



محضر استلام موقع

مشروع: أعمال الجسر الترابي لمسار القطار الكهربائي السريع الخط الأول (العين السخنة - مطروح) قطاع (فوكه / مطروح) لتنفيذ المسافة من الكم 507,000 إلى الكم 509,000 اتجاه استكمال الاسكندرية

تنفيذ: شركة ايجي كونترك - زكريا جابر قلّس رشيد
إشراف: المنطقة الخامسة - منطقة غرب الدلتا

طبقاً للعقد رقم (2024/2023/411) بتاريخ 2023/09/19

إنه في يوم السبت الموافق 2023/12/16 اجتمع كل من:-

- 1- السيد المهندس / محمد حسني فياض مدير عام المشروعات - الهيئة العامة للطرق والكباري
- 2- السيد المهندس / إبراهيم عبد الله الحناوي مهندس العملية - الهيئة العامة للطرق والكباري
- 3- السيد المهندس / عمر عفيفي مدير المشروع - شركة ايجي كونترك

وذلك للمرور على مسار العملية المذكورة عاليه لاستلام الموقع :-
وقد تبين أن الموقع خالياً من العوائق الظاهرية ويسمح بالبدء في التنفيذ وبناء عليه يعتبر تاريخ 2023/12/16 هو تاريخ استلام الموقع وبدء الأعمال بالعملية
واقفل المحضر على ذلك ووقع الحضور

التوقيعات

3-

2-

1-

رئيس الإدارة المركزية

منطقة غرب الدلتا

الاسكندرية - مرسى مطروح

عميد مهندس /

"هاني محمد محمود طه"



Electric Express Train - HSR
From El Ajn El Bekhna City To El Alamein - MATROUH
Section - 2 From FOKA To MARSA MATROUH
From Station 504+000 To Station 509+177



Al Tawkeel Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

DATE	12/8/2023	ZONE	507+000	509+000
LOCATION	KCP (508)	Material	fill material	
PROJECT	HSR-CONTRACT	quantity	5000 m ³	

TOTAL SAMPLE WEIGHT								gm	table classify
SIEVE NO								PASS	soil classify
sieve size	2	1.5	1	3/4	3/8	#4	#10		CLASS
Mass retained (g)	0.0	1234.0	5251.2	804.0	10787.0	13441.9	13875.8	6388.0	PRQ
Cumulative Retained (g)	0.0	1234.0	6485.2	7289.2	17876.2	31318.1	45193.9	58581.0	WC
Cumulative Retained %	0.0	4.7	23.8	31.1	45.7	52.2	61.2	71.2	CBR
Cumulative Passing %	100.0	95.3	76.1	68.9	54.3	47.8	38.8	28.8	CORR PRQ
									CORR WC

WT. OF sample				500.01	gm
sieve size	10	40	200		
Mass retained (g)	70.00	190.00	280.00		
Cumulative Retained (g)	70.00	260.00	540.00		
Cumulative Retained %	14.00	32.00	56.00		
Cumulative Passing %	86.00	68.00	44.00		

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
Mass retained (g)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Retained (g)	50.0	92.5	117.5	136.5	149.0	158.5	163.25	165.25	165.675	165.75
Cumulative Retained %	100.0	92.5	86.1	77.1	69.7	63.5	54.2	47.3	40.2	32.9
Cumulative Passing %	0.0	7.5	13.9	22.9	30.3	36.5	45.8	52.7	59.8	67.1

UNIFORMITY COEFFICIENT (U.C.)	LIQUID LIMIT (L.L.)		PLASTIC LIMIT (P.L.)		PLASTIC INDEX (P.I.)	
	N.L.		N.P.		N.P.I.	

Contractor: _____ Consultant: _____

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+600 To Station 588+177



MODIFIED PROCTOR TEST ASTM D1557

TESTING DATE:	13-08-2023	code:	ZONE	507+000	509+000
LOCATION	K.P (508)	EGC (106)	Material	fill material	
NAME COMPANY	EG-CONTRACK		quantity	5000 m ³	

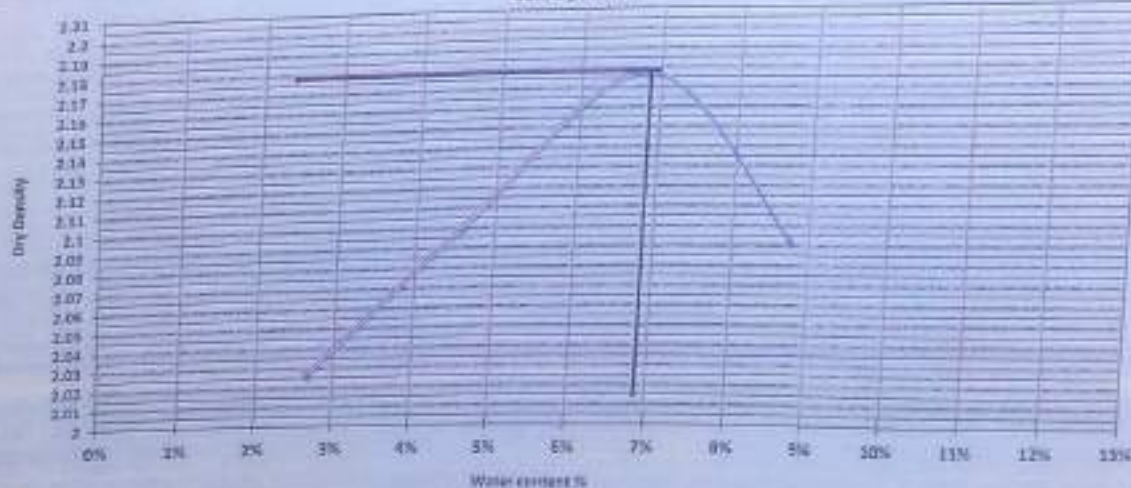
Weight of empty mold	5620.9
Initial Volume	2124.8

MAX Dry Density	2.19
Water content %	6.8%

trial no.	1	2	3	4	
Weight of soil + mold	10521.2	10285.8	10463.0	10452	
WT. MOULD	4620.5	4665.0	4943.0	4932.0	
WL. Density	2.081	2.196	2.127	2.178	

Tare No.	10	11	12	13	14	15	16	17	
Tare wt.	45.22	45.22	45.22	45.22	45.68	45.41	45.35	44.93	
WL Of wet soil & tare	136.6	140.2	150.0	150.7	150.7	147.9	147.3	150.0	
WL Of dry soil & tare	147.1	147.60	150.0	150.0	147.99	147.27	147.3	147.6	
WL Of water	2.5	2.4	4.2	4.2	5.3	4.1	4.2	2.4	
WL Of dry soil	92.1	92.3	94.8	92.6	90.3	87.2	92.5	86.8	
Water content %	2.7%	2.6%	4.4%	4.5%	6.1%	4.6%	4.7%	6.8%	
AV. Water content %	2.7%		4.5%		4.6%		4.7%		
Dry Density	2.027		2.100		2.178		2.082		

curve proctor



Contractor

Name :
Sign :

(Signature of Contractor)
 (مهندس محمد عبد الحليم)

Consultant

(Signature of Consultant)



Electric Express Train - HSR



California Bearing Ratio TEST ASTM D1883

Testing Date :	14/9/2023	Code	FROM STA :	507+000	509+000
Location :	K.P (508)	EGC (106)	Material	fill material	
Company Name	EG-CONTRACT		quantity	5000m ³	

Test Results

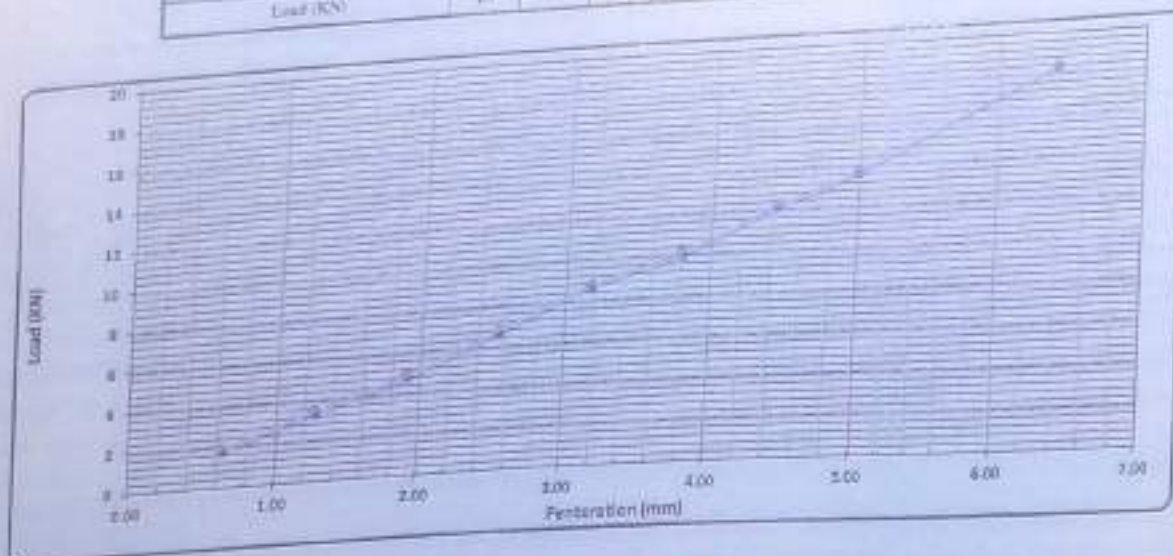
Moisture & Density	
Wet Density (g/cm ³)	2.21
Dry Density (g/cm ³)	2.18
Proctor Density (g/cm ³)	2.18
Compaction %	100.0

Moisture Ratio After Compacted Mold	
Test No.	10
Test WT. (g)	89.3
Test WT. (Wet WT. (g))	100
Test WT. (Dry WT. (g))	101
Water WT. (g)	4.8
dry WT. (g)	86.7
Moisture Ratio (%)	5.5

Swelling	
Test No.	1
Date	14/9/2023
Total Height (mm)	29.00
Final Height (mm)	29.00
Difference	0.00
Swelling Ratio (%)	0.00

Loading Reading

Penetration (mm)	0.54	1.27	1.54	2.54	3.18	3.80	4.27	5.08	6.40
Load Reading (kg)	21.0	39.6	48.0	75.0	85.0	100.0	110.0	125.0	150.0
Load (KN)	1.9	3.7	4.8	6.8	8.0	9.8	10.8	12.5	15.0



Calculations :-

Penetration	Load	Standard Load	CBR	Moisture Compaction	Compaction	CBR
(mm)	(KN)	(lb)	(%)	(%)	(%)	(%)
2.54	6.78	13.4	50.0%	100	100	45.2%
3.00	13.71	20.0	68.4%			64.5%

Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

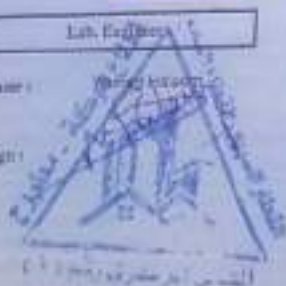
Name :

Name :

Sign :

Sign :

Sign :



Signature



Electric Express Train - HSR
 From El Ain El Sekhna City To El Alaman - MATROUH
 Section - 7 From FOXA To MARSA MATROUH
 From Station 504+000 To Station 569+177



Operating by: Al Towkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	7/8/2023	code	ZONE	507+000	509+000
CATION	K.P (508)	EGC (105)	Material	fill material	
ME COMPANY	EG-CONTRACT		quantity	5000 m ³	

Visual inspection test

Gradient test

gradation of bulk materials

				TOTAL SAMPLE WEIGHT		52155.00		gm			table classify
sieve size	2	1.5	1	413	271	873	# 4	PASS			soil classify
Mass retained (g)	1965.0	3285.0	7752.0	1982.0	4556.0	4133.0	4854.0		CLASS		A-1-A
Cumulative Retained (g)	1965.0	5270.0	12992.0	20862.0	25418.0	29551.0	34505.0	17650.0	PRO		2.18
Cumulative Retained %	3.8	10.0	24.9	40.0	48.7	56.7	66.2		WC		6.50
Cumulative Passing %	96.2	90.0	75.1	60.0	51.3	43.3	33.8		CBR		11.2
									CORR PRO		2.22
									CORR WC		9.40

material gradation

			WT. OF sample		500.00		gm
sieve size	10	40	200				
Cumulative Retained (g)	75.00	135.00	240.00				
Cumulative Retained %	15.00	27.00	48.00				
Cumulative Passing %	85.00	73.00	52.00				

normal gradation

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 %	96.2	90.0	75.1	60.0	51.3	43.3	33.8	28.8	21.7	14.85

