

MATERIAL INSPECTION REQUEST



مركز الاستشارات الهندسية
شركة الشوارع والطرق
(شركة شوارع)
ر.ق. ١١٠٠٠ / جدة

الجمعية العامة
لشركة الطرق والكباري
(GARF)



L.M.W. 24

Contractor Company	Landmarks for general contracting		Designer Company		SGAC	
Issued by Contractor	Name	Sign	Date	Time		
	أحمد أبو بكر	أحمد أبو بكر	9/11/2023	10:15		
Received by ER			MIR	C1	C2	C3
				DD	MM	YY
				HH	MM	

CODE-1	S1 to S21	D1 to S3	Kp XXX Note
CODE - 2	Station Reference	Depot Reference	For Kilometer point only Start Km is used
CODE - 3	Sub Element of Activity		

Description of Materials					
Location to be Used		425+300-425+600 (-2.0) 425+100-425+160 (-0.25) 425+160-425+240 (-0.25)			
MAR Approval No		Date			
Supplier Name					
Test Requirement		Specification		Clause	
Reference Photos		Yes attached / No		Other	
Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	M ³	5000	18/1/2023	
2	Classification	M ³	5000	18/1/2023	
3	Proctor & O.M.C	M ³	5000	18/1/2023	
4	L.L & P.L & PI	M ³	5000	18/1/2023	
5	C.B.R	M ³	5000	18/1/2023	
Comments by:		Comments by:			
APPROVAL STATUS					
Organisation	Name	Sign	Date	A-AWC-R	
Contractor	أحمد أبو بكر	أحمد أبو بكر	9/11/2023	A	
QA/QC *	Ramal			A	
GARB**	m-Negm				
Employers Representative					

* Designer
** Alignment / Bridges: Culvert Only

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : (424+600) : (425+600)
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 09
Sample No. : 03

Dear Gentleman,

Attached here with the Soil Embankment delivered on 03/01/2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557

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

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مكتب معامل الاستشارات الهندسية
Signature /...
219 - 004 - 577
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219 - 004 - 577

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

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Testing Laboratory

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الزمالك - القاهرة
تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
www.cel-egypt.com

Company Name : Land Marks
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Type of sample : Soil Embankment
Location : (424+600) : (425+600)
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 09
Sample No. : 03

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %
50	100
37.5	92.3
25	81.2
19	70.0
12.50	58.1
9.50	47.3
4.75	24.8
2.36	24.8
2.00	24.7
1.18	21.9
0.600	18.4
0.425	15.5
0.300	12.2
0.150	9.9

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مكتب القاهرة
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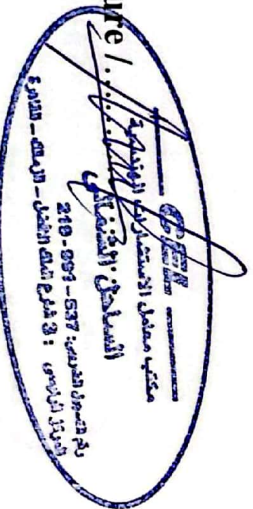
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تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
www.cel-egypt.com

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Type of sample : Soil Embankment
Location : (424+600) : (425+600)
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 09
Sample No. : 03

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	7.9

Signature / *[Signature]*



Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : (424+600) : (425+600)
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 09
Sample No. : 03

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

Test	Results (%)
Liquid Limit	23.2
Plastic Limit	19.5
Plasticity Index	3.7

Signature /.....

مكتب معامل الاستشارات الهندسية
الاسم:
رقم تسجيل المهندسين: 0337 - 0334 - 0319
البريد الإلكتروني: 03 شارع الملك فيصل - القاهرة

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Tel. & Fax : 27367231 - 27363093

4

Land Marks

Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Soil Embankment

: (424+600) : (425+600)

: 03/01/2023

: 09/01/2023

: 09

: 03

Classification According to Project Specs (Embankment)

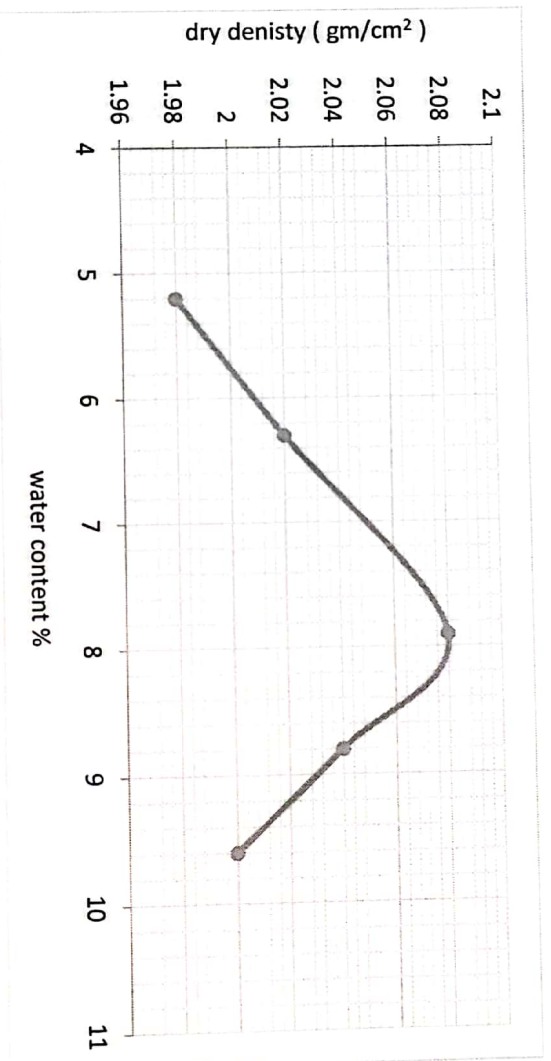
ST	Results (%)	Limits according Projects Specs	
		(A-1-a)	(A-1-b)
ification	(A-1-a)	Max 50 %	—
.10).	24.7	Max 30 %	Max 50 %
.40).	15.5	Max 15 %	Max 15 %
.200).	7.9	Max 15 %	Max 15 %
of fraction passing 0.425 mm (No.40)			
.....	23.2	—	—
.....	3.7	Max 6 %	Max 6 %

Results are ☒ Comply - ☐ Not Comply with specifications limits




Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
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Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 09
Sample No. : 03

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



- Max dry density (gm/cm³) : 2.08
- Optimum moisture content % : 7.9

Signature / 
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الهندسة المدنية
رقم التسجيل: ٢٤٤٧ - ٢١٠ - ٢٠١١
العنوان: شارع النيل - القاهرة - مصر
الهاتف: ٢٧٣٦٣٠٩٣ - الفاكس: ٢٧٣٦٣٠٩٣

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Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 03/01/2023
Reporting Date : 10/01/2023
Reporting No. : 10
Sample No. : 04

Dear Gentleman,

Attached here with the Soil Embankment delivered on 03/01/2023

Materials test

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

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

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مكتب معمل الاستشارات الهندسية
الساحل الشمالي
بمصر الجديدة
البريد الإلكتروني : 3 شارع الملك الوطن - القاهرة
Signature / ...

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Company Name	: Land Marks
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample	: Soil Embankment
Location	: St. (424+600) : (425+600)
Delivery Date	: 03/01/2023
Reporting Date	: 10/01/2023
Reporting No.	: 10
Sample No.	: 04

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %
50	100
37.5	95.2
25	82.3
19	72.4
12.50	61.8
9.50	50.3
4.75	27.8
2.36	26.2
2.00	25.1
1.18	23.3
0.600	17.9
0.425	16.3
0.300	14.8
0.150	10.8

Signature /

CEP _____
 مكتب منسق المبادرات الخيرية
 الجليلي
 رقم هاتف المراسلة : 0097 - 0097 - 818
 البريد الإلكتروني : info@cep-jordan.com - cep@cep-jordan.com

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 03/01/2023
Reporting Date : 10/01/2023
Reporting No. : 10
Sample No. : 04

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	8.1

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Signature / ...

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 03/01/2023
Reporting Date : 10/01/2023
Reporting No. : 10
Sample No. : 04

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

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

مكتب معامل الاستشارات الهندسية
CEL
الساحل الشمالي
رقم سجل التجار: ٤٣٧ - ٤٣٨ - ٤٣٩
البريد الإلكتروني: info@cel-egypt.com
Signature / ...

