

أعمال الجسر الترابي لمشروع القطار الكهربائي السريع

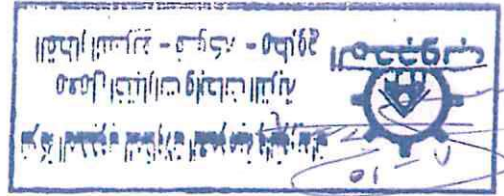
قطاع فوكة / مطروح

في المسافة من كم ٥٤٨+ ٠٠٠ الى كم ٥٥٩+٠٠٠ بطول ١١ كم (اتجاه مطروح)

رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الفئة	الاجمالي
١	اعمال الردم				
١-١	بالمتر المكعب اعمال توريد وتشغيل اترية صالحة للردم و مطابقة للمواصفات و التشغيل باستخدام الات التسوية بسمك لايزيد عن ٥٠سم حتى منسوب (٢ متر) وبسمك لايزيد عن ٢٥سم لاستكمال المنسوب التصميمي لتشكيل الجسر الترابي و الاكتاف (نسبة تحمل كاليفورنيا لا تقل عن ١٥%) ورشها بالمياه الاصلوية للوصول الى نسبة الرطوبة المطلوبة و الدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (٩٥ % من الكثافة الجافة القصوى) ويتم التنفيذ طبقا للمناسيب التصميمية و القطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة و البند بجميع مشتملاته طبقا لاصول الصناعة و مواصفات الهيئة العامة للطرق و الكبارى وتعليمات المهندس المشرف . - فى حالة طلب جهاز الاشراف زيادة نسبة الدمك عن ٩٥% يحسب زيادة ١ جنيه على زيادة نسبة الدمك لكل ١% . - مسافة النقل حتى ٢ كم ويتم احتساب علاوة ١.٤ جنيه للكم بالزيادة او النقصان . - السعر يشمل عمل تشوينات وتخليط واختبارات ونقل لموقع العمل حتى مسافة ٢ كم. - السعر يشمل قيمة المادة الحجرية طبقا لافادة المنطقة بهذا القطاع (٧) من الكم ٥٠٤ إلى الكم ٥٦٨ .	م٣	٦١٠٥٠,٠٦	٨٥	٥١٨٩٢٥٥
	علاوة مسافة النقل ١٦٦ كم	م٣	٦١٠٥٠,٠٦	٢٢٩,٦٠	١٤٠١٧٠٩٤
	علاوة تحصيل رسوم الكارثة والموازن طبقا للائحة الشركة الوطنية	م٣	٦١٠٥٠,٠٦	١٣	٧٩٣٦٥١

مكلف مع كم محوون





Handwritten signature and date: 17-8-2023

Handwritten signature and date: 17-8-2023

LIMITS	Contractor			Consultant		
	LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	N.P	PLASTIC INDEX (PI)	N.P	

C-General gradient									
sieve size (in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40
sieve size (mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425
Cumulative Passing %	100.0	97.1	79.2	70.0	47.2	38.8	28.6	17.3	9.8
REMARKS									

B-soft material gradation									
sieve size	10	40	200						
Cumulative Retained (g)	197.00	328.00	420.00						
Cumulative Retained %	39.40	65.60	84.00						
Cumulative Passing %	60.60	34.40	16.00						
A-gradation of bulk materials									
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	
Mass retained (g)	0.0	1527.0	9580.0	4911.0	12197.0	4513.0	5451.0		
Cumulative Retained (g)	0.0	1527.0	11107.0	16018.0	28215.0	32728.0	38179.0		
Cumulative Retained %	0.0	2.857	20.8	30.0	52.8	61.2	71.4		
Cumulative Passing %	100.0	97.1	79.2	70.0	47.2	38.8	28.6		
SAMPLE WEIGHT [g]									
53451.00									
WT. OF sample									
500.00									
LA								gm	25.76
SG									2.563
CBR									88.3%
WC									6.6%
PRO									2.240
A-1-a									
soil classify									
table classify									

2-Gradient test

1-visual inspection test				
TESTING DATE:	13/02/2023	code	MH-SB-4	LAYER THICKNESS
LOCATION	K.P 550+500			MATERIAL
NAME COMPANY	EL MAHGOUB			
				549+000
				552+000
				SUB BALLAST
				2000 M3

PARTICLE SIZE DISTRIBUTION OF SOIL

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	
ENGINEERING CONSULTING OFFICE		K.P 550+500		K.P 550+500		K.P 550+500	
K.P 550+500		K.P 550+500		K.P 550+500		K.P 550+500	
K.P 550+500		K.P 550+500		K.P 550+500		K.P 550+500	

17-8-2023

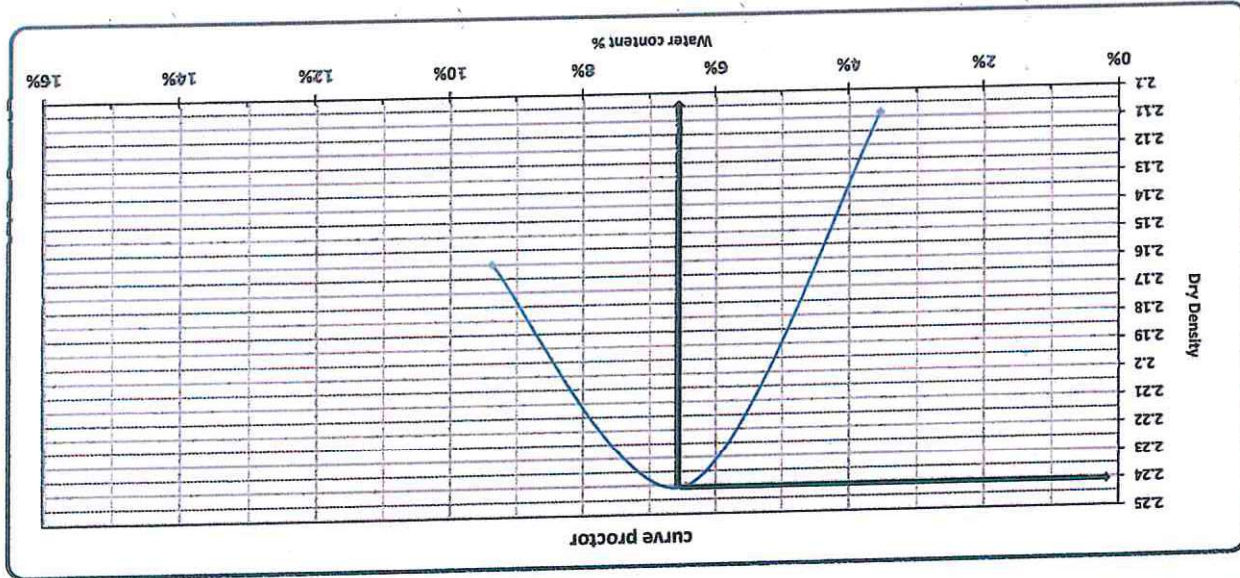
Mr. Elsayed

Mr. Elsayed

Consultant



Contractor



Tare No.	Tare wt.	Wt. Of wet soil & tare	Wt. Of dry soil & tare	Wt. Of water	Wt. Of dry soil	Water content %	AV. Water content %	Dry Density
1	23.54	133.7	141.40	4.5	106.7	3.2%	3.5%	2.108
2	25.43	145.86	126.82	6.0	95.1	6.3%	6.5%	2.240
3	31.67	141.56	129.86	8.8	95.1	9.2%	9.4%	2.160
4	33.45	132.64	123.59	9.0	95.2	9.5%		
5	34.76							
6	28.43							

trial no :	Wt. Of Mold + wet soil	WT. WET SOIL	Wt. Density
1	10513	4436	2.183
2	10923	4846	2.385
3	10877	4800	2.362

