مشروع القطار السريع (العلمين -أوكة)

شركة لاندماركس للمقاولات العامة من المحطة 424+600 الى المحطة 425+600

محضر تحديد مسافة نقل

(نقل الاتربة)

انه في يوم الاربعاء الموافق :- 2022/5/18

- بناء على طلب المقاول شركة لاندماركس للمقاولات العامة لتحديد مسافة نقل الاتربة من محجر (المصرية) على طريق وادي النطرون العلمين للمشروع المذكور أعلاه.

تم زيارة المحجر من قبل:-

1- السيد المهندس / ابراهيم الحناوي	ممثل الهيئة العامة الطرق والكباري
2- السيد المهندس / مصطفى نجم	ممثل الاستشاري مكتب د.سعد الجيوشي
3- السيد المهندس / محمد خليل	ممثل استشاري المساحة XYZ
4- السيد المهندس / محمد عادل	مندوب شركة لاندماركس للمقاولات العامة

وتبين ان المحجر على مسافة 155 كم من منتصف قطاع شركة لاندماركس للمقاولات العامة

احد اثي المحجر N 30 ° 33 ' 19 . 7 " E 29 ° 45 ' 06 . 7 "

احداثي منتصف القطاع N 30° 58' 03.77" E 28° 43' 21.29 "

وعلي ذلك تم توقيع،،

4- محمد عادل

3- محمد خليل

2-

1-

شركة [illegible] للاستشارات الهندسية
للطرق والمطارات SGAC
ا . د سعد محمد الجيوشي
مشروع القطار السريع

الهيئة العامة
للطرق و الكباري
(GARB)

محضر استلام موقع

مشروع:أعمال الجسر الترابي والاعكال الصناعية لمشروع القطار الكهربائى السريع (العين السخنة-العاصمة الإدارية-العلمين-مطروح) قطاعات غرب النيل لتنفيذ المسافة من الكم 424,600 الى كم 425,600 بطول 1 كم اتجاة الطريق الساحلي.

تنفيذ: شركة لاندماركس للمقاولات العمومية

إشراف : المنطقة الخامسة – منطقة غرب الدلتا

طبقاً للعقد رقم (2023/2022/2189) بتاريخ

إنه في يوم الاربعاء الموافق 14-06-2023 اجتمع كل من:-

1- السيد المهندس /محمد حسني فياض — مدير عام المشروعات - الهيئة العامة للطرق والكباري

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

3- السيد المهندس /احمد أبو بكر — مدير مشروع - شركة لاندماركس 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 14-06-2023 هو تاريخ استلام الموقع وبدء الأعمال بالعملية

واقفل المحضر على ذلك ووقع الحضور

التوقيعات

3- أحمد أبو بكر

2-

1-

رئيس الإدارة المركزية
منطقة غرب الدلتا
الاسكندرية - مرســـــى مطروح
عميد . مهندس /
"هاني محمد محمود طه"

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مكتب معامل الاستشارات الهندسية

Company : Land marks Co.

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: Station (425 + 120 to 425 + 290) .
Test Date : 11/1/2024
Repot Date : 13/1/2024
Type of soil :----
Test level : prepared (Sub grade) (+0.5)
Report No. : 94:100

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/cm²
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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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

- **Job requirement : Ev2 > (80 MPa).**

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	11/1/2024
- 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	Ev_2/Ev_1 Ratio
	From	To	Ev1(Mpa)	Ev_2 (Mpa)	
1	425+120	425+145	128	217	1.7
2	425+145	425+170	116	207	1.8
3	425+170	425+195	112	199	1.8
4	425+195	425+220	120	219	1.8
5	425+220	425+245	128	207	1.6
6	425+245	425+270	111	215	1.9
7	425+270	425+290	103	210	2.0

Signature / Khaled

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Narsa Matrouh Priority Sector (9) – Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+120 to 425+145
Test No. 1

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	19.82	0.18	19.73	0.27	19.80	0.20	0.22
2	0.83	19.70	0.30	19.54	0.46	19.65	0.35	0.37
3	1.25	19.59	0.41	19.41	0.59	19.44	0.56	0.52
4	1.67	19.46	0.54	19.29	0.71	19.27	0.73	0.66
5	2.08	19.30	0.70	19.17	0.83	19.16	0.84	0.79
6	2.50	19.13	0.87	19.01	0.99	19.03	0.97	0.94

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.13	0.87	19.01	0.99	19.03	0.97	0.94
2	1.25	19.17	0.83	19.05	0.95	19.08	0.92	0.90
3	0.625	19.22	0.78	19.10	0.90	19.14	0.86	0.85
4	0.01	19.51	0.49	19.42	0.58	19.36	0.64	0.57

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	19.33	0.67	19.28	0.72	0.65
1	0.83	19.37	0.63	19.22	0.78	19.22	0.78	0.73
2	1.25	19.28	0.72	19.13	0.87	19.14	0.86	0.82
3	1.67	19.21	0.79	19.04	0.96	19.06	0.94	0.90
4	2.08	19.13	0.87	18.92	1.08	18.94	1.06	1.00

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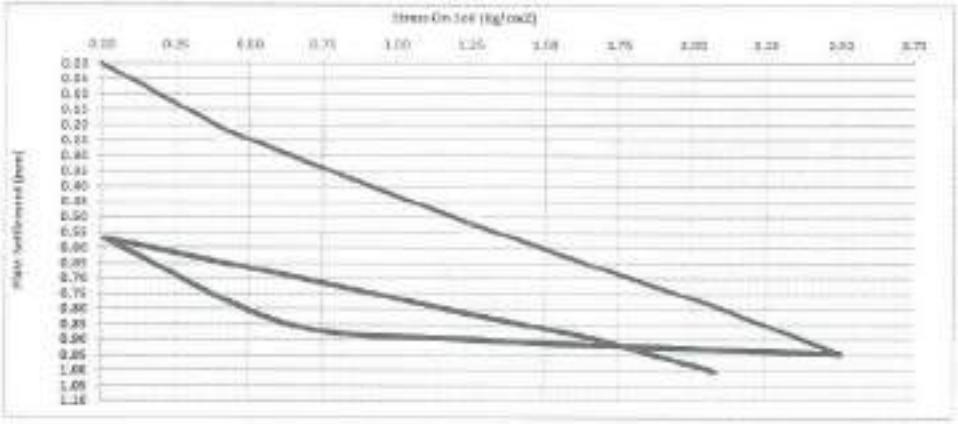
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 11/1/2026
report date : 13/1/2026
Location : Station 496+190 to 496+146
Test No. : 1

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	0.22	0.37	0.52	0.66	0.79	0.94

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)	0.94	0.90	0.85	0.57

D (mm) = 600		S1 (mm)= 0.34	S2(mm)= 0.68	ΔS = 0.35
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS		128		

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)	0.57	0.65	0.73	0.82	0.90	1.00

Ev2/Ev1 =	1.7

D (mm) = 600		S1 (mm)= 0.71	S2(mm)= 0.92	ΔS = 0.20
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS		217		

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Ranaa Matrouh Priority Sector (5) – Alamein to Fokai
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+145 to 425+170
Test No. : 002

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	19.70	0.30	19.69	0.31	0.28
2	0.83	19.71	0.29	19.50	0.50	19.48	0.52	0.44
3	1.25	19.55	0.45	19.35	0.65	19.32	0.68	0.59
4	1.67	19.41	0.59	19.19	0.81	19.15	0.85	0.75
5	2.08	19.23	0.77	19.06	0.94	18.98	1.02	0.91
6	2.50	19.11	0.89	18.92	1.08	18.83	1.17	1.05

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.11	0.89	18.92	1.08	18.83	1.17	1.05
2	1.25	19.15	0.85	18.96	1.04	18.89	1.11	1.00
3	0.625	19.20	0.80	19.03	0.97	18.94	1.06	0.94
4	0.01	19.47	0.53	19.27	0.73	19.26	0.74	0.67

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.41	0.59	19.21	0.79	19.20	0.80	0.73
1	0.83	19.34	0.66	19.14	0.86	19.11	0.89	0.80
2	1.25	19.23	0.77	19.05	0.95	19.04	0.96	0.89
3	1.67	19.15	0.85	18.98	1.02	18.93	1.07	0.98
4	2.08	19.04	0.96	18.87	1.13	18.82	1.18	1.09

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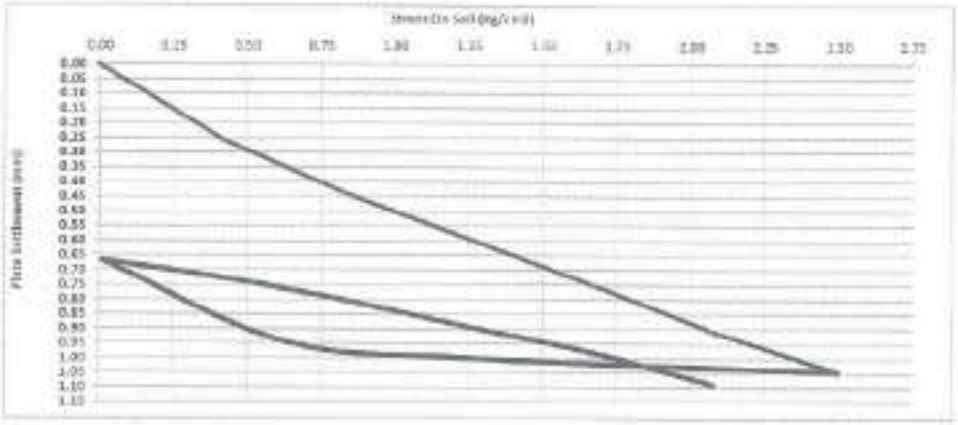
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Section (3) – Alamein to Fuka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 428+145 to 426+170
Test No. : 002

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	0.26	0.44	0.59	0.75	0.91	1.05

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)	1.05	1.00	0.94	0.87

D (mm) = 600	S1 (mm)=	0.40	S2(mm)=	0.78	ΔS =	0.38
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS		116				

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)	0.87	0.73	0.60	0.38	0.68	1.09

Ev2/Ev1 =	1.8

D (mm) = 600	S1 (mm)=	0.78	S2(mm)=	1.00	ΔS =	0.21
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS		207				

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 (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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Ranya Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+170 to 425+195
Test No. : 003

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	19.77	0.23	19.81	0.19	19.90	0.10	0.17
2	0.83	19.63	0.37	19.66	0.34	19.68	0.32	0.34
3	1.25	19.51	0.49	19.42	0.58	19.44	0.56	0.54
4	1.67	19.39	0.61	19.27	0.73	19.31	0.69	0.68
5	2.08	19.24	0.76	19.16	0.84	19.17	0.83	0.81
6	2.50	19.11	0.89	19.04	0.96	19.06	0.94	0.93

Unloading Stage (1)

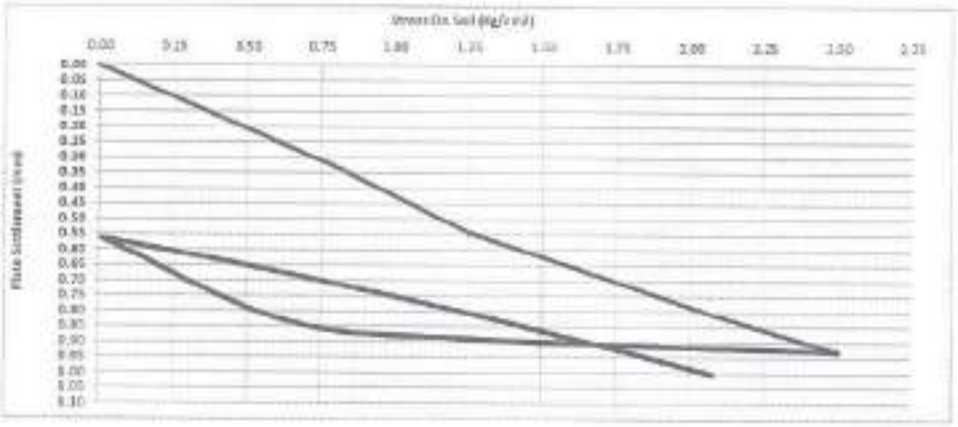
Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.11	0.89	19.04	0.96	19.06	0.94	0.93
2	1.25	19.15	0.85	19.08	0.92	19.10	0.90	0.89
3	0.625	19.22	0.78	19.14	0.86	19.15	0.85	0.83
4	0.01	19.54	0.46	19.36	0.64	19.41	0.59	0.56

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.45	0.55	19.29	0.71	19.35	0.65	0.64
1	0.83	19.38	0.62	19.21	0.79	19.25	0.74	0.72
2	1.25	19.26	0.74	19.12	0.88	19.20	0.80	0.81
3	1.67	19.15	0.85	19.03	0.97	19.11	0.89	0.90
4	2.08	19.03	0.97	18.94	1.06	19.02	0.98	1.00

Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (5) – Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+170 to 425+195
Test No. : 60J

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	0.17	0.34	0.54	0.68	0.81	0.93

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)	0.93	0.69	0.63	0.56

D (mm) = 600		δ1 (mm)=	0.31	δ2(mm)=	0.70	Δδ =	0.39
Ev1 (Mpa) =	(0.75*D*Δσ)/Δδ		112				

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)	0.56	0.64	0.72	0.81	0.90	1.00

Ev2/Ev1 =	1.8

D (mm) = 600		δ1 (mm)=	0.70	δ2(mm)=	0.92	Δδ =	0.22
Ev2 (Mpa) =	(0.75*D*Δσ)/Δδ		199				

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

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Company Name : Land marke Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+185 to 425+220
Test No. : 004

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	19.67	0.33	19.82	0.18	0.25
2	0.83	19.62	0.38	19.44	0.56	19.70	0.30	0.41
3	1.25	19.49	0.51	19.25	0.75	19.55	0.45	0.57
4	1.67	19.32	0.68	19.13	0.87	19.40	0.60	0.72
5	2.08	19.16	0.84	18.97	1.03	19.21	0.79	0.89
6	2.50	19.02	0.98	18.81	1.19	19.07	0.93	1.03

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.02	0.98	18.81	1.19	19.07	0.93	1.03
2	1.25	19.08	0.92	18.87	1.13	19.11	0.89	0.98
3	0.625	19.14	0.86	18.92	1.08	19.18	0.82	0.92
4	0.01	19.35	0.65	19.28	0.72	19.41	0.59	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	19.29	0.71	19.19	0.81	19.34	0.66	0.73
1	0.83	19.21	0.79	19.12	0.88	19.27	0.73	0.80
2	1.25	19.14	0.86	19.05	0.97	19.18	0.82	0.88
3	1.67	19.06	0.94	18.95	1.05	19.09	0.91	0.97
4	2.08	18.94	1.06	18.84	1.16	19.01	0.99	1.07

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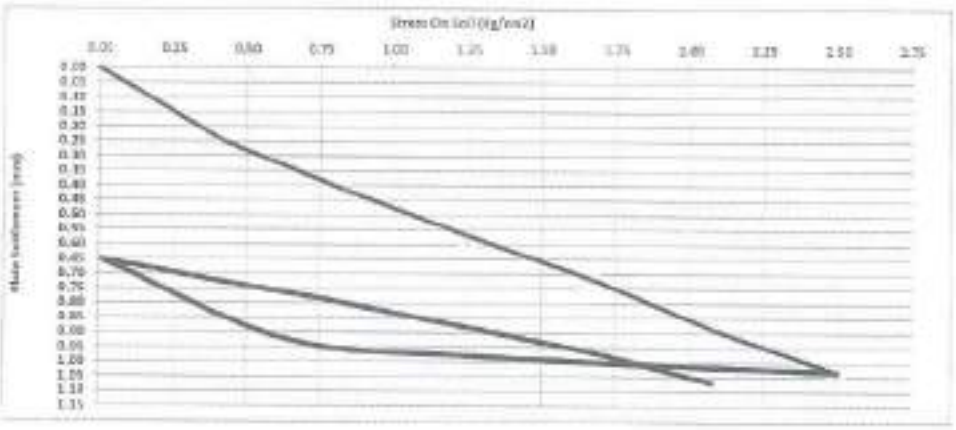
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) - Alamein to Fouka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+195 to 425+229
Test No. : 004

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	0.25	0.41	0.57	0.72	0.89	1.03