Company Name : Land Marks

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

Type of sample : Soil Embankment

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

Delivery Date : 03/01/2023

Reporting Date : 10/01/2023

Reporting No. : 10

Sample No. : 04

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits according Projects Specs	
		(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)		
2.00 mm (No.10).	25.1	Max 50 %	-----
0.425 mm (No. 40).	16.3	Max 30 %	Max 50 %
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)			
Liquid Limit	NP	-----	-----
Plasticity index	NP	Max 6 %	Max 6 %

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

[illegible]

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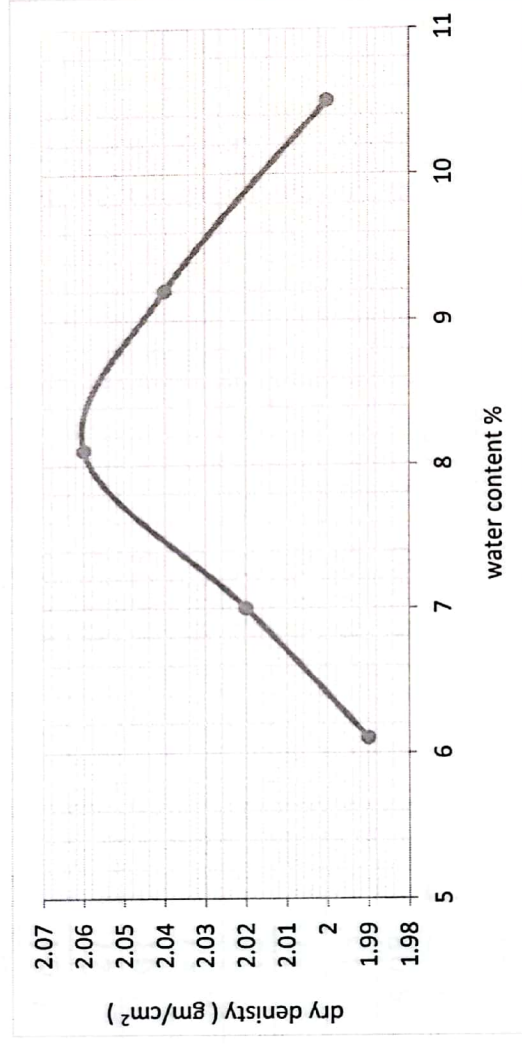
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Delivery Date : 03/01/2023
Reporting Date : 10/01/2023
Reporting No. : 10
Sample No. : 04

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



- Max dry density (gm/cm²) : 2.06
- Optimum moisture content % : 8.1

Signature / 
المهندس / 
رئيس قسم الاختبارات الهندسية
276.004 - 276.004
البريد الإلكتروني: cel@cel-egypt.com

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Tel.& Fax : 27367231 - 27363093

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Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 03/01/2023
Reporting Date : 10/01/2023
Reporting No. : 10
Sample No. : 04

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	2.51
1.27	0.050	2.70
1.91	0.075	2.96
2.54	0.100	3.30
3.18	0.125	3.61
3.81	0.150	3.88
4.45	0.175	4.23
5.08	0.200	4.50
5.71	0.225	4.71
6.35	0.250	4.88

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	47.78
	6.90	3.30	

Notes:

- Attached graph shows penetration resistance versus penetration magnitude.
- The sample was compacted to dry density of 2.06 (gm /cm³) at 8.1% optimum water content.
- Surcharge load 4500 Kg.

بسم الله الرحمن الرحيم
السلامة والبيئة
السلامة والبيئة
السلامة والبيئة

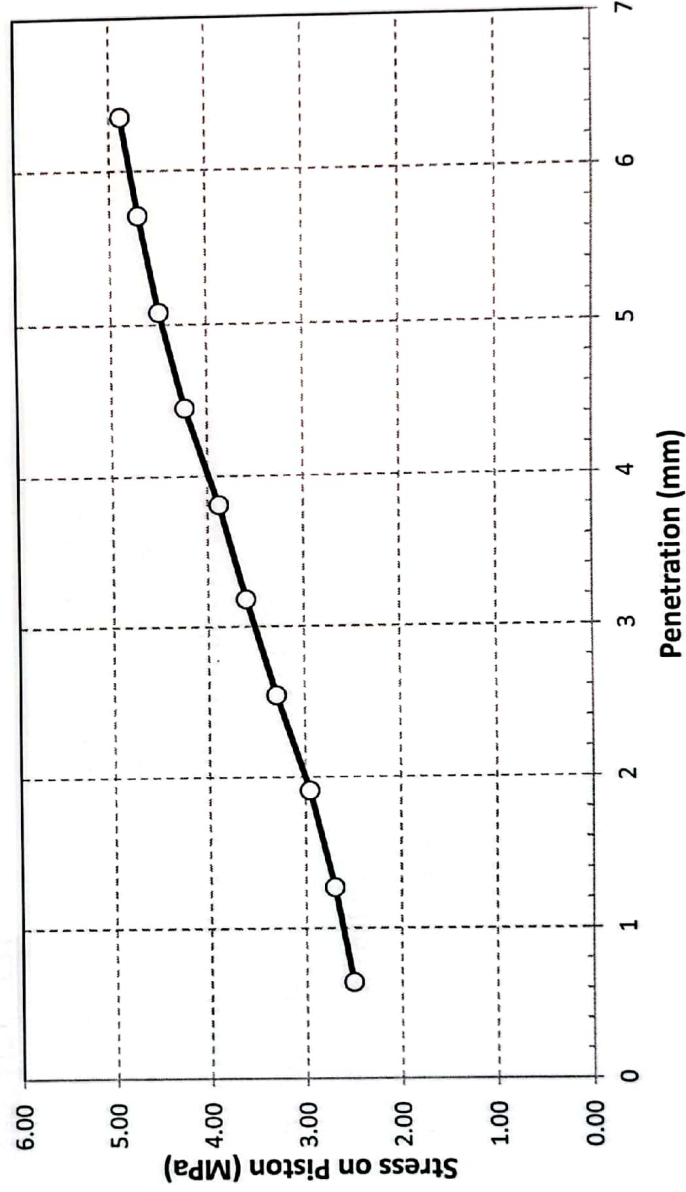
Signature

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Tel.& Fax : 27367231 - 27363093

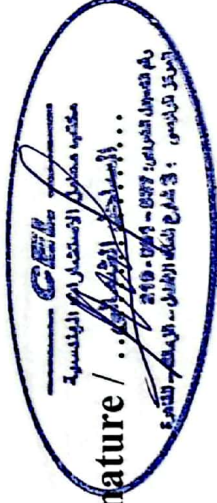
Company Name	: Land Marks
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample	: Soil Embankment
Location	: St. (424+600) : (425+600)
Delivery Date	: 03/01/2023
Reporting Date	: 10/01/2023
Reporting No.	: 10
Sample No.	: 04

Load Penetration Curve of CBR Test

ASTM D-1883



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٢٧٣٦٣.٩٣ - ٢٧٣٦٧٢٣١ : فاكس ، ٢٧٣٦٧٢٣١ : القاهرة
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MATERIAL INSPECTION REQUEST



مركز المصنفات المدنية
النقل والطرق والجسور
(غير مدفوع)
مركز / ساحة الدمام

المصنفات المدنية
للطرق والجسور
(GARB)



14.11.27

Contractor Company	Landmarks for general contracting		Designer Company	SGAC
Issued by Contractor	Name	Sign	Date	Time
Received by ER	أحمد أبو بكر	أحمد أبو بكر	14/11/2023	11:00
		MIR	C1	C2
			C3	DD
			MM	YY
			HH	MM

CODE-1	S1 to S21	D1 to S3	Kp XXX Note
CODE - 2	Station Reference	Depot Reference	For Kilometer point only Start Km is used
CODE - 3	Work Activity		
	Sub Element of Activity		

Description of Materials				
Location to be Used	425+300-425+600 (-1.5) 425+300-425+600 (-1.25) 425+240-425+300 (-0.25) 425+100-425+160 (Ferma) 425+240-425+300 (Ferma)			
MAR Approval No		Date		
Supplier Name				
Test Requirement		Specification	Clause	
Reference Photos	Yes attached / No	Other		
Item	Description	Unit	Quantity	Arrival Date
1	Sieve analysis	M³	5000	18/1/2023
2	Classification	M³	5000	18/1/2023
3	Proctor & O.M.C	M³	5000	18/1/2023
4	L.L & P.L & PI	M³	5000	18/1/2023
5	C.B.R	M³	5000	18/1/2023
Comments by:		Comments by:		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	أحمد أبو بكر	أحمد أبو بكر	14/11	A
QA/QC *	Kamel			A
GARB**	m-negm			
Employers Representative				

* Designer
** Alignment / Bridges: Culvert Only

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 08/01/2023
Reporting Date : 14/01/2023
Reporting No. : 49
Sample No. : 26

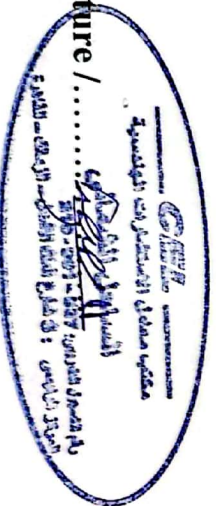
Dear Gentleman,

Attached here with the Soil Embankment delivered on 08/01/2023

Materials test

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

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

Signature /


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Tel. & Fax : 27367231 - 27363093



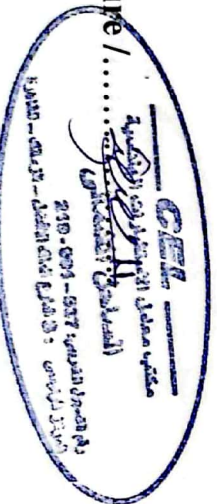
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تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
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Company Name : Land Marks
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Reporting No. : 49
Sample No. : 26

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %
50	100
37.5	97.1
25	83.1
19	72.6
12.50	61.2
9.50	58.2
4.75	46.4
2.36	44.4
2.00	36.9
1.18	33.8
0.600	29.1
0.425	27.8
0.300	22.2
0.150	16.0

