

المنطقة الخامسة - (غرب الدلتا)

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة.. وبعد،،

بالإحالة إلى مشروع القطار الكهربائى فائق السرعة قطاع (برج العرب - العلمين)
نتشرف بأن نرفق لسيادتكم طيه المقاييسه المعدله للقطاعات الاتيه :

المسلسل	اسم الشركة	من المحطة	إلى المحطة	الإتجاه
١	شركة القمة للمقاولات العمومية	٣٦١+٨٠٠	٣٦٣+٠٠٠	برج العرب

برجاء من سيادتكم التفضل بالأحاطه والتوجيه بالازم

وتفضلوا بقبول فائق الاحترام والتقدير،،

رئيس الإدارة المركزية

المنطقة الخامسة- غرب الدلتا

عميد مهندس /

"هاني محمد محمود طه"

مشروع القطر الكهربائي فائق السرعة قطاع (برج العرب-العلمين) المقاييس المعدلة لشركة القمة للمقاولات العمومية القطاع من المحطة ٣٦١+٨٠٠ إلى ٣٦٣+٠٠٠ اتجاه برج العرب				
رقم البند	بيان الأعمال	الوحدة	الكمية	القيمة
١	أعمال الحفر			
١-١	بالمتر المكعب أعمال حفر باستخدام المعدات الميكانيكية لجميع أنواع التربة عدا التربة الصخرية و تسوية السطح بالآلات التسوية والرش بالمياه الاصطناعية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى أقصى كثافة جافه (٩٥% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الاتربة الزائدة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقا للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. يتم احتساب علاوة ١ جنية لكل ١ كم بالزيادة.	م٣	٧٦١٤	٢١,٩٠
	السعر خلال شهر اكتوبر ٢٠٢٢ طبقا للمفاوضة بتاريخ ٢٠٢٣/١٢/١٨	م٣	٧٦١٤	١٦٦,٧٤٦,٦٠
	السعر خلال شهر مارس ٢٠٢٣ طبقا للمفاوضة بتاريخ ٢٠٢٣/١٢/١٨	م٣	٦٩٤٠	٢٦,٣٠
	السعر خلال شهر مايو ٢٠٢٣ طبقا للمفاوضة بتاريخ ٢٠٢٣/١٢/١٨	م٣	٣٠٨٢١	٢٦,٥٠
٣-١	بالمتر المكعب أعمال حفر باستخدام المعدات الميكانيكية في التربة المتماسكة (الاراضى الزراعية) او الاماكن ذات منسوب مياه مرتفع (طبقا لرؤية المهندس المشرف) عدا التربة الصخرية وتسوية السطح بالآلات التسوية والرش بالمياه الاصطناعية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد للهراسات للوصول الى أقصى كثافة جافة (٩٥% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الاتربة الزائدة لمسافة ٥٠٠ متر من محور الطريق والفئة تشمل عمل تشوينات وذلك باستخدام الاراضى الزراعية المجاورة لنقل ناتج الحفر على مراحل باستخدام وسيلة النقل المناسبة لضيق اماكن المرور وذلك طبقا لرؤية المهندس المشرف ويتم التنفيذ طبقا للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. يتم احتساب علاوة ١ جنية لكل ١ كم بالزيادة	م٣	٥٦٧٤	٤٣,٤٠
	السعر خلال شهر مارس ٢٠٢٣ طبقا للمفاوضة بتاريخ ١٨/١٢/٢٠٢٣	م٣	٥٦٧٤	٢٤٦,٢٥١,٦٠

مدير مشروع الهيئة

د/محمد حسني فياض

مدير المشروع

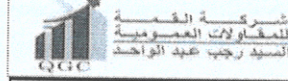
م / مازن جريت مجدي زاهر

مدير المشروع

م / هلال عادل سعيد



مجلس المدبرون القانون
القضية رقم ٢٠٠٠/١٩٤
٢٠٠٠/١٩٤



مشروع القطار الكهربائي فائق السرعة قطاع (برج العرب-العلمين) المقاييس المعدلة لشركة القمة للمقاولات العمومية القطاع من المحطة ٣٦١+٨٠٠ إلى ٣٦٣+٠٠٠ اتجاه برج العرب				
رقم البند	بيان الأعمال	الوحدة	الكمية	الفئة
٥	طبقات الأساس			الاجمالي
١٠٥	بالمتر المكعب أعمال توريد وفرش طبقة تأسيس (prepared Subgrade) من الاحجار الصلبة المتدرجة ناتج تكسير الكسارات والمطابقة للمواصفات وأقصى حجم للحبيبات ١٠٠ مم والا يزيد نسبة المار من منخل ٢٠٠ عن ١٢ % و التدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٢٥ % والا يزيد نسبة الفاقد بجهاز لوس انجلوس عن ٣٠ % والا يزيد الامتصاص عن ١٥ % والا يقل معامل المرونة (EV2) من تجربة لوح التحميل عن ٨٠ ميجاباسكال و يتم فردها على طبقتين باستخدام الات التسوية الحديثة على ان لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٥ سم و رشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد للهراسات للوصول الى أقصى كثافة جافة قصوي (لا تقل عن ٩٥ %) من الكثافة المعملية والفئة تشمل اجراء التجارب المعملية والحقلية ويتم تنفيذ طبقا لاصول الصناعة والرسومات التنفيذية المعتمدة والبند بجميع محتلاته طبقا للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف -مسافة النقل لا تقل عن ٢٠ كم - يتم احتساب علاوة ١.٣ جنيه لكل ١ كم بالزيادة او النقصان	م ^٣	٥٦٣	١٤٣.٢٠
	السعر خلال شهر مارس ٢٠٢٣ طبقا للمفاوضه بتاريخ ١٨/١٢/٢٠٢٣	م ^٣	٥٦٣	١٤٣.٢٠
	السعر خلال شهر مايو ٢٠٢٣ طبقا للمفاوضه بتاريخ ١٨/١٢/٢٠٢٣	م ^٣	٥٦٣	١٤٣.٢٠
	المادة المحجريه (prepared subgrade)	م ^٣	٥٦٣	١٤٣.٢٠
	علاوة مسافة النقل ٩٠ كم = ١.٢*٧٠ = ٨٤ جنيه	م ^٣	٥٦٣	١٤٣.٢٠
	علاوة مسافة النقل طبقا للمفاوضه بتاريخ ١٨/١٢/٢٠٢٣ ٩٠ كم = ١.٣*٧٠ = ٩١ جنيه	م ^٣	٥٦٣	١٤٣.٢٠
	علاوة تحصيل رسوم الكارتة والموازين طبقا للاتحة الشركة الوطنية	م ^٣	٥٦٣	١٤٣.٢٠
٢٠٥	بالمتر المكعب أعمال توريد وفرش طبقة أساس من الاحجار الصلبة المتدرجة ناتج تكسير الكسارات والمطابقة للمواصفات وأقصى حجم للحبيبات ما بين ٣١.٥ مم الى ٤٠ مم والا يزيد نسبة المار من منخل ٢٠٠ عن ٥ % والتدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٨٠ % والا يقل معامل المرونة (EV2) من تجربة لوح التحميل عن ١٢٠ ميجاباسكال و يتم فردها على طبقتين باستخدام الات التسوية الحديثة على ان لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠ سم و رشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد للهراسات للوصول الى أقصى كثافة جافة قصوي (لا يقل عن ١٠٠ %) من الكثافة المعملية والفئة تشمل اجراء التجارب المعملية والحقلية ويتم تنفيذ طبقا لاصول الصناعة والرسومات التنفيذية المعتمدة والبند بجميع محتلاته طبقا للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف . -مسافة النقل ٢٠ كم - يتم احتساب علاوة ١.٣ جنيه لكل ١ كم بالزيادة او النقصان	م ^٣	٥٨١٢	١٥١.٣٠
	السعر خلال شهر مايو ٢٠٢٣ طبقا للمفاوضه بتاريخ ١٨/١٢/٢٠٢٣	م ^٣	٥٨١٢	١٥١.٣٠
	المادة المحجريه subballast	م ^٣	٥٨١٢	١٥١.٣٠
	علاوة مسافة النقل ٩٠ كم = ١.٢*٧٠ = ٨٤ جنيه	م ^٣	٥٨١٢	١٥١.٣٠
	علاوة مسافة النقل طبقا للمفاوضه بتاريخ ١٨/١٢/٢٠٢٣ ٩٠ كم = ١.٣*٧٠ = ٩١ جنيه	م ^٣	٥٨١٢	١٥١.٣٠
	علاوة تحصيل رسوم الكارتة والموازين طبقا للاتحة الشركة الوطنية	م ^٣	٥٨١٢	١٥١.٣٠

مدير مشروع التجهيز

م/محمد حسني فاضل

مدير المشروع

م/مارجريت جدي زاهر

مدير المشروع الاستشاري

م/أحمد محمد مصطفى

مدير مشروع المقاول

م/بدر خالد سعيد



مشروع القطر الكهربائي فائق السرعة قطاع (برج العرب-العلمين) المقايضة المعدلة لشركة القيمة للمقاولات العمومية القطاع من المحطة ٣٦١+٨٠٠ إلى ٣٦٣+٠٠٠ اتجاه برج العرب				
رقم البند	بيان الأعمال	الوحدة	الكمية	الفئة
٣-٥	المرمر المكعب توريد وتنفيذ ورمد احجار بسماكات تتراوح بين ١ الى ٢ الى ٤ سم او بين ١ الى ٢ الى ٦ بنسبة ١:١:١ بنسبة امتصاص لا تزيد عن ٢% ولا تحتوي على اى المواد الناعمة او البودرة (مارة من مخل ٢٠٠) نهانها او مواد طفلية او بيت التمل يتم تنفيذها كطبقة تاسيس بالقطاع اسفل سطح المياه بعق ١٠٠ سم حتى اعلى منسوب المياه الارضية بحوالى ٥٠ سم ويتم الدمك الجيد للطبقة بهراس الا بعد اعتماد الاحجار واعتماد التجارب المعملية والبند يشمل اجراء التجارب المعملية والحظية (اختبار الواح التحميل قطر ٣٠ سم) على ان لا تزيد نسبة EV12EV عن ٢.٥ باستخدام حمل مقداره ٨ kn طبقا لما هو وارد بالمواصفات الخاصة بالمعملية على كل السطح العلوى ونهيو العمل طبقا لاصول الصناعة المتعارفة. -مسافة النقل ٢٠ كم . -الفئة شاملة القيمة المادة المحجربة. - يتم احتساب علوة ١,٣ جنيه لكل ١ كم بالزيادة او النقصان	م٣	٩٤٢٢	٣٤٧.٢٠
	السعر خلال شهر مايو ٢٠٢٣ طبقا للمفاوضة بتاريخ ٢٠٢٣/١٢/١٨	م٣	٩٤٢٢	٣٤٧.٢٠
	علوة مسافة النقل ٩٠ كم = ١,٣*٧٠ = ٨٤ جنيه	م٣	٩٤٢٢	٩١.٠٠
	علوة تحصيل رسوم الكارثة والموازين طبقا للاتحة الشركة الوطنية	م٣	٩٤٢٢	٢٥.٠٠
٦	البلاطات الخرسانية			
١-٦	بالمرمر المسطح أعمال توريد وصب خرسانة عادية سمك ١٥ سم لحماية الأكتاف والميول الجانبية تتكون من ٣ م ٠,٨ سن دولوميت متدرج + ٣ م ٠,٤ رمل حرش + ٣٥٠ كجم أسمنت بورتلاندي عادي وازضافة Fiber reinforcement على أن يكون السن نظيف ومغسول والرمل خالي من الشوائب والطفلة والأملاح والمواد الغريبة والبند يشمل تجهيز واستعداد مناسب التربة الطبيعية أسفل البلاطة للوصول إلى المناسب التصميمية على أن تحقق الخرسانة إجهاد لا يقل عن ٢٥٠ كجم / سم ٢ وتشطيب السطح والتنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقا لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف .	م٢	٤	٢٦٦.٠٠
٢-٦	بالمرمر المكعب أعمال توريد وصب خرسانة عادية لقدامات الحماية والميول الجانبية تتكون من ٣ م ٠,٨ سن دولوميت متدرج + ٣ م ٠,٤ رمل حرش و الاضافات طبقا لتعليمات الاستشاري (فيبر + سبكا) على أن يكون نظيف ومغسول والرمل خالي من الشوائب والطفلة والأملاح والمواد الغريبة مع وضع فوم (بالفاصل) بسمك ٢ سم (طبقا لتعليمات الاستشاري) والبند يشمل اعمال الحفر والشدات وكل مايلزم للهو العمل على تحقيق الخرسانة إجهاد لا يقل عن ٢٥٠ كجم/سم ٢ وملء الفواصل بالبيتومين المرمل والتنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقا لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف	م٣	٤	٢,٢٠٠.٠٠
١١	أعمال التربة المسلحة			
٢-١١	بالمرمر المسطح توريد وتركيب طبقة من النسيج الصناعي جيوتكستائل مستورد التداخل لا يقل عن ١٠% و يتم التنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقا لمواصفات الهيئة العامة للطرق والكباري.	م٢	١٠٦٧٠	٤٢.٠٠
	ذات وزن لا يقل عن ٤٠٠ جم/م ٢			
٣-١١	بالمرمر المسطح توريد وتركيب طبقة من النسيج الصناعي جيوجريد مستورد التداخل لا يقل عن ١٠% و يتم التنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقا لمواصفات الهيئة العامة للطرق والكباري.	م٢	١٠	٣٧.٠٠
	ذات قوة شد ٣٠ ك . نيوتن في الاتجاهين Biaxial			
	الإجمالي			
	(عشرين مليون جنيه مصري فقط لا غير)			

مدير مشروع الهيئة

د/محمد حسني فؤاد

مدير المشروع

م / ماري جيهدي زاهر

مدير المشروع الاستشاري

د/طارق محمد

مدير المشروع

م / هادي عادل سعيد



يعتمد
رئيس الإدارة المركزية
منطقة غرب الدلتا
الإسكندرية - مرسى مطروح

" هاني محمد محمود طه "

٣٥٨٣

مذكره للعرض على

السيد المهندس / رئيس قطاع التنفيذ والمناطق
تحية طيبة وبعد،

الموضوع: -

بالإحالة الي مشروع القطار الكهربائي السريع (القطاع الخامس)

- تنفيذ شركة القمه للمقاولات العموميه
- العقد رقم ٢٠٢٣/٢٠٢٢/٢١٠٥
- قيمة امر الاسناد ٢٠.٠٠٠.٠٠٠ جنيه مصرياً
- تاريخ استلام الموقع: ٢٠٢٣/٠٦/١٩
- تاريخ النهو طبقاً للتعاقد: ٢٠٢٤/٠١/٢٩

نتشرف ان نرفق لسيادتكم خطاب الشركة بخصوص إضافة مدة مقدارها اربعة أشهر.

- للأسباب الآتية: -

تم حدوث عديد من التعديلات بالمسقط الافقي والمخطط الرأسي للمشروع عدة مرات أثناء التشغيل طبقاً للتواريخ التالية:

- 1- REV 28 PLAN PROFILE بتاريخ ١٣/٠٩/٢٠٢٢
- 2- REV 28 -A PLAN PROFILE بتاريخ ٠٨/١٠/٢٠٢٢
- 3- REV 29 PLAN PROFILE بتاريخ ١٧/١٠/٢٠٢٢

بالإشارة الي الحرب (الروسية - الأوكرانية) والتي أدت الي زيادة الاسعار وعدم توافر قطع الغيار المستوردة اللازمة للمعدات والآلات مما أثر بالسلب علي معدلات الاداء طبقاً للكتاب الدوري لرئاسة مجلس الوزراء بتاريخ 2022/03/28 مما يتطلب مد مدة المشروع (اربعة اشهر)

رأي المنطقة: -

- الموافقة على اضافة اربعة أشهر الي مدة المشروع عالية والأمر مفوض لسيادتكم.
- ليصبح تاريخ نهو المشروع ٢٠٢٤/٥/٢٩

برجاء التكرم بالعلم وإتخاذ اللازم.

وتفضلوا بقبول وافر التحية والاحترام،

رئيس الإدارة المركزية

منطقة غرب الدلتا

الإسكندرية - مرسى مطروح

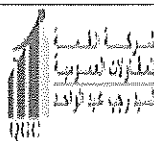
عميد مهندس /

"هاني محمد محمود طه"



تحريراً في ١٨

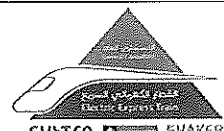
MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



الهيئة العامة
للطرق والكباري
(GARB)



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time							
	Eng. Mohamed Asayed		24/11/2023	S5-B-QM1-FDT-C-6		1:00 PM					
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	25	11	23	13	00

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

Description of Materials	BED EXCAVATION		
Location to be Used	From	362+220	TO 362+280
MAR & UIR Approval No	UIRS5-B-QM1-IR-C-6	Date	23/11/2023
	S5-B-QM1-PLT-C-6		26/11/2023
Supplier Name		Soil + Sand A3	S5-B-QM1-QT-C-1
Test Requirement	F.D.T (ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	1	26/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by material engineer for both contractor and GARB Consultant 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy		Approved	A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

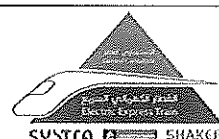
MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



الهيئة الخيرية للإغاثة
والتنمية



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time							
	Eng. Mohamed Asayed		24/11/2023 S5-B-QM1-FDT-C-6	1:00 PM							
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	25	11	23	13	00

CODE-1	S1 to S21	D1 to S3	Kp XXX Note
	Station Reference	Depot Reference	For Kilometer point only Start Km is used
WORK ACTIVITY	Work Activity		
SUB ELEMENT OF ACTIVITY	Sub Element of Activity		

Description of Materials	BED EXCAVATION			
Location to be Used	From	362+220	TO	362+280
MAR & UIR Approval No	UIRS5-B-QM1-IR-C-6	Date	23/11/2023	
	S5-B-QM1-PLT-C-6		26/11/2023	
Supplier Name		Soil + Sand A3	S5-B-QM1-QT-C-1	
Test Requirement	F.D.T (ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes	Other		

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	1	26/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by material engineer for both contractor and GARB Consultant 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		26/11	AWC

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Contractor Company		AI - Qma -1Co. for Contracting from 361+800 to 363+000		Designer Company		(SPECTRUM) Engineering Consulting Office	
Issued by Contractor	Name	Sign	Date/Serial Number		Time		
	Eng. Mohamed Asayed		22/11/2023 S5-B-QM1-FDT-F-48		1:00 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD
				S14	EW	CS	23
				MM	YY	HH	MM
				11	23	13	00

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

Description of Materials	FERMA		
Location to be Used	From	362+280	TO 362+380
MAR & UIR Approval No	UIRS5-B-QM1-IR-F-48	Date	22/11/2023
	S5-B-QM1-FDT-F-47		19/11/2023
Supplier Name	ش 3001	Soil + Sand A3	S5-B-QM1-QT-F-10
Test Requirement	F.D.T (ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	4	27/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
<p>1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved</p>	<p>1-F.D.T was carried- out by out third lab combassal.</p> <p>2-Results report attached and acceptable with project specifications.</p>

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number	Time						
	Eng. Mohamed Asayed		22/11/2023 S5-B-QM1-FDT-F-48	1:00 PM						
Received by GARB CONSULTANT	Eng. Mazen Essamy	MIR	C1	C2	C3	DD	MM	YY	HH	MM
			S14	EW	CS	23	11	23	13	00

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

Description of Materials	FERMA		
Location to be Used	From	362+280	TO 362+380
MAR & UIR Approval No	UIRS5-B-QM1-IR-F-48	Date	22/11/2023
	S5-B-QM1-FDT-F-47	Date	19/11/2023
Supplier Name	300I ش	Soil + Sand A3	S5-B-QM1-QT-F-10
Test Requirement	F.D.T(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	4	26/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
<p>1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.</p>	<p>1-F.D.T was carried- out by out third lab combassal.</p> <p>2-Results report attached and acceptable with project specifications.</p> <p>3- Final approval is subject to above mentioned comments.</p>

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2023/11/27	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 2375/02/center
Date : 27-11-2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القبة للمقاولات
Project : Electric express train
Sample : Ferma
Date of test : 26-11-2023

Results :

Points NO.	6	7	8	9
Description	St (362+280)	St (362+300)	St (362+320)	St (362+360)
Intial wt. (gm)	10770	7340	8600	7000
Wt. after filling the cone and the hole (gm)	7340	4040	5020	3700
Wt. of wet Sample from hole (gm)	2720	2630	2840	2580
Wt. of sand filling hole (gm)	1912	1782	2062	1782
Wt. of sand filling cone (gm)	1518	1518	1518	1518
Density of standered sand (Ys) (gm/cm ³)	1.52			
Volume of hole (cm ³)	1257.89	1172.37	1357	1172.4
Wt. of wet Sample (gm)	200			
Wt. of sample after drying (gm)	191.4	190.6	192	190.4
Wet Density (Ywet) (gm/cm ³)	2.162	2.243	2.094	2.201
Moisture ratio (%)	4.5	4.9	4.3	5.0
Dry Density (Ydry) (gm/cm ³)	2.069	2.138	2.007	2.095
(Ymax.dry) (gm/cm ³)	2.100			
Compaction Ratio (%)	99	102	96	100

Lab director

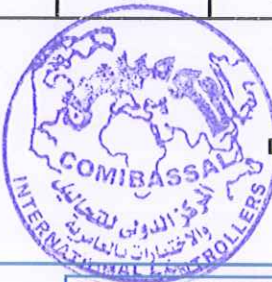
Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For Dr. M.