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)	1.03	0.38	0.92	0.65

D (mm) = 600	S1 (mm)= 0.38	S2(mm)= 0.75	ΔS = 0.37
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS	120		

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)	0.55	0.72	0.80	0.88	0.97	1.07

Ev2/Ev1 =	1.8

D (mm) = 900	S1 (mm)= 0.78	S2(mm)= 0.98	ΔS = 0.20
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS	219		

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (8) - Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+220 to 425+245
Test No. : 005

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.85	0.15	19.75	0.25	19.74	0.26	0.22
2	0.83	19.73	0.27	19.63	0.37	19.59	0.41	0.35
3	1.25	19.61	0.39	19.47	0.53	19.41	0.59	0.50
4	1.67	19.48	0.52	19.31	0.69	19.28	0.72	0.64
5	2.08	19.35	0.65	19.18	0.82	19.14	0.86	0.78
6	2.50	19.22	0.78	19.04	0.96	18.97	1.03	0.92

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.22	0.78	19.04	0.96	18.97	1.03	0.92
2	1.25	19.27	0.73	19.09	0.91	19.01	0.99	0.88
3	0.625	19.32	0.68	19.16	0.84	19.07	0.93	0.82
4	0.01	19.66	0.34	19.45	0.55	19.31	0.69	0.53

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.55	0.45	19.38	0.62	19.23	0.77	0.61
1	0.83	19.49	0.51	19.32	0.68	19.14	0.86	0.68
2	1.25	19.41	0.59	19.24	0.76	19.06	0.94	0.76
3	1.67	19.32	0.68	19.15	0.86	18.95	1.05	0.86
4	2.08	19.20	0.80	19.03	0.97	18.86	1.14	0.97

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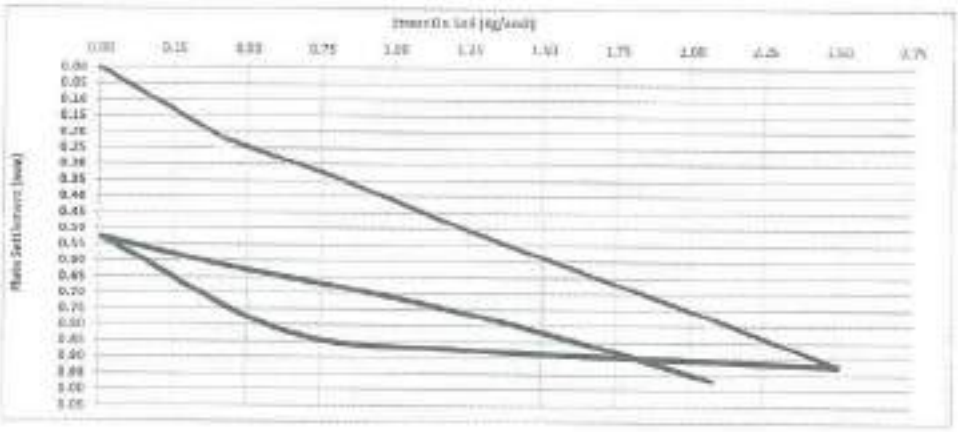
Company Name : Land marks Co.
Project : Elektric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) Alamein to Fuka
Test Date : 11/1/2024
report date : 13/1/2024
Location : Station 425+220 to 425+245
Test No. : 606

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	0.22	0.35	0.50	0.64	0.76	0.92

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	0.66	0.62	0.53

D (mm) = 600	S1 (mm)=	0.32	S2(mm)=	0.67	ΔS =	0.24
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS		125				

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)	0.53	0.61	0.68	0.78	0.88	0.97

Ev2/Ev1 =	1.6

D (mm) = 600	S1 (mm)=	0.67	S2(mm)=	0.88	ΔS =	0.21
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS		297				

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (I) – Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+245 to 425+270
Test No. : 006

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	19.71	0.29	19.82	0.18	19.65	0.35	0.27
2	0.83	19.50	0.50	19.66	0.34	19.52	0.48	0.44
3	1.25	19.29	0.71	19.51	0.49	19.33	0.67	0.62
4	1.67	19.17	0.83	19.35	0.65	19.15	0.85	0.78
5	2.08	19.03	0.97	19.21	0.79	18.98	1.02	0.93
6	2.50	18.88	1.12	19.05	0.95	18.83	1.17	1.08

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.88	1.12	19.05	0.95	18.83	1.17	1.08
2	1.25	18.97	1.03	19.11	0.89	18.89	1.11	1.01
3	0.625	19.00	1.00	19.19	0.81	18.95	1.05	0.95
4	0.01	19.25	0.75	19.44	0.56	19.28	0.72	0.68

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.19	0.81	19.39	0.61	19.22	0.78	0.73
1	0.83	19.11	0.89	19.32	0.68	19.12	0.88	0.82
2	1.25	19.04	0.96	19.23	0.77	19.04	0.96	0.90
3	1.67	18.93	1.07	19.15	0.85	18.96	1.04	0.99
4	2.08	18.81	1.19	19.06	0.94	18.88	1.12	1.08

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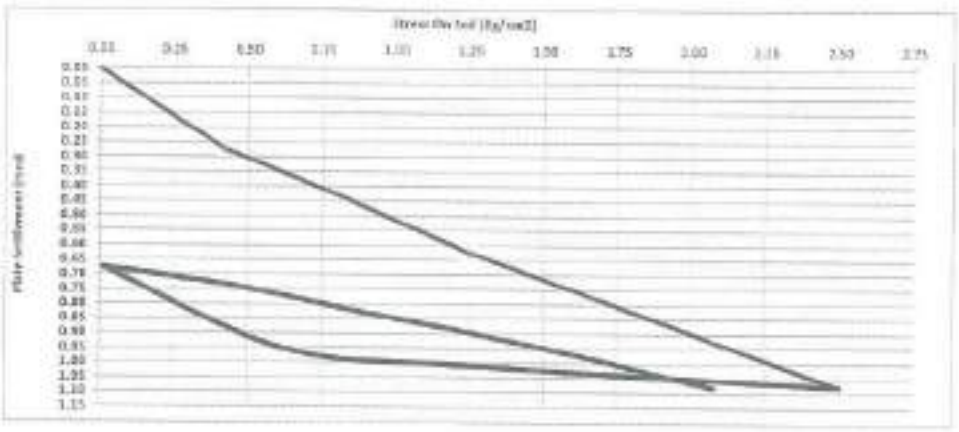
Company Name : Land marke Co.
Project : Electric Express Train, from Al Ain Sekhna to Marsa Matrouh Priority Sector (6) Alamein to Feka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+245 to 425+276
Test No. : 60b

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	0.27	0.44	0.62	0.78	0.93	1.08

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.08	1.01	0.95	0.69

D (mm) = 600		δ1 (mm)= 0.41	δ2(mm)= 0.81	Δδ = 0.40
Ev1 (Mpa) = (0.75*D*Δσ)/Δδ		111		

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)	0.68	0.73	0.82	0.90	0.99	1.08

Ev2/Ev1 =	1.9

D (mm) = 600		δ1 (mm)= 0.50	δ2(mm)= 1.01	Δδ = 0.21
Ev2 (Mpa) = (0.75*D*Δσ)/Δδ		210		

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)
Δδ = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (E) – Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+270 to 425+290
Test No. : 007

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	19.81	0.19	19.64	0.36	19.60	0.40	0.32
2	0.83	19.68	0.32	19.49	0.51	19.41	0.59	0.47
3	1.25	19.44	0.56	19.31	0.69	19.23	0.77	0.67
4	1.67	19.27	0.73	19.15	0.85	19.05	0.95	0.84
5	2.08	19.15	0.85	19.01	0.99	18.91	1.09	0.98
6	2.50	19.02	0.98	18.84	1.16	18.78	1.22	1.12

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.02	0.98	18.84	1.16	18.78	1.22	1.12
2	1.25	19.07	0.93	18.90	1.10	18.83	1.17	1.07
3	0.625	19.13	0.88	18.97	1.03	18.92	1.08	1.00
4	0.01	19.35	0.65	19.24	0.76	19.21	0.79	0.73

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.27	0.73	19.18	0.82	19.13	0.87	0.81
1	0.83	19.18	0.82	19.09	0.91	19.02	0.98	0.90
2	1.25	19.09	0.91	19.01	0.99	18.93	1.07	0.99
3	1.67	19.01	0.99	18.94	1.06	18.82	1.18	1.08
4	2.08	18.91	1.09	18.85	1.15	18.73	1.27	1.17

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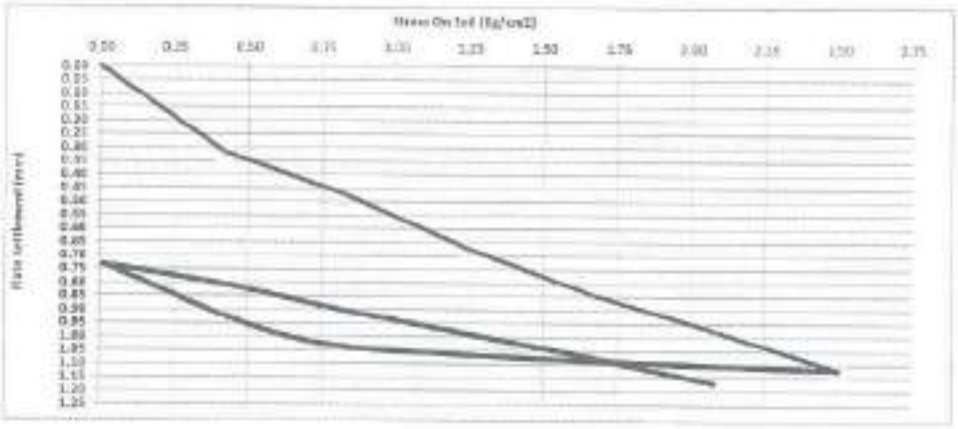
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+270 to 425+296
Test No. : 007

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	0.32	0.47	0.67	0.84	0.98	1.12

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.12	1.07	1.00	0.73

D (mm) = 600	S1 (mm)= 0.66	S2(mm)= 0.87	ΔS = 0.43
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS	103		

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)	0.73	0.81	0.90	0.99	1.08	1.17

Ev2/Ev1 =	2.0

D (mm) = 600	S1 (mm)= 0.88	S2(mm)= 1.09	ΔS = 0.21
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS	210		

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 (press) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company : Land marks Co.

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: Station (427 + 780 to 424 + 905) .
Test Date : 5/1/2024
Repot Date : 6/1/2024
Type of soil :----
Test level : Sub grade
Report No. : 85:89

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

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

- **Job requirement : Ev2 > (80 MPa).**

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	5/01/2024
- 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	Ev_2/Ev_1 Ratio
	From	To	Ev1(Mpa)	Ev_2 (Mpa)	
1	424+780	424+805	100	157	1.6
2	424+805	424+830	122	159	1.3
3	424+830	424+855	100	221	2.2
4	424+855	424+880	136	181	1.3
5	424+880	424+905	110	189	1.7

Signature : Khaled

Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 5/1/2024
report date : 6/1/2024
Location :Station 424+780 to 424+805
Test No. 1

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	19.87	0.13	19.89	0.11	19.85	0.15	0.13
2	0.83	19.76	0.24	19.70	0.30	19.71	0.29	0.28
3	1.25	19.48	0.52	19.51	0.49	19.50	0.50	0.50
4	1.67	19.34	0.66	19.33	0.67	19.35	0.65	0.66
5	2.08	19.18	0.82	19.16	0.84	19.20	0.80	0.82
6	2.50	19.04	0.96	18.98	1.02	19.08	0.92	0.97

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.04	0.96	18.98	1.02	19.08	0.92	0.97
2	1.25	19.17	0.83	19.13	0.87	19.12	0.88	0.86
3	0.625	19.32	0.68	19.29	0.71	19.22	0.78	0.72
4	0.01	19.57	0.43	19.59	0.41	19.65	0.35	0.40

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.50	0.50	19.52	0.48	19.51	0.49	0.49
1	0.83	19.40	0.60	19.43	0.57	19.38	0.62	0.60
2	1.25	19.26	0.74	19.28	0.72	19.26	0.74	0.73
3	1.67	19.17	0.83	19.14	0.86	19.18	0.82	0.84
4	2.08	19.03	0.97	19.08	0.92	19.06	0.94	0.94

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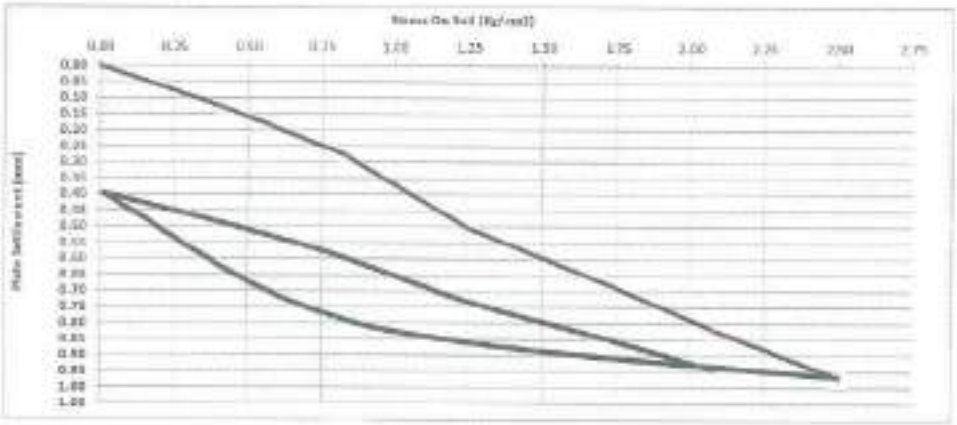
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (b) – Alamein to Foka
Test Date : 5/1/2024
report date : 6/1/2024
Location :Station 424+780 to 424+805
Test No. 1

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.8	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	0.13	0.28	0.50	0.66	0.82	0.97

UnLoading (1)	1	2	3	4
Stage(Kg)	7965	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.97	0.69	0.72	0.40

D (mm) =	600	S1 (mm)=	0.25	S2(mm)=	0.09	ΔS =	0.44
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		169				

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.8	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.40	0.49	0.60	0.73	0.84	0.94

Ev2/Ev1 =	1.6

D (mm) =	600	S1 (mm)=	0.09	S2(mm)=	0.09	ΔS =	0.28
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		167				

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

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Nares Matrouh Priority Sector (B) – Alamein to Fuka
Test Date : 5/1/2024
report date : 6/1/2024
Location :Station 424+805 to 424+830
Test No. 2

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	19.85	0.15	19.82	0.18	19.80	0.20	0.18
2	0.83	19.68	0.32	19.51	0.49	19.66	0.34	0.38
3	1.25	19.44	0.56	19.40	0.60	19.48	0.52	0.56
4	1.67	19.34	0.66	19.32	0.68	19.31	0.69	0.68
5	2.08	19.16	0.84	19.17	0.83	19.19	0.81	0.83
6	2.50	18.97	1.03	19.03	0.97	19.06	0.94	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	19.03	0.97	19.06	0.94	0.98
2	1.25	19.09	0.91	19.12	0.88	19.14	0.86	0.88
3	0.625	19.23	0.77	19.26	0.74	19.29	0.71	0.74
4	0.01	19.52	0.48	19.47	0.53	19.54	0.46	0.49

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.41	0.59	19.39	0.61	19.47	0.53	0.58
1	0.83	19.31	0.69	19.26	0.74	19.37	0.63	0.69
2	1.25	19.21	0.79	19.13	0.87	19.26	0.74	0.80
3	1.67	19.10	0.90	19.01	0.99	19.12	0.88	0.92
4	2.08	19.00	1.00	18.91	1.09	19.01	0.99	1.03

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (8) Alamein to Fuka
Test Date : 5/1/2024
report date : 6/1/2024
Location :Station 424+806 to 424+836
Test No. 2

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.8	3512.5	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	0.18	0.38	0.66	0.68	0.83	0.93

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)	0.93	0.85	0.74	0.49

D (mm) = 600	S1 (mm)= 0.34	S2(mm)= 0.71	ΔS = 0.36
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS	122		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.8	3512.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.49	0.58	0.69	0.80	0.92	1.03

