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	30-05-23	code	Zone	From Station		TO Station
Location	K.P 522+300	ARC2-13		522+000		522+500
Company Name	ALARCAN 2					

1-visual inspection test :-

2-Gradient test :-

A-gradation of bulk materials

SAMPLE WEIGHT (g)	13105.00	gm

sieve size	2	1.5	1	3/4	1/2	3/8	# 4	PASS
Mass retained (g)	0.0	470.0	4093.0	878.0	1006.0	442.0	835.0	
Cumulative Retained (g)	0.0	470.0	4563.0	5441.0	6447.0	6889.0	7724.0	
Cumulative Retained %	0.0	3.6	34.8	41.5	49.2	52.6	58.9	
Cumulative Passing %	100.0	96.4	65.2	58.5	50.8	47.4	41.1	

	table classify
	soil classify
	A-1-a
PRO	2.123
WC	7.8
CBR	61.9%
corr.pro.	2.17%
corr.O.M.C	7.50%

B-soft material gradation

WT.OF sample	500.00	gm

sieve size	10	40	200					
Cumulative Retained (g)	43.00	196.00	376.00					
Cumulative Retained %	8.60	39.20	75.20					
Cumulative Passing %	91.40	60.80	24.80					

C-General gradient

sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	96.4	65.2	58.5	50.8	47.4	41.1	37.5	25.0	10.2

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

Contractor

شركة نجيلة للمقاولات
المعمل المركزى
مشروع القطار السريع/فوكة-مطروح

Consultant
mohamed elsaied
M. elsaied
3-6-2023

Electric Express Train - HSR

California Bearing Ratio TEST

Testing Date	1-6-2023	code	Zone	From Station		To station
Location	K.P 522+300	ARC2-13		522+000		522+500
Company Name	ALARCAN 2					

Test Results:

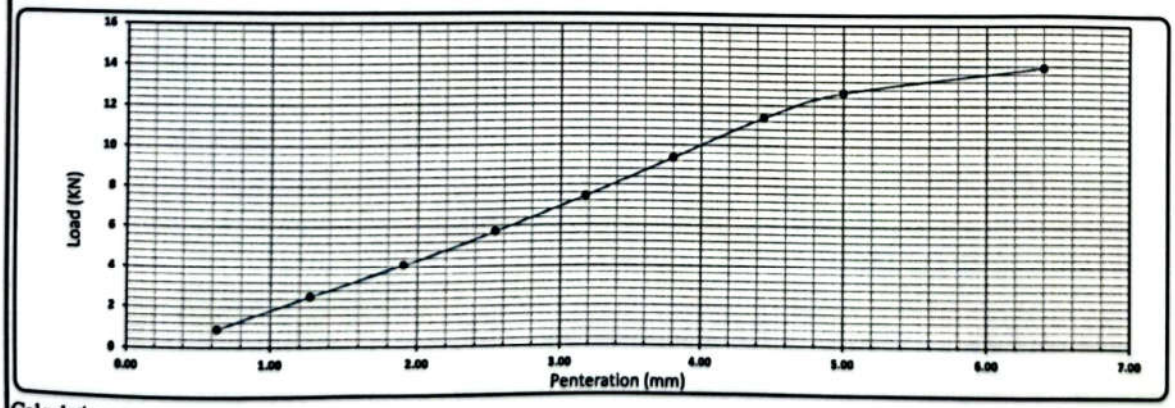
Compaction % for Mold	
Mold No.	1
Mold Vol.$^{(cm^3)}$	2170
Mold WT. (gm)	7700
Mold WT. + Wet WT. (gm)	12650
Wet WT. (gm)	4950
Wet Density$^{(g/cm^3)}$	2.281
Dry Density$^{(g/cm^3)}$	2.120
Proctor Density$^{(g/cm^3)}$	2.123
Compaction %	100

Mositure Ratio After Compacted Mold	
Tare No.	8
Tare WT. (gm)	36.26
Tare WT. +Wet WT. (gm)	143.58
Tare WT. +Dry WT. (gm)	136.02
Water WT. (gm)	7.6
Dry WT. (gm)	99.8
Moisture Content %	7.58

Swelling	
Mold No.	1
Date	1-6-2023
Intial Height (mm)	0.00
Final Height (mm)	0.00
Difference	0.00
Sample Height (mm)	116.40
Swelling Ratio %	0%

Loading Reading :

Penteration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	91	255	415	583	760	955	1162	1290	1421
Load (KN)	0.9	2.5	4.1	5.7	7.4	9.4	11.4	12.6	13.9



Calculations :-

Penteration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	% 98 عند نسبة
2.50	5.71	13.4	42.8%	100	98	42.0%
5.00	12.64	20.0	63.1%			61.9%

Lab. Specialist	Lab. Engineer	Consultant Engineer
Name :	Name :	Name : mohamed etsaied
Sign :	Sign :	Sign : m.etsaied