Signature /



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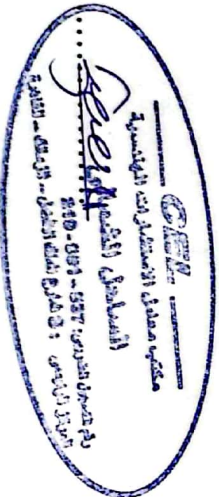
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تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
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Company Name : Land Marks
-Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 08/01/2023
Reporting Date : 14/01/2023
Reporting No. : 49
Sample No. : 26

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	12.1

Signature /



Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 08/01/2023
Reporting Date : 14/01/2023
Reporting No. : 49
Sample No. : 26

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

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

Signature /

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البريد الإلكتروني: info@cel-egypt.com
البريد الإلكتروني: info@cel-egypt.com

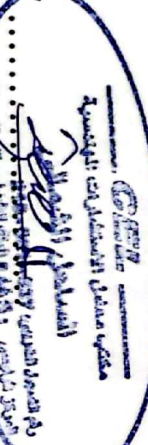
Company Name : Land Marks
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Type of sample : Soil Embankment
Delivery Date : 08/01/2023
Reporting Date : 14/01/2023
Reporting No. : 49
Sample No. : 26

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits according Projects Specs	
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)
2.00 mm (No.10).	36.9	Max 50 %	-----
0.425 mm (No. 40).	27.8	Max 30 %	Max 50 %
0.075 mm (No. 200).	12.1	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)			
Liquid Limit	NP	-----	-----
Plasticity index	NP	Max 6 %	Max 6 %

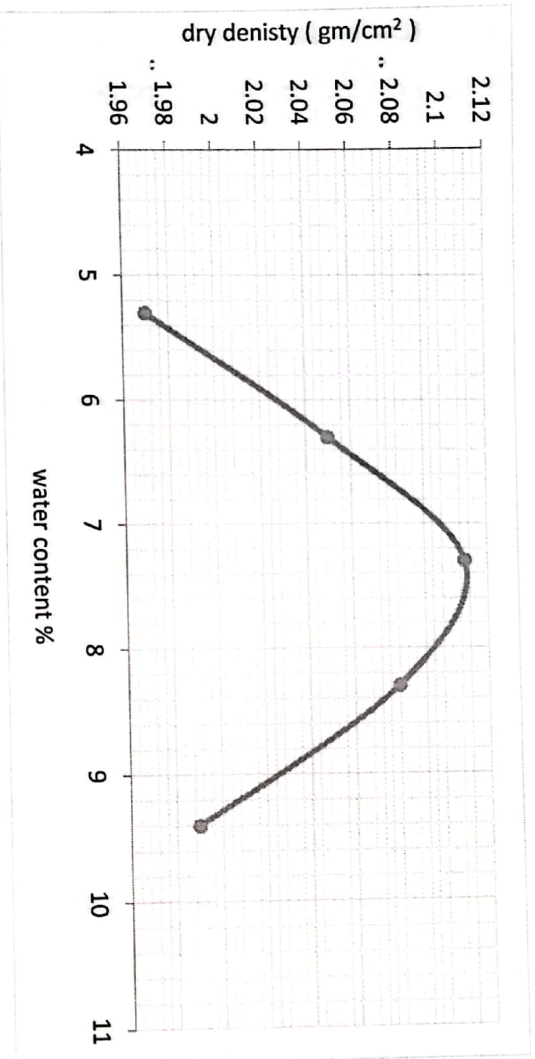
The test results are (☒ Comply - ☐ Not Comply) with specifications limits

Signature


مهندس
مكتب معامل الاستشارات الهندسية

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 08/01/2023
Reporting Date : 14/01/2023
Reporting No. : 49
-Sample No." : 26

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



- Max dry density (gm/cm³) : 2.11
- Optimum moisture content % : 7.3

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210-003 - 210-003
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Tel. & Fax : 27367231 - 27363093

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www.cel-govh.com

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 08/01/2023
Reporting Date : 14/01/2023
Reporting No. : 49
Sample No. : 26

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	2.79
1.27	0.050	3.04
1.91	0.075	3.30
2.54	0.100	3.55
3.18	0.125	3.80
3.81	0.150	4.06
4.45	0.175	4.31
5.08	0.200	4.56
5.71	0.225	4.82
6.35	0.250	5.07

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.55	51.5

Notes :

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of 2.11 (gm /cm³) at 7.3% optimum water content
- 3- Surcharge load 450 K g

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.....
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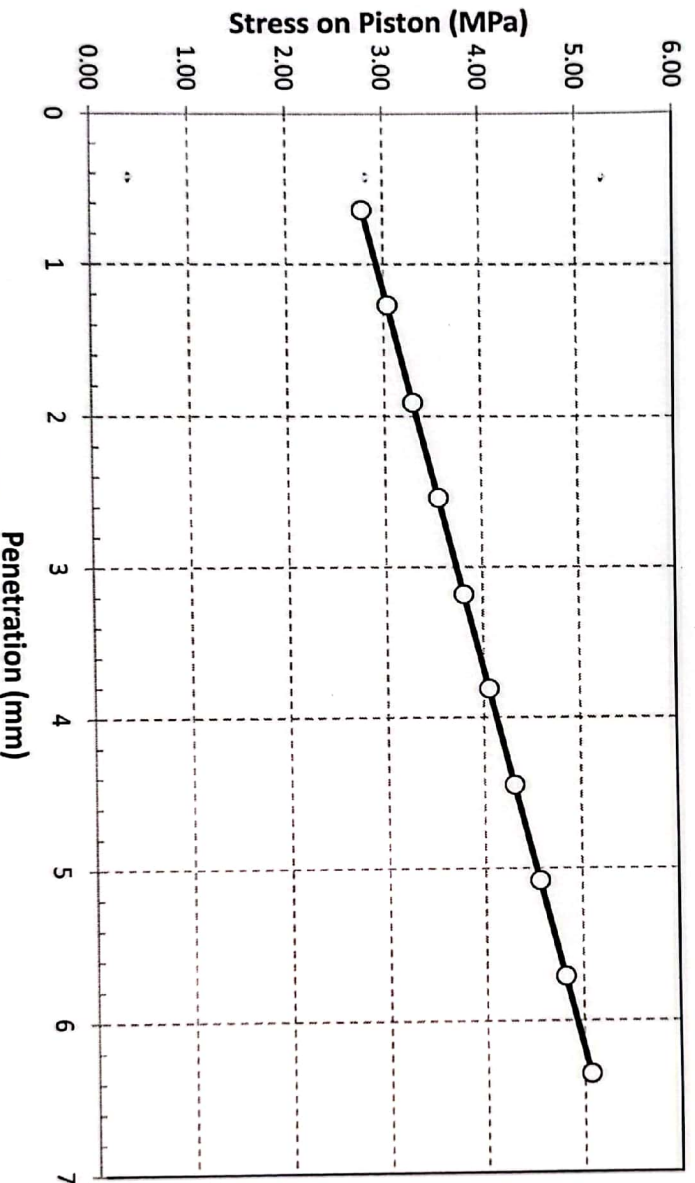
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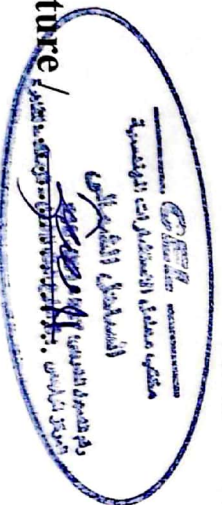
Company Name	: Land Marks
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location	: St. (424+600) : (425+600)
Type of sample	: Soil Embankment
Delivery Date	: 08/01/2023
Reporting Date	: 14/01/2023
Reporting No.	: 49
Sample No.	: 26

Load Penetration Curve of CBR Test

ASTM D-1883



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مركز الاستشارات الهندسية
للنقل والطرق وبنية
(جسر دولفين)
رؤسوا / سمسار الجبيل

الهيئة العامة
للطرق والكباري
(GARB)



14.11.25

Contractor Company	Landmarks for general contracting		Designer Company	SGAC
Issued by Contractor	Name أحمد أبو بكر	Sign أحمد أبو بكر	Date 9/11/2023	Time 3:00
Received by ER			MIR	

CODE - 1	S1 to S21	D1 to S3	Kp XXX Note
CODE - 2	Station Reference	Depot Reference	For Kilometer point only Start Km is used
CODE - 3	Work Activity Sub Element of Activity		

Description of Materials	425+300-425+600 (-3.0)		
Location to be Used			
MAR Approval No		Date	
Supplier Name			
Test Requirement		Specification	Clause
Reference Photos	Yes attached / No	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	M ³	5000	3/1/2023	
2	Classification	M ³	5000	3/1/2023	
3	Proctor & O.M.C	M ³	5000	3/1/2023	
4	L.L & P.L & PI	M ³	5000	3/1/2023	
5	C.B.R	M ³	5000	3/1/2023	

Comments by:	Comments by:
APPROVAL STATUS	
Organisation	Name
Contractor	أحمد أبو بكر
QA/QC *	Ramesh
GARB **	Mr. M. S. M.
Employers Representative	

