

محضر استلام موقع

عملية : إسناد أعمال الجسر الترابي لمسار القطار الكهربائي السريع الخط الاول
(العين السخنة - العلمين) (قطاع فوكة / مطروح) لتنفيذ اعمال تشكيل الجسور
المسافة من الكم ٥٤٥,٢٥٠ الي الكم ٥٤٥,٥٠٠ بطول ٢٥٠,٢٥ كم (بالامر المباشر)
(المنطقة الخامسة - غرب الدلتا).

تنفيذ: شركة الكفاح للمقاولات

إشراف : المنطقة الخامسة - منطقة غرب الدلتا

طبقاً للعقد رقم (٢٠٢٤/٢٠٢٣/٢٤٤) بتاريخ ٢٠٢٣/٨/٢٢

إنه في يوم الاربعاء الموافق ٢٠٢٣/٨/٢٣ اجتمع كل من:-

- | | |
|---|---|
| ١- السيد المهندس / محمد حسني فياض | مدير المشروعات - الهيئة العامة للطرق والكباري |
| ٢- السيد المهندس / إبراهيم عبد الله الحناوي | مهندس العملية - الهيئة العامة للطرق والكباري |
| ٣- السيد المهندس / محمد محسن فياض | مدير المشروع - شركة الكفاح للمقاولات |

وذلك للمرور على مسار العملية المذكورة عاليه لإستلام الموقع وقد
تبين ان الموقع لا يوجد به عوائق ظاهرية .

ويسمح بالبدء في التنفيذ وبناء عليه يعتبر تاريخ ٢٠٢٣/٨/٢٣ هو تاريخ استلام الموقع وبدء
الأعمال بالعملية .

واقفل المحضر على ذلك ووقع الحضور

التوقيعات

٣- محمد ضياء

٢- [Signature]

١- [Signature]

رئيس الإدارة المركزية

منطقة غرب الدلتا

الاسكندرية - مرسى مطروح

عميد . مهندس /

"هاني محمد محمود طه"

المنطقة الخامسة - (غرب الدلتا)

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة.. وبعد،،

بالإحالة إلى مشروع القطار الكهربائي السريع (العين السخنة - العلمين) قطاع فوكة مطروح (القطاع السابع)

ننشرف بأن نرفق لسيادتكم طيه المقايسة المعدلة للقطاع الأتي:

م	اسم الشركة	بداية القطاع (كم)	نهاية القطاع (كم)	رقم العقد
1	الكفاح للمقاولات	545+250	545+500	2024/2023/244

برجاء من سيادتكم التفضل بالأحاطه والتوجيه بالازم

وتفضلوا بقبول فائق الاحترام والتقدير،،

رئيس الإدارة المركزية

المنطقة الخامسة- غرب الدلتا

عميد مهندس /

"هاني محمد محمود طه"



مشروع القطار الكهربائي السريع قطاع (فوكه - مطروح)
المقاسمة المعدلة لبنود الاعمال تنفيذ شركة الكفاح للمقاولات عقد رقم (٢٠٢٤/٢٠٢٣/٢٤٤)
في المسافة من ٥٤٥+٢٥٠ إلى ٥٤٥+٥٠٠
(مرحلة أعمال تشكيل الجسور)

رقم البند	بيان الأعمال	الوحدة	الكمية	الفئة	الاجمالي
3	اعمال الردم				
3-1	بالمتر المكعب اعمال توريد وتشغيل اترية صالحة للردم و مطابقة للمواصفات والتشغيل باستخدام المعدات بسمك لا يزيد عن ٥٠ سم حتي منسوب ٢ متر و بسمك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمي لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا لا تقل عن ١٥%) و رشها بالمياه الاصلوية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (٩٥% من الكثافة الجافة القصوى) ويتم التنفيذ طبقا للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع شتملاته طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف - في حالة طلب جهاز الإشراف زيادة نسبة الدمك عن (٩٥%) بحسب زيادة ١ جنيه عن زيادة نسبة الدمك لكل (١%) - مسافة النقل ٢ كم - يتم احتساب علاوة ١,٤ جنيه لكل ١ كم بالزيادة او النقصان - السعر يشمل عمل تشوينات وتخليط واختبارات ونقل لموقع العمل حتى مسافة ٢ كم - السعر يشمل قيمة المادة المحجرية طبقاً لأفادة المنطقة بهذا القطاع (٧) من الكم ٥٠٤ إلى ٥٦٨	م³	47,147.5719	85.00	4,007,544
	علاوة مسافة النقل ٢٣٥ كم	م³	47,147.5719	326.20	15,379,538
	علاوة تحصيل رسوم الكارثة والموازن طبقاً للائحة الشركة الوطنية	م³	47,147.5719	13.00	612,918
	الاجمالي				20,000,000

(عشرون مليوناً جنيه فقط لاغير)

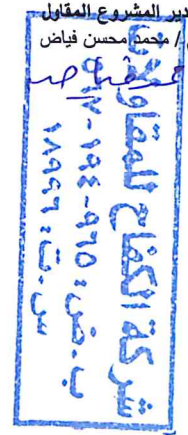
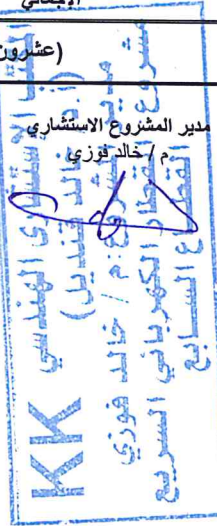
مدير عام المشروعات
م / محمد حسني فياض

مدير المشروع المالك
م / إبراهيم الحناري

مدير المشروع الاستشاري
م / خالد فوزي

مدير المشروع المقابل
م / محمد محسن فياض

يعتمد
رئيس الإدارة المركزية
منطقة غرب الدلتا
الإسكندرية - مرسى مطروح
عميد مهندس /
هاني محمد محمود طه



 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي ا.د. خالد قنديل	 SYSTRA SHAKER	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSА MATROUH From Station 504+000 To Station 568+177	 الهيئة القومية للإنفاق (CAPET)
Opreating lab	Mansour Lab		

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	11/3/2023	code	Zone	545+000 TO 545+500
LOCATION	K.P 545+000	KF-4		
NAME COMPANY	EL KAFAH			

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT [g]		33315.00		gm	table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify
0.00	0.0	1369.0	6415.0	2816.0	2462.0	1409.0	2455.0		A-1-b
Cumulative Retained (g)	0.0	1369.0	7784.0	10600.0	13062.0	14471.0	16926.0		PRO 2.142
Cumulative Retained %	0.0	4.1	23.4	31.8	39.2	43.4	50.8		WC 6.50
Cumulative Passing %	100.0	95.9	76.6	68.2	60.8	56.6	49.2		CBR 30.60

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	10	40	200					
Cumulative Retained (g)	36.00	133.00	354.00					
Cumulative Retained %	7.20	26.60	70.80					
Cumulative Passing %	92.80	73.40	29.20					

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	95.9	76.6	68.2	60.8	56.6	49.2	45.7	36.1	14.4

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.P

Contractor

Consultant



Abdullah

California Bearing Ratio TEST

Testing Date :	14/3/2023	Code	Zone	545+000	545+500
Location :	K.P 545+000	KF-4			
Name of Company	EL KAFAH				

- : Test Results

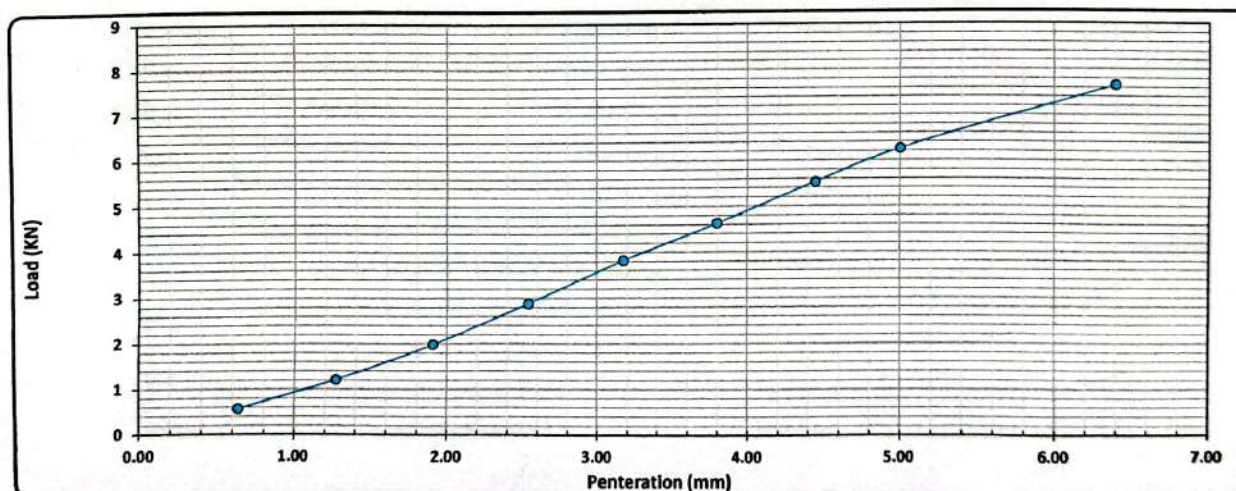
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2104
Mold WT. (gm)	8077
Mold WT. + Wet WT. (gm)	12871
Wet WT. (gm)	4794
Wet Density (g/cm ³)	2.279
Dry Density (g/cm ³)	2.140
Proctor Density (g/cm ³)	2.142
Compaction %	100

Moisture Ratio After Compacted Mold	
Tare No.	13
Tare WT. (gm)	55.81
Tare WT. +Wet WT. (gm)	148.4
Tare WT. +Dry WT. (gm)	142.7613
Water WT. (gm)	5.6
Dry WT. (gm)	87.0
Moisture Content %	6.5

Swelling	
Mold No.	1
Date	0
Initial Height (mm)	0.00
Final Height (mm)	0.00
Difference	0
Sample Height (mm)	11600.00
Swelling Ratio %	0%

Loading Reading :

Penteration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	58.00	123.00	202.00	294.00	390.00	472.00	563.00	638.00	780.00
Load (KN)	0.6	1.2	2.0	2.9	3.8	4.6	5.5	6.3	7.6



Calculations :-

Penteration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	عند نسبة 98 %
2.50	2.88	13.4	21.6%	100	98	21.2%
5.00	6.25	20.0	31.2%			30.6%

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Abdallah

operating Lab

Mansour Lab

Proctor Test

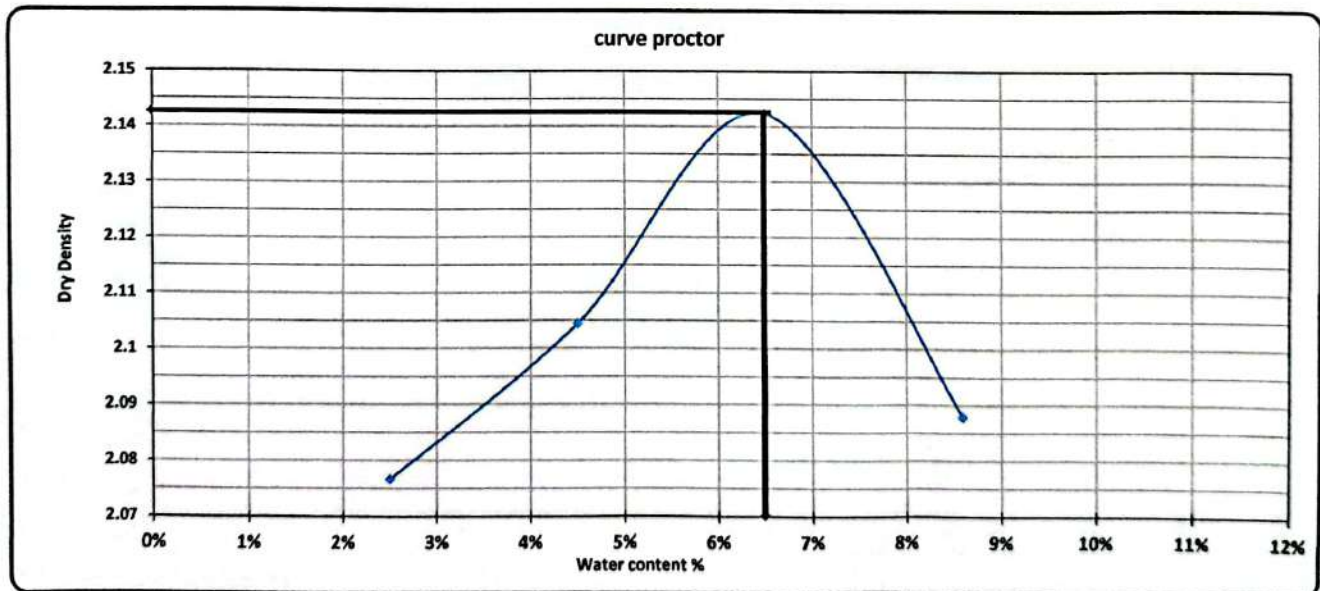
TESTING DATE:	13/3/2023	code		
LOCATION	K.P 545+500	KF-4	Zone	545+000To 545+500
NAME COMPANY	EL KAFAH			

Weight of empty mold :	5594.0
Mold Volume:	2124.0

MAX Dry Density	2.142
Water content %	6.5

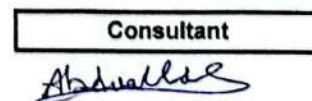
trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10115.0	10265.0	10440.0	10410.0	
WT. WET SOIL	4521.0	4671.0	4846.0	4816.0	
Wt. Density	2.129	2.199	2.282	2.267	

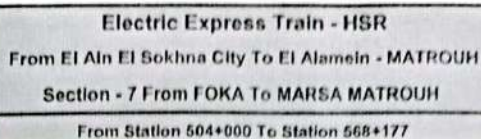
Tare No.	1	2	3	4	5	6	7	8		
Tare wt.	55.85	54.5	55.65	52.42	56.96	56.74	56.74	57.92		
Wt. Of wet soil & tare	149.4	148.9	149.3	150.9	148.5	149.1	148.5	151.0		
Wt. Of dry soil & tare	147.0	146.7	145.5	146.5	143.0	143	141.2	143.6		
Wt. Of water	2.4	2.2	3.9	4.4	5.5	5.7	7.3	7.4		
Wt. Of dry soil	91.2	92.2	89.8	94.1	86.1	86.6	84.5	85.7		
Water content %	2.6%	2.4%	4.3%	4.7%	6.4%	6.6%	8.6%	8.6%		
AV. Water content %	2.5%		4.5%		6.5%		8.6%			
Dry Density	2.077		2.104		2.142		2.088			



Contractor


 مصر شركة منصور عمر حسن للمقاولين
 المقاول الرئيسي
 مرقية - مطروح

Consultant




1-visual inspection test

2-Gradient test

B-soft material gradation

C-General gradient

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	NP	NP	NP

Contractor

Consultant



Mallab

	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA TO MARSA MATROUH From Station 504+000 To Station 568+177	الهيئة العامة للطرق والكباري والسكك الحديدية (GA.P.R.R.T) 
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PROCTOR TEST

