570	1.220		1.395

		α	AS	se
0.7 σ_1	0.35	1.015	0.47312	0.2
0.3 σ_1	0.15	0.54188		
0.7 σ_2	0.35	1.325	0.195	0.2
0.3 σ_2	0.15	1.13		
D (mm)	300			
E_{v1}	95.11			
E_{v2}	230.77			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.43		
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LOAD
UN LOAD
RE LOAD



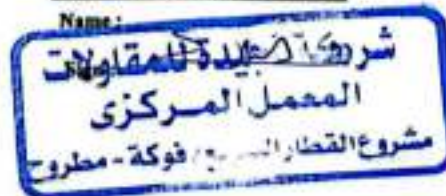
Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :



Consultant Engineer

Name :

Hassan

Sign :



Contractor



Plate Load Test Results

Layer:
Station:
Date:

0.5 +

526+000

TO

526+100

05-06-23

COMPANY

AGR

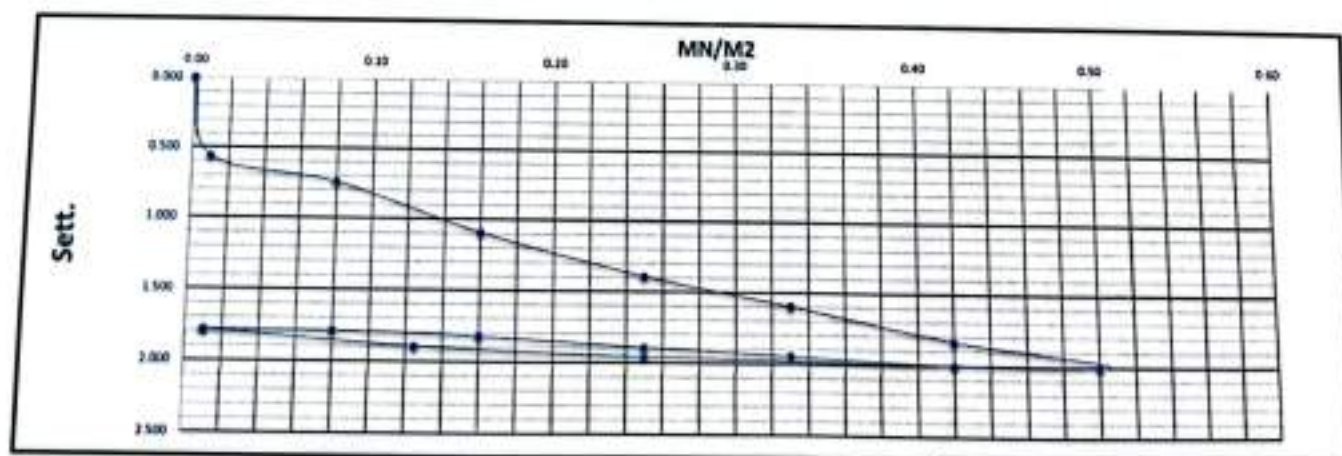
Location

526+918

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Arg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.92	7.24		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.35	6.68		0.570	0.560		0.565
2.000	7.9	5.652	0.08	6.18	6.49		0.740	0.750		0.745
0.000	15.8	11.304	0.16	5.84	6.13		1.080	1.110		1.095
4.000	24.7	17.663	0.25	5.55	5.82		1.370	1.420		1.395
5.000	32.6	23.315	0.33	5.31	5.65		1.610	1.590		1.600
6.000	41.5	29.673	0.42	4.97	5.51		1.950	1.730		1.840
7.000	49.4	35.325	0.50	4.72	5.43		2.200	1.810		2.005
8.000	24.7	17.663	0.25	4.72	5.52		2.200	1.720		1.960
9.000	12.4	8.831	0.12	4.74	5.62		2.180	1.620		1.900
9.000	1.0	0.707	0.01	4.82	5.76		2.100	1.480		1.790
10.000	1.0	0.707	0.01	4.82	5.76		2.100	1.480		1.790
11.000	7.9	5.652	0.08	4.81	5.76		2.110	1.480		1.795
12.000	15.8	11.304	0.16	4.78	5.72		2.140	1.520		1.830
13.000	24.7	17.663	0.25	4.74	5.62		2.180	1.620		1.900
14.000	32.6	23.315	0.33	4.71	5.55		2.210	1.690		1.950
15.000	41.5	29.673	0.42	4.68	5.47		2.240	1.770		2.005

		μ	SS	SM
0.7 α_1	0.35	1.69543	0.64438	0.2
0.3 α_1	0.15	1.05135		
0.7 α_2	0.35	1.96222	0.16222	0.2
0.3 α_2	0.15	1.8		
D (mm)	300			
E_{v1}	69.84			
E_{v2}	277.60			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	3.97		
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LOAD
UN LOAD
RE LOAD

Lab. Specialist

Name:

Sign:

Lab. Engineer

Name:

Sign:

Shehab Hamdi
6/6/2023

Consultant Engineer

Name:

Sign:

Hassan
[Signature]

Plate Load Test Results

Layer:
Station:
Date:

0.5 +

526+000

TO

526+100

05-06-23

COMPANY

AGR

Location

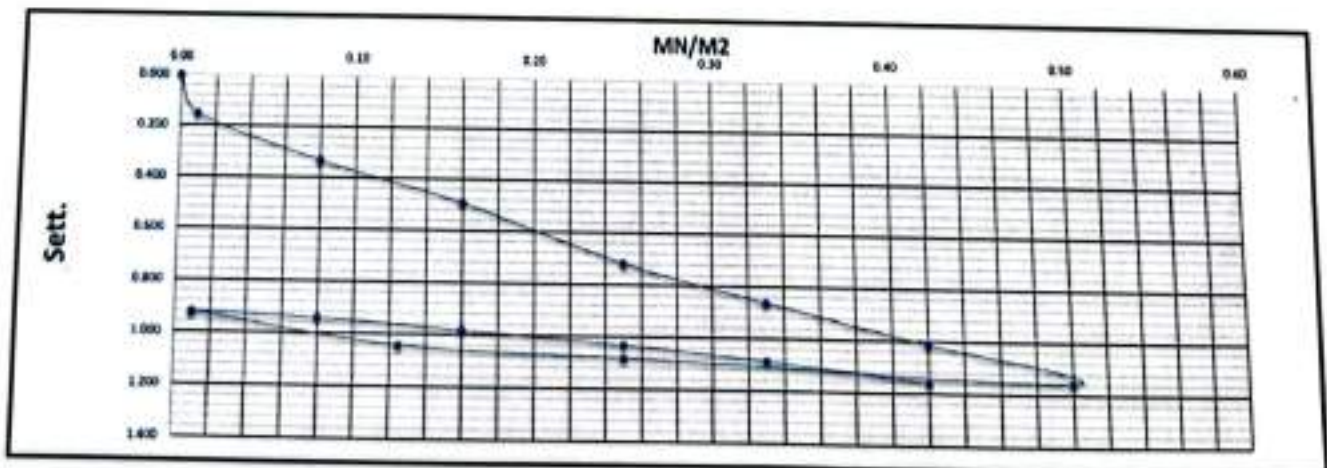
526+000

Loading	Load	Load	Stress	Dist 1	Dist 2	Dist 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.19	7.30		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.98	7.20		0.210	0.100		0.155
2.000	7.9	5.652	0.08	6.78	7.04		0.410	0.260		0.335
0.080	15.8	11.304	0.16	6.65	6.85		0.540	0.450		0.495
4.000	24.7	17.663	0.25	6.49	6.56		0.700	0.740		0.720
5.000	32.6	23.315	0.33	6.38	6.38		0.810	0.920		0.865
6.000	41.5	29.673	0.42	6.26	6.20		0.930	1.100		1.015
7.000	49.4	35.325	0.50	6.17	6.01		1.020	1.290		1.155
8.000	24.7	17.663	0.25	6.27	6.05		0.920	1.250		1.085
9.000	12.4	8.831	0.12	6.33	6.07		0.860	1.230		1.045
9.000	1.0	0.707	0.01	6.46	6.18		0.730	1.120		0.925
10.000	1.0	0.707	0.01	6.46	6.18		0.730	1.120		0.925
11.000	7.9	5.652	0.08	6.45	6.15		0.740	1.150		0.945
12.000	15.8	11.304	0.16	6.42	6.10		0.770	1.200		0.985
13.000	24.7	17.663	0.25	6.38	6.04		0.810	1.260		1.035
14.000	32.6	23.315	0.33	6.30	6.01		0.890	1.290		1.090
15.000	41.5	29.673	0.42	6.20	5.97		0.990	1.330		1.160

σ_1	σ_2	σ_3	σ_4	σ_5	σ_6
0.7	0.35	0.8915	0.4175	0.3	
0.3	0.15	0.475			
0.7	0.35	1.18556	0.14855	0.2	
0.3	0.15	0.965			
D (mm)	300				
E_{v1}	187.78				
E_{v2}	220.16				
Area (Sq.m)	0.07065				

E_{v1}/E_{v2}	1.97		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : *Shahab Hamel i*

Sign : *[Signature]*

Consultant Engineer

Name :

Sign :

Hassan

Plate Load Test Results

Layer:
Station:
Date:

0.5 +
526+000 TO 526+100
05-06-23

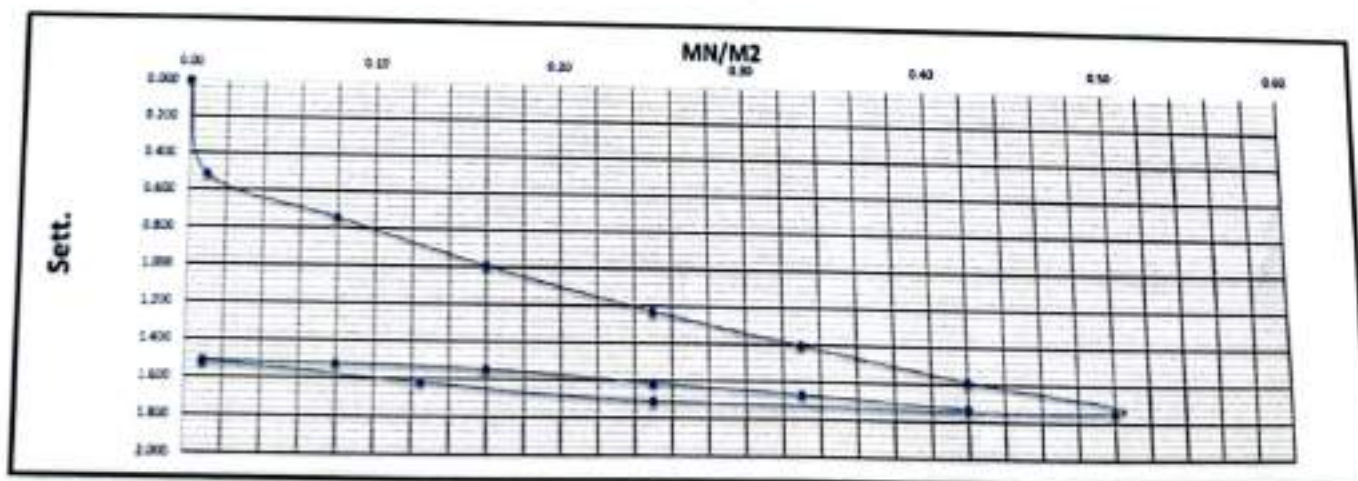
COMPANY	AGR
Location	526+000

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.95	7.02		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.28	6.66		0.670	0.360		0.515
2.000	7.9	5.652	0.08	6.01	6.47		0.940	0.550		0.745
3.000	15.8	11.304	0.16	5.71	6.27		1.240	0.750		0.995
4.000	24.7	17.663	0.25	5.45	6.06		1.500	0.960		1.230
5.000	32.6	23.315	0.33	5.27	5.89		1.680	1.130		1.405
6.000	41.5	29.673	0.42	5.07	5.72		1.880	1.300		1.590
7.000	49.4	35.325	0.50	4.92	5.56		2.030	1.460		1.745
8.000	24.7	17.663	0.25	4.98	5.57		1.970	1.450		1.710
9.000	12.4	8.831	0.12	5.12	5.61		1.830	1.410		1.620
9.000	1.0	0.707	0.01	5.25	5.69		1.700	1.330		1.515
10.000	1.0	0.707	0.01	5.25	5.69		1.700	1.330		1.515
11.000	7.9	5.652	0.08	5.24	5.68		1.710	1.340		1.525
12.000	15.8	11.304	0.16	5.22	5.65		1.730	1.370		1.550
13.000	24.7	17.663	0.25	5.13	5.61		1.820	1.410		1.615
14.000	32.6	23.315	0.33	5.06	5.57		1.890	1.450		1.670
15.000	41.5	29.673	0.42	4.96	5.54		1.990	1.480		1.735

0.7 α_1	0.35	1.45438	0.49063	0.2
0.3 α_2	0.15	0.96375		
0.7 α_3	0.35	1.68444	0.14944	0.2
0.3 α_4	0.15	1.535		
D (mm)	300			
E_{v1}	91.72			
E_{v2}	301.12			
Area (Sq.m)	0.87065			

E_{v1}/E_{v2}	0.30		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : shehnaaz Hameli

Sign : 

Consultant Engineer

Name : Hassan

Sign : 

Plate Load Test Results

Layer:
Station:
Date:

0.50 +

526+000

TO

526+100

05-06-23

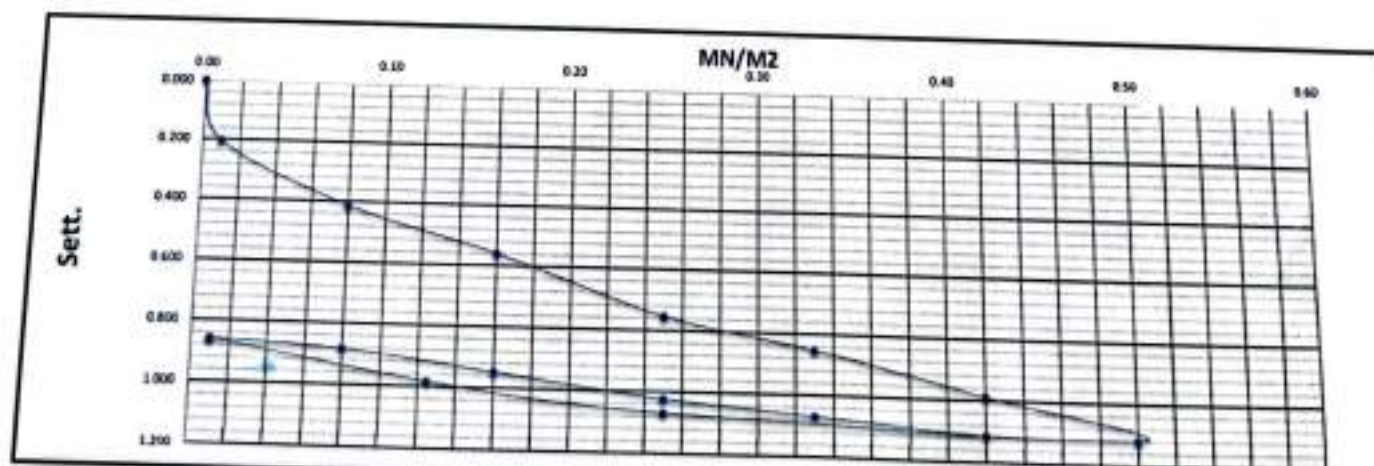
COMPANY	AGR
Location	526+005

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.24	6.88		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.03	6.68		0.210	0.200		0.205
2.000	7.9	5.652	0.08	5.80	6.49		0.440	0.390		0.415
0.000	15.8	11.304	0.16	5.63	6.37		0.610	0.510		0.560
4.000	24.7	17.663	0.25	5.41	6.20		0.830	0.680		0.755
5.000	32.6	23.315	0.33	5.30	6.11		0.940	0.770		0.855
6.000	41.5	29.673	0.42	5.17	5.97		1.070	0.910		0.990
7.000	49.4	35.325	0.50	5.06	5.82		1.180	1.060		1.120
8.000	24.7	17.663	0.25	5.12	5.86		1.120	1.020		1.070
9.000	12.4	8.831	0.12	5.26	5.89		0.980	0.990		0.985
9.000	1.0	0.707	0.01	5.46	5.94		0.780	0.940		0.860
10.000	1.0	0.707	0.01	5.46	5.94		0.780	0.940		0.860
11.000	7.9	5.652	0.08	5.44	5.91		0.800	0.970		0.885
12.000	15.8	11.304	0.16	5.34	5.88		0.900	1.000		0.950
13.000	24.7	17.663	0.25	5.23	5.84		1.010	1.040		1.025
14.000	32.6	23.315	0.33	5.16	5.82		1.080	1.060		1.070
15.000	41.5	29.673	0.42	5.09	5.80		1.150	1.080		1.115

0.7 σ_1	0.35	0.97625	0.33438	0.2
0.3 σ_1	0.15	0.54188		
0.7 σ_2	0.35	1.08	0.17	0.2
0.3 σ_2	0.15	0.91		
D (mm)	300			
E_{v1}	134.52			
E_{v2}	164.71			
Area (Sq.m)	0.97645			

E_{v2}/E_{v1}	1.97		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : *Lehas Hamdi*

Sign : *[Signature]*

Consultant Engineer

Name : *Hassan*

Sign : *[Signature]*



Plate Load Test Results

Company Name
Location
Test Date
Layer level

AGR

526+000

To

526+100

19-06-2023

p.s.g +0.5

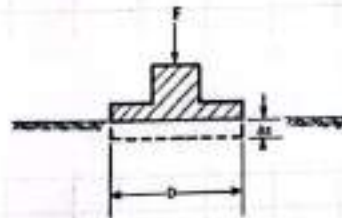
Station

526+050

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	KN/362	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.90	19.95		0.100	0.050		0.075
2.000	17.1	5.652	0.08	19.55	19.71		0.450	0.290		0.370
3.000	34.2	11.304	0.16	19.27	19.55		0.730	0.450		0.590
4.000	53.3	17.663	0.25	19.13	19.48		0.870	0.520		0.695
5.000	70.5	23.315	0.33	19.00	19.40		1.000	0.600		0.800
6.000	89.8	29.673	0.42	18.90	19.32		1.100	0.680		0.890
7.000	106.8	35.325	0.50	18.71	19.20		1.290	0.800		1.045
8.000	53.4	17.663	0.25	18.75	19.22		1.250	0.780		1.015
9.000	26.7	8.831	0.12	18.80	19.23		1.200	0.770		0.985
9.000	2.1	0.707	0.01	18.86	19.35		1.140	0.650		0.895
10.000	2.1	0.707	0.01	18.86	19.35		1.140	0.650		0.895
11.000	17.1	5.652	0.08	18.85	19.33		1.150	0.670		0.910
12.000	34.2	11.304	0.16	18.84	19.32		1.160	0.680		0.920
13.000	53.3	17.663	0.25	18.81	19.30		1.190	0.700		0.945
14.000	70.5	23.315	0.33	18.80	19.26		1.200	0.740		0.970
15.000	89.8	29.673	0.42	18.74	19.20		1.260	0.800		1.030

		n	ΔS	S_e
0.7 σ_1	0.35	0.75438	0.19188	0.2
0.3 σ_1	0.15	0.5625		
0.7 σ_2	0.35	0.98333	0.05833	0.2
0.3 σ_2	0.15	0.925		
D (mm)	300			
E_{v1}	234.53			
E_{v2}	771.45			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	3.29		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

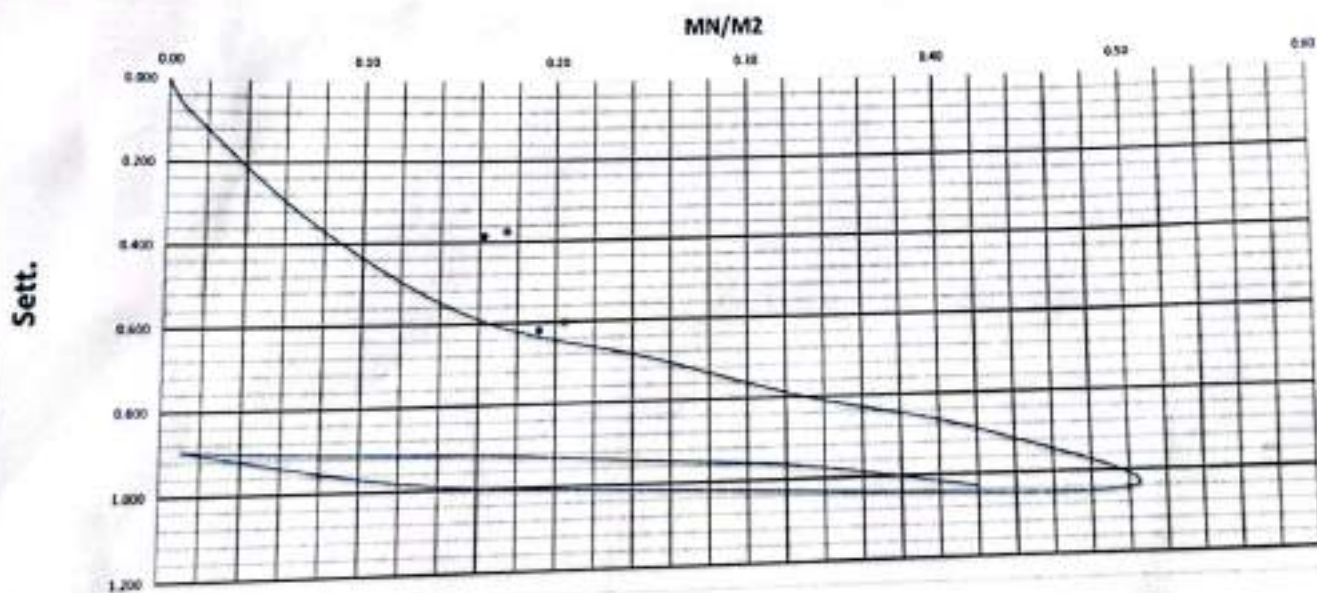
E_v = deformation modulus

D = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

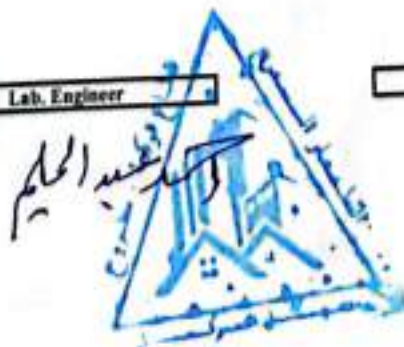
Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : mohamed elsaied

Sign :

m-elsaied



Contractor

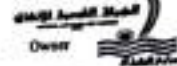


Plate Load Test Results

Layer:
Station:
Date:

-1.5

527+200

TO 527+300

3/6/2023

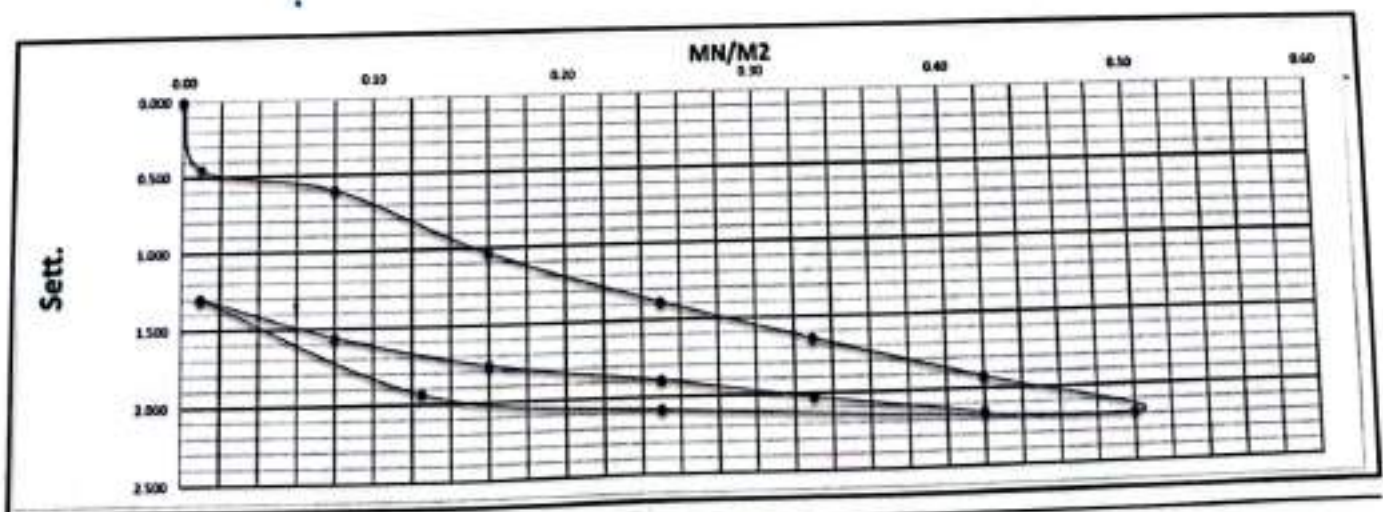
COMPANY	A.G.R.
SAMPLE LOCATION	527+260

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	14.07	17.20		0.000	0.000		0.000
1.000	2.4	0.707	0.01	13.62	16.75		0.450	0.450		0.450
2.000	18.8	5.652	0.08	13.50	16.57		0.570	0.630		0.600
0.030	37.7	11.304	0.16	13.10	16.10		0.970	1.100		1.035
4.000	58.9	17.663	0.25	12.79	15.71		1.280	1.490		1.385
5.000	77.7	23.315	0.33	12.54	15.44		1.530	1.760		1.645
6.000	98.9	29.673	0.42	12.26	15.16		1.810	2.040		1.925
7.000	117.8	35.325	0.50	12.00	14.90		2.070	2.300		2.185
8.000	58.9	17.663	0.25	12.12	14.98		1.950	2.220		2.085
9.000	29.4	8.831	0.12	12.27	15.13		1.800	2.070		1.935
9.000	2.4	0.707	0.01	12.79	15.89		1.280	1.310		1.295
10.000	2.4	0.707	0.01	12.79	15.89		1.280	1.310		1.295
11.000	18.8	5.652	0.08	12.54	15.61		1.530	1.590		1.560
12.000	37.7	11.304	0.16	12.32	15.42		1.750	1.780		1.765
13.000	58.9	17.663	0.25	12.18	15.30		1.890	1.900		1.895
14.000	77.7	23.315	0.33	12.04	15.18		2.030	2.020		2.025
15.000	98.9	29.673	0.42	11.90	15.06		2.170	2.140		2.155

		s	AS	Δs
0.7 σ ₁	0.35	1.6975	0.71688	0.2
0.3 σ ₁	0.15	0.98062		
0.7 σ ₁	0.35	2.05389	0.21886	0.2
0.3 σ ₁	0.15	1.82503		
D (mm)	300			
E _{v1}	62.77			
E _{v2}	196.62			
Area (Sq.m)	0.07065			

E _{v2} /E _{v1}	3.13		
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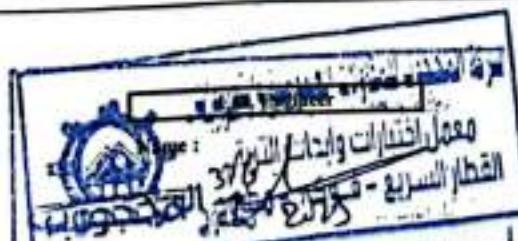
LOAD	
UN LOAD	
RE LOAD	



Lab. Specialist

Name :

Class :



Consultant Engineer

Name : Mohamed elszied

Class :

m-elszied

Plate Load Test Results

Layer:
Station:
Date:

-1.5

527+300

TO

527+500

31/05/2023

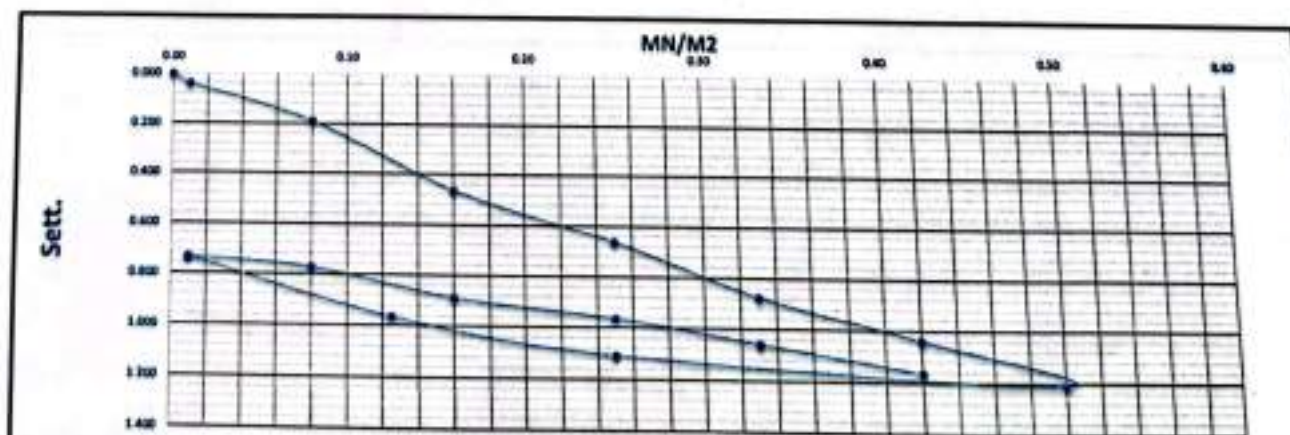
COMPANY	AGR
Location	527+350

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.63	7.65		0.000	0.000		0.000
1.000	1.0	0.707	0.01	7.60	7.60		0.030	0.050		0.040
2.000	7.9	5.652	0.08	7.43	7.47		0.200	0.180		0.190
0.080	15.8	11.304	0.16	7.18	7.17		0.450	0.480		0.465
4.000	24.7	17.663	0.25	7.04	6.91		0.590	0.740		0.665
5.000	32.6	23.315	0.33	6.92	6.61		0.710	1.040		0.875
6.000	41.5	29.673	0.42	6.82	6.38		0.810	1.270		1.040
7.000	49.4	35.325	0.50	6.63	6.23		1.000	1.420		1.210
8.000	24.7	17.663	0.25	6.70	6.36		0.930	1.290		1.110
9.000	12.4	8.831	0.12	6.82	6.53		0.810	1.120		0.965
9.000	1.0	0.707	0.01	7.03	6.78		0.600	0.870		0.735
10.000	1.0	0.707	0.01	7.03	6.78		0.600	0.870		0.735
11.000	7.9	5.652	0.08	6.99	6.74		0.640	0.910		0.775
12.000	15.8	11.304	0.16	6.88	6.62		0.750	1.030		0.890
13.000	24.7	17.663	0.25	6.81	6.54		0.820	1.110		0.965
14.000	32.6	23.315	0.33	6.71	6.45		0.920	1.200		1.040
15.000	41.5	29.673	0.42	6.61	6.34		1.020	1.310		1.165

0.7 σ_1	0.35	0.89125	0.46063	0.3
0.3 σ_1	0.15	0.43063		
0.7 σ_2	0.35	1.08333	0.34033	0.3
0.3 σ_2	0.15	0.815		
D (mm)	300			
E_{s1}	97.60			
E_{s2}	147.70			
Area (Sq.m)	0.07063			

Exc/Evt	1.75		
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LOAD
UNLOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة نجية للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name :

Hassan

Sign :





Contractor



Plate Load Test Results

Layer:
Station:
Date:

-1.5

527+300

TO

527+500

31/05/2023

COMPANY

AGR

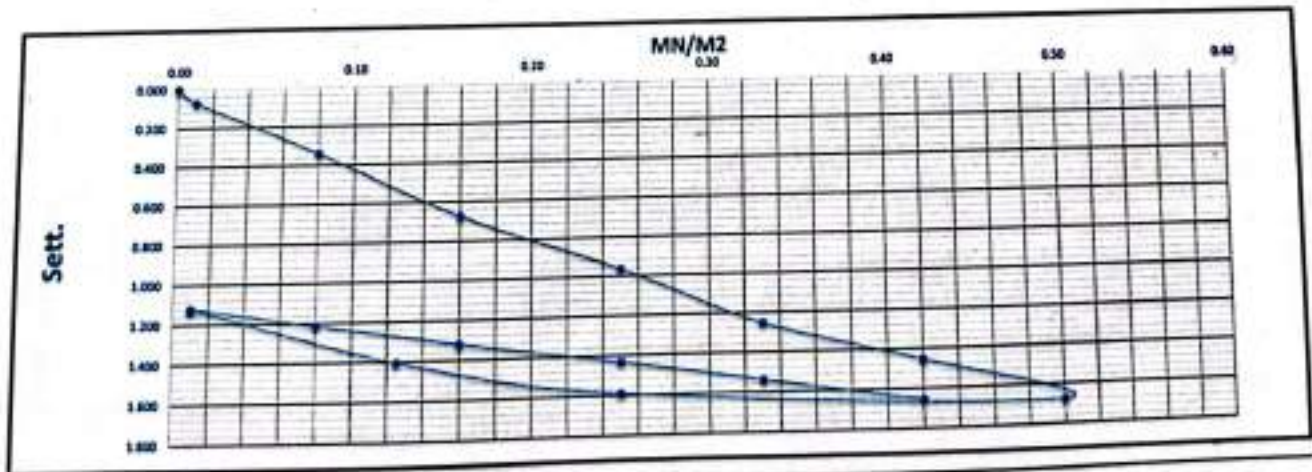
Location

527+450

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/MS	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.61	6.30		0.000	0.000		0.000
1.000	1.0	0.707	0.01	7.56	6.21		0.050	0.090		0.070
2.000	7.9	5.652	0.08	7.27	5.96		0.340	0.340		0.340
0.080	15.8	11.304	0.16	6.88	5.68		0.730	0.620		0.675
4.000	24.7	17.663	0.25	6.55	5.43		1.060	0.870		0.965
5.000	32.6	23.315	0.33	6.23	5.17		1.380	1.130		1.255
6.000	41.5	29.673	0.42	6.02	4.98		1.590	1.320		1.455
7.000	49.4	35.325	0.50	5.80	4.76		1.810	1.540		1.675
8.000	24.7	17.663	0.25	5.91	4.82		1.700	1.480		1.590
9.000	12.4	8.831	0.12	6.15	4.95		1.460	1.350		1.405
9.000	1.0	0.707	0.01	6.45	5.22		1.160	1.080		1.120
10.000	1.0	0.707	0.01	6.45	5.22		1.160	1.080		1.120
11.000	7.9	5.652	0.08	6.30	5.18		1.310	1.120		1.215
12.000	15.8	11.304	0.16	6.14	5.13		1.470	1.170		1.320
13.000	24.7	17.663	0.25	6.01	5.03		1.600	1.270		1.435
14.000	32.6	23.315	0.33	5.90	4.93		1.710	1.370		1.540
15.000	41.5	29.673	0.42	5.77	4.83		1.840	1.470		1.655

	σ	ϵ	E_s	E_p
0.7 σ_y	0.35	1.2625	0.42938	0.3
0.3 σ_y	0.15	0.63113		
0.7 σ_y	0.35	1.56556	0.25555	0.2
0.3 σ_y	0.15	1.31001		
D (mm)	300			
E_v	71.50			
E_p	174.09			
Area (Sq.m)	0.07065			

E_v/E_p	2.46		
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LOAD
UN LOAD
RE LOAD

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة تقييد المقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name : Hassan

Sign :



Contractor



Plate Load Test Results

Layer:
Station:
Date:

-1.5

527+500

TO

527+700

31/05/2023

COMPANY

AGR

Location

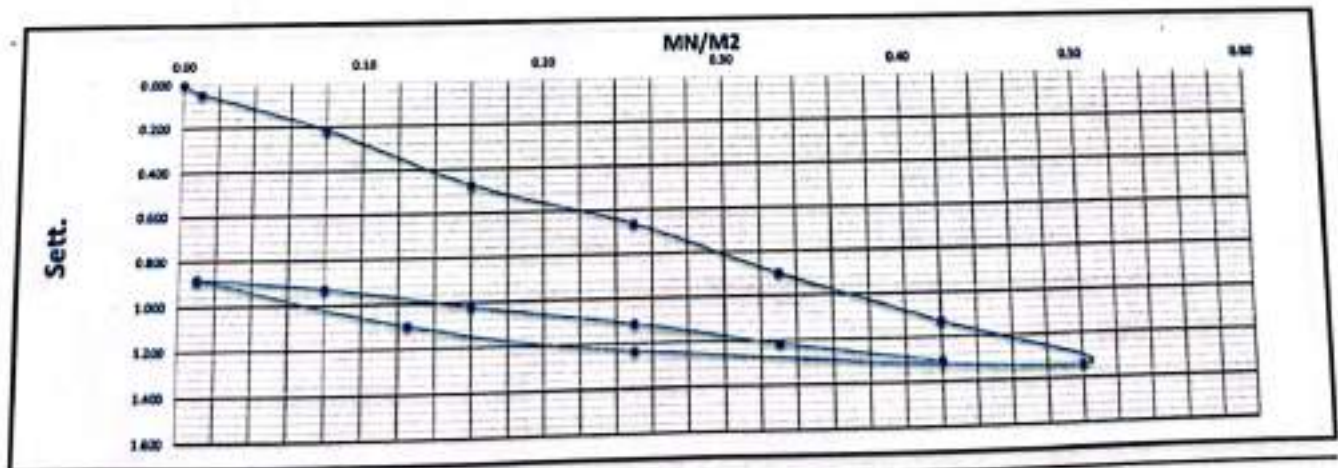
527+560

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.95	7.34		0.000	0.000		0.000
1.000	1.0	0.707	0.01	7.92	7.28		0.030	0.060		0.045
2.000	7.9	5.652	0.08	7.79	7.07		0.160	0.270		0.215
3.000	15.8	11.304	0.16	7.58	6.76		0.370	0.580		0.475
4.000	24.7	17.663	0.25	7.43	6.53		0.520	0.810		0.665
5.000	32.6	23.315	0.33	7.25	6.24		0.700	1.100		0.900
6.000	41.5	29.673	0.42	7.09	5.94		0.860	1.400		1.130
7.000	49.4	35.325	0.50	6.94	5.67		1.010	1.670		1.340
8.000	24.7	17.663	0.25	7.02	5.80		0.930	1.540		1.235
9.000	12.4	8.831	0.12	7.14	5.95		0.810	1.390		1.100
9.000	1.0	0.707	0.01	7.35	6.18		0.600	1.160		0.880
10.000	1.0	0.707	0.01	7.35	6.18		0.600	1.160		0.880
11.000	7.9	5.652	0.08	7.31	6.12		0.640	1.220		0.930
12.000	15.8	11.304	0.16	7.23	6.02		0.720	1.320		1.020
13.000	24.7	17.663	0.25	7.15	5.91		0.800	1.430		1.115
14.000	32.6	23.315	0.33	7.05	5.81		0.900	1.530		1.215
15.000	41.5	29.673	0.42	6.96	5.71		0.990	1.630		1.310

0.7 σ_1	0.35	0.94625	0.58375	0.2
0.3 σ_1	0.15	0.4425		
0.7 σ_2	0.35	1.23411	0.25611	0.2
0.3 σ_2	0.15	0.98001		
D (mm)	300			
E_{v1}	89.33			
E_{v2}	175.71			
Area (Sq.m)	0.07065			

E _{v1} /E _{v2}	1.97		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة نجية للمقاولات
المعمل المركزي
مشروع القطار السريع/ فوكة - مطروح

Consultant Engineer

Name : Hassan

Sign :



Plate Load Test Results

Layer:
Station:
Date:

-1.5

527+500

TO

527+700

31/05/2023

COMPANY

AGR

Location

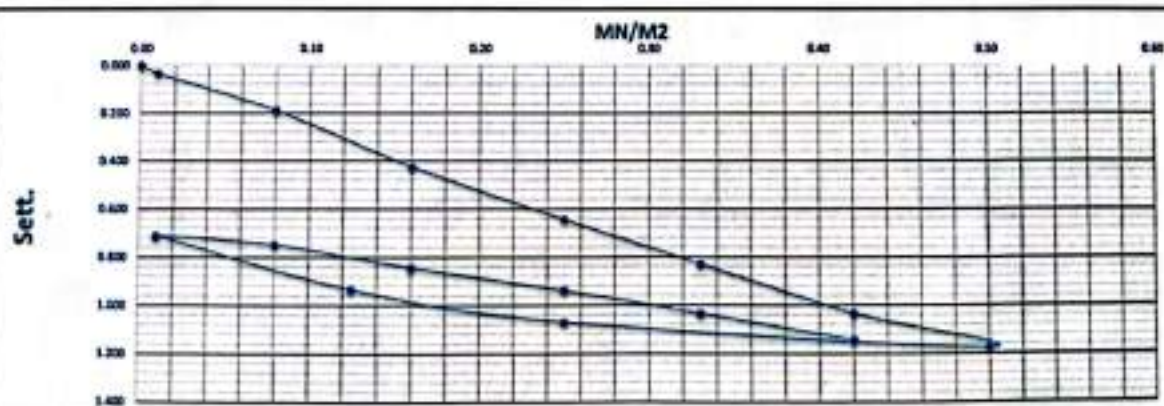
527+660

Loading	Load	Load	Stress	Dist 1	Dist 2	Dist 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	kN/m ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.09	7.19		0.000	0.000		0.000
1.000	1.0	0.707	0.01	7.04	7.17		0.050	0.020		0.035
2.000	7.9	5.652	0.08	6.82	7.08		0.270	0.110		0.190
0.080	15.8	11.304	0.16	6.53	6.90		0.560	0.290		0.425
4.000	24.7	17.663	0.25	6.27	6.72		0.820	0.470		0.645
5.000	32.6	23.315	0.33	6.06	6.56		1.030	0.630		0.830
6.000	41.5	29.673	0.42	5.84	6.37		1.250	0.820		1.035
7.000	49.4	35.325	0.50	5.69	6.24		1.400	0.950		1.175
8.000	24.7	17.663	0.25	5.83	6.31		1.260	0.880		1.070
9.000	12.4	8.831	0.12	5.97	6.44		1.120	0.750		0.935
9.000	1.0	0.707	0.01	6.18	6.68		0.910	0.510		0.710
10.000	1.0	0.707	0.01	6.18	6.68		0.910	0.510		0.710
11.000	7.9	5.652	0.08	6.13	6.65		0.960	0.540		0.750
12.000	15.8	11.304	0.16	6.03	6.56		1.060	0.630		0.845
13.000	24.7	17.663	0.25	5.93	6.47		1.160	0.720		0.940
14.000	32.6	23.315	0.33	5.83	6.38		1.260	0.810		1.035
15.000	41.5	29.673	0.42	5.71	6.28		1.380	0.910		1.145

q ₁	q ₂	q ₃	q ₄	q ₅
0.7 q ₁	0.35	0.9125	0.51688	0.3
0.3 q ₁	0.15	0.39563		
0.7 q ₂	0.35	1.05944	0.24944	0.3
0.3 q ₂	0.15	0.79		
D (mm)	300			
E _{v1}	87.84			
E _{v2}	147.02			
Area (Sq.m)	0.97045			

E _{v1} /E _{v2}	1.45		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة نجمة للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name :

Sign :

Plate Load Test Results

Company Name
Location
Test Date
Layer level

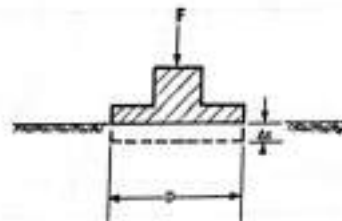
A.G.R			
528+820	To	528+860	
28-5-2023			
-5.5			

Station	528+840
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EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load
 Δs = settlement
 D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.50$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	KN/M ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	13.30	13.10		0.000	0.000		0.000
1.000	2.4	0.707	0.01	13.20	12.90		0.100	0.200		0.150
2.000	18.8	5.652	0.08	12.95	12.55		0.350	0.550		0.450
3.000	37.7	11.304	0.16	12.80	12.30		0.500	0.800		0.650
4.000	58.9	17.663	0.25	12.70	12.10		0.600	1.000		0.800
5.000	77.7	23.315	0.33	12.60	11.70		0.700	1.400		1.050
6.000	98.9	29.673	0.42	12.50	11.50		0.800	1.600		1.200
7.000	117.8	35.325	0.50	12.30	11.30		1.000	1.800		1.400
8.000	58.9	17.663	0.25	12.50	11.38		0.800	1.720		1.260
9.000	29.4	8.831	0.12	12.65	11.55		0.650	1.550		1.100
9.000	2.4	0.707	0.01	12.80	11.65		0.500	1.450		0.975
10.000	2.4	0.707	0.01	12.80	11.65		0.500	1.450		0.975
11.000	18.8	5.652	0.08	12.75	11.63		0.550	1.470		1.010
12.000	37.7	11.304	0.16	12.70	11.55		0.600	1.550		1.075
13.000	58.9	17.663	0.25	12.56	11.45		0.740	1.650		1.195
14.000	77.7	23.315	0.33	12.50	11.40		0.800	1.700		1.250
15.000	98.9	29.673	0.42	12.45	11.35		0.850	1.750		1.300

		σ	Δs	Δs
0.7 σ_1	0.35	1.025	0.4	0.2
0.3 σ_1	0.15	0.625		
0.7 σ_2	0.35	1.26111	0.21611	0.2
0.3 σ_2	0.15	1.045		
D (mm)	300			
E_{v1}	112.50			
E_{v2}	208.23			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	1.85
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$$E_v = 0.71 \cdot D \cdot \Delta \sigma / \Delta s$$

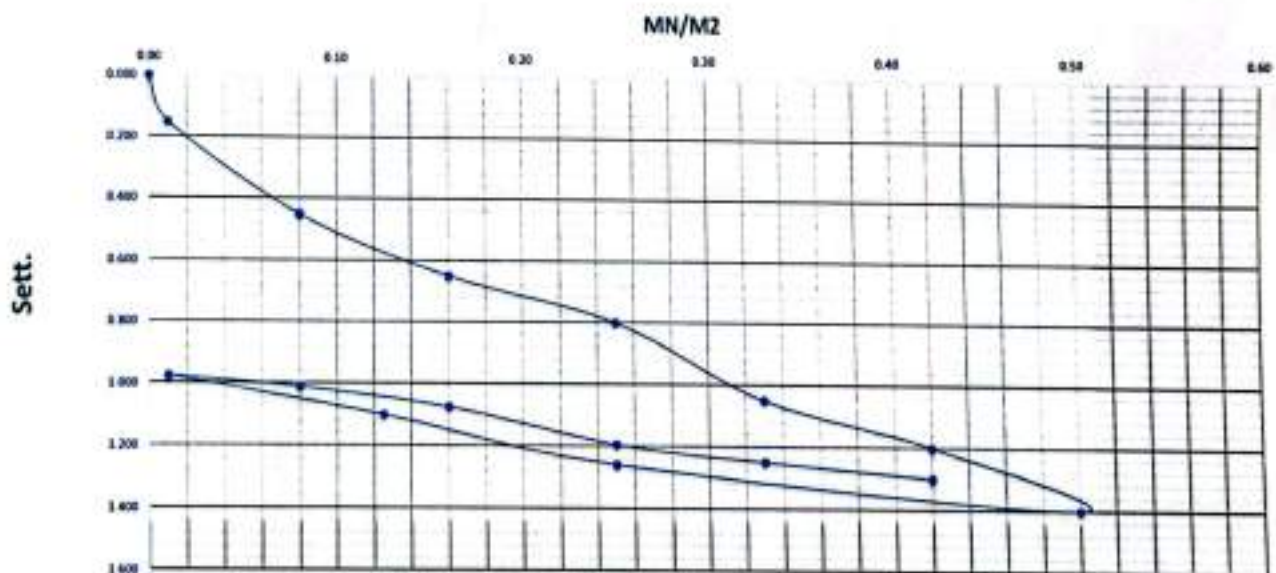
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign :



Plate Load Test Results

Company Name
Location
Test Date
Layer level

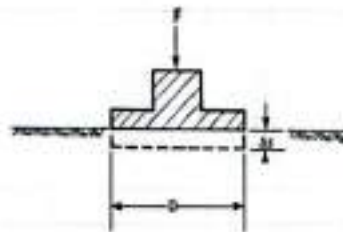
A.G.R	
528+420	To 528+480
28-5-2023	
-5.5	

