





Operating Unit

Al Tawheed Central Lab

Electrical Engineering
Civil Engineering
Mechanical Engineering
Environmental Engineering
Surveying
Geotechnical Engineering
Water Resources Engineering
Transportation Engineering
Urban Planning
Public Works Engineering



PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	6/8/2023	TYPE	ZONE	507+000	509+000
LOCATION	K.P (508)	EGC	Material	fill material	
TEST COMPANY	EG-CONTRACT	EGC	quantity	3000 m³	

Visual Inspection test

Soil test

gradation of bulk materials

				TOTAL SAMPLE WEIGHT		46153.30		gm			table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS			soil classify
Mass retained (g)	0.0	1150.0	5600.0	10340.0	4100.0	3050.0	7835.0		CLASS		A-1-A
cumulative Retained (g)	0.0	1150.0	6750.0	17990.0	21190.0	24240.0	32075.0	14115.0	PRO		2.19
cumulative Retained %	0.0	2.5	14.5	37.0	45.9	52.5	69.4		WC		7.50
cumulative Passing %	100.0	97.5	85.4	63.0	54.1	47.5	30.6		US		63.3
										SOIL PRO	2.23
										COEFF. WC	9.50

material gradation

			WT. OF sample		50100	gm
sieve size	10	40	250			
Mass Retained (g)	110.00	230.00	340.00			
Mass Retained %	22.00	46.00	68.00			
Mass Passing %	78.00	54.00	32.00			

soil 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
Mass Passing %	100.0	97.5	85.4	63.0	54.1	47.5	30.6	23.8	14.5	6.78

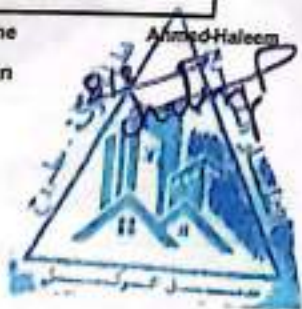
TEST LIMITS	LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	PLASTIC INDEX (PI)
	N.L	N.P	N.P.I

Contractor

Name

Ahmed-Haleem

Sign



Consultant

Handwritten signature of the consultant.

MODIFIED PROCTOR TEST ASTM D1557

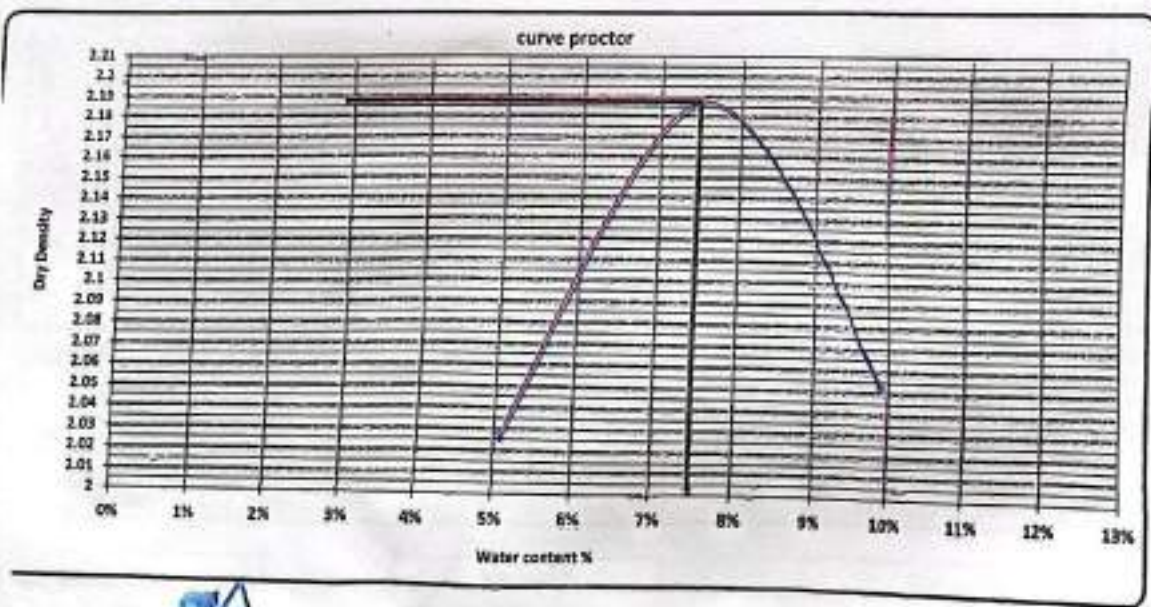
TESTING DATE:	07-08-2023	CODE	ZONE	507+000	509+000
LOCATION	K.P (508)	EG2 (100)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	5070 m³	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

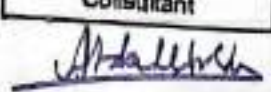
MAX Dry Density	2.19
Water content %	7.5%

trial no :	1	2	3		
Wt. Of Mold + Wet Soil	10145.0	10615.0	10415.0		
WT. WET SOIL	4525.0	4995.0	4795.0		
Wt. Density	2.130	2.352	2.258		

Tare No.	3	4	5	6	7	8	9			
Tare wt.	54.6	54.7	53.2	53.5	54.5	56.8				
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0				
Wt. Of dry soil & tare	145.30	145.50	145.20	145.30	141.50	141.70				
Wt. Of water	4.7	4.5	6.8	5.7	8.5	8.3				
Wt. Of dry soil	90.7	90.8	90.0	89.8	85.0	84.9				
Water content %	5.2%	5.0%	7.6%	7.5%	10.0%	9.8%				
AV. Water content %	5.1%		7.5%		9.9%					
Dry Density	2.028		2.187		2.054					



Contractor
 Name : Ahmed Elsayed
 Sign : 

Consultant




California Bearing Ratio TEST ASTM D1503

Testing Date :	5/8/2023	Code :	FROM STA :	507+000	509+000
Location :	K.P (508)	EGC (10%)	Material :	C1 material	
Company Name :	EG-CONTRACT		quantity :	5000m ³	

Test Results

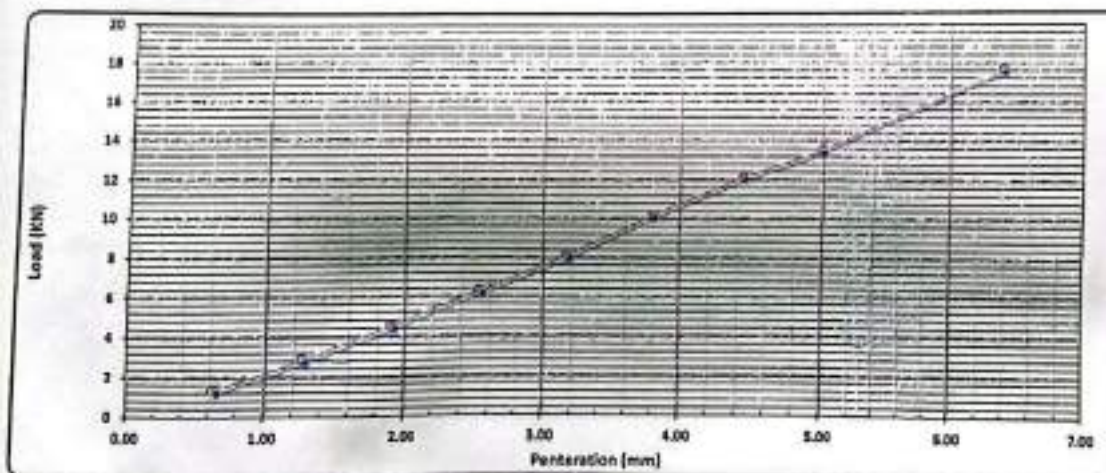
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	1140
Mold WT. (gms)	1118
Mold WT. + Wet WT. (gms)	1633
Wet WT. (gms)	515
Wet Density (g/cm ³)	2.347
Dry Density (g/cm ³)	2.186
Proctor Density (g/cm ³)	2.199
Compaction %	99.8