* Designer
** Alignment / Bridges: Culvert Only

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 48
Sample No. : 25

Dear Gentleman,

Attached here with the Soil Embankment delivered on 03/01/2023

Materials test

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

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

Signature /

Signature of the Client
المهندس /

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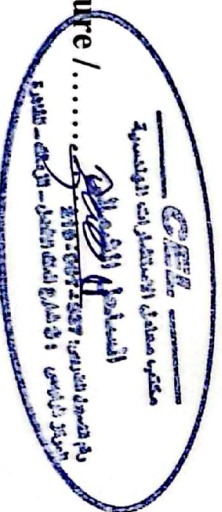
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الزمالك - القاهرة
تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
www.cel-egypt.com

Company Name	: Land Marks
Project	: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location	: St. (424+600) : (425+600)
Type of sample	: Soil Embankment
Delivery Date	: 03/01/2023
Reporting Date	: 09/01/2023
Reporting No.	: 48
Sample No.	: 25

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %
50	100
37.5	96.7
25	89.6
19	82.1
12.50	71.6
9.50	61.2
4.75	48.2
2.36	44.2
2.00	39.8
1.18	34.9
0.600	30.8
0.425	28.1
0.300	24.0
0.150	14.8

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www.cel-egypt.com

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 48
Sample No. : 25

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	12.7

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بمبنى مصر الجديدة - القاهرة
رقم التسجيل المهنى : ٢٧٣٦٧٢٣١ - ٢٧٣٦٢٠٩٣
تليفون : ٢٧٣٦٢٠٩٣ - فاكس : ٢٧٣٦٧٢٣١

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الزمالك - القاهرة
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تليفون + فاكس

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sothina to Marsa Matruh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 48
Sample No. : 25

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

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

Signature /


Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
- Reporting No. : 48
Sample No. : 25

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits according Projects Specs	
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)
2.00 mm (No.10).	39.8	Max 50 %	-----
0.425 mm (No. 40).	28.1	Max 30 %	Max 50 %
0.075 mm (No. 200).	12.7	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)			
Liquid Limit	NP	-----	-----
Plasticity index	NP	Max 6 %	Max 6 %

The test results are ☒ Comply - ☐ Not Comply) with specifications limits

Signature

مكتب معامل الاستشارات الهندسية
بمصر
رقم التسجيل: ٢٧٣١٧٢٣١ - ٢٧٣١٧٢٣١
عنوان: ٣ شارع المالك - القاهرة

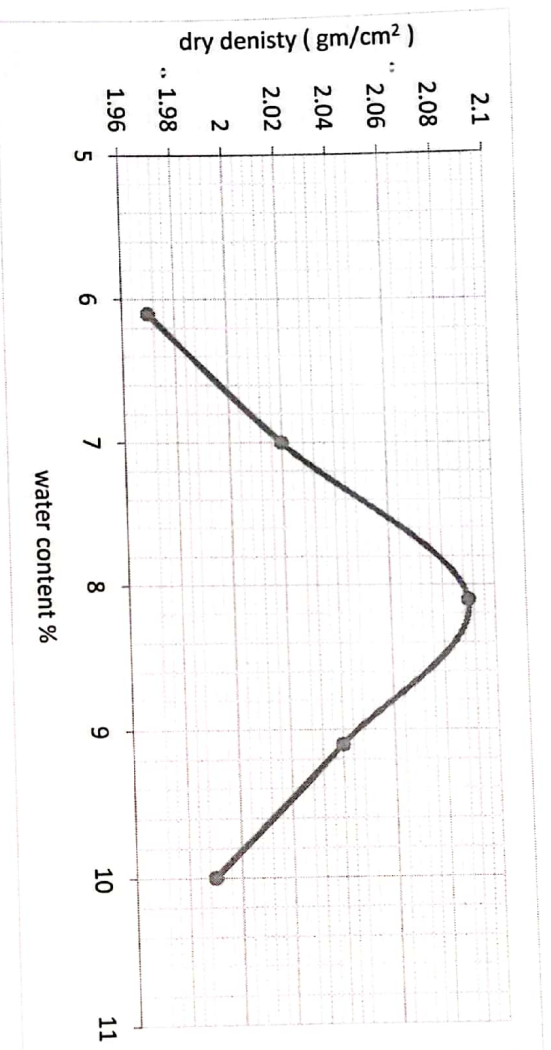
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Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 48
Sample No. : 25

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



- Max dry density (gm/cm³) : 2.09
- Optimum moisture content % : 8.1

Signature /

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مكتب الاستشارات الهندسية
الاستشارات الهندسية
رقم مصادقة المهندس : 219 - 091 - 097
الهيئة العامة للغرفة التجارية - القاهرة
الهيئة العامة للغرفة التجارية - القاهرة

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (424+600) : (425+600)
Type of sample : Soil Embankment
Delivery Date : 03/01/2023
Reporting Date : 09/01/2023
Reporting No. : 48
Sample No. : 25

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

penetration		stress on piston (Mpa)	
mm	Inch		
0.64	0.025	2.28	
1.27	0.050	2.54	
1.91	0.075	2.79	
2.54	0.100	3.04	
3.18	0.125	3.30	
3.81	0.150	3.55	
4.45	0.175	3.80	
5.08	0.200	4.06	
5.71	0.225	4.31	
6.35	0.250	4.56	

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	44.1
	6.90	3.04	

Notes :

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of 2.09 (gm /cm³) at 8.1% optimum water content.
- 3- Surecharge load 450 Kg

Signature /

مكتب معامل الاستشارات الهندسية
بمبنى الشركة الجديدة - القاهرة
الشارع رقم ١١ - حي النسيم - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - فاكس : ٢٧٣٦٧٢٣١
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الممسوحة ضوئيا بـ CamScanner

MATERIAL INSPECTION REQUEST



مركز الاستشارات الهندسية
للشؤون الطرقية والمرورية
(م.م.م.م.م.)
شركة / شركة الاستشارات

الجمعية العامة
للمطابق والكباري
(GARB)



14. M. 28

Contractor Company	Landmarks for general contracting		Designer Company	SGAC																
Issued by Contractor	Name أحمد أبو بكر	Sign أحمد أبو بكر	Date 15/11/2023	Time 11:00																
Received by ER		MIR	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		C1	C2	C3	DD	MM	YY	HH	MM								
C1	C2	C3	DD	MM	YY	HH	MM													

CODE-1	S1 to S21	D1 to S3	Kp XXX Note
CODE - 2	Station Reference	Depot Reference	For Kilometer point only Start Km is used
CODE - 3	Sub Element of Activity		

Description of Materials	425+300-425+600 (-1.75) 425+240-425+300 (1.25) 425+160-425+240 (-1.0) 425+240-425+300 (-1.0) 425+100-425+160 (-0.75) 425+160-425+240 (-0.75) 425+240-425+300 (-0.75) 425+100-425+160 (-0.5) 425+160-425+240(-0.5) 425+240-425+300(-0.5)				
Location to be Used					
MAR Approval No		Date			
Supplier Name		Specification	Clause		
Test Requirement		Other			
Reference Photos	Yes attached / No				
Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	M³	5000	18/1/2023	
2	Classification	M³	5000	18/1/2023	
3	Proctor & O.M.C	M³	5000	18/1/2023	
4	L.L & P.L & PI	M³	5000	18/1/2023	
5	C.B.R	M³	5000	18/1/2023	
Comments by:		Comments by:			
APPROVAL STATUS					
Organisation	Name	Sign	Date	A-AWC-R	
Contractor	أحمد أبو بكر	أحمد أبو بكر	15/11	A	
QA/QC *	Ramess			A	
GARB**	m. kesser				
Employers Representative					

* Designer
** Alignment / Bridges: Culvert Only

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 08/01/2023
Reporting Date : 15/01/2023
Reporting No. : 08
Sample No. : 02

Dear Gentleman,


Attached here with the Soil Embankment delivered on 08/01/2023

Materials test

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

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

Signature /


مكتب مهندسين الاستشارات الهندسية
المعاملات الهندسية
رقم تسجيل المهندسين 537 - 894 - 819
الشارع طاعة الفضل - القاهرة

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Zamalek, Cairo.
Tel. & Fax : 27367231 - 27363093

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www.cel-egypt.com

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 08/01/2023
Reporting Date : 15/01/2023
Reporting No. : 08
Sample No. : 02

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %
50	100
37.5	95.5
25	84.2
19	73.8
12.50	60.1
9.50	49.8
4.75	28.7
2.36	28.0
2.00	27.8
1.18	25.9
0.600	21.1
0.425	13.6
0.300	10.8
0.150	8.8

Signature / 
مكتب معامل الاستشارات الهندسية
المسائل الفنية
رقم تسجيل المهندسين: 210-091-037
البريد الإلكتروني: 3 شارع طه الزكي - طره - القاهرة

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Zamalek, Cairo.
Tel.& Fax : 27367231 - 27363093



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www.cel-egypt.com

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 08/01/2023
Reporting Date : 15/01/2023
Reporting No. : 08
Sample No. : 02

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	7.8

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مكتب محامل الاستشارات الهندسية
المساحة: ٥٥٥٤ - ٥٥٥٤ - ٥٥٥٤
بم تقسيمات الخواص: ٥٥٥٤ - ٥٥٥٤ - ٥٥٥٤
المرکز القياسي : في طريق الملك فيصل - الرياض - ٥٥٥٤

Signature /

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Zamalek, Cairo.
Tel.& Fax : 27367231 - 27363093

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 08/01/2023
Reporting Date : 15/01/2023
Reporting No. : 08
Sample No. : 02

