

قائمة الكميات الواردة بالمستخلص جاري (1)

مشروع: اعمال الجسر الترابي لمسار القطار الكهربائي السريع الخط الأول (العين السخنة - مطروح) قطاع (برج العرب/الإسكندرية) لتنفيذ المسافة من الكم 7+500 الى الكم 10+500 بطول 3 كم اتجاه برج العرب

رقم البند و بيانه : (1-2) بالمتر المكعب اعمال توريد وفرش طبقة فلتر من الأحجار الصلبة المتدرجة ناتج تكسير كسارات والمطابقة للمواصفات وأقصى حجم حبيبي ما بين 20مم الى 75 مم وألا يزيد نسبة المار من منخل 200 عن 5% والتدرج الوارد بالإشتراطات الخاصة بالمشروع وهي أحجار مقاس سن 1 : سن 2 : سن 4 او سن 6 بنسبة 1:1:1:1 وألا يقل معامل المرونة EV2 من تجربة لوح التحميل عن 50 ميجاباسكال وألا يزيد نسبة الفاقد بجهاز لوس انجلوس عن 45% والفئة تشمل اعمال التجارب المعملية والبند يشمل إجراء التجارب المعملية والحقلية طبقاً لأصول الصناعة المعمولة وتقرير الإستشاري وتعليمات المهندس المشرف .
- لمسافة نقل 20 كم .
- الفئة شاملة قيمة المادة المحجيرة .
- يتم احتساب 1.30 جنية لكل 1 كم بالزيادة او النقصان .

(السعر ابتداء من شهر سبتمبر 2023 طبقاً للمفاوضة بتاريخ 06/2024)

تنفيذ : شركة الفتح للشحن والتفريغ والاعمال البحرية

عقد رقم 2025/2024/616

		3م	0.0	مقدار العمل السابق :
الكمية	الابعاد (متر)	الموقع الكيلومتری		مسلسل
	طول	الى	من	
17865.00	1700	333+840	332+140	1
		9+460	7+760	
17865.00	اجمالي الكمية الهندسي (م ³)			
17865.00	الاجمالي خلال فترة المستخلص (م ³)			

مهندس الهيئة
محمد جلال
م / احمد جلال عبد السلام

المكتب الاستشاري الهندسي
اد. خالد قنديل k.k
م / هشام محمد صبري
مكتب ك.ك. (الإسكندرية)

مهندس الاستشاري
مكتب XYZ
م / محمد خليل
مكتب XYZ (عرب النيل)

مهندس الشركة
م / هشام محمد حامد
مكتب H.A.L.F.A.T.H
REAL ESTATE AND ROAD DESIGN

قائمة الكميات الواردة بالمستخلص جاري (1)

مشروع: اعمال الجسر الترابي لمسار القطار الكهربائي السريع الخط الأول (العين السخنة -مطروح) قطاع (برج العرب/الإسكندرية) لتنفيذ المسافة من الكم 7+500 الى الكم 10+500 بطول 3 كم اتجاه برج العرب

رقم البند و بيانه : (1-2) علاوة مسافة النقل 145 كم

(السعر ابتداء من شهر سبتمبر 2023 طبقا للمفاوضة بتاريخ 06/2024)

تنفيذ : شركة الفتح للشحن والتفريغ والاعمال البحرية

عقد رقم 2025/2024/616

		3م	0.0	مقدار العمل السابق :
الكمية	الابعاد (متر)	الموقع الكيلومري		مسلسل
	طول	الى	من	
17865.00	1700	333+840	332+140	1
		9+460	7+760	
17865.00	اجمالي الكمية الهندسي (م ³)			
17865.00	الاجمالي خلال فترة المستخلص (م ³)			

مهندس الهيئة

م / احمد جلال

م / احمد جلال عبد السلام

المكتب الاستشاري الهندسي

اد. خالد قنديل k.k

م / هشام محمد صبري
الاستشاري الهندسي
KK

مهندس الاستشاري

مكتب XYZ

م / محمد خليل
الاستشاري
م / محمد خليل

مهندس الشركة

م / هشام محمد حامد

م / هشام محمد حامد
KALFARH
NEW ESTATE AND ROAD DEVELOPMENT

قائمة الكميات الواردة بالمستخلص جاري (1)

مشروع: اعمال الجسر الترابي لمسار القطار الكهربائي السريع الخط الأول (العين السخنة - مطروح) قطاع (برج العرب/الإسكندرية) لتنفيذ المسافة من الكم 7+500 الى الكم 10+500 بطول 3 كم اتجاه برج العرب

رقم البند و بيانه : (1-2) علاوة تحصيل رسوم الكارثة والموازن طبقا للائحة الشركة الوطنية

تنفيذ : شركة الفتح للشحن والتفريغ والاعمال البحرية

عقد رقم 2025/2024/616

الكمية	الابعاد (متر)	الموقع الكيلومترى		مسلسل	مقدار العمل السابق :
		من	الى		
17865.00	1700	332+140	333+840	1	
		7+760	9+460		
17865.00	اجمالي الكمية الهندسي (م ³)				
17865.00	الاجمالي خلال فترة المستخلص (م ³)				

مهندس الهيئة

أحمد جلال

م / أحمد جلال عبد السلام

المكتب الاستشاري الهندسي

د. خالد فتنديل k.k

م / هشام محمد صبري



مهندس الاستشاري

مكتب XYZ

م / محمد خليل



مهندس الشركة

م / هشام محمد حامد



محضر استلام موقع عمليه

العملية:

اعمال الجسر الترابي لمشروع القطار الكهربائي السريع في المسافه من الكم 007+500 الي الكم 010+500 بطول 3.00 كم

اتجاه برج العرب (قطاع وادي النظرون/ برج العرب / الاسكندريه) بالامر المباشر .

تنفيذ : شركة الفتح للشحن والتفريغ والاعمال البحرية.

استشاري المشروع : المكتب الاستشاري الهندسي (ا . د / خالد قنديل)

اشراف : المنطقة الرابعة – منطقه غرب الدلتا

طبقا للعقد رقم (2025/2024/616) بتاريخ (2025/ 01 /05)

انه في يوم الاربعاء الموافق 2025 /01/08 اجتمع كلا من

- | | |
|---|---|
| 1- السيد المهندس / محمد حسني فياض | مدير عام المشروعات – الهيئة العامة للطرق والكباري |
| 2- السيد المهندس / احمد جلال عبد السلام | مهندس العمليه – الهيئة العامة للطرق والكباري |
| 3- السيد المهندس / هشام محمد صبري | استشاري المشروع (ا.د. خالد قنديل) |
| 4- السيد المهندس / هشام محمد حامد | مدير مشروع – شركة الفتح للشحن والتفريغ |
- ونلك للمرور على مسار العمليه المذكوره عاليه لاستلام الموقع .

وقد تبين ان الموقع خاليا من العوائق الظاهرية ويسمح بالبدء في التنفيذ وبناء عليه يعتبر تاريخ 2025 /01 /08 هو تاريخ بدء اعمال الاشراف بالعمليه

واقفل المحضر علي ذلك ووقع الحضور

التوقيعات:

4-

3-

2- السيد جلال

1-

رئيس الاداره المركزيه

منطقه غرب الدلتا

الاسكندريه – مرمي مطروح

سيد مهندس /

" هاني محمد محمود طه "

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والجسور
(GARB)



Contractor Company	AL-FATH		Designer Company	(KK) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/ Serial Number	Time						
	Eng. Hesham Hamed		22-09-2023 F.A-M.I.001	12:30 PM						
Received by ER	Eng. Gaber Ibrahim	MIR	C1	C2	C3	DD	MM	YY	HH	MM
			333	FW	CS	22	09	23	12	30

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	Dolomitic Crushed aggregates (Filter Layer)				
Location to be Used	From St. (333+680) to St. (333+780)				
MAR Approval No	(F.A-M.A004).	Date	11/2/2023		
Supplier Name	RATEB				
Test Requirement	PLT DIN 18134	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	Plate load test	NUMBER	2	22/09/2023	
2					
3					
4					
Comments by: Eng. Hesham Sabry (kk)			Comments by: Eng. Gaber Ibrahim		
1- تم اجراء اختبار P.L.T وتم تحقيق النتائج المطلوبة طبقاً لمواصفات المشروع.			1- P.L.T were carried-out by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Hesham Hamed		22/09/2023	
QA/QC *	Eng. Hesham Sabry		22/9/2023	A
GARB**	Eng. Ahmed Galal			
Employers Representative	Eng. Gaber Ibrahim		22-09-2023	A.N.C

* Designer

** Alignment / Bridges: Culvert Only

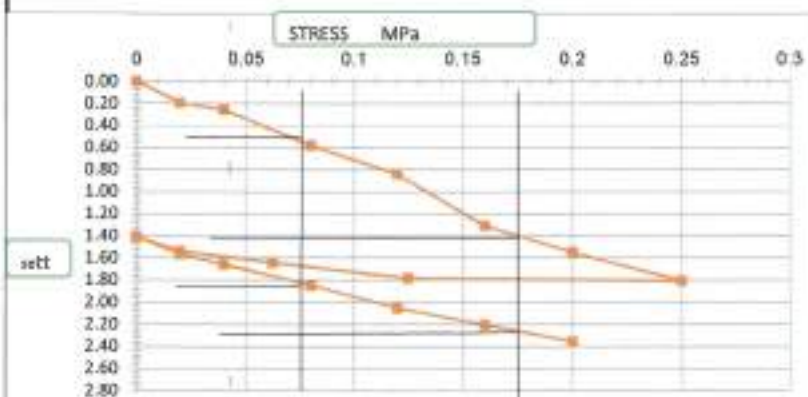


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+730	to	333+780	DATE	22/09/2023
Description :	Filter Layer					LAB No :	1
Station :	333+780						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	7.61	7.47	7.54	0.00
0.020	18.8	7.43	7.28	7.33	0.19
0.040	37.7	7.31	7.22	7.32	0.28
0.080	75.4	6.88	7.14	7.06	0.58
0.120	113.1	6.30	6.88	6.92	0.84
0.160	150.8	5.71	6.36	6.63	1.31
0.200	188.5	5.39	6.18	6.42	1.55
0.250	235.7	5.19	5.89	6.12	1.81
0.125	117.8	5.20	5.92	6.15	1.78
0.0825	58.9	5.25	6.05	6.39	1.64
0.020	18.7	5.32	6.24	6.45	1.54
0.000	0	5.36	6.52	6.51	1.41
0.020	18.7	5.27	6.46	6.20	1.56
0.040	37.7	5.22	6.29	6.13	1.66
0.080	75.7	5.18	6.21	6.09	1.85
0.120	113.1	5.09	5.90	5.47	2.05
0.160	150.8	4.93	5.73	5.35	2.20
0.200	188.5	4.75	5.56	5.24	2.38



	s
0.7 σ_c	0.175
0.3 σ_c	0.075
0.7 σ_{c2}	0.175
0.3 σ_{c2}	0.075

Ev1=	52.9	Mpa
Ev2=	112.5	Mpa

Ev2/Ev1=	2.1
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المهندس الاستشاري (K.K)

عبدالله الشاذلي

مهندس مدني (إشراف)

أحمد

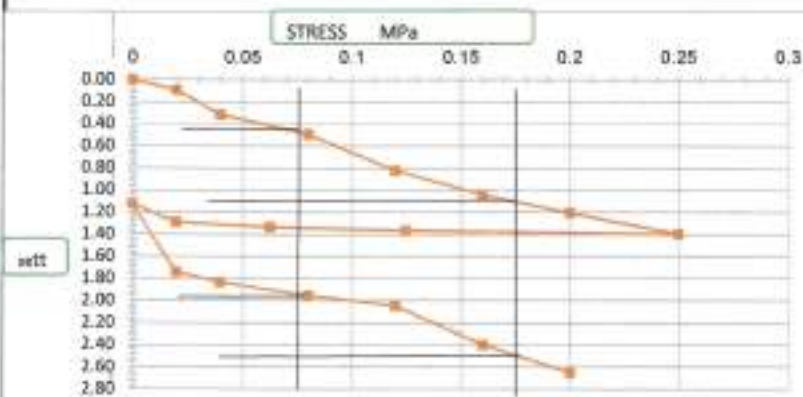


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+680	to	333+730	DATE	22/09/2023
Description :	Filter Layer					LAB No :	2
Station :	333+730						
Diameter plate	400mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	9.83	9.60	9.74	0.00
0.020	18.8	9.72	9.57	9.60	0.09
0.040	37.7	9.66	9.14	9.42	0.32
0.080	75.4	9.61	8.77	9.31	0.49
0.120	113.1	8.91	8.64	9.15	0.82
0.160	150.8	8.76	8.52	8.76	1.04
0.200	188.5	8.53	8.33	8.69	1.21
0.250	235.7	8.45	8.21	8.31	1.40
0.125	117.8	8.50	8.25	8.32	1.37
0.0625	58.9	8.55	8.27	8.35	1.33
0.020	18.7	8.60	8.31	8.39	1.29
0.000	0	8.62	8.77	8.41	1.12
0.020	18.7	8.46	8.63	8.86	1.74
0.040	37.7	8.31	8.56	8.80	1.83
0.080	75.7	8.27	8.49	8.55	1.95
0.120	113.1	8.23	8.31	8.49	2.05
0.160	150.8	7.71	7.86	8.40	2.40
0.200	188.5	7.63	7.19	8.39	2.65



	s
0.7 σ_c	0.175
0.3 σ_c	0.075
0.7 σ_c	0.175
0.3 σ_c	0.075

Ev1=	64.3	Mpa
Ev2=	95.7	Mpa

Ev2/Ev1=	1.5
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المهندس الاستشاري (K.K)

عبدالمجيد

مهندس جودة (الفرقة)

أحمد

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والجسور
(GARB)



Contractor Company	AL-FATH		Designer Company	(KK) Engineering Consulting Office			
Issued by Contractor	Name	Sign	Date/ Serial Number	Time			
	Eng. Hesham Hamed			22-09-2023 F.A-M.I.002			
Received by ER	Eng. Gaber Ibrahim	MIR					
			C1	C2	C3	DD	MM
			333	EW	CS	22	09
							23
							12
							30

