

[illegible][illegible][illegible]

الخصومات: القيمة وقِيم القِيم والمفصل المالية الحسابات

الذات الخالصة من غير علة ولا سبب : لا يرى

البحرية : العمل والتدريب والتعليم

ପ୍ରଶ୍ନ 3 (10 ମାର୍କସ୍ - 5 ଟଙ୍କା)

009+600 406+600 400+600 009+600

(2) - المظنين - المظن - المظنون - المظنون (المظنون)

السري الكفر بالسر الفطري المبرور الصانع له المبرور والاعمال النيرة الجسر اعمال : ح مشرور



خبر

مهندس مشروع التهوية
م / ~~أحمد محمد~~

مهندس الاستشاري
مكتب د سعد الجويهي
م / ~~أحمد محمد~~

مهندس الاستشاري
مكتب XYZ
م / ~~أحمد محمد~~

مهندس الشركة
م / ~~أحمد محمد~~

الاجمالي الكلي (م ³)	14735.467
اجمالي الكميات خلال فترة المستخلص الحالية (م ³)	835.467
الكمية	13900
بيانات الاعمال	كميات لم تدرج في المستخلص السابق
مستخلص جاري 3	835.467

مقدار العمل السابق : 3م 14735.467

شركة المنح للشحن والتفريغ والاعمال البحرية .

رقم البند و بيانه : (1 - 4) بالمر المكعب اعمال توريد وتشغيل طبقة اساس صالحة للردم ومطابقة للمواصفات والمشتق.

مستخرج القطر الكهربائي السريع (العين السخنة - العاصمه الاثريه - العظمى - مطروح)
قطاع غرب النيل لتنفيذ المساقه من الكم 400+600 الي الكم 406+600 بطول 6 كيلو متر اتجاه استكمال الاسكندريه .

قائمة الكميات الواردة بالمستخلص جاري 4



مدير مشروع الهيئة
م / ~~إبراهيم محمد~~ / م

مهندس الاستشاري
مكتب د سعد الجويدي
م / مصطفى محمود نجم

مهندس الاستشاري
مكتب XYZ
م / محمد شهاب خليل

مهندس الشركة
م / هشام محمد جابر

الاجمالي الكلي (م ³)	14735.467
اجمالي الكميات خلال فترة المستخلص الحالية (م ³)	835.467
الكمية	13900
بيانات الاعمال	مستخلص جاري 3
كميات لم تدفع في كميات لم تدفع في السابق المستخلص السابق	835.467

مقدار العمل السابق : 3م 14735.467

شركة البتج للشحن والتفريغ والاعمال البحرية .

رقم البند و بيانه : (1 - 4) علوة مسافة النقل 120 كم

مشروع القطار الكهربائي السريع (العين السخنة - العاصمة الادارية - العلمين - مطروح) مسافة 406+600 كم بطول 6 كيلو متر اتجاه استكمال الاسكندرية .

قائمة الكميات الواردة بالمستخلص جاري 4



مدير مشروع الهيئة
م / إبراهيم محمد العناني

مهندس الاستشاري
مكتب د سعد الخويشي
م / مصطفى محمود نجم

مهندس الاستشاري
مكتب XYZ
م / محمد طه جابر جابر

مهندس الشركة
م / هشام محمد حامد

الاجمالي الكلي (م ³)	14735.467
اجمالي الكميات خلال فترة المستخلص الحالية (م ³)	835.467
الكمية	13900
بيانات الاعمال	كميات لم تدفع في مستخلص خارجي 3
	835.467
	الكميات المستخلص السابق

مقدار العمل السابق : 3م 14735.467

تقديم : شركة الفتح للشحن والتفريغ والاعمال البحرية .

رقم البند و بيانه : (1 - 4) عبارة تحصيل رسوم الكمية والموازين طبقاً للاتحاد الشركة الوطنية

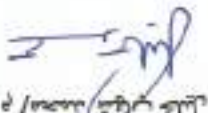
مشروع القطر الكهربائي السريع (العين السخنة - العاصمة الادارية - المعادي - مطروح)
قطاع غرب النيل لتتبع المسافة من الكم 400+600 الي الكم 406+600 كم بطول 6 كيلو متر اتجاه استكمال الاسفلتية .

قائمة الكميات الواردة بالمستخلص جتاي 4




 م / إبراهيم الحاجري
 مدير مشروع الهيئة


 م / هادي الجوهري
 مهندس الاستشاري
 مكتب د سعد الجوهري


 م / علي السيد
 مهندس الاستشاري
 مكتب XYZ


 م / هشام السيد
 مهندس الشركة

الاجمالي الكلي (م ³)		14735.467
اجمالي الكميات خلال فترة المستخلص الحالية (م ³)		835.467
الكميات لم تدرج في المستخلص السابق	835.467	
مستخلص خارجي 3	13900	
بيان الاعمال	الكمية	

مقدار العمل السابق : 3م 14735.467

شركة الشح والنفط والبحرية .

رقم البند و بيانه : (4 - 1) قيمة المادة المستخرجة .

مشروع القطاع الكهربائي السريع (العين السخنة - العاصمة الادارية - العلمين - مطروح)
 قطاع غرب النيل لتفيد المسافة من الكم 400+600 الي الكم 406+600 بطول 6 كيلو متر باتجاه استكمال الاسلاك البحرية .

4 جذاذ الكميات الواردة بالمستخلص جذاذ 4

مدير مشروع الهيئة
م / إبراهيم عبد الله الحناوي

مهندس الاستشاري
مكتب ن سعد الجروشي
م / مصطفى محمود نجم

مهندس الاستشاري
مكتب XYZ
م / محمد شهاب خليل

مهندس الشركة
م / هشام محمد حامد

الاجمالي الكلي (م ³)	9897.510
(م ³) اجمالي الكميات خلال فترة المستخلص الحالية	497.510
الكمية	497.510
الكميات لم تدرج في مستخلص جاري 3	9400
الكميات لم تدرج في مستخلص السابق	

مقدار العمل السابق : 3م 9897.510

شركة الفتح للشحن والتفريغ والاعمال البحرية .

رقم البند و تاريخه : (2 - 4) بالميزان المكعب اعمال توريد ونشغل طبقة اساس ومطابقة للمواصفات والتفصيل .

مشروع القطار الكهربائي السريع (العين السخنة - العاصمة الادارية - العلمين - مطروح) .
قطاع غرب النيل لتفصيل المسافة من الكم 400+600 الى الكم 406+600 بطول 6 كم باتجاه استكمال الاسفلتية .

قائمة الكميات الواردة بالمستخلص جاري 4



مدير مشروع الهيئة العامة للغذاء والدواء
م / إبراهيم عبد الله الحناوي

مهندس الاستشاري
مكتب د سعد الجويهي
م / مصطفى محمود نجم

مهندس الاستشاري
مكتب XYZ
م / محمد شهاب خليل

مهندس الشركة
م / هشام محمد حامد

الاجمالي الكلي (م ³)	9897.510
اجمالي الكميات خلال فترة المستخلص الحالية (م ³)	497.510
الكمية	9400
بيان الاعمال	كميات لم تدرج في مستخلص خارجي 3
الكمية	497.510
كميات لم تدرج في مستخلص السابق	

مقدار العمل السابق : 3م 9897.510

شركة الفتاح للشحن والتفريغ والاعمال البحرية .

رقم البند و بيانه : (2 - 4) علوة مسافة النقل 120 كم

مشروع القطاع الكهربائي السريع (العين السخنة - العاصمة الادارية - الدار البيضاء - العفلى - مطروح) .
قطاع غرب النيل لنقل المسافة من الكم 400+600 الى الكم 406+600 بطول 6 كيلو متر اتجاه استكمال الاسكندرية .

قائمة الكميات الواردة بالمستخلص جتاي 4



مدير مشروع الهيئة العامة للغذاء والدواء
م / إبراهيم عيسى

مهندس الاستشاري
مكتب د سعد الجويهي
م / مصطفى محمود نجم

مهندس الاستشاري
مكتب XYZ
م / محمد شهاب جليل

مهندس الشركة
م / هشام محمد حامد

الاجمالي الكلي (م ³)	9897.510
اجمالي الكميات خلال فترة المستخلص الحالية (م ³)	497.510
الكمية	9400
بيانات الاعمال	كميات لم تدبر في مستخلص سابق
	3 مستخلص جاري
	497.510

مقدار العمل السابق : 3م 9897.510

تقديم : شركة الفتح للشحن والتفريغ والاعمال البحرية .

رقم البند و بيانه : (2 - 4) عبارة تحميل رسوم الكارثة والموازين طبقا لائحة الشركة الوطنية

مشروع القطار الكهربائي السريع (العين السخنة - العاصمة الانبارية - العلمين - مطروح) .
قطاع غرب النيل لتفريق المسافة من الكم 400+600 الي الكم 406+600 بطول 6 كيلو متر اتجاه الاسكندرية .

قائمة الكميات الواردة بالمستخلص جاري 4



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ཕྱི་རྒྱལ་གྱི་སྐད་ཀྱི་འབྲེལ་ཆུང་།

* אלה המצוות אשר צוה ה' את משה ואת בני ישראל לומר אל כל בני ישראל ביום הזה

:- الحفظ الحسن :-

الاعمال الخيرية والبرية والصدقات والمطاعم والمستشفيات والمدارس والجامعات

١٠-: ﴿الَّذِينَ هُمْ عَنْ صَلَاتِهِمْ سَاهُونَ﴾ ﴿الَّذِينَ هُمْ عَنْ صَلَاتِهِمْ سَاهُونَ﴾ ﴿الَّذِينَ هُمْ عَنْ صَلَاتِهِمْ سَاهُونَ﴾

[illegible]

(جواباً) القرآن الكريم والسنن النبوية والآثار الشرعية / محمد صالح المنجد

(مفتي) (امام وای زید) استشاری المساجد والمبشرات
 (المفتي) (امام وای زید) استشاری المساجد والمبشرات

(جواباً) : اللہ تعالیٰ (مفتی) کو سزا : سزا

(جواب)

(2) المهندسين / المهندسين / المهندسين

(مستند) مکتبہ اسلامیہ جامعہ اسلامیہ دارالعلوم دیوبند D) محمد حنیف قادری / دارالعلوم

:- من لا يحضره الفقيه، الجزء ١، ص ١٠٠.

• *Journal of Management Education*, 46(1), 10-24. doi:10.1177/0095647211417111

المراجعة المالية / السيد محمد السيد السليمان / 2024/12/22

Figure 1. Schematic representation of the experimental design. The figure shows a sequence of events: a participant is shown a stimulus (a word or a picture), then they are asked to respond (by pressing a key or a button), and finally they receive feedback (a green or a red light). The sequence is repeated for each trial.

$\frac{d}{dt} \left(\frac{1}{2} m v^2 + U(r) \right) = -\nabla U(r) \cdot \mathbf{v}$

الخروج من الجحيم والنجاة من النار والنجاة من النار والنجاة من النار : ٥٥

الطريق / (الطريق) 406+600 إلى 400+600 الكيلومتر من المسافة بين

[illegible]

"فاني محمد محمود طه"

د. محمد محمود طه
الاستاذية - مدرس مصري

محافظة غرب الدنا

رئيس اللجنة الإدارية

بمقام



مدير التعليم /

(1)

(2)

(3)

(4)

(5)

(6)

التي قمت :-

وعلي ذلك جري التوقيع.

المحضر 2024/12/22 هو تاريخ التوقيع ويعد هذا العمل.

وعليه جري اللجنة قبول العمل حيث لا يوجد ما يعيق الاستلام النهائي للعمل النهائي.

بأي عيوب تظهر نظراً لصلاحها فوراً.

(4) علي استشاري القطاع (سجاء) (د سعاد الجويني) ((متابعة سلوكي العمل خلال فترة العمل النهائي والإدارة النهائية.

(3) قام مندوب استشاري القطاع بالتأكد علي المناوب المنطقة طبقاً للمصمم المعتمد.

الاستلام وموافقة اللجنة بالاعمال والتجارب التي أجريت علي العمل النهائي.

(2) علي السادة استشاري القطاع (سجاء) (د سعاد الجويني) ((مراجعة الحصر والتأكد من الكميات المقدمة طبقاً لطلبات.

(1) علي مندوب عمل المنطقة تحديد مدى الحود بالعمليات من الموصلة العامة للمشروع وتحديد قيمة الخصم.

توصيات اللجنة :-


 (GARR)
 Government of Karnataka
 Bangalore

[illegible][illegible]

()

[illegible]

٢	رمل	٢م		محجر رقم / تصريح / بدون
٢	اترية	٢م		محجر المصرية
١	سن	٢م	٨٨٦,٩٧٧	كسارة
م	نوع المادة المحجزة	الوحدة	الكمية	الجهة الحصول على الخامة

النفوس من سائركم بالعلم والنبوة والولاية ما يلزم مع النفوس

الشيخ / الفاضل / الشيخ

الخاص بالعلماء الجاهل طريق الحق في بيان الفرق بين

الماء واليابس والحيوان والنبات والسمك والطيور والبرية والبحرية

$$\frac{1}{\sqrt{1-x^2}} = \frac{1}{\sqrt{1-\frac{1}{4}}} = \frac{1}{\sqrt{\frac{3}{4}}} = \frac{2}{\sqrt{3}}$$

॥ ॐ नमो भगवते वासुदेवाय ॥

2023/2022/1595
"أنا" محمد محمد
عبد المطلب



مدير عام المشروعات / محمد حسني قاضي
مدير مشروع الهيئة / عبد المطلب
مدير مشروع الاستشارات / محمد حسني قاضي
مدير مشروع الشراكة / محمد حسني قاضي

يترجم العالم بأنه قد تم توريد المواد المخرجة من الكميات المتأصلة والتأكد من الكميات المتأصلة والتأكد من الكميات المتأصلة.

- كميات السحب المستخرجة في المشروع: 24632.977 م3
- إظهار استشارات: مكتب د/ سعد الجبوري
- مقاول شركة: الشركة للشحن والتفريغ والاعمال البحرية
- في المسافة من الكم 400 + 600 إلى الكم 406 + 600 بطول 56 كم
- العقد رقم: 2023/2022/1595 اتجاها استكمال الاعمال البحرية

(المعتمد السريخ - مخطط)

بالإشارة لمشروع أعمال التأسيس الجسر الاعمال الصناعية لمشروع القطار

إفادة

قطاع المشروعات



(GARB)
للطرق والبنية التحتية

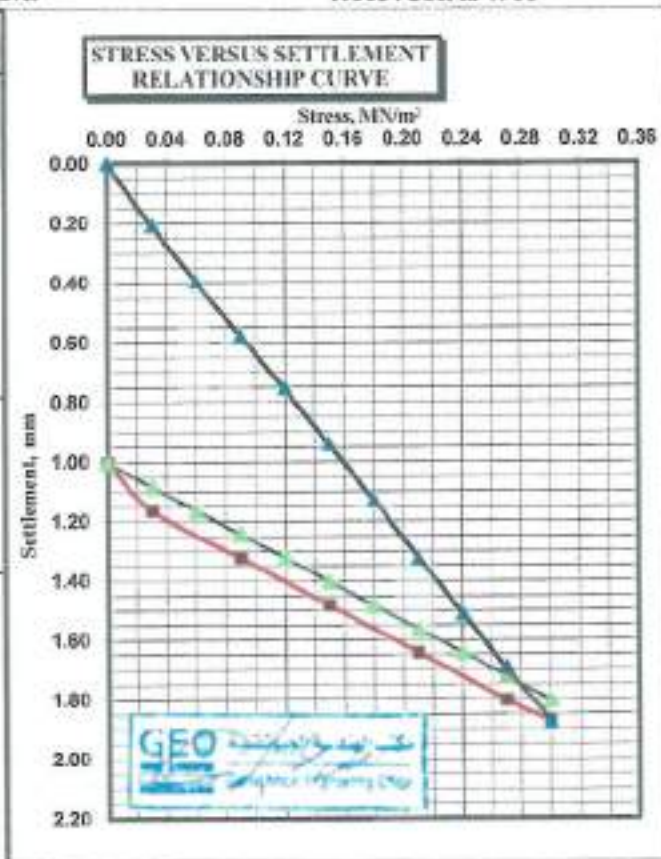
Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamin (402+400)
PLATE LOAD NO.: PLT-377
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 08:00 AM
TIME FINISH: 10:00 AM
LEVEL: -0.5
DATE: 4-Sep-22
LAB. REF.: 06018

**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.21
0.06	0.39
0.09	0.58
0.12	0.75
0.15	0.94
0.18	1.13
0.21	1.32
0.24	1.51
0.27	1.69
0.30	1.87
0.27	1.80
0.21	1.64
0.15	1.48
0.09	1.32
0.03	1.16
0.00	1.00
0.03	1.08
0.06	1.16
0.09	1.24
0.12	1.32
0.15	1.40
0.18	1.48
0.21	1.56
0.24	1.64
0.27	1.72
0.30	1.80



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.109	2.667
a_2 [mm/(MN ² /m ⁴)]	0.151	0
E_v [MN/m ²]	91.4	210.9
E_{v2}/E_{v1}	2.31	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

$k_s = \Delta\sigma / \Delta s$ 160.0 MN/m³

FA-P-062

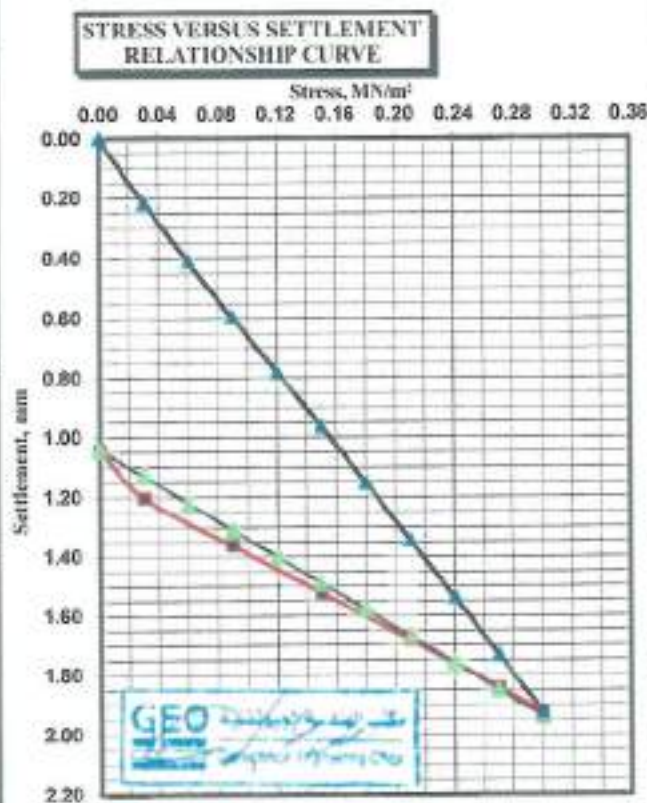
Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamia (402+425)
PLATE LOAD NO.: PLT-378
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 10:00 AM
TIME FINISH: 12:00 PM
LEVEL: +0.5
DATE: 4-Sep-22
LAB. REF.: 06018

**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.22
0.06	0.41
0.09	0.59
0.12	0.78
0.15	0.96
0.18	1.15
0.21	1.34
0.24	1.54
0.27	1.73
0.30	1.92
0.27	1.84
0.21	1.68
0.15	1.52
0.09	1.36
0.03	1.20
0.00	1.04
0.03	1.13
0.06	1.22
0.09	1.31
0.12	1.40
0.15	1.49
0.18	1.58
0.21	1.67
0.24	1.76
0.27	1.85
0.30	1.94



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.024	3
a_2 [mm/(MN ² /m ⁴)]	0.838	0
E_v [MN/m ²]	89.6	187.5
E_{v2}/E_{v1}	2.09	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

$$K_s = \Delta\sigma/\Delta s \quad 155.2 \quad \text{MN/m}^3$$

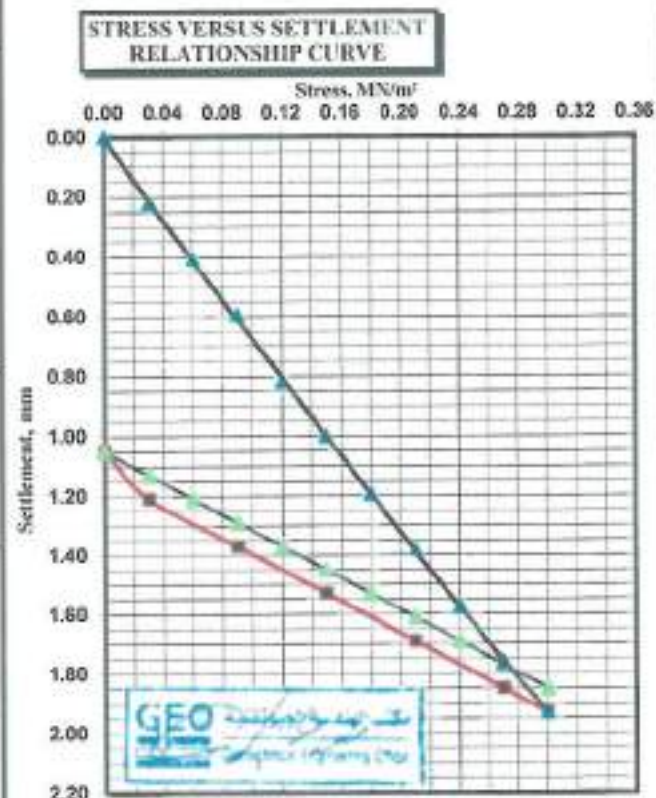
Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamin (400+450)
PLATE LOAD NO.: PLT-379
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 12:00 PM
TIME FINISH: 02:00 PM
LEVEL: +0.5
DATE: 4-Sep-22
LAB. REF.: 06018

**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.22
0.06	0.41
0.09	0.59
0.12	0.82
0.15	1.00
0.18	1.19
0.21	1.38
0.24	1.58
0.27	1.76
0.30	1.93
0.27	1.85
0.21	1.69
0.15	1.53
0.09	1.37
0.03	1.21
0.00	1.05
0.03	1.13
0.06	1.21
0.09	1.29
0.12	1.37
0.15	1.45
0.18	1.53
0.21	1.61
0.24	1.69
0.27	1.77
0.30	1.85



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.675	2.667
a_2 [mm/(MN ² /m ⁶)]	-0.861	0
E_v [MN/m ²]	87.7	210.9
E_{v2}/E_{v1}	2.41	

Apparatus

1. Loading plates consists of 750 mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fix the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Proving ring for plate load 300 kN

MODULUS OF SUB-GRADE REACTION, Ks

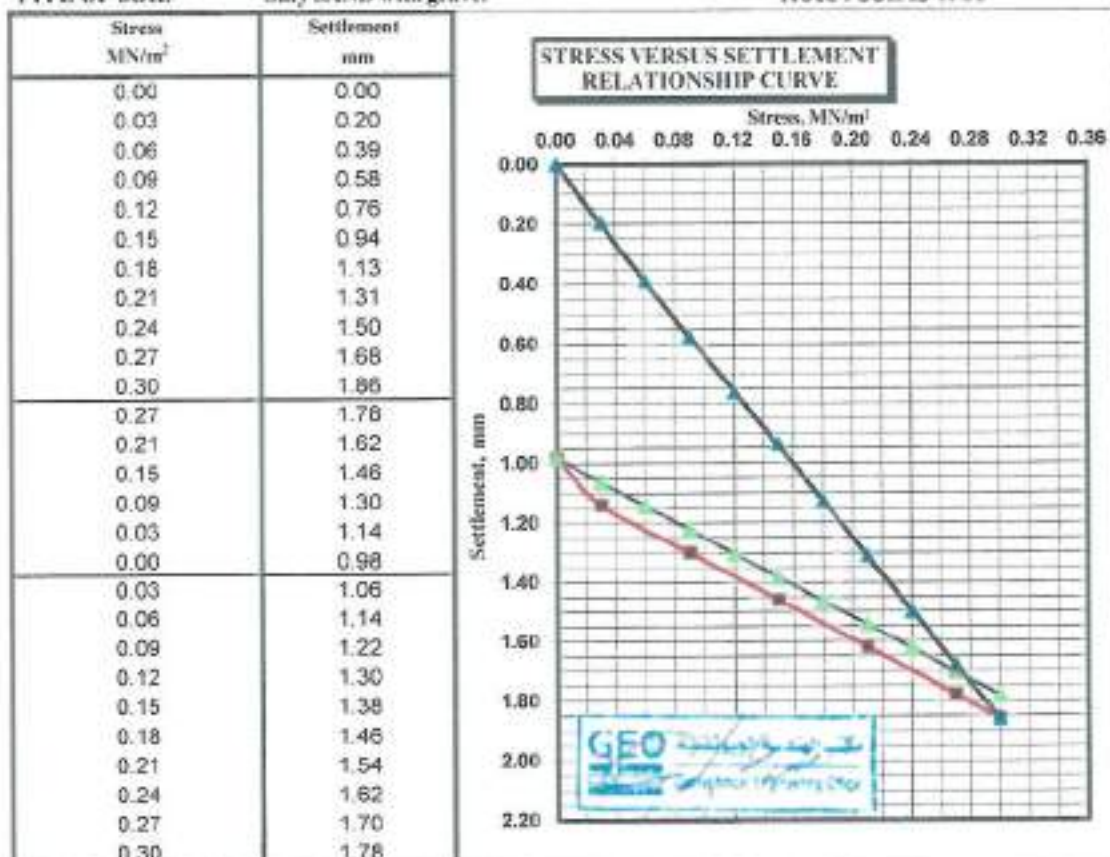
$k_s = \Delta\sigma / \Delta s$ 155.2 MN/m³

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamia (402+475)
PLATE LOAD NO.: PLT-380
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 02:00 PM
TIME FINISH: 04:00 PM
LEVEL: +0.5
DATE: 4-Sep-22
LAB. REF.: 06018

**** Note : Soil is Wet**



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.219	2.667
a_2 [mm/(MN ² /m ⁴)]	-0.238	0
E_v [MN/m ²]	91.5	210.9
E_{v2}/E_{v1}	2.31	

Apparatus

1. Loading plates consists of 750 mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measure the settlement
4. Steel crossgirders with magnetic supports to fix the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Proving ring for plate load (200 kN)

MODULUS OF SUB-GRADE REACTION, Ks

$$K_s = \Delta\sigma/\Delta s \quad 161.6 \quad \text{MN/m}^3$$

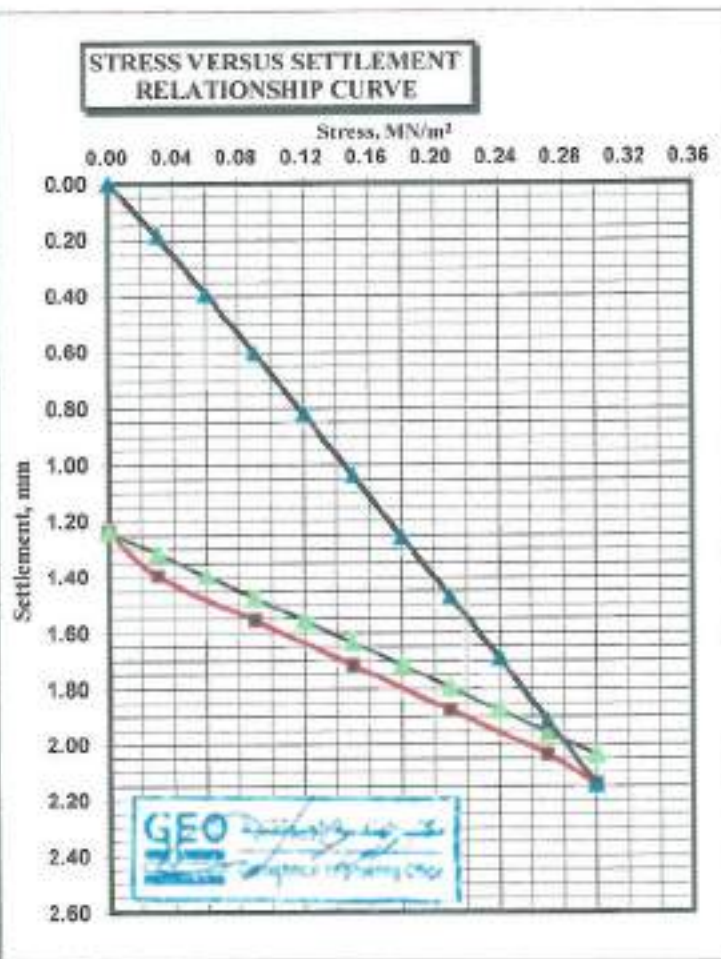
Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamin (402+500)
PLATE LOAD NO.: PLT-381
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 08:00 AM
TIME FINISH: 10:00 AM
LEVEL: + 0.5
DATE: 4-Sep-22
LAB. REF.: 06018

**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.18
0.06	0.39
0.09	0.60
0.12	0.82
0.15	1.04
0.18	1.26
0.21	1.47
0.24	1.69
0.27	1.91
0.30	2.14
0.27	2.04
0.21	1.88
0.15	1.72
0.09	1.56
0.03	1.40
0.00	1.24
0.03	1.32
0.06	1.40
0.09	1.48
0.12	1.56
0.15	1.64
0.18	1.72
0.21	1.80
0.24	1.88
0.27	1.96
0.30	2.04



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.981	2.667
a_2 [mm/(MN ² /m ³)]	0.813	0
E_v [MN/m ²]	77.9	210.9
E_{v2}/E_{v1}	2.71	

Apparatus:

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

MODULUS OF SUB-GRADE REACTION, K_s

$k_s = \Delta\sigma/\Delta s$ 139.2 MN/m³

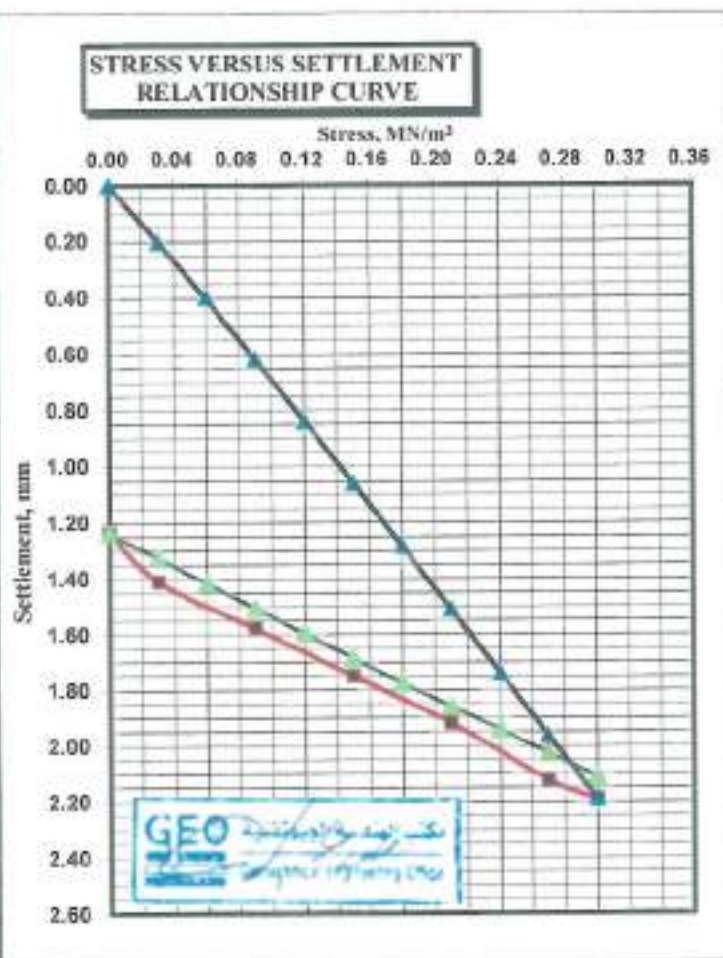
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (402+525)
PLATE LOAD NO. PLT-382
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 10:00 AM
TIME FINISH: 12:00 PM
LEVEL + 0.5
DATE: 4-Sep-22
LAB. REF: 06018

**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.20
0.06	0.40
0.09	0.62
0.12	0.84
0.15	1.06
0.18	1.28
0.21	1.51
0.24	1.74
0.27	1.96
0.30	2.19
0.27	2.12
0.21	1.92
0.15	1.75
0.09	1.58
0.03	1.41
0.00	1.24
0.03	1.33
0.06	1.42
0.09	1.51
0.12	1.60
0.15	1.69
0.18	1.78
0.21	1.86
0.24	1.94
0.27	2.03
0.30	2.11



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.982	3.088
a_2 [mm/(MN ² /m ⁴)]	1.246	-0.613
E_v [MN/m ²]	76.5	193.7
E_{v2}/E_{v1}	2.53	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

$k_s = \Delta\sigma/\Delta s$ 136.8 MN/m³

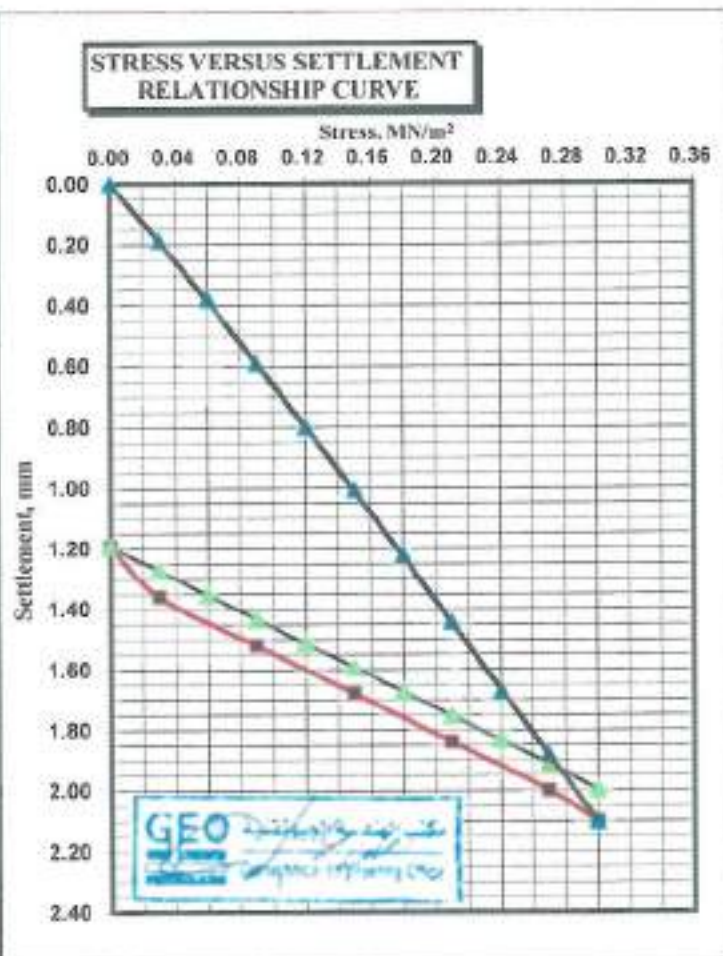
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamia (402+550)
PLATE LOAD NO. PLT-383
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 12:00 PM
TIME FINISH: 02:00 PM
LEVEL +0.5
DATE: 4-Sep-22
LAB. REF. 06018

**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.19
0.06	0.38
0.09	0.59
0.12	0.80
0.15	1.01
0.18	1.22
0.21	1.44
0.24	1.67
0.27	1.88
0.30	2.10
0.27	2.00
0.21	1.84
0.15	1.68
0.09	1.52
0.03	1.36
0.00	1.19
0.03	1.27
0.06	1.35
0.09	1.43
0.12	1.51
0.15	1.59
0.18	1.67
0.21	1.75
0.24	1.83
0.27	1.91
0.30	2.00



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.607	2.629
a_2 [mm/(MN ² /m ⁴)]	1.504	0.179
E_v [MN/m ²]	79.7	209.7
E_{v2}/E_{v1}	2.63	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

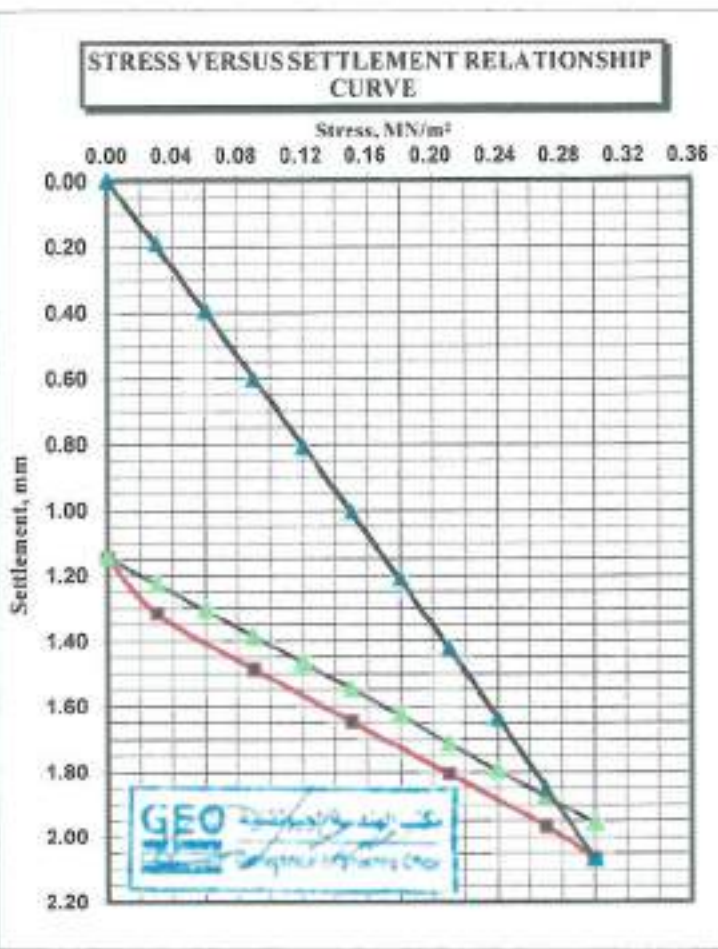
$k_s = \Delta\sigma/\Delta s$ 142.4 MN/m³

Plate Load Tests of Soils
DIN 18134

CLIENT شركة المشح
PROJECT Electric Express Train
LOCATION Al-alamin (402+575)
PLATE LOAD NO. PLT-384
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 02:00 PM
TIME FINISH: 04:00 PM
LEVEL: +0.5
DATE: 4-Sep-22
LAB. REF. 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.19
0.06	0.39
0.09	0.60
0.12	0.81
0.15	1.00
0.18	1.21
0.21	1.42
0.24	1.64
0.27	1.85
0.30	2.07
0.27	1.97
0.21	1.81
0.15	1.65
0.09	1.49
0.03	1.32
0.00	1.15
0.03	1.23
0.06	1.31
0.09	1.39
0.12	1.47
0.15	1.55
0.18	1.63
0.21	1.71
0.24	1.80
0.27	1.88
0.30	1.96