شركة نجيدة للمقاولات
المعمل المركزي
مشروع القطار السريع/فوكة - مطروح

3-6-2023

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

PROCTOR TEST

Testing Date	31-05-23	code	Zone	From Station	To Station
Location	K.P 522+300	ARC2-13		522+000	522+500
ALARCAN 2	ALARCAN 2				

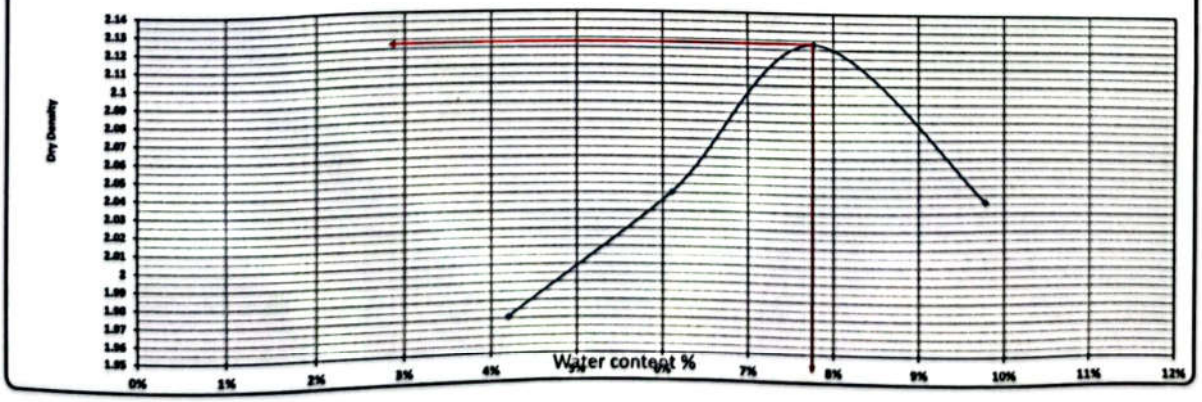
Weight of empty mold	5698.0	MAX Dry Density	2.123
Mold Volume	2127.0	Water content %	7.8

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10066.0	10303.0	10564.0	10452	
WT. WET SOIL	4368.0	4605.0	4866.0	4754.0	
Wt. Density	2.054	2.165	2.288	2.235	

Tare No.	8	6	7	4	5	6	8	5		
Tare wt.	36.26	38.82	35.99	36.28	35.35	35.8	36.26	35.35		
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	155.02	155.11	152.93	152.82	150.93	151.13	148.99	148.88		
Wt. Of water	5.0	4.9	7.1	7.2	9.1	8.9	11.0	11.1		
Wt. Of dry soil	118.8	116.3	116.9	116.5	115.6	115.3	112.7	113.5		
Water content %	4.19%	4.21%	6.05%	6.16%	7.85%	7.69%	9.77%	9.79%		
AV.Water content %	4.20%		6.10%		7.77%		9.78%			
Dry Density	1.971		2.040		2.123		2.036			

42 192

curve proctor



Contractor

شركة نجيدة للمقاولات
المعمل المركزى
مشروع القطار السريع/فوكة - مطروح

Consultant

mohamed elsaied

m-elsaied

3-6-2023

Electric Express Train - HSR

California Bearing Ratio TEST

Testing Date	3-6-2023	code	Zone	From Station		To station
Location	K.P 522+300	ARC2-14		522+000		522+500
Company Name	ALARCAN 2					

Test Results:

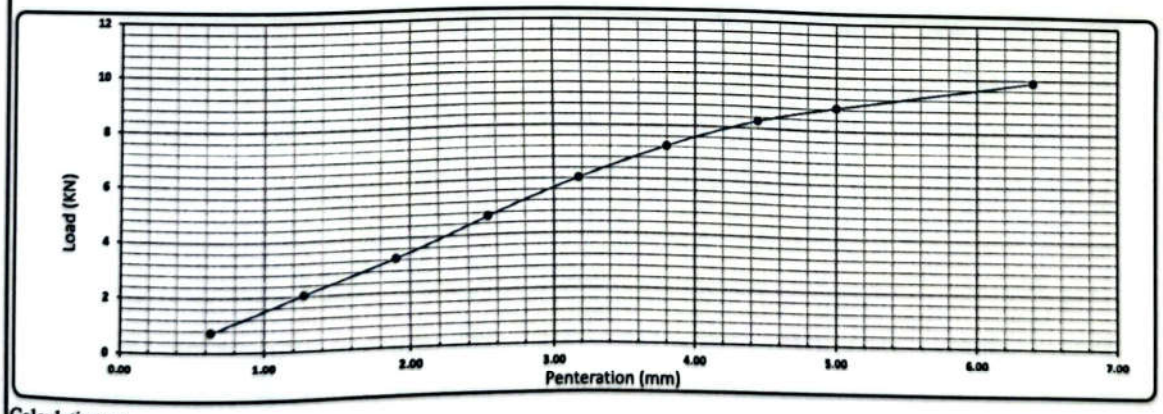
Compaction % for Mold	
Mold No.	2
Mold Vol.$^{(cm^3)}$	2134
Mold WT. (gm)	8227
Mold WT. + Wet WT. (gm)	13077
Wet WT. (gm)	4850
Wet Density$^{(g/cm^3)}$	2.273
Dry Density$^{(g/cm^3)}$	2.107
Proctor Density$^{(g/cm^3)}$	2.175
Compaction %	97