Ev2/Ev1 =	1.3

D (mm) = 600	S1 (mm)= 0.67	S2(mm)= 0.94	ΔS = 0.28
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS	159		

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (E) – Alamein to Foka
Test Date : 5/1/2024
report date : 6/1/2024
Location :Station 424+830 to 424+855
Test No. 3

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	19.83	0.17	19.80	0.20	19.82	0.18	0.18
2	0.83	19.68	0.32	19.66	0.34	19.70	0.30	0.32
3	1.25	19.47	0.53	19.44	0.56	19.52	0.48	0.52
4	1.67	19.26	0.74	19.30	0.70	19.31	0.69	0.71
5	2.08	19.13	0.87	19.16	0.84	19.18	0.82	0.84
6	2.50	18.96	1.04	19.04	0.96	19.07	0.93	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	18.96	1.04	19.04	0.96	19.07	0.93	0.98
2	1.25	19.00	1.00	19.08	0.92	19.11	0.89	0.94
3	0.625	19.08	0.92	19.15	0.85	19.17	0.83	0.87
4	0.01	19.37	0.63	19.45	0.55	19.43	0.57	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	19.27	0.73	19.39	0.61	19.37	0.63	0.66
1	0.83	19.20	0.80	19.29	0.71	19.31	0.69	0.73
2	1.25	19.11	0.89	19.25	0.75	19.22	0.78	0.81
3	1.67	19.00	1.00	19.17	0.83	19.13	0.87	0.90
4	2.08	18.93	1.07	19.08	0.92	19.01	0.99	0.99

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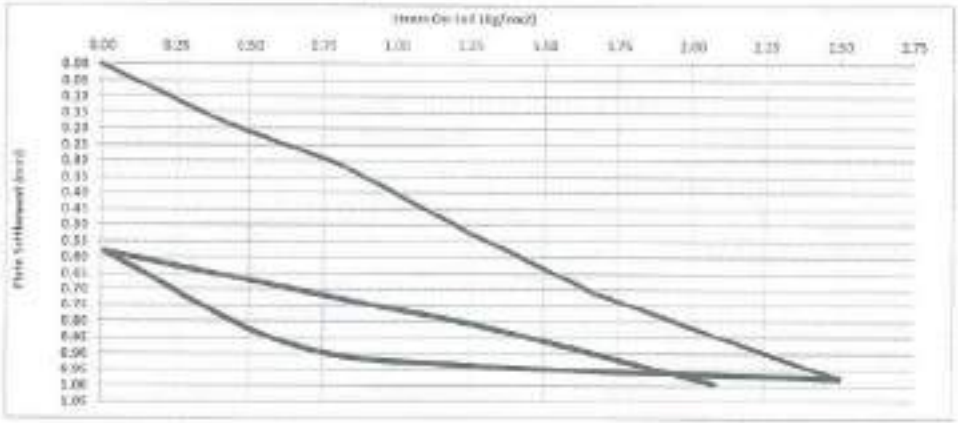
Company Name	: Land marks Co.
Project	: Electric Express Train, from Al Ain Sukhna to Marsa Matrouh Priority Sector (6) – Alamein to Fuka
Test Date	: 3/1/2024
report date	: 6/1/2024
Location	:Station 424+830 to 424+855
Test No.	3

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	0.18	0.32	0.52	0.71	0.84	0.96

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.96	0.84	0.67	0.55

D (mm) =	600	S1 (mm)=	0.28	S2(mm)=	0.74	ΔS =	0.44
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		160				

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	0.68	0.73	0.81	0.90	0.99

Ev2/Ev1 =	2.2

D (mm) =	600	S1 (mm)=	0.72	S2(mm)=	0.92	ΔS =	0.20
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		221				

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 (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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (II) -- Alamein to Fuka
Test Date : 5/1/2024
report date : 6/1/2024
Location :Station 424+855 to 424+880
Test No. 4

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	19.91	0.09	19.87	0.13	0.13
2	0.83	19.71	0.29	19.79	0.21	19.63	0.37	0.29
3	1.25	19.59	0.41	19.61	0.39	19.54	0.46	0.42
4	1.67	19.43	0.57	19.46	0.54	19.43	0.57	0.56
5	2.08	19.32	0.68	19.36	0.64	19.28	0.72	0.68
6	2.50	19.13	0.87	19.21	0.79	19.20	0.80	0.82

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.13	0.87	19.21	0.79	19.20	0.80	0.82
2	1.25	19.17	0.83	19.28	0.72	19.27	0.73	0.76
3	0.625	19.26	0.74	19.35	0.65	19.33	0.67	0.69
4	0.01	19.52	0.48	19.56	0.44	19.50	0.50	0.47

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.43	0.57	19.45	0.55	19.41	0.59	0.57
1	0.83	19.31	0.69	19.33	0.67	19.30	0.70	0.69
2	1.26	19.19	0.81	19.21	0.79	19.26	0.74	0.78
3	1.67	19.08	0.92	19.07	0.93	19.18	0.82	0.89
4	2.08	18.94	1.06	19.00	1.00	19.11	0.89	0.98

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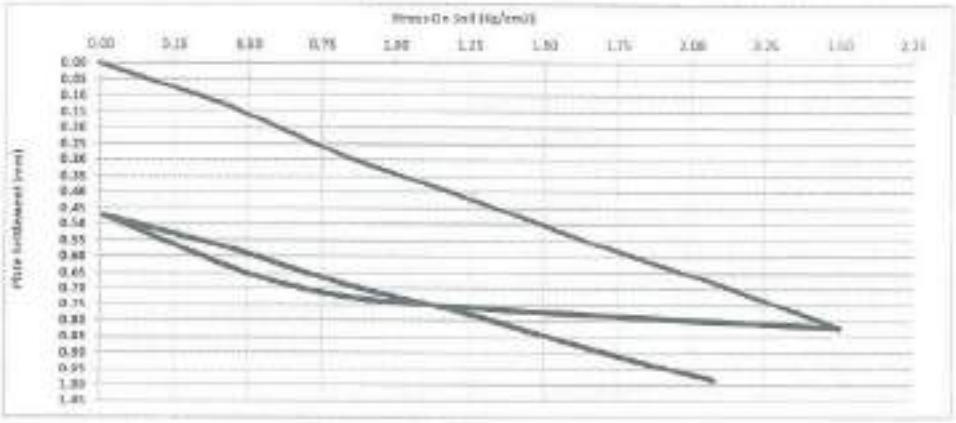
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (5) – Alamein to Fuka
Test Date : 2/1/2024
report date : 6/1/2024
Location :Station 424+855 to 424+880
Test No. 4

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.8	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	0.13	0.29	0.42	0.56	0.65	0.82

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1758	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.82	0.70	0.59	0.47

D (mm) =	600	S1 (mm)=	0.28	S2(mm)=	0.56	ΔS =	0.33
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		136				

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.8	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.47	0.57	0.69	0.78	0.89	0.98

Ev2/Ev1 =	1.3

D (mm) =	600	S1 (mm)=	0.69	S2(mm)=	0.91	ΔS =	0.24
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		181				

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (E) – Alamein to Foka
Test Date : 5/1/2024
report date : 6/1/2024
Location : Station 424+880 to 424+905
Test No. 5

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	19.80	0.20	19.75	0.25	19.83	0.17	0.21
2	0.83	19.69	0.31	19.56	0.44	19.78	0.22	0.32
3	1.25	19.60	0.40	19.41	0.59	19.53	0.47	0.49
4	1.67	19.42	0.58	19.28	0.72	19.29	0.71	0.67
5	2.08	19.28	0.72	19.09	0.91	19.11	0.89	0.84
6	2.50	19.10	0.90	18.98	1.02	19.00	1.00	0.97

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	18.98	1.02	19.00	1.00	0.97
2	1.25	19.18	0.82	19.09	0.91	19.06	0.94	0.89
3	0.625	19.30	0.70	19.22	0.78	19.17	0.83	0.77
4	0.01	19.54	0.46	19.52	0.48	19.42	0.58	0.51

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.45	0.55	19.45	0.55	19.38	0.62	0.57
1	0.83	19.36	0.64	19.32	0.68	19.31	0.69	0.67
2	1.25	19.25	0.75	19.19	0.81	19.21	0.79	0.78
3	1.67	19.19	0.81	19.11	0.89	19.10	0.90	0.87
4	2.08	19.09	0.91	19.01	0.99	19.03	0.97	0.96

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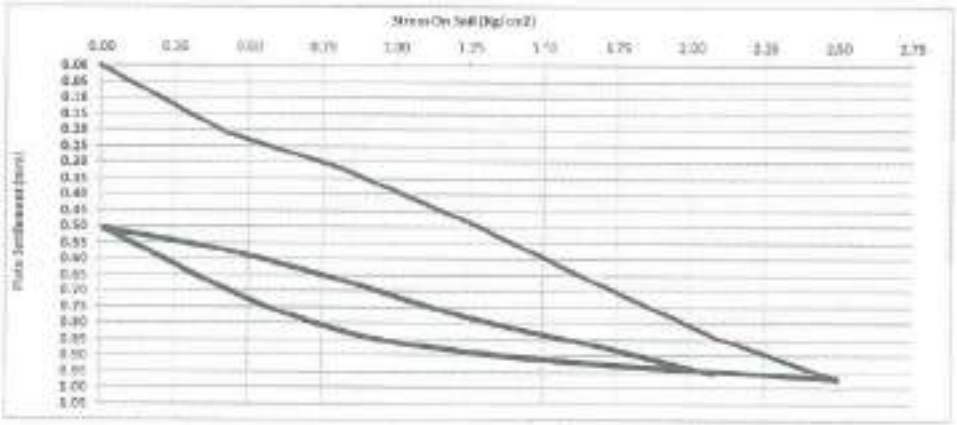
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) Alamein to Fuka
Test Date : 5/1/2024
report date : 6/1/2024
Location :Station 424+880 to 424+905
Test No. 5

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.8	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	0.21	0.32	0.49	0.67	0.84	0.97

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.29	0.625	0.01
Settlement (mm)	0.97	0.69	0.77	0.51

D (mm) = 600		S1 (mm)= 0.38	S2(mm)= 0.79	ΔS = 0.40
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS		110		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.8	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.51	0.57	0.67	0.78	0.87	0.96

Ev2/Ev1 =	1.7

D (mm) = 600		S1 (mm)= 0.65	S2(mm)= 0.88	ΔS = 0.23
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS		189		

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 : Land marks Co.

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: Station (425 + 000 to 425 + 100) .
Test Date : 9/1/2024
Repot Date : 10/1/2024
Type of soil :----
Test level : prepared (Sub grade) (+0.5)
Report No. : 90:93

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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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

- **Job requirement : Ev2 > (80 MPa).**

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	9/1/2024
- 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	Ev_2/Ev_1 Ratio
	From	To	Ev1(Mpa)	Ev_2 (Mpa)	
1	425+000	425+025	105	198	1.9
2	425+025	425+050	106	210	2.0
3	425+050	425+075	101	151	1.5
4	425+075	425+100	115	224	1.9

Signature /

Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Faka
Test Date : 9/1/2024
report date : 10/1/2024
Location :Station 425+000 to 425+025
Test No. 1

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	19.91	0.09	19.86	0.14	19.81	0.19	0.14
2	0.83	19.83	0.17	19.68	0.32	19.60	0.40	0.30
3	1.25	19.71	0.29	19.50	0.50	19.37	0.63	0.47
4	1.67	19.54	0.46	19.33	0.67	19.18	0.82	0.65
5	2.08	19.33	0.67	19.16	0.84	18.98	1.02	0.84
6	2.50	19.17	0.83	19.02	0.98	18.86	1.14	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	19.17	0.83	19.02	0.98	18.86	1.14	0.98
2	1.25	19.20	0.80	19.18	0.82	18.96	1.04	0.89
3	0.625	19.26	0.74	19.33	0.67	19.10	0.90	0.77
4	0.01	19.47	0.53	19.66	0.34	19.42	0.58	0.48

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.41	0.59	19.54	0.46	19.33	0.67	0.57
1	0.83	19.33	0.67	19.40	0.60	19.20	0.80	0.69
2	1.25	19.27	0.73	19.29	0.71	19.08	0.92	0.79
3	1.67	19.21	0.79	19.19	0.81	18.99	1.01	0.87
4	2.08	19.08	0.92	19.10	0.90	18.90	1.10	0.97

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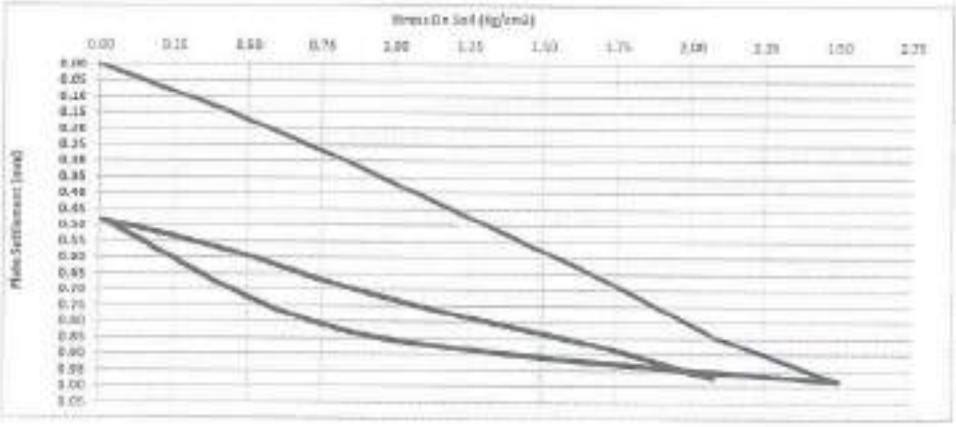
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 9/9/2024
report date : 10/9/2024
Location : Station 425+000 to 425+025
Test No. : 1

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2346.8	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	0.30	0.47	0.65	0.84	0.96

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3535	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.96	0.89	0.77	0.48

D (mm) = 600	S1 (mm)= 0.27	S2(mm)= 0.69	ΔS = 0.42
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS	103		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2346.8	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.48	0.57	0.69	0.79	0.87	0.97

Ev2/Ev1 =	1.9

D (mm) = 600	S1 (mm)= 0.47	S2(mm)= 0.69	ΔS = 0.22
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS	196		

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Ataka Matrouh Priority Sector (I) – Alamein to Foka
Test Date : 9/1/2024
report date : 10/1/2024
Location :Station 425+025 to 425+050
Test No. 2

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	19.81	0.19	19.74	0.26	19.78	0.22	0.22
2	0.83	19.69	0.31	19.63	0.37	19.64	0.36	0.35
3	1.25	19.54	0.46	19.48	0.52	19.49	0.51	0.50
4	1.67	19.32	0.68	19.26	0.74	19.30	0.70	0.71
5	2.08	19.16	0.84	19.11	0.89	19.13	0.87	0.87
6	2.50	18.99	1.01	18.95	1.05	18.96	1.04	1.03

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.99	1.01	18.95	1.05	18.96	1.04	1.03
2	1.25	19.06	0.94	19.02	0.98	19.04	0.96	0.96
3	0.625	19.14	0.86	19.11	0.89	19.12	0.88	0.88
4	0.01	19.39	0.61	19.33	0.67	19.36	0.64	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	19.33	0.67	19.25	0.75	19.30	0.70	0.71
1	0.83	19.25	0.75	19.16	0.84	19.21	0.79	0.79
2	1.25	19.17	0.83	19.07	0.93	19.10	0.90	0.89
3	1.67	19.09	0.91	18.99	1.01	19.01	0.99	0.97
4	2.08	19.00	1.00	18.91	1.09	18.92	1.08	1.06

