وزارة النقل

الهيئة العامة للطرق و الكباري

مركز الاستشارات الهندسية للنقل و المطارات و الطرق (خبراء دوليون)

دكتور/ سعد الجيوشي

مشروع القطار الكهربائي فائق السرعة قطاع (العلمين - فوكة)

المقايسة التقديرية لبنود الاعمال لتنفيذ شركة صن رايز اتجاه برج العرب

القطاع من المحطة ٤٤٧+٦٠٠ الي المحطة ٤٤٨+٦٠٠

الإجمالي	الفئة	الكمية	الوحدة	بيان الأعمال	رقم البند
٣،٣١١،٩١٧	٢٩٨	١١١١٣،٨١	م٣	بالمتر المكعب اعمال توريد وفرش طبقة أساس من الاحجار الصلبة المتدرجة ناتج تكسير الكسارات والمطابقة للمواصفات وأقصى حجم للحبيبات ما بين ٣١،٥ مم الى ٤٠ مم والا تزيد نسبة المار من منخل ٢٠٠ عن ٥ % والتدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٨٠ % و الا تزيد نسبة نسبة الفاقد بجهاز لوس انجلوس عن ٣٠ %والا يزيد الامتصاص عن ١٥ % والا يقل معامل المرونة (EV2) من تجربة لوح التحميل عن ١٢٠ ميجاباسكال ويتم فردها علي طبقتين باستخدام الالات التسوية الحديثة علي الا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠ سم ورشها بالمياة الاصولية للوصول الي نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الي اقصي كثافة جافة (لا تقل عن ١٠٠ %) من الكثافة المعملية والفئة تشمل اجراء التجارب المعملية والحقلية ويتم التنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتملاتة طبقا لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف مسافة النقل ٢٠ كم يتم احتساب علاوة ١،٢ جنية لكل ١ كم بالزيادة او النقصان . السعر يشمل قيمة المواد المحجرية طبقا لافادة المنطقة بهذا القطاع (٦) من الكم ٣٩٥ الى الكم ٥٠٤ .	٢٠١
٢،١٦٠،٥٢٦	١٩٤،٤	١١١١٣،٨١	م٣	علاوة مسافة النقل ١٨٢ كم	
٢٧٧،٨٤٥	٢٥	١١١١٣،٨١	م٣	علاوة تحصيل رسوم الكارتة والموازين طبقا للائحة الشركة الوطنية	
٢٠،٠٠٠،٠٠٠	الإجمالي				
(عشرون مليون جنيه فقط لاغير)					

مدير المشروع المقاول — م / سعيد رجب سعيد

مدير المشروع الاستشاري — م / مصطفى نجم

مدير المشروع (الهيئة) — م / ابراهيم الحناوى

مدير عام المشروعات (الهيئة) — م/ محمد حسني فياض

يعتمد
مدير الادارة المركزية
منطقة غرب الدلتا
الاسكندرية - مرسى مطروح
عقيد مهندس /
" هاني محمد محمود طه "

صن رايز للمقاولات العمومية
س ت : ٣٨٢٩٢
ب ض : ٣٦٩ - ٦١٠ - ٧٠٨

الهيئة العامة للطرق والكباري والنقل البري
الإدارة المركزية للشئون المالية والإدارية

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الإستشارات الهندسية

Company Name	**: Sun Rise**
Project	**: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample	**: Prepared Subgrade.**
Location	**: St. (448+240): (448+600)**
Delivery Date	**: 01/03/2023**
Reporting Date	**: 07/03/2023**
Reporting No.	**: 50**
Sample No.	**: 02**

Dear Gentleman,

Attached here with the Prepared Subgrade delivered on 01/03/2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according ASTM D-1140.
3. Liquid limits and plasticity index of soil according to D-4318.
4. Proctor Test according to D-1557
5. CBR according to ASTM D-1883
6. Los Anglos according to ASTM C-131.

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

Signature /.....

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel.& Fax : 27367231 - 27363093

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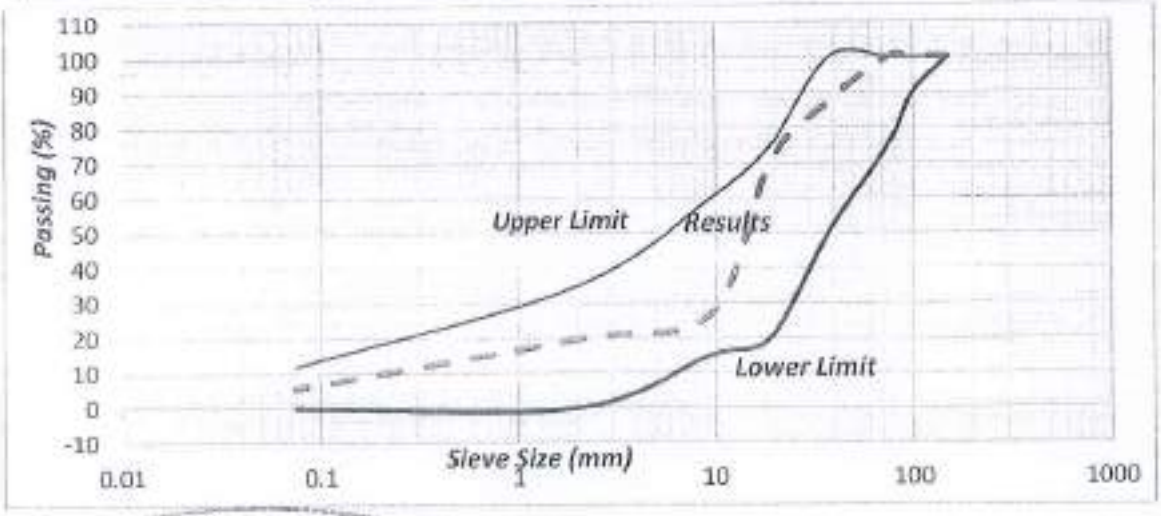
Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade.
Location : St. (448+240) : (448+600)
Delivery Date : 01/03/2023
Reporting Date : 07/03/2023
Reporting No. : 50
Sample No. : 02

Results of sieve analysis according to ASTM D-422.

Sieve Size (mm)	Passing %	Job specification limits (ASTM D-422)	
		Min.	Max.
125	100	100	100
100	100	90	100
75	100	75	100
50	93.9	--	--
37.5	87.3	50	100
25	81.5	--	100
19	70.1	20	75
12.5	28.4	--	--
9.5	26.8	15	60
4.75	22.0	--	--
2.00	19.8	0	35
0.425	12.0	0	--
0.075	5.7	0	12



The test results are (□ Comply - □ Not Comply) with specifications limits.

Signature /.....

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www.cel-egypt.com

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade.
Location : St. (448+240) : (448+600)
Delivery Date : 01/03/2023
Reporting Date : 07/03/2023
Reporting No. : 50
Sample No. : 02

Materials finer than 75 µm (no.200) sieve by washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	5.7

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www.cel-egypt.com

Company Name : **Sun Rise**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Prepared Subgrade.**
Location : **St. (448+240) : (448+600)**
Delivery Date : **01/03/2023**
Reporting Date : **07/03/2023**
Reporting No. : **50**
Sample No. : **02**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	2.84
1.27	0.050	3.10
1.91	0.075	3.35
2.54	0.100	3.66
3.18	0.125	3.94
3.81	0.150	4.11
4.45	0.175	4.24
5.08	0.200	4.41
5.71	0.225	4.55
6.35	0.250	4.69

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	53.0
	6.90	3.66	

Notes :

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of 2.21 (gm /cm^3) at 7.4% optimum water content.
3- Surcharge load 4.50 Kg.

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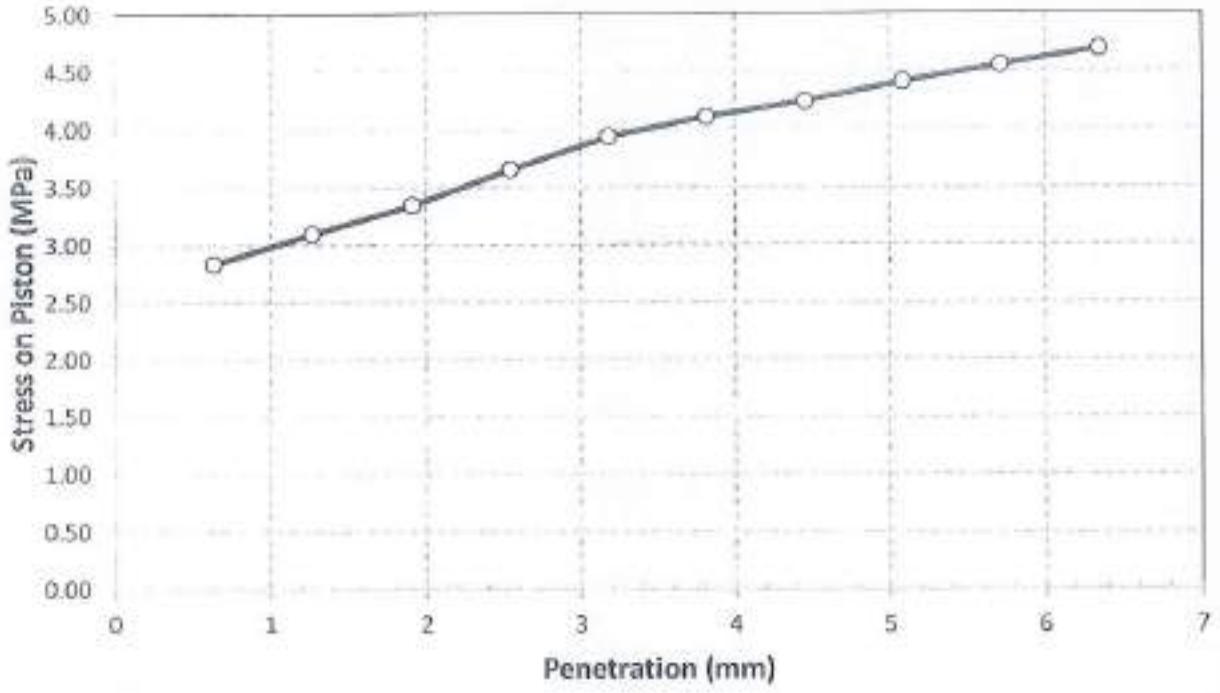
www.cel-egypt.com

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade.
Location : St. (448+240) : (448+600)
Delivery Date : 01/03/2023
Reporting Date : 07/03/2023
Reporting No. : 50
Sample No. : 02

Load Penetration Curve of CBR Test
ASTM D-1883



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Company:
Sun Rise

Project : Electric express train
Delivery Date : 29/03/2023
Report Date : 04/04/2023
Sample Id : Prepared subgrade sample No.2
Type : Coarse Aggregate
Source : Site
Report No. : 02

RESISTANCE TO DEGRADATION OF SMALL SIZE AGGREGATE BY ABRASION AND IMPACT IN LOS ANGELES MACHINE ASTM C 535

Test	Results
Amount of loss by abrasion and impact (%) Coarse Aggregate	23.5

- According to project specs :

The amount of loss by abrasion and impact for crushed weathering

- Shall not exceed 40 % (when Subjected to 500 revolutions)

The Test Results Is ( ) Comply - ( ) Not Comply) with Spec. Limits

Signature/

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مكتب معامل الاستشارات الهندسية

Company Name	**: Sun Rise**
Project	**: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample	**: Prepared Subgrade.**
Location	**: St. (448+240) : (448+600)**
Delivery Date	**: 23/03/2023**
Reporting Date	**: 29/03/2023**
Reporting No.	**: 50**
Sample No.	**: 02**

Dear Gentleman,

Attached here with the Prepared Subgrade delivered on 23/03/2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according ASTM D-1140.
3. Liquid limits and plasticity index of soil according to D-4318.
4. Proctor Test according to D-1557
5. CBR according to ASTM D-1883
6. Los Anglos according to ASTM C-131.

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

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مكتب معامل الاستشارات الهندسية
الساحل الشمالي

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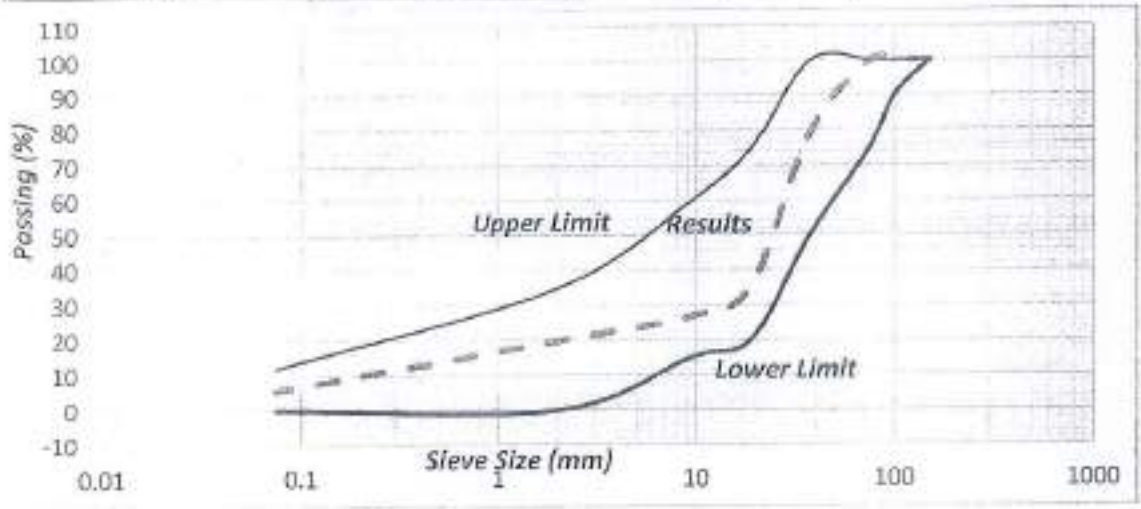
www.cel-egypt.com

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade.
Location : St. (448+240) : (448+600)
Delivery Date : 23/03/2023
Reporting Date : 29/03/2023
Reporting No. : 50
Sample No. : 02

Results of sieve analysis according to ASTM D-422.

Sieve Size (mm)	Passing %	Job specification limits (ASTM D-422)	
		Min.	Max.
125	100	100	100
100	100	90	100
75	100	75	100
50	93.9	--	--
37.5	79.3	50	100
25	47.9	--	100
19	35.5	20	75
12.5	28.4	--	--
9.5	26.8	15	60
4.75	22.0	--	--
2.00	19.8	0	35
0.425	12.0	0	--
0.075	5.7	0	12



The test results are (☑ Comply - □ Not Comply) with specifications limits.

Signature /.....

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Testing Laboratory

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade.
Location : St. (448+240) : (448+600)
Delivery Date : 23/03/2023
Reporting Date : 29/03/2023
Reporting No. : 50
Sample No. : 02

Materials finer than 75 μm (no.200) sieve by washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 μM (No.200)	5.7

Signature /.......

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رقم التسجيل الضريبي 037 - 091 - 210
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Zamalek Cairo.
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Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade
Location : St. (448+240) : (448+600)
Delivery Date : 23/03/2023
Reporting Date : 29/03/2023
Reporting No. : 50
Sample No. : 02

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

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Company Name : **Sun Rise**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Prepared Subgrade.**
Location : **St. (448+240) : (448+600)**
Delivery Date : **23/03/2023**
Reporting Date : **29/03/2023**
Reporting No. : **50**
Sample No. : **02**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	2.84
1.27	0.050	3.10
1.91	0.075	3.35
2.54	0.100	3.66
3.18	0.125	3.94
3.81	0.150	4.11
4.45	0.175	4.24
5.08	0.200	4.41
5.71	0.225	4.55
6.35	0.250	4.69

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.66	53.0

Notes :

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of 2.21 (gm /cm^3) at 7.4% optimum water content.
3- Surcharge load 4.50 Kg.

Signature / .....

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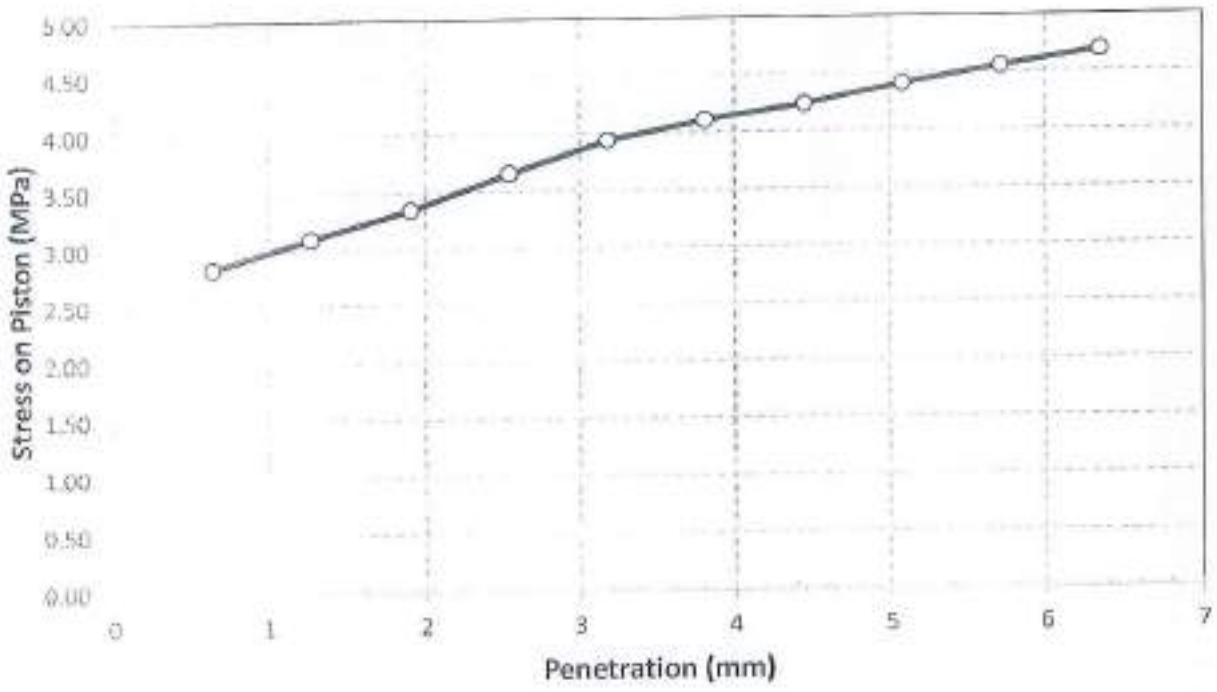
Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade
Location : St. (448+240) : (448+600)
Delivery Date : 23/03/2023
Reporting Date : 29/03/2023
Reporting No. : 50
Sample No. : 02

Load Penetration Curve of CBR Test

ASTM D-1883



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219-991-637 :رقم تسجيل الضريبي
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Company:
Sun Rise

Project	: Electric express train.
Delivery Date	: 29/03/2023
Report Date	: 04/04/2023
Sample Id	: Prepared subgrade sample No.2
Type	: Coarse Aggregate
Source	: Site
Report No.	: 02

RESISTANCE TO DEGRADATION OF SMALL SIZE AGGREGATE BY ABRASION AND IMPACT IN LOS ANGELES MACHINE ASTM C 535

Test	Results
Amount of loss by abrasion and impact (%) Coarse Aggregate	**23.5**

- **According to project specs :**

The amount of loss by abrasion and impact for moderate weathering:

- **Shall not exceed 40 %** **(when Subjected to 500 revolutions)**

The Test Results is (☑ Comply - ☐ Not Comply) with Spec. Limits

Signature : .....