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

Test	Results (%)
Liquid Limit	24.1
Plastic Limit	19.8
Plasticity Index	4.3

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004 - 004 - 004
المكتب الرئيسي : شارع طاعة الوطن - القاهرة

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Tel.& Fax : 27367231 - 27363093



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تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
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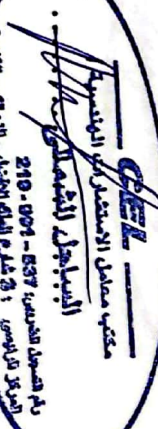
Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 08/01/2023
Reporting Date : 15/01/2023
Reporting No. : 08
Sample No. : 02

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits according Projects Specs	
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)
2.00 mm (No.10).	27.8	Max 50 %	-----
0.425 mm (No. 40).	13.6	Max 30 %	Max 50 %
0.075 mm (No. 200).	7.8	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)			
Liquid Limit	24.1	-----	-----
Plasticity index	4.3	Max 6 %	Max 6 %

The test results are ☒ Comply - ☐ Not Comply with specifications limits

Signature /


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البيانات للمشروع الهندسي
رقم العقد الفني: 537 - 210-001
المركز الرئيسي : 3 شارع الملك الفيلسوف - القاهرة

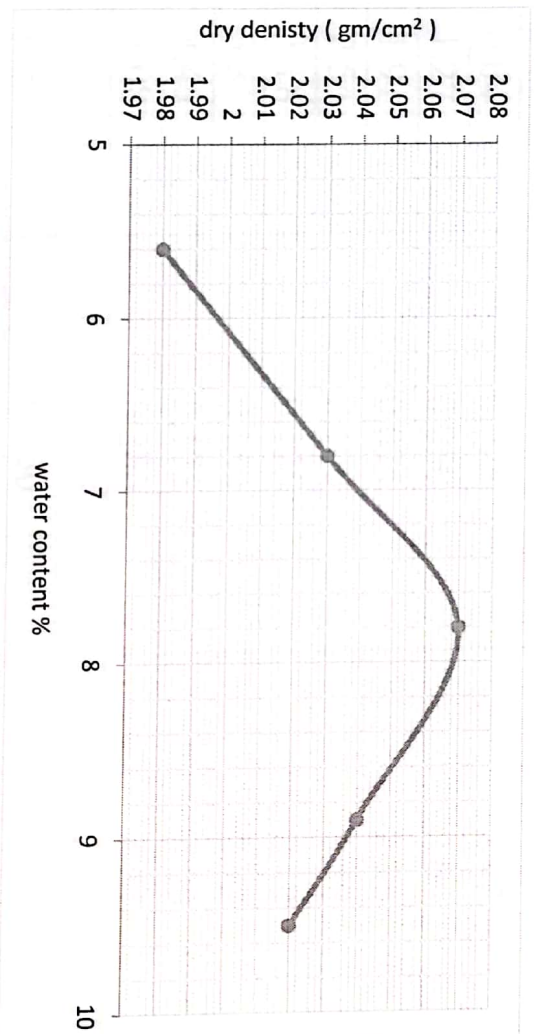
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel. & Fax : 27367231 - 27363093

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تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
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Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 08/01/2023
Reporting Date : 15/01/2023
Reporting No. : 08
Sample No. : 02

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



- Max dry density (gm/cm²) : 2.07
- Optimum moisture content % : 7.8

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المساحة والمساحة
بمصلحة المساحة والمساحة
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التي هي المساحة والمساحة

Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Soil Embankment
Location : St. (424+600) : (425+600)
Delivery Date : 08/01/2023
Reporting Date : 15/01/2023
Reporting No. : 08
Sample No. : 02

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

penetration		stress on piston (Mpa)	
mm	Inch		
0.64	0.025	2.47	
1.27	0.050	2.64	
1.91	0.075	2.85	
2.54	0.100	3.13	
3.18	0.125	3.48	
3.81	0.150	3.72	
4.45	0.175	4.00	
5.08	0.200	4.37	
5.71	0.225	4.62	
6.35	0.250	4.72	

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.13	45.42

Notes :

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of 2.07 (gm /cm³) at 7.8 % optimum water content.
- 3- Surcharge load 4.50 Kg.

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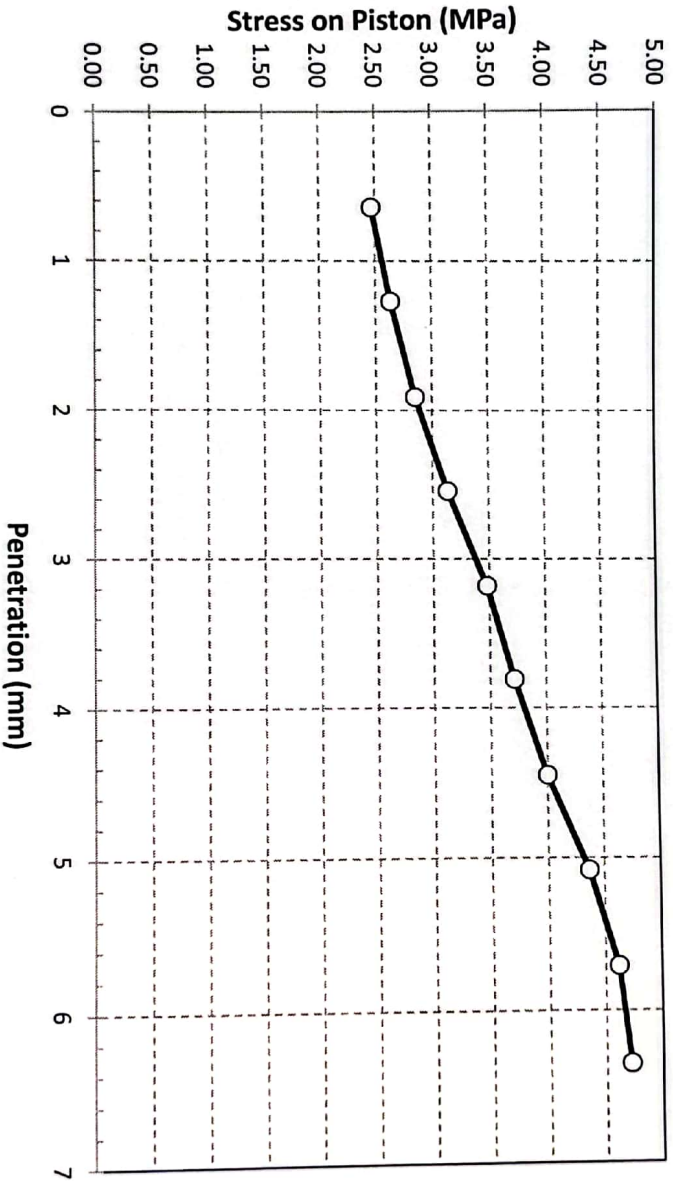
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Company Name : Land Marks
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
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Reporting No. : 08
Sample No. : 02

Load Penetration Curve of CBR Test
ASTM D-1883



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المعامل الهندسية
رقم تسجيل المهندس: 0074 - 0074 - 0074
المعتمد بالوزارة: 0074 - 0074 - 0074

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة.. وبعد،،

بالإحالة إلى مشروع القطار الكهربائي فائق السرعة (العلمين - فوكة) (القطاع السادس)
نتشرف بأن نرفق لسيادتكم طيه المقايضة المعدلة بعد المفاوضة لبنود الأعمال بتاريخ
١٨-١٢-٢٠٢٣ للقطاع الآتي:

مستسل	اسم الشركة	من المحطة	إلى المحطة	الاتجاه
١	لاندماركس للمقاولات العمومية	٤٢٤+٦٠٠	٤٢٥+٦٠٠	العلمين

برجاء من سيادتكم التفضل بالأحاطه والتوجيه بالازم

وتفضلوا بقبول فائق الاحترام والتقدير،،،

رئيس الإدارة المركزية

المنطقة الخامسة- غرب الدلتا

عميد مهندس/

"هاني محمد محمود طه"





مركز الإستشارات الهندسية
للنقل والطارات والطرق
(خبراء دوليون)
دكتور/ سعد الجيوشي



الهيئة العامة
للطرق والكباري
(GARB)



مشروع القطار الكهربائي فائق السرعة قطاع (العلمين - فوكة)

المقايضة المعدلة بعد المفاوضة بتاريخ ١٨-١٢-٢٠٢٣ لينود الاعمال تنفيذ شركة لاندماركس للمقاولات العمومية اتجاه العلمين
القطاع من المحطة ٤٢٤+٦٠٠ الى ٤٢٥+٦٠٠