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	Dolomitic Crushed aggregates (Filter Layer)		
Location to be Used	From St. (333+480) to St. (333+680)		
MAR Approval No	(F.A-M.A004).	Date	11/2/2023
Supplier Name	RATEB		
Test Requirement	PLT DIN 18134	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	Plate load test	NUMBER	4	22-09-2023	
2					
3					
4					

Comments by: Eng. Hesham Sabry (kk)	Comments by: Eng. Gaber Ibrahim
1- تم اجراء اختبار P.L.T وتم تحقيق النتائج المطلوبة طبقا لمواصفات المشروع.	1- P.L.T were carried-out by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Hesham Hamed		22-09-2023	
QA/QC *	Eng. Hesham Sabry		22/9/2023	A
GARB**	Eng. Ahmed Galal			
Employers Representative	Eng. Gaber Ibrahim		22/09/2023	A.W.C

* Designer

** Alignment / Bridges: Culvert Only



الهيئة العامة
للتنظيم والإشراف
(GARB)

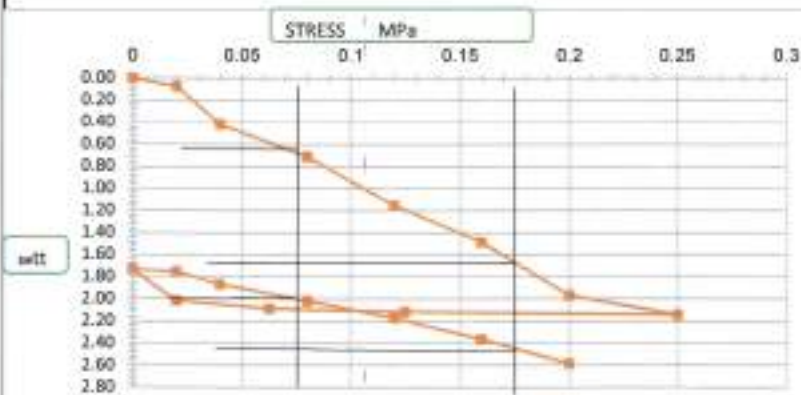


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab "
From Station 331+800 To Station 334+200

Request no.:		From	333+480	to	333+530	DATE	22/09/2023
Description :	Filter Layer					LAB No :	1
Station :	333+480						
Diameter plate	400mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	8.75	8.46	8.27	0.00
0.020	18.8	8.50	8.62	8.13	0.08
0.040	37.7	7.65	8.50	8.01	0.42
0.060	75.4	7.40	8.24	8.70	0.71
0.120	113.1	8.85	7.06	8.22	1.15
0.160	150.8	8.48	7.76	7.78	1.49
0.200	188.5	6.14	7.00	7.43	1.97
0.250	235.7	5.88	7.46	6.71	2.14
0.125	117.8	5.90	7.50	6.73	2.12
0.0625	58.9	5.93	7.52	6.76	2.09
0.020	18.7	6.10	7.53	6.80	2.02
0.000	0	6.41	7.80	7.07	1.73
0.020	18.7	6.40	7.77	7.05	1.75
0.040	37.7	6.31	7.63	6.93	1.87
0.080	75.7	6.15	7.48	6.79	2.02
0.120	113.1	6.10	7.32	6.54	2.17
0.160	150.8	6.85	7.20	6.33	2.37
0.200	188.5	5.80	7.05	6.07	2.59



		s
0.7 σ_1	0.175	1.68
0.3 σ_1	0.075	0.66
0.7 σ_2	0.175	2.51
0.3 σ_2	0.075	2.00

Ev1=	45.0	Mpa
Ev2=	88.2	Mpa

Ev2/Ev1=	2.0
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المهندس الاستشاري (K.K)

عبدالله الشحات

مهندس جودة وإشراف

أحمد

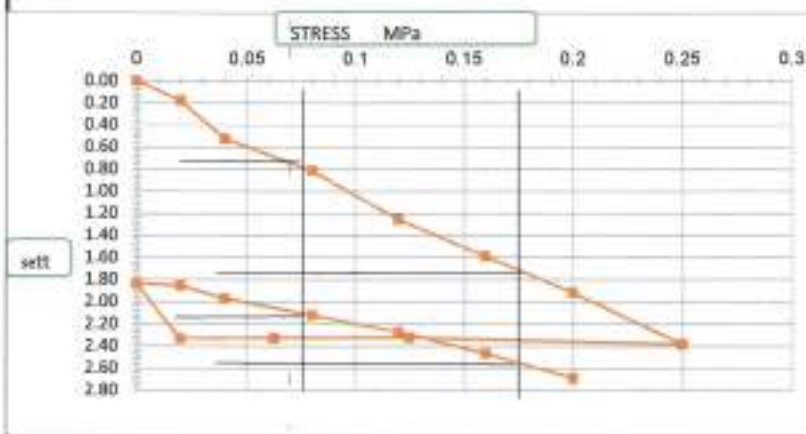


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab "
From Station 331+800 To Station 334+200

Request no.:		From	333+530	to	333+580	DATE	22/09/2023
Description :	Filter Layer					LAB No :	2
Station :	333+530						
Diameter plate	609mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	9.55	9.36	9.17	0.00
0.020	18.6	9.30	9.22	9.03	0.18
0.040	37.7	8.45	8.16	8.90	0.52
0.080	75.4	8.20	8.84	8.60	0.81
0.120	113.1	7.65	8.55	8.12	1.25
0.160	150.8	7.28	8.31	7.73	1.59
0.200	188.5	6.94	8.06	7.33	1.92
0.250	235.7	6.68	7.64	6.61	2.38
0.125	117.8	6.70	7.84	6.57	2.32
0.0625	58.9	6.73	7.87	6.50	2.33
0.020	18.7	6.76	7.91	6.42	2.33
0.000	0	7.21	8.40	6.97	1.83
0.020	18.7	7.20	8.37	6.96	1.85
0.040	37.7	7.11	8.23	6.83	1.87
0.080	75.7	6.95	8.08	6.69	2.12
0.120	113.1	6.90	7.92	6.44	2.27
0.160	150.8	6.65	7.80	6.23	2.47
0.200	188.5	6.40	7.64	5.97	2.69



		%
0.7 σ_c	0.175	1.75
0.3 σ_c	0.075	0.77
0.7 σ_c	0.175	2.58
0.3 σ_c	0.075	2.18

Ev1=	45.9	Mpa
Ev2=	112.5	Mpa

Ev2/Ev1=	2.5
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المهندس الاستشاري (KK)

Handwritten signature in blue ink

مهندس جودة (إشراف)

Handwritten signature in blue ink



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+580	to	333+630	DATE	22/09/2023
Description :	Filler Layer					LAB No :	3
Station :	333+580						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement,
0	0	9.70	9.00	9.30	0.00
0.020	18.8	9.45	9.36	9.20	0.10
0.040	37.7	8.89	9.30	9.03	0.49
0.080	75.4	8.35	8.88	8.63	0.85
0.120	113.1	7.85	8.69	8.25	1.24
0.160	150.8	7.43	8.45	7.86	1.58
0.200	188.5	7.09	8.20	7.46	1.92
0.250	235.7	6.83	7.78	6.73	2.39
0.125	117.8	6.83	7.98	6.75	2.31
0.0625	58.9	6.89	8.12	6.77	2.24
0.020	18.7	7.05	8.32	6.81	2.11
0.000	0	7.36	8.55	7.06	1.84
0.020	18.7	7.35	8.51	7.05	1.86
0.040	37.7	7.26	8.40	6.96	1.96
0.080	75.7	7.10	8.25	6.82	2.11
0.120	113.1	7.05	8.10	6.57	2.26
0.160	150.8	6.83	7.84	6.36	2.46
0.200	188.5	6.55	7.78	6.07	2.70



		s
0.7 σ_m	0.175	1.70
0.3 σ_m	0.075	0.80
0.7 σ_2	0.175	2.60
0.3 σ_2	0.075	2.15

Ev1=	50.0	Mpa
Ev2=	100.0	Mpa

Ev2/Ev1=	2.0
----------	-----

المهندس الاستشاري (K.K.)

عبد الله الشحات

مهندس الطرق (مصرية)

2023



الهيئة العامة
للطرق والنقل
(GAPB)

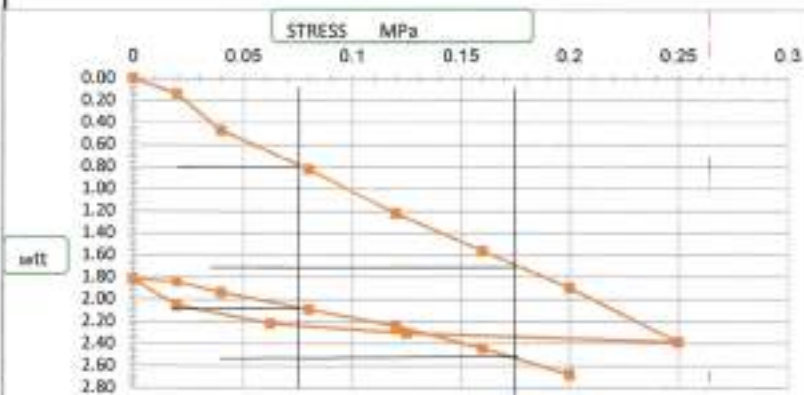


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+630	to	333+680	DATE	22/09/2023
Description :	Filter Layer					LAB No :	4
Station :	333+630						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	9.65	9.40	7.88	0.00
0.020	18.8	9.40	9.25	7.65	0.14
0.040	37.7	8.64	8.20	7.48	0.47
0.080	75.4	8.30	8.88	7.08	0.82
0.120	113.1	7.78	8.59	6.70	1.22
0.160	150.8	7.36	8.35	6.31	1.56
0.200	188.5	7.04	8.10	5.90	1.90
0.250	235.7	6.78	7.68	5.11	2.39
0.125	117.8	6.78	7.88	5.15	2.31
0.0625	58.9	6.84	8.02	5.21	2.22
0.020	18.7	7.00	8.22	5.35	2.05
0.000	0	7.31	8.45	5.51	1.82
0.020	18.7	7.30	8.41	5.50	1.84
0.040	37.7	7.21	8.30	5.41	1.94
0.080	75.7	7.05	8.15	5.28	2.09
0.120	113.1	7.00	8.00	5.01	2.24
0.160	150.8	6.78	7.84	4.78	2.44
0.200	188.5	6.50	7.68	4.51	2.68



	s
0.7 σ_1	0.175
0.3 σ_1	0.075
0.7 σ_2	0.175
0.3 σ_2	0.075

Ev1=	52.0	Mpa
Ev2=	100.0	Mpa

Ev2/Ev1=	1.9
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المهندس الاستشاري (K.K.)

عبدالله شحاته

مهندس علوم إنشائية

أحمد



Calibration Method

The calibration was carried out using a General Purpose Compression Machine. Three loading series were applied according to the test loads and report the average response of the load readings versus the hydraulic dial readings.

Reference Device	Serial No.	Certificate No.	Issuer
ELE General Purpose Compression Machine 3000 kN	36-33201-1001	SS18248B/108	Surveying Systems Co.

Calibration Results

Jack Serial No.	421021Rev10	Pump Serial No.	TS210786
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BAR	Load (kN)	Standard deviation
0	0.00	0.00
20	8.30	0.26
30	10.97	1.29
40	13.57	0.06
50	16.30	0.17
60	19.67	0.99
70	23.00	0.62
80	26.43	0.42
90	29.83	0.65
100	33.10	0.26
150	50.33	0.23
200	67.00	0.30
250	84.60	0.70
300	102.27	0.35
350	119.50	0.20
400	136.77	0.15
450	154.37	0.21
500	171.57	0.25
550	189.57	0.81
600	206.30	0.30

Technical committee
Prof. Dr. Mohamed F. M. Fahmy

Lab Engineer
Mohamed A. Al-Najjar



MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والجسور
(GARB)



Contractor Company	AL-FATH			Designer Company				(KK) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/ Serial Number				Time			
	Eng. Hesham Hamed			24-09-2023 F.A-M.I.003				12:30 PM			
Received by ER	Eng. Gaber Ibrahim		MIR	C1 333	C2 EW	C3 CS	DD 24	MM 09	YY 23	HH 12	MM 30

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	Dolomitic Crushed aggregates (Filter Layer)				
Location to be Used	From St. (333+300) to St. (333+480)				
MAR Approval No	(F.A-M.A004).			Date	11/2/2023
Supplier Name	Rateb				
Test Requirement	PLT DIN 18134	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	Plate load test	NUMBER	4	24/09/2023	
2					
3					
4					

Comments by: Eng. Hesham Sabry (kk)			Comments by: Eng. Gaber Ibrahim		
1- تم اجراء اختبار P.L.T وتم تحقيق النتائج المطلوبة طبقا لمواصفات المشروع.			1- P.L.T were carried-out by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS					
Organisation	Name	Sign	Date	A-AWC-R	
Contractor	Eng. Hesham Hamed		24/09/2023		
QA/QC *	Eng. Hesham Sabry		24/9/2023	A	
GARB**	Eng. Ahmed Galal				
Employers Representative	Eng. Gaber Ibrahim		24/09/2023	A.W.C	

* Designer

** Alignment / Bridges: Culvert Only



الهيئة العامة
للطرق و الجسور
(EGAR)

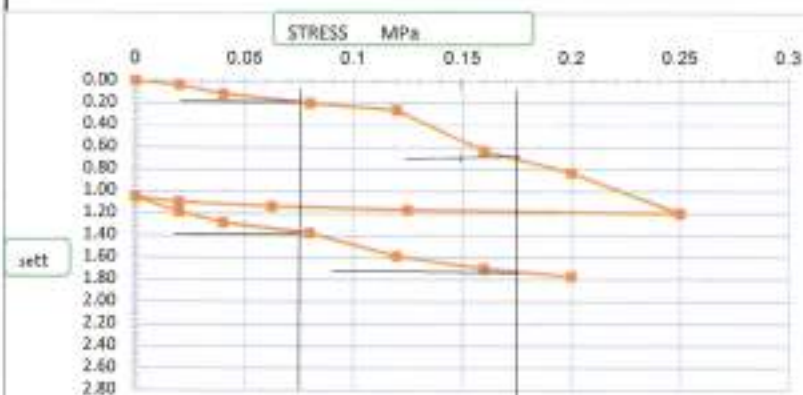


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab
From Station 331+800 To Station 334+200