Dr. Mohamed Mostafa Badry



Kilo 23 Alexandria - Cairo Desert Road - Merghem

Tel: 002 03 4704595 - 002 034701191

Email : civdept@comibassal.com

WebSite : www.comibassal.com



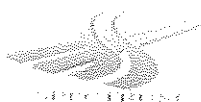
49 El Horria Ave. Alex, Egypt

Tel: 002 033920176 - 002 033931482

Fax : 002 033900476

Email : internal-inspection@comibassal.com

MATERIAL INSPECTION REQUEST



الهيئة العامة
للمرور والكباري
(GARB)



Contractor Company		Al - Qma -1Co. for Contracting from 361+800 to 363+000		Designer Company		(SPECTRUM) Engineering Consulting Office	
Issued by Contractor	Name	Sign	Date/Serial Number		Time		
	Eng. Mohamed Asayed		27/12/2023 S5-B-QM1-FDT-F-54		1:00 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD
				S14	EW	CS	28
				MM	YY	HH	MM
				12	23	13	00

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

Description of Materials	FERMA		
Location to be Used	From	362+220	TO 362+280
MAR & UIR Approval No	UIRS5-B-QM1-IR-F-54	Date	27/12/2023
	S5-B-QM1-FDT-F-53	Date	26/12/2023
Supplier Name	3001 ش	Soil + Sand A3	S5-B-QM1-QT-F-10
Test Requirement	F.D.T (ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	
Item	Description	Unit	Quantity
1	SAND CONE TEST	NUMBER	1
2			
3			
4			

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



الهيئة العامة
للمطرق والكباري
(GARB)



الهيئة العامة للإحصاء
Ministry of Planning



Contractor Company	AI - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time							
	Eng. Mohamed Asayed		27/12/2023 S5-B-QM1-FDT-F-54	1:00 PM							
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	28	12	23	13	00

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

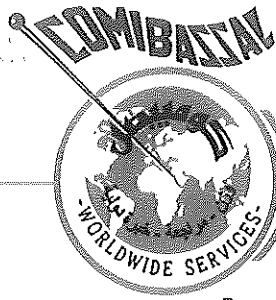
Description of Materials	FERMA				
Location to be Used	From	362+220	TO	362+280	
MAR & UIR Approval No	UIRS5-B-QM1-IR-F-54		Date	27/12/2023	
	S5-B-QM1-FDT-F-53			26/12/2023	
Supplier Name	3001 ش	Soil + Sand A3	S5-B-QM1-QT-F-10		
Test Requirement	F.D.T(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No/Yes	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	1	30/12/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		20/12	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 173/03/center
Date : 31/12/2023

362 + 220 362 + 280

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القبة للمقاولات
Project : Electric express train
Sample : Ferma
Date of test : 30- 12 - 2023

Results :

Points NO.	1
Description	St(362+220) : St(362+280)
Initial wt. (gm)	8875
Wt. after filling the cone and the hole (gm)	5640
Wt. of wet Sample from hole (gm)	2700
Wt. of sand filling hole (gm)	1825
Wt. of sand filling cone (gm)	1410
Density of standard sand (Ys) (gm/cm ³)	1.52
Volume of hole (cm ³)	1200.66
Wt. of wet Sample (gm)	200
Wt. of sample after drying (gm)	189.5
Wet Density (Ywet) (gm/cm ³)	2.249
Moisture ratio (%)	5.5
Dry Density (Ydry) (gm/cm ³)	2.131
(Ymax.dry) (gm/cm ³)	2.100
Compaction Ratio (%)	101

Lab director

Eng : Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry

MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company		(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/Serial Number		Time			
	Eng. Mohamed Asayed			09/11/2023		1:00 PM			
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY
				S14	EW	CS	11	11	23
								HH	MM
								13	00

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

Description of Materials	SUBBALLAST 2			
Location to be Used	From	362+380	TO	362+520
MAR & UIR Approval No	UIRS5-B-QM1-IR-SB-2DR		Date	08/11/2023
	S5-B-QM1-FDT-SB-1DR			07/10/2023
Supplier Name	ش 300I		CRUSHED - STONE+SAND-A3	S5-B-QM1-QT-SB-1
Test Requirement	F.D.T(ASTM D 1556)		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes		Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	7	11/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
<p>1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.</p>	<p>1-F.D.T was carried - out by out third lab combassal.</p> <p>2-Results report attached and acceptable with project specifications.</p>

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GAR B)



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000		Designer Company		(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		09/11/2023 S5-B-QM1-FDT-Sb-2DR		1:00 PM						
Received by GAR B CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	11	11	23	13	00

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

Description of Materials	SUBBALLAST 2			
Location to be Used	From	362+380	TO	362+520
MAR & UIR Approval No	UIRS5-B-QM1-IR-SB-2DR		Date	08/11/2023
	S5-B-QM1-FDT-SB-1DR			07/10/2023
Supplier Name	ش 300I	CRUSHED - STONE+SAND-A3	S5-B-QM1-QT-SB-1	
Test Requirement	F.D.T(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes	Other		

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	7	11/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2023 12/11	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 2301/01/center
Date : 12-11-2023

SIB-2-DK

Field Deter. Of Density Of Soil In Place Report

ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القمة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 11- 11 - 2023



Results :

Points NO.	1	2	3	4	5	6	7
Description	St (362+390)	St (362+410)	St (362+430)	St (362+450)	St (362+470)	St (362+490)	St (362+510)
Initial wt. (gm)	10550	7340	10230	7030	8680	7920	7060
Wt. after filling the cone and the hole (gm)	7400	4170	7040	3892	5540	4790	3940
Wt. of wet Sample from hole (gm)	2470	2510	2530	2450	2510	2480	2430
Wt. of sand filling hole (gm)	1630	1650	1670	1618	1620	1610	1600
Wt. of sand filling cone (gm)	1520	1520	1520	1520	1520	1520	1520
Density of standard sand (Ys) (gm/cm ³)	1.52						
Volume of hole (cm ³)	1072.37	1085.53	1099	1064.5	1065.8	1059.2	1052.6
Wt. of wet Sample (gm)	200						
Wt. of sample after drying (gm)	191.4	192	192	191.4	190.8	190.8	190.7
Wet Density (Ywet) (gm/cm ³)	2.303	2.312	2.303	2.302	2.355	2.341	2.309
Moisture ratio (%)	4.5	4.2	4.4	4.5	4.8	4.8	4.9
Dry Density (Ydry) (gm/cm ³)	2.204	2.220	2.205	2.203	2.247	2.234	2.201
(Ymax.dry) (gm/cm ³)	2.205						
Compaction Ratio (%)	100	101	100	100	102	101	100

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M.

Dr. Mohamed Mostafa Badry



MATERIAL INSPECTION REQUEST



Contractor Company	AI - Qma -1Co. for Contracting from 361+800 to 363+000		Designer Company		(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time					
	Eng. Mohamed Asayed		24/11/2023	S5-B-QM1-FDT-Sb-4DR	1:00 PM					
Received by GARB CONSULTANT	Eng. Mazen Essamy	MIR	C1	C2	C3	DD	MM	YY	HH	MM
			S14	EW	CS	25	11	23	13	00

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

Description of Materials	SUBBALLAST 2		
Location to be Used	From	362+520	TO 362+660
MAR & UIR Approval No	UIRS5-B-QM1-IR-SB-4DR	Date	13/11/2023
	S5-B-QM1-FDT-SB-1DR	Date	07/10/2023
Supplier Name	300 ا ش	CRUSHED - STONE+SAND-A3	S5-B-QM1-QT-SB-1
Test Requirement	F.D.T (ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	5	27/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
<p>1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.</p>	<p>1-F.D.T was carried- out by out third lab combassal.</p> <p>2-Results report attached and acceptable with project specifications.</p>

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



الهيئة العامة للإستثمار
والتجارة والصناعة



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign	Date/Serial Number		Time			
	Eng. Mohamed Asayed		24/11/2023	S5-B-QM1-FDT-Sb-4DR	1:00 PM			
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM
				S14	EW	CS	25	11
								YY
								HH
								MM
								00

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

Description of Materials	SUBBALLAST 2		
Location to be Used	From	362+520	TO 362+660
MAR & UIR Approval No	UIRS5-B-QM1-IR-SB-4DR		13/11/2023
	S5-B-QM1-FDT-SB-1DR		07/10/2023
Supplier Name	300I ش	CRUSHED - STONE+SAND-A3	S5-B-QM1-QT-SB-1
Test Requirement	F.D.T(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	5	27/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3-Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		27-11-2023	Awc

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST

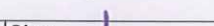



الهيئة العامة
للطرق والكباري
(GARB)



الهيئة العامة للطرق والكباري
Public Works Authority - Kingdom of Saudi Arabia



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company		(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign		Date/Serial Number		Time					
	Eng. Mohamed Asayed			14/11/2023	S5-B-QM1-FDT-Sb-4DR	1:00 PM					
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	15	11	23	13	00

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

Description of Materials		SUBBALLAST 2				
Location to be Used		From	362+520	TO	362+660	
MAR & UIR Approval No		UIRS5-B-QM1-IR-SB-4DR		Date	13/11/2023	
		S5-B-QM1-FDT-SB-1DR			07/10/2023	
Supplier Name		ش 3001	CRUSHED - STONE+SAND-A3		S5-B-QM1-QT-SB-1	
Test Requirement		F.D.T(ASTM D 1556)		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos		No/Yes		Other		
Item	Description		Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST		NUMBER	5	16/11/2023	
2					27	
3						
4						

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 2375/01/center
Date : 27-11-2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القمة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 26- 11 - 2023

Results :

Points NO.	1	2	3	4	5
Description	St (362+540)	St (362+570)	St (362+600)	St (362+620)	St (362+640)
Intial wt. (gm)	11250	10890	7730	9760	6310
Wt. after filling the cone and the hole (gm)	7800	7430	4200	6280	2805
Wt. of wet Sample from hole (gm)	3000	3030	3050	3070	3150
Wt. of sand filling hole (gm)	1932	1942	2012	1962	1987
Wt. of sand filling cone (gm)	1518	1518	1518	1518	1518
Density of standered sand (Ys) (gm/cm ³)	1.52				
Volume of hole (cm ³)	1271.05	1277.63	1324	1290.8	1307.2
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.6	192	190.6	190.4
Wet Density (Ywet) (gm/cm ³)	2.360	2.372	2.304	2.378	2.410
Moisture ratio (%)	4.5	4.9	4.3	4.9	5.0
Dry Density (Ydry) (gm/cm ³)	2.259	2.260	2.210	2.267	2.294
(Ymax.dry) (gm/cm ³)	2.205				
Compaction Ratio (%)	102	102	100	103	104

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M.

Dr. Mohamed Mostafa Badry



Kilo 23 Alexandria - Cairo Desert Road - Merghem

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MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company		(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		23/11/2023 S5-B-QM1-FDT-Sb-5DR		1:00 PM						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	25	11	23	13	00

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

Description of Materials	SUBBALLAST 2				
Location to be Used	From	362+680	TO	363+000	
MAR & UIR Approval No	UIRS5-B-QM1-IR-SB-5DR		Date	22/11/2023	
	S5-B-QM1-FDT-SB-3DR			15/11/2023	
Supplier Name	ش 300ا	CRUSHED - STONE+SAND-A3	S5-B-QM1-QT-SB-1		
Test Requirement	F.D.T(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No/Yes	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	12	03/12/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			A
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000		Designer Company		(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time					
	Eng. Mohamed Asayed		23/11/2023 S5-B-QM1-FDT-Sb-5DR		1:00 PM					
Received by GARBU CONSULTANT	Eng. Mazen Essamy	MIR	C1	C2	C3	DD	MM	YY	HH	MM
			S14	EW	CS	25	11	23	13	00

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

Description of Materials	SUBBALLAST 2			
Location to be Used	From	362+680	TO	363+000
MAR & UIR Approval No	UIRS5-B-QM1-IR-SB-5DR		Date	22/11/2023
	S5-B-QM1-FDT-SB-3DR		Date	15/11/2023
Supplier Name	300I ش	CRUSHED - STONE+SAND-A3	S5-B-QM1-QT-SB-1	
Test Requirement	F.D.T(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes	Other		

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	12	03/12/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
<p>1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.</p>	<p>1-F.D.T was carried - out by out third lab combassal.</p> <p>2-Results report attached and acceptable with project specifications.</p> <p>3- Final approval is subject to above mentioned comments.</p>

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2023/11/23	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 2444/01/center

Date : 06-12-2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القبة للمقاولات
Project : Electric express train
Sample : Sub ballast (2) - Dry port
Date of test : 3- 12 - 2023

Results :

Points NO.	1	2	3	4	5	6
Description	St (362+680)	St (362+700)	St (362+730)	St (362+760)	St (362+800)	St (362+830)
Intial wt. (gm)	11130	7850	10740	7450	9995	6810
Wt. after filling the cone and the hole (gm)	7850	4660	7490	4155	6710	3510
Wt. of wet Sample from hole (gm)	2800	2685	2755	2885	2780	2840
Wt. of sand filling hole (gm)	1820	1730	1790	1835	1825	1840
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.52					
Volume of hole (cm ³)	1197.37	1138.16	1178	1207.2	1200.7	1210.5
Wt. of wet Sample (gm)	200					
Wt. of sample after drying (gm)	191.4	190.5	191	191.7	190.5	191.8
Wet Density (Ywet) (gm/cm ³)	2.338	2.359	2.339	2.390	2.315	2.346
Moisture ratio (%)	4.5	5.0	4.9	4.3	5.0	4.3
Dry Density (Ydry) (gm/cm ³)	2.238	2.247	2.229	2.291	2.205	2.250
(Ymax.dry) (gm/cm ³)	2.205					
Compaction Ratio (%)	101	102	101	104	100	102

Lab director

Eng : Eman E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry

Kilo 23 Alexandria - Cairo Desert Road - Merghem

Tel: 002 03 4704595 - 002 034701191

Email : civdept@comibassal.com

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Fax : 002 033900476

Email : internal-inspection@comibassal.com



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 2444/02/center
Date : 06-12-2023

Field Deter. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القبة للمقاولات
Project : Electric express train
Sample : Sub ballast (2) - dry port
Date of test : 3- 12 - 2023

Results :

Points NO.	7	8	9	10	11	12
Description	St (362+860)	St (362+880)	St (362+910)	St (362+940)	St (362+960)	St (362+990)
Initial wt. (gm)	9220	6145	8700	11115	7980	9735
Wt. after filling the cone and the hole (gm)	6105	2940	5560	7960	4780	6390
Wt. of wet Sample from hole (gm)	2585	2650	2550	2670	2635	2890
Wt. of sand filling hole (gm)	1655	1745	1680	1695	1740	1885
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.52					
Volume of hole (cm ³)	1088.82	1148.03	1105	1115.1	1144.7	1240.1
Wt. of wet Sample (gm)	200					
Wt. of sample after drying (gm)	191.5	191.6	191	190.8	190.8	190.7
Wet Density (Ywet) (gm/cm ³)	2.374	2.308	2.307	2.394	2.302	2.330
Moisture ratio (%)	4.4	4.4	4.5	4.8	4.8	4.9
Dry Density (Ydry) (gm/cm ³)	2.273	2.211	2.208	2.284	2.196	2.222
(Ymax.dry) (gm/cm ³)	2.205					
Compaction Ratio (%)	103	100	100	104	100	101

Lab director

Eng : Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry

Kilo 23 Alexandria - Cairo Desert Road - Merghem

Tel: 002 03 4704595 - 002 034701191

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MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



الهيئة العامة
للتنشيط الاقتصادي
والتجارة
(SPECTRUM)



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company		(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		14/01/2024	S5-B-QM1-FDT-SB-9	1:00 PM						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	15	01	24	13	00

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

Description of Materials	SUBBALLAST 2			
Location to be Used	From	362+280	TO	362+380
MAR & UIR Approval No	UIRS5-B-QM1-IR-SB-9		Date	10/01/2024
	UIRS5-B-QM1-FDT-SB-8			17/12/2023
Supplier Name	ش 300I	CRUSHED - STONE+SAND-A3	S5-B-QM1-QT-SB-2	
Test Requirement	F.D.T(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes	Other		

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	10	16/01/2024	
2					
3					
4					

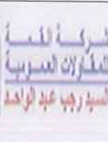
Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000		Designer Company		(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		14/01/2024	S5-B-QM1-FDT-SB-9	1:00 PM						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	15	01	24	13	00

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

Description of Materials	SUBBALLAST 2				
Location to be Used	From	362+280	TO	362+380	
MAR & UIR Approval No	UIRS5-B-QM1-IR-SB-9		Date	10/01/2024	
	UIRS5-B-QM1-FDT-SB-8			17/12/2023	
Supplier Name	300I ش	CRUSHED - STONE+SAND-A3	S5-B-QM1-QT-SB-2		
Test Requirement	F.D.T (ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No/Yes	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	10	16/01/2024	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		17/01	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 173/01/center
Date : 17/01/2024

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القمة للمقاولات
Project : Electric express train
Sample : Sub-ballast (2)
Date of test : 16- 1 - 2024

Results :

Points NO.	1	2	3	4	5
Description	St (362+290)	St (362+300)	St (362+310)	St (362+320)	St (362+330)
Initial wt. (gm)	10930	7940	9790	6700	8410
Wt. after filling the cone and the hole (gm)	7840	4930	6750	3670	5370
Wt. of wet Sample from hole (gm)	2660	2490	2540	2515	2590
Wt. of sand filling hole (gm)	1680	1600	1630	1620	1630
Wt. of sand filling cone (gm)	1410	1410	1410	1410	1410
Density of standard sand (Ys) (gm/cm ³)	1.52				
Volume of hole (cm ³)	1105.26	1052.63	1072	1065.8	1072.4
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	192	193	192	189.9	190.8
Wet Density (Ywet) (gm/cm ³)	2.407	2.366	2.369	2.360	2.415
Moisture ratio (%)	4.2	3.6	4.0	5.3	4.8
Dry Density (Ydry) (gm/cm ³)	2.310	2.283	2.279	2.241	2.304
(Ymax.dry) (gm/cm ³)	2.226				
Compaction Ratio (%)	104	103	102	101	104