رقم البند	بيان الأعمال	الوحدة	الكمية	الفئة	الاجملى
٣	اعمال الردم				
١-٣	بالمتر المكعب اعمال تحميل وتوريد ونقل اترية مطابقة للمواصفات وتشغيلها باستخدام آلات التسوية بسمك لا يزيد عن ٥٠ سم حتى منسوب ٢ متر وبسمك لا يزيد عن ٢٥ سم للإستكمال المنسوب التصميمي لتشكيل الجسر والاكثاف (نسبة تحمل كاليفورنيا لا تقل عن ١٥ %) ورشها بالمياه الاصلوية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى أقصى كثافة جافة (٩٥ % من الكثافة الجافة القصوى) ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف. - في حالة طلب جهاز الإشراف زيادة نسبة الدمك عن ٩٥ % يحسب زيادة ١ جنيه على زيادة نسبة الدمك لكل ١ % - مسافة النقل ٢ كم و يتم احتساب علاوة ١,٥ جنيه لكل كم بالزيادة - السعر يشمل عمل تشوينات وتخليط واختبارات ونقل لموقع العمل. -السعر يشمل قيمة المادة المحجرة	٣م	١٧١٤٢,٨٥٧	٩٠	١,٥٤٢,٨٥٧
	علاوة مسافة النقل ١٥٥ كم	٣م	١٧١٤٢,٨٥٧	٢٢٩,٥٠	٣,٩٣٤,٢٨٦
	علاوة تحصيل رسوم الكارثة والموازن طبقاً للائحة الشركة الوطنية	٣م	١٧١٤٢,٨٥٧	١٣	٢٢٢,٨٥٧
	الإجمالي				٥,٧٠٠,٠٠٠
(خمس ملايين وسبعمائة ألفاً جنيه مصري فقط لا غير)					

مدير المشروع المقاول

مدير المشروع الاستشاري

مدير المشروع الهيئة

مدير عام مشروعات الهيئة

م / أحمد أبوبكر

م / مصطفى نجم

م / ابراهيم الحناوى

م/محمد حسني فياض

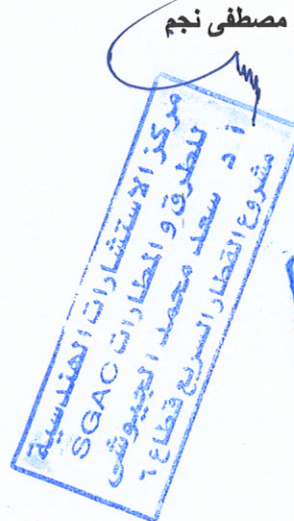
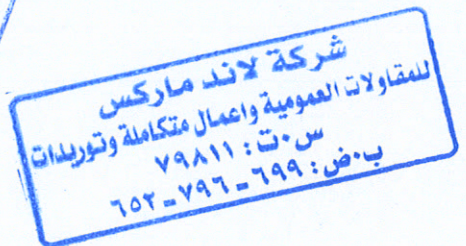
يعتمد

رئيس الادارة المركزية
منطقة غرب الدلتا

الاسكندرية - مرسى مطروح

عميد مهندس /

" هانى محمد محمود طه "



قائمة الكميات الواردة بالمستخلص جاري (٢)

اعمال الجسر الترابي لمشروع القطر الكهربائي السريع (العين السخنة -العاصمة الادارية -العلمين - مطروح) قطاع (العلمين -فوكة) لتنفيذ المسافة من الكم ٤٢٤+٦٠٠ الي الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه العلمين

رقم البند و بيانه : (١-٣) علاوة تحصيل رسوم الكارثة والموازين طبقا للائحة الشركة الوطنية

تنفيذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : ٠,٠٠ ٣م

الكمية	الابعاد (متر)		الموقع الكيلوميتري		بيان الاعمال بالمقايضة
	مساحة المقطع	طول	الى	من	
٩٥٧٧,٥٥٠	١٩,١٥٥	٥٠٠	٤٢٥+١٠٠	٤٢٤+٦٠٠	القطاع الأول
٧٥٦٥,٣٠٧	١٥,١٣١	٥٠٠	٤٢٥+٦٠٠	٤٢٥+١٠٠	القطاع الثاني
١٧١٤٢,٨٥٧	اجمالي الكميات خلال فترة المستخلص الحالية (٣م)				
١٧١٤٢,٨٥٧	الاجمالي الكلي (٣م)				

مهندس الهيئة

م / إبراهيم الحناوى

مهندس الاستشاري

مكتب د/سعد الجيوشي

م/مصطفى نجم

مهندس الاستشاري

مكتب XYZ

م / محمد خليل

مهندس الشركة

م / أحمد أبوبكر

أحمد أبوبكر

قائمة الكميات الواردة بالمستخلص جاري (٢)

اعمال الجسر الترابي لمشروع القطار الكهربائي السريع (العين السخنة -العاصمة الادارية -العلمين - مطروح) قطاع (العلمين -فوكة) لتنفيذ المسافة من الكم ٤٢٤+٦٠٠ الي الكم ٤٢٥+٦٠٠ بطول ١ كم اتجاه العلمين

رقم البند و بيانه : (١-٣) علاوة مسافة النقل ١٥٥ كم

تنفيذ : شركة لاندماركس للمقاولات العمومية

مقدار العمل السابق : ٠,٠٠ ٣م

الكمية	الابعاد (متر)		الموقع الكيلوميتري		بيان الاعمال بالمقايضة
	مساحة المقطع	طول	الى	من	
٩٥٧٧,٥٥٠	١٩,١٥٥	٥٠٠	٤٢٥+١٠٠	٤٢٤+٦٠٠	القطاع الأول
٧٥٦٥,٣٠٧	١٥,١٣١	٥٠٠	٤٢٥+٦٠٠	٤٢٥+١٠٠	القطاع الثاني
١٧١٤٢,٨٥٧	اجمالي الكميات خلال فترة المستخلص الحالية (٣م)				
١٧١٤٢,٨٥٧	الاجمالي الكلي (٣م)				

مهندس الهيئة

م / إبراهيم الحناوى

مهندس الاستشاري

مكتب د/سعد الجيوشي

م/مصطفى نجم

مهندس الاستشاري

مكتب XYZ

م / محمد خليل

مهندس الشركة

م / أحمد أبوبكر

أحمد أبوبكر

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مكتب معامِل الاستشارات الهندسية

Company : Land marks Co.

Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (6)
- Alamein to Foka
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location: Station (425 + 300 to 425 + 600) .
Test Date : 30/01/2023
Repot Date : 31/01/2023
Type of soil : A-1-a
Test level : Uber Embankment (Ferma)
Report No. : 31:36

Dear Gentleman,

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

Apparatus

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

Test Procedure

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 600 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 600 mm loading plate, the limit values are 2.5 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 % , and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



Report

1. Evaluation and representation of results
2. Load Settlement curve
3. The test report content the following -
 - location of test site - Dimension of loading plate
 - Measuring device used - Type of soil
 - Type of Bedding material below the plate -Weathering condition
 - Time and date of measurements - Unusual observation made during test
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve
 - Description of the soil condition below the plate after testing

Report

- Type of soil** : A-1-a **Test level** : Uber Embankment (Ferma)
Job requirement : $E_{v2} > 600 \text{ Kg/cm}^2$ (60 MPa).

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	30/01/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		First Cycle	Second Cycle	E_{v2}/ E_{v1} Ratio
	From	To	$E_{v1} \text{ (kg/cm}^2\text{)}$	$E_{v2} \text{ (kg/cm}^2\text{)}$	
1	425+300	425+350	900	1500	1.7
2	425+350	425+400	957	1552	1.6
3	425+400	425+450	1957	1800	0.9
4	425+450	425+500	1047	1286	1.2
5	425+500	425+550	900	1667	1.9
6	425+550	425+600	1452	2143	1.5





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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 30/01/2023
report date : 31/01/2023
Location : Station 425+300 to 425+350
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.84	0.16	19.45	0.55	19.43	0.57	0.43
2	0.83	19.56	0.44	19.19	0.81	19.13	0.87	0.71
3	1.25	19.38	0.62	18.95	1.05	18.88	1.12	0.93
4	1.67	19.22	0.78	18.73	1.27	18.71	1.29	1.11
5	2.08	19.04	0.96	18.54	1.46	18.52	1.48	1.30
6	2.50	18.90	1.10	18.40	1.60	18.36	1.64	1.45

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	18.90	1.10	18.40	1.60	18.36	1.64	1.45
2	1.25	19.00	1.00	18.52	1.48	18.48	1.52	1.33
3	0.625	19.18	0.82	18.73	1.27	18.66	1.34	1.14
4	0.01	19.48	0.52	19.23	0.77	19.18	0.82	0.70

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.36	0.64	18.95	1.05	18.97	1.03	0.91
1	0.83	19.26	0.74	18.81	1.19	18.83	1.17	1.03
2	1.25	19.15	0.85	18.68	1.32	18.69	1.31	1.16
3	1.67	19.06	0.94	18.56	1.44	18.58	1.42	1.27
4	2.08	18.92	1.08	18.47	1.53	18.48	1.52	1.38
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#REF!



