

Operating Lab Negida Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

Description of Materials Embankment

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

1-visual inspection test :-

2-Gradient test :-

A-gradation of bulk materials			SAMPLE WEIGHT [g]			13105.00		gm	table classify	
sieve size	2	1.5	1	3/4	1/2	3/8	# 4	PASS	soil classify	
Mass retained (g)	0.0	470.0	4093.0	878.0	1006.0	442.0	835.0		A-1-a	
Cumulative Retained (g)	0.0	470.0	4563.0	5441.0	6447.0	6889.0	7724.0		PRO	2.123
Cumulative Retained %	0.0	3.6	34.8	41.5	49.2	52.6	58.9		WC	7.8
Cumulative Passing %	100.0	96.4	65.2	58.5	50.8	47.4	41.1		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 LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
			N.P

Contractor

Consultant

mohamed elsaied

شركة تعبئة للمواد
المعمل المركزي
مشروع القطار السريع / فوكا - مطروح

m. elsaied

3-6-2023

California Bearing Ratio TEST

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

Test Results:

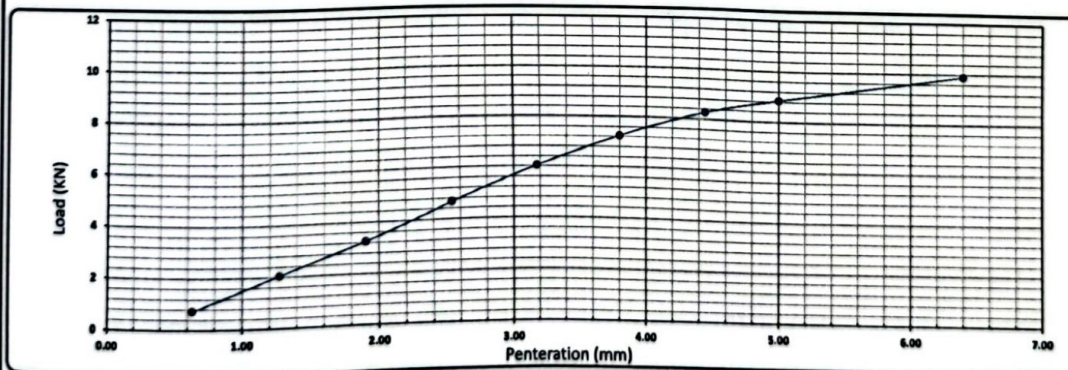
Compaction % for Mold	
Mold No.	2
Mold Vol. (cm ³)	2134
Mold WT. (gm)	8227
Mold WT. + Wet WT. (gm)	13077
Wet WT. (gm)	4850
Wet Density (g/cm ³)	2.273
Dry Density (g/cm ³)	2.107
Proctor Density (g/cm ³)	2.175
Compaction %	97

Moisture 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
Initial Height (mm)	0.00
Final Height (mm)	0.00
Difference	0.00
Sample Height (mm)	116.40
Swelling Ratio %	0%

Loading Reading :

Pentration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (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 :-

Pentration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	معدل 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

Name :

Sign :

Lab. Engineer

Name :

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

Consultant Engineer

Name : mohamed elsaied

Sign :