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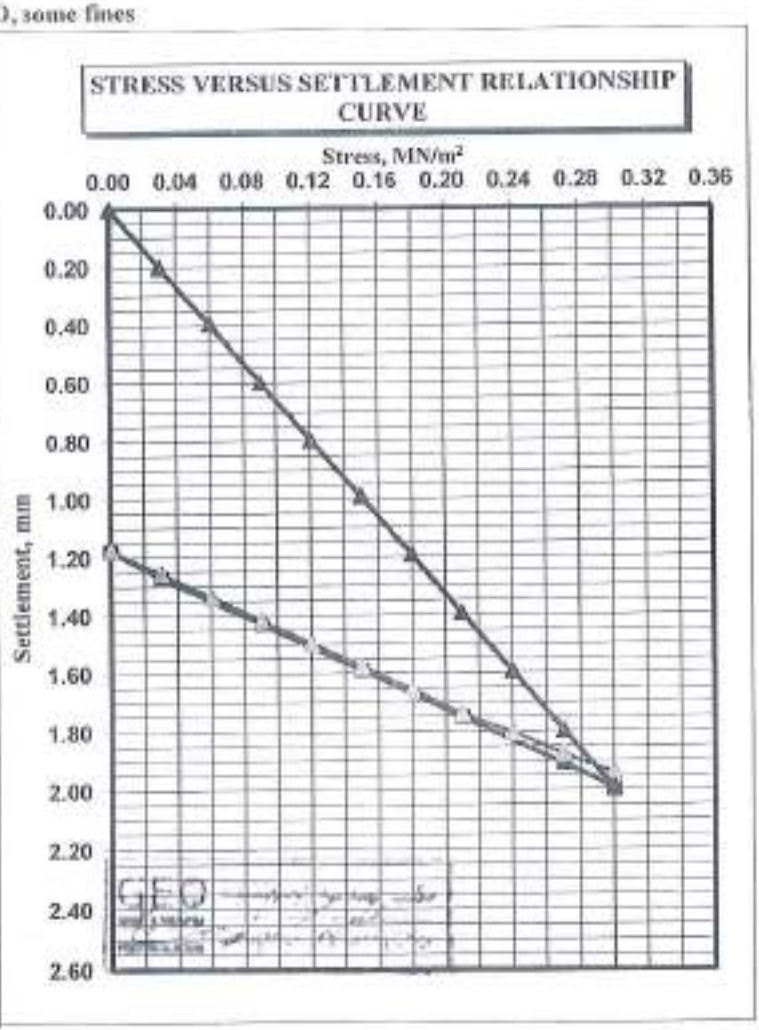
Horema Ltd
Soil investigation & Q.C.

Plate Load Tests of Soils
DIN 18134

CLIENT	Sun Rise Company	TIME START:	4.30:00 PM
PROJECT	Electric Express Train	TIME FINISH:	6.0:00 PM
LOCATION	Al-Dabaa (448+250) →275 subgrade	DATE	5-Apr-23
PLATE LOAD NO.	PLT-41	LAB. REF.	04002
PLATE DIAMETER (cm)	75.00	** Note : Soil is Wet	
TYPE OF SOIL	GRAVEL and SAND, some fines		

Stress MN/m²	Settlement mm
0.00	0.00
0.03	0.20
0.06	0.39
0.09	0.60
0.12	0.80
0.15	0.99
0.18	1.19
0.21	1.39
0.24	1.59
0.27	1.80
0.30	1.99
0.27	1.91
0.21	1.75
0.15	1.59
0.09	1.43
0.03	1.27
0.00	1.18
0.03	1.26
0.06	1.34
0.09	1.42
0.12	1.50
0.15	1.58
0.18	1.66
0.21	1.74
0.24	1.80
0.27	1.88
0.30	1.94



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ0max	0.30	0.30
a_1 [mm/(MN/m²)]	6.571	2.817
a_2 [mm/(MN²/m⁴)]	0.19	-0.857
Ev [MN/m²]	84.9	219.7
Ev2/Ev1	2.59	

Apparatus

1. Loading plates consists of 750 mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Proving Ring for plate load 250 KN

MODULUS OF SUB-GRADE REACTION, Ks

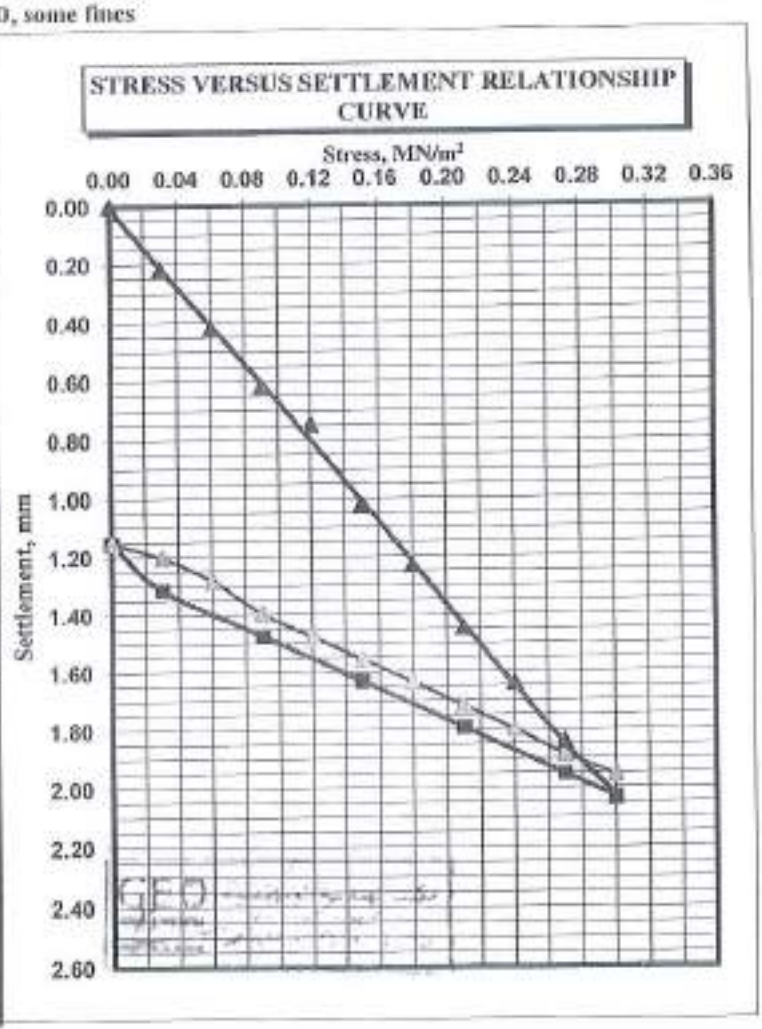
ks = Δσ/Δs 152.0 MN/m³

Horema Ltd
Soil Investigation & Q.C.

Plate Load Tests of Soils
DIN 18134

CLIENT	Sun Rise Company	TIME START:	6.00:00 PM
PROJECT	Electric Express Train	TIME FINISH:	7.30:00 PM
LOCATION	Al-Dabaa (448+275) –+300 subgrade	DATE	5-Apr-23
PLATE LOAD NO.	PLT-42	LAB. REF.	04002
PLATE DIAMETER (cm)	75.00	** Note : Soil is Wet	
TYPE OF SOIL	GRAVEL and SAND, some fines		

Stress MN/m²	Settlement mm
0.00	0.00
0.03	0.22
0.06	0.42
0.09	0.62
0.12	0.75
0.15	1.03
0.18	1.23
0.21	1.45
0.24	1.64
0.27	1.84
0.30	2.03
0.27	1.95
0.21	1.79
0.15	1.63
0.09	1.47
0.03	1.31
0.00	1.15
0.03	1.20
0.06	1.28
0.09	1.40
0.12	1.48
0.15	1.56
0.18	1.64
0.21	1.72
0.24	1.80
0.27	1.89
0.30	1.96



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ0max	0.30	0.30
a_1 [mm/(MN/m²)]	6.612	2.802
a_2 [mm/(MN²/m⁴)]	0.597	-0.14
Ev [MN/m²]	82.8	203.8
Ev2/Ev1	2.46	

Apparatus

1. Loading plates consists of 750 mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel sleighfedges with magnetic supports to load the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Proving Ring for plate load 200 KN

MODULUS OF SUB-GRADE REACTION, Ks

ks = Δσ/Δs 152.0 MN/m³

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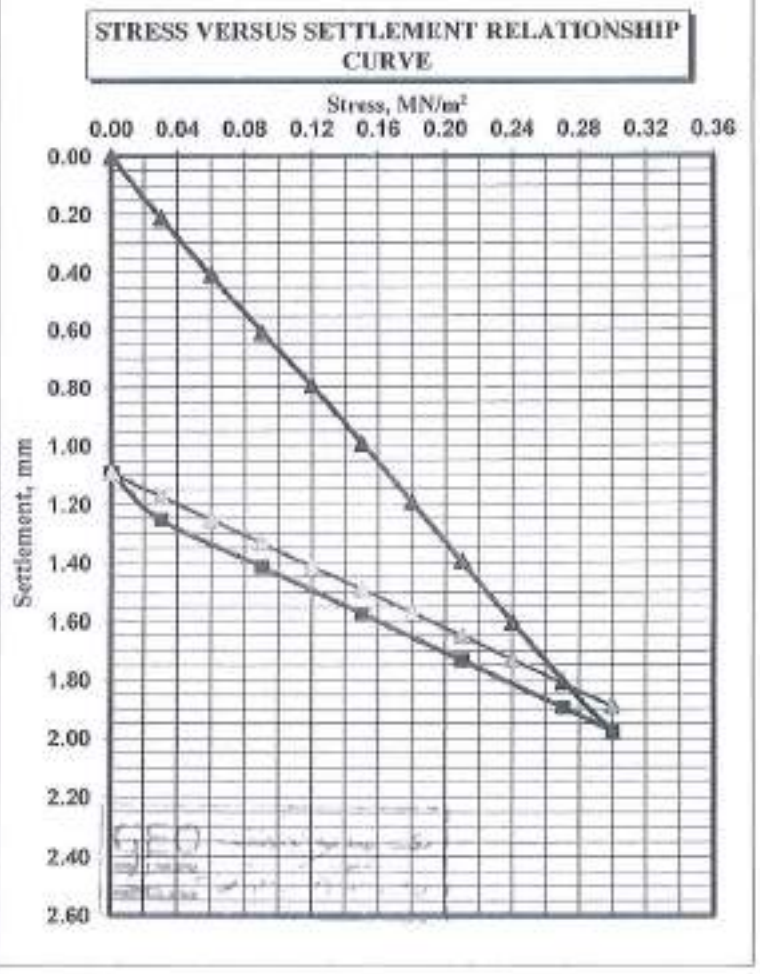
Horema LTD
Soil Investigation & Q.C.

Plate Load Tests of Soils
DIN 18134

CLIENT	Sun Rise Company	TIME START:	6.00:00 AM
PROJECT	Electric Express Train	TIME FINISH:	7.30 AM
LOCATION	Al-Dabaa (448+300) →325 subgrade	DATE	5-Apr-23
PLATE LOAD NO.	PLT-43	LAB. REF.	04002
PLATE DIAMETER (cm)	75.00	** Note : Soil is Wet	
TYPE OF SOIL	GRAVEL and SAND, some fines		

Stress MN/m²	Settlement mm
0.00	0.00
0.03	0.21
0.06	0.41
0.09	0.61
0.12	0.79
0.15	0.99
0.18	1.19
0.21	1.39
0.24	1.60
0.27	1.80
0.30	1.98
0.27	1.89
0.21	1.73
0.15	1.57
0.09	1.41
0.03	1.25
0.00	1.09
0.03	1.17
0.06	1.25
0.09	1.33
0.12	1.41
0.15	1.49
0.18	1.57
0.21	1.65
0.24	1.73
0.27	1.81
0.30	1.89



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ0max	0.30	0.30
a_1 [mm/(MN/m²)]	6.504	2.667
a_2 [mm/(MN²/m⁴)]	0.275	0
Ev [MN/m²]	85.4	210.9
Ev2/Ev1	2.47	

Apparatus

1. Loading plates consists of 750 mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Proving Ring for plate load 250 KN

MODULUS OF SUB-GRADE REACTION, Ks

ks = Δσ/Δs 152.0 MN/m³

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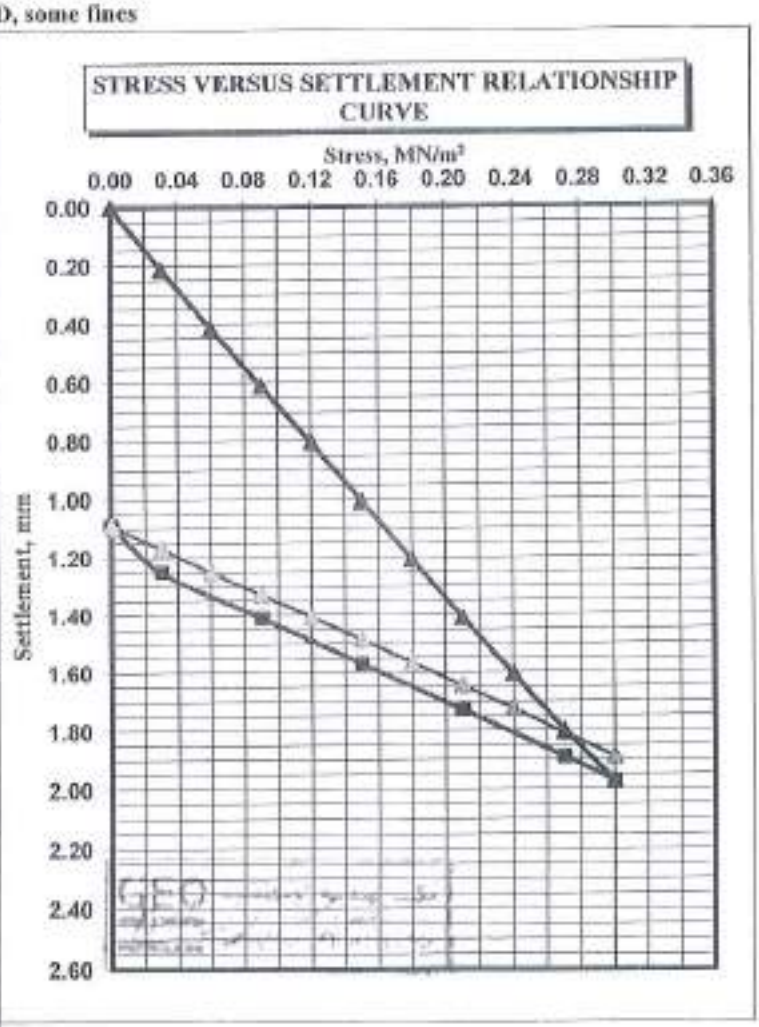
Soil Investigation & Q.C.

Plate Load Tests of Soils
DIN 18134

CLIENT	Sun Rise Company	TIME START:	7:30 AM
PROJECT	Electric Express Train	TIME FINISH:	9:00 AM
LOCATION	Al-Dabaa (448+325) –>350 subgrade	DATE	5-Apr-23
PLATE LOAD NO.	PLT-44	LAB. REF.	04002
PLATE DIAMETER (cm)	75.00	** Note : Soil is Wet	
TYPE OF SOIL	GRAVEL and SAND, some fines		

Stress MN/m²	Settlement mm
0.00	0.00
0.03	0.21
0.06	0.41
0.09	0.61
0.12	0.80
0.15	1.01
0.18	1.21
0.21	1.41
0.24	1.60
0.27	1.80
0.30	1.97
0.27	1.89
0.21	1.73
0.15	1.57
0.09	1.41
0.03	1.25
0.00	1.09
0.03	1.17
0.06	1.25
0.09	1.33
0.12	1.41
0.15	1.49
0.18	1.57
0.21	1.65
0.24	1.73
0.27	1.81
0.30	1.89



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ0max	0.30	0.30
a_1 [mm/(MN/m²)]	6.873	2.667
a_2 [mm/(MN²/m⁴)]	-0.898	0
Ev [MN/m²]	85.2	210.9
Ev2/Ev1	2.48	

Apparatus

1. Loading plates consists of 750 mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Proving Ring for plate load 250 KN

MODULUS OF SUB-GRADE REACTION, Ks

ks = Δσ/Δs 151.2 MN/m³

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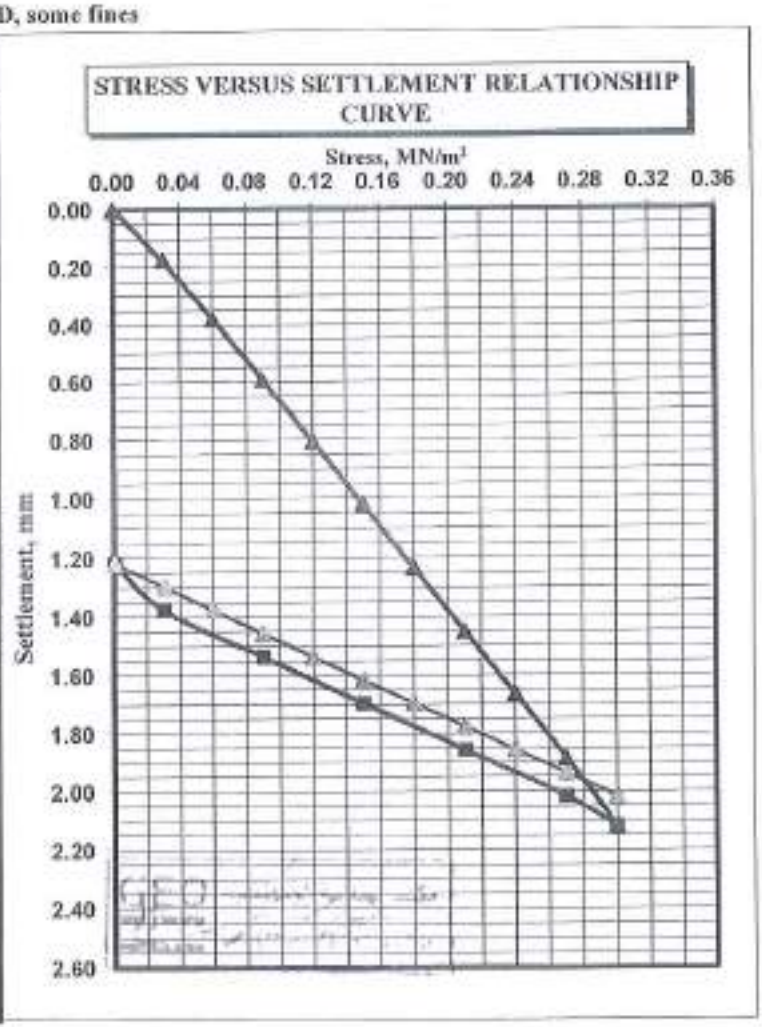
Plate Load Tests of Soils
DIN 18134