Lab director

Eng : Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 173/02/center
Date : 17/01/2024

Field Detr. Of Density Of Soil In Place Report

ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القبة للمقاولات
Project : Electric express train
Sample : Sub-ballast (2)
Date of test : 16- 1 - 2024

Results :

Points NO.	6	7	8	9	10
Description	St (362+340)	St (362+350)	St (362+360)	St (362+370)	St (362+380)
Intial wt. (gm)	7820	7200	6560	7910	6600
Wt.after filling the cone and the hole (gm)	4800	4170	3510	4840	3630
Wt. of wet Sample from hole (gm)	2480	2530	2540	2630	2480
Wt. of sand filling hole (gm)	1610	1620	1640	1660	1560
Wt. of sand filling cone (gm)	1410	1410	1410	1410	1410
Density of standard sand (Ys) (gm/cm ³)	1.52				
Volume of hole (cm ³)	1059.21	1065.79	1079	1092.1	1026.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191	191.6	192	192.0	190.4
Wet Density (Ywet) (gm/cm ³)	2.341	2.374	2.354	2.408	2.416
Moisture ratio (%)	4.7	4.4	4.2	4.2	5.0
Dry Density (Ydry) (gm/cm ³)	2.236	2.274	2.260	2.312	2.300
(Ymax.dry) (gm/cm ³)	2.226				
Compaction Ratio (%)	100	102	102	104	103

Lab director

Eng : Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry

MATERIAL INSPECTION REQUEST



Contractor Company	AI - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time							
	Eng. Mohamed Asayed		28/11/2023 S5-B-QM1-FDT-SG-8	1:00 PM							
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	29	11	23	13	00

CODE-1	S1 to S21	D1 to S3	Kp 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	SUBGRADE 1		
Location to be Used	From	362+280	TO 362+380
MAR & UIR Approval No	UIRS5-B-QM1-IR-SG-8	Date	28/11/2023
	S5-B-QM1-FDT-F-48	Date	26/11/2023
Supplier Name	ش 3001	Soil + Sand A3	S5-B-QM1-QT-SG-2
Test Requirement	F.D.T.(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	10	30/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by material engineer for both contractor and GARB Consultant 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			Approved
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time							
	Eng. Mohamed Asayed		28/11/2023 S5-B-QM1-FDT-SG-8	1:00 PM							
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	29	11	23	13	00

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

Description of Materials	SUBGRADE 1		
Location to be Used	From	362+280	TO 362+380
MAR & UIR Approval No	UIRS5-B-QM1-IR-SG-8	Date	28/11/2023
	S5-B-QM1-FDT-F-48	Date	26/11/2023
Supplier Name	ش 3001	Soil + Sand A3	S5-B-QM1-QT-SG-2
Test Requirement	F.D.T (ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	10	30/11/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by material engineer for both contractor and GARB Consultant 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2023/11/30	AWC

* Designer

** Alignment/Bridges: Culvert only

Project	Electrical Express Train From Borg Alarab to Alamein	STATION REPRESENTED
Date	30/11/2023	FROM 362+280 TO 362+380
STAGE OF WORK	Sub Grade 1	S5-B QM1-FDT-SG-8
References	S5-B QM1-IR-SG-8	S5-B QM1-FDT-F-48

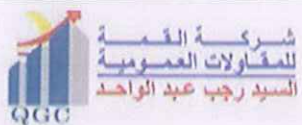
WORKSHEET FOR FIELD DENSITY TEST

BY SAND CONE METHOD ASTM D 1556

LAYER		Sub Grade 1							
DEPTH OF HOLE	cm	20cm	20cm	20cm	20cm	20cm	20cm	20cm	20cm
SAMPLE No.	-	1	2	3	4	5	6	7	8
STATION	-	362+280	362+290	362+300	362+310	362+320	362+330	362+340	362+350
CONTAINER No.	-								
WEIGHT OF CAN	gms	33	35	34	32	31	33	33	32.5
WT. OF CAN+WET SOIL	gms	222.0	220.0	201.5	206.0	208.5	221.0	219.5	220.0
WT. OF CAN+DRY SOIL	gms	209.0	208.0	191.0	195.0	198.0	209.0	208.0	208.0
WT. OF WATER	gms	13.0	12.0	10.5	11.0	10.5	12.0	11.5	12.0
WT. OF DRY SOIL	gms	176.0	173.0	157.0	163.0	167.0	176.0	175.0	175.5
WATER CONTENT	%	7.4	6.9	6.7	6.7	6.3	6.8	6.6	6.8
WT. OF WET SOIL	gms	4189	4699	4456	4766	4560	4157	4699	4701
WT. OF INITIAL SAND+CONT.	gms	9245	9125	9054	8948	8798	9246	9124	9124
WT. OF RESIDUAL SAND + CONT.	gms	5169	4722	4790	4562	4520	5168	4721	4719
WT. OF SAND TO FILL CONE+HOLE	gms	4076	4403	4264	4386	4278	4078	4403	4405
WT. OF SAND TO FILL CONE	gms	1525	1525	1525	1525	1525	1525	1525	1525
WT. OF SAND TO FILL HOLE	gms	2551	2878	2739	2861	2753	2553	2878	2880
UNIT WT. OF SAND	gm/cc	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
GROSS VOLUME OF HOLE	ccs	1747.3	1971.2	1876.0	1959.6	1885.6	1748.6	1971.2	1972.6
WET UNIT WT. OF SOIL	gm/cc	2.40	2.38	2.38	2.43	2.42	2.38	2.38	2.38
DRY UNIT WT. OF SOIL	gm/cc	2.23	2.23	2.23	2.28	2.28	2.23	2.24	2.23
MAX. DRY DENSITY	gm/cc	2.205	2.205	2.205	2.205	2.205	2.205	2.205	2.205
OPTIMUM MOISTURE CONTENT	%	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80
COMPACTION	%	101.25	101.10	100.97	103.33	103.19	100.93	101.44	101.16
REQUIRED COMPACTION	%	100	100	100	100	100	100	100	100
REMARKS		PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED

Eng. / CONSULTANT

Eng. / CONTRACTOR



مكتب أ.د/ عماد نبيل
Electrical Express Train From Borg Alarab to Alamein
From Station 325+393 To Station 394+600



Project	Electrical Express Train From Borg Alarab to Alamein	STATION REPRESENTED
Date	30/11/2023	FROM 362+280 TO 362+380
STAGE OF WORK	Sub Grade 1	S5-B QM1-FDT-SG-8
References	S5-B QM1-IR-SG-8	S5-B QM1-FDT-F-48

WORKSHEET FOR FIELD DENSITY TEST

BY SAND CONE METHOD ASTM D 1556

LAYER		Sub Grade 1					
DEPTH OF HOLE	cm	20cm	20cm				
SAMPLE No.	-	9	10				
STATION	-	362+360	362+370				
CONTAINER No.	-						
WEIGHT OF CAN	gms	33	32.5				
WT. OF CAN+WET SOIL	gms	220.0	219.0				
WT. OF CAN+DRY SOIL	gms	208.0	207.0				
WT. OF WATER	gms	12.0	12.0				
WT. OF DRY SOIL	gms	175.0	174.5				
WATER CONTENT	%	6.9	6.9				
WT. OF WET SOIL	gms	4159	4699				
WT. OF INITIAL SAND+CONT.	gms	9245	9125				
WT. OF RESIDUAL SAND + CONT.	gms	5169	4721				
WT. OF SAND TO FILL CONE+HOLE	gms	4076	4404				
WT. OF SAND TO FILL CONE	gms	1525	1525				
WT. OF SAND TO FILL HOLE	gms	2551	2879				
UNIT WT. OF SAND	gm/cc	1.46	1.46				
GROSS VOLUME OF HOLE	ccs	1747.3	1971.9				
WET UNIT WT. OF SOIL	gm/cc	2.38	2.38				
DRY UNIT WT. OF SOIL	gm/cc	2.23	2.23				
MAX. DRY DENSITY	gm/cc	2.205	2.205				
OPTIMUM MOISTURE CONTENT	%	6.80	6.80				
COMPACTION	%	101.02	101.12				
REQUIRED COMPACTION	%	100	100				
REMARKS		PASSED	PASSED				

Eng. / CONSULTANT

Eng. / CONTRACTOR

MATERIAL INSPECTION REQUEST



Contractor Company	AI - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time							
	Eng. Mohamed Asayed		05/12/2023 S5-B-QM1-FDT-SG-9	1:00 PM							
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	06	12	23	13	00

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

Description of Materials	SUBGRADE 2				
Location to be Used	From	362+280	TO	362+380	
MAR & UIR Approval No	UIRS5-B-QM1-IR-SG-9		Date	02/12/2023	
	S5-B-QM1-FDT-SG-8			30/11/2023	
Supplier Name	ش 3001	Soil + Sand A3	S5-B-QM1-QT-SG-2		
Test Requirement	F.D.T(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No/Yes	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	10	07/12/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
<p>1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.</p>	<p>1-F.D.T was carried- out by out third lab combassal.</p> <p>2-Results report attached and acceptable with project specifications.</p>

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma -1Co. for Contracting from 361+800 to 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time							
	Eng. Mohamed Asayed		05/12/2023 S5-B-QM1-FDT-SG-9	1:00 PM							
Received by GARB CONSULTANT	Eng. Mazen Essamy	Sign	MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	06	12	23	13	00

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

Description of Materials	SUBGRADE 2		
Location to be Used	From	362+280	TO 362+380
MAR & UIR Approval No	UIRS5-B-QM1-IR-SG-9	Date	02/12/2023
	S5-B-QM1-FDT-SG-8		30/11/2023
Supplier Name	3001	Soil + Sand A3	S5-B-QM1-QT-SG-2
Test Requirement	F.D.T.(ASTM D 1556)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	10	07/12/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.	1-F.D.T was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		09/12	Awc

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 2483/01/center
Date : 09-12-2023

Field Deter. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القبة للمقاولات
Project : Electric express train
Sample : Prepared Sub grade (2)
Date of test : 7- 12 - 2023

Results :

Points NO.	1	2	3	4	5
Description	St (362+285)	St (362+295)	St (362+305)	St (362+315)	St (362+325)
Intial wt. (gm)	10930	7850	10010	6900	9230
Wt. after filling the cone and the hole (gm)	7800	4650	6900	3730	6150
Wt. of wet Sample (gm)	2590	2620	2530	2600	2515
Wt. of sand filling hole (gm)	1670	1740	1650	1710	1620
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.52				
Volume of hole (cm ³)	1098.68	1144.74	1086	1125.0	1035.8
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.6	191	191.7	190.6
Wet Density (Ywet) (gm/cm ³)	2.357	2.289	2.331	2.311	2.360
Moisture ratio (%)	4.5	4.9	4.7	4.3	4.9
Dry Density (Ydry) (gm/cm ³)	2.256	2.181	2.226	2.215	2.249
(Ymax.dry) (gm/cm ³)	2.205				
Compaction Ratio (%)	102	99	101	100	102

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For Dr. M.

Dr. Mohamed Mostafa Badry





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report NO. : 2483/02/center
Date : 09-12-2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القمة للمقاولات
Project : Electric express train
Sample : Prepared Sub grade (2)
Date of test : 7- 12 - 2023

Results :

Points NO.	6	7	8	9	10
Description	St (362+335)	St (362+345)	St (362+355)	St (362+365)	St (362+375)
Initial wt. (gm)	6210	8350	7920	7190	6550
Wt after filling the cone and the hole (gm)	3100	5230	4750	4000	3350
Wt. of wet Sample (gm)	2555	2510	2620	2600	2630
Wt. of sand filling hole (gm)	1650	1660	1710	1730	1740
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.52				
Volume of hole (cm ³)	1085.53	1092.11	1125	1138.2	1144.7
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.5	191	191.6	191.7
Wet Density (Ywet) (gm/cm ³)	2.354	2.298	2.329	2.284	2.297
Moisture ratio (%)	4.5	5.0	4.5	4.4	4.3
Dry Density (Ydry) (gm/cm ³)	2.252	2.189	2.229	2.168	2.202
(Ymax.dry) (gm/cm ³)	2.205				
Compaction Ratio (%)	102	99	101	99	100

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For Dr. M.

Dr. Mohamed Mostafa Badry



MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARBU)



الهيئة العامة للتخطيط
والتطوير الاقتصادي
(MPEDE)



Contractor Company		AI - Qma Co.1 for Contracting (361+800 - 363+000)		Designer Company		(SPECTRUM) Engineering Consulting Office	
Issued by Contractor	Name	Sign	Date/Serial Number		Time		
	Eng. Mohamed Asayed		24/11/2023 S5-B-QM1-PLT-C-6		1:00 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy	Sign	MIR	C1	C2	C3	DD
				S14	EW	CS	25
				MM	YY	HH	MM
				11	23	13	00

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

Description of Materials	BED EXCAVATION		
Location to be Used	From	362+220	TO 362+280
MAR & UIR Approval No	S5-B-QM3-IR-C-6	Date	23/11/2023
Supplier Name	300I ش	Soil + Sand A3	S5-B-QM3-QT-C-1
Test Requirement		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	1	26/11/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result is Approved.	1-P.L.T was carried- out by material engineer for both contractor and GARB Consultant (By COMIBASSAL Lab.) 2-Results report attached and acceptable with project specifications.

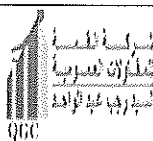
APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			Approved
QA/QC *	Eng. Mazen Essamy			
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARBU)



الهيئة العامة للطرق
والكباري



Contractor Company	AI - Qma Co.1 for Contracting (361+800 - 363+000)				Designer Company				(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/Serial Number				Time				
	Eng. Mohamed Asayed			24/11/2023 S5-B-QM1-PLT-C-6				1:00 PM				
Received by GARBU CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM	
				S14	EW	CS	25	11	23	13	00	

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

Description of Materials	BED EXCAVATION				
Location to be Used	From	362+220	TO	362+280	
MAR & UIR Approval No	S5-B-QM1-IR-C-6		Date	23/11/2023	
Supplier Name	3001	Soil + Sand A3	S5-B-QM1-QT-C- 1		
Test Requirement			Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes	Other			

Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	1	26/11/2023	COMIBASSAL
2					
3					
4					

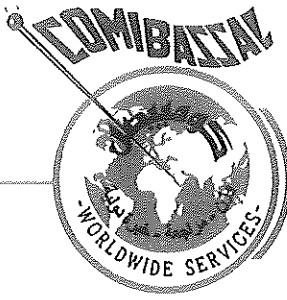
Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result Is Approved.	1-P.L.T was carried- out (By COMIBASSAL Lab.) 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		27/11	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

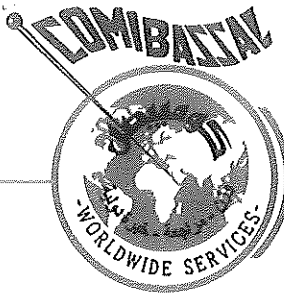
Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Technical report

of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	ELECTRIC EXPRESS TRAIN-DRY PORT
Sample	:	EXCAVATION BASE
Station	:	ST(362+240) : ST(362+280)
Date of Test	:	26/11/2023
QC	:	2374-6





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Introduction:

The Plate Load test is designed to determine the vertical deformation and strength characteristics of soil by assessing the force and amount of penetration with time when a rigid plate is made to penetrate the soil.

The test to be carried out on the native soil according to German specifications DIN 18134.

Test methods :

1- The German standard DIN 18134 was applied to define the apparatus used, the loading system, test conditions, and procedure for plate load test.

2- Loading plates with a diameter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffeners with even upper faces parallel to the plate bottom face to allow 300 mm plate to be placed on top of it.

3- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which is capable of applying and releasing the load stages.

4- The dial gauge used to measure the plate settlement has a resolution of 0.01mm and the lever ratio was equal to 1.

5- The temperature at the time of the test was 25°.

6- The plate was carried out on a native soil (sand-gravel). The test surface area was levelled and the plate was bedded on this surface.

7- The hydraulic jack was placed on the middle of, and at normal to, the loading plate beneath the reaction loading system and secured against tilting.

8- The reaction loading system was a heavy multi-purpose excavator (more than 20 ton).

Description of experiment:

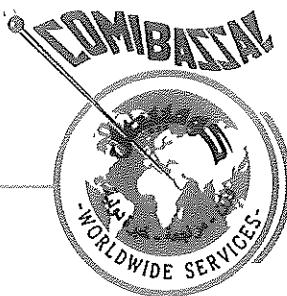
1- Loading, unloading and reloading regims were applied according to DIN 18134 for the plate load test to estimate the resilient modulus

2- Prior to the test, the force transducer and dial gauge were set to zero, after which a load was applied corresponding to a stress of 0.01 MN/m².

3- In the first loading cycle, the load was increased until a normal stress of 0.25 MN/m² was reached, and the loading increment was 0.025 MN/m². The load was released in four stages.

4- Following unloading, a further second loading cycle was carried out, in which, the load was increased only to the penultimate stage of the first cycle.





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egyptian General Authority for Petroleum under No. 34/29-11-2011

St(362+240) to St(362+280)

600

Table 1: Measured values for first loading cycle and unloading cycle

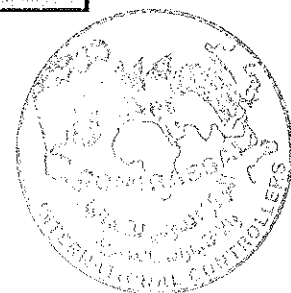
Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.13
2	14.14	0.050	0.29
3	21.21	0.075	0.43
4	28.28	0.100	0.55
5	35.35	0.125	0.67
6	42.42	0.150	0.72
7	49.49	0.175	0.81
8	56.56	0.200	0.90
9	63.63	0.225	0.97
10	70.7	0.250	1.07
11	56.56	0.200	1.06
12	49.49	0.175	1.04
13	35.35	0.125	1.00
14	21.21	0.075	0.90
15	1.414	0.005	0.60

Table 2: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.60
16	7.07	0.025	0.69
17	14.14	0.050	0.79
18	21.21	0.075	0.89
19	28.28	0.100	0.94
20	35.35	0.125	0.99
21	42.42	0.150	1.03
22	49.49	0.175	1.08
23	56.56	0.200	1.12
24	63.63	0.225	1.16

Table 3: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.050	0.678
a_1 (mm/(MN/m ²))	6.093	2.990
a_2 (mm/(MN/m ²))	-7.619	-3.239
$E_v = 1.5 \tau / (a_1 + a_2, \sigma_{0,max})$	107.43	206.34
E_v2/E_v1	1.92	

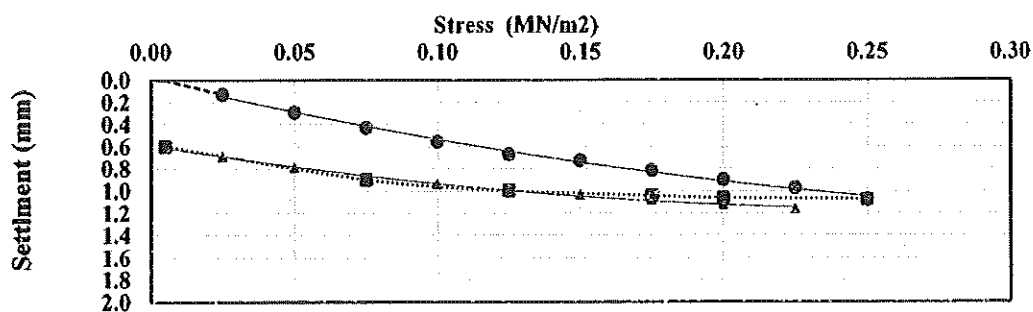




COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

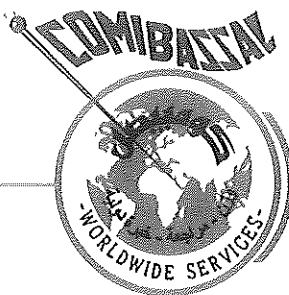


km St(362+240) to St(362+280)

Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Excavation base layer of the electric express train project at location st(362+240) to st(362+280) in accordance to the German standard , DIN 18134 are illustrated in table 4.