m. elsaied

3-6-2023

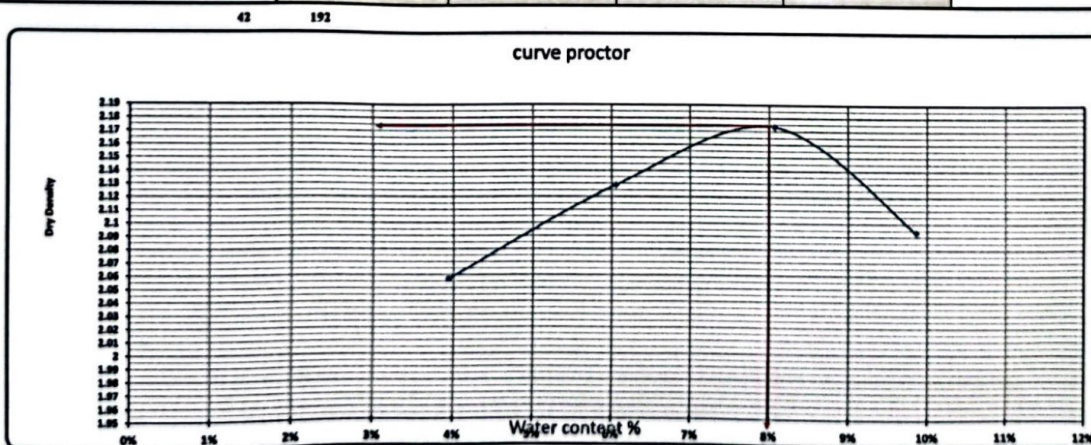
PROCTOR TEST

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



Contractor

Consultant

mohamed elsaid

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

m.elsaid

3-6-2023



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



Operating Lab Negida Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

Description of Materials Embankment

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

1-visual inspection test :-

2-Gradient test :-

A-gradation of bulk materials				SAMPLE WEIGHT [g]				46052.00	gm	table classify	
sieve size	2	1.5	1	3/4	1/2	3/8	# 4	PASS		soil classify	
Mass retained (g)	177.0	4552.0	6268.0	3671.0	3573.0	1886.0	4100.0			A-1-a	
Cumulative Retained (g)	177.0	4552.0	10820.0	14491.0	18064.0	19950.0	24050.0		PRO	2.175	
Cumulative Retained %	0.4	9.9	23.5	31.5	39.2	43.3	52.2		WC	8	
Cumulative Passing %	99.6	90.1	76.5	68.5	60.8	56.7	47.8		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						

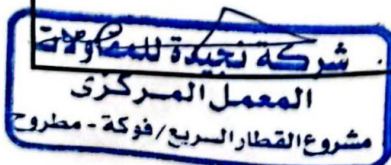
C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	99.6	90.1	76.5	68.5	60.8	56.7	47.8	42.3	28.6	12.5

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

Contractor

Consultant

mohamed elsaied



m.elsaied

3-6-2023

California Bearing Ratio TEST

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

Test Results:

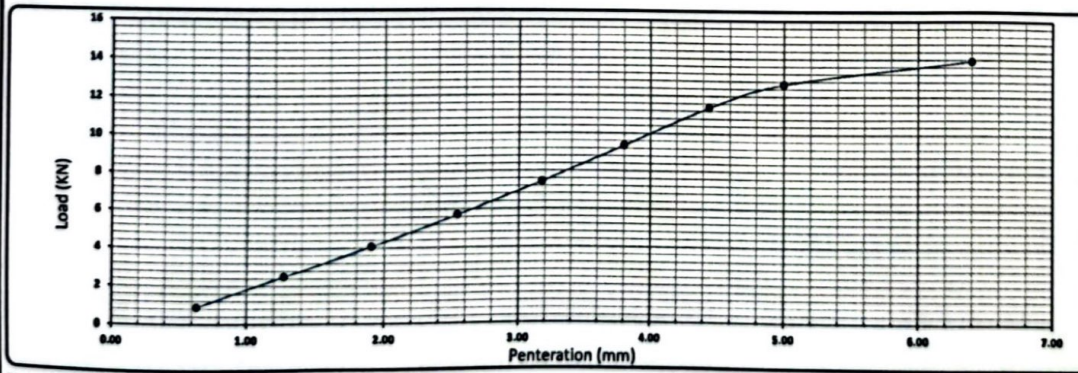
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2170
Mold WT. (gm)	7700
Mold WT. + Wet WT. (gm)	12650
Wet WT. (gm)	4950
Wet Density (g/cm ³)	2.281
Dry Density (g/cm ³)	2.120
Proctor Density (g/cm ³)	2.123
Compaction %	100

Moisture 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
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)	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 :-

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

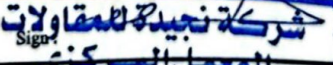
Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :


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

Consultant Engineer

Name : mohamed elsaied

Sign : 