Weight of empty mold :	Mold Volume:
6077.0	2032.0

MAX Dry Density	Water content %
2.24	6.6%

TESTING DATE:	LOCATION	NAME COMPANY
14/8/2023	K.P 550+500	EL MAHGOUB

ZONE	MATERIAL	QUANTITY
549+000	SUB BALLAST	2000 M3
552+000		

PROCTOR TEST

From Station 504+000 To Station 558+177

Section - 7 From FOKA TO MARSA MATROUH

Electric Express Train - HSR

From El Ain El Sokhna City To El Alamein - MATROUH

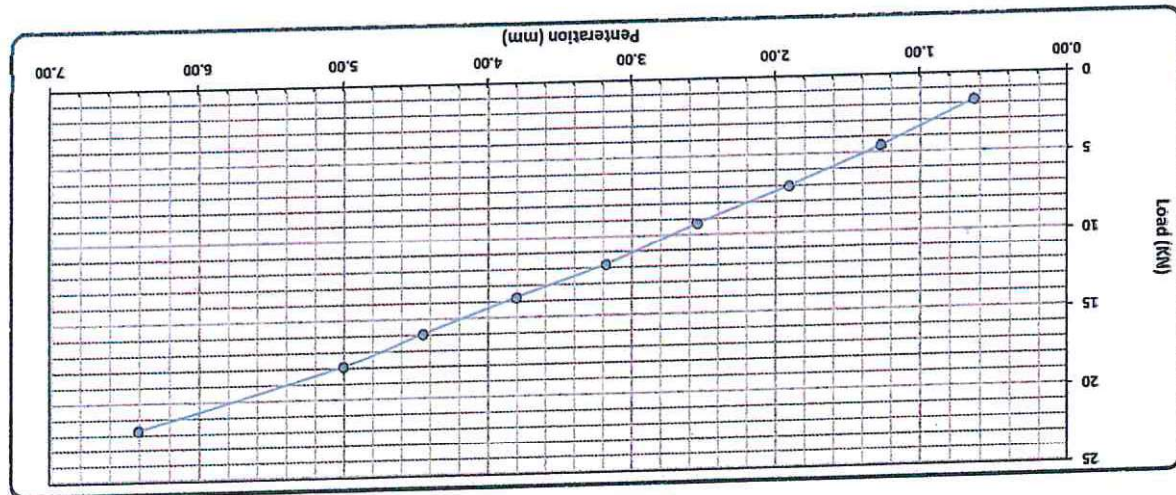
NAME COMPANY	EL MAHGOUB		
Location :	K.P(550+500)		
Testing Date :	2023/8/15	Code	FROM STA :
		MH SB-4	: Layer Thickness
			: Material
			SUB BALLAST
			20 CM
			552+000
			549+000

Compaction % for Mold	
Mold No.	55
Mold Vol. (cm^3)	2151
Mold WT. (gm)	7350
Mold WT. + Wet WT. (gm)	12390
Wet WT. (gm)	5040
Wet Density (g/cm^3)	2.343
Dry Density (g/cm^3)	2.198
Proctor Density (g/cm^3)	2.240
Compaction %	98

Moisture Ratio After Compacted Mold	
Fare No.	5
Fare WT. (gm)	31
Fare WT. + Wet WT. (gm)	160
Fare WT. + Dry WT. (gm)	152
Water WT. (gm)	7.8
Dry WT. (gm)	121.2
Moisture Content %	6.6

Swelling	
Mold No.	4
Date	2023/01/15
Initial Height (mm)	5.50
Final Height (mm)	5.50
Difference	0
Sample Height (mm)	121.00
Swelling Ratio %	0%

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	176.00	462.00	711.00	943.00	1198.00	1399.00	1623.00	1823.00	2213.00
Load (KN)	1.7	4.5	7.0	9.2	11.7	13.7	15.9	17.9	21.7



Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(kN)	(lb)	(%)	(%)	(%)	(%)
2.50	9.24	13.4	69.2%	99	98	68.5%
5.00	17.87	20.0	89.2%			88.3%

NAME :

: 0315

Consultant Engineer

Lab. Specialist

[illegible]

Знаєш пароль:

~~Page No.~~

17-8-22



Absorption & Aggregate specific gravity
AASHTO-T85

Testing date :-	15/01/2023
Location :-	K.P(550+500)
Material :-	sub ballast

Weight of sample	2000	gm
Weight of saturated -dry surface sample (B)	2018.40	gm
Weight of saturated sample in water (C)	1243.20	gm
Weight of dry sample after heating (A)	1987.00	gm

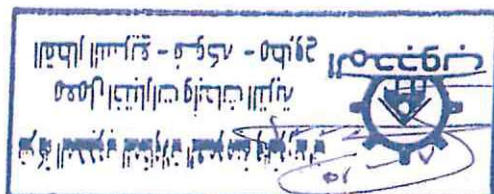
Results:-

Bul' spicific gravity = $A / (B-C)$	2.563
Apparent spicific gravity = $A / (A-C)$	2.671
Absorbtion = $(B-A)/A$	1.580

Los Anglos abrasion
AASHTO-T96

Weight of sample before	5000
Weight of sample before test (gm)	3712
Abrasion ratio (%)	25.76

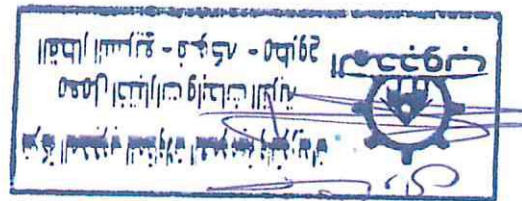
Results:-



[Signature]

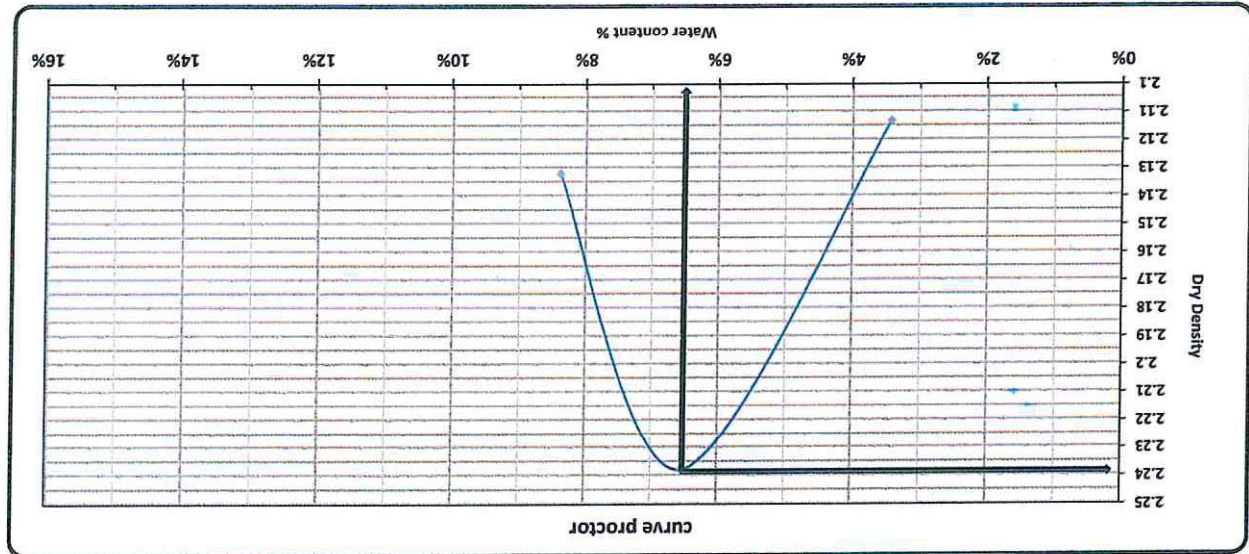
Lab Engineer/

17-8-2023
[Signature]
Mohamed Elsayed



Contractor

Consulant



Tare No.	1	2	3	4	5	6
Tare wt.	21.21	27.23	23.81	27.32	32.83	22.9
Wt. Of wet soil & tare	145.2	133.43	139.4	125.4	123.32	155.3
Wt. Of dry soil & tare	141.23	129.81	132.47	119.24	116.48	144.81
Wt. Of water	4.0	3.6	6.9	6.2	6.8	10.5
Wt. Of dry soil	120.0	102.6	108.7	91.9	83.6	121.9
Water content %	3.3%	3.5%	6.4%	6.7%	8.2%	8.6%
AV. Water content %	3.4%	6.5%	8.4%	2.132		
Dry Density	2.113	2.238	2.132			

trial no :	1	2	3
Wt. Of Mold+ wet soil	10512	10915	10766
WT. WET SOIL	4442	4845	4696
Wt. Density	2.186	2.384	2.311