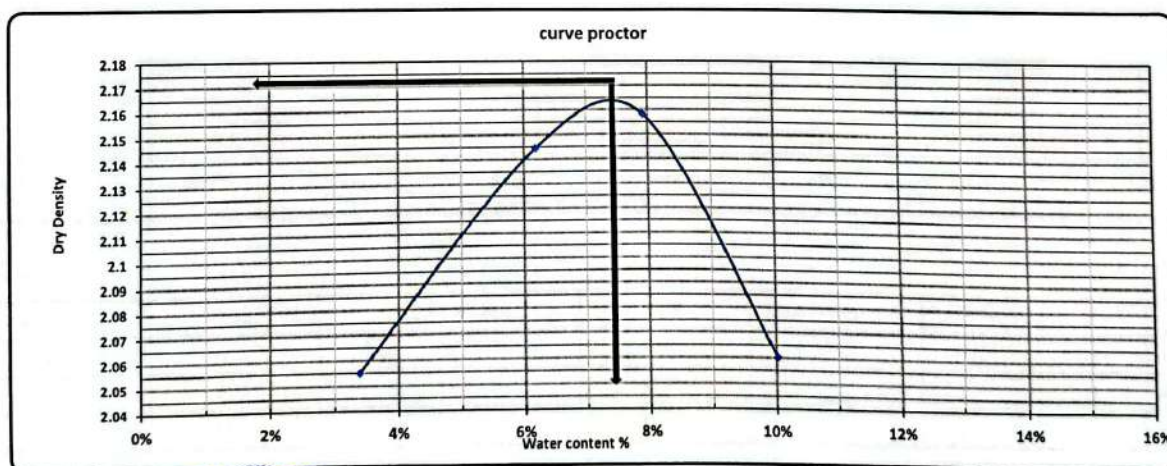
TESTING DATE:	2023/03/09	code	Station	545+000	545+500
LOCATION		KF(3)	Material		
NAME COMPANY	شركة الكفاح		layer level		

Weight of empty mold :	6057.0
Mold Volume:	2113.0

MAX Dry Density	2.16
Water content %	7.4

trial no :	1	2	3	4		
Wt. Of Mold+ wet soil	10547.0	10869.0	10979	10847		
WT. WET SOIL	4490.0	4812.0	4922.0	4790.0		
Wt. Density	2.125	2.277	2.329	2.267		

	2.16											
Tare No.	26	45	33	16	8	15	19	10	7.4			
Tare wt.	55	41.5	73.6	34	45.8	32	44.5	43.7				
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0				
Wt. Of dry soil & tare	147	146.3	145.5	143.3	142.2	141.5	140.2	140.5				
Wt. Of water	3.0	3.7	4.5	6.7	7.8	8.5	9.8	9.5				
Wt. Of dry soil	92.0	104.8	71.9	109.3	96.4	109.5	95.7	96.8				
Water content %	3.3%	3.5%	6.3%	6.1%	8.1%	7.8%	10.2%	9.8%				
AV. Water content %	3.4%		6.2%		7.9%		10.0%					
Dry Density	2.055		2.144		2.158		2.060					



Consultant

Abdelhaleem



ENGINEERING CONSULTING OFFICE
المكتب الاستشاري الهندسي
أ.د. خالد شديبل



Electric Express Train - HSR

شركة
لبنان والكويت
(LADP)



شركة
لبنان والكويت

California Bearing Ratio TEST

Testing Date :	12-3-2023	Code	FROM STA :	TO STA :
Location :		KF(3)	: Material	
Company Name	الكراج		: Layer Thickness	

:- Test Results

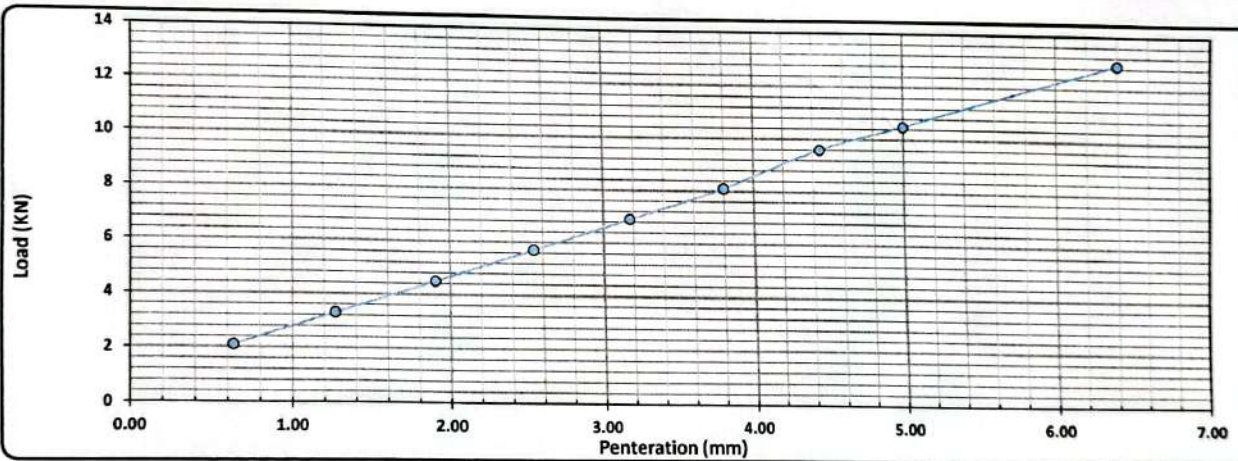
Compaction % for Mold	
Mold No.	4
Mold Vol. (cm ³)	2140
Mold WT. (gm)	4900
Mold WT. + Wet WT. (gm)	9854
Wet WT. (gm)	4954
Wet Density (g/cm ³)	2.315
Dry Density (g/cm ³)	2.159
Proctor Density (g/cm ³)	2.160
Compaction %	99.9

Moisture Ratio After Compacted Mold	
Tare No.	11
Tare WT. (gm)	46.4
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	143
Water WT. (gm)	7.0
Dry WT. (gm)	96.6
Moisture Content %	7.2

Swelling	
Mold No.	6
Date	12-3-2023
Initial Height (mm)	3.00
Final Height (mm)	3.00
Difference	0.0
Sample Height (mm)	119.00
Swelling Ratio %	0%

Loading Reading :

Pentration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (mm)	0.070	0.110	0.150	0.190	0.230	0.270	0.320	0.350	0.430
Load (KN)	2.1	3.3	4.5	5.7	6.9	8.1	9.6	10.5	12.9



Calculations :-

Pentration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	% عند نسبة ١٨
2.50	5.70	13.4	42.7%	99.9	98	41.9%
5.00	10.50	20.0	52.4%			51.4%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name : Abdallah S. M. J.

Sign : Abdallah S. M. J.





Electric Express Train - HSR
From El Aln El Sokhna City To El Alamain - MATROUH
Section - 7 From FOKA To MARSA MATROUH
 From Station 504+000 To Station 568+177



PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	21/12/2023	code	ZONE	545+000	545+500
LOCATION	K.P(545+000)	KF-1			
NAME COMPANY	EL KEFAH				

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT [g]		35354.00	gm	table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	soil classify
Mass retained (g)	0.0	3201.0	8014.0	3322.0	3559.0	1695.0	2701.0	A-1-a
Cumulative Retained (g)	0.0	3201.0	11215.0	14537.0	18096.0	19791.0	22492.0	PRO
Cumulative Retained %	0.0	9.1	31.7	41.1	51.2	56.0	63.6	WC
Cumulative Passing %	100.0	90.9	68.3	58.9	48.8	44.0	36.4	CBR

B-soft material gradation				WT.OF sample		500.00	gm
sieve size	10	40	200				
Cumulative Retained (g)	75.00	196.00	311.00				
Cumulative Retained %	15.00	39.20	62.20				
Cumulative Passing %	85.00	60.80	37.80				

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	90.9	68.3	58.9	48.8	44.0	36.4	30.9	22.1	13.8

ATTEBERG LIMTS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.P	N.P	N.P



Consultant
 Youssef Rajab
 25/12/2023

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي 10 - برج خليفة	 SVSRA	Electric Express Train - HSR	 الهيئة العامة للنقل (G.M.P.T.)
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California Bearing Ratio TEST

Testing Date :	2023\2\25	Code	zone	545+000	545+500
Location :	K.P(545+000)	KF-1			
Layer No. :	EL KEFAH				

:- Test Results

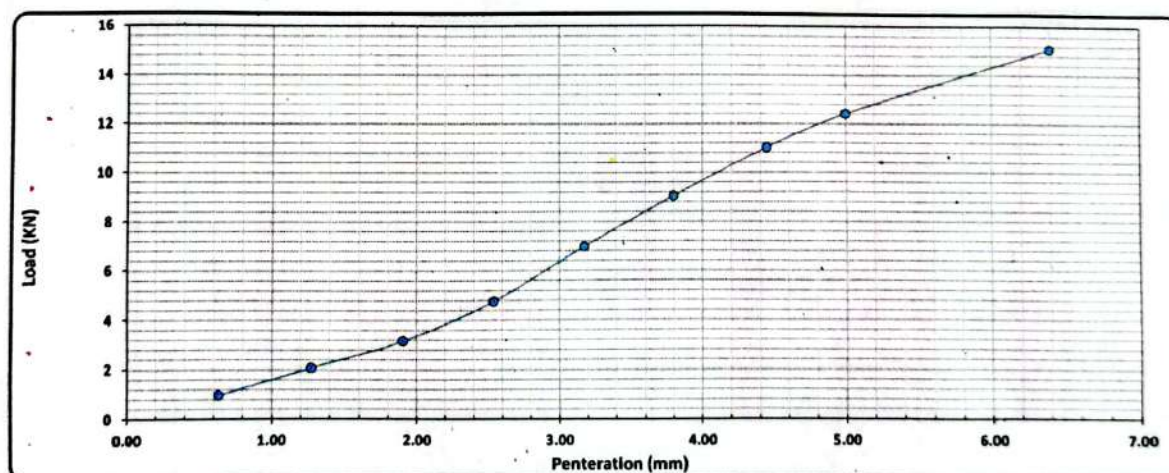
Compaction % for Mold	
Mold No.	55
Mold Vol. (cm ³)	2151
Mold WT. (gm)	15700
Mold WT. + Wet WT. (gm)	20815
Wet WT. (gm)	5115
Wet Density (g/cm ³)	2.378
Dry Density (g/cm ³)	2.237
Proctor Density (g/cm ³)	2.170
Compaction %	98

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	31
Tare WT. + Wet WT. (gm)	233
Tare WT. + Dry WT. (gm)	222
Water WT. (gm)	11.0
Dry WT. (gm)	191.0
Moisture Content %	6.3

Swelling	
Mold No.	55
Date	
Initial Height (mm)	
Final Height (mm)	
Difference	
Sample Height (mm)	
Swelling Ratio %	

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	99.00	212.00	323.00	486.00	711.00	923.00	1124.00	1266.00	1538.00
Load (KN)	1.0	2.1	3.2	4.8	7.0	9.0	11.0	12.4	15.1



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	عند نسبة 98 %
2.50	4.76	13.4	35.7%	99	98	35.3%
5.00	12.41	20.0	62.0%			61.3%

Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

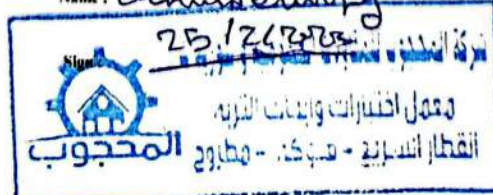
Name :

Name :

Sign :

Sign :

Sign :



Youssef R. Lab
 25/2/2023



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein - MATROUH
Section - 7 From FOKA TO MARSA MATROUH
From Station 504+000 To Station 568+177



PROCTOR TEST

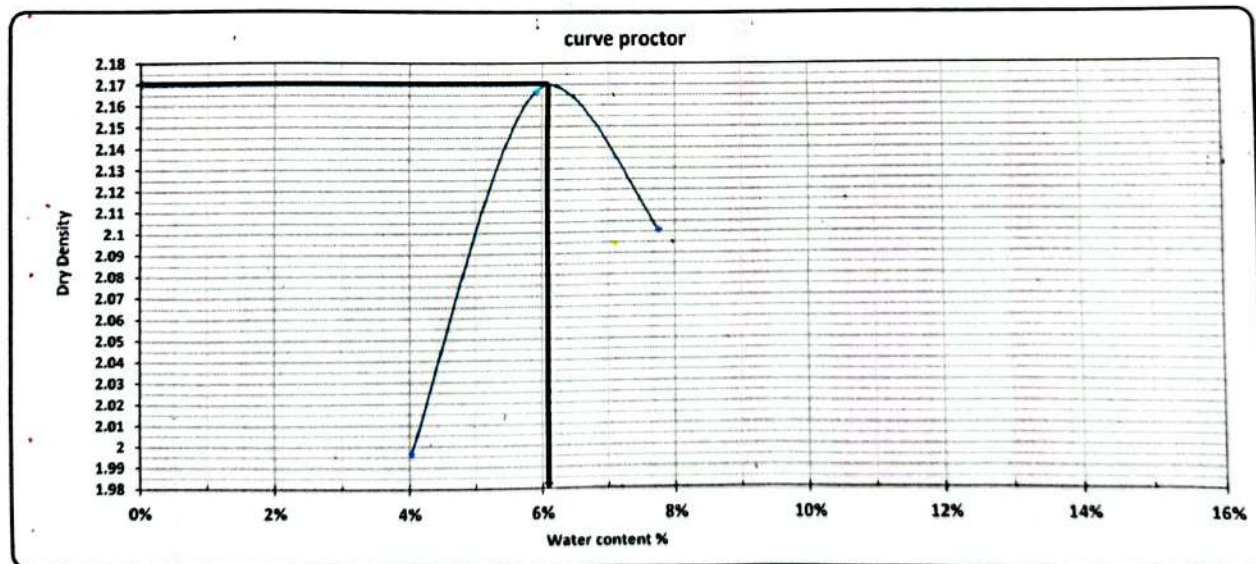
TESTING DATE:	22/2/2023	code	ZONE	545+000	545+500
LOCATION	K.P(545+000)	KF-1			
NAME COMPANY	EL KEFAH				

Weight of empty mold :	6071.0
Mold Volume:	2023.0

MAX Dry Density	2.17
Water content %	6.3%

trial no :	1	2	3	4	5
Wt. Of Mold+ wet soil	10273.0	10713.8	10651.1		
WT. WET SOIL	4202.0	4642.8	4580.1		
Wt. Density	2.077	2.295	2.264		

Tare No.	1	2	3	4	5	6				
Tare wt.	34.12	30.56	23.23	28.54	22.77	30.76				
Wt. Of wet soil & tare	168.8	156.0	165.2	156.0	152.0	168.0				
Wt. Of dry soil & tare	163.4	151.2	157.2	148.9	142.9	157.9				
Wt. Of water	5.4	4.7	8.0	7.1	9.1	10.1				
Wt. Of dry soil	129.3	120.7	134.0	120.4	120.1	127.2				
Water content %	4.1%	3.9%	6.0%	5.9%	7.6%	7.9%				
AV. Water content %	4.0%		5.9%		7.8%					
Dry Density	1.997		2.167		2.101					