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.584	2.629
a_2 [mm/(MN ² /m ⁴)]	1.082	0.25
E_v [MN/m ²]	81.4	208.0
E_{v2}/E_{v1}	2.55	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

$$k_s = \Delta\sigma / \Delta s \quad 145.6 \quad \text{MN/m}^3$$

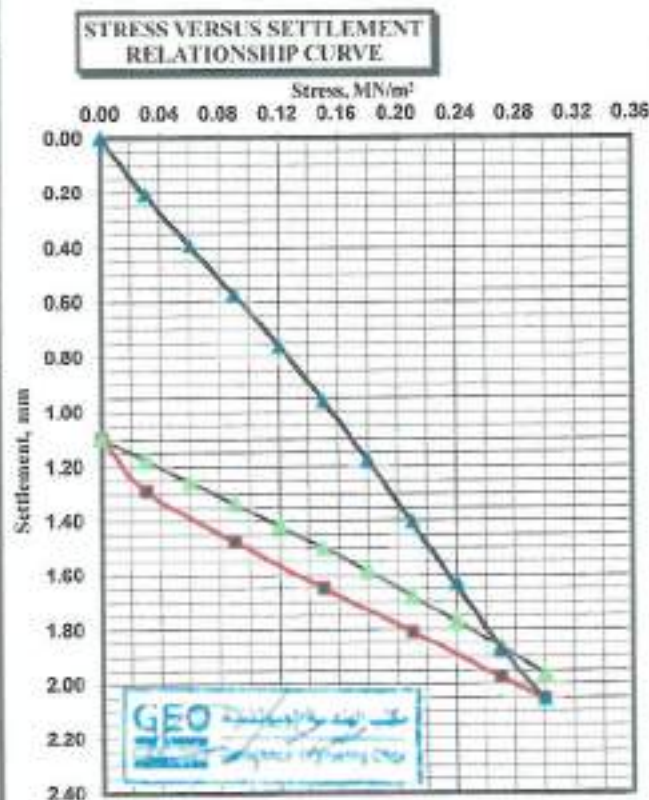
Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Alulamin (402+600)
PLATE LOAD NO.: PLT-352
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 08:00 AM
TIME FINISH: 10:00 AM
LEVEL: + 0.5
DATE: 31-Aug-22
LAB. REF.: 06018

**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.21
0.06	0.39
0.09	0.57
0.12	0.76
0.15	0.96
0.18	1.18
0.21	1.40
0.24	1.63
0.27	1.88
0.30	2.05
0.27	1.98
0.21	1.81
0.15	1.65
0.09	1.48
0.03	1.29
0.00	1.10
0.03	1.18
0.06	1.26
0.09	1.34
0.12	1.42
0.15	1.50
0.18	1.59
0.21	1.68
0.24	1.77
0.27	1.86
0.30	1.96



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	5.797	2.513
a_2 [mm/(MN ² /m ⁴)]	3.466	1.129
E_v [MN/m ²]	82.3	197.3
E_{v2}/E_{v1}	2.40	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

$k_s = \Delta\sigma/\Delta s$ 146.4 MN/m³

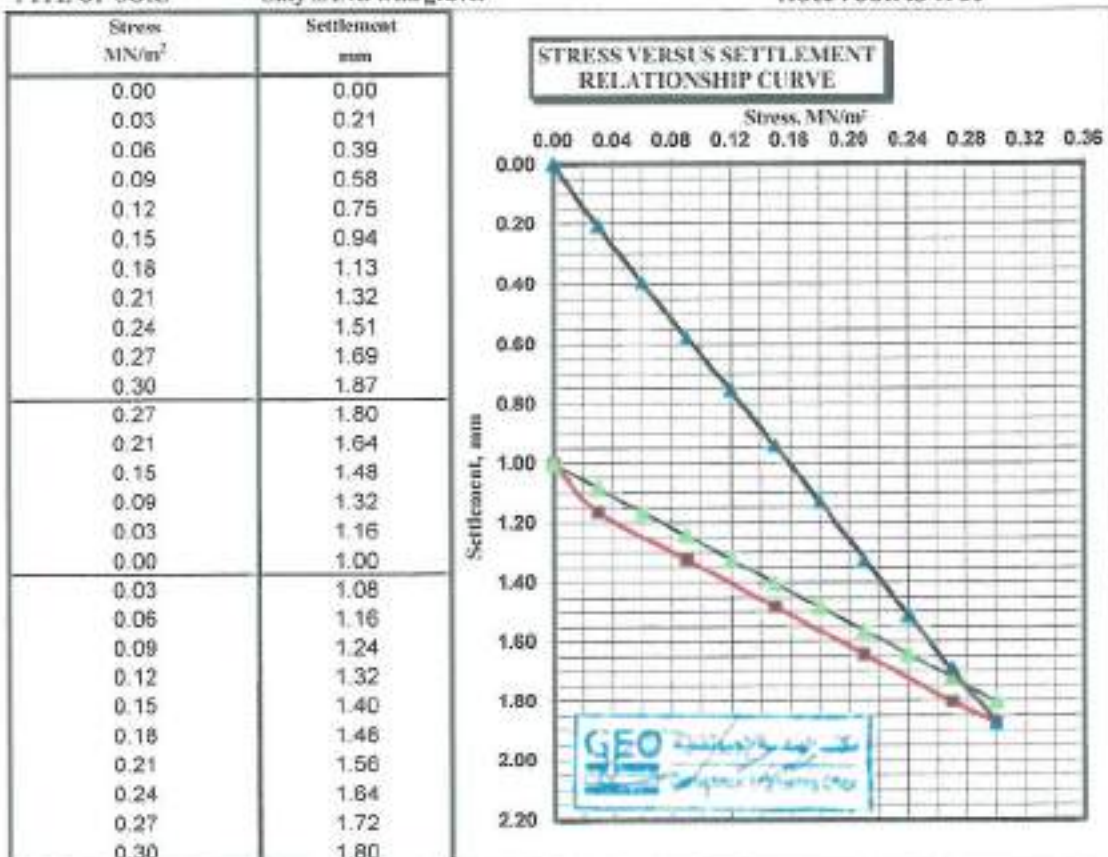
FA-P-063

Plate Load Tests of Soils
DIN J8134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamia (402+625)
PLATE LOAD NO.: PLT-353
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 10:00 AM
TIME FINISH: 12:00 PM
LEVEL: +0.5
DATE: 31-Aug-22
LAB. REF: 06018

**** Note : Soil is Wet**



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.109	2.667
a_2 [mm/(MN ² /m ⁶)]	0.151	0
E_v [MN/m ²]	91.4	210.9
E_{v2}/E_{v1}	2.31	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

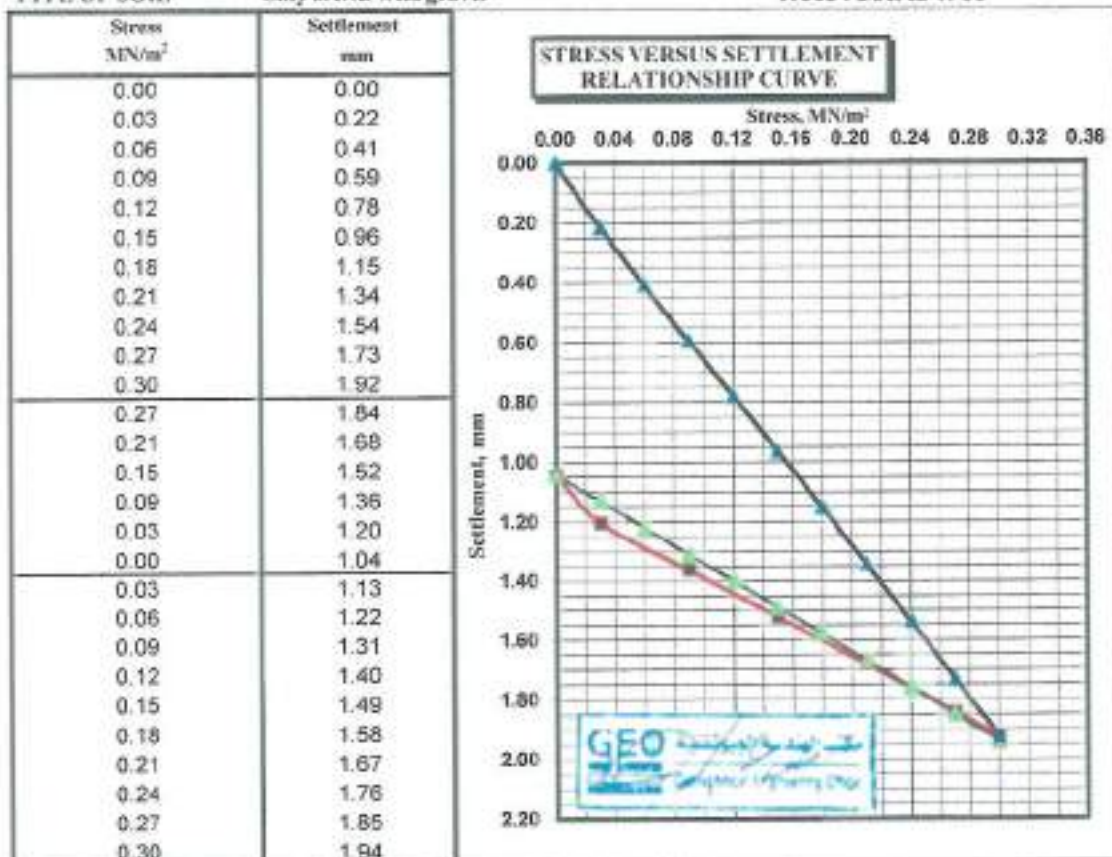
$$K_s = \Delta\sigma/\Delta s \quad 160.0 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (402+650)
PLATE LOAD NO. PLT-354
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL, Silty SAND with gravel

TIME START: 12:00 PM
TIME FINISH: 02:00 PM
LEVEL: +0.5
DATE: 31-Aug-22
LAB. REF. 06018

**** Note : Soil is Wet**



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ'_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.024	3
a_2 [mm/(MN ² /m ⁴)]	0.838	0
E_v [MN/m ²]	89.6	187.5
E_{v2}/E_{v1}	2.09	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

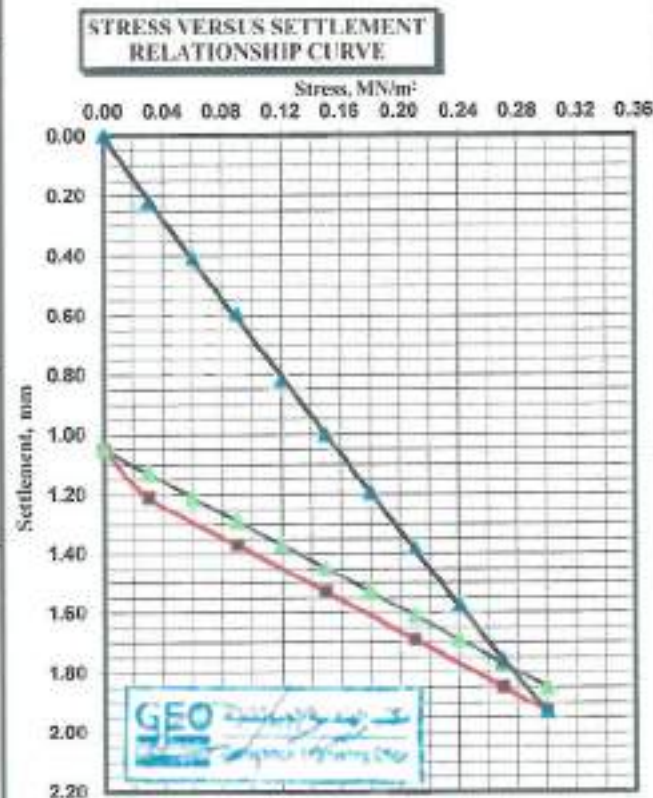
$k_s = \Delta\sigma/\Delta s$ 155.2 MN/m³

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة القتح
PROJECT: Electric Express Train
LOCATION: Al-alamin (402+675)
PLATE LOAD NO.: PLT-355
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 02:00 PM
TIME FINISH: 04:00 PM
LEVEL: +0.5
DATE: 31-Aug-22
LAB. REF: 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.22
0.06	0.41
0.09	0.59
0.12	0.82
0.15	1.00
0.18	1.19
0.21	1.38
0.24	1.58
0.27	1.76
0.30	1.93
0.27	1.85
0.21	1.69
0.15	1.53
0.09	1.37
0.03	1.21
0.00	1.05
0.03	1.13
0.06	1.21
0.09	1.29
0.12	1.37
0.15	1.45
0.18	1.53
0.21	1.61
0.24	1.69
0.27	1.77
0.30	1.85



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{Dmax}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.675	2.667
a_2 [mm/(MN ² /m ⁴)]	-0.861	0
E_v [MN/m ²]	87.7	210.9
E_{v2}/E_{v1}	2.41	

Apparatus

1. Loading plates consists of 756 mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fix the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Pressing Ring for plate load 200 kN

MODULUS OF SUB-GRADE REACTION, Ks

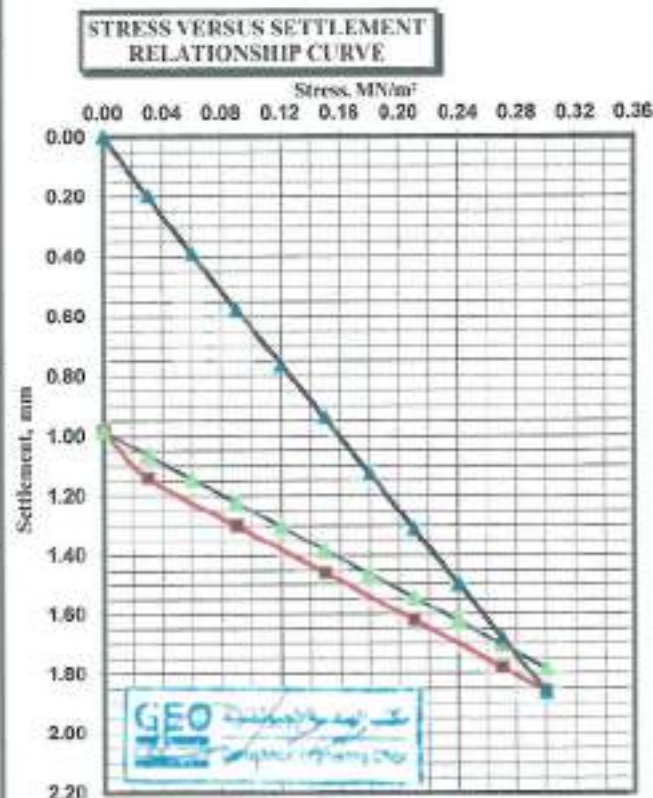
$k_s = \Delta\sigma/\Delta s$ 155.2 MN/m³

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamin (402+700)
PLATE LOAD NO.: PLT-356
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 04:00 PM
TIME FINISH: 06:00 PM
LEVEL: +0.5
DATE: 31-Aug-22
LAB. REF.: 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.20
0.06	0.39
0.09	0.58
0.12	0.76
0.15	0.94
0.18	1.13
0.21	1.31
0.24	1.50
0.27	1.68
0.30	1.86
0.27	1.78
0.21	1.62
0.15	1.46
0.09	1.30
0.03	1.14
0.00	0.98
0.03	1.06
0.06	1.14
0.09	1.22
0.12	1.30
0.15	1.38
0.18	1.46
0.21	1.54
0.24	1.62
0.27	1.70
0.30	1.78



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.219	2.667
a_2 [mm/(MN ² /m ⁴)]	-0.238	0
E_v [MN/m ²]	91.5	210.9
E_{v2}/E_{v1}	2.31	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

$k_s = \Delta\sigma/\Delta s$ 161.6 MN/m³

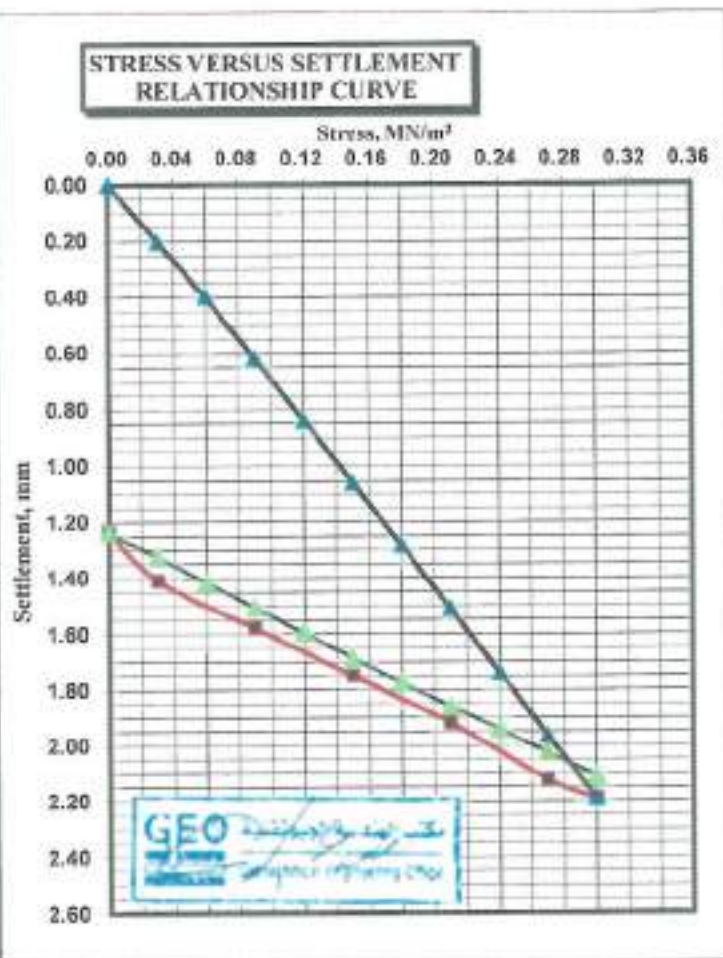
TIME START: 08:00 AM
TIME FINISH: 10:00 AM
LEVEL: +0.5
DATE: 31-Aug-22
LAB. REF. 06018
** Note : Soil is Wet

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-namin (402+750)
PLATE LOAD NO. PLT-358
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 10:00 AM
TIME FINISH: 12:00 PM
LEVEL +0.5
DATE: 31-Aug-22
LAB. REF. 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.20
0.06	0.40
0.09	0.62
0.12	0.84
0.15	1.06
0.18	1.28
0.21	1.51
0.24	1.74
0.27	1.96
0.30	2.19
0.27	2.12
0.21	1.92
0.15	1.75
0.09	1.58
0.03	1.41
0.00	1.24
0.03	1.33
0.06	1.42
0.09	1.51
0.12	1.60
0.15	1.69
0.18	1.78
0.21	1.86
0.24	1.94
0.27	2.03
0.30	2.11



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.982	3.088
a_2 [mm/(MN ² /m ⁴)]	1.246	-0.613
E_v [MN/m ²]	76.5	193.7
E_{v2}/E_{v1}	2.53	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

$k_s = \Delta\sigma/\Delta s$ 136.8 MN/m³

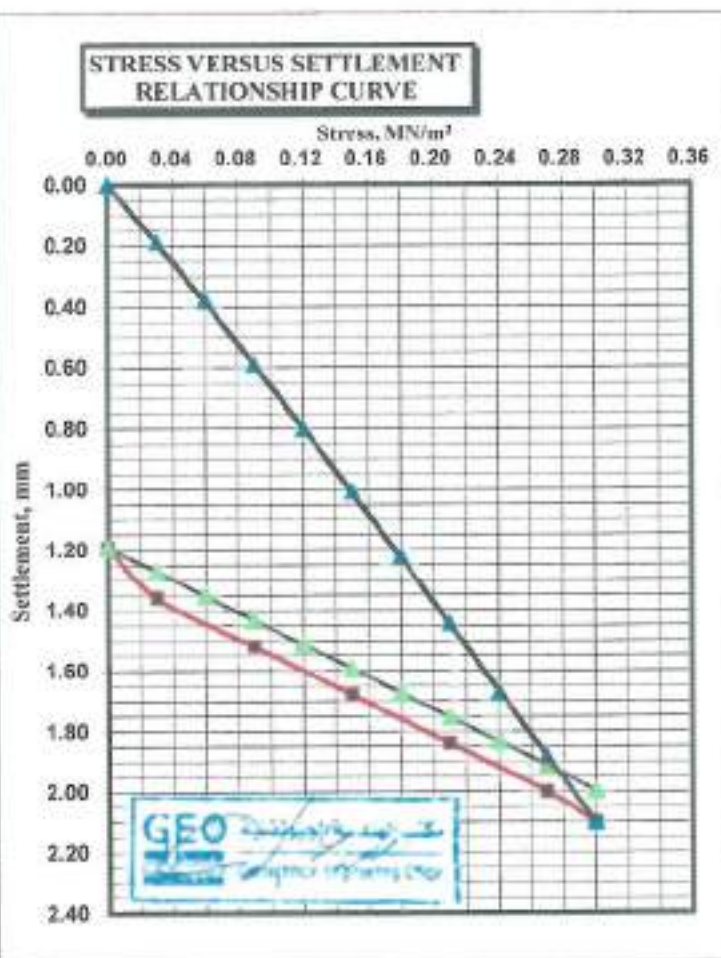
Plate Load Tests of Soils DIN 18134

CLIENT	شركة الفتح
PROJECT	Electric Express Train
LOCATION	Al-nalamin (402+775)
PLATE LOAD NO.	PLT-359
PLATE DIAMETER (cm)	75.00
TYPE OF SOIL	Silty SAND with gravel

TIME START: 12:00 PM
TIME FINISH: 02:00 PM
LEVEL: + 0.5
DATE: 31-Aug-22
LAB. REF. 06018

** Note : Soil is Wet

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.19
0.06	0.38
0.09	0.59
0.12	0.80
0.15	1.01
0.18	1.22
0.21	1.44
0.24	1.67
0.27	1.88
0.30	2.10
0.27	2.00
0.21	1.84
0.15	1.68
0.09	1.52
0.03	1.36
0.00	1.19
0.03	1.27
0.06	1.35
0.09	1.43
0.12	1.51
0.15	1.59
0.18	1.67
0.21	1.75
0.24	1.83
0.27	1.91
0.30	2.00

STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.607	2.629
a_2 [mm/(MN ² /m ⁴)]	1.504	0.179
E_v [MN/m ²]	79.7	209.7
E_{v2}/E_{v1}	2.63	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

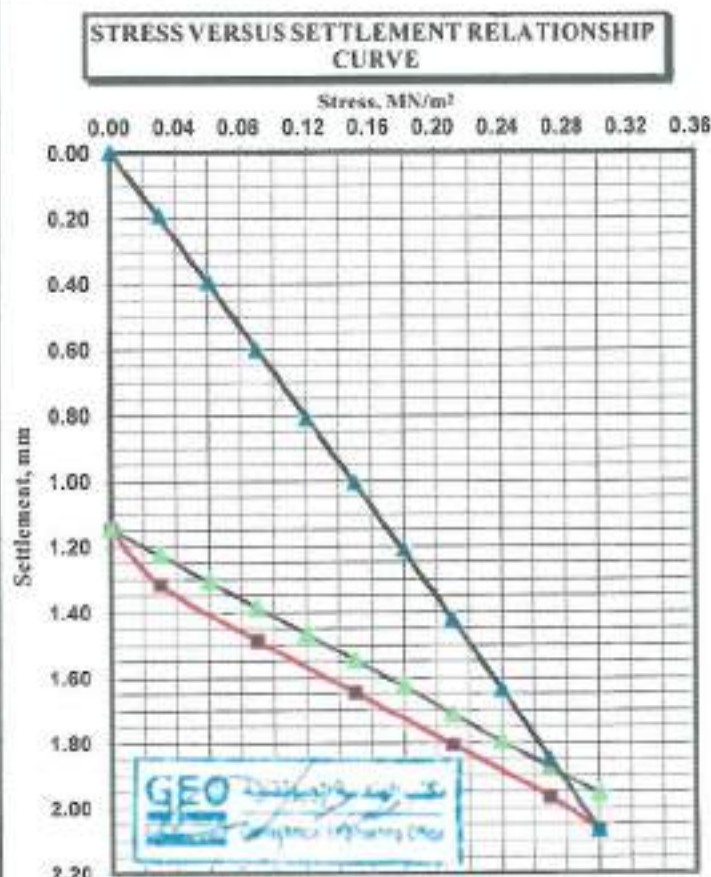
$$k_s = \Delta\sigma/\Delta s \quad 142.4 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamin (402+800)
PLATE LOAD NO.: PLT-360
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 02:00 PM
TIME FINISH: 04:00 PM
LEVEL: +0.5
DATE: 31-Aug-22
LAB. REF: 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.19
0.06	0.39
0.09	0.60
0.12	0.81
0.15	1.00
0.18	1.21
0.21	1.42
0.24	1.64
0.27	1.85
0.30	2.07
0.27	1.97
0.21	1.81
0.15	1.65
0.09	1.49
0.03	1.32
0.00	1.15
0.03	1.23
0.06	1.31
0.09	1.39
0.12	1.47
0.15	1.55
0.18	1.63
0.21	1.71
0.24	1.80
0.27	1.88
0.30	1.96



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.584	2.629
a_2 [mm/(MN ² /m ⁴)]	1.082	0.25
E_v [MN/m ²]	81.4	208.0
E_{v2}/E_{v1}	2.55	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

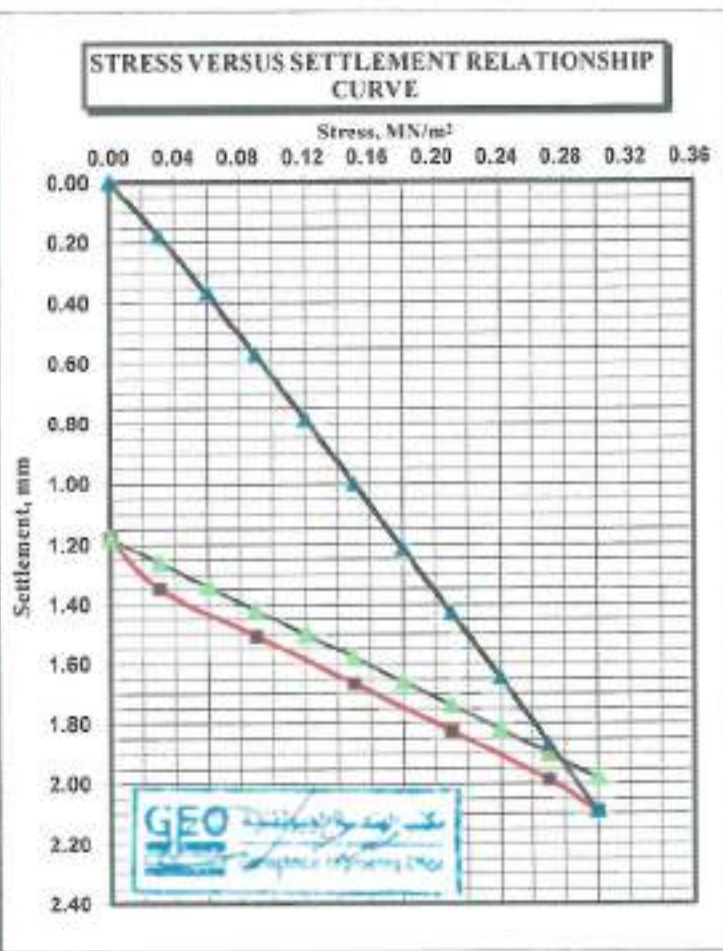
$$k_s = \Delta\sigma/\Delta s \quad 145.6 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (402+825)
PLATE LOAD NO. PLT-361
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 04:00 PM
TIME FINISH: 06:00 PM
LEVEL: +0.5
DATE: 31-Aug-22
LAB. REF. 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.18
0.06	0.37
0.09	0.57
0.12	0.79
0.15	1.00
0.18	1.21
0.21	1.43
0.24	1.65
0.27	1.87
0.30	2.09
0.27	1.99
0.21	1.83
0.15	1.67
0.09	1.51
0.03	1.35
0.00	1.18
0.03	1.26
0.06	1.34
0.09	1.42
0.12	1.50
0.15	1.58
0.18	1.66
0.21	1.74
0.24	1.82
0.27	1.90
0.30	1.98



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.57	2.667
a_2 [mm/(MN ² /m ⁴)]	1.625	0
E_v [MN/m ²]	79.7	210.9
E_{v2}/E_{v1}	2.65	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

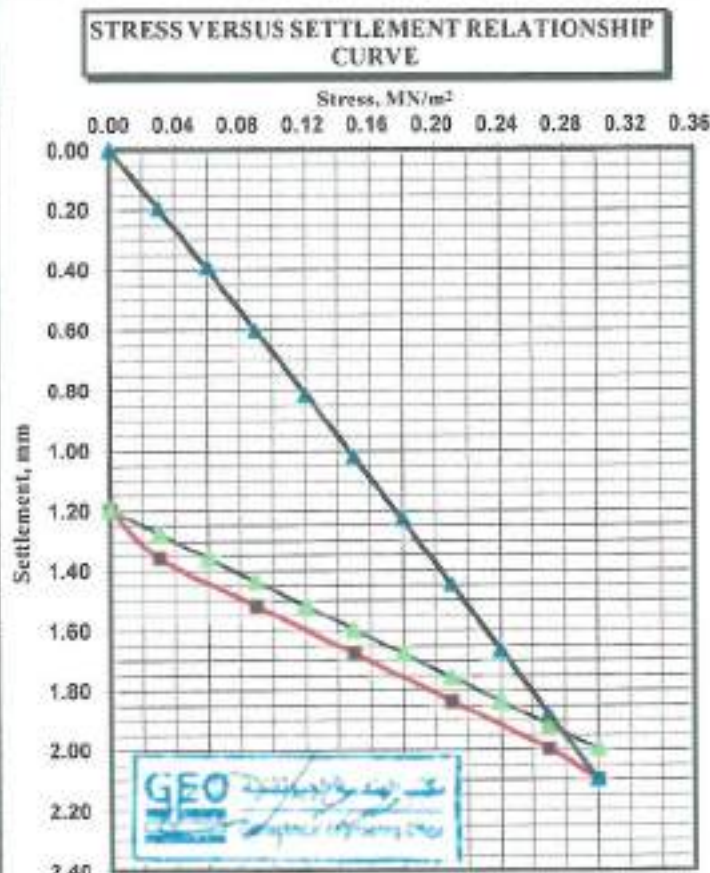
$$k_s = \Delta\sigma/\Delta s \quad 143.2 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamin (402+850)
PLATE LOAD NO.: PLT-362
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 08:00 AM
TIME FINISH: 10:00 AM
LEVEL: +0.5
DATE: 1-Sep-22
LAB. REF.: 06018
** Note : Soil is Wet

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.19
0.06	0.39
0.09	0.60
0.12	0.81
0.15	1.02
0.18	1.23
0.21	1.45
0.24	1.67
0.27	1.88
0.30	2.10
0.27	2.00
0.21	1.84
0.15	1.68
0.09	1.52
0.03	1.36
0.00	1.20
0.03	1.28
0.06	1.36
0.09	1.44
0.12	1.52
0.15	1.60
0.18	1.68
0.21	1.76
0.24	1.84
0.27	1.92
0.30	2.00



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.78	2.667
a_2 [mm/(MN ² /m ⁴)]	0.928	0
E_v [MN/m ²]	79.7	210.9
E_{v2}/E_{v1}	2.65	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

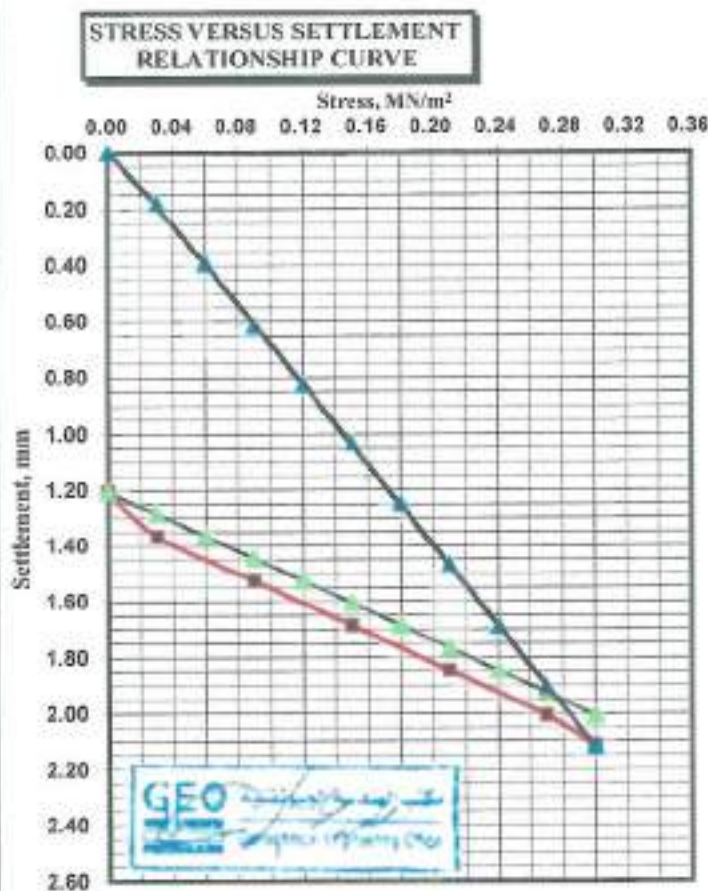
$$k_s = \Delta\sigma/\Delta s \quad 144.0 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamia (402+875)
PLATE LOAD NO. PLT-363
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 10:00 AM
TIME FINISH: 12:00 PM
LEVEL: +0.5
DATE: 1-Sep-22
LAB. REF. 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.18
0.06	0.39
0.09	0.61
0.12	0.83
0.15	1.03
0.18	1.25
0.21	1.47
0.24	1.69
0.27	1.90
0.30	2.12
0.27	2.01
0.21	1.85
0.15	1.69
0.09	1.53
0.03	1.37
0.00	1.21
0.03	1.29
0.06	1.37
0.09	1.45
0.12	1.53
0.15	1.61
0.18	1.69
0.21	1.77
0.24	1.85
0.27	1.93
0.30	2.01



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	7.105	2.667
a_2 [mm/(MN ² /m ⁴)]	0.227	0
E_v [MN/m ²]	78.4	210.9
E_{v2}/E_{v1}	2.69	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

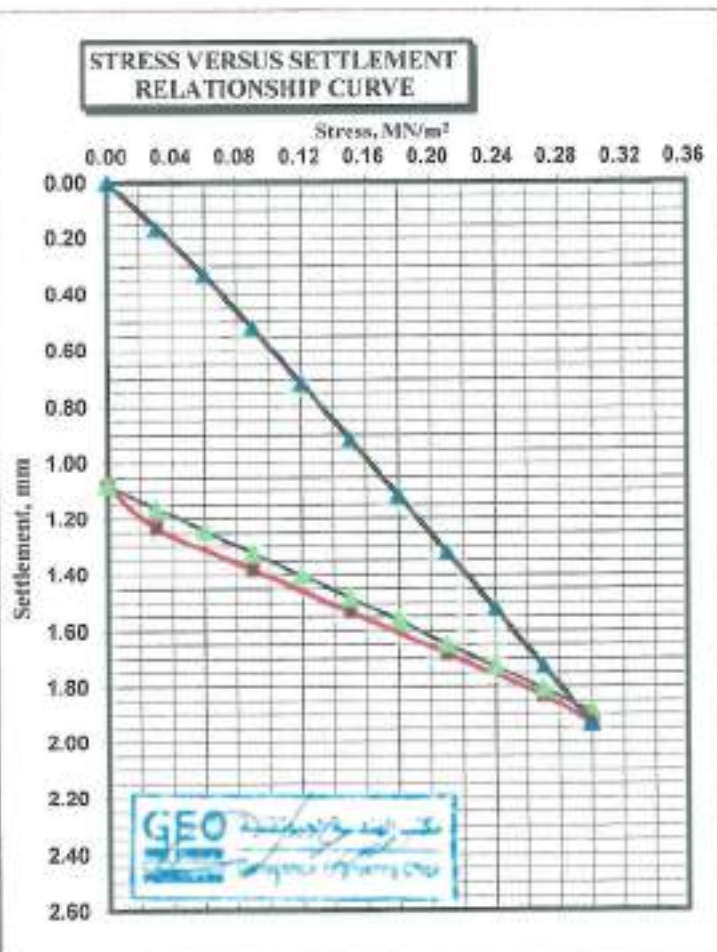
$$k_s = \Delta\sigma / \Delta s \quad 144.0 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamin (402+900)
PLATE LOAD NO.: PLT-364
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 12:00 PM
TIME FINISH: 02:00 PM
LEVEL: + 0.5
DATE: 1-Sep-22
LAB. REF.: 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.16
0.06	0.33
0.09	0.52
0.12	0.72
0.15	0.91
0.18	1.12
0.21	1.32
0.24	1.52
0.27	1.73
0.30	1.93
0.27	1.83
0.21	1.68
0.15	1.53
0.09	1.38
0.03	1.23
0.00	1.08
0.03	1.16
0.06	1.24
0.09	1.32
0.12	1.40
0.15	1.48
0.18	1.56
0.21	1.65
0.24	1.73
0.27	1.81
0.30	1.89



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	5.999	2.653
a_2 [mm/(MN ² /m ⁴)]	1.815	0.185
E_v [MN/m ²]	86.0	207.7
E_{v2}/E_{v1}	2.42	

Apparatus

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

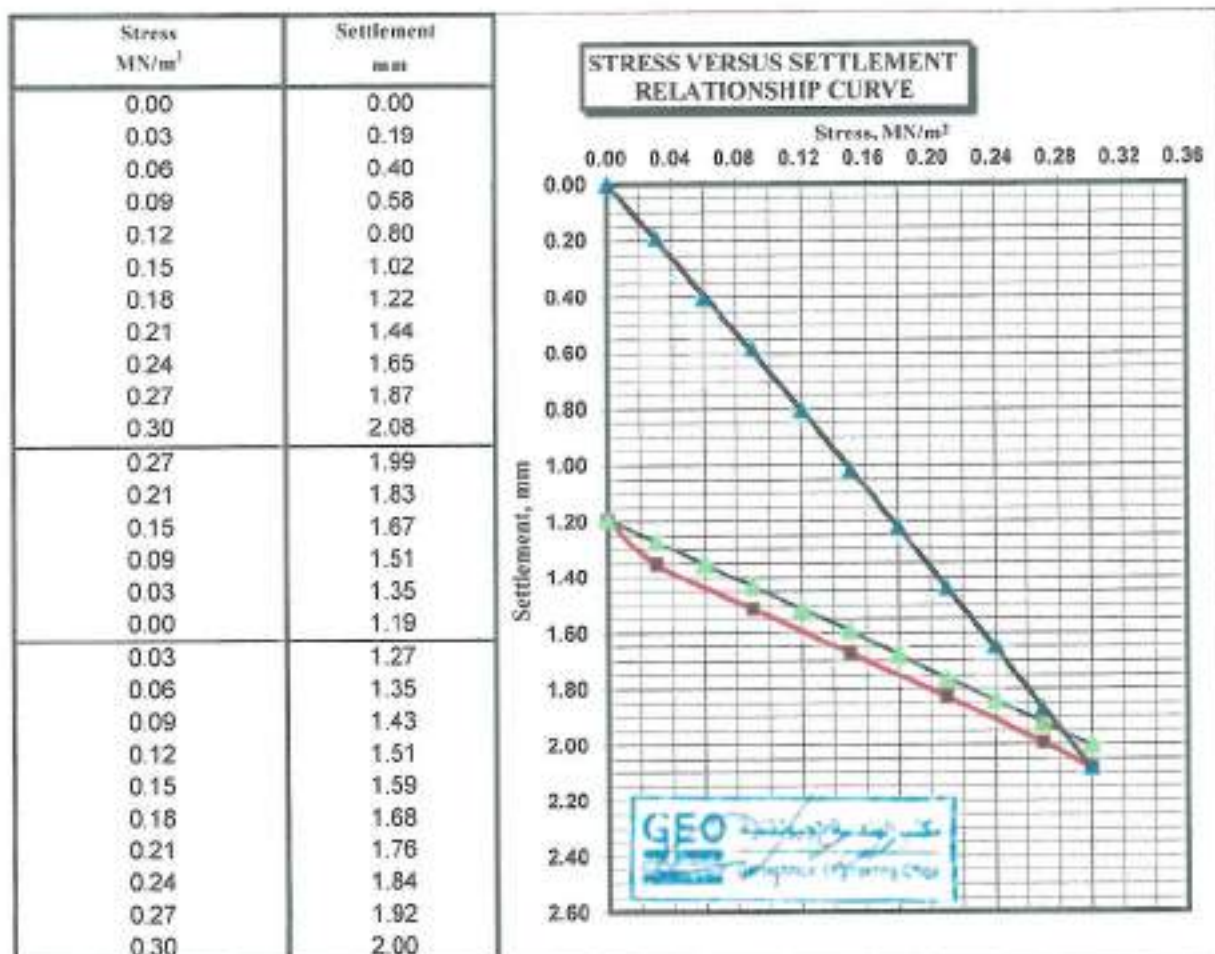
MODULUS OF SUB-GRADE REACTION, K_s

$$K_s = \Delta\sigma/\Delta s \quad 155.2 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (402+925)
PLATE LOAD NO. PLT-365
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 02:00 PM
TIME FINISH: 04:00 PM
LEVEL: + 0.5
DATE: 1-Sep-22
LAB. REF. 06018
**** Note : Soil is Wet**