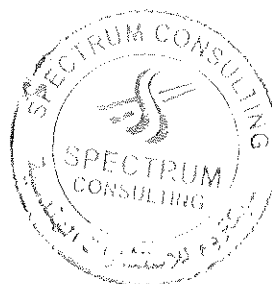
Table 4 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
362+240 : 362+280	107.43	206.34	1.92

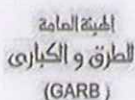
Lab Director
Eman
Eng / Eman Kandil



Geotechnical Consultant
For. Dr. M.
Dr / Mohamed Mostafa Badry



MATERIAL INSPECTION REQUEST



Contractor Company		Al - Qma Co.1 for Contracting (361+800 - 363+000)		Designer Company		(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		24/11/2023 S5-B-QM1-PLT-F-4		1:00 PM						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	25	11	23	13	00

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

Description of Materials	FERMA		
Location to be Used	From	362+280	TO 362+380
MAR & UIR Approval No	S5-B-QM1-IR-F-48	Date	22/11/2023
Supplier Name	ش 3001	Soil + Sand A3	S5-B-QM1-QT-F- 10
Test Requirement	Specification EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No/Yes	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	2	26/11/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result is Approved.	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer



** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



Contractor Company		AI - Qma Co.1 for Contracting (361+800 - 363+000)				Designer Company			(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name		Sign		Date/Serial Number				Time			
	Eng. Mohamed Asayed				24/11/2023		S5-B-QM1-PLT-F-4		1:00 PM			
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM	
				S14	EW	CS	25	11	23	13	00	

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

Description of Materials	FERMA				
Location to be Used	From	362+280	TO	362+380	
MAR & UIR Approval No	S5-B-QM1-IR-F-48	Date	22/11/2023		
Supplier Name	ش 300I	Soil + Sand A3	S5-B-QM1-QT-F- 10		
Test Requirement		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No/Yes	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	2	26/11/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result is Approved.	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2023/11/27	Awe

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Technical report

of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	ELECTRIC EXPRESS TRAIN
Sample	:	UPPER EMBANKMENT
Station	:	ST(362+280) : ST(362+380)
Date of Test	:	26/11/2023
QC	:	2374-2



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Introduction:

The Plate Load test is designed to determine the vertical deformation and strength characteristics of soil by assessing the force and amount of penetration with time when a rigid plate is made to penetrate the soil.

The test to be carried out on the native soil according to German specifications DIN 18134.

Test methods :

- 1- The German standard DIN 18134 was applied to define the apparatus used, the loading system, test conditions, and procedure for plate load test.
- 2- Loading plates with a diameter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffeners with even upper faces parallel to the plate bottom face to allow 300 mm plate to be placed on top of it.
- 3- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which is capable of applying and releasing the load stages.
- 4- The dial gauge used to measure the plate settlement has a resolution of 0.01mm and the lever ratio was equal to 1.
- 5- The temperature at the time of the test was 25°.
- 6- The plate was carried out on a native soil (sand-gravel). The test surface area was levelled and the plate was bedded on this surface.
- 7- The hydraulic jack was placed on the middle of, and at normal to, the loading plate beneath the reaction loading system and secured against tilting.
- 8- The reaction loading system was a heavy multi-purpose excavator (more than 20 ton).

Description of experiment:

- 1- Loading, unloading and reloading regims were applied according to DIN 18134 for the plate load test to estimate the resilient modulus
- 2- Prior to the test, the force transducer and dial gauge were set to zero, after which a load was applied corresponding to a stress of 0.01 MN/m².
- 3- In the first loading cycle, the load was increased until a normal stress of 0.25 MN/m² was reached, and the loading increment was 0.025 MN/m². The load was released in four stages.
- 4- Following unloading, a further second loading cycle was carried out, in which, the load was increased only to the penultimate stage of the first cycle.





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

362+280

600

Table 1: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.08
2	14.14	0.050	0.23
3	21.21	0.075	0.31
4	28.28	0.100	0.38
5	35.35	0.125	0.48
6	42.42	0.150	0.66
7	49.49	0.175	0.75
8	56.56	0.200	0.88
9	63.63	0.225	0.99
10	70.7	0.250	1.07
11	56.56	0.200	1.06
12	49.49	0.175	1.04
13	35.35	0.125	0.97
14	21.21	0.075	0.87
15	1.414	0.005	0.55

Table 2: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.57
16	7.07	0.025	0.65
17	14.14	0.050	0.74
18	21.21	0.075	0.83
19	28.28	0.100	0.90
20	35.35	0.125	0.98
21	42.42	0.150	1.04
22	49.49	0.175	1.10
23	56.56	0.200	1.14
24	63.63	0.225	1.19

Table 3: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0, \max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.013	0.551
a_1 (mm/(MN/m ²))	4.134	4.139
a_2 (mm/(MN ² /m ⁴))	1.172	-5.830
$E\nu = 1.5 \tau / (a_1 + a_2 \cdot \sigma_{0, \max})$	101.66	167.83
$E\nu_2/E\nu_1$	1.65	





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011

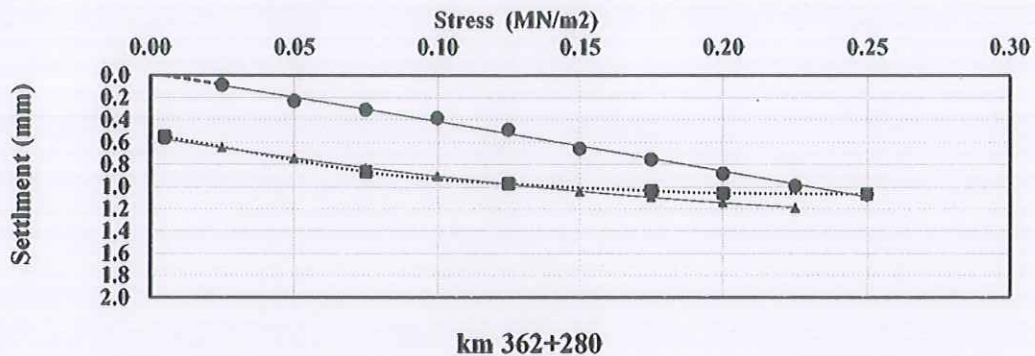


Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

362+380

600

Table 4: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.11
2	14.14	0.050	0.19
3	21.21	0.075	0.28
4	28.28	0.100	0.37
5	35.35	0.125	0.45
6	42.42	0.150	0.62
7	49.49	0.175	0.73
8	56.56	0.200	0.83
9	63.63	0.225	0.94
10	70.7	0.250	1.05
11	56.56	0.200	1.04
12	49.49	0.175	1.02
13	35.35	0.125	0.94
14	21.21	0.075	0.80
15	1.414	0.005	0.37

Table 5: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.37
16	7.07	0.025	0.44
17	14.14	0.050	0.52
18	21.21	0.075	0.59
19	28.28	0.100	0.70
20	35.35	0.125	0.77
21	42.42	0.150	0.84
22	49.49	0.175	0.94
23	56.56	0.200	1.02
24	63.63	0.225	1.08

Table 6: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,MAX})$ MN/m ²	0.250	0.250
a_0 (mm)	0.014	0.348
a_1 (mm/(MN/m ²))	3.336	3.498
a_2 (mm/(MN ² /m ⁴))	3.517	-0.927
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0,MAX})$	106.76	137.76
E_v2/E_v1	1.29	

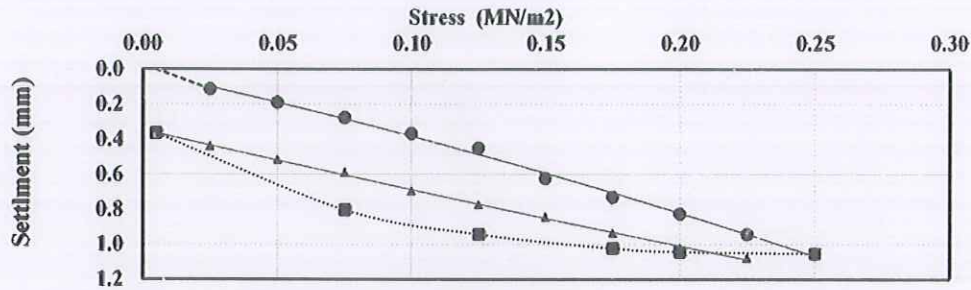




COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011



Km 362+380

Fig. 2: Load-settlement curve, fitting curves according to Table 4 and Table 5 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Upper embankment layer of the electric express train project at location (from 362+280 to 362+380) in accordance to the German standard , DIN 18134 are illustrated in table 7 .

Table 7 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
362+280	101.66	167.83	1.65
362+380	106.76	137.76	1.29

Lab Director

Eng / Eman Kandil

Eman

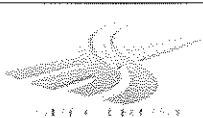
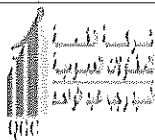


Geotechnical Consultant

For Dr. M. -
Dr / Mohamed Mostafa Badry



MATERIAL INSPECTION REQUEST



الهيئة العامة
للمرور والكباري
(GARB)



Contractor Company	Al - Qma Co.1 for Contracting (361+800 - 363+000)			Designer Company		(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		27/12/2023 S5-B-QM1-PLT-F-5		1:00 PM						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	28	12	23	13	00

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

Description of Materials	FERMA				
Location to be Used	From	362+220	TO	362+280	
MAR & UIR Approval No	S5-B-QM1-IR-F-54		Date	27/12/2023	
Supplier Name	ش 300I		Soil + Sand A3	S5-B-QM1-QT-F- 10	
Test Requirement			Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes		Other		
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	1	30/12/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result is Approved.	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



الهيئة العامة
للمرور والbridges
(GAR B)



الهيئة العامة للتخطيط
والتطوير الاقتصادي
مملكة فلسطين



Contractor Company	Al - Qma Co.1 for Contracting (361+800 - 363+000)			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		27/12/2023	S5-B-QM1-PLT-F-5	1:00 PM						
Received by GAR B CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	28	12	23	13	00

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

Description of Materials	FERMA				
Location to be Used	From	362+220	TO	362+280	
MAR & UIR Approval No	S5-B-QM1-IR-F-54	Date	27/12/2023		
Supplier Name	ش 3001	Soil + Sand A3	S5-B-QM1-QT-F- 10		
Test Requirement		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No/Yes	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	1	30/12/2023	COMIBASSAL
2					
3					
4					

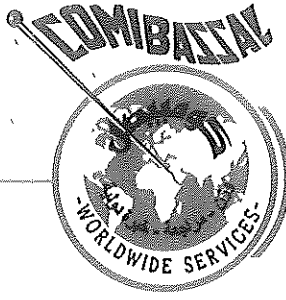
Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result is Approved.	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			Awc

* Designer

** Alignment/Bridges: Culvert only

31/12



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

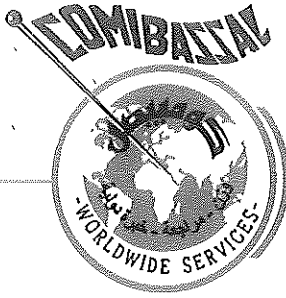
Ferna

362+220 363+280

Technical report

of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	ELECTRIC EXPRESS TRAIN-DRY PORT
Sample	:	Upper Embankment
Station	:	ST(362+220) TO ST(362+280)
Date of Test	:	30/12/2023
QC	:	172-3



COMIBASSAL International Controllers

Internal inspection and laboratories sector

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Introduction:

The Plate Load test is designed to determine the vertical deformation and strength characteristics of soil by assessing the force and amount of penetration with time when a rigid plate is made to penetrate the soil.

The test to be carried out on the native soil according to German specifications DIN 18134.

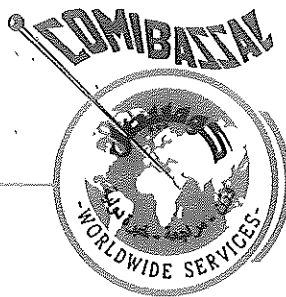
Test methods :

- 1- The German standard DIN 18134 was applied to define the apparatus used, the loading system, test conditions, and procedure for plate load test.
- 2- Loading plates with a diameter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffeners with even upper faces parallel to the plate bottom face to allow 300 mm plate to be placed on top of it.
- 3- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which is capable of applying and releasing the load stages.
- 4- The dial gauge used to measure the plate settlement has a resolution of 0.01mm and the lever ratio was equal to 1.
- 5- The temperature at the time of the test was 25°.
- 6- The plate was carried out on a native soil (sand-gravel). The test surface area was levelled and the plate was bedded on this surface.
- 7- The hydraulic jack was placed on the middle of, and at normal to, the loading plate beneath the reaction loading system and secured against tilting.
- 8- The reaction loading system was a heavy multi-purpose excavator (more than 20 ton).

Description of experiment:

- 1- Loading, unloading and reloading regims were applied according to DIN 18134 for the plate load test to estimate the resilient modulus
- 2- Prior to the test, the force transducer and dial gauge were set to zero, after which a load was applied corresponding to a stress of 0.01 MN/m².
- 3- In the first loading cycle, the load was increased until a normal stress of 0.25 MN/m² was reached, and the loading increment was 0.025 MN/m². The load was released in four stages.
- 4- Following unloading, a further second loading cycle was carried out, in which, the load was increased only to the penultimate stage of the first cycle.





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Internal inspection and laboratories sector

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362+240

600

Table 1: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.08
2	14.14	0.050	0.14
3	21.21	0.075	0.27
4	28.28	0.100	0.37
5	35.35	0.125	0.51
6	42.42	0.150	0.62
7	49.49	0.175	0.73
8	56.56	0.200	0.82
9	63.63	0.225	0.94
10	70.7	0.250	1.04
11	56.56	0.200	1.06
12	49.49	0.175	1.01
13	35.35	0.125	0.92
14	21.21	0.075	0.80
15	1.414	0.005	0.48

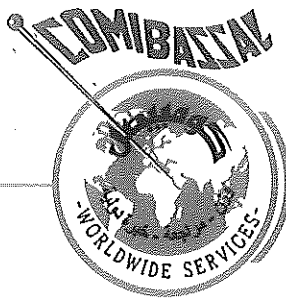
Table 2: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.48
16	7.07	0.025	0.59
17	14.14	0.050	0.71
18	21.21	0.075	0.80
19	28.28	0.100	0.88
20	35.35	0.125	0.95
21	42.42	0.150	1.01
22	49.49	0.175	1.08
23	56.56	0.200	1.13
24	63.63	0.225	1.19

Table 3: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0, \max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.056	0.472
a_1 (mm/(MN/m ²))	4.455	4.764
a_2 (mm/(MN/m ²))	-0.202	-7.203
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0, \max})$	102.17	151.82
E_{v2}/E_{v1}	1.49	





COMIBASSAL International Controllers

Internal inspection and laboratories sector

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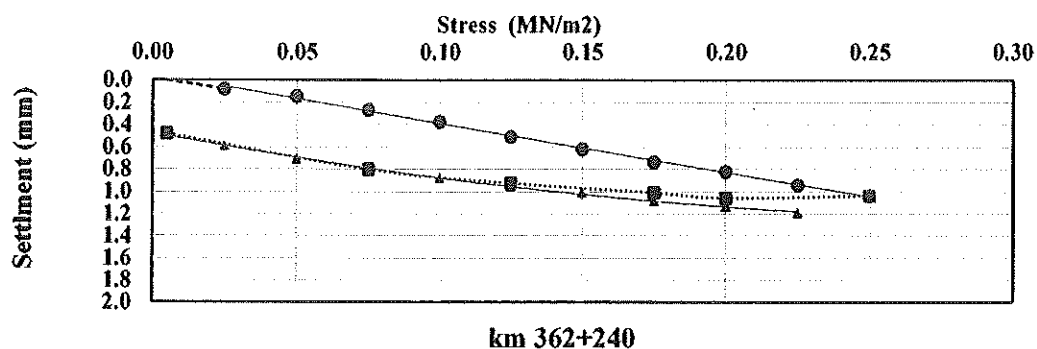
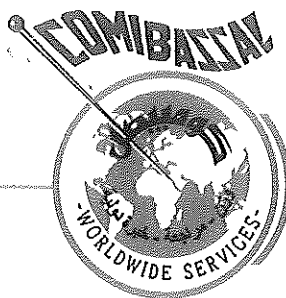


Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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Internal inspection and laboratories sector

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Conclusions:

The present test results which obtained from the plate loading tests of the native soil on upper embankment layer of the electric express train project at location St(362+220) to St(362+280) in accordance to the German standard , DIN 18134 are illustrated in table 4.

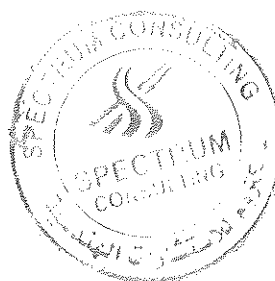
Table 4 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
362+240	102.17	151.82	1.49

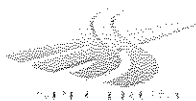
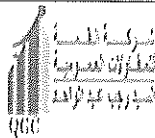
Lab Director *Eman*
Eng / Eman Kandil



Geotechnical Consultant
For Dr. H -
Dr / Mohamed Mostafa Badry



MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق و الجسور
(GARB)



الهيئة العامة للتخطيط
والميزانية
والمالية



Contractor Company	Al - Qma Co.1 for Contracting (361+800 - 363+000)			Designer Company	(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/Serial Number		Time		
	Eng. Mohamed Asayed			28/01/2024	S5-B-QM1-PLT-FF-1-DR	1:00 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM
				S14	EW	CS	29	01
							YY	HH
							24	13
								MM
								00

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

Description of Materials		FILTER				
Location to be Used		From	361+800	TO	361+980	
MAR & UIR Approval No		S5-B-QM1-IR-FF-1-DR		Date	28/01/2024	
Supplier Name			COARSE .AGG.FILTER		S5-B-QM1-QT-FF- 3	
Test Requirement			Specification		EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos		No/Yes		Other		
Item	Description		Unit	Quantity	Arrival Date	Note
1	PLT		NUMBER	2	30/01/2023	COMIBASSAL
2						
3						
4						

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
1-The PLT Test Result is Approved.	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

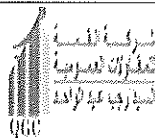
APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

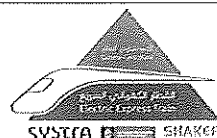
* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



Contractor Company	Al - Qma Co.1 for Contracting (361+800 - 363+000)			Designer Company	(SPECTRUM) Engineering Consulting Office				
Issued by Contractor	Name	Sign		Date/Serial Number		Time			
	Eng. Mohamed Asayed			28/01/2024	SS-B-QM1-PLT-FF-1-DR	1:00 PM			
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY
				S14	EW	CS	29	01	24
							HH	MM	
							13	00	

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

Description of Materials		FILTER				
Location to be Used		From	361+800	TO	361+980	
MAR & UIR Approval No		S5-B-QM1-IR-FF-1-DR		Date	28/01/2024	
		Q1-FF-3			1-9-2023	
Supplier Name				COARSE .AGG.FILTER	S5-B-QM1-QT-FF- 3	
Test Requirement				Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos		No/Yes		Other		
Item	Description		Unit	Quantity	Arrival Date	Note
1	PLT		NUMBER	2	30/01/2023	COMIBASSAL
2						
3						
4						

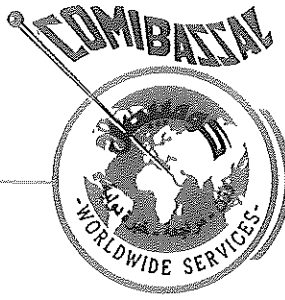
Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
1-The PLT Test Result is Approved.	1-plt was carried- out by out third lab combassal.
	2-Results report attached and acceptable with project specifications.
	3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		30-1-2024	Awc

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

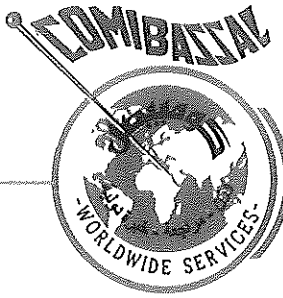
Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

1200
IR FFI DR 361+800 To 980
Cover PLT

Technical report

of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	ELECTRIC EXPRESS TRAIN-DRYPORT
Sample	:	Coarse aggregate Filter
Station	:	ST(361+800) TO ST(361+980)
Date of Test	:	30/01/2024
QC	:	264



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Introduction:

The Plate Load test is designed to determine the vertical deformation and strength characteristics of soil by assessing the force and amount of penetration with time when a rigid plate is made to penetrate the soil.