Station	528+460
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EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load
 Δs = settlement
 D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	17.90	17.30		0.000	0.000		0.000
1.000	2.4	0.707	0.01	17.75	17.10		0.150	0.200		0.175
2.000	18.8	5.652	0.08	17.30	16.75		0.600	0.550		0.575
3.000	37.7	11.304	0.16	16.95	16.50		0.950	0.800		0.875
4.000	58.9	17.663	0.25	16.60	16.25		1.300	1.050		1.175
5.000	77.7	23.315	0.33	16.35	16.00		1.550	1.300		1.425
6.000	98.9	29.673	0.42	16.05	15.80		1.850	1.500		1.675
7.000	117.8	35.325	0.50	15.60	15.40		2.300	1.900		2.100
8.000	58.9	17.663	0.25	16.00	15.80		1.900	1.500		1.700
9.000	29.4	8.831	0.12	16.15	16.00		1.750	1.300		1.525
9.000	2.4	0.707	0.01	16.39	16.30		1.510	1.000		1.255
10.000	2.4	0.707	0.01	16.39	16.30		1.510	1.000		1.255
11.000	18.8	5.652	0.08	16.30	16.20		1.600	1.100		1.350
12.000	37.7	11.304	0.16	16.25	16.10		1.650	1.200		1.425
13.000	58.9	17.663	0.25	16.20	16.00		1.700	1.300		1.500
14.000	77.7	23.315	0.33	16.10	15.95		1.800	1.350		1.575
15.000	98.9	29.673	0.42	15.97	15.83		1.930	1.470		1.700

		s	Δs	Δs
0.7 σ_1	0.35	1.30313	0.46562	0.2
0.3 σ_1	0.15	0.8375		
0.7 σ_2	0.35	1.60278	0.15777	0.2
0.3 σ_2	0.15	1.44501		
D (mm)	300			
E_{v1}	96.64			
E_{v2}	285.23			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.95		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

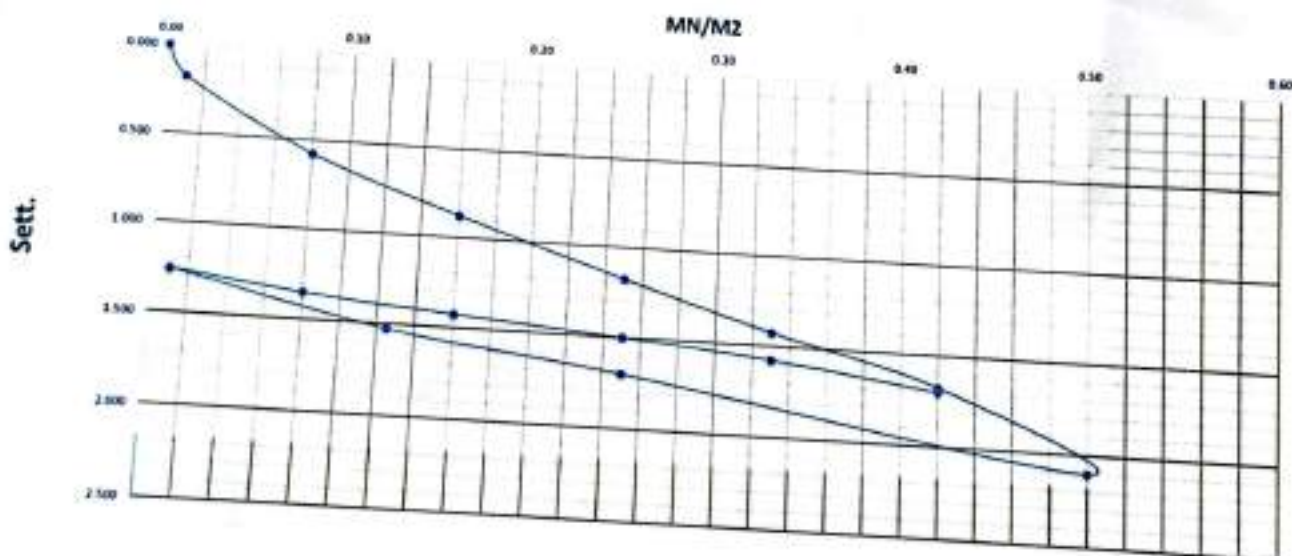
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δx are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign :



Plate Load Test Results

Company Name

Location

Test Date

Layer level

A.G.R

529+020

28-5-2023

-1.5

To

529+160

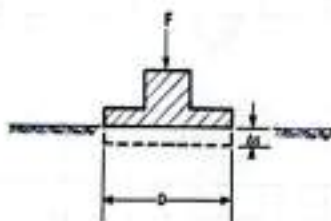
Station

529+060

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

s = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/m ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	15.85	13.68		0.000	0.000		0.000
1.000	2.4	0.707	0.01	15.75	13.54		0.100	0.140		0.120
2.000	18.8	5.652	0.08	15.58	13.10		0.270	0.580		0.425
3.000	37.7	11.304	0.16	15.45	12.80		0.400	0.880		0.640
4.000	58.9	17.663	0.25	15.05	12.60		0.800	1.080		0.940
5.000	77.7	23.315	0.33	15.00	12.45		0.850	1.230		1.040
6.000	98.9	29.673	0.42	14.88	12.33		0.970	1.350		1.160
7.000	117.8	35.325	0.50	14.70	12.20		1.150	1.480		1.315
8.000	58.9	17.663	0.25	14.80	12.30		1.050	1.380		1.215
9.000	29.4	8.831	0.12	14.95	12.45		0.900	1.230		1.065
9.000	2.4	0.707	0.01	15.30	12.64		0.550	1.040		0.795
10.000	2.4	0.707	0.01	15.30	12.64		0.550	1.040		0.795
11.000	18.8	5.652	0.08	15.20	12.60		0.650	1.080		0.865
12.000	37.7	11.304	0.16	15.10	12.53		0.750	1.150		0.950
13.000	58.9	17.663	0.25	15.00	12.47		0.850	1.210		1.030
14.000	77.7	23.315	0.33	14.95	12.40		0.900	1.280		1.090
15.000	98.9	29.673	0.42	14.90	12.30		0.950	1.380		1.165

		s	Δs	s_e
0.7 σ_1	0.35	1.02438	0.41125	0.2
0.3 σ_1	0.15	0.61313		
0.7 σ_2	0.35	1.10667	0.17166	0.2
0.3 σ_2	0.15	0.93501		
D (mm)	300			
E_{v1}	109.42			
E_{v2}	262.15			
Area (Sq.m)	0.07065			

E_{v1}/E_{v2}	2.40		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

E_v = deformation modulus

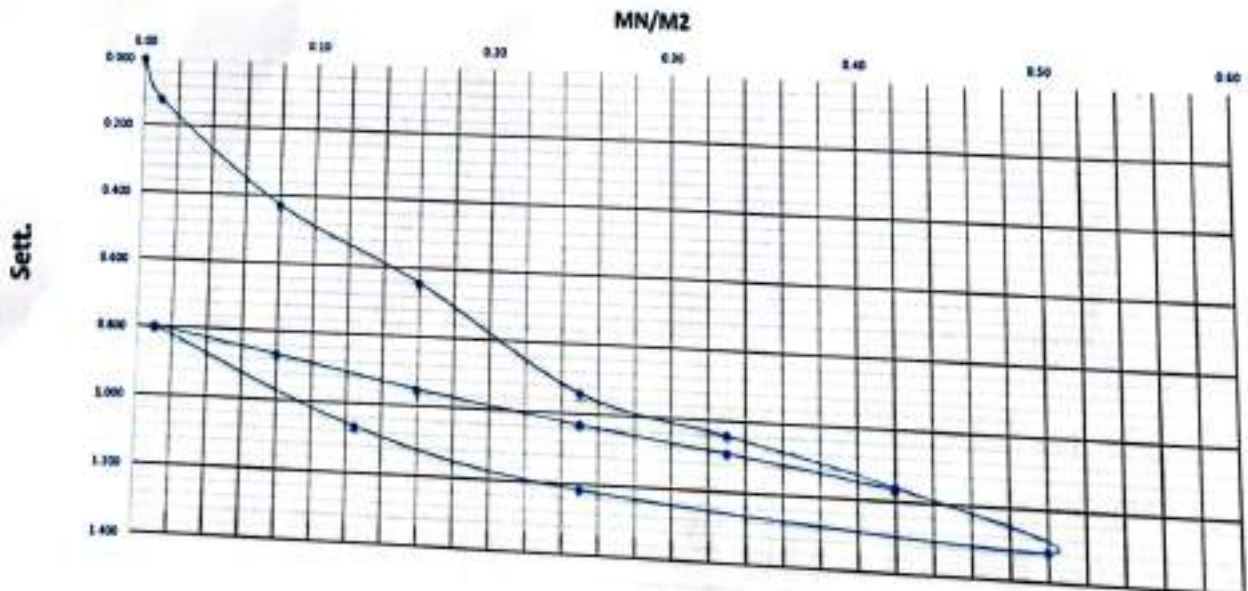
$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

15.010

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign :

Plate Load Test Results

Company Name

A.G.R

Location

529+020

To

529+160

Station

529+140

Test Date

28-5-2023

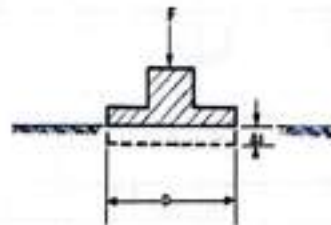
Layer level

-1.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MPa	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	12.10	11.10		0.000	0.000		0.000
1.000	2.4	0.707	0.01	11.98	10.98		0.120	0.120		0.120
2.000	18.8	5.652	0.08	11.70	10.74		0.400	0.360		0.380
3.000	37.7	11.304	0.16	11.50	10.57		0.600	0.530		0.565
4.000	58.9	17.663	0.25	11.40	10.50		0.700	0.600		0.650
5.000	77.7	23.315	0.33	11.25	10.35		0.850	0.750		0.800
6.000	98.9	29.673	0.42	11.08	10.20		1.020	0.900		0.960
7.000	117.8	35.325	0.50	10.90	10.05		1.200	1.050		1.125
8.000	58.9	17.663	0.25	11.02	10.20		1.080	0.900		0.990
9.000	29.4	8.831	0.12	11.20	10.30		0.900	0.800		0.850
9.000	2.4	0.707	0.01	11.80	10.75		0.300	0.350		0.325
10.000	2.4	0.707	0.01	11.80	10.75		0.300	0.350		0.325
11.000	18.8	5.652	0.08	11.60	10.50		0.500	0.600		0.550
12.000	37.7	11.304	0.16	11.35	10.35		0.750	0.750		0.750
13.000	58.9	17.663	0.25	11.20	10.30		0.900	0.800		0.850
14.000	77.7	23.315	0.33	11.15	10.18		0.950	0.920		0.935
15.000	98.9	29.673	0.42	11.00	10.05		1.100	1.050		1.075

		s	Δs	Δs
0.7 σ_1	0.35	0.81563	0.27375	0.1
0.3 σ_1	0.15	0.54188		
0.7 σ_2	0.35	0.96411	0.19109	0.1
0.3 σ_2	0.15	0.77502		
D (mm)	300			
E_{v1}	164.38			
E_{v2}	235.49			
Area (Sq.m)	0.07065			

$E_{v1} \div E_{v2}$	1.43		
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$$E_v = 4.75 \cdot D \cdot \Delta \sigma / \Delta s$$

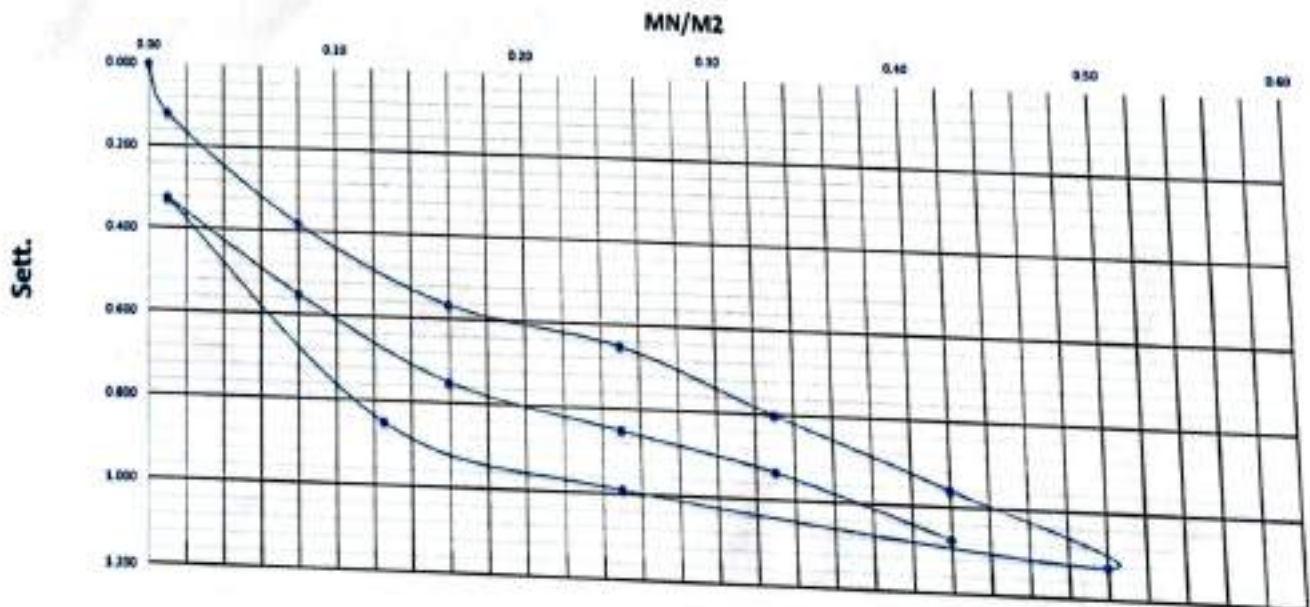
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Hassan

Sign :



Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT -1.5

529+700

TO

529+800

25-05-23

COMPANY

AGR COMPANY

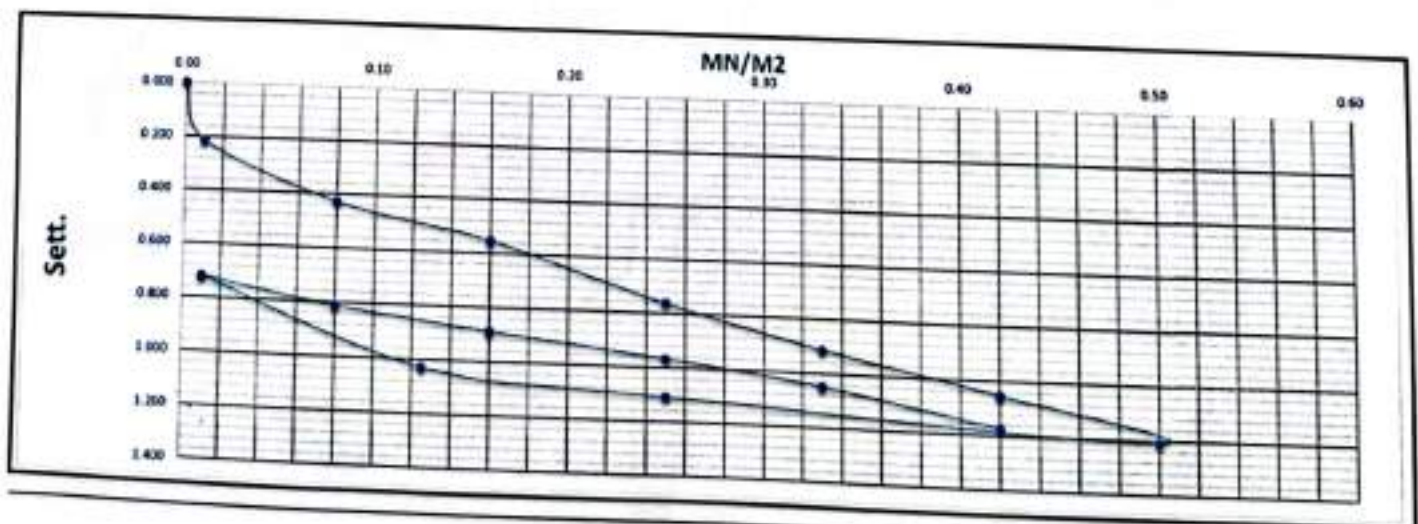
Location

529+740

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.39	7.39		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.25	7.10		0.140	0.290		0.215
2.000	7.9	5.652	0.08	6.11	6.81		0.280	0.580		0.430
0.080	15.8	11.304	0.16	5.97	6.70		0.420	0.690		0.555
4.000	24.7	17.663	0.25	5.81	6.44		0.580	0.950		0.765
5.000	32.6	23.315	0.33	5.69	6.26		0.700	1.130		0.915
6.000	41.5	29.673	0.42	5.61	6.06		0.780	1.330		1.055
7.000	49.4	35.325	0.50	5.53	5.83		0.860	1.560		1.210
8.000	24.7	17.663	0.25	5.62	5.94		0.770	1.450		1.110
9.000	12.4	8.831	0.12	5.67	6.05		0.720	1.340		1.030
9.000	1.0	0.707	0.01	5.83	6.51		0.560	0.880		0.720
10.000	1.0	0.707	0.01	5.83	6.51		0.560	0.880		0.720
11.000	7.9	5.652	0.08	5.78	6.37		0.610	1.020		0.815
12.000	15.8	11.304	0.16	5.70	6.30		0.690	1.090		0.890
13.000	24.7	17.663	0.25	5.65	6.19		0.740	1.200		0.970
14.000	32.6	23.315	0.33	5.59	6.09		0.800	1.300		1.050
15.000	41.5	29.673	0.42	5.43	6.00		0.960	1.390		1.175

		s	AS	Le
0.7 σ_1	0.35	0.91938	0.38	0.2
0.3 σ_1	0.15	0.53938		
0.7 σ_2	0.35	1.07778	0.16777	0.2
0.3 σ_2	0.15	0.91001		
D (mm)	300			
E_{v1}	118.42			
E_{v2}	268.23			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.27		
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Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : *Shehab Hamdi*

Sign : *Shehab Hamdi*
شركة هندسة الجسور والاساس
مشاريع الجسور والاساس
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name : *Hassan*

Sign :

Hassan



Contractor Consultant

Contractor



Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT -1.5

528+389

TO

528+389

25-05-23

COMPANY

AGR COMPANY

Location

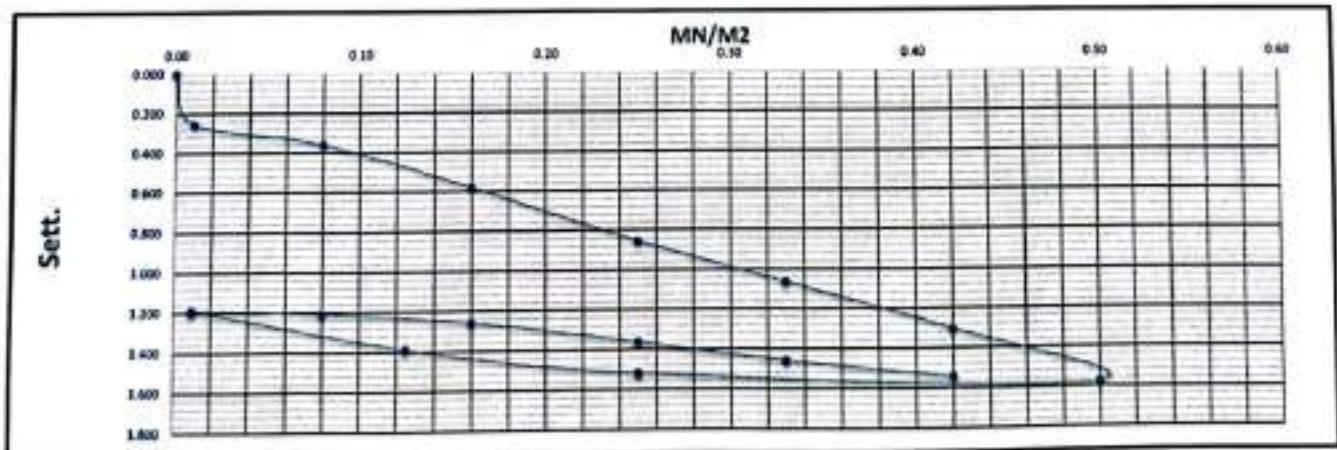
528+389

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/MEI	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.22	6.32		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.02	6.01		0.200	0.310		0.255
2.000	7.9	5.652	0.08	5.93	5.89		0.290	0.430		0.360
0.080	15.8	11.304	0.16	5.75	5.63		0.470	0.690		0.580
4.000	24.7	17.663	0.25	5.49	5.34		0.730	0.980		0.855
5.000	32.6	23.315	0.33	5.31	5.10		0.910	1.220		1.065
6.000	41.5	29.673	0.42	5.12	4.81		1.100	1.510		1.305
7.000	49.4	35.325	0.50	4.93	4.46		1.290	1.860		1.575
8.000	24.7	17.663	0.25	4.97	4.53		1.250	1.790		1.520
9.000	12.4	8.831	0.12	5.13	4.63		1.090	1.690		1.390
9.000	1.0	0.707	0.01	5.33	4.83		0.890	1.490		1.190
10.000	1.0	0.707	0.01	5.33	4.83		0.890	1.490		1.190
11.000	7.9	5.652	0.08	5.32	4.80		0.900	1.520		1.210
12.000	15.8	11.304	0.16	5.27	4.75		0.950	1.570		1.260
13.000	24.7	17.663	0.25	5.15	4.66		1.070	1.660		1.365
14.000	32.6	23.315	0.33	5.04	4.58		1.180	1.740		1.460
15.000	41.5	29.673	0.42	4.95	4.50		1.270	1.820		1.545

		α	β	γ
0.7 σ_1	0.35	1.06875	0.51625	0.2
0.3 σ_2	0.15	0.5525		
0.7 σ_3	0.35	1.47889	0.24889	0.2
0.3 σ_4	0.15	1.23		
D (mm)	300			
E_{v1}	87.17			
E_{v2}	189.81			
Area (Sq. mm)	0.07065			

E_{v2}/E_{v1}	2.07		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

شركة نجدة للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name : Hassan

Sign :

Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT 0.00

528+389

TO

528+389

25-05-23

COMPANY

AGR COMPANY

Location

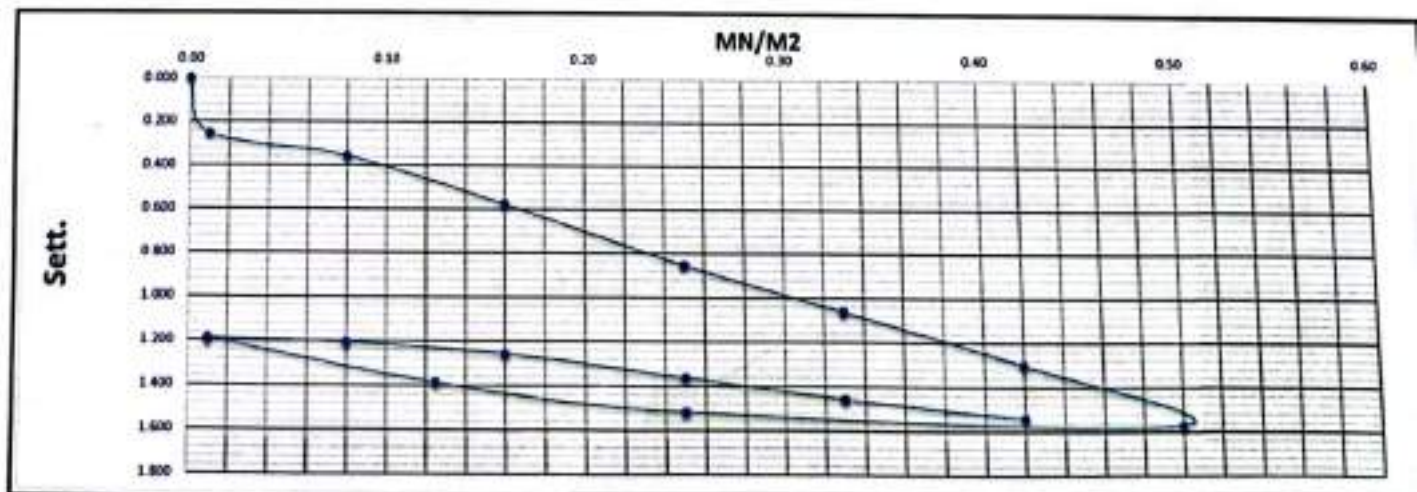
528+389

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.22	6.32		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.02	6.01		0.200	0.310		0.255
2.000	7.9	5.652	0.08	5.93	5.89		0.290	0.430		0.360
0.080	15.8	11.304	0.16	5.75	5.63		0.470	0.690		0.580
4.000	24.7	17.663	0.25	5.49	5.34		0.730	0.980		0.855
5.000	32.6	23.315	0.33	5.31	5.10		0.910	1.220		1.065
6.000	41.5	29.673	0.42	5.12	4.81		1.100	1.510		1.305
7.000	49.4	35.325	0.50	4.93	4.46		1.290	1.860		1.575
8.000	24.7	17.663	0.25	4.97	4.53		1.250	1.790		1.520
9.000	12.4	8.831	0.12	5.13	4.63		1.090	1.690		1.390
9.000	1.0	0.707	0.01	5.33	4.83		0.890	1.490		1.190
10.000	1.0	0.707	0.01	5.33	4.83		0.890	1.490		1.190
11.000	7.9	5.652	0.08	5.32	4.80		0.900	1.520		1.210
12.000	15.8	11.304	0.16	5.27	4.75		0.950	1.570		1.260
13.000	24.7	17.663	0.25	5.15	4.66		1.070	1.660		1.365
14.000	32.6	23.315	0.33	5.04	4.58		1.180	1.740		1.460
15.000	41.5	29.673	0.42	4.95	4.50		1.270	1.820		1.545