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ'_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.747	2.686
a_2 [mm/(MN ² /m ⁴)]	0.895	0.082
E_v [MN/m ²]	80.2	207.5
E_{v2}/E_{v1}	2.59	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

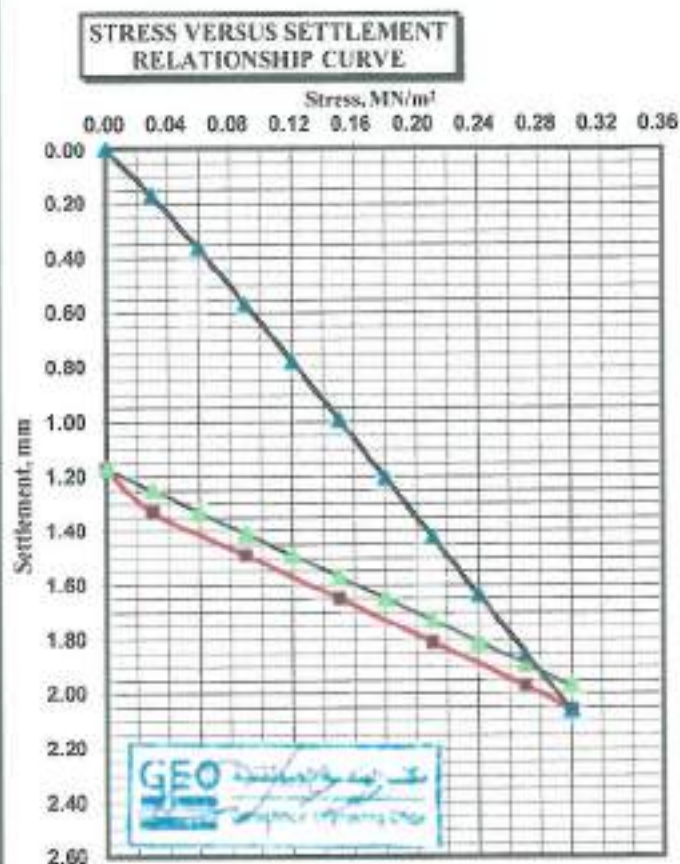
$$k_s = \Delta\sigma / \Delta s \quad 144.0 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة القنق
PROJECT: Electric Express Train
LOCATION: Al-alumin (402+950)
PLATE LOAD NO.: PLT-366
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 04:00 PM
TIME FINISH: 06:00 PM
LEVEL: +0.5
DATE: 1-Sep-22
LAB. REF.: 06018
** Note : Soil is Wet

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.17
0.06	0.36
0.09	0.57
0.12	0.78
0.15	0.99
0.18	1.20
0.21	1.42
0.24	1.64
0.27	1.85
0.30	2.06
0.27	1.97
0.21	1.81
0.15	1.65
0.09	1.49
0.03	1.33
0.00	1.17
0.03	1.25
0.06	1.33
0.09	1.41
0.12	1.49
0.15	1.57
0.18	1.65
0.21	1.73
0.24	1.81
0.27	1.89
0.30	1.97



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.718	2.667
a_2 [mm/(MN ² /m ⁴)]	0.982	0
E_v [MN/m ²]	80.2	210.9
E_{v2}/E_{v1}	2.63	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

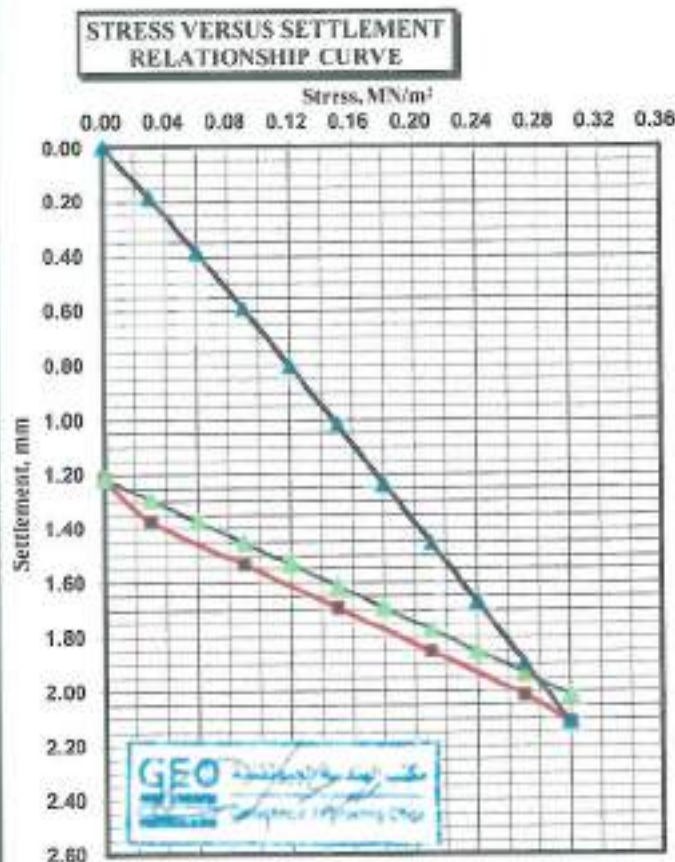
$$k_s = \Delta\sigma / \Delta s \quad 145.6 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamia (402+975)
PLATE LOAD NO. PLT-367
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 08:00 AM
TIME FINISH: 10:00 AM
LEVEL: +0.5
DATE: 1-Sep-22
LAB. REF. 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.18
0.06	0.38
0.09	0.59
0.12	0.80
0.15	1.01
0.18	1.24
0.21	1.45
0.24	1.67
0.27	1.89
0.30	2.11
0.27	2.01
0.21	1.85
0.15	1.69
0.09	1.53
0.03	1.37
0.00	1.21
0.03	1.29
0.06	1.37
0.09	1.45
0.12	1.53
0.15	1.61
0.18	1.69
0.21	1.77
0.24	1.85
0.27	1.93
0.30	2.01



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.724	2.667
a_2 [mm/(MN ² /m ⁴)]	1.349	0
E_v [MN/m ²]	78.9	210.9
E_{v2}/E_{v1}	2.67	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

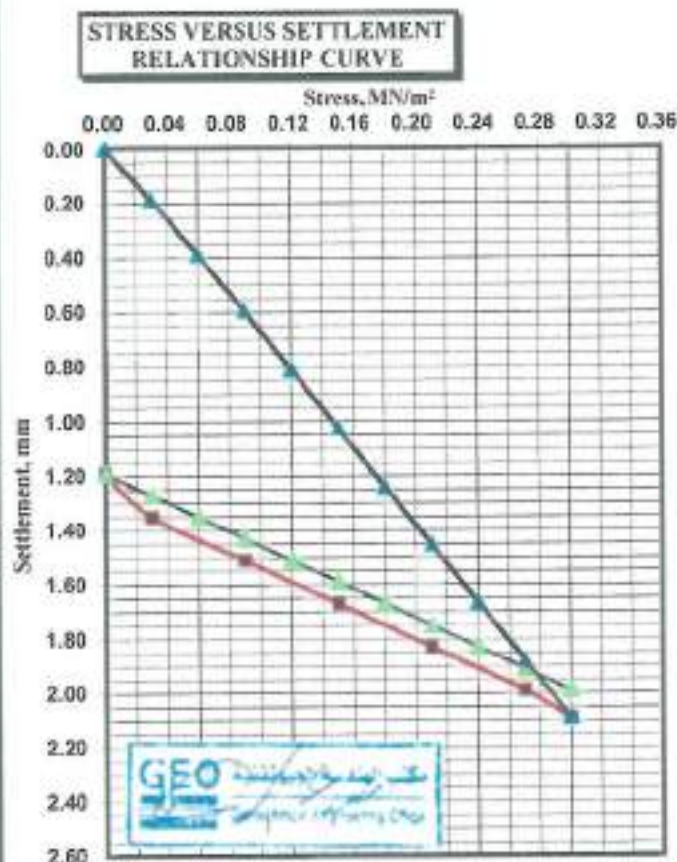
$$k_s = \Delta\sigma/\Delta s \quad 141.6 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-amin (403+000)
PLATE LOAD NO.: PLT-368
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 10:00 AM
TIME FINISH: 12:00 PM
LEVEL: +0.5
DATE: 1-Sep-22
LAB. REF.: 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.19
0.06	0.39
0.09	0.59
0.12	0.81
0.15	1.02
0.18	1.24
0.21	1.45
0.24	1.67
0.27	1.88
0.30	2.09
0.27	1.99
0.21	1.83
0.15	1.67
0.09	1.51
0.03	1.35
0.00	1.19
0.03	1.27
0.06	1.35
0.09	1.43
0.12	1.51
0.15	1.59
0.18	1.67
0.21	1.75
0.24	1.83
0.27	1.91
0.30	1.99



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.847	2.667
a_2 [mm/(MN ² /m ⁴)]	0.709	0
E_v [MN/m ²]	79.7	210.9
E_{v2}/E_{v1}	2.65	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

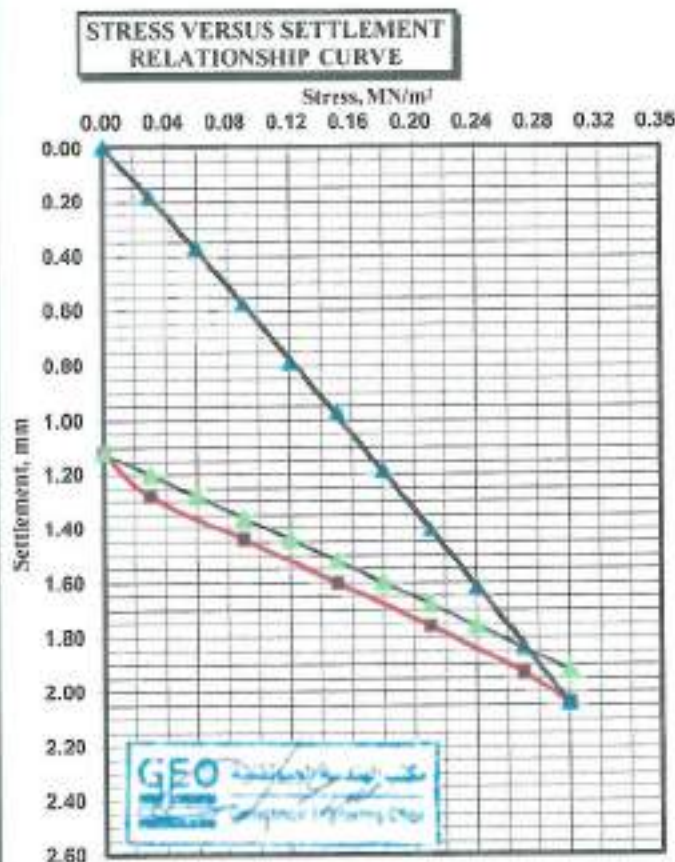
$$k_s = \Delta\sigma/\Delta s \quad 143.2 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alamia (403+025)
PLATE LOAD NO.: PLT-369
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 12:00 PM
TIME FINISH: 02:00 PM
LEVEL: +0.5
DATE: 1-Sep-22
LAB. REF.: 06018
**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.18
0.06	0.37
0.09	0.57
0.12	0.79
0.15	0.97
0.18	1.19
0.21	1.40
0.24	1.62
0.27	1.83
0.30	2.04
0.27	1.93
0.21	1.76
0.15	1.60
0.09	1.44
0.03	1.28
0.00	1.12
0.03	1.20
0.06	1.28
0.09	1.36
0.12	1.44
0.15	1.52
0.18	1.60
0.21	1.68
0.24	1.76
0.27	1.84
0.30	1.92



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.454	2.667
a_2 [mm/(MN ² /m ⁴)]	1.39	0
E_v [MN/m ²]	81.9	210.9
E_{v2}/E_{v1}	2.58	

Apparatus

1. Loading plates consists of 756 mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measure the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reaction loads to the loading plates
6. Proving Ring for plate load 250 kN

MODULUS OF SUB-GRADE REACTION, K_s

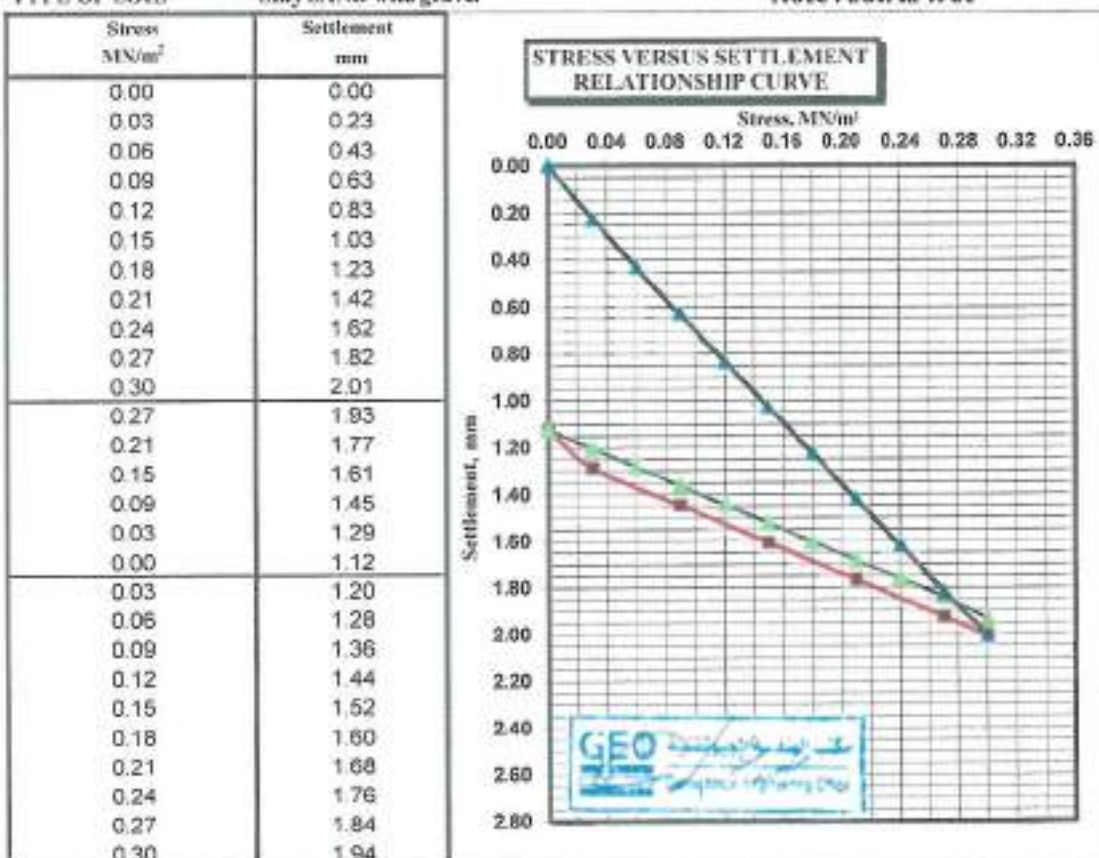
$$k_s = \Delta\sigma/\Delta s \quad 147.2 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT: شركة الفتح
PROJECT: Electric Express Train
LOCATION: Al-alumin (403+050)
PLATE LOAD NO.: PLT-370
PLATE DIAMETER (cm): 75.00
TYPE OF SOIL: Silty SAND with gravel

TIME START: 02:00 PM
TIME FINISH: 04:00 PM
LEVEL: +0.5
DATE: 1-Sep-22
LAB. REF.: 06018

**** Note : Soil is Wet**



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.713	2.592
a_2 [mm/(MN ² /m ⁴)]	-0.346	0.358
E_v [MN/m ²]	85.1	208.4
E_{v2}/E_{v1}	2.45	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

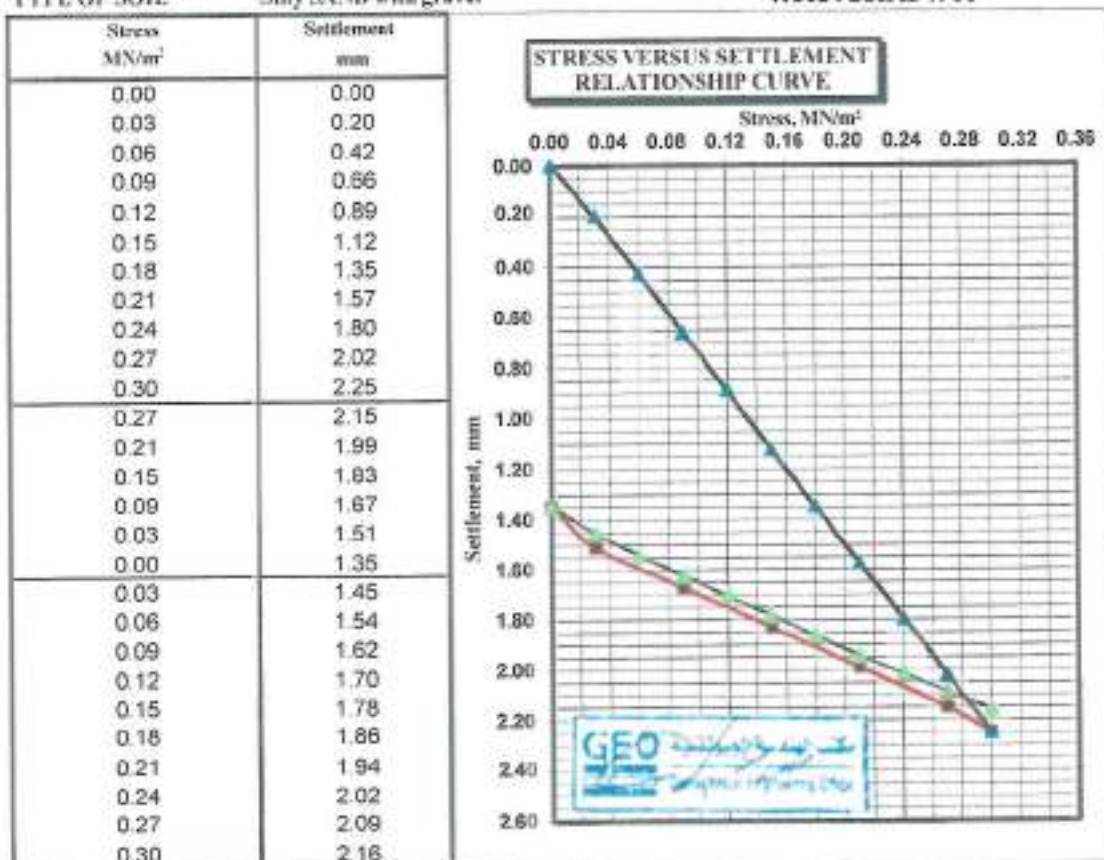
$$k_s = \Delta\sigma / \Delta s \quad 149.6 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamia (403+075)
PLATE LOAD NO. PLT-371
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 04:00 PM
TIME FINISH: 06:00 PM
LEVEL +0.5
DATE: 1-Sep-22
LAB. REF. 06018

**** Note : Soil is Wet**



STRAIN MODULUS, E_v

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	7.71	3.048
a_2 [mm/(MN ² /m ⁴)]	-0.389	-1.202
E_v [MN/m ²]	74.1	209.3
E_{v2}/E_{v1}	2.83	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, K_s

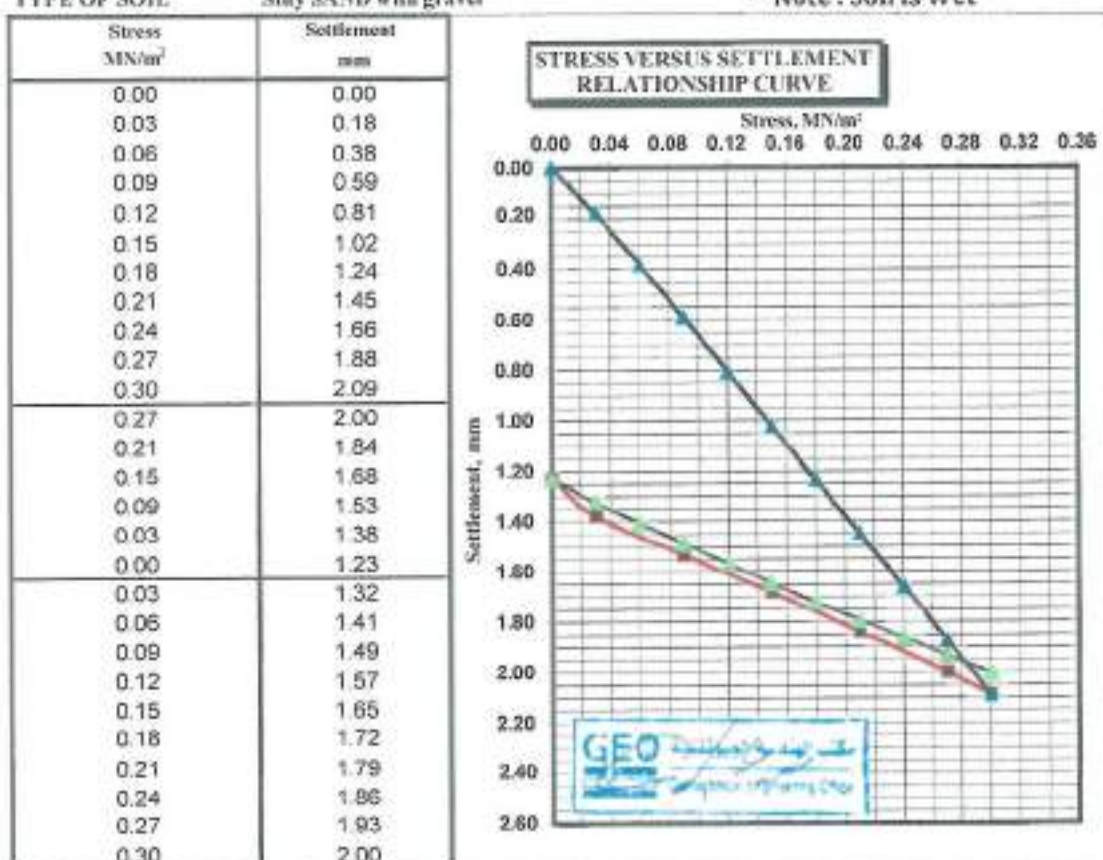
$$K_s = \Delta\sigma/\Delta s \quad 133.6 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (403+100)
PLATE LOAD NO. PLT-372
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 08:00 AM
TIME FINISH: 10:00 AM
LEVEL: +0.5
DATE: 3-Sep-22
LAB. REF. 06018

**** Note : Soil is Wet**



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.937	2.987
a_2 [mm/(MN ² /m ⁴)]	0.492	-1.473
E_v [MN/m ²]	79.4	221.0
E_{v2}/E_{v1}	2.78	

Apparatus

1. Loading plates consists of 756mm
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to feed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Proving ring for plate load 200 kN

MODULUS OF SUB-GRADE REACTION, K_s

$$k_s = \Delta\sigma / \Delta s \quad 143.2 \quad \text{MN/m}^3$$

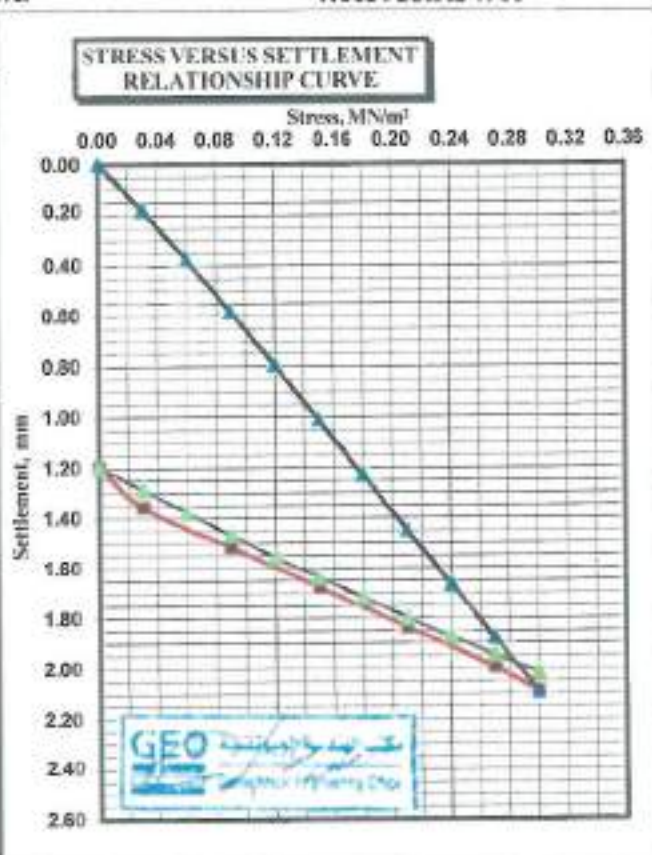
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (403+125)
PLATE LOAD NO. P.L.T-373
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 10:00 AM
TIME FINISH: 12:00 PM
LEVEL: +0.5
DATE: 3-Sep-22
LAB. REF. 06018

**** Note : Soil is Wet**

Stress MN/m ²	Settlement mm
0.00	0.00
0.03	0.18
0.06	0.37
0.09	0.58
0.12	0.79
0.15	1.01
0.18	1.23
0.21	1.45
0.24	1.67
0.27	1.88
0.30	2.09
0.27	2.00
0.21	1.84
0.15	1.68
0.09	1.52
0.03	1.36
0.00	1.20
0.03	1.29
0.06	1.38
0.09	1.47
0.12	1.56
0.15	1.64
0.18	1.72
0.21	1.80
0.24	1.88
0.27	1.95
0.30	2.02



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.827	3.147
a_2 [mm/(MN ² /m ⁴)]	0.881	-1.346
E_v [MN/m ²]	79.3	205.1
E_{v2}/E_{v1}	2.59	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

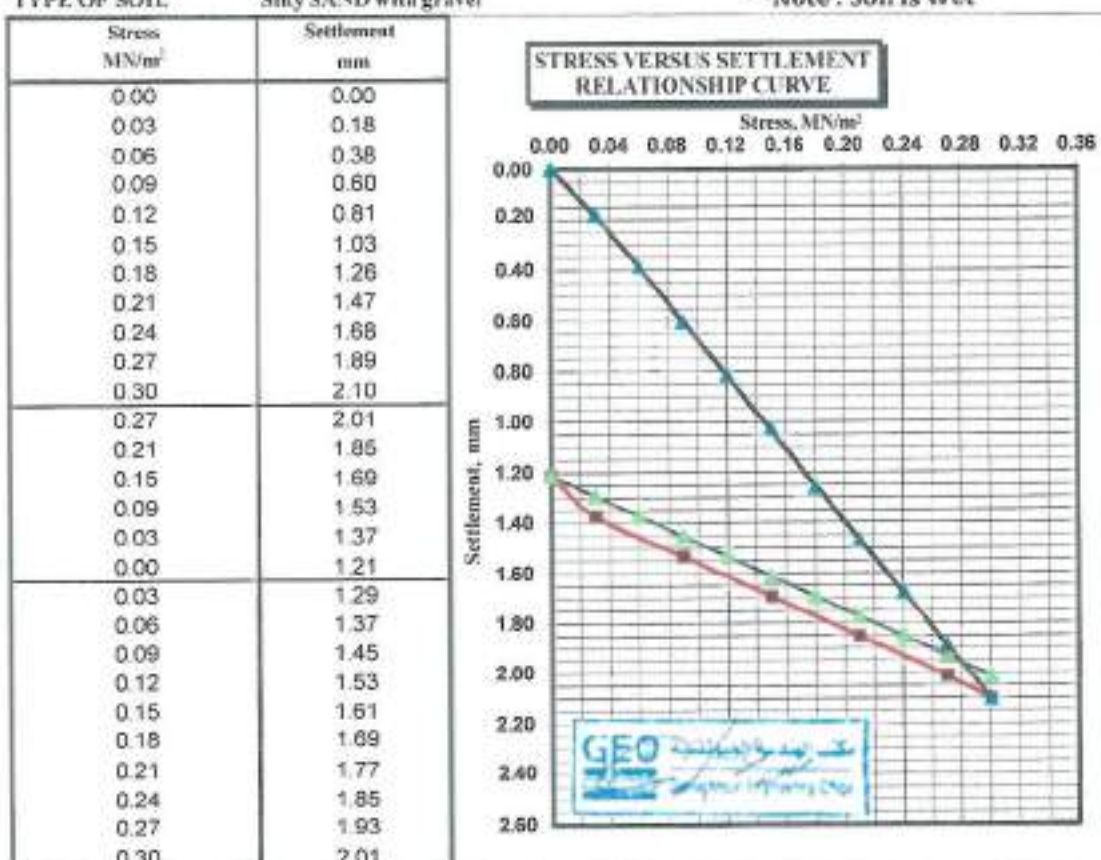
$$k_s = \Delta\sigma/\Delta s \quad 143.2 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (403+150)
PLATE LOAD NO. PLT-374
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 12:00 PM
TIME FINISH: 02:00 PM
LEVEL: + 0.5
DATE: 5-Sep-22
LAB. REF. 06018

**** Note : Soil is Wet**



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	7.155	2.667
a_2 [mm/(MN ² /m ⁴)]	-0.06	0
E_v [MN/m ²]	78.8	210.9
E_{v2}/E_{v1}	2.68	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

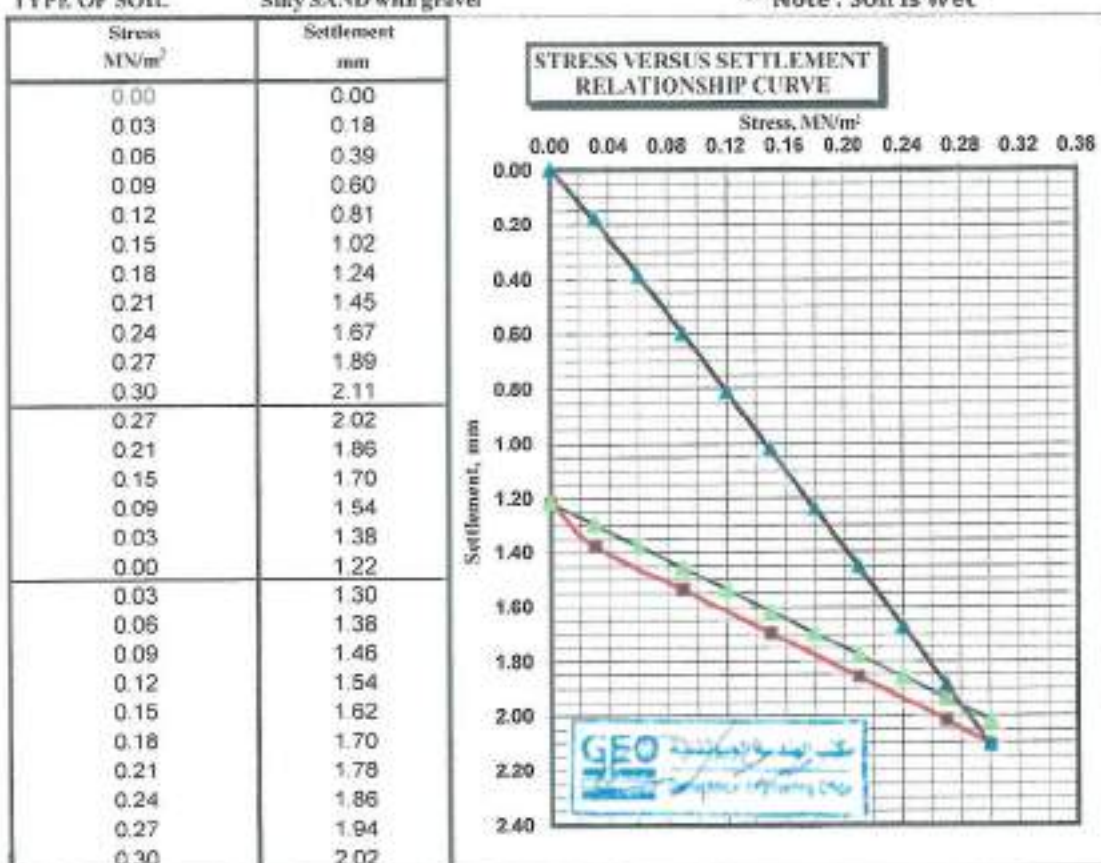
$$k_s = \Delta\sigma / \Delta s \quad 142.4 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamia (403+175)
PLATE LOAD NO. PLT-375
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 02:00 PM
TIME FINISH: 04:00 PM
LEVEL: + 0.5
DATE: 3-Sep-22
LAB. REF. 06018

** Note : Soil is Wet



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	6.824	2.667
a_2 [mm/(MN ² /m ⁴)]	0.974	0
E_v [MN/m ²]	79.0	210.9
E_{v2}/E_{v1}	2.67	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ks

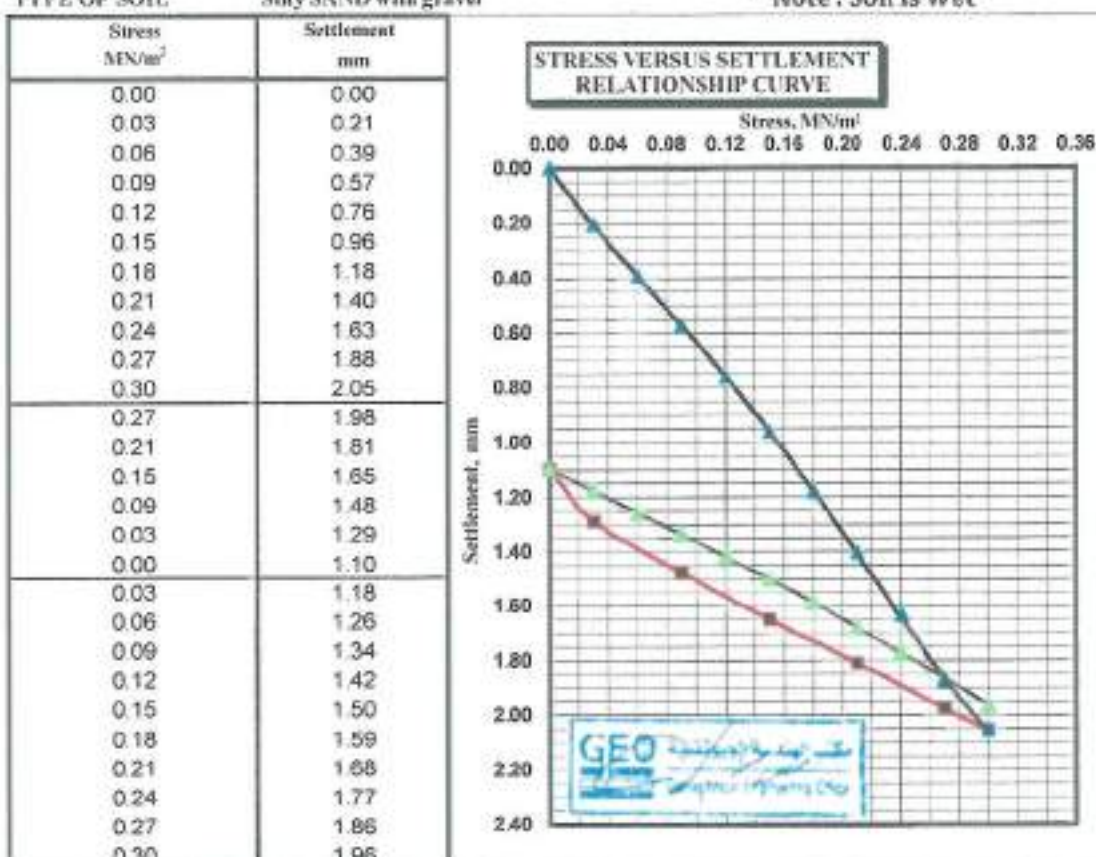
$$k_s = \Delta\sigma/\Delta s \quad 142.4 \quad \text{MN/m}^3$$

Plate Load Tests of Soils
DIN 18134

CLIENT شركة القتح
PROJECT Electric Express Train
LOCATION Al-alamin (403+200)
PLATE LOAD NO. PLT-376
PLATE DIAMETER (cm) 75.00
TYPE OF SOIL Silty SAND with gravel

TIME START: 04:00 PM
TIME FINISH: 06:00 PM
LEVEL: +0.5
DATE: 3-Sep-22
LAB. REF.: 06018

**** Note : Soil is Wet**



STRAIN MODULUS, Ev

	1 st loading	2 st loading
σ_{0max}	0.30	0.30
a_1 [mm/(MN/m ²)]	5.797	2.513
a_2 [mm/(MN ² /m ⁴)]	3.466	1.129
E_v [MN/m ²]	82.3	197.3
E_{v2}/E_{v1}	2.40	

Apparatus

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

MODULUS OF SUB-GRADE REACTION, Ke

$$k_s = \Delta\sigma / \Delta s \quad 146.4 \quad \text{MN/m}^3$$

MATERIAL INSPECTION REQUEST

الهيئة العامة
للطرق والكباري
(GARB)



مركز الدراسات الهندسية
للطرق والكباري
(مركز الدراسات الهندسية
للطرق والكباري)



Contractor Company	ALFATH		Designer Company	
Issued by Contractor	Name	Sign	Date	Time
	Eng/		20/10/2022	
Received by ER			MIR	

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

Description of Materials	Fill material results			
Location to be Used	403+560	403+740	404+520	404+700
	403+760	403+940	404+720	404+900
	401+800	401+980	400+760	400+920
	404+100	404+280	402+800	402+900
	404+320	404+500	401+360	401+640
	401+020	401+580		
	402+920	403+100		

MAR Approval No		Date	
Supplier Name			
Test Requirement		Specification	Clause
Reference Photos	Yes attached / No	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	LL & P.L & O.M.C %	m3	5000		
2	Proctor	m3	5000		
3	Classification	m3	5000		
4	Seive analysis	m3	5000		

Comments by:	Comments by:
Asample has been taken form fill material by SGAC office to (COMIBASSAL) lab and the results founded meet the specifcontions and accepted	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor				
QA/QC *				
GARB**				
Comment by ER				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

File: MIR - 5000 m3 (1)

Page 1 of 1

FA-M-66

MATERIAL INSPECTION REQUEST

الهيئة العامة
للطرق والكباري
(GARB)



مركز الدراسات والبحوث
للطرق والكباري
(مركز البحوث
للطرق والكباري)



Contractor Company	ALFATH		Designer Company																	
Issued by Contractor	Name	Sign	Date	Time																
	Eng/		20/10/2022																	
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 Station Reference	D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Description of Materials	Fill material results				
Location to be Used:	403+500	403+740		404+520	404+700
	403+700	403+940		404+720	404+900
	401+900	401+100		400+760	400+920
	404+100	404+300		402+800	402+900
	404+320	404+500		401+360	401+640
	401+820	401+980			
	402+920	403+100			
MAR Approval No			Date		
Supplier Name					
Test Requirement	Specification		Clause		
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	C.B.R	m3	5000		
2					
3					
4					
Comments by:			Comments by:		
A sample has been taken from fill material by SGAC office to COMIBASSAL lab and the results founded meet the specifications and accepted					
APPROVAL STATUS					
Organisation	Name	Sign	Date	A-AWC-R	
Contractor					
QA/QC *					
GARB**					
Comment by ER					
Employers Representative					

* Designer

** Alignment / Bridges: Culvert Only

NO	STATION			TEST							QUANTITY TEST
	FROM	TO	LEVEL	PROCTOR	SEIVE ANALYSES	LL, PL, PI	OMC	CBR	SIEVE NO 200	SOIL CLASSIFICATION	
3	403+560	403+740	0.90 +	7.3%	NP	8.10%		600	A-1-A	5000	
	403+760	403+940	0.90 +								
	401+300	401+500	0.70 +								
	404+100	404+300	0.70 +								
	404+320	404+500	0.70 +								
	401+820	401+980	0.70 +								
	402+920	403+100	0.90 +								
	404+520	404+700	0.70 +								
	404+720	404+900	0.70 +								
	400+760	400+920	0.90 +								
402+800	402+900	0.90 +									
401+360	401+640	0.90 +									
3	58.00%									5000	



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

I- Introduction

General Consultant :	SYSTRA
Consultant :	د/سعد الجيوشي
Contractor :	شركة الفتح للشحن والتفريغ والأعمال البحرية
Sample :	Sub-Ballast
Station :	From stored materials (25000M ³)
Date of Test :	20/10/2022
QC :	1382-5

II- Sample description:

Crushed stone and sand

III- Required tests and Results:

Required Tests		Results
1- Grain size analysis and classification	Grain size analysis	As showed in appendix
	Classification	A-1-a
2- Modified compaction (Proctor test)	MDD	2.208
	OMC	6.6%
3- Liquid limit, plastic limit and plasticity index	LL	Non plastic
	PL	Non plastic
	PI	Non plastic
4- California bearing ratio (CBR)	CBR ratio	98%
5- Specific gravity (SG), absorption and degradation	S S D	2.617
	Absorption	1.2 %
	Degradation	0.2%
6- Los Angeles test	Abrasion ratio	26.4%

IV- Notes

- 1- Samples were brought by : م/ محمود سعودي
- 2- Samples are responsible from the Person who brought it.
- 3- The results are applying only for the present report.