CLIENT	Sun Rise Company	TIME START:	9:00 AM
PROJECT	Electric Express Train	TIME FINISH:	10:30 AM
LOCATION	Al-Dabaa (448+350) → 375 subgrade	DATE	5-Apr-23
PLATE LOAD NO.	PLT-45	LAB. REF.	04002
PLATE DIAMETER (cm)	75.00	** Note : Soil is Wet	
TYPE OF SOIL	GRAVEL and SAND, some fines		

Stress MN/m²	Settlement mm
0.00	0.00
0.03	0.17
0.06	0.38
0.09	0.59
0.12	0.81
0.15	1.02
0.18	1.23
0.21	1.45
0.24	1.66
0.27	1.89
0.30	2.12
0.27	2.02
0.21	1.86
0.15	1.70
0.09	1.54
0.03	1.38
0.00	1.22
0.03	1.30
0.06	1.38
0.09	1.46
0.12	1.54
0.15	1.62
0.18	1.70
0.21	1.78
0.24	1.86
0.27	1.94
0.30	2.02



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ0max	0.30	0.30
a_1 [mm/(MN/m²)]	6.858	2.667
a_2 [mm/(MN²/m⁴)]	1.01	0
Ev [MN/m²]	78.6	210.9
Ev2/Ev1	2.69	

Apparatus

1. Loading plates consists of 750 mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Proving Ring for plate load 250 KN

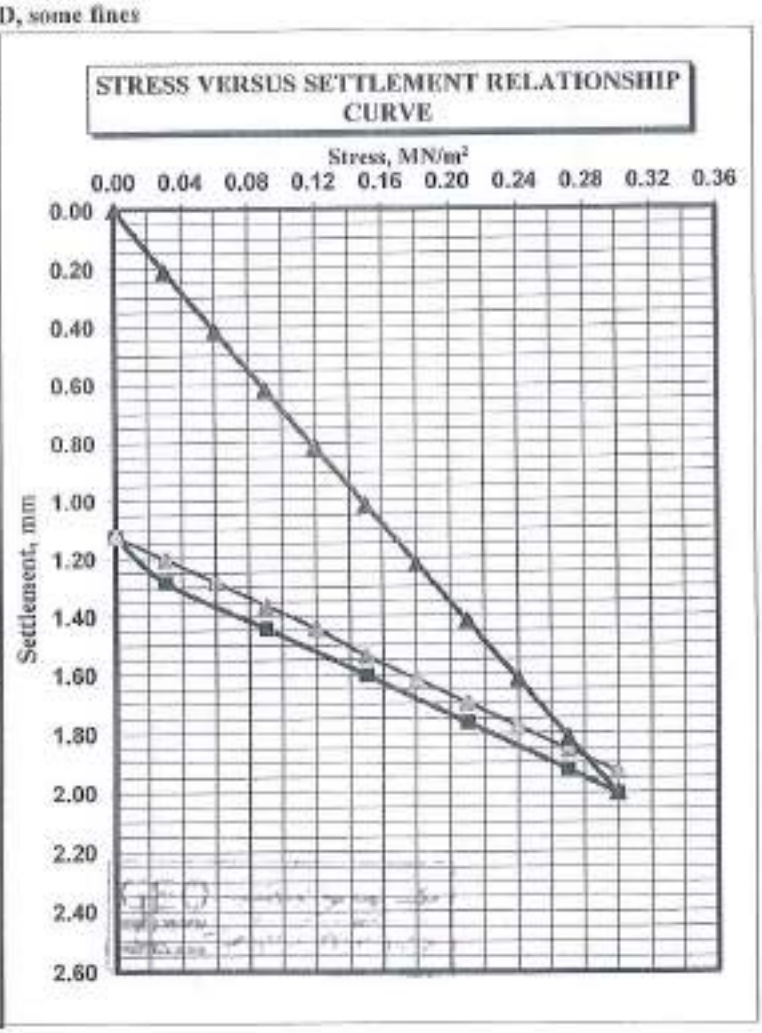
MODULUS OF SUB-GRADE REACTION, Ks

ks = Δσ/Δs 144.0 MN/m³

Plate Load Tests of Soils
DIN 18134

CLIENT	Sun Rise Company	TIME START:	10.30:00 AM
PROJECT	Electric Express Train	TIME FINISH:	12.00:00 PM
LOCATION	Al-Daban (448+375) →400 subgrade	DATE	5-Apr-23
PLATE LOAD NO.	PLT-46	LAB. REF.	04002
PLATE DIAMETER (cm)	75.00	** Note : Soil is Wet	
TYPE OF SOIL	GRAVEL and SAND, some fines		

Stress MN/m²	Settlement mm
0.00	0.00
0.03	0.21
0.06	0.41
0.09	0.62
0.12	0.81
0.15	1.02
0.18	1.22
0.21	1.42
0.24	1.62
0.27	1.81
0.30	2.00
0.27	1.92
0.21	1.76
0.15	1.60
0.09	1.44
0.03	1.28
0.00	1.12
0.03	1.20
0.06	1.28
0.09	1.36
0.12	1.44
0.15	1.54
0.18	1.62
0.21	1.70
0.24	1.78
0.27	1.86
0.30	1.93



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ0max	0.30	0.30
a_1 [mm/(MN/m²)]	6.902	2.813
a_2 [mm/(MN²/m⁴)]	-0.764	-0.253
Ev [MN/m²]	84.3	205.5
Ev2/Ev1	2.44	

Apparatus

1. Loading plates consists of 750 mm
2. Thin thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to feed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Proving Ring for plate load 250 KN

MODULUS OF SUB-GRADE REACTION, Ks

ks = Δσ/Δs 148.0 MN/m³

Company Name	**: Sun Rise**
Project	**: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample	**: Sub-Ballast**
Location	**: St. (448+100) : (448+600)**
Delivery Date	**: 04/04/2023**
Reporting Date	**: 10/04/2023**
Reporting No.	**: 59**
Sample No.	**: 01**

Dear Gentleman,

Attached here with the Sub-Ballast delivered on 04/04/2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Proctor test according to ASTM D-1557.
5. Specific Gravity & Absorption according to ASTM C-127 & D 6473.
6. CBR according to ASTM D-1883
7. Los Anglos according to ASTM C-131.

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

Signature /.....

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Zamalek, Cairo.
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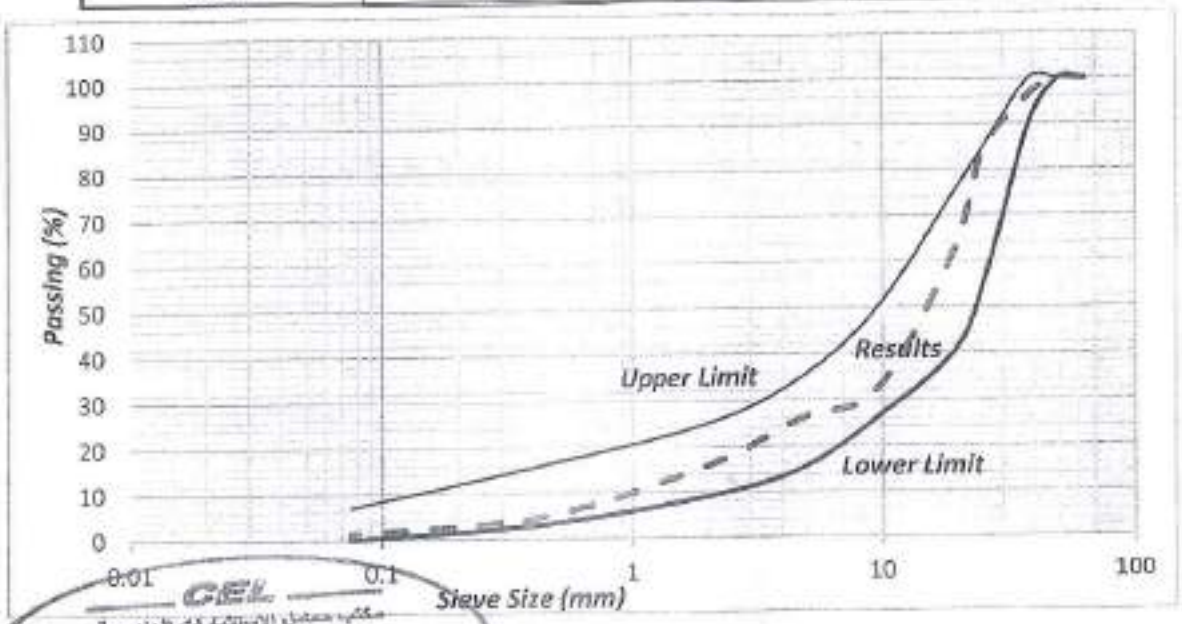
www.cel-egypt.com

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+100) : (448+600)
Delivery Date : 04/04/2023
Reporting Date : 10/04/2023
Reporting No. : 59
Sample No. : 01

Results of sieve analysis according to ASTM D-422.

Sieve Size (mm)	Passing %	Job specification limits (ASTM D-422)	
		Min.	Max.
63.5	100	100	100
50	100	100	100
38	96.4	90	100
25	84.3	55	85
19	62.1	40	75
12.5	34.3	--	--
9.5	32.2	26	50
4.75	26.0	15	35
2.00	15.8	9	25
0.425	4.7	3	16
0.075	1.2	0	7



The test results are (√ Comply - □ Not Comply) with specifications limits.

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Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+100) : (448+600)
Delivery Date : 04/04/2023
Reporting Date : 10/04/2023
Reporting No. : 59
Sample No. : 01

Materials finer than 75 µm (no.200) sieve by washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	1.2

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Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+100) : (448+600)
Delivery Date : 04/04/2023
Reporting Date : 10/04/2023
Reporting No. : 59
Sample No. : 01

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

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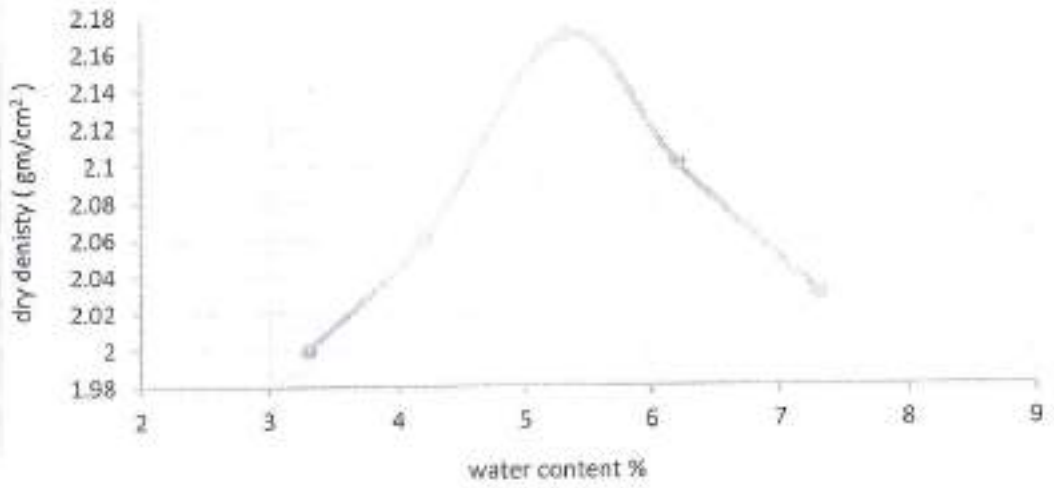
Company Name	**: Sun Rise**
Project	**: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample	**: Sub-Ballast**
Location	**: St. (448+100) : (448+600)**
Delivery Date	**: 04/04/2023**
Reporting Date	**: 10/04/2023**
Reporting No.	**: 59**
Sample No.	**: 01**

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm³)** : 2.17
- **Optimum moisture content %** : 5.3

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Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+100) : (448+600)
Delivery Date : 04/04/2023
Reporting Date : 10/04/2023
Reporting No. : 59
Sample No. : 01

Results of Specific Gravity and Absorption of Course Aggregate ASTM C127 & D 6473

Test	Results
Bulk Specific Gravity (OD)	2.50
Bulk Specific Gravity (SSD)	2.52
Apparent Specific Gravity.	2.60
Absorption %	4.0

Note:

- (OD) Refer to Oven Dry.
- (SSD) Refer to Saturated Surface Dry.

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Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+100) : (448+600)
Delivery Date : 04/04/2023
Reporting Date : 10/04/2023
Reporting No. : 59
Sample No. : 01

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	4.21
1.27	0.050	4.77
1.91	0.075	5.33
2.54	0.100	5.88
3.18	0.125	6.44
3.81	0.150	7.00
4.45	0.175	7.56
5.08	0.200	8.11
5.71	0.225	8.67
6.35	0.250	9.23

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	5.88	85.3

Notes :

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of 2.17 (gm /cm^3) at 5.3 % optimum water content.
3- Surcharge load 4.50 Kg.

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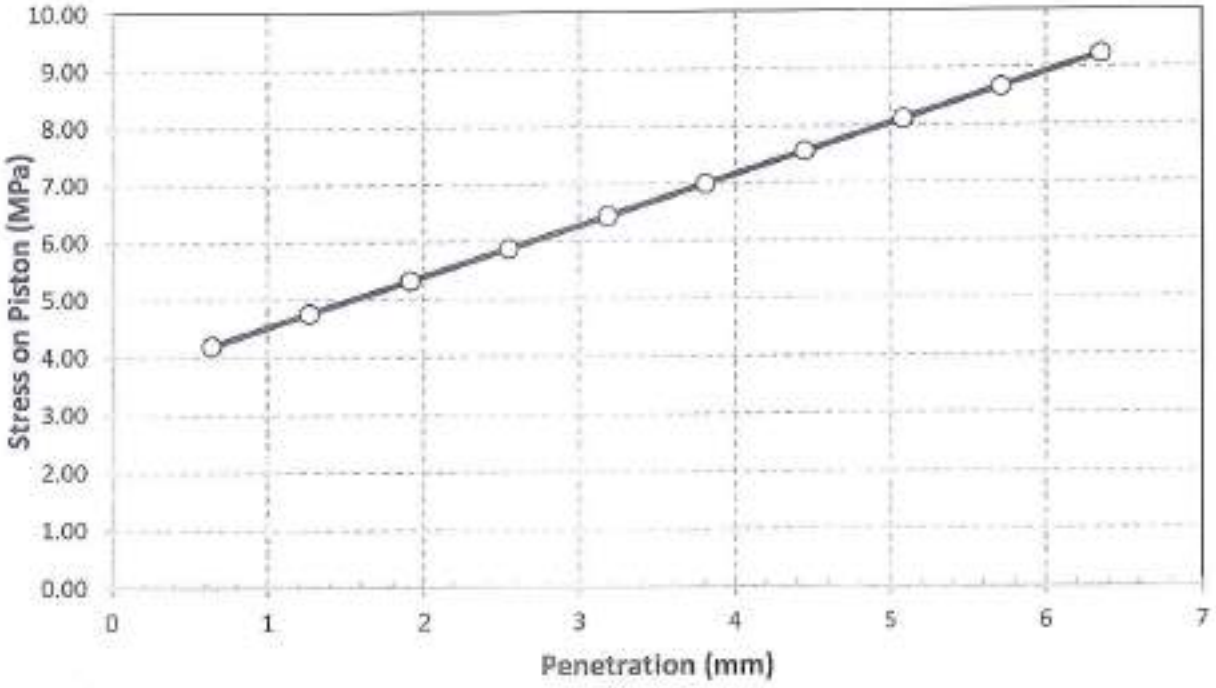
www.cel-egypt.com

Company Name	**: Sun Rise**
Project	**: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample	**: Sub-Ballast**
Location	**: St. (448+100) : (448+600)**
Delivery Date	**: 04/04/2023**
Reporting Date	**: 10/04/2023**
Reporting No.	**: 59**
Sample No.	**: 01**

Load Penetration Curve of CBR Test

ASTM D-1883



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(P50)

S12 - P50

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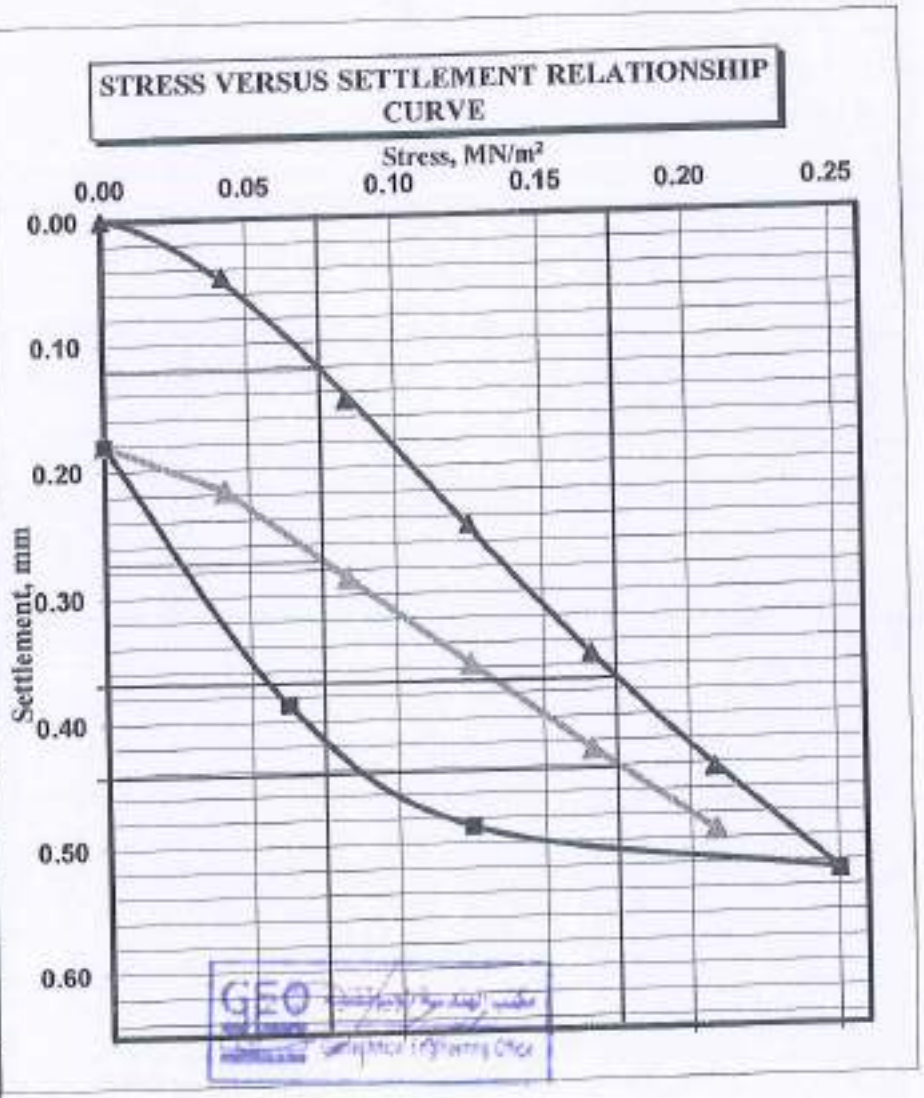
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	6:00 AM
LOCATION	Al-Dabaa (447+725)to(447+750) (level +0.50m)	**TIME FINISH:**	7:30 AM
PLATE LOAD NO.	PLT- 4	**DATE**	16-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m²	Settlement mm
0.00	0.00
0.04	0.05
0.08	0.15
0.13	0.25
0.17	0.35
0.21	0.44
0.25	0.53
0.13	0.49
0.06	0.39
0.00	0.18
0.04	0.22
0.08	0.29
0.13	0.36
0.17	0.43
0.21	0.49
0.25	0.55