Weight of empty mold :	6070.0
Mold Volume:	2032.0
MAX Dry Density	2.238
Water content %	6.6%

TESTING DATE:	11/8/2023	code	Station	549+000	552+000
LOCATION	K.P(548+600)	MH SB-3	Material	SUB BALLAST	
NAME COMPANY	EL MAHGOUB		layer thickness	20 CM	

PROCTOR TEST

Electric Express Train - HSR	From El Ain El Sokhna City To El Alamein - MATROUH	Section - 7 From FOKA TO MARSAA MATROUH	From Station 504+000 To Station 568+177
ENGINEERING CONSULTING FIRM	SVSTRA	SHAKER	

California Bearing Ratio TEST

NAME COMPANY	EL MAHGOUB	MH SB-3	: Layer Thickness	20 CM	
Location :	K.P(548+600)		: Material	SUB BALLAST	
Testing Date :	2023/8/12	Code	FROM STA :	549+000	552+000

- : Test Results

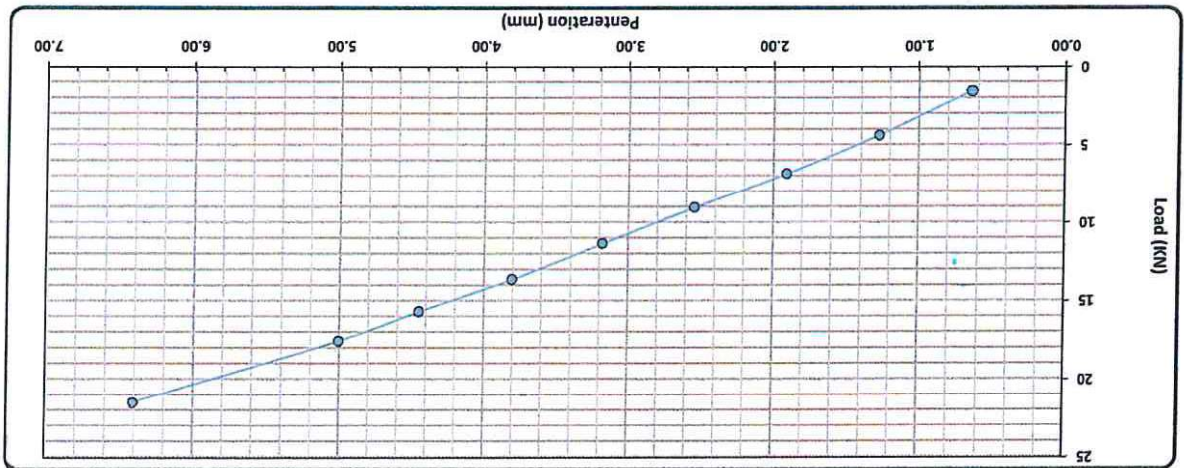
Compaction % for Mold	
Mold No.	55
Mold Vol. (cm ³)	2151
Mold WT. (gm)	7350
Mold WT. + Wet WT. (gm)	12390
Wet WT. (gm)	5040
Wet Density (g/cm ³)	2.343
Dry Density (g/cm ³)	2.198
Proctor Density (g/cm ³)	2.238
Compaction %	98

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	31
Tare WT. + Wet WT. (gm)	160
Tare WT. + Dry WT. (gm)	152
Water WT. (gm)	7.8
Dry WT. (gm)	121.2
Moisture Content %	6.6

Swelling	
Mold No.	4
Date	2023\8\12
Initial Height (mm)	4.10
Final Height (mm)	4.10
Difference	0
Sample Height (mm)	120.00
Swelling Ratio %	0%

Loading Reading :

Penetration (mm)	Load Reading (kg)	Load (KN)
0.64	156.00	1.5
1.27	445.00	4.4
1.91	699.00	6.9
2.54	921.00	9.0
3.18	1156.00	11.3
3.80	1389.00	13.6
4.45	1598.00	15.7
5.00	1789.00	17.5
6.40	2190.00	21.5



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	
2.50	9.03	13.4	67.6%	99	98	66.9%
5.00	17.53	20.0	87.6%			86.7%

Lab. Specialist

Lab. Engineer

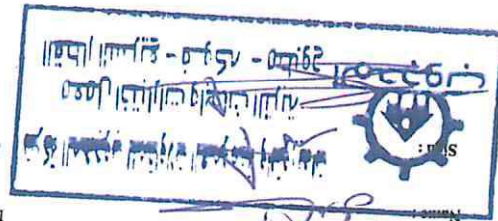
Consultant Engineer

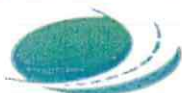
Name :

Name :

Sign :

Sign :





Absorption & Aggregate specific gravity
AASHTO-T85

Testing date :-	10/8/2023
location :-	K.P(548+600)
material :-	sub ballast

Weight of sample	2000	gm
Weight of saturated -dry surface sample (B)	2016	gm
Weight of saturated sample in water (C)	1249.6	gm
Weight of dry sample after heating (A)	1982.6	gm

Results:-

Bul/ spicific gravity = A / (B-C)	2.587	
Apparent spicific gravity = A/(A-C)	2.705	
Asorbtion = (B-A)/A	1.685	

Los Anglos abrasion
AASHTO-T96

Results:-

Weight of sample before	5000
Weight of sample before test (gm)	3730
Abrasion ratio (%)	25.40



100%
12/8/2023

Operating Lab. AL Nuby Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	02-08-2023	Code	MH (S.B-2)	Layer Thickness	20
LOCATION	K.P (650+000)	Material	Sub Ballast	Zone	649+000
NAME COMPANY	EL MAHGOUP				652+000

2-Gradient test

Table classify

4-gradation of bulk materials									
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	PRO
Mass retained (g)	0.0	114.0	1450.0	5891.0	3658.0	2165.0	5293.0	WC	6.80
Cumulative Retained (g)	0.0	114.0	1564.0	7455.0	11113.0	13278.0	18571.0	CBR	89.70
Cumulative Retained %	0.0	0.4	5.3	25.4	37.9	45.2	63.3	Los Angles	26.20
Cumulative Passing %	100.0	99.6	94.7	74.6	62.1	54.8	36.7	Specific gravity	2.574

1-soft material gradation				
sieve size	10	40	200	
Cumulative Retained (g)	98.00	275.00	414.00	
Cumulative Retained %	19.60	55.00	82.80	
Cumulative Passing %	80.40	45.00	17.20	

General gradient									
sieve size(mm)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425
Cumulative Passing %	100.0	99.6	94.7	74.6	62.1	54.8	36.7	29.5	16.5
Limits		100-75	100-50	70-75	60-15	0-35	30-0	0-7	

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

Director Engineer :-

Lab. Engineer :-

Name: /oussief R.ghob

Sign: /oussief R.ghob

Director Engineer :-

Lab. Engineer :-

Name: /oussief R.ghob

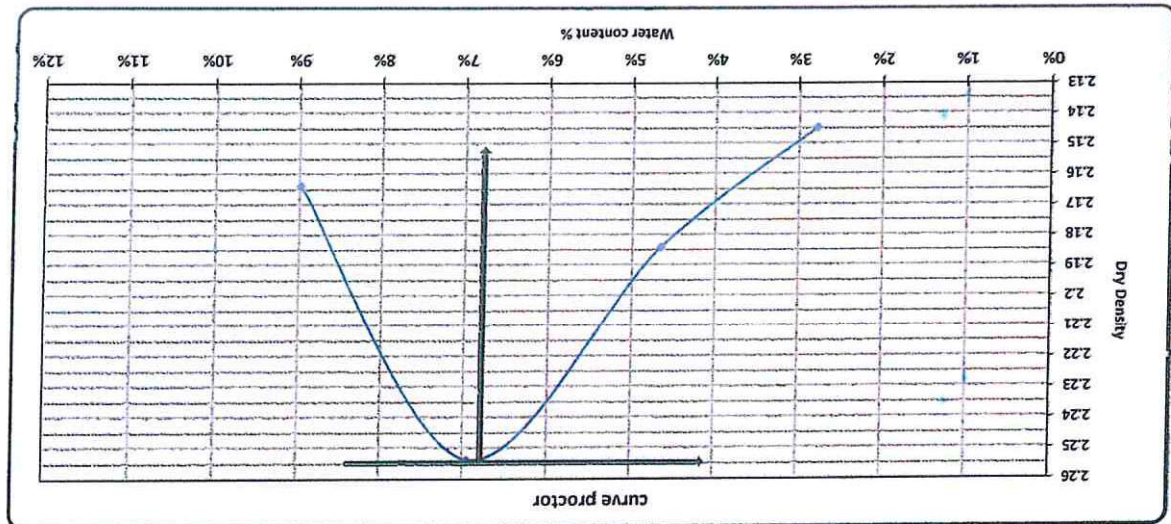
Sign: /oussief R.ghob

TESTING DATE: 03-08-2023	NAME COMPANY: EL MAHGOUP	LOCATION: K.P (650+000)	zone	645+000	652+000
Code	MM (S.B-2)				

