

Company : Land marks Co.

Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priprity 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) ; 94:100 Report No.

# 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
- 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
- Install loading plates 600 mm and 300 mm diameter, hydrautic jack and 3 dial gauges
- 3. Prior to starting the test applied preloading about 30 seconds.
- 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<sup>3</sup>
- 6. The load shall be applied in six stages, in approximately equal increments, until the regulard 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 (2<sup>nd</sup>) loading cycle shall be carried out, in which, however, the load is to be increased only to the genullimate 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, Laural of الاختيارات المعصلية

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Although - people which public +

11. Remove the loads

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مكتب معامل الإستشارات الهندسية

# 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
<ul> <li>Unusual observation made during test</li> </ul>	NO
- Description of the soil conditions below the plate after testing	No deformation

# Evaluation and representation of results

Test	Sta	tion	First Cycle	Second Cycle	Evz/ Eva	
No.	From	То	Ev1(Mpa)	Ev2(Mpa)	Ratio	
1 425+120		425+145			1.7	
2	425+145	425+1/0	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	

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مكتب معامل الإستشارات الهندسية

 Company Name
 : Land marks Co.

 Project
 : Electric Express Train, from Al Ain Soktina to Narsal Matroun Priority Sector (9) – Alamain 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 Solls DIN 18134

Data sheet

#### Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dist 2	Settlement	No.
	Kg/cm2	Dial 3	171/73	Dia Z	mm	Diał 3	mm	Average
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	10.50	0.41	26,41	0.50	19.46	0.58	0.52
4	1.67	19.45	0.54	19.29	0.71	19.27	0.73	0.66
5	2.08	19.30	0.70	15.17	0.83	19.16	0.84	0.79
6	2.50	19.13	0.87	15/01	0.99	19.03	0.97	0.94

### Unloading Stage (1)

Loading Kg/cm2	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	
	Diat	mm	Dial 2	mm	shar a	min	Average	
1	2.50	19.13	0.87	15.01	0.99	19.03	0.97	0.94
2	1.25	19.17	0.83	15.05	0.95	19.08	0.92	0.96
3	0.625	19.22	0.78	19.10	0.90	19.14	0.86	0.85
4	0.01	19.51	0.49	15.42	0.58	19.36	0.84	0.57

#### Loading Stage (2)

Loading	ng Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	Augeneite
in Line is a	Kg/cm2	Dial 1	mm	man x	mm	Diat 5	mm	Average
0	0.42	19.44	0.56	15.93	0.87	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	39.14	0.86	0.82
3	1.67	19.21	0,70	19.04	0.96	19.05	0.94	0.90
4	2.08	19.13	0.87	15.92	1.08	28.54	1.05	1.D0



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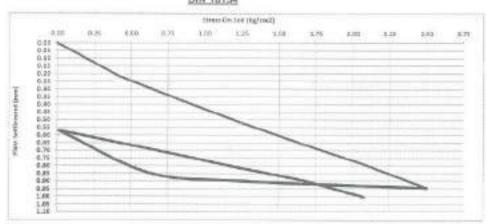
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Company Name Project Test Data report data Location Test No.

1 Land marks Co. 1 Electric Express Train, from Al Ala Soluma to Marsa Matroub Priority Sector (6) - Alamoin to Foka 1 11/12024 1 13/12026 Station 426-12014, 426-146

#### Nonrepetitive Static Plate Load Tests of Soits DIN 18134



Loading (1)	0	1	2	3	4	5	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	6878.1	7065
Stress (Kg/cm2)	0.63	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	1	-4
Stage(Kg)	7065	2833	1768	0
Stress (Kg/cm2)	2.50	1:25	0.625	0.01
Settlement (mm)	12.94	13.90	0.85	0.57

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Loading (2)	0	1	2	3	4	-5
Stege(Kg)	D	1186.92	1345.6	3532.5	4718.4	5578.1
Stress (Kg/am2)	0.01	0.42	0.85	1.25	1.87	2.00
Sattlement (mm)	0.57	0.65	0.73	0.82	0.90	1.00

D (mm) =	800	81 (mm)#	0.21	52(mm)= 0.52	AS =	0.20
Ex2 (Npa)=	(0.75°D*A0¥AS		217			-

Evil - Modulus of deformation during the loading stage.

Ev2 + Moduko of deformation during the Relaading stage.

D ~ Plato diameter (mm)

Da = The difference between 0.3 and 0.3 from the maximum loading (press) (lighter) D5 = Difference in settlements corresponding to 0.3 and (17 from the maximum loading (mm)



Ev2/Ev1 =

1.7

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Company Name	Land marks Co.
Project	Electric Express Train, from Al Ain Soldina to Blana Multicult Priority Sector (II) - Alametin to Foka
Test Date	: 11/1/2024
report date	13/1/2024
Location	Station 425+145 to 425+170
Test No.	: 002
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Nonrepetitive Static Plate Load Tests of Soils DIN 18134

Data sheet

# Loading Stage (1)

Loading Stress Kg/cm2	Stress	Dial 1	Settlemant	Dist 0	Settlement	Dist 0	Settlement	
	Unan 1	mm	Dial 2	mm	Dial 3	mm	Average	
0	0.00	20.00	0.00	20.00	0.00	10.00	0.00	0.00
4	0.42	19.84	0,16	15.70	0.30	19.69	0.31	0.28
2	0.83	19.71	0.29	10.50	0.50	19.48	0.52	0.44
3	1.25	18.95	0.45	19.35	0.65	19.32	0.68	0.69
4	1.67	19.41	0.59	19.19	0.81	19.15	0.85	0.75
5	2.08	18,23	0.77	19.05	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	Stress	Dial 1	Settlement	Dial 2	Settlement	DI-1 0	Settlement	
coating	Kg/cm2	Diar 1	mm	Diai 2	mm	Dial 3	mm	Average	
1	2.50	19.11	0.89	18.92	1.08	18.83	1,17	1.65	
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	1.05	0.94	
4	0.01	19.47	0.53	15.27	0.70	19.26	0.74	0.87	

#### Loading Stage (2)

Loading Stress	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	4000 C	
	Kg/cm2	Dian 1	mm	Dial 2	mm	Utal 3	mm	Average	
0	0.42	19.41	0,59	15.21	0.79	19.20	0.80	0.73	
1	0.83	19.34	0.66	19.14	0.86	19.11	0.89	0.00	
2	1.25	19.23	0.77	15.05	0.95	19.04	0.96	0.89	
3	1.67	39.15	0.85	15.98	1.02	78.93	1.97	0.98.	
-4	2.08	19.04	0.96	18.87	1,13	18.82	1.18	1.09	

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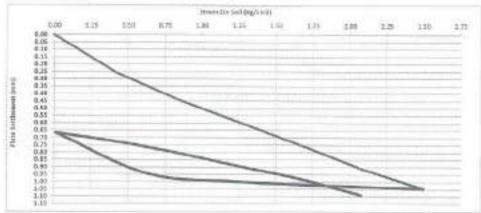


Company Name : Land marks Co. Project : Electric Express Timin, from Test Date : 11/1/2024 report dats : 13/1/2024 Location :Stotion 428+148 to 426+170 Timt No. : 092

r Electric Express Tmin, from Al Als Sokhna to Marsa Matroub Priority Sector (8) - Alamein to Foka 1 11/1/2024 2 13/1/2024 2 13/1/2024

# Nonrapetitiva Static Plate Load Tests of Spils





Loading (1)	0.	1	2	э	4	5	-6
Stage(Hg)	. 0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
fitness (Kg/cmZ)	0.00	0.42	0.82	1.255	1.67	2,08	2.50
Sattlement (mm)	0.00	5.26	0.44	0.93	0.75	0,91	1.00

UnLoading (1)	1	1	3	4
Stage(Kg)	7065	3633	1768	. 0.
Stress (Kg/cm2)	2.60	1.25	0.625	0.01
Settlement (nom)	1.05	1.90	11.9A	0.67

Ev2/Ev1 =

1.8

0 (mm) =	605	St (mm)=]	0.40	52(eve)# 0.75	Δ5 =	0.38
Evt (Mpa) =	(0.79"0"40)(48		115			

Loading (2)	1	1	2	2	4	- 5
Stage(Kg)	0	1186.82	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm//)	0.01	0.42	0.83	1,25	1.67	2.08
Settlement (mm)	0.67	0.73	0.80	0.88	0.58	1.09

= (mm)	600	81(mm(=	0.78	fi2(rent)=	1.00	ΔS =	0.21
Ev2 (Wpa) =	(0.73°D*A=¥AS		207				

SV1 # Modulus of deformation during the loading stage.

8v3 - Modulus of deformation during the Relaading stoge.

0 = Maie diameter (mm)

Ds = The difference between 0.3 and 8.7 from the maximum loading (snex) (splen<sup>6</sup>), DS = Difference is settlements corresponding to 8.3 and 6.7 from the maximum loading (sml)

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Company Name :Land marks Co. Project :Electric Express Train, from Al Ain Soldina to Blanca Matriculi Priority Soutor (6) – Alamoin to Foka Test Date : 11/1/2024 report data : 13/1/2024 Location :Station 425+170 to 425+195 Test No. :003 Nonrepetitive Static Plate Load Tests of Solls Date show

DIN 18134

Data sheet

### Loading Stage (1)

Loading Stress	Stress	Dial 1	Settlement	Dial 2	Settlement	041.0	Settlement	¥100000	
	Kg/cm2	Lotas 1	mm	Liai 2	mm	Dial 3	mm	Average	
0	0.00	20100	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	19.65	0.34	15.68	0.32	0.34	
3	1.25	19.51	0.49	19.42	0.58	19.44	0.55	0.54	
4	1.67	19.38	0.61	19.27	0.73	15.31	0.69	0.68	
5	2.08	15.24	0.76	19.16	0.84	19.17	0.83	0.81	
6	2.50	19.11	0.89	13.04	0.96	19.06	0.94	0.93	

#### Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dist a	Settlement	1000000
Kg/cm2	Lotat 1	mm	Diat 2	mm	Dial 3	mm	Average	
1	2.50	1911	0.89	15.04	0.96	19.06	0.94	0.93
2	1.25	19.13	0.85	15.08	0.92	19.10	0.90	0.89
3	0.625	1972	0.78	19.14	0.86	19.15	0.85	0.83
4	0.01	1934	0.46	15.35	0.64	19.41	0.59	0.56

### Loading Stage (2)

Loading Stress	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	A	
	Kg/cm2	Dial 1	mm	DIBI Z	mm	Dial 3	mm	Average	
0	0.42	25,45	0.55	19.29	0.71	19.35	0.65	5.64	
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	88.0	19.20	0.80	0.B1	
3	1.67	19.75	0.85	19.03	0.97	19.11	0.89	0.90	
4	2.08	19.03	0.87	18.94	1.06	19.07	0.98	1.00	

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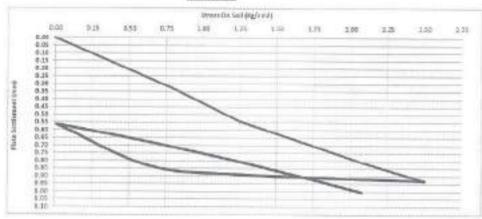


Company Name Project Test Date report date Location Tast Nu. Land marks Co.
 Electric Express Train, from Al Ain Soldera to Marsa Matrouit Priority Sector (8) – Alamein to Foka
 11/12024

: 13/1/2024 Station 425+170 to 425+195

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#### Nonrepetitive Static Plate Load Tests of Solis DIN 18134



Loading (1)	.0	4	2	3	4	- 35	6
Stage(Kg)	-0	1186.92	2345.6	3532.5	4719.4	5876.1	7065
Stress (Kg/am2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.03	0.17	6.34	0.54	6.68	0.81	0.90

Unitoading (1)	- 11	2.	3	- 34
Stage(Kg)	7065	3633	1758	0
Stress (Kg/cm2)	1.00	1.25	0.625	0.01
Settlement (mm)	0.03	0.89	0.93	0.56

fiv2/Ev1 =

1.8

 D (mm) =
 600
 [81/mm]=
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Loading (2)	4	1	2	3	-4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4718.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	10.36	0.64	0.72	0.81	0.90	1.00

D (mm) =	809	\$1 prost-	8.79	82(mm)= 1.52	<u>AS =</u>	0.22
Ev2 (Mpa) =	0.76°D*&c)/AS		195			

Evil a Modulus of deformation during the loading stage.

EV2 = Motalus of deformation during the Releasting stage

0 = Plata diarector (rere)

Ds = The offference between 0.3 and 0.7 frem the maximum loading (senar) (spin m<sup>2</sup>)

p5 = DMorenee in settlements corresponding to 1.3 and 0.7 from the maximum leading (mm)

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Company Name : Land marks Co. Project : Electric Express Train, from Al Air Soldma to Barks Notimuch Priority Sector (6) - Alemein to Foka Test Date : 11/1/2024 report date : 13/1/2024 Location :Station 425+195 to 425+220 Test No. : 004

Nonrepetitive Static Plate Load Tests of Soils DIN 18134

Data sheet

### Loading Stage (1)

Loading	ing Stress		Settlement	Dial 2	Settlement	Piter a	Settlement		
	Kg/cm2	Dial 1	mm	mini t	mm	Dial 3	mm	Average	
0	0.00	20,00	0.00	20.00	0.05	10.00	0.00	0.00	
1	0.42	19.76	0.24	19.67	0.33	19.82	0.18	0.25	
2	0.83	15.62	0.38	19.44	0.56	15.70	0.30	0.41	
3	1.25	15,49	0.51	19.25	0.75	19.55	0.45	0.57	
4	1.67	15.32	0.88	19.13	0.87	19,40	0.60	0.72	
5	2.08	15.16	0.64	18.97	1.03	19.21	0.79	0.89	
ő	2.50	39.02	0.98	18.81	1.10	19.07	0.93	1.03	

#### Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	- 2010-1000
Kg/cm2	mm	Diar Z	mm		mm	Average		
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	18.02	1.08	19.18	0.82	0.92
4	0.01	19.35	0.65	10.28	0.72	19.41	0.59	0.65

### Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	P2-1-0	Settlement	1.8100.000	
	Kg/cm2	Dial 1	mm	DIBL X	mm	Dial 3	mm	Average	
0	0.42	29.29	6.71	19.19	0.81	19.34	0.66	0.73	
1	0.83	19.71	0.79	19.12	0.88	19.27	0.73	0.80	
2	1.25	19.14	0.86	19,03	0.97	19.18	0.82	0.88	
3	1.67	19.06	0.84	18.95	1.05	19.09	0.91	0.97	
4	2.08	18.94	1.06	10.54	1.16	19.01	0.99	1.07	

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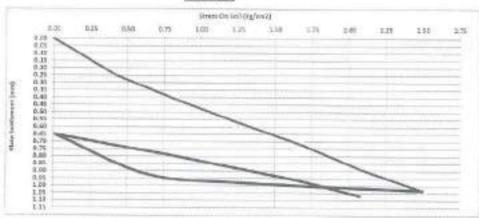


Company Name Project Text Date report date Location Lucation : Land marks Ce. : Electric Express Train, from Al Als Sokhna to Marka Matrouh Priority Sector (6) - Alamois In Foka : 11/1/2024

: 13/1/2024 :Station 425+195 to 425+224

- 004

#### Nonrepetitive Static Plate Load Tesls of Suils DIN 18134



Loading (1)	.0	1	.2	3	- 36	:5	6
Stage(Kg)	0	1108.92	2345.6	3532.5	4719.4	5878.1	7865
Strans (Kg/cm2)	0.00	0.41	0.83	1.25	1.67	9.08	2.50
Settlement (mm)	8.00	0.25	B.41	0.52	0.72	63.0	1.03

Unicoading (1)	11	2	5	- 4
Stage(Kg)	7088	3633	1768	0
Stress (Kg/om2)	2.50	1,20	0.625	0.01
Settlement (mm)	1.03	0.04	0.92	0.65

 D (mm) =
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 ESt (mm) =
 6.55
 625 mm) =
 6.75
 Δ.5 =
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 Ev1 (Mpa) =
 (0.75\*D\*Δσ) Δ3
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Loading (2)	0	1	2	- 3	- 4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719,4	5578.1
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

D (mm) >	900	Stands	0.78	82(mmt)=	0.99	A8 =	0.20
E <2 (Npa) =	10.78°D'&+//AS		219				1.1.1.1.1

Bell + Mediatus of nationnation during the leading sleps

Ev2 \* Modulus of deformation sturing the Reloading stags.