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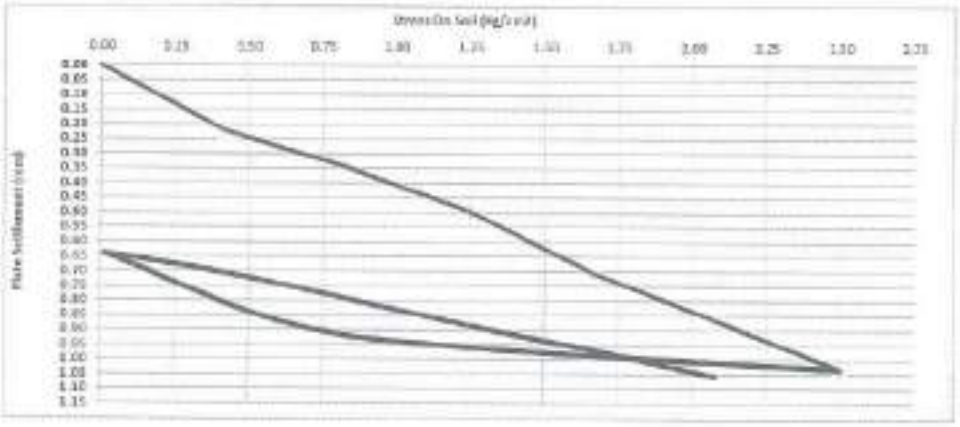
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) Alamein to Faka
Test Date : 9/1/2024
report date : 10/1/2024
Location :Station 425+025 to 425+050
Test No. 2

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	0.22	0.35	0.50	0.71	0.87	1.03

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.03	0.96	0.88	0.64

D (mm) = 600		S1 (mm)= 0.32	S2(mm)= 0.74	ΔS = 0.42
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS	109		

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	0.71	0.79	0.89	0.97	1.06

Ev2/Ev1 =	2.0

D (mm) = 600		S1 (mm)= 0.78	S2(mm)= 0.99	ΔS = 0.21
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS	211		

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

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 9/1/2024
report date : 10/1/2024
Location :Station 425+050 to 425+075
Test No. 3

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	19.87	0.13	19.80	0.20	0.16
2	0.83	19.75	0.25	19.66	0.34	19.63	0.37	0.32
3	1.25	19.61	0.39	19.53	0.47	19.44	0.56	0.47
4	1.67	19.43	0.57	19.27	0.73	19.27	0.73	0.68
5	2.08	19.26	0.74	18.94	1.06	19.06	0.94	0.91
6	2.50	19.03	0.97	18.74	1.26	18.96	1.04	1.09

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.03	0.97	18.74	1.26	18.96	1.04	1.09
2	1.25	19.10	0.90	18.83	1.17	18.18	0.82	0.96
3	0.625	19.18	0.81	18.91	1.09	19.36	0.64	0.85
4	0.01	19.44	0.56	19.38	0.62	19.65	0.35	0.51

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.37	0.63	19.29	0.71	19.57	0.43	0.59
1	0.83	19.23	0.77	19.18	0.82	19.43	0.57	0.72
2	1.25	19.15	0.85	19.05	0.95	19.26	0.74	0.85
3	1.67	19.05	0.95	18.94	1.06	19.12	0.88	0.96
4	2.09	18.91	1.09	18.84	1.16	19.01	0.99	1.08

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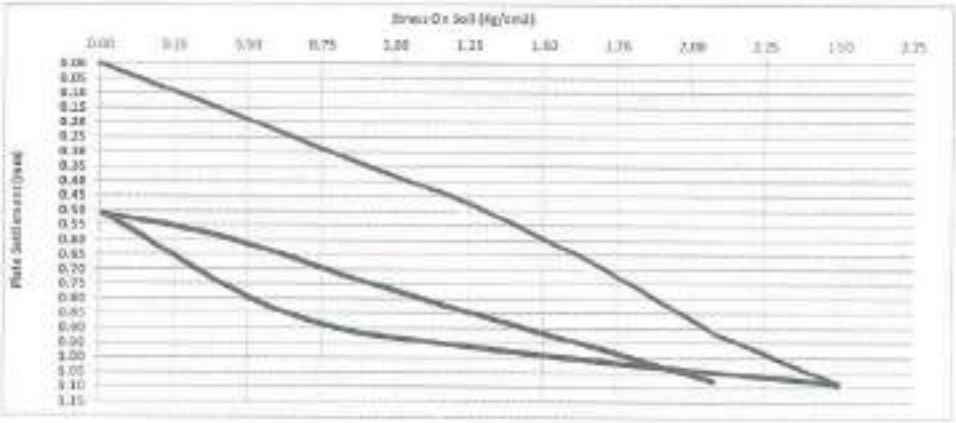
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (I) – Alamein to Foka
Test Date : 6/1/2024
report date : 10/1/2024
Location :Station 425+050 to 425+075
Test No. 3

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	0.53	0.47	0.68	0.91	1.09

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.09	0.98	0.85	0.51

D (mm) = 600	S1 (mm)= 0.29	S2(mm)= 0.72	ΔS = 0.43
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS	101		

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)	0.51	0.59	0.72	0.85	0.99	1.08

Ev2/Ev1 =	1.5

D (mm) = 600	S1 (mm)= 0.59	S2(mm)= 0.99	ΔS = 0.29
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS	151		

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

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 9/1/2024
report date : 10/1/2024
Location :Station 425+075 to 425+100
Test No. 4

Nonrepetitive Static Plate Load Tests of Soils DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.84	0.16	19.81	0.19	19.77	0.23	0.19
2	0.83	19.72	0.28	19.68	0.32	19.61	0.39	0.33
3	1.25	19.59	0.41	19.51	0.49	19.47	0.53	0.48
4	1.67	19.42	0.58	19.32	0.68	19.28	0.72	0.66
5	2.08	15.25	0.76	19.19	0.81	19.16	0.84	0.80
6	2.50	19.16	0.84	19.06	0.94	19.01	0.99	0.92

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.16	0.84	19.06	0.94	19.01	0.99	0.92
2	1.25	19.20	0.80	19.10	0.90	19.05	0.95	0.88
3	0.625	19.27	0.73	15.14	0.86	19.12	0.88	0.82
4	0.01	19.53	0.47	19.46	0.54	19.40	0.60	0.54

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.45	0.55	19.38	0.62	19.32	0.68	0.62
1	0.83	19.37	0.63	19.31	0.69	19.26	0.74	0.69
2	1.25	19.29	0.71	19.23	0.77	19.19	0.81	0.76
3	1.67	19.20	0.80	19.15	0.85	19.10	0.90	0.85
4	2.08	19.09	0.91	19.04	0.96	19.01	0.99	0.95

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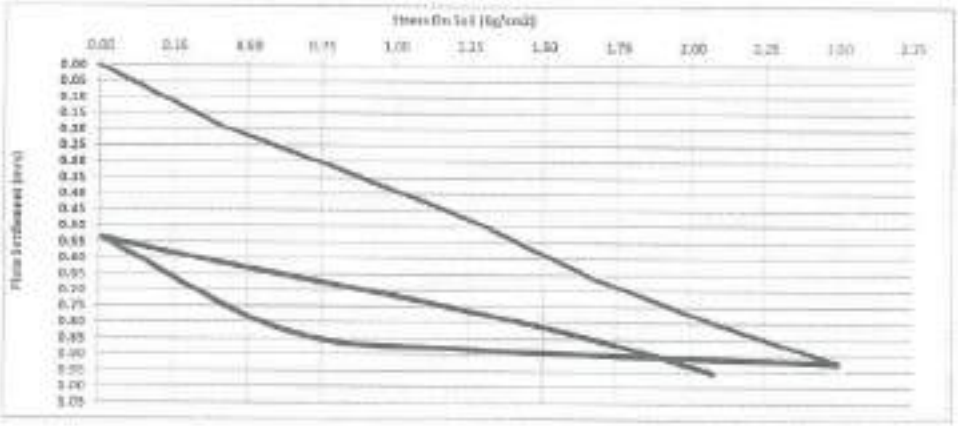
Company Name	: Land marks Co.
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date	: 9/1/2024
report date	: 10/1/2024
Location	:Station 425+075 to 425+100
Test No.	4

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	0.33	0.48	0.66	0.83	0.92

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1708	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.92	0.86	0.82	0.54

D (mm) =	600	S1 (mm)=	0.30	S2(mm)=	0.68	ΔS =	0.38
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		185				

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)	0.34	0.62	0.69	0.78	0.85	0.91

Ev2/Ev1 =	1.9

D (mm) =	600	S1 (mm)=	0.87	S2(mm)=	0.87	ΔS =	0.28
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		351				

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 : Land marks Co.

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: Station **(425+020 to 425+270)**

Test Date : **16/01/2024**

Repot Date : **17/01/2024**

Type of soil : **Sub ballast**

Test level : **(+0.90)**

Report No. : 106:115

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/cm²
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

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:

Test level : Sub ballast

- **Job requirement : Ev2 > (120 MPa)., Ev2/Ev1≤2.2**

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	16/01/2024
- 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} (Mpa)	E_{v2} (Mpa)	
1	425+020	425+045	81	143	1.8
2	425+045	425+070	86	182	2.1
3	425+070	425+095	71	182	2.6
4	425+095	425+120	98	183	1.9
5	425+120	425+145	64	141	2.2
6	425+145	425+170	70	115	1.6
7	425+170	425+195	58	102	1.8
8	425+195	425+220	82	137	1.7
9	425+220	425+245	70	127	1.8
10	425+245	425+270	67	142	2.1

Signature / Khaled

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+020 to 425+045
Test No. : 001

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	19.68	0.32	19.63	0.37	19.85	0.15	0.28
2	0.83	19.43	0.57	19.36	0.64	19.50	0.50	0.57
3	1.25	19.17	0.83	19.08	0.92	19.25	0.75	0.83
4	1.67	18.99	1.01	18.86	1.14	19.07	0.93	1.03
5	2.08	18.86	1.14	18.67	1.33	18.88	1.12	1.20
6	2.50	18.71	1.29	18.48	1.52	18.73	1.27	1.36

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.71	1.29	18.48	1.52	18.73	1.27	1.36
2	1.25	18.76	1.24	18.64	1.36	18.79	1.21	1.27
3	0.625	18.98	1.02	18.90	1.10	18.93	1.07	1.06
4	0.01	19.30	0.70	19.45	0.55	19.16	0.84	0.70

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.12	0.88	19.17	0.83	19.13	0.87	0.86
1	0.83	19.00	1.00	18.97	1.03	19.04	0.96	1.00
2	1.25	18.89	1.11	18.81	1.19	18.93	1.07	1.12
3	1.67	18.76	1.24	18.65	1.35	18.80	1.20	1.26
4	2.08	18.69	1.31	18.55	1.45	18.73	1.27	1.34

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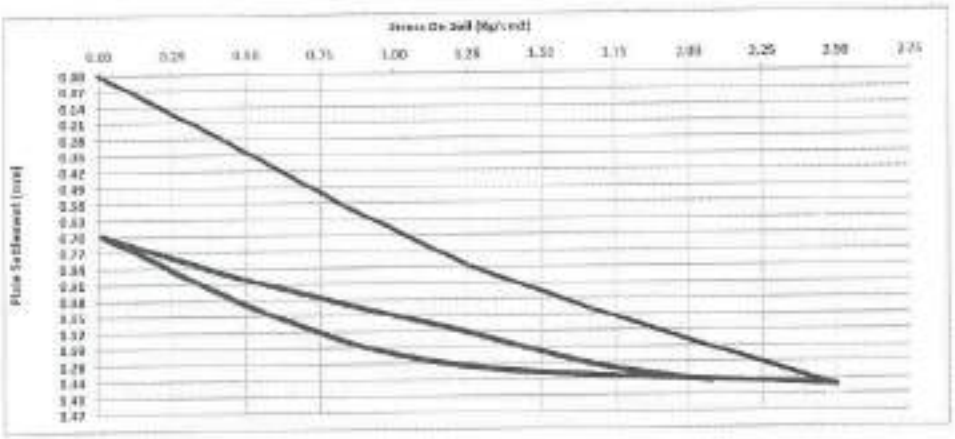
مكتب معامل الإستشارات الهندسية

Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+020 to 425+845
Test No. : 001

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.82	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	0.25	0.57	0.83	1.00	1.20	1.36

UnLoading (1)	1	2	3	4
Stage(Kg)	7060	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.36	1.27	1.06	0.70

D (mm) = 600		δ1 (mm)= 0.51	δ2(mm)= 1.16	Δδ = 0.65
Ev1 (Mpa) =	(0.75*D*Δσ)/Δδ	81		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.82	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)	0.70	0.86	1.00	1.12	1.26	1.34

Ev2/Ev1 =	1.8

D (mm) = 600		δ1 (mm)= 0.97	δ2(mm)= 1.28	Δδ = 0.31
Ev2 (Mpa) =	(0.75*D*Δσ)/Δδ	143		

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)
Δδ = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+045 to 425+070
Test No. : 002

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	19.65	0.35	19.54	0.46	0.35
2	0.83	19.54	0.46	19.47	0.53	19.38	0.62	0.54
3	1.25	19.36	0.64	19.21	0.79	19.15	0.85	0.76
4	1.67	19.11	0.89	19.03	0.97	18.96	1.04	0.97
5	2.08	18.92	1.08	18.86	1.14	18.63	1.37	1.20
6	2.50	18.76	1.24	18.72	1.28	18.31	1.69	1.40

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.76	1.24	18.72	1.28	18.31	1.69	1.40
2	1.25	18.98	1.02	18.93	1.07	18.52	1.48	1.19
3	0.625	19.32	0.68	19.25	0.75	18.67	1.33	0.92
4	0.01	19.57	0.43	19.39	0.61	19.03	0.97	0.67

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.17	0.83	19.09	0.91	18.92	1.08	0.94
1	0.83	19.04	0.96	18.96	1.04	18.82	1.18	1.06
2	1.25	18.97	1.03	18.89	1.11	18.76	1.24	1.13
3	1.67	18.88	1.12	18.82	1.18	18.52	1.48	1.26
4	2.08	18.79	1.21	18.75	1.25	18.38	1.62	1.36

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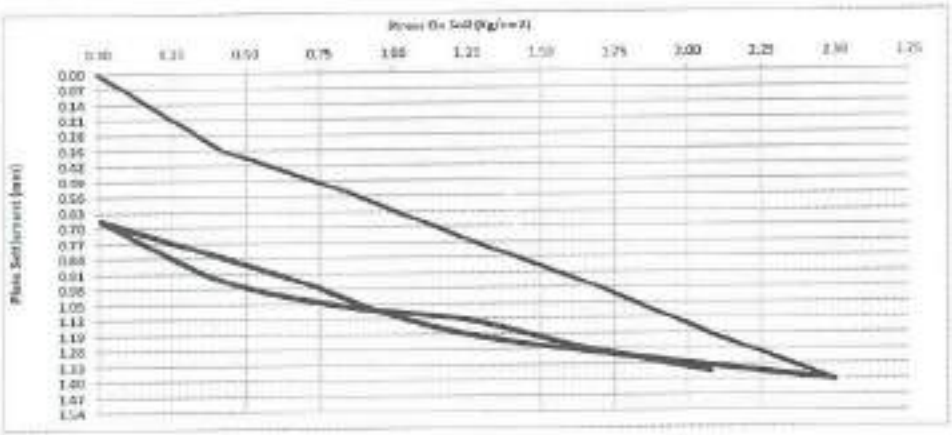
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+045 to 425+670
Test No. : 002

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	0.35	0.54	0.78	0.97	1.20	1.40

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)	1.40	1.19	0.92	0.67

D (mm) =	600	S1 (mm)=	0.50	S2(mm)=	1.01	ΔS =	0.51
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		88				

Ev2/Ev1 =	2.1

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)	0.67	0.84	1.06	1.13	1.26	1.36

D (mm) =	600	S1 (mm)=	1.04	S2(mm)=	1.28	ΔS =	0.24
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		182				

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+370 to 425+095
Test No. : 003

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	19.68	0.32	19.88	0.12	19.75	0.25	0.23
2	0.83	19.51	0.49	19.45	0.55	19.43	0.57	0.54
3	1.25	19.27	0.73	19.15	0.85	19.19	0.81	0.80
4	1.67	19.08	0.92	18.80	1.20	18.92	1.08	1.07
5	2.08	18.98	1.02	18.59	1.41	18.74	1.26	1.23
6	2.50	18.73	1.27	18.26	1.74	18.46	1.54	1.52

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.73	1.27	18.26	1.74	18.46	1.54	1.52
2	1.25	18.84	1.16	18.34	1.66	18.51	1.49	1.44
3	0.625	18.98	1.02	18.59	1.41	18.67	1.33	1.25
4	0.01	19.39	0.61	18.99	1.01	19.01	0.99	0.87