LAB DIRECTOR

Eng / Eman kandil



Geotechnical consultant

For Dr. M-
Dr. Mohamed Mostafa Badry





COMIBASSAL International Controllers Internal inspection and laboratories sector

Accredited by : Egyption General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egyption Accreditation council (EGAC) under No. 031706/1A

APPENDIX



COMIBASSAL International Controllers

Internal inspection and laboratories sector

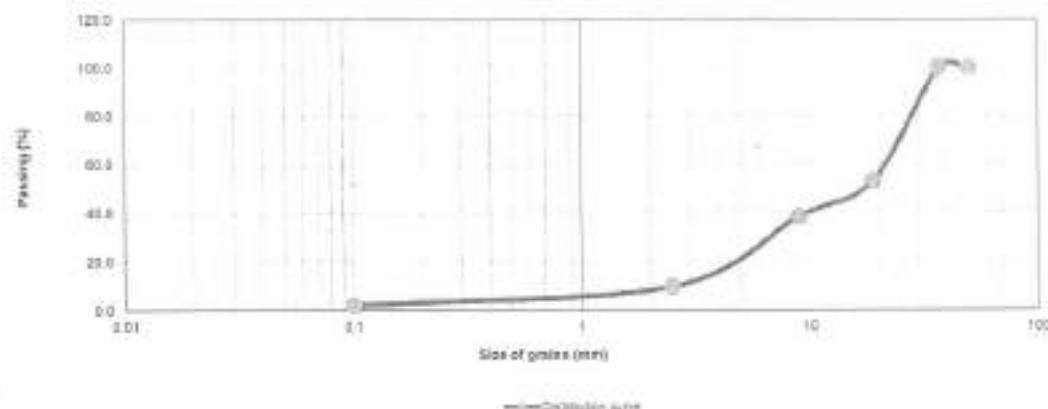
Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

	WEIGHT RETAINED	CUMULATIVE WEIGHT RETAINED (gm)	CUMULATIVE PERCENTAGE RETAINED (%)	CUMULATIVE PERCENTAGE PASSING (%)	STANDARD SPECIFICATION LIMITS
	(gm)				
2	0.00	0.00	0.00	100.0	
1 1/2	0.00	0.00	0.00	100.0	
1	184.00	184.00	1.84	98.2	
3/4	4497.00	4681.00	46.84	53.2	
1/2	1183.00	5864.00	58.68	41.3	
3/8	286.00	6150.00	61.54	38.5	
No.4	1780.00	7930.00	79.35	20.7	
No.10	267.00	267.00	53.40	9.6	
No.200	453.00	453.00	90.60	1.9	

total sample weight= 9994.00 pass No. 4= 2064.0 Total fine aggregates weight - 500 gm
pass% 20.7

Size analysis distribution curve



Soil classification: A - 1- a - sample is non plastic





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

Modified Proctor Test Report

ASTM - D 1557

Mould Number :- 5
Volume of mould = 2188 cm³
Weight of mould = 5890 g
G.S = 2.67 g/cm³

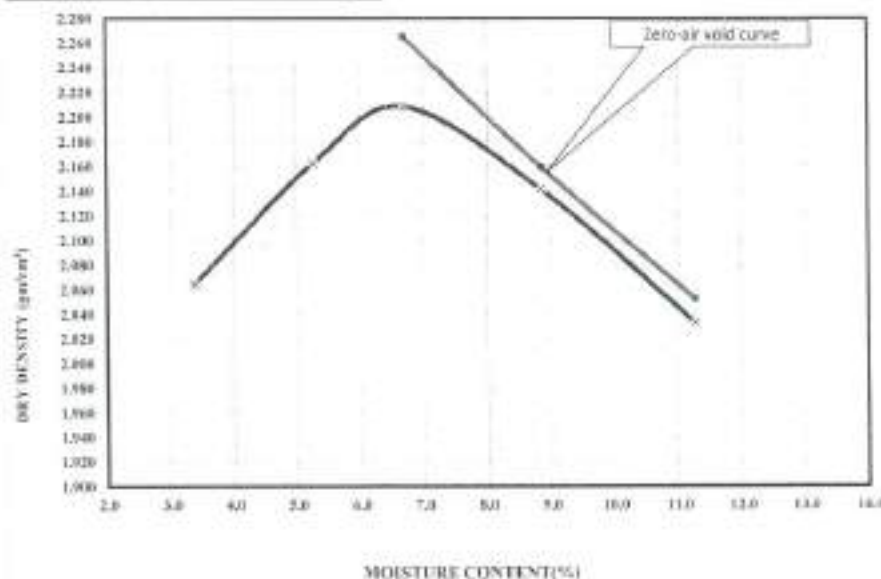
A- Density Calculations :-

	1	2	3	4	5
Weight of wet soil+mould (g)	10560	10870	11045	10990	10840
Weight of mould (g)	5890	5890	5890	5890	5890
Weight of wet soil (g)	4670	4980	5155	5100	4950
Volume of mould (cm ³)	2188	2188	2188	2188	2188
Wet density (g/cm ³)	2.134	2.276	2.356	2.331	2.262
Dry density (g/cm ³)	2.064	2.162	2.208	2.141	2.033
Zero-air Void curve			2.265	2.160	2.052

B- Moisture Calculations :-

Weight of wet soil+container (g)	250.0	250.0	250.0	250.0	250.0
Weight of dry soil+container (g)	244.5	241.5	239.4	236.5	234.5
Weight of container (g)	82.0	80.0	81.0	84.0	97.0
moisture content(%)	3.4	5.3	6.7	8.9	11.3

C - Dry density-Moisture relationship:-



M.D.D= 2.208 gm/cm³
O.M.C= 6.6 %





COMIBASSAL International Controllers

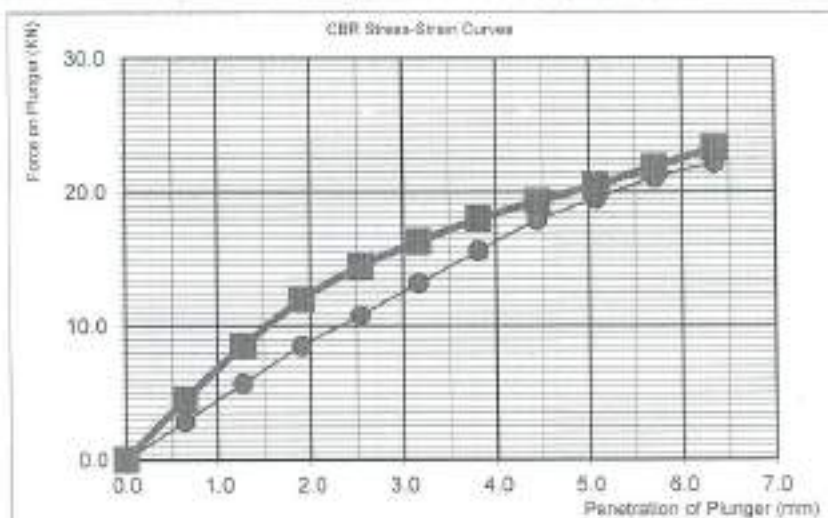
Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

Report Of CBR Test - ASTM - D 1883

NO OF BLOWS	56					
MOULD NO	1					
WT OF MOULD+SOIL	12175					
WT OF MOULD	7040					
WT OF SOIL	5135					
VOLUME OF MOULD	2198					
WET DENSITY	2.336					
MC before soaking		Weight of Rammer		4.54Kg		
TIN NO	1			MDD	Kg/m3	2.208
WT OF WET SOIL+TIN	250.00			OMC	%	6.6
WT OF DRY SOIL+TIN	244					
WT OF WATER	6.00					
WT OF TIN	88					
WT OF DRY SOIL	99					
MOISTURE CONTENT	6.1					
DRY DENSITY	2.203					

Pen	Reading (Div)	Bearing (KN)	CBR
mm	56	56	standar
0.00	0	0.0	0.0
0.64	290	2.8	4.5
1.27	582	5.7	8.5
1.91	869	8.5	12.0
2.54	1105	10.8	14.5
3.17	1349	13.2	16.3
3.81	1592	15.6	18.0
4.45	1824	17.9	19.3
5.08	1990	19.5	20.5
5.71	2150	21.1	21.9
6.35	2260	22.2	23.3





COMIBASSAL International Controllers Internal inspection and laboratories sector

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Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

Absorption & Specific Gravity for Aggregate AASHTO T85 - ASTM C127

Weight of sample	2500
Weight of saturated - dry surface sample (B)	2525
Weight of saturated sample in water (C)	1560
Weight of dry sample after heating (A)	2495

Results:-

Saturation surface dry specific gravity = $B / (B - C)$	2.617
Bulk specific gravity = $A / (B - C)$	2.585
Apparent specific gravity = $A / (A - C)$	2.668
Absorption of water = $(B - A) / A * 100$	1.2
Degradation of aggregate = $(2500 - A) / A * 100$	0.2





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031705/1A

ABRASION AND IMPACT " LOS ANGELES " TEST

(For coarse aggregate)

ASTM- C 131-96 / AASHTO-T-96

Speed	Rotate at 30 to 33 Rpm For 500 Revolution
Trial Grading	A
Intitial Weight (W1) gms	5000
Weight of tested sample (W2) gms Retained on sieve No.12	3680
% abrasion By Weight Passing from Sieve No.12	26.4%



MATERIAL INSPECTION REQUEST

الهيئة العامة
للطرق والكباري
(GARB)



مركز الاستشارات الهندسية
للطرق والكباري
إدارة مشاريع
مكثور محمد الجبوري



Contractor Company	ALFATH		Designer Company	
Issued by Contractor	Name	Sign	Date	Time
	Eng/		30/10/2022	
Received by ER			MIR	

CCOE-1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp 000 Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Description of Materials	Fill material results				
Location to be Used	401+350 401+640				
	400+600 400+740				
	400+940 401+140				
	401+100 401+340				
	401+660 401+880				
	402+100 402+360				
		402+380	402+580		
		402+600	402+780		
		404+280	404+500		
MAR Approval No.			Date		
Supplier Name					
Test Requirement	Specification		Clause		
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	LL & P.L & O.M.C %	m3	5000		
2	Proctor	m3	5000		
3	Classification	m3	5000		
4	Serve analysis	m3	5000		
Comments by:		Comments by:			
Asample has been taken form fill material by SGAC office to (COMIBASSAL) lab and the results founded meet the specifictions and accepted.					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor				
QA/QC *				
GARB**				
Comment by ER				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

FA-M-67

MATERIAL INSPECTION REQUEST

إدارة الجسور
والكباري
(GARB)



مركز البحوث والدراسات
للجسور والكباري
(مركز البحوث)

وزارة النقل
Ministry of Transport



Contractor Company	ALFATH		Designer Company	
Issued by Contractor	Name	Sign	Date	Time
	Eng/		30/10/2022	
Received by ER			MIR	

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

Description of Materials	Fill material results				
Location to be Used	401+360 401+640 400+800 400+740 400+840 401+540 401+180 401+340 401+680 401+880 402+100 402+360	402+380 402+580 402+600 402+780 404+280 404+500			
MAR Approval No			Date		
Supplier Name					
Test Requirement	Specification		Clause		
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	C.B.R	m3	5000		
2					
3					
4					
Comments by:		Comments by:			
A sample has been taken from fill material by SGAC office to (COMIBASSAL) lab and the results founded meet the specifications and accepted					
APPROVAL STATUS					
Organisation	Name	Sign	Date	A-AWC-R	
Contractor					
QA/QC *					
GARB**					
Comment by ER					
Employers Representative					

* Designer

** Alignment / Bridges; Culvert Only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/28-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

I- Introduction

General Consultant :	SYSTRA
Consultant :	د/سعد الجيوشي
Contractor :	شركة الفتح للشحن والتفريغ والأعمال البحرية
Sample :	Sub-Ballast
Station :	From stored materials (15000M ³)
Date of Test :	30/10/2022
QC :	1382-3

II- Sample description:

Crushed stone and sand

III- Required tests and Results:

Required Tests		Results
1- Grain size analysis and classification	Grain size analysis	As showed in appendix
	Classification	A-1-a
2- Modified compaction (Proctor test)	MDD	2.205
	OMC	6.6%
3- Liquid limit, plastic limit and plasticity index	LL	Non plastic
	PL	Non plastic
	PI	Non plastic
4- California bearing ratio (CBR)	CBR ratio	97%
5- Specific gravity (SG), absorption and degradation	S S D	2.622
	Absorption	1.2 %
	Degradation	0.2%
6- Los Angeles test	Abrasion ratio	27.1%

IV- Notes

- 1- Samples were brought by : د/محمود مبرودي
- 2- Samples are responsible from the Person who brought it.
- 3- The results are applying only for the present report.

LAB DIRECTOR

Eng / Eman kandil



Geotechnical consultant

For Dr. H.
Dr. Mohamed Mostafa Badry

Kilo 23 Alexandria - Cairo Desert Road - Merghem

Tel: 002 03 4704595 - 002 034701191

Email: clrdpt@comibassal.com

WebSite: www.comibassal.com



49 El Horria Ave. Alex, Egypt

Tel: 002 033920176 - 002 033931482

Fax :002 033900476

Email : internal-inspection@comibassal.com



COMIBASSAL International Controllers Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

APPENDIX





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031705/1A

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

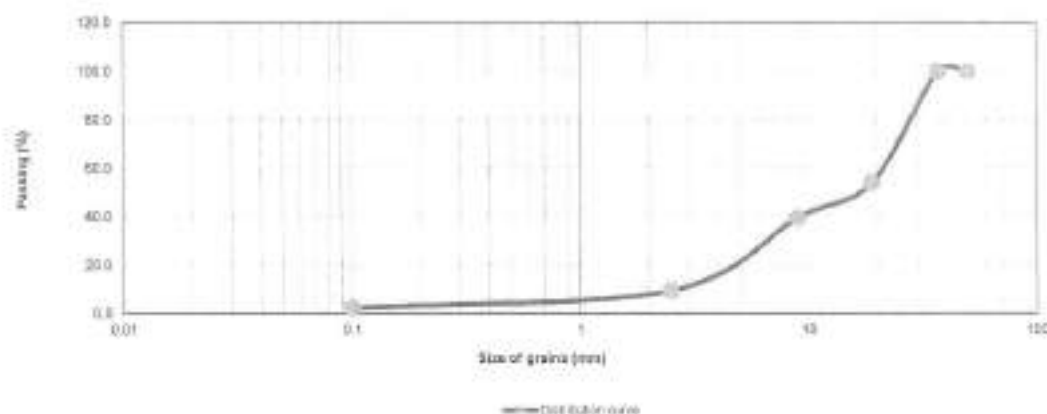
	WEIGHT RETAINED (gm)	CUMULATIVE WEIGHT RETAINED (gm)	CUMULATIVE PERCENTAGE RETAINED (%)	CUMULATIVE PERCENTAGE PASSING (%)	STANDARD SPECIFICATION LIMITS
2	0.00	0.00	0.00	100.0	
1 1/2	0.00	0.00	0.00	100.0	
1	152.00	152.00	1.52	98.5	
3/4	4450.00	4602.00	46.06	53.9	
1/2	1167.00	5769.00	57.74	42.3	
3/8	278.00	6047.00	60.52	39.5	
No.4	1805.00	7852.00	78.58	21.4	
No.10	278.00	278.00	55.60	9.5	
No.200	447.00	447.00	89.40	2.3	

total sample weight= 9992.00

pass No.4= 2140.0
pass% 21.4

Total fine aggregates weight = 500 gm

Soil analysis distribution curve



Soil classification: A - 1 - a - sample is non plastic





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

Modified Proctor Test Report

ASTM - D 1557

Mould Number :- 4
Volume of mould = 2188 cm³
Weight of mould = 5900 g
G.S = 2.67 g/cm³

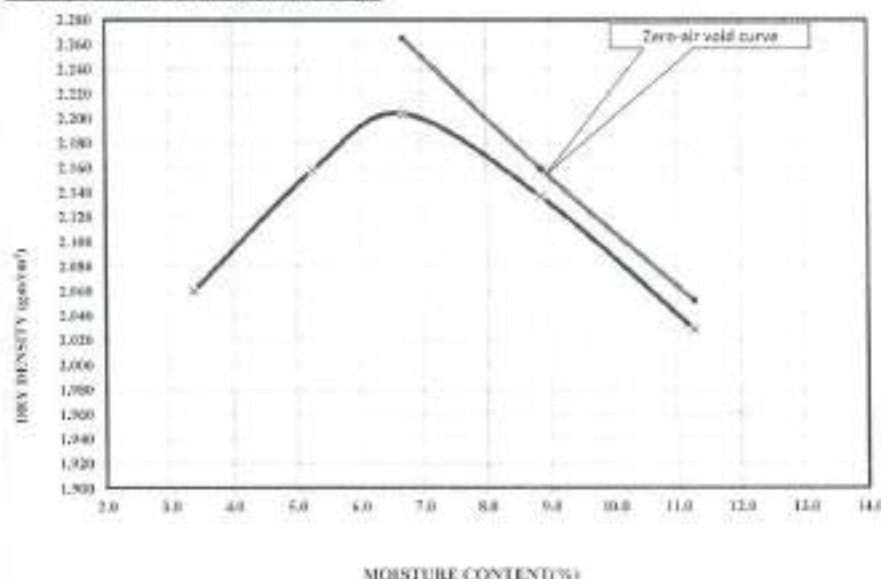
A- Density Calculations :-

	1	2	3	4	5
Weight of wet soil+mould (g)	10560	10870	11045	10990	10840
Weight of mould (g)	5900	5900	5900	5900	5900
Weight of wet soil (g)	4660	4970	5145	5090	4940
Volume of mould (cm ³)	2188	2188	2188	2188	2188
Wet density (g/cm ³)	2.130	2.271	2.351	2.326	2.258
Dry density (g/cm ³)	2.060	2.158	2.204	2.137	2.029
Zero-air Void curve			2.265	2.160	2.052

B- Moisture Calculations :-

Weight of wet soil+container (g)	250.0	250.0	250.0	250.0	250.0
Weight of dry soil+container (g)	244.5	241.5	239.4	236.5	234.5
Weight of container (g)	82.0	80.0	81.0	84.0	97.0
moisture content(%)	3.4	5.3	6.7	8.9	11.3

C - Dry density-Moisture relationship:-



M.D.D= 2.205 g/cm³
O.M.C= 6.6 %





COMIBASSAL International Controllers

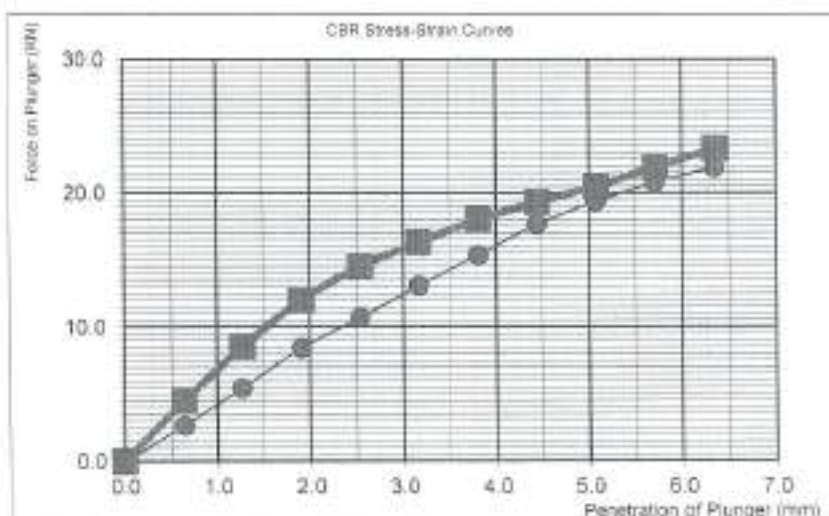
Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

Report Of CBR Test - ASTM - D 1883

NO OF BLOWS	56				
MOULD NO	1				
WT OF MOULD+SOIL	12110				
WT OF MOULD	7040				
WT OF SOIL	5070				
VOLUME OF MOULD	2198				
WET DENSITY	2.307				
	MC before soaking		Weight of Rammer	4.54Kg	
TIN NO	1		MDD	Kg/m3	2.205
WT OF WET SOIL+TIN	250.00		OMC	%	6.6
WT OF DRY SOIL+TIN	245				
WT OF WATER	5.00				
WT OF TIN	88				
WT OF DRY SOIL	99				
MOISTURE CONTENT	5.1				
DRY DENSITY	2.196				

Pen mm	Reading (Div)	Bearing (KN)	CBR
0.00	0	0.0	0.0
0.64	272	2.7	4.5
1.27	557	5.5	8.5
1.91	860	8.4	12.0
2.54	1092	10.7	14.5
3.17	1334	13.1	16.3
3.81	1567	15.4	18.0
4.45	1798	17.6	19.3
5.08	1974	19.4	20.5
5.71	2118	20.8	21.9
6.35	2234	21.9	23.3





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egyptian General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egyptian Accreditation council (EGAC) under No. 031706/1A

ABRASION AND IMPACT " LOS ANGELES " TEST

(For coarse aggregate)

ASTM- C 131-96 / AASHTO-T-96

Speed	Rotate at 30 to 33 Rpm For 500 Revolution
Trial Grading	A
Intital Weight (W1) gms	5000
Weight of tested sample (W2) gms Retained on sieve No.12	3645
% abrasion By Weight Passing from Sieve No.12	27.1%



MATERIAL INSPECTION REQUEST

الهيئة العامة
للطرق والكباري
(GARB)



وزارة النقل والبنية التحتية
مصر
(Ministry of Transport and Infrastructure)



Contractor Company	ALFATH		Designer Company	
Issued by Contractor	Name Eng/ K.m	Sign 	Date 28/7/2022	Time
Received by ER			MIR	

CODE - 1	S1 to S21 Station Reference	D1 to D3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Description of Materials	Fill material results				
Location to be Used	403+520403+740 400+600401+000 404+320404+600 401+020401+300 401+320401+500				
MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification		Clause		
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	LL & P.L & O.M.C %	m3	5000		
2	Proctor	m3	5000		
3	Classification	m3	5000		
4	Seive analysis	m3	5000		
Comments by:		Comments by:			
A sample has been taken from fill material by SGAC office to (FACB) lab and the results founded meet the specifications and accepted					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	K.m			
QA/QC*	Z. Mostafa			
GARB**	M. Nagem			
Comment by ER				
Employers Representative				

* Designer
** Alignment / Bridges: Culvert Only

FA-M-84

MATERIAL INSPECTION REQUEST

الهيئة العامة
للطرق والكباري
(GARB)



مركز الاستشارات الهندسية
للطرق والجسور والكباري
1 حارة لوتس
دكتور/ محمد الجبوري



Contractor Company	ALFATH		Designer Company																	
Issued by Contractor	Name Eng/ K.M	Sign 	Date 28/7/2022	Time																
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 Station Reference	D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE-2	Work Activity		
CODE-3	Sub Element of Activity		

Description of Materials	Fill material results				
Location to be Used	403+520403+740 400+600401+000 404+320404+600 401+020401+300 401+320401+500				
MAR Approval No				Date	
Supplier Name					
Test Requirement			Specification	Clause	
Reference Photos	Yes attached / No		Other		
Item	Description	Unit	Quantity	Arrival Date	Note
1	C.B.R	m3	5000		
2					
3					
4					
Comments by:			Comments by:		
Asample has been taken form fill material by SGAC office to (FACB) lab and the results founded meet the specifictions and accepted					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	K.M			
QA/QC *	Z. mostafa			
GARB**	M. Hegazy			
Comment by ER				
Employers Representative				

* Designer
** Alignment / Bridges: Culvert Only

NO	STATION		TEST								QUANTITY TEST
	FORM	TO	LEVEL	PROCTOR	SEIVE ANALYSES	LL, PL, PI	OMC	CBR	SIEVE NO #200	SOIL CLASSIFICATION	
2	403+520	403+740	0.25+	11.1%	100%	NP	6.7%		100%	A-1-A	5000
	400+600	401+000	0.25+								
	404+320	404+600	0.25+								
	401+020	401+300	0.25+								
	401+320	401+500	0.25+								
2					72.50%						5000

مشروع القطار الكهربائي السريع - قطاع طرق العلمين
الشركة المنفذة : شركة الفتح للشحن و التفريغ والاعمال البحرية

صلاحية طبقة التأسيس
توريد ١٠,٠٠٠ م^٣ بتاريخ ٢٨-٧-٢٠٢٢

مكتب
أ.دكتور/ فتحي محمد عبد ربه وشركاه
(FACB)

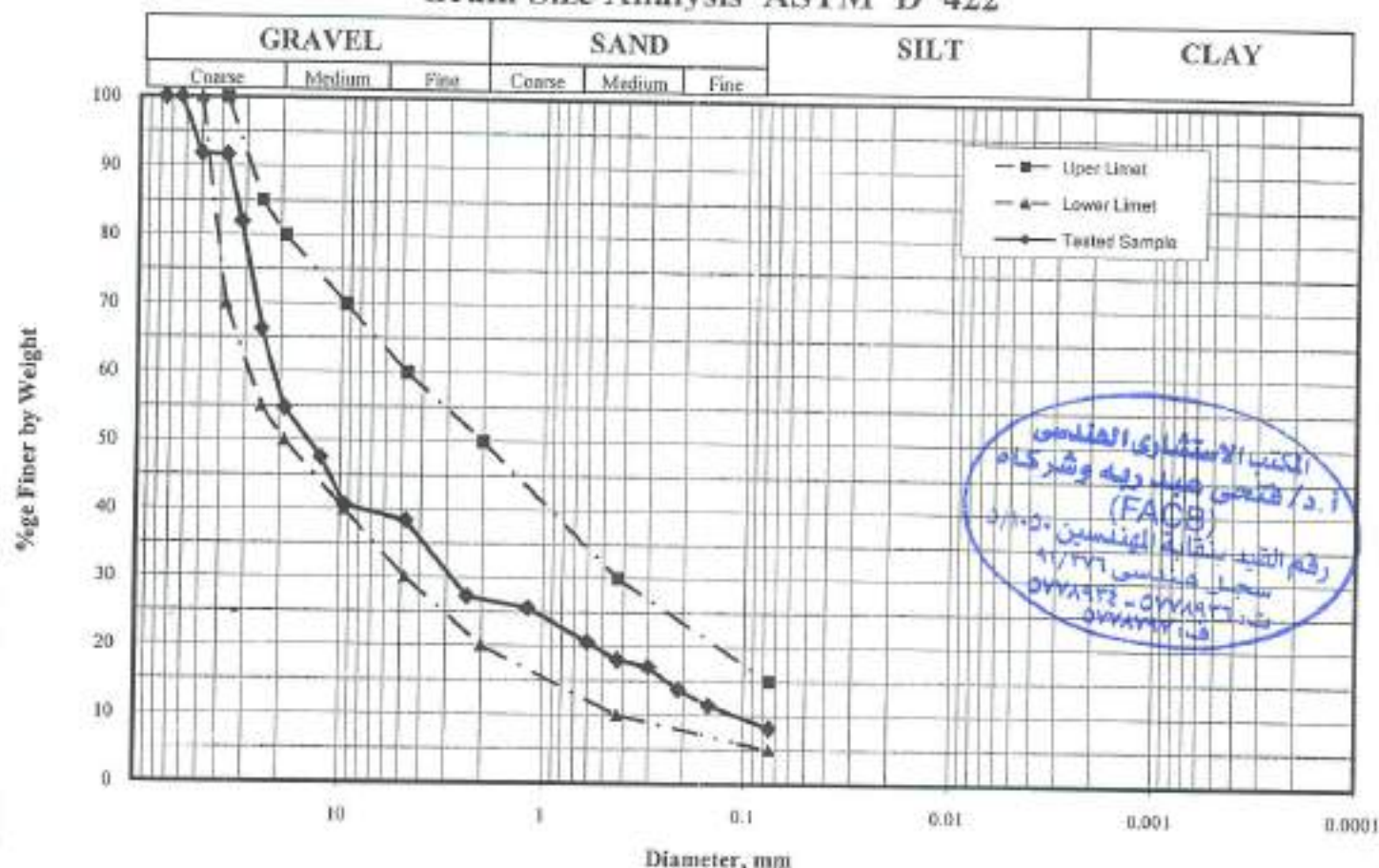
Email: facbegypt@gmail.com
Web site: facbegypt.com

تقرير رقم ٣٥-١١٠٦٣
ديسمبر ٢٠٢٢



Client:	
Project:	مشروع القطار الكهربائي السريع - قطاع طرق العطين
Description :	Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part-4 (Gradation B)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	91.80	91.64	81.97	66.23	54.75	47.54	40.66
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	38.36	27.21	25.57	20.66	18.03	17.05	13.77	11.48	8.20

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
0.11 mm	196.16	3.34 mm	14.42 mm

% passing No. 200 sieve) (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35)/0.2+0.006(LL-40)+0.01(F-15)(PI-10)	Group symbole ASTM D3282
8.20	20.81	5.55	-2.49	A-1-a

Notes

1- If group index equal minus value , then will report as zero

2- The group index of zero value indicates a " good subgrade materials "

3- The group index of 20 or greater indicates a " very poor subgrade materials "

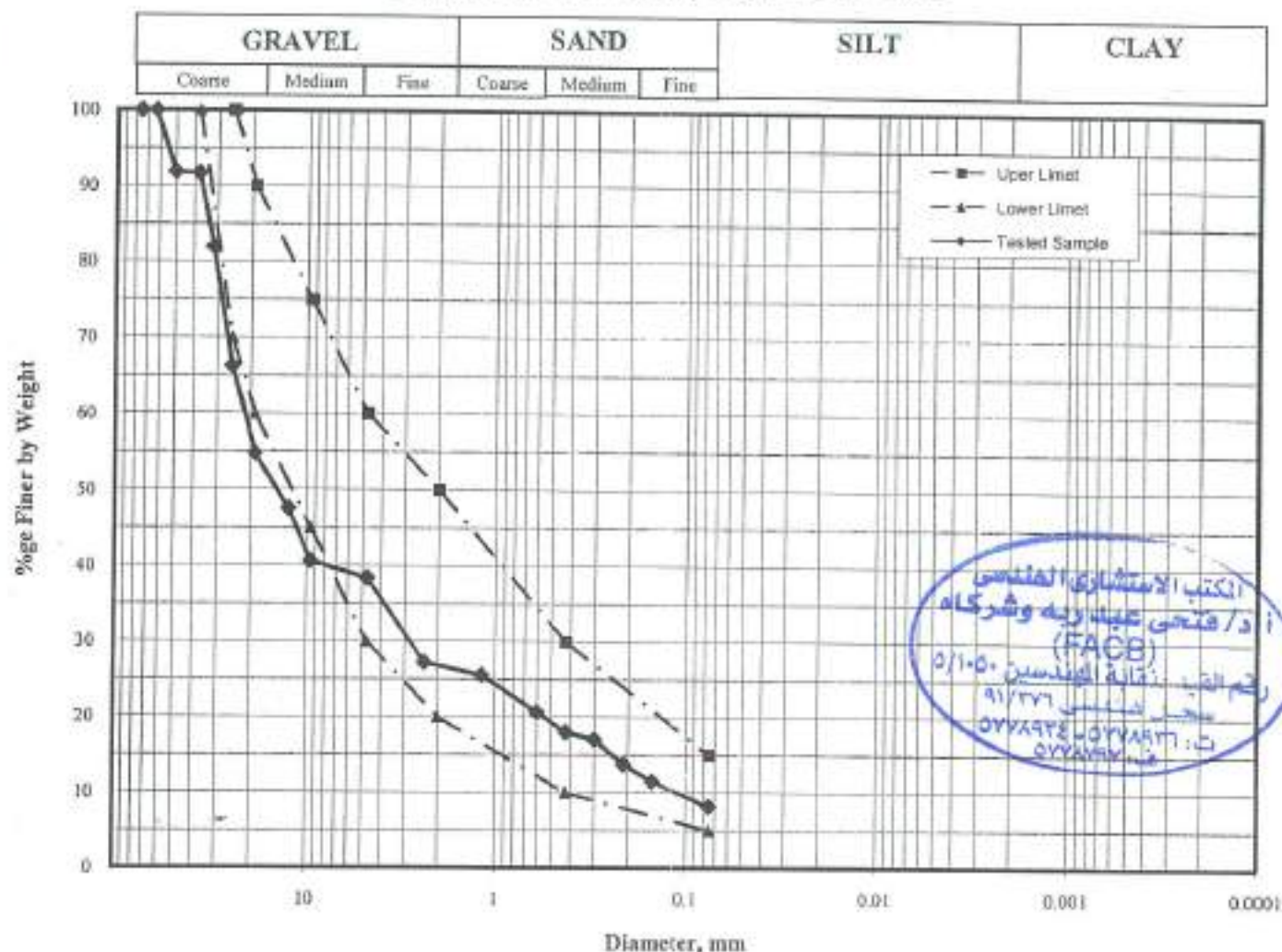
4- If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

Client:

Project: مشروع المطار الكهربائي السريع - قطاع طرق العلمين

Description : Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (Gradation D)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	91.80	91.64	81.97	66.23	54.75	47.54	40.66
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	38.36	27.21	25.57	20.66	18.03	17.05	13.77	11.46	8.20

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
0.11 mm	196.16	3.34 mm	14.42 mm

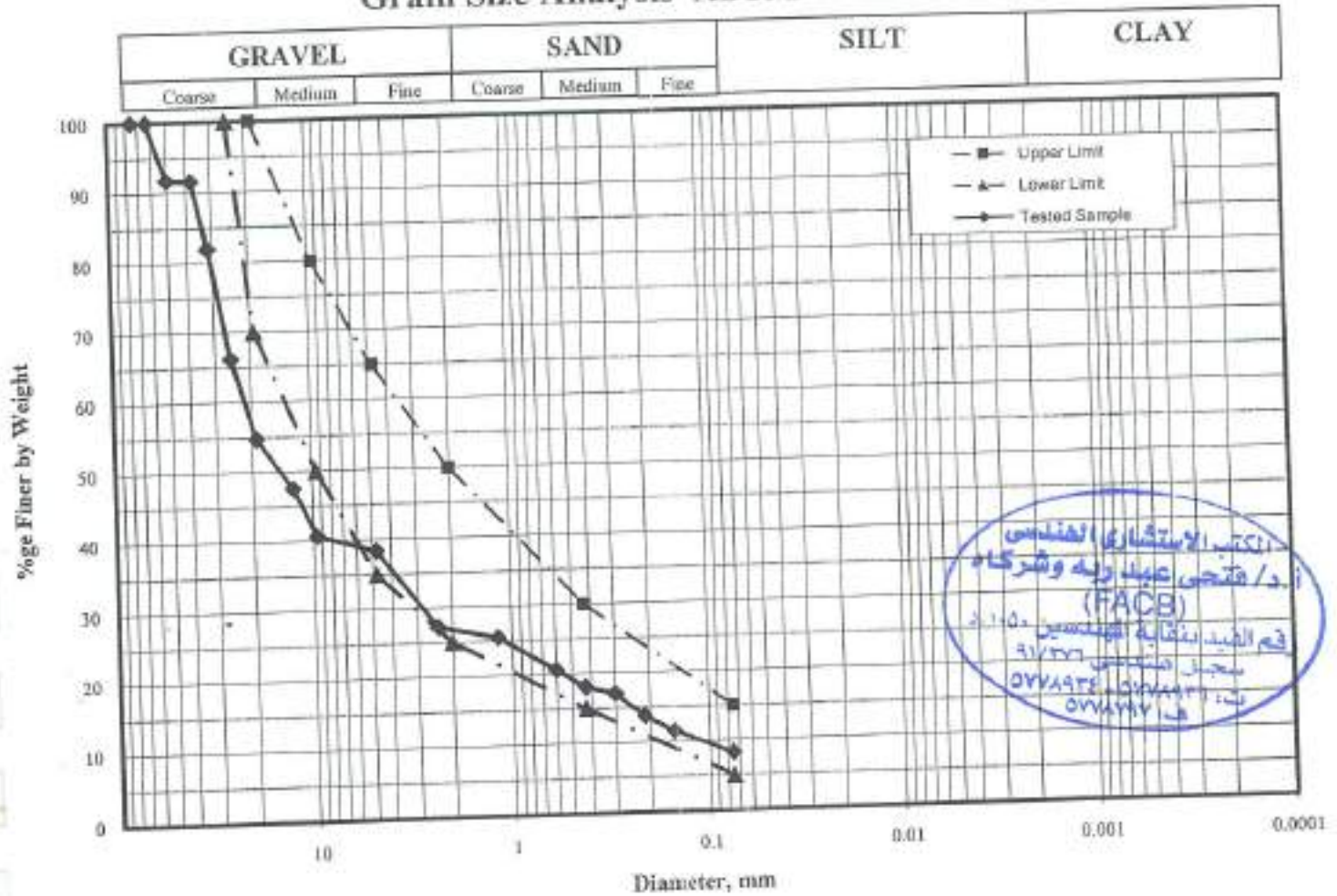
% passing No. 200 sieve) (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35) / (0.2 + 0.005 (LL-40)) + 0.01 (F-15) (PI-10)	Group symbole ASTM D3282
8.20	20.81	5.55	-2.49	A-1-a