Weight of empty mold: 6290.0	Mold Volume: 2142.0	MAX Dry Density	2.255	Water content %	6.8
------------------------------	---------------------	-----------------	-------	-----------------	-----

trial no: 1	11012.0	11186.0	11453.0	11341	4
Wt. Of Mold + wet soil	4722.0	4896.0	5163.0	5051.0	
Wt. WET SOIL	2.204	2.286	2.410	2.358	

Tare No. 18	7	32	22	26	16	33
Tare wt. 77.8	43.7	42.9	74.4	54.1	55	34
Wt. Of wet soil & tare 150.0	150.0	150.0	150.0	150.0	150.0	150.0
Wt. Of dry soil & tare 148.0	147.2	145.3	146.6	143.8	140.6	143.6
Wt. Of water 2.0	2.8	4.7	3.4	6.2	9.4	6.4
Wt. Of dry soil 70.2	103.5	102.4	72.2	89.7	106.6	70.0
Water content % 2.8%	2.7%	4.6%	4.7%	6.9%	8.8%	9.1%
AV. Water content % 2.8%	4.6%	2.184	2.254	2.164		
Dry Density 2.145						



Contractor Engineer :-

Name :

Sign :

Lab. Engineer :-

Name :

Sign :

Consultant Engineer :-

Name :

Sign :

	Electric Express Train - HSR			٢٠٢٣ ١٤٤٥ ١٤٤٦
	From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOHA To MARSA MATROUH From Station 604+000 To Station 668+177			

Operating Lab. AL Naby Central Lab

Absorption & Aggregate specific gravity AASHTO-T85

TESTING DATE:	03-08-2023	code	Zone	549+000	552+000
LOCATION	K.P (550+000)	EL MAHGOUP	MH (S.B-2)		
NAME COMPANY					

Weight of sample	2500.0	gm
Weight of saturated-dry surface sample (B)	2510.0	gm
Weight of saturated sample in water (C)	1551.7	gm
Weight of dry sample after heating (A)	2467.0	gm

Results:-

Bulk Specific gravity = A / (B-C)	2.574
Apparent specific gravity = A / (A-C)	2.695
Absorption = (B-A)/A	1.743 %

Los Anglos abrasion AASHTO-T96

Weight of sample before test (gm)	5000
Weight of sample after test (gm)	3690
Abrasion ratio (%)	26.2

Contractor Engineer :-
Name :
Sign :



Lab. Engineer :-
Name :
Sign :
Consultant Engineer :-
Name :
Sign :
2023

Name :
Sign :

Name :
Sign :

Name :
Sign :

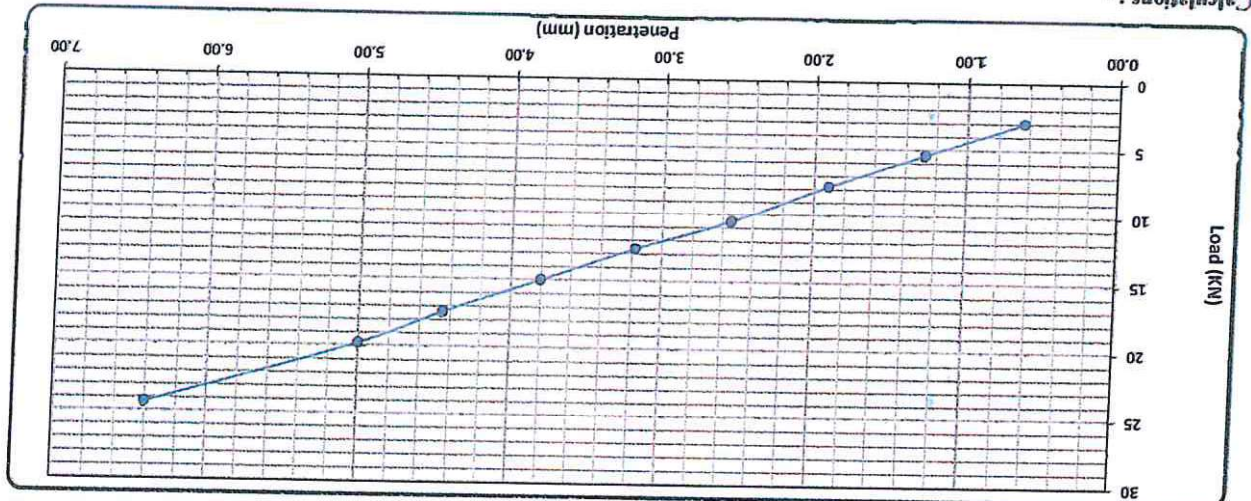
Contractor Engineer

Lab Engineer

Consultant Engineer

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(kN)	(lb)	(%)	(%)	(%)	(%)
2.50	10.50	13.4	78.7%	108	98	71.4%
5.00	19.80	20.0	98.9%			89.7%

Calculations :-



Penetration (mm)	Load Reading (mm)	Load (kN)
0.64	0.10	3.0
1.27	0.18	5.4
1.91	0.26	7.8
2.54	0.35	10.5
3.18	0.42	12.6
3.80	0.50	15.0
4.45	0.58	17.4
5.00	0.66	19.8
6.40	0.81	24.3

Loading Reading :

Mold No.	Mold Vol (cm³)	Mold WT. (gm)	Mold WT. + Wet WT. (gm)	Wet WT. (gm)	Wet Density (g/cm³)	Dry Density (g/cm³)	Proctor Density (g/cm³)	Compaction %
1	2122	4803	10305	5502	2.593	2.435	2.255	108.0

Tare No.	Tare WT. (gm)	Tare WT. + Wet WT. (gm)	Tare WT. + Dry WT. (gm)	Wet WT	Dry WT. (gm)	Moisture Content %
32	74.4	150	145.4	4.6	71.0	6.5

Mold No.	Date	Initial Height (mm)	Final Height (mm)	Difference	Sample Height (mm)	Swelling Ratio %
1	05-08-2023	4.00	4.00	0	120.00	0.0%

:- Test Results

Company Name	Location	Company Name	Location
EL MAHGOUP	K.P (550+000)	FROM STA :	549+000
05-08-2023	Code		552+000

California Bearing Ratio TEST

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

TESTING DATE:	12/6/2023	code	MH-5	layer thickness	25 cm
LOCATION	k.p(549+200)	Material	PERPAVED	PERPAVED	552+000
NAME COMPANY	EL MAHGOUB	ZONE	549+000	549+000	552+000

2-Gradient test

A-gradation of bulk materials									
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	
Mass retained (g)	0.0	1583.0	5309.0	4044.0	6038.0	2394.0	4008.0		
Cumulative Retained (g)	0.0	1583.0	6892.0	10936.0	16974.0	19368.0	23376.0		
Cumulative Retained %	0.0	4.3	18.9	30.0	46.6	53.1	64.1		
Cumulative Passing %	100.0	95.7	81.1	70.0	53.4	46.9	35.9		
CBR									52.0%
WC									6.2%
PRO									2.183
soil classify									A-1-a
table classify									