Consultant

Youssef Rabab
 25/2/2023

PROCTOR TEST

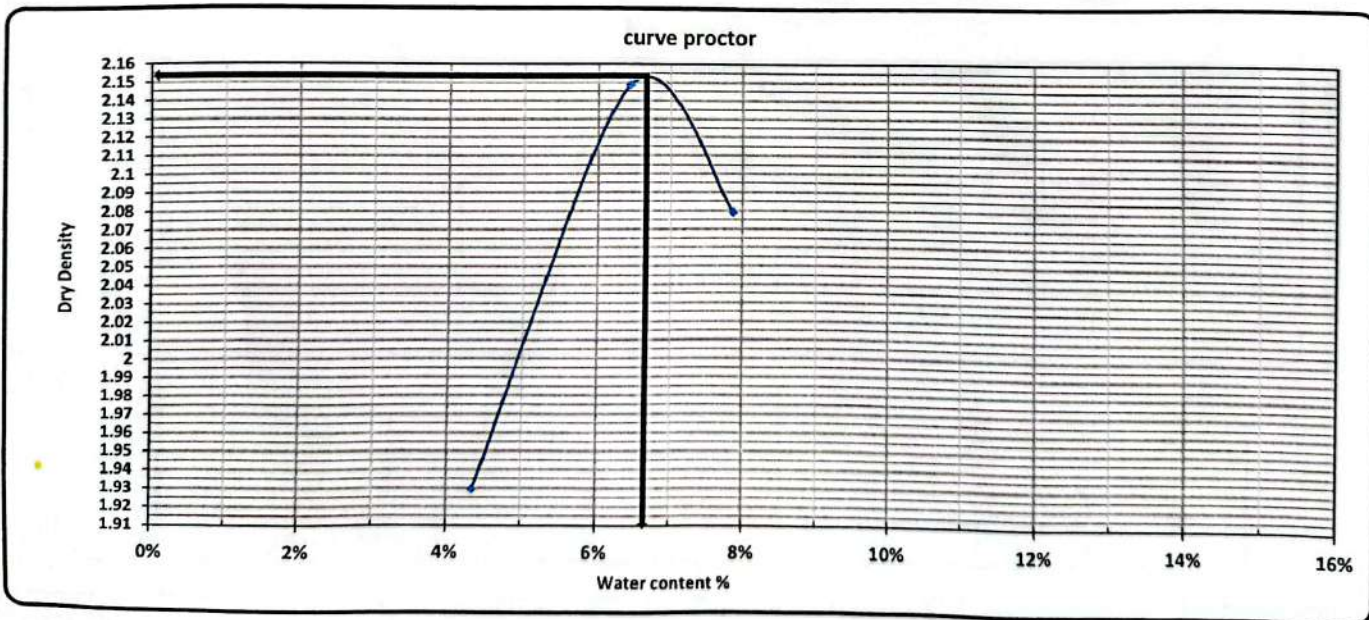
TESTING DATE:	2023/03/03	code			
LOCATION	K.P.(545+000)	KF-2	ZONE	545+000	545+500
NAME COMPANY	EL KEFAH				

Weight of empty mold :	6050.0
Mold Volume:	2032.0

MAX Dry Density	2.152
Water content %	6.8%

trial no :	1	2	3	4	5
Wt. Of Mold+ wet soil	10142.4	10698.0	10607.8		
WT. WET SOIL	4092.4	4648.0	4557.8		
Wt. Density	2.014	2.287	2.243		

Tare No.	1	2	3	4	5	6			
Tare wt.	20.21	28.87	30.88	28.86	29.66	30.57			
Wt. Of wet soil & tare	134.9	155.76	156.87	160.32	166.87	166.87			
Wt. Of dry soil & tare	130.2	150.32	148.96	152.65	157.18	156.61			
Wt. Of water	4.7	5.4	7.9	7.7	9.7	10.3			
Wt. Of dry soil	110.0	121.5	118.1	123.8	127.5	126.0			
Water content %	4.2%	4.5%	6.7%	6.2%	7.6%	8.1%			
AV. Water content %	4.4%	6.4%	7.9%						
Dry Density	1.930	2.149	2.079						



Contractor

Shady A. Mohamed

معمل اختبارات وإعدادات التربة

القطاع السابع - فوكا - مطروح

Consultant

Youssef R. El-Sayed

21/3/2023

California Bearing Ratio TEST

Testing Date :	5/3/2023	Code	zone	545+000	545+500
Location :	K.P(545+000)	KF-2			
Layer No. :	EL KEFAH				

-: Test Results

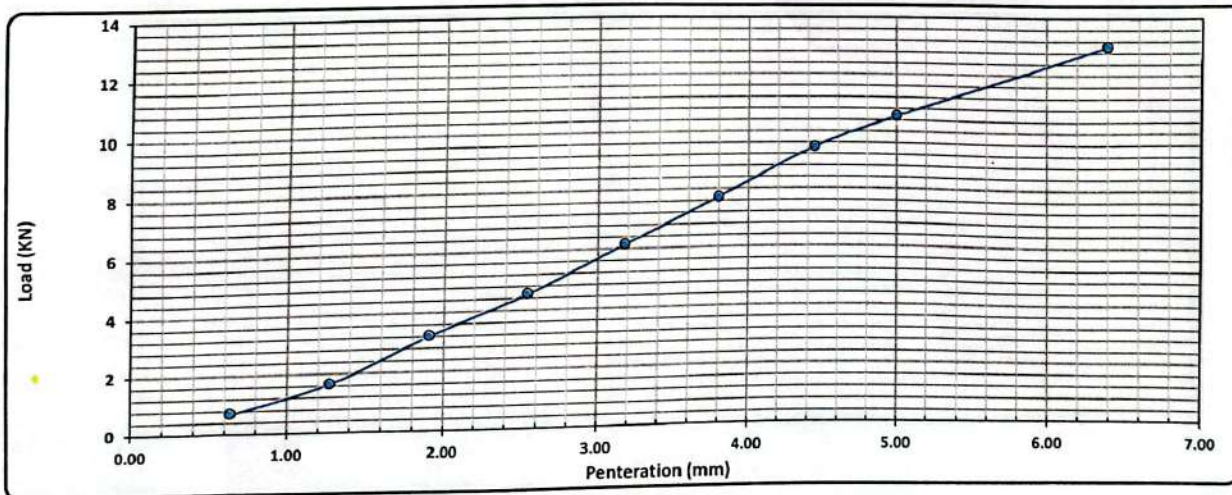
Compaction % for Mold	
Mold No.	55
Mold Vol. (cm ³)	2151
Mold WT. (gm)	15700
Mold WT. + Wet WT. (gm)	20815
Wet WT. (gm)	5115
Wet Density (g/cm ³)	2.378
Dry Density (g/cm ³)	2.227
Proctor Density (g/cm ³)	2.152
Compaction %	98

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	31
Tare WT. +Wet WT. (gm)	233
Tare WT. +Dry WT. (gm)	222
Water WT. (gm)	11.0
Dry WT. (gm)	191.0
Moisture Content %	6.8

Swelling	
Mold No.	55
Date	
Initial Height (mm)	
Final Height (mm)	
Difference	
Sample Height (mm)	
Swelling Ratio %	

Loading Reading :

Pentration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	73.00	170.00	329.00	465.00	628.00	788.00	964.00	1077.00	1328.00
Load (KN)	0.7	1.7	3.2	4.6	6.2	7.7	9.4	10.6	13.0



Calculations :-

Pentration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	عدد نسبة 98 %
2.50	4.56	13.4	34.1%	99	98	33.8%
5.00	10.55	20.0	52.7%			52.2%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

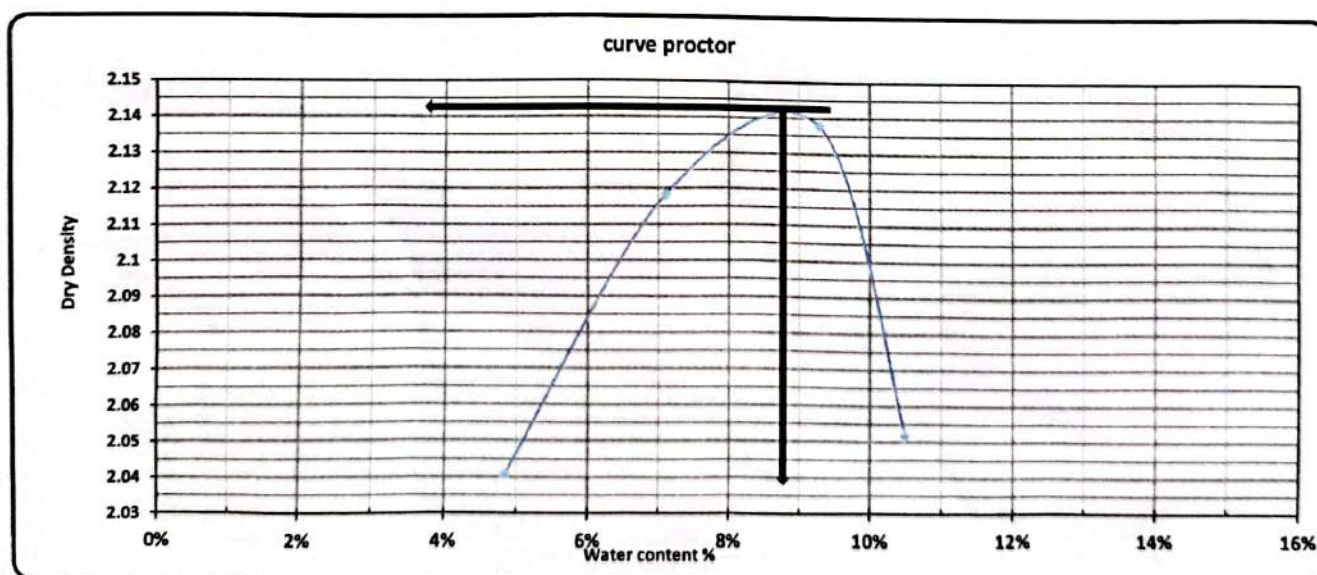
Youssef Rafab
7/3/23

TESTING DATE:	18-3-2023	code	Station	545+000	545+500
LOCATION	K.P (545+200)	KF(5)			
NAME COMPANY	شركة الكفاح				

MAX Dry Density	2.143
Water content %	7.9

trial no :	1	2	3	4		
Wt. Of Mold+ wet soil	10557.0	10830.0	10973	10827		
WT. WET SOIL	4520.0	4793.0	4936.0	4790.0		
Wt. Density	2.139	2.268	2.336	2.267		

Tare No.	11	20	15	33	8	9	4	10				
Tare wt.	45.5	59.6	31.4	75.7	46.3	42	60.1	43.7				
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0				
Wt. Of dry soil & tare	145.1	145.9	142.1	145.1	141.5	140.5	141.3	140.1				
Wt. Of water	4.9	4.1	7.9	4.9	8.5	9.5	8.7	9.9				
Wt. Of dry soil	99.6	86.3	110.7	69.4	95.2	98.5	81.2	96.4				
Water content %	4.9%	4.8%	7.1%	7.1%	8.9%	9.6%	10.7%	10.3%				
AV. Water content %	4.8%		7.1%		9.3%		10.5%					
Dry Density	2.040		2.118		2.138		2.052					



Contractor

Consultant

Yousaf Raza

California Bearing Ratio TEST

Testing Date :	21-3-2023	Code			
Location :	K.P (545+200)		FROM STA :	545+000	545+500
Company Name :	شركة (ك) ح	KP(5)			

Test Results

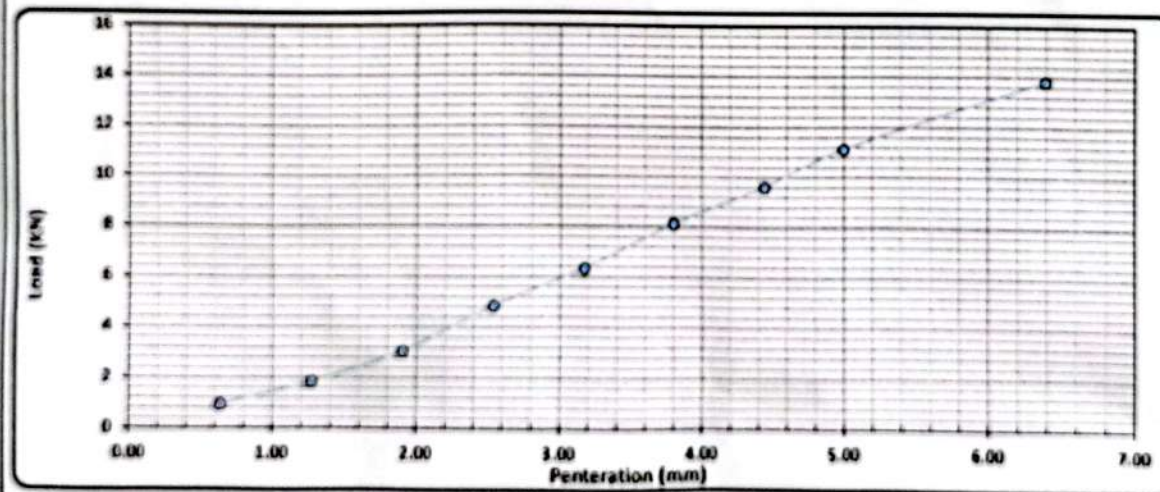
Compaction % for Mold	
Mold No.	2
Mold Vol. (cm ³)	2122
Mold WT. (gm)	4803
Mold WT. + Wet WT. (gm)	9621
Wet WT. (gm)	4818
Wet Density (g/cm ³)	2.270
Dry Density (g/cm ³)	2.117
Proctor Density (g/cm ³)	2.143
Compaction %	98.8

Moisture Ratio After Compacted Mold	
Tare No.	11
Tare WT. (gm)	46.4
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	143
Water WT. (gm)	7.0
Dry WT. (gm)	96.6
Moisture Content %	7.2

Swelling	
Mold No.	6
Date	21-3-2023
Initial Height (mm)	6.20
Final Height (mm)	6.20
Difference	0.0
Sample Height (mm)	119.00
Swelling Ratio %	0%

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (mm)	0.030	0.060	0.100	0.160	0.210	0.270	0.320	0.370	0.460
Load (KN)	0.9	1.8	3.0	4.8	6.3	8.1	9.6	11.1	13.8



Calculations :-

Penetration (mm)	Load (KN)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR (%)
2.50	4.80	13.4	36.0%	98.8	98	35.7%
5.00	11.10	20.0	55.4%			55.0%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :



Youssef Ragab
21/3/2023

Opreating Lab

AL Nuby Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	30-3-2023	Code	zone	545+000	545+500
LOCATION	K,P (545+300)	KF (6)			
NAME COMPANY	الكلحاح				

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT [g]		24168.00		gm	table classifi	soil classifi
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS		
Mass retained (g)	0.0	2060.0	2320.0	2155.0	2254.0	2133.0	2210.0			
Cumulative Retained (g)	0.0	2060.0	4380.0	6535.0	8789.0	10922.0	13132.0		PRO	2.150
Cumulative Retained %	0.0	8.5	18.1	27.0	36.4	45.2	54.3		WC	6.80
Cumulative Passing %	100.0	91.5	81.9	73.0	63.6	54.8	45.7		CBR	66.10

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	10	40	200					
Cumulative Retained (g)	58.00	181.00	378.00					
Cumulative Retained %	11.60	36.20	75.60					
Cumulative Passing %	88.40	63.80	24.40					