Request no.:		From	333+280	to	333+330	DATE	24/9/2023
Description :	Filter Layer					LAB No :	1
Station :	333+280						
Diameter plate	400mm	Hand Pump :	TS210706	Hydraulic Jack :	42102RE/V10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	9.66	9.57	9.73	0.00
0.020	18.8	9.62	9.53	9.70	0.04
0.040	37.7	9.53	9.46	9.62	0.12
0.080	75.4	9.47	9.33	9.56	0.20
0.120	113.1	9.39	9.27	9.51	0.26
0.160	150.8	8.93	9.22	8.91	0.63
0.200	188.5	8.72	8.88	8.86	0.83
0.250	235.7	8.43	8.31	8.61	1.20
0.125	117.8	8.47	8.35	8.63	1.17
0.0625	58.9	8.51	8.39	8.66	1.13
0.020	18.7	8.53	8.43	8.71	1.10
0.000	0	8.58	8.48	8.74	1.05
0.020	18.7	8.41	8.46	8.54	1.16
0.040	37.7	8.33	8.35	8.43	1.28
0.080	75.7	8.21	8.23	8.39	1.38
0.120	113.1	7.86	8.12	8.22	1.59
0.160	150.8	7.81	7.92	8.13	1.70
0.200	188.5	7.76	7.81	8.07	1.77



		9
0.7 σ_c	0.175	0.70
0.3 σ_c	0.075	0.20
0.7 σ_{2c}	0.175	1.65
0.3 σ_{2c}	0.075	1.40

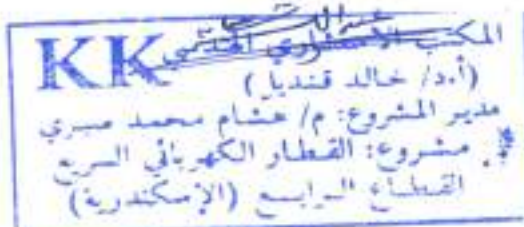
Ev1=	90.0	Mpa
Ev2=	180.0	Mpa

Ev2/Ev1=	2.0
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المهندس الاستشاري (K.K)

مهندس لواء (الشرقية)

أحمد





Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Natroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+330	to	333+380	DATE	24/9/2023
Description :	Filter Layer					LAB No :	2
Station :	333+330						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	9.94	9.79	9.83	0.00
0.020	18.8	9.77	9.67	9.74	0.13
0.040	37.7	9.71	9.59	9.63	0.21
0.080	75.4	9.23	9.27	9.31	0.58
0.120	113.1	9.12	9.19	9.22	0.88
0.160	150.8	9.01	9.08	9.04	0.84
0.200	188.5	8.83	8.80	8.80	0.89
0.250	235.7	8.41	8.81	8.72	1.21
0.125	117.8	8.44	8.83	8.74	1.18
0.0625	58.9	8.51	8.87	8.78	1.14
0.020	18.7	8.53	8.91	8.79	1.11
0.000	0	8.57	8.94	8.83	1.07
0.020	18.7	8.50	8.85	8.62	1.20
0.040	37.7	7.91	8.78	8.53	1.45
0.080	75.7	7.77	8.62	8.46	1.57
0.120	113.1	7.75	8.53	8.41	1.62
0.160	150.8	7.58	8.45	8.36	1.73
0.200	188.5	7.31	8.38	8.27	1.87



		s
0.7 σ_c	0.175	0.90
0.3 σ_c	0.075	0.55
0.7 σ_{2c}	0.175	1.80
0.3 σ_{2c}	0.075	1.80

Ev1=	128.6	Mpa
Ev2=	225.0	Mpa

Ev2/Ev1=	1.8
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المهندس الاستشاري (K.K)

مهندس جودة (الفرقة)

المكتب الاستشاري (K.K)
 (أ.د/ خالد قنديل)
 مدير المشروع: م/ هشام محمد صبري
 مشروع: القطار الكهربائي السريع
 القطاع الرابع (الإسكندرية)

أصح



الهيئة العامة
للطرق والجسور
(GARH)



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+380	to	333+430	DATE	24/9/2023
Description :	Filter Layer					LAB No :	3
Station :	333+380						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	9.65	9.71	9.83	0.00
0.020	18.8	9.58	9.62	9.79	0.07
0.040	37.7	9.56	9.54	9.73	0.12
0.080	75.4	9.47	9.41	9.66	0.22
0.120	113.1	9.23	9.33	9.49	0.38
0.160	150.8	8.92	9.21	9.44	0.54
0.200	188.5	8.82	9.09	8.97	0.77
0.250	235.7	8.47	8.75	8.85	1.04
0.125	117.8	8.51	8.78	8.67	1.01
0.0625	58.9	8.55	8.80	8.68	0.99
0.020	18.7	8.62	8.84	8.92	0.94
0.000	0	8.66	8.89	8.96	0.89
0.020	18.7	8.43	8.69	8.62	1.15
0.040	37.7	8.36	8.42	8.33	1.36
0.080	75.7	7.86	8.21	8.31	1.60
0.120	113.1	7.80	8.05	7.92	1.81
0.160	150.8	7.72	7.91	7.88	1.88
0.200	188.5	7.56	7.73	7.66	2.08



		s
0.7 σ_1	0.175	0.75
0.3 σ_2	0.075	0.20
0.7 σ_2	0.175	1.95
0.3 σ_2	0.075	1.60
Ev1=	81.6	Mpa
Ev2=	128.6	Mpa
Ev2/Ev1=	1.6	

المهندس الاستشاري (K.K)

مهندس شركة (الشركة)

المكتب الاستشاري الهندسي
(أ.د/ خالد قنديل)
مدير المشروع: م/ هشام محمد صبري
مشروع: القطار الكهربائي السريع
القطاع الرابع (الإسكندرية)



الهيئة العامة
للتنظيم والرقابة
(QARB)



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+430	to	333+480	DATE	24/9/2023
Description :	Filter Layer					LAB No :	4
Station :	333+430						
Diameter plate	:600mm		Hand Pump :	TS210706	Hydraulic Jack : 421021REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	9.75	9.56	9.38	0.00
0.020	18.8	9.50	9.40	9.21	0.19
0.040	37.7	8.75	9.36	9.11	0.49
0.080	75.4	8.42	9.03	8.68	0.85
0.120	113.1	8.41	8.71	8.31	1.09
0.160	150.6	8.35	8.51	7.91	1.31
0.200	188.5	8.52	8.25	7.51	1.47
0.250	235.7	8.31	7.83	6.78	1.92
0.125	117.8	8.33	7.85	6.77	1.91
0.0625	58.9	8.35	7.89	6.81	1.88
0.020	18.7	8.41	7.91	6.85	1.84
0.000	0	8.44	7.99	7.06	1.73
0.020	18.7	8.41	7.95	7.01	1.77
0.040	37.7	8.38	7.81	6.95	1.85
0.080	75.7	8.32	7.75	6.82	1.93
0.120	113.1	8.21	7.72	6.67	2.06
0.160	150.8	8.15	7.69	6.36	2.16
0.200	188.5	8.05	7.65	6.07	2.31



		σ
0.7	0.175	1.35
0.3	0.075	0.80
0.7	0.175	2.25
0.3	0.075	1.95

Ev1=	81.8	Mpa
Ev2=	150.0	Mpa

Ev2/Ev1=	1.8
----------	-----

المهندس الاستشاري (K.K)

مهندس جودة (الشركة)

المكتب الاستشاري الهندسي
(أ.د. / خالد قنديل)
مدير المشروع: م/ هشام محمد صبري
مشروع: القطار الكهربائي السريع
القسطاع الرابع (الإسكندرية)

أحمد



Calibration Method

The calibration was carried out using a General Purpose Compression Machine. Three loading series were applied according to the test loads and report the average response of the load readings versus the hydraulic dial readings.

Reference Device	Serial No.	Certificate No.	Issuer
ELE General Purpose Compression Machine 3000 kN	36-33201-1001	SSr8248B/108	Surveying Systems Co.

Calibration Results

Jack Serial No.	421021Rev10	Pump Serial No.	TS210706
-----------------	-------------	-----------------	----------

BAR	Load (kN)	Standard deviation
0	0.00	0.00
20	8.30	0.26
30	10.97	1.29
40	13.57	0.06
50	16.30	0.17
60	19.67	0.99
70	23.00	0.62
80	26.43	0.42
90	29.83	0.65
100	33.10	0.26
150	50.33	0.23
200	67.00	0.30
250	84.60	0.70
300	102.27	0.35
350	119.50	0.20
400	136.77	0.15
450	154.37	0.21
500	171.57	0.25
550	189.57	0.81
600	206.30	0.30

Technical committee

Prof. Dr. Mohamed F. M. Fahmy

Lab Engineer

Mohamed A. Al-Najjar



MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والجسور
(GARB)



Contractor Company	AL-FATH		Designer Company	(KK) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/ Serial Number	Time						
	Eng. Hesham Hamed		27-09-2023 F.A-M.1.004	12:30 PM						
Received by ER	Eng. Gaber Ibrahim	MIR	C1	C2	C3	DD	MM	YY	HH	MM
			333	EW	CS	27	09	23	12	30

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	Dolomitic Crushed aggregates (Filter Layer)				
Location to be Used	From St. (333+000) to St. (333+300)				
MAR Approval No	(F.A-M.A004).	Date	11/2/2023		
Supplier Name	Rateb				
Test Requirement	PLT DIN 18134	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY GIVECON GROUP		
Reference Photos	No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	Plate load test	NUMBER	6	27/09/2023	
2					
3					
4					
Comments by: Eng. Hesham Sabry (kk)			Comments by: Eng. Gaber Ibrahim		
1- تم اجراء اختبار P.L.T وتم تحقيق النتائج المطلوبة طبقاً لمواصفات المشروع.			1- P.L.T were carried-out by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Hesham Hamed		27/09/2023	
QA/QC *	Eng. Hesham Sabry		27/9/2023	A
GARB**	Eng. Ahmed Galal			
Employers Representative	Eng. Gaber Ibrahim		27/09/2023	A.W.C

* Designer

** Alignment / Bridges: Culvert Only



الهيئة العامة
للطرق و القاري
(GARB)

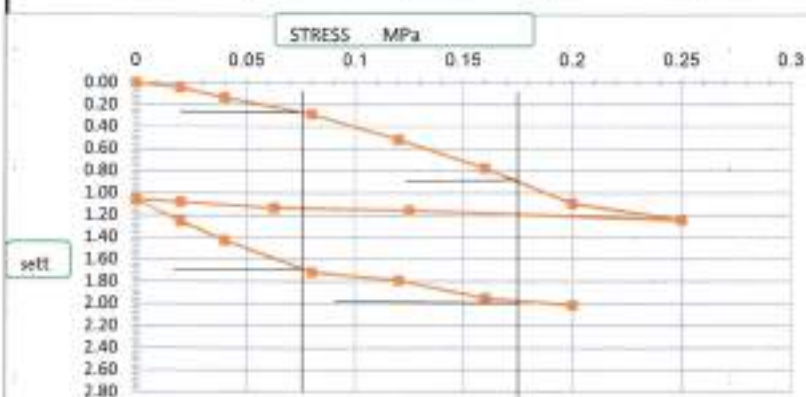


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+000	to	333+300	DATE	27/9/2023
Description :	Filter Layer					LAB No :	1
Station :	333+000						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	8.53	9.88	8.83	0.00
0.020	18.8	8.51	9.83	8.77	0.04
0.040	37.7	8.47	9.86	8.71	0.13
0.080	75.4	8.41	9.42	8.65	0.29
0.120	113.1	8.38	8.92	8.41	0.52
0.160	150.8	8.32	8.84	7.75	0.78
0.200	188.5	7.61	8.71	7.63	1.10
0.250	235.7	7.43	8.55	7.52	1.25
0.125	117.8	7.63	8.68	7.95	1.16
0.0625	58.9	7.66	8.81	7.57	1.13
0.020	18.7	7.71	8.86	7.63	1.00
0.000	0	7.73	8.88	7.66	1.06
0.020	18.7	7.51	8.42	7.54	1.26
0.040	37.7	7.22	8.33	7.41	1.43
0.080	75.7	6.85	7.91	7.33	1.72
0.120	113.1	6.83	7.83	7.20	1.79
0.160	150.8	6.74	7.51	7.13	1.95
0.200	188.5	6.72	7.41	7.06	2.02



		s
0.7 σ_c	0.175	0.90
0.3 σ_c	0.075	0.25
0.7 σ_{c2}	0.175	2.00
0.3 σ_{c2}	0.075	1.75

Ev1=	69.2	Mpa
Ev2=	180.0	Mpa

Ev2/Ev1= 2.6

المهندس الاستشاري (K.K)

عبدالله

مهندس المرد (الفرقة)

مرد

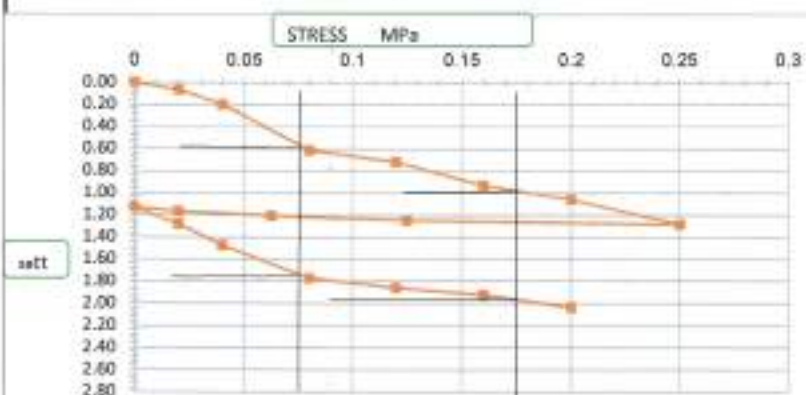


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+000	to	333+300	DATE	27/9/2023
Description :	Filler Layer					LAB No :	2
Station :	333+100						
Diameter plate	650mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	600 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	9.66	9.45	9.72	0.00
0.020	18.8	9.57	9.40	9.66	0.07
0.040	37.7	9.50	9.12	9.61	0.20
0.080	75.4	9.21	8.90	8.88	0.61
0.120	113.1	9.04	8.82	8.81	0.72
0.160	150.8	8.85	8.65	8.53	0.93
0.200	188.5	8.83	8.41	8.41	1.06
0.250	235.7	8.42	8.33	8.22	1.28
0.125	117.8	8.44	8.37	8.28	1.25
0.0625	58.9	8.49	8.41	8.31	1.21
0.020	18.7	8.53	8.44	8.36	1.17
0.000	0	8.58	8.48	8.40	1.13
0.020	18.7	8.33	8.31	8.35	1.28
0.040	37.7	8.12	8.22	8.07	1.47
0.080	75.7	7.80	7.71	8.01	1.77
0.120	113.1	7.73	7.62	7.90	1.88
0.160	150.8	7.65	7.61	7.80	1.92
0.200	188.5	7.60	7.50	7.62	2.04



		s
0.7 σ_1	0.175	1.00
0.3 σ_1	0.075	0.60
0.7 σ_2	0.175	1.90
0.3 σ_2	0.075	1.75

Ev1=	112.5	Mpa
Ev2=	300.0	Mpa

Ev2/Ev1= 2.7

المهندس الاستشاري (K.K.)