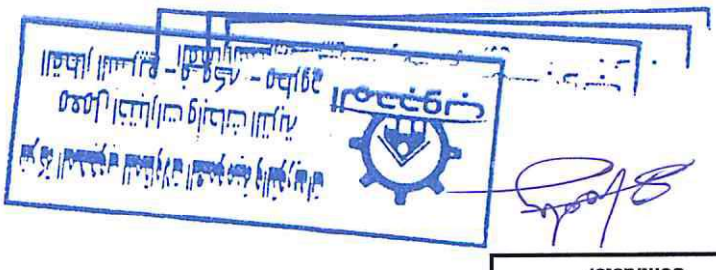
B-soft material gradation									
sieve size	10	40	200						
Cumulative Retained (g)	189.00	295.00	365.00						
Cumulative Retained %	37.80	59.00	73.00						
Cumulative Passing %	62.20	41.00	27.00						
WT.OF sample									
500.00									
gm									

C-General gradient									
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425
Cumulative Passing %	100.0	95.7	81.1	70.0	53.4	46.9	35.9	22.3	14.7
REMARKS									
0-12									

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



Consultant



Contractor

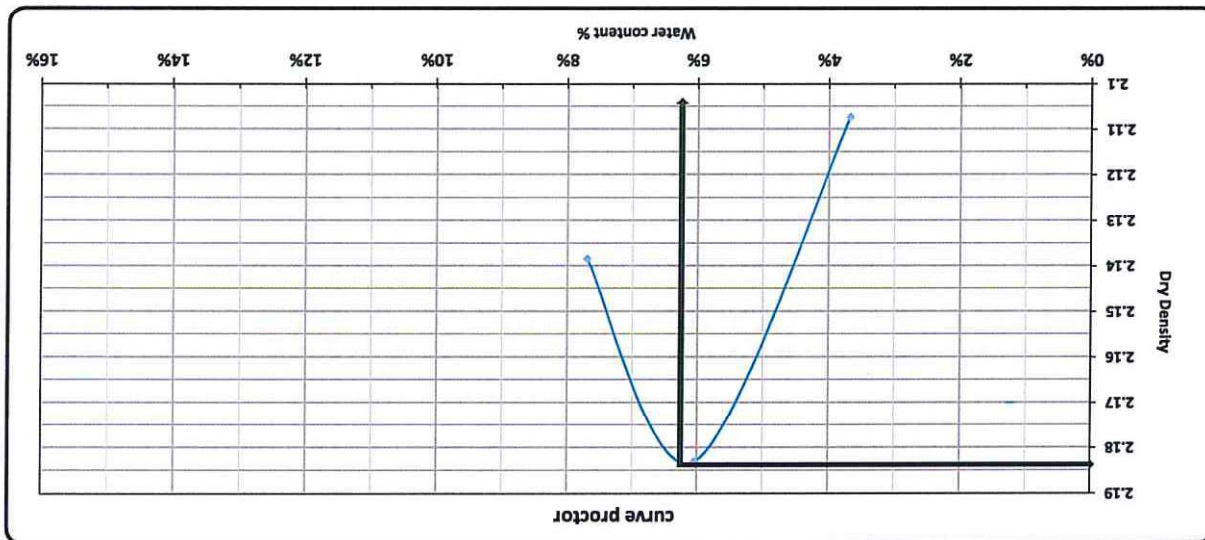
PARTICLE SIZE DISTRIBUTION OF SOIL

[Handwritten signature]

Consultant

المشاور
المشاورين والمهندسين
المحترفين
2014 - 2015 - 2016
المشاورين والمهندسين
المحترفين

Contractor



Tare No.	1	2	3	4	5	6	7	8
Tare wt.	30.12	28.77	30.78	34.98	29.45	28.96		
Wt. Of wet soil & tare	167.9	160.9	166.2	157.0	160.9	156.3		
Wt. Of dry soil & tare	163.3	155.9	158.7	149.8	151.7	147.0		
Wt. Of water	4.6	5.0	7.5	7.2	9.2	9.3		
Wt. Of dry soil	133.1	127.1	128.0	114.8	122.3	118.0		
Water content %	3.5%	3.9%	5.8%	6.2%	7.5%	7.9%		
AV. Water content %	3.7%			6.0%		7.7%		
Dry Density	2.107			2.183		2.139		

trial no :	1	2	3	4	5
Wt. Of Mold+ wet soil	10523.0	10787.0	10763.0		
WT. WET SOIL	4440.0	4704.0	4680.0		
Wt. Density	2.185	2.315	2.303		

Weight of empty mold :	6083.0
Mold Volume:	2032.0
MAX Dry Density	2.183
Water content %	6.2%

TESTING DATE:	13/6/2023	code	MH-5	Station	549+000	552+000
LOCATION	k.p(549+200)	Material	PERPAVED	layer thickness	25 cm	
NAME COMPANY	EL MAHGOUB					

PROCTOR TEST

Engineering Consulting Office
المشاورين والمهندسين المحترفين

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

SVSITRA 1 SHAKER

California Bearing Ratio TEST

Testing Date :	14/6/2023	Code	MH-5	Layer No. :	EL MAHJOUR
Location :	k.p(549+200)	FROM STA :		Layer Thickness :	25 cm
					PERPARED
					S52+000

:- Test Results

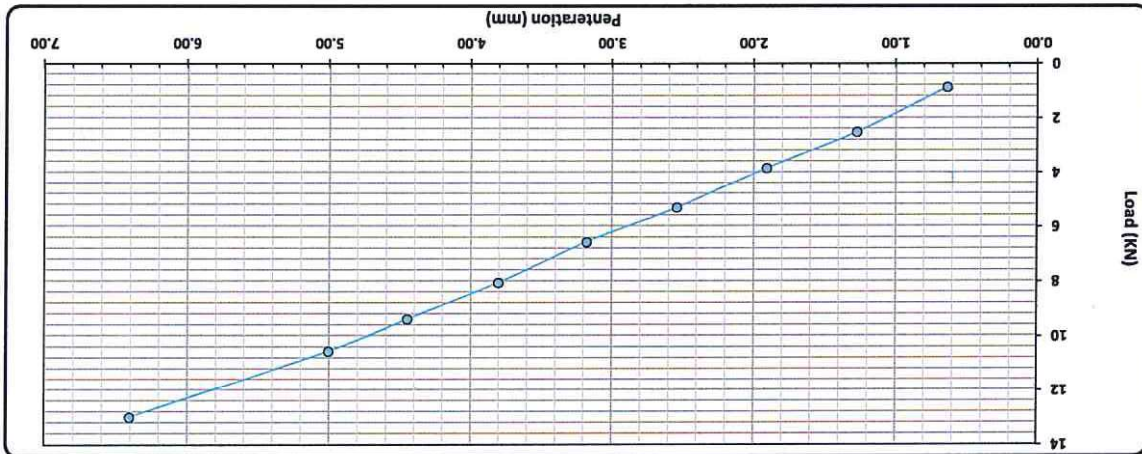
Compaction % for Mold		Mold No.	55
Mold Vol. (cm³)			2151
Mold WT. (gm)			7810
Mold WT. + Wet WT. (gm)			12790
Wet WT. (gm)			4980
Wet Density (g/cm³)			2.315
Dry Density (g/cm³)			2.180
Proctor Density (g/cm³)			2.183
Compaction %			100

Moisture Ratio After Compacted Mold		Tare No.	5
Tare WT. (gm)			34
Tare WT. + Wet WT. (gm)			160
Tare WT. + Dry WT. (gm)			152
Water WT. (gm)			8.0
Dry WT. (gm)			118.0
Moisture Content %			6.2

Swelling		Mold No.	3
Date			14-6-2023
Initial Height (mm)			3.65
Final Height (mm)			3.65
Difference			0
Sample Height (mm)			122.00
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)	88.00	256.00	392.00	542.00	670.00	821.00	956.00	1076.00	1324.00
Load (KN)	0.9	2.5	3.8	5.3	6.6	8.0	9.4	10.5	13.0



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	
2.50	5.31	13.4	39.8%	100	98	51.7%
5.00	10.54	20.0	52.7%			39.0%