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

Contractor

Consultant

Name: Ahmed Haseem

Sign: [Signature]

[Signature]





Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein - MATROUH
Section - 7 From FOKA TO MARSA MATROUH
From Station 504+005 To Station 508+177



MODIFIED PROCTOR TEST ASTM D1557

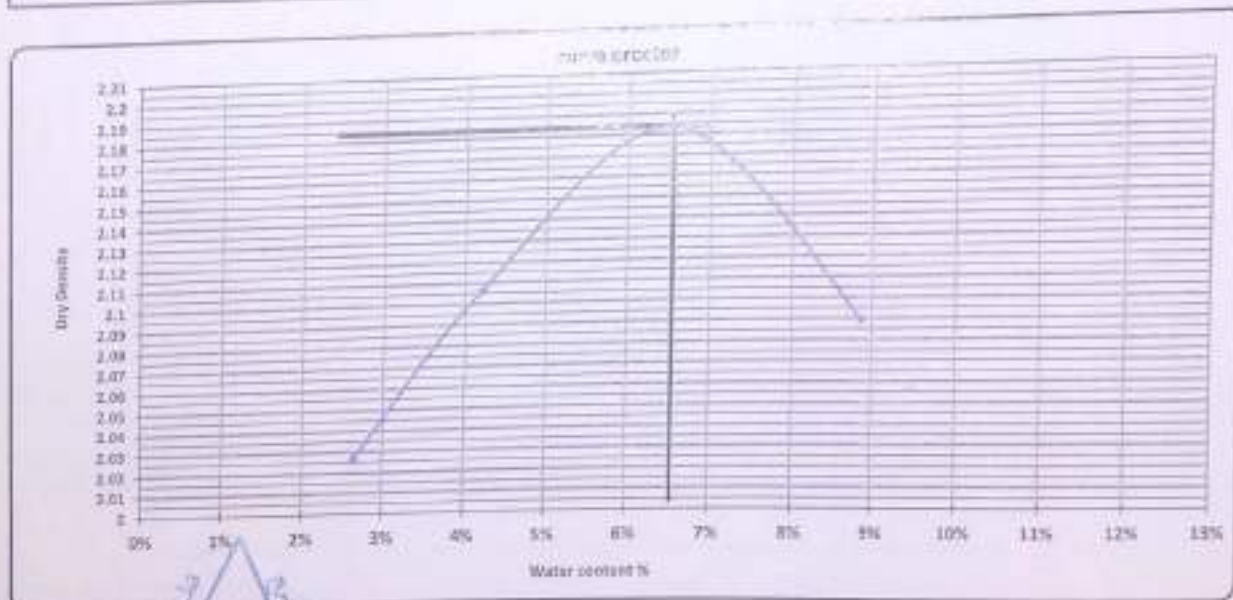
TESTING DATE:	08-08-2023	code	ZONE	507+000	509+000
LOCATION	K.P (508)	EGC (105)	Material	fill material	
NAME COMPANY	EG-CONTRACK		quantity	5000 m ³	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

MAX Dry Density	2.19
Water content %	6.6%

trial no :	1	2	3	4	
Wt. Of Mold + Wet Soil	10040.0	10285.0	10563.0	10452	
WT. WET SOIL	4420.0	4665.0	4943.0	4832.0	
Wt. Density	2.081	2.196	2.327	2.275	

Tare No.	11	15	12	13	14	16	17	18		
Tare wt.	53.21	54.21	53.23	53.85	54.33	55.46	54.21	56.2		
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	147.80	147.00	146.00	146.20	144.30	144.00	142.00	142.6		
Wt. Of water	2.2	2.4	4.0	3.8	5.7	6.0	8.0	7.4		
Wt. Of dry soil	92.0	93.4	92.0	92.4	90.0	85.5	87.8	86.3		
Water content %	2.7%	2.6%	4.3%	4.1%	6.3%	6.8%	9.1%	8.6%		
AV. Water content %	2.6%		4.2%		6.6%		8.5%			
Dry Density	2.037		2.197		2.181		2.090			



Contractor
Name: *EG-CONTRACK*
Signature: *[Signature]*

Consultant
Signature: *[Signature]*

	Electric Express Train - HSR		
	From El An El Sokhna City To El Alamein - MATROUH		
	Section - F From TOKA To MARSA MATROUH		
		From Station 504+000 To Station 509+000	
Absorbion Of coarse Aggregate			

TESTING DATE:	09/8/2023	code	Station	507+000	509+000
LOCATION	K.P (508)	BGC (105)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	5000 m³	

Weight of sample	1300	gm
Weight of saturated surface dry sample (A)	1755	gm
Weight of saturated sample in water (B)	1607	gm
Weight of dry sample after heating (C)	2460	gm

Results:-

Bulk specific gravity = A / (B-C)	2.522	
Bulk specific gravity (S.S.D) = B / (B-C)	2.422	
Apparent specific gravity = A / (A-C)	2.547	
Absorption = (B-A)/A	3.44%	%

Lab. Specialist
Name :
Sign :

Lab. Engineer
Name : Ahmed Hafeem
Sign :



Consultant Engineer
Name :
Sign :

Abdallah

Correction of Unit Weight and Water Content For Soils Containing oversize Particles
(ASTM D-4718)

Unit Weight of Fine Fraction (γ_{DF}) (gm/cm ³)	2.180	Company	EG-CONTRACT
Optimum Moisture Content (O.M.C) (%)	7.90	Date of Sample	08/8/2023
Specific Gravity of over Size Fraction (G_M)	2.350	Project	Express Train Project
Specific Gravity of Water (γ_w)	0.980	Sector	Foka - Matrouh

Sample Data	UNIT	VALUE	
Total Weight of Wet Sample	gm	29965	
Weight of Wet oversize Fraction (Retained 3/4)	gm	12365	
Weight of Wet Fine Fraction (Passing 3/4)	gm	17600	
Weight of Dry oversize Fraction (M_{OC})	gm	11176	أوزن حبيبات خشنة
Weight of Dry Fine Fraction (M_{OF})	gm	16018	أوزن حبيبات دقيقة
Total Weight of Dry Sample	gm	27192	
Water Content of oversize fraction (W_C)	%	0.09	
Water Content of Fine Fraction (W_F)	%	0.10	
Percent of oversize Fraction By Mass (P_C)	%	41.33	
Percent of Fine Fraction By Mass (P_F)	%	58.47	

Calculations of Corrected Unit Weight of the Total Material (combined finer and oversize fractions) (γ_T) :-

Corrected Water for oversize Fraction & Fine Fraction (C_W)	$W_F P_F + W_C P_C$		9.39
Specific Gravity of over Size Fraction (G_M)	2.350		
Specific Gravity of Fine Fraction (γ_{DF})	2.180	gm/cm ³	
Specific Gravity of Water (γ_w)	0.980		

Calculations of Corrected Unit Dry Weight of the Total Material (combined finer and oversize fractions) (γ_{DF}) :-

Corrected Dry Unit Weight of Total Material (γ_{DT})		$(\gamma_{DF} * G_M * \gamma_w)$	2.23
		$((\gamma_{DF} * P_C) + (G_M * \gamma_w * P_F))$	
Corrected Maximum Dry Density (M.D.D)	2.23	gm/cm ³	
Corrected Optimum Moisture Content (O.M.C)	9.39	%	
LAB Manager			

LAB Manager
 AHMED HALEEM



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



Al Tawkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

DATE:	14/8/2023	code	ZONE	507+000	509+000
	K.P (507)	EGG (107)	Material	fill material	
COMPANY	EG-CONTRACK		quantity	5000 m ³	

Inspection test

adjacent test

gradation of bulk materials				TOTAL SAMPLE WEIGHT		36330.00		gm	table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify
Mass retained (g)	0.0	2400.0	5100.0	8100.0	3570.0	3520.0	2415.0		CLASS
Cumulative Retained (g)	0.0	2400.0	7500.0	14000.0	18070.0	21590.0	24000.0	12300.0	PRO
Cumulative Retained %	0.0	6.6	20.9	38.8	49.8	59.5	66.1		WC
Cumulative Passing %	100.0	93.4	79.9	61.1	50.2	40.5	33.9		CBR
									CCRR PRO
									CCRR WC

ft material gradation				WT. OF sample		500.00		gm
sieve size	10	40	200					
umulative Retained (g)	105.00	210.00	335.00					
Cumulative Retained %	21.00	42.00	67.00					
Cumulative Passing %	79.00	58.00	33.00					

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
umulative Passing %	100.0	93.4	76.0	60.1	50.2	40.5	33.9	20.8	10.7	1.1

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

Contractor

Consultant

Name: Ahmed Haseem
 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 588+177



MODIFIED PROCTOR TEST ASTM D1557

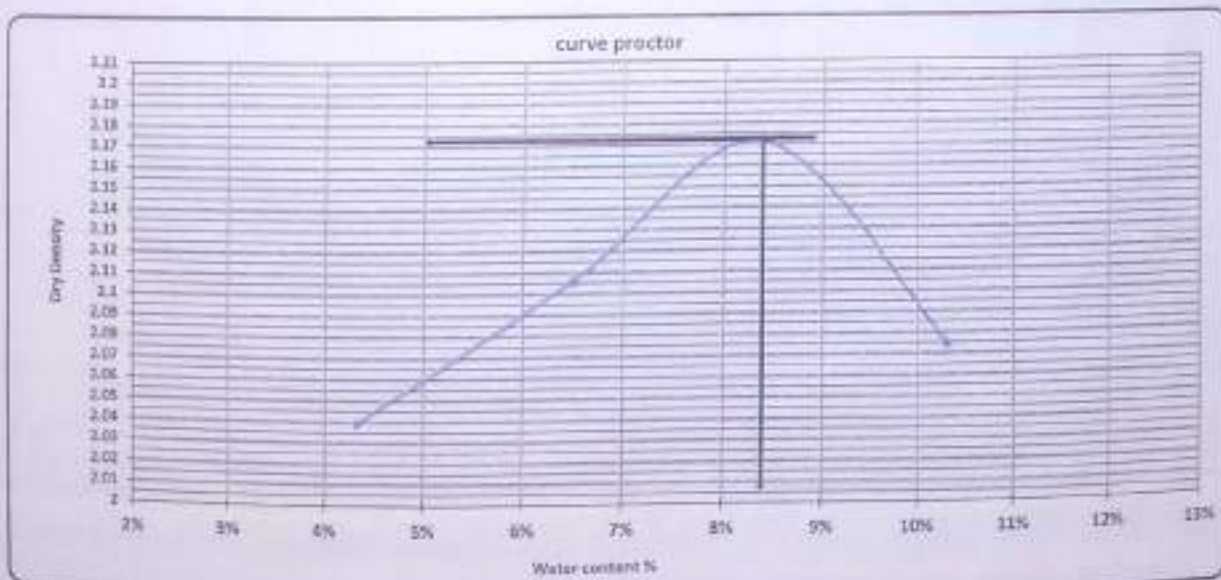
15/8/2023	code	ZONE	507+000	509+000
K.P (507)	EGC (107)	Material	fill material	
EG-CONTRACT		quantity	5000 m³	

Height of empty mold (	5620.0
Mold Volume:	31240

MAX Dry Density	2.17
Water content %	8.5%

trial no :	1	2	3	4	
Wt. Of Mold + Wet Soil	10140.0	10385.0	10620.0	10442	
WT. WET SOIL	4520.0	4765.0	5000.0	4862.0	
Wt. Density	2.128	2.143	2.154	2.289	

Tare No.	2	9	17	11	17	7	12	14		
Tare wt.	55.72	57.57	56.20	55.33	56.61	53.52	54.78	55.66		
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	146.2	146.5	146.2	144.3	142.9	142.4	141.2	140.9		
Wt. Of water	3.8	4.5	3.8	5.7	7.1	7.6	8.8	9.1		
Wt. Of dry soil	90.5	90.1	89.4	89.0	86.3	88.8	86.4	87.2		
Water content %	4.2%	4.4%	4.6%	6.2%	8.2%	8.5%	10.2%	10.4%		
AV. Water content %	4.3%		5.5%		8.4%		10.3%			
Dry Density	2.040		2.107		2.172		2.075			