Moisture Ratio After Compacted Mold	
Test No.	2
Tare WT. (gms)	15.31
Tare WT. + Wet WT. (gms)	110
Tare WT. + Dry WT. (gms)	143.5
Water WT. (gms)	4.8
Dry WT. (gms)	88.2
Moisture Content %	7.4

Swelling	
Mold No.	1
Initial Height (mm)	10.00
Final Height (mm)	10.00
Difference	0.00
Sample Height (mm)	100.0
Swelling Ratio %	0.00 %

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.08	5.71
Load Reading (Kg)	154	322	491	763	902	1138	1358	1567	1963
Load (KN)	1.4	2.9	4.5	6.3	8.1	10.2	11.2	13.2	17.7



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(KN)	(lb)	(%)	(%)	(%)	معدل نسبة %
1.50	4.33	13.4	47.4%	100	1)	45.1 %
5.00	13.54	20.9	67.4%			64.3%

Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

Name :

Sign :

Sign :

Signature of Lab. Engineer: Ahmed Halseem

Signature of Consultant Engineer: Abdelhameed

Absorption Of coarse Aggregate

TESTING DATE:	7/8/2023	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 sample	2500	gm
Weight of saturated surface dry sample (B)	2535	gm
Weight of saturated sample in water (C)	1493	gm
Weight of dry sample after heating (A)	2450	gm

Results:-

Bulk specific gravity = $A / (B-C)$	2.351	
Bulk specific gravity (S.S.D) = $B / (B-C)$	2.433	
Apparent specific gravity = $A / (A-C)$	2.560	
Absorption = $(B-A)/A$	3.469	%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed Halsem

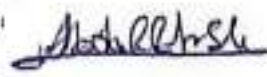
Sign :



Consultant Engineer

Name :

Sign :



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

Weight of Fine Fraction (Y_{DF}) (gm/cm ³)	2.187	Company	EQ-CONTRACT
Moisture Content (O.M.C) (%)	7.50	Date of Sample	7/8/2023
Specific Gravity of over Size Fraction (G_M)	2.360	Project	Express Train Project
Specific Gravity of Water (Y_W)	0.980	Sector	Foka - Matrouh

Sample Data	UNIT	VALUE	
Total Weight of Wet Sample	gm	46190	
Weight of Wet over size Fraction (Retained 3/4)	gm	17090	
Weight of Wet Fine Fraction (Passing 3/4)	gm	29100	
Weight of Dry over size Fraction (M_{DF})	gm	15723	وزن خشك بولي
Weight of Dry Fine Fraction (M_{DF})	gm	26481	وزن خشك ناعم
Total Weight of Dry Sample	gm	42204	
Water Content of over size Fraction (W_L)	%	0.09	
Water Content of Fine Fraction (W_F)	%	0.10	
Percent of over size Fraction By Mass (P_L)	%	37.25	
Percent of Fine Fraction By Mass (P_F)	%	62.75	

Calculations of Corrected Water for over size Fraction & Finer Fraction (W_T) :-			
Corrected Water for over size Fraction & Finer Fraction (C_{W_T})	$W_F P_F + W_L P_L$		9.45
Specific Gravity of over Size Fraction (G_M)	2.360		
Specific Gravity of Fine Fraction (Y_{DF})	2.187	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})	$(Y_{DF} \times 3M \times Y_W)$	2.23
	$((Y_{DF} \times PC) + [G_M \times Y_W \times PF])$	
Corrected Maximum Dry Density (M.D.D)	2.23	gm/cm ³
Corrected Optimum Moisture Content (O.M.C)	9.45	%

LAB Manager
AHMED HALEEM





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



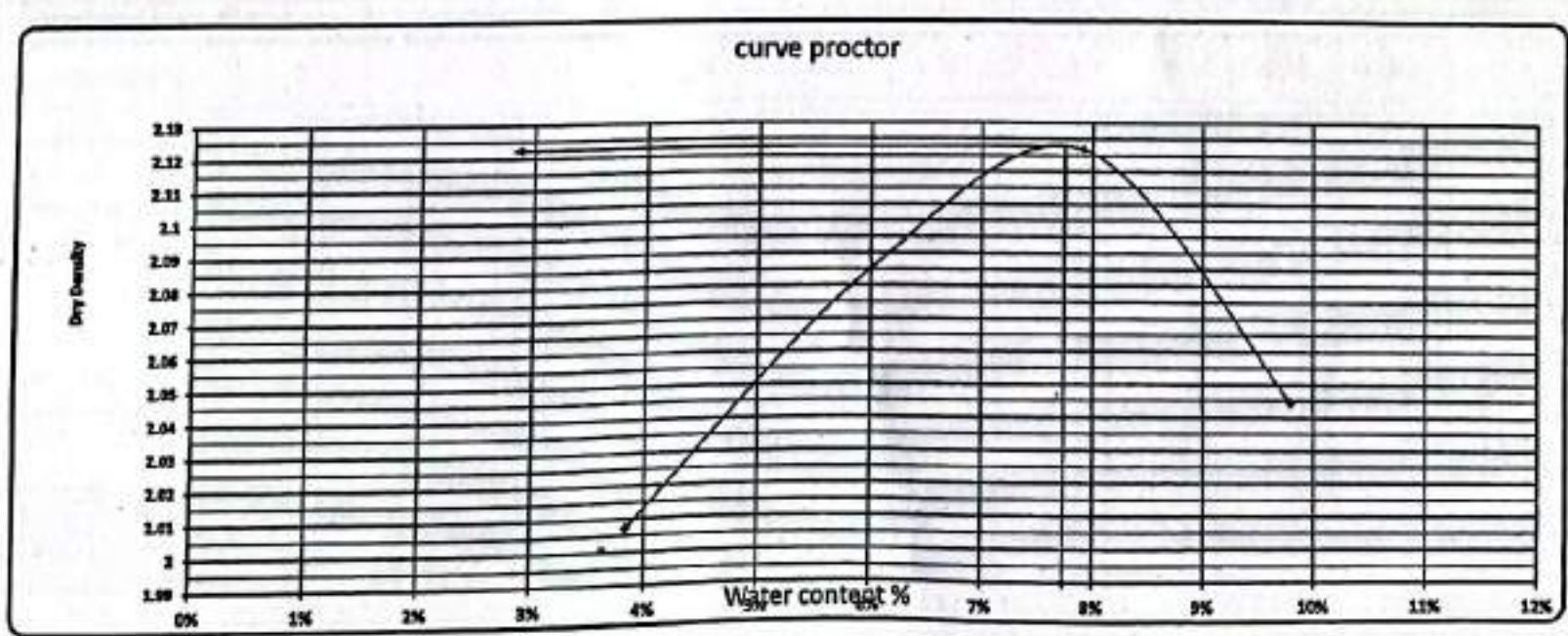
PROCTOR TEST

Testing Date	19-10-23	code		From Station	507+000	To Station	509+000
Location	K.P. 508+000	EG-111					
EG-CONTRACT	EG-CONTRACT						

Weight of empty mold	5747.0	MAX Dry Density	2.125
Mold Volume	2115.0	Water content %	7.8

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10155.0	10423.0	10590.0	10495.0	
WT. WET SOIL	4408.0	4676.0	4843.0	4748.0	
Wt. Density	2.084	2.211	2.290	2.245	

Tare No.	8	6	7	4	5	6	1	2		
Tare wt.	36.26	38.82	35.99	36.28	35.35	35.8	44.45	42.63		
Wt. Of wet soil & tare	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0		
Wt. Of dry soil & tare	155.45	155.50	152.89	153.06	150.95	150.79	149.59	149.62		
Wt. Of water	4.6	4.5	7.1	6.9	9.1	9.2	10.4	10.4		
Wt. Of dry soil	119.2	116.7	116.9	116.8	115.6	115.0	105.1	107.0		
Water content %	3.82%	3.86%	6.08%	5.94%	7.83%	8.01%	9.90%	9.70%		
AV. Water content %	3.84%	6.01%	7.92%	9.80%						
Dry Density	2.007	2.086	2.122	2.045						



