

California Bearing Ratio TEST

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

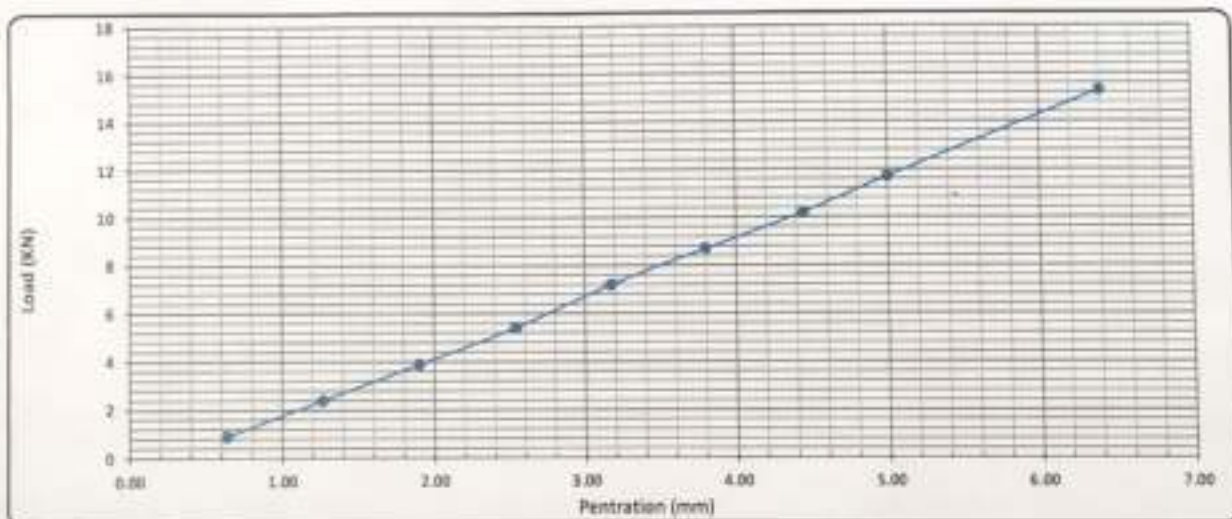
Test Results

Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2108
Mold WT. (gm)	5434
Mold WT. - Wat WT. (gm)	10063
Wat 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

Moisture Ratio After Compacted Mold	
Tare No.	7
Tare WT. (gm)	41.5
Tare WT. + Wat WT. (gm)	150
Tare WT. + Dry WT. (gm)	142.8
Wt. Water	7.2
Dry WT. (gm)	145.3
Moisture Content %	7.1

Swelling	
Mold No.	1
Date	09-06-2023
Initial Height (mm)	0.30
Final Height (mm)	0.00
Difference	0
Sample Height (mm)	123.00
Swelling Ratio %	0.0%

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (mm)	0.01	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 :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	(%)
2.50	5.40	13.4	40.4%	98	98	40.5%
5.00	11.70	20.0	58.5%			58.5%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

PROCTOR TEST

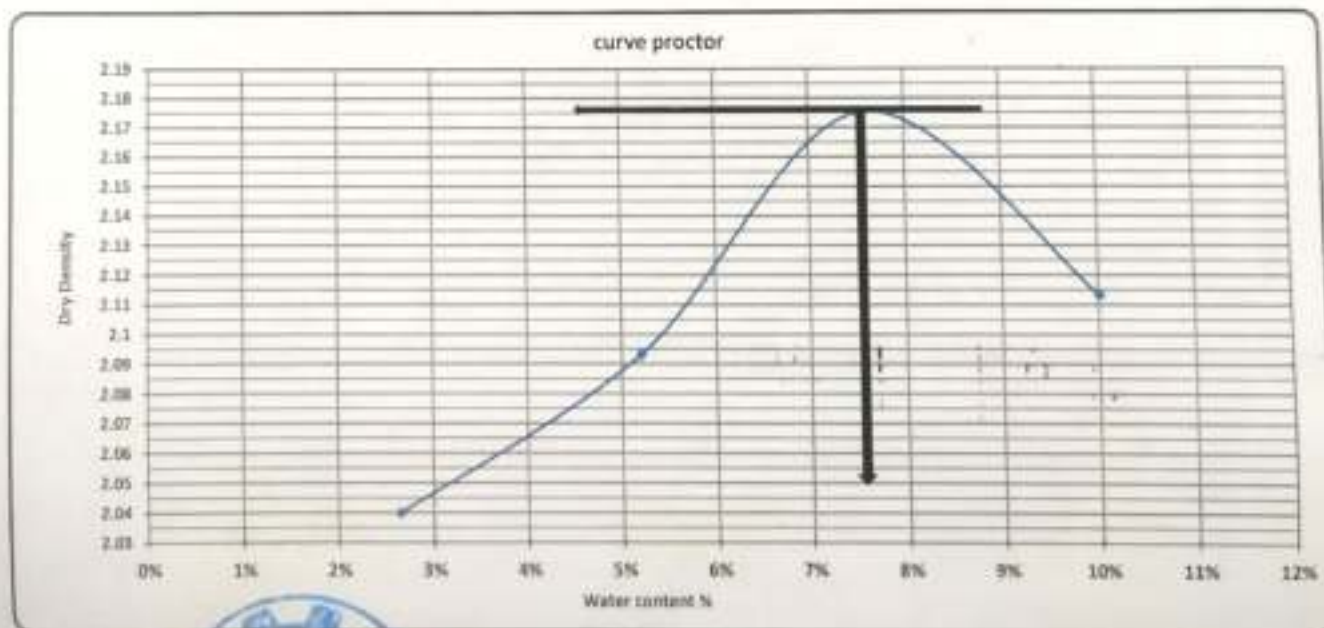
TESTING DATE:	5-6-2023	Costs			
LOCATION	K.P (522+250)	ARC 2 (18)	zone	522+000	522+250
NAME COMPANY	AL Arkan 2				

Weight of empty mold :	6280.0
Mold Volume:	2022.0

MAX Dry Density	2.174
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.	82.5	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			



Consultant

 KARAMALLAH CONSULTING OFFICE مكتب الاستشارات الهندسية أحمد خالد كرام الله	 EGYPT	Electric Express Train - HSR		 الهيئة العامة للقناة SCA
		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 Nuby Central Lab				

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	8-6-2023	Code	zone	522+000	522+250
LOCATION	K.P (522+250)	AKC.2 (16)			
NAME COMPANY	AL Arkan 2				

Visual inspection test

Gradient 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
Mass retained (g)	0.0	1928.0	2300.0	2700.0	1494.0	1800.0	1200.0		A-1-a
Cumulative Retained (g)	0.0	1928.0	4228.0	6928.0	8422.0	10422.0	11622.0		PRO
Cumulative Retained %	0.0	8.7	19.0	31.1	38.7	46.8	52.2		WC
Cumulative Passing %	100.0	91.3	81.0	68.9	61.3	53.2	47.8		CBR

B-sand 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 (LL)	PLASTIC LIMIT (PL)	PLASTIC INDEX (PI)
	N.P	N.P	N.P



Contractor

Consultant

MATERIAL APPROVAL REQUEST



الهيئة العامة
للحرق والبناء والتشييد
(GARBT)