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.122
S2 at $0.3*\sigma_{0max}$	0.271
S1 at $0.7*\sigma_{0max}$	0.368
S2 at $0.7*\sigma_{0max}$	0.440

STRAIN MODULUS, Ev

Ev1 [MN/m^2]	182.93
Ev2 [MN/m^2]	266.27
Ev2/Ev1	1.46

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack wilth pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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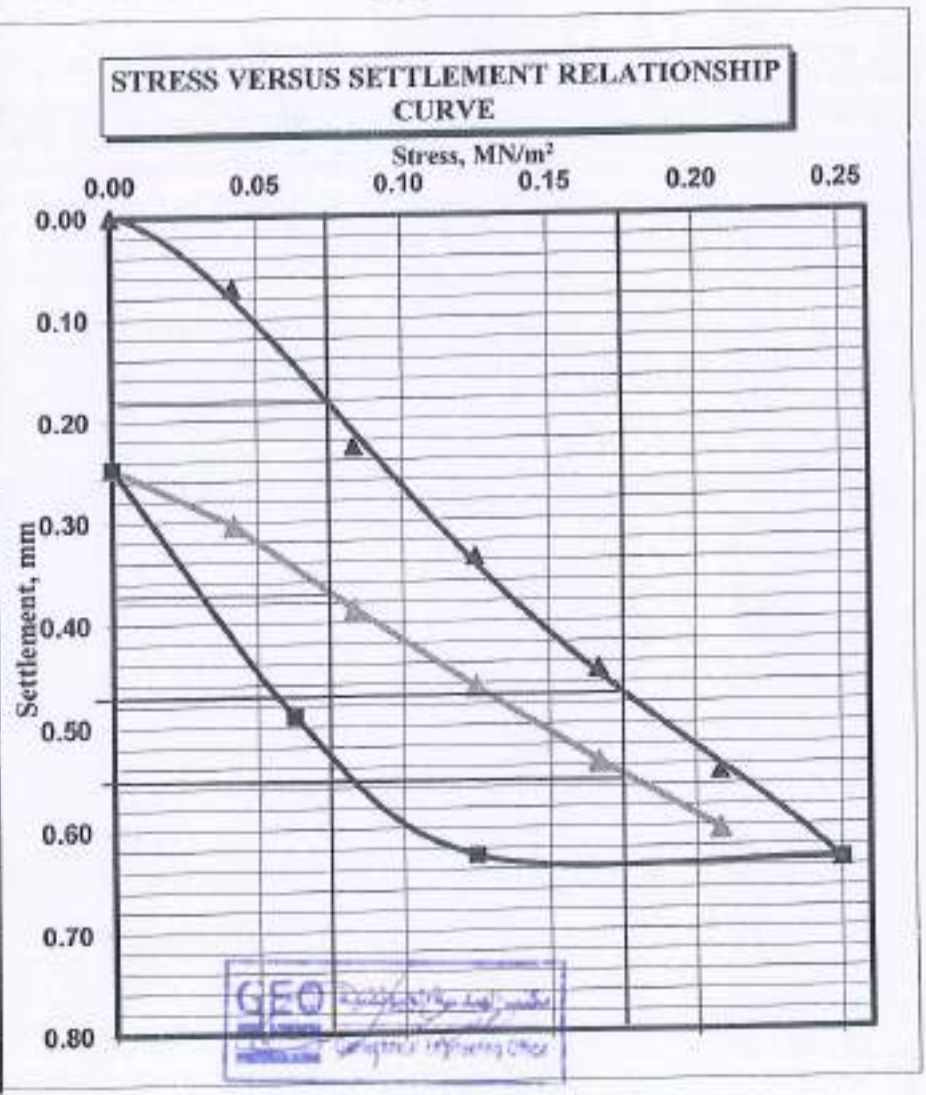
هورما ذات مسئولية محدودة
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	7:30 AM
LOCATION	Al-Dabaa (447+750)to(447+775) (level +0.50m)	**TIME FINISH:**	9;00:00 AM
PLATE LOAD NO.	PLT- 5	**DATE**	16-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m²	Settlement mm
0.00	0.00
0.04	0.07
0.08	0.23
0.13	0.34
0.17	0.45
0.21	0.55
0.25	0.63
0.13	0.63
0.06	0.49
0.00	0.25
0.04	0.30
0.08	0.39
0.13	0.46
0.17	0.54
0.21	0.60
0.25	0.66



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.180
S2 at $0.3*\sigma_{0max}$	0.370
S1 at $0.7*\sigma_{0max}$	0.470
S2 at $0.7*\sigma_{0max}$	0.550

STRAIN MODULUS, Ev

Ev1 [MN/m²]	155.17
Ev2 [MN/m²]	250.00
Ev2/Ev1	1.61

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack willth pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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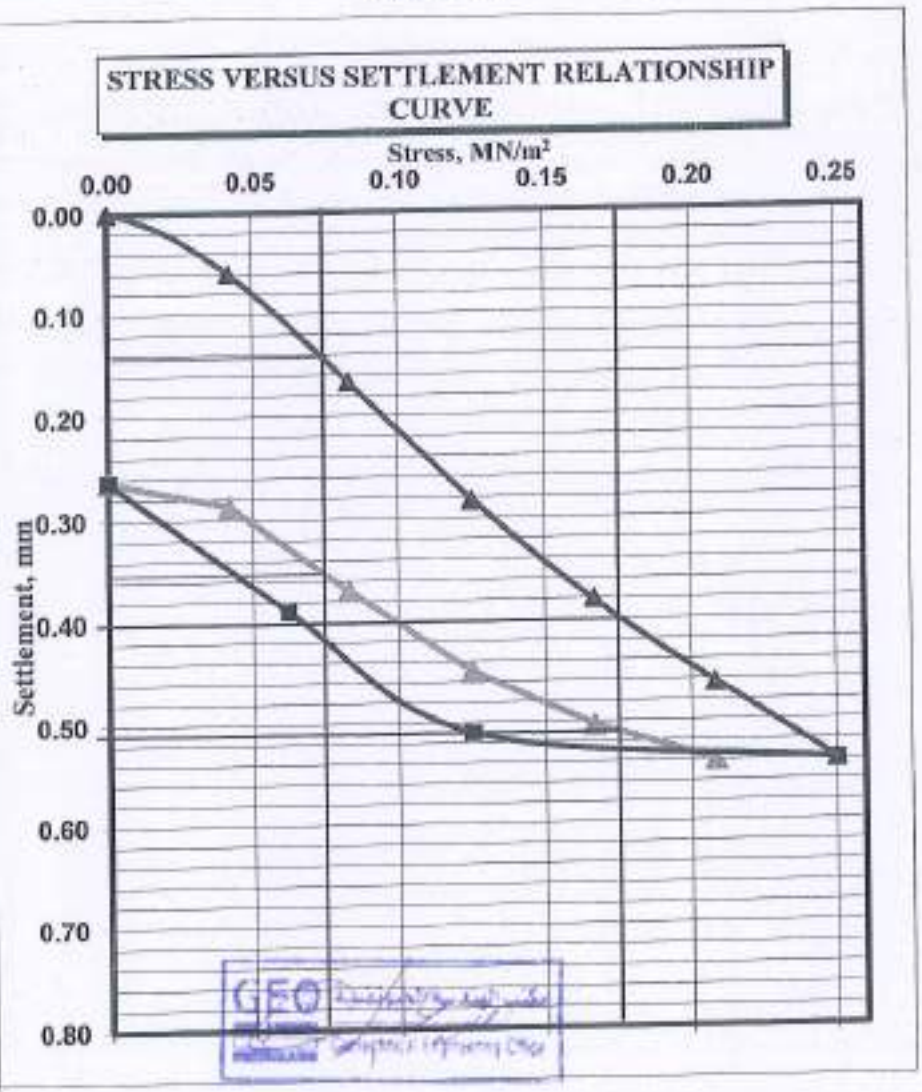
حورية ذات مسئولية محدودة
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	9;00:00 AM
LOCATION	Al-Dabaa (447+775)to(447+800) (level +0.50m)	**TIME FINISH:**	10;30:00 AM
PLATE LOAD NO.	PLT- 6	**DATE**	16-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m²	Settlement mm
0.00	0.00
0.04	0.06
0.08	0.17
0.13	0.28
0.17	0.38
0.21	0.46
0.25	0.54
0.13	0.51
0.06	0.39
0.00	0.26
0.04	0.29
0.08	0.37
0.13	0.45
0.17	0.50
0.21	0.54
0.25	0.57



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.140
S2 at $0.3*\sigma_{0max}$	0.350
S1 at $0.7*\sigma_{0max}$	0.400
S2 at $0.7*\sigma_{0max}$	0.520

STRAIN MODULUS, Ev

Ev1 [MN/m²]	173.08
Ev2 [MN/m²]	264.71
Ev2/Ev1	1.53

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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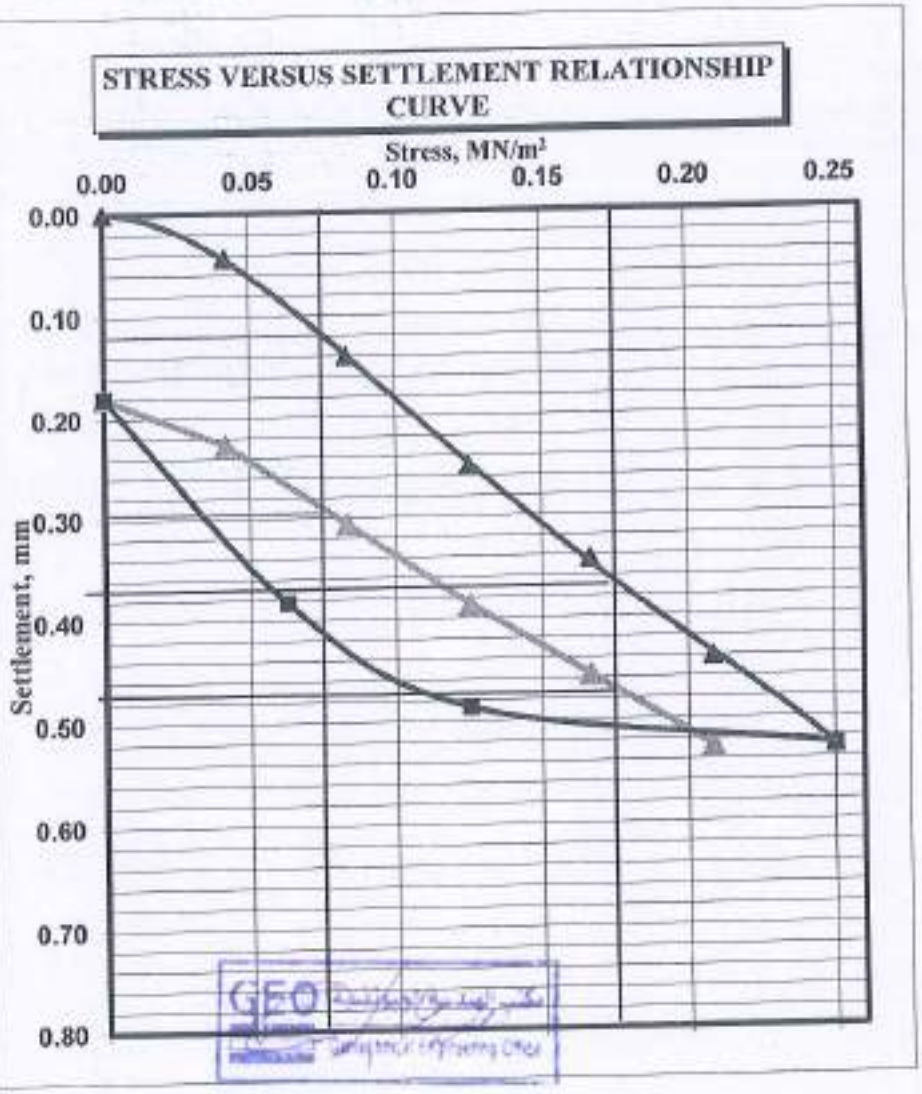
حورية ذات مسئولية محدودة
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	10;30:00 AM
LOCATION	Al-Dabaa (447+800)to(447+825) (level +0.50m)	**TIME FINISH:**	12;00:00 PM
PLATE LOAD NO.	PLT- 7	**DATE**	16-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m²	Settlement mm
0.00	0.00
0.04	0.04
0.08	0.14
0.13	0.25
0.17	0.34
0.21	0.44
0.25	0.53
0.13	0.49
0.06	0.38
0.00	0.18
0.04	0.23
0.08	0.31
0.13	0.39
0.17	0.46
0.21	0.53
0.25	0.59



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.120
S2 at $0.3*\sigma_{0max}$	0.290
S1 at $0.7*\sigma_{0max}$	0.364
S2 at $0.7*\sigma_{0max}$	0.470

STRAIN MODULUS, Ev

Ev1 [MN/m²]	184.43
Ev2 [MN/m²]	250.00
Ev2/Ev1	1.36

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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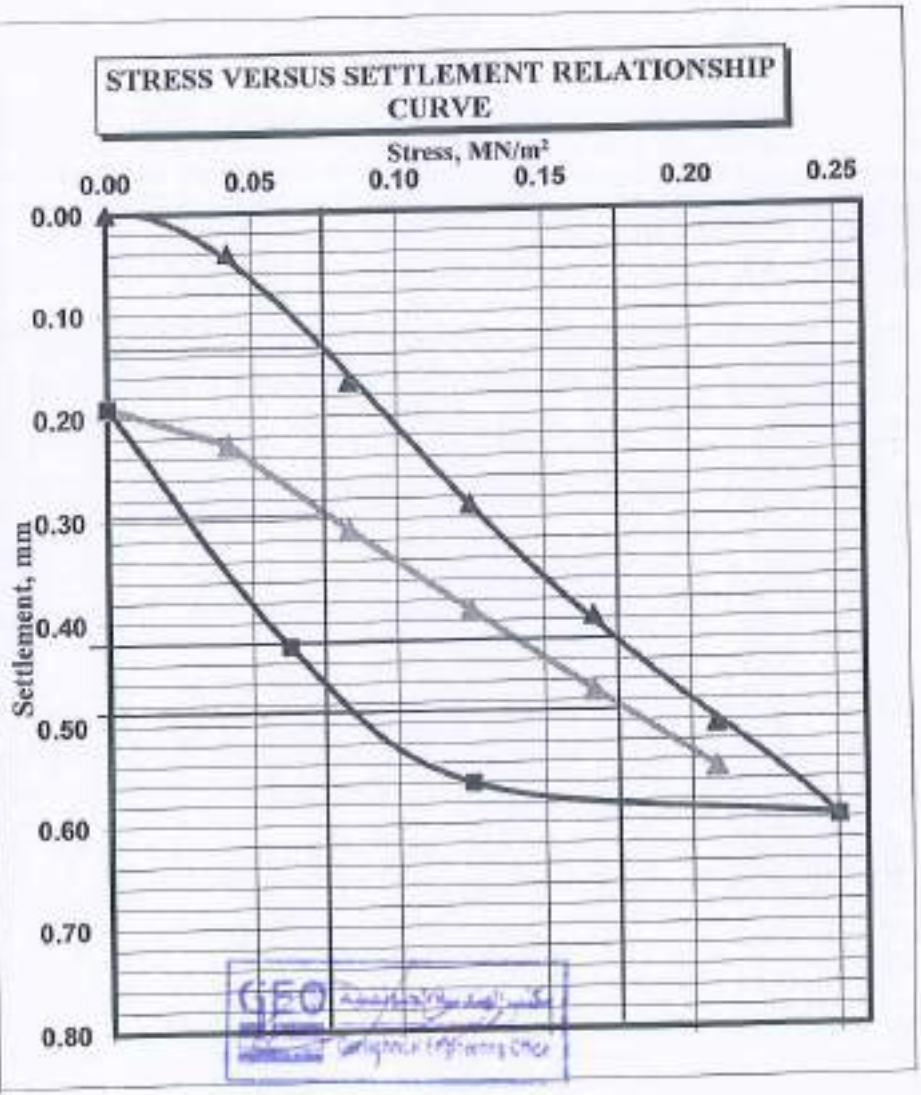
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	12;00:00 PM
LOCATION	Al-Dabaa (447+825)to(447+850) (level +0.50m)	**TIME FINISH:**	1:30 PM
PLATE LOAD NO.	PLT- 8	**DATE**	16-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m²	Settlement mm
0.00	0.00
0.04	0.04
0.08	0.17
0.13	0.29
0.17	0.40
0.21	0.50
0.25	0.60
0.13	0.56
0.06	0.42
0.00	0.19
0.04	0.23
0.08	0.31
0.13	0.39
0.17	0.47
0.21	0.55
0.25	0.62



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.135
S2 at $0.3*\sigma_{0max}$	0.290
S1 at $0.7*\sigma_{0max}$	0.420
S2 at $0.7*\sigma_{0max}$	0.483

STRAIN MODULUS, Ev

Ev1 [MN/m²]	157.89
Ev2 [MN/m²]	233.16
Ev2/Ev1	1.48

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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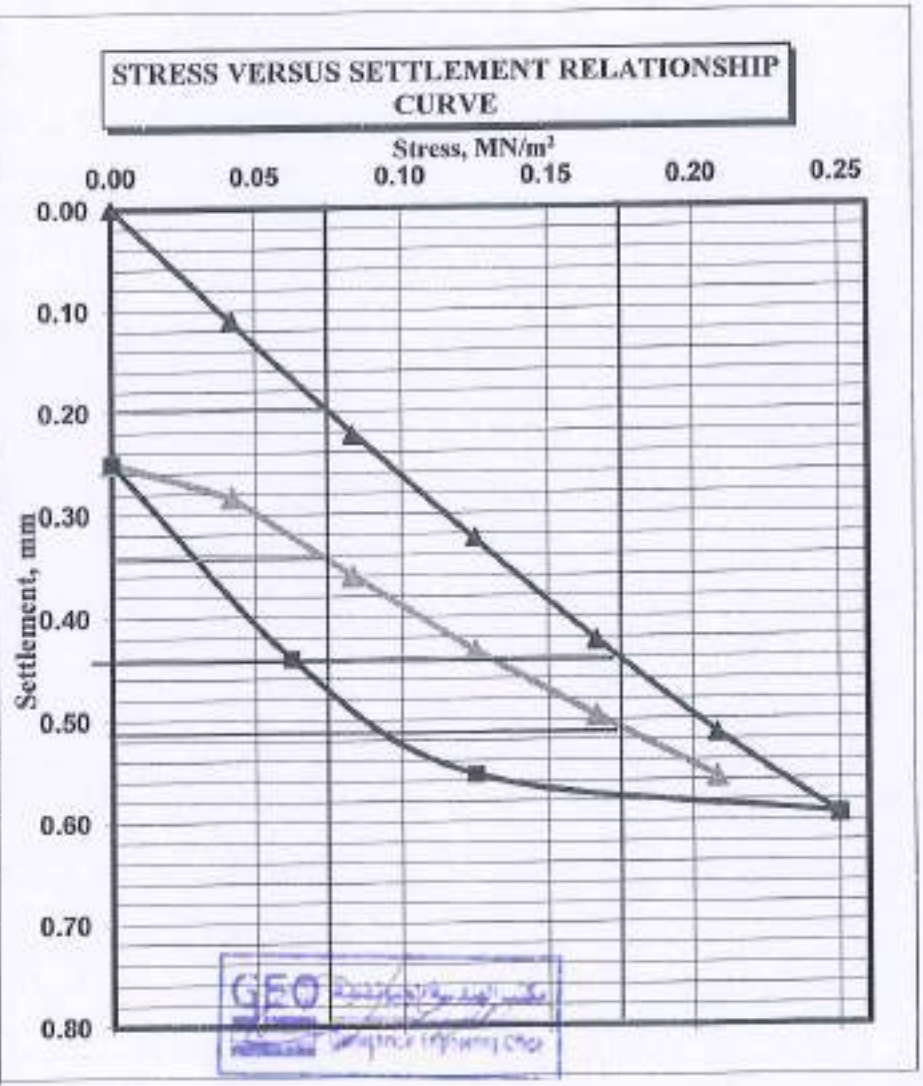
شركات مسئولية محدودة
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	1:30 PM
LOCATION	Al-Dabaa (447+850)to(447+860) (level +0.50m)	**TIME FINISH:**	3:00 PM
PLATE LOAD NO.	PLT- 9	**DATE**	16-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m^2	Settlement mm
0.00	0.00
0.04	0.11
0.08	0.22
0.13	0.32
0.17	0.42
0.21	0.51
0.25	0.59
0.13	0.55
0.06	0.44
0.00	0.25
0.04	0.28
0.08	0.36
0.13	0.43
0.17	0.50
0.21	0.56
0.25	0.61



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.197
S2 at $0.3*\sigma_{0max}$	0.340
S1 at $0.7*\sigma_{0max}$	0.440
S2 at $0.7*\sigma_{0max}$	0.510

STRAIN MODULUS, Ev

Ev1 [MN/m^2]	185.19
Ev2 [MN/m^2]	264.71
Ev2/Ev1	1.43

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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(P51)

SR-P51

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مكتب معامل الإستشارات الهندسية

Company : Sun Rise Construction

Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (6) - Alamein to Foka

Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements

Test Location : (447+850 to 448+050)

Test Date : 08/04/2023

Repot Date : 09/04/2023

Type of soil : ------

Test level : Prepared Subgrade .