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	91.5	81.9	73.0	63.6	54.8	45.7	40.4	29.1	11.1

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.P



Consultant

Youssef Rafab

Youssef Rafab

 KARAMAH KARAMAH KARAMAH KARAMAH	Electric Express Train - HSR	 وزارة النقل والبنية التحتية وزارة النقل والبنية التحتية
Operating Lab AL Nuby Central Lab		

California Bearing Ratio TEST

Testing Date :	29-3-2023	Code	FROM STA :	545+000	545+500
Location :	K,P (545+300)	KF (6)			
Company Name	الكفاح				

:- Test Results

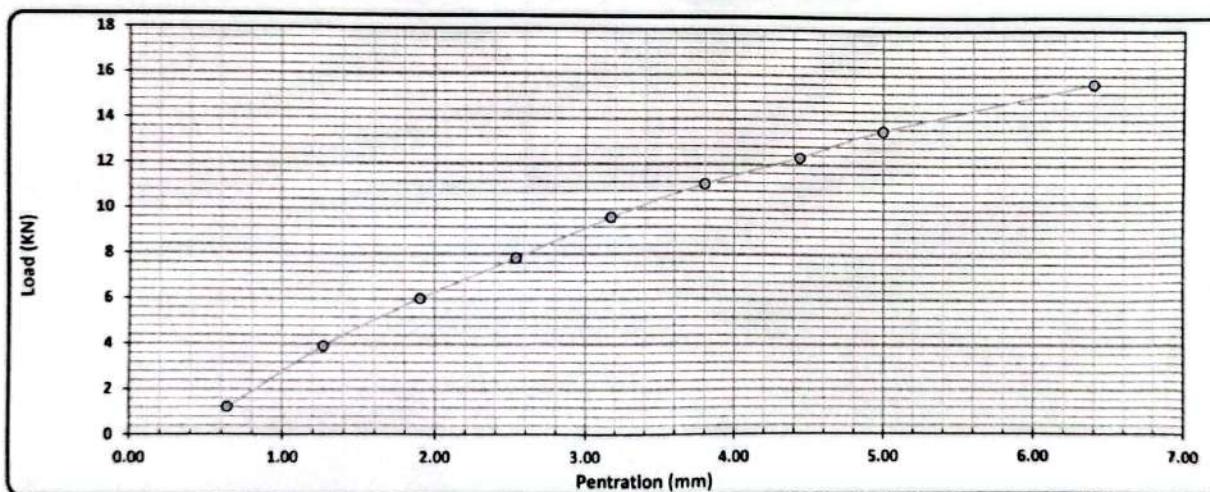
Compaction % for Mold	
Mold No.	4
Mold Vol. (cm ³)	2140
Mold WT. (gm)	4900
Mold WT. + Wet WT. (gm)	9820
Wet WT. (gm)	4920
Wet Density (g/cm ³)	2.299
Dry Density (g/cm ³)	2.153
Proctor Density (g/cm ³)	2.153
Compaction %	100.0

Moisture Ratio After Compacted Mold	
Tare No.	7
Tare WT. (gm)	42.8
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	143.2
3398	6.8
Dry WT. (gm)	100.4
Moisture Content %	6.8

Swelling	
Mold No.	4
Date	29-3-2023
Initial Height (mm)	6.00
Final Height (mm)	6.00
Difference	0
Sample Height (mm)	120.00
Swelling Ratio %	0.0%

Loading Reading :

Petration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (mm)	0.04	0.13	0.20	0.26	0.32	0.37	0.41	0.45	0.52
Load (KN)	1.2	3.9	6.0	7.8	9.6	11.1	12.3	13.5	15.6



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(KN)	(lb)	(%)	(%)	(%)	98 عند نسبة 98
2.50	7.80	13.4	58.4%	100	98	57.3%
5.00	13.50	20.0	67.4%			66.1%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Youssef Ragab

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ.د. خالد قنديل	 Electric Express Train القطار السريع SYSTRA SHAKER	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARGA MATROUH From Station 504+000 To Station 509+177	 الهيئة العامة للقنوات المجلس الأعلى للقنوات
Opreating Lab	AL Nuby Central Lab		

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	30-3-2023	Code			
LOCATION	K,P (545+300)	KF (7)	zone	545+000	545+500
NAME COMPANY	الكفاح				

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT [g]		34101.00		gm		table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS		soil classify
Mass retained (g)	0.0	2520.0	2652.0	2852.0	4436.0	4299.0	4180.0			A-1-b
Cumulative Retained (g)	0.0	2520.0	5172.0	8024.0	12460.0	16759.0	20939.0		PRO	2.145
Cumulative Retained %	0.0	7.4	15.2	23.5	36.5	49.1	61.4		WC	9.20
Cumulative Passing %	100.0	92.6	84.8	76.5	63.5	50.9	38.6		CBR	✓ 59.3

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	10	40	200					
Cumulative Retained (g)	37.80	42.40	323.50					
Cumulative Retained %	7.56	8.48	64.70					
Cumulative Passing %	92.44	91.52	35.30					

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	92.6	84.8	76.5	63.5	50.9	38.6	35.7	35.3	13.6

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.P



Consultant
Hassan

PROCTOR TEST

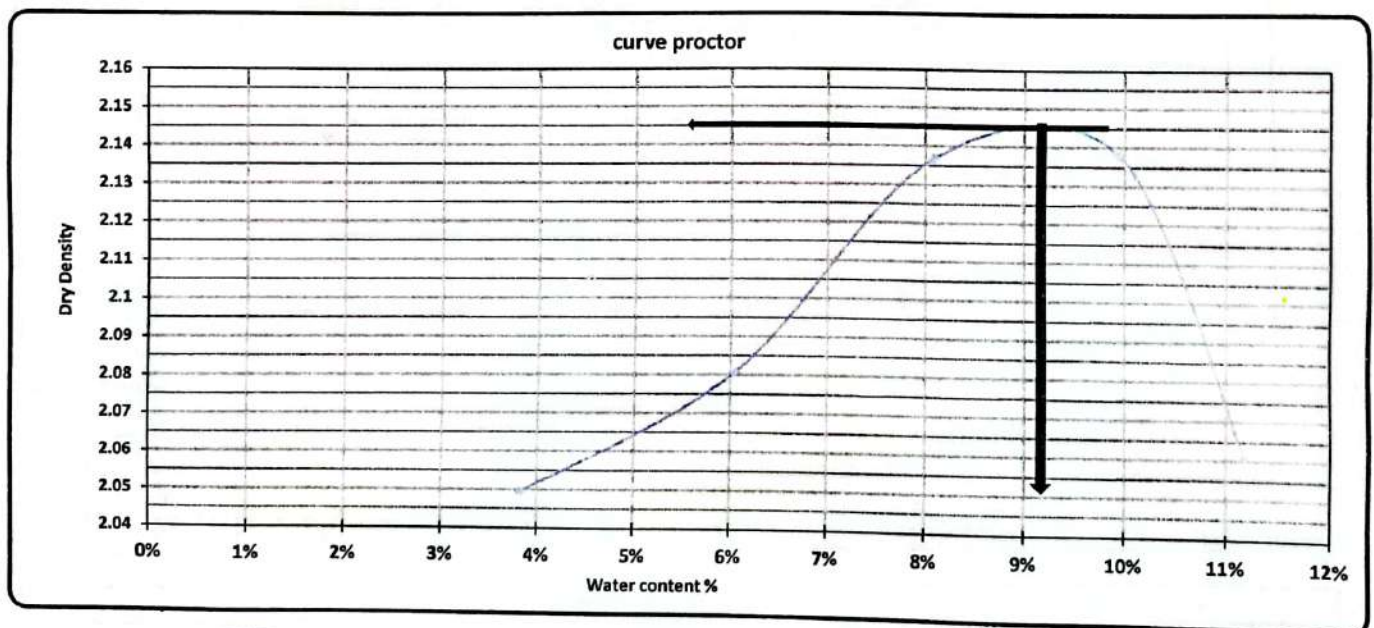
TESTING DATE:	30-3-2023	Code	zone	545+000	545+500
LOCATION	K,P (545+300)	KF (7)			
NAME COMPANY	الكفاح				

Weight of empty mold :	5750.0
Mold Volume:	2169.0

MAX Dry Density	2.145
Water content %	9.2

trial no :	1	2	3	3	3
Wt. Of Mold+ wet soil	10365.0	10536.0	10759.0	10848.0	10720.0
WT. WET SOIL	4615.0	4786.0	5009.0	5098.0	4970.0
Wt. Density	2.128	2.207	2.309	2.350	2.291

Tare No.	40	16	36	37	35	31	90	17	45	10
Tare wt.	46.6	33.9	80.3	79.4	81.9	80.4	62.5	59.5	41.5	43.7
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
Wt. Of dry soil & tare	146.4	145.5	145.9	146.1	144.9	144.8	142.1	141.8	138.9	139.5
Wt. Of water	3.6	4.5	4.1	3.9	5.1	5.2	7.9	8.2	11.1	10.5
Wt. Of dry soil	99.8	111.6	65.6	66.7	63.0	64.4	79.6	82.3	97.4	95.8
Water content %	3.6%	4.0%	6.2%	5.8%	8.1%	8.1%	9.9%	10.0%	11.4%	11.0%
AV. Water content %	3.8%	6.0%	8.1%	9.9%	11.2%					
Dry Density	2.049	2.081	2.137	2.138	2.061					



Consultant



Electric Express Train - HSR

الهيئة العامة للنقل
السلطنة السودانية

Operating Lab

AL Nuby Central Lab

California Bearing Ratio TEST

Testing Date :	03-04-2023	Code			
Location :	K,P (545+300)		FROM STA :	545+000	545+500
Company Name	الكفاح	KF (7)			

- : Test Results

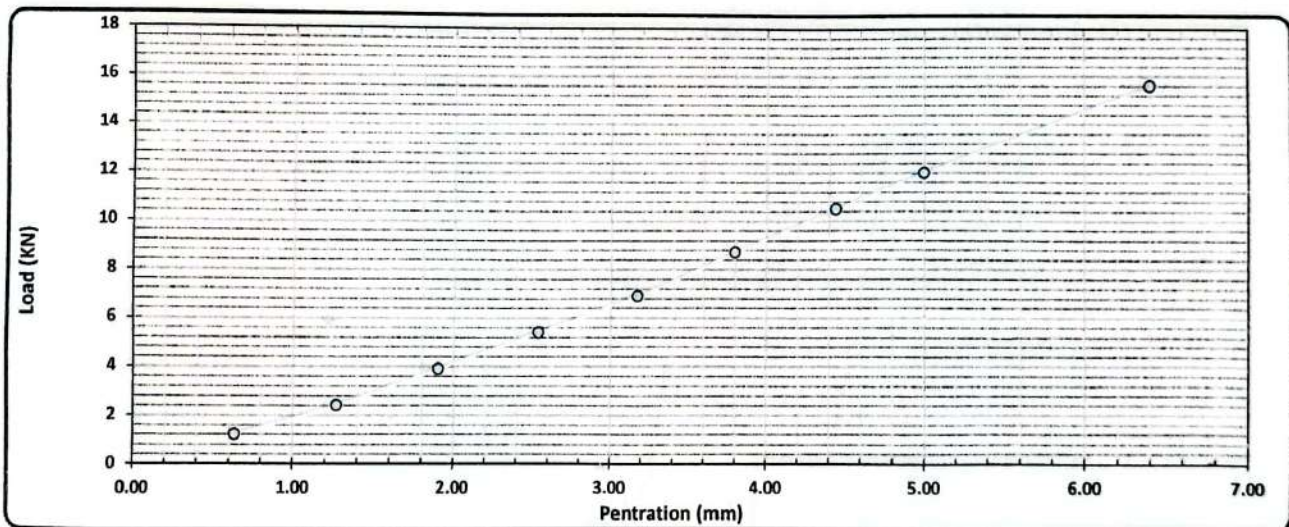
Compaction % for Mold	
Mold No.	4
Mold Vol. (cm ³)	2140
Mold WT. (gm)	4900
Mold WT. + Wet WT. (gm)	9833
Wet WT. (gm)	4933
Wet Density (g/cm ³)	2.305
Dry Density (g/cm ³)	2.123
Proctor Density (g/cm ³)	2.145
Compaction %	99.0

Moisture Ratio After Compacted Mold	
Tare No.	10
Tare WT. (gm)	43.7
Tare WT. +Wet WT. (gm)	150
Tare WT. +Dry WT. (gm)	141.6
3398	8.4
Dry WT. (gm)	97.9
Moisture Content %	8.6

Swelling	
Mold No.	4
Date	03-04-2023
Initial Height (mm)	4.00
Final Height (mm)	4.00
Difference	0
Sample Height (mm)	120.00
Swelling Ratio %	0.0%

Loading Reading :

Pentration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (mm)	0.04	0.08	0.13	0.18	0.23	0.29	0.35	0.40	0.52
Load (KN)	1.2	2.4	3.9	5.4	6.9	8.7	10.5	12.0	15.6



Calculations :-

Pentration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	% عند نسبة 98
2.50	5.40	13.4	40.4%	99	98	40.1%
5.00	12.00	20.0	59.9%			59.3%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



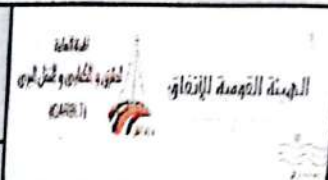
Consultant Engineer

Name :

Sign :



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein - MATROUH
Section - 7 From FOKA To MARSA MATROUH
From Station 504+000 To Station 568+177



PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	5/4/2023	code	ZONE	545+000	545+500
LOCATION	K.P(545+300)	KF-8			
NAME COMPANY	EL KEFAH				

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT [g]		17540.00		gm	table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify
Mass retained (g)	212.0	305.0	1024.0	1845.0	2845.0	2719.0	2454.0		A-1-a
Cumulative Retained (g)	212.0	517.0	1541.0	3386.0	6231.0	8950.0	11404.0		PRO 2.170
Cumulative Retained %	1.2	2.9	8.8	19.3	35.5	51.0	65.0		WC 6.7%
Cumulative Passing %	98.8	97.1	91.2	80.7	64.5	49.0	35.0		CBR 54.5%

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	10	40	200					
Cumulative Retained (g)	100.00	204.00	355.00					
Cumulative Retained %	20.00	40.80	71.00					
Cumulative Passing %	80.00	59.20	29.00					

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	98.8	97.1	91.2	80.7	64.5	49.0	35.0	28.0	20.7	10.1

ATTERBERG LIMTS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.P	N.P	N.P

Contractor

Consultant

[Signature]
 مهندس الاستشاري
 محمد احمد
 القاهره

Khaled Zaki

California Bearing Ratio TEST

Testing Date :	5/3/2023	Code	zone	545+000	545+500
Location :	K.P(545+000)	KF-2			
Layer No. :	EL KEFAH				