Lab. Specialist	Lab. Engineer	Consultant Engineer
-----------------	---------------	---------------------

Sign :

Name :

Sign :

Name :

Sign :

Name :

Absorption & Aggregate specific gravity
AASHTO-T85

Testing date :-	12/6/2023
location :-	k.p(548+500)
material :-	prepared subgrade
NAME COMPANY	EL MAHGOUB

Weight of sample	gm
Weight of saturated -dry surface sample (B)	gm
Weight of saturated sample in water (C)	gm
Weight of dry sample after heating (A)	gm

Results:-

Bull specific gravity = $A / (B - C)$	
Apparent specific gravity = $A / (A - C)$	
Absorption = $(B - A) / A$	

Los Anglos abrasion
AASHTO-T96

Results:-

Weight of sample before test (gm)	3264	5000
Abrasion ratio (%)	34.72	

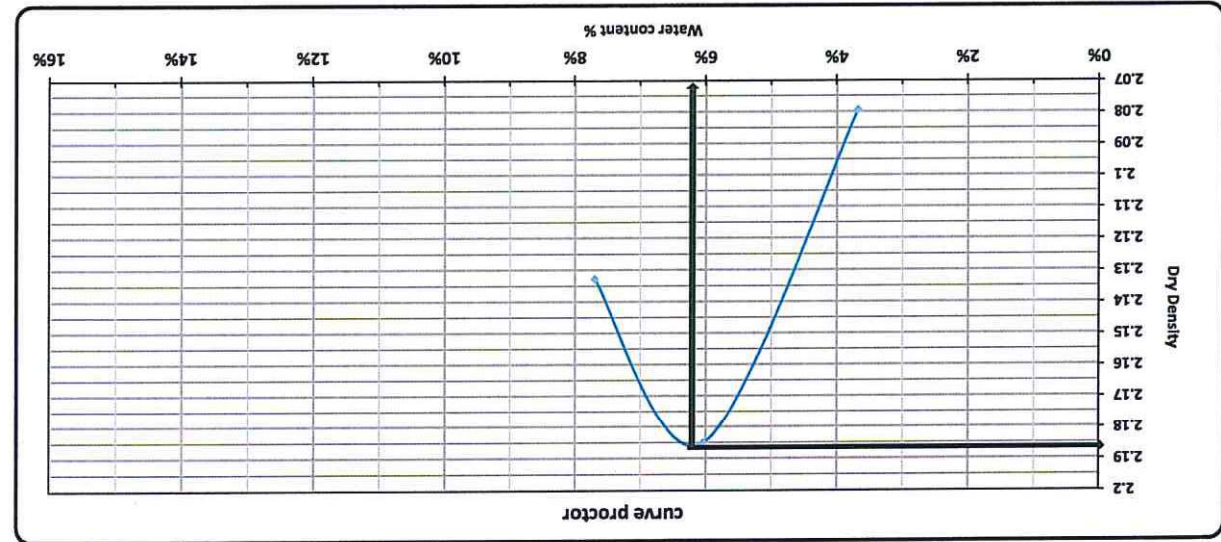


TESTING DATE:	2023/06/05	NAME COMPANY	EL MAHJOUB
LOCATION	k.p(550+500)	layer thickness	25 cm
code	MH-4	Material	PERPAVED
Station	549+000		552+000

Weight of empty mold :	6088.0	Mold Volume:	2032.0
MAX Dry Density	2.186	Water content %	6.3%

trial no :	1	2	3	4	5
Wt. OF Mold+ wet soil	10469.0	10796.1	10755.5		
WT. WET SOIL	4381.0	4708.1	4667.5		
Wt. Density	2.156	2.317	2.297		

Tare No.	1	2	3	4	5	6	7	8
Tare wt.	30.12	28.77	30.78	34.98	29.45	28.96		
Wt. Of wet soil & tare	167.9	160.9	166.2	157.0	160.9	156.3		
Wt. Of dry soil & tare	163.3	155.9	158.7	149.8	151.7	147.0		
Wt. Of water	4.6	5.0	7.5	7.2	9.2	9.3		
Wt. Of dry soil	133.1	127.1	128.0	114.8	122.3	118.0		
Water content %	3.5%	3.9%	5.8%	6.2%	7.5%	7.9%		
A.V. Water content %	3.7%	6.0%	7.7%					
Dry Density	2.079	2.185	2.133					



المشروع
504 - 568 - فوكا - محطة
الخط السريع - مصر
مكتب الاستشارات الهندسية
الهيئة العامة للطرق والمواصلات

Contractor

Consultant

California Bearing Ratio TEST

Testing Date :	6/6/2023	Code	FROM STA :	549+000	PERPARED	25 cm
Location :	k.p(S50+500)	MH-4	Material			
Layer No. :			Layer Thickness			

:- Test Results

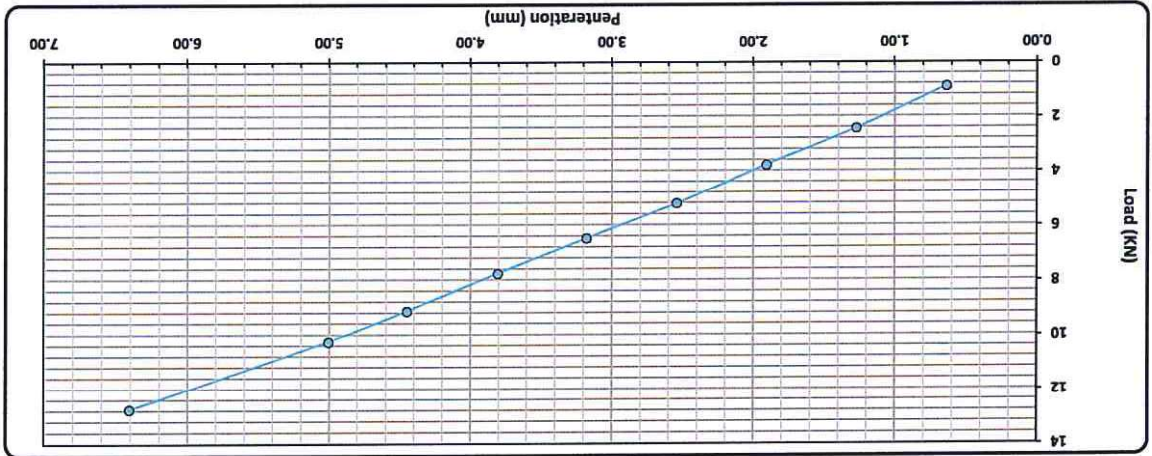
Compaction % for Mold	55
Mold No.	2151
Mold Vol. (cm ³)	7810
Mold WT. (gm)	12790
Mold WT. + Wet WT. (gm)	4980
Wet WT. (gm)	2.315
Wet Density (g/cm ³)	2.168
Dry Density (g/cm ³)	2.186
Proctor Density (g/cm ³)	99

Moldure Ratio After Compacted Mold	5
Tare No.	34
Tare WT. (gm)	160
Tare WT. + Wet WT. (gm)	152
Tare WT. + Dry WT. (gm)	8.0
Water WT. (gm)	118.0
Dry WT. (gm)	6.8

Swelling	Mold No.	3
	Date	٢٠٢٣/٠٦/٠٦
	Initial Height (mm)	2.60
	Final Height (mm)	2.60
	Difference	0
	Sample Height (mm)	120.00
	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)	90.00	247.00	385.00	530.00	660.00	790.00	930.00	1043.00	1298.00
Load (KN)	0.9	2.4	3.8	5.2	6.5	7.7	9.1	10.2	12.7



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	99	98	50.4%
(mm)	(KN)	(lb)	(%)	(%)	(%)	(%)	38.4%
5.00	10.22	20.0	51.0%				
2.50	5.19	13.4	38.9%				

Lab. Specialist

Name :
Sign :

Lab. Engineer

Name :
Sign :

Consultant Engineer



EL Mahgoub company

Express Electric Trian project

El Mahgoub lab



Absorption & Aggregate specific gravity
AASHTO-T85

Testing date :-	4/6/2023
location :-	K.P(550+500)
material :-	prepared subgrade
NAME COMPANY	EL MAHGOUB