Report No. : 181:188

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with **600 mm** and **300 mm** diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton
8. Calibration certificates are attached

Test Procedure

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates **600** mm and **300 mm** diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 600 mm loading plate, the limit values are 2.5 kg/cm^2
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads

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www.cel-egypt.com

Report

1. Evaluation and representation of results
2. Load Settlement curve
3. The test report content the following:-

- location of test site - Dimension of loading plate
- Measuring device used - Type of soil
- Type of Bedding material below the plate -Weathering condition
- Time and date of measurements - Unusual observation made during test
- Dial gauge reading and corresponding normal stress - Loading-settlement curve
- Description of the soil condition below the plate after testing

Report

Type of soil: Prepared Subgrade .

- **Job requirement: Ev2 > 800 Kg/cm^2 (80 MPa).**

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Partly Sunny
- Plate Diameter (mm)	600
- date of measurement	08/04/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		First Cycle	Second Cycle	E_{v2}/E_{v1} Ratio
	From	To	E_{v1} (kg/cm^2)	E_{v2} (kg/cm^2)	
1	447+850	447+875	1000	2250	2.3
2	447+875	447+900	1000	1800	1.8
3	447+900	447+925	776	2045	2.6
4	447+925	447+950	1125	1957	1.7
5	447+950	447+975	1324	1552	1.2
6	447+975	448+000	1324	1957	1.5
7	448+000	448+025	1154	2250	2.0
8	448+025	448+050	776	1800	2.3

Signature / .....

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Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+850to 447+875
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.86	0.14	19.78	0.22	19.80	0.20	0.19
2	0.83	19.52	0.48	19.48	0.52	19.65	0.35	0.45
3	1.25	19.30	0.70	19.27	0.73	19.48	0.52	0.65
4	1.67	19.08	0.92	19.10	0.90	19.36	0.64	0.82
5	2.08	18.88	1.12	18.94	1.06	19.21	0.79	0.99
6	2.50	18.62	1.38	18.80	1.20	19.10	0.90	1.16

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.62	1.38	18.80	1.20	19.10	0.90	1.16
2	1.25	18.71	1.29	18.88	1.00	19.14	0.86	1.05
3	0.625	18.82	1.18	18.99	1.01	19.24	0.76	0.98
4	0.01	19.05	0.95	19.28	0.72	19.50	0.50	0.72

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	18.98	1.02	19.20	0.80	19.42	0.58	0.80
1	0.83	18.89	1.11	19.11	0.89	19.33	0.67	0.89
2	1.25	18.80	1.20	19.02	0.98	19.24	0.76	0.98
3	1.67	18.71	1.29	18.93	1.07	19.15	0.85	1.07
4	2.08	18.62	1.38	18.85	1.15	19.07	0.93	1.15

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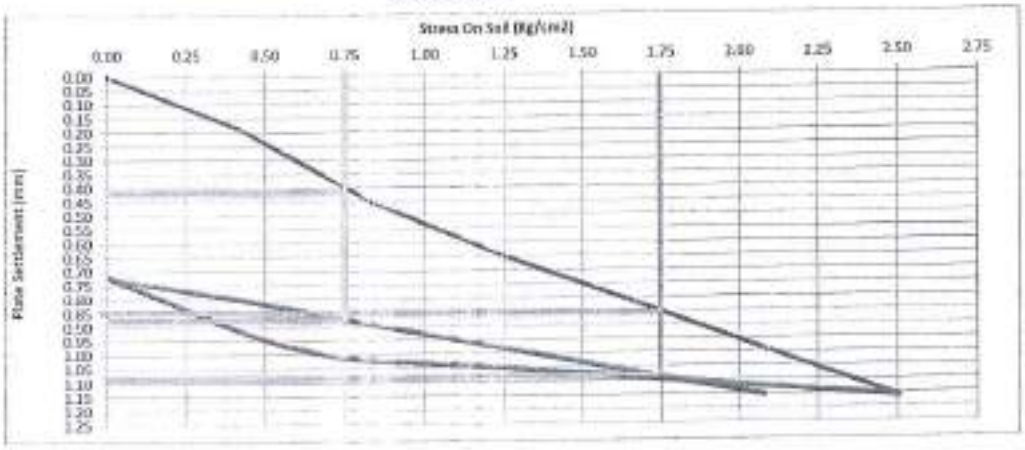
Company Name	: Sun Rise Construction.
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Fuka
Test Date	: 08/04/2023
report date	: 09/04/2023
Location	: Station 447+850to 447+875
Test No.	: 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.19	0.45	0.65	0.82	0.99	1.16

D (mm) =	600	S1 (mm)=	0.41	S2(mm)=	0.86	ΔS =	0.45
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS			1000				

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.16	1.05	0.98	0.72

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.72	0.80	0.89	0.98	1.07	1.15

D (mm) =	600	S1 (mm)=	0.88	S2(mm)=	1.08	ΔS =	0.20
Ev2 (kg/cm2) =	(0.75*D*Δσ)/ΔS		2250				

Ev2/Ev1 =	2.3

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Δσ = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Fuka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+875 to 447+900
Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.76	0.24	19.69	0.31	19.65	0.35	0.30
2	0.83	19.55	0.45	19.52	0.48	19.48	0.52	0.48
3	1.25	19.37	0.63	19.33	0.67	19.32	0.68	0.66
4	1.67	19.21	0.79	19.18	0.82	19.14	0.86	0.82
5	2.08	19.00	1.00	18.98	1.02	18.95	1.05	1.02
6	2.50	18.86	1.14	18.84	1.16	18.82	1.18	1.16

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.86	1.14	18.84	1.16	18.82	1.18	1.16
2	1.25	18.92	1.08	18.90	1.10	18.89	1.11	1.10
3	0.625	19.21	0.79	18.98	1.02	19.00	1.00	0.94
4	0.01	19.50	0.50	19.25	0.75	19.30	0.70	0.65

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.42	0.58	19.19	0.81	19.22	0.78	0.72
1	0.83	19.33	0.67	19.10	0.90	19.11	0.89	0.82
2	1.25	19.23	0.77	19.00	1.00	19.02	0.98	0.92
3	1.67	19.14	0.86	18.92	1.08	18.91	1.09	1.01
4	2.08	19.05	0.95	18.83	1.17	18.83	1.17	1.10

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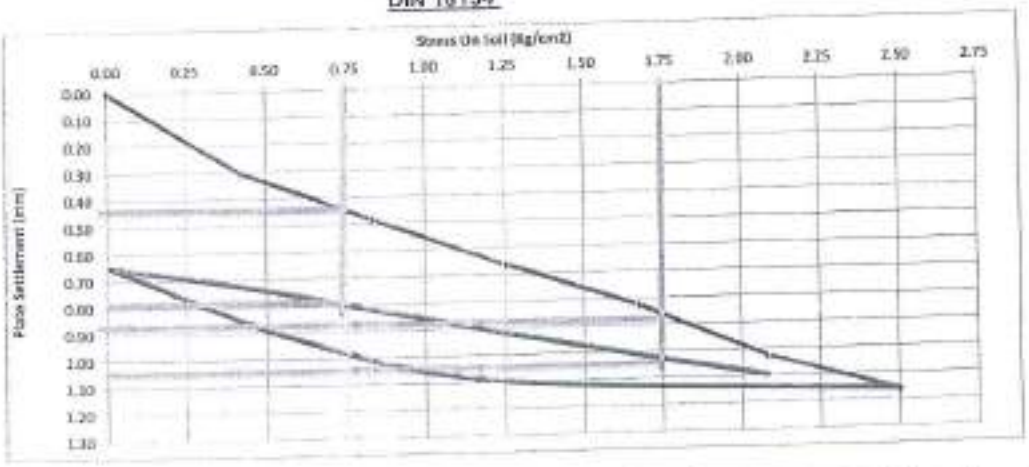
Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sukhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+875 to 447+900
Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.30	0.48	0.66	0.82	1.02	1.16
D (mm) = 600		S1 (mm)=	0.43	S2(mm)=	0.88	ΔS =	0.45
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS			1900				

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.16	1.10	0.94	0.85

Ev2/Ev1 = 1.8

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.85	0.72	0.82	0.92	1.01	1.10
D (mm) = 600		S1 (mm)=	0.79	S2(mm)=	1.04	ΔS =	0.25
Ev2(kg/cm2) =	(0.75*D*Δσ)/ΔS		1800			

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage
D = Plate diameter (mm)
Δσ = The difference between 0.3 and 0.7 from the maximum loading (stress) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+900 to 447+925
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.90	0.10	19.74	0.26	19.82	0.18	0.18
2	0.83	19.70	0.30	19.50	0.50	19.46	0.54	0.45
3	1.25	19.45	0.55	19.32	0.68	19.05	0.95	0.73
4	1.67	19.20	0.80	19.11	0.89	18.80	1.20	0.96
5	2.08	19.08	0.92	18.96	1.04	18.66	1.34	1.10
6	2.50	18.95	1.05	18.82	1.18	18.52	1.48	1.24

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.95	1.05	18.82	1.18	18.52	1.48	1.24
2	1.25	19.00	1.00	18.90	1.10	18.60	1.40	1.17
3	0.625	19.09	0.91	19.00	1.00	18.69	1.31	1.07
4	0.01	19.26	0.74	19.27	0.73	19.00	1.00	0.82

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.18	0.82	19.20	0.80	18.91	1.09	0.90
1	0.83	19.11	0.89	19.10	0.90	18.82	1.18	0.99
2	1.25	19.05	0.95	19.01	0.99	18.72	1.28	1.07
3	1.67	18.97	1.03	18.92	1.08	18.60	1.40	1.17
4	2.08	18.95	1.05	18.83	1.17	18.51	1.49	1.24

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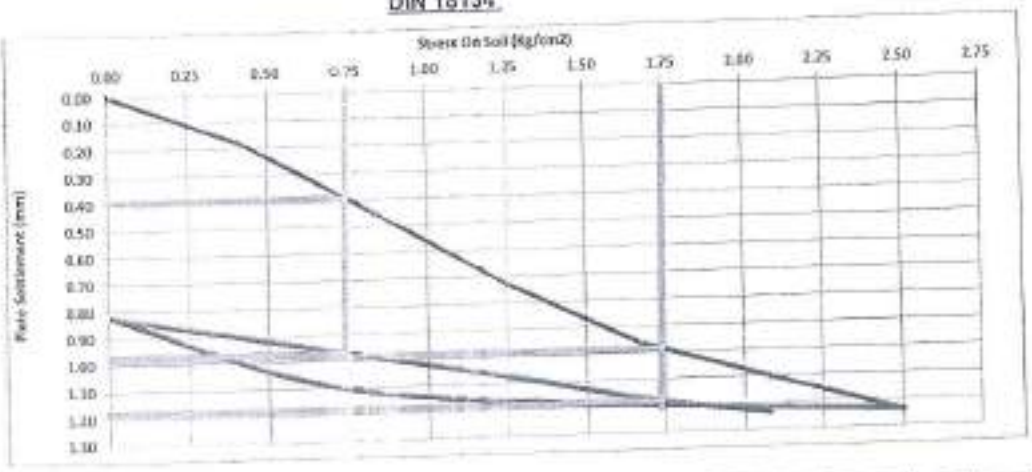
Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+900 to 447+925
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1166.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.15	0.45	0.73	0.96	1.10	1.24

D (mm) = 600	S1 (mm)= 0.40	S2(mm)= 0.98	ΔS = 0.58
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS	776		

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.24	1.17	1.07	0.82

Ev2/Ev1 =	2.6

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1166.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.82	0.90	0.99	1.07	1.17	1.24

D (mm) = 600	S1 (mm)= 0.97	S2(mm)= 1.19	ΔS = 0.22
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS	2045		

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Δσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+925 to 447+950
Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.84	0.16	19.78	0.22	19.82	0.18	0.19
2	0.83	19.66	0.34	19.63	0.37	19.70	0.30	0.34
3	1.25	19.48	0.52	19.45	0.55	19.56	0.44	0.50
4	1.67	19.28	0.72	19.30	0.70	19.41	0.59	0.67
5	2.08	19.11	0.89	19.14	0.86	19.22	0.78	0.84
6	2.50	18.97	1.03	19.00	1.00	19.10	0.90	0.98

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.97	1.03	19.00	1.00	19.10	0.90	0.98
2	1.25	19.02	0.98	19.06	0.94	19.17	0.83	0.92
3	0.625	19.10	0.90	19.12	0.88	19.25	0.75	0.84
4	0.01	19.35	0.65	19.40	0.60	19.50	0.50	0.58

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.28	0.72	19.33	0.67	19.43	0.57	0.65
1	0.83	19.19	0.81	19.24	0.76	19.34	0.66	0.74
2	1.25	19.09	0.91	19.15	0.85	19.24	0.76	0.84
3	1.67	19.00	1.00	19.06	0.94	19.15	0.85	0.93
4	2.08	18.93	1.07	18.98	1.02	19.07	0.93	1.01

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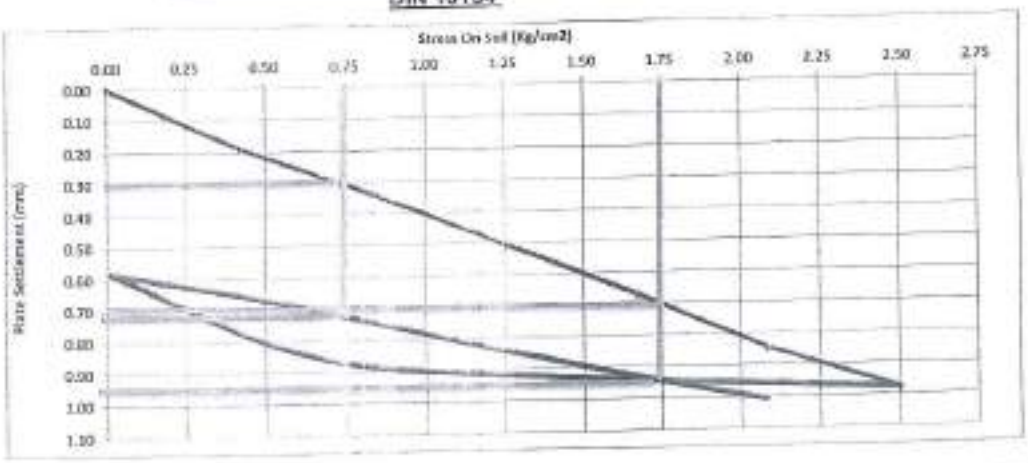
Company Name	: Sun Rise Construction.
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date	: 05/04/2023
report date	: 06/04/2023
Location	: Station 447+025 to 447+950
Test No.	: 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.19	0.34	0.50	0.67	0.84	0.98

D (mm) = 600	S1 (mm)=	0.30	S2(mm)= 0.70	ΔS =	0.40
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS		1125			

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.98	0.92	0.84	0.58

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.58	0.65	0.74	0.84	0.93	1.01

D (mm) = 600	S1 (mm)=	0.72	S2(mm)= 0.95	ΔS =	0.23
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS		1957			

Ev2/Ev1 =	1.7

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Δσ = The difference between 0.3 and 0.7 from the maximum loading (Smax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+950 to 447+975
Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.86	0.14	19.79	0.21	19.78	0.22	0.19
2	0.83	19.62	0.38	19.61	0.39	19.92	0.08	0.28
3	1.25	19.54	0.46	19.49	0.51	19.69	0.31	0.43
4	1.67	19.43	0.57	19.36	0.64	19.43	0.57	0.59
5	2.08	19.29	0.71	19.17	0.83	19.21	0.79	0.78
6	2.50	19.20	0.80	19.09	0.91	19.03	0.97	0.89

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.20	0.80	19.09	0.91	19.03	0.97	0.89
2	1.25	19.27	0.73	19.14	0.86	19.11	0.89	0.83
3	0.625	19.34	0.66	19.26	0.74	19.19	0.81	0.74
4	0.01	19.58	0.42	19.49	0.51	19.43	0.57	0.50

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.42	0.58	19.37	0.63	19.31	0.69	0.63
1	0.83	19.31	0.69	19.25	0.75	19.22	0.78	0.74
2	1.25	19.18	0.82	19.13	0.87	19.13	0.87	0.85
3	1.67	19.05	0.95	19.02	0.98	19.07	0.93	0.95
4	2.08	18.96	1.04	18.91	1.09	18.89	1.11	1.08