Contractor
المعمل المركزي
القطار السريع - القطاع السابع

Consultant
mohamed elsaied
m-elsaied
21-10-2023



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



Operating Lab: Negida Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

Description of Materials: Embankment

Testing Date	17-10-23	code	Zone	From Station	TO Station
Location	K.P 508+000	EG-111		507+000	509+000
Company Name	EG-CONTRACT				
Quantity	5000 M3				

1-visual Inspection test :-

2-Gradient test :-

A-gradation of bulk materials

A-gradation of bulk materials				SAMPLE WEIGHT [g]				46154.00	gm	table classify	
sieve size	2	1.5	1	3/4	1/2	3/8	# 4	PASS	soil classify		
Mass retained (g)	0.0	3184.0	5468.0	8225.0	2997.0	2458.0	9187.0		A-1-a		
Cumulative Retained (g)	606.0	3184.0	8652.0	16877.0	19874.0	22332.0	31519.0		PRO	2.125	
Cumulative Retained %	1.3	6.9	18.7	36.6	43.1	48.4	68.3		WC	7.8	
Cumulative Passing %	98.7	93.1	81.3	63.4	56.9	51.6	31.7		CBR	84.92%	
									Corrected Proctor	2.20	
B-soft material sand											

B-soft material gradation

			WT.OF sample		500.00	gm
sieve size	10	40	200			
Cumulative Retained (g)	58.00	165.00	281.00			
Cumulative Retained %	11.60	33.00	56.20			
Cumulative Passing %	88.40	67.00	43.80			

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 %	98.7	93.1	81.3	63.4	56.9	51.6	31.7	28.0	21.2	13.9

ATTERBERG LIMITS	LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	PLASTIC INDEX (P.I.)
	21.2%	18.1%	3.1%

Contractor

*المعمل المركزي للمواد
الطريق
القطار السكك الحديدية
القاهرة*

Consultant

mohamed elsaied

m-elsaied

21-10-2023



Electric Express Train - HSR

الهيئة العامة
للمواصلات
والتنمية
(MOTI)



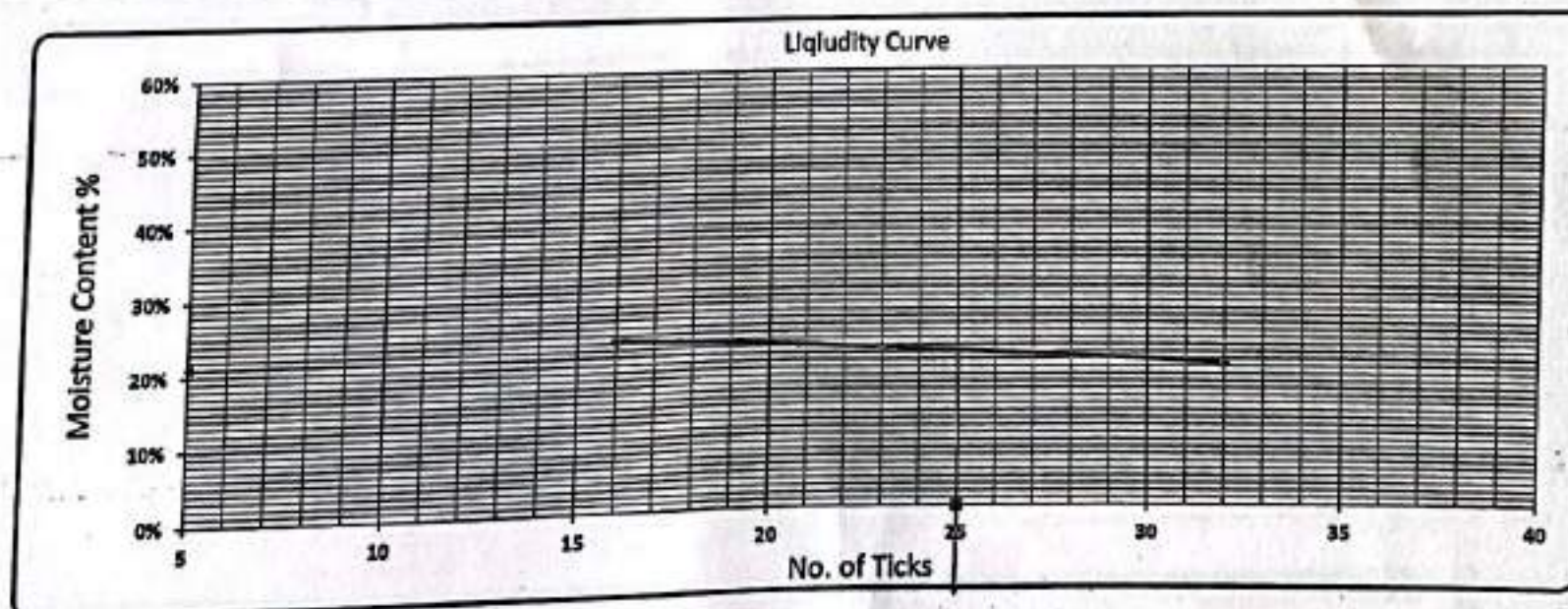
الهيئة العامة
للمواصلات
والتنمية
(MOTI)

Plasticity and Liquidity Test - Atterberg Limits

Testing Date	18-10-23	Code	Zone	From Station	To Station
Location	K.P 508+000	EG-111		507+000	509+000
Company Name	EG-CONTRACT				

Testing Results :-

Test	Liquid Limit			Plastic Limit	
	No. of Ticks	Tare No.	Tare WT. (gm)		
No. of Ticks	32	23	16		
Tare No.	8	6	7		
Tare WT. (gm)	36.26	35.82	35.99	35.35	35.80
Tare WT. + Wet WT. (gm)	61.70	59.32	63.01	55.69	62.16
Tare WT. + Dry WT. (gm)	57.55	55.14	57.91	52.59	58.10
Water WT. (gm)	4.15	4.18	5.10	3.10	4.06
Dry WT. (gm)	21.29	19.32	21.92	17.24	22.30
Moisture Content %	19.5%	21.6%	23.3%	18.0%	18.2%
Average %				18.1%	



LL	PL	PI
21.2%	18.1%	3.1%

Lab. Specialist	Lab. Engineer	Consultant Engineer
Name :	Name : <i>[Signature]</i>	Name : mohamed elsaid
Sign :	Sign : <i>[Signature]</i>	Sign : <i>[Signature]</i>
		21-10-2023



Electric Express Train - HSR



California Bearing Ratio TEST

Testing Date	21-10-2023	code	Zone	From Station	To station
Location	KP 508+000	EG-111		507+000	509+000
Company Name	EG-CONTRACT				

Test Results:

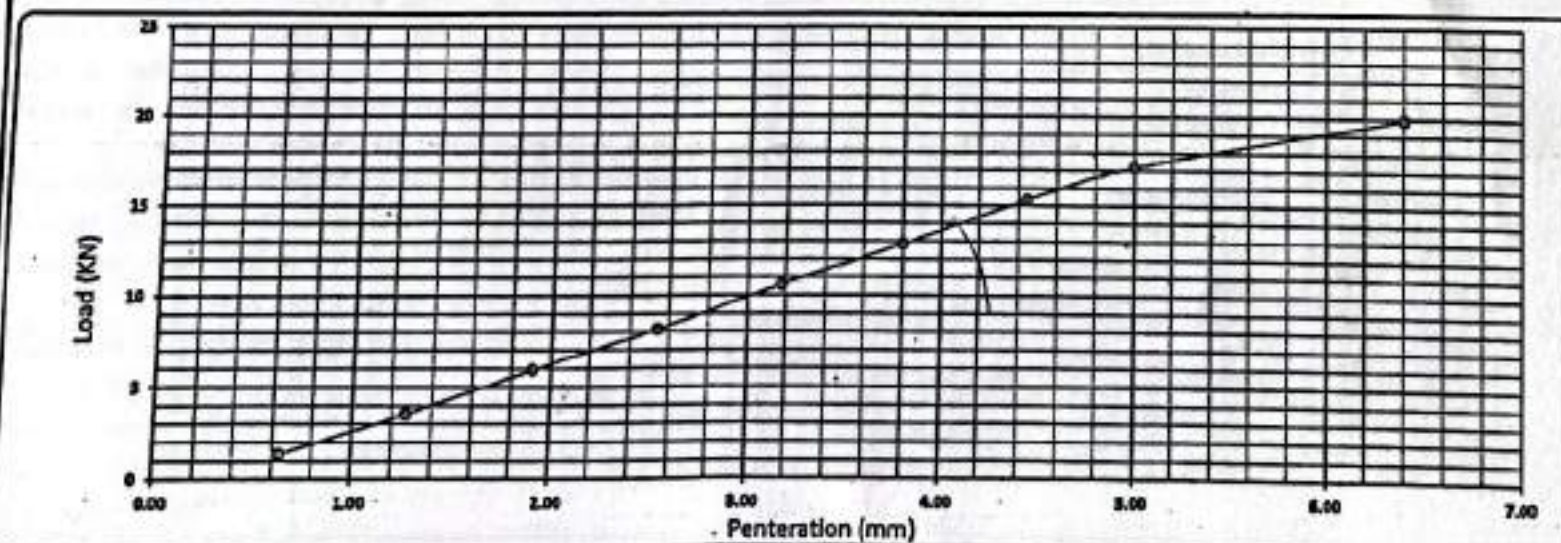
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2133
Mold WT. (gm)	7724
Mold WT. + Wet WT. (gm)	12600
Wet WT. (gm)	4876
Wet Density (g/cm ³)	2.286
Dry Density (g/cm ³)	2.103
Proctor Density (g/cm ³)	2.125
Compaction %	99

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	35.35
Tare WT. + Wet WT. (gm)	269.7
Tare WT. + Dry WT. (gm)	250.9
Water WT. (gm)	18.8
Dry WT. (gm)	215.6
Moisture Content %	8.72

Swelling	
Mold No.	1
Date	21-10-2023
Initial Height (mm)	0.00
Final Height (mm)	0.00
Difference	0.00
Sample Height (mm)	116.40
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)	139	363	609	832	1082	1312	1565	1752	2032
Load (KN)	1.4	3.6	6.0	8.2	10.6	12.9	15.3	17.2	19.9



Calculations :-

Penetration (mm)	Load (Kn)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR
2.50	8.15	13.4	61.1%	99	98	60.5%
5.00	17.17	20.0	85.7%			84.9%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

21-10-2023



Electric Express Train - HSR
From El Ain El Solhna City To El Abnagat - MATROUH
Section - 7 From FOKA To MARSA MATROUH
From Station 564+000 To Station 568+177



Al Tawkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	6/8/2023	code	ZONE	507+000	509+000
LOCATION	K.P (508)		EGG (102)	Material	fill material
TEST COMPANY	EG-CONTRACT	quantity		5000 m³	
Visual inspection test					

adjacent test

gradation of bulk materials

				TOTAL SAMPLE WEIGHT		46190.00		gm		
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	table classify	soil classify
Mass retained (g)	0.0	1150.0	5600.0	10340.0	4100.0	3050.0	7835.0		CLASS	A-1-A
cumulative Retained (g)	0.0	1150.0	6750.0	17090.0	21190.0	24240.0	32075.0	14115.0	PRO	2.19
cumulative Retained %	0.0	2.5	14.6	37.0	45.9	52.5	69.4		WC	7.50
cumulative Passing %	100.0	97.5	85.4	63.0	54.1	47.5	30.6		CBR	63.3
									CORR PRO	2.23
									CORR WC	9.50

material gradation

			WT. OF sample		500.00		gm
sieve size	10	40	200				
Mass Retained (g)	110.00	230.00	340.00				
Mass Retained %	22.00	46.00	68.00				
Mass Passing %	78.00	54.00	32.00				

material 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
Mass Passing %	100.0	97.5	85.4	63.0	54.1	47.5	30.6	23.8	18.5	9.78

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

Contractor

Name: Ahmed Haleem
Sign: [Signature]

Sign



Consultant

[Signature]

TESTING DATE: 07-08-2023
 LOCATION: K.P (508)
 NAME COMPANY: EG-CONTRACT

MODIFIED PROCTOR TEST ASTM D1557
 code: E66 (193)

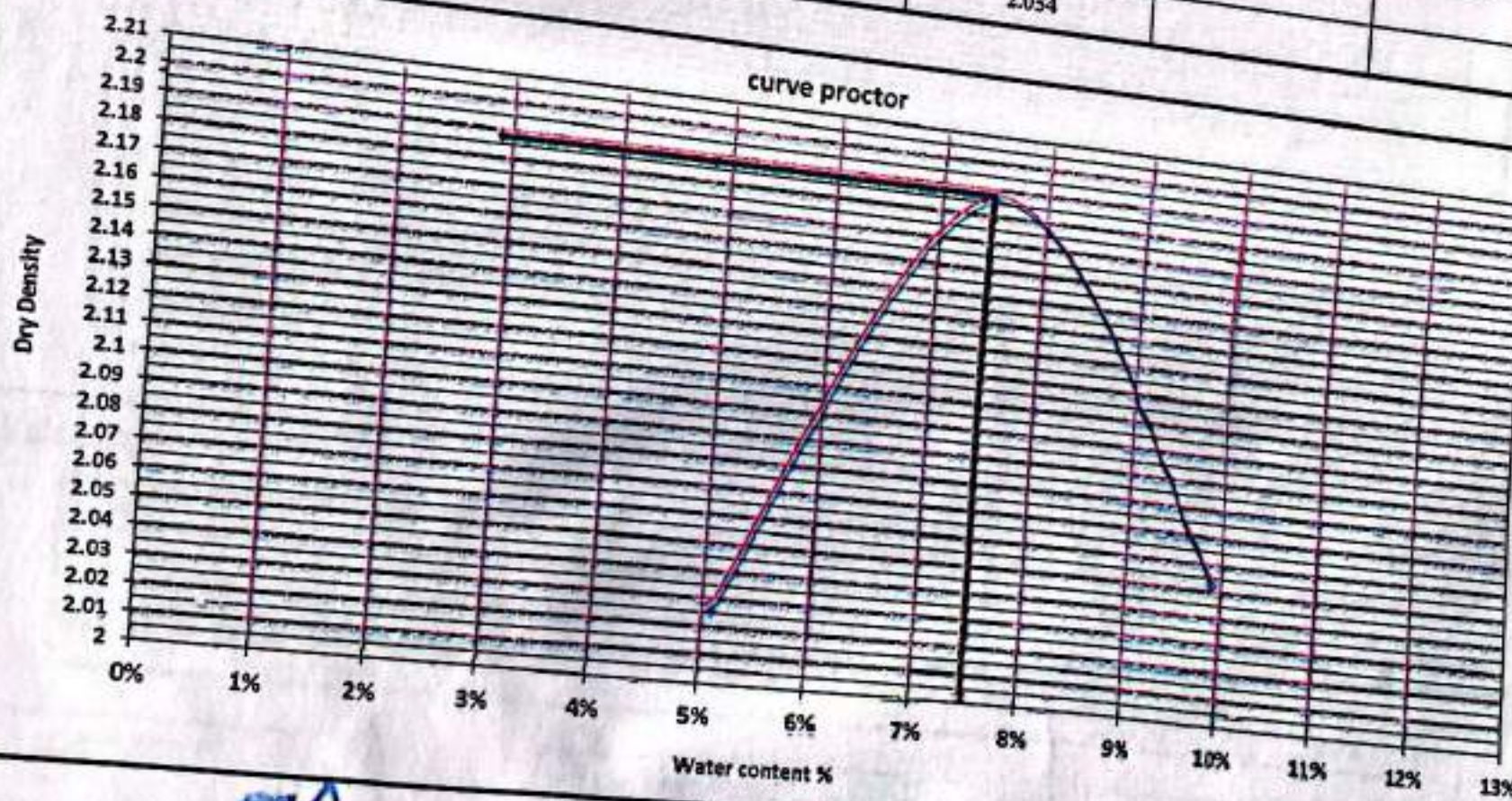
ZONE: 507+000 to 509+000
 Material: fill material
 quantity: 5000 m³