Notes

- 1-If group index equal minus value , then will report as zero
- 2-The group index of zero value indicates a " good subgrade materials "
- 3-The group index of 20 or greater indicates a " very poor subgrade materials "
- 4-If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

Client:
Project: مشروع القطر الكهربائي السريع - قطاع طرق الملمين
Description: Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (- Gradation F)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	91.80	91.64	81.97	66.23	54.75	47.54	40.66
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	38.36	27.21	25.57	20.66	18.03	17.05	13.77	11.48	8.20

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
0.11 mm	196.16	3.34 mm	14.42 mm

% passing No. 200 sieve (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35) [0.2 + 0.005 (LL - 40)] + 0.01 (F - 15) (PI - 10)	Group symbole ASTM D3282
8.20	20.81	5.55	-2.49	A-1-a

Notes

- 1-If group index equal minus value , then will report as zero
- 2-The group index of zero value indicates a " good subgrade materials "
- 3-The group index of 20 or greater indicates a " very poor subgrade materials "
- 4-If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

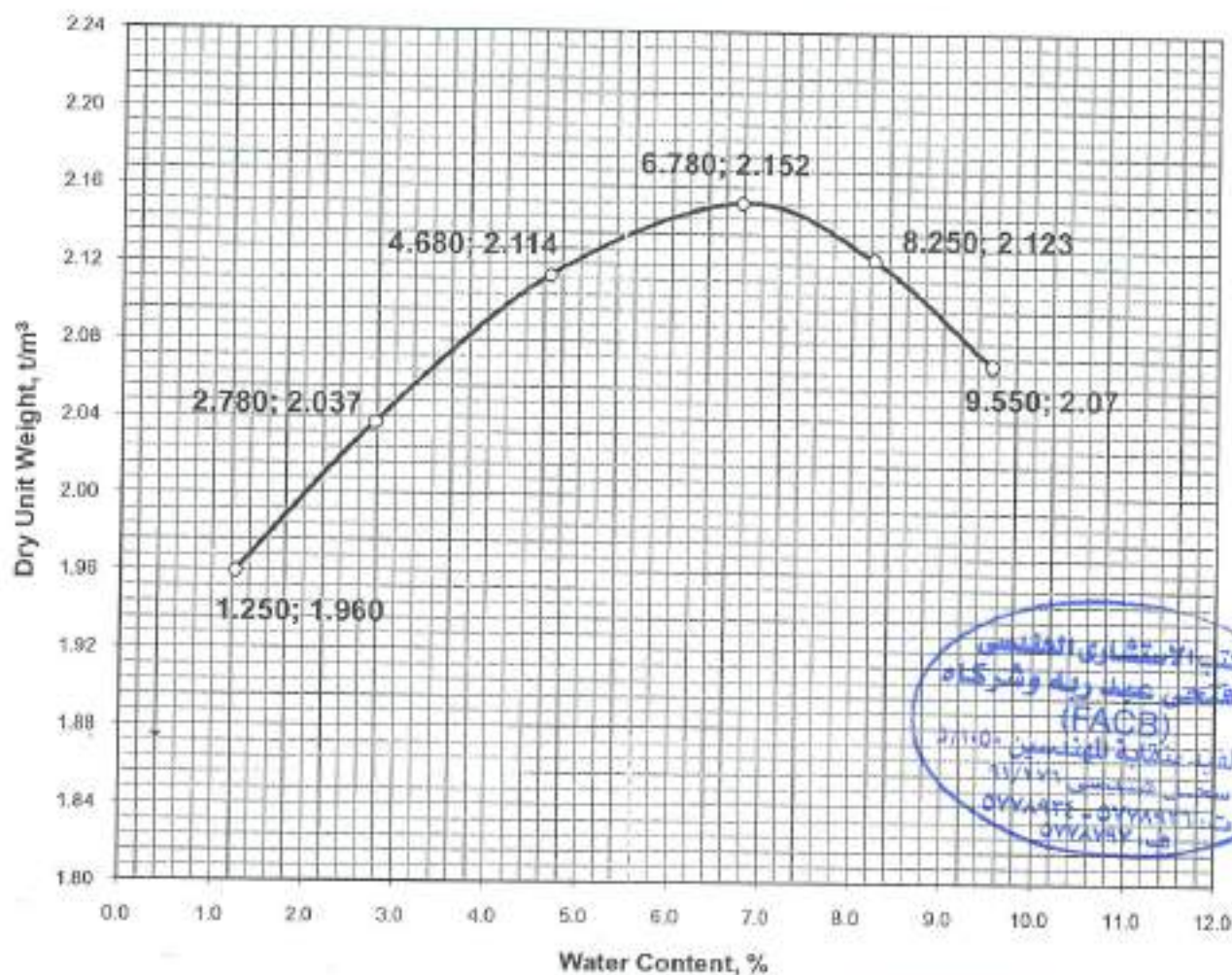
Fathi Abdrabbo Consulting Bureau

Client:

Project: مشروع القطر الكبريتي السريع - قطاع طريق العليين

Classification: PINK CRUSHED LIMESTONE, with sand & powder

Modified Proctor Test (ASTM D-1557)



Sample	1	2	3	4	5	6
Water Content %	1.25	2.78	4.68	6.78	8.25	9.6
Moist Unit Weight, t/m^3	1.98	2.09	2.21	2.30	2.30	2.27
Dry Unit Weight, t/m^3	1.960	2.037	2.114	2.152	2.123	2.07
Specific Gravity for oversize aggregates	N/A					
Maximum dry unit weight (g_{max})	2.152 t/m^3					
Modified maximum dry unit weight (g_{max})	2.305 t/m^3					
Optimum moisture content	6.78 %					
% Over size sieve 19 mm	45.00 %					

Method - C

MATERIAL INSPECTION REQUEST

المشروع
الطريق و
البنية التحتية
(GARB)



مركز الدراسات والبحوث
الطرق والجسور
(مركز البحوث)
مركز البحوث والجسور



Contractor Company	ALFATH		Designer Company	
Issued by Contractor	Name Eng/ <i>K. M.</i>	Sign <i>[Signature]</i>	Date 1/8/2022	Time
Received by ER			MIR	

CODE - 1	S1 to S21 Station Reference	D1 to D3 Depot Reference	Rp XXX Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Description of Materials	Fill material results				
Location to be Used	401+320401+500 404+000404+300 401+720401+900 401+520401+700 401+920402+180 403+440403+620				
MAR Approval No.				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	L.L & P.L & O.M.C %	m3	5000		
2	Proctor	m3	5000		
3	Classification	m3	5000		
4	Seive analysis	m3	5000		
Comments by:			Comments by:		
A sample has been taken from fill material by SGAC office to (FACB) lab and the results founded meet the specifications and accepted					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	<i>K. M.</i>	<i>[Signature]</i>		
QA/QC *	<i>Z. Mostafay</i>	<i>Z. Mostafay</i>		
GARB **	<i>M. Hagh</i>	<i>[Signature]</i>		
Comment by ER				
Employers Representative				

* Designer

** Alignment / Bridges; Culvert Only

File: MIR - 5000 m3 (3)

Page 1 of 1

FA-M-85

MATERIAL INSPECTION REQUEST

الهيئة العامة
للطرق والكباري
(GARF)



مركز الدراسات والبحوث
للطرق والكباري
(مركز البحوث
للطرق والكباري)



Contractor Company	ALFATH		Designer Company	
Issued by Contractor	Name Eng/ K.M. / K.M.	Sign	Date 1/8/2022	Time
Received by ER			MIR	

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

Description of Materials	Fill material results				
Location to be Used	401+320401+500 404+000404+300 401+720401+900 401+520401+700 401+920402+180 403+440403+620				
MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	C.B.R	m3	5000		
2					
3					
4					
Comments by:			Comments by:		
A sample has been taken from fill material by SGAC office to (FACB) lab and the results founded meet the specifications and accepted					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	K.M.			
QA/QC *	Z. Mostafa			
GARB **	M. Hegm			
Comment by ER				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

File: MIR - 5000 m3

Page 1 of 1

NO	STATION		LEVEL	TEST							QUANTITY TEST
	FORM	TO		PROCTOR	SEIVE ANALYSES	LL, PL, PI	OMC	CBR	SIEVE NO #200	SOIL CLASSIFICATION	
3	401+320	401+500	0.25+	7.1-8	NP	7.1-8	8-10	A-1-A	5000		
	404+000	404+300	0.25+								
	401+720	401+900	0.25+								
	401+520	401+700	0.25+								
	401+920	402+180	0.25+								
	403+440	403+620	0.50+								
3				71.00%							5000

مشروع القطار الكهربائي السريع - قطاع طرق العلمين

الشركة المنفذة : شركة الفتح للشحن و التفريغ والاعمال البحرية



صلاحية طبقة التأسيس

توريد ١٥,٠٠٠ م^٣ بتاريخ ١-٨-٢٠٢٢

مكتب

أ.دكتور / فتحي محمد عبد ربه وشركاه

(FACB)

Email: facbegypt@gmail.com

Web site: facbegypt.com

تقرير رقم ٢٦-١١٠٦٣

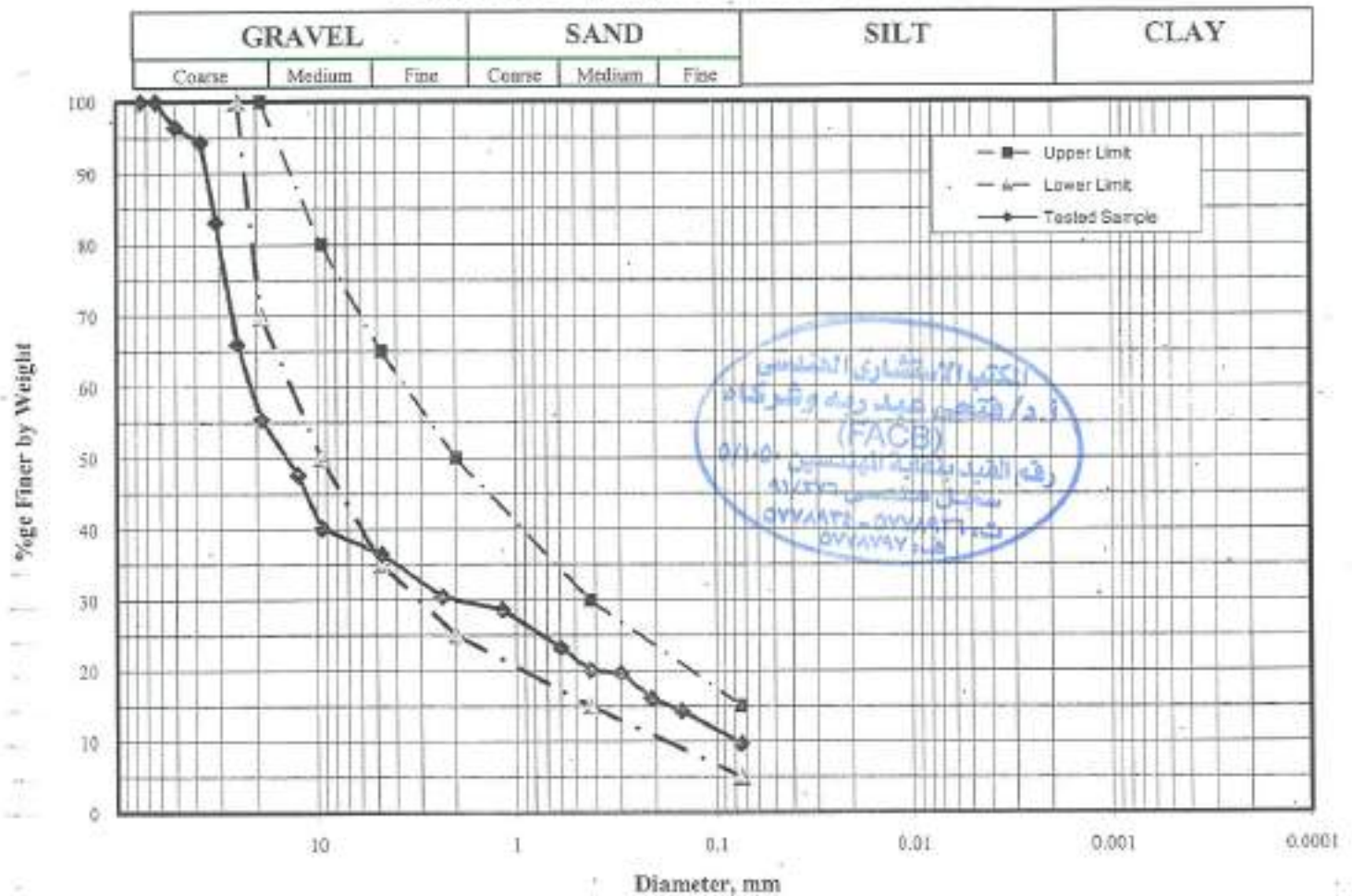
أكتوبر ٢٠٢٢

Client:

Project: مشروع الطريق السريع - قطاع طرق العلمين

Description : Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (Gradation F)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	96.40	94.35	83.12	65.99	55.48	47.60	40.10
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	36.44	30.42	28.63	23.26	20.04	19.68	16.10	14.32	9.66

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
0.08 mm	271.09	2.39	14.20 mm

% passing No. 200 sieve) (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35)(9.2+0.005(LL-40))+0.01(F-15)(PI-10)	Group symbole ASTM D3282
9.66	N/A	N/A	0.53	A-1-a

Notes

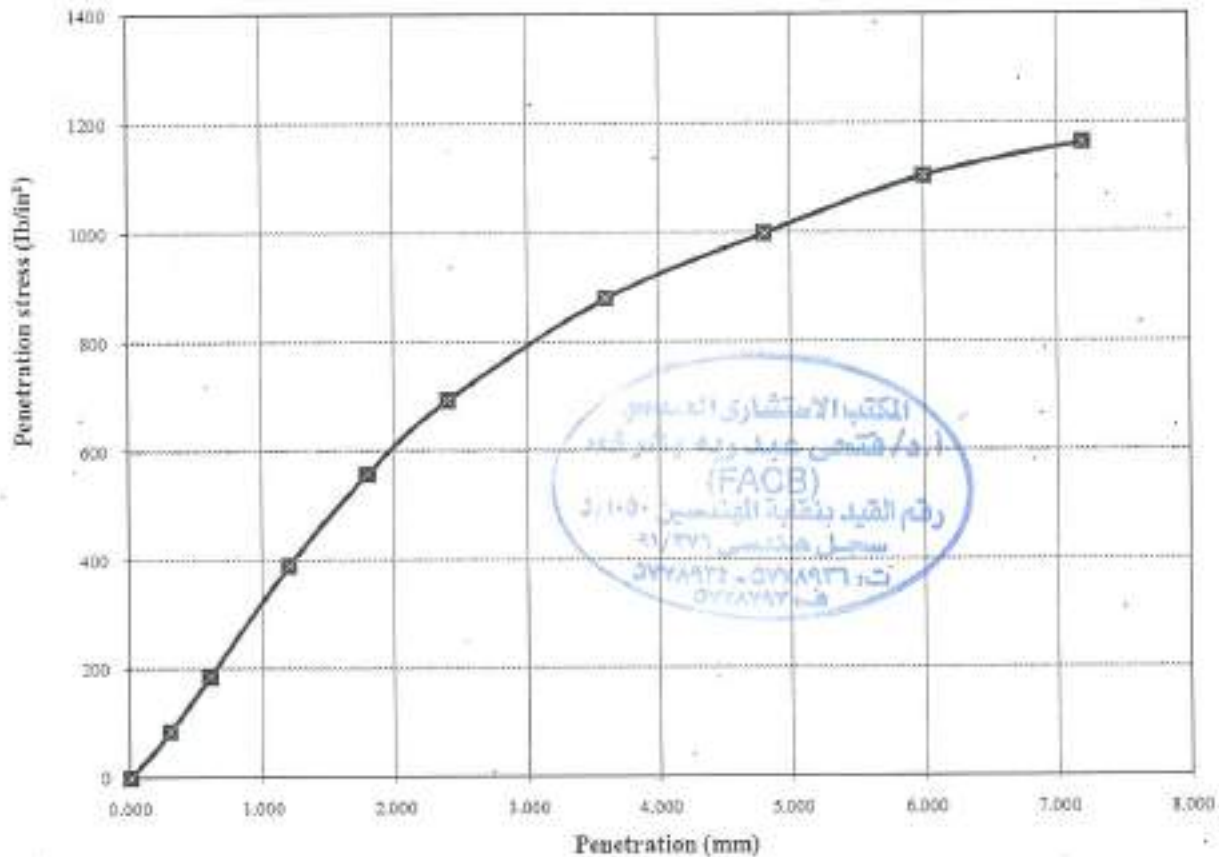
- 1-If group index equal minus value , then will report as zero
- 2-The group index of zero value indicates a " good subgrade materials "
- 3-The group index of 20 or greater indicates a " very poor subgrade materials "
- 4-If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

Client:

Project : مشروع الطرق الكهرابى السريع - قطاع طرق الطمين

Classification: PINK CRUSHED LIMESTONE, with sand & powder

California Bearing Ratio Test, CBR (ASTM D1883)



Sample Data:

Compaction type:	Modified
Max. dry unit weight	2.145 t/m ³
Optimum water content	4.54 %

Result:

CBR value (soaked 4 days) = 71.5%

Behaviour of sample after soaking for 4 days : Nither swelling nor collapsing

MATERIAL INSPECTION REQUEST

الهيئة العامة
للطرق والكباري
(SAMB)



مركز الدراسات والبحوث
في النقل والبنية التحتية
(مركز البحوث)



Contractor Company	ALFATH		Designer Company																	
Issued by Contractor	Name Eng/ K-M	Sign 	Date 17/8/2022	Time																
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 Station Reference	D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Description of Materials	Fill material results				
Location to be Used	403+440 403+620 403+640 403+940 402+420 402+580 402+200 402+400 404+620 404+900 404+000 404+200				
MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No			Other	
Item	Description	Unit	Quantity	Arrival Date	Note
1	LL & P.L & O.M.C %	m3	5000		
2	Proctor	m3	5000		
3	Classification	m3	5000		
4	Seive analysis	m3	5000		
Comments by:			Comments by:		
A sample has been taken from fill material by SGAC office to [COMIBASSAL] lab and the results founded meet the specifications and accepted					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	K-M			
QA/QC *	Z. Mostafa			
GARB **	M. Al-Sayid			
Comment by ER				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

File: MIR - 5000 m3 (1)

Page 1 of 1

FA-M-86

MATERIAL INSPECTION REQUEST

الهيئة العامة
للطرق والكباري
(GARB)



مركز الدراسات والبحوث
للطرق والكباري
في جدة (JRC)



Contractor Company	ALFATH		Designer Company	
Issued by Contractor	Name	Sign	Date	Time
	Eng/ K.M	K.M	17/8/2022	
Received by ER			MIR	

CODE-1	S1 to S21 Station Reference	D1 to D3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE-2	Work Activity		
CODE-3	Sub Element of Activity		

Description of Materials	Fill material results				
Location to be Used	403+440 403+620 403+640 403+940 402+420 402+580 402+200 402+400 404+620 404+900 404+000 404+200				
MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	C.B.R	m3	5000		
2					
3					
4					
Comments by:			Comments by:		
A sample has been taken from fill material by SGAC office to COMIBASSAL lab and the results founded meet the specifications and accepted					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	K.M	K.M		
QA/QC*	Z. mostafa	Z. mostafa		
GARB**	M. Hegm			
Comment by ER				
Employers Representative				

NO	STATION		TEST								QUANTITY TEST
	FORM	TO	LEVEL	PROCTOR	SEIVE ANALYSES	LL, PL, PI	OMC	CBR	SIEVE NO .200	SOIL CLASSIFICATION	
4	403+440	403+620	0.50+	2.131		NP	7.335		200µs	A-1-A	5000
	403+640	403+940	0.50+								
	402+420	402+580	0.25+								
	402+200	402+400	0.25+								
	404+620	404+900	0.25+								
	404+000	404+200	0.50+								
4			72.60%								5000

مشروع القطار الكهربائي السريع - قطاع طرق العلمين
الشركة المنفذة : شركة الفتح للشحن و التفريغ والاعمال البحرية

صلاحية طبقة التأسيس

توريد ٢٠,٠٠٠ م^٣ بتاريخ ١٧-٨-٢٠٢٢



مكتب
الدكتور / فتحي محمد عبد ربه وشركاه
(FACB)

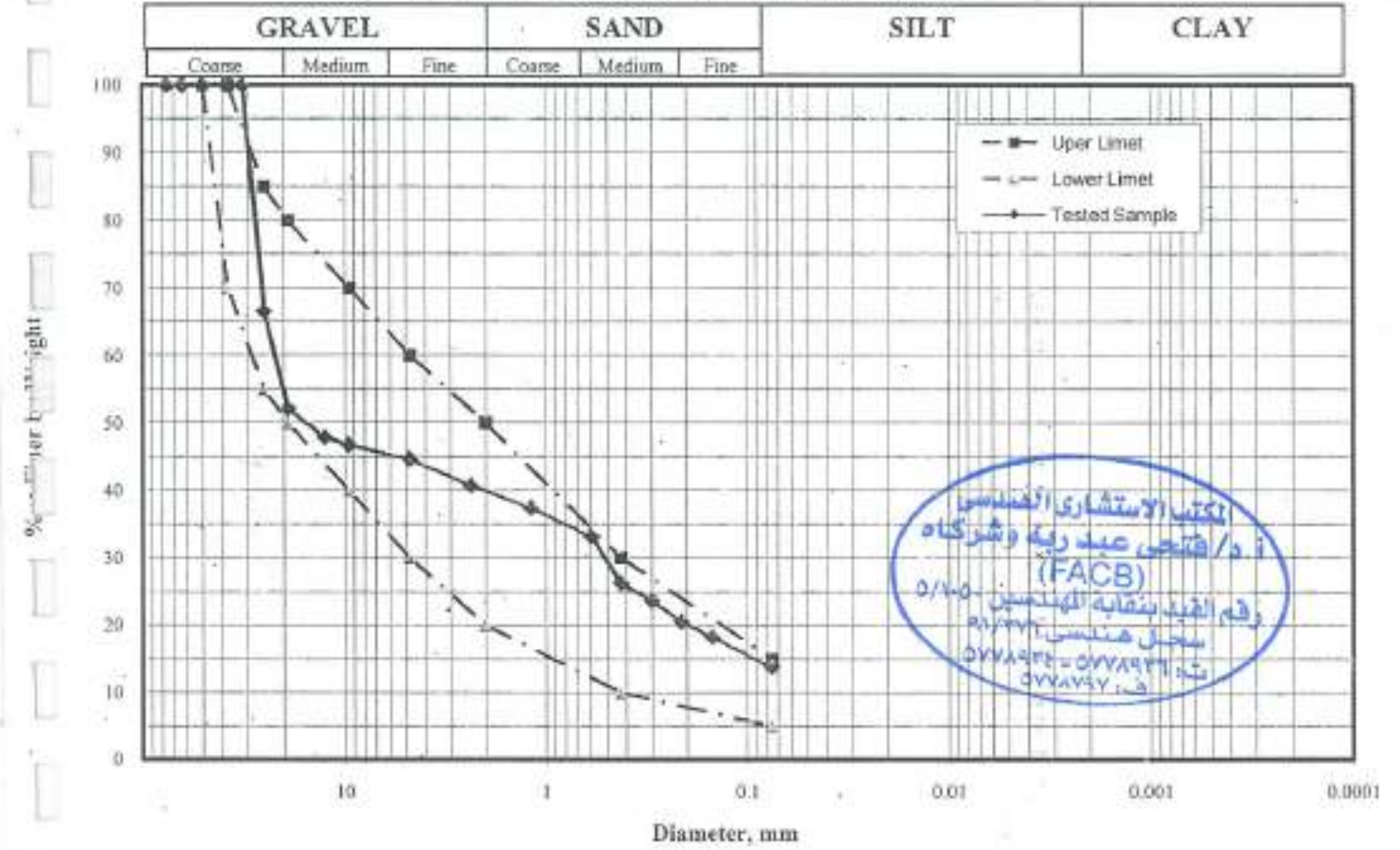
Email: facbegypt@gmail.com
Web site: facbegypt.com

تقرير رقم ٢٠-١١٠٦٣
أكتوبر ٢٠٢٢

Handwritten signature and date ٢٠١١/١٢

Client:
Project: مشروع القطار الكهربائي السريع - قطاع طريق العامين
Description : Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With: ECP For Roads 104 / 2008 part 4 (Gradation B)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	100.00	100.00	100.00	66.59	52.23	47.93	46.77
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	44.68	40.77	37.47	33.32	26.35	23.67	20.54	18.31	13.84

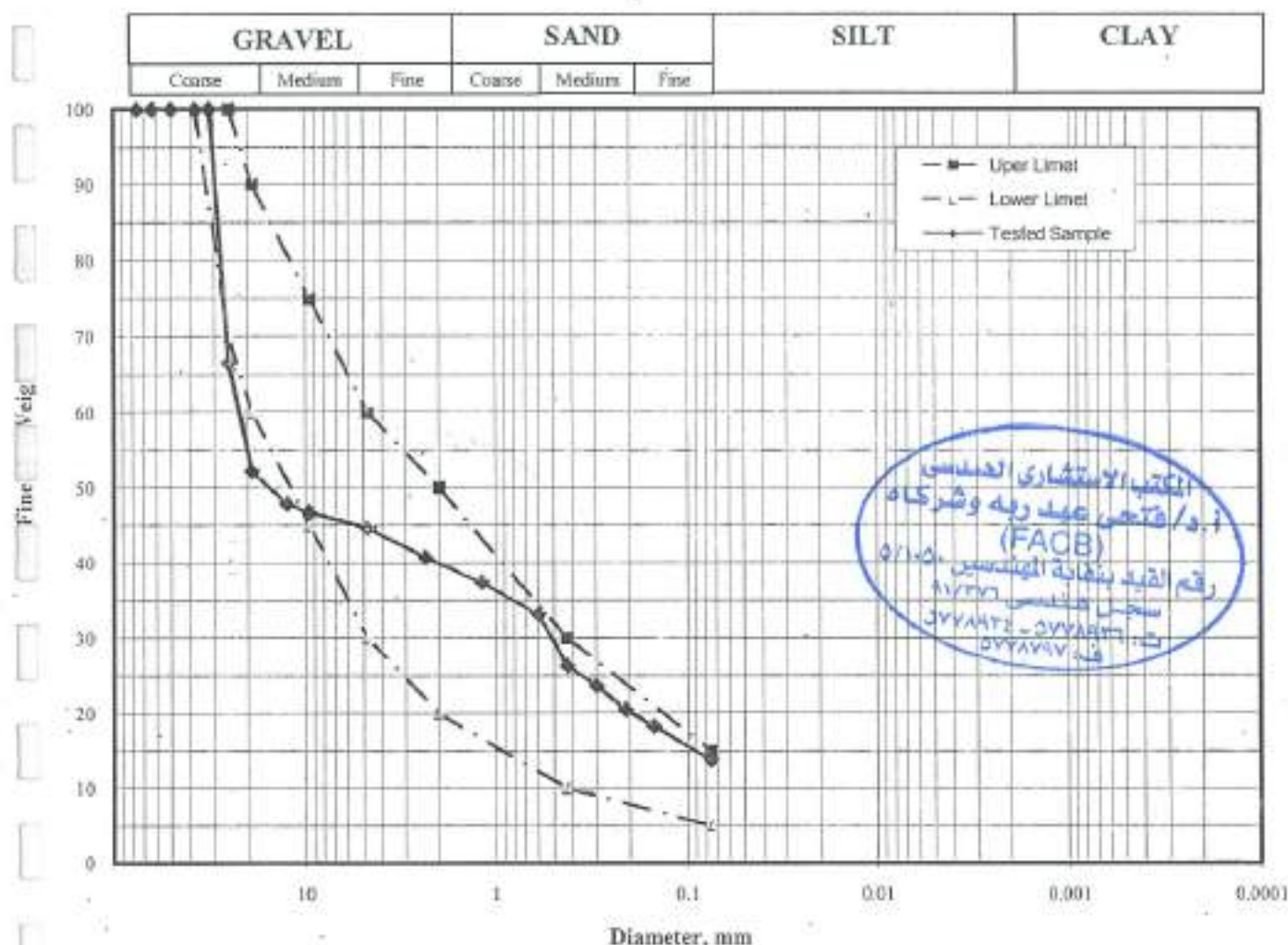
Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
N/A mm	N/A	N/A mm	15.30 mm

passing No. 200 sieve)	LL (liquid limit)	PI (plasticity index)	Group index (GI)	Group symbole
(F)	(%)	(%)	(F-35)X(0.2+0.005(LL-40))+0.01(F-15)(PI-10)	ASTM D3282
13.84	16.73	5.66	-1.79	A-1-a

Notes
-If group index equal minus value , then will report as zero
-The group index of zero value indicates a " good subgrade materials "
-The group index of 20 or greater indicates a " very poor subgrade materials "
-If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

Content:	
Project:	مشروع القطار الكهربائي السريع - قطاع طرق الملمين
Description:	Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (Gradation D)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	100.00	100.00	100.00	66.59	52.23	47.93	46.77
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	44.68	40.77	37.47	33.32	26.35	23.67	20.54	18.31	13.84

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
N/A mm	N/A	N/A mm	15.30 mm

passing No. 200 sieve) (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35) 0.2+0.005(LL-40)+0.01(F-15)(PI-10)	Group symbols ASTM D3282
13.84	16.73	5.68	-1.79	A-1-a

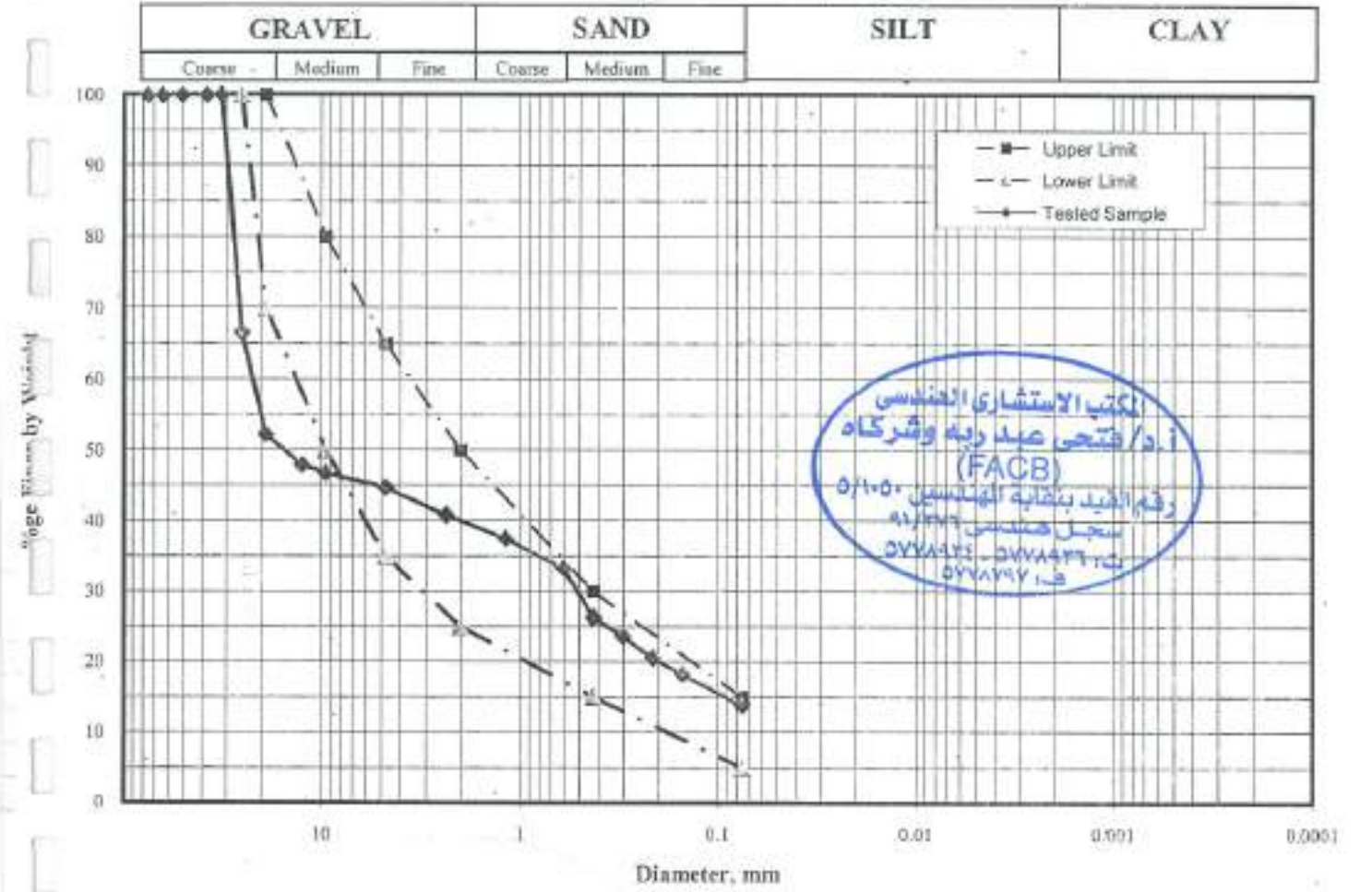
Notes:
 1- If group index equal minus value , then will report as zero
 1- If group index of zero value indicates a " good subgrade materials "
 1- If group index of 20 or greater indicates a " very poor subgrade materials "
 1- If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

Client:

Project:مشروع القطر الكهربائي السريع - قطاع طريق العامين

Description:Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (Gradation F)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	100.00	100.00	100.00	66.59	52.23	47.93	46.77
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	44.68	40.77	37.47	33.32	26.35	23.67	20.54	18.31	13.84

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
N/A mm	N/A	N/A mm	15.30 mm

% passing No. 200 sieve (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35) / (0.2 + 0.005 (L - 40) + 0.01 (F - 15) (PI - 10))	Group symbole ASTM D3282
13.84	16.73	5.66	-1.79	A-1-a

If group index equal minus value , then will report as zero
The group index of zero value indicates a " good subgrade materials "
The group index of 20 or greater indicates a " very poor subgrade materials "
If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

Classification: PINK CRUSHED LIMESTONE, with sand & powder

MATERIAL INSPECTION REQUEST

إدارة الطرق والكباريت
(GARB)



مركز الدراسات والبحوث
الطرق والكباريت
(مركب)



Contractor Company	ALFATH		Designer Company	
Issued by Contractor	Name	Sign	Date	Time
	Eng/ K.M	[Signature]	21/8/2022	
Received by ER			MIR	

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

Description of Materials	Fill material results				
Location to be Used	404+000 404+200 403+220 403+420 405+420 405+600 400+600 400+780 400+800 401+000 402+600 402+880 402+900 403+200				
MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No			Other	
Item	Description	Unit	Quantity	Arrival Date	Note
1	L.L & P.L & O.M.C %	m3	5000		
2	Proctor	m3	5000		
3	Classification	m3	5000		
4	Seive analysis	m3	5000		
Comments by:			Comments by:		
A sample has been taken from fill material by SGAC office to (FACB) lab and the results founded meet the specifications and accepted					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	K.M	[Signature]		
QA/QC*	Z. mostafa	[Signature]		
GARB**	m. Hegm	[Signature]		
Comment by ER				
Employers Representative				

* Designer

** Alignment / Bridges / Culvert Only

File: MIR - 5000 m3 (1)

Page 1 of 1

FA-M-87

MATERIAL INSPECTION REQUEST

المشروع
المسار و الجدران
(GARBS)



مركز الدراسات والبحوث
المسار والجدران
(مركز الدراسات والبحوث)



Contractor Company	ALFATH		Designer Company																	
Issued by Contractor	Name Eng/ K.M	Sign 	Date 21/8/2022	Time																
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 Station Reference	D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE-2	Work Activity		
CODE-3	Sub Element of Activity		

Description of Materials	Fill material results				
Location to be Used	404+000 404+200 405+220 405+420 405+420 405+600 406+600 406+700 406+800 406+900 407+600 407+800 408+900 409+200				
MAR Approval No			Date		
Supplier Name					
Test Requirement	Specification		Clause		
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	C.B.R	m3	5000		
2					
3					
4					
Comments by:		Comments by:			
A sample has been taken from fill material by SGAC office to (FACB) lab and the results founded meet the specifications and accepted					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	K.M			
QA/QC *	Z. Mostafa			
GARB **	M. Alkhatib			
Comment by ER				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

File: MIR - 5000 m3

Page 1 of 1

مشروع القطار الكهربائي السريع - قطاع طرق العلمين
الشركة المنفذة : شركة الفتح للشحن و التفريغ والاعمال البحرية

صلاحية طبقة التأسيس
توريد ٢٥,٠٠٠ م ٣ بتاريخ ٢١-٨-٢٠٢٢



مكتب
الدكتور / فتحي محمد عبد ربه وشركاه
(FACB)

Email: facbegypt@gmail.com
Web site: facbegypt.com

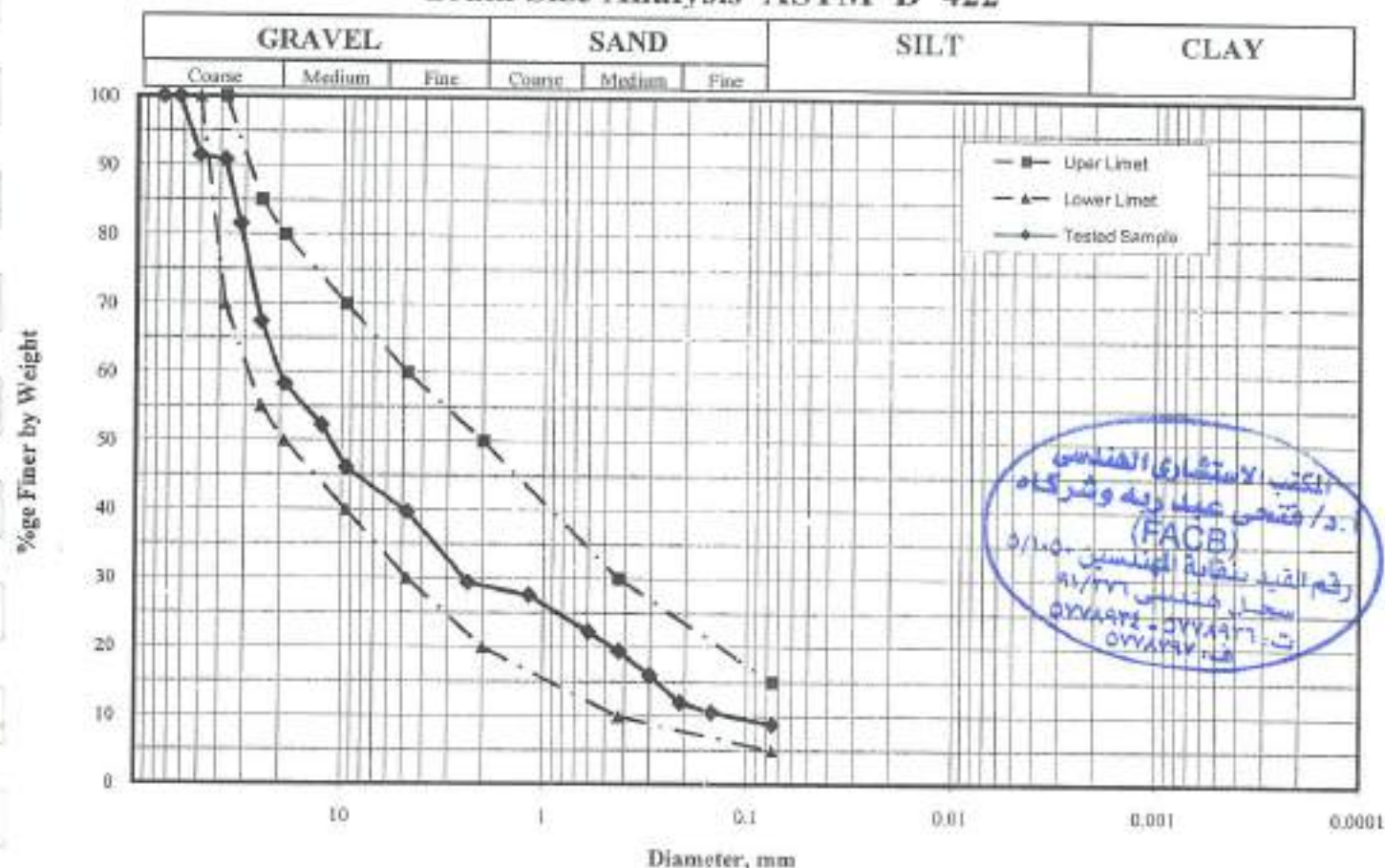
تقرير رقم ٣٣-١١٠٦٣
ديسمبر ٢٠٢٢

Handwritten signature

Fathi Abdrabbo Consulting Bureau

Client:	
Project:	مشروع التمدد الكهربائي السريع - قطاع طريق العلمين
Description :	Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (Gradation: B)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	91.38	90.77	81.54	67.38	58.31	52.31	46.15
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	39.69	29.37	27.60	22.29	19.46	15.92	12.03	10.62	8.85