عبدالله شحاته

مهندس جودة (إشراف)

أحمد



الهيئة العامة
للتنظيم والإدارة
(GAPB)

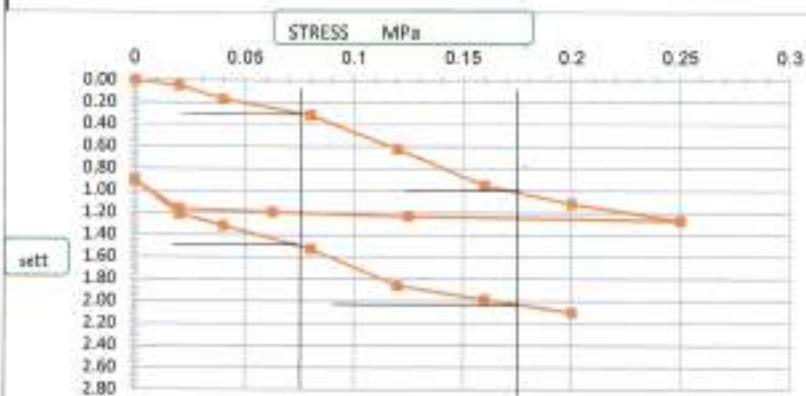


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+000	to	333+300	DATE	27/9/2023
Description :	Filter Layer					LAB No :	3
Station :	333+150						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	600 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	9.51	8.75	8.80	0.00
0.020	18.8	9.46	8.71	8.74	0.05
0.040	37.7	9.33	8.65	8.56	0.17
0.080	75.4	9.21	8.50	8.40	0.32
0.120	113.1	8.95	8.21	8.03	0.62
0.160	150.8	8.83	7.90	7.77	0.95
0.200	188.5	8.61	7.52	7.57	1.12
0.250	235.7	8.42	7.33	7.49	1.27
0.125	117.8	8.44	7.37	7.55	1.23
0.0625	58.9	8.50	7.41	7.57	1.19
0.020	18.7	8.52	7.44	7.61	1.16
0.000	0	8.57	7.47	7.66	0.90
0.020	18.7	8.43	7.38	7.61	1.21
0.040	37.7	8.22	7.31	7.58	1.32
0.080	75.7	7.91	7.16	7.41	1.53
0.120	113.1	7.85	6.88	6.75	1.86
0.160	150.8	7.81	6.70	6.59	1.99
0.200	188.5	7.74	6.53	6.48	2.10



		s
0.7 σ_1	0.175	1.05
0.3 σ_1	0.075	0.25
0.7 σ_2	0.175	2.00
0.3 σ_2	0.075	1.55

Ev1=	56.3	Mpa
Ev2=	100.0	Mpa

Ev2/Ev1=	1.8
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المهندس الاستشاري (K.K)

عبدالله بن محمد

مهندس جودة وإشراف

أحمد



الهيئة العامة
للطرق و
المواصلات
(GARBI)

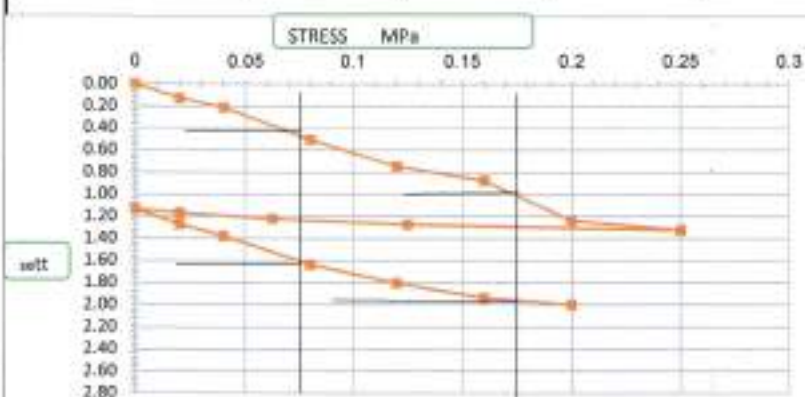


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+000	to	333+300	DATE	27/9/2023
Description :	Filter Layer					LAB No :	4
Station :	333+200						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	8.51	8.53	8.46	0.00
0.020	18.8	8.47	8.41	8.33	0.13
0.040	37.7	8.32	8.36	8.28	0.21
0.080	75.4	7.88	8.15	8.05	0.51
0.120	113.1	7.51	7.91	7.94	0.75
0.160	150.8	7.42	7.73	7.62	0.88
0.200	188.5	7.22	7.36	7.31	1.24
0.250	235.7	7.15	7.28	7.19	1.33
0.125	117.8	7.23	7.33	7.22	1.27
0.0625	58.9	7.28	7.39	7.28	1.22
0.020	18.7	7.33	7.45	7.31	1.17
0.000	0	7.38	7.48	7.34	1.13
0.020	18.7	7.21	7.32	7.26	1.27
0.040	37.7	7.10	7.16	7.21	1.38
0.080	75.7	6.88	7.03	6.78	1.64
0.120	113.1	6.81	6.72	6.86	1.80
0.160	150.8	6.65	6.51	6.63	1.94
0.200	188.5	6.55	6.43	6.62	2.00



		s
0.7 σ_1	0.175	1.00
0.3 σ_1	0.075	0.50
0.7 σ_2	0.175	2.00
0.3 σ_2	0.075	1.70

Ev1=	90.0	Mpa
Ev2=	150.0	Mpa

Ev2/Ev1= 1.7

المهندس الاستشاري (K.K)

عبدالله محمد

مهندس البرق (الشركة)

أحمد



المجلس
المستشاري
(GARS)

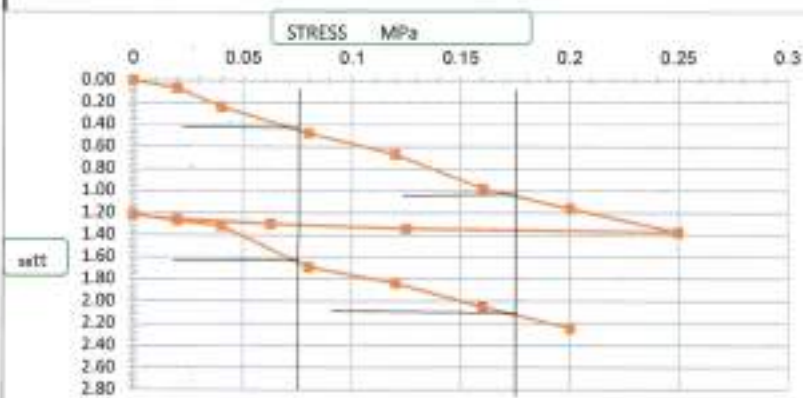


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	333+000	to	333+300	DATE	27/9/2023
Description :	Filter Layer					LAB No :	5
Station :	333+250						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	9.81	9.63	9.77	0.00
0.020	18.8	9.77	9.59	9.64	0.07
0.040	37.7	9.72	9.28	9.49	0.24
0.080	75.4	9.64	8.80	9.34	0.48
0.120	113.1	9.33	8.66	9.21	0.67
0.160	150.8	8.93	8.53	8.81	0.98
0.200	188.5	8.71	8.33	8.68	1.16
0.250	235.7	8.49	8.23	8.35	1.38
0.125	117.8	8.52	8.27	8.39	1.34
0.0625	58.9	8.57	8.31	8.43	1.30
0.020	18.7	8.61	8.36	8.47	1.26
0.000	0	8.63	8.41	8.52	1.22
0.020	18.7	8.57	8.37	8.46	1.27
0.040	37.7	8.52	8.31	8.43	1.32
0.080	75.7	8.13	8.10	7.91	1.09
0.120	113.1	7.86	8.12	7.72	1.84
0.160	150.8	7.64	7.81	7.61	2.05
0.200	188.5	7.31	7.62	7.55	2.24



		s
0.7 σ_1	0.175	1.10
0.3 σ_1	0.075	0.45
0.7 σ_2	0.175	2.05
0.3 σ_2	0.075	1.65

Ev1=	69.2	Mpa
Ev2=	112.5	Mpa

Ev2/Ev1=	1.6
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المهندس الاستشاري (K.K)

عبدالله شحاته

مهندس المواد (الخرق)

أحمد

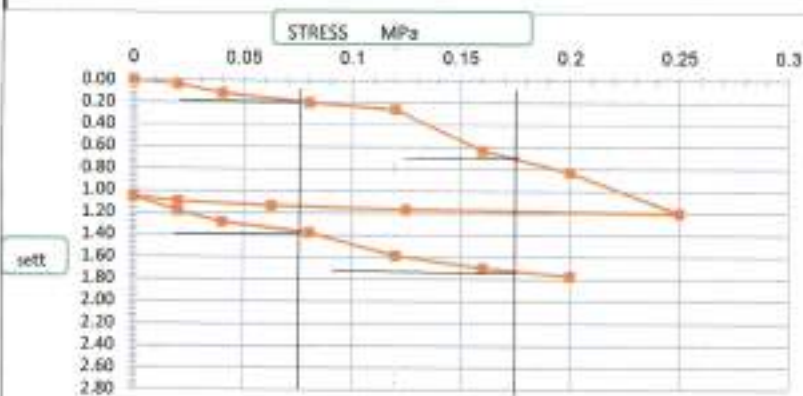


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab "
From Station 331+800 To Station 334+200

Request no.:		From	333+000	to	333+300	DATE	27/09/2023
Description :	Filter Layer					LAB No :	6
Station :	333+300						
Diameter plate	400mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	9.66	9.57	9.73	0.00
0.020	18.8	9.62	9.53	9.70	0.04
0.040	37.7	9.53	9.46	9.62	0.12
0.080	75.4	9.47	9.33	9.56	0.20
0.120	113.1	9.39	9.27	9.51	0.26
0.160	150.8	8.93	9.22	8.91	0.63
0.200	188.5	8.72	8.88	8.86	0.63
0.250	235.7	8.43	8.31	8.51	1.20
0.125	117.8	8.47	8.35	8.63	1.17
0.0625	58.9	8.51	8.30	8.66	1.13
0.020	18.7	8.53	8.43	8.71	1.10
0.000	0	8.58	8.48	8.74	1.05
0.020	18.7	8.41	8.46	8.54	1.18
0.040	37.7	8.33	8.35	8.43	1.28
0.080	75.7	8.21	8.23	8.39	1.38
0.120	113.1	7.86	8.12	8.22	1.59
0.160	150.8	7.81	7.92	8.13	1.70
0.200	188.5	7.78	7.81	8.07	1.77



		s
0.7 σ_c	0.175	0.70
0.3 σ_c	0.075	0.20
0.7 σ_{c2}	0.175	1.65
0.3 σ_{c2}	0.075	1.40

Ev1=	90.0	Mpa
Ev2=	180.0	Mpa

Ev2/Ev1=	2.0
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المهندس الاستشاري (K.K.)

[Signature]

مهندس شروق (الشرفاء)

[Signature]



Calibration Method

The calibration was carried out using a General Purpose Compression Machine. Three loading series were applied according to the test loads and report the average response of the load readings versuse the hydraulic dial readings.

Reference Device	Serial No.	Certificate No.	Issuer
ELE General Purpose Compression Machine 3000 kN	36-33201-1001	SS8248B/108	Surveying Systems Co.