Weight of empty mold : 5620.0
 Mold Volume: 2124.0

MAX Dry Density: 2.19
 Water content %: 7.5%

trial no :	1	2	3		
Wt. Of Mold + Wet Soil	10145.0	10615.0	10415.0		
WT. WET SOIL	4525.0	4995.0	4795.0		
Wt Density	2.130	2.352	2.258		

Tare No.	3	4	5	67	8	9			
Tare wt.	54.6	54.7	53.2	53.5	56.5	56.8			
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0			
Wt. Of dry soil & tare	145.30	145.50	143.20	143.30	141.50	141.70			
Wt. Of water	4.7	4.5	6.8	6.7	8.5	8.3			
Wt. Of dry soil	90.7	90.8	90.0	89.8	85.0	84.9			
Water content %	5.2%	5.0%	7.6%	7.5%	10.0%	9.8%			
AV. Water content %	5.1%		7.5%		9.9%				
Dry Density	2.028		2.187		2.054				



Contractor

Name : Ahmed Halem

Sign :

Consultant

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-CONTRACK		quantity	5000m ³	

Test Results

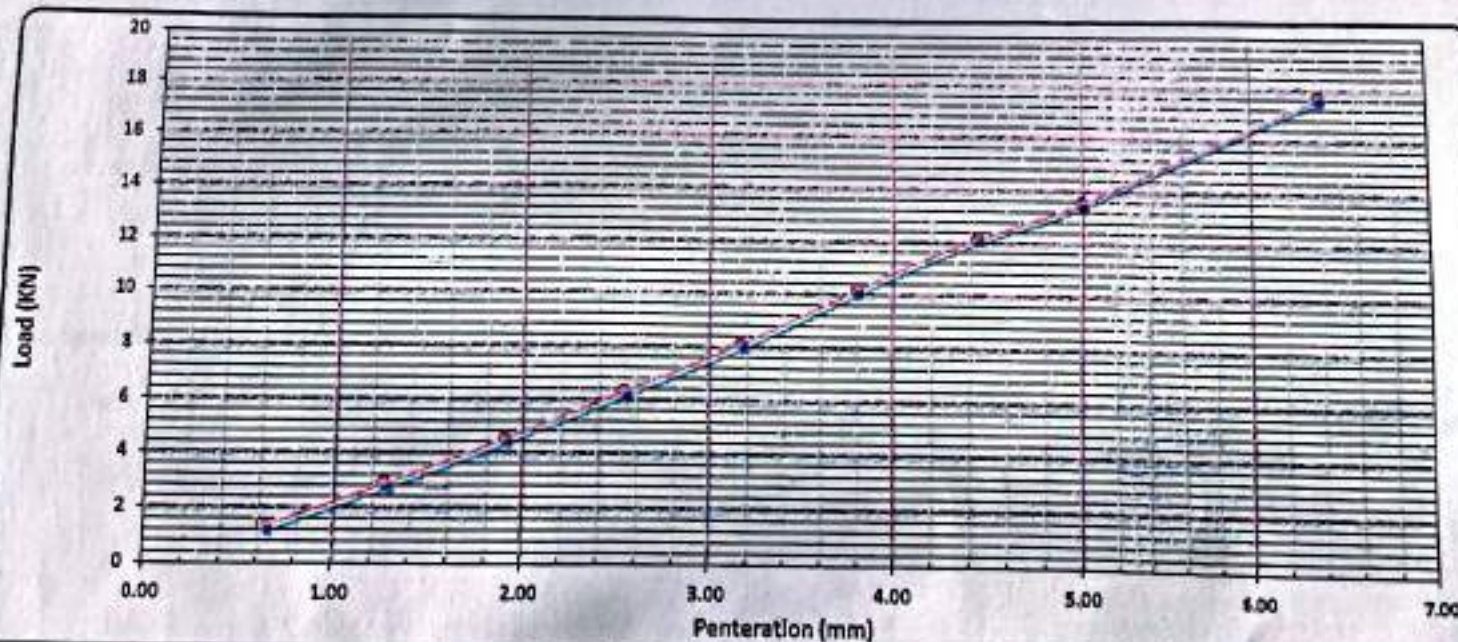
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2140
Mold WT. (gm)	8310
Mold WT. + Wet WT. (gm)	10332
Wet WT. (gm)	5022
Wet Density (g/cm ³)	2.347
Dry Density (g/cm ³)	2.186
Proctor Density (g/cm ³)	2.190
Compaction %	99.8

Moisture Ratio After Compacted Mold	
Tare No.	2
Tare WT. (gm)	55.32
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	143.5
Water WT. (gm)	6.5
Dry WT. (gm)	88.2
Moisture Content %	7.4

Swelling	
Mold No.	1
Date	8/8/2023
Initial Height (mm)	10.00
Final Height (mm)	10.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00 %

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)	154	322	505	703	902	1130	1250	1584	1963
Load (KN)	1.4	2.9	4.5	6.3	8.1	10.2	11.2	13.5	17.7



Calculations :-

Penetration (mm)	Load (KN)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR (%)
2.50	6.33	13.4	47.4%	100	99	95 % عند نسبة 95
5.00	13.54	20.0	67.6%			45.1%
						64.3%

Lab. Specialist

Lab. Engineer

Consultant Engineer

Name : Ahmed Halem

Name :

Sign

Sign

	Electric Express Train - HIR From El Ajah El Shamsia City To El Ajah El Shamsia City From El Ajah El Shamsia City To El Ajah El Shamsia City		
	From Station 504+000 To Station 509+000		
	Absorption Of coarse Aggregate		

TESTING DATE:	7/8/2023	code	Station	507+000	509+000
LOCATION	K.P (508)	EGC (103)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	5000 m ³	

Weight of sample	2500	gm
Weight of saturated surface dry sample (B)	2535	gm
Weight of saturated sample in water (C)	1493	gm
Weight of dry sample after heating (A)	2450	gm

Results:-

Bulk specific gravity = A / (B-C)	2.351	
Bulk specific gravity (S.S.D) = B / (B-C)	2.433	
Apparent specific gravity = A / (A-C)	2.560	
Absorption = (B-A)/A	3.469	%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed Haleem

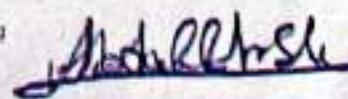
Sign :



Consultant Engineer

Name :

Sign :



Operating lap

Al Tawkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

ESTING DATE:	14/8/2023	code	ZONE	507+000	509+000
LOCATION	K.P (507)	EGC (107)	Material	fill material	
NAME COMPANY	EG-CONTRACT		quantity	5000 m³	

visual inspection test

Gradient test

-gradation of bulk materials				TOTAL SAMPLE WEIGHT		36300.00		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	6000.0	6100.0	3570.0	3520.0	2410.0		CLASS	A-1-A
Cumulative Retained (g)	0.0	2400.0	8400.0	14500.0	18070.0	21590.0	24000.0	12300.0	PRO	2.17
Cumulative Retained %	0.0	6.6	23.1	39.9	49.8	59.5	66.1		WC	8.50
Cumulative Passing %	100.0	93.4	76.9	60.1	50.2	40.5	33.88		CBR	60.8
									CORR .PRO	2.23
									CORR .WC	9.90