الهيئة العامة للتخطيط
والبناء والتشييد



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			<table border="1"> <tr> <td>CL</td> <td>C</td> <td>C</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td>09</td> <td>06</td> <td>2023</td> <td></td> <td></td> </tr> </table>		CL	C	C	DD	MM	YY	HH	MM				09	06	2023		
CL	C	C	DD	MM	YY	HH	MM													
			09	06	2023															
CODE 1	S1 to S21 Station Reference		D1 to S1 Depot Reference																	
CODE 2			Work Activity																	
CODE 3			Sub Element of Activity																	

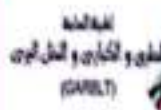
Description of Materials		Soil (A-1-A)		
Location to be stock		522+100		
Item	Specificatin	Test requirement	Test result attachment	Remarks
1	ASTM D75	Aggregate sampling	According to SPCS	
2	ASTM C136	Sieve Analysis	According to SPCS	
3	ASTM D1440	Passing sieve #200	14.3	
4	ASTM D4318	Atterberg limit	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		 مركز المراقبة والتفتيش AL-ARKAN		 مركز المراقبة والتفتيش (SARBY)		 مركز المراقبة والتفتيش (SARBY)		 مركز المراقبة والتفتيش (SARBY)	
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		DDMMYYHHMM 09062023			

CODE - 1	51 to 521 Station Reference	01 to 53 Depot Reference	Kg 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					
Supplier Name					
Test Requirement	Specification	Clause			
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	Serve 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



الهيئة القومية للإنفاق

GENERAL AUTHORITY FOR TOLLAGE



Contractor Company	ALARCAN 2		Designer Company							
Issued by Contractor	Name	Sign	Date	Time						
	Eng/SLAMAN GAMAL		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	LL & 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	LA	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					
QA/QC *						
GARB**						
Employers Representative						

* Designer

** Alignment / Bridges: Culvert Only

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

Page 1 of 1

 K.K. CONSULTING ENGINEERS مكتب الاستشارات الهندسية ك. ك. قمار Operating Lab	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 للتطوير الاقتصادي والنقل (GARBL) Matrouh
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	2809.8	4826.0	2740.0	5838.0		PRO	2.194
Cumulative Retained (g)	0.0	1234.0	6051.0	8860.8	13686.8	16426.8	22458.8		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 Angeles	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	18.8	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 القطار السريع - فوكا - مطروح

Consultant

طه
 19/7/2023

19/7/2023 pi

**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	
Asorbtion = $(B-A)/A$	2.908	%

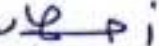
Los Anglos abrasion AASHTO-T96

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

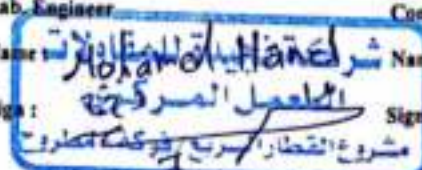
Name : 

Sign : 

Consultant Engineer

Name :

Sign :



 	Electric Express Train - HSR	 
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Operating Lab	Al Naby Central Lab
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California Bearing Ratio TEST					
PREPARED SUBGRADE					
Testing Date :	19-07-2023	Code	ZONE	FROM	TO
Location :	522+140	ARC 2(P-1)		522+000	522+500
COMPANY NAME	ALARCAN 2				

Test Results

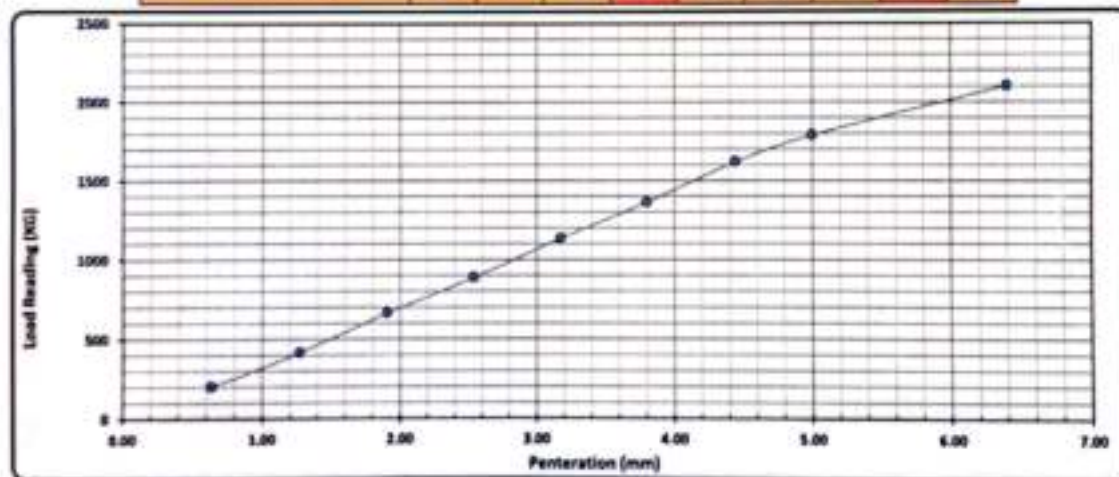
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2170
Mold WT. (gm)	7708
Mold WT. + Wet WT. (gm)	11088
Wet WT. (gm)	4966
Wet Density (g/cm ³)	2.288
Dry Density (g/cm ³)	2.128
Proctor Density (g/cm ³)	2.284
Compaction %	97

Moisture Ratio After Compacted Mold	
Tare No.	18
Tare WT. (gm)	44.3
Tare WT. + Wet WT. (gm)	188.42
Tare WT. + Dry WT. (gm)	178
Water WT. (gm)	18.4
Dry WT. (gm)	133.9
Moisture Content %	7.8

Swelling	
Mold No.	1
Date	19-07-2023
Initial Height (mm)	8.00
Final Height (mm)	8.00
Difference	0
Sample Height (mm)	118.40
Swelling Ratio %	0.0%

Loading Reading :

Penetration (mm)	0.54	1.27	1.91	2.54	3.18	3.80	4.43	5.09	5.64
Load Reading (KG)	294.8	416.8	605.8	808.0	1135.8	1385.8	1621.8	1790.8	2103.8
Load Reading (KN)	2.8	4.1	6.5	8.7	11.1	13.4	15.9	17.5	20.4



Calculations :-

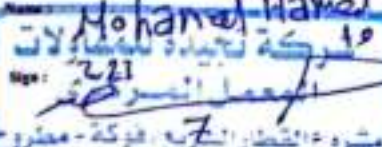
Penetration (mm)	Load (Kg)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR
2.50	8.70	13.4	65.2%	97	98	64.1%
5.00	17.54	29.8	57.4%			55.8%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name: **Mohamed Hamel**
 Sign: 
 مشروع القطار السريع - فوكة - منصور

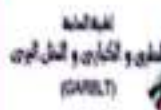
Consultant Engineer

Name :

Sign :

19/7/2023

MATERIAL INSPECTION REQUEST



الهيئة القومية للإنفاق

GENERAL AUTHORITY FOR TUNNELS



Contractor Company	ALARCAN 2		Designer Company	
Issued by Contractor	Name	Sign	Date	Time
	Eng/SLAMAN GAMAL		19-07-2023	
Contractor Reference	P.S.G.1 ARC 2(P-1)			
Received by ER			MIR	
			C1	C2
			C3	DO
			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	LL & 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	LA	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				
QA/QC *					
GARB**					
Employers Representative					