3-6-2023

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				

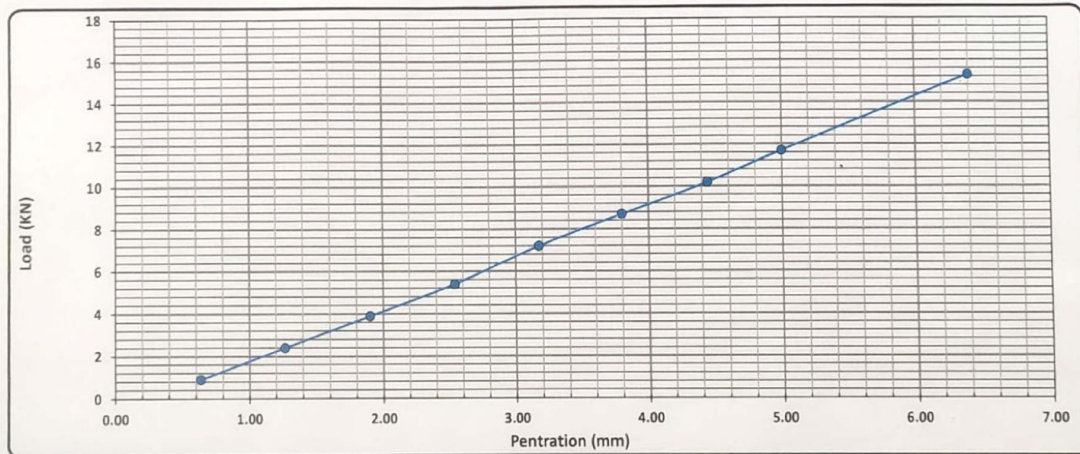
- : Test Results

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 :-

Pentration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	% عند نمية 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

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

Tare No.	18	80	15	22	47	13	37	7		
Tare wt.	52.0	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 قنديل	 SVSRA SHAKER	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSА MATROUH From Station 504+000 To Station 568+177		 الهيئة العامة للإحصاء مصر
		Operating Lab: AL Nuby Central Lab		
		PARTICLE SIZE DISTRIBUTION OF SOIL		

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

1-visual inspection test

2-Cry-dient test

Gradation of bulk materials				SAMPLE WEIGHT [g]		22254.00		gm	table classify	
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify	
Mars retained (g)	0.0	1928.0	2300.0	2700.0	1694.0	1800.0	1200.0		A-1-a	
Cumulative Retained (g)	0.0	1928.0	4228.0	6928.0	8622.0	10422.0	11622.0		PRO	2.175
Cumulative Retained %	0.0	8.7	19.0	31.1	38.7	46.8	52.2		WC	7.50
Cumulative Passing %	100.0	91.3	81.0	68.9	61.3	53.2	47.8		CBR	58.50

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

Contractor	Consultant
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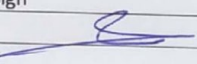
Contractor Company	AL-Arkan for general contracting		Designer Company	
Issued by Contractor	Name	Sign	Date	Time
	Eng/ Salman Gamal			
Contractor Reference	ARC2-16			
Received by ER				
		MAR	C1 C2 C3 DD MM YY HH MM	
			09 06 2023	
CODE - 1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp XXX Note 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	    			
	KK ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ.د. خالد شاهين			

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
				09
				06
				2023
				HH
				MM

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

Description of Materials	REPLACEMENT FILL MATERIAL RESULTS				
Location to be Used	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					

MATERIAL INSPECTION REQUEST				

Contractor Company	ALARCAN 2			Designer Company							
Issued by Contractor	Name	Sign	Date	Time							
	Eng/SLAMAN GAMAL	<i>[Signature]</i>	19-07-2023								
Contractor Reference	P.S.G.1 ARC 2(P-1)										
Received by ER			MIR	C1	C2	C3	DD	M	YY	HH	M
							19	07	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		Curshed Stone P.S.G.1 Material Result				
Location to be Used		522+000 TO 522+500 0.25+ 522+000 TO 522+500 0.50+				
MAR Approval No		P.S.G.1 ARC 2(P-1)			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	17-07-2023		
2	Proctor	m3	5000	18-07-2023		
3	Classification	m3	5000	17-07-2023		
4	Sieve Analysis	m3	5000	17-07-2023		
5	C.B.R	m3	5000	19-07-2023		
6	L.A	m3	5000	18-07-2023		
7	SP.Gravity	m3	5000	18-07-2023		
8	Absorbtion	m3	5000	18-07-2023		
Comments by:			Comments by:			
APPROVAL STATUS						
Organisation	Name	Sign	Date	A-AWC-R		
Contractor	Eng/ Shehab Hamdi	<i>[Signature]</i>				
QA/QC *	<i>[Signature]</i>	<i>[Signature]</i>				
GARB**						
Employers Representative						