0 = Plate diameter (nm)

Dis = This difference between 6.3 and 9.7 from the maximum loading (erraz) (logicm<sup>1</sup>)

D8 - Difference in settlements corresponding to \$3.3 and \$7.7 Non-the waximum loading trans CEL مكتب محامل الأستشارات الهندسي الاختبارات المتعلية 210-901-5371 gm03de 41.0 10.5% MILLION COLOR de-

Ev2/Ev1 =

1.8

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Company Name :Land marks Co. Project :Electric Express Train, from Ai Aln Soldma to Hanks Matmuh Sciolity Sector (8) - Markolin to Folka Test Data : 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	g Stress Dia		Settlement	Dial 2	Sattlement	Dist 2	Settlement	1000	
	Kg/cm2	10/1102 1	mm	Liai 2	mm	Dial 3	mm	Average	
0	0.00	20.00	0.00	20.00	0.00	10.00	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	18.63	0.37	15.55	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	Dial 1	Settlement	Dist 6	Settlement	-	Settlement	- 24305005
Kg/cm2	mm	Dial 2	mm	Dial 3	mm	Average		
1	2.50	19.22	0.78	19.04	0.96	38.97	1.03	0.82
2	1.25	19.27	0,73	15.09	0.91	19.01	0.99	0.88
3	0.825	19.92	0.68	10.16	0.84	19.67	0.93	6.B2
4	0.01	19.66	0.34	19.45	0.55	19.31	0.69	0.63

### Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Pi-1 0	Settlement	1.000	
1011/06/07	Kg/cm2	UTOR IC	mm	Diel Z	mm	Dial 3	mm	Average	
0	0.42	19.55	0.45	19.38	0.82	19.23	0.77	6.61	
1	0.83	19.49	0.51	19.32	88,0	19.14	0.86	0.68	
2	1.25	19.41	0.59	19.24	0.76	19.06	0.94	0.78	
3	1.67	19.32	0,68	19.15	0.86	38.95	1.05	0.86	
4	2.08	19.20	0.60	15.03	0.97	28.86	1.14	0.97	

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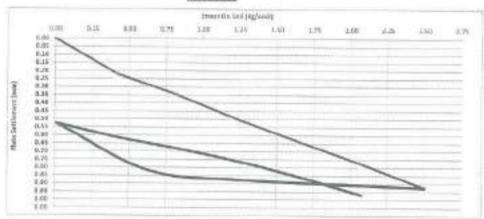
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Company Name Project Test Date report date Location Test No. Land marks Co.
 Electric Express Train, free Al Ala Soldma to Marca Matroub Priodity Soctor (8) Alamain to Fela
 11/5(2024

- ± 13/1/2024
- Station 425+220 to 425+245
- 1400-

#### Nonrepetitive Statls Plate Load Tests of Sulls DIN 18134



Loading (1)	0	. 1	2	- 3	4	- (F)	6
Stage(Kg)	. D.	1188.92	2345.6	3532.5	4719.4	5870.t	7065
Stress (Kalom2)	0.00	0.42	0.83	1,25	1.67	2.0#	2.60
Settlement (mm)	0.00	0.22	0.35	0.50	0.64	0.78	0.92

Unicoading (1)	1	1	ă.	- 4	
Singe(Kg)	7065	3533	1768	6	
Stress (Kg/cm2)	2.00	.1.Xi	0.625	0.01	
Sattlement (mm)	0.92	0.68	0.82	0.53	

Ev2/Ev1 =

47.04

3.7

D(mm) = 600 [S1(mm)= 5.32 [S2(mm)= 6.67 ΔS = 0.34] Evi (Mpa) = (6.75 DrΔαγμ5 125

Loading (2)	0	1	2	3	- 4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kglcm2)	0.01	4.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.53	\$.61	0.68	0.78	0.88	0.97

D (mm) = 600	Stonege	0.67	8201111 8.03	Δ5 =	0.21
Ev2 (Mpa) = (0.78	Arr VAS	207			

Evil = Modulus of deformation studieg the loading stage.

Ev2 = Mistulue of detormation during the Relaacing stage,

0 = Fiste diameter (mm)

Ds = The difference between 0.3 and 0.7 from the maximum loading (secus) again?"

EB = Difference in authorizets corresponding to 6.3 and 8.7 from the minimum loading told? [2].

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Company Name : Land marks Co. Project :Electric Express Train, from Al Ain Soldma to Blazes Metroub Priority Sector (3) - Alenein to Foka Test Date : 11r1/2024 report date : 13r1/2024 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	Dist 2	Settlement	
	Kg/cm2	Dim 1	mm	Unit 2	mm	Dial 3	mm	Average
0	0.00	20.00	0.00	20.00	0.00	10.00	0.00	0.00
1	0.42	19.71	0.29	19.82	0.18	19:45	0.35	0.27
2	0.83	15.50	0.50	19.66	0.34	19.52	0.45	0.44
3	1.25	19.29	0.71	19.51	0.49	19.33	0.67	0.62
4	1.67	15,17	0.83	19.35	0.65	19.15	0.85	0.78
5	2.08	19.03	0.97	19.21	0.78	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	Dist 1	Settlement	
Lunning	Kg/cm2	Diat 1	mm	Dial 2	mm	Dial 3	mm	Average
1	2.50	18.88	1.12	25,05	0.95	18.83	1.17	1:08
2	1.25	18.97	1.03	15.11	0.89	18.89	1.11	1.05
3	0.625	19.00	1,00	15.19	0.81	18:95	1.05	0.95
4	0.01	19.25	0.75	16.44	0.56	19.28	0.72	88.0

### Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement		Settlement	
	Kg/cm2	Diar 1	mm	Dial 2	mm	Dial 3	mm	Average
0	0.42	19,15	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	18.03	1.07	19.15	0.85	18.95	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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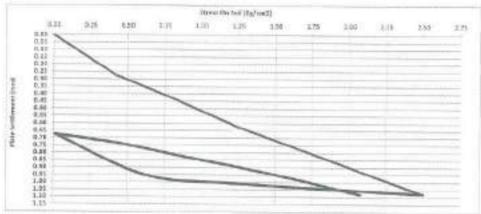


Company Name Project Test Date report date Location Location Land marks Co.
 Electric Express Train, from Al Ain Sekhna to Marka Matroub Priodity Sector (6) Adamein to Foka
 11/1/12924
 13/12924

Station 425+245 to 425+276

Nonmpetitive Static Plate Load Tests of Sulta

DIN 18134



Loading (1)	- X	T	12	3	4.	5	. 6
Stage(Kg)	0	1186.92	2345.8	3532.5	4710.4	5878.9	7095
Strass (Kg/cm2)		0.42		the second s	1.67		
Settlement (mm)	0.03	0.27	0.44	0.62	0.78	0.93	1.08

UnLoading (1)	1	2	2	- 14
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.60	1.25	0.625	0.01
Sattlement (nm)	1.08	1.01	0.95	0.63

Ev2/Ev1 =

1.8

 D (mm) =
 B00
 B1(mm)=
 0.41
 S2(mm)=
 8.81
 ΔS =
 0.40
 S2(mm)=
 1.91
 ΔS =
 0.40
 S2(mm)=
 1.91
 1.91
 1.91
 1.91

Loading (2)	4	1	2	3	4	5
Stage(Kg)	4	1186.92	2345.6	3512.5	4719.4	5878
Stress (Kg/cm2)	0.01	0.42	0.53	1.25	1.67	2.08
Settlement (mm)	0.66	0.73	0.82	0.90	0.99	1.08

D (mei) +	800	\$1 januar	1.53	52)tan()+	1.03	45=	0,21
Ev2 (Mps) = )	0.76°D'å#)/AE		215				

Full a Madulus of deformation survey the looking stage.

Ev2 = Modulus of Beformation during the Rolending stops

0 = Ploto diameter (mm)

Ds = The difference between 0.1 and 0.7 from the maximum loading (amax) (agion<sup>3</sup>) DS = DMissence is antifements corresponding to 1.3 and 0.7 from the maximum loading (anno

12:01 مكتب محامل للتمطيليان الهندت الاعتبارات المحملية 219 -991 - 537 i yulu 21411 - لأخذ فالمتعام العلي - حوست

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 Company Name
 Land marks Co.

 Project
 Electric Examples Train, from Al Aln Solitina to Marka, Matricult Priority Sector (E) - Alamain to Foka

 Test Date
 11/1/2024

 report date
 13/1/2024

 Location
 Station 425+270 to 425+280

 Test No.
 1007

Nonrepetitive Static Plate Load Tests of Soils DIN 18134

Data sheet

### Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	-	Settlement	4000000
	Kg/cm2	Lonar +	mm	Dial 2	mm	Dial 3	mm	Average
0	0.00	20.00	0.00	70.00	0.00	20.05	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	19.40	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	15.15	0.85	19.01	0.99	18.51	1.09	0.98
6	2.50	19.02	0.98	18.94	1,16	18.78	1.22	1.12

#### Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	-	Settlement	1000000
avoiding.	Kg/cm2	Com 1	mm	Usal 2	mm	Diat 3	mm	Average
1	2.50	19.02	0.98	38.84	1,16	18.78	1.22	1.12
2	1.25	19.07	0.93	18.95	1.10	18.83	1.17	1.07
3	0.625	19:13	0.88	18.07	1.03	18.92	1.08	1.00
4	0.01	1935	0.65	15.74	0.76	19.21	0.79	0.73

### Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	aux a	Settlement	Vanesse of
Kg/cm2	L/IBI 1	mm	mm mm		Dial 3	mm	Average	
0	0.42	19.27	0,73	19.18	0.82	19.13	0.87	0.61
1	0.83	19,18	0.82	19.09	0.91	19/02	0.95	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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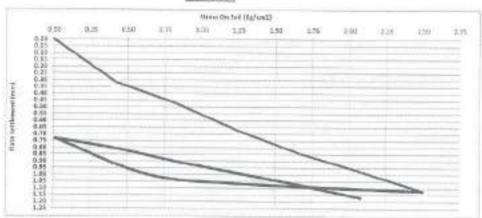
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Company Name Project Test Date report date Location Location : Land marks Co. : Pleetric Express Train, from Al Ain Sokhna to Marna Mutroub Prindty Sector (6) – Alemein to Foka : 11/1/2024 : 13/1/2024

Station 425+270 to 425+290

#### Nonrepetitive Static Plate Load Tests of Solls DIN 18134



Loading (1)		1	2	э	4	5	
Siuge(Kg)	8	1186.92	2345,6	3532.5	4718.4	\$878.1	7085
Stress (Kg/am2)	0.00	1.42	0.911	1.55	1.67	2.08	2.50
Sattlement (inm)	0.00	0.32	0.47	0.67	0.84	0.98	1.12

UnLoading (1)	1	2	3	.4
Stage(Kg)	7065	3533	1798	0
Strees (Kgicm2)	2.60	1:25	0.625	0.01
Settlement (mm)	1.12	1.07	1.00	0.73

 D(mm) =
 600
 S1(mm)=
 9.64
 S2(mm)=
 8.87
 ΔS =
 0.43

 Ev1 (Mpa) =
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Looding [2]	0	1	.2	3	4	6
Stage(Kg)	0	1105.92	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)	0.78	0.84	0.90	0.99	1.08	1.17

D (mmi) =	800	Bi jenenja	8.88	\$2(mm)# 1.99	ΔS =	0.21
Ev? (Mpa) +	10.75°D*803/88		-210	1		

Bet + Mediator of deformation suring the loading stage.

Ev2 - Modulus of deformation during the Reloading steps.

D = Flata diameter (mm)

0s = The difference between 0.3 and 0.7 from the maximum loading (areas) (kg/m<sup>2</sup>)

D8 = DIMarence in semaments service-refing to 1.2 and 0.7 from the mashpart loading (sen) -مكتب محامل الاستشارات الهندس الاختيارات المعملية 219-591-537 · 100 · 10 200 ALL STREET STREET

Ev2/Ev1 =

2.0

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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 Location	n: Station (42/ 1
Test Date	: 5/1/2024
Repot Date	: 6/1/2024
Type of soil	2
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
- 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 soll
- 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<sup>2</sup>

1000

- 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 (2<sup>rd</sup>) loading cycle shall be carried out, in which, however, the load is to be increased only to the securitimate 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

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	5/01/2024
<ul> <li>Unusual observation made during test</li> </ul>	NO
- Description of the soil conditions below the plate after testing	No deformation

# Evaluation and representation of results

	tion	First Cycle	Second Cycle	Eval Eva	
From	To	Ev1(Mpa)	Eva (Mpa)	Ratio	
1 424+780 424+805 2 424+805 424+830		100	157	1.6	
		122	159	1.3	
424+830	424+855	100	221	2.2	
424+855	424÷880	136	181	1.3	
424+880	424+905	110	189	1.7	
	424+780 424+805 424+830 424+855	424+780         424+805           424+805         424+830           424+830         424+855           424+855         424+855           424+855         424+880	424+780         424+805         100           424+805         424+830         122           424+830         424+855         100           424+855         424+855         100           424+855         424+880         136	424+780         424+805         100         157           424+805         424+830         122         159           424+830         424+855         100         221           424+855         424+880         136         181	



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مكتب معامل الإستشارات الهندسية

 Company Name
 : Land marks Co.

 Project
 : Electric Express Train, from Al Ain Solkhna to Narsa Matzoult Priority Sector (E) – Alamein to Poka

 Test Dats
 : 5/1/2024

 report date
 : 6/1/2024

 Location
 :Station 424+780 to 424+805

 Test No.
 1

Nonrepetitive Static Plate Load Tests of Solls DIN 18134

Data sheet

### Loading Stage (1)

Loading	Dial	Dial 1	Settlement	194-1-9	Settlement	Dist 1	Settlement	
		Dias 1	mm	Dial 2	mm	Dial 3	mm	Avtirage
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	0.68	19.33	0.67	19.35	0.65	0.66
5	2.08	15.18	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 1	Stress	Dial 1	Settlement	Dial 2	Settlement	Dist a	Settlement	
Loading Kg/cm2	Peter 1	mm	Linal 2	mm	Dial 3	mm	Average	
- 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	15.29	0.71	19.22	0.78	D.72
4	0.01	19.57	0.43	15.59	0.41	19.65	0.35	0.40

#### Loading Stage (2)

Loading Stress	Stress	Diel 1	Settlement	Dial 2	Settlement	Dial 3	Settlement		
	Kg/cm2	Crimi 1	mm	mm		DIEL 3	mm	Average	
0	0.42	19.50	0.50	19.52	0.48	19.51	0.49	0.40	
Ť	0.83	19.40	0.60	19.43	0.57	19.35	0.62	0,60	
2	1.25	19.25	0.74	19.28	0.72	19.26	0.74	0.73	
3	1.67	1917	0.83	19.14	0.85	19.18	0.82	0.84	
4	2.08	19.03	0.97	19.08	0.92	19.05	0.94	0.94	

1= مكشيا معامل الاستشارات الهاما Lincolf ad Licenty المالمير المعمر ، 173 - 120 - 212 منبل

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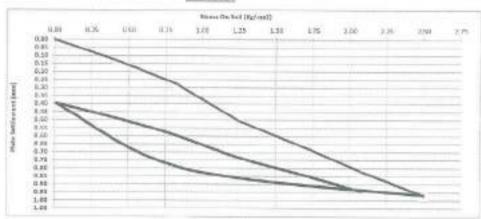
Company Name Projoal Test Date atch trogen Location Test No.

: Land marks Co. Electric Express Train, from ALAin Sokima to Marsa Malzools Priority Sector (6) - Alemein to Folia 5/1/2024 6/1/3034

:Station 424+780 to 424+805

÷

#### Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	Ð	1	2	. 1	4	5	6
Stage(Kg)		1188.92	2345.6	3532.5	4719.4	\$878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.86	2.50
Settlement (mm)	00.0	0.13	0.28	0.50	17.66	0.82	0.97

UnLoading (1)	1	2	3	- 4
Stage(Kg)	7965	3533	1758	0
Stress (Kg/cm2)	2.50	1.25	U.825	0.01
Settlement (mm)	0.97	0.85	0.32	0.40

Ev2/Ev1 =

1.5

D (mim) =	600	S1 (mm)=	0.25	\$21mm)=	6,00	AS =	0.44
	0.78°D'0.0730.5						

Loading (I)	8	1.0		3	4	5
Stage(Kg)	n	1188.92	2345.8	3632.6	4719.4	5872.1
Stress (Kg/cm2)	0.01	6.42	0.85	1.25	1.67	-2.08
Settlement (mm)	0.40	6.49	0.60	0.73	0.84	0.84

0 (mm) #	600	S1 (mm)#	0.59	\$20mm4= #.86	ΔS = 0.2
Ev2 (Moa) =	0.75-0-40748		157		

Evil - Mustaka of deformation during the looning stage.

Ev2 - Madulus of deformation during the Reloading stags.