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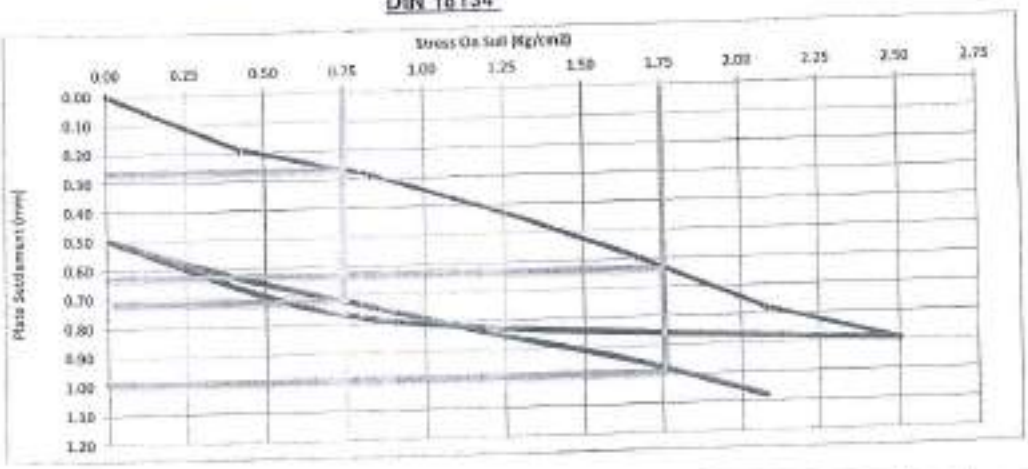
Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+950 to 447+975
Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.19	0.28	0.43	0.59	0.78	0.89

D (mm) = 600 | S1 (mm)= 0.28 | S2(mm)= 0.62 | ΔS = 0.34
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS = 1324

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.89	0.83	0.74	0.50

Ev2/Ev1 = 1.2

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.50	0.63	0.74	0.85	0.96	1.08

D (mm) = 600 | S1 (mm)= 0.71 | S2(mm)= 1.00 | ΔS = 0.29
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS = 1552

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage
D = Plate diameter (mm)
σs = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+975 to 448+000
Test No. : 06

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.88	0.12	19.90	0.10	19.81	0.19	0.14
2	0.83	19.70	0.30	19.77	0.23	19.59	0.41	0.31
3	1.25	19.53	0.47	19.63	0.37	19.40	0.60	0.48
4	1.67	19.38	0.62	19.50	0.50	19.25	0.75	0.62
5	2.08	19.21	0.79	19.37	0.63	19.09	0.91	0.78
6	2.50	19.09	0.91	19.21	0.79	18.94	1.06	0.92

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.09	0.91	19.21	0.79	18.94	1.06	0.92
2	1.25	19.16	0.84	19.26	0.74	19.00	1.00	0.86
3	0.625	19.25	0.75	19.32	0.68	19.10	0.90	0.78
4	0.01	19.51	0.49	19.60	0.40	19.34	0.66	0.52

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.44	0.56	19.53	0.47	19.26	0.74	0.59
1	0.83	19.34	0.66	19.44	0.56	19.17	0.83	0.68
2	1.25	19.25	0.75	19.35	0.65	19.09	0.91	0.77
3	1.67	19.16	0.84	19.27	0.73	19.00	1.00	0.86
4	2.08	19.09	0.91	19.20	0.80	18.92	1.08	0.93

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Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Fokaa
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 447+975 to 448+000
Test No. : 06

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.14	0.31	0.48	0.62	0.78	0.92

D (mm) = 600 | S1 (mm)= 0.39 | S2(mm)= 0.64 | ΔS = 0.34

Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS = 1324

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.92	0.86	0.78	0.52

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.52	0.59	0.68	0.77	0.86	0.93

D (mm) = 600 | S1 (mm)= 0.65 | S2(mm)= 0.88 | ΔS = 0.23

Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS = 1957

Ev2/Ev1 = 1.5

Ev1 = Modulus of deformation during the loading stage
Ev2 = Modulus of deformation during the Reloading stage
D = Plate diameter (mm)
Δσ = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 448+000 to 448+025
Test No. : 07

Nonrepetitive Static Plate Load Tests of Soils DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.84	0.16	19.77	0.23	19.83	0.17	0.19
2	0.83	19.70	0.30	19.58	0.42	19.68	0.32	0.35
3	1.25	19.55	0.45	19.38	0.62	19.53	0.47	0.51
4	1.67	19.40	0.60	19.20	0.80	19.37	0.63	0.68
5	2.08	19.27	0.73	19.06	0.94	19.21	0.79	0.82
6	2.50	19.10	0.90	18.95	1.05	19.06	0.94	0.96

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.10	0.90	18.95	1.05	19.06	0.94	0.96
2	1.25	19.15	0.85	19.00	1.00	19.11	0.89	0.91
3	0.625	19.26	0.74	19.09	0.91	19.20	0.80	0.82
4	0.01	19.41	0.59	19.33	0.67	19.50	0.50	0.59

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.32	0.68	19.25	0.75	19.42	0.58	0.67
1	0.83	19.20	0.80	19.16	0.84	19.33	0.67	0.77
2	1.25	19.10	0.90	19.08	0.92	19.25	0.75	0.86
3	1.67	19.05	0.95	19.01	0.99	19.18	0.82	0.92
4	2.08	19.00	1.00	18.92	1.08	19.09	0.91	1.00

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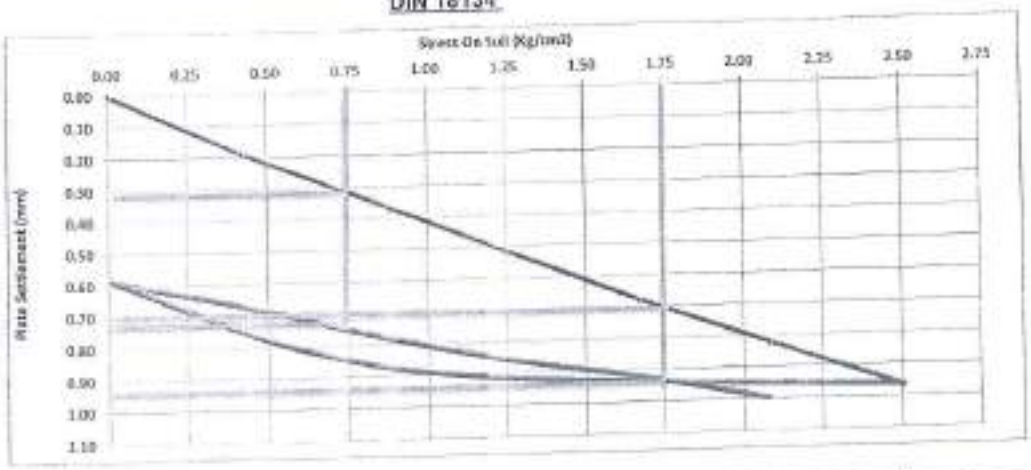
Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (9) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 448+000 to 448+025
Test No. : 07

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.19	0.35	0.51	0.68	0.82	0.96

D (mm) = 600	S1 (mm)=	0.31	S2(mm)= 0.70	ΔS =	0.39
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS		1154			

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.96	0.91	0.82	0.59

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.59	0.67	0.77	0.86	0.92	1.00

D (mm) = 600	S1 (mm)=	0.73	S2(mm)= 0.93	ΔS =	0.20
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS		2250			

Ev2/Ev1 =	2.0

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Δs = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 448+025 to 448+050
Test No. : 08

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.00	20.00	0.00	19.87	0.00	20.00	0.00	0.00
1	0.42	19.86	0.14	19.80	0.07	19.80	0.20	0.14
2	0.83	19.74	0.26	19.61	0.26	19.56	0.44	0.32
3	1.25	19.58	0.42	19.29	0.58	19.13	0.87	0.62
4	1.67	19.45	0.55	19.04	0.83	18.82	1.18	0.85
5	2.08	19.30	0.70	18.83	1.04	18.58	1.42	1.05
6	2.50	19.15	0.85	18.65	1.22	18.35	1.65	1.24

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.35	0.65	18.65	1.22	18.35	1.65	1.24
2	1.25	19.25	0.75	18.70	1.17	18.45	1.55	1.16
3	0.625	19.40	0.60	18.84	1.03	18.60	1.40	1.01
4	0.01	19.75	0.25	19.21	0.66	19.00	1.00	0.64

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.66	0.34	19.08	0.79	18.88	1.12	0.75
1	0.83	19.55	0.45	18.93	0.94	18.71	1.29	0.89
2	1.25	19.41	0.59	18.81	1.06	18.59	1.41	1.02
3	1.67	19.32	0.68	18.72	1.15	18.50	1.50	1.11
4	2.08	19.22	0.78	18.65	1.22	18.40	1.60	1.20

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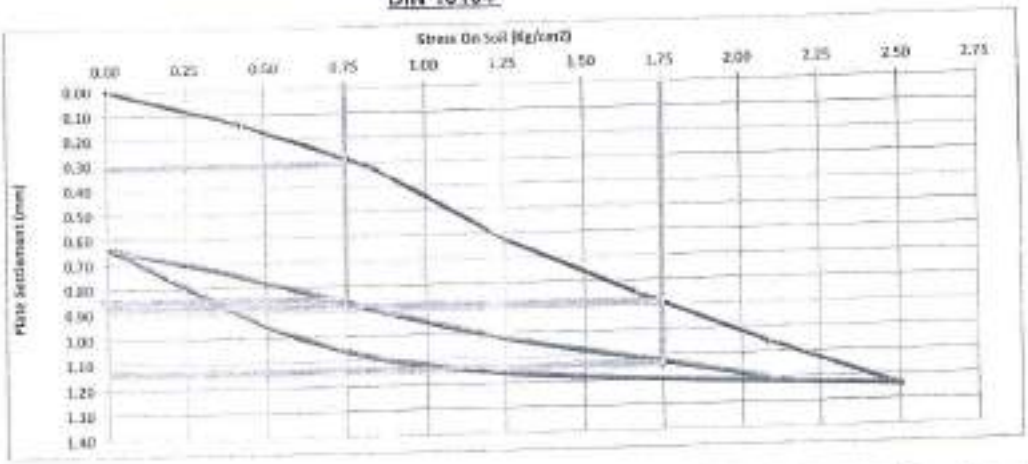
Company Name : Sun Rise Construction.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (5) – Alamein to Foka
Test Date : 08/04/2023
report date : 09/04/2023
Location : Station 448+025 to 448+050
Test No. : 08

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.14	0.32	0.62	0.85	1.05	1.24

D (mm) = 600	S1 (mm)=	0.30	S2(mm)= 0.88	ΔS =	0.58
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS		776			

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.24	1.16	1.01	0.64

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.64	0.76	0.89	1.02	1.11	1.20

D (mm) = 600	S1 (mm)=	0.87	S2(mm)= 1.12	ΔS =	0.25
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS		1800			

Ev2/Ev1 =	2.3

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Δσ = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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(P54)

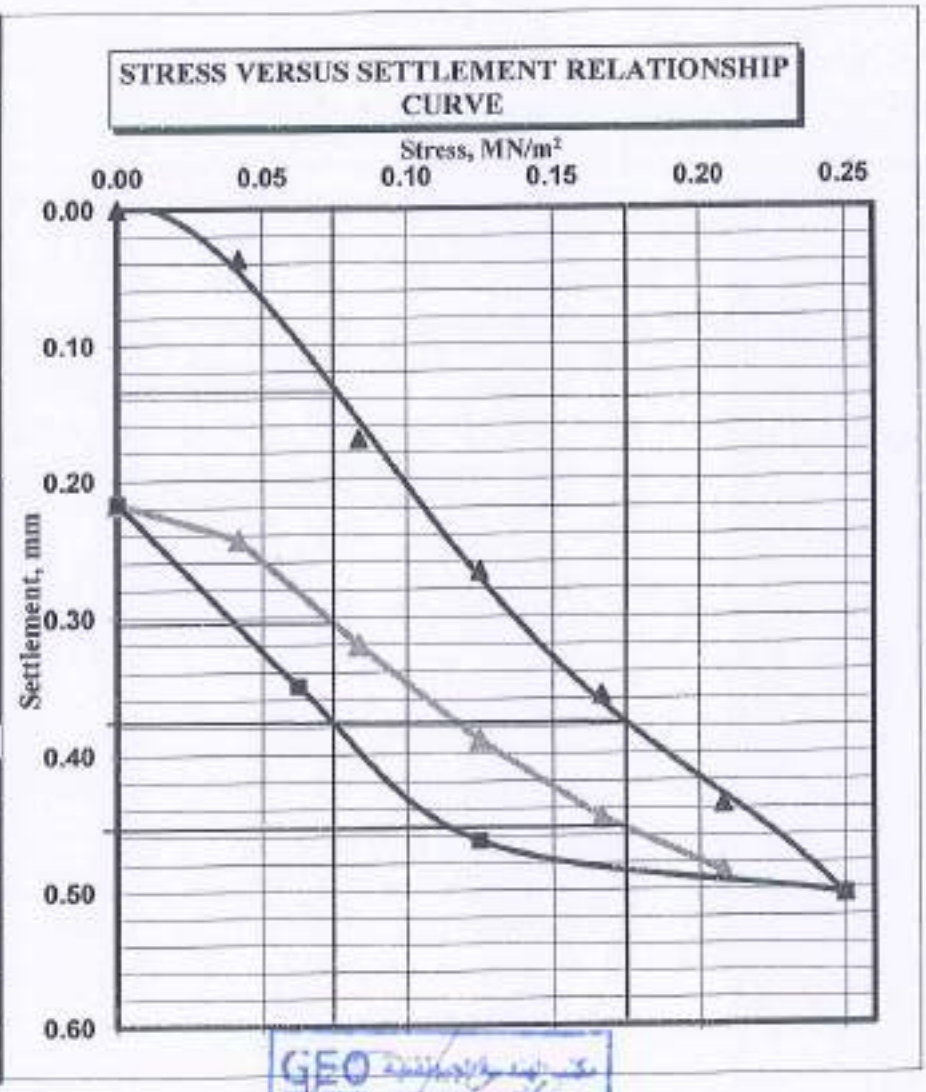
SR P54

حورية ذات مسئولية محدودة
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	6:00 AM
LOCATION	Al-Dabaa (447+600)to(447+625) (level +0.90m)	**TIME FINISH:**	7:30 AM
PLATE LOAD NO.	PLT- 23	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m²	Settlement mm
0.00	0.00
0.04	0.04
0.08	0.17
0.13	0.27
0.17	0.36
0.21	0.44
0.25	0.50
0.13	0.46
0.06	0.35
0.00	0.22
0.04	0.24
0.08	0.32
0.13	0.39
0.17	0.45
0.21	0.49
0.25	0.52



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.132
S2 at $0.3*\sigma_{0max}$	0.302
S1 at $0.7*\sigma_{0max}$	0.377
S2 at $0.7*\sigma_{0max}$	0.453

STRAIN MODULUS, Ev

Ev1 [MN/m²]	183.67
Ev2 [MN/m²]	298.01
Ev2/Ev1	1.62

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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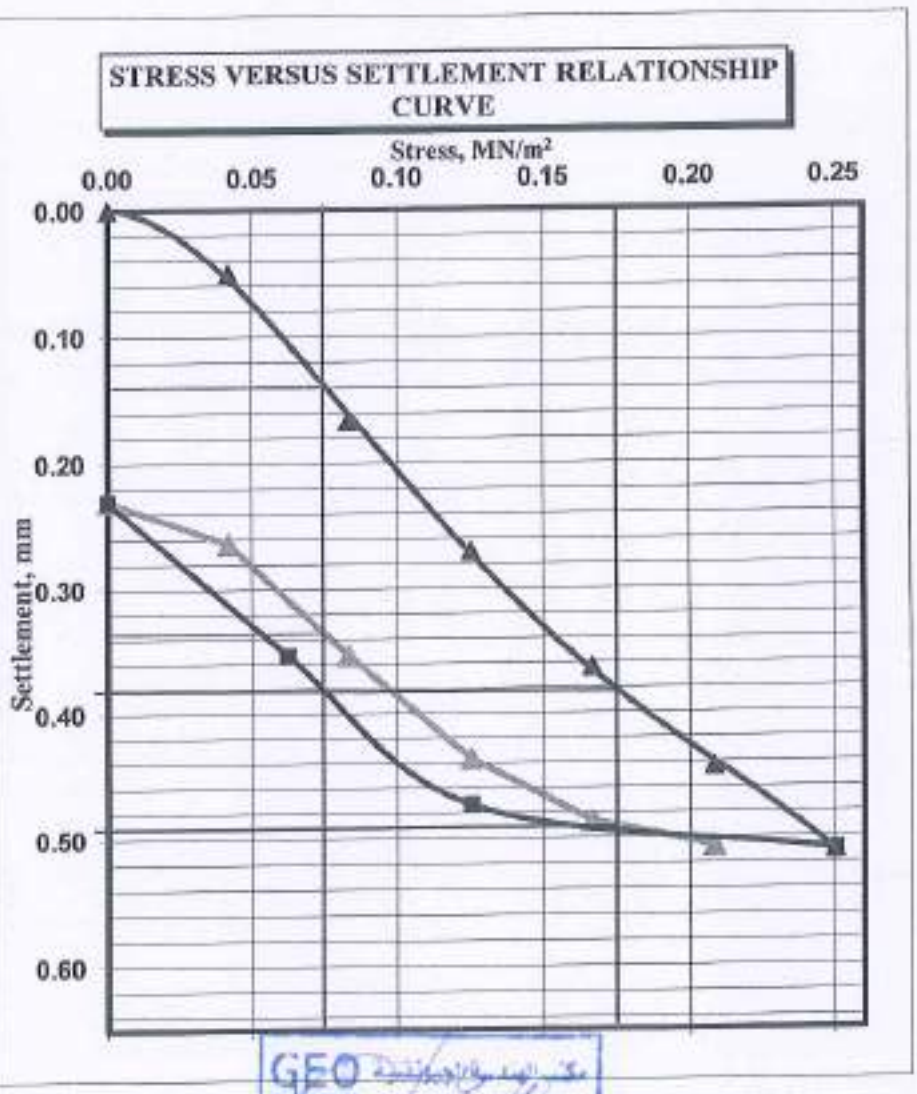
Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	7:30 AM
LOCATION	Al-Dabaa (447+625)to(447+650) (level +0.90m)	**TIME FINISH:**	9:00 AM
PLATE LOAD NO.	PLT- 24	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m^2	Settlement mm
0.00	0.00
0.04	0.05
0.08	0.17
0.13	0.27
0.17	0.36
0.21	0.44
0.25	0.51
0.13	0.47
0.06	0.35
0.00	0.23
0.04	0.26
0.08	0.35
0.13	0.44
0.17	0.49
0.21	0.51
0.25	0.53

$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.139
S2 at $0.3*\sigma_{0max}$	0.334
S1 at $0.7*\sigma_{0max}$	0.380
S2 at $0.7*\sigma_{0max}$	0.490