Contractor

Name : Ahmed H. H. H.
 Sign : [Signature]



Consultant

[Signature]

California Bearing Ratio TEST ASTM D1883

16/8/2023	Code	FROM STA :	507+000	509+000
K.P (507)	EGC(107)	Material	fill material	
EG-CONTRACT		quantity	5000m ³	

Results

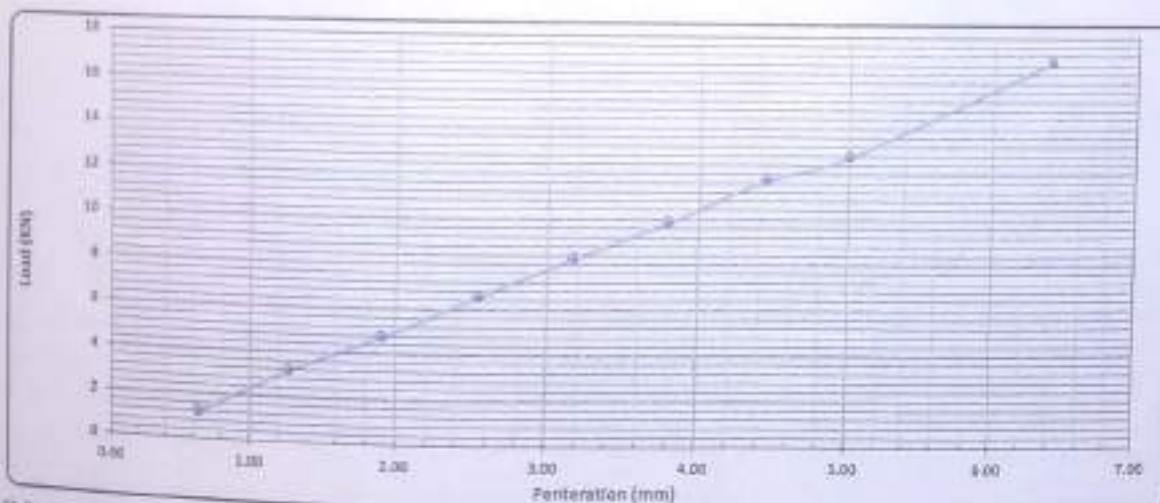
Compaction % for Mold	
Mold No.	1
Mold Vol (cm ³)	2100
Mold WT (gm)	3211
Mold WT + Wet WT (gm)	10332
Wet WT (gm)	8941
Wet Density (g/cm ³)	2.340
Dry Density (g/cm ³)	2.105
Proctor Density (g/cm ³)	2.179
Compaction %	96.8

Moisture Ratio After Compacted Mold	
Tare No.	23
Tare WT (gm)	63.22
Tare WT + Wet WT (gm)	110
Tare WT + Dry WT (gm)	145.6
Water WT (gm)	7.4
Dry WT (gm)	88.4
Moisture Content %	8.3

Swelling	
Mold No.	1
Date	16/8/2023
Initial Height (mm)	11.00
Final Height (mm)	12.80
Difference	0.80
Swelling Height (mm)	120.0
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.80	1.27	1.54	2.54	3.15	3.80	4.75	5.60	6.40
Load Reading (Kg)	140	260	274	324	524	1100	1305	1428	1885
Load (KNC)	1.3	2.2	4.8	6.6	8.3	9.8	11.7	12.8	17.8



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Knc)	(Knc)	(%)	(%)	(%)	95 % or less
2.54	6.6	15.4	43.3%	100	95	47.0%
5.60	12.8	20.0	63.8%			63.8%

Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

Name :

Sign :

Sign :






Electric Express Train - HSE
From El Ah El Sakina City To El Ajloun - MATROUH
Section - 7 From FOMA To MARSA MATROUH
From Station 504+000 To Station 504+177



Absorption Of coarse Aggregate

DATE:	15/6/2023	code	Station	507+000	509+000
LOCATION	K.P (507)	EGC (107)	Material	fill material	
COMPANY	EG-CONTRACT		quantity	5000 m ³	

Weight of sample	2500	gm
Weight of saturated surface dry sample (B)	2563	gm
Weight of saturated sample in water (C)	1521	gm
Weight of dry sample after heating (A)	2470	gm

Results:-

Bulk specific gravity = $A / (B-C)$	2.476	
Bulk specific gravity (S.S.D) = $B / (B-C)$	2.460	
Apparent specific gravity = $A / (A-C)$	2.603	
Absorption = $(B-A)/A$	2.1%	%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

Unit Weight and Water Content For Soils Containing oversize Particles

(ASTM D-4718)

Fraction (Y_{DF}) (gm/cm ³)	2.170	Company	EG-CONTRACT
Content (O.M.C) (%)	8.50	Date of Sample	14/8/2023
over Size Fraction (G_M)	2.370	Project	Express Train Project
of Water (Y_W)	0.980	Sector	Foka - Matrouh

Sample Data

UNIT

VALUE

Weight of Wet Sample	gm	36300	
Weight of Wet oversize Fraction (Retained 3/4)	gm	14500	
Weight of Wet Fine Fraction (Passing 3/4)	gm	21800	
Weight of Dry oversize Fraction (M_{OC})	gm	13195	الوزن الجاف
Weight of Dry Fine Fraction (M_{OF})	gm	19838	الوزن الجاف
Total Weight of Dry Sample	gm	33033	
Water Content of oversize Fraction (W_C)	%	0.10	
Water Content of Fine Fraction (W_F)	%	0.10	
Percent of oversize Fraction By Mass (P_C)	%	39.94	
Percent of Fine Fraction By Mass (P_F)	%	60.06	

1307

1862

Calculations of Corrected Water for oversize Fraction & Finer Fraction (W_T) :-

Corrected Water for oversize Fraction & Finer Fraction (C_W)	$W_F P_F + W_C P_C$	9.89
--	---------------------	------

Specific Gravity of over Size Fraction (G_M)	2.370		
Specific Gravity of Fine Fraction (Y_{DF})	2.170	gm/cm ³	
Specific Gravity of Water (Y_W)	0.980		

Calculations of Corrected Unit Dry Weight of the Total Material (combined finer and oversize fractions) (Y_{DT}) :-

Corrected Dry Unit Weight of Total Material (Y_{DT})	$(Y_{DF} * G_M * Y_W)$ $((Y_{DF} * P_C) + (G_M * Y_W * P_F))$	2.23
--	--	------

Corrected Maximum Dry Density (M.D.D)	2.23	gm/cm ³
Corrected Optimum Moisture Content (O.M.C)	9.89	%

LAB Manager
AHMED HALEEM



 وزارة النقل والبنى التحتية جمهورية مصر العربية	Electric Express Train - HSR From El AIN El Sokhna City To El Alamain - MATROUH Section - 7 From FOKA To MARSA MATROUH From Station 504+000 To Station 508+177	الهيئة العامة للمقاييس والقياسات GRC
Operating lap	Al Tawkol Central Lab	

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	19/8/2023	code	ZONE	507+000	509+000
LOCATION	K.P (507)	EGC (10s)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	5000 m³	

1-visual inspection test

2-Gradient test

A-gradation of bulk materials								TOTAL SAMPLE WEIGHT	47265.00	gm	table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS			soil classify
Mass retained (g)	0.0	3100.0	6250.0	7938.0	2190.0	8260.0	4735.0				CLASS
Cumulative Retained (g)	0.0	3100.0	9350.0	16988.0	18138.0	23398.0	28190.0	19075.0			PRO
Cumulative Retained %	0.0	6.5	19.7	35.9	40.5	49.5	59.6				WC
Cumulative Passing %	100.0	93.4	80.3	64.1	59.5	50.5	40.4				CBR
											DORE-HR
											DORE-WC

B-soft material gradation				WT. OF sample	500.00	gm
sieve size	10	40	200			
Cumulative Retained (g)	65.00	150.00	315.00			
Cumulative Retained %	13.00	30.00	63.00			
Cumulative Passing %	87.00	70.00	37.00			

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 %	100.0	93.4	80.3	64.1	59.5	50.5	40.4	55.1	28.3	10.0

ATTERBERG LIMITS	LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	PLASTIC INDEX (PI)
	N.L	N.P	N.PI

Contractor

Name

Ahmed Halem

Sign

[Signature]

Consultant

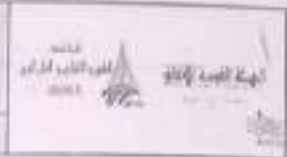
mohamed elsaied

[Signature]

27.8.2023



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein - MATROUH
Section - 7 From FOKA TO MAZSA MATROUH
From Station 504+000 To Station 509+000



MODIFIED PROCTOR TEST ASTM D1557

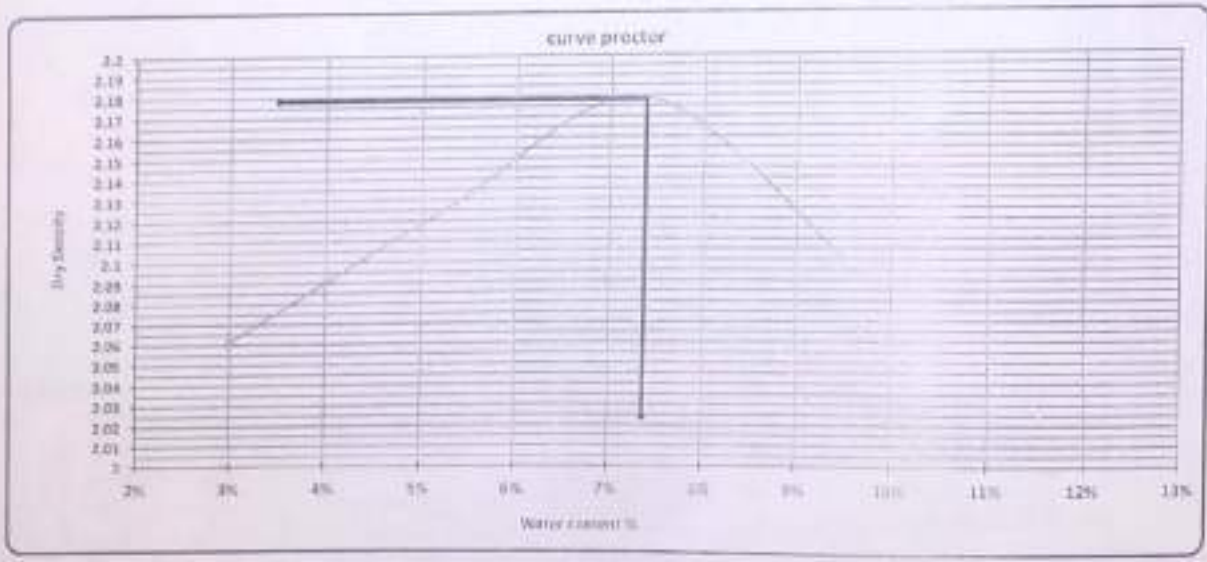
TESTING DATE	20/8/2023	CODE	ZONE	507+000	509+000
LOCATION	K.P (507)	LOC. 100 J	Material	fill material	
NAME COMPANY	EG-CONTRACK		quantity	5000 m³	

Weight of empty mold :	5029.0
Mold Volume:	2134.0

MAX Dry Density	2.18
Water content %	7.4%

trial no :	1	2	3	4	
Wt. Of Mold + Wet Soil	10136.0	10079.0	10090.0	10145	
WT. WET SOIL	4510.0	4756.0	4570.0	4615.0	
Wt. Density	2.133	2.230	2.140	2.160	

Tare No.	15	16	17	18	19	20	21	22		
Tare wt.	55.0	55.77	56.2	55.23	54.61	53.33	54.66	53.33		
Wt. Of wet soil & tare	130.0	130.0	128.0	130.0	131.0	130.0	129.0	130.0		
Wt. Of dry soil & tare	147.3	147.2	145.4	145.2	143.3	143.3	143.7	143.0		
Wt. Of water	2.7	2.8	4.0	4.8	5.7	6.8	8.3	8.4		
Wt. Of dry soil	91.7	91.4	96.2	98.0	86.7	86.2	87.0	88.3		
Water content %	2.9%	3.1%	5.1%	5.3%	7.6%	7.7%	9.5%	8.9%		
AV. Water content %	3.0%		5.1%		7.4%		9.1%			
Dry Density	2.001		2.127		2.170		2.140			