D = Mato (Bernstor (mer)

Ds = The attharanse between 0.5 and 3.7 from the maximum locding (smos) (opion<sup>4</sup>) 05 = Difference in settlements conseponding to 0.3 and 0.7 from the meximum loading (mm)



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Company Name Land marks Co. Project - Electric Express Train, from Al Ain Solvana to Narea. Matrouh Priority Sector (8) - Aleratin to Poka 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 Solls

	Data si	neet					
Stress	Dist 1	Settlement	Dial 2	Settlement	Diel 4	Settlement	
Kg/cm2	Wiat 1	1711715	Lysar Z	mm	1181.3	mm	Average
0.00	20.60	0.00	20.00	0.00	20.00	0.00	0.D0
0.42	19.85	0.15	16.82	0.18	19.80	0.20	0.58
0.83	19.6B	0.32	19.51	0.49	19.66	0.34	0.38
1.25	19.44	0.56	15.40	0.60	and the second sec	the second se	0.56
1.67	19.34	0.68	15.32	88.0	19.31	0.69	0.68
2.08	19.16	0.84	15.17	0.83	19.19	0.81	0.83
2.50	18.97	1.03	19.03	0.97	19.06	0.94	0.98
	Stage (1) Stress Kg/cm2 0.00 0.42 0.83 1.25 1.67 2.08	Stage (1)           Stress         Dial 1           Kg/cm2         0.00         20.60           0.42         19.85         19.68           1.25         19.44         1.67         19.34           2.08         19.16         19.16         19.16	DIN 18134           Stage (1)           Stress         Dial 1         Settlement           Kg/cm2         Dial 1         mm           0.00         20.60         0.00           0.42         19.85         0.15           0.83         19.68         0.32           1.25         19.44         0.56           1.67         19.34         0.58           2.08         19.16         0.34	DIN 18134           Stage (1)           Stress         Dial 1         Settlement         Dial 2           Kg/cm2         Dial 1         Settlement         Dial 2           0.00         20.00         0.00         20.00           0.42         19.85         0.15         16.82           0.83         19.68         0.32         19.51           1.25         19.44         0.56         19.40           1.67         19.34         0.68         15.32           2.08         19.16         0.84         15.17	Stage (1)         Settlement         Dial 2         Settlement         Dial 2           Kg/cm2         0.00         20.00         0.00         20.00         0.00           0.42         19.85         0.15         16.82         0.18           0.83         19.68         0.32         19.51         0.49           1.25         19.44         0.56         19.40         0.60           1.67         19.34         0.68         16.32         0.83           2.08         19.16         0.84         15.17         0.83	DIN 18134           Stage (1)         Settlement         Dial 2         Settlement         Dial 3           Kg/cm2         Dial 1         Settlement         Dial 2         mm         Dial 3           0.00         20.60         0.00         20.00         0.00         20.00         0.00         20.00           0.42         19.85         0.15         19.82         0.18         19.80           0.83         19.68         0.32         19.51         0.49         19.66           1.25         19.44         0.56         19.40         0.60         19.48           1.67         19.34         0.56         15.22         0.68         19.31           2.08         19.16         0.84         15.17         0.83         19.19	DIN 18134         Data si           Stress         Dial 1         Settlement         Dial 2         Settlement         Dial 3         Settlement         mm         Dial 3         Settlement         mm         Dial 3         Settlement         mm         mm         Dial 3         Settlement         mm         mm         Dial 3         Settlement         mm         mm

#### Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	mark a	Settlement	
conting	Kg/cm2	Dial 1	mm	Dial 2	mm	Dial 3	mm	Average
1	2.50	18.97	1.03	19.03	0.97	19.05	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	9.71	0.74
4	0.01	10.52	0.48	19.47	0.53	19.54	0.49	0.49

### Loading Stage (2)

Loading	Stress	Stress Dial 1 Sottlement Dial 2 Settlement		Dist in	Settlement				
	Kg/cm2	Chief 1	mm			Dial 3	mm	Average	
0	0.42	19.41	0.59	1939	0.61	19.47	0.53	0.58	
1	0.83	1931	0.69	19.26	0.74	19.37	0.63	0.69	
2	1.25	29.21	0.79	19.13	0.87	19.26	0.74	0.90	
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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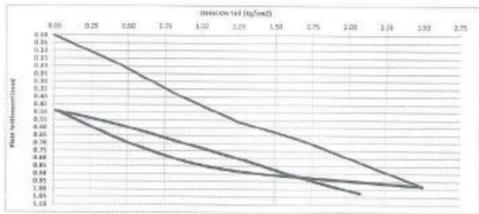
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Company Name Project Toot Date report date Location Test No. : Land marks Co. : Electric Expross Train, from Al Aln Sokhna to Maras Matrovah Privaity Sector (8) Alamatis to Polya : S11/2024 : Station 4244805 to 4244836

z Nonrepetitive Static Plate Load Tests of Soils

DIN 18134



Loading (1)		1	2	3	4	5	
Stage(Kg)	8	1186.92	2345.8	3532.8	4712.4	5076.9	7865
Strass (Kg/am2)	0.00	0.42	0.62	1.25	1.67	2.09	2.50
Settlement (mm)	0.00	0.18	0.58	0.85	0.68	0.83	0.08

 D framit =
 609
 \$1 fmm)\*
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 [52]trong=
 8.71
 ΔS =
 0.36
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 Ev1 (Mpa) =
 (0.78° D\*Δσ)/ΔS
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Loading (2)	0	1	2	. 1	4	5
Stage(Kg)	0	1185.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0,42	0.83	1.26	1.67	2.08
Settlement (mm)	0.49	0.58	0.09	0.80	0.92	1.03

0 (mm) =	600	at (mm)=	8.87	\$2(ran)= 0.94	45.=	0.28
€vž (Mpe) =	10,78°D*Ac¥&B		120			

Ev1 = Modulus of deformation during the loading atage.

Ev2 + Modulus of deformation during the Reloading slags.

0 = Flate dismeter (mm)

Sis = The difference between 3.3 and 0.7 from the meximum loading (amax) (kg/cm<sup>2</sup>) S0 = O(flammes insettlements corresponding to 3.3 and 6.7 from the maximum loading (met)



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UnLoading (1)	1	2	3	- 4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Satthemant (mim)	60.03	0.88	0.74	0.45

Ev2/Ev1 = 1.7



Company Name	Land marks Co.
Project	Electric Express Train, from Al Ain Solitina to Name Metrouti Priority Sector (6) - Alametri to Poles
Test Date	: 5/1/2024
report date	: 6/1/2024
Location	:Station 424+830 to 424+855
Test No.	3
Nonreg	etitive Static Plate Load Tests of Soils

DIN 18134 oading Stage (1)							Data sheet		
Loading Stress		ing Stress	Dist 1	Settlement	Dial 2	Settlement	Dial 7	Settlement	
Kg/cm2	Dian 1	mim	Dum 2	mm	Lilax 3	mm	Average		
0.00	20.00	0.00	20.00	0.00	-20.00	0.00	0.00		
0.42	19.83	0.17	19.80	0.20	19.82	0.18	0.18		
0.63	19.68	0.32	19.66	0.34		the second se	0.32		
1.25	19.47	0.53	25,44	0.56	the second s	the second se	0.52		
1.67	19.25	0.74	19.30	0.70	and the second se	0.69	6.71		
2.08	19.15	0.87	15.16	0.84	19.18	0.82	0.64		
2,50	18.95	1.04	19.04	0.96	19.07	0.93	0.65		
	Stage (1) Stress Kg/cm2 0.00 0.42 0.63 1.25 1.67 2.08	Stage (1)           Stress         Dial 1           0.00         20.00           0.42         10.83           0.63         19.68           1.25         19.47           1.87         19.26           2.08         19.13	DIN 18134           Strage (1)           Strass         Dial 1         Settlement           Kg/cm2         Dial 1         mm           0.00         30.00         0.00           0.42         19.83         0.17           0.83         19.68         0.32           1.25         19.47         0.53           1.87         19.26         0.74           2.08         19.13         0.87	DIN 18134           Strage (1)           Strass         Dial 1         Settlement         Dial 2           Kg/cm2         Dial 1         Settlement         Dial 2           0.00         30.00         0.00         20.00           0.42         19.83         0.17         19.80           0.83         19.68         0.32         19.66           1.25         19.47         0.53         25.44           1.87         19.26         0.74         36.30           2.08         19.13         0.87         19.16	DIN 18134           Stage (1)           Stress         Dial 1         Settlement         Dial 2         Sottlement           Kg/cm2         Dial 1         Settlement         Dial 2         mm           0.00         20.00         0.00         20.00         0.00           0.42         10.68         0.17         19.80         0.20           0.63         19.68         0.32         19.66         0.34           1.25         19.47         0.53         25.44         0.56           1.87         19.26         0.74         16.32         0.70           2.08         19.13         0.87         15.16         0.84	DIN 18134           Stage (1)         Settlement         Dial 2         Sottlement         Dial 3           Kg/cm2         Dial 1         Settlement         Dial 2         mm         Dial 3           0.00         20.00         0.00         20.00         0.00         20.00         0.00         20.00         0.00         20.00         0.00         20.00         19.80         0.20         19.80         0.20         19.81         19.85         19.8	Din 18134         Data si           Stage (1)         Settlement         Dial 2         Sottlement         Dial 3         Settlement         mm           0.00         20.00         20.00         0.00         20.00         0.00         20.00         <		

#### Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Pri-1 - P	Settlement		
coading	Kg/cm2	Com 1	mm	mm		Dial 3	mm	Averago	
1	2.50	18.96	1.04	18.04	0.96	19.07	0.93	0.98	
2	1.25	19(60)	1.00	19.08	0.92	19.11	0.89	0.94	
3	0.825	19.08	0.92	19.15	0.65	19.17	0.63	0.87	
4	0.01	28,17	0.63	19.45	0.55	19,43	0.57	0.58	

### Loading Stage (2)

Loading	Stress	Diel 1	Settlement	Dial 2	Settlement	Dist 3	Settlement	( ansonal
	Kg/cm2	L/IEI I	mm	Diat 2	เทพา	Dial 3	ittim	Average
0	0.42	19.27	0.73	19.39	0.61	19.37	0.63	0.66
1	0.83	19.20	03.0	19.29	0.71	19.31	0.69	0.75
2	1,25	1911	0.89	19.25	0.75	19.22	0.78	0.81
3	1.67	1910	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



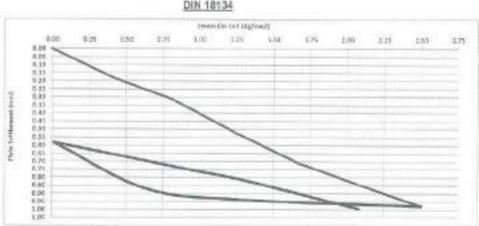
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Company Name : Land marks Co. Project : Electric Express Train, from Al Als Soldina to Marea Matroals Priority Sector (6) - Alamein to Folke report dats : 01/2024 report dats : 611/2024 Location : Station 424+830 to 424-855 Test No. 3 Nonrepositive Static Plate Load Tests of Soils



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.6	4719,4	5878.1	7055
Btress (KgRas2)	0.00	0.42	0.83	1.305	1.87	2.06	2.80
Sottlament (mm)	0.00	81:0	0.32	0.52	0.71	0.04	0.96

UnLoading (1)	1	2	3	. #
Stage(Kg)	7065	1633	1768	Û
Stress (Kg/cm2)	2.50	1.25	0.825	0.01
Settlament (mm)	11.98	11.24	0.87	0.55

Ev2/Ev1 =

2.2

 D (mm) =
 600
 51 (mm) =
 0.20
 S2(mm) =
 0.24
 ΔS =
 0.44

 Ex1 (Mpa) =
 (0.75\*D\*Δσ)/ΔS
 100

Loading (2)	-0	. 1	2	. 3	. 4	5
Stage(Kg)	. 8	1186.92	23/5.6	3512,6	4718.4	5878.1
Streas (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

D (mm) =	600	81 [mm]=	0.72	S2(rinje	1.92	<u>AS</u> #	0.20
E(2 (Npa) =	0.75'D'ArriAS		221				

Evt = Modulus of opformation during the boading stags.

Ev2 - Meduke of deformation during the Releasing steps.

D = Plate diameter (nm)

Ds = The difference between 6.3 and 6.7 from the stanlatum loading (smat) (kgkm<sup>6</sup>) D5 = Difference in settlements corresponding to 1.3 and 6.7 from the maximum loading (rms)



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مكتب معامل الإستشارات الهندسية

 Company Name
 Land marks Co.

 Project
 : Electric Express Train, from Al Ain Soldma to Marka Matroun Priority Sector (6) - Alemenin to Folia

 Test Date
 : 5/1/2024

 report date
 : 6/1/2024

 Location
 :Station 424+855 to 424+880

 Test No.
 4

Data sheet DIN 18134 Loading Stage (1) Stress Settlement Loading Settlement Settlement. Dial 1 Dial 2 Dial 3 Average Kg/cm2 mm mm mm 0.00 0.00 0 0.00 20.00 20.00 0,00 0.00 20.00 0.16 1 0.42 19.84 10,91 0.05 0.13 19,87 0.83 0.29 0.37 2 0.29 19.71 10,70 0.21 19,63 1.25 0.41 0.39 3 19.59 19.61 19.54 1.67 0.57 0.56 4 19.43 0.57 19.45 0.5419.43 5 2.08 19.32 0.88 19.35 0.84 19.28 0.72 6 2.50 19.15 0.87 0.79 19.21 0.80 19.20

#### Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	-	Settlement		
Loading	Kg/cm2	Diar 1	mm	Dial 2	mm	Dial 3	mm	Average	
- (R. 11)	2.50	19:13	0.87	19.21	0.79	19,20	0.80	0.82	
2	1.25	39.17	0.83	15.28	6.72	19.27	0.73	0.76	
3	0.625	19.26	0.74	19.35	0.65	19.38	0.67	0.69	
- 4	0.01	18.52	0.48	10.56	0.44	19.50	0.50	£.47	

#### Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Dial 3	Settlement	
	Kg/cm2	Dim 1	mm	Dian a	mm	Dial 3	mm	Average
0	0.42	19.43	0.57	19,45	0.55	19-41	0.59	0.57
1	0.83	1931	0.69	19.33	0.67	19.30	0.70	0.69
2	1.26	19.19	0.81	19,21	0.79	29.25	0.74	0.76
3	1,67	19.08	0.82	15.07	0.93	29,11	0.82	0.59
4	2.08	38.94	1.88	19.00	1.00	19.11	0.89	0.98



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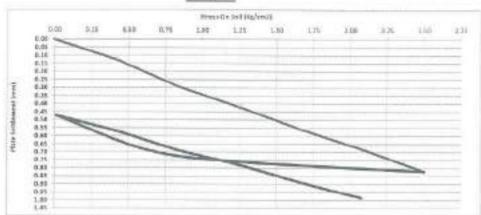
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Company Name Project Text Date report date Location Text No. : Land marks Co. - Electric Express Train, from Al Aln Sohirra to Marsa: Matrouth Priority Sector (6) – Alamein to Foka : \$115024 • 6115024

:Station 424+855 to 424+880 4

#### Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)		1	2	3	- 4	5	5
Stage(Kg)	. 0	1186.92	2345.8	3532.5	4719.4	1070.1	7065
Strass (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.13	0.20	0.42	0.56	0.65	0.82

UnLoading (1)	1	2	3	4
Scage(Kg)	7965	3533	1798	- 0
Strass (Kg/cm2)	2.40	1.25	0.625	0.01
Eettlement (mm)	9.82	0.76	9.69	0.47

Ev2/Ev1 =

1.3

D.fmm1 =	#00	81(mmle]	0.20	[82(mm)+	0.56	6S.#	0.33
Ert (Npa) =	10.75"0"40"45		126				

Loading (2)	0	1	2	1	4	5
Singe(Kg)	0	1186.92	2345.8	3532.5	4719.4	5878.1
Stress (Kg/cmZ)	0.01	0.42	0.42	1.25	1.67	2.08
Settlement (mm)	0.47	0.57	0.69	0.78	0.89	80.0

D (mm) =	(\$1 j=nn)≑	4.66	\$25rmj=	1.91	Δ <u>5</u> =	0.24
0x2 (Mps) = (0.75"D"Ao)AS		181			Pro and and a	

Exit + Modulus of deformation during the loading stags.

Ev2 - Medulos of deformation during the Relocating stage.

0 = Plata diamater (mm)

Ds + The difference betwash 6.3 and 0.7 from the maximum loading (serac) (kg/cm<sup>2</sup>) D6 = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (res)



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 Company Name
 Land marks Co.