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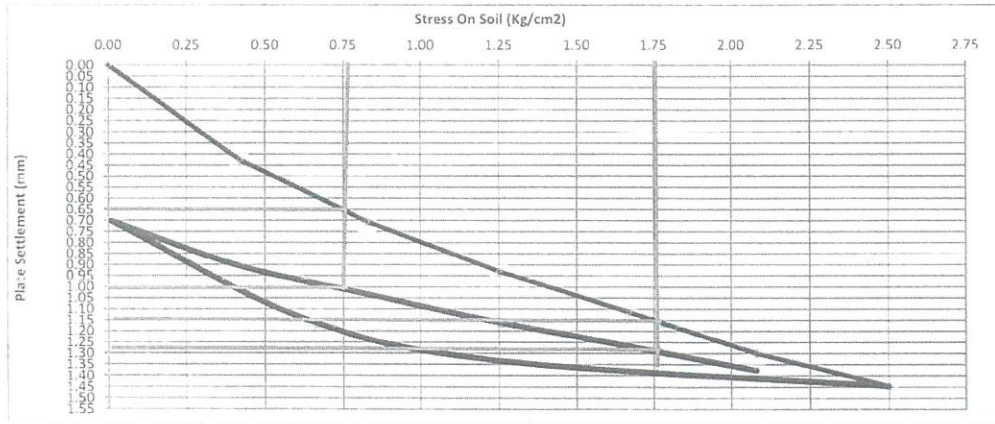
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مكتب معامل الاستشارات الهندسية

Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 30/01/2023
report date : 31/01/2023
Location : Station 425+300 to 425+350
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.43	0.71	0.93	1.11	1.30	1.45

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.45	1.33	1.14	0.70

D (mm) = 600	S1 (mm)= 0.65	S2(mm)= 1.15	ΔS = 0.50
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS	900		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.70	0.91	1.03	1.16	1.27	1.38

$$Ev2/Ev1 = 1.7$$

D (mm) = 600	S1 (mm)= 1.00	S2(mm)= 1.30	ΔS = 0.30
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS	1500		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Ds = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)

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



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مكتب معامل الاستشارات الهندسية

Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 30/01/2023
report date : 31/01/2023
Location : Station 425+350 to 425+400
Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.84	0.16	19.76	0.24	19.70	0.30	0.23
2	0.83	19.72	0.28	19.57	0.43	19.48	0.52	0.41
3	1.25	19.57	0.43	19.35	0.65	19.38	0.62	0.57
4	1.67	19.39	0.61	19.04	0.96	19.09	0.91	0.83
5	2.08	19.21	0.79	18.84	1.16	18.90	1.10	1.02
6	2.50	19.00	1.00	18.68	1.32	18.79	1.21	1.18

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.00	1.00	18.68	1.32	18.79	1.21	1.18
2	1.25	19.09	0.91	18.84	1.16	18.87	1.13	1.07
3	0.625	19.24	0.76	19.05	0.95	19.06	0.94	0.88
4	0.01	19.61	0.39	19.48	0.52	19.45	0.55	0.49

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.44	0.56	19.30	0.70	19.31	0.69	0.65
1	0.83	19.31	0.69	19.13	0.87	19.17	0.83	0.80
2	1.25	19.22	0.78	18.99	1.01	19.03	0.97	0.92
3	1.67	19.13	0.87	18.86	1.14	18.93	1.07	1.03
4	2.08	19.04	0.96	18.73	1.27	18.83	1.17	1.13
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#REF!



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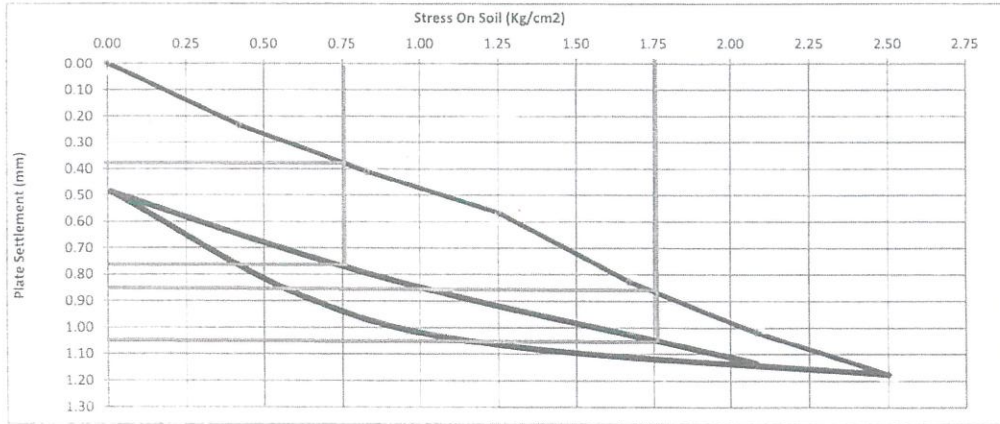
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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 30/01/2023
report date : 31/01/2023
Location : Station 425+350 to 425+400
Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.23	0.41	0.57	0.83	1.02	1.18

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.18	1.07	0.88	0.49

D (mm) = 600	S1 (mm)= 0.38	S2(mm)= 0.85	ΔS = 0.47
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS	957		

$$Ev2/Ev1 = 1.6$$

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.49	0.65	0.80	0.92	1.03	1.13

D (mm) = 600	S1 (mm)= 0.76	S2(mm)= 1.05	ΔS = 0.29
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS	1552		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δs = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)

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



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Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 30/01/2023
report date : 31/01/2023
Location : Station 425+400 to 425+450
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils

DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.66	0.34	19.62	0.38	19.61	0.39	0.37
2	0.83	19.58	0.42	19.48	0.52	19.48	0.52	0.49
3	1.25	19.50	0.50	19.34	0.66	19.34	0.66	0.61
4	1.67	19.45	0.55	19.25	0.75	19.24	0.76	0.69
5	2.08	19.38	0.62	19.14	0.86	19.17	0.83	0.77
6	2.50	19.30	0.70	19.03	0.97	19.08	0.92	0.86

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.30	0.70	19.03	0.97	19.08	0.92	0.86
2	1.25	19.38	0.62	19.18	0.82	19.19	0.81	0.75
3	0.625	19.43	0.57	19.33	0.67	19.36	0.64	0.63
4	0.01	19.70	0.30	19.69	0.31	19.81	0.19	0.27

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.56	0.44	19.50	0.50	19.59	0.41	0.45
1	0.83	19.49	0.51	19.39	0.61	19.47	0.53	0.55
2	1.25	19.43	0.57	19.28	0.72	19.32	0.68	0.66
3	1.67	19.35	0.65	19.17	0.83	19.19	0.81	0.76
4	2.08	19.28	0.72	19.02	0.98	19.08	0.92	0.87
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#REF!



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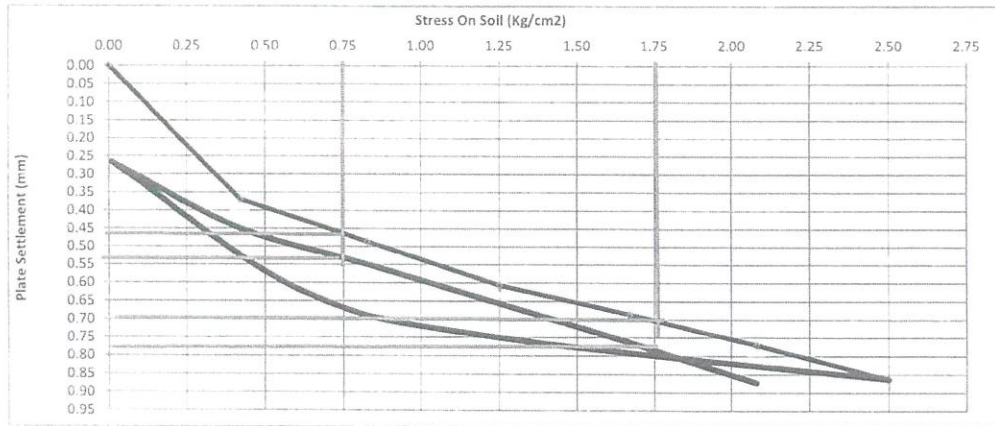


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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 30/01/2023
report date : 31/01/2023
Location : Station 425+400 to 425+450
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.37	0.49	0.61	0.69	0.77	0.86

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.86	0.75	0.63	0.27

D (mm) = 600	S1 (mm)= 0.47	S2(mm)= 0.70	ΔS = 0.23
Ev1 (kg/cm2) = $(0.75 \cdot D \cdot \Delta \sigma) / \Delta S$	1957		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.27	0.45	0.55	0.66	0.76	0.87

$$Ev2/Ev1 = 0.9$$

D (mm) = 600	S1 (mm)= 0.53	S2(mm)= 0.78	ΔS = 0.25
Ev2 (kg/cm2) = $(0.75 \cdot D \cdot \Delta \sigma) / \Delta S$	1800		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Ds = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)

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



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Test Date : 30/01/2023
report date : 31/01/2023
Location : Station 425+450 to 425+500
Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.67	0.33	19.93	0.07	19.34	0.66	0.35
2	0.83	19.54	0.46	19.81	0.19	19.25	0.75	0.47
3	1.25	19.36	0.64	19.65	0.35	18.94	1.06	0.68
4	1.67	19.19	0.81	19.56	0.44	18.74	1.26	0.84
5	2.08	18.98	1.02	19.42	0.58	18.45	1.55	1.05
6	2.50	18.80	1.20	19.31	0.69	18.25	1.75	1.21

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	18.80	1.20	19.31	0.69	18.25	1.75	1.21
2	1.25	18.97	1.03	19.40	0.60	18.41	1.59	1.07
3	0.625	19.20	0.80	19.51	0.49	18.68	1.32	0.87
4	0.01	19.69	0.31	19.77	0.23	19.08	0.92	0.49

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.45	0.55	19.44	0.56	18.94	1.06	0.72
1	0.83	19.25	0.75	19.11	0.89	18.74	1.26	0.97
2	1.25	19.08	0.92	18.85	1.15	18.54	1.46	1.18
3	1.67	19.00	1.00	18.67	1.33	18.45	1.55	1.29
4	2.08	18.90	1.10	18.57	1.43	18.36	1.64	1.39
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#REF!