Calibration Results

Jack Serial No.	421021 Rev10	Pump Serial No.	TS210706
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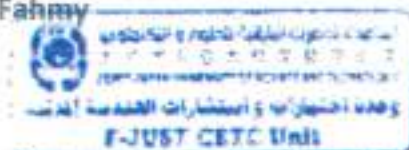
BAR	Load (kN)	Standard deviation
0	0.00	0.00
20	8.30	0.26
30	10.97	1.29
40	13.57	0.06
50	16.30	0.17
60	19.67	0.99
70	23.00	0.62
80	26.43	0.42
90	29.83	0.65
100	33.10	0.26
150	50.33	0.23
200	67.00	0.30
250	84.60	0.70
300	102.27	0.35
350	119.50	0.20
400	136.77	0.15
450	154.37	0.21
500	171.57	0.25
550	189.57	0.81
600	206.30	0.30

Technical committee

Prof. Dr. Mohamed F. M. Fahmy

Lab Engineer

Mohamed A. Al-Najjar



MATERIAL INSPECTION REQUEST



Contractor Company	AL-FATH		Designer Company	(KK) Engineering Consulting Office				
Issued by Contractor	Name	Sign	Date/ Serial Number	Time				
	Eng. Hesham Hamed		04-10-2023 F.A-M.I.006	12:30 PM				
Received by ER	Eng. Gaber Ibrahim	MIR	C1	C2	C3	DD	MM	YY
			332	EW	CS	04	10	23
							HH	MM
							12	30

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		Dolomitic Crushed aggregates (Filter Layer)			
Location to be Used		From St. (332+500) to St. (332+720)			
MAR Approval No		(F.A-M.A007).		Date	01/03/2023
Supplier Name		RATEB			
Test Requirement		PLT DIN 18134		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos		No		Other	
Item	Description	Unit	Quantity	Arrival Date	Note
1	Plate load test	NUMBER	5	04/10/2023	
2					
3					
4					
Comments by: Eng. Hesham Sabry (kk)			Comments by: Eng. Gaber Ibrahim		
1- تم اجراء اختبار P.L.T وتم تحقيق النتائج المطلوبة طبقا لمواصفات المشروع			1- P.L.T were carried-out by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Hesham Hamed		04/10/2023	
QA/QC *	Eng. Hesham Sabry		4/10/2023	A
GARB**	Eng. Ahmed Galal			
Employers Representative	Eng. Gaber Ibrahim			A.W.C

* Designer

** Alignment / Bridges: Culvert Only



المكتب
للتنشيط والتطوير
(GARF)

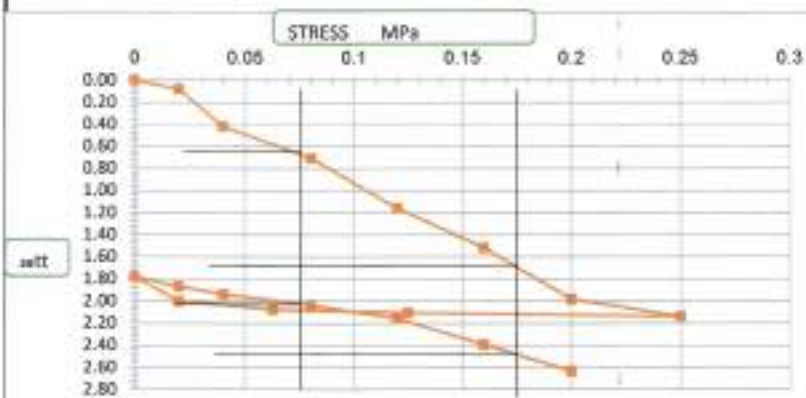


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab
From Station 331+800 To Station 334+200

Request no.:		From	332+500	to	332+720	DATE	04/10/2023
Description :	Filter Layer					LAB No :	1
Station :	332+500						
Diameter plate	400mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	8.79	8.51	9.32	0.00
0.020	18.8	8.54	8.66	9.18	0.08
0.040	37.7	7.69	8.61	9.06	0.42
0.080	75.4	7.46	8.29	8.75	0.71
0.120	113.1	6.89	7.89	8.26	1.16
0.160	150.8	6.55	7.71	7.81	1.52
0.200	188.5	6.19	7.03	7.46	1.98
0.250	235.7	5.93	7.62	6.75	2.14
0.125	117.8	5.95	7.54	6.81	2.11
0.0625	58.9	5.98	7.57	6.84	2.08
0.020	18.7	6.15	7.62	6.85	2.00
0.000	0	6.41	7.80	7.07	1.78
0.020	18.7	6.31	7.72	6.99	1.87
0.040	37.7	6.21	7.67	6.93	1.94
0.080	75.7	6.13	7.56	6.82	2.04
0.120	113.1	6.10	7.31	6.73	2.16
0.160	150.8	5.91	7.20	6.33	2.39
0.200	188.5	5.60	7.05	6.07	2.63



		s
0.7 σ_w	0.175	1.65
0.3 σ_w	0.075	0.65
0.7 σ_2	0.175	2.50
0.3 σ_2	0.075	2.00

Ev1=	45.0	Mpa
Ev2=	90.0	Mpa

Ev2/Ev1=	2.0
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المهندس الاستشاري (K.K.)

مهندس علوم (التراب)

المكتب الاستشاري الهندسي
(أ.د/ خالد قنديل)
مدير المشروع: م/ هشام محمد صبري
مشروع: القطار الكهربائي السريع
القطاع الرابع (الإسكندرية)



الهيئة العامة
للطرق والجسور
(GAPB)

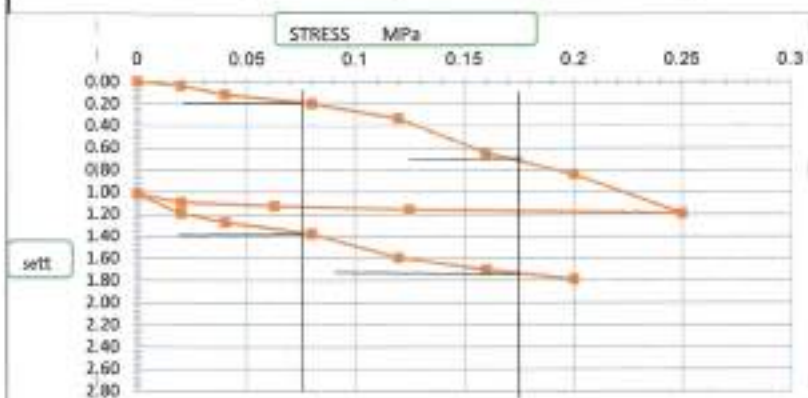


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab
From Station 331+800 To Station 334+200

Request no.:		From	332+500	to	332+720	DATE	04/10/2023
Description :	Filter Layer					LAB No :	2
Station :	332+550						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	9.61	9.52	9.68	0.00
0.020	18.8	9.57	9.49	9.64	0.04
0.040	37.7	9.47	9.42	9.57	0.12
0.080	75.4	9.41	9.28	9.53	0.20
0.120	113.1	9.31	9.18	9.32	0.33
0.160	150.8	8.88	9.12	8.87	0.65
0.200	188.5	8.63	8.84	8.82	0.84
0.250	235.7	8.39	8.29	8.55	1.19
0.125	117.8	8.43	8.32	8.58	1.16
0.0625	58.9	8.46	8.35	8.62	1.13
0.020	18.7	8.49	8.39	8.65	1.09
0.000	0	8.54	8.53	8.69	1.02
0.020	18.7	8.37	8.42	8.44	1.19
0.040	37.7	8.29	8.31	8.39	1.27
0.080	75.7	8.15	8.19	8.34	1.38
0.120	113.1	7.81	8.06	8.16	1.58
0.160	150.8	7.76	7.87	8.07	1.70
0.200	188.5	7.72	7.75	7.97	1.79



		8
0.7 σ_c	0.175	0.70
0.3 σ_c	0.075	0.20
0.7 σ_2	0.175	1.70
0.3 σ_2	0.075	1.40

Ev1=	90.0	Mpa
Ev2=	150.0	Mpa

Ev2/Ev1=	1.7
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المهندس الاستشاري (K.K.)

مهندس المواد (الشارع)

المكتب الاستشاري الهندسي
K.K.
(أ.د/ خالد قنديل)
مدير المشروع: م/ هشام محمد صبري
مشروع: القطار الكهربائي السريع
القطاع الرابع (الإسكندرية)

أحمد



الهيئة العامة
للطرق والنقل
(GARF)

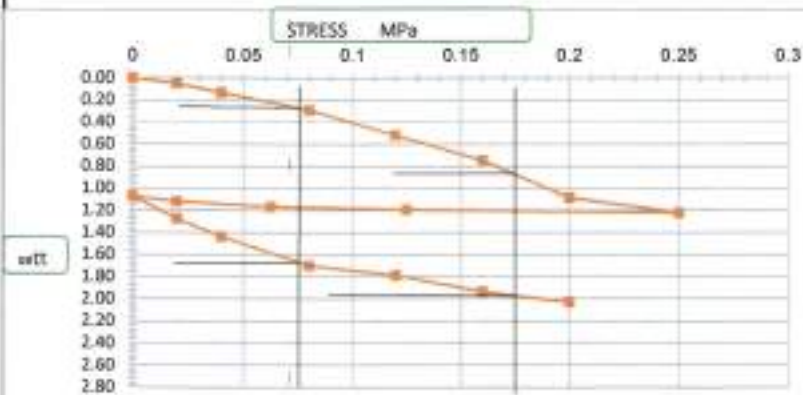


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab
From Station 331+800 To Station 334+200

Request no.:		From	332+500	to	332+720	DATE	04/10/2023
Description :	Filter Layer					LAB No :	3
Station :	332+600						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	8.56	8.92	8.87	0.00
0.020	18.8	8.51	8.88	8.81	0.05
0.040	37.7	8.47	8.72	8.76	0.13
0.080	75.4	8.41	8.47	8.59	0.29
0.120	113.1	8.38	8.96	8.45	0.52
0.160	150.8	8.36	8.92	7.82	0.75
0.200	188.5	7.66	8.77	7.66	1.09
0.250	235.7	7.52	8.61	7.56	1.22
0.125	117.8	7.63	8.58	7.55	1.20
0.0625	58.9	7.66	8.61	7.57	1.17
0.020	18.7	7.71	8.66	7.62	1.12
0.000	0	7.75	8.71	7.68	1.07
0.020	18.7	7.53	8.44	7.56	1.27
0.040	37.7	7.26	8.35	7.43	1.44
0.080	75.7	6.91	7.95	7.38	1.70
0.120	113.1	6.68	7.66	7.24	1.79
0.160	150.8	6.78	7.57	7.19	1.94
0.200	188.5	6.73	7.44	7.09	2.03



		σ
0.7 σ_c	0.175	0.85
0.3 σ_c	0.075	0.25
0.7 σ_{c2}	0.175	1.95
0.3 σ_{c2}	0.075	1.75

Ev1=	75.0	Mpa
Ev2=	225.0	Mpa

Ev2/Ev1=	3.0
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المهندس الاستشاري (K.K.)

مهندس جودة (مقرن)

المكتب الاستشاري الهندسي
(أ.د/ خالد قنديل)
مدير المشروع: م/ هشام محمد صبري
مشروع: القطار الكهربائي السريع
المنطقة الرابعة (الإسكندرية)



الهيئة العامة
للطرق والجسور
(GA/RB)

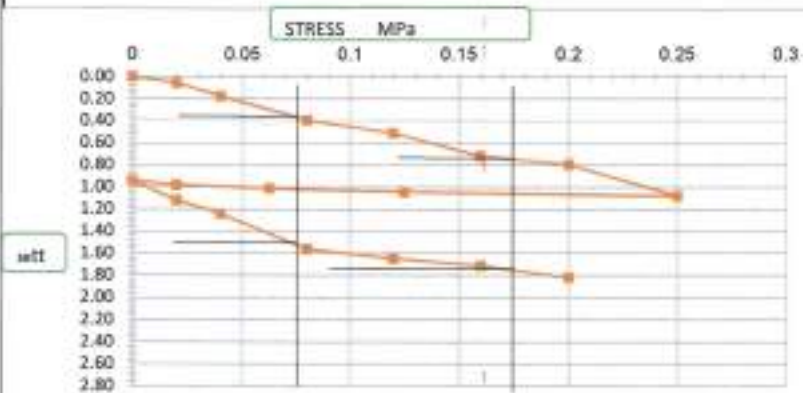


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab
From Station 331+800 To Station 334+200

Request no.:		From	332+500	to	332+720	DATE	04/10/2023
Description :	Filter Layer					LAB No :	4
Station :	332+650						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	9.68	9.47	9.74	0.00
0.020	18.8	9.61	9.43	9.68	0.06
0.040	37.7	9.54	9.16	9.66	0.18
0.080	75.4	9.25	8.94	9.52	0.39
0.120	113.1	8.08	8.86	9.41	0.51
0.160	150.8	8.91	8.61	9.21	0.72
0.200	188.5	8.88	8.46	9.18	0.80
0.250	235.7	8.47	8.36	8.81	1.08
0.125	117.8	8.51	8.41	8.84	1.04
0.0825	58.9	8.52	8.46	8.87	1.01
0.020	18.7	8.56	8.48	8.91	0.98
0.000	0	8.61	8.52	8.93	0.94
0.020	18.7	8.38	8.34	8.81	1.12
0.040	37.7	8.18	8.26	8.72	1.24
0.080	75.7	7.81	7.68	8.61	1.58
0.120	113.1	7.78	7.65	8.52	1.65
0.160	150.8	7.72	7.59	8.44	1.71
0.200	188.5	7.60	7.50	8.33	1.82



		8
0.7 σ_{av}	0.175	0.75
0.3 σ_{av}	0.075	0.35
0.7 $\sigma_{2=}$	0.175	1.75
0.3 $\sigma_{2=}$	0.075	1.50

Ev1=	112.5	Mpa
Ev2=	180.0	Mpa

Ev2/Ev1=	1.6
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المهندس الاستشاري (K.K.)

مهندس المواد (الطرق)

المكتب الاستشاري
(أ.د/ خالد فنديل)
مدير المشروع: م/ هشام محمد صيري
مشروع: القطار الكهربائي السريع
القطاع الرابع (الإسكندرية)



الهيئة العامة
للطرق والجسور
(GAPB)

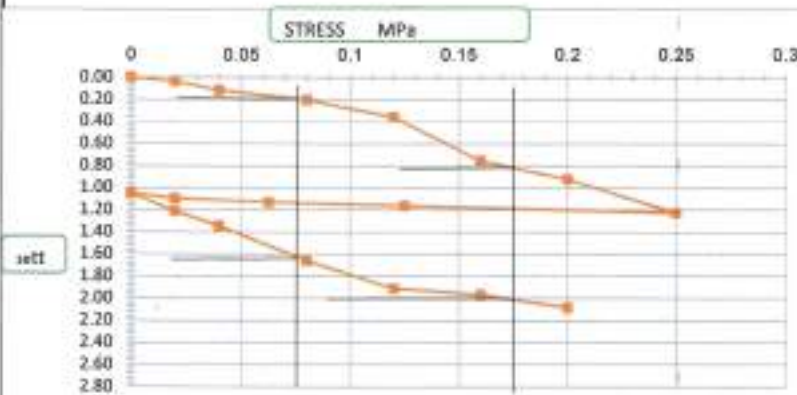


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	332+500	to	332+720	DATE	04/10/2023
Description:	Filter Layer					LAB No:	5
Station:	332+700						
Diameter plate	600mm	Hand Pump:	TS210706	Hydraulic Jack:	42103REV10	Max Pressure:	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	9.71	9.62	9.78	0.00
0.020	18.8	9.67	9.58	9.75	0.04
0.040	37.7	9.58	9.51	9.67	0.12
0.080	75.4	9.51	9.38	9.61	0.20
0.120	113.1	9.15	9.32	9.56	0.36
0.160	150.8	8.81	9.27	8.96	0.76
0.200	188.5	8.50	8.93	8.91	0.92
0.250	235.7	8.41	8.36	8.66	1.23
0.125	117.8	8.52	8.41	8.69	1.16
0.0625	58.9	8.56	8.44	8.72	1.13
0.020	18.7	8.59	8.47	8.76	1.10
0.000	0	8.63	8.52	8.81	1.05
0.020	18.7	8.41	8.46	8.61	1.21
0.040	37.7	8.15	8.41	8.51	1.35
0.080	75.7	7.81	8.21	8.31	1.66
0.120	113.1	7.58	7.83	7.96	1.91
0.160	150.8	7.57	7.72	7.91	1.97
0.200	188.5	7.52	7.63	7.71	2.06



		s
0.7 σ_c	0.175	0.85
0.3 σ_c	0.075	0.20
0.7 σ_2	0.175	2.00
0.3 σ_2	0.075	1.66

Ev1=	69.2	Mpa
Ev2=	128.6	Mpa

$$Ev2/Ev1 = 1.9$$

المهندس الاستشاري [K.K.]