 Project
 Electric Express Train, from ALAin Solding to Marka Marka Markath Priority Sector (E) – Alemetrito Peka

 Test Date
 15/1/2024

 report date
 16/1/2024

 Location
 Station 424+880 to 424+905

 Test No.
 5

 Nonrepetitive Static Plate Load Tests of Solfs
 Data shoet

Loading	Stress	Dial 1	Settlement	Dist 2	Settlement	Dial 3	Settlement	Aumenter	
	Kg/cm2	South 1	mm	A 1014	mm	Dia: 5	mm	Average	
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	29.83	0,17	0.21	
2	0.83	19.69	0.31	19.50	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	19.78	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	15.10	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	
Loading	Kg/cm2	Lotan 1	mm	rum s	mm	Utar a	mm	Average
1	2.50	19.10	0.90	18.98	1.02	19.00	1.00	0.97
2	1.25	19.18	0.82	15.09	0.91	19.06	0.94	0.89
3	0.825	15.30	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	Utai 1	mm	Lotat 2	mm		mm	Wantalle	
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	0.70	0.78	
3	1.67	15.19	0.81	19.11	0.89	15:10	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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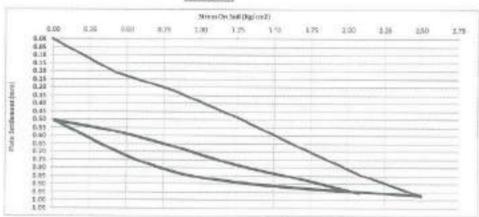
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Company Name Project Test Date report date Location Test No. : Land marks Co. : Elevizio Express Train, from Al Ala Goldma to Marsa Matzooli Priusity Sector (8) Alamolii to Police : 5/1/2024 : 6/1/2024 :Station 424+650 to 424+905

5

#### Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4		. 8
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7.045
Straza (Kg/cm2)	0.00	0.42	6.83	1.28	1.67	2.05	2,50
Settlement (mm)	0.00	0.21	0.92	0.40	0.67	0.84	0.97

D(mm)=	600	(83.jmm[#]	0.38	Szimmie 0	70	ΔS =	0.40
Ev1 (Mpa) =	10.76"0"447448		110	1			

Loading (2)	0	- 1	. 2	- 1	4	5
Stage(Kg)	0	1136.92	2345,6	3532.5	4719.4	6878.1
Stress (Kg/em2)	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

D (mm) = 600	\$1 mmm	().65	\$2(mm)= 1.03	<u>45 =</u>	0.23
Ev2 (Mps) = (0.75° D*40)	44	189			

Ev1 + Mistulus of deformation during the loading stage.

Ev2 - Modulus of deformation during the Releasibility stops.

0 - Plate diametar (mm)

Ds # The difference between 0.3 and 0.7 from the maximum backing (prox) (agrow<sup>2</sup>) 08 # Ofference in settlements corresponding to 1.3 and 0.7 from the maximum loading (mm)



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UnLoading (1)	1	2	3	- 4
Stage(Kg)	7945	3533	1758	0
Stress (Kg/cm2)	2.90	1.29	0.625	0.01
Sottlement (mm)	0.97	0.69	0.77	0.51

Ev2/Ev1 = 1.7



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 Report No.	: : prepared (Sub grade) (+0.5) : 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<sup>3</sup>
- 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 (2<sup>nd</sup>) loading cycle shall be carried out, in which, however, the load is to be increased only to the penutimate stage of the first cycle (so that the full load is not reached).
- 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 17 101 107

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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
<ul> <li>Type of bedding material below the plate</li> </ul>	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	9/1/2024
<ul> <li>Unusual observation made during test</li> </ul>	NO
- Description of the soll conditions below the plate after testing	No deformation

# Evaluation and representation of results

Test No.	Sta	tion	First Cycle	Second Cycle	Eval Eva
	From	To	Ev1(Mpa)	Ev2 (Mpa)	Ratio
21	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



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 Company Name
 : Land marks Co.

 Project
 : Electric Express Train, from Al Air Sokhns to Elessa Matroub Priority Sector (6) - Alemeie to Paka

 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 Kg/cm2	Stress	Dial 1	Settlement	Dial 2	Settlement	Pirel 9	Sattlement	100000
	Linas 1	1710	Dial X	mm	Dial 3	mm	Average	
0	0.08	.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	0.94
2	0.63	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	0.97	23.10	0.84	18.98	1.02	0.84
6	2.50	19.17	0.83	19.02	0.98	18:85	1.14	0.08

#### Unloading Stage (1)

Loading	Stress			Settlement	CARDINERAL P			
ronding	Kg/cm2	6441	mm	Dial 2	mm	Dial 3 -	mm	Avarage
1	2.50	19.17	0.83	15.02	0.98	18.86	1.14	0.98
2	1.25	59.20	0.80	15.18	0.82	18.96	1.04	0.69
3	0.625	19.26	0.74	10.33	0.67	19.50	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	Di. 1.9	Settlement	
	Kg/cm2	Dia 1	mim	Dial Z	mm	Dial 3	mm	Average
0	0.42	19.41	0.69	19.54	0.46	19.33	0.67	0.57
1	0.83	19.13	0.67	19.40	0.60	19.20	0.60	0.69
2	1.25	19.27	0.73	19.29	0.71	19.08	0.92	0.78
3	1.67	19.21	0.79	19.19	0.81	38.99	1.01	0.87
4	2.08	19.08	0.92	19.1D	0.90	18.90	1.10	0.97

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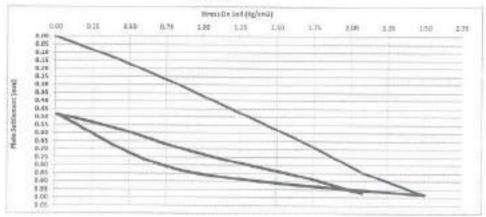


Company Name Project Test Date report date Location Test No.

± Lond marks Ce. Electric Express Train, from Al Ala Soldana to Marsa. Matroub Priority Sector (E) - Alamein to Foica

- 1 9/1/2024
- 10/12024 Station 425+008 to 425+025
- 4





Loading (1)	- 08	1	.2	3	4	5	- iş
Stage(Kg)	0	1188.92	2345.8	3632.6	4719.4	5878.1	7065
Stress (Kglcm2)	0.00	1.42	23.0	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.14	0.90	15:47	0.65	0.84	0.95

UnLoading (1)	1	2	3.	- 14
Stage(Kg)	7065	3635	1768	. 0
Stress (Kg/om2)	2.60	1.25	0.625	0.01
Sottlement (mm)	0.598	0.89	0.77	0.48

Ev2/Ev1 =

1.5

31 dnetl-U (mm) = 600 Ev1 (Mpa) ≈ (0.75\*0\*Ac)s55 0.27 820mmi= 1.62 AS = 0.42 105

Loading (2)	0	1	.2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	\$878.1
Scress (Kg/cm2)	0.01	0.42	1.43	1.25	1,67	2.08
Settlement (mm)	0.48	0.57	0.69	0.78	0.87	0.97

D (mm) = 600	\$timmle.	3:47	32(rev)= 1.55	Δ8 =	0.22
Ev2 (Maia) = 10.79"D" 0.0 MAR	2 · · · · · ·	188	forese pres		

Pv1 + Necturius of deformation stating the loading stage.

EvG + Nodulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Do = The difference between 0.5 and 0.7 from the missionism loading (amaz) (kg/cm<sup>4</sup>)

0.8 - Difference in welthercente sorresponding to 1.3 and 4.7 from the anadimum (seeing (mm)



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 Company Name
 : Land marks Co.

 Project
 Electric Express Train, from Al Ale Soldme to Name Metroph Priority Sector (E) - Manuals 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	bading Stress Kg/cm2	Diai 1	Settlement	Dial 2	Settlement	Dist 2	Settlement	
		Ciar i	mm	Liai 2	mm	Dial 3	mm	Average
0	0.00	20.00	0.00	29.00	0.00	20.60	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	0.62	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	19.10	0.84	19.11	0,89	19.13	0.87	0.67
6	2.50	18.99	1.01	38,95	1.05	18.95	1.04	1.03

#### Unloading Stage (1)

Loading	Dial 1	Settlement	Dial 2	Settlement	Dist 0	Settlement	ALL DESCRIPTION	
conding	Kg/cm2	Dial 1	mm	LJIAI 2	mm	Dial 3	mm	Avarage
1	2.50	18.99	1.01	18.95	1.05	18.96	1.04	1.03
2	1.25	19.06	0.94	15.02	0.98	19.04	0.96	0.96
3	0.825	19.14	0.86	15.11	0.89	19.32	0.88	0.88
4	0.01	19.39	0.61	10.23	0.67	19.36	0.64	0.84

### Loading Stage (2)

Loading Stres	Stress	Dial 1	Settlement	Dista	Settlement	Dist A	Settlement	1.000	
	Kg/cm2	Digit 1	mm	Dial 2	mm	Dial 3	mm	Average	
0	0.42	1933	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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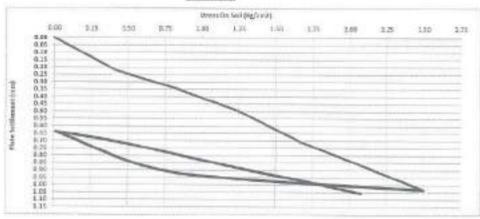


Company Name Project Test Date report date Location Text No. Land marks Co.
 Industric Payress Train, from Al Aln Soldera to Marka Matroub Priority Sector (6) Alamoin to Faka
 SYS2024
 10/1/2024

Station 425+025 to 425+050

2

#### Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading [1]	×	- T	2	3	4	-5	- 6
Stage(Kg)	- 11	1186.92	2345.6	3532.5	4719.4	5878.t	7065
Stress (Kg/cm2)		0.42					
Settlement (mm)	0.03	5.22	0.25	0.50	0.75	0.67	1.03

D (mm) = 600	B1 (met)+	0.22	\$20mm)= 8.74	1.05=	0.42
Ev1 [Mpaj = 10.75*0				the state of the s	

Loading (2)	0	1	2	- 3	4	- E
Stage(Kg)	0	1186.92	2345.6	3512.5	4718,4	1878.1
Stress (Kgfcm2)	0,01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0,64	0.71	0.78	0.89	0.97	1.06

D (mm) = 600	\$1 proof=	8.78	52(1970)*	0.35	455 =	0.21
Ev2 (Mpa) = (0.75° D*Arr)/AE	1000	211				

by I is Mindukas of deformation staring the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Piero diameter (mm)

Ds = The difference between 0.3 and 0.7 from the maximum loading (amas) (kg/cm<sup>2</sup>)

DS - Difference in settlements corresponding to 1.3 and 4.3 from the maximum loading (next

UnLoading (1)	1	2	3	- 4
Stags(Kg)	7065	3635	1765	. 0
Stress (Kg/cm2)	2.60	1.25	0.625	0.01
Sattlement (mm)	1,625	0.86	0.88	0.64

Ev2/Ev1 # 2.0



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 Company Name
 Land morks Co.

 Project
 Elactric Express Train, from Al Ain Soldma to Mensa. Metrouis Priority Sector (6) – Alemein 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	Stress	Diat 1	Settlement	Dial 2	Settlement	Dist 1	Settlement	Alimandi	
	Kg/cm2	Diei 1	mm	Dial 2	mm	Dial 3	mm	Average	
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	19,52	0.47	19.44	0.55	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	1.00	19.06	0.54	0.91	
6	2.50	19.03	0.97	18.74	1.26	18.96	1.04	1.09	

#### Unloading Stage (1)

Loading	Stress		Settlement	Dial 2	Settlement	Dial 3	Settlement	7722004050
Loading Kg/cm2 Dial 1		mm	Dial 2	mm		mm	Average	
1	2.50	19,02	0.97	18.74	1.26	18.96	1.04	1.08
2	1.25	19,10	0.90	18.83	1.17	15.18	0.82	0.96
3	0.625	19,18	0.81	38.91	1.09	19.36	0.64	0.85
4	0.01	19.44	0.56	79.38	0.62	19.65	0.35	0.61

#### Loading Stage (2)

Loading	Stress	Dial 1	Sattlement	Dial 2	Settlement	Dist 3	Settlement		
	Kg/cm2	1988.1	mm	Dial 2	mm	Dial 3	mm	Average	
0	0,42	19.37	0,63	19.29	0.71	19.57	0.43	0,59	
1	0.83	1923	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	0.65	
3	1.67	19.05	0.95	18.94	1.06	10.12	0.88	0.98	
4	2.08	18.91	1.00	18.84	1.16	19.01	0.99	1.08	



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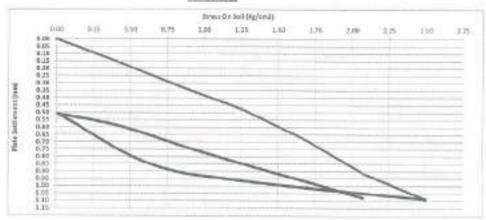
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Company Name Project Test Date ruport date Location Test No. Land marks Co.
 Electric Express Train, from Al Ain Soldaria to Marse. Matroub Priority Sector (5) – Alamein to Foka : 9/5/2024
 10/1/2024

Station 425+050 to 425+075

#### Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	. a	1	2	3	- 40	:15	. 6
Stage(Kg)	8	1156.92	2545.6	3532.5	4718.4	8878.1	7005
Stress (Kg/ons7)	0.00	0.42	0.83	1.25	1.67	2,03	3.60
Settlement (mm)	0.00	0.36	0.39	0.47	83.6	0.01	1.09

□ (mm) =	602	Stonno-	0.29	Szlownie	8.72	0.5 =	0.43
Ev1 (Mpa) =	0.76"0"&0%88		101	1	1000		

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)	0.51	0.59	0.72	0.85	0.95	1.08

D (mm) = 600	S1(mm(#	0.89	1821/mm1= 0.99	A8=	0.29
Ex2 (Mps) = 10.7510100 (45	-	101			

Evt - Mailutus of Reformation during the loading-stage.

Ev2 + Modulus of deformation during the Reloading slage.

0 = Plate diameter (wm)

 $D_{\rm IS}$  = The difference between 0.2 and 0.7 from the maximum isoting (array) (kg/cm  $^2)$ 

0.5 - Difference in authementa corresponding to 0.2 and 0.7 from the maximum toloting (rem)

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UnLoading (1)	1	2	3	- 4
Stage(Kg)	7045	3533	1756	0
Stress (Kg/cm2)	2.00	1.25	0.625	0.01
Settlivinent (mm)	1.00	0.98	0.85	0.51

Ev2/Ev1 = 1.5



 Company Name
 : Land marks Co.

 Project
 : Electric Express Train, from Al Ain Soktina to Hansa Metriculi Priority Sector (6) – Alamelin to Folia

 Tast 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	Dial 1	Settlement	Dial 2	Settlement	1000	Settlement	20100.001
	Kg/cm2	Diat 1	mm	Liai e	10170	Dial 3	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	0.15	19.77	0.23	0.18
2	0.83	19.72	0.28	19.58	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	1.87	19.42	0.58	19.32	0.68	19.28	0.72	0.65
5	2.08	15.25	0.76	19.19	0.81	19:36	0.84	0.80
6	2,50	15.18	0.64	19.06	0.94	19.01	0.99	0.92

### Unloading Stage (1)

Loading	Stress	Dial 1	Sattlement	Dial 2	Settlement	-	Settlement	
Kg/cm2	Diff. 1	mm	mm		Dial 3	mm	Average	
1	2,50	19.16	0.84	39.06	0.94	19,81	0.99	59.0
2	1.25	19.20	0.80	15.10	0.90	19.01	0.05	0.68
3	0.625	19.27	0.73	15.14	0.86	19.12	0.88	0.82
4	0.01	1959	0.47	19.45	0.54	19,40	0.60	0.54

### Loading Stage (2)

Loading	Stress	Dial 1	Sottloment	Dial 2	Settlement	Dist. 0	Settlement	
0.1974	Kg/cm2	6/161 1	mm	Dial 2	mm	Dial 3	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	19.25	0.74	0.69
2	1.25	19.29	0.71	19.28	0.77	19.19	0.81	0.76
3	1,87	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	0.09	0.95

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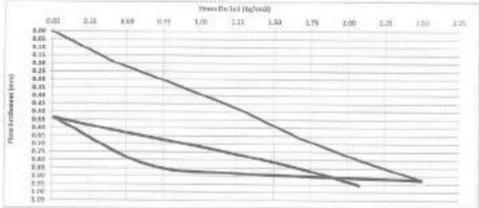
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Company Name : Land marks Co. Project : Electric Express Train, from Al Ala Sokhna to Marka Matrouth Priority Sector (5) - Alamain to Foke Test Date : W1/2024 report dats : 10/12024 Location : Station 425+075 to 425+100 Test Nn. 4 Nonrepetitive Static Plate Load Tests of Solls <u>DIN 18134</u> Test On to Include



Loading (1)	0	1	2	3	4	5	
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.03	0.42	68.0	1.25	1.67	2.08	2.50
Sattlement (mm)	0.00	0.19	0.33	0.48	0.66	0.81	0.92

D (mm) =	600	Stonna	0.50	S20mm)= 8	83	$\Delta S =$	0.35
Evi (Mpa) -	(0.75*0*6+348		115		20 m 20		1000

Loading (2)		1	2	3	4	5
Stage(Kg)	4	1186.92	2345.8	3532.5	4718,4	5878.1
Stress (Kg/cm2)	0.01	0,42	0.83	1.25	1.67	2.08
Settlement (mm)	0.34	0.62	0.79	0.78	0.85	D.95

D (mm) +	808	#3 [mm]+	8.47	82(mm)= 0.87	Δ5 =	0.20
Ev2 (Mns) 7	10.75°D°An¥65		224			

Ev1 + Motorius of deformation suring the loading stage.