Contractor

Name : Ahmed Hafeem

Sign :

Consultant

Mohamed Elsayed

m-elsayed

27-8-2023

Electric Express Train - HSR



California Bearing Ratio TEST ASTM D1883

Testing Date :	22/8/2023	Code	FROM STA :	507+000	509+000
Location :	K.P (507)	EGC(108)	Material	fill material	
Company Name	EG-CONTRACT		quantity	5000 m ³	

Test Results

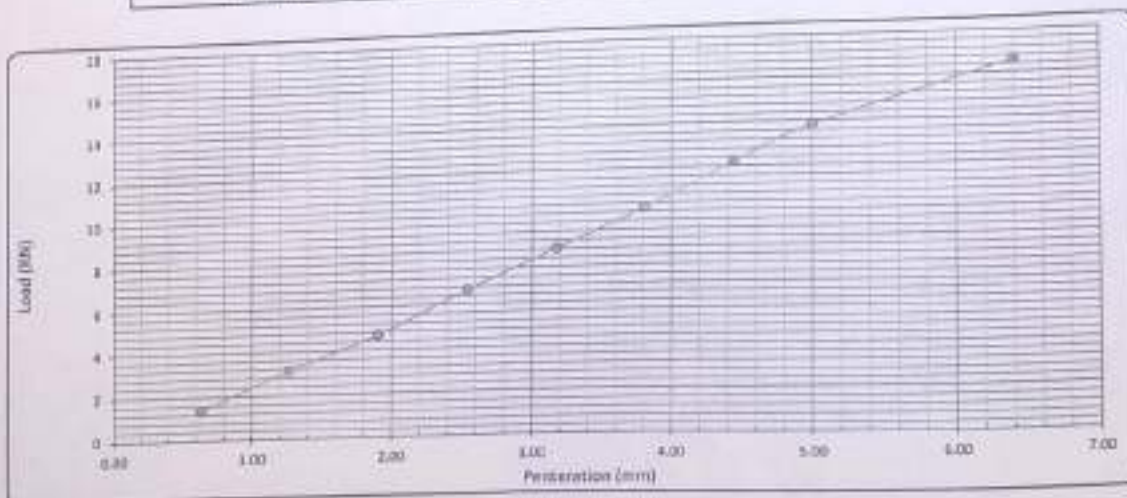
Compaction % for Mold	
Mold No.	2
Mold Vol. (cm ³)	2116
Mold WT. (gm)	5080
Mold WT. + Wet WT. (gm)	10185
Wet WT. (gm)	4905
Wet Density (g/cm ³)	1.223
Dry Density (g/cm ³)	1.189
Proctor Density (g/cm ³)	1.178
Compaction %	100.9

Moisture Ratio After Compacted Mold	
Tare No.	2
Tare WT. (gm)	34.23
Tare WT. + Wet WT. (gm)	108
Tare WT. + Dry WT. (gm)	142.8
Wet WT. (gm)	8.4
Dry WT. (gm)	89.4
Moisture Content %	7.2

Swelling	
Mold No.	2
Date	21/8/2024
Initial Height (mm)	15.00
Final Height (mm)	15.00
Difference	0.00
Sample Height (mm)	150.0
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.08	6.40
Load Reading (Kg)	108	159	228	288	335	4120	1348	1540	1845
Load (KN)	1.4	3.2	4.7	6.7	8.4	18.2	13.1	13.9	16.9



Calculations :

Penetration	Load	Standard Load	CBR	Mold Compaction	Compaction	CBR
(mm)	(Kg)	(80)	(%)	(%)	(%)	95 % and 98 %
2.54	6.94	13.4	48.5%	100	95	47.4%
5.08	13.85	26.0	53.2%			53.8%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

mohamed elsaied
m-elsaied

27-8-2023

 MINISTRY OF TRANSPORT AND INFRASTRUCTURE جمهورية مصر العربية وزارة النقل والبنية التحتية	Electric Express Train - HSR From El Ain El Helwan City To El Khayma - MATSUJI Section - 7 From ELKA To MARGA NATRIAH From Station 534+000 To Station 539+000	 الهيئة العامة للسكك الحديدية جمهورية مصر العربية
	Absorption Of coarse Aggregate	
	TESTING DATE: 10/8/2023 LOCATION: K.P (507) NAME COMPANY: EG-CONTRACT	

TESTING DATE:	10/8/2023	code:	Station	507+000	509+000
LOCATION	K.P (507)	EGC (101)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	5000 m³	

Weight of sample	2500	gm
Weight of saturated surface dry sample (B)	2560	gm
Weight of saturated sample in water (C)	1520	gm
Weight of dry sample after heating (A)	2474	gm

Results:-

Bulk specific gravity = $A / (B-C)$	2.379	
Bulk specific gravity (S.S.D) = $B / (B-C)$	2.462	
Apparent specific gravity = $A / (A-C)$	2.593	
Absorption = $(B-A)/A$	3.476	%

Lab. Specialist

Name:

Sign:

Lab. Engineer

Name: Ahmed Halem

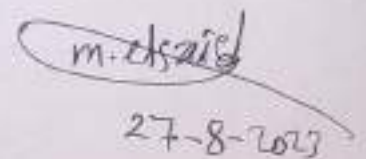
Sign:



Consultant Engineer

Name: Mohamed elsaied

Sign:


27-8-2023

Calculation of Unit Weight and Water Content For Soils Containing oversize Particles
(ASTM D-4755)

Unit Weight of Fine Fraction (γ_{DF}) (gm/cm ³)	2.180	Company	EG-CONTRACT
Optimum Moisture Content (O.M.C) (%)	7.40	Date of Sample	14/8/2023
Specific Gravity of over Size Fraction (G_M)	2.380	Project	Express Train Project
Specific Gravity of Water (γ_w)	0.980	Sector	Foka - Matrouh

Sample Data	UNIT	VALUE	
Total Weight of Wet Sample	gm	47265	
Weight of Wet oversize Fraction (Retained 3/4)	gm	16985	
Weight of Wet Fine Fraction (Passing 3/4)	gm	30280	
Weight of Dry oversize Fraction (M_{OC})	gm	15456	الوزن الجاف خشن
Weight of Dry Fine Fraction (M_{OF})	gm	27555	الوزن الجاف ناعم
Total Weight of Dry Sample	gm	43011	
Water Content of oversize Fraction (W_C)	%	0.10	
Water Content of Fine Fraction (W_F)	%	0.10	
Percent of oversize Fraction By Mass (P_C)	%	35.94	
Percent of Fine Fraction By Mass (P_F)	%	64.06	

Calculations of Corrected Water for oversize Fraction & Fine Fraction (W_T) :-

Corrected Water for oversize Fraction & Fine Fraction (C_W)	$W_F P_F + W_C P_C$	9.89
Specific Gravity of over Size Fraction (G_M)	2.380	
Specific Gravity of Fine Fraction (γ_{DF})	2.180	gm/cm ³
Specific Gravity of Water (γ_w)	0.980	

Calculations of Corrected Unit Dry Weight of the Total Material (combined finer and oversize fractions) (γ_{DT}) :-

Corrected Dry Unit Weight of Total Material (γ_{DT})	$(\gamma_{DF} * G_M * \gamma_w)$ $((\gamma_{DF} * P_C) + (G_M * \gamma_w * P_F))$	2.23
Corrected Maximum Dry Density (M.D.D)	2.23	gm/cm ³
Corrected Optimum Moisture Content (O.M.C)	3.89	%

LAB Manager
AHMED HALEEM






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 509+172

Operating lap: Al Tawkef Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	30/07/2019	CODE	ZONE	507+000	509+000
CATION	K.F. (500+000)		Material	fill material	
TEST COMPANY	EG-CONTR	B310 (101)	quantity	5000 m ³	

soil inspection test

gradient test

gradation of bulk materials

				TOTAL SAMPLE WEIGHT				gm	table classify	
sieve size	2	1.5	1	3/4	3/8	3/16	#4	PASS	soil classify	
Mass retained (g)	0.0	1200.0	2100.0	1000.0	5067.0	5844.0	5634.0		CLASS	A-1-A
Cumulative Retained (g)	0.0	1200.0	3300.0	4300.0	9367.0	15211.0	20845.0	16030.0	PRO	2.18
Cumulative Retained %	0.0	2.5	7.5	20.8	41.8	54.2	56.1		WC	6.50
Cumulative Passing %	100.0	97.5	92.5	79.2	58.2	45.8	43.9		CBR	67.00
									CORR PRO	-
									CORR WC	-

material gradation

			WT. OF sample		500.0	gm
sieve size	10	40	200			
Mass retained (g)	75.00	155.00	280.00			
Cumulative Retained %	15.00	31.00	56.00			
Cumulative Passing %	85.00	69.00	44.00			

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	97.5	92.5	79.2	58.2	45.8	33.0	28.8	23.4	15.0

ATTERBERG LIMITS	LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	PLASTIC INDEX (PI)
			N.P.I

Contractor
 Name: Ahmed Hameed
 Sign:



Consultant

mohamed elsaied
 m. elsaied
 5-8-2019

	Electric Express Train - HSR From El Ain El Sakana City To El Alamein - MATROUH Section - 2 from TCSA TO MARSA MATROUH Station 568+000 To Station 568+172		

MODIFIED PROCTOR TEST ASTM D1557

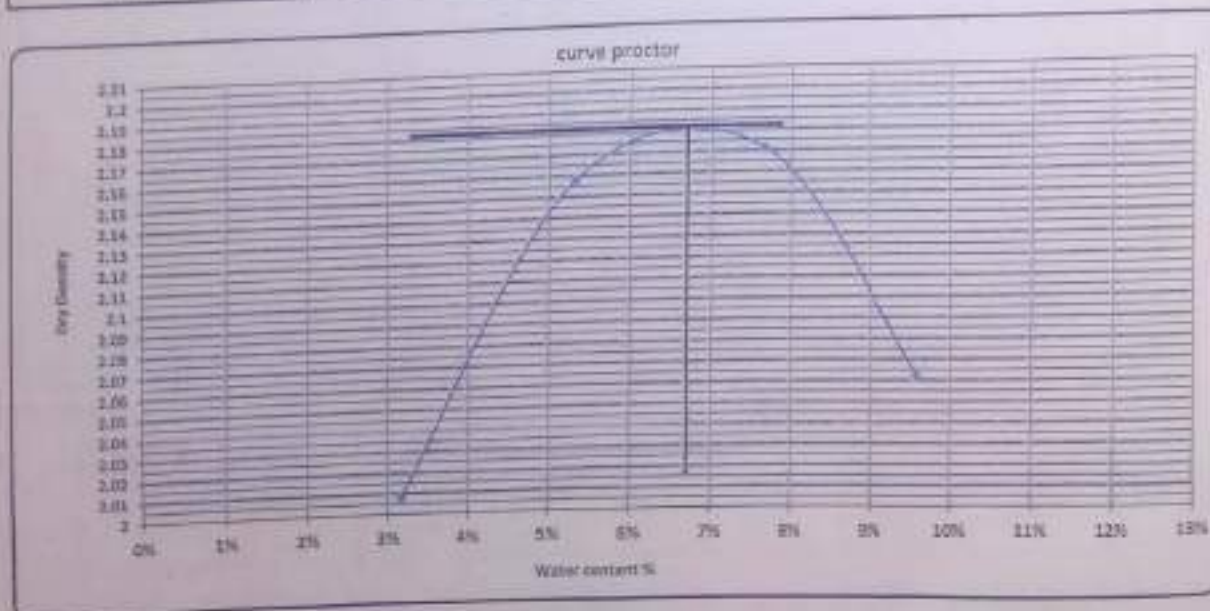
TESTING DATE:	1-03-2022	ZONE	507+000	509+000
LOCATION	K.P (568+000)	Material	fill material	
NAME COMPANY	EG-CONTRACT	Quantity	5000 m ³	

Weight of empty mold :	620.8
Mold Volume:	1114.8

MAX Dry Density	2.18
Water content %	6.8%

trial no :	1	2	3	4	
WT. OF Mold + Wet Soil	10021.0	10440.0	10390.0	10421	
WT. WET SOIL	4401.8	4828.0	4766.0	4801.0	
Wt. Density	2.872	2.273	2.328	2.266	