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
0.12 mm	169.66	2.57 mm	11.28 mm

% passing No. 200 sieve) (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35) / (0.2 + 0.005 (LL-40)) + 0.01 (F-15) (PI-10)	Group symbole ASTM D3282
8.85	20.01	5.77	-2.36	A-1-a

Notes

- If group index equal minus value , then will report as zero
 - The group index of zero value indicates a " good subgrade materials "
 - The group index of 20 or greater indicates a " very poor subgrade materials "
- If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

Client:

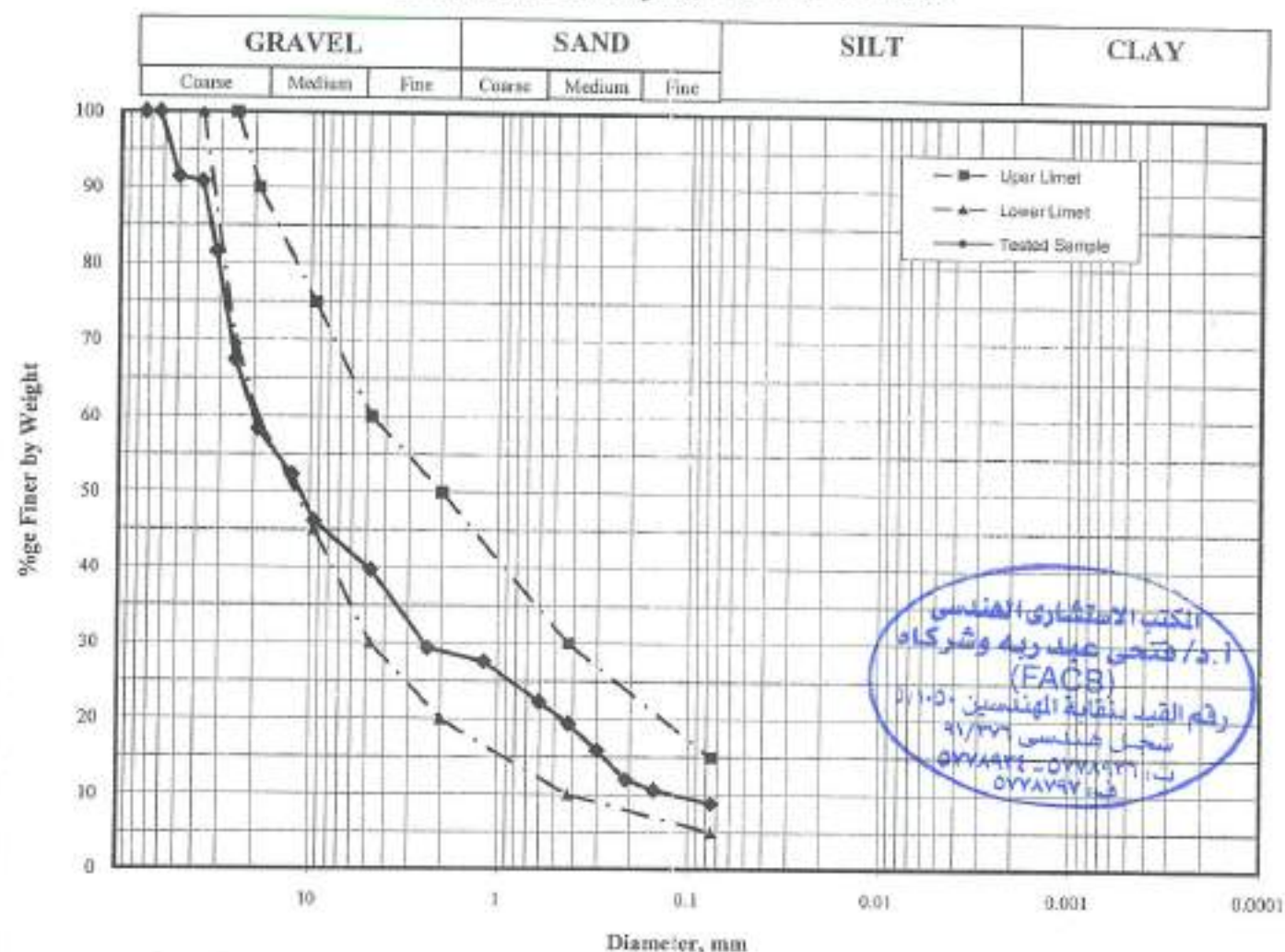
Project:

مشروع القطار الكهربائي المزيم - قطاع طرق المين

Description :

Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (Gradation D)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	91.38	90.77	81.54	67.38	58.31	52.31	48.15
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	39.69	29.37	27.60	22.29	19.46	15.92	12.03	10.62	8.85

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
0.12 mm	169.66	2.57 mm	11.28 mm

% passing No. 200 sieve) (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35) (0.2+0.005(LL-40) + 0.01(PI-15)(PI-10))	Group symbole ASTM D3282
8.85	20.01	5.77	-2.36	A-1-a

Notes

1-If group index equal minus value , then will report as zero

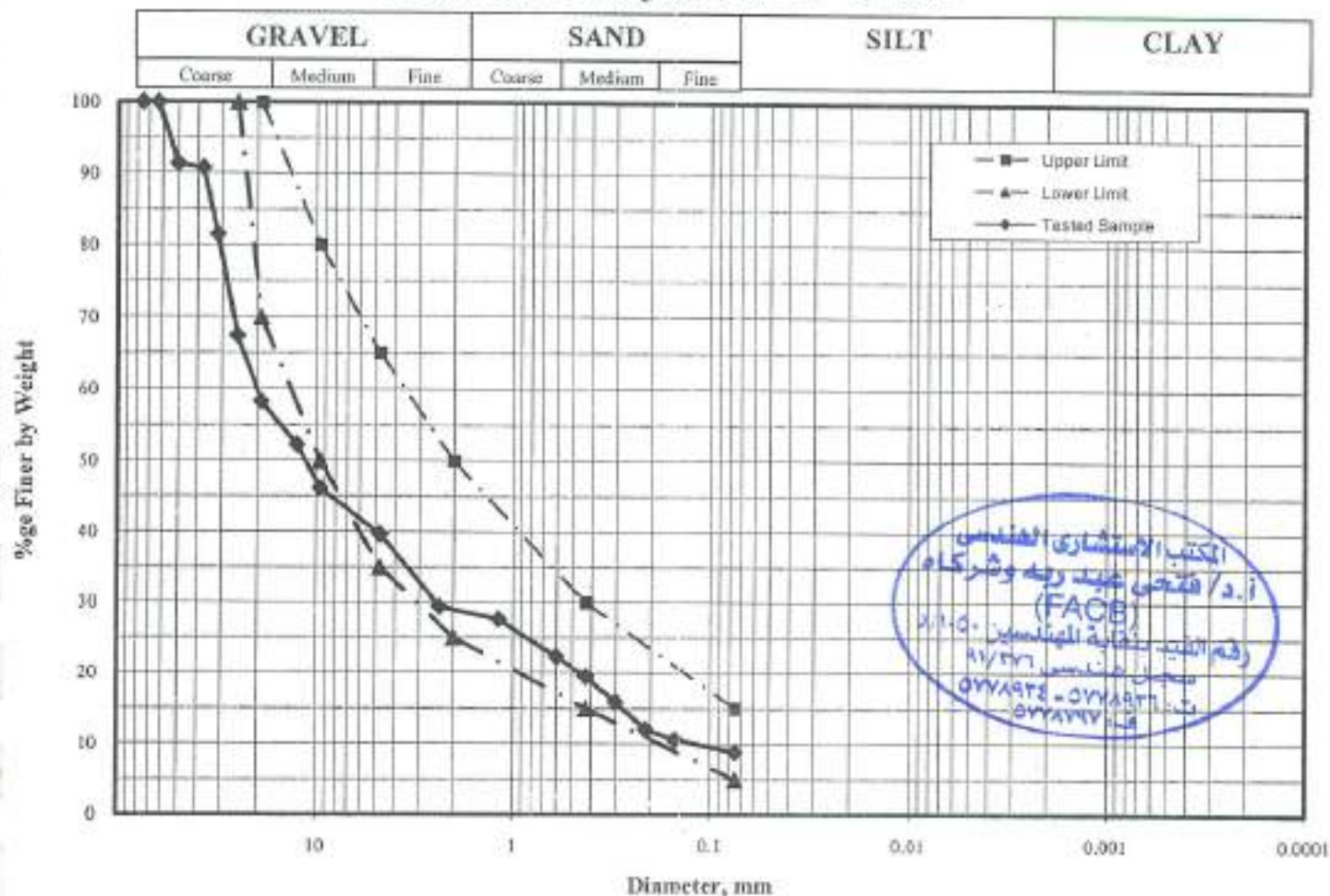
1-The group index of zero value indicates a " good subgrade materials "

1-The group index of 20 or greater indicates a " very poor subgrade materials "

4-If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

Client:	
Project:	مشروع القطر الكهربائي السريع - قطاع طرق المليون
Description :	Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (Gradation F)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	91.38	90.77	81.54	67.39	58.31	52.31	46.15
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	39.69	29.37	27.60	22.29	19.46	15.92	12.03	10.62	8.85

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
0.12 mm	169.66	2.57 mm	11.28 mm

% passing No. 200 sieve) (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35) (0.2+0.005(LL-40)) + 0.01 (F-15) (PI-10)	Group symbols ASTM D3282
8.85	20.01	5.77	-2.36	A-1-a

Notes

- 1-If group index equal minus value , then will report as zero
- The group index of zero value indicates a " good subgrade materials "
- The group index of 20 or greater indicates a " very poor subgrade materials "
- 4-If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

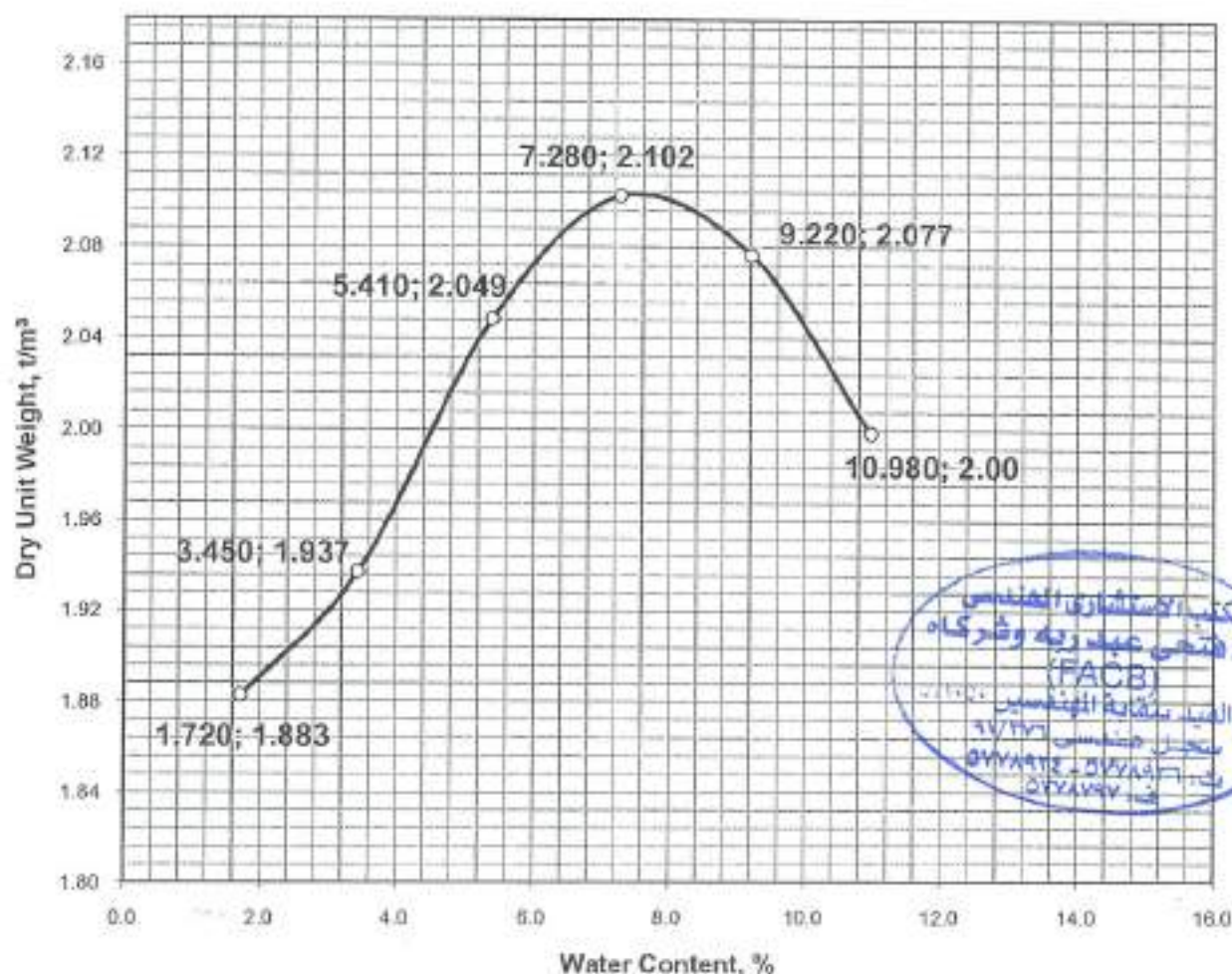
Fathi Abdrabbo Consulting Bureau

Client:

Project: مشروع القطار الكهربائي السريع - قطاع طريق العين

Classification: PINK CRUSHED LIMESTONE, with sand & powder

Modified Proctor Test (ASTM D-1557)



المكتب الاستشاري الهندسي
إ. د. فathy عبد ربه وشركاه
(FACB)
رقم الترخيص للمهندسين
٩٧٢١٧٦
مجلس مهندسين
٥٧٧٨٩٢ - ٥٧٧٨٩٣
٥٧٧٨٩٧

Sample	1	2	3	4	5	6
Water Content %	1.72	3.45	5.41	7.28	9.22	11.0
Moist Unit Weight, t/m^3	1.91	2.00	2.16	2.26	2.27	2.22
Dry Unit Weight, t/m^3	1.883	1.937	2.049	2.102	2.077	2.00
Specific Gravity for oversize aggregates	N/A					
Maximum dry unit weight (g_{max})	2.102 t/m^3					
Modified maximum dry unit weight (g_{max})	2.148 t/m^3					
Optimum moisture content	7.28 %					
% Over size sieve 19 mm	42.00 %					

MATERIAL INSPECTION REQUEST

الهيئة العامة
للمرور والكباري
(GARB)



مركز الأبحاث والدراسات
للمرور والكباري
(مركز أبحاث)



Contractor Company	ALFATH		Designer Company	
Issued by Contractor	Name	Sign	Date	Time
	Eng/ K.M	[Signature]	25/8/2022	
Received by ER			MIR	

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

Description of Materials	Fill material results				
Location to be Used	402+900 403+200 402+400 402+580 404+220 404+380 405+620 405+920 401+480 401+580 404+620 404+900				
MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	L.L & P.L & O.M.C %	m3	5000		
2	Proctor	m3	5000		
3	Classification	m3	5000		
4	Seive analysis	m3	5000		
Comments by:			Comments by:		
A sample has been taken from fill material by SGAC office to (FACB) lab and the results founded meet the specifications and accepted					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	K.M	[Signature]		
QA/QC *	Z. mostafa	[Signature]		
GARB **	M. Hegm	[Signature]		
Comment by ER				
Employers Representative				

* Designer

** Alignment / Bridge: Culvert Only

File: MIR - 5000 m3 (1)

Page 1 of 1

FA-M-88

MATERIAL INSPECTION REQUEST

الهيئة العامة
للطرق والكباري
(GARB)



مركز الأبحاث والتطوير
للطرق والكباري
(مركز أبحاث وتطوير
الطرق والكباري)



Contractor Company	ALFATH		Designer Company																	
Issued by Contractor	Name Eng/ K.M	Sign 	Date 25/8/2022	Time																
Received by ER			MIR	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DO</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	DO	MM	YY	HH	MM								
C1	C2	C3	DO	MM	YY	HH	MM													

CODE - 1	S1 to S21 Station Reference	D1 to D3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Description of Materials	Fill material results				
Location to be Used	402+900 403+200 402+400 402+580 404+220 404+380 405+620 405+920 401+480 401+580 404+620 404+900				
MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No			Other	
Item	Description	Unit	Quantity	Arrival Date	Note
1	C.B.R	m3	5000		
2					
3					
4					
Comments by:			Comments by:		
A sample has been taken from fill material by SGAC office to (FACB) lab and the results founded meet the specifications and accepted					

APPROVAL STATUS					
Organisation	Name	Sign	Date	A-AWC-R	
Contractor	K.M				
QA/QC *	Z-mos ta				
GARB **	M-Hgmm				
Comment by ER					
Employers Representative					

* Designer

** Alignment / Bridges: Culvert Only

NO	STATION		TEST								QUANTITY TEST
	FORM	TO	LEVEL	PROCTOR	SEIVE ANALYSES	LL, PL, PI	OMC	CBR	SIEVE NO #200	SOIL CLASSIFICATION	
6	402+900	403+200	0.50+	2.1/2		NP	5.55		4.75%	A-1-a	5000
	402+100	402+580	0.50+								
	404+220	404+380	0.50+								
	405+620	405+920	0.50+								
	401+480	401+580	0.50+								
	404+620	404+900	0.50+								
6			18.402%								5000

مشروع القطار الكهربائي السريع - قطاع طرق العلمين
الشركة المنفذة : شركة الفتح للشحن و التفريغ والاعمال البحرية

صلاحية طبقة التأسيس
توريد ٣٠,٠٠٠ م ٣ بتاريخ ٢٥-٨-٢٠٢٢

مكتب
أ.دكتور / فتحي محمد عبد ربه وشركاه
(FACB)

Email: facbegypt@gmail.com
Web site: facbegypt.com

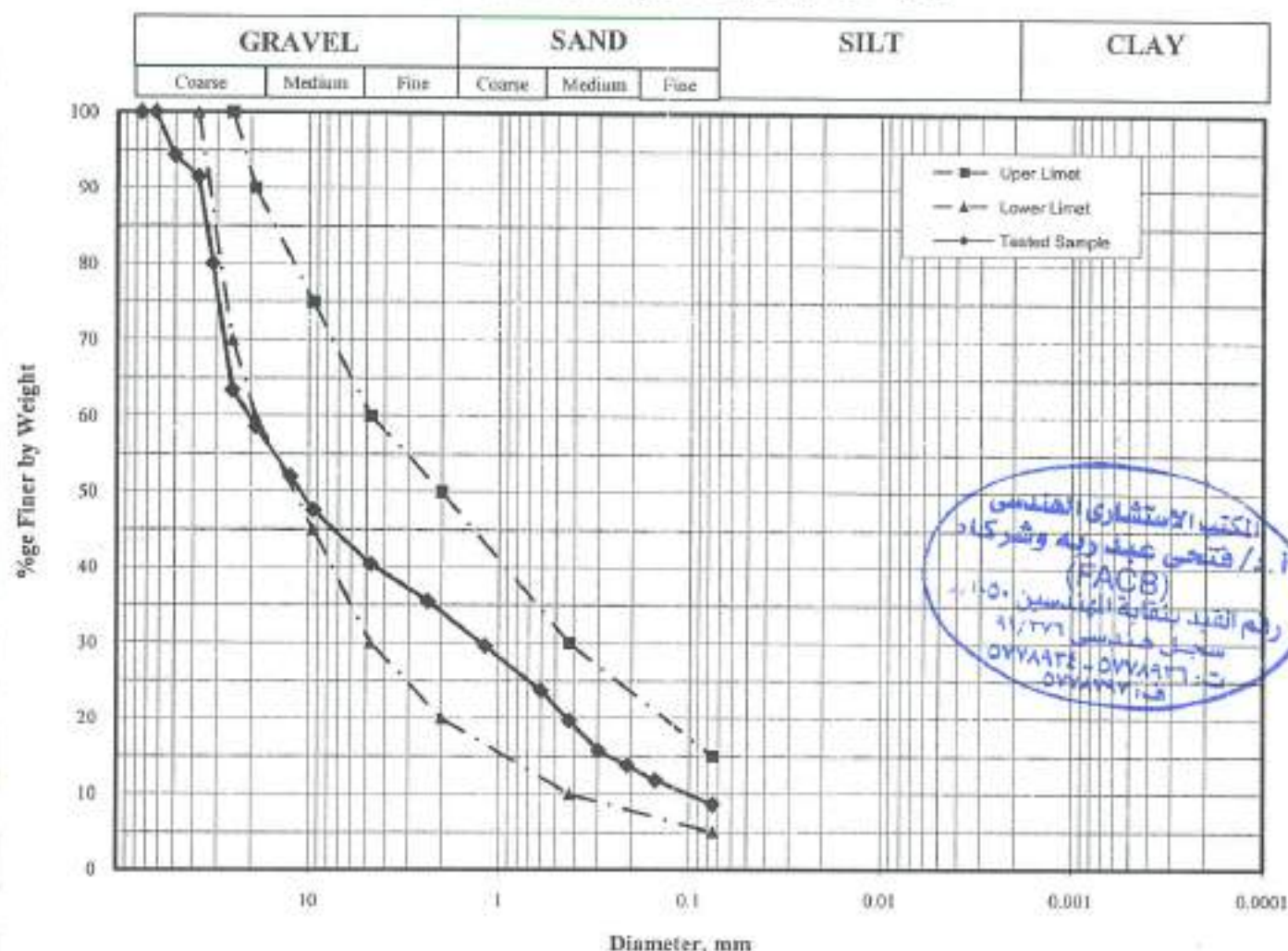
تقرير رقم ٣٤-١١٠٦٣
ديسمبر ٢٠٢٢



Handwritten signature and date: ٢٥/١٢/٢٢

Client:	
Project:	مشروع القطر الكهربائي السريع - قطاع طرق العامين
Description :	Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (Gradation D)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	94.29	91.43	80.00	63.43	58.57	52.00	47.57
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	40.43	35.53	29.61	23.69	19.74	15.79	13.82	11.84	8.69

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
0.10 mm	205.82	0.74 mm	11.04 mm

% passing No. 200 sieve) (F)	LL (Liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35][0.2+0.005(LL-40)] +0.01(F-15)(PI-10)	Group symbole ASTM D3282
8.69	20.15	5.92	-2.39	A-1-a

Notes

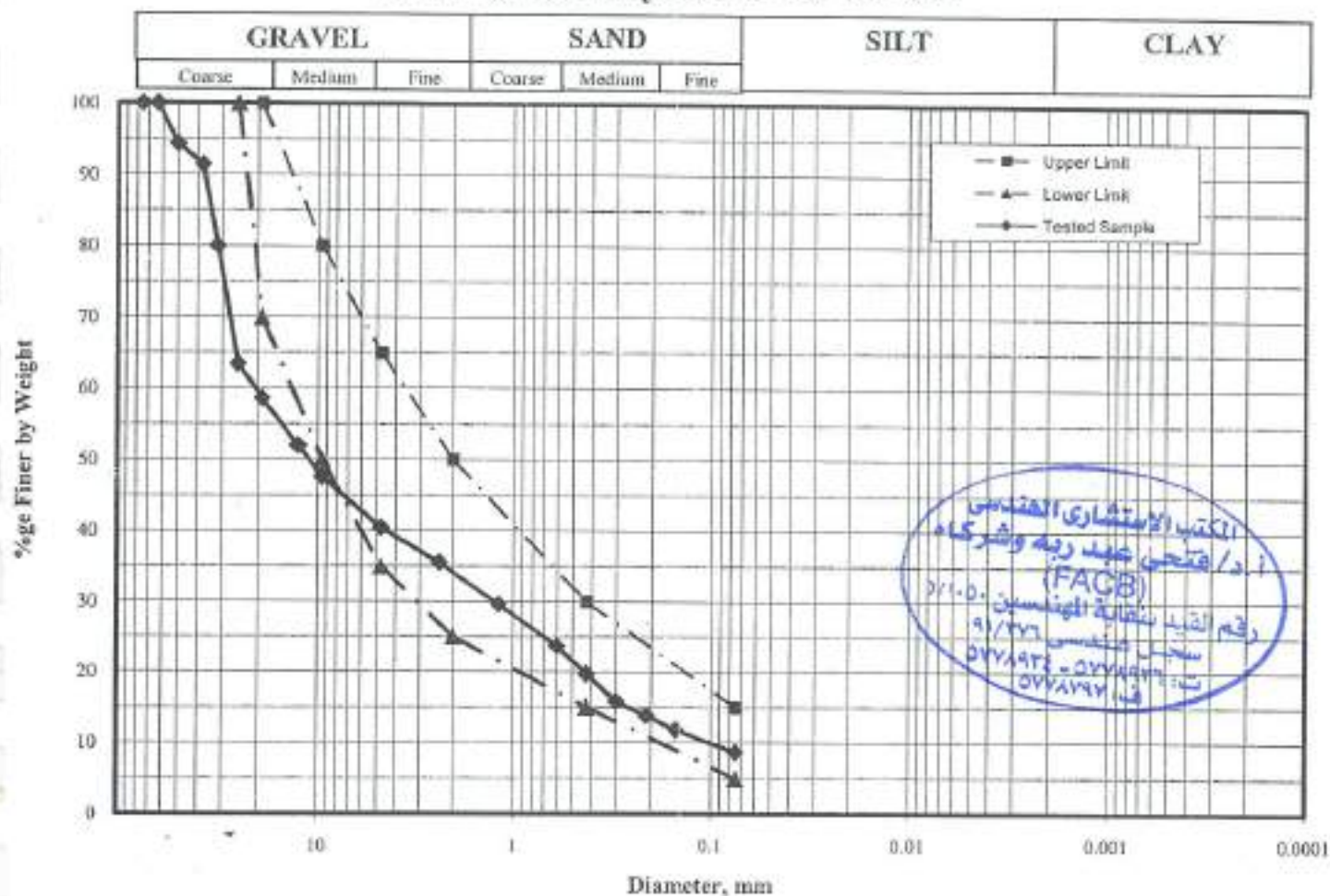
- 1-If group index equal minus value , then will report as zero
- The group index of zero value indicates a " good subgrade materials "
- The group index of 20 or greater indicates a " very poor subgrade materials "
- 4-If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

Client:

Project: مشروع القطر الكهربائي السريع - قطاع طريق العلمين

Description: Base-course

Grain Size Analysis ASTM D 422



Materials Shall Comply With ECP For Roads 104 / 2008 part 4 (- Gradation F)

Sieve Number (mm.)	75.00	63.00	50.00	37.50	31.50	25.00	19.00	12.50	9.50
%ge Finer by weight	100.00	100.00	94.29	91.43	80.00	63.43	58.57	52.00	47.57
Sieve Number (mm.)	4.75	2.36	1.18	0.60	0.43	0.30	0.21	0.15	0.08
%ge Finer by weight	40.43	35.53	29.61	23.69	19.74	15.79	13.82	11.84	8.69

Effective Diameter	Uniformity Coefficient (Cu)	Uniformity of Curvature (Cc)	Mean Diameter
0.10 mm	205.82	0.74 mm	11.04 mm

% passing No. 200 sieve) (F)	LL (liquid limit) (%)	PI (plasticity index) (%)	Group index (GI) (F-35) [0.2 + 0.005 (LL-40)] + 0.01 (F-15) (PI-10)	Group symbole ASTM D3282
8.69	20.15	5.92	-2.39	A-1-a

Notes

1-If group index equal minus value , then will report as zero

The group index of zero value indicates a " good subgrade materials "

The group index of 20 or greater indicates a " very poor subgrade materials "

4-If the soil is nonplastic and when the liquid limit can not be determined , report the group index as zero

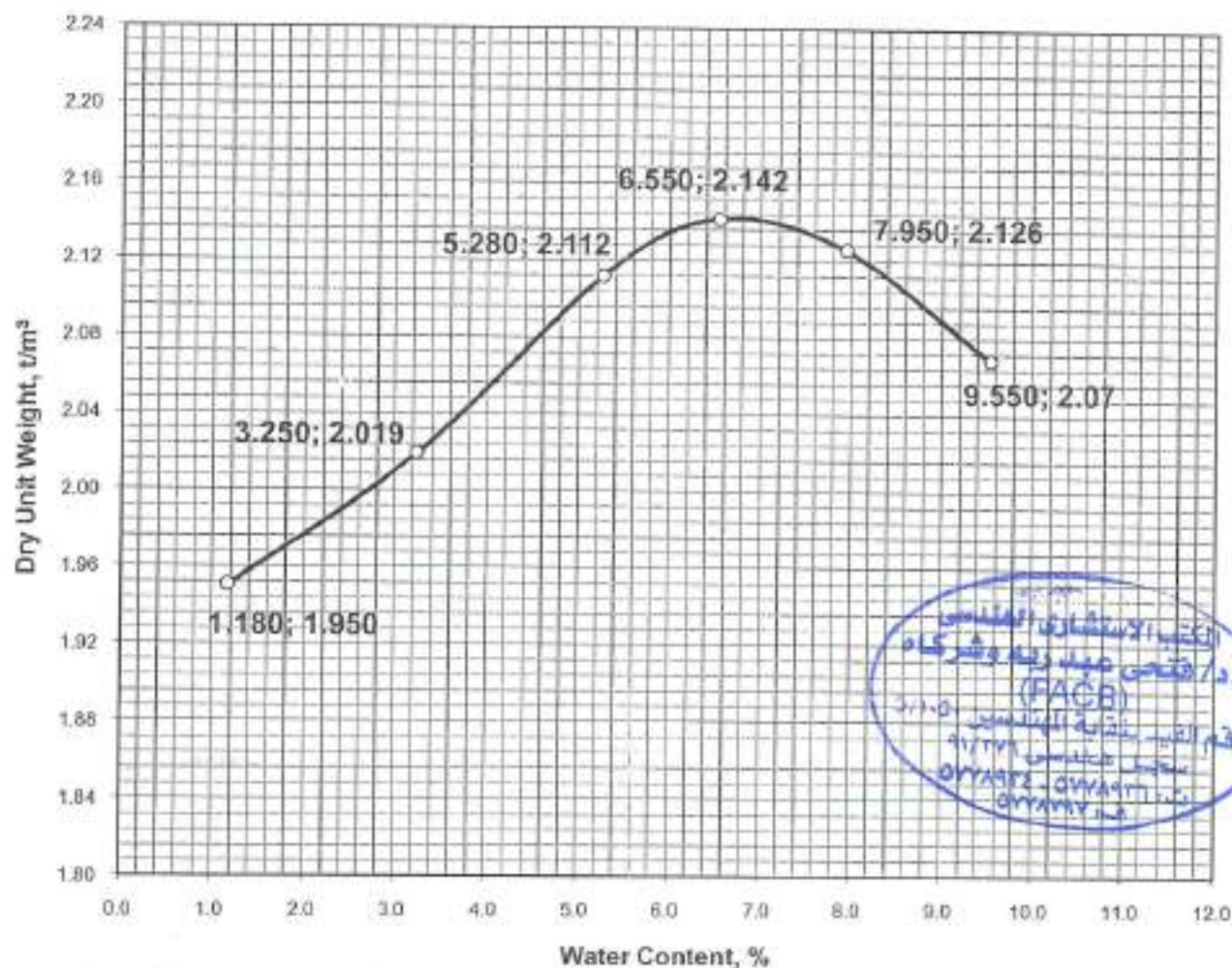
Fathi Abdrabbo Consulting Bureau

Client:

Project: مشروع القطر الكهربائي السريع - قطاع طرق العلمين

Classification: PINK CRUSHED LIMESTONE, with sand & powder

Modified Proctor Test (ASTM D-1557)



Sample	1	2	3	4	5	6
Water Content %	1.18	3.25	5.28	6.55	7.95	9.6
Moist Unit Weight, t/m^3	1.97	2.09	2.22	2.28	2.29	2.27
Dry Unit Weight, t/m^3	1.950	2.019	2.112	2.142	2.126	2.07
Specific Gravity for oversize aggregates	N/A					
Maximum dry unit weight (gmax)	2.142 t/m^3					
Modified maximum dry unit weight (gmax)	2.283 t/m^3					
Optimum moisture content	6.55 %					
% Over size sieve 19 mm	41.00 %					

Method - C

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alam (400+600) (level +0.90m)
PLATE LOAD NO. PLT-1
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 8:00 AM
TIME FINISH: 9:30 AM
DATE 6-Sep-23
LAB. REF. 06018

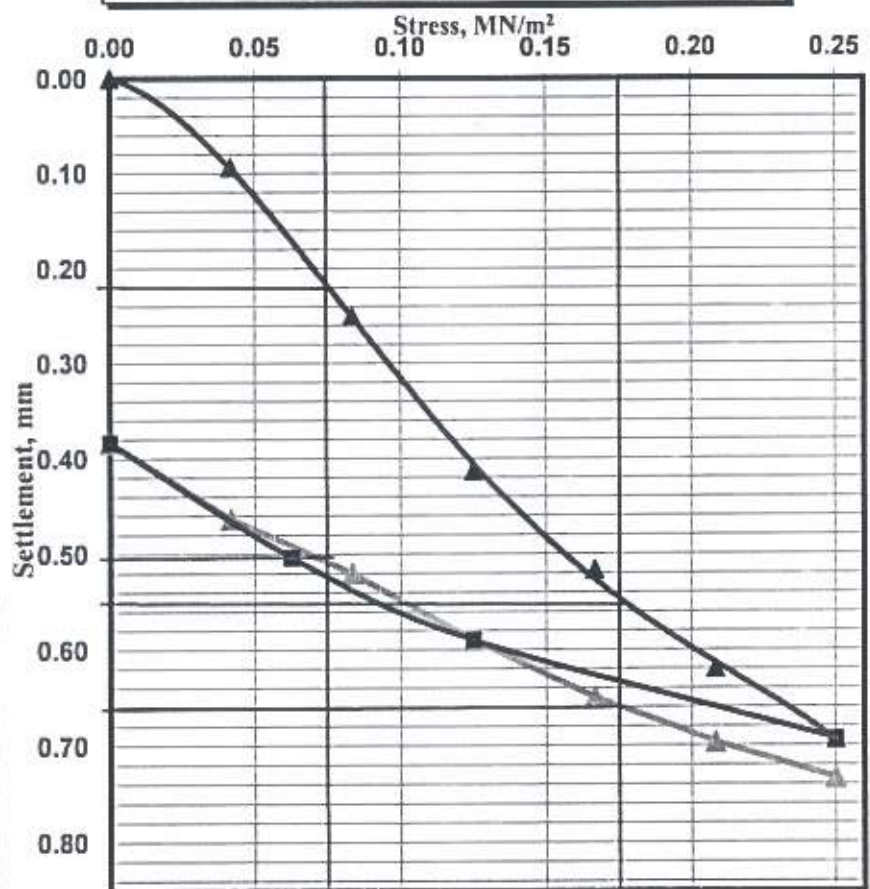
Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.09
0.08	0.25
0.13	0.41
0.17	0.52
0.21	0.62
0.25	0.69
0.13	0.59
0.06	0.50
0.00	0.38
0.04	0.46
0.08	0.52
0.13	0.59
0.17	0.65
0.21	0.70
0.25	0.73

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.22
S2 at 0.3*σ _{0max}	0.51
S1 at 0.7*σ _{0max}	0.55
S2 at 0.7*σ _{0max}	0.66

STRAIN MODULUS, Ev

Ev1 [MN/m ²]	138.46
Ev2 [MN/m ²]	300.00
Ev2/Ev1	2.17

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



Apparatus

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

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (400+625) (level +0.90m)
PLATE LOAD NO. PLT-2
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 9:30 AM
TIME FINISH: 11:00 AM
DATE 6-Sep-23
LAB. REF. 06018

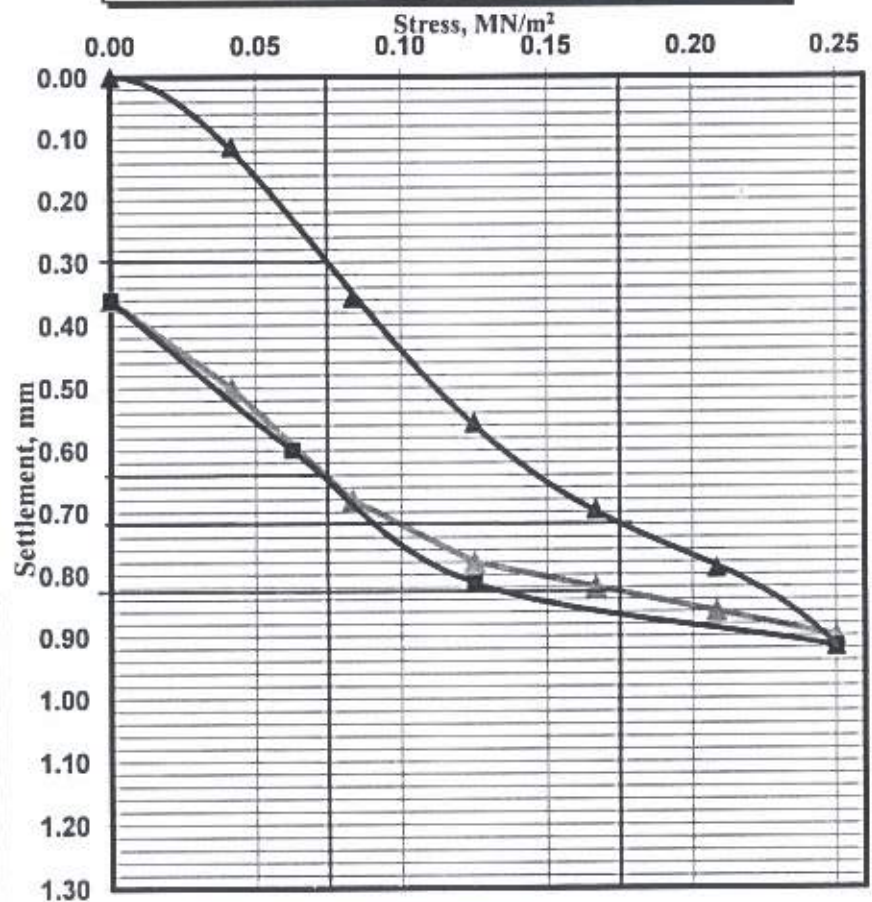
Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.11
0.08	0.36
0.13	0.56
0.17	0.70
0.21	0.79
0.25	0.92
0.13	0.81
0.06	0.60
0.00	0.36
0.04	0.50
0.08	0.68
0.13	0.78
0.17	0.82
0.21	0.86
0.25	0.90