-: Test Results

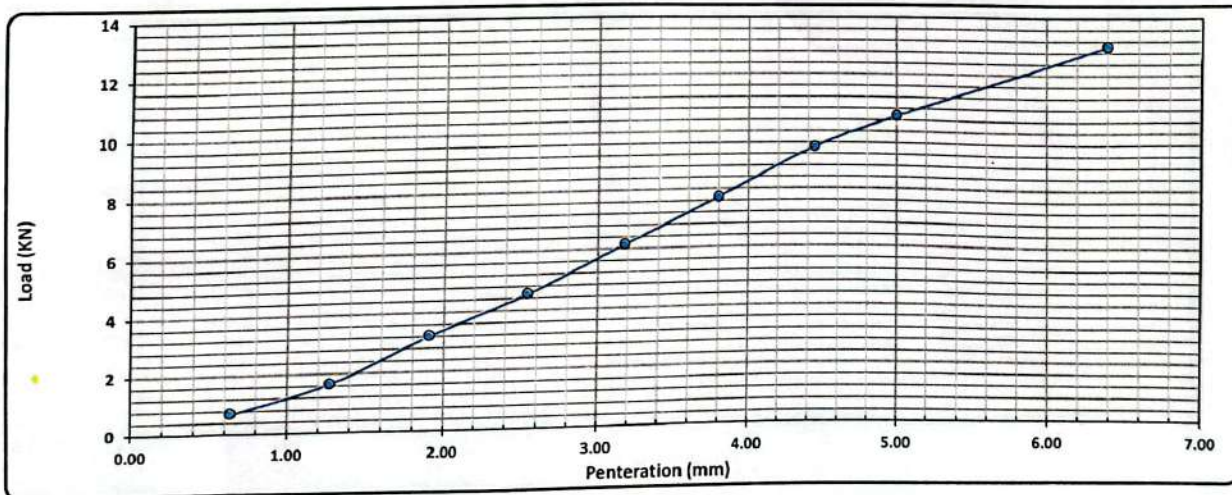
Compaction % for Mold	
Mold No.	55
Mold Vol. (cm ³)	2151
Mold WT. (gm)	15700
Mold WT. + Wet WT. (gm)	20815
Wet WT. (gm)	5115
Wet Density (g/cm ³)	2.378
Dry Density (g/cm ³)	2.227
Proctor Density (g/cm ³)	2.152
Compaction %	98

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	31
Tare WT. +Wet WT. (gm)	233
Tare WT. +Dry WT. (gm)	222
Water WT. (gm)	11.0
Dry WT. (gm)	191.0
Moisture Content %	6.8

Swelling	
Mold No.	55
Date	
Initial Height (mm)	
Final Height (mm)	
Difference	
Sample Height (mm)	
Swelling Ratio %	

Loading Reading :

Pentration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	73.00	170.00	329.00	465.00	628.00	788.00	964.00	1077.00	1328.00
Load (KN)	0.7	1.7	3.2	4.6	6.2	7.7	9.4	10.6	13.0



Calculations :-

Pentration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	عدد نسبة 98 %
2.50	4.56	13.4	34.1%	99	98	33.8%
5.00	10.55	20.0	52.7%			52.2%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

Youssef Rafab
7/3/23

Consultant
Kheir al Zaki

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي ا. د. خالد عبد الجليل	 SVSFA SHARAH	Electric Express Train - HSR	المهندس المهندس الاستشاري (HABITAT) 
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California Bearing Ratio TEST

Testing Date :	7/4/2023	Code			
Location :	K.P(545+300)	KF-8	zone	545+000	545+500
Layer No. :	EL KEFAH				

Test Results

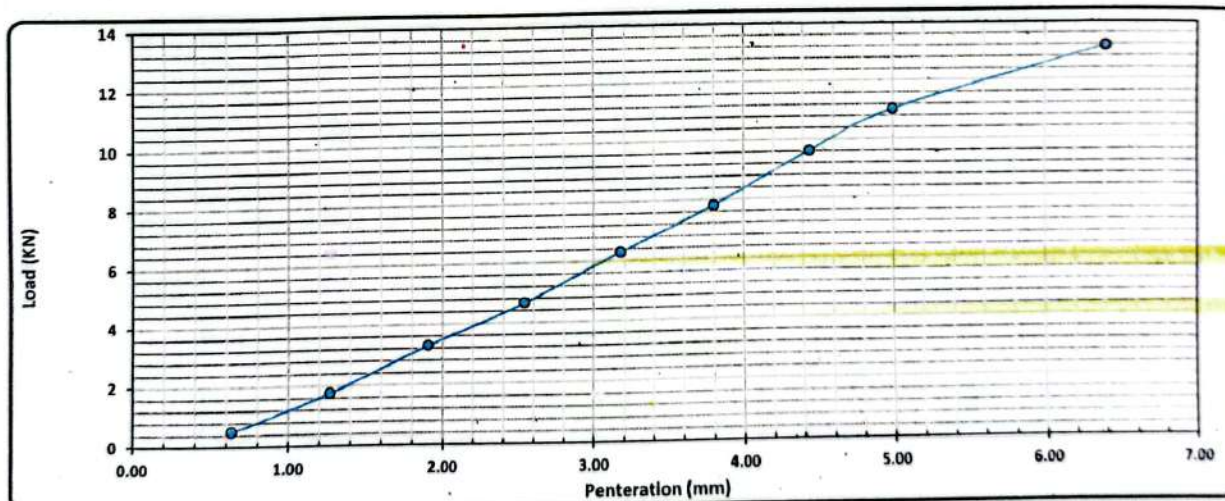
Compaction % for Mold	
Mold No.	55
Mold Vol. (cm ³)	2151
Mold WT. (gm)	15700
Mold WT. + Wet WT. (gm)	20815
Wet WT. (gm)	5115
Wet Density (g/cm ³)	2.378
Dry Density (g/cm ³)	2.229
Proctor Density (g/cm ³)	2.170
Compaction %	98

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	31
Tare WT. + Wet WT. (gm)	233
Tare WT. + Dry WT. (gm)	222
Water WT. (gm)	11.0
Dry WT. (gm)	191.0
Moisture Content %	6.7

Swelling	
Mold No.	55
Date	7/4/2023
Initial Height (mm)	2.10
Final Height (mm)	2.10
Difference	0
Sample Height (mm)	124.00
Swelling Ratio %	0%

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	51.00	180.00	335.00	475.00	641.00	796.00	981.00	1125.00	1342.00
Load (KN)	0.5	1.8	3.3	4.7	6.3	7.8	9.6	11.0	13.2



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	نسبة 98 %
2.50	4.66	13.4	34.9%	99	98	34.5%
5.00	11.03	20.0	55.1%			54.5%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

Consultant Engineer

Name : Khalid Zaki

Sign :



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein - MATROUH
Section - 7 From FOKA To MARSALA MATROUH
From Station 504+000 To Station 568+177



PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	11/4/2023	code			
LOCATION	K.P(545+300)			ZONE	545+000
NAME COMPANY	EL KEFAH	KF-9			545+500

1-visual inspection test

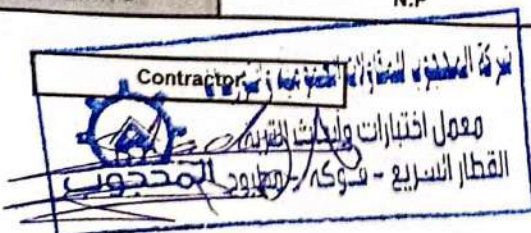
2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT [g]		23094.00		gm	table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify
Mass retained (g)	564.0	1845.0	2015.0	1354.0	2019.0	2154.0	1843.0		A-1-a
Cumulative Retained (g)	564.0	2409.0	4424.0	5778.0	7797.0	9951.0	11794.0	PRO	2.150
Cumulative Retained %	2.4	10.4	19.2	25.0	33.8	43.1	51.1	WC	6.40
Cumulative Passing %	97.6	89.6	80.8	75.0	66.2	56.9	48.9	CBR	41.90

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	10	40	200					
Cumulative Retained (g)	121.00	238.00	351.00					
Cumulative Retained %	24.20	47.60	70.20					
Cumulative Passing %	75.80	52.40	29.80					

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	97.6	89.6	80.8	75.0	66.2	56.9	48.9	37.1	25.6	14.6

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.P	N.P	N.P



Consultant

14/4/2023
 م. أحمد
 م. أحمد
 14/4/2023

PROCTOR TEST

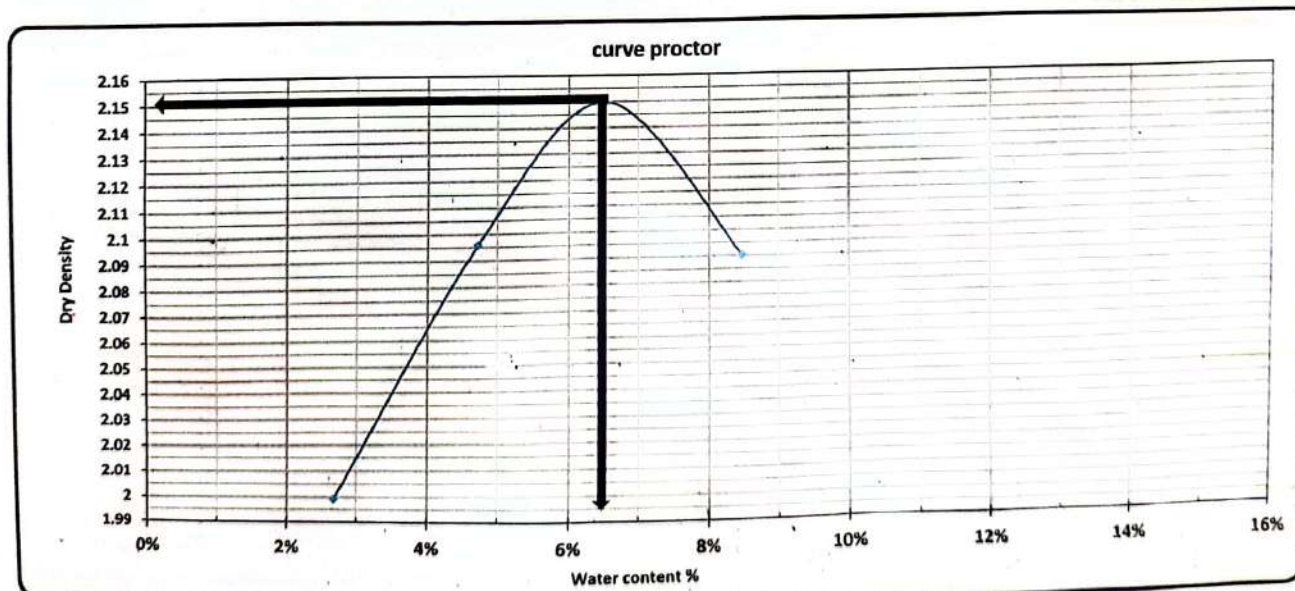
TESTING DATE:	13/4/2023	code			
LOCATION	K.P(545+300)	KF-9	ZONE	545+000	545+500
NAME COMPANY	EL KEFAH				

Weight of empty mold :	6074.0
Mold Volume:	2032.0

MAX Dry Density	2.15
Water content %	6.4

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10245.0	10534.0	10728.0	10681	
WT. WET SOIL	4171.0	4460.0	4654.0	4607.0	
Wt. Density	2.053	2.195	2.290	2.267	

Tare No.	1	2	3	4	5	6	7	8		
Tare wt.	30.25	28.94	33.13	29.16	25.15	35.12	33.76	15.91		
Wt. Of wet soil & tare	135.1	145.3	141.8	135.3	151.0	165.3	139.5	131.2		
Wt. Of dry soil & tare	132.6	142.1	137.1	130.3	143.5	157.1	131.4	122.0		
Wt. Of water	2.5	3.2	4.7	5.0	7.5	8.2	8.1	9.2		
Wt. Of dry soil	102.3	113.1	104.0	101.1	118.3	121.9	97.6	106.1		
Water content %	2.5%	2.9%	4.5%	4.9%	6.3%	6.7%	8.3%	8.7%		
AV. Water content %	2.7%	4.7%	6.5%	8.5%						
Dry Density	1.999	2.096	2.150	2.090						



Contractor
معمل اختبار التربة
معمل اختبارات التربة
القطار السريع - فوكا - مطروح - مصر

Consultant
ع. خالد دويك
م. أحمد
14/4/2023

California Bearing Ratio TEST

Testing Date :	14/4/2023	Code	FROM STA :	545+000	545+500
Location :	((K.P(545+300	KF-9			
Layer No. :	EL KEFAH				

• : Test Results

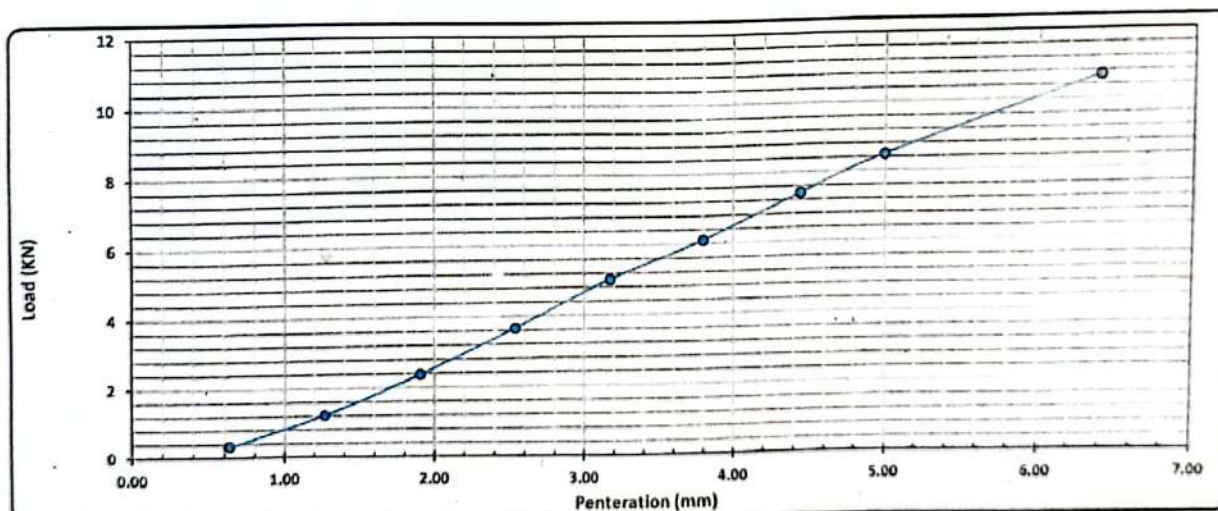
Compaction % for Mold	
Mold No.	55
Mold Vol. (cm ³)	2151
Mold WT. (gm)	15700
Mold WT. + Wet WT. (gm)	20473.58
Wet WT. (gm)	4774
Wet Density (g/cm ³)	2.219
Dry Density (g/cm ³)	2.086
Proctor Density (g/cm ³)	2.150
Compaction %	98

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	31
Tare WT. +Wet WT. (gm)	233
Tare WT. +Dry WT. (gm)	221
Water WT. (gm)	12.0
Dry WT. (gm)	190.0
Moisture Content %	6.4

Swelling	
Mold No.	55
Date	14-07-2023
Initial Height (mm)	4.70
Final Height (mm)	4.70
Difference	0
Sample Height (mm)	119.00
Swelling Ratio %	0%

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	33.00	123.00	241.00	372.00	511.00	621.00	754.00	865.00	1088.00
Load (KN)	0.3	1.2	2.4	3.6	5.0	6.1	7.4	8.5	10.7



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(K _N)	(lb)	(%)	(%)	(%)	نسبة القوة (%)
2.50	3.65	13.4	27.3%	99	98	27.0%
5.00	8.48	20.0	42.3%			41.9%

Lab. Specialist

Name : _____

Sign :

T.O. Engineer
 شركة المقاولون العرب
 معمل اختبارات واجهات التربة
 القطار السريع - قنطرة - مطروح

Consultant Engineer

Name: _____

Sign :

Consultant Engineer
 [Signature]
 14/4/2023

Plate Load Test Results

Company Name

Location

Taste Date

Layer level

الكفاح

$$545+260$$

13-4-2023

-1.5

To

$$545+400$$

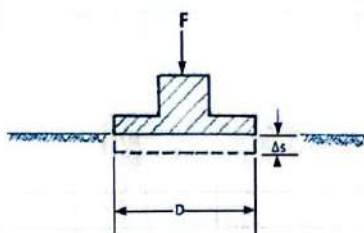
Station

545+280

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.