-soft material gradation				WT.OF sample		500.00		gm
sieve size	10	40	200					
Cumulative 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
Cumulative Passing %	100.0	93.4	76.9	60.1	50.2	40.5	33.9	26.8	19.7	11.18

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

Contractor

Name

Ahmed Haleem

Sign



Consultant

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي لدراسة وتصميم	 SYSTIA 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 للتخطيط والنقل والاقتصاد (MATROUH)

MODIFIED PROCTOR TEST ASTM D1557

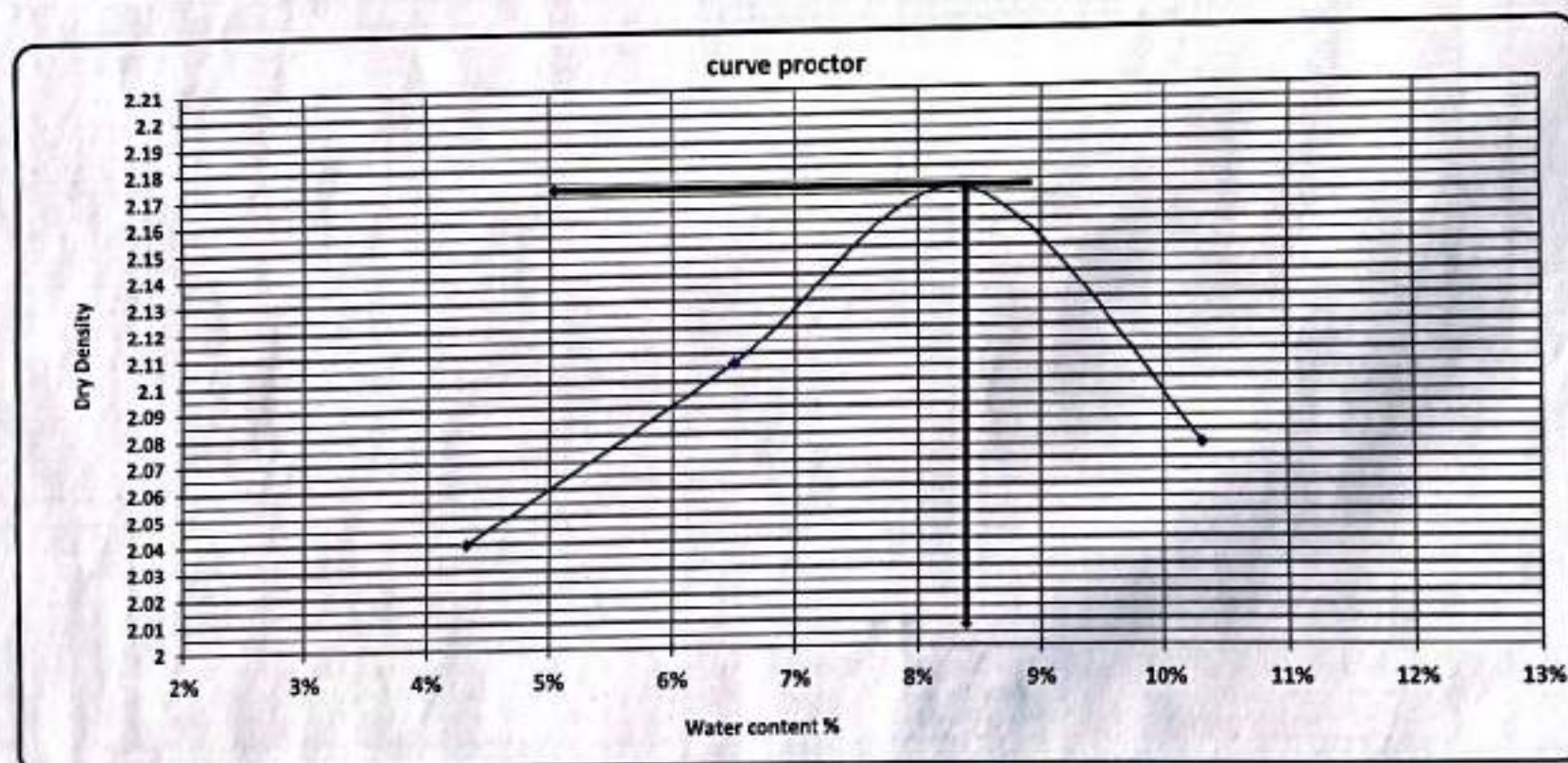
TESTING DATE:	15/8/2023	code	ZONE	507+000	509+000
LOCATION	K.P (507)	EGC (107)	Material	fill material	
NAME COMPANY	EG-CONTRACK		quantity	5000 m³	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

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	10482	
WT. WET SOIL	4520.0	4765.0	5000.0	4862.0	
Wt. Density	2.128	2.243	2.354	2.289	

Tare No.	3	6	19	11	17	7	22	14		
Tare wt.	55.72	55.88	56.08	55.33	56.61	53.52	54.76	53.66		
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	146.0	144.2	144.3	142.9	142.4	141.2	140.9		
Wt. Of water	3.8	4.0	5.8	5.7	7.1	7.6	8.8	9.1		
Wt. Of dry soil	90.5	90.1	88.1	89.0	86.3	88.9	86.4	87.2		
Water content %	4.2%	4.4%	6.6%	6.4%	8.2%	8.6%	10.2%	10.4%		
AV. Water content %	4.3%		6.5%		8.4%		10.3%			
Dry Density	2.040		2.107		2.172		2.075			



Contractor

Name : Ahmed Haleem

Sign :



Consultant

California Bearing Ratio TEST ASTM D1883

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

- : Test Results

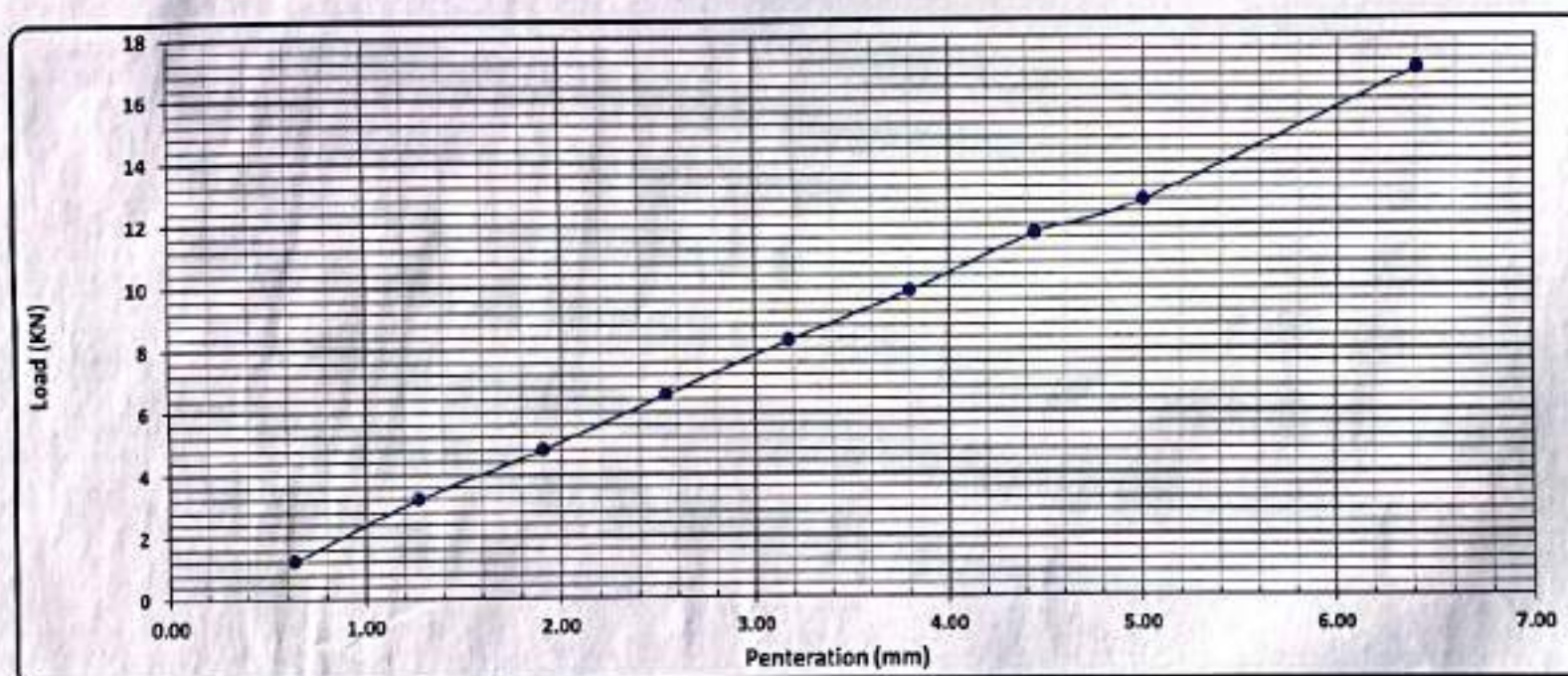
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2150
Mold WT. (gm)	5311
Mold WT. + Wet WT. (gm)	10352
Wet WT. (gm)	5041
Wet Density (g/cm ³)	2.345
Dry Density (g/cm ³)	2.165
Proctor Density (g/cm ³)	2.170
Compaction %	99.8