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.36	0.64	18.92	1.08	18.96	1.04	0.92
1	0.83	19.20	0.80	18.86	1.14	18.82	1.18	1.04
2	1.25	19.08	0.92	18.74	1.26	18.74	1.26	1.15
3	1.67	18.97	1.03	18.68	1.32	18.66	1.34	1.23
4	2.08	18.81	1.19	18.53	1.47	18.53	1.47	1.38

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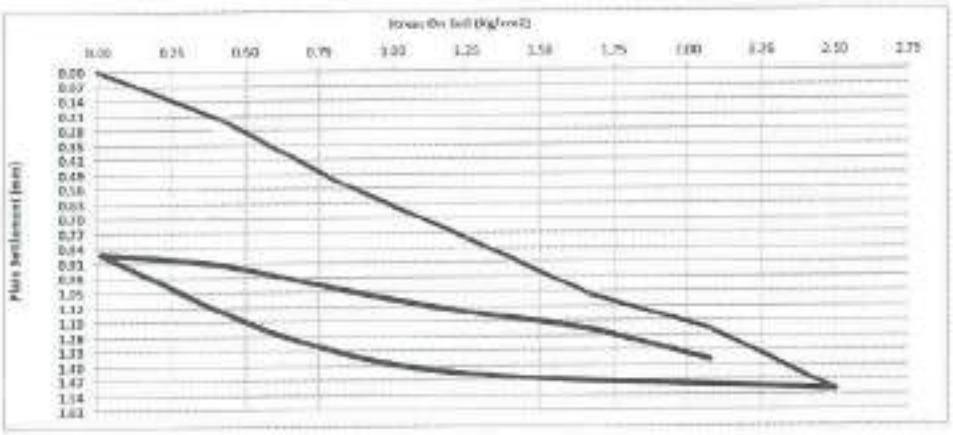
Company Name	: Land marks Co.
Project	: Electric Express Train, from Al Ain Sokhna to Mansa Matrouh Priority Sector (6) – Alamein to Foka
Test Date	: 16/01/2024
report date	: 17/01/2024
Location	:Station 425+070 to 425+095
Test No.	: 003

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	5873.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.23	0.54	0.80	1.07	1.23	1.52

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)	1.52	1.41	1.25	0.87

D (mm) =	600	S1 (mm)=	0.48	S2(mm)=	1.10	ΔS = 0.62
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		71			

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5873.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.87	0.92	1.04	1.15	1.23	1.28

D (mm) =	600	S1 (mm)=	1.02	S2(mm)=	1.26	ΔS = 0.24
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		182			

Ev2/Ev1 =	2.6

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)
DS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+095 to 425+120
Test No. : 004

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	19.60	0.00	19.66	0.00	19.70	0.00	0.00
1	0.42	19.23	0.37	19.43	0.23	19.51	0.19	0.26
2	0.83	18.89	0.71	19.35	0.31	19.41	0.29	0.44
3	1.25	18.57	1.03	19.22	0.44	19.29	0.41	0.63
4	1.67	18.35	1.25	19.06	0.60	19.09	0.61	0.82
5	2.08	18.20	1.40	18.88	0.78	18.94	0.76	0.98
6	2.50	17.99	1.61	18.56	1.10	18.63	1.07	1.26

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	17.99	1.61	18.56	1.10	18.63	1.07	1.26
2	1.25	18.04	1.56	18.62	1.04	18.67	1.03	1.21
3	0.625	18.23	1.37	18.75	0.91	18.75	0.95	1.08
4	0.01	18.69	0.91	18.84	0.82	18.92	0.78	0.84

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	18.52	1.08	18.80	0.86	18.84	0.86	0.93
1	0.83	18.42	1.18	18.72	0.94	18.79	0.91	1.01
2	1.25	18.25	1.35	18.61	1.05	18.71	0.99	1.13
3	1.67	18.11	1.49	18.55	1.11	18.65	1.05	1.22
4	2.08	17.97	1.63	18.48	1.18	18.56	1.14	1.32

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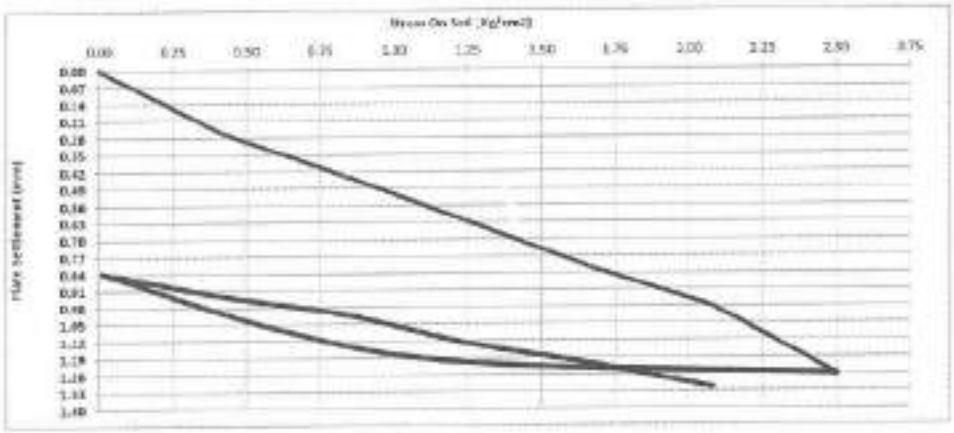
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location : Station 425+095 to 425+120
Test No. : 604

Nonrepatitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2346.6	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	0.26	0.44	0.63	0.82	0.98	1.26

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)	1.26	1.21	1.05	0.84

D (mm) = 600		S1 (mm)= 0.60	S2(mm)= 0.85	ΔS = 0.45
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS	88		

Ev2/Ev1 =	1.6

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2346.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.84	0.93	1.01	1.13	1.22	1.32

D (mm) = 600		S1 (mm)= 1.00	S2(mm)= 1.24	ΔS = 0.24
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS	183		

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

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مكتب معامل الإستشارات الهندسية

Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) - Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+120 to 425+145
Test No. : 005

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	19.72	0.28	19.47	0.53	19.24	0.76	0.52
2	0.83	19.55	0.45	19.04	0.96	18.98	1.02	0.81
3	1.25	19.36	0.64	18.84	1.16	18.63	1.37	1.06
4	1.67	18.83	1.17	18.53	1.47	18.45	1.55	1.40
5	2.08	18.51	1.49	18.29	1.71	18.30	1.70	1.63
6	2.50	18.23	1.77	18.02	1.98	18.09	1.91	1.89

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.23	1.77	18.02	1.98	18.09	1.91	1.89
2	1.25	18.31	1.69	18.30	1.70	18.24	1.76	1.72
3	0.625	18.50	1.50	18.37	1.63	18.47	1.53	1.55
4	0.01	18.92	1.08	18.49	1.51	18.62	1.38	1.32

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	18.87	1.13	18.42	1.58	18.51	1.49	1.40
1	0.83	18.65	1.35	18.28	1.72	18.34	1.66	1.58
2	1.25	18.48	1.52	18.01	1.99	18.26	1.74	1.75
3	1.67	18.36	1.64	17.97	2.03	18.17	1.83	1.83
4	2.08	18.24	1.76	17.91	2.09	18.03	1.97	1.94

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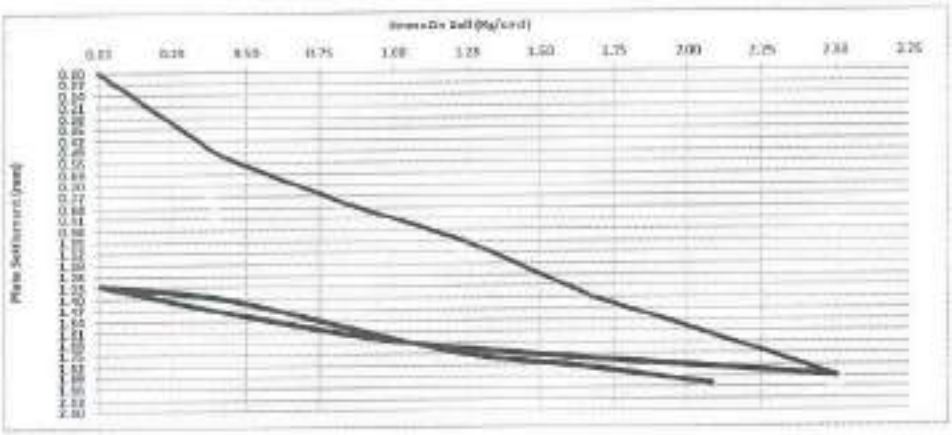
مكتب معامل الإستشارات الهندسية

Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+120 to 425+145
Test No. : 005

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.8	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	0.52	0.81	1.06	1.40	1.63	1.88

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1788	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.89	1.72	1.56	1.32

D (mm) =	600	S1 (mm)=	0.75	S2(mm)=	1.44	ΔS =	0.69
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		64				

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.8	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	1.32	1.40	1.58	1.75	1.83	1.94

Ev2/Ev1 =	2.2

D (mm) =	600	S1 (mm)=	1.14	S2(mm)=	1.85	ΔS =	0.31
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		141				

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+145 to 425+170
Test No. : 006

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	19.78	0.22	19.71	0.29	19.67	0.33	0.28
2	0.83	19.53	0.47	19.50	0.50	19.46	0.54	0.50
3	1.25	19.35	0.65	19.26	0.74	19.12	0.88	0.76
4	1.67	19.06	0.94	18.98	1.02	18.84	1.16	1.04
5	2.08	18.86	1.14	18.76	1.24	18.54	1.46	1.28
6	2.50	18.63	1.37	18.37	1.63	18.15	1.85	1.62

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.63	1.37	18.37	1.63	18.15	1.85	1.62
2	1.25	18.69	1.31	18.54	1.46	18.34	1.66	1.48
3	0.625	18.82	1.18	18.76	1.24	18.49	1.51	1.31
4	0.01	19.03	0.97	18.98	1.02	18.87	1.13	1.04

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	18.97	1.03	18.88	1.12	18.82	1.18	1.11
1	0.83	18.90	1.10	18.81	1.19	18.64	1.36	1.22
2	1.25	18.78	1.22	18.58	1.42	18.42	1.58	1.41
3	1.67	18.68	1.32	18.42	1.58	18.21	1.79	1.56
4	2.08	18.63	1.37	18.33	1.67	18.09	1.91	1.65

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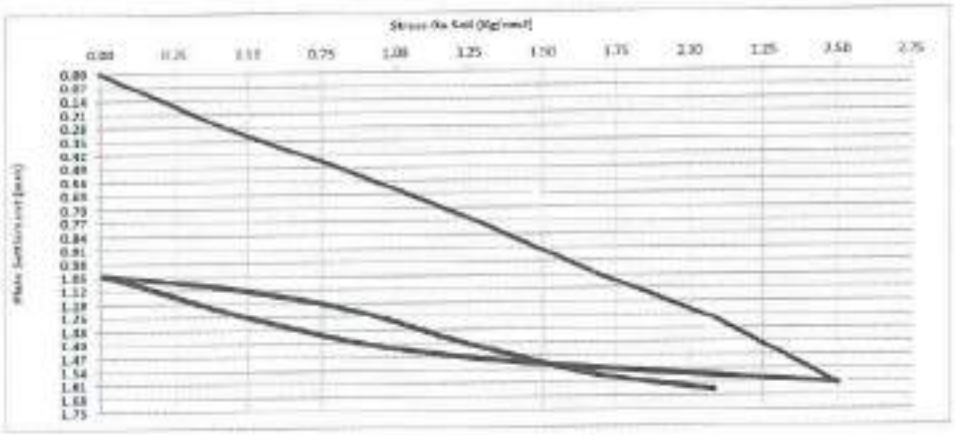
Company Name : Land marks Co.
Project : Electric Expreas Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+145 to 425+178
Test No. : 006

Nonrepatitive 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	1.26	1.67	2.08	2.50
Settlement (mm)	0.00	0.28	0.50	0.76	1.04	1.28	1.62

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.26	0.626	0.01
Settlement (mm)	1.62	1.48	1.31	1.04

D (mm) = 600	S1 (mm)= 0.48	S2(mm)= 1.03	ΔS = 0.63
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS	78		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1188.92	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)	1.04	1.11	1.22	1.41	1.56	1.65

D (mm) = 600	S1 (mm)= 1.20	S2(mm)= 1.58	ΔS = 0.38
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS	113		

Ev2/Ev1 =	1.4

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+170 to 425+195
Test No. : 007

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	19.57	0.43	19.63	0.37	19.72	0.28	0.36
2	0.83	19.36	0.64	19.26	0.74	19.41	0.59	0.66
3	1.25	18.97	1.03	18.98	1.02	19.23	0.77	0.94
4	1.67	18.65	1.35	18.74	1.26	18.69	1.31	1.31
5	2.08	18.51	1.49	18.38	1.62	18.47	1.53	1.55
6	2.50	18.11	1.89	18.14	1.86	18.14	1.86	1.87

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.11	1.89	18.14	1.86	18.14	1.86	1.87
2	1.25	18.22	1.78	18.18	1.82	18.37	1.63	1.74
3	0.625	18.50	1.50	18.35	1.65	18.53	1.47	1.54
4	0.01	18.78	1.22	18.70	1.21	18.94	1.06	1.16

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	18.73	1.27	18.68	1.32	18.82	1.18	1.26
1	0.83	18.63	1.37	18.54	1.46	18.68	1.32	1.38
2	1.25	18.47	1.53	18.47	1.53	18.50	1.50	1.52
3	1.67	18.20	1.80	18.20	1.80	18.27	1.73	1.78
4	2.08	18.16	1.84	18.08	1.92	18.23	1.77	1.84

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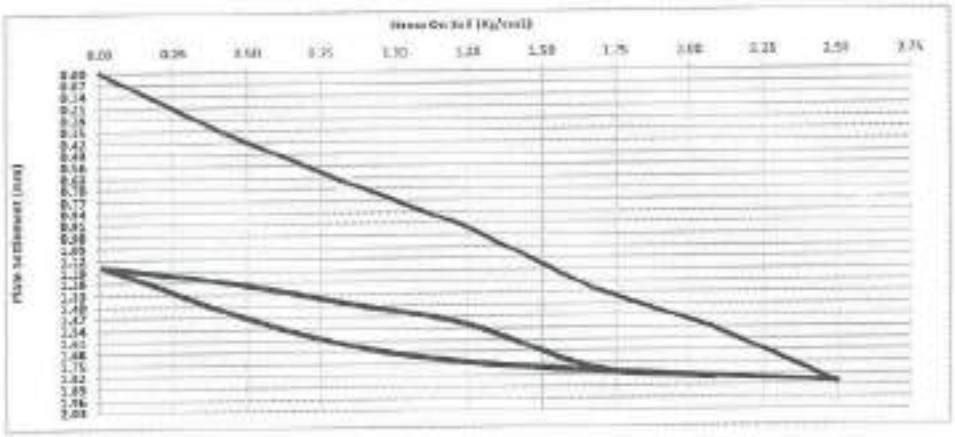
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+170 to 425+185
Test No. : 007

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	0.36	0.66	0.94	1.31	1.56	1.87

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.87	1.74	1.54	1.16

D (mm) = 600		S1 (mm)= 0.99	S2(mm)= 1.36	ΔS = 0.75
Ev1 (Mpa) = (0.75*D*Δσ)/ΔS		89		

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)	1.16	1.26	1.36	1.52	1.78	1.94

Ev2/Ev1 =	1.8

D (mm) = 600		S1 (mm)= 1.36	S2(mm)= 1.79	ΔS = 0.43
Ev2 (Mpa) = (0.75*D*Δσ)/ΔS		162		

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Re-loading 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)

Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+195 to 425+220
Test No. : 008

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	19.68	0.32	19.65	0.35	19.58	0.42	0.36
2	0.83	19.46	0.54	19.33	0.67	19.20	0.80	0.67
3	1.25	19.22	0.78	19.22	0.78	18.82	1.18	0.91
4	1.67	19.03	0.97	18.87	1.13	18.75	1.25	1.12
5	2.08	18.91	1.09	18.63	1.37	18.63	1.37	1.28
6	2.50	18.68	1.32	18.40	1.60	18.09	1.91	1.61