σ_1	σ_2	σ_3	ΔS	Δu
0.7	0.35	1.06875	0.51625	0.2
0.3	0.15	0.5525		
0.7	0.35	1.47889	0.24889	0.2
0.3	0.15	1.23		
D (mm)	300			
E_{v1}	87.17			
E_{v2}	180.81			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.07		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة فخرية للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name : Hassan

Sign :





Contractor Consultant

Contractor



المشروع رقم: ٥٢٩+٨٣٩

قصر



Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT -1.5

529+800

TO

529+900

23-05-23

COMPANY

AGR COMPANY

Location

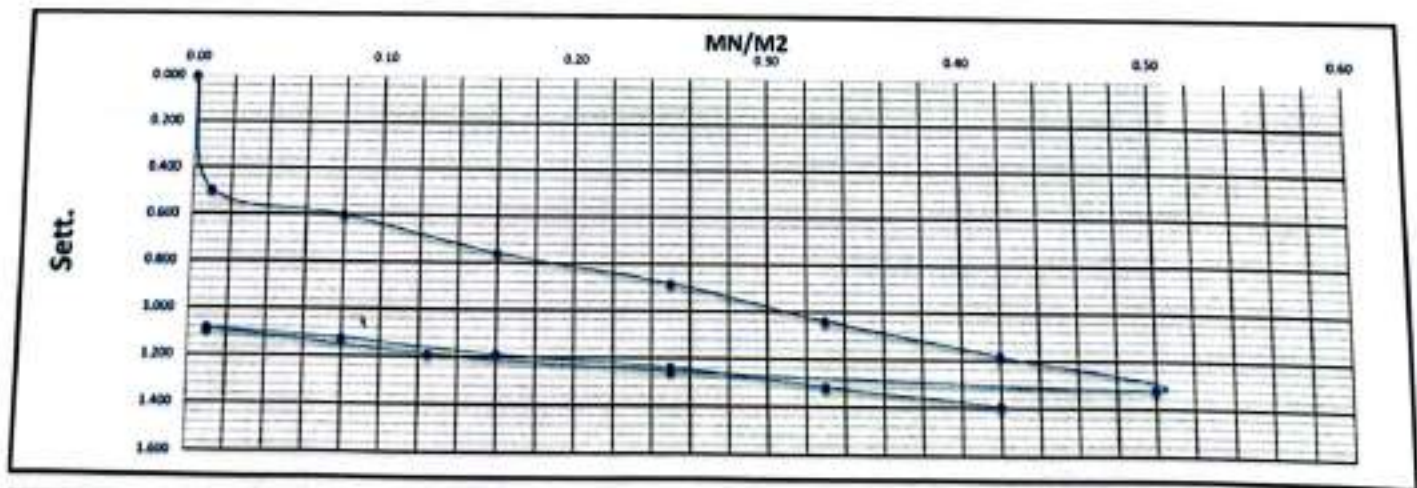
529+839

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.86	8.03		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.03	7.87		0.830	0.160		0.495
2.000	7.9	5.652	0.08	5.85	7.84		1.010	0.190		0.600
0.080	15.8	11.304	0.16	5.59	7.78		1.270	0.250		0.760
4.000	24.7	17.663	0.25	5.39	7.73		1.470	0.300		0.885
5.000	32.6	23.315	0.33	5.15	7.66		1.710	0.370		1.040
6.000	41.5	29.673	0.42	4.90	7.62		1.960	0.410		1.185
7.000	49.4	35.325	0.50	4.73	7.52		2.130	0.510		1.320
8.000	24.7	17.663	0.25	4.77	7.61		2.090	0.420		1.255
9.000	12.4	8.831	0.12	4.87	7.64		1.990	0.390		1.190
9.000	1.0	0.707	0.01	5.03	7.69		1.830	0.340		1.085
10.000	1.0	0.707	0.01	5.03	7.69		1.830	0.340		1.085
11.000	7.9	5.652	0.08	4.99	7.65		1.870	0.380		1.125
12.000	15.8	11.304	0.16	4.93	7.58		1.930	0.450		1.190
13.000	24.7	17.663	0.25	4.86	7.55		2.000	0.480		1.240
14.000	32.6	23.315	0.33	4.76	7.49		2.100	0.540		1.320
15.000	41.5	29.673	0.42	4.68	7.42		2.180	0.610		1.395

$0.7 \sigma_1$	0.35	1.96488	0.32688	0.2
$0.3 \sigma_1$	0.15	0.74		
$0.7 \sigma_2$	0.35	1.33667	0.17166	0.2
$0.3 \sigma_2$	0.15	1.165		
D (mm)	300			
E_{v1}	137.67			
E_{v2}	262.14			
Area (Sq. mm)	0.07065			

$E=2/E_v$	1.90		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة نجدة للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name : Hassan

Sign :



Contractor



Owner



Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT		-1.5
529+800	TO	529+900
23-05-23		

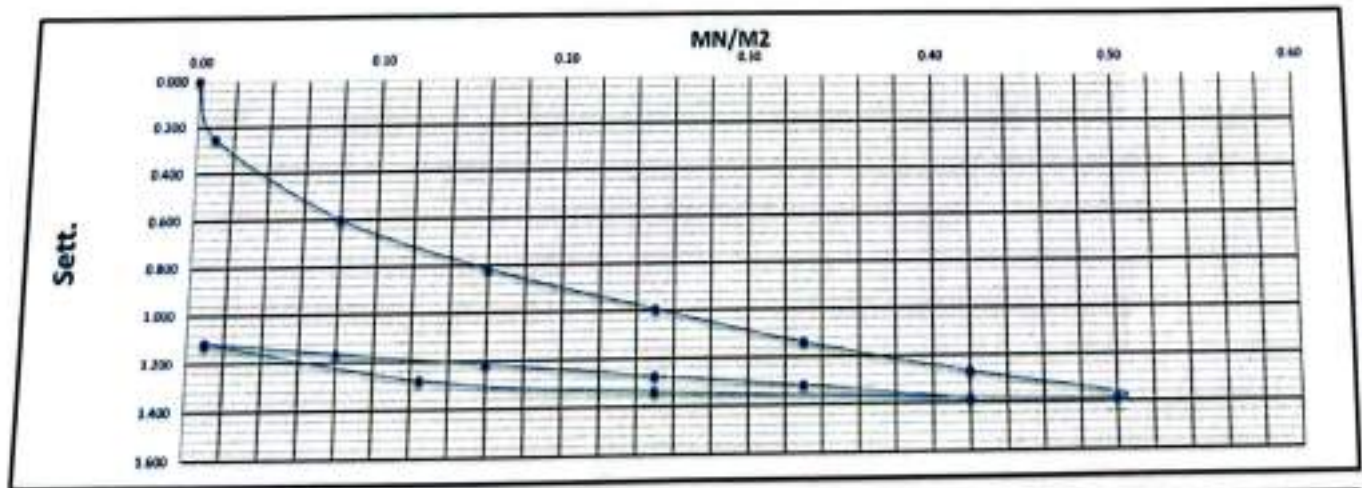
COMPANY	AGR COMPANY
Location	529+880

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	KN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	5.95	6.58		0.000	0.000		0.000
1.000	1.0	0.707	0.01	5.64	6.39		0.310	0.190		0.250
2.000	7.9	5.652	0.08	5.17	6.16		0.780	0.420		0.600
0.080	15.8	11.304	0.16	4.86	6.04		1.090	0.540		0.815
4.000	24.7	17.663	0.25	4.61	5.93		1.340	0.650		0.995
5.000	32.6	23.315	0.33	4.42	5.83		1.530	0.750		1.140
6.000	41.5	29.673	0.42	4.27	5.72		1.680	0.860		1.270
7.000	49.4	35.325	0.50	4.18	5.58		1.770	1.000		1.385
8.000	24.7	17.663	0.25	4.24	5.61		1.710	0.970		1.340
9.000	12.4	8.831	0.12	4.32	5.65		1.630	0.930		1.280
9.000	1.0	0.707	0.01	4.52	5.78		1.430	0.800		1.115
10.000	1.0	0.707	0.01	4.52	5.78		1.430	0.800		1.115
11.000	7.9	5.652	0.08	4.46	5.74		1.490	0.840		1.165
12.000	15.8	11.304	0.16	4.40	5.70		1.550	0.880		1.215
13.000	24.7	17.663	0.25	4.32	5.66		1.630	0.920		1.275
14.000	32.6	23.315	0.33	4.26	5.63		1.690	0.950		1.320
15.000	41.5	29.673	0.42	4.18	5.58		1.770	1.000		1.385

σ	ϵ	σ	ϵ	σ
0.7 σ_y	0.35	1.04938	0.38125	0.2
0.3 σ_y	0.15	0.78813		
0.7 σ_y	0.35	1.33444	0.11944	0.2
0.3 σ_y	0.15	1.21501		
D (mm)	300			
E_v	118.83			
E_v	376.76			
Area (Sq. m)	0.07065			

E_v/E_s	3.19		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة نجيدة للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name : Hassan

Sign :



Contractor



Plate Load Test Results

Layer:
Station:
Date:

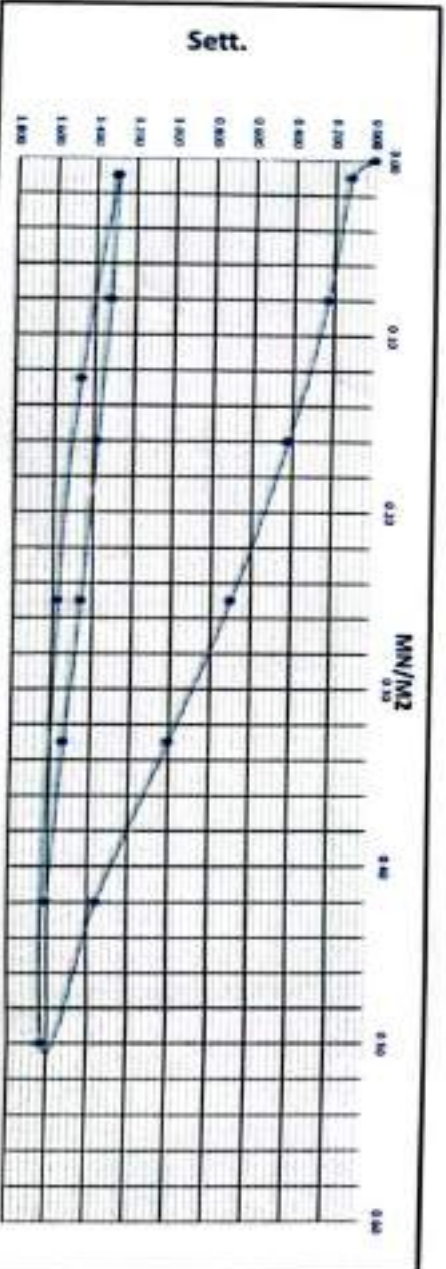
EMBANKMENT -1.5
528+920 TO 529+020
23-05-23

COMPANY	ACR COMPANY
Location	528+448

Load	Load	Settle	Dist. 1	Dist. 2	Dist. 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
kg/cm ²	Bar	KN	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.17	6.88	0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.07	6.75	0.100	0.130		0.115
2.000	7.9	5.652	0.08	5.93	6.67	0.240	0.210		0.225
0.080	15.8	11.304	0.16	5.71	6.51	0.460	0.370		0.415
4.000	24.7	17.663	0.25	5.42	6.24	0.750	0.640		0.695
5.000	32.6	23.315	0.33	5.16	5.89	1.010	0.990		1.000
6.000	41.5	29.673	0.42	4.86	5.48	1.310	1.400		1.355
7.000	49.4	35.325	0.50	4.62	5.18	1.550	1.700		1.625
8.000	24.7	17.663	0.25	4.69	5.22	1.480	1.660		1.570
9.000	12.4	8.831	0.12	4.79	5.33	1.380	1.550		1.465
9.000	1.0	0.707	0.01	4.97	5.50	1.200	1.380		1.290
10.000	1.0	0.707	0.01	4.97	5.50	1.200	1.380		1.290
11.000	7.9	5.652	0.08	4.92	5.49	1.250	1.390		1.320
12.000	15.8	11.304	0.16	4.86	5.43	1.310	1.450		1.380
13.000	24.7	17.663	0.25	4.78	5.36	1.390	1.520		1.455
14.000	32.6	23.315	0.33	4.70	5.29	1.470	1.590		1.530
15.000	41.5	29.673	0.42	4.64	5.20	1.530	1.680		1.605

0.7 q _u	0.35	1.11875	0.7275	0.2
0.3 q _u	0.15	0.39125		
0.2 q _u	0.35	1.54667	0.19666	0.2
0.3 q _u	0.15	1.35		
D (mm)	300			
E _s	61.86			
E _s	228.87			
Area (sq.m)	0.07966			

E _s (ksi)	3.79		
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Name : Lab. Specialist

Sign :

Name : Lab. Engineer

Sign :

Name : Consultant Engineer

Sign : Hassan

مركزية الجدة للتقانات
المعمل المركزي
الهندسة المدنية والبيئية



Contractor



Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT -1.5

528+920

TO

529+020

23-05-23

COMPANY

AGR COMPANY

Location

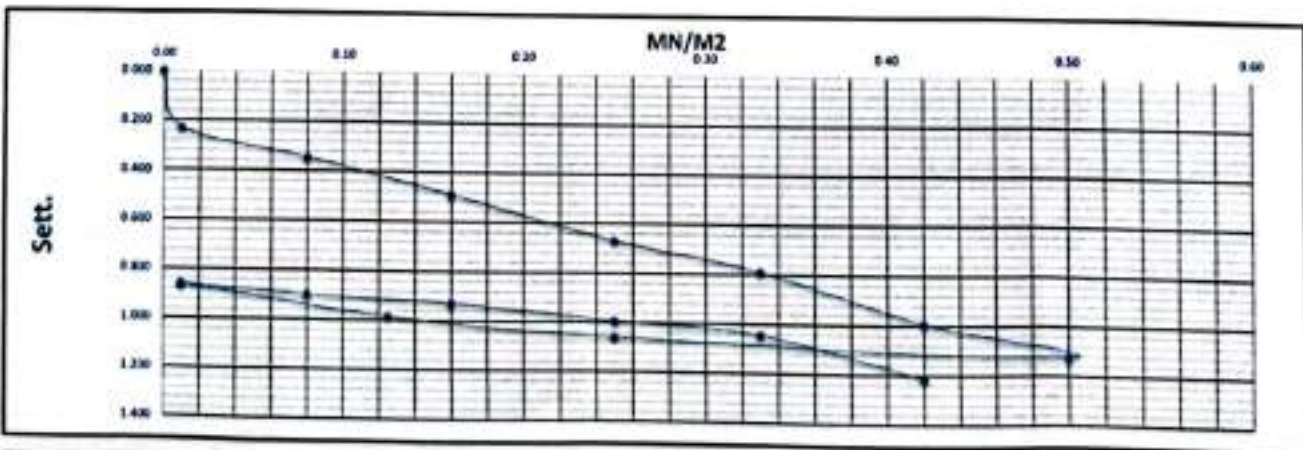
529+018

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.18	7.40		0.000	0.000		0.000
1.000	1.0	0.707	0.01	5.95	7.17		0.230	0.230		0.230
2.000	7.9	5.652	0.08	5.83	7.06		0.350	0.340		0.345
0.080	15.8	11.304	0.16	5.67	6.93		0.510	0.470		0.490
4.000	24.7	17.663	0.25	5.46	6.78		0.720	0.620		0.670
5.000	32.6	23.315	0.33	5.33	6.67		0.850	0.730		0.790
6.000	41.5	29.673	0.42	5.09	6.50		1.090	0.900		0.995
7.000	49.4	35.325	0.50	4.93	6.40		1.250	1.000		1.125
8.000	24.7	17.663	0.25	4.98	6.48		1.200	0.920		1.060
9.000	12.4	8.831	0.12	5.05	6.56		1.130	0.840		0.985
9.000	1.0	0.707	0.01	5.16	6.70		1.020	0.700		0.860
10.000	1.0	0.707	0.01	5.16	6.70		1.020	0.700		0.860
11.000	7.9	5.652	0.08	5.14	6.64		1.040	0.760		0.900
12.000	15.8	11.304	0.16	5.12	6.60		1.060	0.800		0.930
13.000	24.7	17.663	0.25	5.07	6.52		1.110	0.880		0.995
14.000	32.6	23.315	0.33	5.02	6.47		1.160	0.930		1.045
15.000	41.5	29.673	0.42	4.82	6.33		1.360	1.070		1.215

		σ	ΔS	Δe
0.7 σ_1	0.35	0.88125	0.48938	0.2
0.3 σ_1	0.15	0.47188		
0.7 σ_2	0.35	1.08278	0.14277	0.2
0.3 σ_2	0.15	0.94		
D (mm)	300			
E_{v1}	109.92			
E_{v2}	315.18			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.87		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة تجيعة للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name :

Sign :



Contractor



Owner

Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT		-1.5
525+360	TO	525+500
23-05-23		

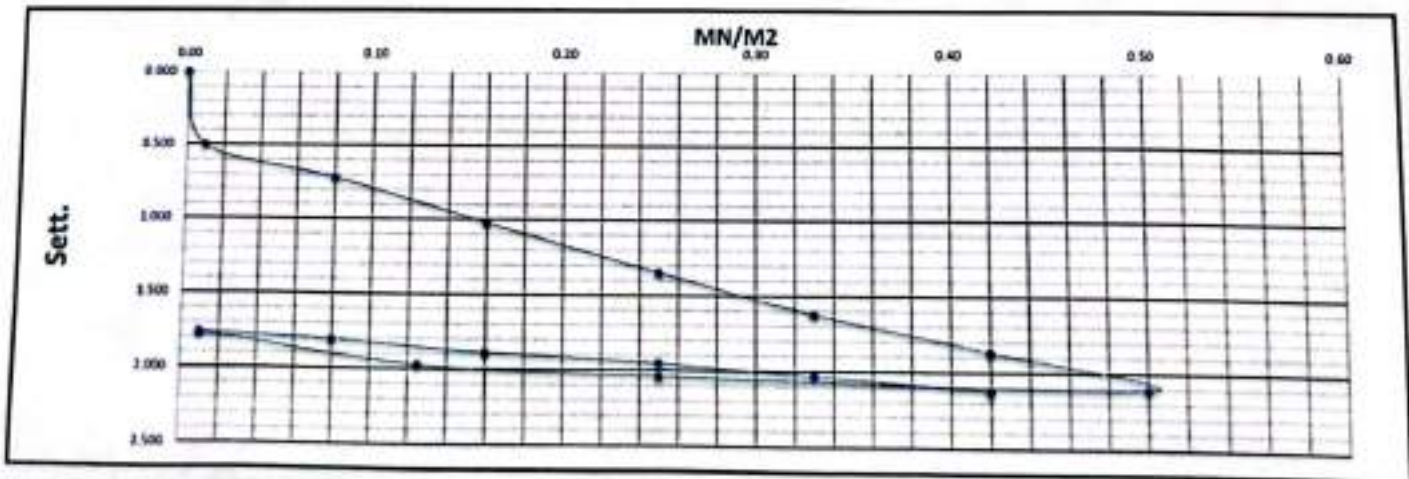
COMPANY	AGR COMPANY
Location	525+400

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg Sett.
Stage No.	Bar	KN	KN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	8.24	7.36		0.000	0.000		0.000
1.000	1.0	0.707	0.01	7.71	6.89		0.530	0.470		0.500
2.000	7.9	5.652	0.08	7.48	6.68		0.760	0.680		0.720
0.080	15.8	11.304	0.16	7.17	6.39		1.070	0.970		1.020
4.000	24.7	17.663	0.25	6.84	6.06		1.400	1.300		1.350
5.000	32.6	23.315	0.33	6.55	5.80		1.690	1.560		1.625
6.000	41.5	29.673	0.42	6.29	5.57		1.950	1.790		1.870
7.000	49.4	35.325	0.50	6.05	5.33		2.190	2.030		2.110
8.000	24.7	17.663	0.25	6.09	5.43		2.150	1.930		2.040
9.000	12.4	8.831	0.12	6.14	5.51		2.100	1.850		1.975
9.000	1.0	0.707	0.01	6.33	5.74		1.910	1.620		1.765
10.000	1.0	0.707	0.01	6.33	5.74		1.910	1.620		1.765
11.000	7.9	5.652	0.08	6.29	5.69		1.950	1.670		1.810
12.000	15.8	11.304	0.16	6.22	5.60		2.020	1.760		1.890
13.000	24.7	17.663	0.25	6.16	5.53		2.080	1.830		1.955
14.000	32.6	23.315	0.33	6.08	5.45		2.160	1.910		2.035
15.000	41.5	29.673	0.42	6.00	5.35		2.240	2.010		2.125

		σ	ΔS	Δe
0.7 σ_1	0.35	1.66	0.6775	0.2
0.3 σ_1	0.15	0.9825		
0.7 σ_1	0.35	2.055	0.2	0.2
0.3 σ_1	0.15	1.855		
D (mm)	300			
E_{v1}	66.42			
E_{v2}	225.81			
Area (Sq.m)	0.07065			

E_{v1}/E_{v2}	3.23		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة نجدة للمقاولات
المعمل المركزي
مشروع القطار الرابع/ فوكة - مطروح

Consultant Engineer

Name :

Sign :

Hassan



Contractor



Plate Load Test Results

Layer:
Station:
Date:

EMBANKMENT	-1.5	
529+700	TO	529+800
25-05-23		

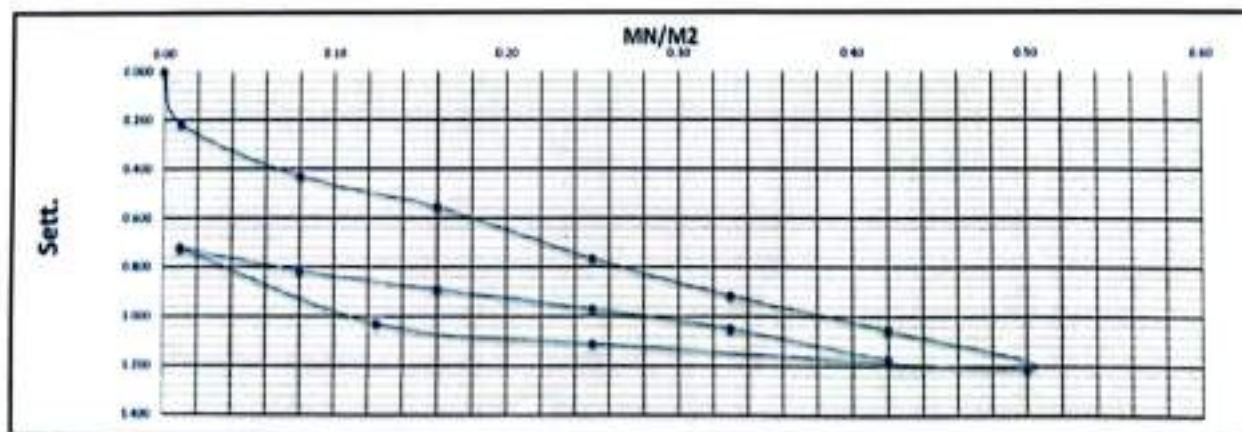
COMPANY	AGR COMPANY
Location	529+700

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	ASB Sett.
Stage No.	Bar	KN	kN/m ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.39	7.39		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.25	7.10		0.140	0.290		0.215
2.000	7.9	5.652	0.08	6.11	6.81		0.280	0.580		0.430
3.000	15.8	11.304	0.16	5.97	6.70		0.420	0.690		0.555
4.000	24.7	17.663	0.25	5.81	6.44		0.580	0.950		0.765
5.000	32.6	23.315	0.33	5.69	6.26		0.700	1.130		0.915
6.000	41.5	29.673	0.42	5.61	6.06		0.780	1.330		1.055
7.000	49.4	35.325	0.50	5.53	5.83		0.860	1.560		1.210
8.000	24.7	17.663	0.25	5.62	5.94		0.770	1.450		1.110
9.000	12.4	8.831	0.12	5.67	6.05		0.720	1.340		1.030
9.000	1.0	0.707	0.01	5.83	6.51		0.560	0.880		0.720
10.000	1.0	0.707	0.01	5.83	6.51		0.560	0.880		0.720
11.000	7.9	5.652	0.08	5.78	6.37		0.610	1.020		0.815
12.000	15.8	11.304	0.16	5.70	6.30		0.690	1.090		0.890
13.000	24.7	17.663	0.25	5.65	6.19		0.740	1.200		0.970
14.000	32.6	23.315	0.33	5.59	6.09		0.800	1.300		1.050
15.000	41.5	29.673	0.42	5.43	6.00		0.960	1.390		1.175

		σ	ΔS	ΔS
0.7 σ_1	0.35	0.01938	0.38	0.2
0.3 σ_1	0.15	0.53938		
0.7 σ_2	0.35	1.87778		
0.3 σ_2	0.15	0.91001	0.16777	0.2
D (mm)	390			
E_{v1}	118.42			
E_{v2}	248.23			
Area (Sq.m)	0.07865			

E_{vd}/E_{v1}	1.27		
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LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة نجيدة للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name : Hassan

Sign :



Contractor



Plate Load Test Results

Layer:
Station:
Date:EMBANKMENT -1.5
529+700 TO 529+800
25-05-23

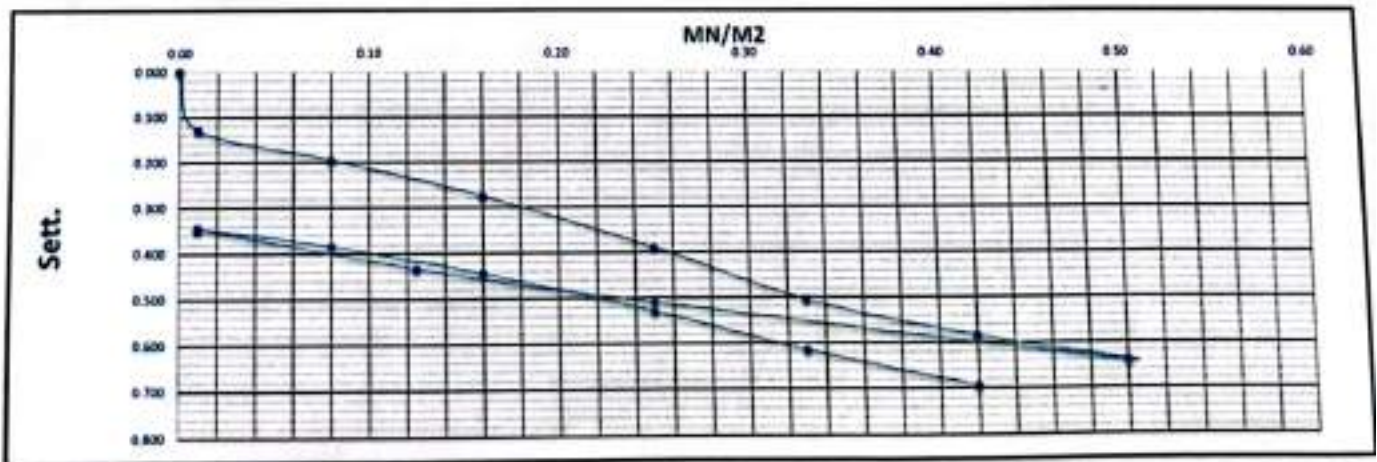
COMPANY	AGR COMPANY
Location	529+789

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	ASR Sett.
Stage No.	Bar	KN	MM/983	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.17	6.67		0.000	0.000		0.000
1.000	1.0	0.707	0.01	6.07	6.51		0.100	0.160		0.130
2.000	7.9	5.652	0.08	6.04	6.41		0.130	0.260		0.195
0.080	15.8	11.304	0.16	5.99	6.30		0.180	0.370		0.275
4.000	24.7	17.663	0.25	5.88	6.18		0.290	0.490		0.390
5.000	32.6	23.315	0.33	5.73	6.10		0.440	0.570		0.505
6.000	41.5	29.673	0.42	5.66	6.01		0.510	0.660		0.585
7.000	49.4	35.325	0.50	5.63	5.93		0.540	0.740		0.640
8.000	24.7	17.663	0.25	5.83	5.99		0.340	0.680		0.510
9.000	12.4	8.831	0.12	5.89	6.08		0.280	0.590		0.435
9.000	1.0	0.707	0.01	5.98	6.17		0.190	0.500		0.345
10.000	1.0	0.707	0.01	5.98	6.17		0.190	0.500		0.345
11.000	7.9	5.652	0.08	5.92	6.15		0.250	0.520		0.385
12.000	15.8	11.304	0.16	5.85	6.10		0.320	0.570		0.445
13.000	24.7	17.663	0.25	5.75	6.03		0.420	0.640		0.530
14.000	32.6	23.315	0.33	5.66	5.95		0.510	0.720		0.615
15.000	41.5	29.673	0.42	5.57	5.88		0.600	0.790		0.695

		σ	ΔS	Δs
0.7 σ_1	0.35	0.53688	0.27188	0.2
0.3 σ_1	0.15	0.265		
0.7 σ_2	0.35	0.63278	0.28777	0.2
0.3 σ_2	0.15	0.425		
D (mm)	390			
E_{v1}	165.52			
E_{v2}	216.58			
Area (Sqmm)	0.07665			

E_{v1}/E_{v2}	1.31		
-----------------	------	--	--

	LOAD
	UN LOAD
	RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة نجيعة للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name : Hassan

Sign :

Plate Load Test Results

Company Name
Location
Test Date

A.G.R

Culvert 13 (528+875)

10-5-2023

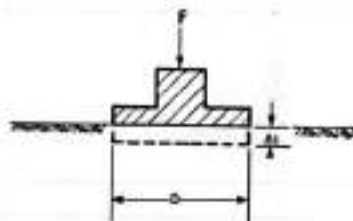
Station

528+875

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

s = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	SEN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	13.43	11.89		0.000	0.000		0.000
1.000	2.4	0.707	0.01	13.15	11.46		0.280	0.430		0.355
2.000	18.8	5.652	0.08	12.85	11.03		0.580	0.860		0.720
3.000	37.7	11.304	0.16	12.70	10.90		0.730	0.990		0.860
4.000	58.9	17.663	0.25	12.49	10.79		0.940	1.100		1.020
5.000	77.7	23.315	0.33	12.35	10.68		1.080	1.210		1.145
6.000	98.9	29.673	0.42	12.29	10.59		1.140	1.300		1.220
7.000	117.8	35.325	0.50	12.20	10.48		1.230	1.410		1.320
8.000	58.9	17.663	0.25	12.24	10.52		1.190	1.370		1.280
9.000	29.4	8.831	0.12	12.32	10.59		1.110	1.300		1.205
9.000	2.4	0.707	0.01	12.51	10.70		0.920	1.190		1.055
10.000	2.4	0.707	0.01	12.51	10.70		0.920	1.190		1.055
11.000	18.8	5.652	0.08	12.45	10.65		0.980	1.240		1.110
12.000	37.7	11.304	0.16	12.34	10.60		1.090	1.290		1.190
13.000	58.9	17.663	0.25	12.30	10.50		1.130	1.390		1.260
14.000	77.7	23.315	0.33	12.25	10.40		1.180	1.490		1.335
15.000	98.9	29.673	0.42	12.15	10.35		1.280	1.540		1.410

		t	ΔS	s_e
0.7 σ_1	0.35	1.1325	0.29	0.2
0.3 σ_1	0.15	0.8425		
0.7 σ_2	0.35	1.35167	0.18666	0.2
0.3 σ_2	0.15	1.16501		
D (mm)	300			
E_{v1}	155.17			
E_{v2}	241.08			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	1.55		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

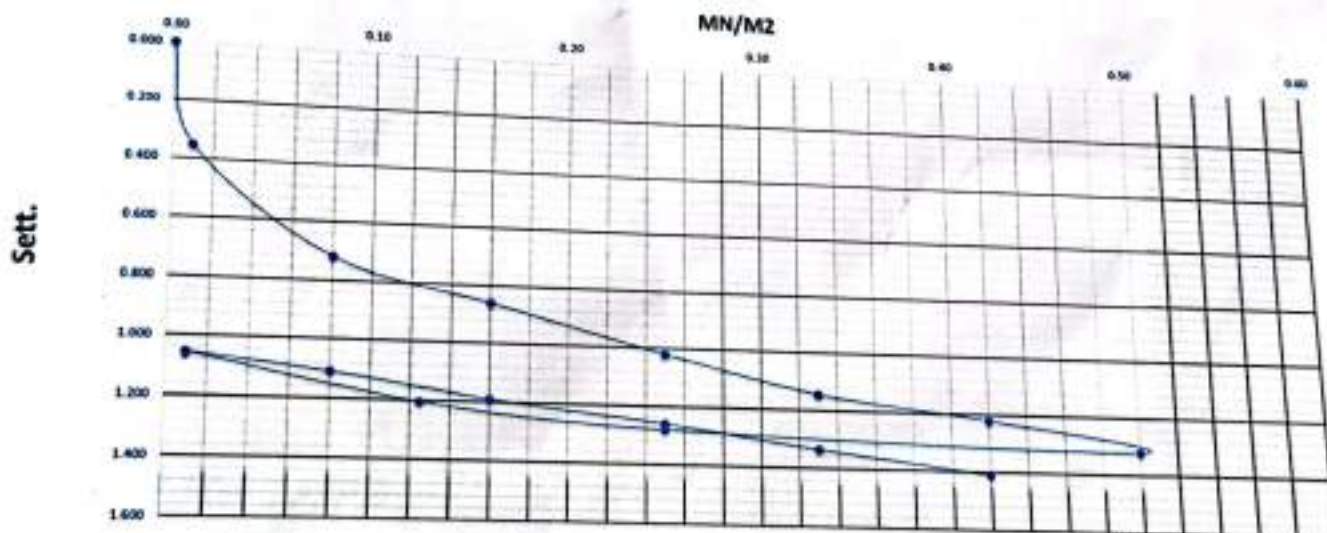
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Youssef R. Job

Sign :

Youssef
10/10/23



Plate Load Test Results

Company Name
Location
Test Date

A.G.R

Culvert 13 (528+875)

10-5-2023

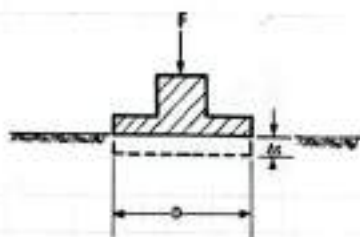
Station

528+875

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	SEN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	15.60	17.30		0.000	0.000		0.000
1.000	2.4	0.707	0.01	15.50	16.84		0.100	0.460		0.280
2.000	18.8	5.652	0.08	15.30	16.53		0.300	0.770		0.535
3.000	37.7	11.304	0.16	15.20	16.32		0.400	0.980		0.690
4.000	58.9	17.663	0.25	15.02	16.00		0.580	1.300		0.940
5.000	77.7	23.315	0.33	14.90	15.75		0.700	1.550		1.125
6.000	98.9	29.673	0.42	14.75	15.59		0.850	1.710		1.280
7.000	117.8	35.325	0.50	14.67	15.35		0.930	1.950		1.440
8.000	58.9	17.663	0.25	14.72	15.39		0.880	1.910		1.395
9.000	29.4	8.831	0.12	14.80	15.41		0.800	1.890		1.345
9.000	2.4	0.707	0.01	15.08	15.75		0.520	1.550		1.035
10.000	2.4	0.707	0.01	15.08	15.75		0.520	1.550		1.035
11.000	18.8	5.652	0.08	14.94	15.69		0.660	1.610		1.135
12.000	37.7	11.304	0.16	14.89	15.63		0.710	1.670		1.190
13.000	58.9	17.663	0.25	14.77	15.50		0.830	1.800		1.315
14.000	77.7	23.315	0.33	14.70	15.43		0.900	1.870		1.385
15.000	98.9	29.673	0.42	14.60	15.30		1.000	2.000		1.500

		s	Δs	Δs
$0.7 \sigma_1$	0.35	1.14	0.46938	0.2
$0.3 \sigma_1$	0.15	0.67063		
$0.7 \sigma_2$	0.35	1.41056	0.17555	0.2
$0.3 \sigma_2$	0.15	1.23501		
D (mm)	300			
E_{v1}	95.87			
E_{v2}	256.34			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.67		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

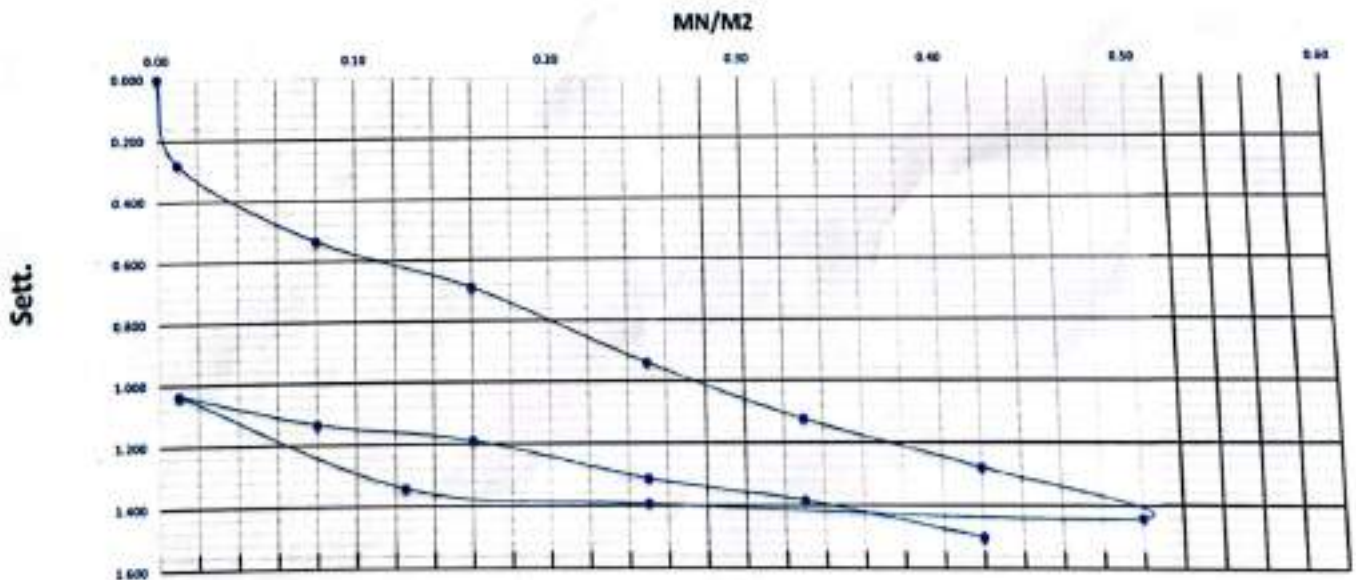
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : *Youssef Ragab*

Sign : *Youssef*
2023

Plate Load Test Results

Company Name

A.G.R

Location

528+875

To

528+875

Test Date

7/5/2023

Station

528+875

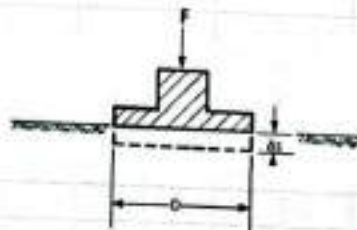
Layer level

Excavation of bed

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	7.63	5.61		0.000	0.000		0.000
1.000	2.1	0.707	0.01	7.48	5.54		0.150	0.070		0.110
2.000	17.1	5.652	0.08	7.39	5.46		0.240	0.150		0.195
3.000	34.2	11.304	0.16	7.26	5.40		0.370	0.210		0.290
4.000	53.4	17.663	0.25	7.14	5.35		0.490	0.260		0.375
5.000	70.5	23.315	0.33	6.98	5.30		0.650	0.310		0.480
6.000	89.7	29.673	0.42	6.84	5.25		0.790	0.360		0.575
7.000	106.8	35.325	0.50	6.62	5.20		1.010	0.410		0.710
8.000	53.4	17.663	0.25	6.88	5.28		0.750	0.330		0.540
9.000	26.7	8.831	0.12	7.08	5.38		0.550	0.230		0.390
9.000	2.1	0.707	0.01	7.20	5.48		0.430	0.130		0.280
10.000	2.1	0.707	0.01	7.20	5.48		0.430	0.130		0.280
11.000	17.1	5.652	0.08	7.17	5.45		0.460	0.160		0.310
12.000	34.2	11.304	0.16	7.10	5.35		0.530	0.260		0.395
13.000	53.4	17.663	0.25	7.02	5.25		0.610	0.360		0.485
14.000	70.5	23.315	0.33	6.98	5.16		0.650	0.450		0.550
15.000	89.7	29.673	0.42	6.92	5.05		0.710	0.560		0.635

		σ	Δs	$\Delta \sigma$
$0.7 \sigma_1$	0.35	0.45688	0.17875	0.2
$0.3 \sigma_1$	0.15	0.27813		
$0.7 \sigma_2$	0.35	0.56889	0.22889	0.2
$0.3 \sigma_2$	0.15	0.34		
D (mm)	300			
E_{v1}	251.75			
E_{v2}	196.60			
Area (sq.m)	0.07065			

$E_v = E_v / (1 + \mu_v)$	0.78		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

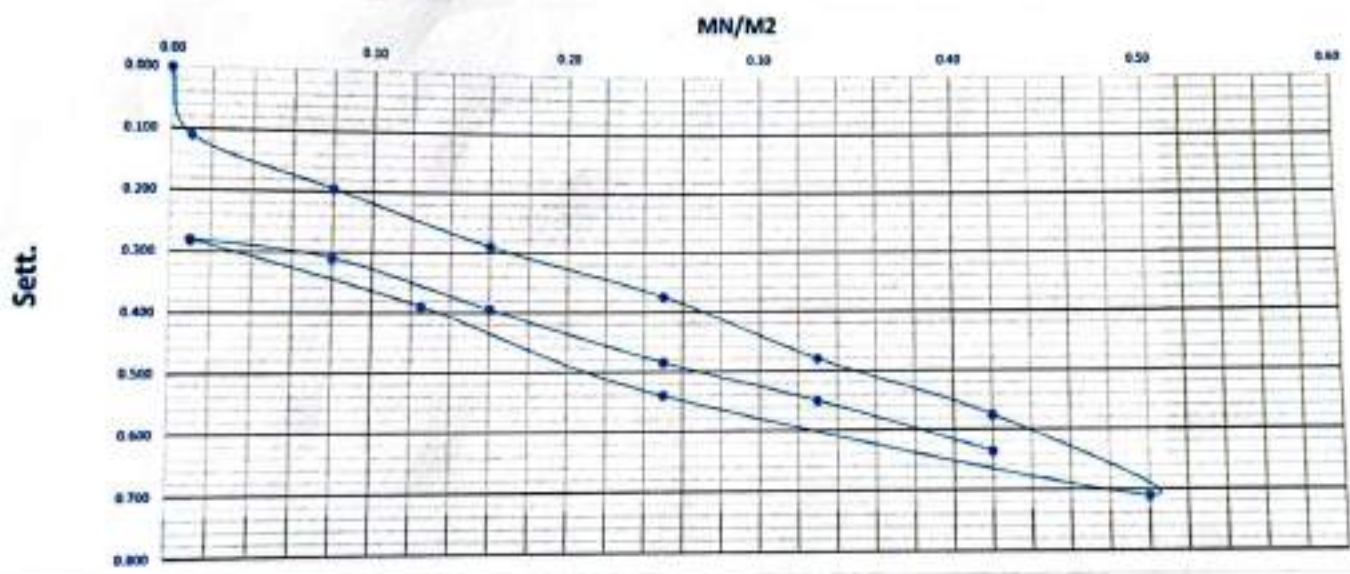
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δx and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Youssef Ragab
Youssef
2-23



Plate Load Test Results

Company Name
Location
Test Date
Layer level

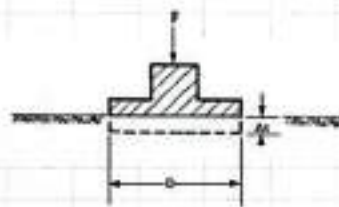
AGR
culvert 528
03-05-2023
قاع حفر

Station 528+833

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load
 Δs = settlement
 D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	AVG Sett.
Stage No.	Bar	KN	MPa	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.98	19.80		0.020	0.200		0.110
2.000	17.1	5.652	0.08	19.75	19.15		0.250	0.850		0.550
3.000	34.2	11.304	0.16	19.60	18.85		0.400	1.150		0.775
4.000	53.3	17.663	0.25	19.40	18.40		0.600	1.600		1.100
5.000	70.5	23.315	0.33	19.20	18.08		0.800	1.920		1.360
6.000	89.8	29.673	0.42	18.92	17.80		1.080	2.200		1.640
7.000	106.8	35.325	0.50	18.70	17.50		1.300	2.500		1.900
8.000	53.4	17.663	0.25	18.80	17.80		1.200	2.200		1.700
9.000	26.7	8.831	0.12	18.90	17.95		1.100	2.050		1.575
9.000	2.1	0.707	0.01	19.08	18.26		0.920	1.740		1.330
10.000	2.1	0.707	0.01	19.08	18.26		0.920	1.740		1.330
11.000	17.1	5.652	0.08	19.04	18.20		0.960	1.800		1.380
12.000	34.2	11.304	0.16	18.95	18.06		1.050	1.940		1.495
13.000	53.3	17.663	0.25	18.87	17.90		1.130	2.100		1.615
14.000	70.5	23.315	0.33	18.80	17.77		1.200	2.230		1.715
15.000	89.8	29.673	0.42	18.71	17.62		1.290	2.380		1.835

		σ	Δs	$\Delta \sigma$
0.7 σ_1	0.35	1.4125	0.66562	0.2
0.3 σ_1	0.15	0.74687		
0.7 σ_2	0.35	1.74167	0.31166	0.2
0.3 σ_2	0.15	1.43801		
D (mm)	300			
E_{v1}	67.61			
E_{v2}	144.39			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	2.14		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