Mositure Ratio After Compacted Mold	
Tare No.	7
Tare WT. (gm)	35.99
Tare WT. +Wet WT. (gm)	183.98
Tare WT. +Dry WT. (gm)	173.16
Water WT. (gm)	10.8
Dry WT. (gm)	137.2
Moisture Content %	7.89

Swelling	
Mold No.	2
Date	3-6-2023
Intial Height (mm)	0.00
Final Height (mm)	0.00
Difference	0.00
Sample Height (mm)	116.40
Swelling Ratio %	0%

Loading Reading :

Penteration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	75	209	333	476	616	739	844	903	1010
Load (KN)	0.7	2.0	3.3	4.7	6.0	7.2	8.3	8.8	9.9



Calculations : -

Penteration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	عند نسبة 98 %
2.50	4.66	13.4	34.9%	97	98	35.4%
5.00	8.85	20.0	44.2%			44.7%

Lab. Specialist	Lab. Engineer	Consultant Engineer
Name :	Name :	Name : mohamed elsaied
Sign :	Sign :	Sign :

شركة نجيدة للمقاولات
المعمل المركزى
مشروع القطار السريع/فوكة - مطروح

m. elsaied
3-6-2023

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

PROCTOR TEST

Testing Date	31-05-23	code	Zone	From Station	To Station
Location	K.P 522+300	ARC2-14		522+000	522+500
ALARCAN 2	ALARCAN 2				

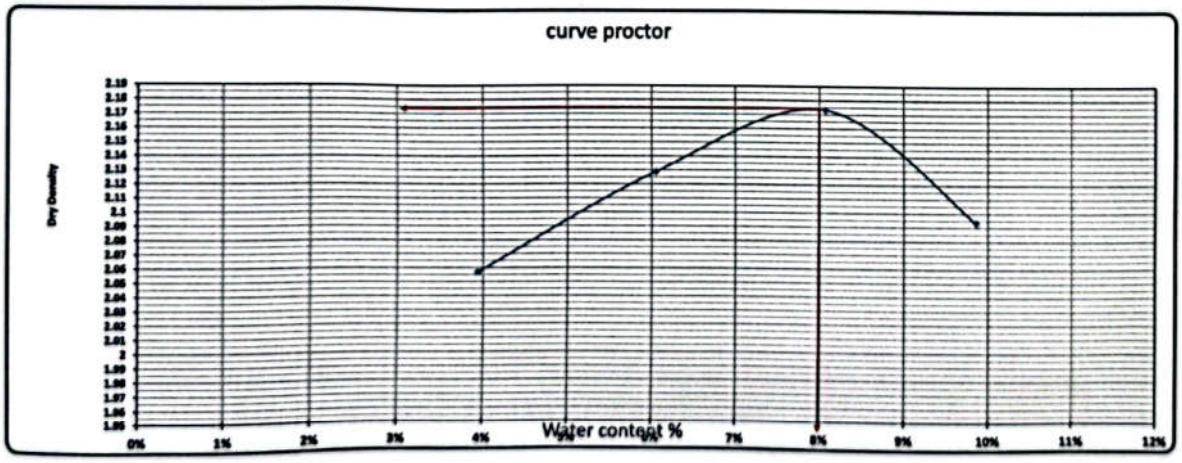
Weight of empty mold	5698.0	MAX Dry Density	2.175
Mold Volume	2127.0	Water content %	8

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10245.0	10500.0	10694.0	10590	
WT. WET SOIL	4547.0	4802.0	4996.0	4892.0	
Wt. Density	2.138	2.258	2.349	2.300	

Tare No.	8	6	7	4	5	6	8	5		
Tare wt.	36.26	38.82	35.99	36.28	35.35	35.8	36.26	35.35		
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	155.28	155.45	153.01	152.85	150.66	150.76	148.96	148.75		
Wt. Of water	4.7	4.6	7.0	7.2	9.3	9.2	11.0	11.3		
Wt. Of dry soil	119.0	116.6	117.0	116.6	115.3	115.0	112.7	113.4		
Water content %	3.97%	3.90%	5.97%	6.13%	8.10%	8.04%	9.80%	9.92%		
AV.Water content %	3.93%		6.05%		8.07%		9.86%			
Dry Density	2.057		2.129		2.173		2.094			