Tare No.	17	18	19	20	21	22	23	24	
Tare wt.	83.2	81.21	88.96	88.53	83.52	87.21	86.21	89.3	
WT. OF wet soil & tare	138.0	139.0	139.0	150.0	138.8	139.8	139.0	139.0	
WT. OF dry soil & tare	147.89	147.06	145.00	143.80	143.20	143.60	141.00	141.2	
WT. OF water	3.8	3.8	5.0	4.2	5.8	6.6	8.4	8.2	
WT. OF dry soil	93.8	95.8	96.0	97.3	88.6	86.2	85.4	91.2	
Water content %	3.2%	3.1%	5.2%	4.8%	7.7%	7.7%	9.8%	9.2%	
AV. Water content %	3.2%		5.2%		7.7%		9.8%		
Dry Density	2.008		2.118		2.172		2.062		



Contractor

Name :

Sign :

(Signature)

Consultant

mohamed elsaied

m-elsaied



Electric Express Train - HSR



California Bearing Ratio TEST ASTM D1883

Testing Date :	2/8/2023	08	FROM STA :	507+000	509+000
Location :	K.P (508+300)	EGC (V4)	Material	fill material	
Company Name	EG-CONTRACT		quantity	5000m ²	

Test Results

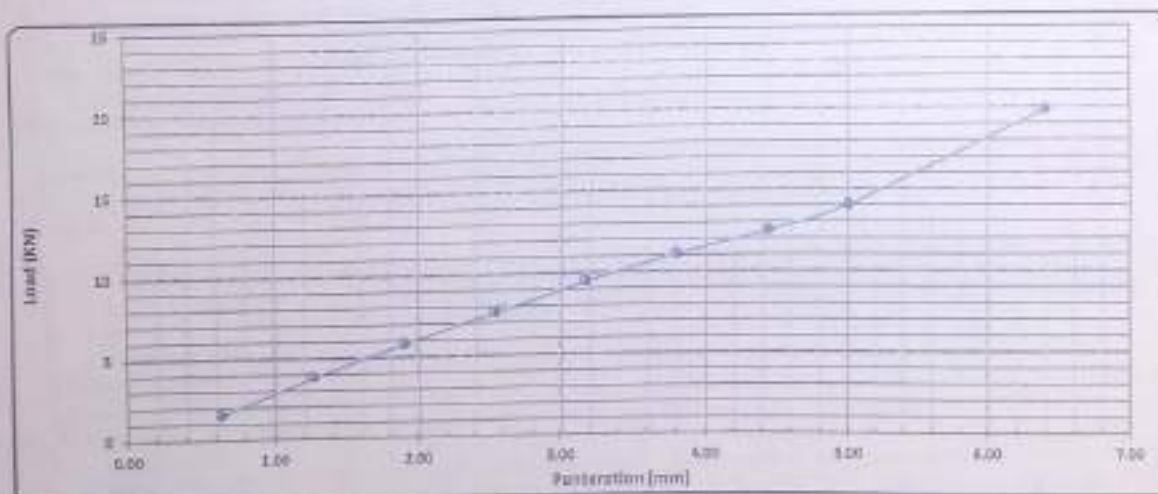
Compaction % for Mold	
Mold No.	1
Mold Vol (cm ³)	2121
Mold WT. (gm)	4210
Mold WT. + Wet WT. (gm)	70122
Wet WT. (gm)	4012
Wet Density (g/cm ³)	2.227
Dry Density (g/cm ³)	2.149
Proctor Density (g/cm ³)	2.186
Compaction %	93.3

Moisture Ratio After Compacted Mold	
Tare No.	31
Tare WT. (gm)	35.21
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	103.8
Water WT. (gm)	4.2
Dry WT. (gm)	99.6
Moisture Content %	4.2

Swelling	
Mold No.	1
Date	2/8/2023
Initial Height (mm)	12.89
Final Height (mm)	13.09
Difference	0.08
Swelling Height (mm)	129.8
Swelling Ratio %	6.00%

Loading Reading :

Penetration (mm)	0.04	1.27	1.91	2.54	3.18	3.81	4.45	5.09	6.40
Load Reading (Kg)	180	332	478	556	1058	1256	1341	1747	2209
Load (KN)	1.6	3.0	3.9	7.7	8.3	11.0	12.3	14.1	19.3



Calculations :-

Penetration	Load	Standard Load	CBR	Mold Compaction	Compaction	CBR
(mm)	(KN)	(lb)	(%)	(%)	(%)	95% Limit %
2.80	7.76	13.4	87.7%	93	92	85.1%
5.00	14.06	20.8	70.2%			67.0%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

mohamed elsaied

m.elsaied

5-8-2023

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 508+177



PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	11/11/2023	Code	ZONE	507+000	509+000
LOCATION	ELP (508)	EGC (104)	Material	fill material	
TESTING COMPANY	CONTRACT		quantity	5000 m ³	

Visual inspection test

radiant test

radiation of bulk materials			TOTAL SAMPLE WEIGHT				29065.00		gm		table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS		soil classify	
Mass retained (g)	885.0	1088.0	4952.0	4340.0	2855.0	2955.0	2481.0		CLASS	A-1-A	
Cumulative Retained (g)	885.0	2073.0	7025.0	12365.0	15220.0	18175.0	20640.0	9309.0	PRO	2.18	
Cumulative Retained %	3.0	8.8	26.1	41.2	50.8	60.7	68.3		WC	7.80	
Cumulative Passing %	97.0	90.4	73.9	58.7	49.2	39.3	31.7		CBR	88.6	
									CORR. PRO	2.23	
									CORR. WC	8.40	

material gradation			WT. OF sample		200.30	gm
sieve size	10	40	200			
cumulative Retained (g)	115.00	235.00	350.00			
Cumulative Retained %	23.00	47.00	70.00			
Cumulative Passing %	77.00	53.00	30.00			

neral 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	2.50	0.425	0.075
cumulative Passing %	87.0	90.4	73.9	58.7	49.2	39.3	31.1	23.0	15.5	7.0

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

Contractor

Name

Sign



Consultant

[Signature]



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



MODIFIED PROCTOR TEST ASTM D1557

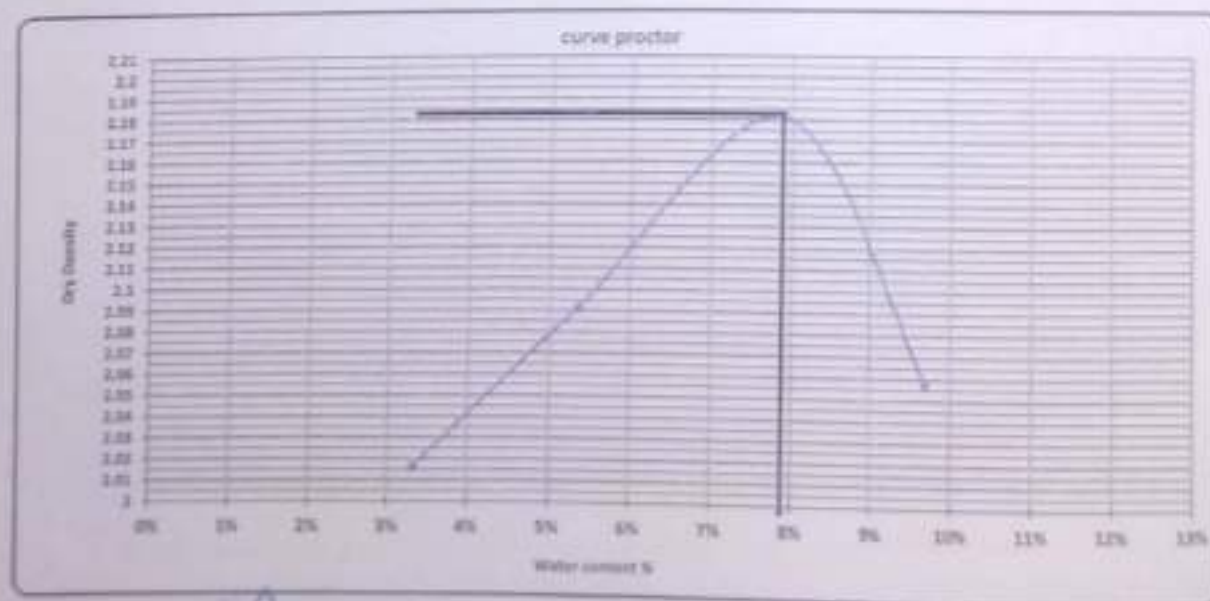
TESTING DATE:	09/03/2023	CODE:	ZONE	507+000	509+000
LOCATION	E-2 (508)	EGD (104)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	5000 m ³	

Weight of empty mold :	5620.0
Mold Volume:	2124.8

MAX Dry Density	2.19
Water content %	7.9%

trial no :	1	2	3	4	
Wt. Of Mold + Wet Soil	10445.0	10300.0	10420.0	10415	
WT. WET SOIL	4825.0	4680.0	5000.0	4790.0	
Wt. Density	2.093	2.203	2.394	2.258	

Tare No.	1	2	3	4	5	6	7	8		
Tare wt.	54.8	54.7	53.2	53.22	54.11	54.37	54.86	55.2		
Wt. Of wet soil & tare	180.0	158.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	146.90	147.09	145.90	145.20	143.00	143.00	141.20	141.7		
Wt. Of water	3.1	3.0	3.0	4.8	7.0	7.0	8.2	8.2		
Wt. Of dry soil	92.3	92.3	91.8	92.0	88.9	88.7	87.0	86.2		
Water content %	3.4%	3.3%	3.4%	5.2%	7.9%	7.9%	9.4%	9.4%		
AV. Water content %	3.3%		5.2%		7.9%		9.4%			
Dry Density	2.017		2.092		2.192		2.058			



Consultant
Mohammed El-Sayid



Electric Express Train - HSR



California Bearing Ratio TEST ASTM D1883

Testing Date :	9/6/2023	Code	FROM STA :	507+000	509+000
Location :	K.P. (508)	EGC(104)	Material	fill material	
Company Name	EG-CONTRACT		quantity	5000m ³	

- Test Results

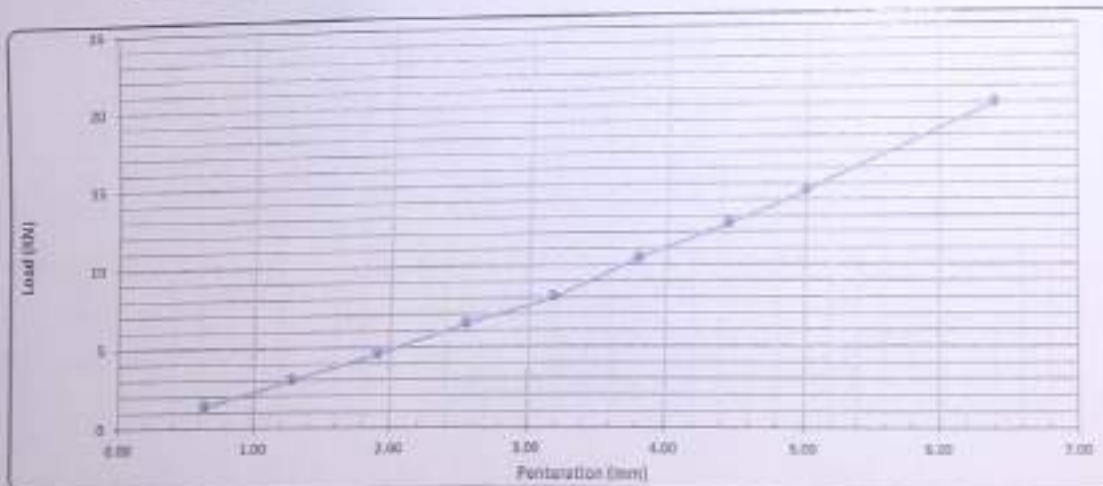
Compaction % for Mold	
Mold No.	3
Mold Vol. (cm ³)	2210
Mold WT. (gm)	4493
Mold WT. + Wet WT. (gm)	18925
Wet WT. (gm)	2344
Wet Density (g/cm ³)	2.357
Dry Density (g/cm ³)	2.173
Proctor Density (g/cm ³)	2.280
Compaction %	95.6

Moisture Ratio After Compacted Mold	
Test No.	15
Test WT. (gm)	54.31
Test WT. - Dry WT. (gm)	1.10
Test WT. + Dry WT. (gm)	143.2
Water WT. (gm)	0.8
Dry WT. (gm)	88.9
Moisture Content %	5.7