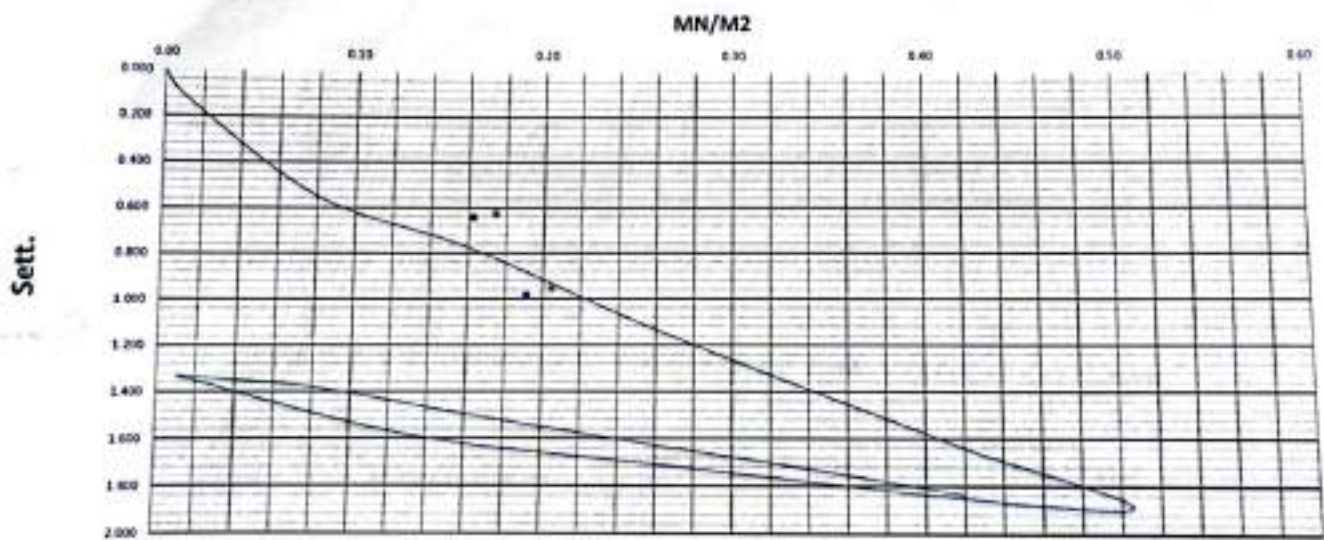
E_v = deformation modulus

D = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name : *Youssef Ragab*

Sign :

Youssef
2/5
2023

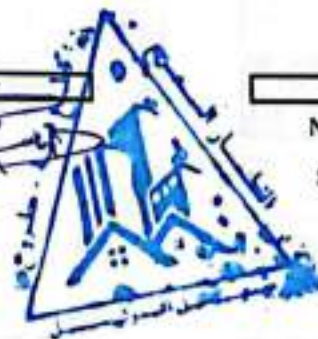


Plate Load Test Results

Company Name
Location
Test Date
Layer level

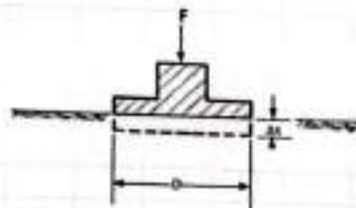
AGR
culvert 528
03-05-2023
قاع حفر

Station 528+389

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load
 Δs = settlement
 D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.92	19.96		0.080	0.040		0.060
2.000	17.1	5.652	0.08	19.63	19.70		0.370	0.300		0.335
3.000	34.2	11.304	0.16	19.33	19.42		0.670	0.580		0.625
4.000	53.3	17.663	0.25	19.00	19.12		1.000	0.880		0.940
5.000	70.5	23.315	0.33	18.74	18.85		1.260	1.150		1.205
6.000	89.8	29.673	0.42	18.48	18.58		1.520	1.420		1.470
7.000	106.8	35.325	0.50	18.28	18.35		1.720	1.650		1.685
8.000	53.4	17.663	0.25	18.42	18.47		1.580	1.530		1.555
9.000	26.7	8.831	0.12	18.58	18.62		1.420	1.380		1.400
10.000	2.1	0.707	0.01	18.82	18.84		1.180	1.160		1.170
11.000	2.1	0.707	0.01	18.82	18.84		1.180	1.160		1.170
12.000	17.1	5.652	0.08	18.75	18.77		1.250	1.230		1.240
13.000	34.2	11.304	0.16	18.66	18.70		1.340	1.300		1.320
14.000	53.3	17.663	0.25	18.52	18.58		1.480	1.420		1.450
15.000	70.5	23.315	0.33	18.40	18.48		1.600	1.520		1.560
16.000	89.8	29.673	0.42	18.31	18.37		1.690	1.630		1.660

		σ	Δs	$\Delta \sigma$	Δs
0.7 σ_1	0.35	1.28188	0.69313	0.1	0.1
0.3 σ_1	0.15	0.58875			
0.7 σ_2	0.35	1.58222	0.27222	0.1	0.1
0.3 σ_2	0.15	1.31091			
D (mm)	300				
E_{v1}	64.92				
E_{v2}	165.31				
Area (Sq.m)	0.07065				

E_{v2}/E_{v1}	1.55		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

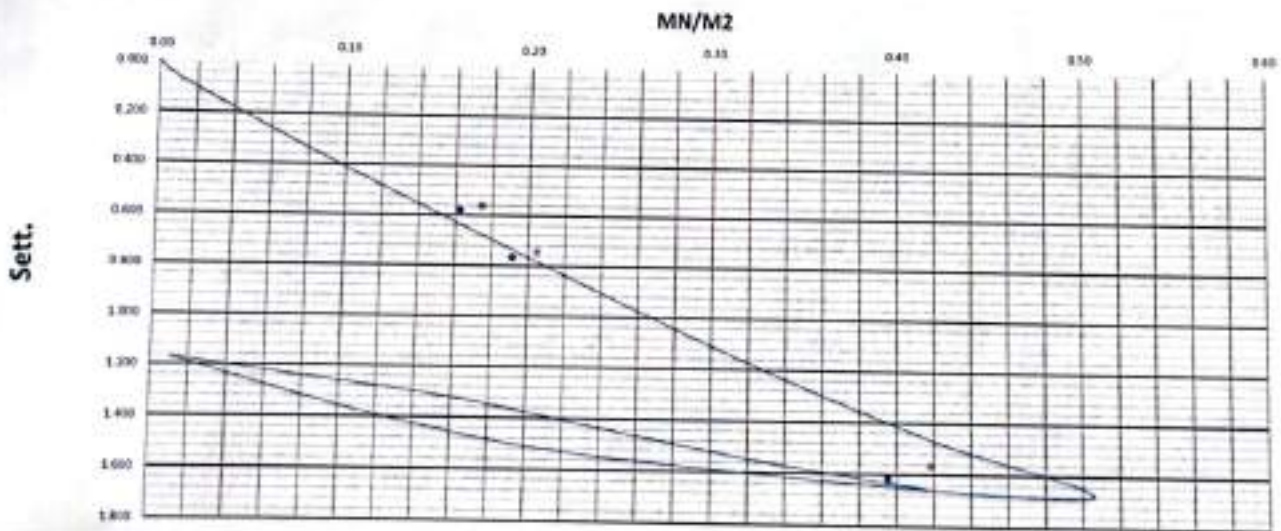
E_v = deformation modulus

D = load increment

$\Delta \sigma$ = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and $\Delta\epsilon$ are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name : Youssef Ragab

Sign :

Youssef
1/5/2023



Owner Consultant



Contractor Consultant



Contractor



Owner

Plate Load Test Results

Company Name

A.G.R

Location

526+380

To

526+460

Test Date

13/4/2023

Station

526+410

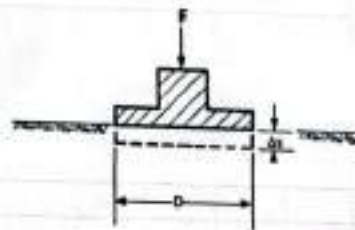
Layer level

-1.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.

 F = load Δs = settlement D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	6.68	5.61		0.000	0.000		0.000
1.000	2.1	0.707	0.01	6.58	5.54		0.100	0.070		0.085
2.000	17.1	5.652	0.08	6.50	5.46		0.180	0.150		0.165
3.000	34.2	11.304	0.16	6.42	5.40		0.260	0.210		0.235
4.000	53.4	17.663	0.25	6.30	5.35		0.380	0.260		0.320
5.000	70.5	23.315	0.33	6.20	5.30		0.480	0.310		0.395
6.000	89.7	29.673	0.42	6.10	5.25		0.580	0.360		0.470
7.000	106.8	35.325	0.50	5.88	5.20		0.800	0.410		0.605
8.000	53.4	17.663	0.25	6.00	5.28		0.680	0.330		0.505
9.000	26.7	8.831	0.12	6.19	5.38		0.490	0.230		0.360
9.000	2.1	0.707	0.01	6.39	5.48		0.290	0.130		0.210
10.000	2.1	0.707	0.01	6.39	5.48		0.290	0.130		0.210
11.000	17.1	5.652	0.08	6.33	5.45		0.350	0.160		0.255
12.000	34.2	11.304	0.16	6.30	5.35		0.380	0.260		0.320
13.000	53.4	17.663	0.25	6.25	5.25		0.430	0.360		0.395
14.000	70.5	23.315	0.33	6.20	5.16		0.480	0.450		0.465
15.000	89.7	29.673	0.42	6.16	5.05		0.520	0.560		0.540

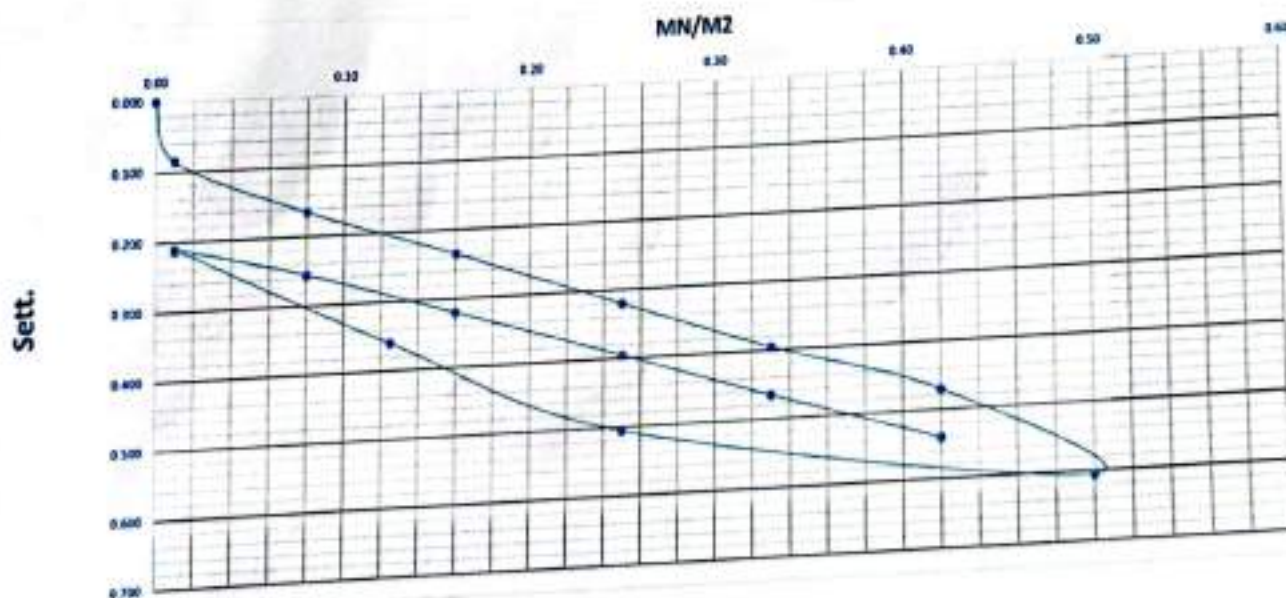
		σ	Δs	$\Delta \sigma$
0.7 σ_1	0.35	0.35188	0.12563	0.2
0.3 σ_1	0.15	0.22625		
0.7 σ_2	0.35	0.48167	0.18166	0.2
0.3 σ_2	0.15	0.3		
D (mm)	300			
E_{v1}	358.21			
E_{v2}	247.71			
Area (Sq.m)	0.07065			

E_{v2}/E_{v1}	0.69		
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$$E_v = 0.73 \cdot D \cdot \Delta \sigma / \Delta s$$

 E_v = deformation modulus $\Delta \sigma$ = load increment Δs = settlement increment D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Youssef Ragab
17/4/2021

Plate Load Test Results

Company Name

A.G.R

Location

527+000

To

527+060

Station

527+040

Test Date

29-3-2023

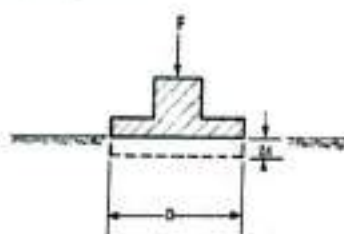
Layer level

-1.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	11.70	9.80		0.000	0.000		0.000
1.000	2.4	0.707	0.01	11.50	9.73		0.200	0.070		0.135
2.000	18.8	5.652	0.08	11.35	9.60		0.350	0.200		0.275
3.000	37.7	11.304	0.16	11.25	9.52		0.450	0.280		0.365
4.000	58.9	17.663	0.25	11.10	9.38		0.600	0.420		0.510
5.000	77.7	23.315	0.33	10.95	9.25		0.750	0.550		0.650
6.000	98.9	29.673	0.42	10.80	9.15		0.900	0.650		0.775
7.000	117.8	35.325	0.50	10.69	9.05		1.010	0.750		0.880
8.000	58.9	17.663	0.25	10.75	9.10		0.950	0.700		0.825
9.000	29.4	8.831	0.12	10.84	9.15		0.860	0.650		0.755
9.000	2.4	0.707	0.01	10.97	9.20		0.730	0.600		0.665
10.000	2.4	0.707	0.01	10.97	9.20		0.730	0.600		0.665
11.000	18.8	5.652	0.08	10.85	9.05		0.850	0.750		0.800
12.000	37.7	11.304	0.16	10.75	8.95		0.950	0.850		0.900
13.000	58.9	17.663	0.25	10.64	8.80		1.060	1.000		1.030
14.000	77.7	23.315	0.33	10.55	8.75		1.150	1.050		1.100
15.000	98.9	29.673	0.42	10.44	8.70		1.260	1.100		1.180

		σ	ΔS	Δs
0.7 σ_1	0.25	0.68312	0.32937	0.2
0.3 σ_1	0.15	0.35375		
0.7 σ_1	0.35	1.11778	0.18276	0.2
0.3 σ_1	0.15	0.93501		
D (mm)	300			
E_{v1}	136.62			
E_{v2}	246.22			
Area (Sq.m)	0.07065			

E_{v1}/E_{v2}	1.80		
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$$E_v = 8.75 \cdot D \cdot \Delta \sigma / \Delta s$$

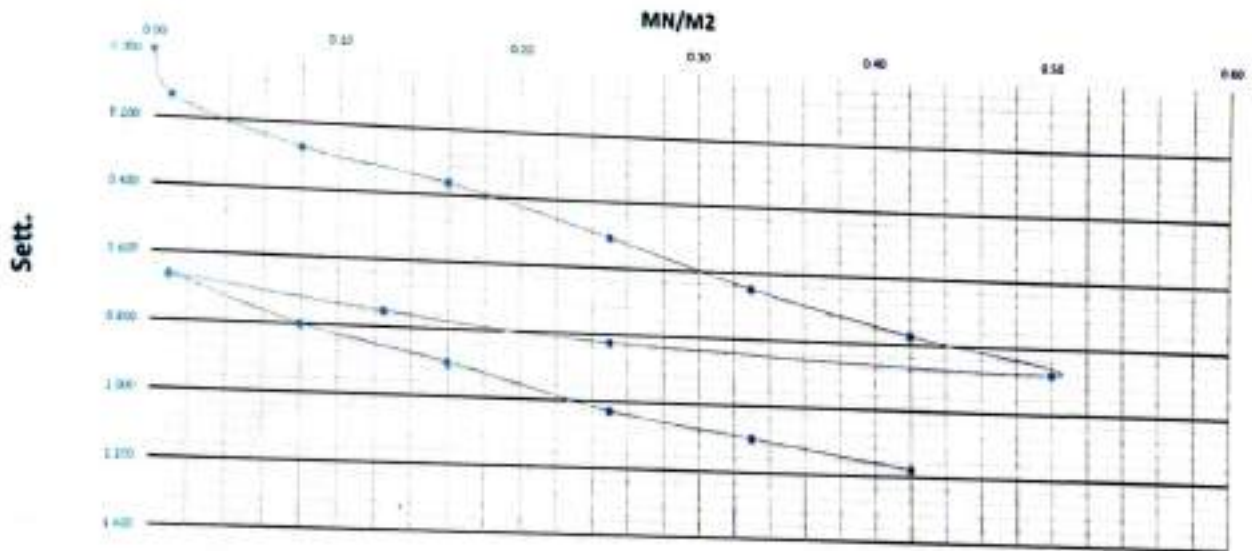
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and $\Delta\varepsilon$ are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : *Youssef Ragab*

Sign :

Youssef
18/12/23

Plate Load Test Results

Company Name
Location
Test Date
Layer level

A.G.R

528+140

To

528+220

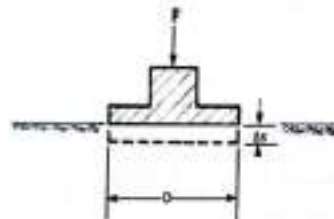
Station

528+180

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable and (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	KN/M ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	16.60	17.80		0.000	0.000		0.000
1.000	2.4	0.707	0.01	16.40	17.50		0.200	0.300		0.250
2.000	18.8	5.652	0.08	16.30	17.14		0.300	0.660		0.480
3.000	37.7	11.304	0.16	16.15	17.00		0.450	0.800		0.625
4.000	58.9	17.663	0.25	15.95	16.65		0.650	1.150		0.900
5.000	77.7	23.315	0.33	15.85	16.55		0.750	1.250		1.000
6.000	98.9	29.673	0.42	15.78	16.40		0.820	1.400		1.110
7.000	117.8	35.325	0.50	15.70	16.25		0.900	1.550		1.225
8.000	58.9	17.663	0.25	15.74	16.30		0.860	1.500		1.180
9.000	29.4	8.831	0.12	15.80	16.40		0.800	1.400		1.100
9.000	2.4	0.707	0.01	16.15	16.85		0.450	0.950		0.700
10.000	2.4	0.707	0.01	16.15	16.85		0.450	0.950		0.700
11.000	18.8	5.652	0.08	15.98	16.65		0.620	1.150		0.885
12.000	37.7	11.304	0.16	15.86	16.55		0.740	1.250		0.995
13.000	58.9	17.663	0.25	15.78	16.40		0.820	1.400		1.110
14.000	77.7	23.315	0.33	15.70	16.30		0.900	1.500		1.200
15.000	98.9	29.673	0.42	15.58	16.15		1.020	1.650		1.335

		σ	Δs	Δs
0.7 σ_1	0.35	1.08938	0.4025	0.2
0.3 σ_2	0.15	0.60688		
0.7 σ_1	0.35	1.23	0.15998	0.2
0.3 σ_2	0.15	1.07002		
D (mm)	300			
E_{v1}	111.80			
E_{v2}	281.28			
Area (Sq.m)	0.07065			

E_{v1}/E_{v2}	2.52		
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$$E_s = 8.75 \cdot D \cdot \Delta \sigma / \Delta s$$

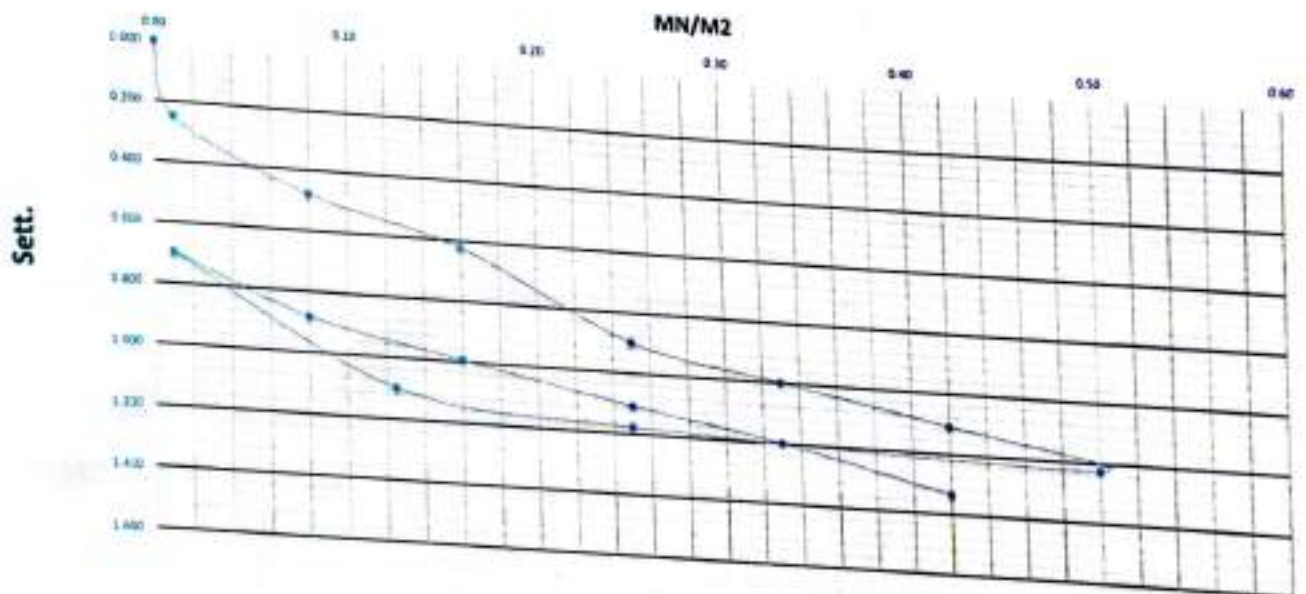
E_s = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :



Consultant Engineer

Name : *Youssef Ragab*

Sign :

Youssef
20/2
2023

Plate Load Test Results

Company Name

A.G.R

Location

528+620

To

528+700

Test Date

12-3-2023

Station

528+666

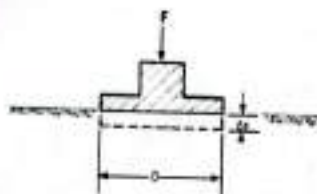
Layer level

-5.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable and (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MPa/ksi	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	10.16	18.71		0.000	0.000		0.000
1.000	2.4	0.707	0.01	9.71	17.93		0.450	0.780		0.615
2.000	18.8	5.652	0.08	9.62	17.68		0.540	1.030		0.785
3.000	37.7	11.304	0.16	9.46	17.38		0.700	1.330		1.015
4.000	58.9	17.663	0.25	9.21	17.04		0.950	1.670		1.310
5.000	77.7	23.315	0.33	9.02	16.79		1.140	1.920		1.530
6.000	98.9	29.673	0.42	8.75	16.53		1.410	2.180		1.795
7.000	117.8	35.325	0.50	8.46	16.36		1.700	2.350		2.025
8.000	58.9	17.663	0.25	8.52	16.38		1.640	2.330		1.985
9.000	29.4	8.831	0.12	8.68	16.57		1.480	2.140		1.810
9.000	2.4	0.707	0.01	9.13	17.11		1.030	1.600		1.315
10.000	2.4	0.707	0.01	9.13	17.11		1.030	1.600		1.315
11.000	18.8	5.652	0.08	9.00	16.85		1.160	1.860		1.510
12.000	37.7	11.304	0.16	8.91	16.72		1.250	1.990		1.620
13.000	58.9	17.663	0.25	8.82	16.54		1.340	2.170		1.755
14.000	77.7	23.315	0.33	8.71	16.40		1.450	2.310		1.880
15.000	98.9	29.673	0.42	8.58	16.36		1.580	2.350		1.965

		σ	Δs	E_s
0.7 σ_1	0.35	1.59375	0.6075	0.2
0.3 σ_1	0.15	0.98625		
0.7 σ_2	0.35	1.89889	0.19387	0.2
0.3 σ_2	0.15	1.76562		
D (mm)	300			
E_{v1}	74.07			
E_{v2}	232.11			
Area (sq.m)	0.07065			

E_{v2}/E_{v1}	3.13		
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$$E_s = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

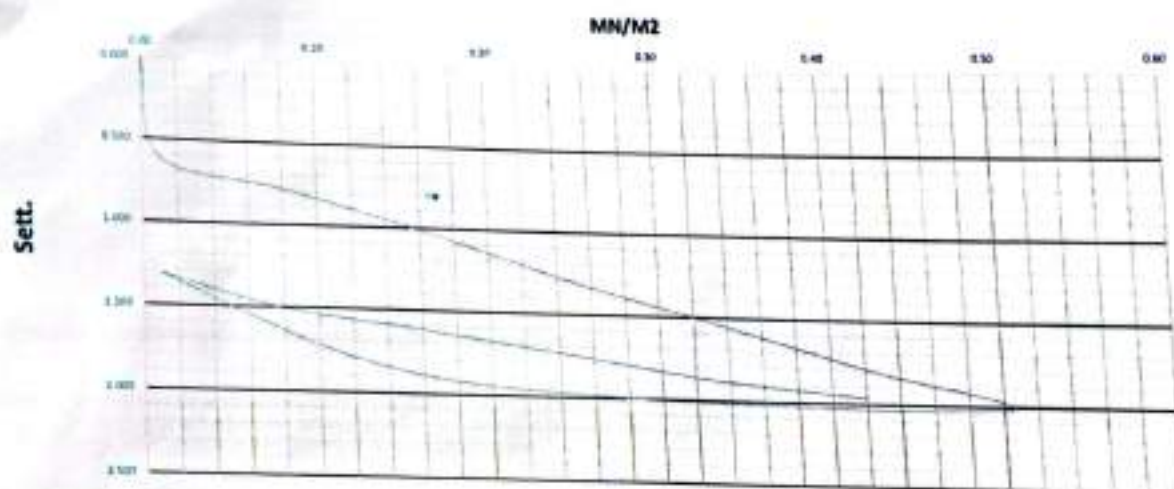
E_s = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and $\Delta\epsilon$ are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : mohamed elsaid

Sign :

m.elsaid

Plate Load Test Results

Company Name	A.G.R		
Location	528+560	To	528+620
Test Date	12-3-2023		
Layer level	-5.5		
	Section	528+590	

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D.