42 192

curve proctor



Contractor

شركة تنجيه للمقاولات
المعمل المركزى
مشروع القطار السريع / فوكة - مطروح

Consultant

mohamed elsaied

3-6-2023

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	31-05-23	code	Zone	From Station		TO Station
Location	K.P 522+300	ARC2-14		522+000		522+500
Company Name	ALARCAN 2					

1-visual inspection test :-

2-Gradient test :-

A-gradation of bulk materials

SAMPLE WEIGHT [g] 46052.00 gm

sieve size	2	1.5	1	3/4	1/2	3/8	# 4	PASS
Mass retained (g)	177.0	4552.0	6268.0	3671.0	3573.0	1886.0	4100.0	
Cumulative Retained (g)	177.0	4552.0	10820.0	14491.0	18064.0	19950.0	24050.0	
Cumulative Retained %	0.4	9.9	23.5	31.5	39.2	43.3	52.2	
Cumulative Passing %	99.6	90.1	76.5	68.5	60.8	56.7	47.8	

	table classify
	soil classify
	A-1-a
PRO	2.175
WC	8
CBR	44.7%

B-soft material gradation

WT.OF sample 500.00 gm

sieve size	10	40	200
Cumulative Retained (g)	57.00	201.00	369.00
Cumulative Retained %	11.40	40.20	73.80
Cumulative Passing %	88.60	59.80	26.20

C-General gradient

sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	99.6	90.1	76.5	68.5	60.8	56.7	47.8	42.3	28.6	12.5

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

Contractor

شركة نجيدة للمقاولات
المعمل المركزى
مشروع القطار السريع/فوكة - مطروح

Consultant
mohamed elsaied
3-6-2023

MATERIAL INSPECTION REQUEST

Contractor Company	ALARCAN 2				Designer Company						
Issued by Contractor	Name	Sign			Date			Time			
	Eng/Salman gamal				03/6/2023						
Contractor Refrence	ARC-15										
Received by ER			MIR		C1	C2	C3	DD	MM	YY	HH	MM
								03	6	2023		

CODE-1	S1 to S21 Station Reference	D1 to S5 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE-2	Work Activity		
CODE-3	Sub Element of Activity		-

Description of Materials	Fill Material Result		
Location to be Used	522+000 522+120 -2.5 522+000 522+220 -2		
MAR Approval No	AR2-15	Date	
Supplier Name			
Test Requirement		Specification	Clause
Reference Photos	Yes attached / No	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	L.L & P.L & O.M.C %	m3	5000	1-6-2023	
2	Proctor	m3	5000	1-6-2023	
3	Classification	m3	5000	1-6-2023	
4	Sieve Analysis	m3	5000	1-6-2023	
5	C.B.R	m3	5000	3-6-2023	

Comments by:	Comments by:
	تاريخ الصلاحية والانتهاء مطابقة كيميائية حتى حوالى 5174

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng/ salman gamal			
QA/QC *	Ahmed Abdelaid			
GARB**				
Employers Representative				

* Designer

** Alignment / Bridges. Culvert Only

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

PROCTOR TEST

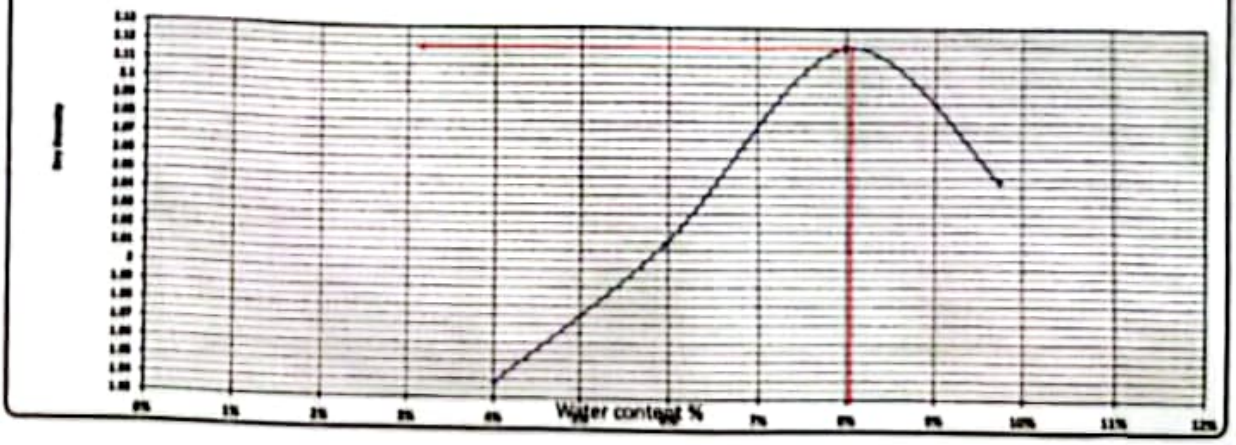
Testing Date	01-06-23	code	Zone	From Station	To Station
Location	KM 522+000	ARC2-15		522+000	522+500
ALAMEIN 2	ALAMEIN 2				