Swelling	
Mold No.	3
Date	9/6/2023
Initial Height (mm)	25.00
Final Height (mm)	23.20
Difference	1.80
Sample Height (mm)	120.0
Swelling Ratio %	0.88%

Loading Reading :

Penetration (mm)	0.44	1.27	1.91	2.54	3.18	3.80	4.42	5.05	5.68
Load Reading (Kg)	162	345	511	725	902	1189	1484	1775	2258
Load (kN)	1.7	3.1	4.7	6.5	8.1	10.2	11.6	14.6	20.1



Calculations :-

Penetration (mm)	Load (Kg)	Standard Load (lb)	CBR (%)	Moist - Compaction (%)	Compaction (%)	CBR (%)
2.54	6.53	13.4	49.1%	100	95	46.3%
5.08	14.44	20.8	72.5%			69.2%

Lab. Specimen

Lab. Engineer

Consultant Engineer

Name :

Name :

Name :

Sign :

Sign :

Sign :





CONSULTING OFFICE
المكتب الاستشاري
أ.د. خالد فصيل



Electro Express Train - HSR
From El-An El-Sekhna City To El Alamein - MATROUH
Section - 7 From FOHA To MARSA MATROUH
From Station 504+000 To Station 509+177



Absorption Of coarse Aggregate

TESTING DATE:	08/8/2023	code	Station	507+000	509+000
LOCATION	K.P (508)	EGC (104)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	5000 m ³	

Weight of sample	2500	gm
Weight of saturated surface dry sample (B)	2550	gm
Weight of saturated sample in water (C)	1500	gm
Weight of dry sample after heating (A)	2470	gm

Results:-

Bulk specific gravity = $A / (B-C)$	2.332	
Bulk specific gravity (S.S.D) = $B / (B-C)$	2.429	
Apparent specific gravity = $A / (A-C)$	2.546	
Absorption = $(B-A)/A$	3.23%	%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed Hakeem

Sign :



Consultant Engineer

Name :

Sign :



Electric Express Train - HSR
 From El Ain El Scabna City To El Alamein - MATROUH
 Section - 7 From FOKA To MARSA MATROUH
 From Station 504+000 To Station 508+177



Operating Top

AJ Tawkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	6/8/2023	CODE	ZONE	507+000	509+000
STATION	K.P (508)	EGS-102	Material	fill material	
TESTING COMPANY	EG-CONTRACT		quantity	5000 m ³	

Visual Inspection test

adjacent test

Preparation of bulk materials				TOTAL SAMPLE WEIGHT				gm	table classify	
sieve size	2	1.5	1	0.75	0.425	0.25	#4	PASS	soil classify	
Mass retained (g)	0.0	1150.0	1200.0	1550.0	1100.0	1050.0	7935.0		CLASS	A-1-A
Cumulative Retained (g)	0.0	1150.0	2350.0	3900.0	5000.0	6050.0	14115.0		PRO	2.19
Cumulative Retained %	0.0	22.0	46.0	77.0	100.0	120.0	28.4		WC	7.50
Cumulative Passing %	100.0	78.0	54.0	23.0	0.0	0.0	71.6		CBR	63.3
									CORR PRO	2.23
									CORR WC	6.38

material gradation				WT. OF sample		gm
sieve size	10	40	200			
Cumulative Retained (g)	110.00	330.00	340.00			
Cumulative Retained %	22.00	66.00	68.00			
Cumulative Passing %	78.00	34.00	32.00			

Sieve gradation										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	#4	#10	#40	#200
sieve size(mm)	90.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	97.5	82.4	63.0	54.1	47.5	30.0	23.3	16.3	9.7

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

Contractor

Name: Ahmed Haseem
 Sign:

Consultant





MODIFIED PROCTOR TEST ASTM D1557

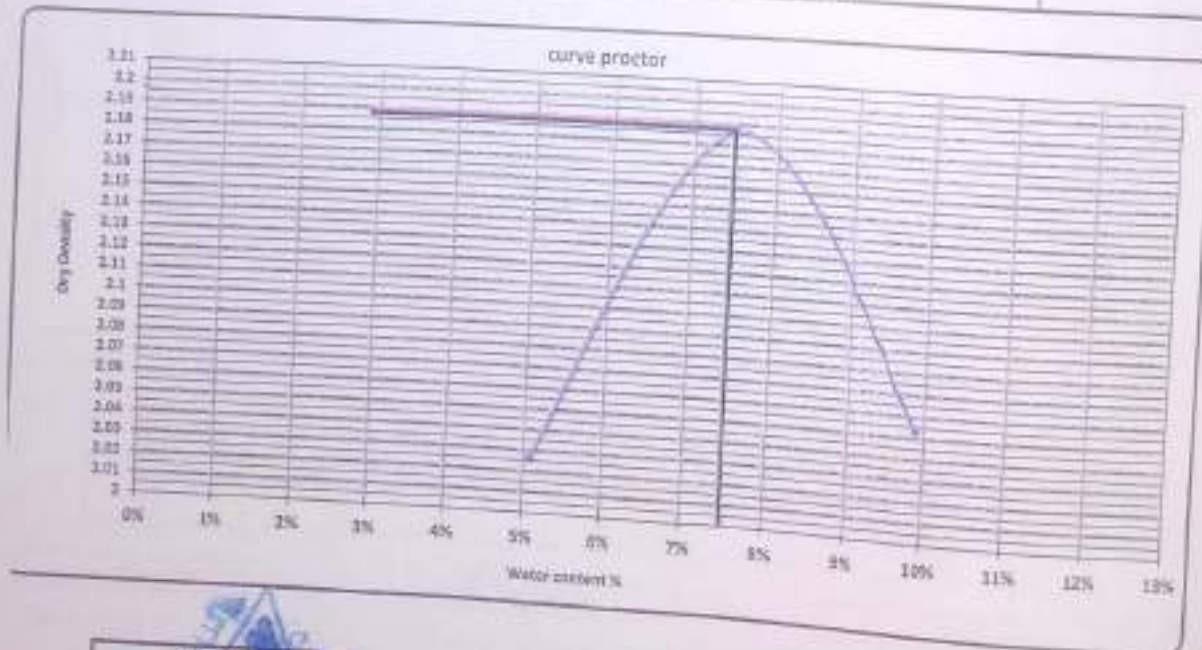
TESTING DATE:	07-08-2023	CODE	ZONE	507+000	509+000
LOCATION	K.P (508)				
NAME COMPANY	EG-CONTRACT	EGG (103)	Material	fill material	
			quantity	5000 m ³	

Weight of empty mold :	5430.0
Mold Volume:	2174.0

MAX Dry Density	2.19
Water content %	7.5%

trial no :	1	2	3		
WT. OF Mold + Wet Soil	10147.0	10618.0	10415.0		
WT. WET SOIL	4523.0	4995.0	4795.0		
Wt. Density	2.130	2.301	2.208		

Tare No.	1	2	3	4	5	6			
Tare wt.	54.5	54.9	55.2	55.5	56.7	56.0			
Wt. Of wet soil & tare	133.4	136.0	139.0	139.0	145.0	145.0			
Wt. Of dry soil & tare	148.30	145.50	143.30	143.40	141.00	141.70			
Wt. Of water	4.7	4.5	5.0	5.7	6.5	6.2			
Wt. Of dry soil	90.7	90.3	90.0	92.5	89.0	90.7			
Water content %	5.2%	5.0%	5.6%	6.2%	7.3%	6.8%			
AV. Water content %	5.1%		5.4%		7.0%				
Dry Density	2.019		2.187		2.094				



Contractor

Name: Ahmed Halem

Sign: [Signature]

Consultant

[Signature]



Electric Express Train - HSR



California Bearing Ratio TEST ASTM D1883

Testing Date :	8/8/2023	Code	FROM STA :	507+000	509+000
Location :	K.P (508)	EGC(103)	Material	fill material	
Company Name	EG-CONTRACT		quantity	5000m ³	

:- Test Results

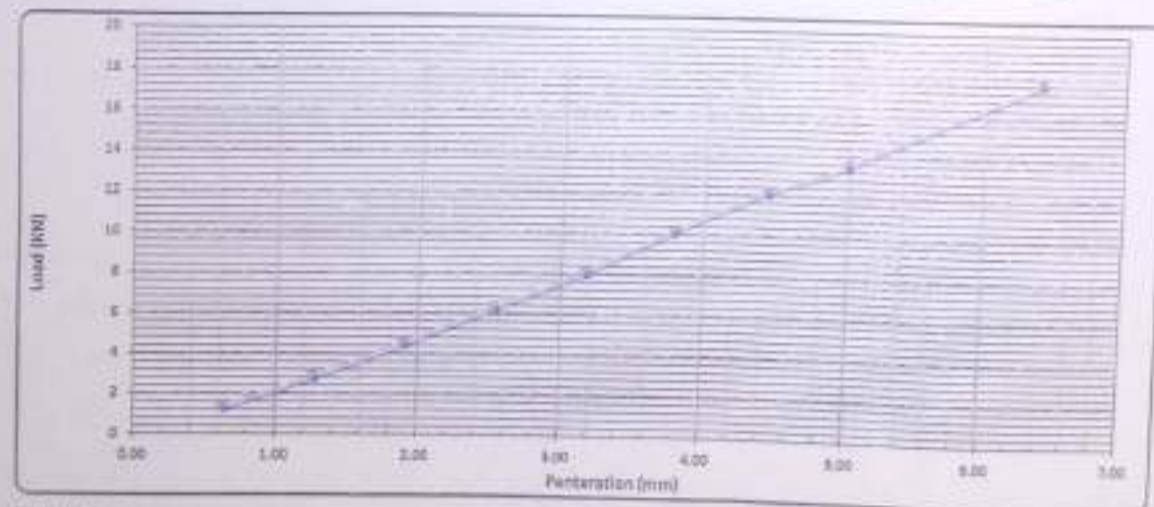
Compaction % for Mohl	
Mold No.	1
Mold Vol (cm ³)	9140
Mold WT (gms)	1813
Mold WT + Wet WT (gms)	2025
Wet WT (gms)	2032
Wet Density (g/cm ³)	2.247
Dry Density (g/cm ³)	2.196
Proctor Density (g/cm ³)	2.190
Compaction %	99.3

Moisture Ratio After Compacted Mold	
Temp (°C)	2
Temp (°F)	35.33
Gravimetric Moisture Ratio (%)	30.3
Moisture Ratio (%)	14.23
Wet WT (gms)	2032
Dry WT (gms)	1622
Moisture Content (%)	20.8

Swelling	
Mold No.	1
Item	4/5/2023
Initial Height (mm)	10.20
Final Height (mm)	10.00
Difference	0.20
Swelling Height (mm)	120.0
Swelling Ratio %	0.00 %

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.81	4.45	5.08	5.71
Load Reading (Kg)	194	322	408	78.1	882	1130	1088	1384	1963
Load (KN)	1.9	3.2	4.0	8.0	8.6	10.9	10.6	13.5	19.2



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kg)	(N)	(%)	(%)	(%)	(%)
2.54	8.33	13.4	47.4%	100	99	55.1%
5.08	13.54	24.8	47.6%			54.3%

Lab. Specialist

Lab. Engineer

Contract Engineer

Name :

Name :

Name :

Sign :

Sign :

Sign :



Handwritten signature of the Contract Engineer

Absorption Of coarse Aggregate

TESTING DATE:	7/3/2023	code	Station	507+000	509+000
LOCATION	K.P (506)	EGC (103)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	5000 m ³	

Weight of dry (A)	5.24	gm
Weight of saturated surface dry (B)	5.25	gm
Weight of saturated sample in water (C)	1.00	gm
Weight of dry sample after heating (A)	5.24	gm

Bulk specific gravity = A / (B-C)	2.433	
Bulk specific gravity (S.S.D) = B / (B-C)	2.433	
Apparent specific gravity = A / (A-C)	2.560	
Absorption = (B-A)/A	0.002	%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed Halem

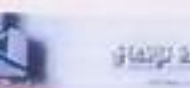
Sign :

Consultant Engineer

Name :

Sign :





Correction of Unit Weight and Water Content For Soils Containing oversize Particles

(ASTM D-4718)

Dry Unit Weight of Fine Fraction (γ_{df}) (gm/cm ³)	2.187	Company	EG-CONTRACT
Optimum Moisture Content (O.M.C) (%)	7.50	Date of Sample	7/6/2023
Specific Gravity of over 0.075mm Fraction (G_M)	2.360	Project	Express Train Project
Specific Gravity of Water (γ_w)	0.980	Sector	Foka - Matrouh