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter D = 0.60 m and D = 0.762 m are used.

The load is applied in 8 load increments of equal size. Under each load step the settlement must come to a noticeable end (<0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 8 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Load	Load	Stress	Dist.1	Dist.2	Dist.3	Sett.1	Sett.2	Sett.3	Area
Step No.	Bar	kN	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	13.85	16.21	0.000	0.000	0.000	0.000
1.000	2.4	0.707	0.01	13.29	15.61	0.560	0.600	0.580	0.580
2.000	18.8	5.652	0.08	13.08	15.44	0.770	0.770	0.770	0.770
3.000	37.7	11.304	0.16	12.76	15.19	1.090	1.020	1.055	1.055
4.000	58.9	17.663	0.25	12.45	14.92	1.400	1.290	1.345	1.345
5.000	77.7	23.315	0.33	12.21	14.77	1.640	1.440	1.540	1.540
6.000	98.9	29.673	0.42	11.88	14.56	1.970	1.650	1.810	1.810
7.000	117.8	35.325	0.50	11.63	14.42	2.220	1.790	2.005	2.005
8.000	58.9	17.663	0.25	11.69	14.46	2.160	1.750	1.955	1.955
9.000	29.4	8.831	0.12	11.81	14.60	2.040	1.610	1.825	1.825
10.000	2.4	0.707	0.01	12.37	15.11	1.480	1.100	1.290	1.290
11.000	2.4	0.707	0.01	12.37	15.11	1.480	1.100	1.290	1.290
12.000	18.8	5.652	0.08	12.11	14.89	1.740	1.310	1.530	1.530
13.000	37.7	11.304	0.16	11.96	14.76	1.890	1.450	1.670	1.670
14.000	58.9	17.663	0.25	11.83	14.63	2.020	1.580	1.800	1.800
15.000	77.7	23.315	0.33	11.74	14.52	2.110	1.690	1.900	1.900
	98.9	29.673	0.42	11.63	14.43	2.220	1.780	2.000	2.000

0.7 ϵ_1	0.35	1.63918	0.62	0.2
0.3 ϵ_1	0.15	1.81938		
0.7 ϵ_2	0.35	1.91222	0.1522	0.2
0.3 ϵ_2	0.15	1.77902		
D (mm)	300			
E_{r1}	72.58			
E_{r2}	295.67			
Area (kg/cm^2)	0.87945			

0.328+1	4.87		
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$$E_r = 8.75 \cdot D \cdot \Delta s / \Delta s$$

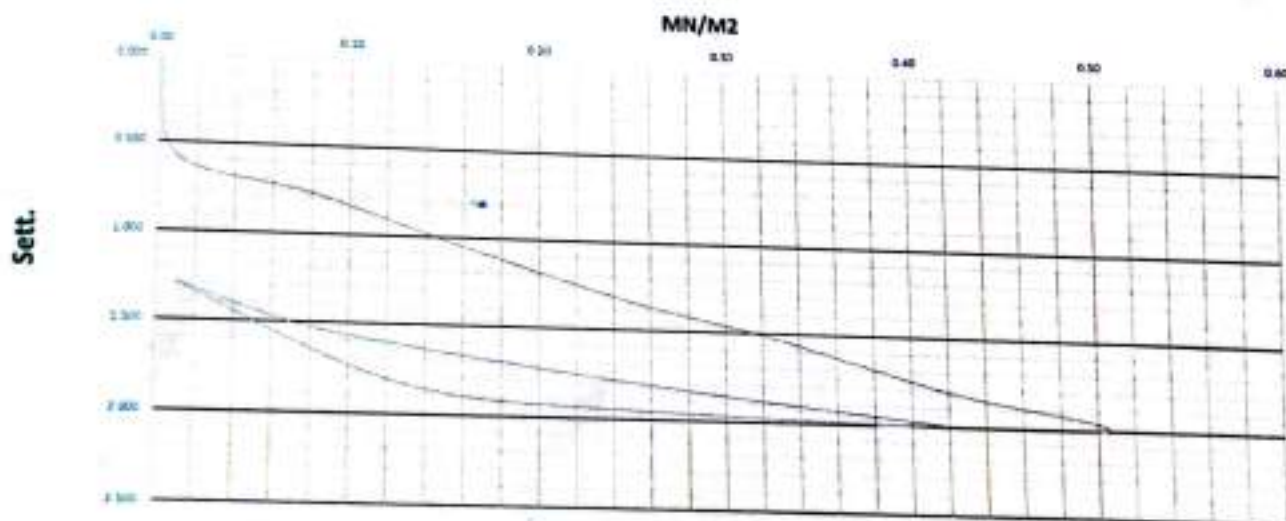
E_r = deformation modulus

Δs = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δs and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : mohamed elsaied

Sign :

m.elsaied

Plate Load Test Results

Company Name

A.G.R

Location

526+700

To

526+840

Station

526+740

Test Date

8-3-2023

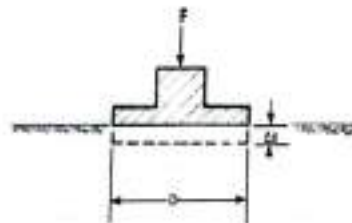
Layer level

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EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Leading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	KN/M ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	13.90	14.74		0.000	0.000		0.000
1.000	2.4	0.707	0.01	13.82	14.64		0.080	0.100		0.090
2.000	18.8	5.652	0.08	13.79	14.60		0.110	0.140		0.125
3.000	37.7	11.304	0.16	13.72	14.55		0.180	0.190		0.185
4.000	58.9	17.663	0.25	13.67	14.35		0.230	0.390		0.310
5.000	77.7	23.315	0.33	13.58	14.10		0.320	0.640		0.480
6.000	98.9	29.673	0.42	13.54	14.02		0.360	0.720		0.540
7.000	117.8	35.325	0.50	13.50	13.85		0.400	0.890		0.645
8.000	58.9	17.663	0.25	13.55	14.00		0.350	0.740		0.545
9.000	29.4	8.831	0.12	13.65	14.10		0.250	0.640		0.445
9.000	2.4	0.707	0.01	13.70	14.20		0.200	0.540		0.370
10.000	2.4	0.707	0.01	13.70	14.20		0.200	0.540		0.370
11.000	18.8	5.652	0.08	13.60	14.10		0.300	0.640		0.470
12.000	37.7	11.304	0.16	13.50	14.05		0.400	0.690		0.545
13.000	58.9	17.663	0.25	13.42	13.95		0.480	0.790		0.635
14.000	77.7	23.315	0.33	13.33	13.85		0.570	0.890		0.730
15.000	98.9	29.673	0.42	13.25	13.75		0.650	0.990		0.820

		σ	Δs	$\Delta \sigma$
0.7 σ_1	0.35	0.44813	0.27063	0.2
0.3 σ_1	0.15	0.1775		
0.7 σ_2	0.35	0.75	0.17999	0.2
0.3 σ_2	0.15	0.57001		
D (mm)	300			
E_{v1}	146.28			
E_{v2}	250.01			
Area (Sq.m)	0.07065			

E_{v1}/E_{v2}	1.38		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

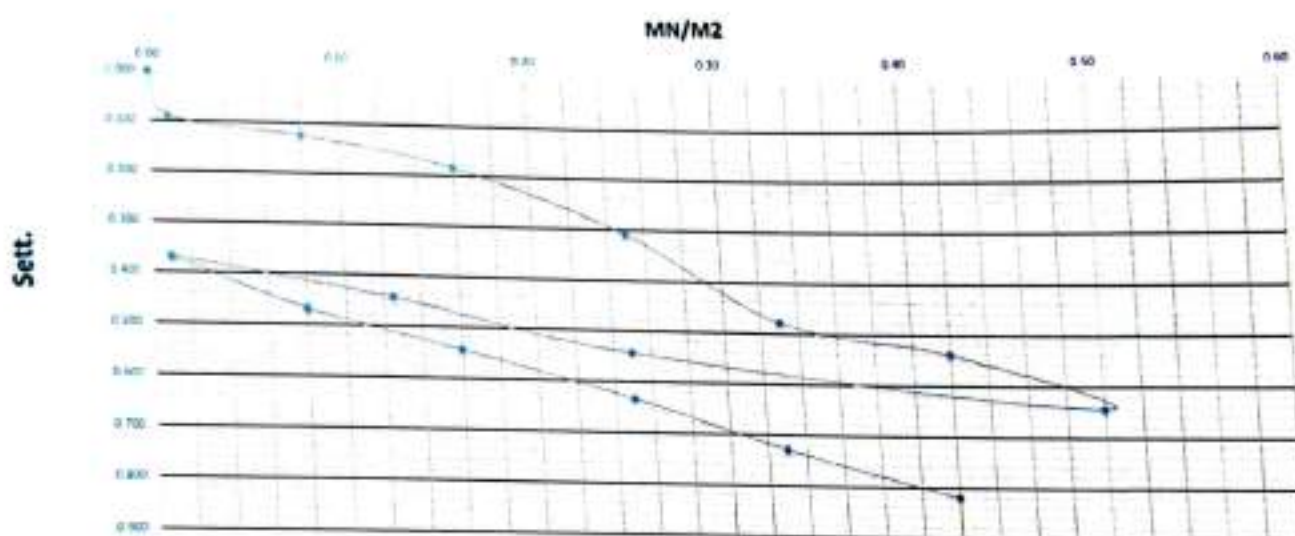
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δx and Δy are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : mohamed elsaied

Sign :

m.elsaied

Plate Load Test Results

Company Name

A.G.R

Location

526+700

To

526+840

Test Date

8-3-2023

Layer level

0

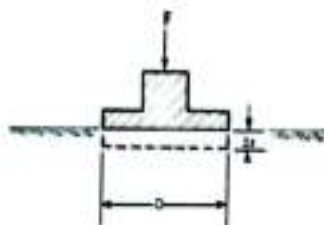
Station

526+780

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 8 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 8 steps. A loaded truck, an excavator or a roller usually serves as counterweight for the hydraulic jack.

Diameter = 300mm

Loading Stage No.	Load Bar	Load KN	Stress MPa	Dist 1 mm	Dist 2 mm	Dist 3 mm	Sett. 1 mm	Sett. 2 mm	Sett. 3 mm	Avg. Sett. mm
0.000	0.0	0.000	0.00	13.83	14.54		0.000	0.000		0.000
1.000	2.4	0.707	0.01	13.72	14.35		0.110	0.190		0.150
2.000	18.8	5.652	0.08	13.80	14.17		0.030	0.370		0.200
3.000	37.7	11.304	0.16	13.30	13.82		0.530	0.720		0.625
4.000	58.9	17.663	0.25	13.08	13.53		0.750	1.010		0.880
5.000	77.7	23.315	0.33	12.90	13.34		0.930	1.200		1.065
6.000	98.9	29.673	0.42	12.70	13.05		1.130	1.490		1.310
7.000	117.8	35.325	0.50	12.58	12.75		1.250	1.790		1.520
8.000	58.9	17.663	0.25	12.60	12.90		1.230	1.640		1.435
9.000	29.4	8.831	0.12	12.64	13.03		1.190	1.510		1.350
9.000	2.4	0.707	0.01	12.85	13.54		0.980	1.000		0.990
10.000	2.4	0.707	0.01	12.85	13.54		0.980	1.000		0.990
11.000	18.8	5.652	0.08	12.75	13.30		1.080	1.240		1.160
12.000	37.7	11.304	0.16	12.65	13.13		1.180	1.410		1.295
13.000	58.9	17.663	0.25	12.58	13.03		1.250	1.510		1.380
14.000	77.7	23.315	0.33	12.51	12.95		1.320	1.590		1.455
15.000	98.9	29.673	0.42	12.44	12.80		1.390	1.740		1.565

		ν	ΔS	Δs
0.7 σ_1	0.25	1.12625	0.55438	0.2
0.3 σ_1	0.15	0.57187		
0.7 σ_2	0.25	1.47944	0.14943	0.2
0.3 σ_2	0.15	1.33002		
D (mm)	300			
E_{v_1}	81.17			
E_{v_2}	201.15			
Area (sq.m)	0.07065			

E_{v1}/E_{v2}	2.71		
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$$E_s = 0.75 \cdot D \cdot \Delta s / \Delta s$$

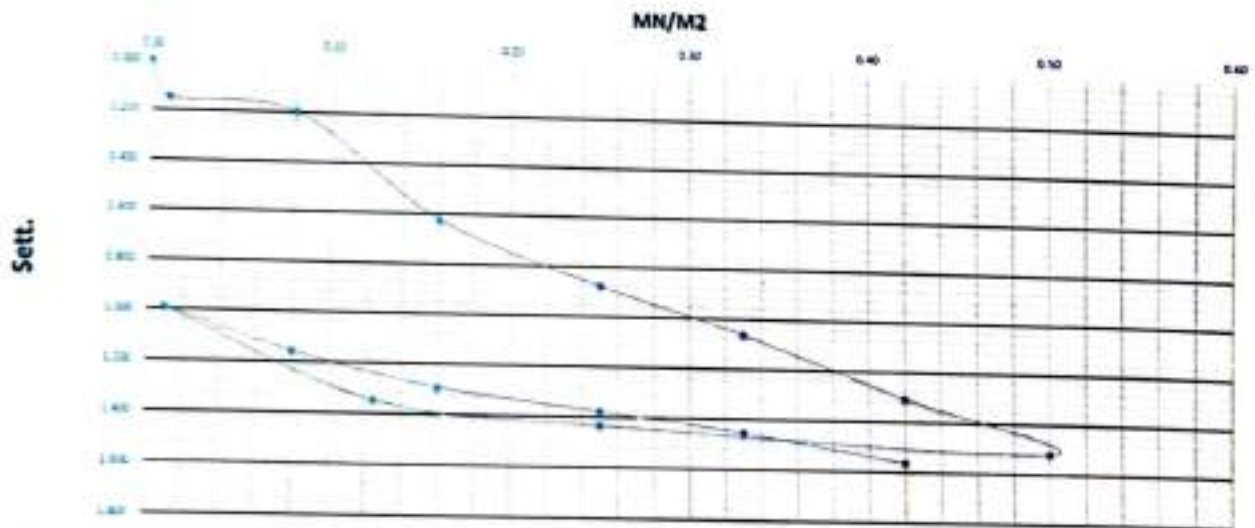
E_s = deformation modulus

Δs = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δ_{cr} and Δ_{cr} are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Mohamed elsaied

Sign :

m.elsaied

Plate Load Test Results

Company Name

A.G.R

Location

526+700

To

526+840

Station

526+820

Test Date

8-3-2023

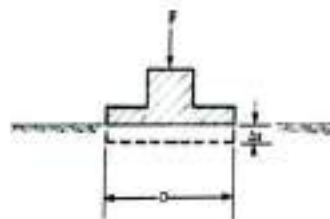
Layer level

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EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 5 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	10.68	15.80		0.000	0.000		0.000
1.000	2.4	0.707	0.01	10.50	15.68		0.180	0.120		0.150
2.000	18.8	5.652	0.08	10.25	15.35		0.430	0.450		0.440
3.000	37.7	11.304	0.16	10.00	15.04		0.680	0.760		0.720
4.000	58.9	17.663	0.25	9.75	14.67		0.930	1.130		1.030
5.000	77.7	23.315	0.33	9.60	14.40		1.080	1.400		1.240
6.000	98.9	29.673	0.42	9.40	14.15		1.280	1.650		1.465
7.000	117.8	35.325	0.50	9.15	13.83		1.530	1.970		1.750
8.000	58.9	17.663	0.25	9.17	13.95		1.510	1.850		1.680
9.000	29.4	8.831	0.12	9.26	14.15		1.420	1.650		1.535
9.000	2.4	0.707	0.01	9.90	14.60		0.780	1.200		0.990
10.000	2.4	0.707	0.01	9.90	14.60		0.780	1.200		0.990
11.000	18.8	5.652	0.08	9.60	14.30		1.080	1.500		1.290
12.000	37.7	11.304	0.16	9.43	14.10		1.250	1.700		1.475
13.000	58.9	17.663	0.25	9.30	14.00		1.380	1.800		1.590
14.000	77.7	23.315	0.33	9.25	13.85		1.430	1.950		1.690
15.000	98.9	29.673	0.42	9.20	13.75		1.480	2.050		1.765

	s	Δs	Δs
0.7 σ_1	0.35	1.21563	0.53062
0.3 σ_1	0.15	0.685	
0.7 σ_2	0.35	1.70647	0.11664
0.3 σ_2	0.15	1.59063	
D (mm)	300		
E_{v1}	84.81		
E_{v2}	385.81		
Area (Sq.m)	0.07065		

E_{v2}/E_{v1}	4.55		
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$$E_v = 0.71 \cdot D \cdot \Delta s / \Delta s$$

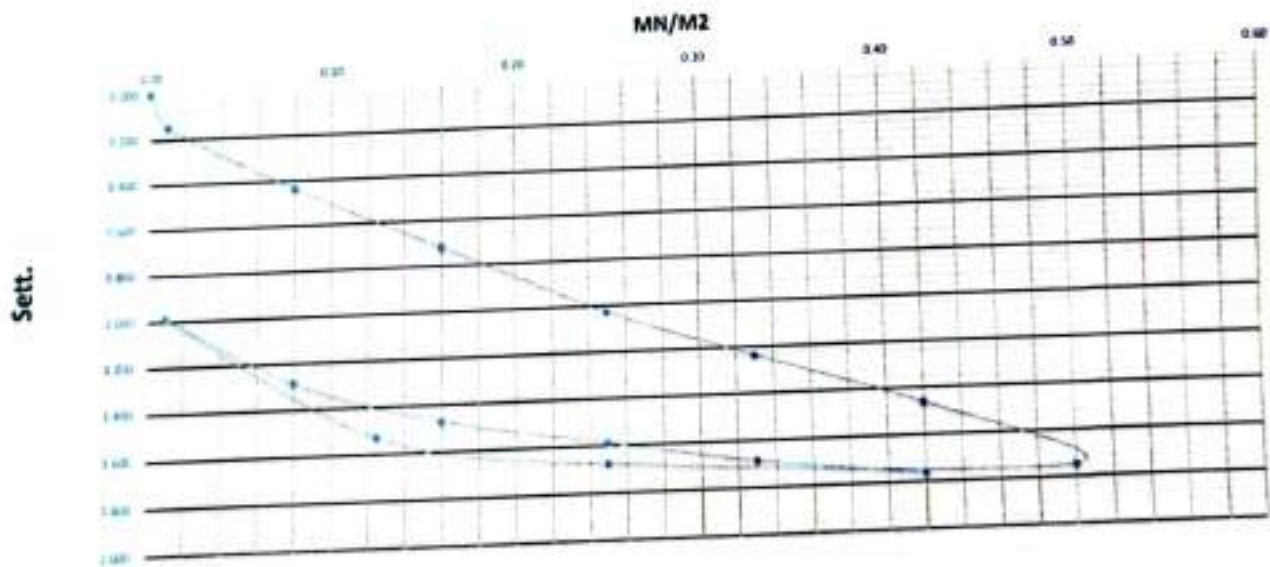
E_v = deformation modulus

Δs = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δx are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : mohamed elsaied

Sign :

m.elsaied



Plate Load Test Results

Company Name

A.G.R

Location

526+840

To

527+000

Station

526+845

Test Date

8-3-2023

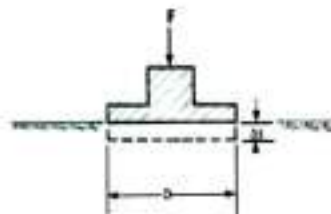
Layer level

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EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MPa/ksi	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	15.11	14.35		0.000	0.000		0.000
1.000	2.4	0.707	0.01	15.00	14.22		0.110	0.130		0.120
2.000	18.8	5.652	0.08	14.90	14.08		0.210	0.270		0.240
3.000	37.7	11.304	0.16	14.75	13.90		0.360	0.450		0.405
4.000	58.9	17.663	0.25	14.60	13.70		0.510	0.650		0.580
5.000	77.7	23.315	0.33	14.48	13.58		0.630	0.770		0.700
6.000	98.9	29.673	0.42	14.35	13.45		0.760	0.900		0.830
7.000	117.8	35.325	0.50	14.25	13.33		0.860	1.020		0.940
8.000	58.9	17.663	0.25	14.30	13.40		0.810	0.950		0.880
9.000	29.4	8.831	0.12	14.38	13.53		0.730	0.820		0.775
9.000	2.4	0.707	0.01	14.68	13.88		0.430	0.470		0.450
10.000	2.4	0.707	0.01	14.68	13.88		0.430	0.470		0.450
11.000	18.8	5.652	0.08	14.55	13.75		0.560	0.600		0.580
12.000	37.7	11.304	0.16	14.45	13.60		0.660	0.750		0.705
13.000	58.9	17.663	0.25	14.35	13.50		0.760	0.850		0.805
14.000	77.7	23.315	0.33	14.20	13.40		0.910	0.950		0.930
15.000	98.9	29.673	0.42	14.10	13.32		1.010	1.030		1.020

	σ	ΔS	$\Delta \sigma$	Δs
0.7 σ_1	0.35	0.73375	0.34938	0.2
0.3 σ_1	0.15	0.38437		
0.7 σ_2	0.35	0.95	0.33999	0.2
0.3 σ_2	0.15	0.71001		
D (mm)	300			
E_{v1}	128.80			
E_{v2}	187.51			
Area (sq.m)	0.07065			

E_{v2}/E_{v1}	1.46		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

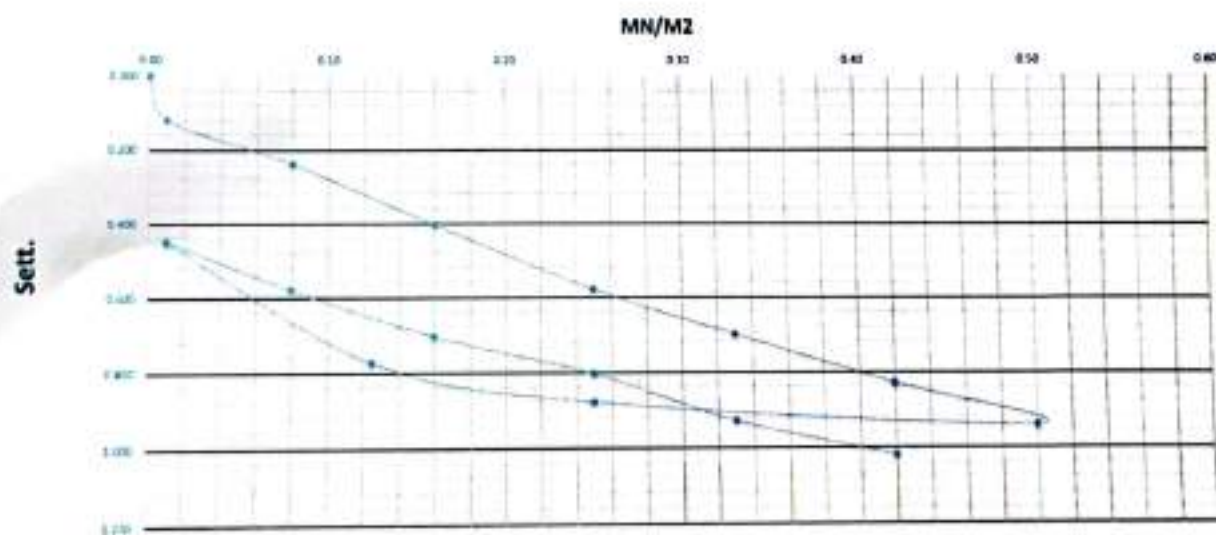
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and $\Delta\epsilon$ are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : Mohamed Elsayed