Weight of sample	gm
Weight of saturated -dry surface sample (B)	gm
Weight of saturated sample in water (C)	gm
Weight of dry sample after heating (A)	gm

Results:-

Bul/ spicific gravity = A / (B-C)	
Apparent spicific gravity = A / (A-C)	
Asorbtion = (B-A)/A	

Los Anglos abrasion AASHTO-T96

Results:-

Weight of sample before	5000
Weight of sample before test (gm)	3323
Abrasion ratio (%)	33.54



Lab Engineer/

[Handwritten signature]

Asahi

Contractor

[illegible]

B-soft material gradation				WT.OF sample	500.00	gm
sieve size	10	40	200			
Cumulative Retained (g)	246.00	337.00	385.00			
Cumulative Retained %	49.20	67.40	77.00			
Cumulative Passing %	50.80	32.60	23.00			

2-Gradient test

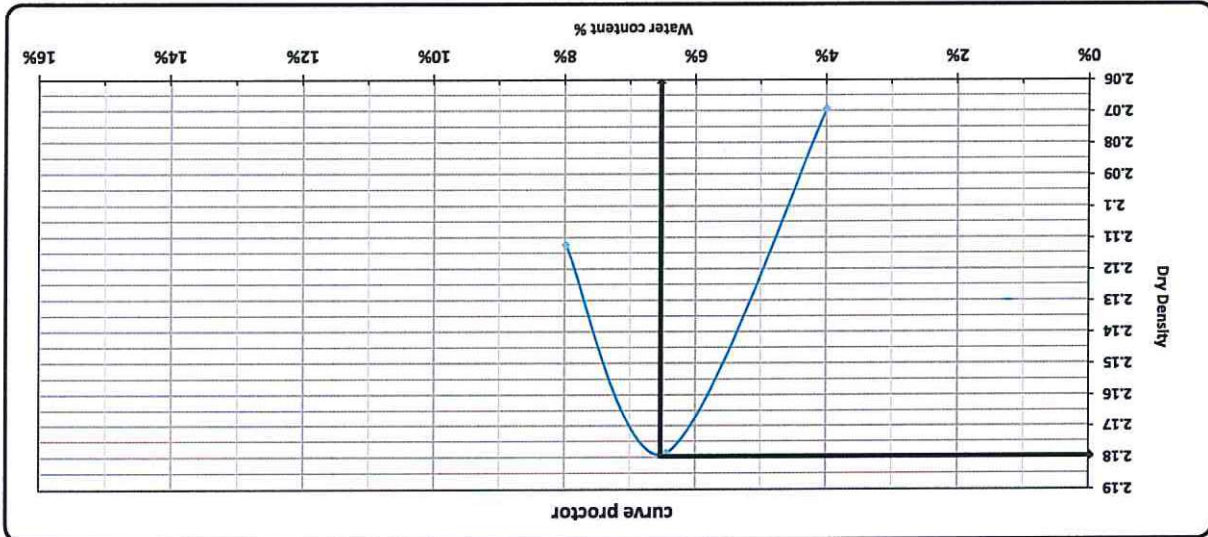
TESTING DATE:	4/6/2023	code	MH-3	Material	549+000	552+000
LOCATION	K(P(551+300)			PERPARED	25 cm	
NAME COMPANY	EL MAHGOUB			layer thickness		

TESTING DATE:	2023/06/05	code	MH-3	Station	549+000	552+000
LOCATION	k.p(551+300)	Material		PERPARED		
NAME COMPANY	EL MAHJOURB	layer thickness		25 cm		

Weight of empty mold :	6088.0	Mold Volume:	2032.0
MAX Dry Density	2.18	Water content %	6.5%

trial no :	1	2	3	4	5
Wt. Of Mold+ wet soil	10460.9	10800.2	10723.0		
WT. WET SOIL	4372.9	4712.2	4635.0		
Wt. Density	2.152	2.319	2.281		

Tare No.	1	2	3	4	5	6	7	8
Tare wt.	30.34	28.45	34.87	28.12	30.54	30.26		
Wt. Of wet soil & tare	156.2	166.0	155.2	156.0	160.3	155.4		
Wt. Of dry soil & tare	151.5	160.5	148.2	148.0	151.2	145.7		
Wt. Of water	4.7	5.5	7.0	8.0	9.1	9.7		
Wt. Of dry soil	121.2	132.1	113.3	119.8	120.7	115.4		
Water content %	3.9%	4.1%	6.2%	6.7%	7.6%	8.4%		
AV. Water content %	4.0%	6.4%	8.0%					
Dry Density	2.069	2.179	2.112					



Consultant

Contractor

California Bearing Ratio TEST

Testing Date :	6/6/2023	Code	FROM STA :	S49+000	SS2+000
Location :	k.p(S51+300)	MH-3	Material	PREPARED	
Layer No. :			Layer Thickness	25 cm	

- : Test Results

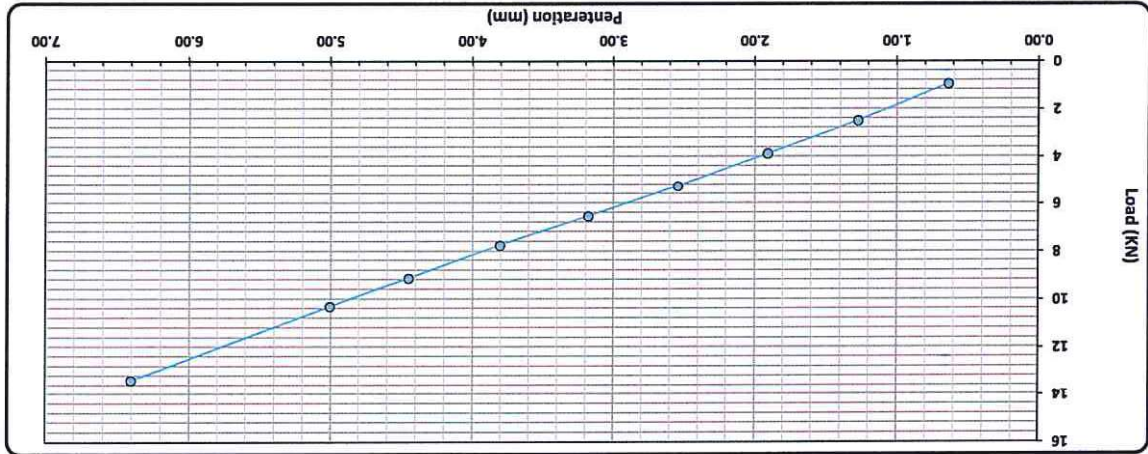
Compaction % for Mold	
Mold No.	55
Mold Vol. (cm ³)	2151
Mold WT. (gm)	7810
Mold WT. + Wet WT. (gm)	12790
Wet WT. (gm)	4980
Wet Density (g/cm ³)	2.315
Dry Density (g/cm ³)	2.175
Proctor Density (g/cm ³)	2.180
Compaction %	100

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	28
Tare WT. + Wet WT. (gm)	160
Tare WT. + Dry WT. (gm)	152
Water WT. (gm)	8.0
Dry WT. (gm)	124.0
Moisture Content %	6.5

Swelling	
Mold No.	3
Date	٢٠٢٣/٠٦/٠٦
Initial Height (mm)	2.30
Final Height (mm)	2.30
Difference	0
Sample Height (mm)	120.00
Swelling Ratio %	0%

Loading Reading :

Penetration (mm)	Load Reading (kg)	Load (KN)
0.64	96.00	0.9
1.27	254.00	2.5
1.91	395.00	3.9
2.54	536.00	5.3
3.18	666.00	6.5
3.80	790.00	7.7
4.45	930.00	9.1
5.00	1050.00	10.3
6.40	1365.00	13.4



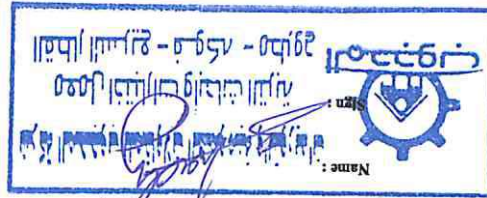
Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	(%)
2.50	5.25	13.4	39.3%	98	38.7%	50.5%
5.00	10.29	20.0	51.4%	100		