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.30
S2 at 0.3*σ _{0max}	0.64
S1 at 0.7*σ _{0max}	0.72
S2 at 0.7*σ _{0max}	0.83

STRAIN MODULUS, Ev

Ev1 [MN/m ²]	107.14
Ev2 [MN/m ²]	236.84
Ev2/Ev1	2.21

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



Apparatus

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

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (400+650) (level +0.90m)
PLATE LOAD NO. PLT-3
PLATE DIAMETER (cm) 60.00

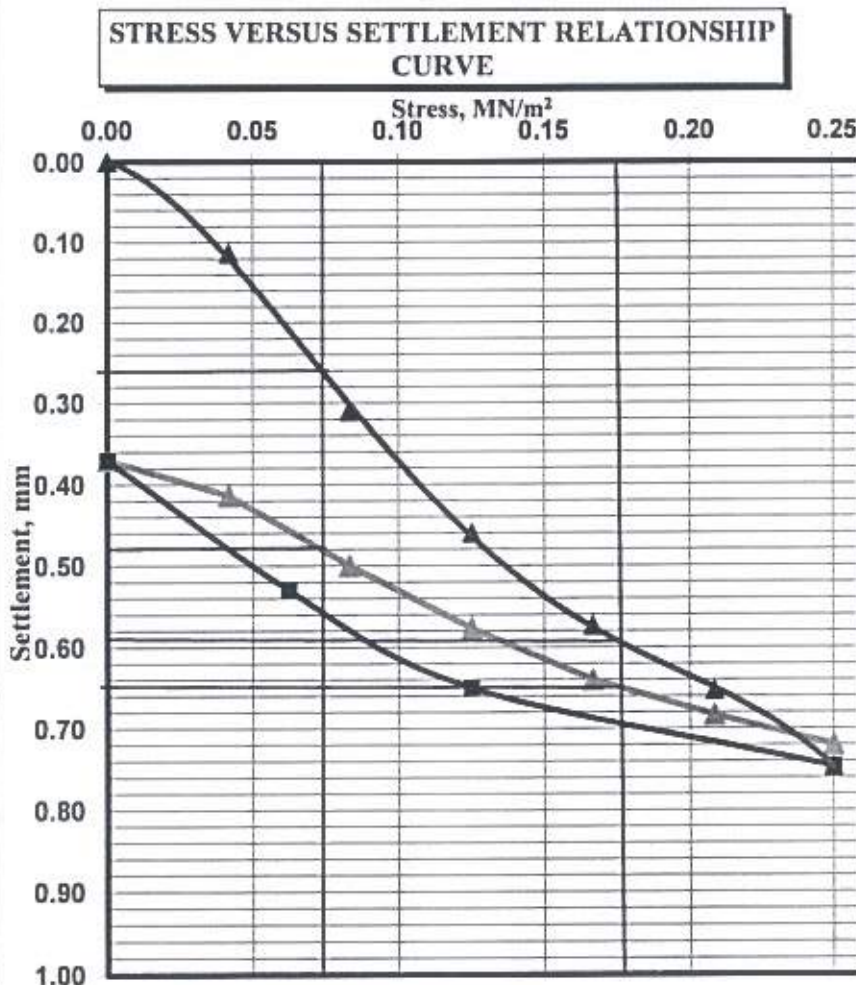
TYPE OF SOIL Sub-ballast
TIME START: 11:00 AM
TIME FINISH: 12:30 PM
DATE 6-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.11
0.08	0.31
0.13	0.46
0.17	0.57
0.21	0.65
0.25	0.75
0.13	0.65
0.06	0.53
0.00	0.37
0.04	0.41
0.08	0.50
0.13	0.58
0.17	0.64
0.21	0.68
0.25	0.72

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.26
S2 at 0.3* σ_{0max}	0.48
S1 at 0.7* σ_{0max}	0.59
S2 at 0.7* σ_{0max}	0.65

STRAIN MODULUS, Ev

Ev1 [MN/m ²]	136.36
Ev2 [MN/m ²]	264.71
Ev2/Ev1	1.94



Apparatus

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

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamín (400+675) (level +0.90m)
PLATE LOAD NO. PLT-4
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 12:30 PM
TIME FINISH: 2:00 PM
DATE 6-Sep-23
LAB. REF. 06018

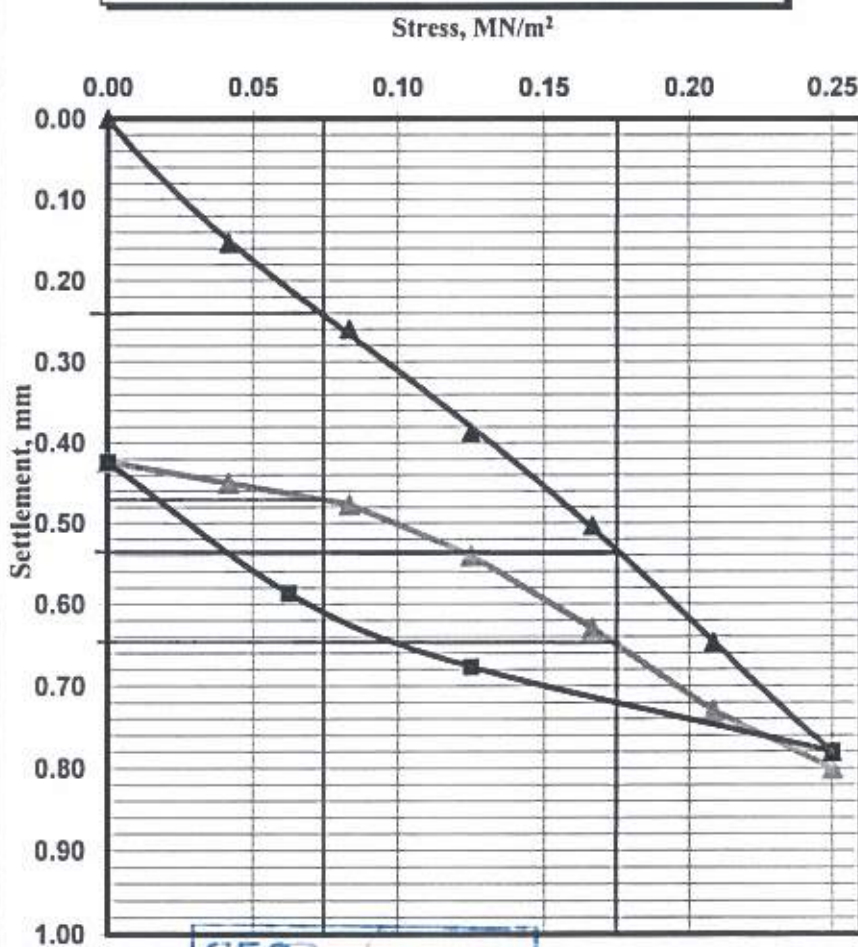
Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.15
0.08	0.26
0.13	0.39
0.17	0.50
0.21	0.65
0.25	0.78
0.13	0.68
0.06	0.59
0.00	0.42
0.04	0.45
0.08	0.48
0.13	0.54
0.17	0.63
0.21	0.73
0.25	0.80

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.24
S2 at 0.3*σ _{0max}	0.47
S1 at 0.7*σ _{0max}	0.54
S2 at 0.7*σ _{0max}	0.65

STRAIN MODULUS, Ev

Ev1 [MN/m ²]	152.54
Ev2 [MN/m ²]	250.00
Ev2/Ev1	1.64

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



Apparatus

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

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (400+700) (level +0.90m)
PLATE LOAD NO. PLT-5
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 8:00 AM
TIME FINISH: 9:30 AM
DATE 11-Sep-23
LAB. REF. 06018

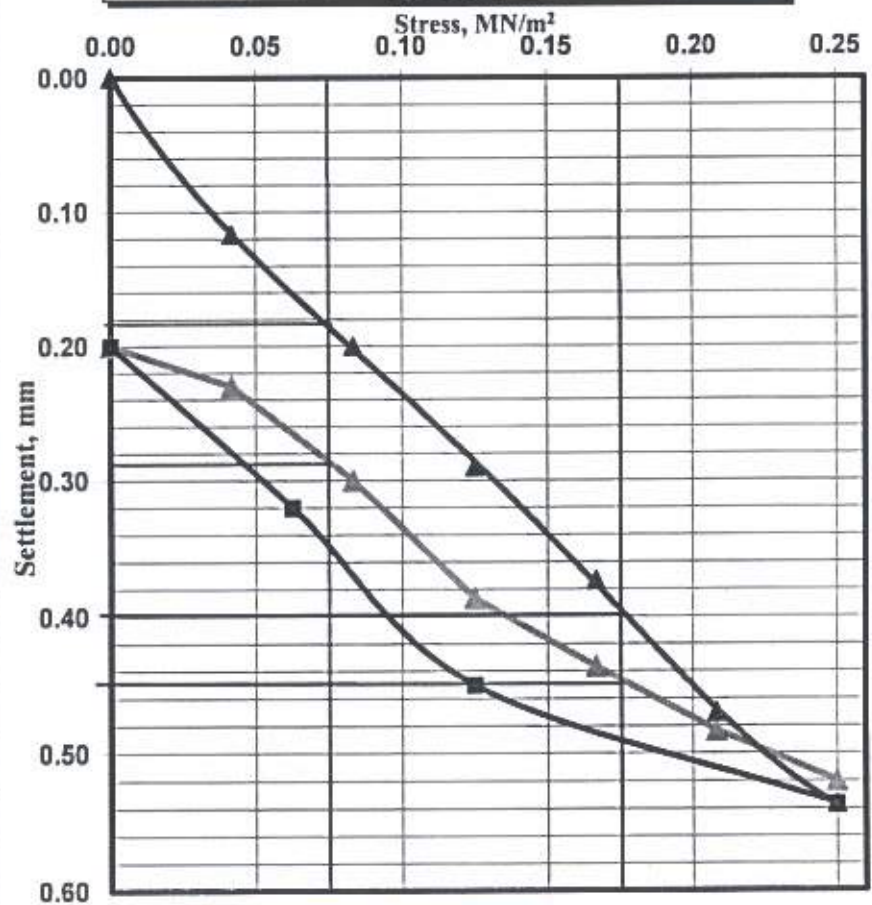
Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.12
0.08	0.20
0.13	0.29
0.17	0.37
0.21	0.47
0.25	0.54
0.13	0.45
0.06	0.32
0.00	0.20
0.04	0.23
0.08	0.30
0.13	0.39
0.17	0.44
0.21	0.48
0.25	0.52

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.18
S2 at 0.3*σ _{0max}	0.29
S1 at 0.7*σ _{0max}	0.40
S2 at 0.7*σ _{0max}	0.45

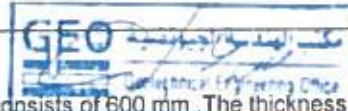
STRAIN MODULUS, Ev

Ev1 [MN/m ²]	208.33
Ev2 [MN/m ²]	272.73
Ev2/Ev1	1.31

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



Apparatus



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

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamn (400+725) (level +0.90m)
PLATE LOAD NO. PLT-6
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 9:30 AM
TIME FINISH: 11:00 AM
DATE 11-Sep-23
LAB. REF. 06018

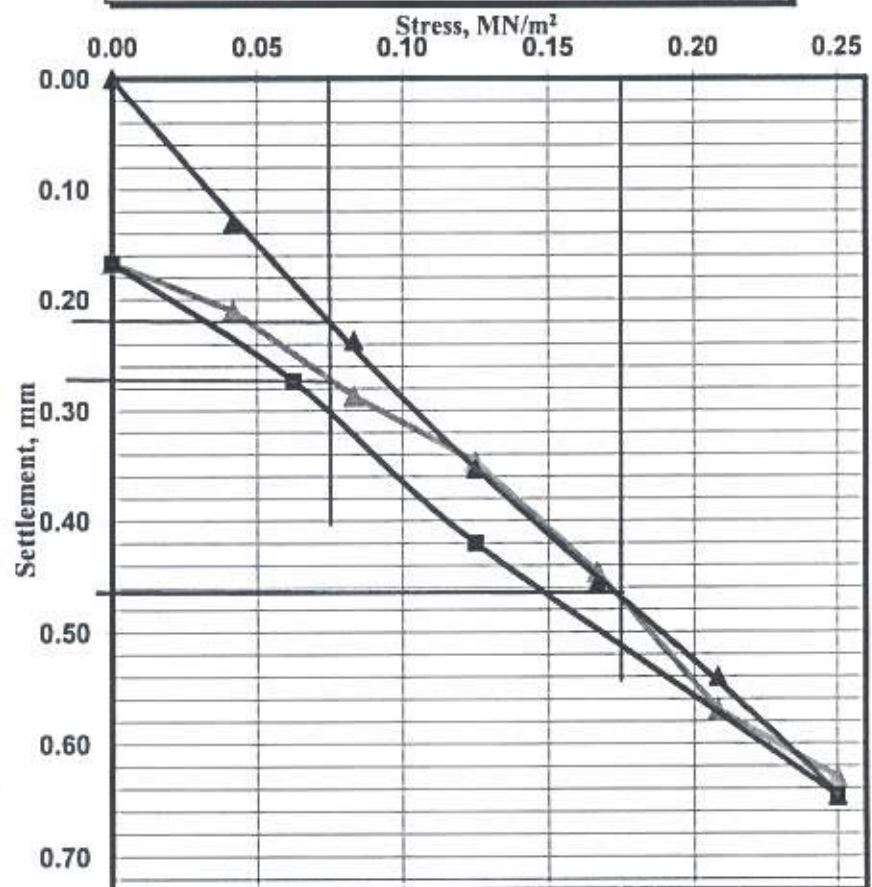
Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.13
0.08	0.24
0.13	0.35
0.17	0.46
0.21	0.54
0.25	0.65
0.13	0.42
0.06	0.27
0.00	0.17
0.04	0.21
0.08	0.29
0.13	0.35
0.17	0.45
0.21	0.57
0.25	0.63

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.22
S2 at 0.3*σ _{0max}	0.27
S1 at 0.7*σ _{0max}	0.47
S2 at 0.7*σ _{0max}	0.47

STRAIN MODULUS, Ev

Ev1 [MN/m ²]	180.00
Ev2 [MN/m ²]	219.51
Ev2/Ev1	1.22

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



Apparatus

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

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (400+750) (level +0.90m)
PLATE LOAD NO. PLT- 7
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 11:00 AM
TIME FINISH: 12:30 PM
DATE 11-Sep-23
LAB. REF. 06018

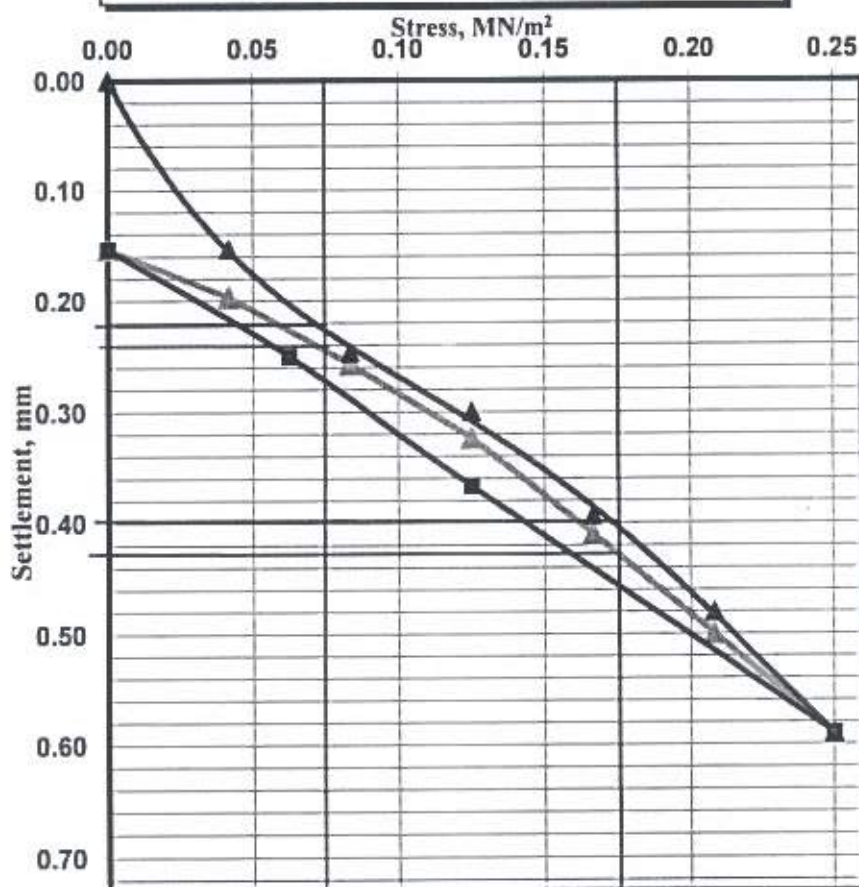
Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.15
0.08	0.25
0.13	0.30
0.17	0.39
0.21	0.48
0.25	0.59
0.13	0.37
0.06	0.25
0.00	0.15
0.04	0.20
0.08	0.26
0.13	0.32
0.17	0.41
0.21	0.50
0.25	0.59

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.22
S2 at 0.3* σ_{0max}	0.24
S1 at 0.7* σ_{0max}	0.40
S2 at 0.7* σ_{0max}	0.42

STRAIN MODULUS, Ev

Ev1 [MN/m ²]	250.00
Ev2 [MN/m ²]	250.00
Ev2/Ev1	1.00

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



Apparatus

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

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamín (400+775) (level +0.90m)
PLATE LOAD NO. PLT- 8
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 12:30 PM
TIME FINISH: 2:00 PM
DATE 11-Sep-23
LAB. REF. 06018

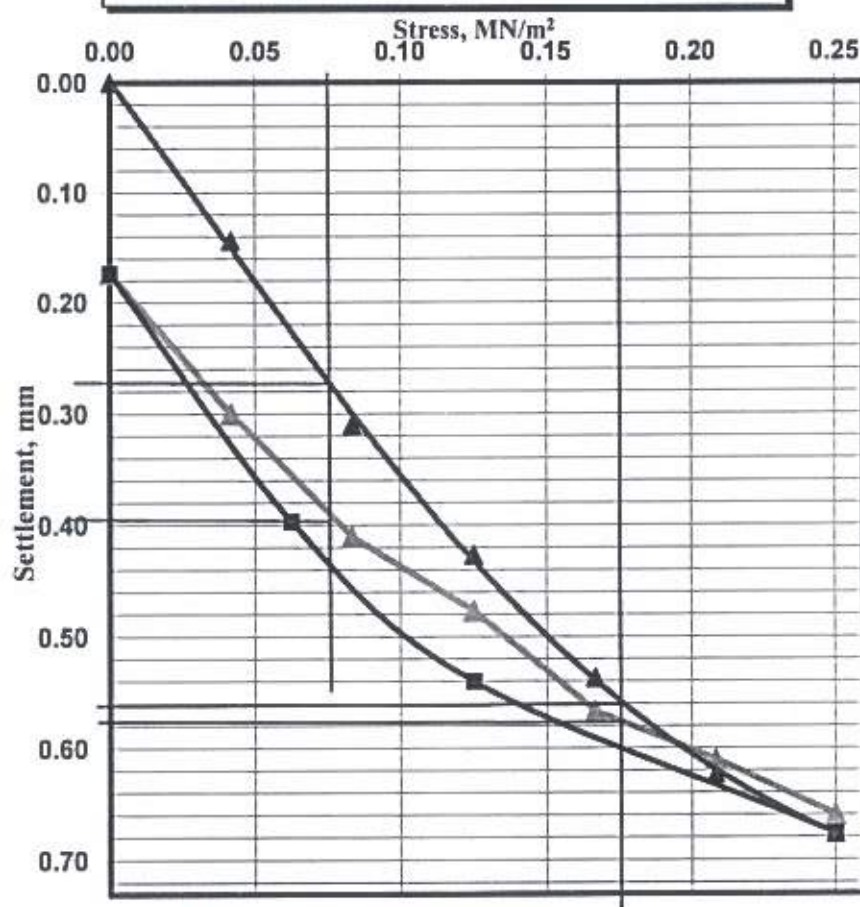
Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.14
0.08	0.31
0.13	0.43
0.17	0.54
0.21	0.62
0.25	0.68
0.13	0.54
0.06	0.40
0.00	0.17
0.04	0.30
0.08	0.41
0.13	0.48
0.17	0.57
0.21	0.61
0.25	0.66

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.27
S2 at 0.3* σ_{0max}	0.39
S1 at 0.7* σ_{0max}	0.56
S2 at 0.7* σ_{0max}	0.57

STRAIN MODULUS, Ev

Ev1 [MN/m ²]	153.58
Ev2 [MN/m ²]	250.00
Ev2/Ev1	1.63

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



Apparatus

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

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (400+800) (level +0.90m)
PLATE LOAD NO. PLT-9
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 2:00 PM
TIME FINISH: 3:30 PM
DATE 11-Sep-23
LAB. REF. 06018

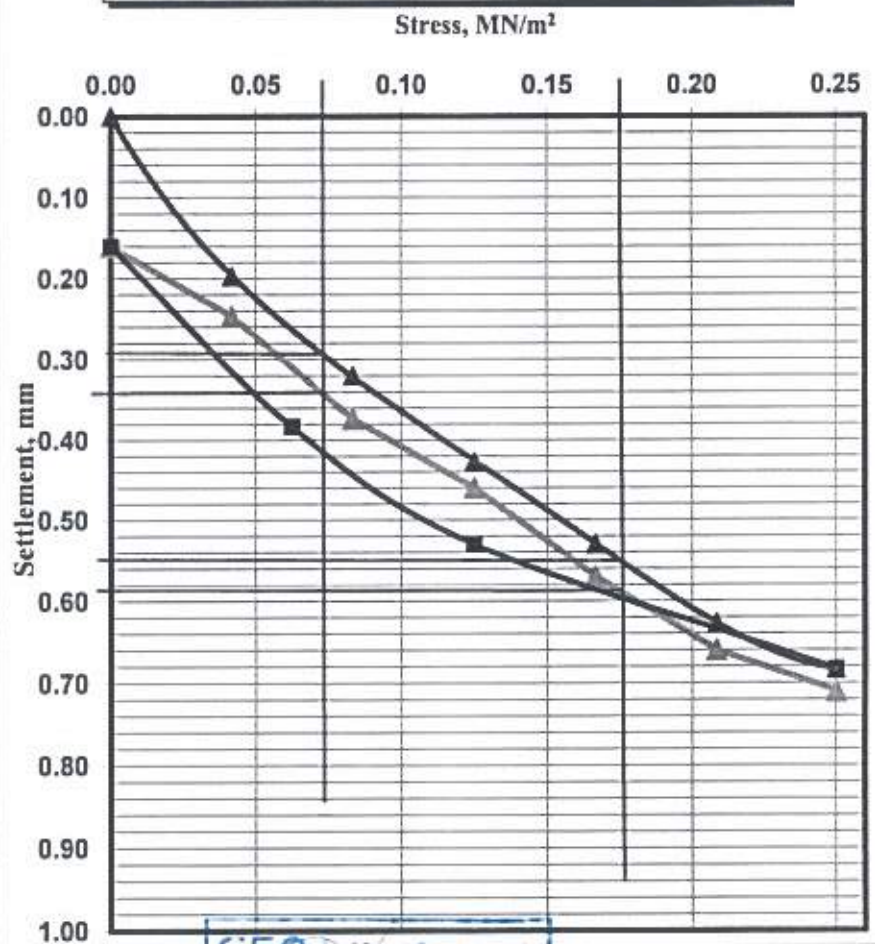
Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.20
0.08	0.32
0.13	0.43
0.17	0.53
0.21	0.63
0.25	0.68
0.13	0.53
0.06	0.38
0.00	0.16
0.04	0.25
0.08	0.37
0.13	0.46
0.17	0.57
0.21	0.66
0.25	0.71

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.29
S2 at 0.3* σ_{0max}	0.34
S1 at 0.7* σ_{0max}	0.55
S2 at 0.7* σ_{0max}	0.59

STRAIN MODULUS, Ev

Ev1 [MN/m ²]	173.08
Ev2 [MN/m ²]	180.00
Ev2/Ev1	1.04

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



Apparatus

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

Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamina (400+825) (level +0.90m)
PLATE LOAD NO. PLT-10
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 12:00 PM
TIME FINISH: 1:30 PM
DATE 12-Sep-23
LAB. REF. 06018

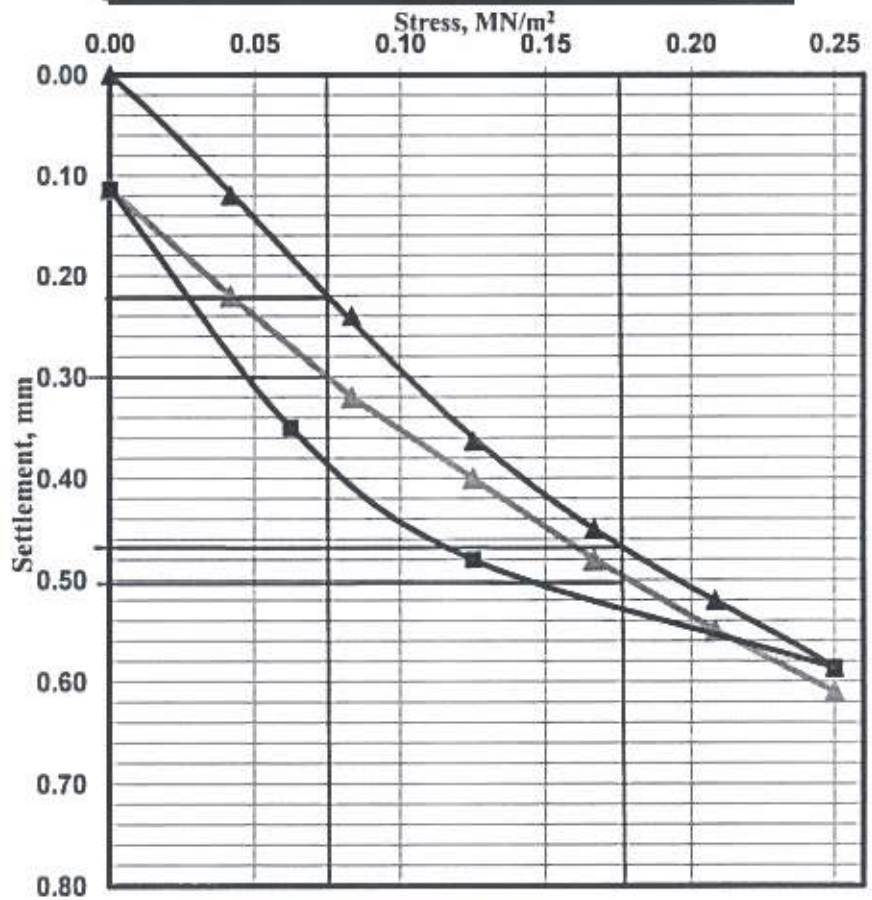
Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.12
0.08	0.24
0.13	0.36
0.17	0.45
0.21	0.52
0.25	0.59
0.13	0.48
0.06	0.35
0.00	0.11
0.04	0.22
0.08	0.32
0.13	0.40
0.17	0.48
0.21	0.55
0.25	0.61

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.22
S2 at 0.3*σ _{0max}	0.30
S1 at 0.7*σ _{0max}	0.46
S2 at 0.7*σ _{0max}	0.50

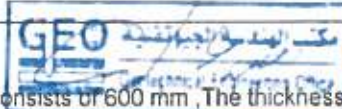
STRAIN MODULUS, Ev

Ev1 [MN/m ²]	187.50
Ev2 [MN/m ²]	225.00
Ev2/Ev1	1.20

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



Apparatus



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

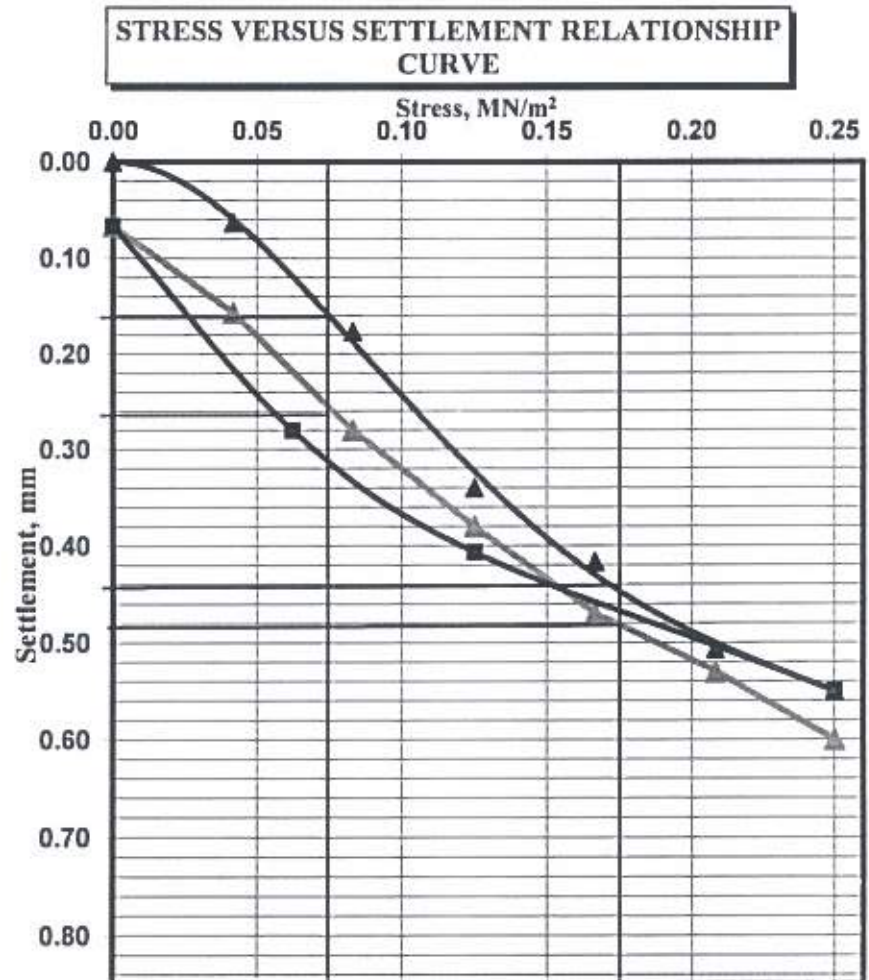
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (400+850) (level +0.90m)
PLATE LOAD NO. PLT-11
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 8:00 AM
TIME FINISH: 9:30 AM
DATE 6-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.06
0.08	0.18
0.13	0.34
0.17	0.42
0.21	0.51
0.25	0.55
0.13	0.41
0.06	0.28
0.00	0.07
0.04	0.16
0.08	0.28
0.13	0.38
0.17	0.47
0.21	0.53
0.25	0.60

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.18
S2 at 0.3* σ_{0max}	0.26
S1 at 0.7* σ_{0max}	0.44
S2 at 0.7* σ_{0max}	0.48



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Geotechnical Engineering Office

STRAIN MODULUS, Ev

Ev1 [MN/m ²]	155.17
Ev2 [MN/m ²]	214.29
Ev2/Ev1	1.38

Apparatus

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

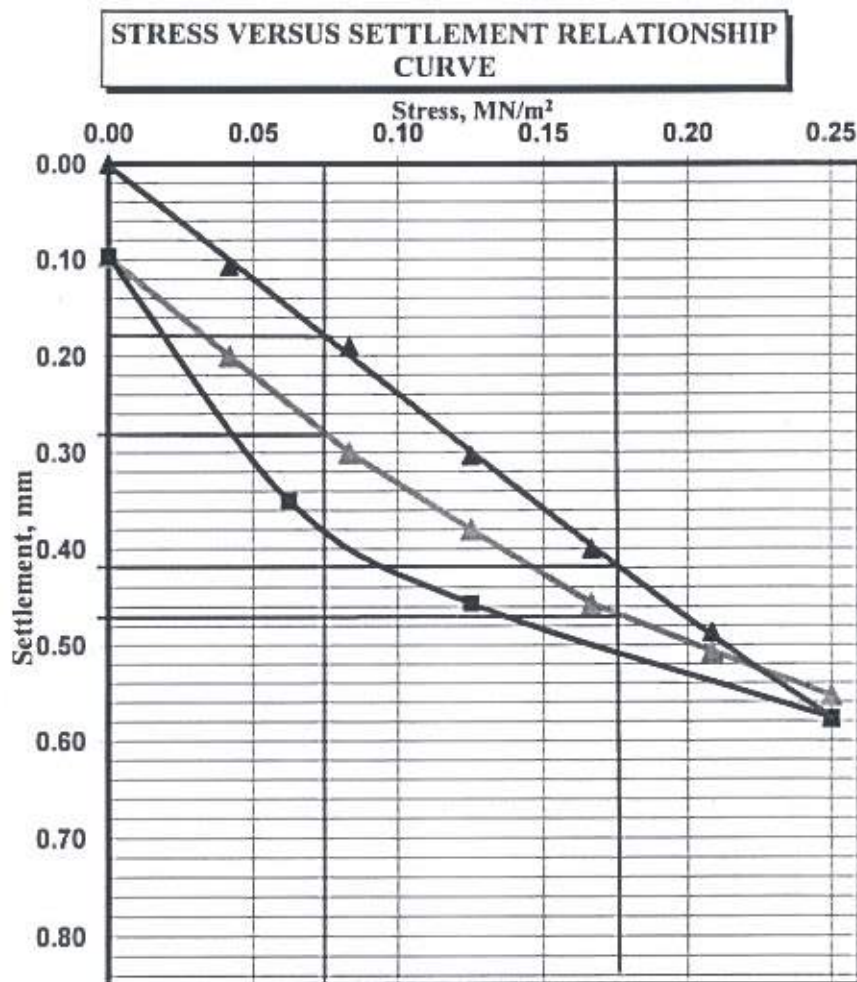
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamini (400+875) (level +0.90m)
PLATE LOAD NO. PLT-12
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 6:00 AM
TIME FINISH: 7:30 AM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.11
0.08	0.19
0.13	0.30
0.17	0.40
0.21	0.49
0.25	0.58
0.13	0.46
0.06	0.35
0.00	0.10
0.04	0.20
0.08	0.30
0.13	0.38
0.17	0.46
0.21	0.51
0.25	0.55

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.18
S2 at 0.3*σ _{0max}	0.28
S1 at 0.7*σ _{0max}	0.42
S2 at 0.7*σ _{0max}	0.49



STRAIN MODULUS, E_v

E _{v1} [MN/m ²]	187.50
E _{v2} [MN/m ²]	276.07
E _{v2} /E _{v1}	1.47

Apparatus

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

Plate Load Tests of Soils
DIN 18134

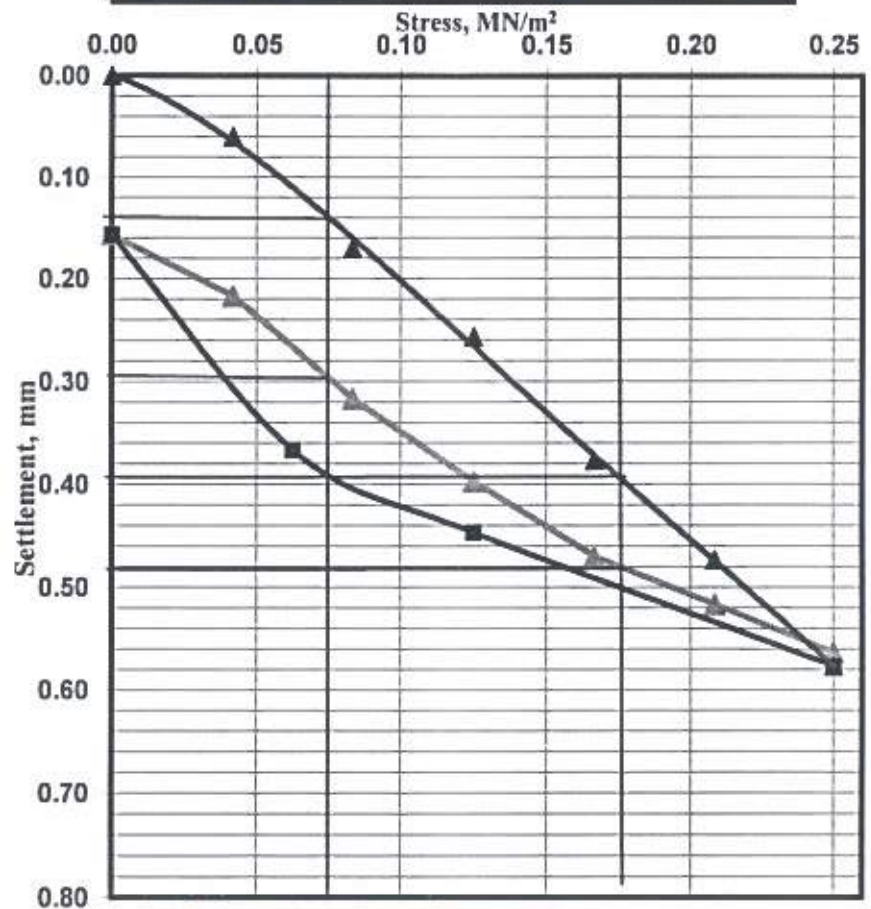
CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (400+900) (level +0.90m)
PLATE LOAD NO. PLT-13
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 7:30 AM
TIME FINISH: 9:00 AM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.06
0.08	0.17
0.13	0.26
0.17	0.38
0.21	0.47
0.25	0.58
0.13	0.45
0.06	0.37
0.00	0.16
0.04	0.22
0.08	0.32
0.13	0.40
0.17	0.47
0.21	0.52
0.25	0.56

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.14
S2 at 0.3*σ _{0max}	0.30
S1 at 0.7*σ _{0max}	0.39
S2 at 0.7*σ _{0max}	0.48