Weight of empty mold	5807.0	MAX Dry Density	2.13
Mold Volume	2129.0	Water content %	9.1

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10100.0	10350.0	10681.0	10592	
WT. WET SOIL	4293.0	4543.0	4874.0	4785.0	
Wt. Density	2.016	2.134	2.289	2.248	

Tare No.	8	6	7	4	5	6	8	5		
Tare wt.	36.26	38.82	35.99	36.28	35.35	35.8	36.26	35.35		
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	155.22	155.35	153.00	153.07	150.72	150.90	149.00	148.96		
Wt. Of water	4.8	4.7	7.0	6.9	9.3	9.1	11.0	11.0		
Wt. Of dry soil	119.0	116.5	117.0	116.8	115.4	115.1	112.7	113.6		
Water content %	4.02%	3.99%	5.98%	5.93%	8.04%	7.91%	9.76%	9.72%		
AV.Water content %	4.00%		5.96%		7.97%		9.74%			
Dry Density	2.014		2.014		2.120		2.060			

curve proctor



Contractor

شركة نجيدة للمقاولات
المعمل المركزى
مشروع القطار السريع / فوكة - مطروح

Consultant

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	01-06-23	code	Zone	From Station		TO Station
Location	K.P 522+300	ARC2-15		522+000		522+500
Company Name	ALARCAN 2					

1-visual inspection test :-

2-Gradient test :-

A-gradation of bulk materials — SAMPLE WEIGHT (g): 27535.00 gm

sieve size	2	1.5	1	3/4	1/2	3/8	# 4	PASS
Mass retained (g)	404.0	3312.0	3784.0	3000.0	2697.0	962.0	2121.0	
Cumulative Retained (g)	404.0	3312.0	7096.0	10096.0	12793.0	13755.0	15876.0	
Cumulative Retained %	1.5	12.0	25.8	36.7	46.5	50.0	57.7	
Cumulative Passing %	98.5	88.0	74.2	63.3	53.5	50.0	42.3	

	table classify
	soil classify
	A-1-a
PRO	2.120
WC	8.1
CBR	65.3%
corr.pro.	2.198%
corr.O.M.C	7.80%

B-soft material gradation — WT.OF sample: 500.00 gm

sieve size	10	40	200					
Cumulative Retained (g)	84.00	211.00	337.00					
Cumulative Retained %	16.80	42.20	67.40					
Cumulative Passing %	83.20	57.80	32.60					

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 %	98.5	88.0	74.2	63.3	53.5	50.0	42.3	35.2	24.5	13.8

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

Contractor

شركة نجيدة للمقاولات
المعمل المركزي
مشروع القطار السريع/فوكة - مطروح

Consultant

Electric Express Train - HSR

California Bearing Ratio TEST

Testing Date	3-6-2023	code	Zone	From Station		To station
Location	K.P 522+300	ARC2-15		522+000		522+500
Company Name	ALARCAN 1					

Test Results:

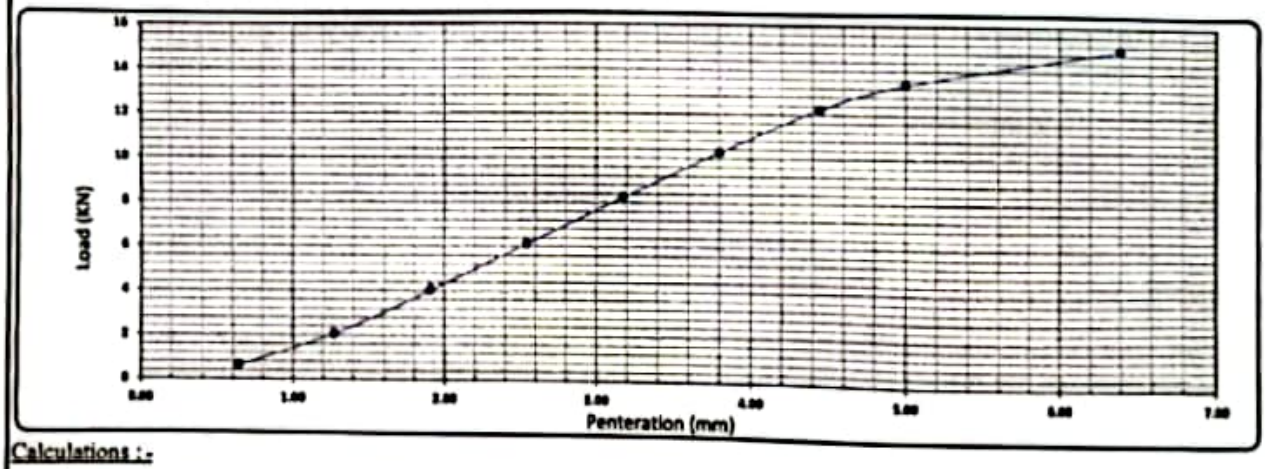
Compaction % for Mold	
Mold No.	1
Mold Vol.$^{(cm^3)}$	2170
Mold WT. (gm)	7700
Mold WT. + Wet WT. (gm)	12680
Wet WT. (gm)	4980
Wet Density$^{(g/cm^3)}$	2.295
Dry Density$^{(g/cm^3)}$	2.126
Proctor Density$^{(g/cm^3)}$	2.120
Compaction %	100