Ev2 = Modulus of Jeformation during the Ratioading steps

 $D \approx \text{Plate diameter (mm)}$ 

Dis # The difference between 0.3 and 0.7 Your the maximum loading (amas) (Aglim?) DS # Difference in settlements corresponding to 1.3 and 0.7 from the maximum loading (ram)

مكتب وحامل الأستشارات للهتعمي Reishle Harsiel 219-901-5371 yozhie 100-200302033 Min

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UnLoading (1)	36	2	- <b>a</b> -	14
Stage(Kg)	7065	3535	1768	0
Stress (Kølcm2)	D.RD	1.25	0.625	0.01
Settlement (mm)	0.62	0.85	0.82	0.54

Ev2/Ev1 = 1.9

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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. : 108:115

### Dear Gentleman,

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

### Apparatus

3

- 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
- 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<sup>2</sup>
- 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 (2<sup>nd</sup>) 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.

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11. Remove the loads

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### Report

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- 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	Sta	tion	First Cycle	Second Cycle	Ev2/ Evi	
No.	From To		Ev: (Mpa)	Ev2 (Mpa)	Ratio	
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 مكشب مخامل الأدمة 110 901-537, malla 1.1 all - Mitchelisette.



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 Company Name
 : Land marks Co.

 Project
 : Electric Express Train, from Al Ain Solitina to Marke Metrouti Priority Sector (0) – Alamain 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 Solis DIN 18134

Data sheet

### Loading Stage (1)

à.

Loading	Stress		Settlement	01-1-2	Settlement	Dial 3	Settlement	Average
-berning	Kg/cm2	Dial 1	mm	Dial 2	mm	Dian 3	mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.60
1	0.42	19,68	0.32	19.53	0.37	10.85	0.15	0.28
2	0.83	19,43	0.57	19.36	0.64	19.50	0.50	0.57
9	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	7.63
6	2.08	13.86	1.14	18.67	1.33	18.88	1.12	1.20
6	2.50	-13.71	1.29	18.48	1.52	18.73	1.27	1.38

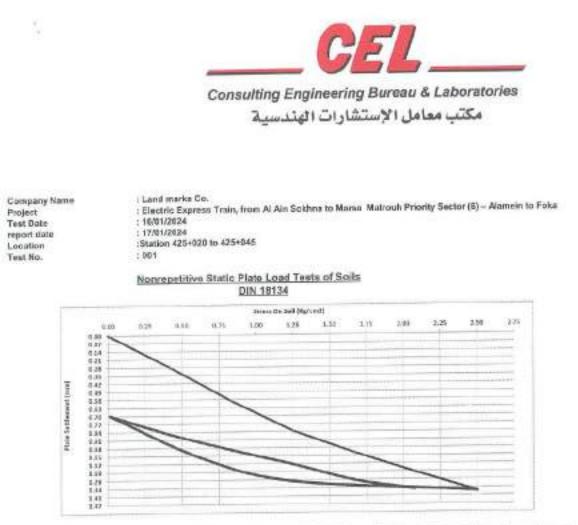
### Unloading Stage (1)

	Stress		Settlement		Settlement	Dial 3	Settlement	Average
Loading Kg/cm2	Dial 1	mm	Dial 2 mm		Usa a	mm	Arenage	
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	1.08
4	D.01	13.30	0.70	19.45	D.55	19.15	0.84	0.70

Loading	Stress		Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2	Dial 1	ກາກ	Ular x	mm	train 5	mm	Arenage
8	D.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	11.89	1.11	18.81	1.19	18.03	1.07	1,12
3	1,67	18.76	1.24	15.65	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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Loading (1)	0	1	2	3	4	5	. 6
Stage(Kg)	0	1186.82	2345.6	3532.5	4719.4	5873,1	7065
Stress (Kgfcm2)	0.00	0.42	0.83	1.25	1,07	2.08	2.50
Settlement (mm)	0.00	0.25	0.57	6.63	1.00	1,59	1.05

UnLoading [1]	1	2	3	4
Stage[Kg]	7065	3533	1761	0
Stress (Kg/om2)	2.50	1.25	0.625	0.01
Settlement (rum)	1.36	1.27	1.06	0.70

1.8

Ev2/Ev1 =

D émmi = 500 [81 mmi= 0.51 52mmi= 1.16 ΔS = 0.55] Ev1 (Mps) = (0.75°0\*Δο//Δ5 81

Loading (2)	0	1	2	3	. 4	5
Stage(Kg)	0	1186.92	2345.6	3632.5	4719.4	5870.1
Stress (Kg/cm2)	10.01	0.42	0.83	1.25	1.67	2.68
Settlement (mm)	3.70	0.86	1.00	1.12	1.26	1.34

D (mm) =	600	Bt (mm)*	0.97	52)mm)=	1.26	ΔS=	0.31
Ev2 (Mps) =	0.75"0" 40% 45		543				

Evit = Modelus of deformation during the loading stage.

Ev2 - Modulus of detormation during the Relocating stage.

D = Plate d'ameter (mm)

t

Us = The difference babeson 0.3 and 0.7 from the maximum loading (smot) (kg/am<sup>3</sup>)

DS = D/Verence in settlements corresponding to 0.3 and 0.7 from the maximum loading imme

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Consulting Engineering Bureau & Laboratories مكتب معامل الإستشارات المندسية

 Company Name
 : Land marks Co.

 Project
 : Electric Express Train, from Al Alm Solitina to Marse Matrouh Priority Sector (0) - Alameim to Folia

 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	2.10	Settlement	Dist 3	Sottlement	Dial 3	Settlement	Average	
	Kg/cm2	Dial 1	mm	Dial 2	mm	Dial 3	mm	Foreitage	
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)

	Stress		Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
Loading Kg/cm2	Dial 1	mm	Dial 2	mm	Dial 2	mm	here alle	
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	0.65	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	Stress	-	Settlement	Dist 3	Settlement	Dial 3	Settlement	Average	
	Kg/cm2	Dial 1	mm	Dial 2	mm	Dial 3	mm	visoralio	
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	13.82	1.18	1.08	
2	1.25	18.97	1.03	18.89	1.11	18.76	1.24	1.13	
3	1.67	15.88	1.12	18.82	1.18	18.57	1.48	1.28	
4	2.08	18.79	1.21	18.75	1.25	18.38	1.62	1.36	

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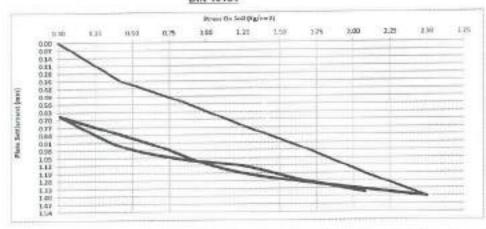
Company Name Project **Test Date** report date Location Test No.

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: Land marks Co. : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) - Alameira to Foka : 16/01/2024 : 17/01/2024 :Station 425+045 to 425+070 :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)	00.0	0.42	0.65	1.25	1.67	2.08	2.50
Settlement (mm)	20.0	6:35	0.54	0.78	0.97	1.20	1,40

UnLoading (1)	1	2	- 3	4
Stage(Kg)	7065	3533	1765	0
Stress (Kg/om2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.40	1.10	0.92	0.67

D (mm) = 6	00 \$10	mm(# 0.50	S3mm *	1.01	45=	0.21
(4.1 (Man) - (4.1	75°D*A#¥A5	38				

Loading (2)	0	1	2	3	4	5
Stege(Kg)	0	1188.92	2345.6	3532.5	4715.4	5878.1
Stress (Kplca2)	0.01	0.42	0.83	1.25	1.67	2.65
Settlement (mm)	0.67	6.94	1.06	1.13	1.26	1.35

S1 (mm)#

182

and the statement of th	
Ev2/Ev1 =	2.1

Exit = Modulus of deformation during the loading mings.

800

Ev2 (Mpa) = (0.75°D\*A#)/AS

Eaz = Modulus of deformation during the Reloading stage.

D = Piete dismutar (mm)

D(mm) =

Cs = The difference between 0.3 and 0.7 from the maximum loading (uman) (by/(m<sup>2</sup>)

CS = Difference in settlements corresponding to 3.5 and 0.7 from the maximum loating (mm)





Consulting Engineering Bureau & Laboratories مكتب معامل الإستشارات الهندسية

Company Name	: Land marks Co.
Project	: Electric Express Train, from Al Ain Soldino to Marsa Matrouh Prisetty Sector (0) - Allemein to Foka
Test Date	: 16/01/2024
report date	: 17/01/2024
Location	:Station 425+970 to 425+095
Test No.	: 003

### Nonrepetitive Static Plate Load Tests of Solls DIN 18134

Data sheet

### Loading Stage (1)

3

Loading Stress Kg/cm2	Stress		Settlement	Dist 2	Settlement	Dial 3	Settlement	Average
	Dial 1	mm	Dial 2	mm	Dial 3	mm	Fileloge	
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	10.51	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	7,23
6	2.50	18.73	1.27	18.26	1.74	18.46	1.54	1,52

### Unloading Stage (1)

	Stress		Settlement	01.1.0	Settlement	Dial 3	Settlement	Average
Looding	Kg/cm2	Dial 1	mm	Dial 2	mm	Dial 2	mm	wagaajja
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 Stress Kg/cm2	Stress	-	Settlement	Diel 3	Settlement	Dial 3	Settlement	Average
	Kg/cm2	Dial 1	mm	Dial 2	mm	Diar 3	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	18,58	1,32	18,66	1.34	1.23
4	2.08	13.81	1.19	18.53	1.47	18.53	1.47	1,38

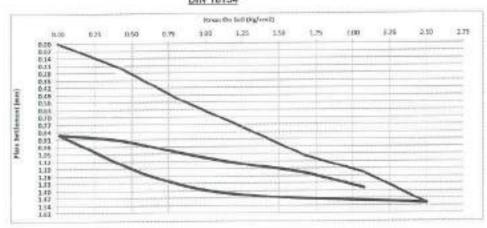




GIL Consulting Engineering Bureau & Laboratories مكتب معامل الإستشارات الهندسية

: Land marks Co. Company Name : Electric Express Train, from Al Aln Sokhmi to Mama Matrouh Priority Sector (6) - Alamain to Foka : 16/01/2024 : 17/01/2024 :Station 425+070 to 425+095 :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	3632.4	4718.4	5873.1	7065
Stress (Kg/cm2)	0.06	0.42	0.83	1.25	1,67	2.08	2.50
Settlement (mm)	2.00	0.23	0.54	0.80	1.07	1,23	1.52

UnLoading (1)	. 3	2	3	4
Stage(Kg)	7085	3533	1768	G
Stress (Kg/om2)	2.60	1.25	0.625	0.01
Settlement (mm)	1.62	1.41	1.25	0.67

2.6

Ev2/Ev1 =

D (mm) =	500	S1 [mm]=	6.43	\$29mm)=	1.10	AS=	0.62
Evil (Mpa) ~	0.75*0*0+04%		71				

Loading (2)	0	1	2	3	4	5
Sings(Kg)	0	1186.92	2345.6	3532.6	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	55 (mri)=	1.02	52(mm)=	1.38	AS=	0.24
Ev2 (Mpa) =	10.75*0*00/05		182	1			

Ev1 - Modulus of deformation during the leading slags.

Ev2 - Modulus of deformation during the Reloading stage.

3 El Malek El Afdal Street

D = Plate diameter (mm)

Project

Test Date

Location

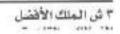
Test No.

report date

Ds = The difference between 0.3 and 0.7 from the maximum loading (arran) (kgion<sup>2</sup>)

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

مكتب معامل الأستشارات المتعسية Related Children 219-591-557 a gentlike والواتة chial وهروشان والمراجع



Consulting Engineering Bureau & Laboratories مكتب معامل الإستشارات الهندسية

Company Name	: Land marks Co.
Project	: Electric Express Train, from ALAin Sokhna to Marsa Matroub Priority Sector (6) - Alameis 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 Kg/cm2	Stress		Settlement	Dist 2	Settlement	Dial 3	Settlement	Average
	Dial 1	mm	Dial 2	mm	Dim 3	mm		
0	0.00	19.60	0.00	19.65	0.00	19.70	0.00	0,00
1	0.42	16.23	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	18.58	1.10	18.63	1.07	1,28

### Unloading Stage (1)

A CONTRACTOR OF THE OWNER.	Stress		Settlement	D1-1-0	Settlement	014.2	Settlement	Average	
.oading Kg/cm2 Dial		Dial 1	mm	Dial 2	mm	Dial 3	mm	Anonada	
1	2.50	17.99	1.61	18.55	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	0.01	18.84	0.82	18.92	0.78	0;84	

Loading	ing Stress Dial 1 Kg/cm2		Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
			mm	Dial Z	mm	Unar 5	mm	Lugande
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	15.11	1.49	18.55	1.11	18.65	1.05	1.22
4	2.08	17.97	1.53	18.48	1.18	18.56	1.14	1.32

CEI مكتب محاجل الاستخطارات البيدمدية Asternal of July 19 219-971-537 ( personally) 1011 - activative 15.5 a dia ti



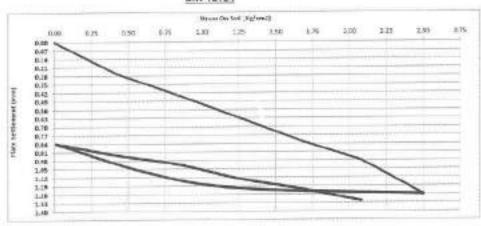


Gampany Name Project Test Date report date Location Test No. : Lend warks Co. : Electric Express Train, from Al Aln Solthna to Marsa. Matrouh Priority Sector (6) – Alamein to Foka : 16/01/2024

: 17/01/2024 :Station 425+095 to 425+120

1004

### Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2348.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	\$.67	2.08	3.50
Settlement (mm)	0.00	0.28	0.44	0.63	0.B2	0.00	1.28

Unitoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stream (Kg/cm2)	2,60	1.25	0.825	0.01
Settlement (mm)	1.26	1.21	1.08	0.84

1.8

Ev2iEv1 =

D (mml=	100	51 (me)=	0.60	\$23.mm.)-	8.85	45 #	0.45
Ev1 (Mga) =	(0.78°0*AeyAS		68				

Loading (8)	0	1	2	3	.4	5
Singe(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	2.06
Settlement (mm)	0.84	0.03	1.01	1.13	1.22	1.32

D (mm) =	600	ST (mm]#	1.00	\$2(mm)= 1.24	ΔS =	0.24
Ev2 (Mpa) =	(0.75"0" 44)/48		183			

Evt - Modulus of deformation during the leading stage.

Ev2 - Rodulus of deformation during the Reloading stoge.

D = Plate diameter (rim)

Ds = The difference between 9.3 and 0.7 from the maximum leading (smoc) (spicm<sup>6</sup>)

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

مكثب محامل الاستشارات الهندسيا Linan Olduson 219-5511-557+ endble 1.1 PRODUCTION DESCRIPTION 340



Consulting Engineering Bureau & Laboratories مكتب معامل الإستشارات المندسية

 Company Name
 : Land marks Co.

 Project
 : Electric Express Train, from Al Ain Solkine to Marse Metrouit Priority Sector (6) - Alemein 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 Solis DIN 18134

Data sheet

### Loading Stage (1)

ţ

Loading	Stress		Settlement	Dist 2	Settlement	Dial 3	Settlement	Average	
	Kg/cm2	Dial 1	mm	Dial 2	mm	Dial 3	mm	runage	
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	13.98	1.0.2	0.81	
3	1.25	19.36	0.84	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	1.9.8	18.09	1.91	1.69	

Unloading Stage (1)

	Stress		Settlement	191-1 19	Settlement	Dial 3	Settlement	Average	
Loading	oading Kg/cm2 Dial 1		mm	Dial 2	mm	Diar a	mm	Hiterage	
1	2.50	18.23	1.77	18.02	1,98	58.09	1.91	1,89	
2	1.25	18.32	1.89	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	18.02	1.08	18.49	1.51	18.52	1.38	1.32	

Loading	Stress		Settlement	Dist. D	Sattlement	Dial 3	Settlement	Average	
	Kg/cm2 Dial 1		mm	Dial 2	mm	Diar 3	mm	Anonago	
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	
2	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	1.04	

مكتب معامل الاستشارات المنبسية الاغتيارات المحفلية 119-151-5371 point tournet White an and the 1000





 Company Name
 I Land marke Co.

 Project
 Electric Express Train, from Al Aln Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka

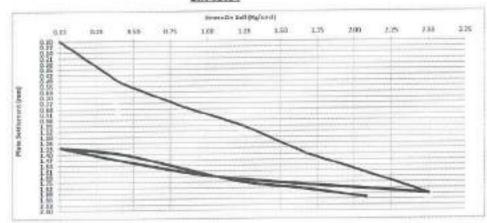
 Trait Data
 16/01/2024

 report date
 17/01/2024

 Location
 Station 425+120 to 425+145

 Test No.
 1 005

### Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	9	1	Z	3	.4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7965
Stress (Kglcm2)	0,00	0.42	0.83	1.20	1.67	2.05	2.50
Settlement (mm)	0.00	0.52	0.81	1.06	1.40	1.63	1.89

UnLoading (1)	1	Z	3	-4
Stage(Kg)	7065	3533	1768	0
Streas (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.89	1.72	1.56	1.32

2.2

Ev2/Ev1 =

D (mm) =	600	81 torrenátri	0.75	520mm[#	1,24	AS =	0.69
Evit (Mpa) =	660 [ (0.75°0'∆o)/∆S		64				

Loading (2)	0	1	2	3	4	- 8
Stage(Kg)	0	1106.92	2345.6	3532.5	4719.4	\$875.1
Stress (Kolcim2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	132	1.43	1.58	1.75	1,83	1.94

D (mm) =	600	St (mm)re	1.14	52(mm)= 1.8	85	48 =	0.31
Ev2 (Mpa) =	(0.75°D'A0)'AS		141				

Evil = Nodulus of determation during the leading stage.