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.68	1.32	18.40	1.60	18.09	1.91	1.61
2	1.25	18.73	1.27	18.48	1.52	18.15	1.85	1.55
3	0.625	18.88	1.12	18.57	1.43	18.34	1.66	1.40
4	0.01	19.40	0.60	18.90	1.10	18.70	1.30	1.00

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.31	0.69	18.85	1.15	18.56	1.44	1.09
1	0.83	19.15	0.85	18.76	1.24	18.47	1.53	1.21
2	1.25	18.98	1.02	18.63	1.37	18.30	1.70	1.36
3	1.67	18.87	1.13	18.49	1.51	18.19	1.81	1.48
4	2.08	18.72	1.28	18.40	1.60	18.06	1.94	1.61

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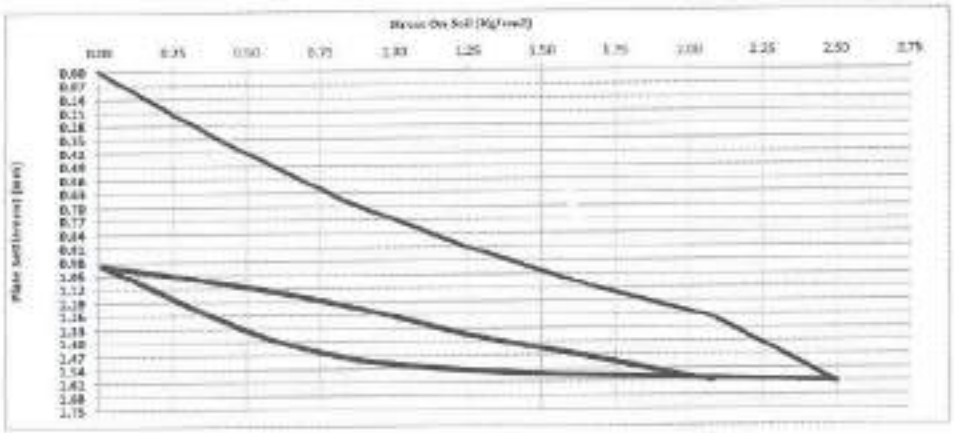
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+195 to 425+220
Test No. : 008

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	0.36	0.67	0.91	1.12	1.28	1.61

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.61	1.55	1.40	1.00

D (mm) =	600	S1 (mm)=	1.61	S2(mm)=	1.15	ΔS =	0.64
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		82				

Ev2/Ev1 =	1.7

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)	1.00	1.09	1.21	1.36	1.48	1.61

D (mm) =	600	S1 (mm)=	1.18	S2(mm)=	1.51	ΔS =	0.32
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		137				

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)
DS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Marsouh Priority Sector (6) - Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+220 to 425+245
Test No. : 009

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	19.35	0.65	19.57	0.43	19.64	0.36	0.48
2	0.83	19.08	0.92	19.36	0.64	19.29	0.71	0.76
3	1.25	18.69	1.31	19.06	0.94	19.09	0.91	1.05
4	1.67	18.47	1.53	18.74	1.26	18.93	1.07	1.29
5	2.08	18.32	1.68	18.50	1.50	18.61	1.39	1.52
6	2.50	18.13	1.87	18.29	1.71	18.34	1.66	1.75

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.13	1.87	18.29	1.71	18.34	1.66	1.75
2	1.25	18.26	1.74	18.33	1.67	18.39	1.61	1.67
3	0.625	18.48	1.52	18.50	1.50	18.66	1.34	1.45
4	0.01	18.94	1.06	18.98	1.02	19.07	0.93	1.00

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	18.76	1.24	18.87	1.13	18.94	1.06	1.14
1	0.83	18.64	1.36	18.67	1.33	18.76	1.24	1.31
2	1.25	18.47	1.53	18.54	1.46	18.68	1.32	1.44
3	1.67	18.28	1.72	18.36	1.64	18.56	1.44	1.60
4	2.08	18.17	1.83	18.25	1.75	18.40	1.60	1.73

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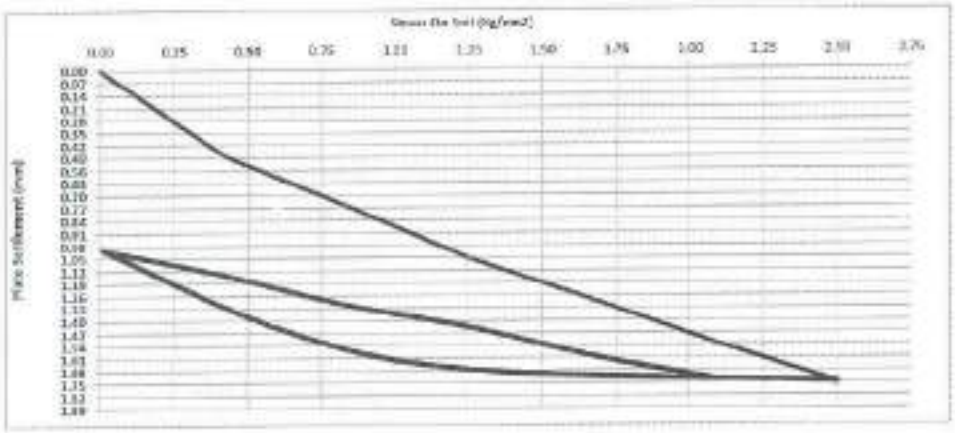
Company Name	: Land marks Co.
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date	: 16/01/2024
report date	: 17/01/2024
Location	:Station 425+220 to 425+245
Test No.	: 009

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.8	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	0.46	0.76	1.09	1.29	1.52	1.75

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)	1.75	1.67	1.45	1.00

D (mm) =	600	S1 (mm)=	0.70	S2(mm)=	1.33	ΔS =	0.63
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		79				

Ev2/Ev1 =	1.6

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.8	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	1.00	1.14	1.31	1.44	1.60	1.73

D (mm) =	600	S1 (mm)=	1.20	S2(mm)=	1.62	ΔS =	0.36
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		127				

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 : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 16/01/2024
report date : 17/01/2024
Location :Station 425+245 to 425+270
Test No. : 010

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	19.51	0.49	19.67	0.33	19.72	0.28	0.37
2	0.83	19.07	0.93	19.07	0.93	19.43	0.57	0.81
3	1.25	18.67	1.33	18.80	1.20	19.29	0.71	1.08
4	1.67	18.33	1.67	18.45	1.55	19.17	0.83	1.35
5	2.08	18.19	1.81	18.23	1.77	19.04	0.96	1.51
6	2.50	18.06	1.94	18.02	1.98	18.75	1.25	1.72

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	18.06	1.94	18.02	1.98	18.75	1.25	1.72
2	1.25	18.15	1.85	18.09	1.91	18.94	1.06	1.61
3	0.625	18.29	1.71	18.35	1.65	19.08	0.92	1.43
4	0.01	18.43	1.57	18.58	1.42	19.37	0.63	1.21

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	18.37	1.63	18.52	1.48	19.10	0.90	1.34
1	0.83	18.22	1.78	18.42	1.58	18.98	1.02	1.46
2	1.25	18.08	1.92	18.24	1.76	18.86	1.14	1.61
3	1.67	17.96	2.04	18.10	1.90	18.75	1.25	1.73
4	2.06	17.88	2.12	18.00	2.00	18.67	1.33	1.82

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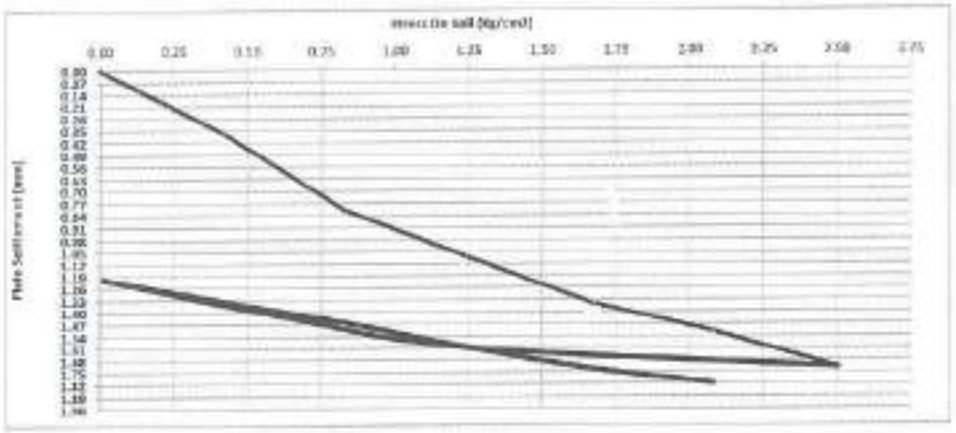
Company Name	: Land marks Co
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date	: 16/01/2024
report date	: 17/01/2024
Location	:Station 425+245 to 425+270
Test No.	: 010

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	0.37	0.81	1.08	1.35	1.51	1.72

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.72	1.61	1.43	1.21

D (mm) =	600	S1 (mm)=	1.72	S2(mm)=	1.38	ΔS = 0.66
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		67			

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)	1.21	1.34	1.46	1.61	1.73	1.82

D (mm) =	600	S1 (mm)=	1.44	S2(mm)=	1.75	ΔS = 0.31
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		142			

Ev2/Ev1 =	2.1

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 (σ max) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+270 to 425+290
Test No. : 007

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	19.81	0.19	19.64	0.36	19.60	0.40	0.32
2	0.83	19.68	0.32	19.49	0.51	19.41	0.59	0.47
3	1.25	19.44	0.56	19.31	0.69	19.23	0.77	0.67
4	1.67	19.27	0.73	19.15	0.85	19.05	0.95	0.84
5	2.08	19.15	0.85	19.01	0.99	18.91	1.09	0.98
6	2.50	19.02	0.98	18.84	1.16	18.78	1.22	1.12

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
1	2.50	19.02	0.98	18.84	1.16	18.78	1.22	1.12
2	1.25	19.07	0.93	18.90	1.10	18.83	1.17	1.07
3	0.625	19.12	0.88	18.97	1.03	18.92	1.08	1.00
4	0.01	19.35	0.65	19.24	0.76	19.21	0.79	0.73

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2		mm		mm		mm	
0	0.42	19.27	0.73	19.18	0.82	19.13	0.87	0.81
1	0.83	19.18	0.82	19.09	0.91	19.02	0.98	0.90
2	1.25	19.09	0.91	19.01	0.99	18.93	1.07	0.99
3	1.67	19.01	0.99	18.94	1.06	18.82	1.18	1.08
4	2.08	18.91	1.09	18.85	1.15	18.73	1.27	1.17

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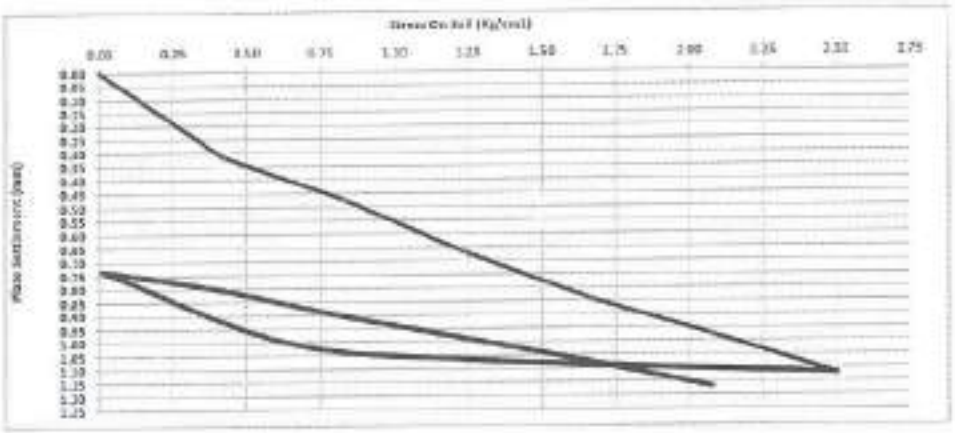
Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 11/1/2024
report date : 13/1/2024
Location :Station 425+270 to 425+290
Test No. : 007

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	0.32	0.47	0.67	0.84	0.96	1.12

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.12	1.07	1.00	0.73

D (mm) =	600	S1 (mm)=	0.44	S2(mm)=	0.87	ΔS =	0.43
Ev1 (Mpa) =	(0.75*D*Δσ)/ΔS		193				

Ev2/Ev1 =	2.0

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)	0.73	0.61	0.90	0.99	1.08	1.17

D (mm) =	600	S1 (mm)=	0.68	S2(mm)=	1.09	ΔS =	0.21
Ev2 (Mpa) =	(0.75*D*Δσ)/ΔS		210				

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)

Company Name : **Land Marks**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Sub-Ballast**
Location : **St. (424+600) : (425+600)**
Delivery Date : **15/03/2023**
Reporting Date : **22/03/2023**
Reporting No. : **21**
Sample No. : **01**

Dear Gentleman,

Attached here with the Sub-Ballast delivered on 15/03/2023

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 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

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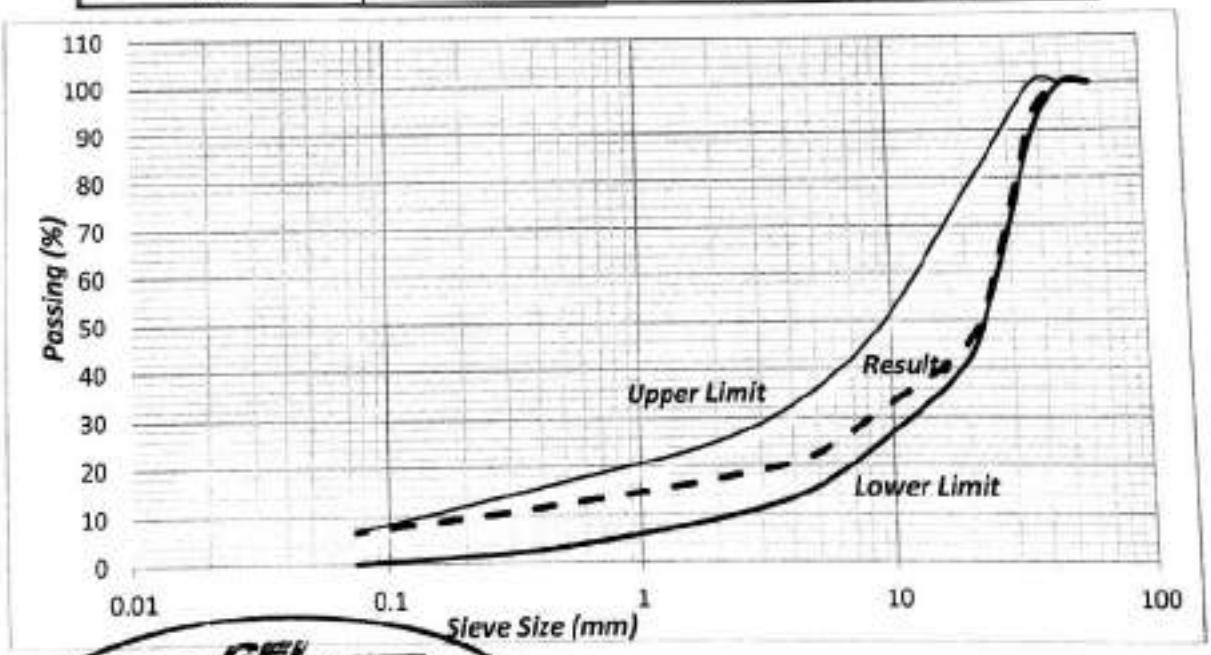
Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (424+600) : (425+600)
Delivery Date : 15/03/2023
Reporting Date : 22/03/2023
Reporting No. : 21
Sample No. : 01

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	93.1	90	100
25	56.8	55	85
19	43.7	40	75
12.5	34.9	--	--
9.5	32.3	26	50
4.75	22.0	15	35
2.00	17.2	9	25
0.425	11.7	3	16
0.075	6.8	0	7



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

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Company Name : **Land Marks**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Sub-Ballast**
Location : **St. (424+600) : (425+600)**
Delivery Date : **15/03/2023**
Reporting Date : **22/03/2023**
Reporting No. : **21**
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)	6.8