 $F = \text{load}$ Δ_s = settlement

D = diameter of the plate

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	13.55	15.10		0.000	0.000		0.000
1.000	2.4	0.707	0.01	13.40	15.00		0.150	0.100		0.125
2.000	18.8	5.652	0.08	13.10	14.80		0.450	0.300		0.375
0.080	37.7	11.304	0.16	12.85	14.68		0.700	0.420		0.560
4.000	58.9	17.663	0.25	12.65	14.60		0.900	0.500		0.700
5.000	77.7	23.315	0.33	12.40	14.50		1.150	0.600		0.875
6.000	98.9	29.673	0.42	12.25	14.45		1.300	0.650		0.975
7.000	117.8	35.325	0.50	12.05	14.20		1.500	0.900		1.200
8.000	58.9	17.663	0.25	12.15	14.42		1.400	0.680		1.040
9.000	29.4	8.831	0.12	12.25	14.46		1.300	0.640		0.970
9.000	2.4	0.707	0.01	12.80	14.78		0.750	0.320		0.535
10.000	2.4	0.707	0.01	12.80	14.78		0.750	0.320		0.535
11.000	18.8	5.652	0.08	12.50	14.62		1.050	0.480		0.765
12.000	37.7	11.304	0.16	12.37	14.50		1.180	0.600		0.890
13.000	58.9	17.663	0.25	12.25	14.40		1.300	0.700		1.000
14.000	77.7	23.315	0.33	12.14	14.30		1.410	0.800		1.105
15.000	98.9	29.673	0.42	12.02	14.20		1.530	0.900		1.215

		s	ΔS	$\Delta \sigma$
0.7 σ_1	0.35	0.77813	0.24125	0.2
0.3 σ_1	0.15	0.53688		
0.7 σ_2	0.35	1.12944	0.13442	0.2
0.3 σ_2	0.15	0.99502		
D (mm)	300			
Ev ₁	186.53			
Ev ₂	334.77			
Area (Sq.m)	0.07065			

Ev2/Ev1	1.79		
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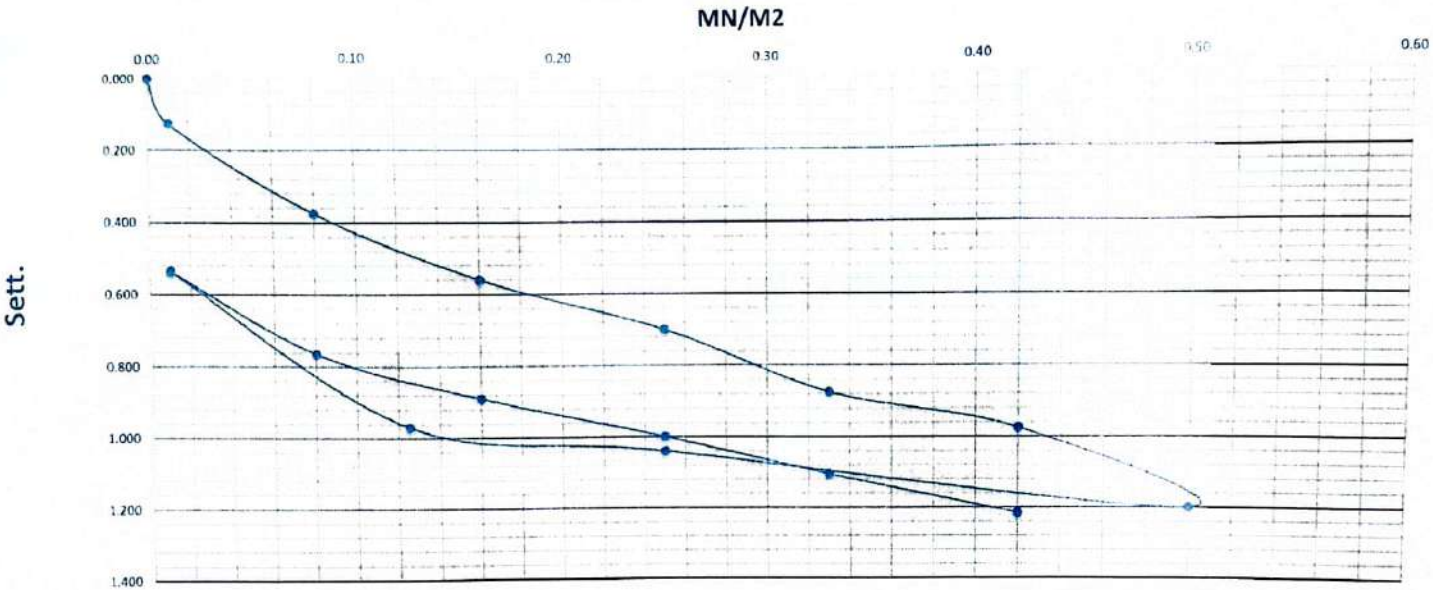
$$E_y = 0.75 \cdot D \cdot \Delta\sigma / \Delta s$$

E_s = deformation modulus

 $\Delta\sigma$ = load increment Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name

Sign :



Consultant Engineer

Name :

Sign :

Signature of Consultant Engineer

Plate Load Test Results

Layer: -1.5
Station: 545+400 TO 545+500
Date: 11/4/2023

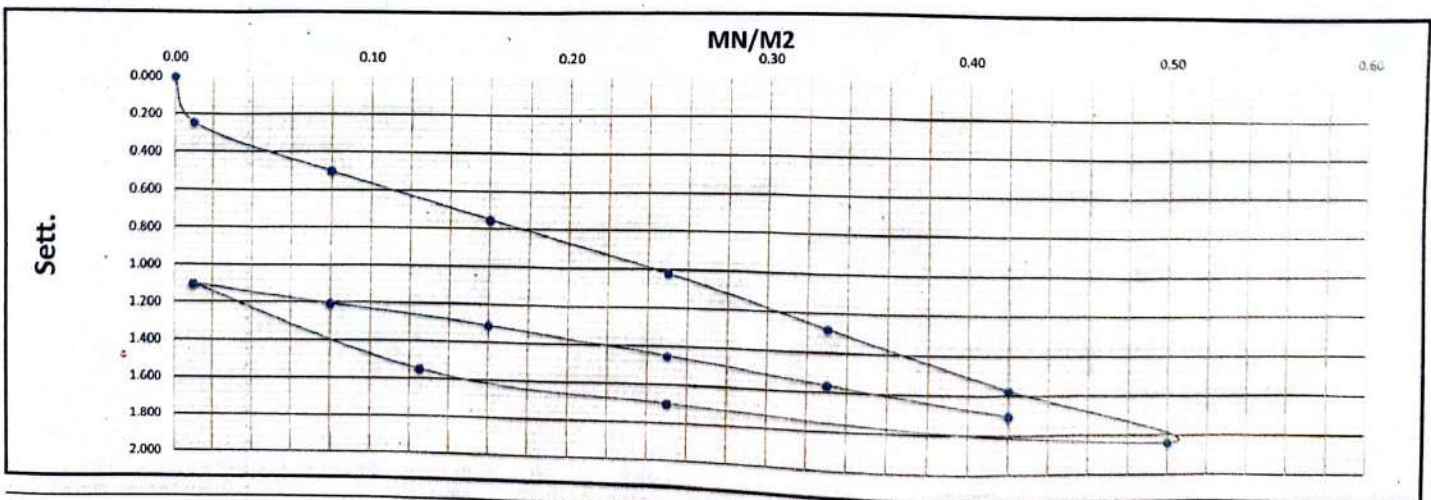
COMPANY	EL KEFAH
SAMPLE LOCATION	545+450

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	16.20	15.80		0.000	0.000		0.000
1.000	2.4	0.707	0.01	15.91	15.60		0.290	0.200		0.245
2.000	18.8	5.652	0.08	15.55	15.45		0.650	0.350		0.500
0.080	37.7	11.304	0.16	15.10	15.40		1.100	0.400		0.750
4.000	58.9	17.663	0.25	14.75	15.21		1.450	0.590		1.020
5.000	77.7	23.315	0.33	14.54	14.90		1.660	0.900		1.280
6.000	98.9	29.673	0.42	14.15	14.70		2.050	1.100		1.575
7.000	117.8	35.325	0.50	13.90	14.42		2.300	1.380		1.840
8.000	58.9	17.663	0.25	14.00	14.60		2.200	1.200		1.700
9.000	29.4	8.831	0.12	14.15	14.75		2.050	1.050		1.550
9.000	2.4	0.707	0.01	14.65	15.15		1.550	0.650		1.100
10.000	2.4	0.707	0.01	14.65	15.15		1.550	0.650		1.100
11.000	18.8	5.652	0.08	14.59	15.00		1.610	0.800		1.205
12.000	37.7	11.304	0.16	14.48	14.90		1.720	0.900		1.310
13.000	58.9	17.663	0.25	14.30	14.80		1.900	1.000		1.450
14.000	77.7	23.315	0.33	14.15	14.72		2.050	1.080		1.565
15.000	98.9	29.673	0.42	14.00	14.59		2.200	1.210		1.705

		s	ΔS	Δσ
0.7 σ ₁	0.35	1.34313	0.62438	0.2
0.3 σ ₁	0.15	0.71875		
0.7 σ ₂	0.35	1.59611	0.2861	0.2
0.3 σ ₂	0.15	1.31001		
D (mm)	300			
E _{v1}	72.07			
E _{v2}	157.29			
Area (Sq.m)	0.07065			

E _{v2} /E _{v1}	2.18		
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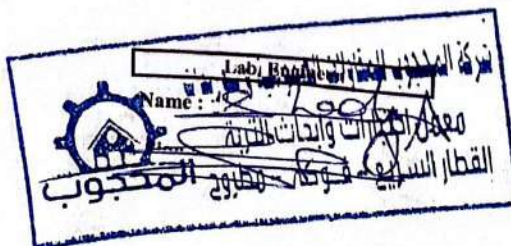
LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :



Consultant Engineer

Name : Khalid Zaki

Sign :

Plate Load Test Results

Layer: -1.5
Station: 545+100 TO 545+200
Date: 11/4/2023

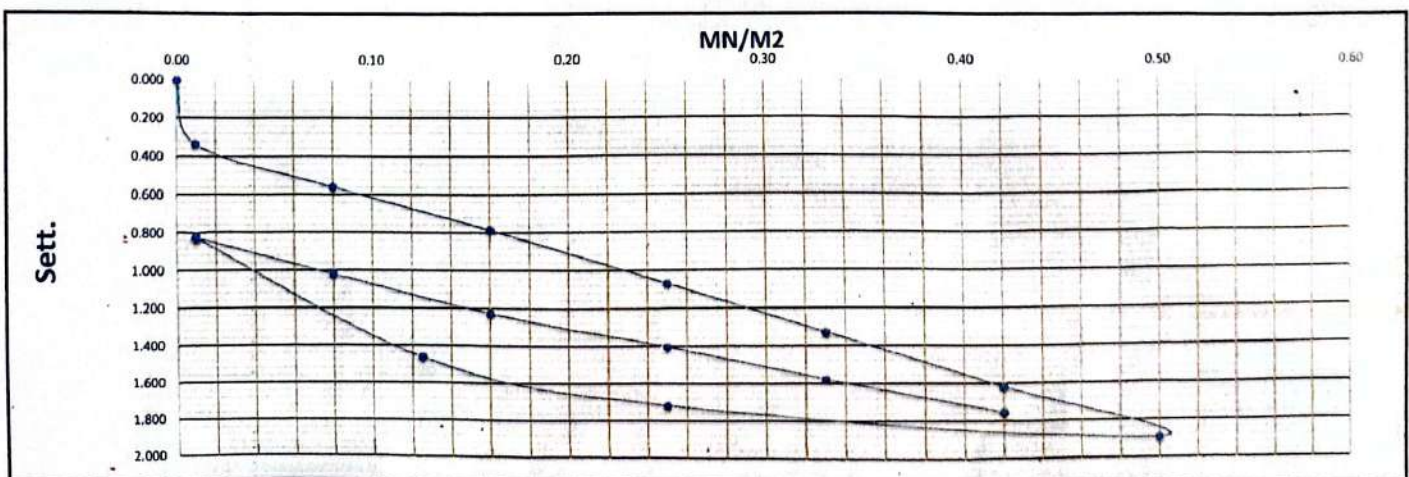
COMPANY	EL KEFAH
SAMPLE LOCATION	545+150

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	18.41	17.83		0.000	0.000		0.000
1.000	2.4	0.707	0.01	18.15	17.42		0.260	0.410		0.335
2.000	18.8	5.652	0.08	17.90	17.22		0.510	0.610		0.560
0.080	37.7	11.304	0.16	17.74	16.93		0.670	0.900		0.785
4.000	58.9	17.663	0.25	17.50	16.60		0.910	1.230		1.070
5.000	77.7	23.315	0.33	17.18	16.40		1.230	1.430		1.330
6.000	98.9	29.673	0.42	16.92	16.08		1.490	1.750		1.620
7.000	117.8	35.325	0.50	16.63	15.82		1.780	2.010		1.895
8.000	58.9	17.663	0.25	16.78	16.02		1.630	1.810		1.720
9.000	29.4	8.831	0.12	17.02	16.29		1.390	1.540		1.465
9.000	2.4	0.707	0.01	17.67	16.92		0.740	0.910		0.825
10.000	2.4	0.707	0.01	17.67	16.92		0.740	0.910		0.825
11.000	18.8	5.652	0.08	17.50	16.70		0.910	1.130		1.020
12.000	37.7	11.304	0.16	17.32	16.46		1.090	1.370		1.230
13.000	58.9	17.663	0.25	17.17	16.26		1.240	1.570		1.405
14.000	77.7	23.315	0.33	16.99	16.09		1.420	1.740		1.580
15.000	98.9	29.673	0.42	16.81	15.92		1.600	1.910		1.755

		s	ΔS	Δσ
0.7 σ ₁	0.35	1.37938	0.6225	0.2
0.3 σ ₁	0.15	0.75688		
0.7 σ ₂	0.35	1.61889	0.40387	0.2
0.3 σ ₂	0.15	1.21502		
D (mm)	300			
Ev ₁	72.29			
Ev ₂	111.42			
Area (Sq.m)	0.07065			

Ev2/Ev1	1.54		
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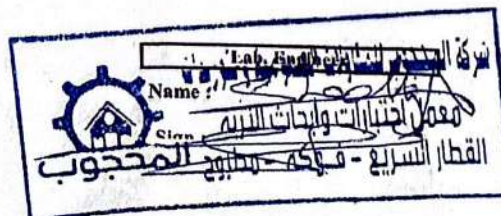
LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name :

Sign :



Consultant Engineer

Name : Mohamed Zaki

Sign :

Plate Load Test Results

Company Name

شركة الكفاح

Location

545+260

To

545+400

Station

545+320

Taste Date

13-04-2023

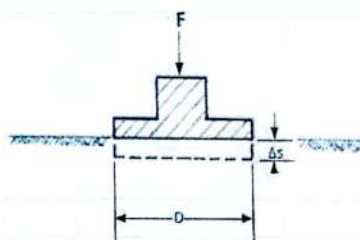
layer level

-1.5

EQUIPMENT AND TEST PROCEDURE :-

The basis of the given equation is Boussinesq's theory of the relationship between the modulus of elasticity and the settlement of a circular rigid plate with the diameter D .