Moisture Ratio After Compacted Mold	
Tare No.	10
Tare WT. (gm)	53.22
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	142.6
Water WT. (gm)	7.4
Dry WT. (gm)	89.4
Moisture Content %	8.3

Swelling	
Mold No.	1
Date	16/8/2023
Initial Height (mm)	15.00
Final Height (mm)	15.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

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)	140	360	534	732	924	1100	1305	1420	1885
Load (KN)	1.3	3.2	4.8	6.6	8.3	9.9	11.7	12.8	17.0



Calculations :-

Penetration (mm)	Load (Kn)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR
2.50	6.59	13.4	49.3%	100	95	47.0%
5.00	12.78	20.0	63.8%			60.8%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed Haleem

Sign :

Consultant Engineer

Name :

Sign :

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ.د. خالد فتحي	 SYSTRA SHAKER	Electric Express Train - HSR	 الهيئة العامة للنقل الوزارة العامة للتطوير الاقتصادي
		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	
Absorbtion Of coarse Aggregate			

TESTING DATE:	15/8/2023	code	Station	507+000	509+000
LOCATION	K.P (507)	EGC (107)	Material	fill material	
NAME COMPANY	EG-CONTRACK		quantity	5000 m³	

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 = $A / (B-C)$	2.370	
Bulk specific gravity (S.S.D) = $B / (B-C)$	2.460	
Apparent specific gravity = $A / (A-C)$	2.603	
Absorption = $(B-A)/A$	3.765	%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed Haleem

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

Sample Data	UNIT	VALUE	
Total 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_{DC})	gm	13195	الوزن عشن جاف
Weight of Dry Fine Fraction (M_{DF})	gm	19838	الوزن ناعم جاف
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	

1305
1962

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

Corrected Dry Unit Weight of Total Material (Y_{DT})	(YDF * GM * YW)	2.23
	((YDF * PC) + (GM * YW * PF))	
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





 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي لدراسة وتصميم	 SVS/TA 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 للتخطيط (G.P.P.)
Operating lap	Al Tawkol Central Lab		

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	21/8/2023	code	ZONE	507+000	509+000
LOCATION	K.P (507)	EGC (109)	Material	fill material	
NAME COMPANY	EG-CONTRACK		quantity	5000 m³	
1-visual inspection test					

2-Gradient test

A-gradation of bulk materials				TOTAL SAMPLE WEIGHT		45865.00		gm	table classify	
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify	
Mass retained (g)	0.0	2800.0	5950.0	5830.0	2230.0	3450.0	5355.0		CLASS	1-1-A
Cumulative Retained (g)	0.0	2800.0	8750.0	14580.0	16810.0	20260.0	25615.0	20250.0	PRO	2.17
Cumulative Retained %	0.0	6.1	19.1	31.8	36.7	44.2	55.8		WC	7.60
Cumulative Passing %	100.0	93.9	80.9	68.2	63.3	55.8	44.15		CBR	60.6
									CORR .PRO	-
									CORR .WC	-

B-soft material gradation				WT.OF sample		500.00			
sieve size	10	20	40	60	75	100	150	200	

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	10	40	200					
Cumulative Retained (g)	80.00	190.00	334.00					
Cumulative Retained %	16.00	38.00	66.80					
Cumulative Passing %	84.00	62.00	33.20					

C-General gradient	
--------------------	--

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	93.9	80.9	68.2	63.3	55.8	44.2	37.1	27.4	14.65

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

Contractor

Name

Sign

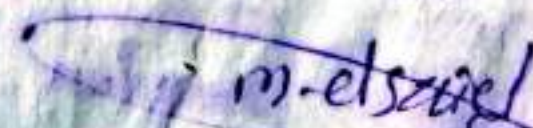
Ahmed Haleem





Consultant

Mohamed elszagel



27-8-2023

المهندس المرسى رقم (١١)

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

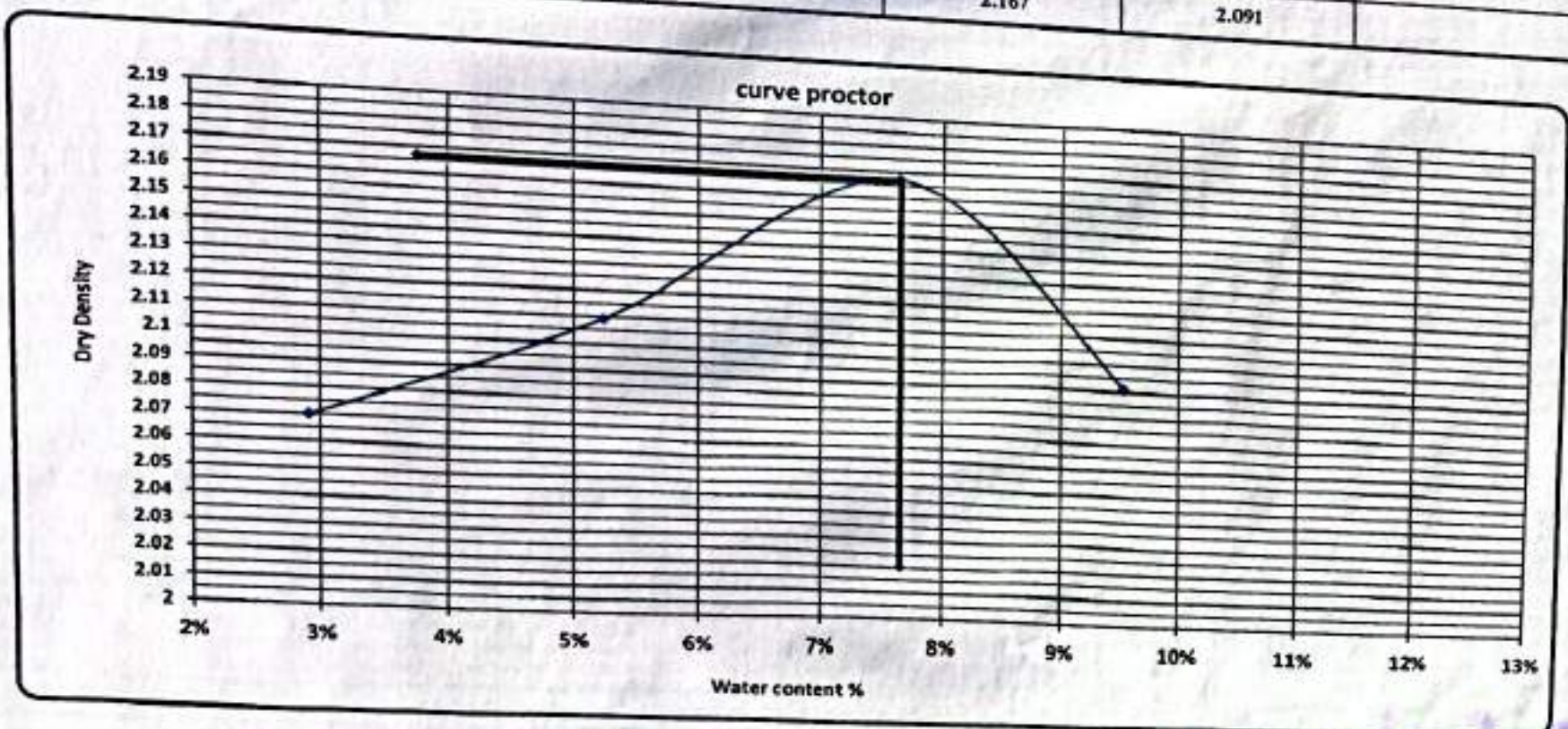
TESTING DATE:	21/8/2023		
LOCATION	K.P (507)	code	ZONE
NAME COMPANY	EG-CONTRACT	EGC (109)	507+000
			509+000
			fill material
			5000 m³