* Designer

** Alignment / Bridges: Culvert Only

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

 K.K. CONSULTING ENGINEERS مكتب الاستشارات الهندسية ك. ك. قمار	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 والموارد الاقتصادية (GARBL)
Operating Lab	Nagida 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	2809.8	4826.0	2740.0	5838.0		PRO	2.194
Cumulative Retained (g)	0.0	1234.0	6051.0	8860.8	13686.8	16426.8	22458.8		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 Angeles	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	18.8	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 القطار السريع - فوكا - مطروح

Consultant

طاب
 19/7/2023

 	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 (PREPARED SUBGRADE)

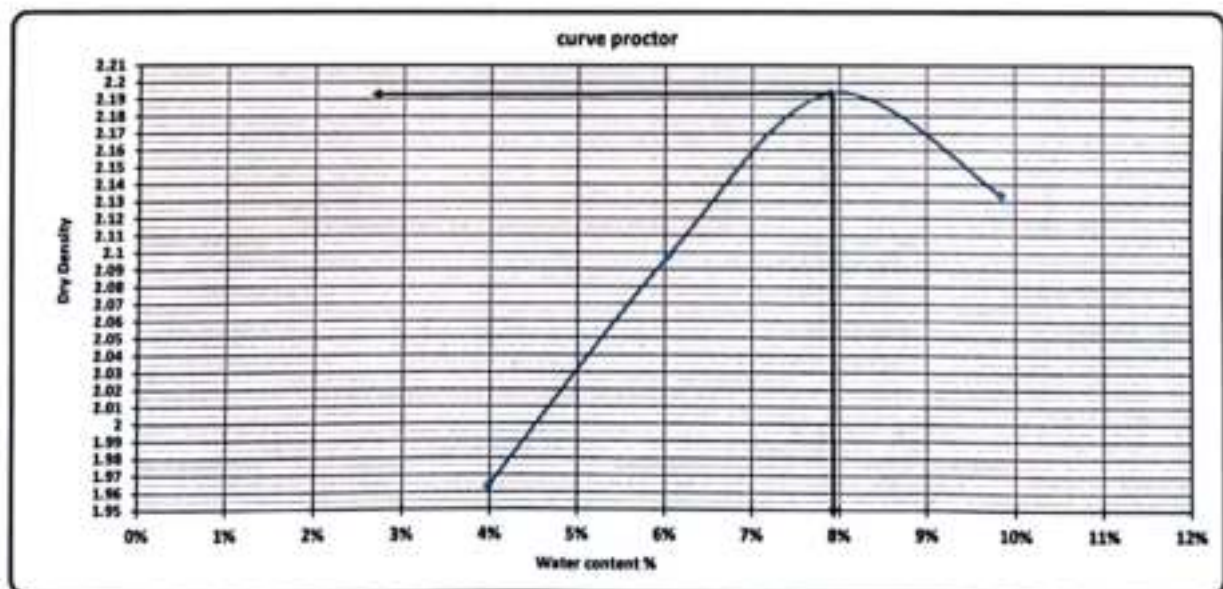
TESTING DATE:	18-7-2023	Code	zone	FROM	TO
LOCATION	522+140	ARC 2(P-1)		522+000	522+500
COMPANY NAME	ALARCAN 2				

Weight of empty mold :	5652.0
Mold Volume:	2125.0

MAX Dry Density	2.194
Water content %	7.9

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	9990.0	10380.0	10682.0	10633	
WT. WET SOIL	4338.0	4728.0	5030.0	4981.0	
Wt. Density	2.041	2.225	2.367	2.344	

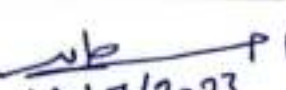
Tare No.	7	19	13	17	15	40	31	32		
Tare wt.	42.2	44.1	53.6	53.2	30.9	46.2	80.7	82.7		
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	145.20	145.00	142.63	142.50	140.20	140.35	138.00	137.80		
Wt. Of water	4.8	5.0	7.4	7.5	9.8	9.7	12.0	12.2		
Wt. Of dry soil	123.0	123.0	123.0	123.0	123.0	123.0	123.0	123.0		
Water content %	3.9%	4.1%	6.0%	6.1%	8.0%	7.8%	9.8%	9.9%		
AV. Water content %	4.0%	4.0%	6.0%	6.1%	7.9%	7.8%	9.8%	9.9%		
Dry Density	1.963	1.998	2.098	2.098	2.194	2.194	2.134	2.134		



Contractor


 Mohamed Hameed
 المهندس المعماري
 مشروع القطار السريع
 19/7/2023

Consultant


 19/7/2023

**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	
Asorbtion = $(B-A)/A$	2.908	%

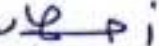
Los Anglos abrasion AASHTO-T96

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 Naby Central Lab
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California Bearing Ratio TEST					
PREPARED SUBGRADE					
Testing Date :	19-07-2023	Code	ZONE	FROM	TO
Location :	522+140	ARC 2(P-1)		522+000	522+500
COMPANY NAME	ALARCAN 2				

Test Results

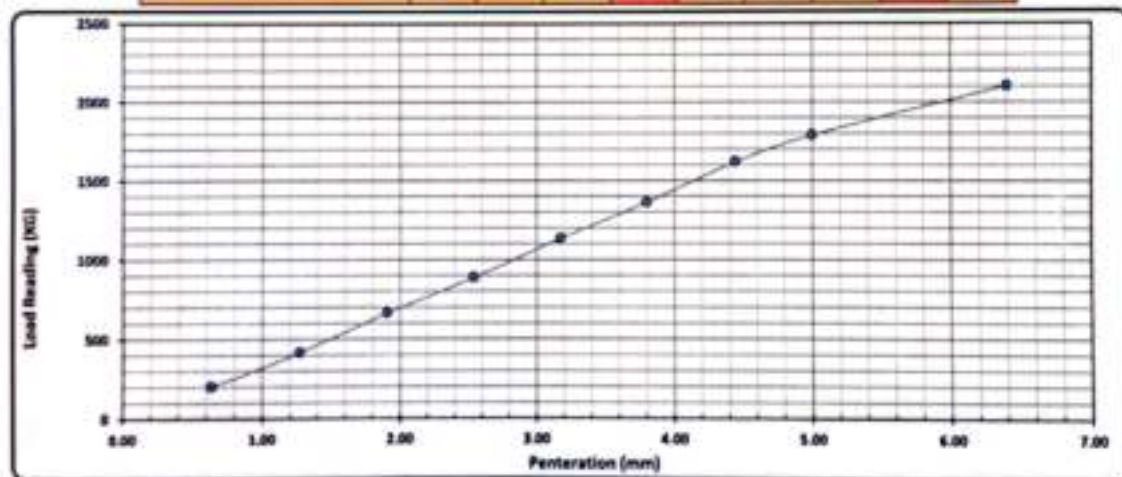
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2170
Mold WT. (gm)	7708
Mold WT. + Wet WT. (gm)	11088
Wet WT. (gm)	4966
Wet Density (g/cm ³)	2.288
Dry Density (g/cm ³)	2.128
Proctor Density (g/cm ³)	2.284
Compaction %	97