Lab. Specialist

Lab. Engineer

Consultant Engineer



Sign :
Name :

EL Mahgoub company

Express Electric Trian project

El Mahgoub lab



Absorption & Aggregate specific gravity
AASHTO-T85

Testing date :-	4/6/2023
location :-	K.p(551+300)
material :-	prepared subgrade
NAME COMPANY	EL MAHGOUB

Weight of sample		gm
Weight of saturated -dry surface sample (B)		gm
Weight of saturated sample in water (C)		gm
Weight of dry sample after heating (A)		gm

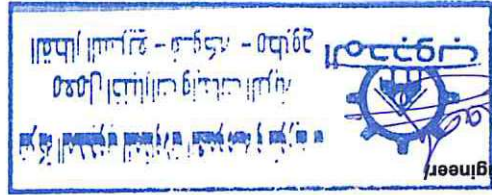
Results:-

Bul/ spicific gravity = A / (B-C)		
Apparent spicific gravity = A / (A-C)		
Absorbtion = (B-A)/A		

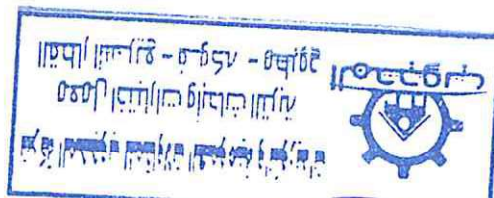
Los Anglos abrasion AASHTO-T96

Results:-

Weight of sample before	5000
Weight of sample before test (gm)	3342
Abrasion ratio (%)	33.16



M. S. El



Handwritten signature and initials.

Consultant

Handwritten signature.

Contractor

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

sieve size(in)	sieve size(mm)	REMARKS					
		Cumulative Passing %	97-50	75-20	60-15	0-35	0-12
2	50.0	100.0	88.9	78.5	69.5	59.0	49.2
1.5	37.5	50.0	37.5	25.0	19.0	12.5	9.5
1	30.0	37.5	25.0	19.0	12.5	9.5	0.075
3/4	19.0	19.0	12.5	9.5	4.75	2.00	0.425
1/2	12.5	12.5	9.5	4.75	2.00	0.425	0.075
3/8	9.5	9.5	4.75	2.00	0.425	0.075	0.075
# 4	4.75	4.75	2.00	0.425	0.075	0.075	0.075
# 10	2.00	2.00	0.425	0.075	0.075	0.075	0.075
# 40	0.425	0.425	0.075	0.075	0.075	0.075	0.075
# 200	0.075	0.075	0.075	0.075	0.075	0.075	0.075

C-General gradation

sieve size	Cumulative Retained (g)	Cumulative Retained %	Cumulative Passing %	B-soft material gradation	
				WT.OF sample	500.00 gm
10	165.00	33.00	67.00		
40	281.00	56.20	43.80		
200	374.00	74.80	25.20		

A-gradation of bulk materials	sieve size	Mass retained (g)	Cumulative Retained (g)	Cumulative Retained %	Cumulative Passing %	B-soft material gradation	
						WT.OF sample	500.00 gm
	2	0.0	3874.0	11.1	88.9		
	1.5	3611.0	7485.0	21.5	78.5		
	1	3165.0	10650.0	30.5	69.5		
	4/3	3659.0	14309.0	41.0	59.0		
	2/1	3418.0	17727.0	50.8	49.2		
	8/3	3967.0	21694.0	62.2	37.8		
	# 4						
	PASS						
	gm						
	34875.00						
table classify							
soil classify	A-1-a						
	PRO	2.182					
	WC	6.6%					
	CBR	45.7%					

2-Gradient test

1-visual inspection test

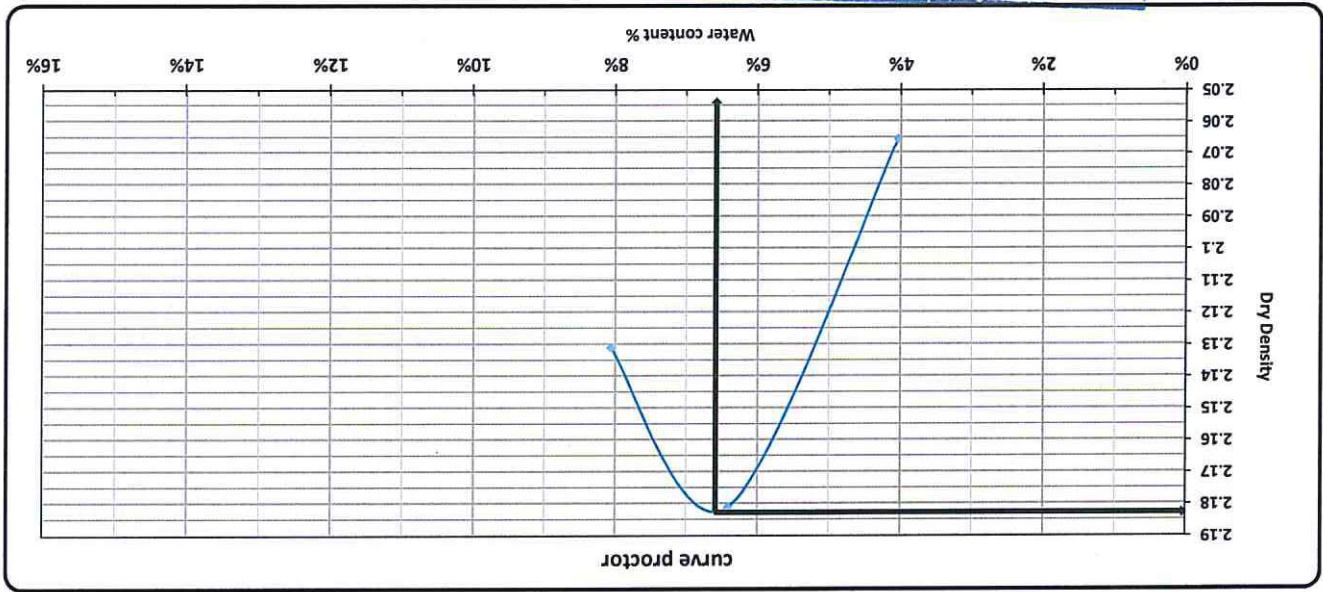
TESTING DATE:	31/5/2023	code	MH-2	layer thickness	25 cm
LOCATION	k.p(551+300)	Material	PERPARED	Material	PERPARED
NAME COMPANY	EL MAHGOUB	ZONE	549+000	Material	PERPARED

PARTICLE SIZE DISTRIBUTION OF SOIL

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	
المشروع		المشروع		المشروع		المشروع	
المشروع		المشروع		المشروع		المشروع	
المشروع		المشروع		المشروع		المشروع	

Consultant

Contractor



Tare No.	Tare wt.	Wt. Of wet soil & tare	Wt. Of dry soil & tare	Wt. Of water	Wt. Of dry soil	Water content %	AV Water content %	Dry Density
1	34.25	155.4	151.0	4.4	116.7	3.8%	4.0%	2.066
2	34.12	156.7	148.7	8.1	120.3	6.7%	6.4%	2.181
3	28.33	156.7	146.7	7.6	124.0	6.1%		
4	22.74	156.7	147.4	9.3	119.1	7.8%	8.1%	2.131
5	28.36	150.5	141.2	9.3	111.8	8.3%		
6	29.41							
7								
8								

trial no :	Wt. Of Mold+ wet soil	WT. WET SOIL	Wt. Density
1	10436.8	4366.8	2.149
2	10786.3	4716.3	2.321
3	10749.7	4679.7	2.303
4			
5			

Weight of empty mold :	Mold Volume:
6070.0	2032.0
MAX Dry Density	Water content %
2.182	6.6%

TESTING DATE:	2023/06/01	code	MH-2	layer thickness	25 cm
LOCATION	k(p(551+300))	Station	549+000	Material	PERPAVED
NAME COMPANY	EL MAHJOUR	Station	552+000		

PROCTOR TEST

ENGINEERING CONSULTING OFFICE
المكتب الاستشاري الهندسي

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 للنقل والاقتصاد