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Company Name : **Land Marks**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Sub-Ballast**
Location : **St. (424+600) : (425+600)**
Delivery Date : **15/03/2023**
Reporting Date : **22/03/2023**
Reporting No. : **21**
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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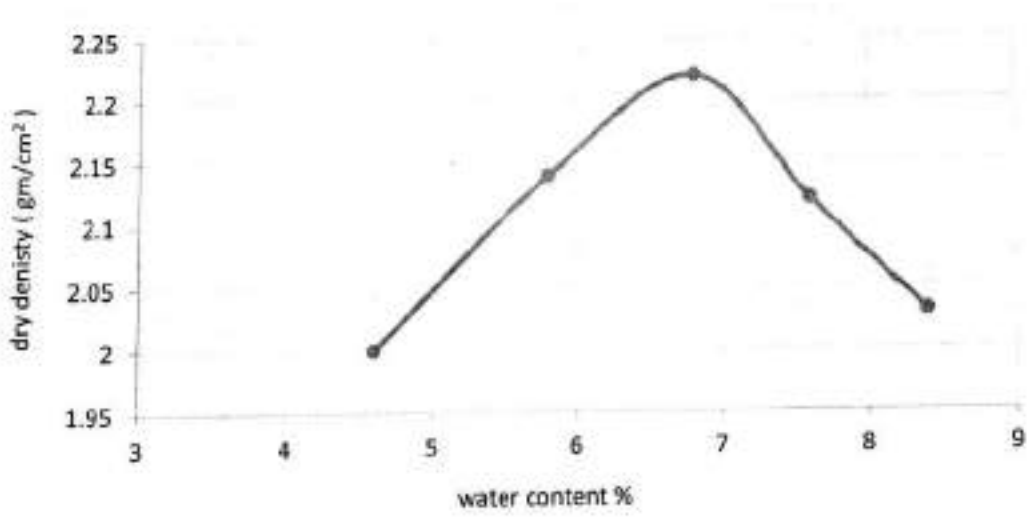
Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (424+600) : (425+600)
Delivery Date : 15/03/2023
Reporting Date : 22/03/2023
Reporting No. : 21
Sample No. : 01

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



- Max dry density (gm/cm²) : 2.22
- Optimum moisture content % : 6.8

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Company Name : **Land Marks**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Sub-Ballast**
Location : **St. (424+600) : (425+600)**
Delivery Date : **15/03/2023**
Reporting Date : **22/03/2023**
Reporting No. : **21**
Sample No. : **01**

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

Test	Results
Bulk Specific Gravity (OD)	2.32
Bulk Specific Gravity (SSD)	2.40
Apparent Specific Gravity.	2.52
Absorption %	2.41

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

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Company Name : **Land Marks**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Sub-Ballast**
Location : **St. (424+600) : (425+600)**
Delivery Date : **15/03/2023**
Reporting Date : **22/03/2023**
Reporting No. : **21**
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	4.07
1.27	0.050	4.59
1.91	0.075	5.10
2.54	0.100	5.58
3.18	0.125	6.11
3.81	0.150	6.59
4.45	0.175	7.10
5.08	0.200	7.61
5.71	0.225	8.11
6.35	0.250	8.62

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	5.58	80.9

Notes :

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of 2.22 (gm /cm^3) at 6.8 % optimum water content.
3- Surcharge load 4.5 kg.

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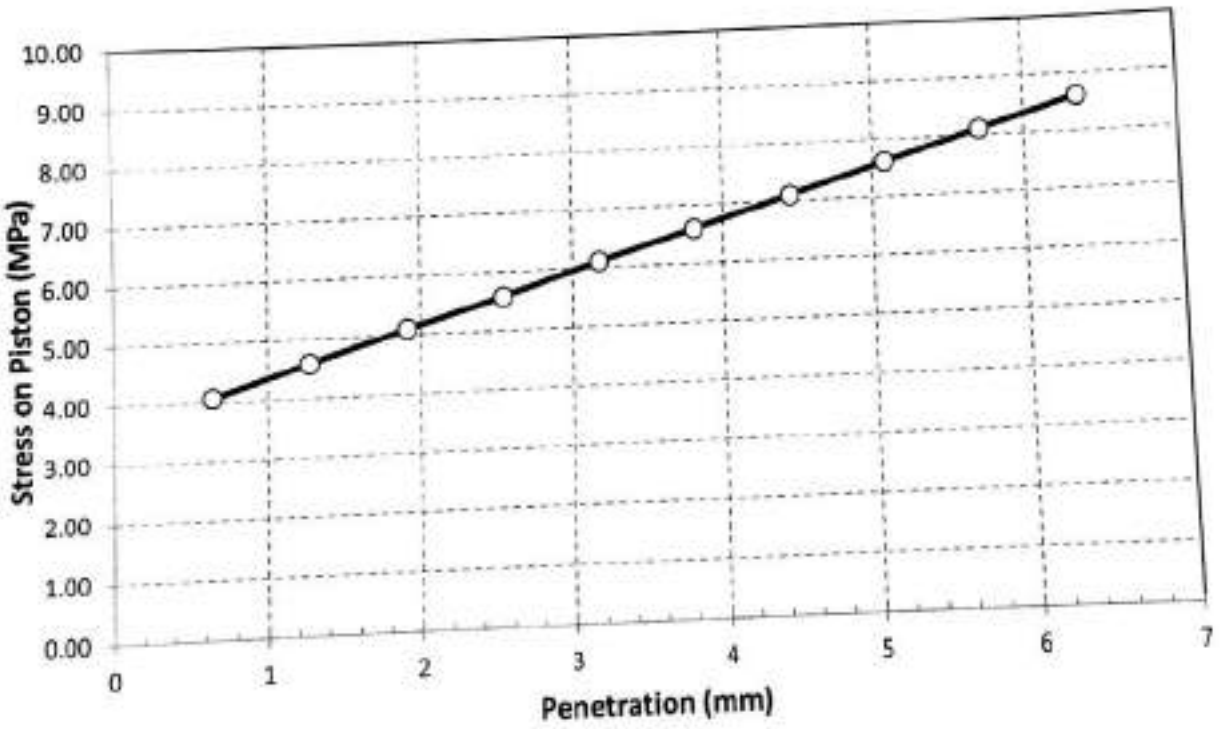
Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (424+600) : (425+600)
Delivery Date : 15/03/2023
Reporting Date : 22/03/2023
Reporting No. : 21
Sample No. : 01

Load Penetration Curve of CBR Test
ASTM D-1883



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مكتب معامل الإستشارات الهندسية

Company:

Land marks

Project	**: Electric express train.**
Delivery Date	**: 06/04/2023**
Report Date	**: 12/04/2023**
Sample Id	**: Sub-ballast sample No.1**
Type	**: Coarse Aggregate**
Source	**: Site**
Report No.	**: 01**

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	**19.7**

- **According to project specs :**

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

- **Shall not exceed 30 %** **(when Subjected to 500 revolutions)**

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

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مكتب معامل الاستشارات الهندسية

Company Name : **Land Marks**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Prepared Subgrade**
Delivery Date : **13-04-2023**
Reporting Date : **17-04-2023**
Reporting No. : **23**
Sample No. : **02**

Dear Gentleman,

Attached here with the Prepared Subgrade delivered on 13-04-2023

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. 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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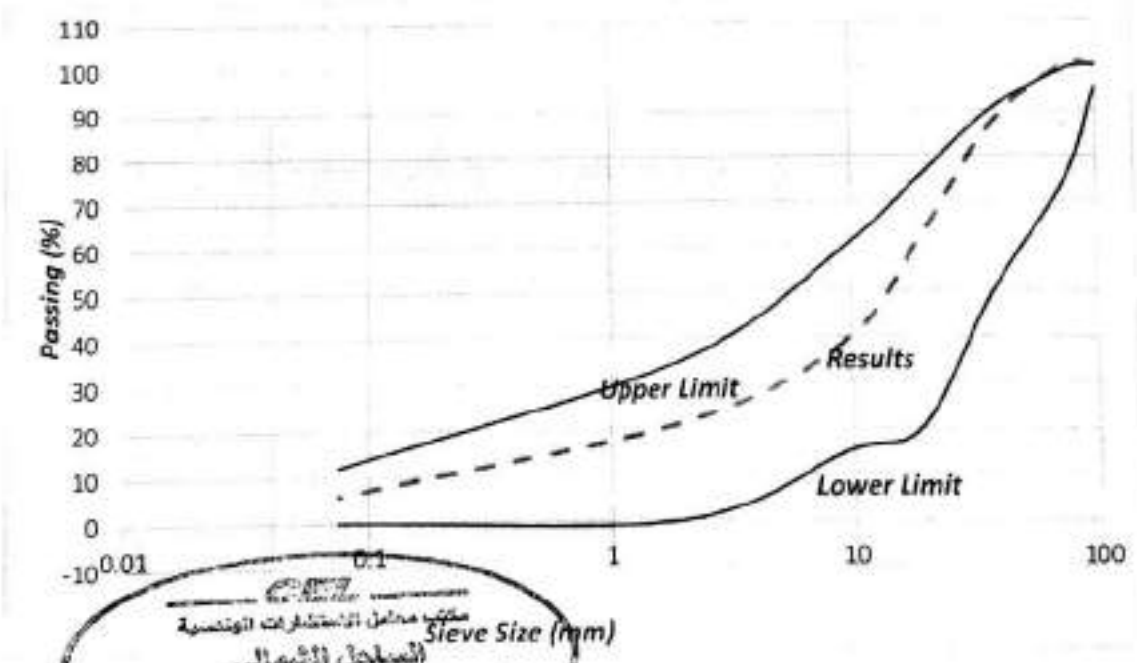
Company Name : **Land Marks**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Prepared Subgrade**
Delivery Date : **13-04-2023**
Reporting Date : **17-04-2023**
Reporting No. : **23**
Sample No. : **02**

Results of sieve analysis according to ASTM D-422.

Sieve Size (mm)	Passing %	Job specification limits (ASTM D-422)	
		Min.	Max.
100	100	90	100
75	100	75	100
50	100	--	--
38	86.9	50	100
25	72.3	--	100
19	61.6	20	75
12.5	43.2	--	--
9.5	39.2	15	60
4.75	24.6	--	--
2.00	21.3	0	35
0.425	15.0	0	--
0.075	6.5	0	12



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

Signature /.....

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Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade
Delivery Date : 13-04-2023
Reporting Date : 17-04-2023
Reporting No. : 23
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)	5.9

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Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade
Delivery Date : 13-04-2023
Reporting Date : 17-04-2023
Reporting No. : 23
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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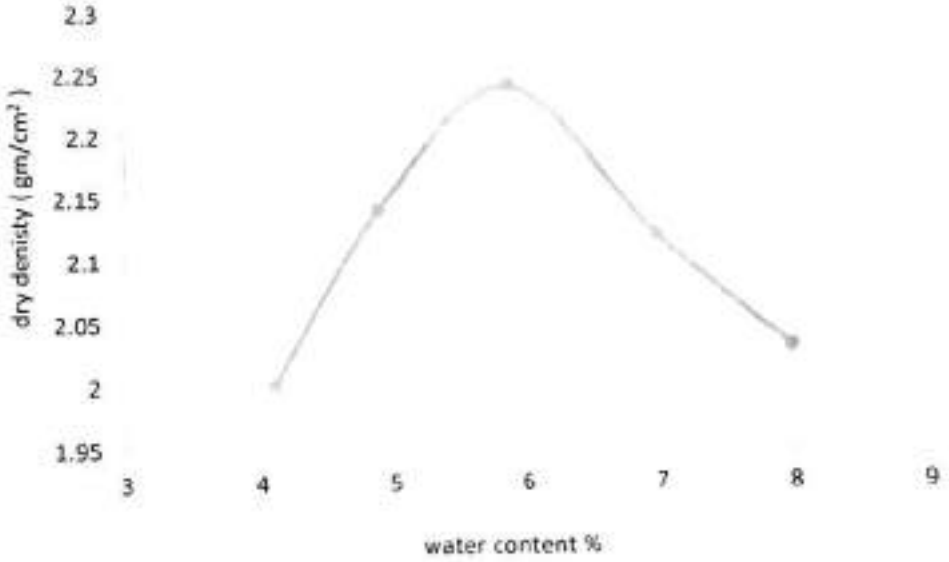
Company Name : **Land Marks**
Project : **Electric Express Train, from Al Ain Sokhna to Marsa Matrouh**
Type of sample : **Prepared Subgrade**
Delivery Date : **13-04-2023**
Reporting Date : **17-04-2023**
Reporting No. : **23**
Sample No. : **02**

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



- **Max dry density (gm/cm³)** : **2.24**
- **Optimum moisture content %** : **5.9**

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Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade
Delivery Date : 13-04-2023
Reporting Date : 17-04-2023
Reporting No. : 23
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	4.06
1.27	0.050	4.34
1.91	0.075	4.56
2.54	0.100	4.91
3.18	0.125	5.40
3.81	0.150	5.70
4.45	0.175	6.14
5.08	0.200	6.64
5.71	0.225	7.09
6.35	0.250	7.48

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	71.7
	6.90	4.91	

Notes :

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of 2.24 (gm /cm^3) at 5.9 % optimum water content.
3- Surcharge load 4.50 Kg.

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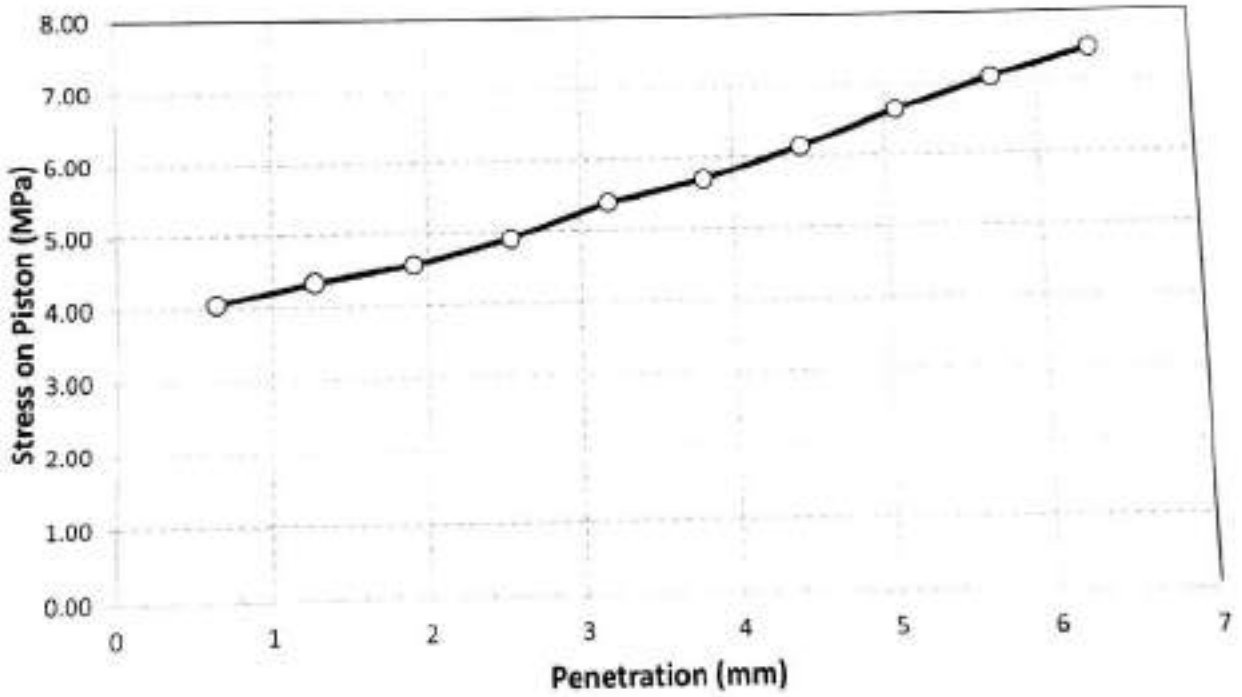
Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Prepared Subgrade
Delivery Date : 13-04-2023
Reporting Date : 17-04-2023
Reporting No. : 22
Sample No. : 01

Load Penetration Curve of CBR Test
ASTM D-1883



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Company:

Land marks

Project : Electric express train.
Delivery Date : 01/05/2023
Report Date : 15/05/2023
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	23.2

- **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

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قائمة الكميات الواردة بالمستخلص جاري (٢)