Moisture Ratio After Compacted Mold	
Tare No.	18
Tare WT. (gm)	44.3
Tare WT. + Wet WT. (gm)	188.42
Tare WT. + Dry WT. (gm)	178
Water WT. (gm)	18.4
Dry WT. (gm)	133.9
Moisture Content %	7.8

Swelling	
Mold No.	1
Date	19-07-2023
Initial Height (mm)	8.00
Final Height (mm)	8.00
Difference	0
Sample Height (mm)	118.40
Swelling Ratio %	0.0%

Loading Reading :

Penetration (mm)	0.54	1.27	1.91	2.54	3.18	3.80	4.43	5.09	5.64
Load Reading (KG)	294.8	416.8	605.8	808.0	1135.8	1385.8	1621.8	1790.8	2103.8
Load Reading (KN)	2.8	4.1	6.5	8.7	11.1	13.4	15.9	17.5	20.4



Calculations :-

Penetration (mm)	Load (Kg)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR (%)
2.50	8.70	13.4	65.2%	97	98	64.1%
5.00	17.54	28.8	67.6%			68.8%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name: Mohamed Hamel
 Sign: [Signature]
 مشروع القطار السريع - فزقة - منصور

Consultant Engineer

Name : [Signature]

Sign : [Signature]

19/7/2023

MATERIAL INSPECTION REQUEST		 KARAMALLAH CONSULTING OFFICE المكتب الاستشاري الكراملا		شركة الكراملا (SARL)		 الهيئة القومية للإسكان		 GVSER		 MHAKEP		
Contractor Company	AL-Arkan for general contracting				Designer Company							
Issued by Contractor	Name	Sign		Date		Time						
	Eng/ sayed fadi	<i>Sayed fadi</i>										
Contractor Reference	ARC2-SUB1											
Received by ER			MIR			DD	MM	YY	HH	MM		
						6	11	2023				
CODE - 1	51 to 521		D1 to S3		Up XXX Note							
CODE - 2	Station Reference		Depot Reference		For Kilometer point only Start Km is used							
CODE - 3			Work Activity									
			Sub Element of Activity									
Description of Materials	REPLACEMENT FILL MATERIAL RESULTS											
Location to be Used	522+000 to 522+220 (+0.70) 522+280 to 522+500 (+0.70) 522+000 to 522+220 (+0.90) 522+280 to 522+500 (+0.90)											
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	3350	04/11/2023								
2	Atterberg Limits	M ³	3350	04/11/2023								
3	Proctor	M ³	3350	04/11/2023								
4	CBR	M ³	3350	06/11/2023								
Comments by:					Comments by:							
APPROVAL STATUS												
Organisation	Name	Sign	Date		A-AWC-R							
Contractor	Eng/ sayed fadi	<i>Sayed fadi</i>										
QA/QC *	Ahmed Abo Zaid	<i>Ahmed Abo Zaid</i>										
GARB**												
Employers Representative												

LOUT-1	S1 to S23 Starting Reference	D1 to S3 Drop Reference	Up KKM Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Soil (A-1-A)

522+200

Comments by:	Comments by:
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APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng/sayed fadi	<i>[Signature]</i>		
QA/QC *	<i>[Signature]</i>	<i>[Signature]</i>		
GARB**				
Employers Representative				

 KARAMA KARAMA شركة كراما كراما	Electric Express Train - HSR From El Aïn El Sakhsa City To El Alamein - MATROUH Section - 7 From FOKA To MARSA MATROUH From Station 524+000 To Station 526+177	 SARIT الهيئة العامة للغمرات الهيئة العامة للغمرات
	Operating Lab: Negida Central Lab	
	PARTICLE SIZE DISTRIBUTION OF SUB-BALLAST	

TESTING DATE:	4-11-2023	Code	Zone	FROM STATION	TO STATION
LOCATION	K,P 522+200	ARC2-SUB1		522+000	522+500
COMPANY NAME	ALARCAN 2				
MATERIALS	SUB-BALLAST				
QUANTITY	3350 M3				

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT (g)		56240.00		gm	Table classify	
sieve size	2	1.5	1	4/5	2/1	8/3	# 4	PASS	Soil Classify	A-1-a
Mass retained (g)	0.0	1430.0	5230.0	8177.0	1034.0	7816.0	4800.0		PRO	2.246
Cumulative Retained (g)	0.0	1430.0	6660.0	10543.0	22874.0	30790.0	47240.0		W.C	6.20
Cumulative Retained %	0.0	2.5	11.9	23.2	40.7	54.0	83.2		GER	101.7%
Cumulative Passing %	100.0	87.6	88.1	71.8	59.3	46.0	33.8		Los Angeles	23
									Absorption	1.600
									BP.Gravity	2.585

B-soft material gradation			WT.OF sample		800.00		g/m
sieve size	10	40	200				
Cumulative Retained (g)	120.00	311.00	418.00				
Cumulative Retained %	24.00	62.20	85.30				
Cumulative Passing %	76.00	37.80	16.30				

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	87.5	88.1	71.8	59.3	46.0	33.8	26.7	12.8	6.7
SPECIFICATION	—	97	—	70 — 75	—	15 — 80	—	0 — 35	—	0 — 7

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

Contractor
 Sherhab Hemdi
 العمل
 القطر
 ٢٠٢٣/١١/١٢

Consultant
 6/11/23

 	Electric Express Train - HSR From El Ain El Bakha City To El Alamein - MATROUH Section - 7 From EDKA TO MARSA MATROUH From Station 604+000 To Station 546+177		 

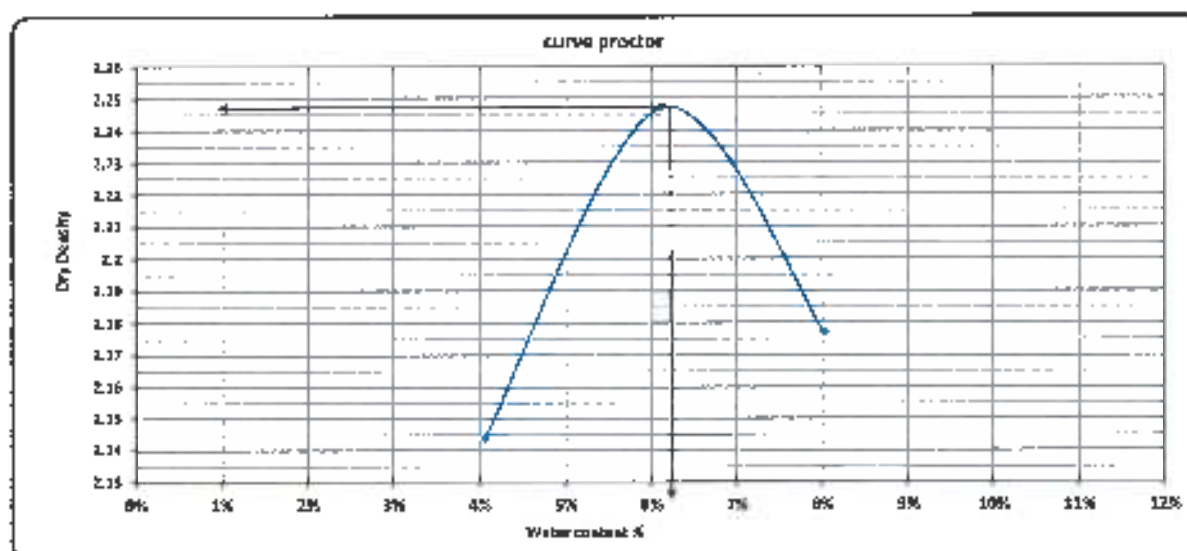
PROCTOR TEST (SUB-BALLAST)