Exit is Modulus of deformation during the Releasing stage.

D \* Plate dismirar (mm)

5

Ds = The difference between 0.3 and 0.7 from the maximum leading (unax) (kg/cm<sup>2</sup>)

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

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3 El Malek El Afdal Street



Company Name	: Land marks Co.
Project	: Electric Express Train, from Al Am Soldwa to Marka, Matroub Priority Sector (4) - Alamein to Poka
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)

Ľ.

Loading	ing Stress pi		Settlement	0.4.0	Settlement	Dial 3	Settlement	Average
	Kg/cm2	Dial 1	mm	Dial 2	111111	Dian 2	mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	15.78	0.22	19.71	0.29	19.67	0.33	0.28
2	0.83	10.53	0.47	19.50	0.50	19.46	0.54	0.50
3	1.25	19.35	0.65	19.25	0.74	19.12	0.88	0.76
A	1.67	19.06	0.94	18.98	1.02	18.84	1.16	1,04
5	2.08	18.95	1.14	18.76	1.24	18.54	1.46	1.28
6	2.50	18.63	1.37	18.37	1.53	18.15	1.85	1,62

### Unloading Stage (1)

	Stress	2	Settlement	Dist. D	Settlement	Dial 3	Settlement	Average
Loading	Kg/cm2	Dial 1	mm	Dial 2	mm	Dias 3	mm	Average
1	2.50	18.63	1.37	18.37	1.83	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	1.64

Loading	Stress Dial		Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2	Dial 1	mm	Dial 2	mm	Dial 3	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	18.54	1.36	1.22
2	1.25	18,78	1.22	18.58	1.42	18.42	1.58	1,41
з	1.67	18.68	1.32	18.42	1.58	18.21	1.79	1.56
4	2.08	18.63	1.37	38.33	1.87	18.09	1.91	1,65

CEL فكشب مماطل الاستظارارات للهتدسية الاعتبارات المعملية 219-191-5371 199-20-04 state and the state 53.41





t Land marks Co. Company Name Project **Test Date** report data Location Test No.

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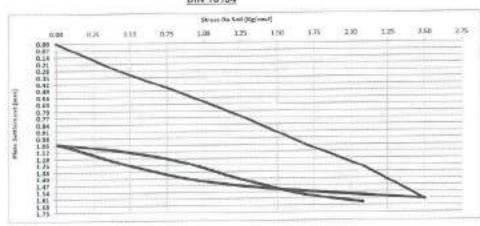
; 16/01/2024 : 17/01/2024

: Electric Express Train, from Al Ain Sokhna to Marsa. Matrouh Priority Sector (8) - Alumain to Foka

:Station 425+145 to 425+170

: 005

Nonrepatitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	\$	6
Stage(Kg)	D	1186.32	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/om2)	0.00	0,42	0.03	1,26	1.67	2.06	Z.50
Settument (mm)	0.00	0.20	0.50	0.76	1.64	1.20	1.62

UnLoading (1)	1	2	3	- 24
Stage(Kg)	7065	3533	1768	0
Stream (Kg/cm2)	2.50	1.25	0.626	0.01
Sattlement (mm)	1.62	1.48	1.31	1.04

1.6

Ev2/Ev1 =

D (mm) =	600	ST (mercla	0.46	\$20mm)-	1.09	ΔS =	0.63
Ev1 (Mpa) =	600 (0,75°D'Ao\/68		70				

Loading (2)	0	1	2	- 3	4	5
Stage(Kg)	.0	1188.92	2345.6	3512.5	4719.4	5878.1
Stress (Kg/cm/2)	0.01	0.42	0.83	1.25	1.67	2.06
Settlement (mm)	1.04	1,11	1.22	1.41	1.56	1.65

D (mm) =	600	81 (mm/#	1,20	\$2(mm)= 1.68	ΔS =	0.38
Ev2 (Mpa) #	(0.75"D"&e)/AS		115			

Ext - Modulus of deformation during the losting stage.

Ev2 - Modulus of deformation during the Reloading steps.

D = Plate diameter (mm)

Do = The difference between 6.3 and 0.7 from the maximum loading (enac) (kg/cm<sup>4</sup>)

DS = Difference is settlements corresponding to 9.3 and 9.7 from the maximum loading (non)

CE-J مكتب معامل الاستشارات الهندسية الاختيارات المحملية 210-991-537, pould leave tot (Area) -1. C.B. (1997) 11 11 11 - C. (1995)

Consulting Engineering Bureau & Laboratories مكتب معامل الإستشارات الهندسية

Company Name	: Land marks Co.
Project	: Electric Exploss Train, from Al Ain Soldina to Manual Matrouls Priority Sector (0) - Alamsin to Folia
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)

٩.

Lookanig	Stress		Settlement	0:4.0	Settlement	Dial 3	Settlement	Average
	Ka/cm2	Dial 1	mm	Dial 2	mm	Diar 5	mm	Strenge
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	0.38
	0.83	19.36	0.64	19.26	0.74	19.41	0.59	0.55
2	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	1851	1,49	18.38	1.62	18.47	1.53	1.05
8	2.50	18.11	1.89	18.14	1.86	18.14	1.86	1,87

### Unloading Stage (1)

Loading Ka/cm2	Dial 1	Settlement		Settlement	Dial 3	Settlement	Average	
		mm	Dial 2	mm	Dia 3	mm	Arenage	
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	15.37	1.83	1.74
3	0.625	18.50	1.50	38.35	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	Stress		Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
CONTRACTOR OF THE OWNER	Kg/cm2	Dial 1	mm		mm	Dia 3	mm	receitige
0	0.42	18.73	1.27	18.68	1.32	18.82	1,18	1.28
4	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	2.05	18.16	1,84	18.08	1.92	18.23	1.77	1.84

مكتب معامل الأستشارات المتصب Estate Tichter 219 -101-5371 pper 100 th and the second state of th 29413







 Company Name
 I. Land marks Co.

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

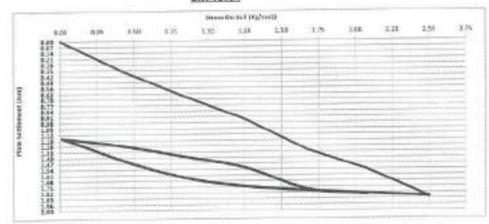
 Test Date
 15/05/2024

 report dato
 17/05/2024

 Lecation
 15/ation 425+170 to 425+195

 Tast No.
 1.007

### 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	0.43	0.83	1,25	1.67	2.08	2.60
Settlement (mm)	0.00	9.36	0.66	0.94	1.211	1.66	1.67

UnLoading (1)	1	2	3	- 4	
Stage(Kg)	7965	7065 3533 1768		. 0	
Stress (Kg/cm2)	2,50	1.25	0.825	0.01	
Settlement (wm)	1.87	1.74	1.54	1.16	

Ev2/Ev1 = 1.8

D (mmi = 400 ) [St (mmi = 1.00 S2(mm) = 1.36 ΔS = 0.75 Ev1 (Mps) = (0.75\*D\*Δσ)/ΔS 00

Loading (2)	0	1	2	э	4	8
Stage(Kg)	0	1186.92	2346.6	3532.5	4719,4	5078.1
Stress (Kg/cm2)	10.0	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	1.16	1.25	1.38	1,52	1.78	1.84

D (mm) =	600	St (mmi)=	1.36	S2(mm)= 1.79	4S =	0.43
	(0.75°D*&#)\A\$</td><td></td><td>112</td><td></td><td></td><td></td></tr></tbody></table>					

Evt a Modulus of deformation during the loading stage.

Ev2 = its dates of deformation during the Relawing stage.

() = Plate diameter (net)

.

En = The difference between 0.3 and 0.7 from the maximum leading (amax) (kg/km<sup>2</sup>)

DS = DMtermos in autiliaments corresponding to 0.3 and 0.7 from the maximum loading (mm)

مكتب محامل الاستخدارات الصنفسية WELLON TOTAL 219-991-5371 your dealth at allest all matches and





Company Name	: Land marks Co.
Project	: Electric Express Train, truin Al Aln Solchisa le Manual Matroub Priority Sestor (6) - Alamcin to Foka
Test Date	: 16/01/2024
report date	: 17/01/2024
Location	:Station 425+195 to 425+220
Test No.	: 003

### Nonrepetitive Static Plate Load Tests of Soils DIN 18134

Data sheet

### Loading Stage (1)

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Loading	Stress		Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2	Dial 1	mm	Didi 2	mm	Dial 3	mm	Ananage
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
4	0.42	15.68	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
1	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	1.42
5	2:08	18.91	1.09	18.63	1.37	18.63	1.37	1.28
6	2.60	18.68	1,32	18.40	1.60	18.09	1.91	1.61

### Unloading Stage (1)

Loading Stress Kg/cm2	Stress		Settlement	Dist 7	Settlement	Dial 3	Settlement	Average
	Dial 1	mm	Dial 2	mm	Diat 9	mm	Menage	
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	18.85	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 Stress Kg/cm2	Stress	-	lial 1 Settlement Dial 2 Settlement Dial 3	Settlement	Average			
	Kg/cm2	Dial 1	mm	Dial 2	mm	Diar 2	mm	Anonaĝo
0	0.42	19.31	0.69	18.85	1.15	18.55	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	1,38
3	1.67	18.87	1.13	18.40	1.51	18.19	1.81	1.48
4	2.08	18.72	1.28	18.40	1.60	18.05	1.94	1.61

174 مكتب معامل الاستشارات الهتبسية التغبيارات المتعلية 219-991-5571 gaut Joseft als ירבוקות בנידונג - בניווני.





Company Name Project Test Date report date Location Test No.

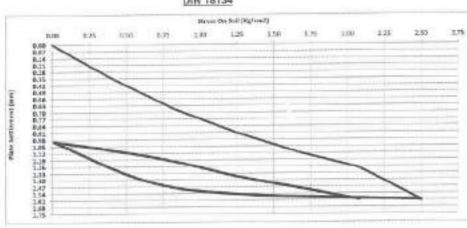
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: Land marks Co. : Electric Express Train, from Al Ain Sokhma to Marsa. Matrouh Priority Sector (6) – Alamein to Foka : 16/01/2024 : 17/01/2024

Station 425+195 to 425+220

: 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	3532.8	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0,42	0.03	1.25	1.87	2.08	2.60
Settlement (mm)	0.00	0.36	0.87	0.91	1.12	1,29	1.61

UnLoading (1)	1	z	3	4
Stage(Kg)	7065	3633	1764	0
Stress (Kg/cmZ)	2.50	1.25	0.825	0.01
Settlement (mm)	1,61	1.55	1.40	1.00

Ev2/Ev1 = 1.7

D (mm) =	600 J	57 (mm)#	1.61	S2imm)=	1.15	45 =	0.54
Ew1 (Mpra) =	(0.75*0*Ac)/AS		82				

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3632.6	4719.4	5878.1
Stress (Kg(cm2)	0.04	0.42	0.83	1.25	1.87	2.08
Satilement (min)	1.00	1.09	1.21	1.38	1.48	1.61

D (mm) =	600	51 (mm)=	1.18	\$2(mm)= 1.\$1	4S =	0.32
Ev2 (Mpa) =	10.75-0-00108		137			

Ev1 - Modulus of deformation during the lending stigs:

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate clamater (mm)

Ds = The difference between 3.3 and 0.7 from the maximum loading (smark) (rigitim<sup>2</sup>)

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

Collin. مكتب ممامل الاستشارات الزيندسية الاختيارات المحجلية 114-901-5371 pro233-anti-والمراج (sectional managed as



CONSULTING Engineering Bureau & Laboratories مكتب معامل الإستشارات المتدسية

 Company Name
 : Land marks Co.

 Project
 : Electric Express Train, from Al Ais Soldme to Marka Netrouth Priority Sector (6) - Alamoin to Fola.

 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)

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Loading	Stress	Dist 4	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	Kg/cm2	Dial 1	mm	Lyiai 2	mm	Diar	mm	Avenage
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	10.35	0.65	19.57	0.43	19.64	0.36	0.48
2	0.83	19.08	0.92	19.35	0.64	19.29	0.71	0.76
3	1.25	13.69	1.31	19.05	0.94	19.05	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	1.02
6	2.50	15.13	1.87	15.29	1,71	38.34	1.66	\$.75

### Unloading Stage (1)

9	Stress	-	Settlement	Dial 9	Settlement	Dial 3	Settlement	Average
Loading	Kg/cm2	Dial 1	mm	Dial 2	mm	Dial 5	mm	Average
1	2.50	18.13	1.87	16.29	1.71	18.34	1.66	1,75
2	1.25	18.26	1.74	16.33	1.67	18.89	1.01	1,87
3	0.625	18.48	1.52	16.50	1,50	18.66	1.34	1,45
4	0.01	18.04	1.06	18.98	1.02	19.07	0.93	1.00

Loading	Stress	mint a	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2	Dial 1	mm	Dial 2	mm	Dia 2	mm	weidle
0	D.42	18.76	1.24	18.87	1.13	18.94	1.06	1.34
1	0.83	13,64	1,36	18.67	1.33	18.75	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	18.55	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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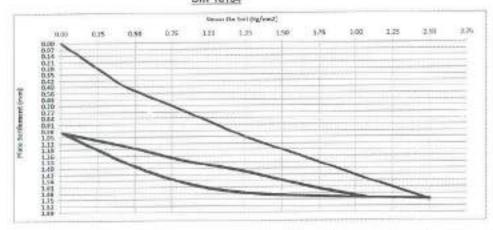


Company Name Project Test Date report date Location Test No.

 $^{2}s$ 

: Lond marks Co. : Electric Express Train, from Al Ain Soldina to Marsa Matrouh Priority Sector (6) – Nomein to Foka : 10/01/2024 : 17/01/2024 :Station 425+220 to 425+245 : 009

### Nonrepetitive Static Plate Load Tests of Solis DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1188.92	2345.8	3532.5	4719.4	\$878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.90
Settlement (mm)	0.00	0.45	0.76	1.0.9	1,25	1.52	1.75

UnLoading (1)	<u></u>	2	3	4
Stage(Kg)	7065	3533	1763	0
Strees (Kg/cm2)	2.50	1.25	0.625	0.01
Sattlament (mm)	1.25	1.67	1.45	1.00

Ev2/Ev1 = 1.8

D étaint) #	\$00	St (mm)=	0.70	[52)mm]=	1.33	∆S =	0,63
Ev1 (Mps) =	[0.76*0*Ao)(6.5		.70				

	0		2	- a		2	
Stage(Kg)	0	1196.92	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	1.14	1.31	1.44	1.60	1.73	

127

Evil = Modulus of	deformation	during the lea	iding stage,

Ex2 - Modulus of deformation during the Reloading stage.

D + Plate diameter (wm)

Ev2 (Mps) = (0.75°0°6¢)/65

Ds = The difference between 0.3 and 0.7 from the maximum loading (smax) (kgicm<sup>4</sup>)

DS = Ofference in actilements corresponding to 4.3 and 0.7 from the maximum loading (well

CEL فكقب مغامل للأملدشارات الهشدسية Licentic Linis VI 219-501-5371 years devolution 1944 + 01-12-12 manner 24



Consulting Engineering Bureau & Laboratories مكتب معامل الإستشارات المندسية

 Company Name
 : Land marks Co.

 Project
 : Exercic Express Train, from Al Ain Solting to Marke Methods Priority Sector (6) -- Alemein 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 Solls DIN 18134

Data sheet

### Loading Stage (1)

 $\approx_{\odot}$ 

Loading Stress Kg/cm2	Stress		Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2	Dial 1	mm	Dias x	mm	Diar 3	mm	Areinge
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.53	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	1.87	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	2.60	18.06	1.94	18.02	1.98	18.75	1.25	1,72

### Unloading Stage (1)

Stress		Settlement	Dist 0	Settlement	Dial 3	Settlement	Average	
Loading	oading Kg/cm2	Dial 1	mm	Dial 2	mm	Diar a	mm	Atesage
1	2.50	18.06	1.94	18.62	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	16.35	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 Stress Kg/cm2	Dial 1	I 1 Settlement	Diel 2	Settlement mm	Dial 3	Settlement	Average	
			Dial 2		L'has 2	mm		
0	0.42	18,37	1.63	1852	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	18.20	1.76	18.86	1.14	1,61
3	1.67	17.96	2.04	1810	1.90	16.75	1.25	1.73
4	2.06	17.88	2.12	18:00	2.00	18.67	1.33	1,82

CEL مكثب معامل الاستشارات الهندسية الاختيارات المعمنية \$19-391-5371 postantia - ingo-admonstration de





Company Name Project Test Date report date Location Test No.