* Designer

** Alignment / Bridges: Culvert Only

File: MIR P.S.G.1 YN3(P-1)

Page 1 of 1

MATERIAL APPROVAL REQUEST					
	الهيئة العامة للطرق والجسور والمواصلات (GARBIT)	ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ. د. خالد فهد	الهيئة القومية للأنفاق NATIONAL AUTHORITY FOR TUNNELS (NAT)	SYSTRA	SHAKER

Location Name	Contractor Company		Designer Company																	
Electric express train	ALARCAN 2		k.k																	
Issued by Contractor	Name	Sign	Date	Time																
	Eng/SALMAN GAMAL		19-07-2023																	
Contractor Reference	P.S.G.1 ARC2(P-1)																			
Received by ER																				
		MAR	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>M</td> <td>YY</td> <td>HH</td> <td>M</td> </tr> <tr> <td></td> <td></td> <td></td> <td>19</td> <td>07</td> <td>2023</td> <td></td> <td></td> </tr> </table>	C1	C2	C3	DD	M	YY	HH	M				19	07	2023			
C1	C2	C3	DD	M	YY	HH	M													
			19	07	2023															

The Following Test Result are Attached For Review				
Description of Materials	P.S.G.1 (A-1-a)			
Location Of Stock	522+140			
Item	Specification	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	5.2 %	
4	ASTM D 4318	Atterberg limit	N.P	
5	ASTM D 2974	Moisture content	7.90 %	
6	ASTM D 1557	Modified proctor	2.194	
7	ASTM D 1883	CBR	88.8 %	
8	AASHTO-T96	LA	24 %	
9	AASHTO-T85	Absorbtion	2.908 %	
10	AASHTO-T85	SP.Gravity	2.652	
Comments by:			Comments by:	

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

* Designer
** Alignment/Bridges: Culvert only

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي اد فوكا	 SYSTER & 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 568+177	 وزارة النقل والاقتصاد (JARBLT)
Operating Lab	Negida Central Lab		

PARTICLE SIZE DISTRIBUTION OF PREPARED SUBGRADE

TESTING DATE:	17-07-2023	Code	Zone	FROM STATION	TO STATION
LOCATION	KP 522+140	ARC 2(P-1)		522+000	522+500
COMPANY NAME	ALARCAN 2				
MATERIALS	Prepared Subgrade				

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT (g)		31220.00		gm	Table classify	
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	Soil Classify	A-1-a
Mass retained (g)	0.0	1234.0	4817.0	2909.0	4920.0	2740.0	5838.0		PRO	2.194
Cumulative Retained (g)	0.0	1234.0	6051.0	8960.0	13880.0	16620.0	22458.0		WC	7.90
Cumulative Retained %	0.0	4.0	19.4	28.7	44.5	53.2	71.9		CBR	88.83%
Cumulative Passing %	100.0	96.0	80.6	71.3	55.5	46.8	28.1		Los Angles	24
									Absorption	2.908

B-soft material gradation			WT.OF sample		500.00		gm
sieve size	10	40	200				
Cumulative Retained (g)	147.00	322.00	408.00				
Cumulative Retained %	29.40	64.40	81.60				
Cumulative Passing %	70.60	35.60	18.40				

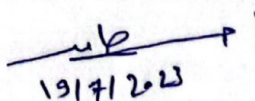
C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	96.0	80.6	71.3	55.5	46.8	28.1	19.8	10.0	5.2
SPECIFICATION	—	97	—	70 — 75	—	15 — 60	—	0 — 35	—	0 — 12