TESTING DATE:	5-11-2023	Code	zone	FROM	TO
LOCATION	K.P 522+200	ARC2-SUB1		522+000	522+500
COMPANY NAME	ALARCAN 2				

Weight of empty mold :	5747.6	MAX Dry Density	2.146
Mold Volume :	2115.6	Water content %	4.3

trial no :	1	2	3		
Wt. of Mold + wet soil	18466.8	18794.8	18121.0		
Wt. of Mold + Soil	4719.0	5045.0	4974.0		
Wt. Density	2.231	2.364	2.352		

Tare No.	1	19	13	17	15	40		
Tare wt.	41.2	41.8	41.4	43.2	40.0	46.3		
Wt. Of wet soil & tare	180.0	180.0	180.0	180.0	180.0	180.0		
Wt. Of dry soil & tare	145.57	145.89	144.50	144.37	141.08	141.35		
Wt. Of water	4.3	4.1	5.5	5.6	8.9	7.7		
Wt. Of dry soil	104.6	104.8	94.9	94.2	110.2	96.1		
Water content %	4.1%	4.0%	4.1%	4.2%	8.1%	8.0%		
AV. Water content %	4.1%		4.1%		8.0%			
Dry Density	2.144		2.247		2.177			



Contractor

المعمل المركزي بيقم ٢
القطار السريع - القطاع السابع

Consultant

6/11

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي د. خالد فتحي	 EGYPTIAN RAILWAYS السكك الحديدية	Electric Express Train - HSR From El Ain El Sokhna City To El Ahnashin - MATROUH Section - 7 From FOKA To MARS MATROUH From Station 553+484 To Station 564+177		
		Absorption & Aggregate specific gravity AASHTO-T85		
		SUB-BALLAST		

TESTING DATE:	5-11-2023	code	2006	FROM	TO
LOCATION	K.P 522+200	ARCZ-SUB1		522+000	522+500
COMPANY NAME	ALARÇAN 2				

Weight of sample Before Test		gm
Weight of saturated -dry surface sample (B)	4128	gm
Weight of saturated sample in water (C)	2546	gm
Weight of dry sample after heating (A)	4081	gm

Results:-

Bulk specific gravity = $A / (B-C)$	2.585	
Apparent specific gravity = $A / (A-C)$	2.679	
Absorption = $(B-A)/A$	1.658	%

Los Angeles abrasion AASHTO-T96

Results:-

Weight of sample before test (gm)	Weight of sample after test (gm)	Abrasion ratio (%)
5000	3850	23

Lab. Specialist

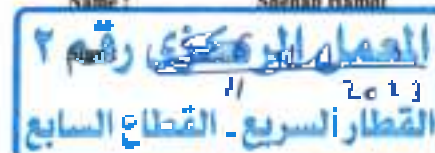
Name :

Sign :

Lab. Engineer

Name :

Shehab Hamdi



Consultant Engineer

Name :

Sign :



California Bearing Ratio TEST

		SILT-BALLAST			
Testing Date :	6-11-2023	Code	ZCNR	FROM	TO
Location :	KLP 522+200	ARC2-SUB1		522+000	522++500
CONTRACT NAME	ALARCAN 2				

Test Results

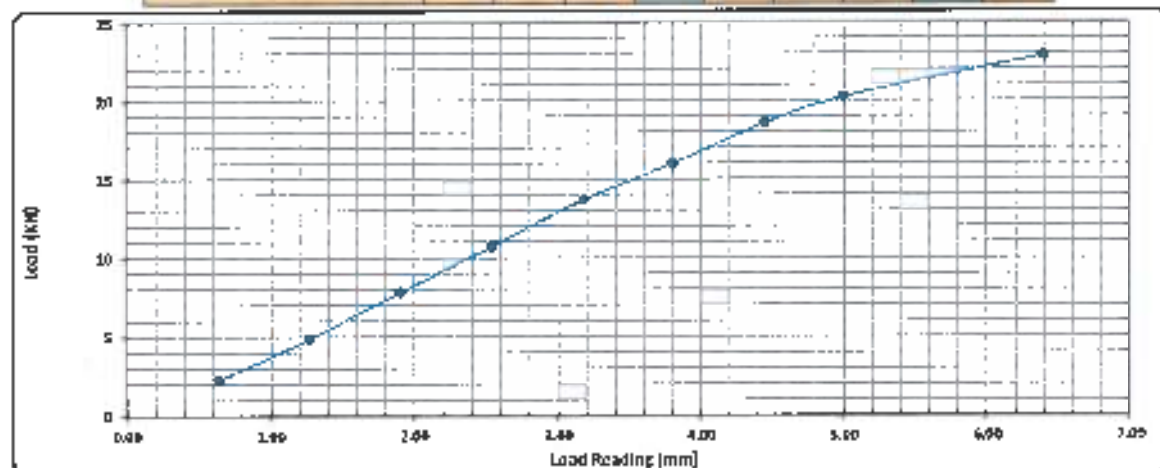
Compaction % for Mold	
Mold No.	3
Mold Vol (cm ³)	2133
Moist Wt. (gm)	7734
Mold Wt. - Moist Wt. (gm)	32700
W ₁ * T (gm)	3990
W ₁ Density (g/cm ³)	2.370
Dry Density (g/cm ³)	1.821
Proctor Density (g/cm ³)	2.340
Compaction %	99

Moisture Ratio After Compacted Mold	
Test No.	11
Test Wt. (gm)	52.4
Test Wt. - Moist Wt. (gm)	222.21
Test Wt. - Dry Wt. (gm)	221.9
Water Wt. (gm)	10.4
Dry Wt. (gm)	184.3
Moisture Content %	5.2

Swelling	
Mold No.	3
Date	6-11-2023
Initial Moisture (mm)	8.00
Final Moisture (mm)	9.00
Difference	0
Sample Weight (mm)	115.81
Swelling Ratio %	0.8%

Load-Deformation

Load Reading (mm)	1.54	1.27	1.01	2.54	1.18	1.86	4.45	5.88	6.35
Load (Kgf)	2.3	4.9	7.8	18.7	15.1	16.8	18.5	20.2	22.9
Load (KNC)	232.0	496.8	798.4	1895.4	1505.8	1651.8	1852.8	2065.8	2313.8



Calculations :-

Factorial Data	Load	Standard Load	CBR	W ₁ - Compaction	Compaction	CBR
(mm)	(KNC)	(10)	(%)	(%)	(%)	800 لبا ٢٤ %
1.50	18.75	13.4	86.3%	99	101	80.9%
5.88	20.28	30.9	101.1%			101.7%

Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

Name :

Name :

Sign :

Sign :

Sign :

المعمل المركزي رقم ٢
القطر السريع - القطاع السابع

13

MATERIAL INSPECTION REQUEST

المجلس
للمواد والبنية
(GARB)