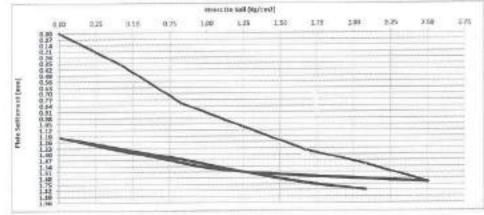
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: Land marks Co. : Electric Express Train, from Al Ain Sokhna to Marea. Matroub Priority Sector (6) – Alamoin to Foka : 16/01/2024 : 17/01/2024 : Station 425+245 to 425+270

:010

### Nonrepetitive Static Plate Load Tests of Soils





Loading (1)	0	. 1	2	3	4	5	. #
Stage(Kg)	0	1186.92	2345.6	3532.8	4719.4	587£.1	7965
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1:67	2,00	2.60
Bettlement (min)	0.00	9.37	0.01	1.05	1.35	1.51	1.72

UnLoading (1)	1	2	3	. 4
Stage(Kg)	7065	3533	1768	9
Stress (Kg/cm2)	2.50	1,25	0.625	0.01
Settlement (rem)	1.72	1.61	1.43	1.21

D (mm) = 600	1	[St (mm)+	1.78	S2(mm)+	1,34	$\Delta S =$	.0.6
Ev1 (Mpa) = 10.75*0	r ΔetyΔ8		67				
Loading (2)	0	1 1	2	3	4	6	
Stage(Kg)	0	1188.92	2345.6	3532.5	4718.4	5878.1	
Stress (Kg/om2)	m 14.2	0.42	0.83	1.05	1.67	2.08	

Settlement (mm)	1.21	1.34	1.46	1.61	1.73	1.82	
D (ann) = 800	()	81.(exn)=	1.44	52(mm)#	1.75	ΔS =	0.31
Ev2 (Mpa) = (0.76*0*	anyas		142				

Evil = Modulus of deformatios during the loading strige.

Ev2 = Modulus of deformation during the Relaxiting steps.

D = Fisie dismister (mm)

Do - The difference between 1.3 and 0.7 from the moderam loading (smar) (kg/um<sup>2</sup>)

DE = Difference in artillements corresponding to 9.3 and 9.7 from the maximum loading (mm)

CEL مكتب معادل الاستشارات المتبسية الاشتيازات المحدارة (allo-251-557) (199-119) (allowed) د 1. targetitte et als . 123

Ev2/Ev1 =

2.1



Consulting Engineering Bureau & Laboratories مكتب معامل الإستشارات المتدسية

Company Name	: Land marks Co.
Project	: Electric Express Train, from Al Ais Soldine 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)

 $^{\infty}e$ 

Loading Stress Kg/cm2	Stress	Dist 4	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Kg/cm2	Dial 1	mm	Dial 2	mm	Dial 2	mm	Average
0	0.00	28.00	0.00	20.00	0.00	20.06	0.00	0.00
1	0.42	13.81	0.19	19.64	0.36	19.60	0.40	0.32
2	0.83	19.58	0.32	15.49	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	0.96
6	2.50	19.02	0.98	18.84	1,16	18.78	1.22	1,12

### Unloading Stage (1)

Loading Stress Kg/cm2		Settlement	Dist 3	Settlement	Dial 3	Settlement	Average	
	Dial 1	mm	Dial 2	mm	Dial 3	mm	Mediada	
1	2.50	19.02	0.98	18.84	1.18	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	0.65	18.97	1.03	38,92	1.08	1.00
4	D.01	19.35	0.65	19.24	0.76	19.21	0.79	8.73

Loading Stress Kg/cm2	Stress	mir a	Settlement	Dial 2	Settlement	Dial 3	Settlement	Average
	Dial 1	mm	Dun Z	mm	Dial 3	mm	waraya	
0	0.42	19.27	0.73	19.18	0.82	19.13	0.87	0.81
1	0.83	39.18	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	0.93
3	1.67	19.01	0.99	18.04	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

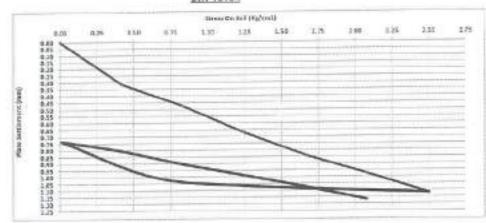
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: Land marks Co. **Company Name** : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) - Alamein to Foka : 11/1/2024 Test Date report date 13/1/2024 :Station 425+270 to 425+290 Location :007 Test No.

### Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	U	1186.92	2345.6	3632.8	4718.4	5878.1	7065
Stress (Kgicin2)	0.00	0.42	0.53	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	1768	0
Stress (Kgiam2)	2.50	1.26	0.825	0.01
Settlamont (mm)	1.12	1.07	1.00	0.73

2.0

Ev282v1 =

D(mm) = 6	00 5	1 (41 11)0	9.44	\$2(mm)*	1.37	03 a	0,43
Ev1(Mps) = (0.7	75°D'Aa¥68		103				

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.6	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Sattlement (mm)	0.73	15.0	0.90	0.99	1:08	1.17

D (mm) =	600	81 (mm)=	4,18	\$2(mm)= 1.05	∆S =	0.23
Ev2 (Mpa) =	10.76-0-00805		210			

Evt - Modulus of deformation during the leading slage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm]

1.4 10

Project

Ds = The difference between 3.3 and 0.7 from the maximum loading (smax) (rigitim) DS = Difference in settlements corresponding to 0.2 and 0.7 from the reasonium loading (settle





Company Name : Land Marks	: Land Marks
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample	: Sub-Ballast
Location	: St. (424+600) : (425+600)
<b>Delivery Date</b>	: 15/03/2023
<b>Reporting Date</b>	: 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.
- 6 Material finer than sieve No. 200 according ASTM D-1140
- ç, 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

Signat 

3 El Malek El Afdal Street

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

# Results of sieve analysis according to ASTM D-422.

Sample No.

: 21

0,1 Sieve Size (mm)	6.8				+	+	-				
		11.7	17.2	22.0	32.3	34.9	20.8	93.1	100	100	Passing %
Upper Limit Upper Limit Lower Limit	0	ω	9	15	26	- 14	40	06	100	100	Job specifi (ASTN Min.
Results Lower Limit	1	16	25	35	50	1	75	100	100	100	Job specification limits (ASTM D-422) fin. Max.

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Signature /.....

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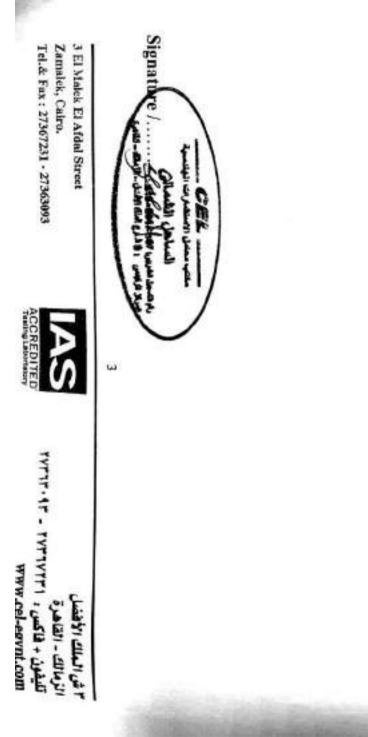
۲ ش الملك الأفضل الزمالك - القاهرة



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

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

Percentage of material finer than Sieve Size 75 μΜ (No.200)	Test
rial finer than M (No.200)	st
6.8	Results (%)

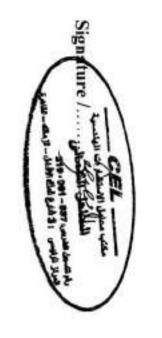




Company Name : Land Marks	: Land Marks
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast	: Sub-Ballast
Location	: St. (424+600) : (425+600)
<b>Delivery Date</b>	: 15/03/2023
<b>Reporting Date</b>	: 22/03/2023
Reporting No.	: 21
Sample No.	:01

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

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



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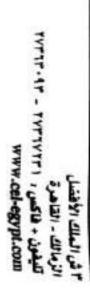
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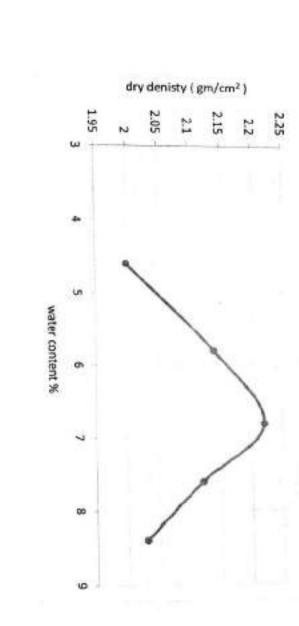
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Max dry density (gm/cm<sup>2</sup>)

: 2.22



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

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

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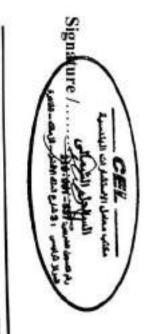
Company Name : Land Marks
: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
: Sub-Ballast
: St. (424+600) : (425+600)
: 15/03/2023
Reporting Date : 22/03/2023
: 21
: 01
이상에 잘 잘 안 한 것 같아요? 이 것 같아요? 정말 것 같아요. 그는 것 같아요? 것 같아요? 것 같아요?

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

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

Note:

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



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Signatuh N Surcharge Jangkan Son Kiga C ter content

The sample was an inpacted to Ę

Attached graph shows penetration resistance versus penetration magnitude. density of 2.22 (gm /cm3)

Notes :

7

	a 20	and	At 0.1 men (and 1 men)
80.9	Sample results	St. Value	44 O 1 inch (2.54 mm)
CBR %	(Mpa)	Stress (Mpa)	CBR Result
8.62	$\left  \right $	0.250	6.35
8.11		0.225	5.71
7.61		0.200	5.08
7.10		0.175	4.45
6.59		0.150	3.81
6.11		0.125	3.18
3.58		0.100	2.54
5.10		0.075	1.91
4.39		0.050	1.27
4.07		0.025	0.64
		Inch	mm
stress on piston (Mpa)	stress on	penetration	pene

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Land Marks	a Dunneu
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	Dig Bureau
	Labor
	atories

Project

**Company Name** 

Type of sample

: Sub-Ballast

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: St. (424+600) : (425+600)

Sample No.

:01

Test Results of California Bearing Ratio on Base Materials

**Reporting Date** 

: 22/03/2023

Reporting No.

:21

**Delivery Date** 

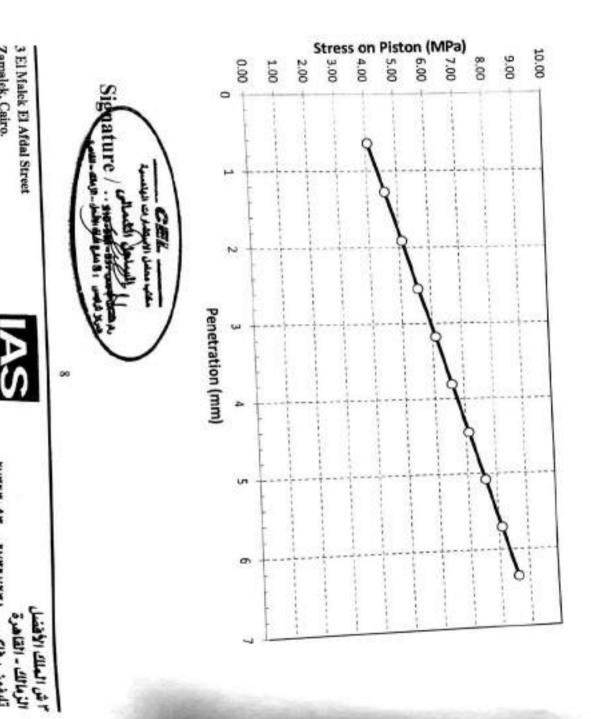
: 15/03/2023



Company Name : Land Marks	
project	: Electric Express Train. from Al Ain Sol-Los to Mount Martin
Type of sample : Sub-Ballast	: Sub-Ballast
Location	: St. (424+600) : (425+600)
<b>Delivery Date</b>	: 15/03/2023
Reporting Date : 22/03/2023	: 22/03/2023
Reporting No.	: 21
Sample No.	: 01

# Load Penetration Curve of CBR Test

## ASTM D-1883



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### Company: Land marks

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

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

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

# According to project specs :

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

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

Signature /...

The Test-Results is

CET

Comply

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Not Comply) with Spec.

Limits

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**Company Name** : Land Marks : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh مكتب معامل الإستشارات الهندسية

 Project
 : Electric Express Tr

 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.
- N Material finer than sieve No. 200 according ASTM D-1140
- (a) 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

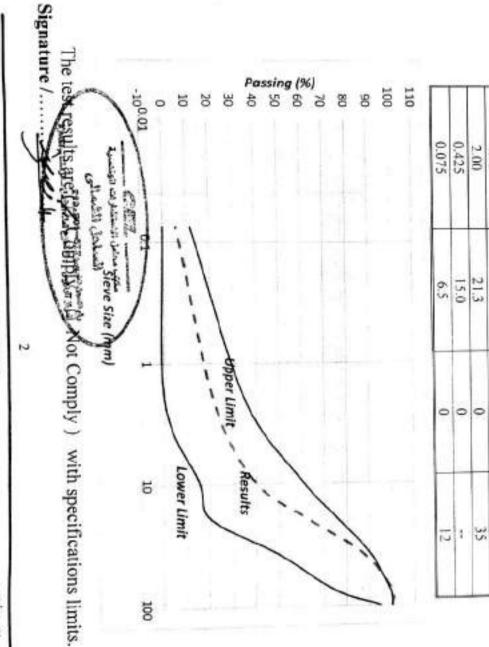
Signature /. Ē CREL السلمل الش NH-

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Consulting Engineering Bureau & Laboratories

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	Passing %	Job specification limits (ASTM D-422)	ntion limits D-422)
(mm)		Min.	Ma
100	100	90	10
75	100	75	10
50	100	+	
38	86,9	50	10
25	72.3	1	10
61	61.6	20	75
12.5	43.2		
5.6	39.2	15	6
4.75	24.6	1	
2.00	21,3	0	
0.425	15.0	0	1
0.075	6.5	0	-

لممسوحة ضوئيا بـ CamScanner

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.03	:23	: 17-04-2023	: 13-04-2023	: Prepared Subgrade	: Electric Express Train, from Al Ain Sokhna to Marsa Matroul	: Land Marks	
					latrouh		
					Cam	Scann	Ę

### Sample No. Reporting No. **Reporting Date Delivery Date** : 23 : 02 : Prepared Subgrade : 17-04-2023 : 13-04-2023

Project

**Company Name** 

Consulting Engineering Bureau & Laboratories محتب معامل الاستشارات الهندسية

Type of sample

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

الممسوحة ضوتيا بـ er



الممسوحة ضوئيا بـ CamScanner

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

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







3 El Malek El Afdal Street Zamalek, Cairo.	• Max dry der • Optimum m	dry denisty (gm/cm² ) ພິ້ນ N	Company Name Project Type of sample Delivery Date Reporting Date Reporting No. Sample No.
El Afdal Street	Max dry density (gm/cm <sup>2</sup> ) : 2.24 Optimum moisture content % : 5.9 Unips against disease with a gain of the state of the state of the state of the state of the state of the state of the s	23 225 215 215 215 215 215 215 215 215 215	<ul> <li>Consulting Engineering Bureau &amp; Laboratories</li> <li>Land Marks</li> <li>Electric Express Train, from Al Ain Sokhna to Marsa N</li> <li>Prepared Subgrade</li> <li>13-04-2023</li> <li>17-04-2023</li> <li>23</li> <li>23</li> <li>23</li> <li>302</li> <li>Moisture - Density relation of soil Test result (Modified proctor test) ASTM D-1557</li> </ul>
۳ ش الملك الأفضل الزمالك - القاهرة تليفون - فاكس , ۲۷۳۹۷۲۴۱ - ۲۷۳۹۲		7 8 9	aboratories



Company Name : Land Marks	مكتب معامل الاستشارات الهماسية. Land Marks
Project	: Electric Express Train. from Al Ain Sokhna to Marsa Matronic
Type of sample	Type of sample : Prepared Subgrade
<b>Delivery Date</b>	: 13-04-2023
Reporting Date : 17-04-2023	: 17-04-2023

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

Sample No.

: 02

Reporting No.

: 23

1 1.1	4.91	00 3	penetration
717	Sample results	St. Value	At 0.1 inch (2.54 mm)
CBR %	Stress (Mpa)	Str	CBR Result
7.48		0.250	6.35
7.09		0.225	5.71
6.64		0.200	5.08
6.14		0.175	4.45
5.70		0.150	3.81
5.40		0.125	3.18
4.91		0,100	2.54
4.56		0.075	1.91
4.34		0.050	1.27
4.06		0.025	0.64
-		Inch	mm
stress on piston (Mpa)	stress or	penetration	pene

Notes :

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Attached graph shows penetration resistance versus penetration magnitude.