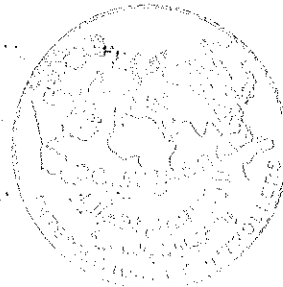
The test to be carried out on the native soil according to German specifications DIN 18134.

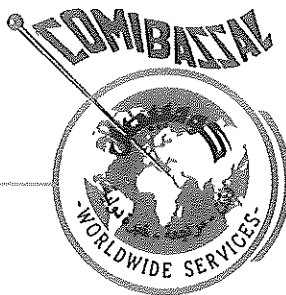
Test methods :

- 1- The German standard DIN 18134 was applied to define the apparatus used, the loading system, test conditions, and procedure for plate load test.
- 2- Loading plates with a diameter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffeners with even upper faces parallel to the plate bottom face to allow 300 mm plate to be placed on top of it.
- 3- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which is capable of applying and releasing the load stages.
- 4- The dial gauge used to measure the plate settlement has a resolution of 0.01mm and the lever ratio was equal to 1.
- 5- The temperature at the time of the test was 25°.
- 6- The plate was carried out on a native soil (sand-gravel). The test surface area was levelled and the plate was bedded on this surface.
- 7- The hydraulic jack was placed on the middle of, and at normal to, the loading plate beneath the reaction loading system and secured against tilting.
- 8- The reaction loading system was a heavy multi-purpose excavator (more than 20 ton).

Description of experiment:

- 1- Loading, unloading and reloading regims were applied according to DIN 18134 for the plate load test to estimate the resilient modulus
- 2- Prior to the test, the force transducer and dial gauge were set to zero, after which a load was applied corresponding to a stress of 0.01 MN/m².
- 3- In the first loading cycle, the load was increased until a normal stress of 0.25 MN/m² was reached, and the loading increment was 0.025 MN/m². The load was released in four stages.
- 4- Following unloading, a further second loading cycle was carried out, in which, the load was increased only to the penultimate stage of the first cycle.





COMIBASSAL International Controllers

Internal inspection and laboratories sector

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361+860

600

Table 1: Measured values for first loading cycle and unloading cycle

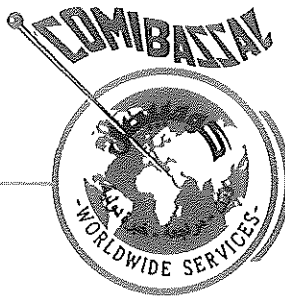
Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.14
2	14.14	0.050	0.27
3	21.21	0.075	0.41
4	28.28	0.100	0.59
5	35.35	0.125	0.79
6	42.42	0.150	1.03
7	49.49	0.175	1.18
8	56.56	0.200	1.27
9	63.63	0.225	1.35
10	70.7	0.250	1.49
11	56.56	0.200	1.47
12	49.49	0.175	1.45
13	35.35	0.125	1.37
14	21.21	0.075	1.23
15	1.414	0.005	0.89

Table 2: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.89
16	7.07	0.025	0.98
17	14.14	0.050	1.08
18	21.21	0.075	1.20
19	28.28	0.100	1.27
20	35.35	0.125	1.34
21	42.42	0.150	1.40
22	49.49	0.175	1.48
23	56.56	0.200	1.53
24	63.63	0.225	1.59

Table 3: Compilation of results

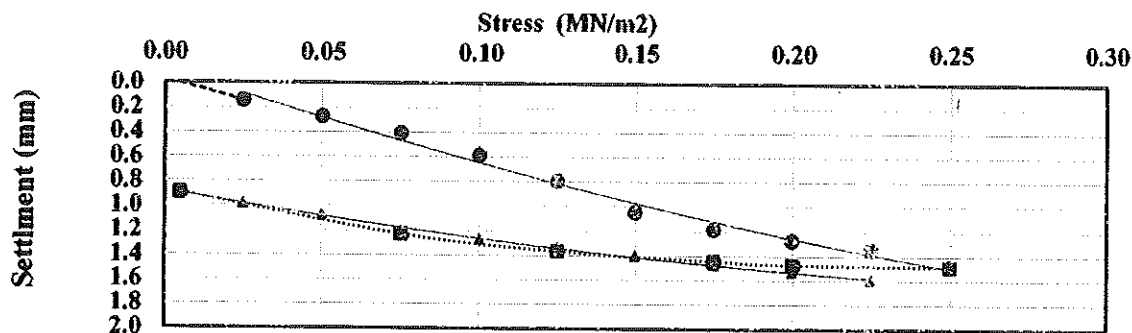
Parameters	1st loading cycle	2nd loading cycle
($\sigma_{\theta, \max}$) MN/m ²	0.250	0.256
a_0 (mm)	-0.122	0.875
a_1 (mm/(MN/m ²))	6.541	4.483
a_2 (mm/(MN ² /m ⁴))	-7.943	-5.921
$E_v = 1.5 \cdot r / (a_1 + a_2 \cdot \sigma_{\theta, \max})$	98.78	149.85
E_{v2}/E_{v1}	1.52	



COMIBASSAL International Controllers

Internal inspection and laboratories sector

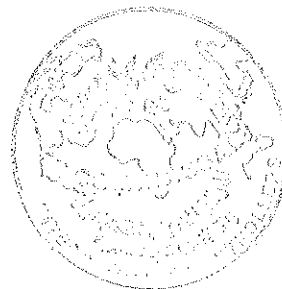
Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

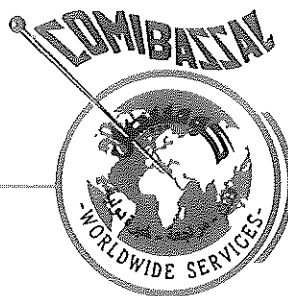


km 361+860

Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

361+940

600

Table 4: Measured values for first loading cycle and unloading cycle

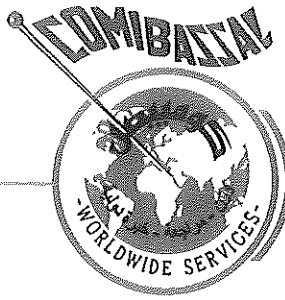
Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.11
2	14.14	0.050	0.21
3	21.21	0.075	0.32
4	28.28	0.100	0.44
5	35.35	0.125	0.55
6	42.42	0.150	0.64
7	49.49	0.175	0.77
8	56.56	0.200	0.95
9	63.63	0.225	1.07
10	70.7	0.250	1.16
11	56.56	0.200	1.14
12	49.49	0.175	1.12
13	35.35	0.125	0.98
14	21.21	0.075	0.85
15	1.414	0.005	0.54

Table 5: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.54
16	7.07	0.025	0.64
17	14.14	0.050	0.72
18	21.21	0.075	0.85
19	28.28	0.100	0.96
20	35.35	0.125	1.07
21	42.42	0.150	1.14
22	49.49	0.175	1.22
23	56.56	0.200	1.28
24	63.63	0.225	1.34

Table 6: Compilation of results

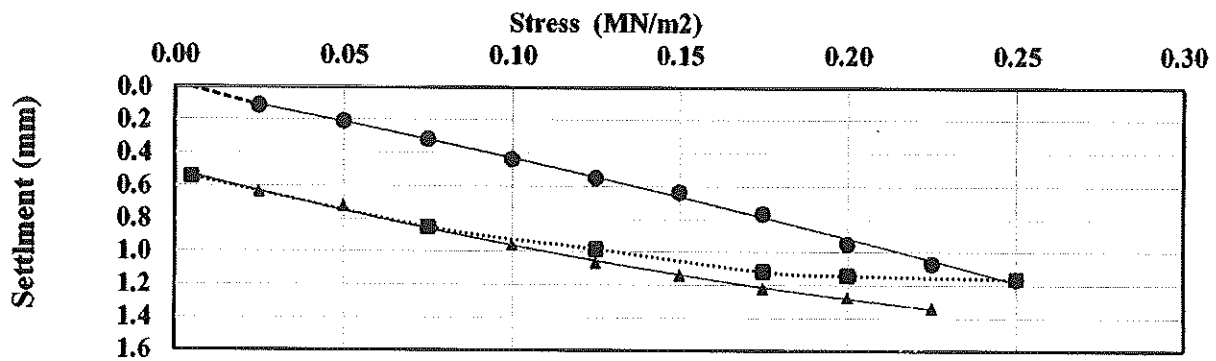
Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0, \max}$) MN/m ²	0.250	0.250
a_0 (mm)	0.009	0.505
a_1 (mm/(MN/m ²))	3.843	5.203
a_2 (mm/(MN ² /m ⁴))	3.456	-6.544
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0, \max})$	95.61	126.14
$E_v/2/E_v1$	1.32	



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011



Km 361+940

Fig. 2: Load-settlement curve, fitting curves according to Table 4 and Table 5 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Coarse aggregate filter of the electric express train-Dryport project at location (from 361+800 to 361+980) in accordance to the German standard , DIN 18134 are illustrated in table 7 .

Table 7 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
361+860	98.78	149.85	1.52
361+940	95.61	126.14	1.32

Lab Director

Eng / Eman Kandil



Geotechnical Consultant

Dr / Mohamed Mostafa Badry



MATERIAL INSPECTION REQUEST						
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Contractor Company		Al - Qma Co.1 for Contracting (361+800 - 363+000)		Designer Company		(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		09/01/2024 S5-B-QM1-PLT-FF-2-D		1:00 PM						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	10	01	24	13	00

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

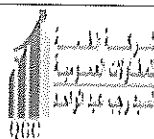
Description of Materials		FILTER			
Location to be Used		From	2+300	TO	2+520
MAR & UIR Approval No		S5-B-QM1-IR-FF-2-D		Date	09/01/2024
Supplier Name		300I		COARSE .AGG.FILTER	S5-B-QM1-QT-FF- 3
Test Requirement		Specification		EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY-CIVECON GROUP	
Reference Photos		No/Yes		Other	
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	2	11/01/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM) <div style="text-align: center;"> </div>	Comments by: Eng. Alaa Abd-Allatif (ER) 1-P.L.T was carried- out by material engineer for both contractor and GARB Consultant (By COMIBASSAL Lab.) 2-Results report attached and acceptable with project specifications. <div style="text-align: center;"> </div>
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APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer
 ** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARDB)



الهيئة العامة للإحصاء
Ministry of Planning
State of Palestine



Contractor Company		Al - Qma Co.1 for Contracting (361+800 - 363+000)		Designer Company		(SPECTRUM) Engineering Consulting Office	
Issued by Contractor	Name	Sign	Date/Serial Number		Time		
	Eng. Mohamed Asayed		09/01/2024 S5-B-QM1-PLT-FF-2-D		1:00 PM		
Received by GARDB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD
				S14	EW	CS	10
				MM	YY	HH	MM
				01	24	13	00

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

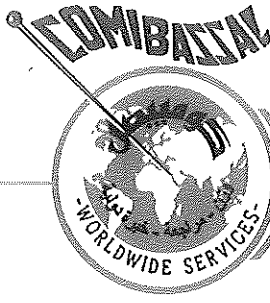
Description of Materials	FILTER				
Location to be Used	From	2+300	TO	2+520	
MAR & UIR Approval No	S5-B-QM1-IR-FF-2-D		Date	09/01/2024	
Supplier Name	ش 3001	COARSE .AGG.FILTER	S5-B-QM1-QT-FF- 3		
Test Requirement		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No/Yes	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	2	11/01/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		11-1-2024	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

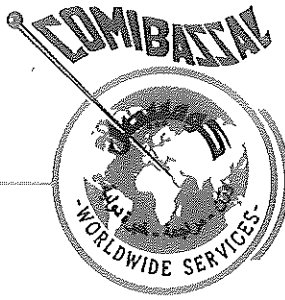
Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

2+300 2+520

Technical report

of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	Diesel
Sample	:	Coarse aggregate Filter
Station	:	ST(2+300) TO ST(2+520)
Date of Test	:	11/01/2024
QC	:	172-5



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Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Introduction:

The Plate Load test is designed to determine the vertical deformation and strength characteristics of soil by assessing the force and amount of penetration with time when a rigid plate is made to penetrate the soil.

The test to be carried out on the native soil according to German specifications DIN 18134.

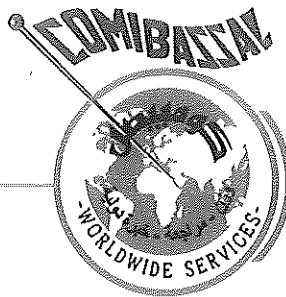
Test methods :

- 1- The German standard DIN 18134 was applied to define the apparatus used, the loading system, test conditions, and procedure for plate load test.
- 2- Loading plates with a diameter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffeners with even upper faces parallel to the plate bottom face to allow 300 mm plate to be placed on top of it.
- 3- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which is capable of applying and releasing the load stages.
- 4- The dial gauge used to measure the plate settlement has a resolution of 0.01mm and the lever ratio was equal to 1.
- 5- The temperature at the time of the test was 25°.
- 6- The plate was carried out on a native soil (sand-gravel). The test surface area was levelled and the plate was bedded on this surface.
- 7- The hydraulic jack was placed on the middle of, and at normal to, the loading plate beneath the reaction loading system and secured against tilting.
- 8- The reaction loading system was a heavy multi-purpose excavator (more than 20 ton).

Description of experiment:

- 1- Loading, unloading and reloading regims were applied according to DIN 18134 for the plate load test to estimate the resilient modulus
- 2- Prior to the test, the force transducer and dial gauge were set to zero, after which a load was applied corresponding to a stress of 0.01 MN/m².
- 3- In the first loading cycle, the load was increased until a normal stress of 0.25 MN/m² was reached, and the loading increment was 0.025 MN/m². The load was released in four stages.
- 4- Following unloading, a further second loading cycle was carried out, in which, the load was increased only to the penultimate stage of the first cycle.





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Internal inspection and laboratories sector

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2+340

600

Table 1: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.14
2	14.14	0.050	0.22
3	21.21	0.075	0.43
4	28.28	0.100	0.67
5	35.35	0.125	0.87
6	42.42	0.150	1.01
7	49.49	0.175	1.21
8	56.56	0.200	1.37
9	63.63	0.225	1.51
10	70.7	0.250	1.65
11	56.56	0.200	1.63
12	49.49	0.175	1.58
13	35.35	0.125	1.46
14	21.21	0.075	1.28
15	1.414	0.005	0.87

Table 2: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.87
16	7.07	0.025	0.97
17	14.14	0.050	1.09
18	21.21	0.075	1.23
19	28.28	0.100	1.36
20	35.35	0.125	1.47
21	42.42	0.150	1.55
22	49.49	0.175	1.65
23	56.56	0.200	1.73
24	63.63	0.225	1.81

Table 3: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0, \text{max}}$) MN/m ²	0.250	0.250
s_0 (mm)	-0.128	0.832
a_1 (mm/(MN/m ²))	8.364	5.856
a_2 (mm/(MN ² /m ⁴))	-4.770	-6.748
$E_v = 1.5 \tau / (a_1 + a_2 \cdot \sigma_{0, \text{max}})$	62.74	107.93
E_{v2}/E_{v1}	1.72	



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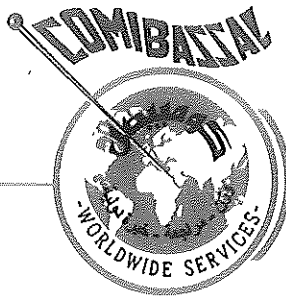


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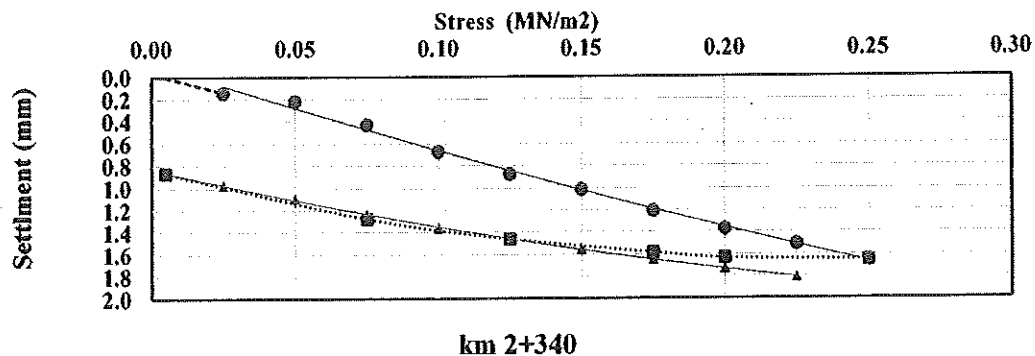
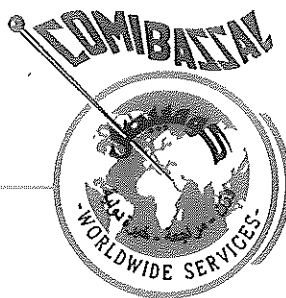


Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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2+420

600

Table 4: Measured values for first loading cycle and unloading cycle

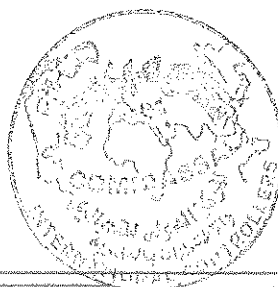
Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.22
2	14.14	0.050	0.34
3	21.21	0.075	0.46
4	28.28	0.100	0.62
5	35.35	0.125	0.78
6	42.42	0.150	1.00
7	49.49	0.175	1.13
8	56.56	0.200	0.95
9	63.63	0.225	1.48
10	70.7	0.250	1.56
11	56.56	0.200	1.54
12	49.49	0.175	1.50
13	35.35	0.125	1.39
14	21.21	0.075	1.25
15	1.414	0.005	0.84

Table 5: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.84
16	7.07	0.025	0.96
17	14.14	0.050	1.06
18	21.21	0.075	1.16
19	28.28	0.100	1.27
20	35.35	0.125	1.35
21	42.42	0.150	1.44
22	49.49	0.175	1.54
23	56.56	0.200	1.63
24	63.63	0.225	1.71

Table 6: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m ²	0.250	0.250
s_0 (mm)	0.086	0.831
a_1 (mm/(MN/m ²))	5.076	4.657
a_2 (mm/(MN/m ²))	2.910	-3.396
$E_v = 1.5 / (a_1 + a_2 \cdot \sigma_{0,max})$	77.54	118.16
E_{v2}/E_{v1}	1.52	



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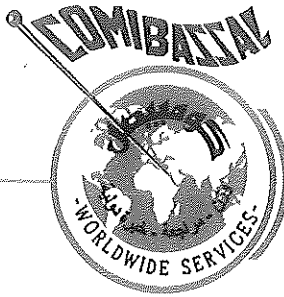


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Internal inspection and laboratories sector

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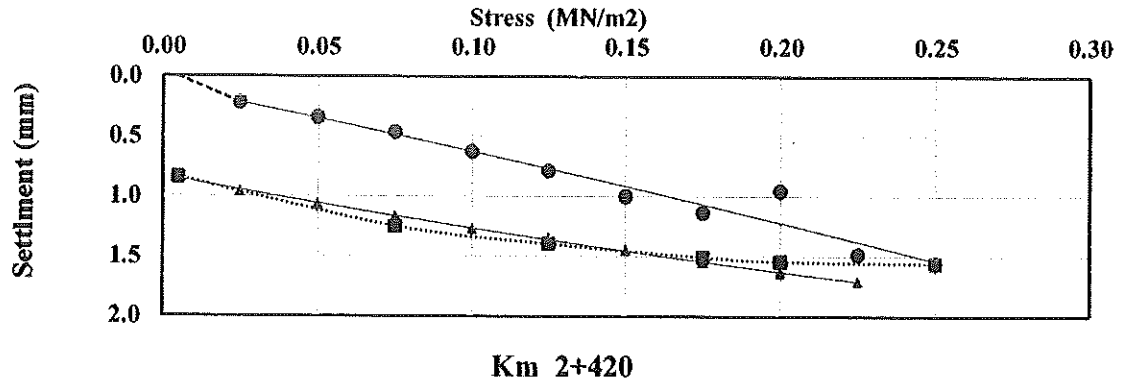
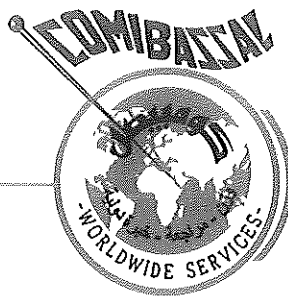


Fig. 2: Load-settlement curve, fitting curves according to Table 4 and Table 5 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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Internal inspection and laboratories sector

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Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Coarse aggregate filter layer of the Diesel project at location (from 2+300 to 2+520) in accordance to the German standard, DIN 18134 are illustrated in table 7 .