The load is applied to a circular rigid steel bearing plate by a hydraulic jack in several steps. The settlement under each load step is recorded. The following sketch shows the principle of the test.


 $F = \text{load}$
 $\Delta s = \text{settlement}$
 $D = \text{diameter of the plate}$

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	15.12	15.10		0.000	0.000		0.000
1.000	2.4	0.707	0.01	14.88	14.87		0.240	0.233		0.236
2.000	18.8	5.652	0.08	14.51	14.75		0.610	0.353		0.482
0.080	37.7	11.304	0.16	14.32	14.60		0.800	0.503		0.652
4.000	58.9	17.663	0.25	14.16	14.45		0.960	0.653		0.807
5.000	77.7	23.315	0.33	14.00	14.30		1.120	0.803		0.961
6.000	98.9	29.673	0.42	13.92	14.10		1.200	1.003		1.102
7.000	117.8	35.325	0.50	13.88	14.00		1.240	1.103		1.172
8.000	58.9	17.663	0.25	13.92	14.02		1.200	1.083		1.142
9.000	29.4	8.831	0.12	13.95	14.06		1.170	1.043		1.107
9.000	2.4	0.707	0.01	14.22	14.22		0.900	0.888		0.894
10.000	2.4	0.707	0.01	14.22	14.22		0.900	0.883		0.891
11.000	18.8	5.652	0.08	14.16	14.12		0.960	0.983		0.972
12.000	37.7	11.304	0.16	14.06	14.02		1.060	1.083		1.072
13.000	58.9	17.663	0.25	13.95	13.96		1.170	1.143		1.157
14.000	77.7	23.315	0.33	13.85	13.88		1.270	1.223		1.247
15.000	98.9	29.673	0.42	13.72	13.80		1.400	1.303		1.352

		s	Δs	Δσ
0.7 σ ₁	0.35	1.04025	0.41	0.2
0.3 σ ₁	0.15	0.63025		
0.7 σ ₂	0.35	1.26983	0.21833	0.2
0.3 σ ₂	0.15	1.05151		
D (mm)	300			
Ev ₁	109.76			
Ev ₂	206.11			
Area (Sq.m)	0.07065			

Ev ₂ /Ev ₁	1.88		
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

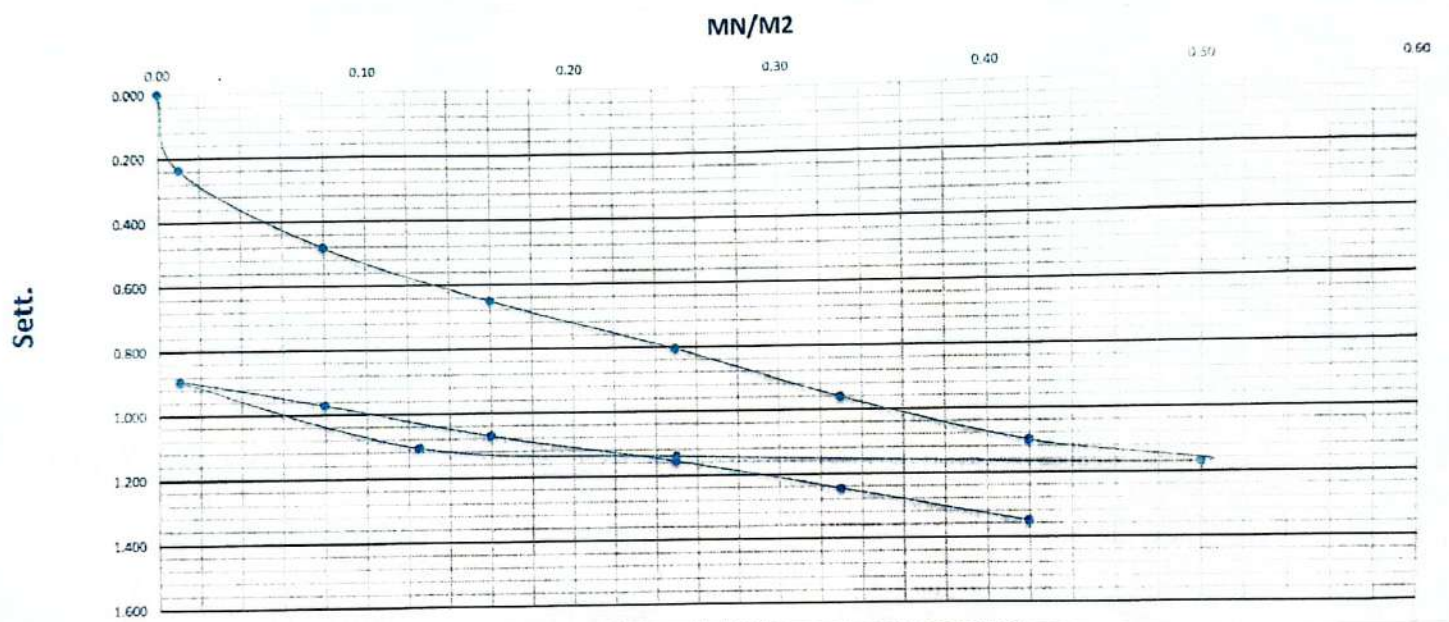
 E_v = deformation modulus

 $\Delta \sigma$ = load increment

 Δs = settlement increment

 D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : *Chalceet Zaki*

Sign :

[Handwritten signature]

Operating Lab

AL Nuby Central Lab

California Bearing Ratio TEST

Testing Date :	19-4-2023	Code	FROM STA :	545+000	545+500
Location :	K,P (545+300)	KF (10)			
Company Name	الكفاح				

:- Test Results

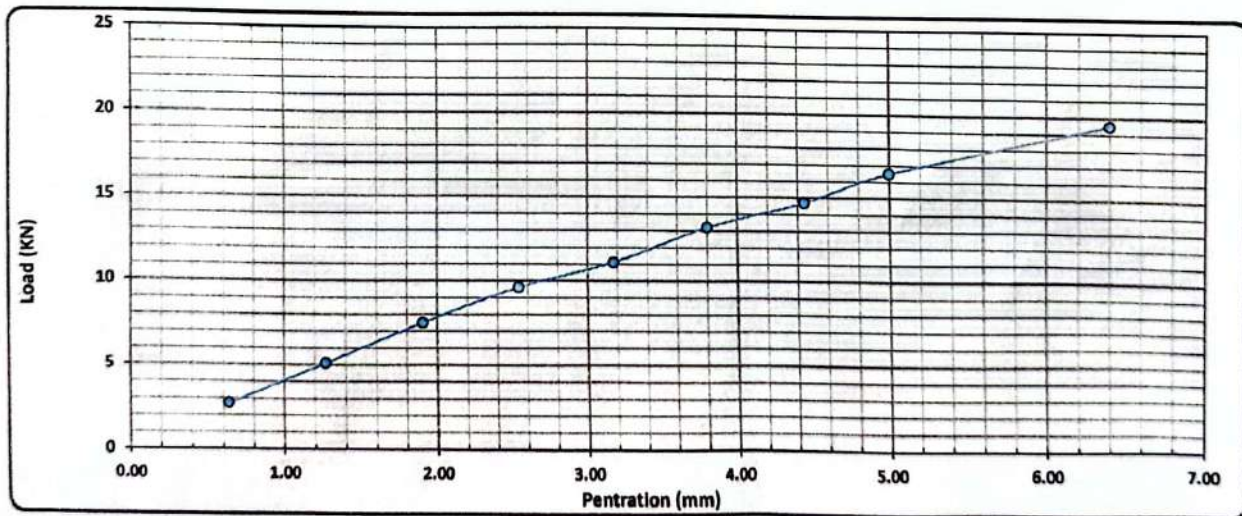
Compaction % for Mold	
Mold No.	4
Mold Vol. (cm ³)	2140
Mold WT. (gm)	4900
Mold WT. + Wet WT. (gm)	9870
Wet WT. (gm)	4970
Wet Density (g/cm ³)	2.322
Dry Density (g/cm ³)	2.181
Proctor Density (g/cm ³)	2.180
Compaction %	100.0

Moisture Ratio After Compacted Mold	
Tare No.	8
Tare WT. (gm)	46.8
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	143.7
Wt. water	6.3
Dry WT. (gm)	96.9
Moisture Content %	6.5

Swelling	
Mold No.	4
Date	19-4-2023
Initial Height (mm)	6.00
Final Height (mm)	6.00
Difference	0
Sample Height (mm)	120.00
Swelling Ratio %	0.0%

Loading Reading :

Petration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (mm)	0.09	0.17	0.25	0.32	0.37	0.44	0.49	0.55	0.65
Load (KN)	2.7	5.1	7.5	9.6	11.1	13.2	14.7	16.5	19.5



Calculations :-

Penetration (mm)	Load (Kn)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR % عند نسبة 98
2.50	9.60	13.4	71.9%	100	98	70.5%
5.00	16.50	20.0	82.4%			80.7%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Signature of Consultant Engineer: *Khalid Zakari*

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ.د. خالد قنديل	 SISTR	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSA MATROUH From Station 504+000 To Station 568+177	 الهيئة العامة للنقل Ministry of Transport
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PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE	3/5/2023	code	ZONE	545+000	545+500
Location	K.P545+300	KF-11			
NAME COMPANY	AL-Kfaah				
visual inspection test	operate by	Gomaa Bader Lab			

Gradient test

gradation of bulk materials			SAMPLE WEIGHT [g]			20182.00		gm	table classify	
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify	
Mass retained (g)	340.0	1850.0	7046.0	1918.0	2206.0	660.0	1260.0			A-1-a
Cumulative Retained (g)	340.0	2190.0	9236.0	11154.0	13360.0	14020.0	15280.0		PRO	2.164
Cumulative Retained %	1.7	10.9	45.8	55.3	66.2	69.5	75.7		WC	6.7%
Cumulative Passing %	98.3	89.1	54.2	44.7	33.8	30.5	24.3		CBR	57.1%

soft material gradation			WT.OF sample		500.00		gm
sieve size	10	40	200				
Cumulative Retained (g)	77.89	168.76	284.22				
Cumulative Retained %	15.58	33.75	56.84				
Cumulative Passing %	84.42	66.25	43.16				

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	98.3	89.1	54.2	44.7	33.8	30.5	24.3	20.5	16.1	10.5

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	24.8%	21.2%	3.6%

Contractor

Consultant

المعمل المركزي
 شركة جمعه بدر نوح

Abdallah S.M.

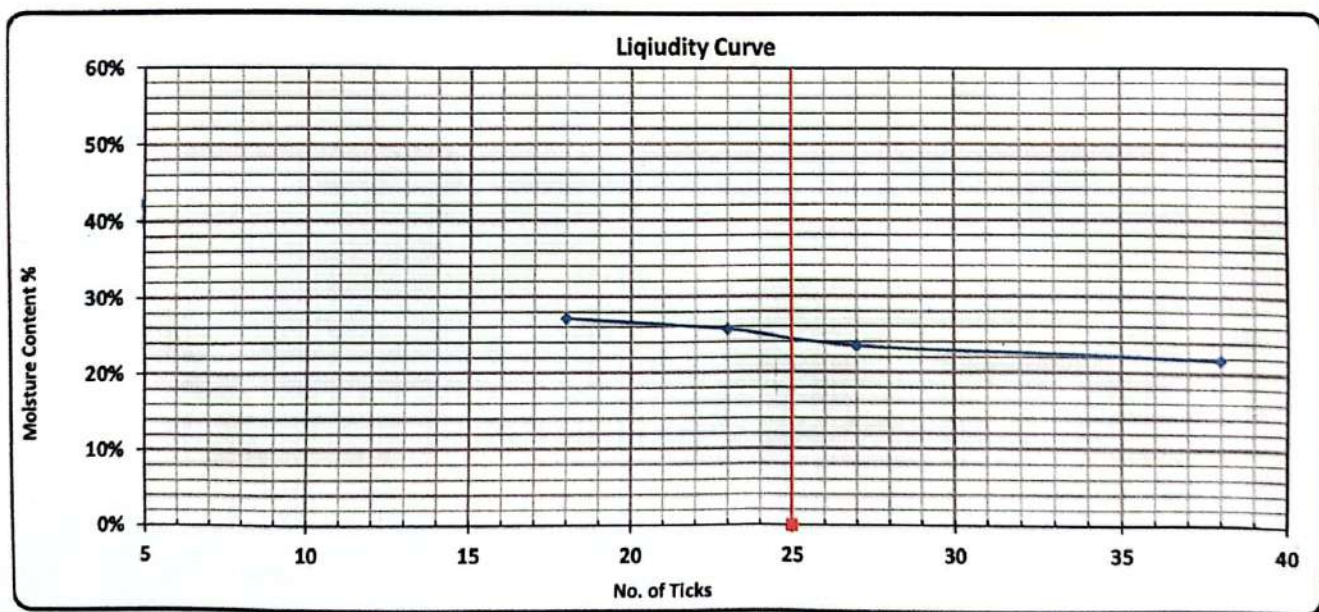
 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ.د. نادر النجار	 SVS TRA	Electric Express Train - HSR	 الهيئة العامة للنقل وزارة النقل والبنية التحتية (GARET)
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Plasticity and Liquidity Test -Atterberg Limits

TESTING DATE:	3/5/2023	code	ZONE	545+000	545+500
location	K.P545+300	KF-11			
NAME COMPANY	AL-Kfaah				
		operate by	<u>Gomaa Bader Lab</u>		

Testing Results :-

Test	Liquidity Limit				Plastic Limit	
No. of Ticks	38	27	23	18	-	-
Tare No.	13	10	8	2	M	B
Tare WT. (gm)	26.46	26.42	25.80	22.79	11.25	11.95
Tare WT. + Wet WT. (gm)	48.81	50.41	47.52	41.38	11.89	12.68
Tare WT. + Dry WT. (gm)	44.83	45.86	43.09	37.42	11.78	12.55
Water WT. (gm)	3.98	4.55	4.43	3.96	0.11	0.13
Dry WT. (gm)	18.37	19.44	17.29	14.63	0.53	0.60
Moisture Content %	21.7%	23.4%	25.6%	27.1%	20.8%	21.7%
Average %					21.2%	



L.L	P.L	P.I
24.8%	21.2%	3.6%

Lab. Specialist	Lab. Engineer	Consultant Engineer
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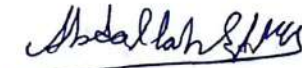
Name : 

المعمل المركزي
شركة جمعه بدر نوح

Name :

Sign :

Name : 

Sign : 