P

The sample was compacted to dry density of 2.24 (gm /cm<sup>3</sup>) at 5.9 % optimum Wall Content.

Signature / 📐

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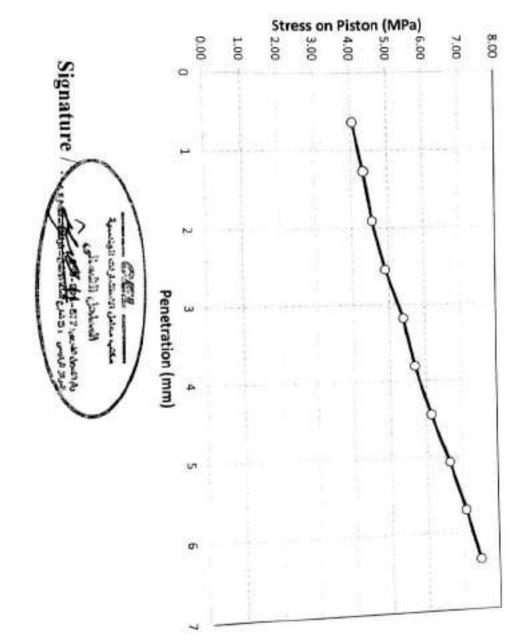
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Zamalek, Cairo.

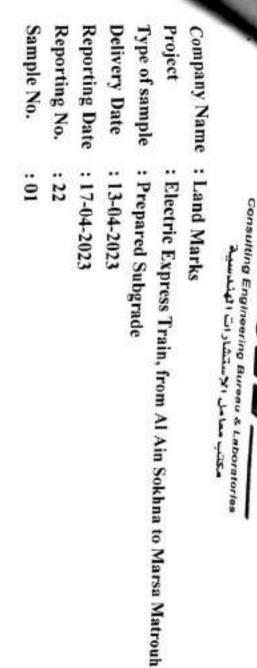
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### Load Penetration Curve of CBR Test ASTM D-1883



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

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

According to project specs :

Coarse Aggregate	Amount of loss by abrasion and impact (%)	Test
	6 5 6 6	Results

Company:

Land marks

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

.. 15/05/2023

: Prepared subgrade sample No.2

: Coarse Aggregate

Type

Sample Id

Site

202

Report No. Source

RESISTANCE TO DEGRADATION ALL SIZE AGGREGATE BY ABRASION

AND IMPACT IN LOS ANGELES MACHINE ASTM C 535

OF SMALL SIZE

الممسوحة ضوتيا بـ CamScanner

**Consulting Engineering Bureau & Laboratories** 

مكتب معامل الاستشارات الهندسية



لطرق 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 الذيل لتنفيذ المسافة من الكم ٢٤+٦٠٠ الى الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه الطريق الساحلي

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

تــنفيـذ : شركة لاندماركس للمقاولات العمومية

۲e مقدار العمل السايق: ÷ الموقع الكيلومتري الإيماد ( متر ) الكمية ببإن الاعمال بالمقايسة مساحة المقطع طول الى ەن القطاع الأول 1-11,0-A, . TV 110+1--£TE+1 ... 0... القطاع الثاني A. TV 1. 1A.0. 0... 1Y0+7 ... £10+1 ... اجمالي الكميات خلال فترة المستخلص الحالية (٣٠) 1.84 1.14 الإجمالي الكلي (م٢)

مهتدس الاستشاري

XYZ مكتب XYX و/ محمد خليل

مهتنس الشركة

م/ احمد ابوبكر Fourted

مكتب د/سعد الجيوشي م/بصطف نجم

مهندس الاستشاري

مهتلس الهيئة



الطرق و الکباری (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 ٢٤٠٦٠٠ الى الكم ٤٢٥٠٦٠٠ بطول ١ كم اتجاه الطريق الساحلي

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

تـنفيـد : شركة لاندماركس للمقاولات العمومية

			٣		مقدار العمل السابق :
الكمية	الايماد ( متر )		کيلومټري.	الموقع ال	بيان الاعمال بالمقايسة
	مساحة المقطع	طول	ال	من ا	wining have a this
£+1A,0.	Λ, • ۳۷	0	110+1	£7£+1	القطاع الأول
E . 14,0.	٨, • ٣٧	0	£10+1	£70+1	القطاع الثانى
A+ 44		اجمالي الكميات خلال فترة المستخلص الحالية (٢٨)			اجمالي ا
۸ - ۳۷			الکلسي (۲۴)	الاجمالـي	

مهتدس الشركة

م/أحمد أيوبكر I Tal i Guli

م) محمد خليل all

مهتدس الاستشاري

مكتبٌ XYZ

the

مكتب د/سعد الجيوشي م/مصطفى تجم – WA

مهتدس الاستشاري

abd/p

بهندس الهيئة



الطرق و الكباري (GARE)

قائمة الكميات الواردة بالمستخلص جاري (٢)

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قطاع غرب النيل لتنفيذ المسافة من الكم ٢٤٠ ٤٢٤ الى الكم ٢٠٠ ٢٤ ٢٤ بطول ١ كم اتجاه الطريق الساحلي

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

تــنفيـذ : شركة لاندماركس للمقاولات العمومية

٢p مقدار العمل السابق : ¥. الابعاد (مثر) الموقع الكيلومتري الكمية بيان الاعمال بالمقايسة مساحة الملطع طول الى (ja E . 1A,0. ٨, - ٣٧ 0 ... £YE+1.. القطاع الأول £70+1 ... ٨, - ٣٧ L. 1A. 0. £10+1 ... القطاع الثانى 110+7 ... 0 ... 1.17 اجمالى الكميات خلال فترة المستخلص الحالية (٢٥) 1.11 الاجمالي الكلي (٢٥)

مهتدس الاستشاري مهتدس الهيئة مهتدس الاستشاري مهندس الشركة مكتب د/سعد الجيوشي XYZ - XYZ م محمد فليل م/مصطفى نجم م/أحمد أيوبكر 14 icalica



قائمة الكميات الواردة بالمستخلص جاري (٢)

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

قطاع غرب النبل لتنفيذ المسافة من الكم ٢٠٠ ٤٢٤ الى الكم ٢٠٠ ٤٢٥ بطول ١ كم اتجاه الطريق الساحلي

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

تـنفيـد : شركة لاندماركس للمقاولات العمومية

Tp مقدار العمل السابق: . الموقع الكَيلومتري الإيعاد ( مار ) الكمية بيان الاعمال بالمقايسة مساحة المقطع طول الى ەن £ . 1A,0 . ٨, . ٣٧ £70+1 ... 111+1++ القطاع الأول ٥.. £ . 11,0. A, - TV القطاع الثانى 110+7 ... ET0+1 ... 0... 1.11 اجمالي الكميات خلال فترة المستخلص الحالية (٢٨) 1.14 الاجمالي الكلي (٢٥)

مهتدس الهيئة

مهتدس الأستشاري مكتب د/سعد الجيوشي م/،بصطل نجم MAN

مهندس الاستشاري XYZ بكتب ومر محمل خليل â

مهتلس الشركة

م/ احمد ايوبكر fracily



à

الطرق و الكبارى (GARB)

قَائمة 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 : ( ٢-٤ ) اعمال توريد وفرش طبقة الأساس ( SUB BALLAST )

تنفيذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق :

Te.

الكمية	الايعاد ( متر )	الموقع الكيلومتري		الموقع ال	بيان الاعمال بالمقايسة
	مساحة المقطع	طول	الى	ەن	بينو بدوال ومعديده
ryya,a+	0,100	07.	110+17.	171+1	القطاع الأول
TYVA,A-	ž – L	الكميات خلال فترة المستخلص الحالية (م٢)			اجمالي
TYYA,A-			الكلس (م٢)	الاجماليي	

مهتلس الاستشاري مهندس الهيئة مهتدس الاستشارى مهندس الشركة مكتب د/سعد الجيوشي XYZ -Sa م/ احمد آيوبكر م/،صطلى نجم 1111 Sec.40 mm imiguit



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 ٢٠٠ +٢٤ الى الكم ٢٠٠ -٢٤ بطول ١ كم اتجاه الطريق الساحلي

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

تــنفيـدْ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق :

الكمية	الايماد [ متر ]	الايماد [ متر ]		الموقع ال	3 42.0. 0. 150.01	
-paren	مساحة المقطع	طول	الى	in.	بيان الاعمال بالمقايسة القطاع الأول	
FYVA,A.	0,400	07.	£70+17-	£71+7	القطاع الأول	
ττν <b>λ</b> ,λ -		ية (٣٩)	اجمالي الكميات خلال فترة المستخلص الحال			
TTVA,A-	2	الاجمالــي الكلـي (م٢)				

T,a

مهتدس الاستشاري مهتلس الاستشاري مهتدس الشركة بهندس الهيئة مكتب د/سعد الجيوشي مكتب XYZ م/مصطلي لجم م المجدد خليل م/أحمد أيوبكر AND 1 anicos



The said a fin

قائمة الكميات الواردة بالمستخلص جاري (٢)

مشروع: أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهريائي السريع (العين السخنة -العاصمة الإدارية -العلمين - مطروح ) قطاع غرب النيل لتنفيذ المسافة من الكم ٢٠٠ ٤٢٤ إلى الكم ٢٠٠ ٤٢٠ بطول ١ كم اتجاه الطريق الساحلي

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

تنفيذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق:

لكمية	الابعاد ( مار )	الابعاد ( مار )		الموقع ال	a di la manifati	
	مساحة المقطع	طول	ال	04	بيان الاعمال بالمقايسة القطاع الأول اجمالي ال	
****	0,100	07.	170+17.	LYL+l	القطاع الأول	
TIVAA- (		ية (م٢)	اجمالي الكميات خلال فترة المستخلص الحا			
۳۲۷۸,۸-		الاجمالــي الكلــي (٢٥)				

مهندس الهيئة

MIC

مهندس الاستشاري مكتب د/سعد الجيوشي

مهتدس الاستشاري مكتب XYZ

h

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مهندس الشركة

م/ احمد ابوبكر الحمانونو

م [ محمد خليل

م/مصطفى نجم 9



الطرق و الكباري

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 ٢٢٤+٦٠٠ إلى الكم ٢٠٢+٢٢٤ بطول ١ كم اتجاه الطريق الساحلي

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

#### تـ تفيذ : شركة لائدماركس للمقاولات العمومية

¥e.

¥2

مقدار العمل السابق :

لكمية	الايماد ( متر )	الايماد ( متر )		الموقع ال	STORED BANK ALL
	مساحة المقطع	طول	ال		بيان الاعمال بالمقايسة القطاع الأول اجمالي ال
****	0,100	07.	170+17-	LYL+1	القطاع الأول
ryva.a. (re)		ية (م٢)	اجمالي الكميات خلال فترة المستخلص الحا		
FYVAA.		الاجمالــي الكلــي (٢٥)			

مهتدس الهيئة

5.17

مهندس الاستشاري مهندس الإستشاري مكتب د/سعد الجروشي XVZ مكتب مراسطين الحم A vere that Sull

مهتدس الشركة

م/ احمد أيوبكر احمد انو در



### السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحبة طيبة. وبعد،،

بالإحالة إلى مشروع القطار الكهرباني قانق السرعه ( العلمين – فوكة ) ( القطاع السادس ) نتشرف بأن نرفق لسيادتكم طيه المقايسة المعدلة بعد المفاوضة لبنود الأعمال بتاريخ ١٨-١٢-٢٣ للقطاع الأتي:

الأتجاه	إلى المحطة	من المحطة	اسم الشركة	مسلسل
الطريق السلطي	27047	272+7	لانتماركس للمقاولات العمومية	,

برجاء من سيادتكم التفضل بالأحاطه والتوجيه بالازم

وتفضلوا بقبول فانق الأحترام والتقدير ...

رنيس الإدارة المركزية

المنطقة الخامسة غرب الدلتا

ant view? ( 22.2.2

" هاتي محمد محمود طه "



رة النق





### مشروع الفقار الكوريقر فنق السرعة قطاع (العلين - فوكة) الملايسة المحلة بد الملاوضة بتاريخ ٢٠٢٨-٢٢،١٢ ليتود الاعمل تقيد شركة الالماركين للمقاولات الصومية اتجام الطريق السلطي القطاع من المحلة ١٠٠ + ٢٤ على ١٠٠ + ٢٤ على ١٠٠

「二」	11 11 ac	ita jil	اللبية	415	Wanks
. 1	طيقت الاساس				
u	بقس المكتب اعمل توريد وقرق غيقة الاسلى ( propared Subgrade ) من الادجار المنية فشترهة تقع تضير القسز ان والمطلبة لمواصفك واقسي حجم للحيينان ١٠٠ مر والا تزيد نسبة قصل من ملكل ٢٠٠ عن ١٢ يلا و فلنرج الوارد بالاخترطات القاصة بالمقروع لا تقل نسبة قصل كافيورتيا عن ٢٠ يلا و الا كزيد نسبة الملك بمهاز لمن تجارس عن ٢٠ يلا والا يزيد الانتصاص عن ٢٠ يلا و الا بلل معامل المرونة (EV2 ) من تجريب عن ٢٠ يلا والا ميهاستان و يتم قردها على طبقان بنتختار الات التسوية العنية على ان لا يزيد اسما الطبقة ميهاستان و يتم قردها على طبقان بنتختار الات التسوية العنية على ان لا يزيد مسلم الطبقة الجد تعم العلم عن ٢٠ من و رشيا تقديمة العاصول الا ين من قريبة الرحية العطوية الجد تعم العلم عن ٢٠ من و رشيا تقاملة المارية الوصول الا بنية الرطوية العملية والمك الجد تعمل المواد الى المنى كافاة وطلم العري الا الى عن ٢٠ يلا إن من تقافة المعلية و اللغة كامل الا من الا يلامي كافاة وطلم المواد الا الي عن ٢٠ يلا من المالية والمالي و اللغة تعمل المواد الى المن كافاة وطلم المواد الا الى عن ٢٠ يلا إلا والا المواد المالية و المالية بوميع منتماته طبئة المواصل المالية المحروع الامل عن ٢٠ يلا من الا	۰,	A.TV	115,4+	1,197,719
	قربة النقة النمورية	٣	A	111	1.847.400
	هدي استغة اللق ١١٧ عم	**	A+TV	\$20,50	1,111,4.4
	هكوة تنصيل رموم الكارثة والموازين طبقا الاتحة الشركة الوطلية	٠,	A. FV	10	1,110
1.4	بقش الملكم، أعمل توريد وقرش طبقة أسلس من الإعجاز المشية لمتترية نلاج تلمير. الكسلوات والنطليقة للدواسطلت وأقصى همجم للحيهات ما بين ٢٠ ٢ مم قى ٢٠ مم والا يزيد لنعية قصار من مقطل ٢٠٠ عن ٢٥ والاري قوارد بالإشتراطلت الخاصة بالمقروع لا تلل نسية العمل كظيفورتيا عن ٢٠ كل والا بلق معامل المروتة (Ev22 ) من تجرية لوح التصلي عن ٢٠ موجابسكال والا يزيد لنعية القالة يوجلا لومن تجاوس عن ٢٠ كل والا يزيد الاستساس عن ٢٠ الا يرق فردها على طيقتين باستعدام (الت التسوية العنية على الا يزيد الاستساس عن ٢٠ العمل عن ٢٠ سرو رشعة بالدينية الاصرائية قوممرن الى لسية قرطوية المطرية والنماة الجد العمل عن ٢٠ سرو رشعة بالدينية الاصرائية قوممرن الى لمية قرطوية المطرية والنماة الجد بقلواسات الموصول الى قاصي علاقة جطة قصوي ( لا يلل عن ٢٠٠ كلار) من تكلافة المعالية و القلص عن ٢٠ سرو رشعة بدوسع مشتماته طبقا للمواسطات القلية قطروع والاري الاستقداري وتطريفة المجددة وتليد بيوسع مشتماته طبقا للمواسطات القلية المعارية والمعانة إي وتطريفة المجددة وتليد بيوسع مشتماته طبقا للمواسطات القلية المعارية والمعانة إي وتطريفة المقالين عن ٢٠ كلم	7.0	¥¥10,1.88	141.7	112.011
	قينة شدة شعوية	٣,	****.*.00	1801.	**1,117
	حادوة مسئلة الثلار ٢٠٠ كم	**	****	\$20,1	*\$ \$ 71
	خارة تعصيل رسرم الكارثة والمولايين طبقا لجمة الشركة الوطلية	Te.	****	7.	AT,7YA
	الأجطى				*,Y

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متير المشروع الاستشارى

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مدير المشروع الطاول

م / أحمد أبويكر 1 carlfold شركة لاندماركس مقاولات المعومية واعمال متكاملة وتوريدات 101-191-199:00

وامحمد حسلي فياض متعد رئيس الأدارة المركزية متطلقة غرب البلتا مرسى مطروح الاستقدارية SGAC GUILLI D 16 Jul Di Contratta صود ال 59 Lines Con

مدير للمشروع الهينة

مدير علم مشروعات الهيلية