STRAIN MODULUS, Ev

Ev1 [MN/m^2]	186.72
Ev2 [MN/m^2]	288.46
Ev2/Ev1	1.54

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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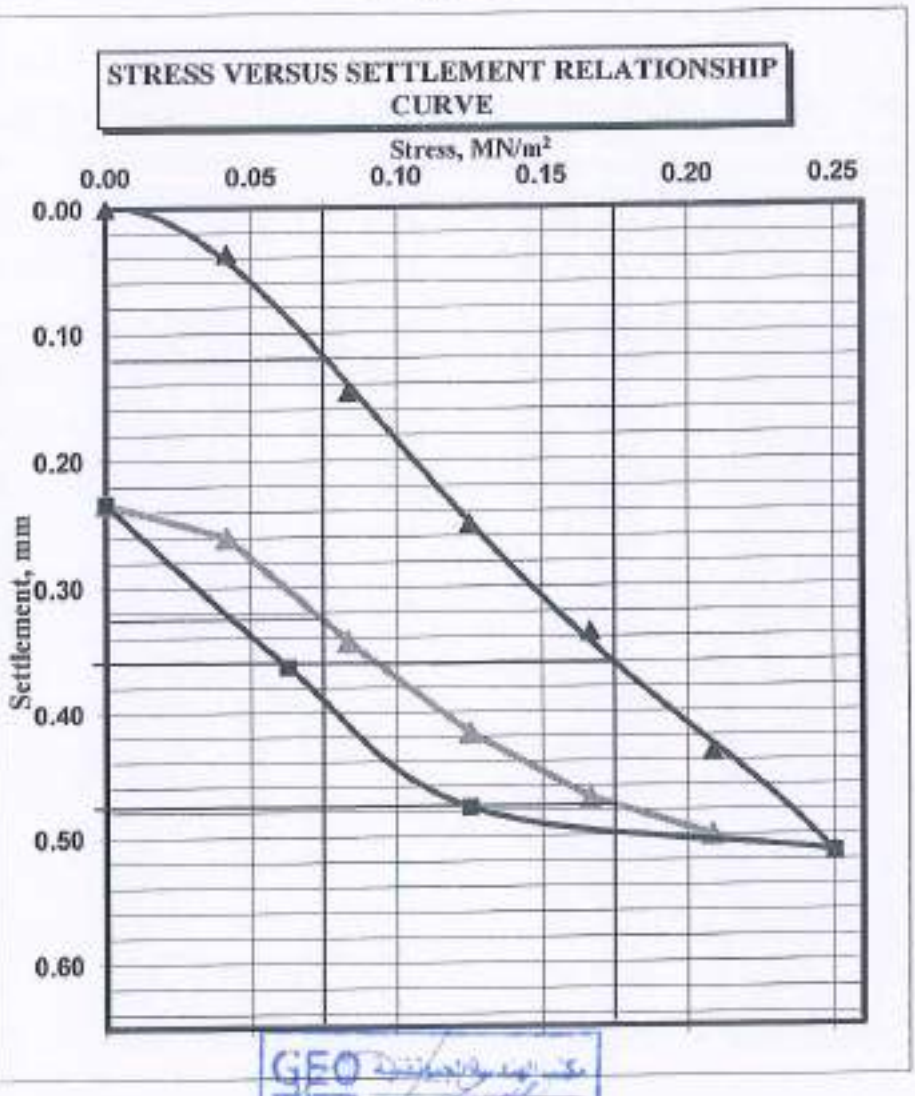
Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	9:00 AM
LOCATION	Al-Dabaa (447+650)to(447+675) (level +0.90m)	**TIME FINISH:**	10:30 AM
PLATE LOAD NO.	PLT- 25	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m^2	Settlement mm
0.00	0.00
0.04	0.04
0.08	0.15
0.13	0.25
0.17	0.34
0.21	0.43
0.25	0.51
0.13	0.48
0.06	0.36
0.00	0.23
0.04	0.26
0.08	0.34
0.13	0.42
0.17	0.47
0.21	0.50
0.25	0.53



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.120
S2 at $0.3*\sigma_{0max}$	0.325
S1 at $0.7*\sigma_{0max}$	0.360
S2 at $0.7*\sigma_{0max}$	0.476

STRAIN MODULUS, Ev

Ev1 [MN/m^2]	187.50
Ev2 [MN/m^2]	298.01
Ev2/Ev1	1.59

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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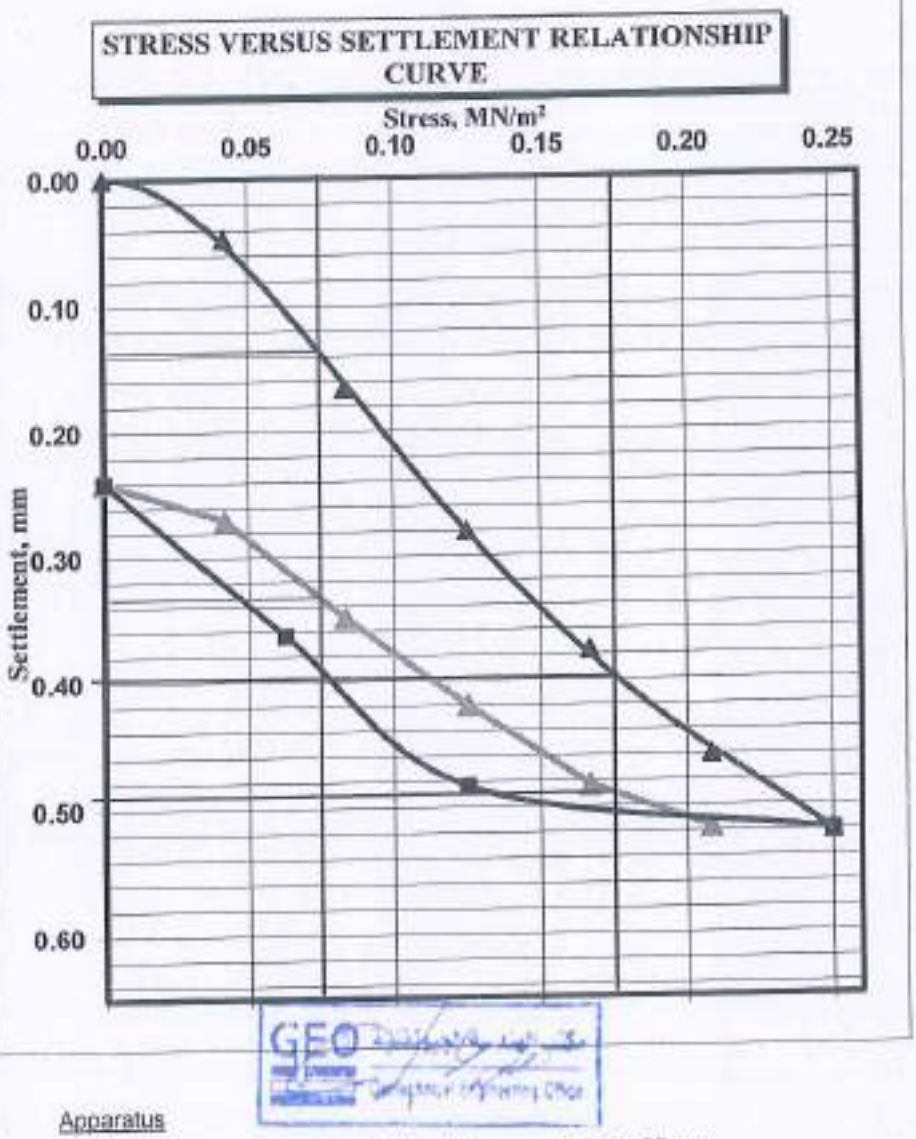
شركة حورية ذات مسئولية محدودة
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	10:30 AM
LOCATION	Al-Dabaa (447+675)to(447+700) (level +0.90m)	**TIME FINISH:**	12:00 PM
PLATE LOAD NO.	PLT- 26	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m²	Settlement mm
0.00	0.00
0.04	0.05
0.08	0.17
0.13	0.28
0.17	0.38
0.21	0.46
0.25	0.52
0.13	0.48
0.06	0.36
0.00	0.24
0.04	0.27
0.08	0.35
0.13	0.42
0.17	0.48
0.21	0.52
0.25	0.54



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.133
S2 at $0.3*\sigma_{0max}$	0.331
S1 at $0.7*\sigma_{0max}$	0.398
S2 at $0.7*\sigma_{0max}$	0.490

STRAIN MODULUS, Ev

Ev1 [MN/m²]	169.81
Ev2 [MN/m²]	283.02
Ev2/Ev1	1.67

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack wilth pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

5 Mostafa Kamel St. Smouha Alexandria
Tel./Fax : +203 4243784 , +203 4272604
E-mail : horema2@yahoo.com
E-mail : horema_eg@yahoo.com

٥ ش مصطفي كامل - سموحة - الإسكندرية
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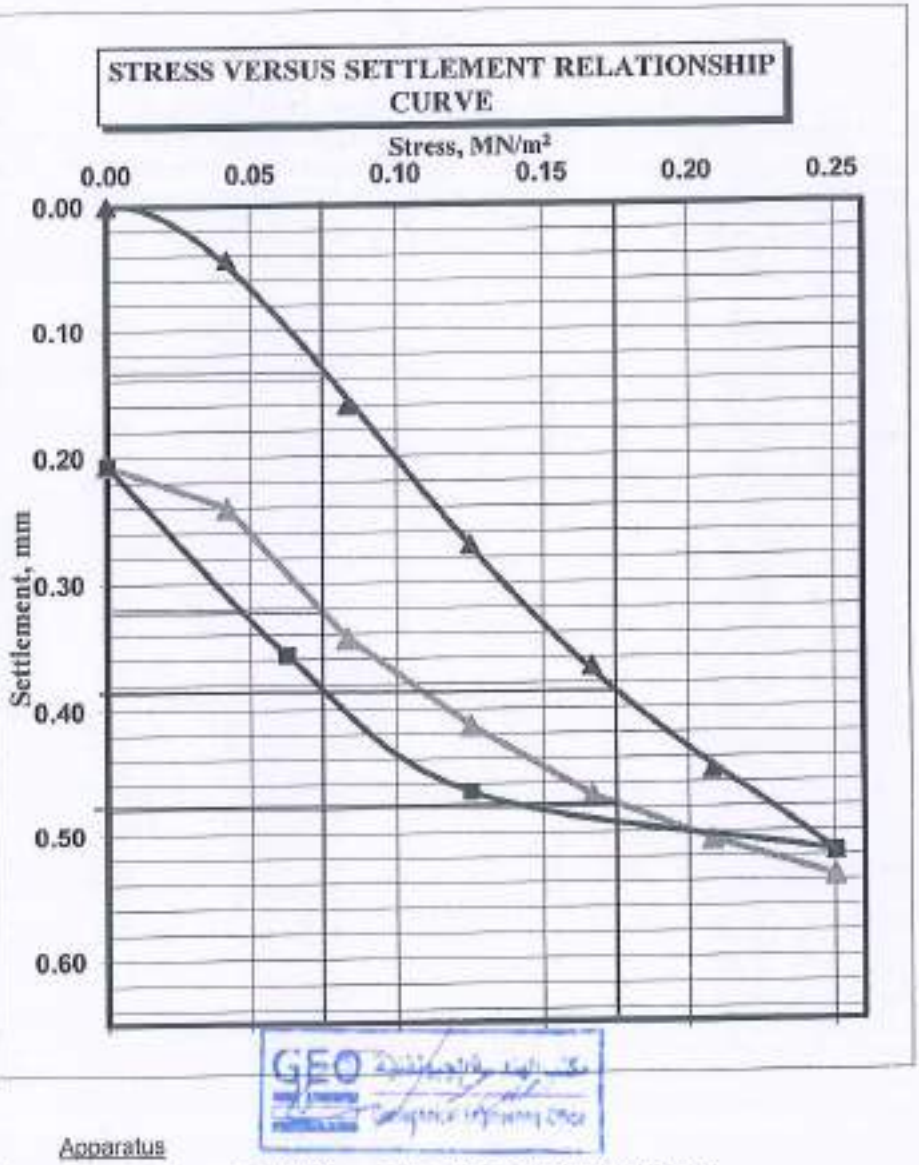
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	12:00 PM
LOCATION	Al-Dabaa (447+700)to(447+725) (level +0.90m)	**TIME FINISH:**	1:30 PM
PLATE LOAD NO.	PLT- 27	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m²	Settlement mm
0.00	0.00
0.04	0.04
0.08	0.16
0.13	0.27
0.17	0.37
0.21	0.45
0.25	0.52
0.13	0.47
0.06	0.36
0.00	0.21
0.04	0.24
0.08	0.34
0.13	0.41
0.17	0.47
0.21	0.51
0.25	0.54

$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.131
S2 at $0.3*\sigma_{0max}$	0.321
S1 at $0.7*\sigma_{0max}$	0.387
S2 at $0.7*\sigma_{0max}$	0.479



STRAIN MODULUS, Ev

Ev1 [MN/m^2]	175.78
Ev2 [MN/m^2]	284.81
Ev2/Ev1	1.62

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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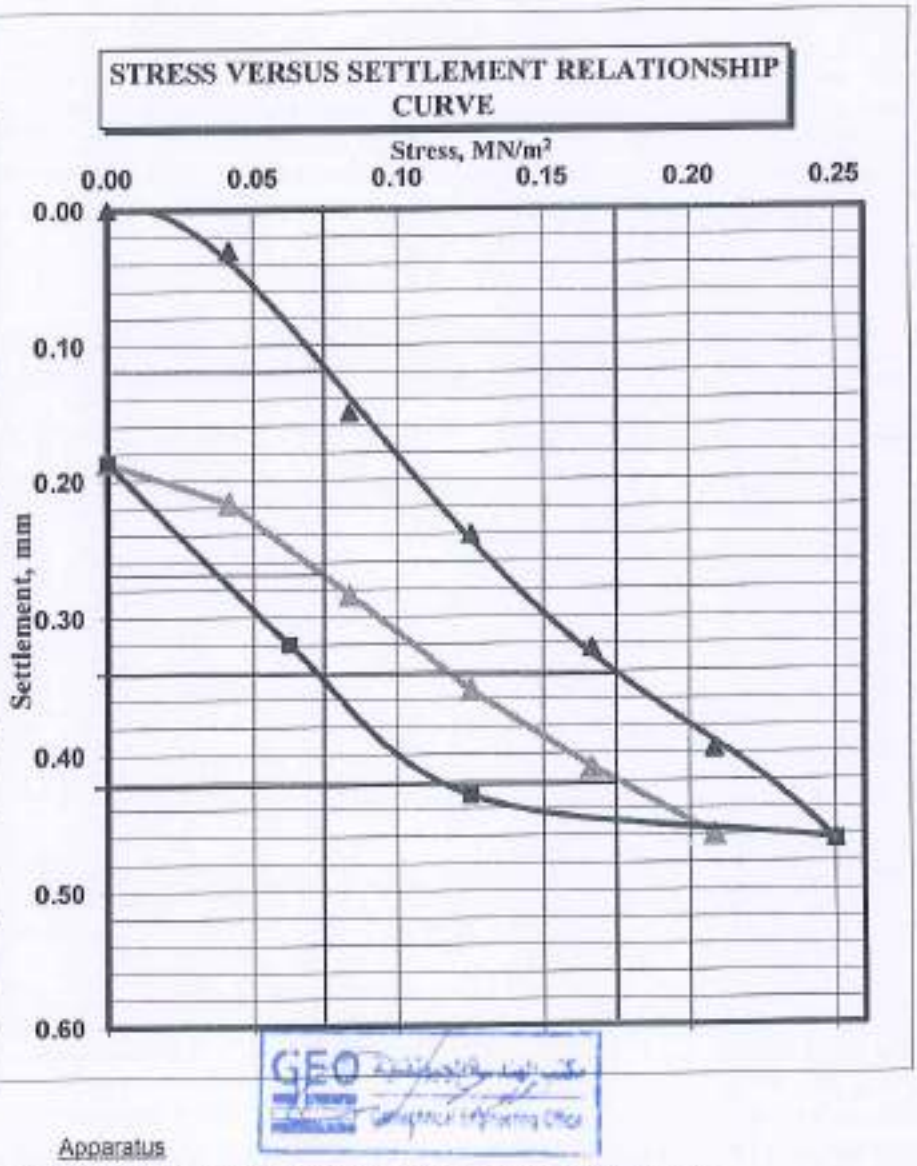
حورية مصر ذات مسئولية محدودة
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	1:30 PM
LOCATION	Al-Dabaa (447+725)to(447+750) (level +0.90m)	**TIME FINISH:**	3:00 PM
PLATE LOAD NO.	PLT- 28	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m^2	Settlement mm
0.00	0.00
0.04	0.03
0.08	0.15
0.13	0.24
0.17	0.32
0.21	0.40
0.25	0.46
0.13	0.43
0.06	0.32
0.00	0.19
0.04	0.22
0.08	0.28
0.13	0.35
0.17	0.41
0.21	0.46
0.25	0.48



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.118
S2 at $0.3*\sigma_{0max}$	0.270
S1 at $0.7*\sigma_{0max}$	0.340
S2 at $0.7*\sigma_{0max}$	0.422

STRAIN MODULUS, Ev

Ev1 [MN/m^2]	202.70
Ev2 [MN/m^2]	296.05
Ev2/Ev1	1.46

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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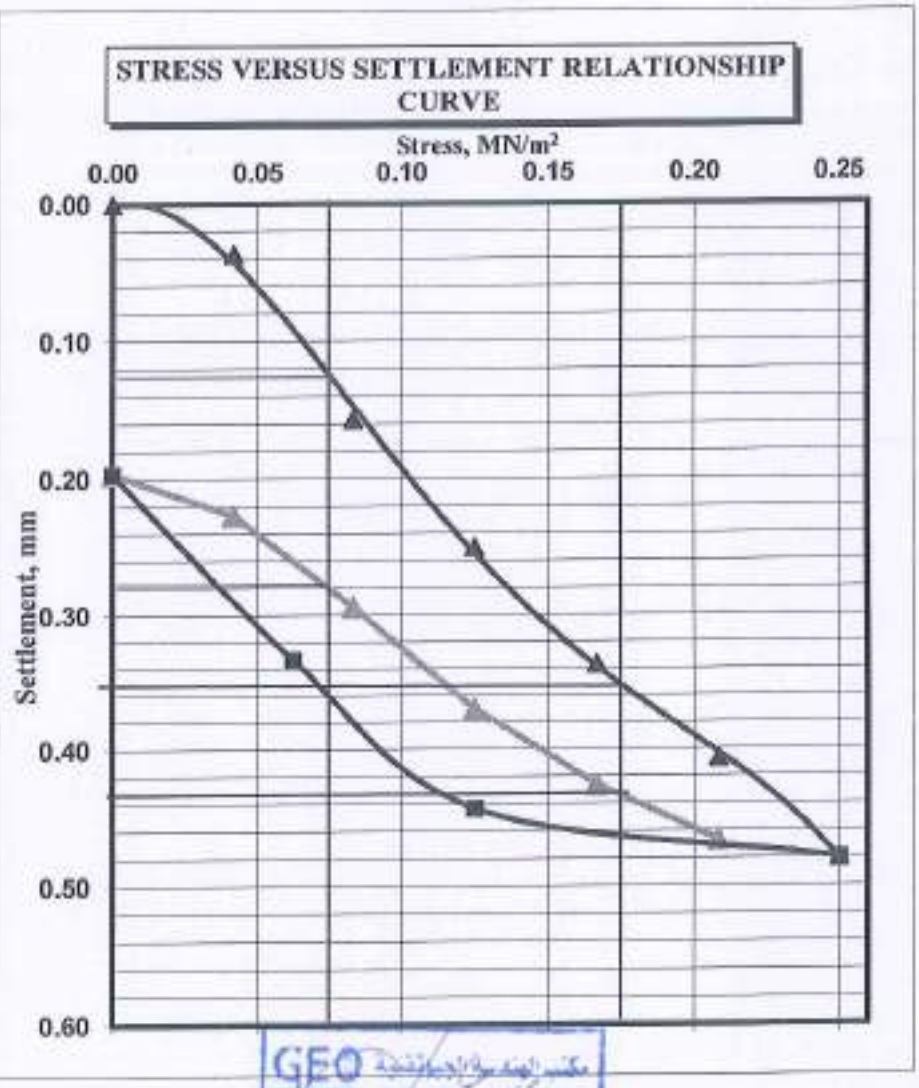
حورية ذات مسئولية محدودة
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	3:00 PM
LOCATION	Al-Dabaa (447+750)to(447+775) (level +0.90m)	**TIME FINISH:**	4:30 PM
PLATE LOAD NO.	PLT- 29	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m^2	Settlement mm
0.00	0.00
0.04	0.04
0.08	0.16
0.13	0.25
0.17	0.34
0.21	0.41
0.25	0.48
0.13	0.44
0.06	0.33
0.00	0.20
0.04	0.23
0.08	0.29
0.13	0.37
0.17	0.43
0.21	0.47
0.25	0.50