Sample Data

Sample Data	UNIT	VALUE	
Total Weight of Wet Sample	gm	45190	
Weight of Wet oversize Fraction (retained 3/4)	gm	17090	
Weight of Wet Fine Fraction (Passing 3/4)	gm	29100	
Weight of Dry oversize Fraction (M_{dc})	gm	15723	(17090×0.98)
Weight of Dry Fine Fraction (M_{df})	gm	26481	(29100×0.98)
Total Weight of Dry Sample	gm	42204	
Water Content of oversize Fraction (W_c)	%	0.09	
Water Content of Fine Fraction (W_f)	%	6.10	
Percent of oversize Fraction By Mass (P_c)	%	37.25	
Percent of Fine Fraction By Mass (P_f)	%	62.75	

Calculations of Corrected Water for oversize Fraction & Finer Fraction (W_f) :-

Corrected Water for oversize Fraction & Finer Fraction (C_w)	$W_f P_f + W_c P_c$		5.45
Specific Gravity of over Size Fraction (G_M)	2.360		
Specific Gravity of Fine Fraction (γ_{df})	2.187	gm/cm ³	
Specific Gravity of Water (γ_w)	0.980		

Calculations of Corrected Unit Dry Weight of the Total Material (combined finer and oversize fractions) (γ_{dm}) :-

Corrected Dry Unit Weight of Total Material (γ_m)	$(\gamma_{DF} \times G_M \times \gamma_w)$		2.23
	$((\gamma_{DF} \times P_C) + (G_M \times \gamma_w \times P_F))$		
Corrected Maximum Dry Density (M.D.D)	2.23	gm/cm ³	
Corrected Optimum Moisture Content (O.M.C)	5.45	%	

LAB Manager

AHMED HALEEM





KK
ENGINEERING CONSULTING OFFICE
المكتب الاستشاري الهندسي
أ.د. خالد كركي



SYSTRA SHAKER

Electric Express Train - HSR
From El Ain El Sekhna City To El Alamein - MATROUH
Section - 7 From FOKA To MARSA MATROUH
From Station 504+000 To Station 569+177



الهيئة العامة للنقل
وزارة النقل والتنمية الاقتصادية
GRC

Operating lap

Al Tawkol Central Lab

TESTING DATE: 02-08-2023

LOCATION: K.P (508)

NAME COMPANY: EG-CONTRACT

code

EGC (102)

ZONE

Material

quantity

507+000

509+000

fill material

3000 m³

2-Gradient test

A-gradation of bulk materials

sieve size	2	1.5	1	4/3	2/1	6/3	# 4	gm	table classify
Mass retained (g)	0.0	1099.0	6000.0	6000.0	4621.0	3224.0	4345.0	PASS	soil classify
Cumulative Retained (g)	0.0	1099.0	7099.0	15099.0	15019.0	22840.0	27185.0	14155.0	CLASS
Cumulative Retained %	0.0	2.6	17.2	36.8	47.5	55.2	65.8		PRO
Cumulative Passing %	100.0	97.4	82.8	63.2	52.5	44.8	34.2		WC
									CBR
									2.22
									8.20

B-soft material gradation

sieve size	10	40	200	WT. OF sample	500.00	gm
Cumulative Retained (g)	85.00	165.00	285.00			
Cumulative Retained %	17.00	33.00	57.00			
Cumulative Passing %	83.00	67.00	43.00			

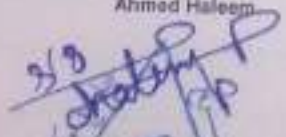
C-General gradient

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 %	100.0	97.4	82.8	63.2	52.5	44.8	34.2	28.4	22.5	14.5

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

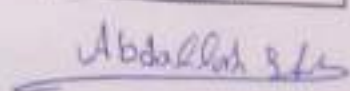
Contractor

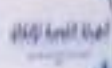
Name: Ahmed Haleem

Sign: 



Consultant



 	Electric Express Train - HSR From EL Ain El Sahra City To El Alamein - MATROUH Section - 7 From FORA TO MARIYA MATROUH From Station 804+000 To Station 886+177		 

MODIFIED PROCTOR TEST ASTM D1557

TESTING DATE:	03-08-2023	0000	ZONE	807+000	808+000
LOCATION	K.P (508)	EG42 (437)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	3000 m³	

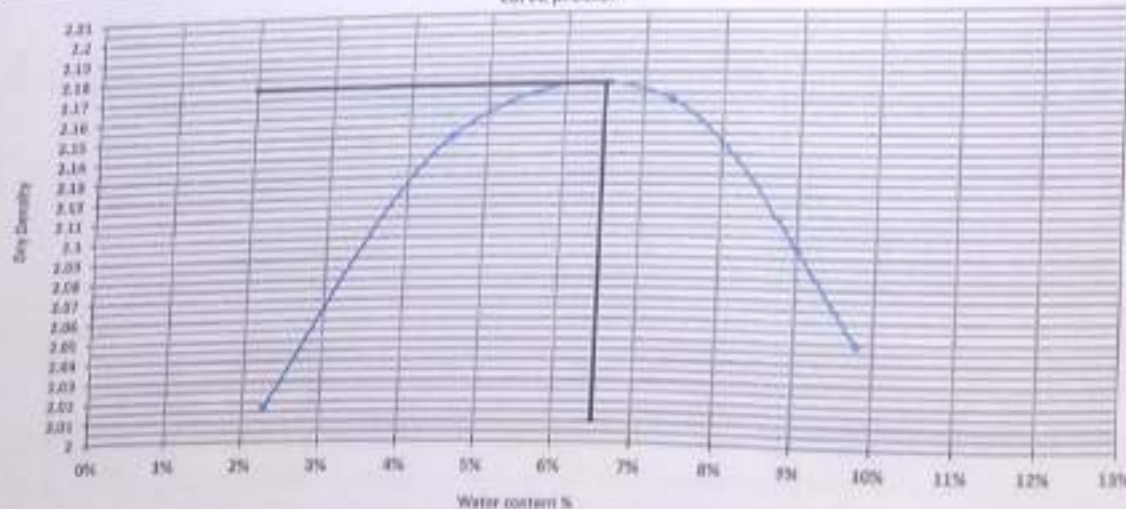
Weight of comp. mold	5628.9
Mold Volume	2124.9

MAX Dry Density	2.17
Water content %	6.9%

trial no	1	2	3	4	
Wt. of mold + Wet Soil	10054.0	10155.0	10382.0	10480	
WT. WET SOIL	4354.0	4755.0	4942.0	4780.0	
Wt. Density	2.064	2.248	2.327	2.250	

Tare No.	1	2	3	4	5	6	7	8		
Tare wt.	92.27	94.35	95.21	96	95.9	96.35	95.31	94.2		
Wt. Of wet soil & tare	100.8	105.7	105.8	106.0	104.1	105.7	103.1	100.0		
Wt. Of dry soil & tare	94.95	101.77	105.03	105.7	103.79	104.79	101.28	101.3		
Wt. Of water	2.0	2.3	4.0	6.2	6.2	6.6	5.5	8.5		
Wt. Of dry soil	98.7	99.4	94.8	94.8	98.8	97.1	96.7	87.2		
Water content %	2.1%	3.8%	4.7%	4.4%	5.1%	2.6%	8.0%	9.7%		
AV. Water content %	3.3%		4.9%		5.4%		6.8%			
Dry Density	2.018		2.190		2.267		2.030			

curve proctor

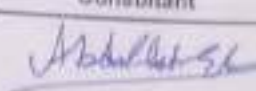


Contractor

Name: Abdel Halim

Sign: 

Consultant



California Bearing Ratio TEST ASTM D1883

Testing Date :	4/8/2023	Code	FROM STA :	507+000	509+000
Location :	K.P (506)	EGC(102)	Material	fill material	
Company Name	EG-CONTRACT		quantity	3000m ³	

Test Results

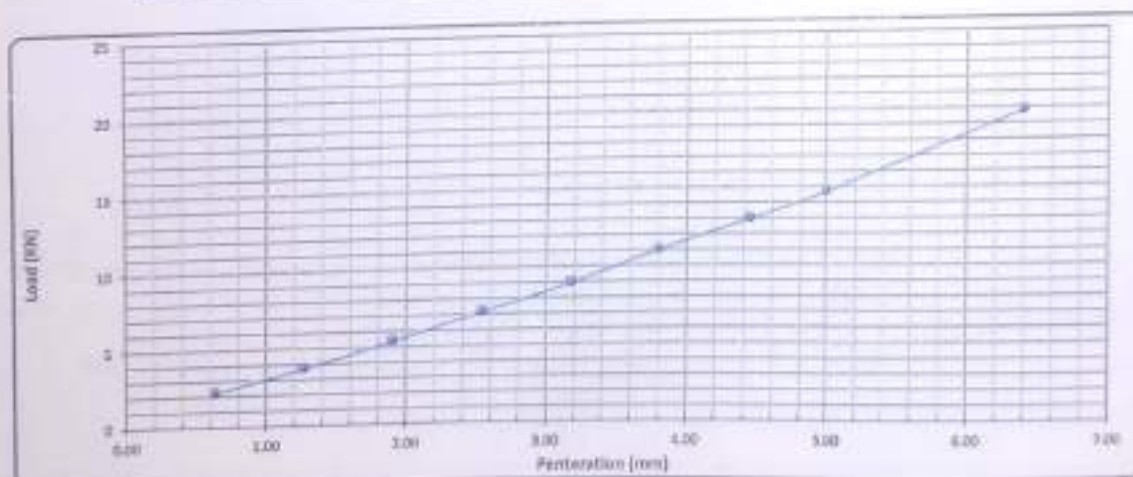
Compaction % for Moist	
Mold No.	1
Mold Vol. (cm ³)	1000
Mold WT. (gms)	2550
Mold WT. + Wet WT. (gms)	30278
Wet WT. (gms)	4908
Wet Density (g/cm ³)	2.304
Dry Density (g/cm ³)	1.170
Proctor Density (g/cm ³)	1.170
Compaction %	100.0

Moisture Ratio After Compacted Mold	
Tare Wt.	15
Tare WT. (gms)	31.13
Tare WT. + Wet WT. (gms)	190
Tare WT. + Dry WT. (gms)	141.3
Water WT. (gms)	5.7
Dry WT. (gms)	92.2
Moisture Content %	6.2

Swelling	
Mold No.	2
Date	4/8/2023
Initial Height (mm)	25.00
Final Height (mm)	25.00
Difference	0.00
Swelling Ratio (mm)	120.0
Swelling Ratio %	0.00%

Loading Result :

Penetration (mm)	0.54	1.22	1.75	2.54	3.19	3.80	4.52	5.30	6.01
Load Reading (kg)	254	423	603	882	1062	1300	1572	1848	2210
Load (kN)	2.5	4.2	6.0	8.8	10.6	13.0	15.7	18.5	22.1



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(kN)	(lb)	(%)	(%)	(%)	95 Soil ok %
2.50	7.33	13.4	54.1%	100	88	81.4%
5.00	14.78	26.8	73.8%			73.1%

Lab. Specialist

Lab. Engineer

Construction Engineer

Name :

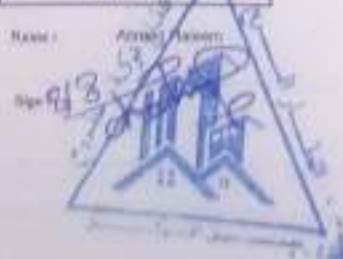
Name :

Name :

Sign :

Sign :

Sign :



Handwritten signature of the Construction Engineer.