مهندس المواد (الفرقة)

المكتب الاستشاري
عبدالمجيد
K.K. (أ.د. خالد قنديل)
مدير المشروع: م/ هشام محمد صبري
مشروع: القطار الكهربائي السريع
القطاع الرابع (الإسكندرية)

أحمد

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والجسور
(GARB)



Contractor Company	AL-FATH			Designer Company		(KK) Engineering Consulting Office					
Issued by Contractor	Name	Sign		Date/ Serial Number		Time					
	Eng. Ahmed Hamdy			17-10-2023 F.A-M.I.008		12:30 PM					
Received by ER	Eng. Gaber Ibrahim		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				332	EW	CS	17	10	23	12	30

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	Dolomitic Crushed aggregates (Filter Layer)		
Location to be Used	From St. (332+900) to St. (333+000)		
MAR Approval No	(F.A-M.A016).	Date	10/05/2023
Supplier Name	RATEB		
Test Requirement	PLT DIN 18134	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	Plate load test	NUMBER	2	17/10/2023	
2					
3					
4					

Comments by: Eng. Hesham Sabry (kk)	Comments by: Eng. Gaber Ibrahim
1- تم اجراء اختبار P.L.T وتم تحقيق النتائج المطلوبة طبقا لمواصفات المشروع.	1- P.L.T were carried-out by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed Hamdy		17/10/2023	
QA/QC *	Eng. Hesham Sabry		17/10/2023	A
GARB**	Eng. Ahmed Galal			
Employers Representative	Eng. Gaber Ibrahim		17/10/2023	A.W.C

* Designer

** Alignment / Bridges: Culvert Only



الهيئة العامة
للطرق والجسور
(QARB)

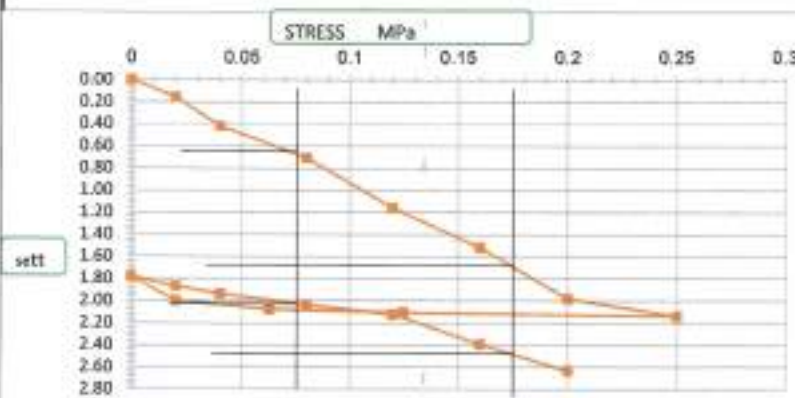


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab -
From Station 331+800 To Station 334+200

Request no.:		From	332+900	to	332+950	DATE	17/10/2023
Description :	Filter Layer					LAB No :	1
Station :	332+900						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	8.79	8.51	9.32	0.00
0.020	18.8	8.31	8.66	9.18	0.16
0.040	37.7	7.69	8.61	9.06	0.42
0.080	75.4	7.46	8.29	8.75	0.71
0.120	113.1	6.89	7.99	8.26	1.16
0.160	150.8	6.55	7.71	7.81	1.52
0.200	188.5	6.19	7.03	7.46	1.98
0.250	235.7	5.93	7.52	6.75	2.14
0.125	117.8	5.95	7.54	6.81	2.11
0.0825	58.9	5.98	7.57	6.84	2.08
0.020	18.7	6.15	7.82	6.85	2.00
0.000	0	6.41	7.80	7.07	1.78
0.020	18.7	6.31	7.72	6.99	1.87
0.040	37.7	6.21	7.67	6.93	1.94
0.080	75.7	6.13	7.56	6.82	2.04
0.120	113.1	6.10	7.42	6.73	2.12
0.160	150.6	5.91	7.20	6.33	2.39
0.200	188.5	5.60	7.05	6.07	2.63



		8
0.7 σ_c	0.175	1.65
0.3 σ_c	0.075	0.65
0.7 σ_{c2}	0.175	2.50
0.3 σ_{c2}	0.075	2.00

Ev1=	45.0	Mpa
Ev2=	90.0	Mpa

Ev2/Ev1= 2.0

المهندس الاستشاري (K.K.)

عبدالله بن محمد

مهندس المواد والخرق

أحمد

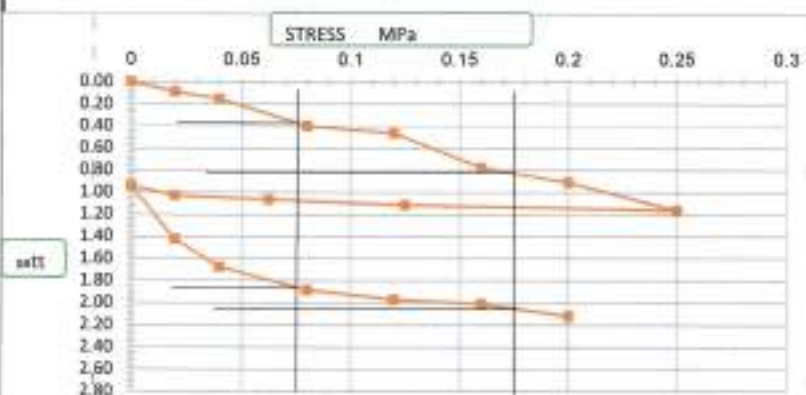


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab "
From Station 331+800 To Station 334+200

Request no.:		From	332+950	to	333+000	DATE	17/10/2023
Description :	Filter Layer					LAB No :	2
Station :	332+950						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	9.57	9.42	9.49	0.00
0.020	18.8	9.38	9.39	9.44	0.09
0.040	37.7	9.31	9.32	9.39	0.15
0.080	75.4	9.21	9.26	8.81	0.40
0.120	113.1	9.13	9.21	8.75	0.48
0.160	150.8	9.09	9.11	7.95	0.70
0.200	188.5	8.91	9.01	7.63	0.91
0.250	235.7	8.41	8.81	7.77	1.16
0.125	117.8	8.44	8.84	7.86	1.11
0.0525	58.9	8.48	8.89	7.92	1.06
0.020	18.7	8.51	8.92	7.96	1.03
0.000	0	8.57	8.96	8.12	0.94
0.020	18.7	7.71	8.43	8.07	1.42
0.040	37.7	7.61	7.92	7.93	1.67
0.080	75.7	7.37	7.75	7.71	1.88
0.120	113.1	7.31	7.61	7.65	1.97
0.160	150.8	7.29	7.53	7.63	2.01
0.200	188.5	7.16	7.42	7.54	2.12



		s
0.7 σ_1	0.175	0.85
0.3 σ_1	0.075	0.38
0.7 σ_2	0.175	2.10
0.3 σ_2	0.075	1.85

Ev1=	95.7	Mpa
Ev2=	180.0	Mpa

Ev2/Ev1=	1.9
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المهندس الاستشاري (K.K.)

عبدالمنعم محمد

مهندس جودة وإشراف

2001

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والجسور
(GARB)



Contractor Company	AL-FATH		Designer Company	(KK) Engineering Consulting Office				
Issued by Contractor	Name	Sign	Date/ Serial Number		Time			
	Eng. Hesham Hamed		14-11-2023 F.A-M.I.013		12:30 PM			
Received by ER	Eng. Gaber Ibrahim	MIR	C1	C2	C3	DD	MM	YY
			332	EW	CS	14	11	23
							HH	MM
							12	30

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		Dolomitic Crushed aggregates (Filter Layer)			
Location to be Used		From St. (332+360) to St. (332+500)			
MAR Approval No		(F.A-M.A017).		Date	15/05/2023
Supplier Name		RATEB			
Test Requirement		PLT DIN 18134		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos		No		Other	
Item	Description	Unit	Quantity	Arrival Date	Note
1	Plate load test	NUMBER	3	14/11/2023	
2					
3					
4					
Comments by: Eng. Hesham Sabry (kk)			Comments by: Eng. Gaber Ibrahim		
1- تم اجراء اختبار P.L.T وتم تحقيق النتائج المطلوبة طبقاً لمواصفات المشروع.			1- P.L.T were carried-out by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Hesham Hamed		14/11/2023	
QA/QC *	Eng. Hesham Sabry		14/11/2023	A
GARB**	Eng. Ahmed Galal			
Employers Representative	Eng. Gaber Ibrahim		14-11-2023	AW.C

* Designer

** Alignment / Bridges: Culvert Only



الهيئة العامة
للطرق والجسور
(GARBI)

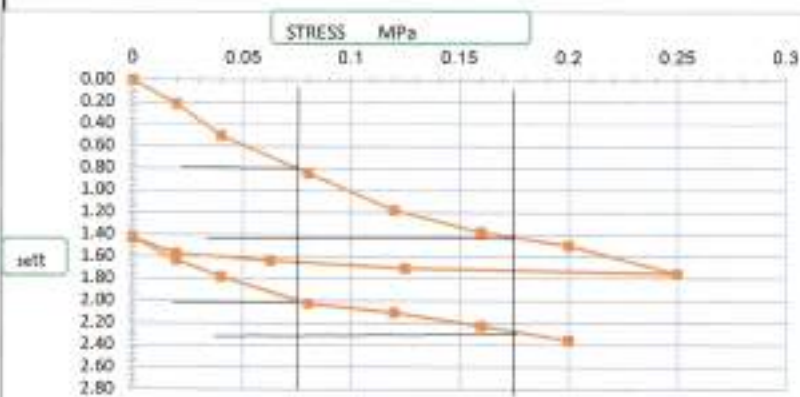


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab
From Station 331+800 To Station 334+200

Request no.:		From	332+360	to	332+500	DATE	14/11/2023
Description :	Filter Layer					LAB No :	1
Station :	332+410						
Diameter plate	:600mm		Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure : 800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	3.46	6.62	5.54	0.00
0.020	18.8	3.27	6.27	5.43	0.22
0.040	37.7	3.09	5.71	5.31	0.50
0.080	75.4	2.71	5.12	5.26	0.84
0.120	113.1	2.12	4.81	5.15	1.18
0.160	150.8	2.03	4.42	5.03	1.36
0.200	188.5	1.89	4.32	4.91	1.50
0.250	235.7	1.41	4.12	4.82	1.76
0.125	117.8	1.49	4.15	4.86	1.71
0.0625	58.9	1.54	4.26	4.91	1.64
0.020	18.7	1.63	4.35	4.93	1.57
0.000	0	1.72	4.64	4.97	1.43
0.020	18.7	1.69	4.23	4.81	1.63
0.040	37.7	1.61	3.91	4.76	1.78
0.080	75.7	1.52	3.81	4.21	2.03
0.120	113.1	1.41	3.76	4.13	2.11
0.160	150.8	1.32	3.71	3.91	2.23
0.200	188.5	1.21	3.82	3.72	2.36



		s
0.7 σ_c	0.175	1.45
0.3 σ_c	0.075	0.85
0.7 σ_{c2}	0.175	2.30
0.3 σ_{c2}	0.075	2.00

Ev1=	75.0	Mpa
Ev2=	150.0	Mpa

Ev2/Ev1=	2.0
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المهندس الاستشاري (K.K)

عبدالله الشحات

مهندس جودة (مقرن)

أحمد



الهيئة العامة
للطرق والكباري
(GARF)

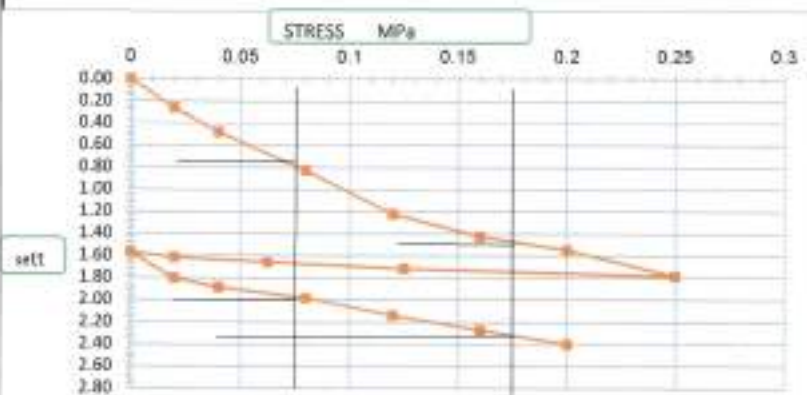


Electric Express Train - MSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	332+360	to	332+500	DATE	14/11/2023
Description :	Filter Layer					LAB No :	2
Station :	332+460						
Diameter plate	300mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	3.56	6.67	5.59	0.00
0.020	18.8	3.26	6.29	5.49	0.26
0.040	37.7	3.13	5.62	5.43	0.46
0.080	75.4	2.81	5.21	5.32	0.83
0.120	113.1	2.15	4.86	5.15	1.22
0.160	150.8	2.03	4.45	5.06	1.43
0.200	188.5	1.93	4.31	4.93	1.55
0.250	235.7	1.46	4.17	4.83	1.79
0.125	117.8	1.56	4.20	4.91	1.72
0.0625	58.9	1.84	4.26	4.95	1.65
0.020	18.7	1.67	4.31	4.99	1.62
0.000	0	1.71	4.36	5.03	1.57
0.020	18.7	1.82	3.98	4.81	1.80
0.040	37.7	1.52	3.92	4.72	1.89
0.080	75.7	1.41	3.83	4.63	1.98
0.120	113.1	1.32	3.76	4.32	2.14
0.160	150.8	1.26	3.62	4.12	2.27
0.200	188.5	1.15	3.51	3.96	2.40



		s
0.7 σ_c	0.175	1.45
0.3 σ_c	0.075	0.75
0.7 σ_2	0.175	2.30
0.3 σ_2	0.075	2.00

Ev1=	84.3	Mpa
Ev2=	150.0	Mpa

Ev2/Ev1=	2.3
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المهندس الاستشاري (K.K)