Table 7 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
2+340	62.74	107.93	1.72
2+420	77.54	118.16	1.52

Lab Director

Eng / Eman Kandil

Eman



Geotechnical Consultant

For Dr. H.

Dr / Mohamed Mostafa Badry



MATERIAL INSPECTION REQUEST



Contractor Company	AI - Qma Co.1 for Contracting (361+800 - 363+000)			Designer Company	(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/Serial Number		Time		
	Eng. Mohamed Asayed			09/11/2023	S5-B-QM1-PLT-Sb-2DR	1:00 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM
				S14	EW	CS	11	11
								YY
								HH
								MM
								00

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

Description of Materials	SUBBALLAST 2			
Location to be Used	From	362+380	TO	362+520
	S5-B-QM1-IR-SB-2-DR	DATE		08/11/2023
	S5-B-QM1-FDT-SB-1-DR			07/10/2023
Supplier Name	300 ا ش	CRUSHED STONE	S5-B-QM1-QT-SB- 1	
Test Requirement			Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	No/Yes	Other		

Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	6	11/11/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result is Approved.	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



إمينة العامة
للطرق والكباري
(GARB)



الهيئة العامة للإعانة
الهندسة المدنية والبنائية
SYSTRA SHAKER



Contractor Company		Al - Qma Co.1 for Contracting (361+800 - 363+000)		Designer Company		(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		09/11/2023 S5-B-QM1-PLT-Sb-2DR		1:00 PM						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	11	11	23	13	00

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

Description of Materials		SUBBALLAST 2			
Location to be Used		From	362+380	TO	362+520
		S5-B-QM1-IR-SB-2-DR	DATE		08/11/2023
		S5-B-QM1-FDT-SB-1-DR			07/10/2023
Supplier Name		ش 3001	CRUSHED STONE	S5-B-QM1-QT-SB- 1	
Test Requirement			Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos		No/Yes	Other		
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	6	11/11/2023	COMIBASSAL
2					
3					
4					
Comments by: Eng. Mazen Essamy (SPECTRUM)			Comments by: Eng. Alaa Abd-Allatif (ER)		
<p>1-The PLT Test Result is Approved.</p>			1-plt was carried- out by out third lab combassal.		
			2-Results report attached and acceptable with project specifications.		
			3- Final approval is subject to above mentioned comments.		

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			AWC

* Designer

** Alignment/Bridges: Culvert only

13/11



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011

SB-201

Technical report

of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	ELECTRIC EXPRESS TRAIN
Sample	:	sub-ballast (2) - Dryport
Station	:	ST(362+390) : ST(362+515)
Date of Test	:	11/11/2023
QC	:	2297





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Introduction:

The Plate Load test is designed to determine the vertical deformation and strength characteristics of soil by assessing the force and amount of penetration with time when a rigid plate is made to penetrate the soil.

The test to be carried out on the native soil according to German specifications DIN 18134.

Test methods :

- 1- The German standard DIN 18134 was applied to define the apparatus used, the loading system, test conditions, and procedure for plate load test.
- 2- Loading plates with a diameter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffeners with even upper faces parallel to the plate bottom face to allow 300 mm plate to be placed on top of it.
- 3- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which is capable of applying and releasing the load stages.
- 4- The dial gauge used to measure the plate settlement has a resolution of 0.01mm and the lever ratio was equal to 1.
- 5- The temperature at the time of the test was 25°.
- 6- The plate was carried out on a native soil (sand-gravel). The test surface area was levelled and the plate was bedded on this surface.
- 7- The hydraulic jack was placed on the middle of, and at normal to, the loading plate beneath the reaction loading system and secured against tilting.
- 8- The reaction loading system was a heavy multi-purpose excavator (more than 20 ton).

Description of experiment:

- 1- Loading, unloading and reloading regims were applied according to DIN 18134 for the plate load test to estimate the resilient modulus
- 2- Prior to the test, the force transducer and dial gauge were set to zero, after which a load was applied corresponding to a stress of 0.01 MN/m².
- 3- In the first loading cycle, the load was increased until a normal stress of 0.25 MN/m² was reached, and the loading increment was 0.025 MN/m². The load was released in four stages.
- 4- Following unloading, a further second loading cycle was carried out, in which, the load was increased only to the penultimate stage of the first cycle.





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362+390

600

Table 1: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.050	0.11
3	21.21	0.075	0.19
4	28.28	0.100	0.29
5	35.35	0.125	0.42
6	42.42	0.150	0.49
7	49.49	0.175	0.57
8	56.56	0.200	0.68
9	63.63	0.225	0.74
10	70.7	0.250	0.81
11	56.56	0.200	0.80
12	49.49	0.175	0.78
13	35.35	0.125	0.72
14	21.21	0.075	0.58
15	1.414	0.005	0.23

Table 2: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.23
16	7.07	0.025	0.30
17	14.14	0.050	0.38
18	21.21	0.075	0.43
19	28.28	0.100	0.49
20	35.35	0.125	0.56
21	42.42	0.150	0.65
22	49.49	0.175	0.74
23	56.56	0.200	0.84
24	63.63	0.225	0.95

Table 3: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0,max}$) MN/m ²	0.250	0.250
a_0 (mm)	-0.071	0.242
a_1 (mm/(MN/m ²))	3.932	2.044
a_2 (mm/(MN ² /m ⁴))	-1.435	4.758
$E_V = 1.5 r / (a_1 + a_2 \cdot \sigma_{0,MAX})$	125.93	139.20
E_{V2}/E_{V1}	1.11	



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Internal inspection and laboratories sector

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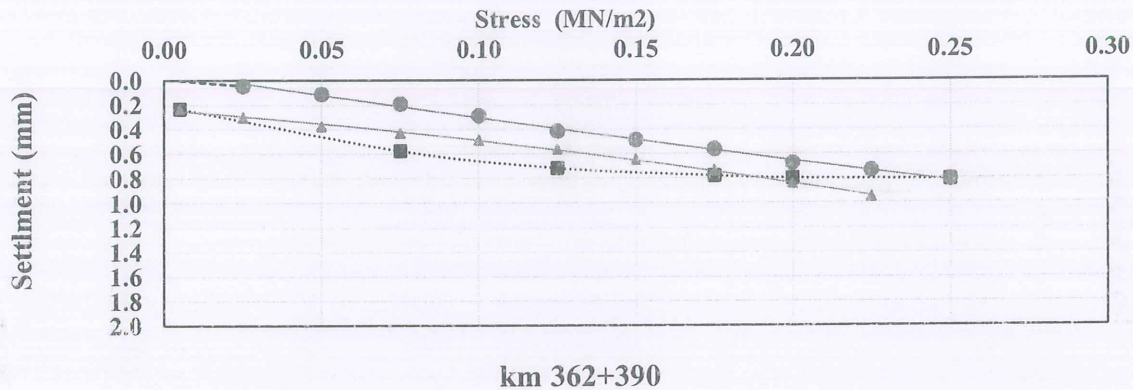


Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

362+415

600

Table 4: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.050	0.17
3	21.21	0.075	0.25
4	28.28	0.100	0.36
5	35.35	0.125	0.48
6	42.42	0.150	0.57
7	49.49	0.175	0.65
8	56.56	0.200	0.73
9	63.63	0.225	0.79
10	70.7	0.250	0.87
11	56.56	0.200	0.86
12	49.49	0.175	0.84
13	35.35	0.125	0.77
14	21.21	0.075	0.62
15	1.414	0.005	0.29

Table 5: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.29
16	7.07	0.025	0.38
17	14.14	0.050	0.48
18	21.21	0.075	0.56
19	28.28	0.100	0.64
20	35.35	0.125	0.71
21	42.42	0.150	0.77
22	49.49	0.175	0.84
23	56.56	0.200	0.88
24	63.63	0.225	0.92

Table 6: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m ²	0.250	0.250
s_0 (mm)	-0.078	0.273
a_1 (mm/(MN/m ²))	4.979	4.283
a_2 (mm/(MN ² /m ⁴))	-4.790	-6.209
$Ev = 1.5 r / (a_1 + a_2 \cdot \sigma_{0,MAX})$	118.99	164.78
$Ev2/Ev1$	1.38	





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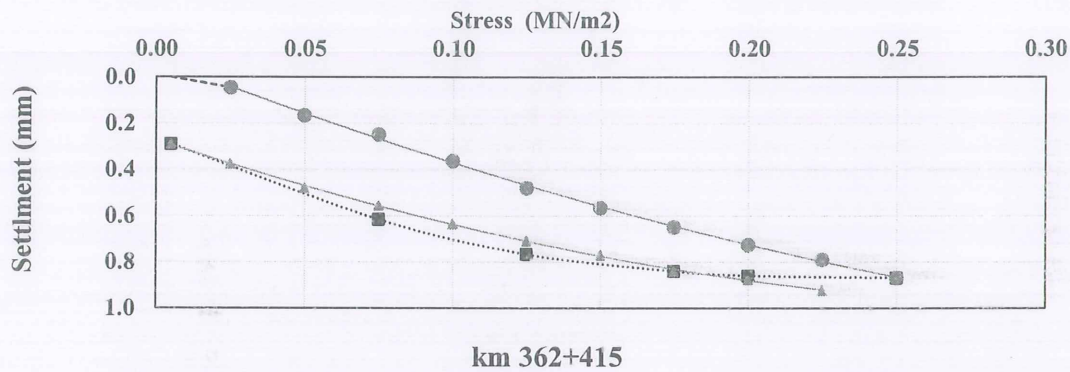


Fig. 2: Load-settlement curve, fitting curves according to Table 4 and Table 5 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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362+440

600

Table 7: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.08
2	14.14	0.050	0.17
3	21.21	0.075	0.28
4	28.28	0.100	0.34
5	35.35	0.125	0.44
6	42.42	0.150	0.56
7	49.49	0.175	0.65
8	56.56	0.200	0.76
9	63.63	0.225	0.88
10	70.7	0.250	0.99
11	56.56	0.200	0.98
12	49.49	0.175	0.96
13	35.35	0.125	0.87
14	21.21	0.075	0.71
15	1.414	0.005	0.42

Table 8: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.42
16	7.07	0.025	0.51
17	14.14	0.050	0.58
18	21.21	0.075	0.68
19	28.28	0.100	0.77
20	35.35	0.125	0.85
21	42.42	0.150	0.90
22	49.49	0.175	0.95
23	56.56	0.200	0.99
24	63.63	0.225	1.05

Table 9: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m ²	0.250	0.250
a_0 (mm)	0.000	0.398
a_1 (mm/(MN/m ²))	3.217	4.292
a_2 (mm/(MN ² /m ⁴))	3.032	-6.335
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0,max})$	113.23	166.16
E_{v2}/E_{v1}	1.47	



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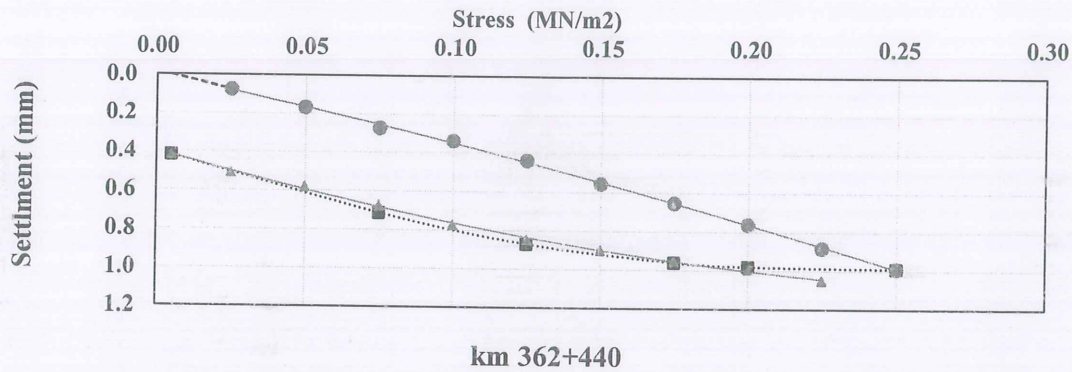


Fig. 3: Load-settlement curve, fitting curves according to Table 7 and Table 8 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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362+465

600

Table 10: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.050	0.11
3	21.21	0.075	0.17
4	28.28	0.100	0.24
5	35.35	0.125	0.31
6	42.42	0.150	0.38
7	49.49	0.175	0.45
8	56.56	0.200	0.52
9	63.63	0.225	0.60
10	70.7	0.250	0.65
11	56.56	0.200	0.64
12	49.49	0.175	0.62
13	35.35	0.125	0.56
14	21.21	0.075	0.42
15	1.414	0.005	0.13

Table 11: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.13
16	7.07	0.025	0.22
17	14.14	0.050	0.30
18	21.21	0.075	0.38
19	28.28	0.100	0.44
20	35.35	0.125	0.51
21	42.42	0.150	0.57
22	49.49	0.175	0.63
23	56.56	0.200	0.68
24	63.63	0.225	0.73

Table 12: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0,max}$) MN/m ²	0.250	0.250
a_0 (mm)	-0.015	0.119
a_1 (mm/(MN/m ²))	2.475	3.745
a_2 (mm/(MN ² /m ⁴))	0.910	-4.680
$E\nu = 1.5 r / (a_1 + a_2 \cdot \sigma_{0,MAX})$	166.50	174.77
$E\nu_2/E\nu_1$	1.05	

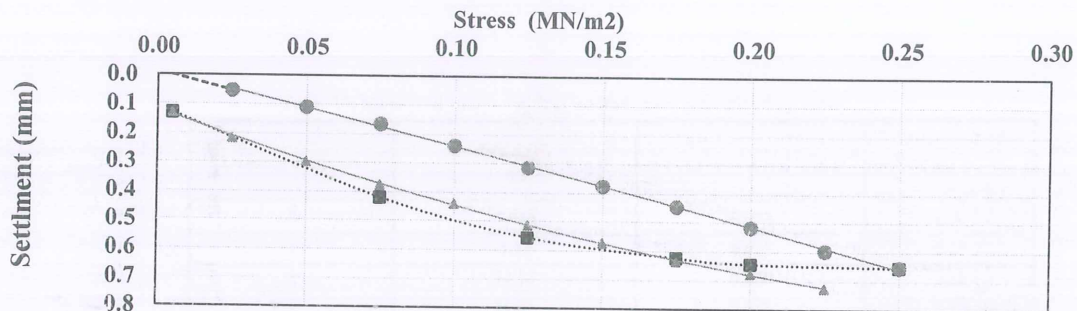




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km 362+465

Fig. 4: Load-settlement curve, fitting curves according to Table 10 and Table 11 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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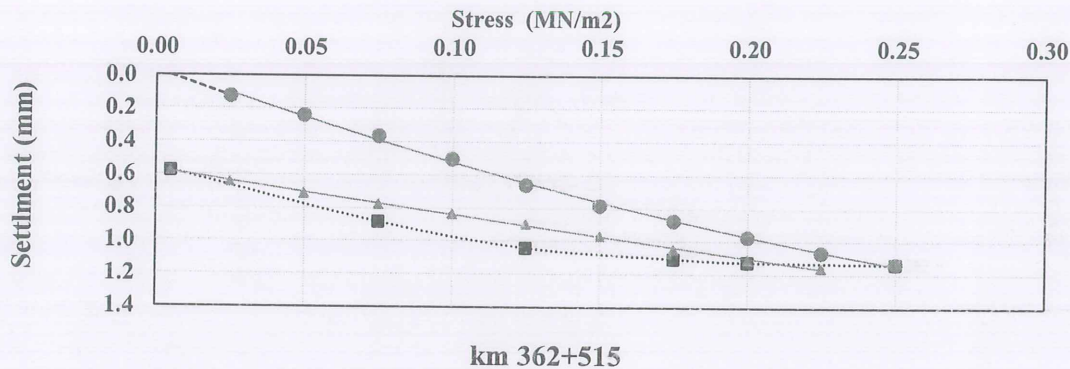


Fig. 6: Load-settlement curve, fitting curves according to Table 16 and Table 17 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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Conclusions:

The present test results which obtained from the plate loading tests of the native soil on sub-ballast layer(2) of the electric express train project at location from km (362+390) to km (362+515) in accordance to the German standard , DIN 18134 are illustrated in table 19 .

Table 19 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
362+390	125.93	139.20	1.11
362+415	118.99	164.78	1.38
362+440	113.23	166.16	1.47
362+465	166.50	174.77	1.05
362+490	141.09	159.41	1.13
362+515	94.13	171.29	1.82

Lab Director

Eng / Eman Kandil

Eman

Geotechnical Consultant



Dr / Mohamed Mostafa Badry

For Dr. M.



MATERIAL INSPECTION REQUEST



Contractor Company	AI - Qma Co.1 for Contracting (361+800 - 363+000)				Designer Company				(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/Serial Number				Time				
	Eng. Mohamed Asayed			14/11/2023		S5-B-QM1-PLT-Sb-4DR		1:00 PM				
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM	
				S14	EW	CS	15	11	23	13	00	

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

Description of Materials	SUBBALLAST 2			
Location to be Used	From	362+520	TO	362+660
	S5-B-QM1-IR-SB-4-DR	DATE	13/11/2023	
	S5-B-QM1-FDT-SB-1-DR		07/10/2023	
Supplier Name	ش 3001	CRUSHED STONE	S5-B-QM1-QT-SB- 1	
Test Requirement		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes	Other		

Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	5	18/11/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result is Approved.	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma Co.1 for Contracting (361+800 - 363+000)				Designer Company				(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign	Date/Serial Number				Time					
	Eng. Mohamed Asayed		14/11/2023 S5-B-QM1-PLT-Sb-4DR				1:00 PM					
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	MM	
				S14	EW	CS	15	11	23	13	00	

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

Description of Materials	SUBBALLAST 2			
Location to be Used	From	362+520	TO	362+660
	S5-B-QM1-IR-SB-4-DR	DATE		13/11/2023
	S5-B-QM1-FDT-SB-1-DR			07/10/2023
Supplier Name	300I ش	CRUSHED STONE	S5-B-QM1-QT-SB- 1	
Test Requirement		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes	Other		

Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	5	18/11/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result is Approved	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2023/11/19	Awe

* Designer

** Alignment/Bridges: Culvert only



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Internal inspection and laboratories sector

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Technical report

of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	ELECTRIC EXPRESS TRAIN-DRY PORT
Sample	:	Sub-Ballast (2)
Station	:	ST(362+520) : ST(362+660)
Date of Test	:	18/11/2023
QC	:	2374-1



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Introduction:

The Plate Load test is designed to determine the vertical deformation and strength characteristics of soil by assessing the force and amount of penetration with time when a rigid plate is made to penetrate the soil.