ENGINEERING CONSULTING OFFICE
المكتب الاستشاري الهندسي
لدراسات وتصميم

الهيئة القومية للإنفاق

NATIONAL AUTHORITY FOR TOLL ROADS



Contractor Company	ALARCAN 2		Designer Company								
Issued by Contractor	Name	Sign	Date	Time							
	Eng/Salman gamal		14/6/2023								
Contractor Reference	ARC-17										
Received by ER			MIR	C1	C2	C3	DD	MM	YY	HH	MM
							14	6	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	Fill Material Result					
Location to be Used	522+300	522+500	-0.25			
	522+300	522+500	0.00			
	522+000	522+210	-1.25			
	522+000	522+210	-1.00			
MAR Approval No	AR2-17			Date		
Supplier Name						
Test Requirement	Specification			Clause		
Reference Photos	Yes attached / No			Other		
Item	Description	Unit	Quantity	Arrival Date	Note	
1	LL & P.L & O.M.C %	m3	5000	12-6-2023		
2	Proctor	m3	5000	13-6-2023		
3	Classification	m3	5000	12-6-2023		
4	Sieve Analysis	m3	5000	12-6-2023		
5	C.B.R	m3	5000	14-6-2023		
Comments by:			Comments by:			

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

* Designer

** Alignment / Bridges: Culvert Only

MATERIAL APPROVAL REQUEST

الهيئة العامة
للمرور والكباري والجسور
(GARBT)



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

الهيئة القومية للإسفلت
ASPHALT QUALITY FORUM & CENTER



Location Name	Contractor Company		Designer Company							
Electric express train	ALARCAN 2		k.k							
Issued by Contractor	Name	Sign	Date	Time						
	Eng/Salman gamal		14/6/2023							
Contractor Reference	AR2-17									
Received by ER		MAR	C1	C2	C3	DD	M	YY	HH	M
						14	6	2023		

The Following Test Result are Attached For Review				
Description of Materials	Soil (A-1-a)			
LOCATION OF STOCK	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	8.1 %	
4	ASTM D 4318	Atterberg limit	N.P	
5	ASTM D 2974	Moisture content	6.5%	
6	ASTM D 1557	Modified proctor	2.21%	
7	ASTM D 1883	CBR	47.2 %	
Comments by:			Comments by:	

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

* Designer

** Alignment/Bridges: Culvert only

Operating Lab: Noida Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

Description of Materials: Embankment

Testing Date	12-06-23	code	Zone	From Station	TO Station
Location	K.P 522+050	ARC2-17			
Company Name	ALARCAN 2				

1-visual inspection test :-

2-Gradient test :-

A-gradation of bulk materials				SAMPLE WEIGHT (g)		19350.00	gm	table classify	
sieve size	2	1.5	1	3/4	1/2	3/8	# 4	PASS	soil classify
Mass retained (g)	591.0	1691.0	3667.0	1816.0	1971.0	1022.0	2833.0		A-1-a
Cumulative Retained (g)	591.0	1691.0	5358.0	7174.0	9145.0	10167.0	13000.0	PRO	2.135
Cumulative Retained %	3.1	8.7	27.7	37.1	47.2	52.5	67.1	WC	6.2
Cumulative Passing %	96.9	91.3	72.3	62.9	52.8	47.5	32.9	CBR	47.2%
								corr.proctor	2.21%
								corr.s.m.c	6.5%

B-soft material gradation				WT.OF sample		500.00	gm
sieve size	10	40	200				
Cumulative Retained (g)	40.00	198.00	376.00				
Cumulative Retained %	8.00	39.60	75.20				
Cumulative Passing %	92.00	60.40	24.80				

C-General gradient										
sieve size(n)	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 %	96.9	91.3	72.3	62.9	52.8	47.5	32.9	10.2	12.8	5.1

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

Contractor

Consultant

شركة نجدة للمقاولات
المعمل المركزي
مشروع القطار السريع / فوكا - مطروح

Ahmed Hamed

PROCTOR TEST

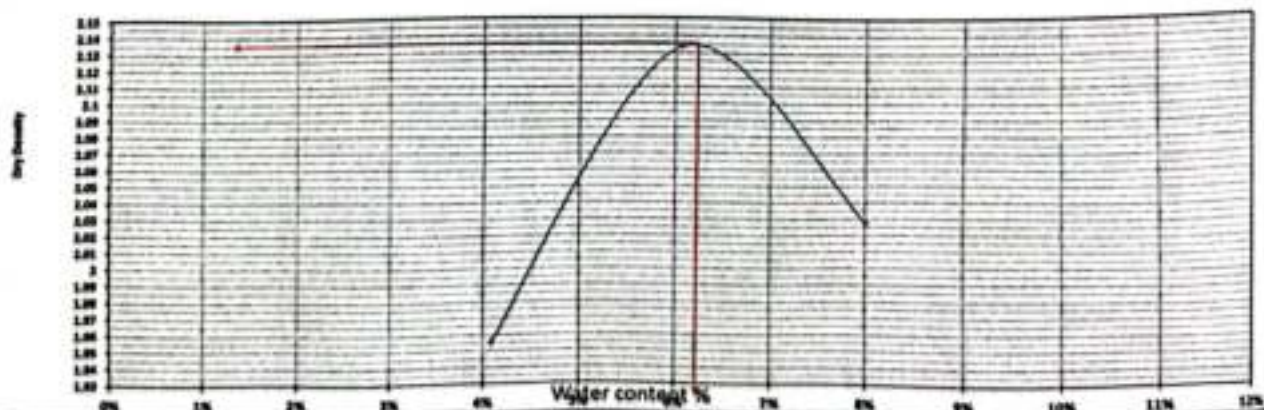
Testing Date	13-06-23	code	Zone	From Station	To Station
Location	K.P 522+050	ARC2-17		522+000	522+500
ALARCAN 2	ALARCAN 2				

Weight of empty mold	5652.0	MAX Dry Density	2.135
Mold Volume	2125.0	Water content %	6.2

trial no :	1	2	3		
Wt. Of Mold+ wet soil	9977.0	10462.0	10306.0		
WT. WET SOIL	4325.0	4810.0	4654.0		
Wt. Density	2.035	2.264	2.190		

Tare No.	8	6	7	4	5	6			
Tare wt.	36.26	38.82	35.99	36.28	35.35	35.8			
Wt. Of wet soil & tare	160.0	160.0	160.0	160.0	160.0	160.0			
Wt. Of dry soil & tare	155.23	155.15	152.89	152.93	150.90	150.66			
Wt. Of water	4.8	4.8	7.1	7.1	9.1	9.3			
Wt. Of dry soil	119.0	116.3	116.9	116.7	115.6	114.9			
Water content %	4.01%	4.17%	6.08%	6.06%	7.88%	8.13%			
AV. Water content %	4.09%	4.17%	6.07%	6.06%	7.88%	8.13%			
Dry Density	1.955	1.955	2.134	2.134	2.028	2.028			

curve proctor



Contractor

Consultant

Ahmed Hamed

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



Electric Express Train - HSR



California Bearing Ratio TEST

Testing Date	14-6-2023	code		From Station		To station
Location	K.P 522+050	ARC2-17	Zone	522+000		522+500
Company Name	ALARCAN 2					

Test Results:

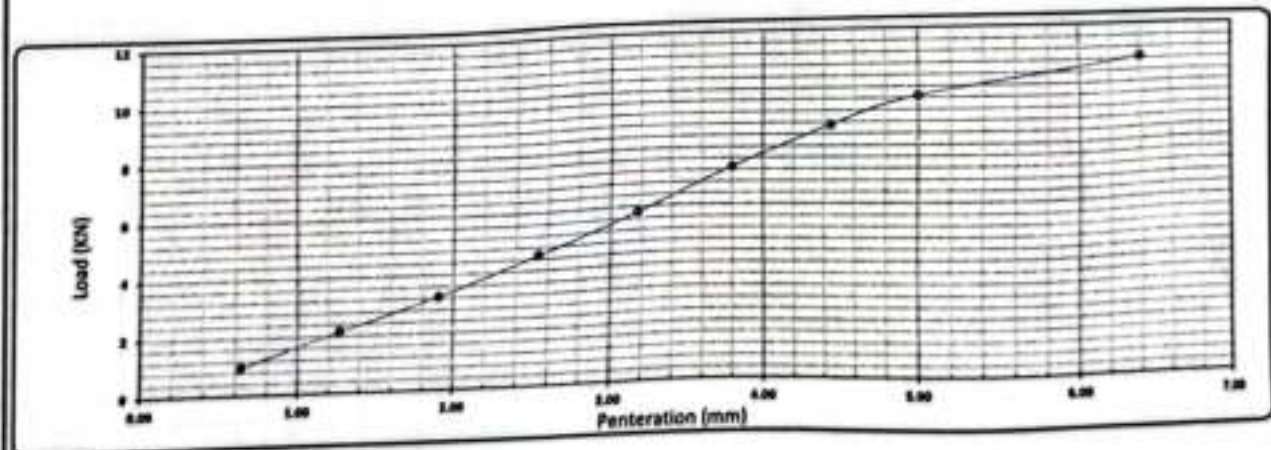
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2170
Mold WT. (gm)	7700
Mold WT. + Wet WT. (gm)	12650
Wet WT. (gm)	4950
Wet Density (g/cm ³)	2.281
Dry Density (g/cm ³)	2.145
Proctor Density (g/cm ³)	2.135
Compaction %	100

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	35.35
Tare WT. + Wet WT. (gm)	183.98
Tare WT. + Dry WT. (gm)	175.1
Water WT. (gm)	8.9
Dry WT. (gm)	139.8
Moisture Content %	6.35

Swelling	
Mold No.	1
Date	14-6-2023
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	5.08	6.40
Load Reading (kg)	101	221	333	463	593	746	900	968	1111
Load (KN)	1.0	2.2	3.3	4.5	5.9	7.3	8.7	9.7	10.9



Calculations :-

Penetration (mm)	Load (KN)	Standard Load (lb)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR
2.50	4.54	13.4	34.0%	100	98	33.2%
5.00	9.68	20.0	48.4%			47.2%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

شركة نجدة للمشاورات
المعمل المركزي
مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name :

Sign : Ahmed Hamed

MATERIAL INSPECTION REQUEST



Location Name	Contractor Company		Designer Company							
Electric express train	AL- ARKAN 2 Company		k.k							
Issued by Contractor	Name	Sign	Date		Time					
	Eng. Salman Gamal		11-07-2023							
Contractor reference	ARC2 - (18) 11-07-2023									
Received by ER		MIR	C1	C2	C3	DD	MM	YY	HH	MM
						11	7	23		

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		FILL MATERIAL RESULTS			
Location to be Used	From	To	LAYER		
	522+000	522+220	-0.75		
	522+000	522+220	-0.5		
	522+000	522+220	-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	Sieve analysis	m³	4000	09-07-2023	
2	Classification	m³	4000	09-07-2023	
3	Proctor & O.m.c	m³	4000	10-07-2023	
4	L.L & P.L & PI	m³	4000	09-07-2023	
5	C.B.R	m³	4000	11-07-2023	
Comments by:			Comments by:		
A sample has been taken from fill material by K.K office to (Al Tawakol laboratory) and the results founded meet the specifications and accepted.					
APPROVAL STATUS					
Organisation	Name	Sign	Date	A-AWC-R	
Contractor	Eng. Salman Gamal		11-07-2023		
QA/QC *	Mohamed Ali				
GARB**					
Comments by					
Employers Representative					

* Designer

** Alignment / Bridges: Culvert Only

MATERIAL APPROVAL REQUEST



المملكة العربية
السعودية
وزارة النقل والبنى التحتية
(GARBL T)



Location Name	Contractor Company		Designer Company	
Electric express train	AL- ARC 2 Company		k.k	
Issued by Contractor	Name	Sign	Date	Time
	Eng. Salman Gamal		11-07-2023	
Contractor Reference	ARC2 - (18) 11-07-2023			
Received by ER	MAR		C1	C2
			C3	DD
			MM	YY
			HH	MM
			11	7
			23	

NB: Package 1 only (Package 2 via Content)				
The following test result are attached for review				
Description of Materials	Soil (A-1-A)			
Location to be Used	K.P (522+300)			
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	12.15	
4	ASTM D 4318	Atterberg limit	N. PI	
5	ASTM D 2974	Moisture content	7.9 %	
6	ASTM D 1557	Modified proctor	2.16	
7	ASTM D 1883	CBR	50.8%	
Comments by:			Comments by:	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Salman Gamal		11-07-2023	
Contractor QA/QC *				
GARB**				
Employers Representative				

* Designer
** Alignment/Bridges Culvert only

 ENGINEERING CONSULTING OFFICE مكتب الاستشارات الهندسية أ.د. خالد كحلان	 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	 جمهورية مصر العربية وزارة التخطيط والتنمية الاقتصادية الهيئة العامة للغمرات والنقل GAST
Operating lap	Al Tawkol Central Lab		

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	09-07-2023	code	ZONE	522+000	522+500
LOCATION	K.P (522+300)	ARC 2 (18)	Material	fill material	
NAME COMPANY	AL ARKAN		quantity	4000 M	

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				TOTAL SAMPLE WEIGHT		50320.00		gm		table classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS		soil classify
Mass retained (g)	560.0	2700.0	6100.0	4880.0	3470.0	5210.0	5560.0		CLASS	A-1-A
Cumulative Retained (g)	560.0	3260.0	9360.0	14240.0	17710.0	22920.0	28480.0	21840.0	PRO	2.16
Cumulative Retained %	1.1	6.5	18.6	28.3	35.2	45.5	56.6		WC	7.9
Cumulative Passing %	98.9	93.5	81.4	71.7	64.8	54.5	43.40		CBR	50.8
									CORR. PRO	-
									CORR. WC	-

B-soft material gradation				WT. OF sample		500.00		gm
sieve size	10	40	200					
Cumulative Retained (g)	70.00	205.00	360.00					
Cumulative Retained %	14.00	41.00	72.00					
Cumulative Passing %	86.00	59.00	28.00					

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 %	98.9	93.5	81.4	71.7	64.8	54.5	43.4	37.3	25.6	12.15

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

Contractor



Consultant


 Mohammed Al

 وزارة النقل والملاحة Ministry of Transport and Maritime Affairs	 السكك الحديدية Egyptian Railways	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 General Authority of Planning