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ.د. خالد شحاته	 EGYPTIAN RAILWAY	Electric Express Train - HSR From El Ajl El Sakha City To El Alwan / MATROUH Section : 2 From FOKA To MARSA MATRUH	 سuez Canal Authority
		From Station 500+000 To Station 500+000	
Subgrade of 15 square Aggregate			

TESTING DATE:	3/8/2022	Station	500+000	500+000
LOCATION	K.P (500)	Material	fill material	
NAME COMPANY	EG-CONTRACTOR	quantity	3000 m³	

Weight of sample	2940	g
Weight of saturated surface dry sample (B)	3060	g
Weight of saturated sample in water (C)	2178	g
Weight of dry sample after heating (A)	2942	g

Results:-

Bulk specific gravity = $A / (B-C)$	2.462	
Bulk specific gravity (S.S.D) = $B / (B-C)$	2.462	
Apparent specific gravity = $A / (A-C)$	2.626	
Absorption = $(B-A)/A$	4.242	%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed Mohamed

Sign :



Consultant Engineer

Name :

Sign :



 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي (د. خالد فهد)	 SYSTA	Electric Express Train - HSR From EL EL RABIA City To ELANKER - RABOUH Section : 7 From ITHA To HADRA SECTION From Station 507+000 To Station 509+000	
		Atterberg Consistency Test	

TESTING DATE:	3/8/2023	Station	507+000	509+000
LOCATION	K.P (S08)	Material	fill material	
NAME COMPANY	EG-CONTRACT	quantity	3000 m ³	

Weight of sample	2560	gm
Weight of saturated surface dry sample (B)	2560	gm
Weight of saturated sample in water (C)	1533	gm
Weight of dry sample after heating (A)	2476	gm

Results

Bulk specific gravity = $A / (B - C)$	2.502	
Bulk specific gravity (S.S.D) = $B / (B - C)$	2.462	
Apparent specific gravity = $A / (A - C)$	2.625	
Absorption = $(B - A) / A$	4.342	%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed M. Eldeen

Sign :



Consultant Engineer

Name :

Sign :

Abdellatif



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



Operating by

Al Tawkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	7/8/2023	code	ZONE	507+000	509+000
STATION	K.P (508)	EGC (105)	Material	fill material	
COMPANY	EG-CONTRACK		quantity	5000 m ³	
Inspection test					

Test test

Particle size distribution of bulk materials

				TOTAL SAMPLE WEIGHT		52155.00		gm		
sieve size	2	1.2	1	4/3	2/1	8/3	# 4	PASS	table classify	soil classify
Mass retained (g)	1965.0	3233.0	3750.0	7032.0	4556.0	4133.0	4964.0		CLASS	A-1-A
Cumulative Retained (g)	1965.0	5233.0	9000.0	16032.0	20588.0	24721.0	34505.0	17650.0	PRO	2-18
Cumulative Retained %	3.8	10.0	17.3	30.9	39.5	47.4	66.2		WC	6.60
Cumulative Passing %	96.2	90.0	82.7	69.1	60.5	52.6	33.8		CBR	71.2
									CORR PRO	2.22
									CORR WC	9.40

Material gradation

			WT. OF sample		500.00		gm
sieve size	10	40	200				
Mass retained (g)	75.00	165.00	280.00				
Cumulative Retained %	15.00	33.00	56.00				
Cumulative Passing %	85.00	67.00	44.00				

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 %	36.2	90.0	76.1	85.0	91.3	93.2	33.8	25.8	22.7	15.3

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

Contractor

Name

Abdelhakem

Sign

Consultant

Abdelhakem



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 508+177



MODIFIED PROCTOR TEST ASTM D1557

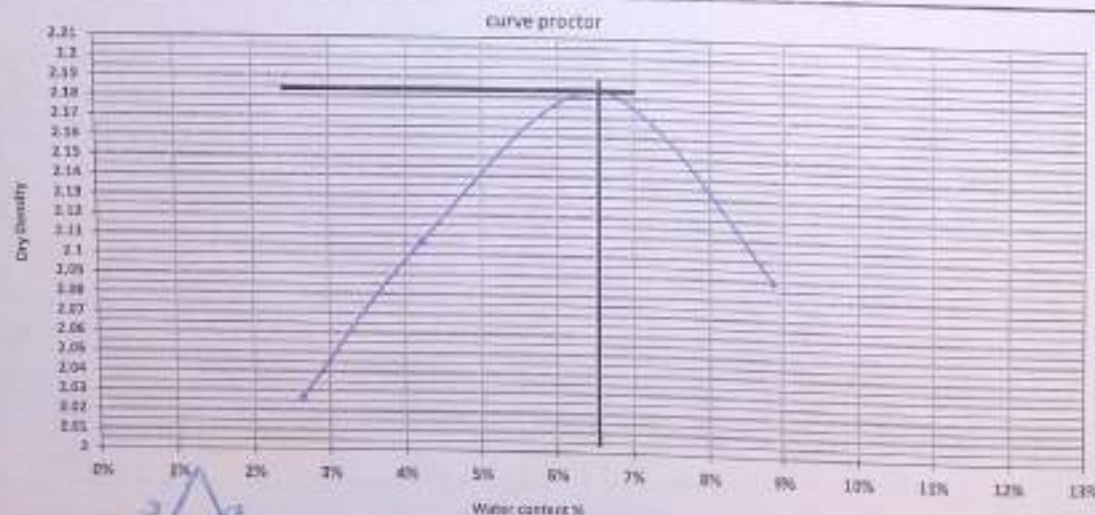
TESTING DATE:	08-08-2023	code	ZONE	507+000	509+000
LOCATION	K.P (508)				
NAME COMPANY	EG-CONTRACK	EGC (105)	Material	fill material	
			quantity	5000 m ³	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

MAX Dry Density	2.18
Water content %	6.6%

trial no :	1	2	3	4	
Wt. Of Mold + Wet Soil	10614.0	10015.0	10562.0	10452	
WT. WET SOIL	4990.0	4395.0	4942.0	4832.0	
Wt. Density	2.081	2.075	2.327	2.275	

Tare No.	11	15	12	14	16	17	18		
Tare wt.	91.21	94.21	93.23	95.17	94.13	93.60	94.21	96.3	
Wt. Of wet soil & tare	190.0	190.0	190.0	190.0	190.0	190.0	190.0	190.0	
Wt. Of dry soil & tare	147.50	147.60	146.80	146.20	146.30	144.90	142.00	142.6	
Wt. Of water	2.5	2.4	4.0	3.8	3.7	4.0	8.0	7.4	
Wt. Of dry soil	92.5	92.4	92.8	92.4	92.0	91.7	87.8	86.1	
Water content %	2.7%	2.6%	4.3%	4.1%	4.1%	4.3%	9.1%	8.6%	
AV. Water content %	2.6%		4.2%		6.0%		8.9%		
Dry Density	1.817		1.898		2.154		2.000		



Contractor
Signature:

Consultant
Signature:



Electric Express Train - HSR



California Bearing Ratio TEST ASTM D1883

Testing Date :	07/01/23	Coda	FROM STA :	507+000	509+000
Location :	27 (508)	EGC(105)	Material	fill material	
Company Name	EG CONTRACT		quantity	5000m ³	

Test Results

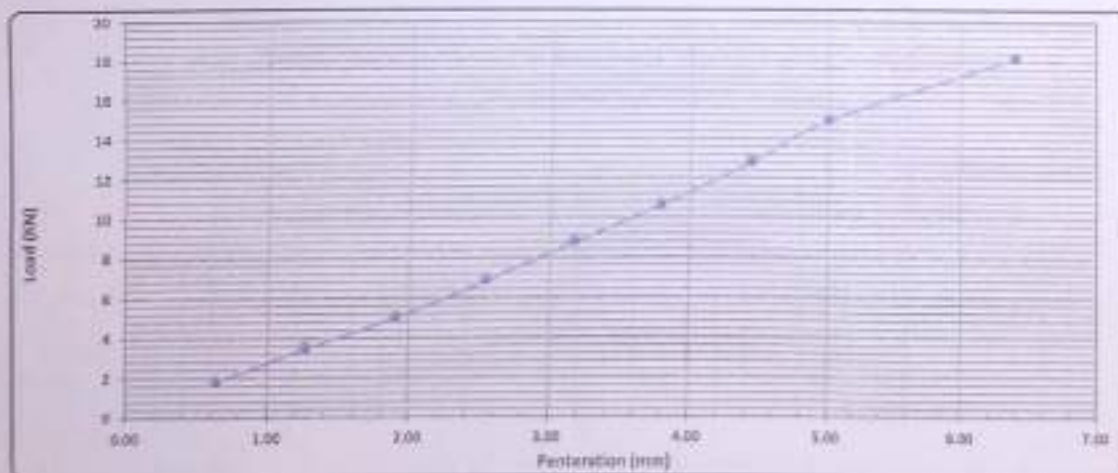
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2120
Mold WT. (gm)	5321
Mold WT. + Wet WT. (gm)	10332
Wet WT. (gm)	4911
Wet Density (g/cm ³)	2.317
Dry Density (g/cm ³)	2.177
Proctor Density (g/cm ³)	2.380
Compaction %	91.5

Moisture Ratio After Compacted Mold	
Tare No.	31
Tare WT. (gm)	30.23
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	144
Water WT. (gm)	6.0
Dry WT. (gm)	93.8
Moisture Content %	6.4

Swelling	
Mold No.	1
Date	9/8/2023
Initial Height (mm)	30.00
Final Height (mm)	30.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.60	1.27	1.91	2.54	3.18	3.80	4.42	5.06	5.68
Load Reading (Kg)	252	396	568	799	985	1192	1432	1667	2020
Load (KN)	1.9	3.4	5.1	6.9	8.8	10.7	12.9	15.9	18.2



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Comparative	Calculation	CBR
(mm)	(Kg)	(lb)	(%)	(%)	(%)	95 % Limit - %
2.50	6.92	13.4	51.6%	100	95	49.1%
5.00	14.99	20.8	74.8%			71.2%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :



Electric Express Train - HSR
From El Ahr El Sakhra City To El Alamein - MATROUH
Section - 7 From FOKA To MARSA MATROUH
From Station 504+000 To Station 509+177



Absorption Of coarse Aggregate

TESTING DATE:	04/01/2023	code	Station	507+000	509+000
LOCATION	K.P (S05)	EGC (105)	Material	fill material	
NAME COMPANY	EG-CONTRACK		quantity	5000 m ³	

Weight of sample	2500	gm
Weight of saturated surface dry sample (B)	2553	gm
Weight of saturated sample in water (C)	1499	gm
Weight of dry sample after heating (A)	2468	gm

Results:-

Bulk specific gravity = $A / (B-C)$	2.342	
Bulk specific gravity (S.S.D) = $B / (B-C)$	2.422	
Apparent specific gravity = $A / (A-C)$	2.547	
Absorption = $(B-A)/A$	3.644	%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed Hameed

Sign :

Consultant Engineer

Name :

Sign :



Signature of Consultant Engineer

Correction of Unit Weight and Water Content For Soils Containing oversize Particles
(ASTM D-4718)

Unit Weight of Fine Fraction (γ_{DF}) (gm/cm ³)	2.180	Company	EG-CONTRACT
Maximum Moisture Content (w_L) (%)	7.90	Date of Sample	08/8/2023
Specific Gravity of over Size Fraction (G_M)	2.350	Project	Express Train Project
Specific Gravity of Water (γ_w)	0.980	Sector	Foka - Matrouh

Sample Data	UNIT	VALUE	
Total Weight of Wet Sample	gm	25965	
Weight of Wet oversize Fraction (Retained 3/4)	gm	12365	
Weight of Wet Fine Fraction (Passing 3/4)	gm	17600	
Weight of Dry oversize Fraction (M_{DC})	gm	11376	الوزن الجاف للفraction
Weight of Dry Fine Fraction (M_{DF})	gm	16015	الوزن الجاف للفraction
Total Weight of Dry Sample	gm	27392	
Water Content of oversize Fraction (w_c)	%	0.09	
Water Content of Fine Fraction (w_f)	%	0.10	
Percent of oversize Fraction By Mass (P_c)	%	41.53	
Percent of Fine Fraction By Mass (P_f)	%	58.47	

Calculations of Corrected Water for oversize Fraction & Finer Fraction (w_f) :-

Corrected Water for oversize Fraction & Finer Fraction (C_w)	$w_f P_f + w_c P_c$		9.39
Specific Gravity of over Size Fraction (G_M)	2.350		
Specific Gravity of Fine Fraction (γ_{DF})	2.180	gm/cm ³	
Specific Gravity of Water (γ_w)	0.980		

Calculations of Corrected Unit Dry Weight of the Total Material (combined finer and oversize fractions) (γ_{DF}) :-

Corrected Dry Unit Weight of Total Material (γ_{DF})	$(\gamma_{DF} * G_M * \gamma_w)$	2.23
	$((\gamma_{DF} * P_C) + (G_M * \gamma_w * P_F))$	
Corrected Maximum Dry Density (M.D.D)	2.23	gm/cm ³
Corrected Optimum Moisture Content (O.M.C)	9.39	%

LAB Manager
AHMED HALEEM