The test to be carried out on the native soil according to German specifications DIN 18134.

Test methods :

- 1- The German standard DIN 18134 was applied to define the apparatus used, the loading system, test conditions, and procedure for plate load test.
- 2- Loading plates with a diameter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffeners with even upper faces parallel to the plate bottom face to allow 300 mm plate to be placed on top of it.
- 3- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which is capable of applying and releasing the load stages.
- 4- The dial gauge used to measure the plate settlement has a resolution of 0.01mm and the lever ratio was equal to 1.
- 5- The temperature at the time of the test was 25°.
- 6- The plate was carried out on a native soil (sand-gravel). The test surface area was levelled and the plate was bedded on this surface.
- 7- The hydraulic jack was placed on the middle of, and at normal to, the loading plate beneath the reaction loading system and secured against tilting.
- 8- The reaction loading system was a heavy multi-purpose excavator (more than 20 ton).

Description of experiment:

- 1- Loading, unloading and reloading regims were applied according to DIN 18134 for the plate load test to estimate the resilient modulus
- 2- Prior to the test, the force transducer and dial gauge were set to zero, after which a load was applied corresponding to a stress of 0.01 MN/m².
- 3- In the first loading cycle, the load was increased until a normal stress of 0.25 MN/m² was reached, and the loading increment was 0.025 MN/m². The load was released in four stages.
- 4- Following unloading, a further second loading cycle was carried out, in which, the load was increased only to the penultimate stage of the first cycle.





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362+540

600

Table 1: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.04
2	14.14	0.050	0.09
3	21.21	0.075	0.13
4	28.28	0.100	0.19
5	35.35	0.125	0.27
6	42.42	0.150	0.33
7	49.49	0.175	0.39
8	56.56	0.200	0.46
9	63.63	0.225	0.55
10	70.7	0.250	0.63
11	56.56	0.200	0.62
12	49.49	0.175	0.60
13	35.35	0.125	0.53
14	21.21	0.075	0.40
15	1.414	0.005	0.16

Table 2: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.16
16	7.07	0.025	0.21
17	14.14	0.050	0.27
18	21.21	0.075	0.32
19	28.28	0.100	0.36
20	35.35	0.125	0.42
21	42.42	0.150	0.46
22	49.49	0.175	0.53
23	56.56	0.200	0.58
24	63.63	0.225	0.63

Table 3: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0, \max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.003	0.155
a_1 (mm/(MN/m ²))	1.658	2.149
a_2 (mm/(MN ² /m ⁴))	3.517	-0.162
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0, \max})$	177.36	213.40
E_v2/E_v1	1.20	

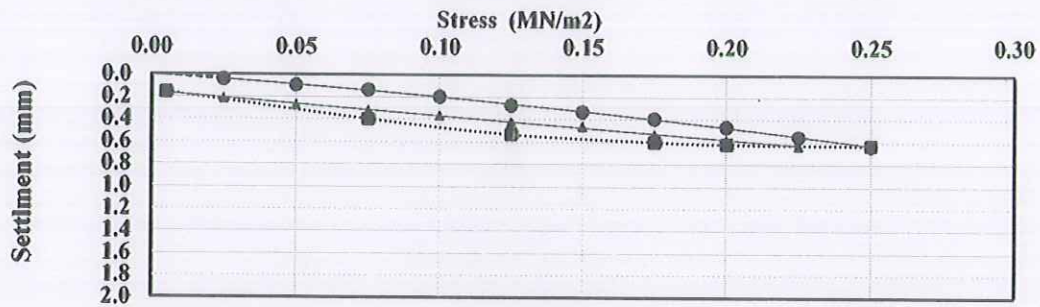




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km 362+540

Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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362+560

600

Table 4: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.10
2	14.14	0.050	0.18
3	21.21	0.075	0.26
4	28.28	0.100	0.37
5	35.35	0.125	0.43
6	42.42	0.150	0.58
7	49.49	0.175	0.70
8	56.56	0.200	0.79
9	63.63	0.225	0.86
10	70.7	0.250	0.94
11	56.56	0.200	0.93
12	49.49	0.175	0.91
13	35.35	0.125	0.84
14	21.21	0.075	0.72
15	1.414	0.005	0.37

Table 5: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.37
16	7.07	0.025	0.43
17	14.14	0.050	0.48
18	21.21	0.075	0.55
19	28.28	0.100	0.60
20	35.35	0.125	0.67
21	42.42	0.150	0.77
22	49.49	0.175	0.85
23	56.56	0.200	0.91
24	63.63	0.225	0.96

Table 6: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0, \max}$) MN/m ²	0.250	0.250
a_0 (mm)	-0.027	0.356
a_1 (mm/(MN/m ²))	4.238	2.478
a_2 (mm/(MN ² /m ⁴))	-1.192	1.192
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0, \max})$	114.21	162.12
E_v2/E_v1	1.42	

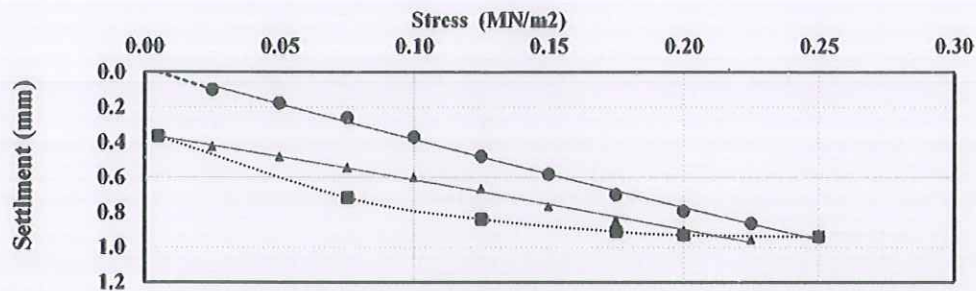




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km 362+560

Fig. 2: Load-settlement curve, fitting curves according to Table 4 and Table 5 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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362+580

600

Table 7: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.12
2	14.14	0.050	0.19
3	21.21	0.075	0.26
4	28.28	0.100	0.35
5	35.35	0.125	0.44
6	42.42	0.150	0.51
7	49.49	0.175	0.59
8	56.56	0.200	0.67
9	63.63	0.225	0.74
10	70.7	0.250	0.82
11	56.56	0.200	0.81
12	49.49	0.175	0.79
13	35.35	0.125	0.68
14	21.21	0.075	0.56
15	1.414	0.005	0.25

Table 8: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.25
16	7.07	0.025	0.32
17	14.14	0.050	0.34
18	21.21	0.075	0.43
19	28.28	0.100	0.50
20	35.35	0.125	0.56
21	42.42	0.150	0.65
22	49.49	0.175	0.73
23	56.56	0.200	0.80
24	63.63	0.225	0.85

Table 9: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0, max}$) MN/m ²	0.250	0.250
a_0 (mm)	0.030	0.237
a_1 (mm/(MN/m ²))	3.276	2.527
a_2 (mm/(MN/m ²))	-0.465	1.194
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0, max})$	142.42	159.25
E_v2/E_v1	1.12	





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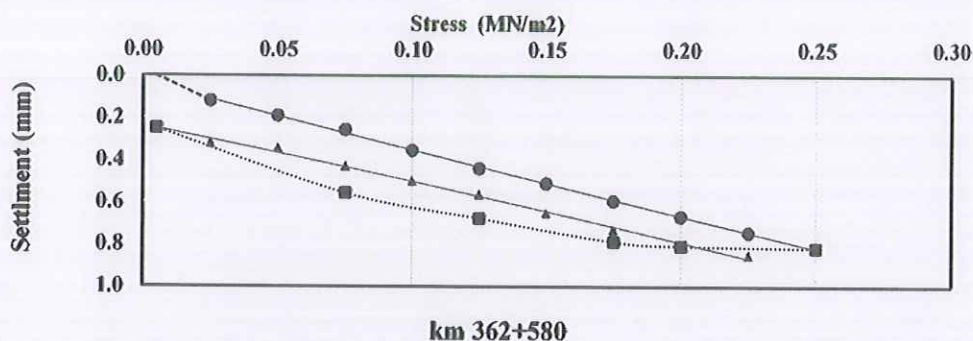


Fig. 3: Load-settlement curve, fitting curves according to Table 7 and Table 8 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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362+600

600

Table 10: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.050	0.13
3	21.21	0.075	0.21
4	28.28	0.100	0.28
5	35.35	0.125	0.37
6	42.42	0.150	0.45
7	49.49	0.175	0.51
8	56.56	0.200	0.60
9	63.63	0.225	0.68
10	70.7	0.250	0.76
11	56.56	0.200	0.75
12	49.49	0.175	0.73
13	35.35	0.125	0.66
14	21.21	0.075	0.55
15	1.414	0.005	0.16

Table 11: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.16
16	7.07	0.025	0.24
17	14.14	0.050	0.31
18	21.21	0.075	0.40
19	28.28	0.100	0.47
20	35.35	0.125	0.54
21	42.42	0.150	0.60
22	49.49	0.175	0.66
23	56.56	0.200	0.72
24	63.63	0.225	0.76

Table 12: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0,max}$) MN/m ²	0.250	0.250
a_0 (mm)	-0.026	0.147
a_1 (mm/(MN/m ²))	3.107	3.601
a_2 (mm/(MN ² /m ⁴))	0.121	-3.775
$E_v = 1.5 \tau / (a_1 + a_2 \cdot \sigma_{0,max})$	143.45	169.36
E_v2/E_v1	1.18	





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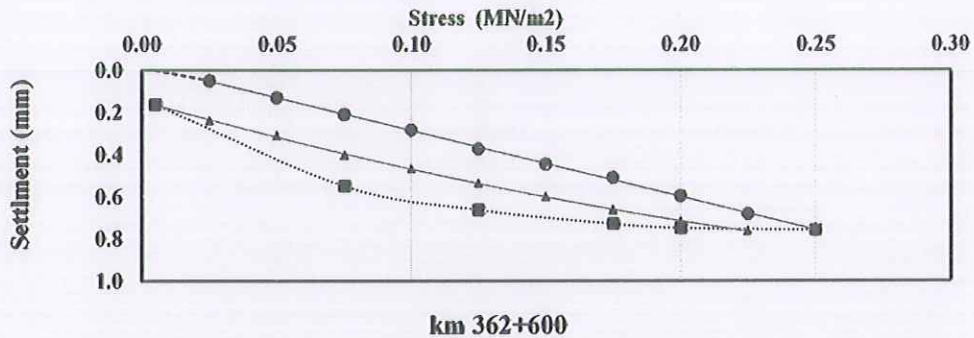


Fig. 4: Load-settlement curve, fitting curves according to Table 10 and Table 11 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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Internal inspection and laboratories sector

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362+620

600

Table 13: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.050	0.12
3	21.21	0.075	0.18
4	28.28	0.100	0.25
5	35.35	0.125	0.32
6	42.42	0.150	0.39
7	49.49	0.175	0.46
8	56.56	0.200	0.54
9	63.63	0.225	0.63
10	70.7	0.250	0.72
11	56.56	0.200	0.71
12	49.49	0.175	0.69
13	35.35	0.125	0.61
14	21.21	0.075	0.51
15	1.414	0.005	0.25

Table 14: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.25
16	7.07	0.025	0.32
17	14.14	0.050	0.39
18	21.21	0.075	0.45
19	28.28	0.100	0.52
20	35.35	0.125	0.58
21	42.42	0.150	0.64
22	49.49	0.175	0.68
23	56.56	0.200	0.71
24	63.63	0.225	0.75

Table 15: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0, max}$) MN/m ²	0.250	0.250
a_0 (mm)	0.0022	0.230
a_1 (mm/(MN/m ²)))	2.188	3.415
a_2 (mm/(MN ² /m ⁴)))	2.749	-4.899
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0, MAX})$	156.53	205.43
E_v2/E_v1	1.31	





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Internal inspection and laboratories sector

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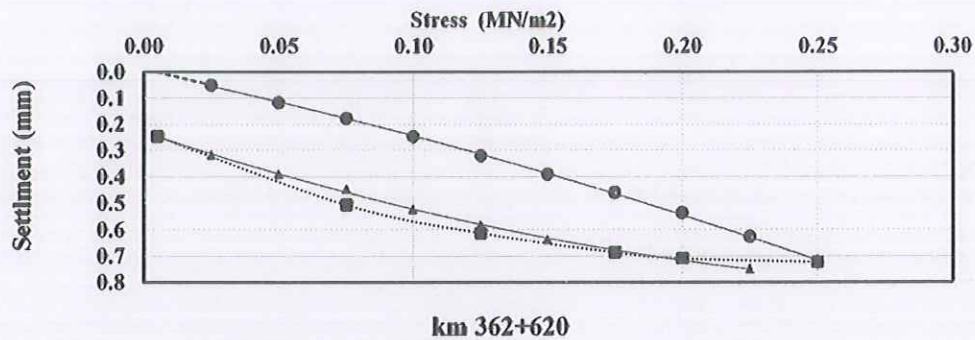


Fig. 5: Load-settlement curve, fitting curves according to Table 13 and Table 14 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Sub-ballast (2) layer of the electric express train project at location (from km 362+520) to km (362+660) in accordance to the German standard , DIN 18134 are illustrated in table 16 .

Table 16 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
362+540	177.36	213.40	1.20
362+560	114.21	162.12	1.42
362+580	142.42	159.25	1.12
362+600	143.45	169.36	1.18
362+620	156.53	205.43	1.31

Lab Director

Eng / Eman Kandil

Eman



Geotechnical Consultant

Dr / Mohamed Mostafa Badry

For. DR. M.



MATERIAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GAR B)



الهيئة العامة للطرق والكباري
SPECTRUM



Contractor Company	Al - Qma Co.1 for Contracting (361+800 - 363+000)			Designer Company	(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/Serial Number		Time		
	Eng. Mohamed Asayed			14/01/2024	S5-B-QM1-PLT-Sb-9	1:00 PM		
Received by GAR B CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM
				S14	EW	CS	15	01
								YY
								HH
								MM
								00

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

Description of Materials	SUBBALLAST 2				
Location to be Used	From	362+280	TO	362+380	
	S5-B-QM1-IR-SB-9	DATE		10/01/2024	
	S5-B-QM1-FDT-SB-8			12/12/2023	
Supplier Name	300I ش	CRUSHED STONE	S5-B-QM1-QT-SB- 2		
Test Requirement		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	No/Yes	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	4	16/01/2024	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
1-The PLT Test Result is Approved.	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma Co.1 for Contracting (361+800 - 363+000)			Designer Company	(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/Serial Number		Time		
	Eng. Mohamed Asayed			14/01/2024	S5-B-QM1-PLT-Sb-9	1:00 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM
				S14	EW	CS	15	01
								YY
								HH
								MM
								00

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

Description of Materials	SUBBALLAST 2				
Location to be Used	From	362+280	TO	362+380	
	S5-B-QM1-IR-SB-9	DATE		10/01/2024	
	S5-B-QM1-FDT-SB-8			12/12/2023	
Supplier Name	300I ش	CRUSHED STONE		S5-B-QM1-QT-SB- 2	
Test Requirement		Specification		EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes	Other			

Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	4	16/01/2024	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
1-The PLT Test Result is Approved	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2024 17/01	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

362 + 280 / 362+380

Technical report

of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	ELECTRIC EXPRESS TRAIN
Sample	:	Sub-ballast (2)
Station	:	ST(362+280) TO ST(362+380)
Date of Test	:	16/01/2024
QC	:	172-6



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Introduction:

The Plate Load test is designed to determine the vertical deformation and strength characteristics of soil by assessing the force and amount of penetration with time when a rigid plate is made to penetrate the soil.

The test to be carried out on the native soil according to German specifications DIN 18134.

Test methods :

- 1- The German standard DIN 18134 was applied to define the apparatus used, the loading system, test conditions, and procedure for plate load test.
- 2- Loading plates with a diameter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffeners with even upper faces parallel to the plate bottom face to allow 300 mm plate to be placed on top of it.
- 3- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which is capable of applying and releasing the load stages.
- 4- The dial gauge used to measure the plate settlement has a resolution of 0.01mm and the lever ratio was equal to 1.
- 5- The temperature at the time of the test was 25°.
- 6- The plate was carried out on a native soil (sand-gravel). The test surface area was levelled and the plate was bedded on this surface.
- 7- The hydraulic jack was placed on the middle of, and at normal to, the loading plate beneath the reaction loading system and secured against tilting.
- 8- The reaction loading system was a heavy multi-purpose excavator (more than 20 ton).

Description of experiment:

- 1- Loading, unloading and reloading regims were applied according to DIN 18134 for the plate load test to estimate the resilient modulus
- 2- Prior to the test, the force transducer and dial gauge were set to zero, after which a load was applied corresponding to a stress of 0.01 MN/m².
- 3- In the first loading cycle, the load was increased until a normal stress of 0.25 MN/m² was reached, and the loading increment was 0.025 MN/m². The load was released in four stages.
- 4- Following unloading, a further second loading cycle was carried out, in which, the load was increased only to the penultimate stage of the first cycle.