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	35.35
Tare WT. +Wet WT. (gm)	156.01
Tare WT. +Dry WT. (gm)	147.13
Water WT. (gm)	8.9
Dry WT. (gm)	111.8
Moisture Content %	7.94

Swelling	
Mold No.	1
Date	3-6-2023
Intial Height (mm)	0.00
Final Height (mm)	0.00
Difference	0.00
Sample Height (mm)	116.40
Swelling Ratio %	0%

Loading Reading :

Penteration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (kg)	66	212	414	626	842	1050	1250	1365	1533
Load (KN)	0.6	2.1	4.1	6.1	8.3	10.3	12.3	13.4	15.0



Calculations :-

Penteration (mm)	Load (Kn)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR عند نسبة 98 %
2.50	6.13	13.4	46.0%	100	98	44.9%
5.00	13.38	20.0	66.8%			65.3%

Lab. Specialist	Lab. Engineer	Consultant Engineer
Name :	Name :	Name :
Sign :		Sign :

شركة نجيدة للمقاولات
المعمل المركزي
مشروع القطار السريع/ فوكة - مطروح

MATERIAL APPROVAL REQUEST

Location Name	Contractor Company	Designer Company
Electric express train	ALARCAN 2	k.k

	Name	Sign	Date	Time
Issued by Contractor	Eng/Salman gamal		3/6/2023	
Contractor Reference	AR2-15			

Received by ER			MAR

C1	C2	C3	DD	MM	YY	HH	MM
			3	6	2023		

The Following Test Result are Attached For Review

Description of Materials	Soil (A-1-a)
Location to be Used	522+050

Item	AR2-15	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	13.8 %	
4	ASTM D 4318	Atterberg limit	N.P	
5	ASTM D 2974	Moisture content	7.8%	
6	ASTM D 1557	Modified proctor	2.198%	
7	ASTM D 1883	CBR	65.3 %	

Comments by:	Comments by:
	تتابع الملاحيات والمنفات مطابقه لكميات مثل حوالى 5174

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng/salman gamal			
Contractor QA/QC *	AhmedAbozid			
GARB**				
Employers Representative				

* Designer

** Alignment/Bridges: Culvert only

ENGINEERING CONSULTING OFFICE
المكتب الاستشاري الهندسي
أ.د خالد فتحيل

SYSTRA SHAKER

Electric Express Train - HSR

الهيئة القومية للأنفاق

Opreating Lab: AL Nuby Central Lab

California Bearing Ratio TEST

Testing Date :	09-06-2023	Code	FROM STA :	522+000	522+250
Location :	K.P (522+250)	ARC 2 (16)			
Company Name	AL Arkan 2				