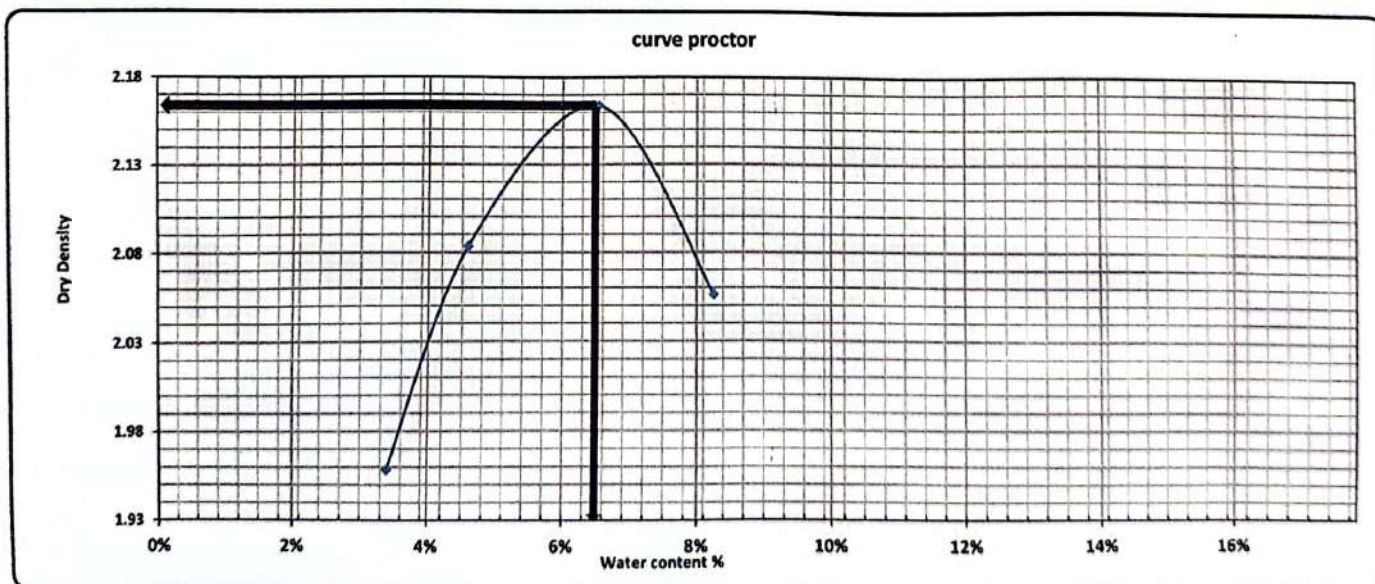
 KK ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أد. خالد كنعان	 SYSTRA SHAKER	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA TO MARSA MATROUH From Station 504+000 To Station 568+177	الهيئة العامة لطرق و الكباري و النقل البري (GARBLT)  الهيئة القومية للإزفاق NATIONAL AUTHORITY FOR TRANSPORT 2011
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PROCTOR TEST

TESTING DATE	4/5/2023	code	ZONE	545+000	545+500
location	K.P545+300	KF-11			
NAME COMPANY	AL-Kfaah				
	operate by	Gomaa Bader Lab			
Weight of empty mold :	6070.0		MAX Dry Density	2.164	
Mold Volume:	2104.9		Water content %	6.70	

trial no :	1	2	3	4		
Wt. Of Mold+ wet soil	10340.0	10665.0	10931.0	10764		
WT. WET SOIL	4270.0	4595.0	4861.0	4694.0		
Wt. Density	2.029	2.183	2.309	2.230		

Tare No.	6	6	9	9	12	12	13	13				
Tare wt.	22.97	22.97	27.2	27.2	27.36	27.36	26.46	26.46				
Wt. Of wet soil & tare	140.20	140.20	123.85	123.85	115.12	115.12	137.67	137.67				
Wt. Of dry soil & tare	136.13	136.13	119.43	119.43	109.58	109.58	128.99	128.99				
Wt. Of water	4.1	4.1	4.4	4.4	5.5	5.5	8.7	8.7				
Wt. Of dry soil	113.2	113.2	92.2	92.2	82.2	82.2	102.5	102.5				
Water content %	3.6%	3.6%	4.8%	4.8%	6.7%	6.7%	8.5%	8.5%				
AV. Water content %	3.6%		4.8%		6.7%		8.5%					
Dry Density	1.958		2.083		2.164		2.056					



Contractor

المعمل المركزي
شركة جمعه بدر نوح

Consultant

Abdallah S. Amro



Electric Express Train - HSR



California Bearing Ratio TEST

TESTING DATE	6/5/2023	code		ZONE	545+000	545+500
location	K.P545+300	KF-11				
NAME COMPANY	AL-Kfaah					
	operate by	Gomas Bader Lab				

-: Test Results

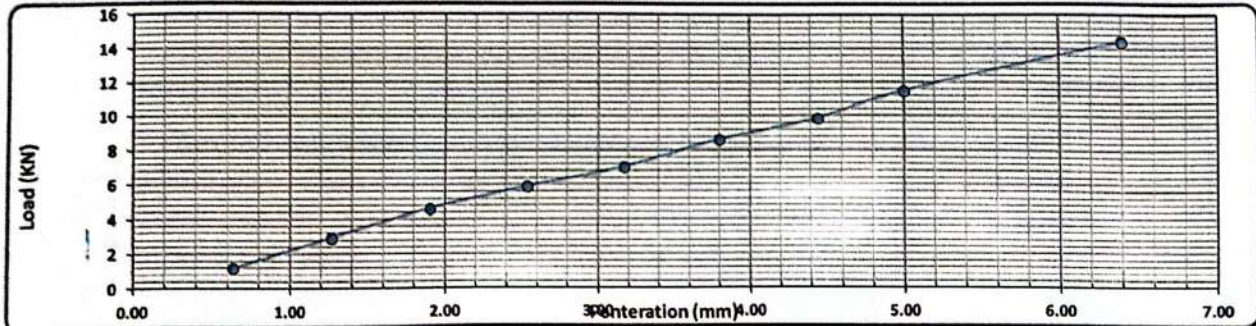
Compaction % for Mold	
Mold No.	2
Mold Vol. (cm ³)	2177.5
Mold WT. (gm)	16444
Mold WT. + Wet WT. (gm)	21409
Wet WT. (gm)	4965
Wet Density (g/cm ³)	2.280
Dry Density (g/cm ³)	2.144
Proctor Density (g/cm ³)	2.164
Compaction %	99

Moisture Ratio After Compacted Mold	
Tare No.	23
Tare WT. (gm)	23.46
Tare WT. + Wet WT. (gm)	162.46
Tare WT. + Dry WT. (gm)	154.16
Wt. Of water	8.3
Dry WT. (gm)	130.7
Moisture Content %	6.4

Swelling	
Mold No.	2
Date	24h
Initial Height (mm)	3.73
Final Height (mm)	3.79
Difference	0
Sample Height (mm)	181.00
Swelling Ratio %	0%

Loading Reading :

penetration	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	117.00	293.00	467.00	597.00	712.00	873.00	1000.00	1167.00	1467.00
Load (KN)	1.1	2.9	4.6	5.9	7.0	8.6	9.8	11.4	14.4



Calculations :-

Penetration (mm)	Load (KN)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR % 100 نسبة
2.50	5.85	13.4	43.8%	99	100	44.2%
5.00	11.44	20.0	57.1%			57.6%



Consultant Engineer

Name :

Sign :

Abdullah S. Al...

MATERIAL INSPECTION REQUEST



الهيئة القومية للإنفاق



ENGINEERING CONSULTING OFFICE
المكتب الاستشاري الهندسي
أ.د. خالد شحيد



Contractor Company	AL-KFAH Company			Designer Company							
Contractor Reference	KF-11										
Issued by Contractor	Name	Sign	Date 7/5/2023	Time							
	Eng/Mohamed Algaafry										
Received by ER			MIR	C1	C2	C3	DD	MM	YY	HH	MM
							7	5	2023		

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	REPLACEMENT FILL MATERIAL RESULTS					
Location to be Used	545+000 to 545+100 level (-0.5) 545+000 to 545+200 level (-0.25) 545+260 to 545+500 level (-0.25) 545+260 to 545+500 level (Ferma) 545+000 to 545+200 level (Ferma)					
MAR Approval No					Date	
Supplier Name						
Test Requirement			Specification	Clause		
Reference Photos	Yes attached / No		Other			
Item	Description	Unit	Quantity	Arrival Date	Note	
1	SEIVE ANALYSIS	M^3	5000	3/5/2023		
2	Atterberg Limits	M^3	5000	3/5/2023		
3	Proctor	M^3	5000	4/5/2023		
4	CBR	M^3	5000	6/5/2023		
Comments by:			Comments by:			
A sample has been taken by KK Office to (Elnoby central lab)						

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng/ Mohamed Algaafry			
QA/QC *	Abdullah SAMY			
GARB**				
Employers Representative				

* Designer

** Alignment / Bridges; Culvert Only

MATERIAL APPROVAL REQUEST



Contractor Company	EL KFAH COMPANY		Designer Company							
Contractor Reference	KF-11									
Issued by Contractor	Name	Sign	Date 7/5/2023	Time						
	Eng/ Mohamed Algaafry									
Received by ER			C1	C2	C3	DD	MM	YY	H	MM
		MAR				7	5	2023		

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	Soil (A-1-a)		
Location to be Used	545+000 to 545+100 level (-0.5) 545+000 to 545+200 level (-0.25) 545+260 to 545+500 level (-0.25) 545+260 to 545+500 level (Ferma) 545+000 to 545+200 level (Ferma)		
Item	Specification	Test Req	Test result attachment
1	ASTM D 75	Aggregate Sampling	According to specification
2	ASTM D 136	Sieve Analysis	According to specification
3	ASTM D 1440	Passing Sieve No 200	10.5
4	ASTM D 4318	ATTERBERG Limit	3.6
5	ASTM D 2974	W.C	6.7
6	ASTM D 1557	Proctor	2.16
7	ASTM D 1883	CBR	57.1
Comments by:		Comments by:	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng/ Mohamed Algaafry			
QA/QC *				
GARB**				
Employers Representative				

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ.د. خالد فتحي	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSА MATROUH From Station 504+000 To Station 568+177	 الهيئة العامة لتنظيم المحاسبة (GARBL)
Operating Lab	AL Nuby Central Lab	

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	16-4-2023	Code	zone	545+000	545+500
LOCATION	K,P (545+300)	KF (10)			
NAME COMPANY	الكفاح				

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT [g]		21084.00		gm	table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify
Mass retained (g)	0.0	1633.0	1753.0	1935.0	3546.0	3423.0	3654.0		A-1-a
Cumulative Retained (g)	0.0	1633.0	3386.0	5321.0	8867.0	12290.0	15944.0	PRO	2.180
Cumulative Retained %	0.0	7.7	16.1	25.2	42.1	58.3	75.6	WC	6.50
Cumulative Passing %	100.0	92.3	83.9	74.8	57.9	41.7	24.4	CBR	80.70

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	10	40	200					
Cumulative Retained (g)	71.00	195.70	311.20					
Cumulative Retained %	14.20	39.14	62.24					
Cumulative Passing %	85.80	60.86	37.76					

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	92.3	83.9	74.8	57.9	41.7	24.4	20.9	14.8	9.2

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.P



Consultant

Ibrahim Zaki

PROCTOR TEST

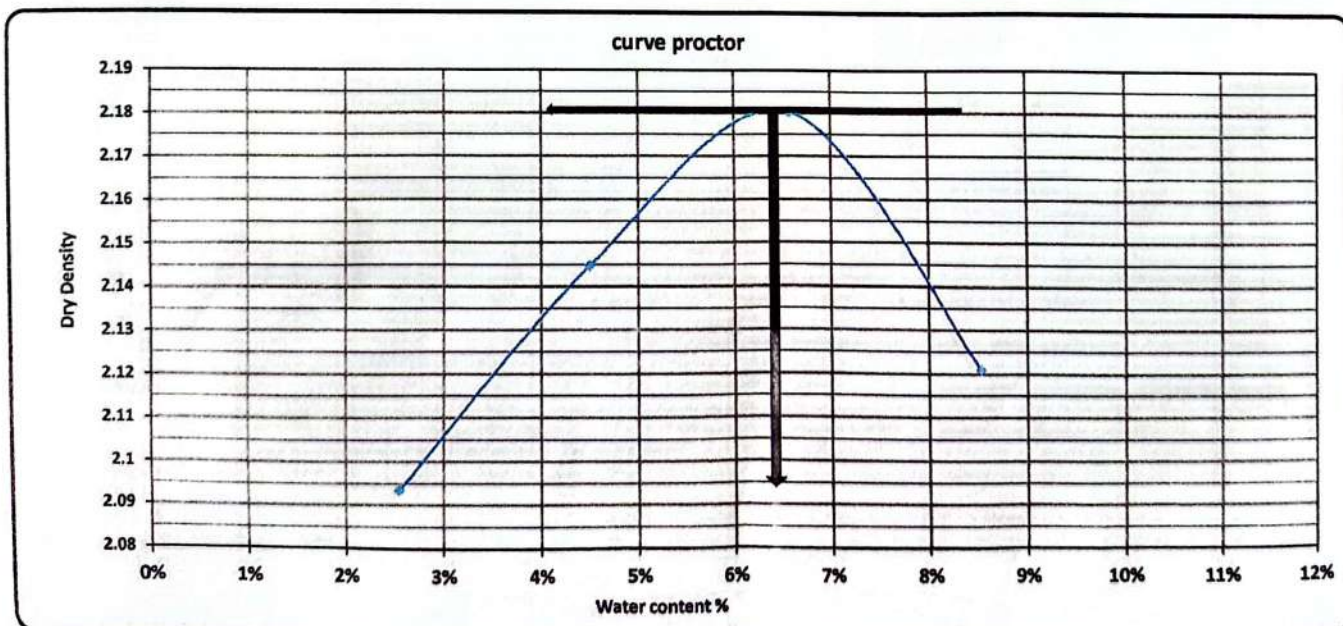
TESTING DATE:	16-4-2023	Code	zone	545+000	545+500
LOCATION	K,P (545+300)	KF (10)			
NAME COMPANY	الكفاح				

Weight of empty mold :	6033.0
Mold Volume:	2113.0

MAX Dry Density	2.18
Water content %	6.5

trial no :	1	2	3	3	
Wt. Of Mold+ wet soil	10569.0	10769.0	10943.0	10897.0	
WT. WET SOIL	4536.0	4736.0	4910.0	4864.0	
Wt. Density	2.147	2.241	2.324	2.302	

Tare No.	32	4	20	40	7	45	33	11		
Tare wt.	74.4	60.1	60.9	46.4	42.8	41.5	73.6	46.1		
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	148.1	147.8	146.2	145.5	143.2	143.5	144.1	141.7		
Wt. Of water	1.9	2.2	3.8	4.5	6.8	6.5	5.9	8.3		
Wt. Of dry soil	73.7	87.7	85.3	99.1	100.4	102.0	70.5	95.6		
Water content %	2.6%	2.5%	4.5%	4.5%	6.8%	6.4%	8.4%	8.7%		
AV. Water content %	2.5%	4.5%	6.6%	8.5%						
Dry Density	2.093	2.145	2.180	2.121						



Consultant

Ichahmed Zaki
طاهر