عبدالله شحاته

مهندس جودة (إشراف)

أحمد



الهيئة العامة
للطرق والكباري
(GAAR)

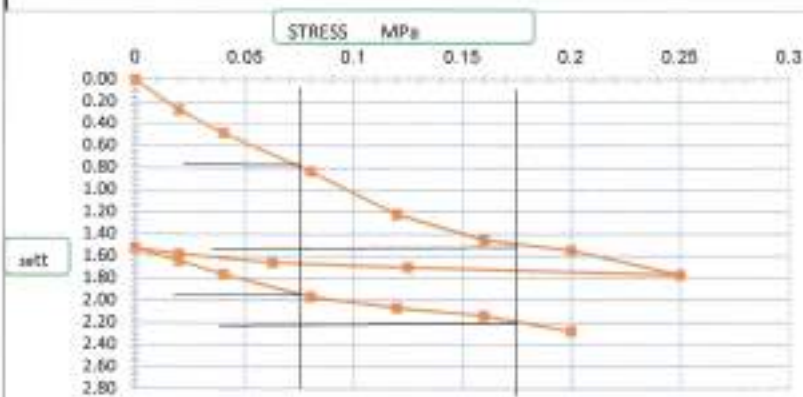


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab "
From Station 331+800 To Station 334+200

Request no.:		From	332+360	to	332+500	DATE	14/11/2023
Description :	Filter Layer					LAB No :	3
Station :	332+500						
Diameter plate	:600mm		Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure : 800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	3.61	6.72	5.65	0.00
0.020	18.8	3.31	6.32	5.52	0.28
0.040	37.7	3.17	5.89	5.47	0.48
0.080	75.4	2.89	5.23	5.36	0.83
0.120	113.1	2.18	4.96	5.18	1.27
0.160	150.8	2.07	4.52	5.03	1.45
0.200	188.5	1.98	4.38	4.97	1.55
0.250	235.7	1.56	4.21	4.89	1.77
0.125	117.8	1.87	4.27	4.93	1.70
0.0625	58.9	1.72	4.31	4.97	1.66
0.020	18.7	1.79	4.38	5.06	1.58
0.000	0	1.83	4.45	5.12	1.53
0.020	18.7	1.71	4.32	5.03	1.64
0.040	37.7	1.62	4.16	4.91	1.76
0.080	75.7	1.42	3.92	4.73	1.97
0.120	113.1	1.31	3.81	4.65	2.07
0.160	150.8	1.28	3.77	4.51	2.14
0.200	188.5	1.18	3.62	4.34	2.28



		s
0.7 σ_c	0.175	1.50
0.3 σ_c	0.075	0.80
0.7 σ_{c2}	0.175	2.20
0.3 σ_{c2}	0.075	1.90

Ev1=	64.3	Mpa
Ev2=	150.0	Mpa

Ev2/Ev1= 2.3

المهندس الاستشاري (K.K)

عبدالله بن صالح

مهندس فقرة إشراف

أحمد

MATERIAL INSPECTION REQUEST



Contractor Company	AL-FATH		Designer Company	(KK) Engineering Consulting Office																	
Issued by Contractor	Name	Sign	Date/ Serial Number	Time																	
	Eng. Hesham Hamed		16-11-2023 F.A-M.I.014	12:30 PM																	
Received by ER	Eng. Gaber Ibrahim	MIR	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td>332</td> <td>EW</td> <td>C5</td> <td>16</td> <td>11</td> <td>23</td> <td>12</td> <td>30</td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM	332	EW	C5	16	11	23	12	30		
C1	C2	C3	DD	MM	YY	HH	MM														
332	EW	C5	16	11	23	12	30														

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	Dolomitic Crushed aggregates (Filter Layer)				
Location to be Used	From St. (332+720) to St. (332+900)				
MAR Approval No	(F.A-M.A036).	Date	19/10/2023		
Supplier Name	RATEB				
Test Requirement	PLT DIN 18134	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	Plate load test	NUMBER	4	16/11/2023	
2					
3					
4					
Comments by: Eng. Hesham Sabry (kk)			Comments by: Eng. Gaber Ibrahim		
1- تم اجراء اختبار P.L.T وتم تحقيق النتائج المطلوبة طبقاً لمواصفات المشروع.			1- P.L.T were carried-out by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Hesham Hamed		16/11/2023	
QA/QC *	Eng. Hesham Sabry		16/11/2023	A
GARB**	Eng. Ahmed Galal			
Employers Representative	Eng. Gaber Ibrahim		16-11-2023	A.W.C

* Designer

** Alignment / Bridges: Culvert Only

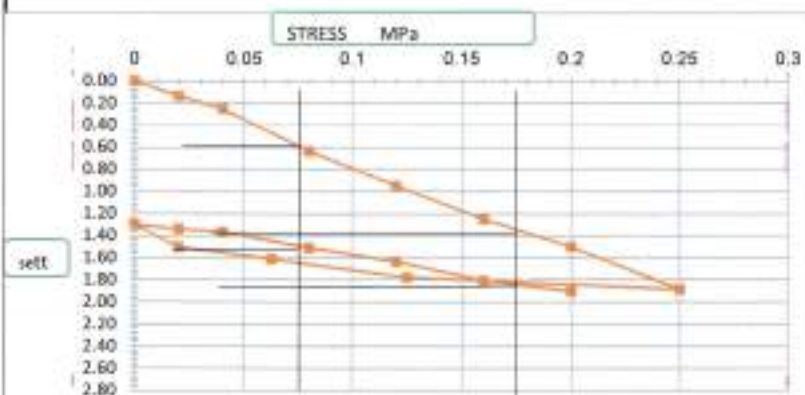


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	332+720	to	332+900	DATE	16/11/2023
Description :	Filter Layer					LAB No :	1
Station :	332+770						
Diameter plate	:600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	9.51	7.40	4.10	0.00
0.020	18.8	9.51	7.30	4.00	0.13
0.040	37.7	9.47	7.21	3.88	0.25
0.080	75.4	9.08	6.84	3.49	0.53
0.120	113.1	8.81	6.50	3.16	0.95
0.160	150.8	8.55	6.20	2.81	1.25
0.200	188.5	8.39	5.94	2.48	1.50
0.250	235.7	8.10	5.58	1.99	1.89
0.125	117.8	8.21	5.66	2.11	1.78
0.0625	58.9	8.36	5.87	2.25	1.61
0.020	18.7	8.51	5.90	2.39	1.50
0.000	0	8.67	6.09	2.65	1.30
0.020	18.7	8.63	6.05	2.61	1.34
0.040	37.7	8.60	6.03	2.58	1.37
0.080	75.7	8.43	5.90	2.45	1.51
0.120	113.1	8.29	5.79	2.33	1.63
0.160	150.8	8.16	5.51	2.22	1.81
0.200	188.5	8.09	5.41	2.10	1.90



	σ	s
0.7 σ_c	0.175	1.35
0.3 σ_c	0.075	0.60
0.7 σ_{c2}	0.175	1.85
0.3 σ_{c2}	0.075	1.50

Ev1=	80.0	Mpa
Ev2=	128.6	Mpa

Ev2/Ev1=	2.1
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مهندس الاستشاري (K.K.)

محمد الخشبة

مهندس شرف (الفرقة)

أحمد



الهيئة العامة
للطرق والجسور
(GARIB)

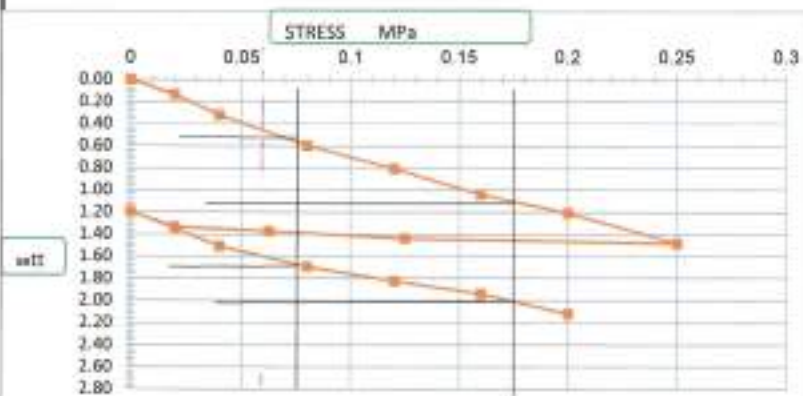


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	332+720	to	332+900	DATE	16/11/2023
Description :	Filter Layer					LAB No :	2
Station :	332+820						
Diameter plate	:600mm	Hand Pump :	TS210708	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	9.71	7.29	4.20	0.00
0.020	18.8	9.51	7.16	4.13	0.13
0.040	37.7	9.31	6.91	4.02	0.32
0.080	75.4	9.08	6.84	3.49	0.60
0.120	113.1	8.92	6.81	3.25	0.81
0.160	150.8	8.61	6.35	3.12	1.04
0.200	188.5	8.45	6.21	2.91	1.21
0.250	235.7	8.21	5.93	2.61	1.48
0.125	117.8	8.26	5.96	2.66	1.44
0.0625	58.9	8.35	6.01	2.72	1.37
0.020	18.7	8.38	6.06	2.78	1.33
0.000	0	8.89	6.12	2.81	1.19
0.020	18.7	8.51	6.05	2.61	1.34
0.040	37.7	8.31	5.91	2.45	1.51
0.080	75.7	8.03	5.78	2.31	1.69
0.120	113.1	7.81	5.61	2.21	1.82
0.160	150.8	7.82	5.41	2.15	1.94
0.200	188.5	7.61	5.32	1.91	2.12



		s
0.7 σ_c	0.175	1.15
0.3 σ_c	0.075	0.58
0.7 σ_{c2}	0.175	2.00
0.3 σ_{c2}	0.075	1.85

Ev1=	78.9	Mpa
Ev2=	128.6	Mpa

Ev2/Ev1=	1.6
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المهندس الاستشاري (K.K.)

عبدالمجيد

مهندس المواد (التراب)

أحمد

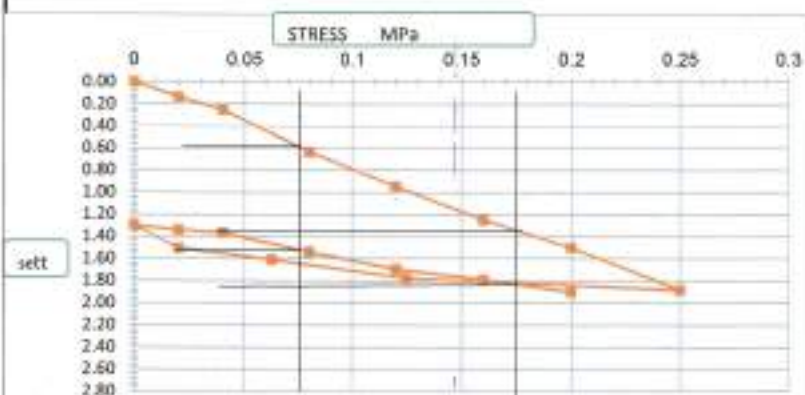


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab
From Station 331+800 To Station 334+200

Request no.:		From	332+720	to	332+900	DATE	16/11/2023
Description :	Filter Layer					LAB No :	3
Station :	332+870						
Diameter plate	400mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	9.61	7.40	4.10	0.00
0.020	18.8	9.61	7.30	4.00	0.13
0.040	37.7	9.47	7.21	3.88	0.25
0.080	75.4	9.08	6.84	3.49	0.63
0.120	113.1	8.81	6.50	3.16	0.95
0.160	150.8	8.55	6.20	2.81	1.25
0.200	188.5	8.39	5.94	2.48	1.50
0.250	235.7	8.10	5.55	1.99	1.89
0.125	117.8	8.21	5.66	2.11	1.78
0.0825	58.9	8.36	5.87	2.25	1.61
0.020	18.7	8.51	5.90	2.39	1.50
0.000	0	8.67	6.09	2.65	1.30
0.020	18.7	8.63	6.05	2.61	1.34
0.040	37.7	8.60	6.03	2.58	1.37
0.080	75.7	8.43	5.81	2.45	1.54
0.120	113.1	8.29	5.61	2.33	1.69
0.160	150.8	8.16	5.56	2.22	1.79
0.200	188.5	8.06	5.41	2.10	1.90



		s
0.7 σ =	0.175	1.35
0.3 σ =	0.075	0.60
0.7 σ_2 =	0.175	1.90
0.3 σ_2 =	0.075	1.50

Ev1=	60.0	Mpa
Ev2=	112.5	Mpa

Ev2/Ev1=	1.9
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المهندس الاستشاري (K.K.)