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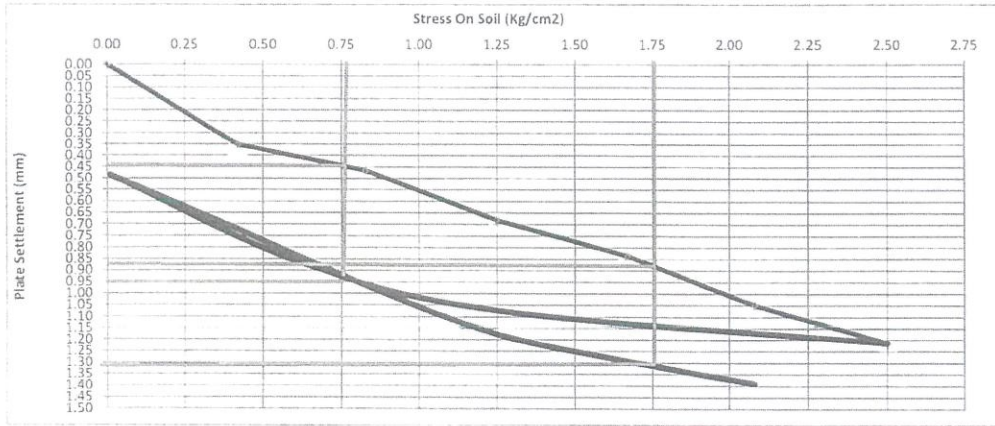
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Company Name : Land marks Co.
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 30/01/2023
report date : 31/01/2023
Location : Station 425+450 to 425+500
Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.35	0.47	0.68	0.84	1.05	1.21

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.21	1.07	0.87	0.49

D (mm) = 600	S1 (mm)= 0.45	S2(mm)= 0.88	ΔS = 0.43
Ev1 (kg/cm2) = $(0.75 \cdot D \cdot \Delta\sigma) / \Delta S$	1047		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.49	0.72	0.97	1.18	1.29	1.39

$$Ev2/Ev1 = 1.2$$

D (mm) = 600	S1 (mm)= 0.95	S2(mm)= 1.30	ΔS = 0.35
Ev2 (kg/cm2) = $(0.75 \cdot D \cdot \Delta\sigma) / \Delta S$	1286		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Ds = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)

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



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 Test Date : 30/01/2023
 report date : 31/01/2023
 Location : Station 425+500 to 425+550
 Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.54	0.46	19.69	0.31	19.51	0.49	0.42
2	0.83	19.17	0.83	19.58	0.42	19.35	0.65	0.63
3	1.25	18.95	1.05	19.36	0.64	19.21	0.79	0.83
4	1.67	18.54	1.46	19.20	0.80	19.06	0.94	1.07
5	2.08	18.26	1.74	19.16	0.84	18.88	1.12	1.23
6	2.50	18.10	1.90	18.88	1.12	18.73	1.27	1.43

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	18.10	1.90	18.88	1.12	18.73	1.27	1.43
2	1.25	18.12	1.88	18.93	1.07	18.76	1.24	1.40
3	0.625	18.26	1.74	19.00	1.00	18.84	1.16	1.30
4	0.01	18.61	1.39	19.27	0.73	19.01	0.99	1.04

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	18.58	1.42	19.22	0.78	18.92	1.08	1.09
1	0.83	18.46	1.54	19.12	0.88	18.79	1.21	1.21
2	1.25	18.33	1.67	19.05	0.95	18.63	1.37	1.33
3	1.67	18.19	1.81	18.96	1.04	18.51	1.49	1.45
4	2.08	18.09	1.91	18.83	1.17	18.38	1.62	1.57
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#REF!



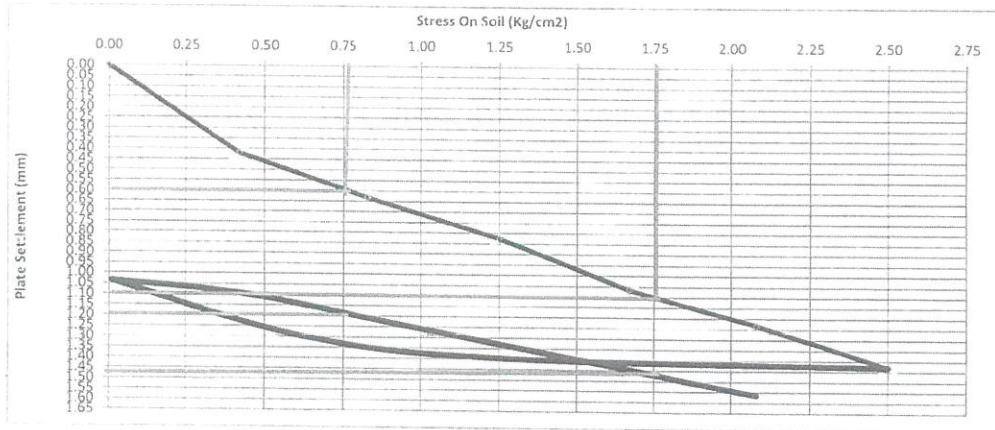
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 Test Date : 30/01/2023
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 Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.42	0.63	0.83	1.07	1.23	1.43

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.43	1.40	1.30	1.04

D (mm) = 600	S1 (mm)= 0.60	S2(mm)= 1.10	ΔS = 0.50
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS	900		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	1.04	1.09	1.21	1.33	1.45	1.57

Ev2/Ev1 = 1.9

D (mm) = 600	S1 (mm)= 1.20	S2(mm)= 1.47	ΔS = 0.27
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS	1667		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Ds = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)

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



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report date : 31/01/2023
Location : Station 425+550 to 425+600
Test No. : 06

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.75	0.25	19.77	0.23	19.72	0.28	0.25
2	0.83	19.56	0.44	19.64	0.36	19.65	0.35	0.38
3	1.25	19.42	0.58	19.48	0.52	19.58	0.42	0.51
4	1.67	19.24	0.76	19.31	0.69	19.52	0.48	0.64
5	2.08	19.12	0.88	19.19	0.81	19.42	0.58	0.76
6	2.50	18.99	1.01	19.02	0.98	19.34	0.66	0.88

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	18.99	1.01	19.02	0.98	19.34	0.66	0.88
2	1.25	19.10	0.90	19.18	0.82	19.42	0.58	0.77
3	0.825	19.23	0.77	19.31	0.69	19.50	0.50	0.65
4	0.01	19.66	0.34	19.70	0.30	19.85	0.15	0.26

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.46	0.54	19.51	0.49	19.64	0.36	0.46
1	0.83	19.33	0.67	19.38	0.62	19.51	0.49	0.59
2	1.25	19.22	0.78	19.26	0.74	19.48	0.52	0.68
3	1.67	19.15	0.85	19.19	0.81	19.42	0.58	0.75
4	2.08	19.04	0.96	19.02	0.98	19.36	0.64	0.86
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#REF!



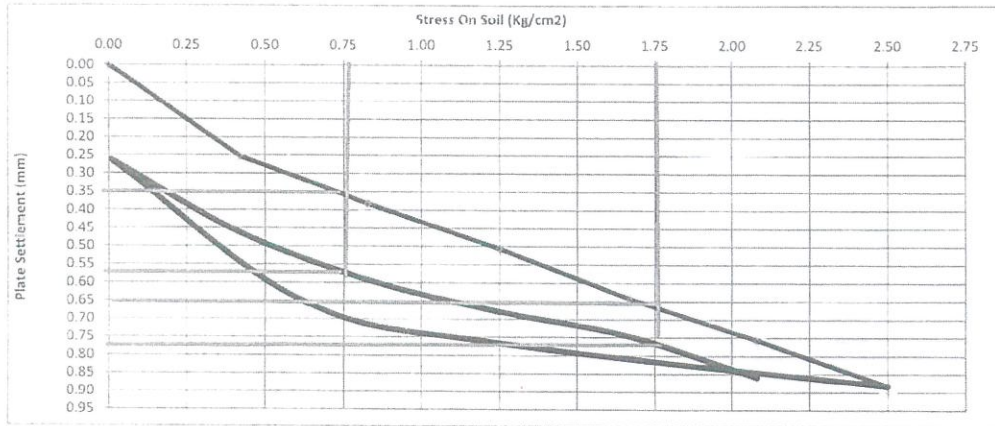
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Test Date : 30/01/2023
report date : 31/01/2023
Location : Station 425+550 to 425+600
Test No. : 06

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.25	0.38	0.51	0.64	0.76	0.88

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.88	0.77	0.65	0.26

D (mm) = 600	S1 (mm) = 0.35	S2(mm) = 0.66	ΔS = 0.31
Ev1 (kg/cm2) = $(0.75 \cdot D \cdot \Delta \sigma) / \Delta S$	1452		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.26	0.46	0.59	0.68	0.75	0.86

Ev2/Ev1 = 1.5

D (mm) = 600	S1 (mm) = 0.57	S2(mm) = 0.78	ΔS = 0.21
Ev2 (kg/cm2) = $(0.75 \cdot D \cdot \Delta \sigma) / \Delta S$	2143		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

ΔS = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)

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



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