مشروع: أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهربائي السريع (العين السخنة -العاصمة الادارية - العلمين - مطروح)

قطاع غرب النيل لتنفيذ المسافة من الكم ٤٢٤+٦٠٠ الى الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه الطريق الساحلي

رقم البند و بيانه : (٤-١) اعمال توريد وفرش طبقة الأساس (PREPARED SUBGRADE)

تـــنفيـــذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : . م٣

بيان الاعمال بالمقايسة	الموقع الكيلومتري		الابعاد (متر)		الكمية
	من	الى	طول	مساحة المقطع	
القطاع الأول	٤٢٤+٦٠٠	٤٢٥+١٠٠	٥٠٠	٨,٠٣٧	٤٠١٨,٥٠
القطاع الثاني	٤٢٥+١٠٠	٤٢٥+٦٠٠	٥٠٠	٨,٠٣٧	٤٠١٨,٥٠
اجمالي الكميات خلال فترة المستخلص الحالية (م٣)					٨٠٣٧
الاجمالي الكلي (م٣)					٨٠٣٧

مهندس الشركة	مهندس الاستشاري	مهندس الاستشاري	مهندس الهيئة
م / احمد ابوبكر	مكتب XYZ م / محمد خليل	مكتب د/سعد الجيوشي م/مصطفى نجم	م / ابراهيم المحلاوي

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قائمة الكميات الواردة بالمستخلص جاري (٢)

مشروع: أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهربائي السريع (العين السخنة -العاصمة الادارية - العلمين - مطروح)

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رقم البند و بيانه : (٤-١) علاوة تحصيل رسوم الكارتة والموازين طبقا للائحة الشركة الوطنية

تـــنفيـــذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : . م٣

بيان الاعمال بالمقايسة	الموقع الكيلومتري		الابعاد (متر)		الكمية
	من	الى	طول	مساحة المقطع	
القطاع الأول	٤٢٤+٦٠٠	٤٢٥+١٠٠	٥٠٠	٨,٠٣٧	٤٠١٨,٥٠
القطاع الثاني	٤٢٥+١٠٠	٤٢٥+٦٠٠	٥٠٠	٨,٠٣٧	٤٠١٨,٥٠
اجمالي الكميات خلال فترة المستخلص الحالية (م٣)					٨٠٣٧
الاجمالـي الكلـي (م٣)					٨٠٣٧

مهندس الشركة	مهندس الاستشاري	مهندس الاستشاري	مهندس الهيئة
م / أحمد ابوبكر	مكتب XYZ م / محمد خليل	مكتب د/سعد الجيوشي م/مصطفي نجم	م / إبراهيم الحكاوى

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قائمة الكميات الواردة بالمستخلص جاري (٢)

مشروع: أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهربائي السريع (العين السخنة -العاصمة الادارية - العلمين - مطروح)
قطاع غرب النيل لتنفيذ المسافة من الكم ٤٢٤+٦٠٠ الى الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه الطريق الساحلي

رقم البند و بيانه : (٤-١) علاوة مسافة النقل ١٤٧ كم

تـــنفيـــذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : . م٣

بيان الاعمال بالمقايسة	الموقع الكيلومتري		الابعاد (متر)		الكمية
	من	الى	طول	مساحة المقطع	
القطاع الأول	٤٢٤+٦٠٠	٤٢٥+١٠٠	٥٠٠	٨,٠٣٧	٤٠١٨,٥٠
القطاع الثاني	٤٢٥+١٠٠	٤٢٥+٦٠٠	٥٠٠	٨,٠٣٧	٤٠١٨,٥٠
اجمالي الكميات خلال فترة المستخلص الحالية (م٣)					٨٠٣٧
الاجمالـي الكلـي (م٣)					٨٠٣٧

مهندس الشركة	مهندس الاستشاري	مهندس الاستشاري	مهندس الهيئة
م / أحمد أبوبكر	مكتب XYZ	مكتب د/سعد الجيوشي	
	م / محمد خليل	م/مصطفي نجم	م / إبراهيم العطوعي

الهيئة العامة
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(GARB)

قائمة الكميات الواردة بالمستخلص جاري (٢)

مشروع: أعمال الجسر النزلي والأعمال الصناعية لمشروع القطار الكهربائي السريع (العين السخنة -العاصمة الادارية - العلمين - مطروح)
قطاع غرب النيل لتنفيذ المسافة من الكم ٤٢٤+٦٠٠ الى الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه الطريق الساحلي

رقم البند و بيانه : (٤-١) قيمة المادة المحجرية

تـــنفيـــذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : - م٣

بيان الاعمال بالمقايسة	الموقع الكيلومتري		الابعاد (متر)		الكمية
	من	الى	طول	مساحة المقطع	
القطاع الأول	٤٢٤+٦٠٠	٤٢٥+١٠٠	٥٠٠	٨,٠٣٧	٤٠١٨,٥٠
القطاع الثاني	٤٢٥+١٠٠	٤٢٥+٦٠٠	٥٠٠	٨,٠٣٧	٤٠١٨,٥٠
اجمالي الكميات خلال فترة المستخلص الحالية (م٣)					٨٠٣٧
الاجمالـي الكلـي (م٣)					٨٠٣٧

مهندس الشركة	مهندس الاستشاري	مهندس الاستشاري	مهندس الهيئة
م / احمد ابوبكر	مكتب XYZ	مكتب د/سعد الجيوشي	
	م / محمد خليل	م/مصطفي نجم	م / إبراهيم الحضوي

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قائمة الكميات الواردة بالمستخلص جاري (٢)

مشروع: أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهربائي السريع (العين السخنة -العاصمة الادارية - العلمين - مطروح)

قطاع غرب النيل لتنفيذ المسافة من الكم ٤٢٤+٦٠٠ الى الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه الطريق الساحلي

رقم البند و بيانه : (٤-٢) اعمال توريد وفرش طبقة الأساس (SUB BALLAST)

تـــنفيـــذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : . م٣

بيان الاعمال بالمقايسة	الموقع الكيلومتري		الابعاد (متر)		الكمية
	من	الى	طول	مساحة المقطع	
القطاع الأول	٤٢٤+٦٠٠	٤٢٥+١٦٠	٥٦٠	٥,٨٥٥	٣٢٧٨,٨٠
اجمالي الكميات خلال فترة المستخلص الحالية (م٣)					٣٢٧٨,٨٠
الاجمالـي الكلـي (م٣)					٣٢٧٨,٨٠

مهندس الشركة	مهندس الاستشاري	مهندس الاستشاري	مهندس الهيئة
	مكتب XYZ	مكتب د/سعد الجيوشي	
م / أحمد أبوبكر	م/ محمد خليل	م/مصطفي نجم	م/ إبراهيم الحداوى
أحمد أبو بكر			

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قائمة الكميات الواردة بالمستخلص جاري (٢)

مشروع: أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهربائي السريع (العين السخنة -العاصمة الادارية - العلمين - مطروح)
قطاع غرب النيل لتنفيذ المسافة من الكم ٤٢٤+٦٠٠ الى الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه الطريق الساحلي

رقم البند و بيانه : (٤-٢) علاوة تحصيل رسوم الكارتة والموازين طبقا للائحة الشركة الوطنية

تـــنفيـــذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : . م٣

بيان الاعمال بالمقايسة	الموقع الكيلومتري		الابعاد [متر]		الكمية
	من	الى	طول	مساحة المقطع	
القطاع الأول	٤٢٤+٦٠٠	٤٢٥+١٦٠	٥٦٠	٥,٨٥٥	٣٢٧٨,٨٠
اجمالي الكميات خلال فترة المستخلص الحالية (م٣)					٣٢٧٨,٨٠
الاجمالـي الكلـي (م٣)					٣٢٧٨,٨٠

مهندس الشركة	مهندس الاستشاري	مهندس الاستشاري	مهندس الهيئة
	مكتب XYZ	مكتب د/سعد الجيوشي	
م / أحمد أبوبكر	م / محمد خليل	م/مصطفي نجم	م/ ابراهيم الحداوي

الهيئة العامة
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قائمة الكميات الواردة بالمستخلص جاري (٢)

مشروع: أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهربائي السريع (العين السخنة -العاصمة الادارية - العلمين - مطروح)
قطاع غرب النيل لتنفيذ المسافة من الكم ٤٢٤+٦٠٠ الى الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه الطريق الساحلي

رقم البند و بيانه : (٤-٢) علاوة مسافة النقل ١٤٧كم

تـــنفيـــذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : . م٣

بيان الاعمال بالمقايسة	الموقع الكيلومتري		الابعاد (متر)		الكمية
	من	الى	طول	مساحة المقطع	
القطاع الأول	٤٢٤+٦٠٠	٤٢٥+١٦٠	٥٦٠	٥,٨٥٥	٣٢٧٨,٨٠
اجمالي الكميات خلال فترة المستخلص الحالية (م٣)					٣٢٧٨,٨٠
الاجمالـي الكلـي (م٣)					٣٢٧٨,٨٠

مهندس الشركة	مهندس الاستشاري	مهندس الاستشاري	مهندس الهيئة
	مكتب XYZ	مكتب د/سعد الجيوشي	
م / أحمد أبوبكر	م / محمد خليل	م/مصطفى نجم	م / إبراهيم الحفناوي

الهيئة العامة
للطرق و الكباري
(GARB)

قائمة الكميات الواردة بالمستخلص جاري (٢)

مشروع: أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهربائي السريع (العين السخنة -العاصمة الادارية - العلمين - مطروح)
قطاع غرب النيل لتنفيذ المسافة من الكم ٤٢٤+٦٠٠ الى الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه الطريق الساحلي

رقم البند و بيانه : (٤-٢) قيمة المادة المحجرية

تـــنفيـــذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : م٣

بيان الاعمال بالمقايسة	الموقع الكيلومتري		الابعاد (متر)		الكمية
	من	الى	طول	مساحة المقطع	
القطاع الأول	٤٢٤+٦٠٠	٤٢٥+١٦٠	٥٦٠	٥,٨٥٥	٣٢٧٨,٨٠
اجمالي الكميات خلال فترة المستخلص الحالية (م٣)					٣٢٧٨,٨٠
الاجمالـي الكلـي (م٣)					٣٢٧٨,٨٠

مهندس الشركة	مهندس الاستشاري	مهندس الاستشاري	مهندس الهيئة
	مكتب XYZ	مكتب د/سعد الجيوشي	
م / أحمد أبوبكر	م / محمد خليل	م/مصطفى نجم	م / أبوبكر المحلاوي

الهيئة العامة
للطرق والكباري
(GARB)

المنطقة الخامسة – (غرب الدلتا)

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة.. وبعد،،

بالإحالة إلى مشروع القطار الكهربائى فائق السرعه (العلمين – فوكة) (القطاع السادس)

نتشرف بأن نرفق لسيادتكم طيه المقايسة المعدلة بعد المفاوضة لبنود الأعمال بتاريخ ١٨-١٢-٢٠٢٣ للقطاع الأتي:

مسلسل	اسم الشركة	من المحطة	إلى المحطة	الاتجاه
١	لاندماركس للمقاولات العمومية	٤٢٤+٦٠٠	٤٢٥+٦٠٠	الطريق الساحلي

برجاء من سيادتكم التفضل بالأحاطه والتوجيه بالازم

وتفضلوا بقبول فائق الأحترام والتقدير،،،

رئيس الإدارة المركزية

المنطقة الخامسة- غرب الدلتا

عميد مهندس/

"هاني محمد محمود طه "

مركز الإستشارات الهندسية للنقل و المطارات و الطرق
(خبراء دوليون)
دكتور/ سعد الجيوشي

الهيئة العامة للطرق و الكباري (GARB)

وزارة النقل
MINISTRY OF TRANSPORT

مشروع القطار الكهربائي فائق السرعة قطاع (العلمين - فوكة)
المقايسة المعدلة بعد المفاوضة بتاريخ ٢٠٢٣-١٢-١٨ لبنود الاعمال لتنفيذ شركة لاندماركس للمقاولات العمومية اتجاه الطريق الساحلي
القطاع من المحطة ٦٠٠+٤٢٤ الى ٦٠٠+٤٢٥

رقم البند	بيان الأعمال	الوحدة	الكمية	الفئة	الاجمالي
٤	طبقات الاساس				
١٠٤	يقاس المكعب أعمال توريد وفرش طبقة الاساس (prepared Subgrade) من الاحجار الصلبة المقترحة ناتج تكسير الكسارات والمطابقة للمواصفات واقصى حجم للحبيبات ١٠٠ مم ولا تزيد نسبة المار من منخل ٢٠٠ عن ١٢ % و التدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٢٥ % و الا تزيد نسبة الفاقد بجهاز لوس انجلوس عن ٣٠ % ولا يزيد الامتصاص عن ١٥% و الا يقل معامل المرونة (Ev2) من تجربة لوح التحميل عن ٨٠ ميجاباسكال و يتم فردها على طبقتين باستخدام الات التسوية المعتمدة على ان لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٥ سم و رشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة قصوى (لاتقل عن ٩٥ %) من الكثافة المعملية والفئة تشمل اجراء التجارب المعملية والحقلية ويتم التنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند يشمل جميع مشتملاته طبقا للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف -مسافة النقل لا تقل عن ٢٠ كم	م٣	٨٠٣٧	١٤٦,٤٠	١,١٧٦,٦١٧
	قيمة المادة المحجرية	م٣	٨٠٣٧	١٦١	١,٢٩٣,٩٥٧
	علاوة مسافة النقل ١٤٧ كم	م٣	٨٠٣٧	١٦٥,١٠	١,٣٢٦,٩٠٩
	علاوة تحصيل رسوم الكارتة والموازين طبقا لائحة الشركة الوطنية	م٣	٨٠٣٧	٢٥	٢٠٠,٩٢٥
٢٠٤	يقاس المكعب أعمال توريد وفرش طبقة أساس من الاحجار الصلبة المقترحة ناتج تكسير الكسارات والمطابقة للمواصفات واقصى حجم للحبيبات ما بين ٣١,٥ مم الى ٤٠ مم ولا يزيد نسبة المار من منخل ٢٠٠ عن ٥% والتدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٨٠ % ولا يقل معامل المرونة (Ev2) من تجربة لوح التحميل عن ١٢٠ ميجاباسكال ولا يزيد نسبة الفاقد بجهاز لوس انجلوس عن ٣٠ % ولا يزيد الامتصاص عن ١٥ % ويتم فردها على طبقتين باستخدام الات التسوية المعتمدة على ان لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠ سم و رشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة قصوى (لا يقل عن ١٠٠%) من الكثافة المعملية و الفئة تشمل اجراء التجارب المعملية والحقلية ويتم تنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند يشمل جميع مشتملاته طبقا للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف . -مسافة النقل لا تقل عن ٢٠ كم	م٣	٣٢٩٥,١٠٥٥	١٥١,٣	٤٩٨,٥٤٩
	قيمة المادة المحجرية	م٣	٣٢٩٥,١٠٥٥	١٧٥,٠	٥٧٦,٦٤٣
	علاوة مسافة النقل ١٤٧ كم	م٣	٣٢٩٥,١٠٥٥	١٦٥,١	٥٤٤,٠٢٦
	علاوة تحصيل رسوم الكارتة والموازين طبقا لائحة الشركة الوطنية	م٣	٣٢٩٥,١٠٥٥	٢٥	٨٢,٣٧٨
	الإجمالي				٥,٧٠٠,٠٠٠
(خمسة مليون و سبع مئة الف جنيه فقط لاغير)					

مدير المشروع المقاول — م / أحمد أبوبكر

مدير المشروع الاستشارى — م / مصطفى نجم

مدير المشروع الهيئة — م / ابراهيم الجناوى

مدير عام مشروعات الهيئة — م/محمد حسني فياض

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

٢٠٢٤/٢/٢٩

مركز الاستشارات الهندسية للطرق و المطارات SGAC أ.د سعد محمد الجيوشي مشروع القطار السريع قطاع ٦

شركة لاند ماركس للمقاولات العمومية واعمال متكاملة وتوريدات
س.ت : ٧٩٨١١
ب.ض : ٦٩٩ - ٧٩٦ - ٦٥٢