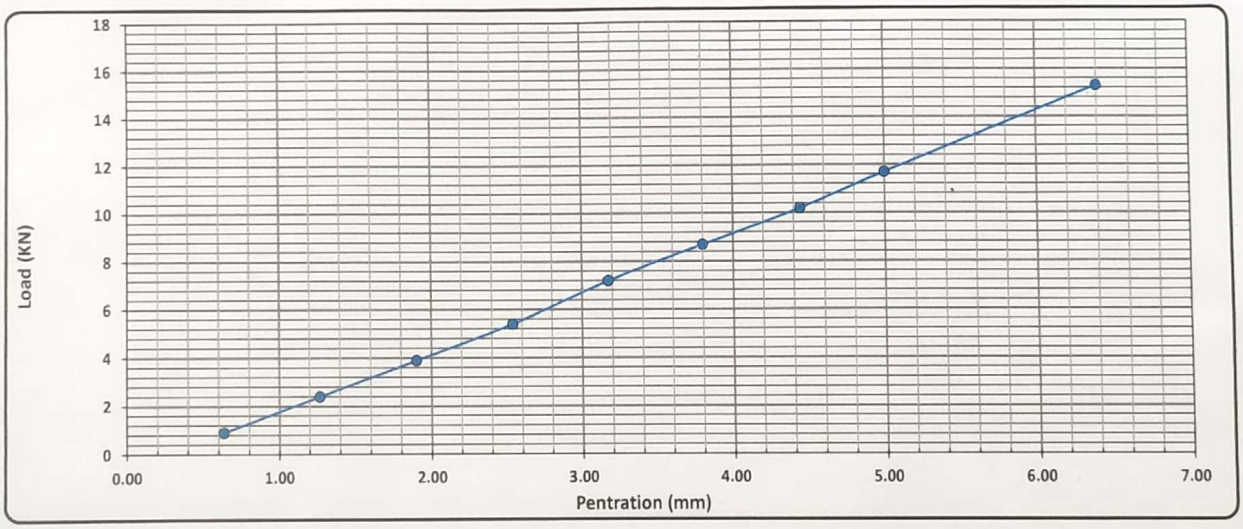
-: Test Results

Compaction % for Mold	
Mold No.	1
Mold Vol. (cm^3)	2205
Mold WT. (gm)	5034
Mold WT. + Wet WT. (gm)	10063
Wet WT. (gm)	5029
Wet Density (g/cm^3)	2.281
Dry Density (g/cm^3)	2.129
Proctor Density (g/cm^3)	2.175
Compaction %	97.9

Mositure Ratio After Compacted Mold	
Tare No.	7
Tare WT. (gm)	41.5
Tare WT. +Wet WT. (gm)	150
Tare WT. +Dry WT. (gm)	142.8
Wt. Water	7.2
Dry WT. (gm)	101.3
Moisture Content %	7.1

Swelling	
Mold No.	1
Date	09-06-2023
Intial Height (mm)	0.00
Final Height (mm)	0.00
Difference	0
Sample Height (mm)	120.00
Swelling Ratio %	0.0%

Pentration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (mm)	0.03	0.08	0.13	0.18	0.24	0.29	0.34	0.39	0.51
Load (KN)	0.9	2.4	3.9	5.4	7.2	8.7	10.2	11.7	15.3



Calculations : -

Penteration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(Ib)	(%)	(%)	(%)	% عند نسبة ٩٨
2.50	5.40	13.4	40.4%	98	98	40.5%
5.00	11.70	20.0	58.4%			58.5%

Lab. Specialist	Lab. Engineer	Consultant Engineer
Name :	Name :	Name :
Sign :	Sign :	Sign :

Electric Express Train - HSR

From El Ain El Sokhna City To El Alamein - MATROUH

Section - 7 From FOKA TO MARSA MATROUH

From Station 504+000 To Station 568+177

PROCTOR TEST

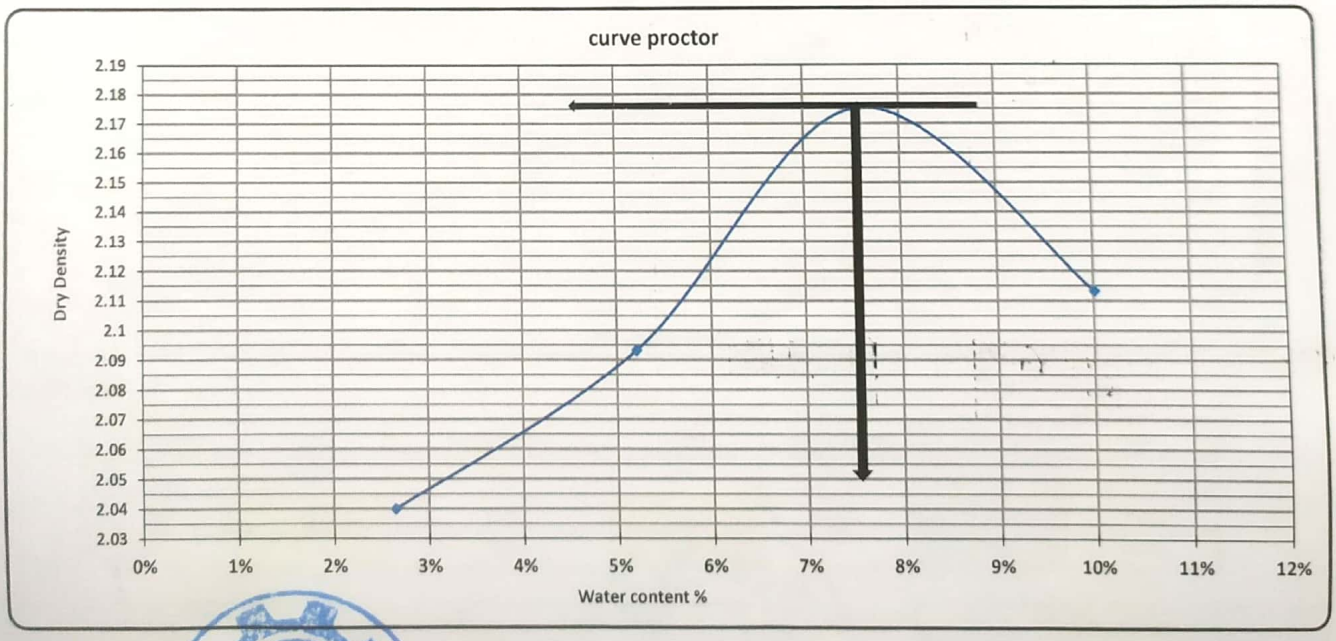
TESTING DATE:	5-6-2023	Code	zone	522+000	522+250
LOCATION	K.P (522+250)	ARC 2 (16)			
NAME COMPANY	AL Arkan 2				