Weight of empty mold :	5620.0
Mold Volume:	2124.0

MAX Dry Density	2.17
Water content %	7.6%

trial no :	1	2	3	4	
Wt. Of Mold + Wet Soil	10145.0	10335.0	10575.0	10485	
WT. WET SOIL	4525.0	4715.0	4955.0	4865.0	
Wt. Density	2.130	2.220	2.333	2.290	

Tare No.	9	10	8	11	18	20	21	22		
Tare wt.	54.6	54.7	54.7	58.5	56.5	54.8	55.33	55.22		
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	147.2	147.4	145.3	145.4	143.3	143.3	141.8	141.7		
Wt. Of water	2.8	2.6	4.7	4.6	6.7	6.7	8.2	8.3		
Wt. Of dry soil	92.6	92.7	90.6	86.9	86.8	88.5	86.5	86.5		
Water content %	3.0%	2.8%	5.2%	5.3%	7.7%	7.6%	9.5%	9.6%		
AV. Water content %	2.9%		5.2%		7.6%		9.5%			
Dry Density	2.070		2.109		2.167		2.091			



Contractor

Name : Ahmed Haleem
 Sign :

(Signature)
 التحصيل الموثق رقم (1)

Consultant

mohamed elsaid

m. elsaid

27-8-2023

California Bearing Ratio TEST ASTM D1883

Testing Date :	23/8/2023	Code	FROM STA :	507+000	509+000
Location :	K.P (507)	EGC(109)	Material	fill material	
Company Name	EG-CONTRACT		quantity	5000m ³	

Test Results

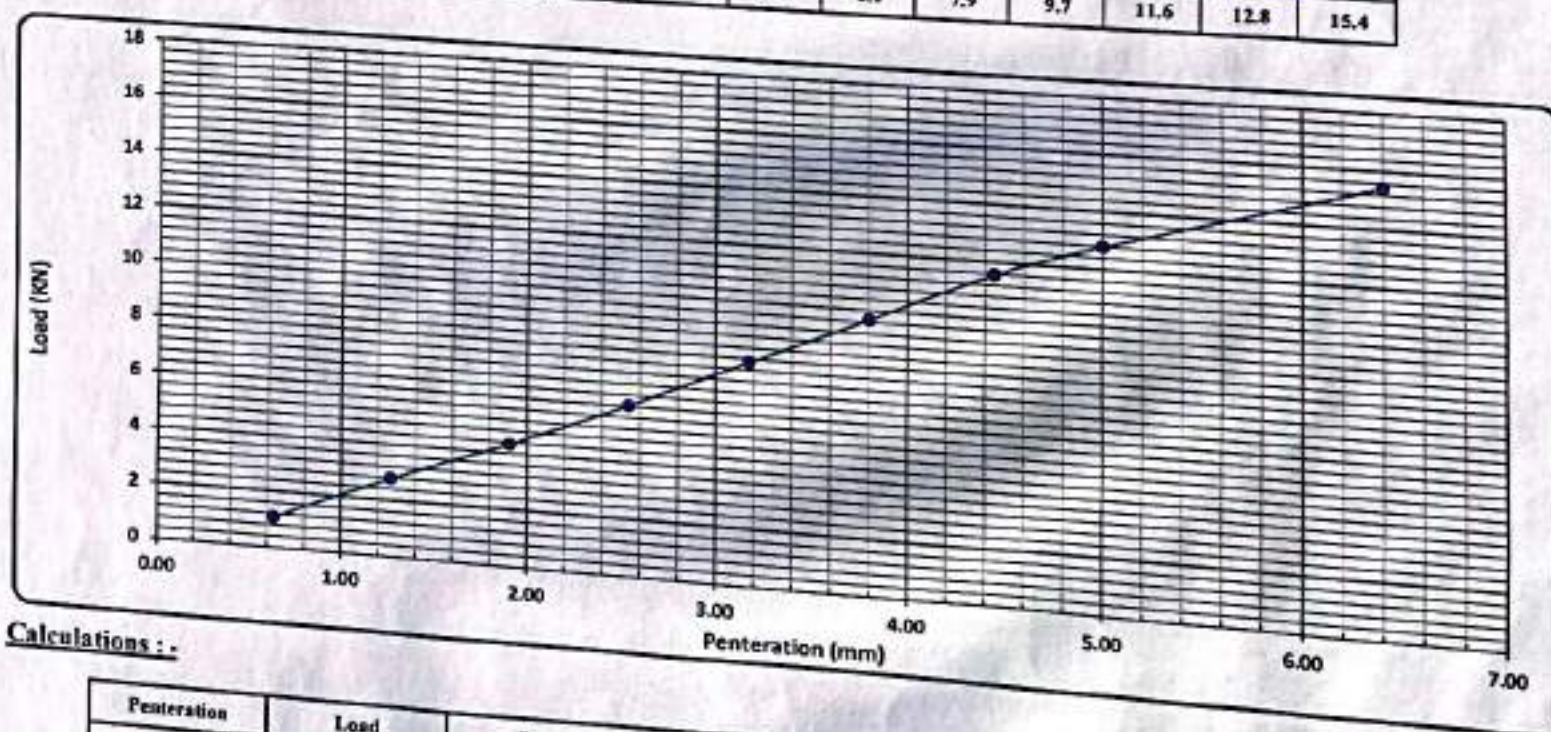
Compaction % for Mold	
Mold No.	3
Mold Vol. (cm ³)	2160
Mold WT. (gm)	4320
Mold WT. + Wet WT. (gm)	9865
Wet WT. (gm)	5945
Wet Density (g/cm ³)	2.336
Dry Density (g/cm ³)	2.179
Proctor Density (g/cm ³)	2.179
Compaction %	100.0

Moisture Ratio After Compacted Mold	
Tare No.	2
Tare WT. (gm)	55.33
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	143.3
Water WT. (gm)	6.7
Dry WT. (gm)	85.0
Moisture Content %	7.6

Swelling	
Mold No.	3
Date	23/8/2023
Initial Height (mm)	15.00
Final Height (mm)	15.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

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)	120	310	480	670	875	1075	1285	1420	1715
Load (KN)	1.1	2.8	4.3	6.0	7.9	9.7	11.6	12.8	15.4



Calculations :-

Penetration (mm)	Load (KN)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR
2.50	6.03	13.4	45.2%	100	95	95 % عند نسبة 95
5.00	12.78	20.0	63.8%			42.9%
						60.6%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Ahmed Haleem

Sign :

Consultant Engineer

Name :

Sign :

mohamed elsayed

27-8-2023