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.125
S2 at $0.3*\sigma_{0max}$	0.280
S1 at $0.7*\sigma_{0max}$	0.355
S2 at $0.7*\sigma_{0max}$	0.435

STRAIN MODULUS, Ev

Ev1 [MN/m^2]	195.65
Ev2 [MN/m^2]	290.32
Ev2/Ev1	1.48

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

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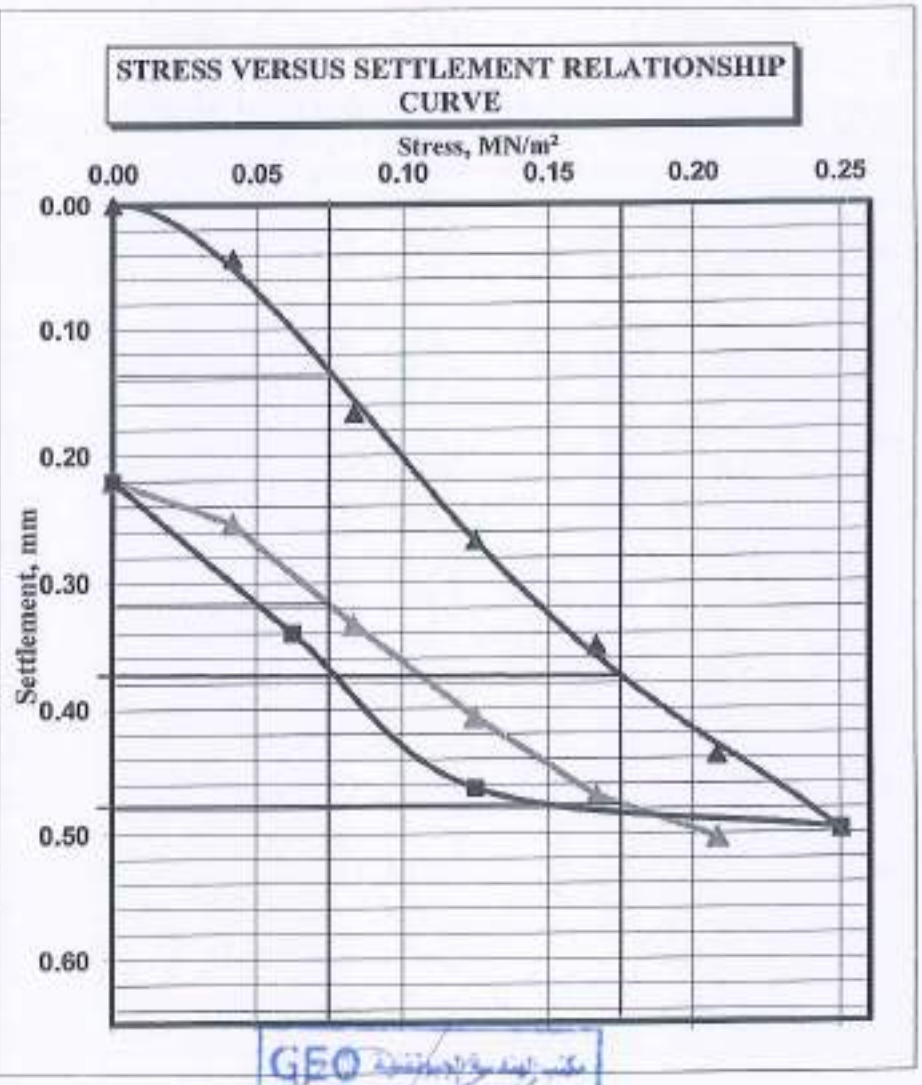
حورية ذات مسئولية محدودة
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	4:30 PM
LOCATION	Al-Dabaa (447+775)to(447+800) (level +0.90m)	**TIME FINISH:**	6:00 PM
PLATE LOAD NO.	PLT- 30	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m^2	Settlement mm
0.00	0.00
0.04	0.04
0.08	0.17
0.13	0.27
0.17	0.35
0.21	0.44
0.25	0.50
0.13	0.46
0.06	0.34
0.00	0.22
0.04	0.25
0.08	0.33
0.13	0.41
0.17	0.47
0.21	0.50
0.25	0.52



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.135
S2 at $0.3*\sigma_{0max}$	0.316
S1 at $0.7*\sigma_{0max}$	0.372
S2 at $0.7*\sigma_{0max}$	0.478

STRAIN MODULUS, Ev

Ev1 [MN/m^2]	189.87
Ev2 [MN/m^2]	277.78
Ev2/Ev1	1.46

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
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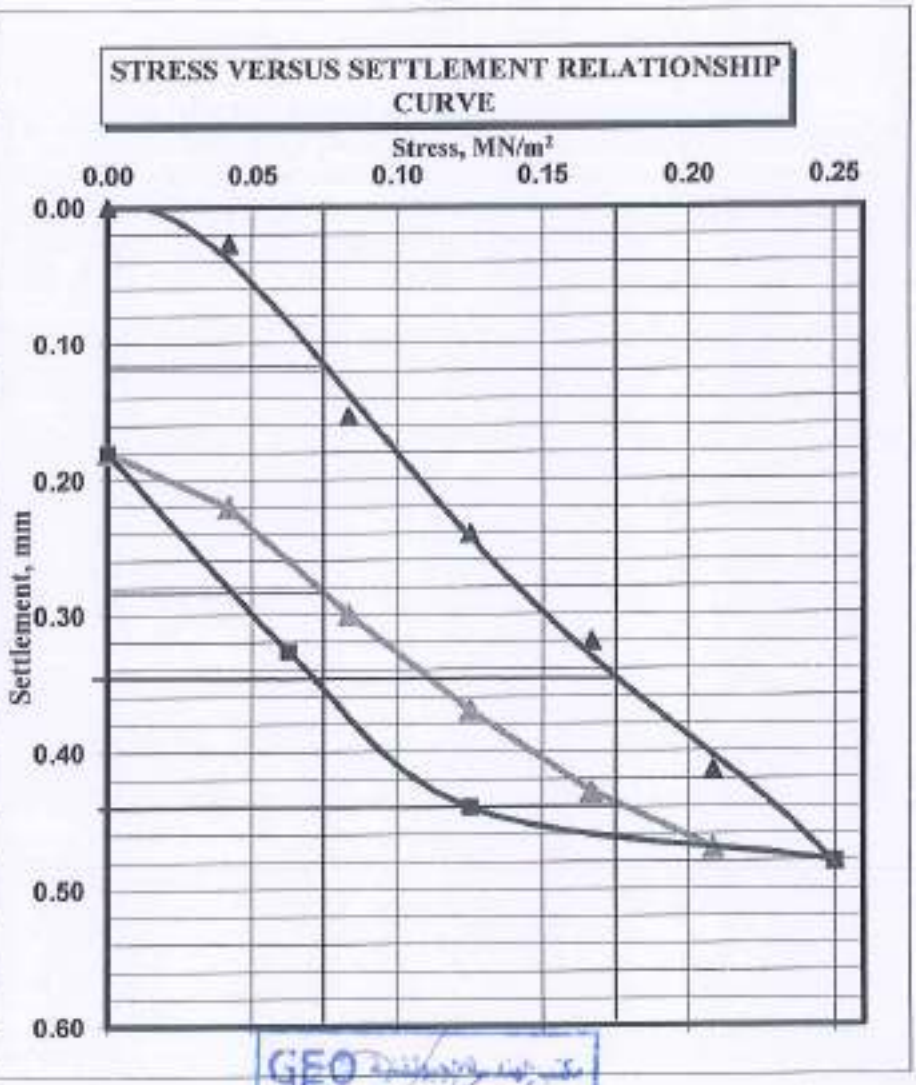
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	6:00 PM
LOCATION	Al-Dabaa (447+800)to(447+825) (level +0.90m)	**TIME FINISH:**	7:30 PM
PLATE LOAD NO.	PLT- 31	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m²	Settlement mm
0.00	0.00
0.04	0.03
0.08	0.15
0.13	0.24
0.17	0.32
0.21	0.41
0.25	0.48
0.13	0.44
0.08	0.33
0.00	0.18
0.04	0.22
0.08	0.30
0.13	0.37
0.17	0.43
0.21	0.47
0.25	0.50



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.116
S2 at $0.3*\sigma_{0max}$	0.280
S1 at $0.7*\sigma_{0max}$	0.347
S2 at $0.7*\sigma_{0max}$	0.435

STRAIN MODULUS, Ev

Ev1 [MN/m^2]	194.81
Ev2 [MN/m^2]	290.32
Ev2/Ev1	1.49

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
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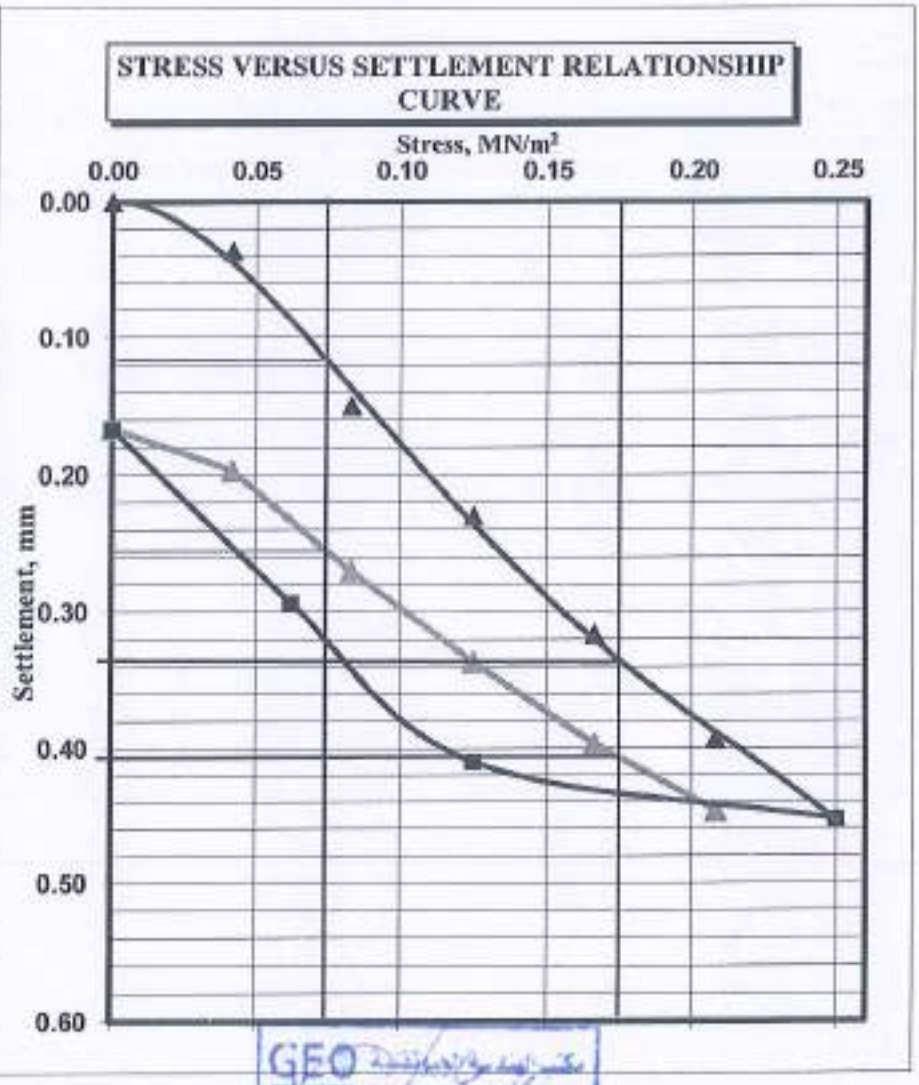
هورما ش.م.م
قسم أبحاث التربة ومراقبة الجودة

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	**TYPE OF SOIL**	Sub-ballast
PROJECT	Electric Express Train	**TIME START:**	7:30 PM
LOCATION	Al-Dabaa (447+825)to(447+850) (level +0.90m)	**TIME FINISH:**	9:00 PM
PLATE LOAD NO.	PLT- 32	**DATE**	25-Oct-23
PLATE DIAMETER (cm)	60.00	**LAB. REF.**	11031

Stress MN/m^2	Settlement mm
0.00	0.00
0.04	0.04
0.08	0.15
0.13	0.23
0.17	0.32
0.21	0.39
0.25	0.45
0.13	0.41
0.06	0.29
0.00	0.17
0.04	0.20
0.08	0.27
0.13	0.34
0.17	0.40
0.21	0.45
0.25	0.47



$0.3*\sigma_{0max}$	0.075
$0.7*\sigma_{0max}$	0.175
S1 at $0.3*\sigma_{0max}$	0.116
S2 at $0.3*\sigma_{0max}$	0.254
S1 at $0.7*\sigma_{0max}$	0.334
S2 at $0.7*\sigma_{0max}$	0.407

STRAIN MODULUS, Ev

Ev1 [MN/m^2]	206.422
Ev2 [MN/m^2]	294.118
Ev2/Ev1	1.425

Apparatus

1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
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الهيئة العامة
للطرق و الكباري
(GARB)

محضر استلام موقع

مشروع: اعمال الجسر الترابي لمشروع القطار الكهربائي السريع
(وصلة البضائع – قطاع غرب النيل – قطاع العلمين / فوكة)
قطاع العلمين / فوكة
في المسافه من كم ٤٤٧+٦٠٠ الي كم ٤٤٨+٦٠٠ بطول ١ كم (اتجاه برج العرب)
(المنطقه الخامسه – غرب الدلتا)

تنفيذ: شركة صن رايز للمقاولات العمومية

إشراف : المنطقة الخامسة – منطقة غرب الدلتا

طبقاً للعقد رقم (٢٠٢٣/٢٠٢٢/٢١٦٤) بتاريخ ٢٠٢٣/٦/٦

إنه في يوم الاربعاء الموافق ٢٠٢٣/٦/٧ حضر كل من:

١- السيد المهندس /محمد حسني فياض — مدير عام مشروعات - الهيئة العامة للطرق والكباري

٢- السيد المهندس /إبراهيم عبد الله الحناوي — مهندس العملية - الهيئة العامة للطرق والكباري

٣- السيد المهندس / سعيد رجب سعيد — مدير مشروع - شركة صن رايز للمقاولات العمومية

وذلك للمرور على مسار العملية المذكورة عاليه لاستلام الموقع :-
وقد تبين أن الموقع خالياً من العوائق الظاهرية ويسمح بالبدء في التنفيذ وبناء عليه يعتبر تاريخ ٢٠٢٣/٦/٧ هو تاريخ استلام الموقع وبدء الأعمال بالعملية

واقفل المحضر على ذلك ووقع الحضور

التوقيعات

٣-

٢-

١-

رئيس الإدارة المركزية
منطقة غرب الدلتا
الاسكندرية - مرسى مطروح
عقيد . مهندس /
"هاني محمد محمود طه"
١٣/٦/٢٠٢٣

مشروع القطار السريع(العلمين -فوكة)

شركة صن رايز للمقاولات العامة -من المحطة٦٠٠+٤٤٨ الي المحطة١٠٠+٤٥١

محضر تحديد مسافة نقل

(نقل السن SUB GRADE)

انه في يوم الاحد الموافق :- ٢٠٢٢/١٢/١٨

- بناء علي طلب المقاول شركة صن رايز للمقاولات العامة لتحديد مسافة نقل السن SUB GRADE المساعد من كساره (الزيتون) علي طريق وادي النطرون العلمين للمشروع المذكور اعلاه

تم زيارة الموقع من قبل:-

١- السيد المهندس / ابراهيم الحناوي	ممثل الهيئة العامة الطرق والكباري
٢- السيد المهندس / مصطفي نجم	ممثل الاستشاري مكتب د سعد الجيوشي
٣- السيد المهندس / محمد خليل	ممثل استشاري المساحة مكتب (Xyz)
٤- السيد المهندس / مصطفي نبيل	استشاري مكتب د. سعد الجيوشي
٥- السيد المهندس / سعيد رجب	ممثل شركة صن رايز للمقاولات العامة

وتبين ان الكساره علي مسافة ١٤٠ كم من منتصف القطاع الشركة صن رايز للمقاولات العامه

احداثي كساره (الزيتون) E 29 ° 38 ´43.758" N 30 ° 37 ´ 53.468 "

احداثي منتصف القطاع E 28 ° 28 ´ 15.052" N 30 ° 59 ´ 46.05 "

وعلي ذلك تم توقيع،،

٥-

٤-

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٢-

١-

مشروع القطار السريع(العلمين -فوكة)

شركة صن رايز للمقاولات العامة -من المحطة ٤٤٨+٦٠٠ الى المحطة ٤٥١+١٠٠

محضر تحديد مسافة نقل

(نقل السن SUB BALLAST)

انه في يوم الاحد الموافق :- ٢٠٢٢/١٢/١٨

- بناء علي طلب المقاول شركة صن رايز للمقاولات العامة لتحديد مسافة نقل السن SUB BALLAST من كساره (الماسه ياسين) علي طريق وادي النطرون العلمين للمشروع المذكور اعلاه

تم زيارة الموقع من قبل:-

١- السيد المهندس / ابراهيم الحناوي	ممثل الهيئة العامة الطرق والكباري
٢- السيد المهندس / مصطفي نجم	ممثل الاستشاري مكتب د سعد الجيوشي
٣- السيد المهندس / محمد خليل	ممثل استشاري المساحة مكتب (Xyz)
٤- السيد المهندس / مصطفي نبيل	استشاري مكتب د. سعد الجيوشي
٥- السيد المهندس / سعيد رجب	ممثل شركة صن رايز للمقاولات العامة

وتبين ان الكساره علي مسافة ١٨٢ كم من منتصف القطاع الشركة صن رايز للمقاولات العامه

احداثي كساره (الماسه ياسين) E 29 ° 58 ´30.158" N 30 ° 31 ´ 44.778 "

احداثي منتصف القطاع E 28 ° 28 ´ 15.052" N 30 ° 59 ´ 46.05 "

وعلي ذلك تم توقيع،،

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