Weight of empty mold :	6280.0
Mold Volume:	2022.0

MAX Dry Density	2.175
Water content %	7.5

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10514.0	10733.0	11012.0	10981	
WT. WET SOIL	4234.0	4453.0	4732.0	4701.0	
Wt. Density	2.094	2.202	2.340	2.325	

Tare No.	18	80	15	22	47	13	37	7		
Tare wt.	52.9	45.8	30.8	59.1	45.7	45.5	80.2	41.5		
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	147.6	147.2	144.1	145.5	143.1	142.2	143.6	140.2		
Wt. Of water	2.4	2.8	5.9	4.5	6.9	7.8	6.4	9.8		
Wt. Of dry soil	94.7	101.4	113.3	86.4	97.4	96.7	63.4	98.7		
Water content %	2.5%	2.8%	5.2%	5.2%	7.1%	8.1%	10.1%	9.9%		
AV.Water content %	2.6%		5.2%		7.6%		10.0%			
Dry Density	2.040		2.093		2.175		2.113			



Contractor

Consultant

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

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 القومية للأنفاق
(GARBLT)

Opreating Lab | AL Nuby Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	5-6-2023	Code	zone	522+000	522+250
LOCATION	K.P (522+250)	ARC 2 (16)			
NAME COMPANY	AL Arkan 2				

1-visual inspection test

2-Gradient test

A-gradation of bulk materials — SAMPLE WEIGHT [g]: 22254.00 gm

sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS
Mass retained (g)	0.0	1928.0	2300.0	2700.0	1694.0	1800.0	1200.0	
Cumulative Retained (g)	0.0	1928.0	4228.0	6928.0	8622.0	10422.0	11622.0	
Cumulative Retained %	0.0	8.7	19.0	31.1	38.7	46.8	52.2	
Cumulative Passing %	100.0	91.3	81.0	68.9	61.3	53.2	47.8	

	table classify
	soil classify
	A-1-a
PRO	2.175
WC	7.50
CBR	58.50

B-soft material gradation — WT.OF sample: 500.00 gm

sieve size	10	40	200					
Cumulative Retained (g)	72.00	200.00	350.00					
Cumulative Retained %	14.40	40.00	70.00					
Cumulative Passing %	85.60	60.00	30.00					

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	91.3	81.0	68.9	61.3	53.2	47.8	40.9	28.7	14.3

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

Contractor

Consultant

MATERIAL APPROVAL REQUEST

Contractor Company	AL-Arkan for general contracting			Designer Company							
Issued by Contractor	Name	Sign		Date			Time				
	Eng/ Salman Gamal										
Contractor Reference	ARC2-16										
Received by ER			MAR	C1	C2	C3	DD	MM	YY	HH	MM
							09	06	2023		

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

Description of Materials		Soil (A-1-A)		
Location to be stock		522+100		
Item	**Specificatin**	**Test requirement**	**Test result attachment**	**Remarks**
1	ASTM D75	Aggregate sampling	**According to SPCS**	
2	ASTM C136	Sieve Analysis	**According to SPCS**	
3	ASTM D1440	Passing sieve #200	**14.3**	
4	ASTM D4318	Atterberg limit	**NP**	
5	ASTM 2974	Moisture content	**7.50**	
6	ASTM D1557	Modified Proctor	**2.175**	
7	ASTM D1883	CBR	**58.50**	

Comments by:	**Comments by:**

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

MATERIAL INSPECTION REQUEST

Contractor Company	AL-Arkan for general contracting				Designer Company						
Issued by Contractor	Name	Sign			Date			Time			
	Eng/ Salman Gamal										
Contractor Reference	ARC2-16										
Received by ER			MIR		C1	C2	C3	DD	MM	YY	HH	MM
								09	06	2023		

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

Description of Materials	REPLACMENT FILL MATERIAL RESULTS				
Location to be Used	522+000 to 522+220 (-1.75) 522+000 to 522+220 (-1.50) 522+300 to 522+500 (-0.50) 522+000 to 522+100 (-0.25)				
MAR Approval No			Date		
Supplier Name					
Test Requirement		Specification	Clause		
Reference Photos	Yes attached / No	Other			

Item	Description	Unit	Quantity	Arrival Date	Note
1	**Seive Analysis**	**M^3**	**5000**	**05/06/2023**	
2	**Atterberg Limits**	**M^3**	**5000**	**05/06/2023**	
3	**Proctor**	**M^3**	**5000**	**05/06/2023**	
4	**CBR**	**M^3**	**5000**	**09/06/2023**	

Comments by:	**Comments by:**
A sample has been taken from fill material by KK Office to (AL-Nuby Central Lab) and the results founded meet the specifications accepted	

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	**Eng/ Salman Gamal**			
QA/QC *				
GARB**				
Employers Representative				