عبدالمشعب

مهندس جودة (المشرفة)

أحمد

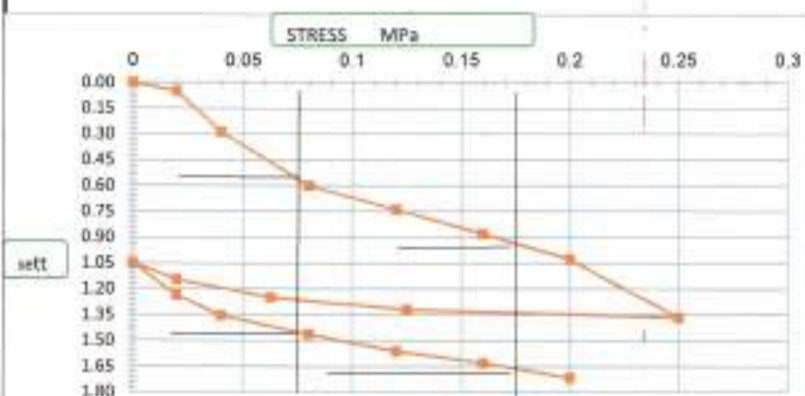


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab
From Station 331+800 To Station 334+200

Request no.:		From	332+720	to	332+900	DATE	16/11/2023
Description :	Filter Layer					LAB No :	4
Station :	332+900						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42162RE/V10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	8.31	5.56	9.61	0.00
0.020	18.8	8.21	5.41	9.71	0.06
0.040	37.7	7.86	5.21	9.55	0.29
0.080	75.4	7.36	5.07	9.25	0.60
0.120	113.1	7.21	4.93	9.12	0.74
0.160	150.8	7.11	4.82	8.91	0.88
0.200	188.5	6.93	4.63	8.83	1.03
0.250	235.7	6.71	4.41	8.26	1.37
0.125	117.8	6.77	4.44	8.31	1.32
0.0625	58.9	6.81	4.48	8.44	1.25
0.020	18.7	6.92	4.56	8.56	1.15
0.000	0	6.95	4.61	8.78	1.06
0.020	18.7	6.61	4.55	8.61	1.24
0.040	37.7	6.47	4.42	8.53	1.35
0.080	75.7	6.32	4.36	8.41	1.48
0.120	113.1	6.21	4.26	8.32	1.56
0.160	150.8	6.15	4.21	8.23	1.63
0.200	188.5	6.03	4.17	8.13	1.72



		s
0.7 σ_1	0.175	0.95
0.3 σ_1	0.075	0.57
0.7 σ_2	0.175	1.67
0.3 σ_2	0.075	1.45

Ev1=	118.4	Mpa
Ev2=	204.5	Mpa

Ev2/Ev1=	1.7
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مهندس الاستشاري (K.K.)

عبدالله شحاته

مهندس المواد (الشركة)

أحمد

MATERIAL INSPECTION REQUEST



شركة
للطرق والبنية
(GARB)



Contractor Company	AL-FATH		Designer Company	(KK) Engineering Consulting Office			
Issued by Contractor	Name	Sign	Date/ Serial Number		Time		
	Eng. Hesham Hamed		21-11-2023 F.A-M.I.015		12:30 PM		
Received by ER	Eng. Gaber Ibrahim	MIR	C1	C2	C3	DD	MM
			332	EW	CS	21	11
						YY	HH
						23	12
							MM
							30

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		Dolomitic Crushed aggregates (Filter Layer)			
Location to be Used		From St. (332+180) to St. (332+360)			
MAR Approval No		(F.A-M.A036).		Date	19/10/2023
Supplier Name		RATEB			
Test Requirement		PLT DIN 18134		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos		No		Other	
Item	Description	Unit	Quantity	Arrival Date	Note
1	Plate load test	NUMBER	4	21/11/2023	
2					
3					
4					
Comments by: Eng. Hesham Sabry (kk)			Comments by: Eng. Gaber Ibrahim		
1- تم إجراء اختبار P.L.T وتم تحقيق النتائج المطلوبة طبقاً لمواصفات المشروع.			1- P.L.T were carried-out by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Hesham Hamed		21/11/2023	
QA/QC *	Eng. Hesham Sabry		21/11/2023	A
GARB**	Eng. Ahmed Galal			
Employers Representative	Eng. Gaber Ibrahim			AWC

* Designer

** Alignment / Bridges: Culvert Only

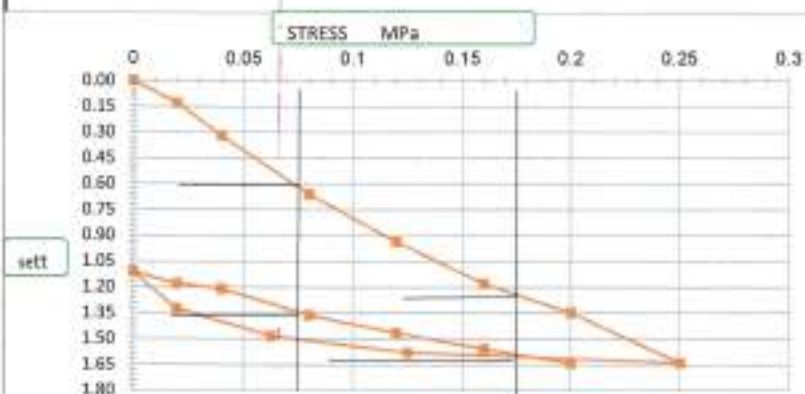


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	332+180	to	332+360	DATE	21/11/2023
Description :	Filter Layer					LAB No :	1
Station :	332+230						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102RE/V10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	8.42	5.43	9.77	0.00
0.020	18.8	8.19	5.33	9.71	0.13
0.040	37.7	7.92	5.19	9.55	0.32
0.080	75.4	7.48	4.93	9.25	0.60
0.120	113.1	7.10	4.71	9.00	0.94
0.160	150.8	6.80	4.50	8.78	1.18
0.200	188.5	6.62	4.35	8.60	1.35
0.250	235.7	6.35	4.10	8.25	1.64
0.125	117.8	6.42	4.15	8.31	1.58
0.0625	58.9	6.52	4.25	8.40	1.48
0.020	18.7	6.72	4.42	8.50	1.33
0.000	0	6.81	4.67	8.71	1.11
0.020	18.7	6.81	4.58	8.69	1.10
0.040	37.7	6.78	4.55	8.68	1.21
0.080	75.7	6.63	4.38	8.52	1.36
0.120	113.1	6.49	4.29	8.44	1.47
0.160	150.8	6.38	4.21	8.35	1.56
0.200	188.5	6.28	4.13	8.28	1.64



		S
0.7 σ_1	0.175	1.25
0.3 σ_2	0.075	0.62
0.7 σ_2	0.175	1.60
0.3 σ_2	0.075	1.35

Ev1=	71.4	Mpa
Ev2=	180.0	Mpa

Ev2/Ev1=	2.5
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المهندس الاستشاري (K.K)

Signature of the Consulting Engineer (K.K)

المهندس احمد (الفرقة)

Signature of the Engineer Ahmed (the team)

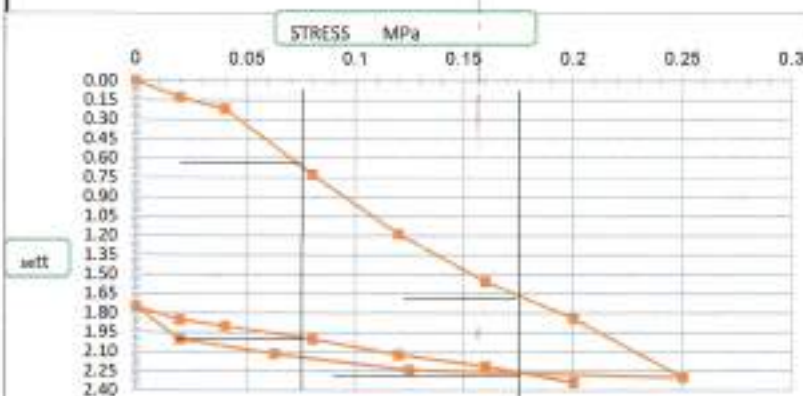


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab "
From Station 331+800 To Station 334+200

Request no.:		From	332+180	to	332+360	DATE	21/11/2023
Description :	Filter Layer					LAB No :	2
Station :	332+290						
Diameter plate	606mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement
0	0	3.20	4.06	5.20	0.00
0.020	18.8	3.05	3.98	5.05	0.13
0.040	37.7	2.98	3.89	4.94	0.22
0.080	75.4	2.42	3.55	4.31	0.73
0.120	113.1	1.84	3.15	3.90	1.19
0.160	150.8	1.41	2.78	3.50	1.55
0.200	188.5	1.09	2.50	3.34	1.84
0.250	235.7	0.56	2.06	2.94	2.30
0.125	117.8	0.84	2.13	2.96	2.24
0.0625	58.9	0.84	2.26	3.01	2.12
0.020	18.7	1.07	2.35	3.03	2.00
0.000	0	1.32	2.57	3.32	1.75
0.020	18.7	1.20	2.47	3.23	1.85
0.040	37.7	1.14	2.43	3.19	1.90
0.080	75.7	0.97	2.36	3.12	2.06
0.120	113.1	0.81	2.25	3.03	2.12
0.160	150.8	0.75	2.13	2.94	2.21
0.200	188.5	0.52	2.04	2.88	2.34



		s
0.7 σ_1	0.175	1.66
0.3 σ_2	0.075	0.65
0.7 σ_2	0.175	2.27
0.3 σ_2	0.075	1.66

Ev1=	44.6	Mpa
Ev2=	73.8	Mpa

Ev2/Ev1= 1.7

المهندس الاستشاري (K.K)

عماد الشحات

مهندس جودة (الشريف)

أحمد

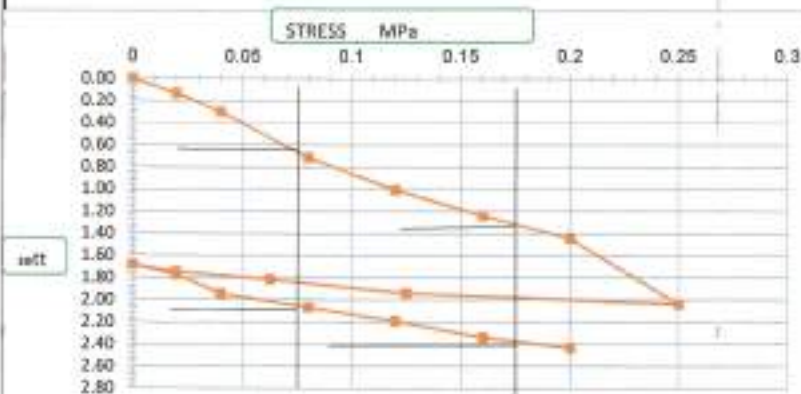


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab "
From Station 331+800 To Station 334+200

Request no.:		From	332+180	to	332+360	DATE	21/11/2023
Description :	Filter Layer					LAB No :	3
Station :	332+330						
Diameter plate	600mm	Hand Pump :	T5210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	3.35	4.21	5.31	0.00
0.020	18.8	3.21	4.03	5.23	0.13
0.040	37.7	3.02	3.93	5.02	0.30
0.080	75.4	2.57	3.70	4.40	0.71
0.120	113.1	2.41	3.32	4.12	1.01
0.160	150.8	2.23	2.93	3.98	1.24
0.200	188.5	2.13	2.76	3.63	1.45
0.250	235.7	1.91	1.95	2.89	2.04
0.125	117.8	1.96	2.18	2.91	1.94
0.0625	58.9	2.01	2.29	3.12	1.82
0.020	18.7	2.09	2.38	3.16	1.75
0.000	0	2.14	2.42	3.26	1.68
0.020	18.7	2.09	2.35	3.12	1.77
0.040	37.7	1.92	2.21	2.91	1.94
0.080	75.7	1.81	2.03	2.83	2.07
0.120	113.1	1.61	1.96	2.72	2.19
0.160	150.8	1.52	1.72	2.61	2.34
0.200	188.5	1.41	1.62	2.53	2.44



		s
0.7 σ_1	0.175	1.35
0.3 σ_1	0.075	0.65
0.7 σ_2	0.175	2.40
0.3 σ_2	0.075	2.07

Ev1=	64.3	Mpa
Ev2=	136.4	Mpa

Ev2/Ev1=	2.1
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المهندس الاستشاري (K.K.)

عبدالله شحيا

مهندس جودة (الشركة)

أحمد



الهيئة العامة
للطرق والنقل
(G.A.R.B.)

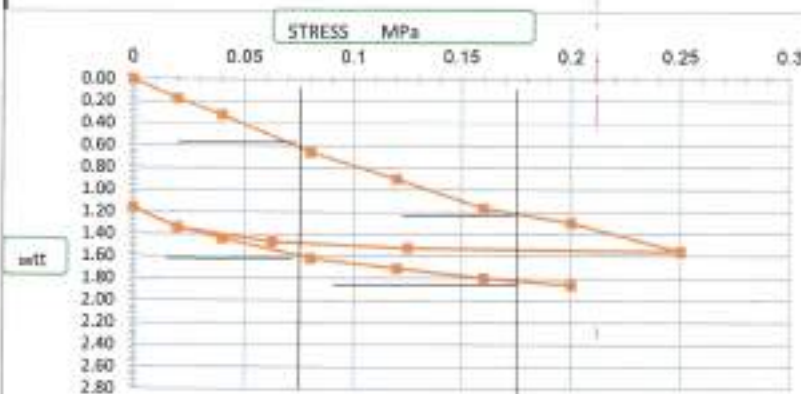


Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein
Section - 4 From Wadi El Nnatroun To Borg Elarab *
From Station 331+800 To Station 334+200

Request no.:		From	332+180	to	332+360	DATE	21/11/2023
Description :	Filter Layer					LAB No :	4
Station :	332+360						
Diameter plate	600mm	Hand Pump :	TS210706	Hydraulic Jack :	42102REV10	Max Pressure :	800 bar

plate load test DIN 18134

stress Mpa	bar	Dial Reading 1	Dial Reading 2	Dial Reading 3	Average Settlement.
0	0	8.51	5.56	9.89	0.00
0.020	18.8	8.52	5.35	9.76	0.18
0.040	37.7	8.16	5.21	9.63	0.32
0.080	75.4	7.56	5.11	9.31	0.68
0.120	113.1	7.21	4.92	9.12	0.90
0.160	150.8	6.91	4.64	8.91	1.17
0.200	188.5	6.71	4.56	8.79	1.30
0.250	235.7	6.52	4.45	8.31	1.56
0.125	117.8	6.56	4.46	8.36	1.53
0.0625	58.9	6.61	4.52	8.42	1.47
0.020	18.7	6.77	4.61	8.55	1.34
0.000	0	6.99	4.72	8.76	1.16
0.020	0	6.61	4.62	8.71	1.34
0.040	37.7	6.53	4.42	8.69	1.44
0.080	75.7	6.31	4.38	8.41	1.62
0.120	113.1	6.23	4.29	8.31	1.71
0.160	150.8	6.21	4.09	8.28	1.80
0.200	188.5	6.19	4.03	8.15	1.88



		s
0.7 σ_m	0.175	1.20
0.3 σ_m	0.075	0.60
0.7 σ_2	0.175	1.82
0.3 σ_2	0.075	1.60

Ev1=	75.0	Mpa
Ev2=	204.5	Mpa

Ev2/Ev1=	2.7
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المهندس الاستشاري (K.K.)

المهندس المواد (النقل)

عبد الله محمد صالح