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

Contractor


Mohamed Hamed
 المهندس
 مشروع القطر السريع - فوكا - مطروح

Consultant


 ١٩١٦٢٠٢٣

**Absorbion & Aggregate specific gravity
AASHTO-T85**

PREPARED SUBGRADE

TESTING DATE:	18-7-2023	code	zone	FROM	TO
LOCATION	522+140	ARC 2(P-1)		522+000	522+500
COMPANY NAME	ALARCAN 2				

Weight of sample Before Test	—	gm
Weight of saturated -dry surface sample (B)	3008	gm
Weight of saturated sample in water (C)	1821	gm
Weight of dry sample after heating (A)	2923	gm

10695

Results:-

Bulk specific gravity = $A / (B-C)$	2.463	
Apparent specific gravity = $A / (A-C)$	2.652	
Absorbion = $(B-A)/A$	2.908	%

Los Anglos abrasion AASHTO-T96

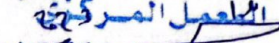
Results:-

Weight of sample before test (gm)	Weight of sample after test (gm)	Abrasion ratio (%)
5000	3785	24

Lab. Specialist

Name: 
Sign: 
19/7/2023

Lab. Engineer

Name: 
Sign: 

Consultant Engineer

Name: 
Sign: 

 	Electric Express Train - HSR	 
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Operating Lab	AL Nuby Central Lab
California Bearing Ratio TEST	

Testing Date : 19-07-2023		Code		FROM	TO
Location : 522+140		ZONE	ARC 2(P-1)	522+000	522+500
COMPANY NAME : ALARCAN 2					

Test Results

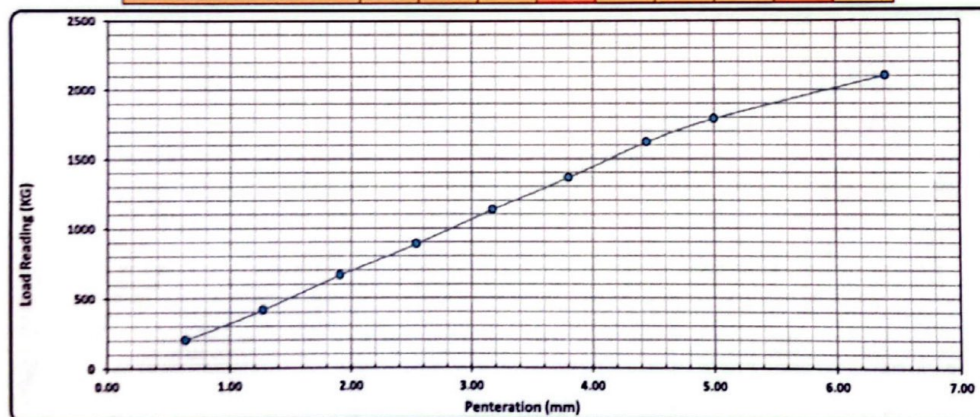
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2170
Mold WT. (gm)	7700
Mold WT. + Wet WT. (gm)	12646
Wet WT. (gm)	4946
Wet Density (g/cm ³)	2.288
Dry Density (g/cm ³)	2.120
Proctor Density (g/cm ³)	2.194
Compaction %	97

Moisture Ratio After Compacted Mold	
Tare No.	19
Tare WT. (gm)	44.1
Tare WT. + Wet WT. (gm)	188.62
Tare WT. + Dry WT. (gm)	178
Water WT. (gm)	10.6
Dry WT. (gm)	133.9
Moisture Content %	7.9

Swelling	
Mold No.	1
Date	19-07-2023
Initial Height (mm)	0.00
Final Height (mm)	0.00
Difference	0
Sample Height (mm)	116.40
Swelling Ratio %	0.0%

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)	204.0	416.0	665.0	888.0	1135.0	1365.0	1621.0	1790.0	2103.0
Load Reading (KN)	2.0	4.1	6.5	8.7	11.1	13.4	15.9	17.5	20.6



Calculations :-

Penetration (mm)	Load (Kg)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR % عند نسبة 98
2.50	8.70	13.4	65.2%	97	98	66.1%
5.00	17.54	20.8	87.6%			88.8%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name: Mohamed Hamel
 Sign: [Signature]
 مشروع القطار السريع / شوكة - مضروح

Consultant Engineer

Name: [Signature]
 Sign: [Signature]
 19/7/2023