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



STRAIN MODULUS, Ev

Ev1 [MN/m ²]	180.00
Ev2 [MN/m ²]	250.00
Ev2/Ev1	1.39

Apparatus

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

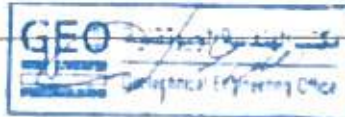
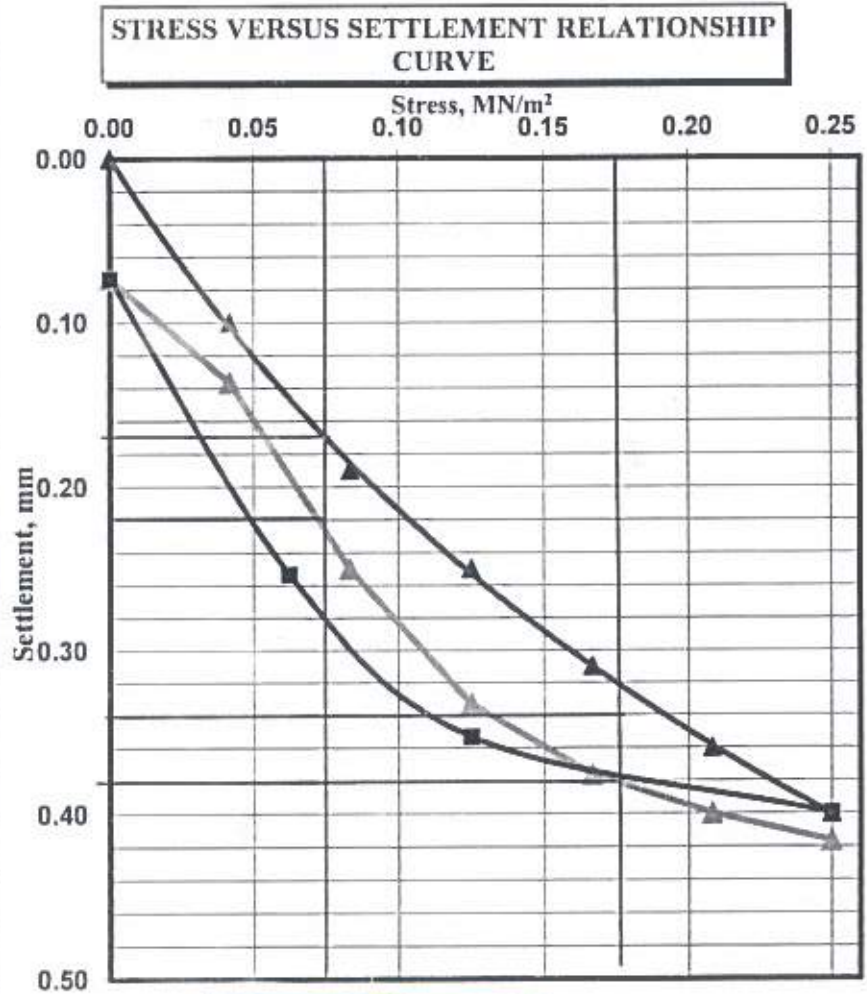
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (400+925) (level +0.90m)
PLATE LOAD NO. PLT-14
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 9:00 AM
TIME FINISH: 10:30 AM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.10
0.08	0.19
0.13	0.25
0.17	0.31
0.21	0.36
0.25	0.40
0.13	0.35
0.06	0.25
0.00	0.07
0.04	0.14
0.08	0.25
0.13	0.33
0.17	0.38
0.21	0.40
0.25	0.42

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.17
S2 at 0.3*σ _{0max}	0.22
S1 at 0.7*σ _{0max}	0.34
S2 at 0.7*σ _{0max}	0.39



STRAIN MODULUS, E_v

Ev1 [MN/m ²]	264.71
Ev2 [MN/m ²]	272.73
Ev2/Ev1	1.03

Apparatus

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

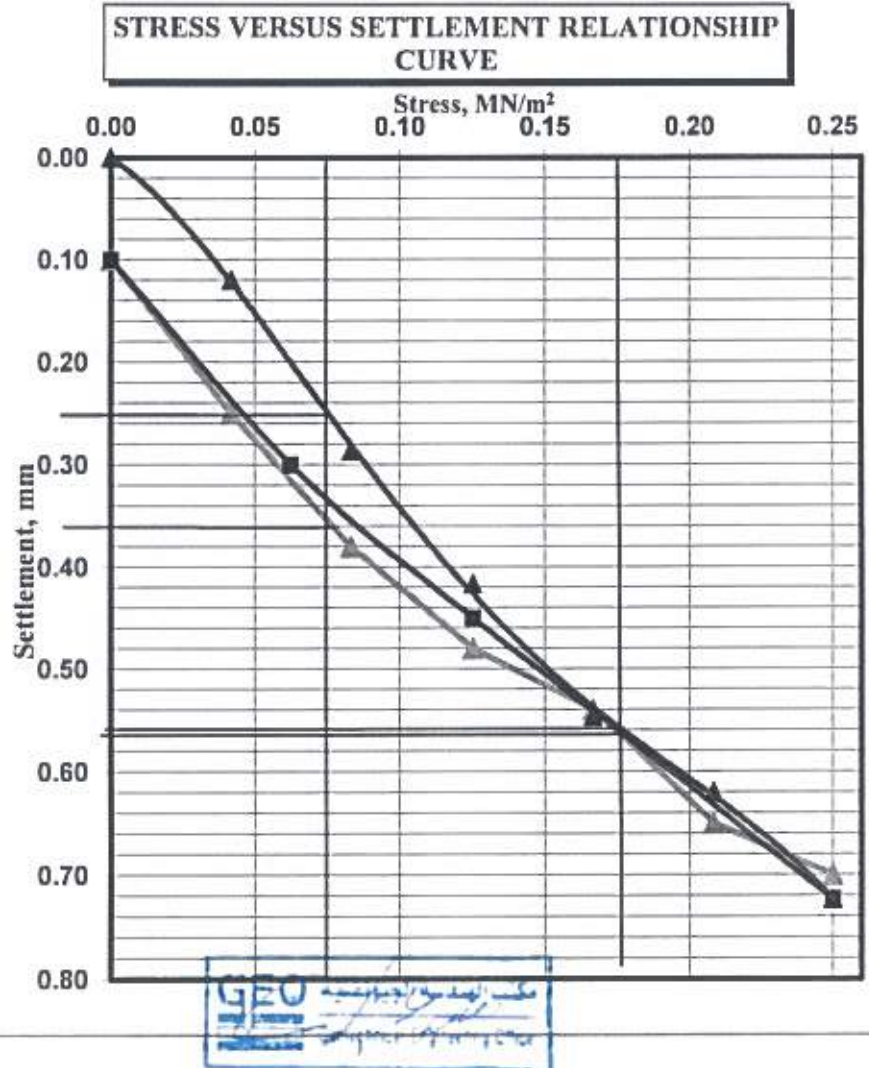
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alam (400+950) (level +0.90m)
PLATE LOAD NO. PLT-15
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 10:30 AM
TIME FINISH: 12:00 PM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.12
0.08	0.29
0.13	0.42
0.17	0.55
0.21	0.62
0.25	0.72
0.13	0.45
0.06	0.30
0.00	0.10
0.04	0.25
0.08	0.38
0.13	0.48
0.17	0.54
0.21	0.65
0.25	0.70

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.25
S2 at 0.3* σ_{0max}	0.36
S1 at 0.7* σ_{0max}	0.55
S2 at 0.7* σ_{0max}	0.56



STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	150.00
E_{v2} [MN/m ²]	225.00
E_{v2}/E_{v1}	1.50

Apparatus

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

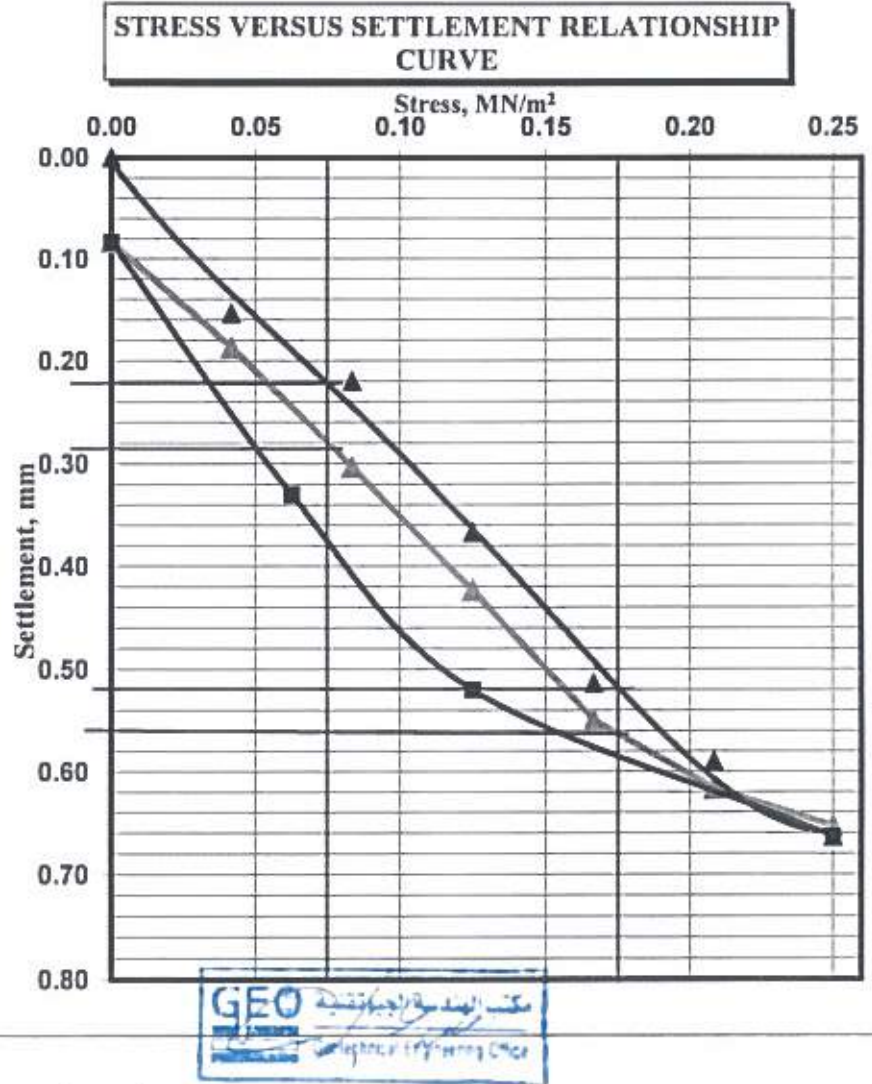
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (400+975) (level +0.90m)
PLATE LOAD NO. PLT-16
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 12:00 PM
TIME FINISH: 1:30 PM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.15
0.08	0.22
0.13	0.37
0.17	0.51
0.21	0.59
0.25	0.66
0.13	0.52
0.06	0.33
0.00	0.08
0.04	0.19
0.08	0.30
0.13	0.42
0.17	0.55
0.21	0.62
0.25	0.65

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.22
S2 at 0.3* σ_{0max}	0.28
S1 at 0.7* σ_{0max}	0.52
S2 at 0.7* σ_{0max}	0.56



STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	150.00
E_{v2} [MN/m ²]	160.71
E_{v2}/E_{v1}	1.07

Apparatus

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

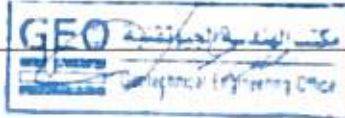
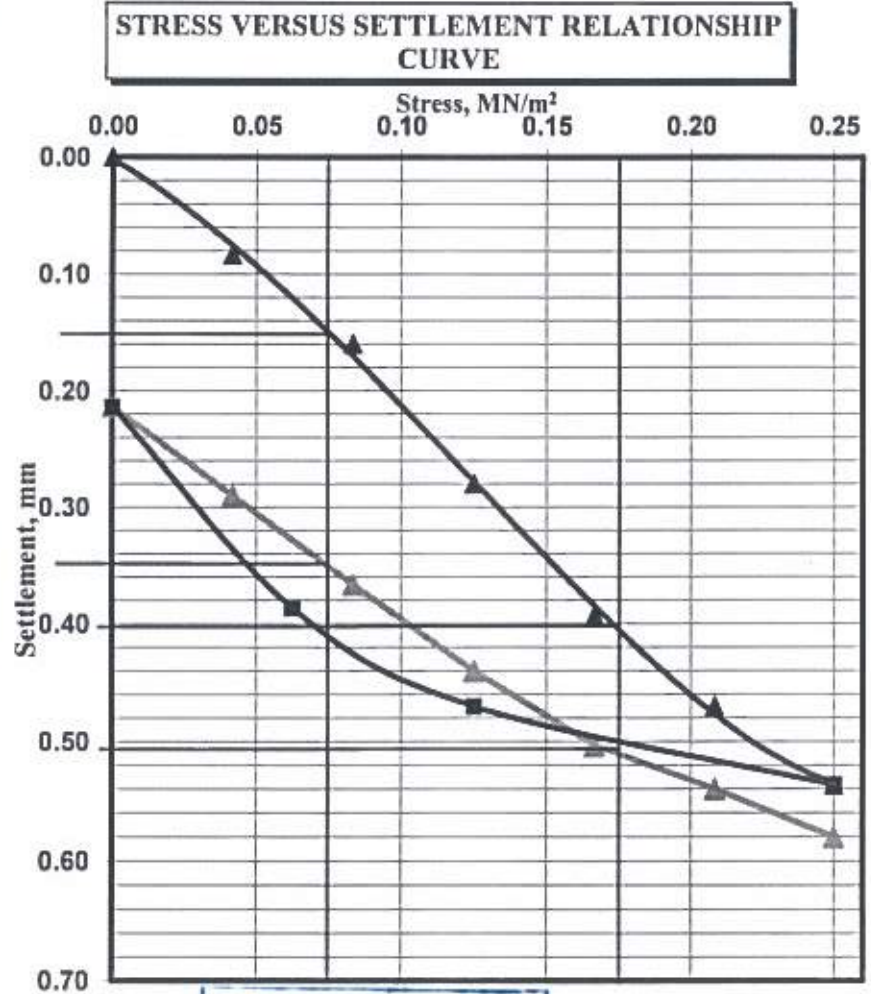
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alam (401+000) (level +0.90m)
PLATE LOAD NO. PLT-17
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 1:30 PM
TIME FINISH: 3:00 PM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.08
0.08	0.16
0.13	0.28
0.17	0.39
0.21	0.47
0.25	0.54
0.13	0.47
0.06	0.39
0.00	0.21
0.04	0.29
0.08	0.37
0.13	0.44
0.17	0.50
0.21	0.54
0.25	0.58

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.15
S2 at 0.3*σ _{0max}	0.35
S1 at 0.7*σ _{0max}	0.41
S2 at 0.7*σ _{0max}	0.51



STRAIN MODULUS, Ev

Ev1 [MN/m ²]	176.47
Ev2 [MN/m ²]	281.25
Ev2/Ev1	1.59

Apparatus

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

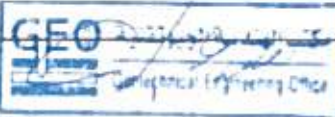
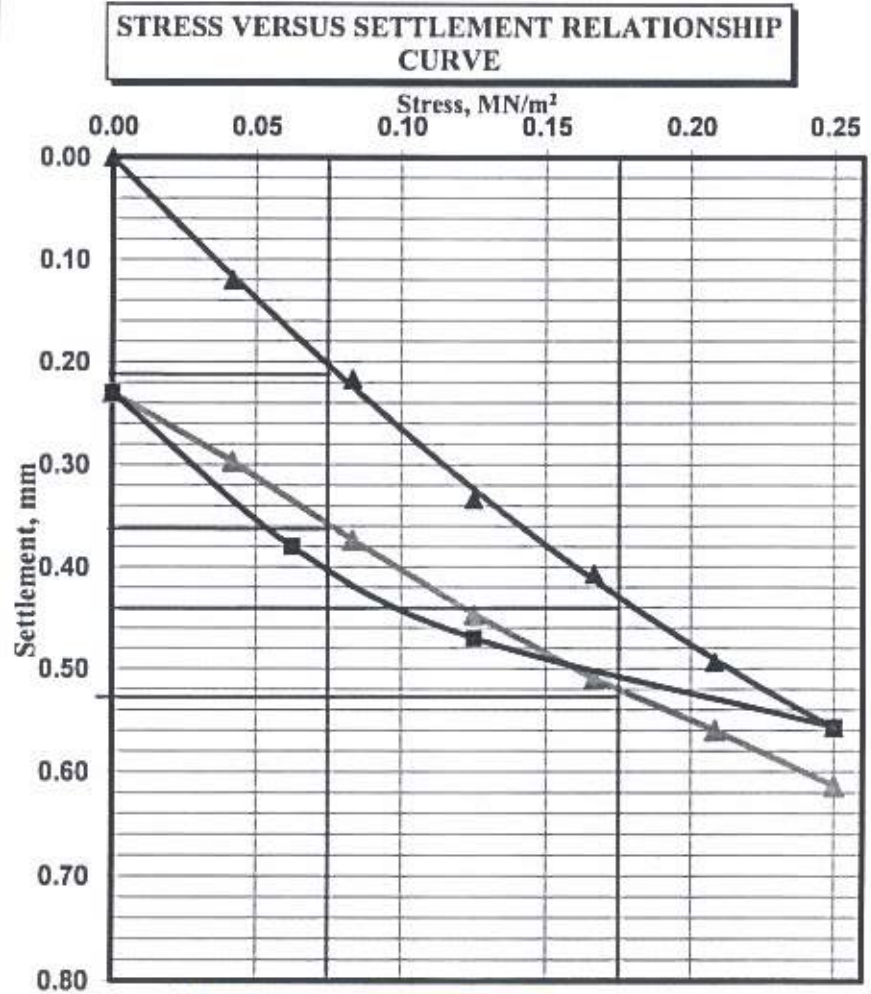
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alam (401+025) (level +0.90m)
PLATE LOAD NO. PLT-18
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 3:00 PM
TIME FINISH: 4:30 PM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.12
0.08	0.22
0.13	0.33
0.17	0.41
0.21	0.49
0.25	0.56
0.13	0.47
0.06	0.38
0.00	0.23
0.04	0.30
0.08	0.37
0.13	0.45
0.17	0.51
0.21	0.56
0.25	0.61

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.21
S2 at 0.3*σ _{0max}	0.36
S1 at 0.7*σ _{0max}	0.43
S2 at 0.7*σ _{0max}	0.52



STRAIN MODULUS, E_v

E _{v1} [MN/m ²]	204.55
E _{v2} [MN/m ²]	281.25
E _{v2} /E _{v1}	1.38

Apparatus

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

Plate Load Tests of Soils
DIN 18134

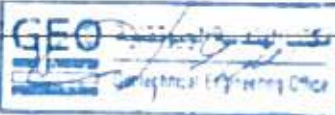
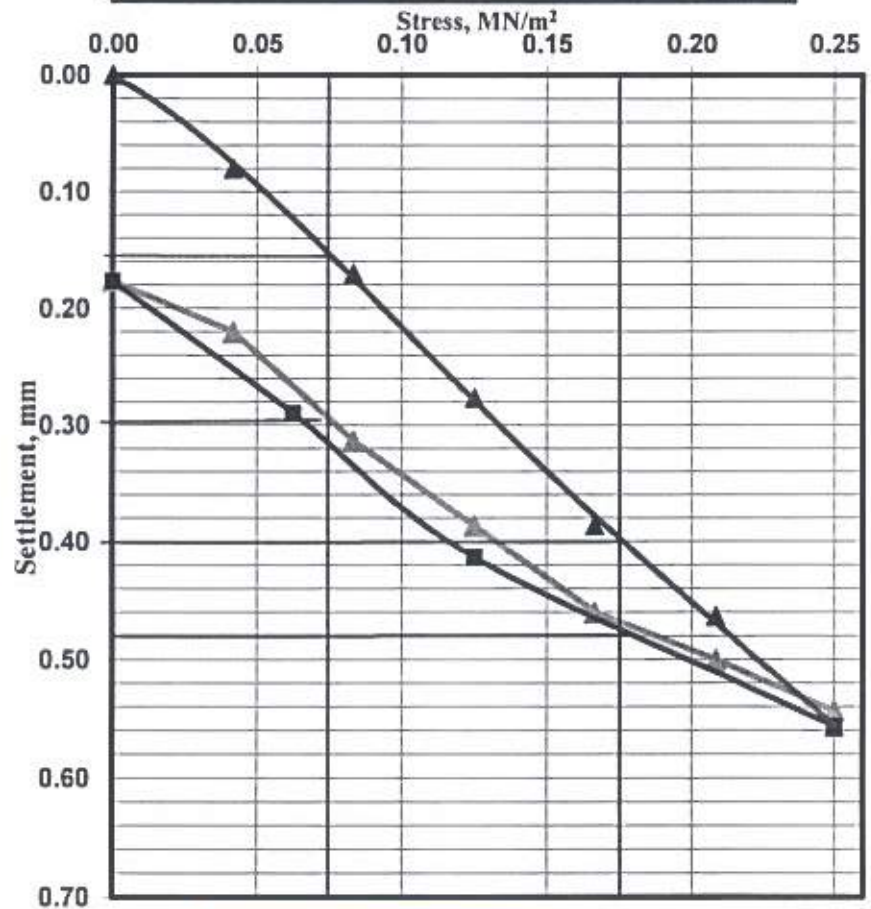
CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alam (401+050) (level +0.90m)
PLATE LOAD NO. PLT-19
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 4:30 PM
TIME FINISH: 6:00 PM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.08
0.08	0.17
0.13	0.28
0.17	0.39
0.21	0.46
0.25	0.56
0.13	0.41
0.06	0.29
0.00	0.18
0.04	0.22
0.08	0.31
0.13	0.39
0.17	0.46
0.21	0.50
0.25	0.54

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.15
S2 at 0.3*σ _{0max}	0.29
S1 at 0.7*σ _{0max}	0.39
S2 at 0.7*σ _{0max}	0.47

STRESS VERSUS SETTLEMENT RELATIONSHIP CURVE



STRAIN MODULUS, Ev

Ev1 [MN/m ²]	189.08
Ev2 [MN/m ²]	250.00
Ev2/Ev1	1.32

Apparatus

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

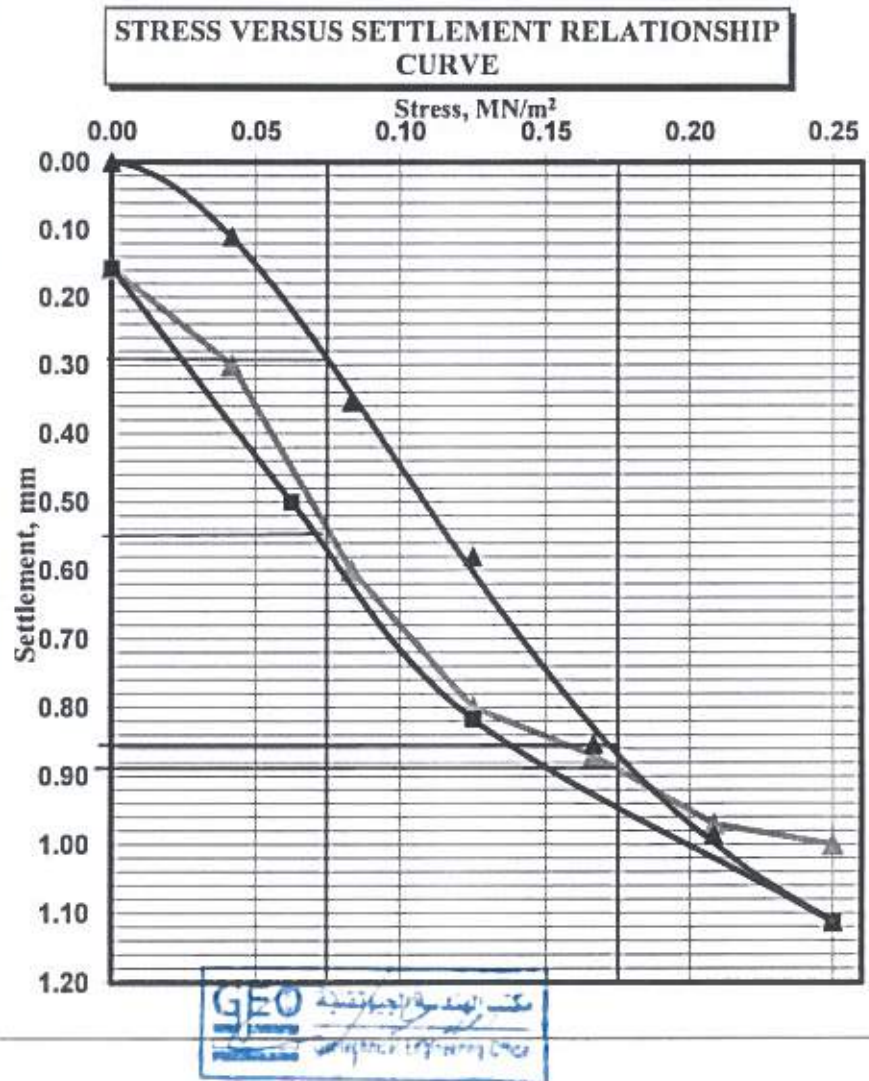
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamín (401+075) (level +0.90m)
PLATE LOAD NO. PLT-20
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 6:00 PM
TIME FINISH: 7:30 PM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.11
0.08	0.35
0.13	0.58
0.17	0.85
0.21	0.99
0.25	1.11
0.13	0.82
0.06	0.50
0.00	0.16
0.04	0.30
0.08	0.60
0.13	0.80
0.17	0.87
0.21	0.97
0.25	1.00

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.29
S2 at 0.3*σ _{0max}	0.52
S1 at 0.7*σ _{0max}	0.86
S2 at 0.7*σ _{0max}	0.89



STRAIN MODULUS, E_v

E _{v1} [MN/m ²]	78.95
E _{v2} [MN/m ²]	121.62
E _{v2} /E _{v1}	1.54

Apparatus

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

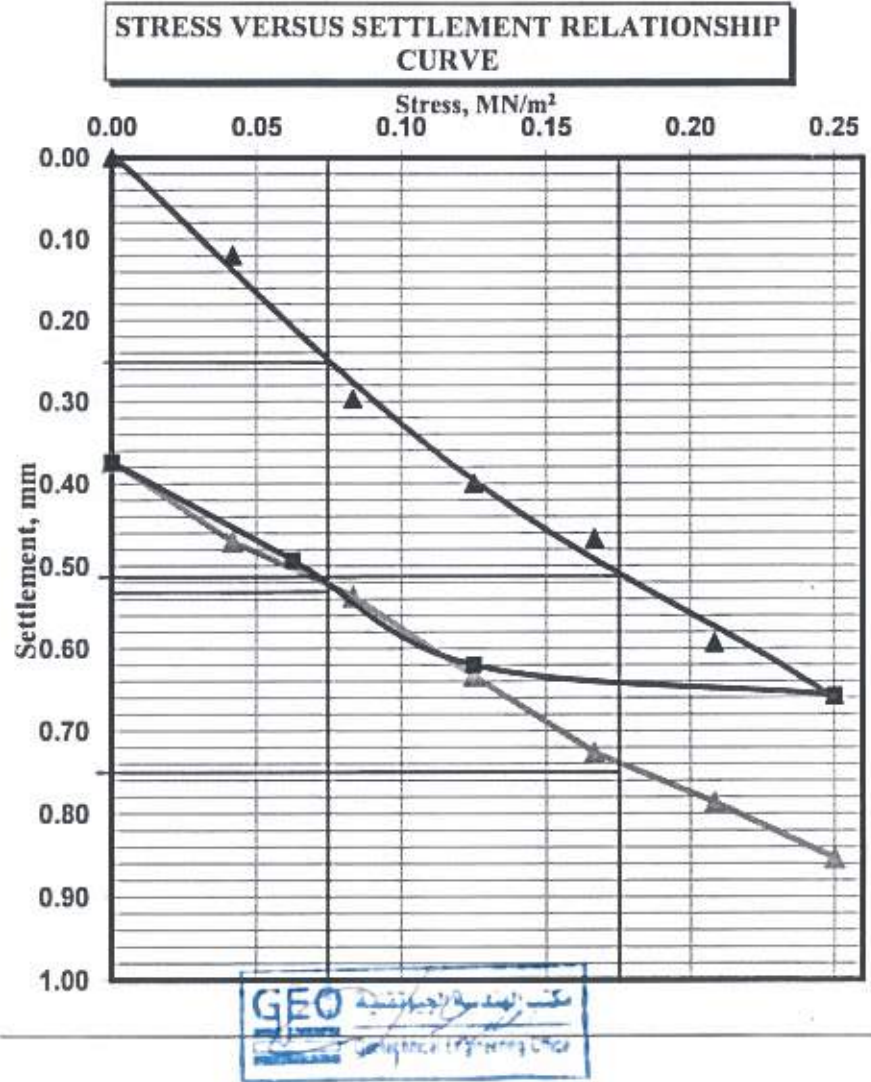
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (401+100) (level +0.90m)
PLATE LOAD NO. PLT-21
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 7:30 PM
TIME FINISH: 9:00 PM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.12
0.08	0.30
0.13	0.40
0.17	0.47
0.21	0.59
0.25	0.66
0.13	0.62
0.06	0.49
0.00	0.37
0.04	0.47
0.08	0.54
0.13	0.63
0.17	0.73
0.21	0.79
0.25	0.85

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.25
S2 at 0.3*σ _{0max}	0.52
S1 at 0.7*σ _{0max}	0.51
S2 at 0.7*σ _{0max}	0.74



STRAIN MODULUS, Ev

Ev1 [MN/m ²]	173.08
Ev2 [MN/m ²]	204.55
Ev2/Ev1	1.18

Apparatus

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

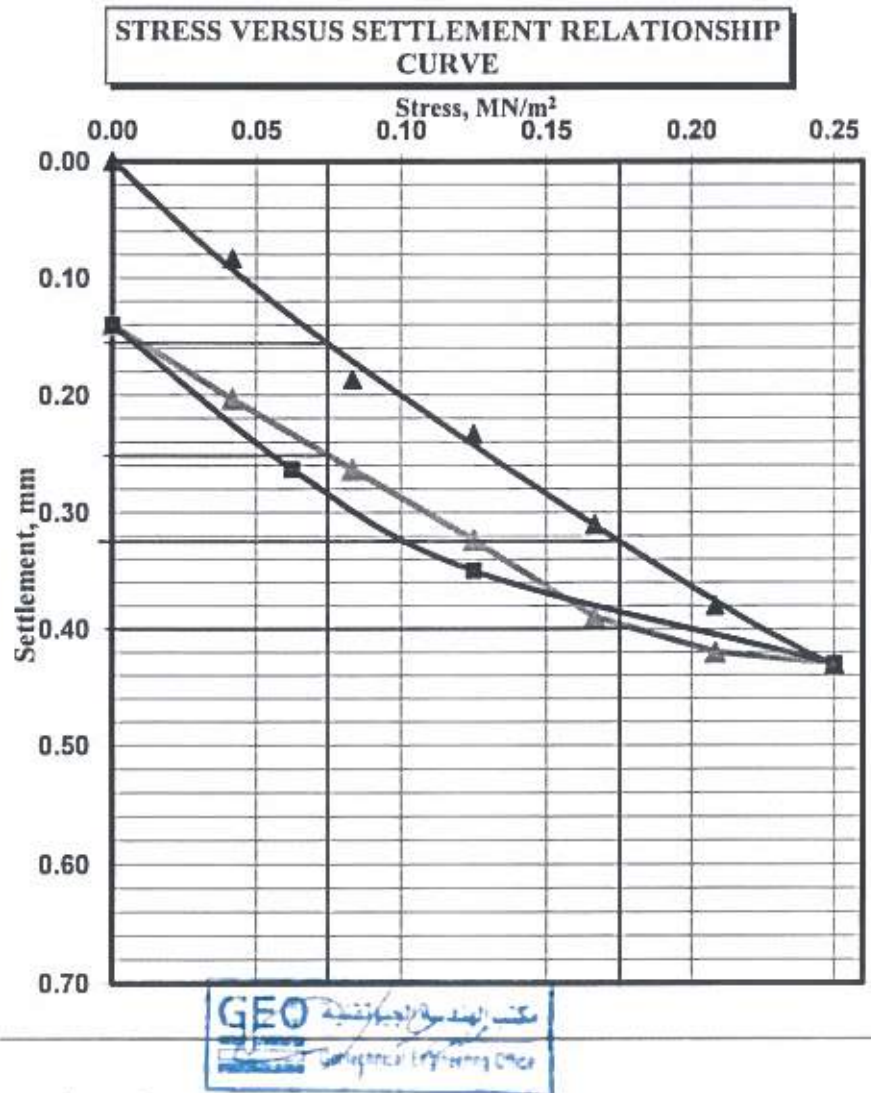
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alamin (401+125) (level +0.90m)
PLATE LOAD NO. PLT-22
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 6:00 AM
TIME FINISH: 7:30 AM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.08
0.08	0.19
0.13	0.23
0.17	0.31
0.21	0.38
0.25	0.43
0.13	0.35
0.06	0.26
0.00	0.14
0.04	0.20
0.08	0.26
0.13	0.32
0.17	0.39
0.21	0.42
0.25	0.43

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.16
S2 at 0.3*σ _{0max}	0.25
S1 at 0.7*σ _{0max}	0.32
S2 at 0.7*σ _{0max}	0.40



STRAIN MODULUS, Ev

Ev1 [MN/m ²]	281.25
Ev2 [MN/m ²]	300.00
Ev2/Ev1	1.07

Apparatus

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

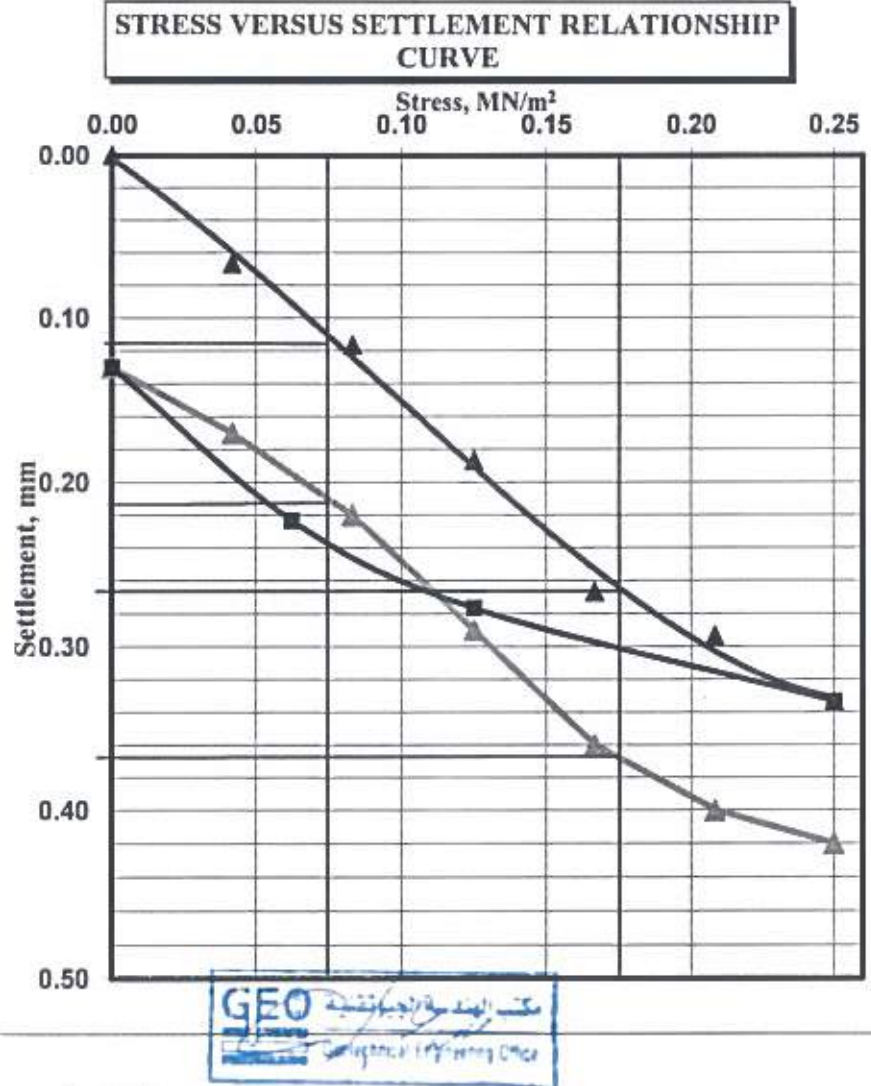
Plate Load Tests of Soils
DIN 18134

CLIENT شركة الفتح
PROJECT Electric Express Train
LOCATION Al-alam (401+150) (level +0.90m)
PLATE LOAD NO. PLT-23
PLATE DIAMETER (cm) 60.00

TYPE OF SOIL Sub-ballast
TIME START: 7:30 AM
TIME FINISH: 9:00 AM
DATE 12-Sep-23
LAB. REF. 06018

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.07
0.08	0.12
0.13	0.19
0.17	0.27
0.21	0.29
0.25	0.33
0.13	0.28
0.06	0.22
0.00	0.13
0.04	0.17
0.08	0.22
0.13	0.29
0.17	0.36
0.21	0.40
0.25	0.42

0.3*σ _{0max}	0.075
0.7*σ _{0max}	0.175
S1 at 0.3*σ _{0max}	0.11
S2 at 0.3*σ _{0max}	0.21
S1 at 0.7*σ _{0max}	0.27
S2 at 0.7*σ _{0max}	0.36



STRAIN MODULUS, Ev

Ev1 [MN/m ²]	281.25
Ev2 [MN/m ²]	300.00
Ev2/Ev1	1.07

Apparatus

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

مشروع القطار السريع (العلمين - فوقة)

شركة الفتح للشحن والتفريغ والأعمال البحرية من المحطة 400+600 الى المحطة 407+600

محضر تحديد مسافة نقل سن

(نقل سن)

انه في يوم الاربعاء الموافق :- 2022/6/15

- بناء على طلب شركة الفتح لتحديد مسافة نقل سن من كسارة الأمريكتين

على طريق وادي النطرون للمشروع المذكور اعلاه.

تم زيارة الكسارة من قبل:-

- | | |
|---|------------------------------------|
| ممثل الهيئة العامة للطرق والكباري | 1- السيد المهندس / ابراهيم الحناوي |
| مدير مشروع الاستشاري مكتب ديمعد الجيوشي | 2- السيد المهندس / مصطفى نجم |
| ممثل استشاري المساحة مكتب (XYZ) | 3- السيد المهندس / محمد خليل |
| ممثل مكتب الاستشاري مكتب ديمعد الجيوشي | 4- السيد المهندس / كمال نجيب |
| ممثل شركة الفتح للشحن والتفريغ والأعمال البحرية | 5- السيد المهندس / حسن محمد |

احداثي الكسارة : $30^{\circ}36'51.52''N$ $29^{\circ}41'36.13''E$

احداثي منتصف القطاع : $30^{\circ}50'58.65''N$ $28^{\circ}53'35.54''E$

وتبين ان الكسارة على مسافة 120 كم من منتصف قطاع الشركة

وعلى ذلك تم توقيع...

5- حسن محمد

4- كمال نجيب

3- محمد خليل

2- مصطفى نجم

1- ابراهيم الحناوي

مشروع القطار المريع (العلمين غوكة)

شركة الفتح للشحن والتفريغ والأعمال البحرية من المحطة 400+600 الى المحطة 407+600

محضر تحديد مسافة نقل

(نقل الأتربة)

انه في يوم الاربعاء الموافق :- 2022/6/18

- بناء على طلب شركة الفتح لتحديد مسافة نقل الأتربة من محجر المصرية

على طريق وادي النظرون للمشروع المذكور أعلاه.

تم زيارة الكمارة من قبل:-

- | | |
|------------------------------------|---|
| 1- السيد المهندس / ابراهيم الحناوي | ممثل الهيئة العامة للطرق والكباري |
| 2- السيد المهندس / مصطفى نجم | مدير مشروع الاستشاري مكتب د.سعد الجيوشي |
| 3- السيد المهندس / محمد خليل | ممثل استشاري المساحة مكتب (XYZ) |
| 4- السيد المهندس / كمال نجيب | ممثل مكتب الاستشاري مكتب د.سعد الجيوشي |
| 5- السيد المهندس / حسن محمد | ممثل شركة الفتح للشحن والتفريغ والأعمال البحرية |

احداثي المحجر : $30^{\circ}33'19.7''N$ $29^{\circ}45'06.7''E$

احداثي منتصف القطاع : $30^{\circ}50'58.65''N$ $28^{\circ}53'35.54''E$

وتبين ان الكسارة على مسافة 126 كم من منتصف قطاع الشركة

وعلى ذلك تم توقيع...

5- حسرت
4- 
3- محمد خليل
2- 
1- 