MODIFIED PROCTOR TEST ASTM D1557

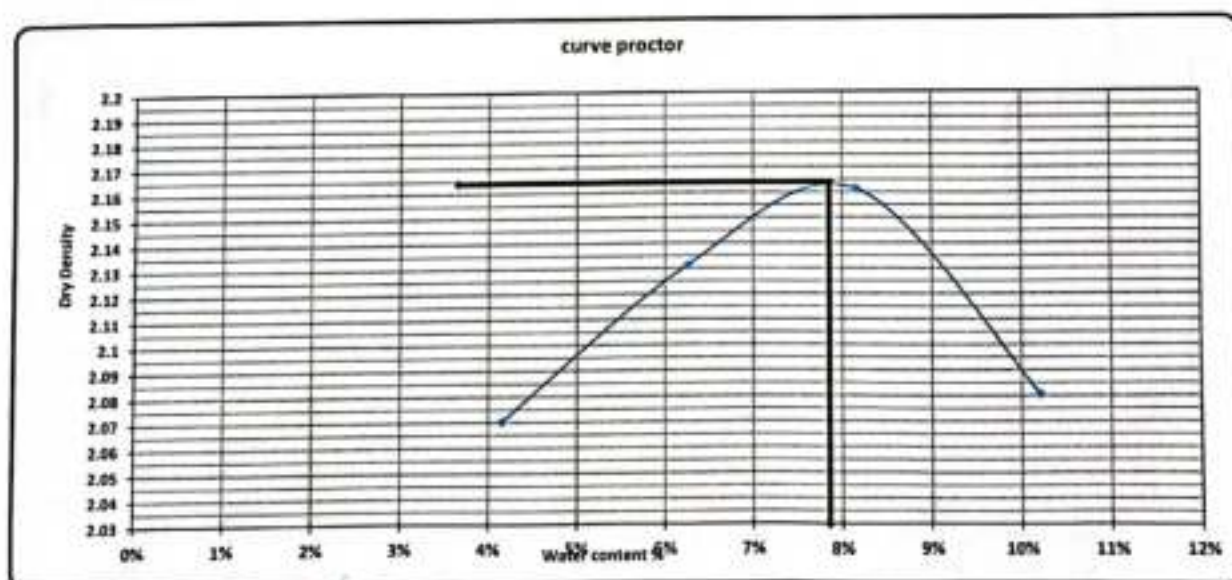
TESTING DATE:	10-07-2023	code	ZONE	522+000	522+500
LOCATION	K.P (522+300)	ARC 2 (16)	Material	fill material	
NAME COMPANY	AL ARKAN		quantity	4000 M	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

MAX Dry Density	2.16
Water content %	7.9%

trial no :	1	2	3	4	
Wt. Of Mold + Wet Soil	10200.0	10430.0	10585.0	10490	
WT. WET SOIL	4580.0	4810.0	4965.0	4870.0	
Wt. Density	2.156	2.265	2.338	2.293	

Tare No.	18	20	19	14	5	15	2	4		
Tare wt.	55.39	54.94	56.18	53.73	56.38	54.35	55.24	53.56		
Wt. Of wet soil & tare	150.0	170.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	145.28	146.15	145.07	144.70	142.48	143.26	141.00	141.3		
Wt. Of water	5.7	3.8	4.9	5.3	7.5	6.7	9.0	8.7		
Wt. Of dry soil	90.9	91.2	99.4	90.5	86.1	88.9	85.8	87.7		
Water content %	4.1%	4.2%	5.1%	5.4%	8.7%	7.6%	10.5%	9.9%		
AV. Water content %	4.2%		6.3%		8.2%		10.1%			
Dry Density	2.078		2.131		2.161		2.081			



Contractor

[Signature]

Consultant

Mohammed Ali

[Signature]



Electric Express Train - HSR



California Bearing Ratio TEST ASTM D1883

Testing Date :	11/7/2023	Code	FROM STA :	522+000	522+500
Location :	K.P (522+300)	ARC 2 (18)	Material	fill material	
Company Name	AL ARKAN		quantity	4000M	

-: Test Results

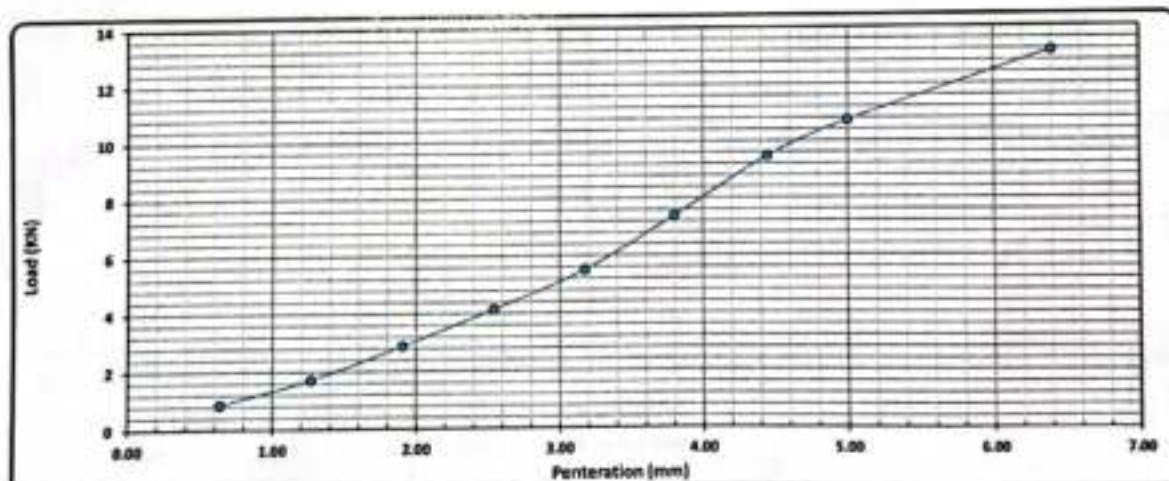
Compaction % for Mold	
Mold No.	3
Mold Vol.(cm ³)	2215
Mold WT. (gm)	5070
Mold WT. + Wet WT. (gm)	10330
Wet WT. (gm)	5160
Wet Density (g/cm ³)	2.330
Dry Density (g/cm ³)	2.199
Proctor Density (g/cm ³)	2.168
Compaction %	105.8

Mixture Ratio After Compacted Mold	
Tare No.	7
Tare WT. (gm)	54.32
Tare WT. + Wet WT. (gm)	130
Tare WT. + Dry WT. (gm)	143
Water WT. (gm)	7.8
Dry WT. (gm)	88.8
Moisture Content %	7.8

Swelling	
Mold No.	2
Date	11/7/2023
Initial Height (mm)	6.90
Final Height (mm)	6.90
Difference	0.00
Sample Height (mm)	119.4
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.60	1.27	1.91	2.54	3.18	3.80	4.45	5.08	6.40
Load Reading (%)	95	198	320	460	610	820	1090	1190	1460
Load (KN)	0.9	1.7	2.9	4.1	5.5	7.4	9.5	10.7	13.1



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(KN)	(lb)	(%)	(%)	(%)	95 % Limit %
2.50	4.14	13.4	31.0%	100	95	29.5%
5.00	10.71	26.0	53.5%			50.8%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

Handwritten signature of Lab. Engineer

Handwritten signature of Consultant Engineer