Sign :

M. Elsayed

Plate Load Test Results

Company Name

A.G.R

Location

526+840

To

527+000

Station

526+980

Test Date

8-3-2023

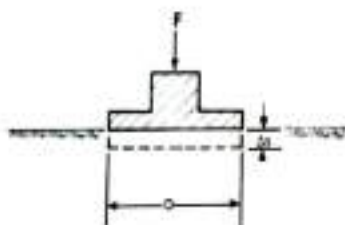
Layer level

0

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



F = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	15.00	15.35		0.000	0.000		0.000
1.000	2.4	0.707	0.01	14.93	15.20		0.070	0.150		0.110
2.000	18.8	5.652	0.08	14.80	15.00		0.200	0.350		0.275
3.000	37.7	11.304	0.16	14.70	14.74		0.300	0.610		0.455
4.000	58.9	17.663	0.25	14.64	14.50		0.360	0.850		0.605
5.000	77.7	23.315	0.33	14.55	14.30		0.450	1.050		0.750
6.000	98.9	29.673	0.42	14.50	14.10		0.500	1.250		0.875
7.000	117.8	35.325	0.50	14.40	13.90		0.600	1.450		1.025
8.000	58.9	17.663	0.25	14.43	13.98		0.570	1.370		0.970
9.000	29.4	8.831	0.12	14.45	14.10		0.550	1.250		0.900
9.000	2.4	0.707	0.01	14.65	14.38		0.350	0.970		0.660
10.000	2.4	0.707	0.01	14.65	14.38		0.350	0.970		0.660
11.000	18.8	5.652	0.08	14.52	14.10		0.480	1.250		0.865
12.000	37.7	11.304	0.16	14.40	14.00		0.600	1.350		0.975
13.000	58.9	17.663	0.25	14.30	13.95		0.700	1.400		1.050
14.000	77.7	23.315	0.33	14.18	13.80		0.820	1.550		1.185
15.000	98.9	29.673	0.42	14.11	13.70		0.890	1.650		1.270

	σ	Δs	Δs	Δs
0.7 σ_1	0.35	0.74375	0.31125	0.1
0.3 σ_1	0.15	0.4325		
0.7 σ_2	0.35	1.20389	0.13387	0.1
0.3 σ_2	0.15	1.07002		
D (mm)	300			
E_{v1}	144.58			
E_{v2}	336.15			
Area (Sq.m)	0.07065			

$E_{v1} \times E_{v2}$	2.33		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

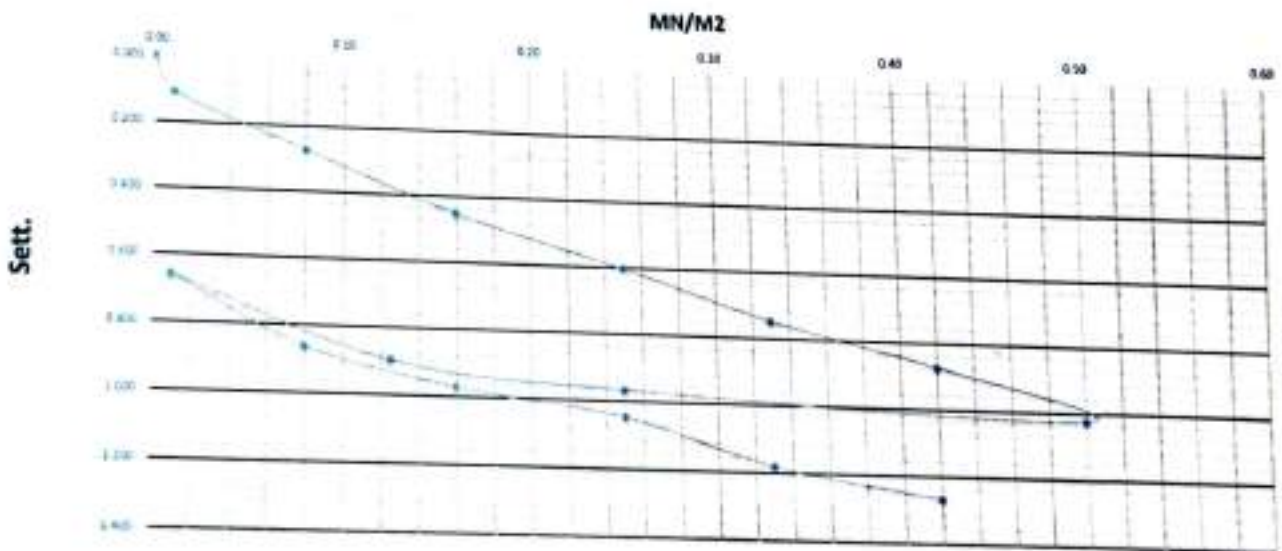
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δr and Δx are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : mohamed elsaied

Sign :

m. elsaied

Plate Load Test Results

Company Name

A.G.R

Location

526+840

To

527+000

Station

526+920

Test Date

8-3-2023

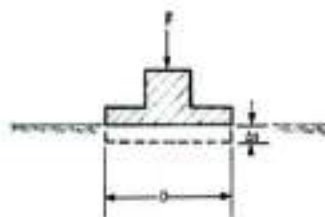
Layer level

0

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MIN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	12.42	15.49		0.000	0.000		0.000
1.000	2.4	0.707	0.01	12.39	15.45		0.030	0.040		0.035
2.000	18.8	5.652	0.08	12.20	15.25		0.220	0.240		0.230
3.000	37.7	11.304	0.16	12.08	15.08		0.340	0.410		0.375
4.000	58.9	17.663	0.25	11.98	14.95		0.440	0.540		0.490
5.000	77.7	23.315	0.33	11.85	14.78		0.570	0.710		0.640
6.000	98.9	29.673	0.42	11.72	14.62		0.700	0.870		0.785
7.000	117.8	35.325	0.50	11.61	14.50		0.810	0.990		0.900
8.000	58.9	17.663	0.25	11.65	14.60		0.770	0.890		0.830
9.000	29.4	8.831	0.12	11.70	14.72		0.720	0.770		0.745
9.000	2.4	0.707	0.01	11.90	15.02		0.520	0.470		0.495
10.000	2.4	0.707	0.01	11.90	15.02		0.520	0.470		0.495
11.000	18.8	5.652	0.08	11.80	14.92		0.620	0.570		0.595
12.000	37.7	11.304	0.16	11.75	14.82		0.670	0.670		0.670
13.000	58.9	17.663	0.25	11.70	14.70		0.720	0.790		0.755
14.000	77.7	23.315	0.33	11.60	14.62		0.820	0.870		0.845
15.000	98.9	29.673	0.42	11.52	14.55		0.900	0.940		0.920

		σ	ΔS	$\Delta \sigma$
0.7 σ_1	0.35	0.68438	0.3175	0.2
0.3 σ_1	0.15	0.35688		
0.7 σ_2	0.35	0.84167	0.16666	0.2
0.3 σ_2	0.15	0.69501		
D (mm)	300			
E_{v1}	137.40			
E_{v2}	270.02			
Area (sq.m)	0.07065			

E_{v2}/E_{v1}	1.97		
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$$E_v = 4.75 \cdot D \cdot \Delta \sigma / \Delta s$$

E_v = deformation modulus

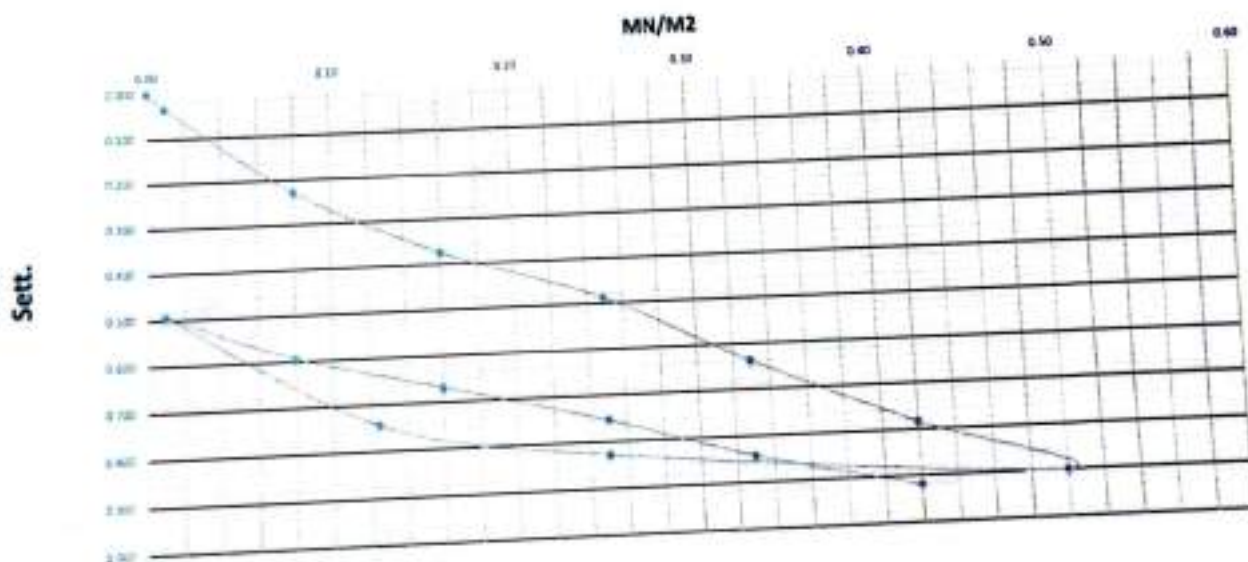
$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m



For this calculation Δx and Δz are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :



Name :

Sign :

Consultant Engineer

Name : mohamed elsaid

Sign : m.elsaid

Plate Load Test Results

Company Name

A.G.R

Location

526+840

To

527+000

Test Date

8-3-2023

Layer level

0

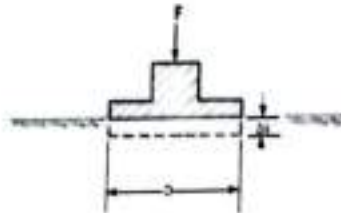
Station

526+870

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

Δs = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serves as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Step No.	Bar	KN	KN/M ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	15.64	15.00		0.000	0.000		0.000
1.000	2.4	0.707	0.01	15.55	14.85		0.090	0.150		0.120
2.000	18.8	5.652	0.08	15.41	14.50		0.230	0.500		0.365
3.000	37.7	11.304	0.16	15.31	14.11		0.330	0.890		0.610
4.000	58.9	17.663	0.25	15.18	13.83		0.460	1.170		0.815
5.000	77.7	23.315	0.33	15.08	13.50		0.560	1.500		1.030
6.000	98.9	29.673	0.42	15.00	13.28		0.640	1.720		1.180
7.000	117.8	35.325	0.50	14.92	13.02		0.720	1.980		1.350
8.000	58.9	17.663	0.25	14.95	13.15		0.690	1.850		1.270
9.000	29.4	8.831	0.12	15.04	13.29		0.600	1.710		1.155
9.000	2.4	0.707	0.01	15.36	13.68		0.280	1.320		0.800
10.000	2.4	0.707	0.01	15.36	13.68		0.280	1.320		0.800
11.000	18.8	5.652	0.08	15.18	13.45		0.460	1.550		1.005
12.000	37.7	11.304	0.16	15.10	13.34		0.540	1.660		1.100
13.000	58.9	17.663	0.25	15.00	13.20		0.640	1.800		1.220
14.000	77.7	23.315	0.33	14.90	13.14		0.740	1.860		1.300
15.000	98.9	29.673	0.42	14.82	13.00		0.820	2.000		1.410

		σ	ΔS	Δs
0.7 σ_1	0.35	1.83125	0.45188	0.2
0.3 σ_1	0.15	0.57938		
0.7 σ_2	0.35	1.32444	0.11442	0.2
0.3 σ_2	0.15	1.21002		
D (mm)	300			
E_{v1}	99.59			
E_{v2}	393.28			
Area (Sq.m)	0.07065			

E_{v1}/E_{v2}	3.95		
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$$E_v = 8.75 \cdot D \cdot \Delta \sigma / \Delta s$$

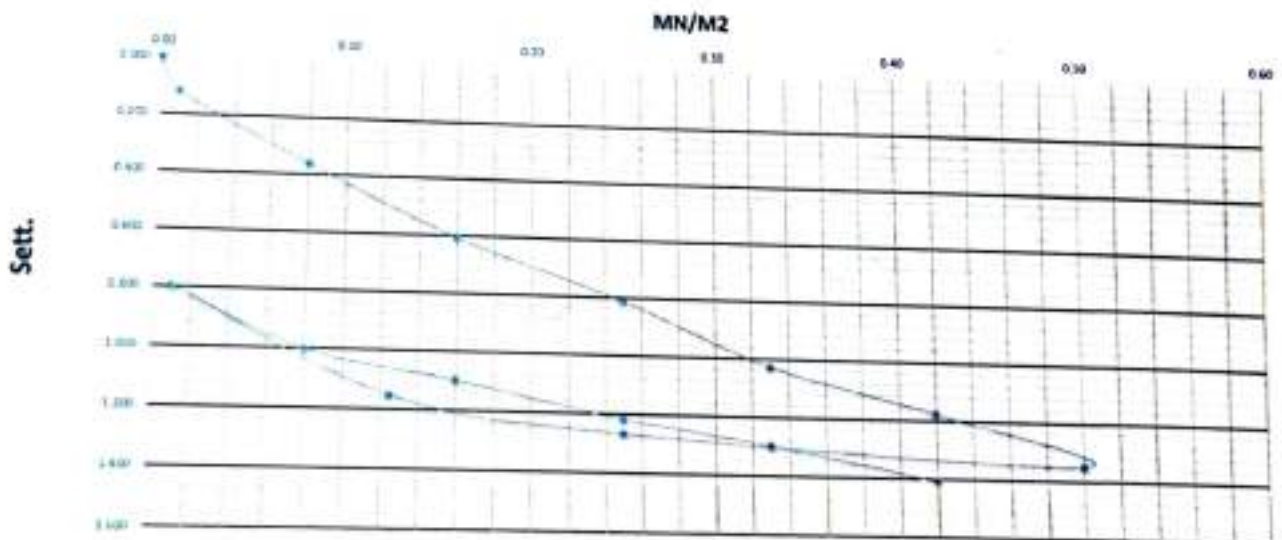
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δr and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : mohamed elsaied

Sign :

m-elsaied

Plate Load Test Results

Company Name

Location

Test Date

Layer level

A.G.R

525+920

25/1/2023

0

To

526+040

Station

526+920

EQUIPMENT AND TEST PROCEDURE:-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D.

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 5 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/min). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Load	Load	Settle	Dist 1	Dist 2	Dist 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	14.91	16.11		0.000	0.000		0.000
1.000	2.4	0.707	0.01	14.71	15.85	0.200	0.260		0.230
2.000	18.8	5.652	0.08	14.53	15.55	0.380	0.560		0.470
0.080	37.7	11.304	0.16	14.48	15.32	0.430	0.790		0.610
4.000	58.9	17.663	0.25	14.23	15.04	0.680	1.070		0.875
5.000	77.7	23.315	0.33	14.11	14.81	0.800	1.300		1.050
6.000	98.9	29.673	0.42	14.01	14.55	0.900	1.560		1.230
7.000	117.8	35.325	0.50	13.92	14.29	0.990	1.820		1.405
8.000	58.9	17.663	0.25	14.00	14.43	0.910	1.680		1.295
9.000	29.4	8.831	0.12	14.15	14.51	0.760	1.600		1.180
9.000	2.4	0.707	0.01	14.31	14.85	0.600	1.260		0.930
10.000	2.4	0.707	0.01	14.31	14.85	0.600	1.260		0.930
11.000	18.8	5.652	0.08	14.15	14.73	0.760	1.380		1.070
12.000	37.7	11.304	0.16	14.03	14.65	0.880	1.460		1.170
13.000	58.9	17.663	0.25	13.90	14.52	1.010	1.590		1.300
14.000	77.7	23.315	0.33	13.81	14.45	1.100	1.660		1.380
15.000	98.9	29.673	0.42	13.69	14.31	1.220	1.800		1.510

$0.7 \sigma_1$	0.35	1.07548	0.48437	0.2
$0.3 \sigma_1$	0.15	0.59325		
$0.7 \sigma_2$	0.35	1.40889	0.19887	0.2
$0.3 \sigma_2$	0.15	1.11001		
D (mm)	300			
E_v	92.90			
E_v	226.27			
Area (sq.m)	0.07065			

E_v/E_v	2.44		
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$E_v = 0.75 \cdot D \cdot \Delta s / \Delta s$

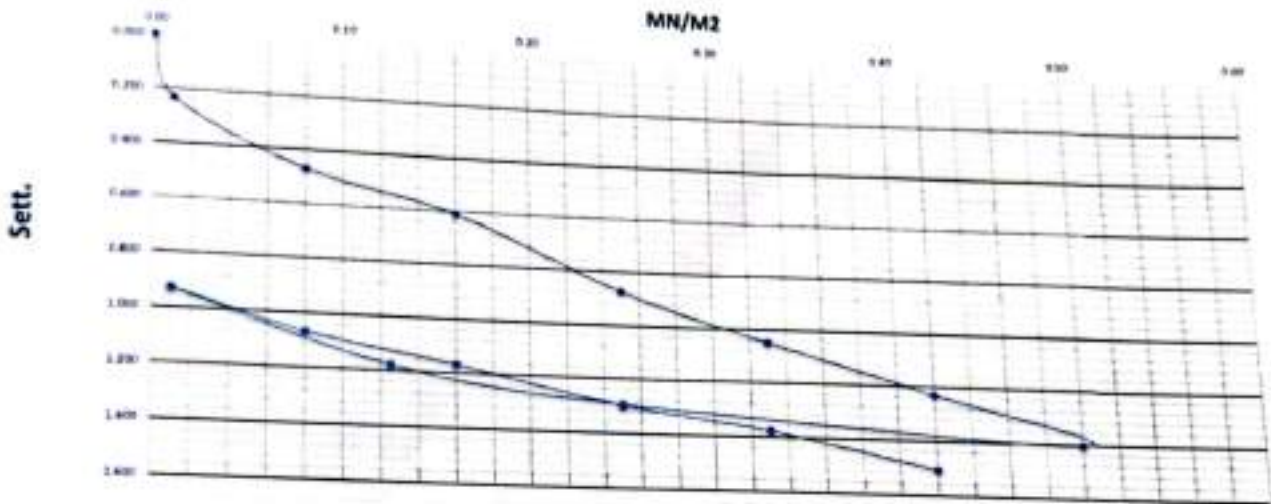
E_v = deformation modulus

Δs = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δ and Δ_s are usually taken from the load span between 0.3 m_{max} and 0.7 m_{max} .



Lab. Specialist

Name :

Sign :



Consultant Engineer

Name :

Sign :

Al-assa
[Signature]



Plate Load Test Results

Company Name

A.G.R

Location

525+920

To

526+040

Test Date

25/1/2023

Layer level

0

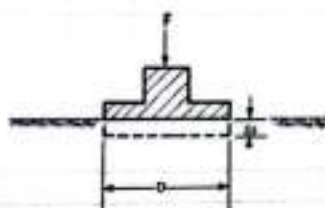
Station

525+960

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.



P = load

s_r = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	KN/962	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	15.01	18.35		0.000	0.000		0.000
1.000	2.4	0.707	0.01	14.83	18.16		0.180	0.190		0.185
2.000	18.8	5.652	0.08	14.68	17.96		0.330	0.390		0.360
3.000	37.7	11.304	0.16	14.59	17.81		0.420	0.540		0.480
4.000	58.9	17.663	0.25	14.41	17.58		0.600	0.770		0.685
5.000	77.7	23.315	0.33	14.30	17.38		0.710	0.970		0.840
6.000	98.9	29.673	0.42	14.18	17.11		0.830	1.240		1.035
7.000	117.8	35.325	0.50	14.11	16.91		0.900	1.440		1.170
8.000	58.9	17.663	0.25	14.18	17.05		0.830	1.300		1.065
9.000	29.4	8.831	0.12	14.25	17.18		0.760	1.170		0.965
9.000	2.4	0.707	0.01	14.45	17.45		0.560	0.900		0.730
10.000	2.4	0.707	0.01	14.45	17.45		0.560	0.900		0.730
11.000	18.8	5.652	0.08	14.39	17.35		0.620	1.000		0.810
12.000	37.7	11.304	0.16	14.28	17.25		0.730	1.100		0.915
13.000	58.9	17.663	0.25	14.19	17.15		0.820	1.200		1.010
14.000	77.7	23.315	0.33	14.14	17.06		0.870	1.290		1.080
15.000	98.9	29.673	0.42	14.08	16.92		0.930	1.430		1.180

		μ	AS	s_r
0.7 σ_1	0.35	0.91688	0.45188	0.2
0.3 σ_2	0.15	0.465		
0.7 σ_2	0.35	1.10222		
0.3 σ_1	0.15	0.89001		
D (mm)	300			
E_{v1}	99.59			
E_{v2}	212.05			
Area (Sq.m)	0.07065			

$E = 2E_v$	2.13		
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$$E_v = 0.71 \cdot D \cdot \Delta \sigma / \Delta s$$

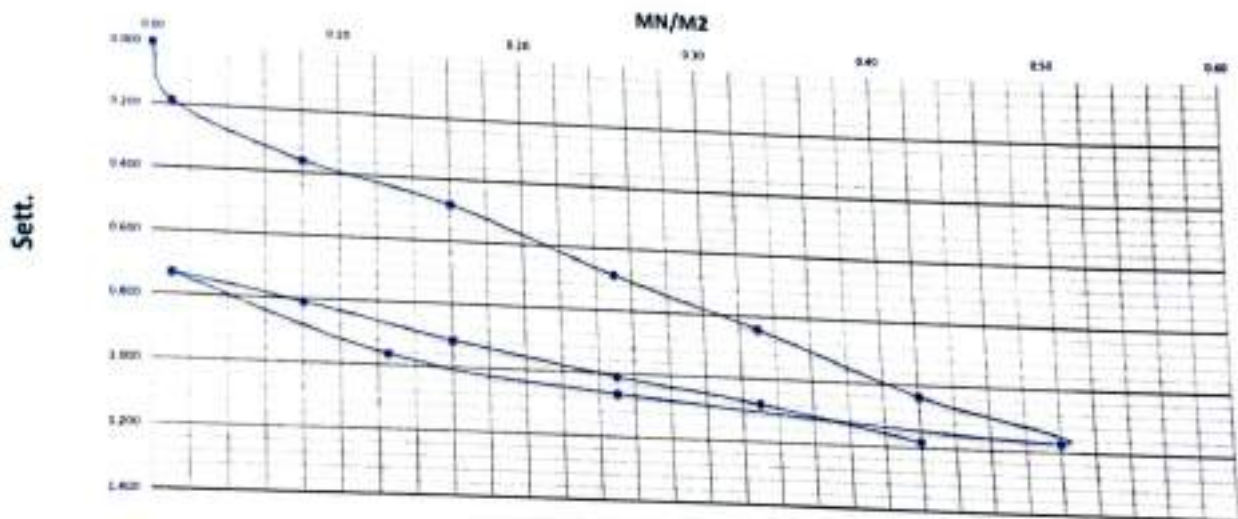
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δ_o and Δ_i are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .



Lab. Specialist

Name :

Sign :

Lab. Engineer



Consultant Engineer

Name : Hassa

Sign :