COMIBASSAL International Controllers

Internal inspection and laboratories sector

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362+300

600

Table 1: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.050	0.12
3	21.21	0.075	0.22
4	28.28	0.100	0.30
5	35.35	0.125	0.40
6	42.42	0.150	0.52
7	49.49	0.175	0.62
8	56.56	0.200	0.70
9	63.63	0.225	0.81
10	70.7	0.250	0.86
11	56.56	0.200	0.85
12	49.49	0.175	0.84
13	35.35	0.125	0.80
14	21.21	0.075	0.65
15	1.414	0.005	0.31

Table 2: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.31
16	7.07	0.025	0.41
17	14.14	0.050	0.50
18	21.21	0.075	0.59
19	28.28	0.100	0.68
20	35.35	0.125	0.76
21	42.42	0.150	0.82
22	49.49	0.175	0.85
23	56.56	0.200	0.88
24	63.63	0.225	0.92

Table 3: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.064	0.285
a_1 (mm/(MN/m ²))	3.879	4.843
a_2 (mm/(MN ² /m ⁴))	-0.364	-9.024
$E_v = 1.5 \cdot r / (a_1 + a_2 \cdot \sigma_{0,max})$	118.81	173.89
E_v2/E_v1	1.46	



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Tel: 002 033920176 - 002 033931482

Fax :002 033900476

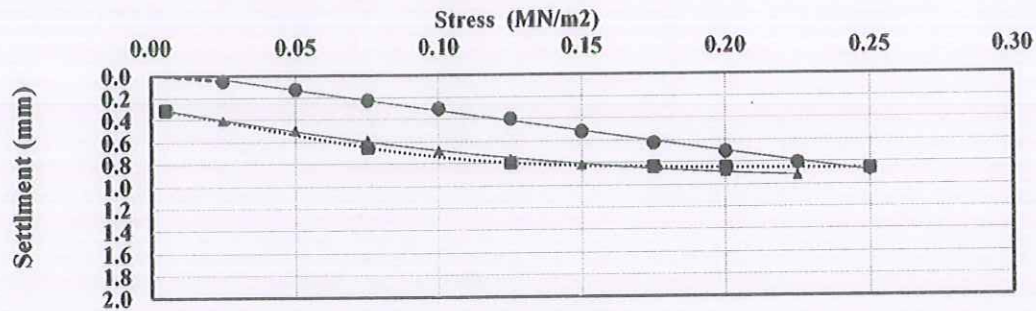
Email : internal-inspection@comibassal.com



COMIBASSAL International Controllers

Internal inspection and laboratories sector

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km 362+300

Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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Internal inspection and laboratories sector

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362+325

600

Table 4: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.10
2	14.14	0.050	0.18
3	21.21	0.075	0.33
4	28.28	0.100	0.51
5	35.35	0.125	0.61
6	42.42	0.150	0.69
7	49.49	0.175	0.77
8	56.56	0.200	0.85
9	63.63	0.225	0.92
10	70.7	0.250	0.98
11	56.56	0.200	0.97
12	49.49	0.175	0.96
13	35.35	0.125	0.85
14	21.21	0.075	0.70
15	1.414	0.005	0.37

Table 5: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.37
16	7.07	0.025	0.46
17	14.14	0.050	0.53
18	21.21	0.075	0.60
19	28.28	0.100	0.68
20	35.35	0.125	0.75
21	42.42	0.150	0.82
22	49.49	0.175	0.89
23	56.56	0.200	0.95
24	63.63	0.225	1.00

Table 6: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.088	0.358
a_1 (mm/(MN/m ²))	6.611	3.559
a_2 (mm/(MN ² /m ⁴))	-9.398	-3.098
$EV = 1.5 r / (a_1 + a_2 \cdot \sigma_{0,max})$	105.58	161.60
$Ev2/Ev1$	1.53	





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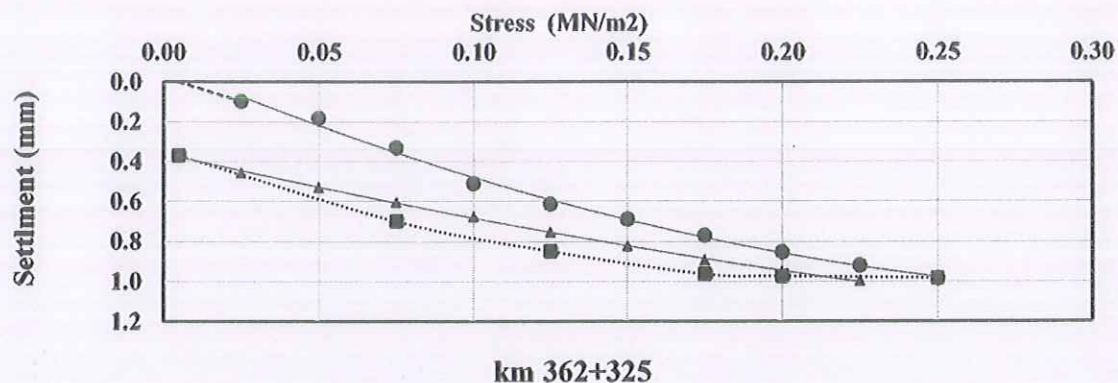


Fig. 2: Load-settlement curve, fitting curves according to Table 4 and Table 5 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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Internal inspection and laboratories sector

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362+350

600

Table 7: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.050	0.13
3	21.21	0.075	0.21
4	28.28	0.100	0.30
5	35.35	0.125	0.38
6	42.42	0.150	0.46
7	49.49	0.175	0.57
8	56.56	0.200	0.64
9	63.63	0.225	0.74
10	70.7	0.250	0.82
11	56.56	0.200	0.81
12	49.49	0.175	0.80
13	35.35	0.125	0.70
14	21.21	0.075	0.55
15	1.414	0.005	0.27

Table 8: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.27
16	7.07	0.025	0.36
17	14.14	0.050	0.44
18	21.21	0.075	0.53
19	28.28	0.100	0.61
20	35.35	0.125	0.67
21	42.42	0.150	0.72
22	49.49	0.175	0.77
23	56.56	0.200	0.82
24	63.63	0.225	0.86

Table 9: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0, \max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.027	0.256
a_1 (mm/(MN/m ²))	3.143	4.120
a_2 (mm/(MN ² /m ⁴))	1.051	-6.490
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0, \max})$	132.14	180.17
E_{v2}/E_{v1}	1.36	





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Internal inspection and laboratories sector

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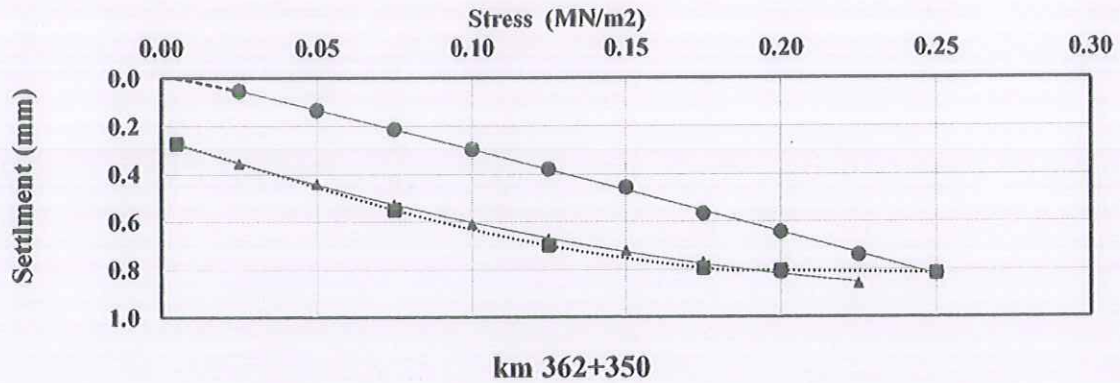


Fig. 3: Load-settlement curve, fitting curves according to Table 7 and Table 8 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





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Internal inspection and laboratories sector

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362+375

600

Table 10: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.050	0.13
3	21.21	0.075	0.23
4	28.28	0.100	0.32
5	35.35	0.125	0.44
6	42.42	0.150	0.54
7	49.49	0.175	0.62
8	56.56	0.200	0.70
9	63.63	0.225	0.78
10	70.7	0.250	0.86
11	56.56	0.200	0.85
12	49.49	0.175	0.84
13	35.35	0.125	0.75
14	21.21	0.075	0.60
15	1.414	0.005	0.28

Table 11: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.28
16	7.07	0.025	0.36
17	14.14	0.050	0.44
18	21.21	0.075	0.56
19	28.28	0.100	0.60
20	35.35	0.125	0.66
21	42.42	0.150	0.73
22	49.49	0.175	0.78
23	56.56	0.200	0.84
24	63.63	0.225	0.90

Table 12: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.072	0.266
a_1 (mm/(MN/m ²))	4.327	3.805
a_2 (mm/(MN ² /m ⁴))	-2.365	-4.604
$E_v = 1.5 \cdot r / (a_1 + a_2 \cdot \sigma_{0,max})$	120.46	169.56
E_v2/E_v1	1.41	





COMIBASSAL International Controllers

Internal inspection and laboratories sector

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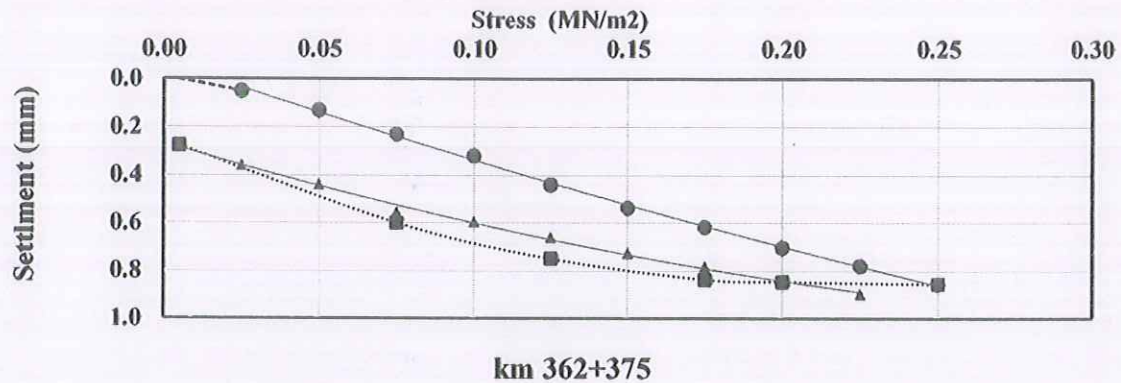


Fig. 4: Load-settlement curve, fitting curves according to Table 10 and Table 11 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Conclusions:

The present test results which obtained from the plate loading tests of the native soil on sub-ballast layer (2) of the electric express train project at location (from km 362+280 to km 362+380) in accordance to the German standard , DIN 18134 are illustrated in table 13 .

Table 13 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
362+300	118.81	173.89	1.46
362+325	105.58	161.60	1.53
362+350	132.14	180.17	1.36
362+375	120.46	169.56	1.41

Lab Director

Eng / Eman Kandil

Eman



Geotechnical Consultant

For: Dr. H.

Dr / Mohamed Mostafa Badry



MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma Co.1 for Contracting (361+800 - 363+000)			Designer Company	(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/Serial Number		Time		
	Eng. Mohamed Asayed			05/12/2023	S5-B-QM1-PLT-SG-9	1:00 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM
				S14	EW	CS	06	12
								YY
								HH
								MM
								00

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

Description of Materials		SUBGRADE 2				
Location to be Used		From	362+280	TO	362+380	
MAR & UIR Approval No		S5-B-QM1-IR-SG-9	Date		02/12/2023	
		S5-B-QM1-FDT-SG-8			30/11/2023	
Supplier Name		ش 3001	COARSE		S5-B-QM1-QT-SG- 2	
Test Requirement			Specification		EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos		No/Yes	Other			
Item	Description		Unit	Quantity	Arrival Date	Note
1	PLT		NUMBER	4	07/12/2023	COMIBASSAL
2						
3						
4						

Comments by: Eng. Mazen Essamy (SPECTRUM)

Comments by: Eng. Alaa Abd-Allatif (ER)

1-The PLT Test Result is Approved.

1-plt was carried- out by out third lab combassal.

2-Results report attached and acceptable with project specifications.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Contractor Company	Al - Qma Co.1 for Contracting (361+800 - 363+000)			Designer Company	(SPECTRUM) Engineering Consulting Office			
Issued by Contractor	Name	Sign		Date/Serial Number		Time		
	Eng. Mohamed Asayed			05/12/2023	S5-B-QM1-PLT-SG-9	1:00 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM
				S14	EW	CS	06	12
								YY
								HH
								MM
								00

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

Description of Materials	SUBGRADE 2				
Location to be Used	From	362+280	TO	362+380	
MAR & UIR Approval No	S5-B-QM1-IR-SG-9	Date		02/12/2023	
	S5-B-QM1-FDT-SG-8			30/11/2023	
Supplier Name	ش 300I	COARSE		S5-B-QM1-QT-SG- 2	
Test Requirement		Specification		EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos	No/Yes	Other			

Item	Description	Unit	Quantity	Arrival Date	Note
1	PLT	NUMBER	4	07/12/2023	COMIBASSAL
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
 1-The PLT Test Result, is Approved.	1-plt was carried- out by out third lab combassal. 2-Results report attached and acceptable with project specifications. 3- Final approval is subject to above mentioned comments.

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2023 08/12	A

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Plt subgrade 2

362+280 362+380

Technical report

of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	ELECTRIC EXPRESS TRAIN
Sample	:	Prepared Subgrade (2)
Station	:	S(362+280) TO ST(362+380)
Date of Test	:	7/12/2023
QC	:	2485



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egyptian General Authority for Petroleum under No. 34/29-11-2011

Introduction:

The Plate Load test is designed to determine the vertical deformation and strength characteristics of soil by assessing the force and amount of penetration with time when a rigid plate is made to penetrate the soil.

The test to be carried out on the native soil according to German specifications DIN 18134.

Test methods :

- 1- The German standard DIN 18134 was applied to define the apparatus used, the loading system, test conditions, and procedure for plate load test.
- 2- Loading plates with a diameter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffeners with even upper faces parallel to the plate bottom face to allow 300 mm plate to be placed on top of it.
- 3- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which is capable of applying and releasing the load stages.
- 4- The dial gauge used to measure the plate settlement has a resolution of 0.01mm and the lever ratio was equal to 1.
- 5- The temperature at the time of the test was 25°.
- 6- The plate was carried out on a native soil (sand-gravel). The test surface area was levelled and the plate was bedded on this surface.
- 7- The hydraulic jack was placed on the middle of, and at normal to, the loading plate beneath the reaction loading system and secured against tilting.
- 8- The reaction loading system was a heavy multi-purpose excavator (more than 20 ton).

Description of experiment:

- 1- Loading, unloading and reloading regims were applied according to DIN 18134 for the plate load test to estimate the resilient modulus
- 2- Prior to the test, the force transducer and dial guage were set to zero, after which a load was applied corresponding to a stress of 0.01 MN/m².
- 3- In the first loading cycle, the load was increased until a normal stress of 0.25 MN/m² was reached, and the loading increaement was 0.025 MN/m². The load was released in four stages.
- 4- Following unloading, a further second loading cycle was carried out, in which, the load was increased only to the penultimate stage of the first cycle.





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

St (362+300)

600

Table 1: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.050	0.21
3	21.21	0.075	0.31
4	28.28	0.100	0.40
5	35.35	0.125	0.47
6	42.42	0.150	0.65
7	49.49	0.175	0.77
8	56.56	0.200	0.87
9	63.63	0.225	0.97
10	70.7	0.250	1.09
11	56.56	0.200	1.07
12	49.49	0.175	1.05
13	35.35	0.125	0.96
14	21.21	0.075	0.65
15	1.414	0.005	0.40

Table 2: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.40
16	7.07	0.025	0.65
17	14.14	0.050	0.75
18	21.21	0.075	0.82
19	28.28	0.100	0.90
20	35.35	0.125	0.95
21	42.42	0.150	0.99
22	49.49	0.175	1.02
23	56.56	0.200	1.11
24	63.63	0.225	1.16

Table 3: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.045	0.462
a_1 (mm/(MN/m ²))	4.515	5.358
a_2 (mm/(MN ² /m ⁴))	0.101	-10.739
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0,max})$	99.10	168.29
E_v2/E_v1	1.70	





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

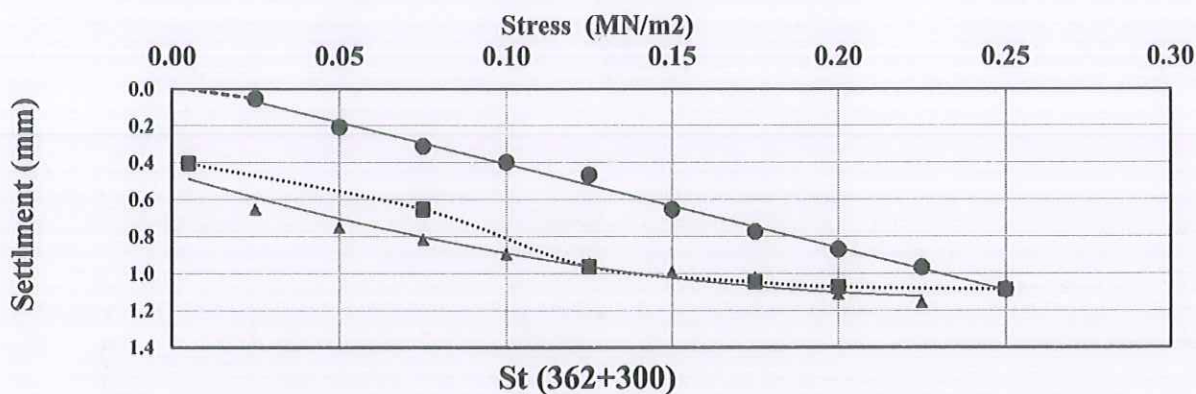


Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

St (362+320)

600

Table 4: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.09
2	14.14	0.050	0.26
3	21.21	0.075	0.38
4	28.28	0.100	0.49
5	35.35	0.125	0.60
6	42.42	0.150	0.70
7	49.49	0.175	0.81
8	56.56	0.200	0.95
9	63.63	0.225	1.04
10	70.7	0.250	1.11
11	56.56	0.200	1.09
12	49.49	0.175	1.05
13	35.35	0.125	0.88
14	21.21	0.075	0.48
15	1.414	0.005	0.27

Table 5: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.27
16	7.07	0.025	0.53
17	14.14	0.050	0.67
18	21.21	0.075	0.79
19	28.28	0.100	0.87
20	35.35	0.125	0.93
21	42.42	0.150	0.97
22	49.49	0.175	1.02
23	56.56	0.200	1.08
24	63.63	0.225	1.12

Table 6: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m ²	0.250	0.250
a_0 (mm)	-0.024	0.309
a_1 (mm/(MN/m ²))	5.513	7.222
a_2 (mm/(MN ² /m ⁴))	-3.800	-16.805
$E_v = 1.5 \text{ r} / (a_1 + a_2 \cdot \sigma_{0,max})$	98.60	148.92
E_v2/E_v1	1.51	





COMIBASSAL International Controllers

Internal inspection and laboratories sector

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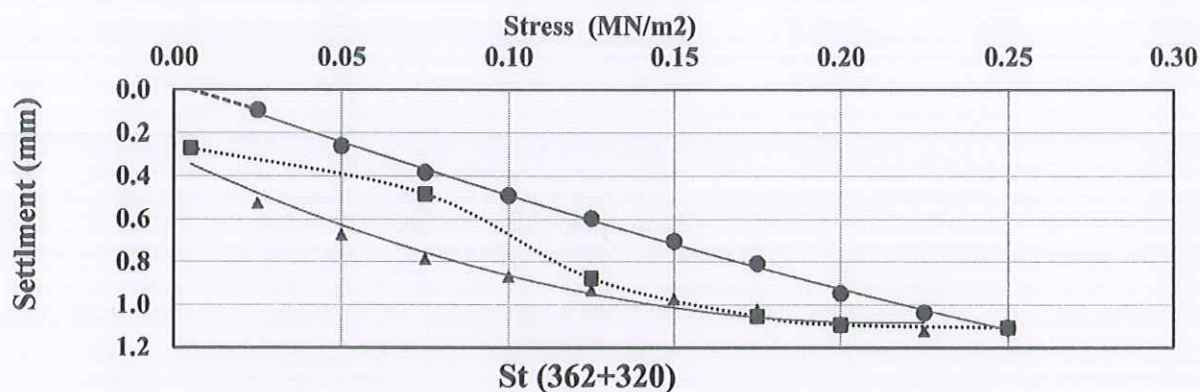


Fig. 2: Load-settlement curve, fitting curves according to Table 4 and Table 5 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

St (362+340)

600

Table 7: Measured values for first loading cycle and unloading cycle

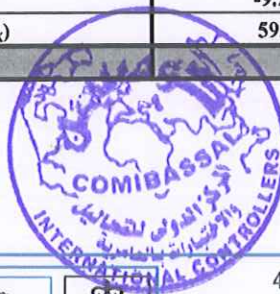
Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.07
2	14.14	0.050	0.37
3	21.21	0.075	0.51
4	28.28	0.100	0.78
5	35.35	0.125	0.98
6	42.42	0.150	1.12
7	49.49	0.175	1.31
8	56.56	0.200	1.38
9	63.63	0.225	1.60
10	70.7	0.250	1.77
11	56.56	0.200	1.74
12	49.49	0.175	1.60
13	35.35	0.125	1.25
14	21.21	0.075	0.91
15	1.414	0.005	0.64

Table 8: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.64
16	7.07	0.025	1.07
17	14.14	0.050	1.23
18	21.21	0.075	1.36
19	28.28	0.100	1.46
20	35.35	0.125	1.55
21	42.42	0.150	1.72
22	49.49	0.175	1.69
23	56.56	0.200	1.76
24	63.63	0.225	1.83

Table 9: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0,max}$) MN/m ²	0.250	0.250
a_0 (mm)	-0.137	0.722
a_1 (mm/(MN/m ²))	9.818	9.996
a_2 (mm/(MN ² /m ⁴))	-9.256	-23.508
$E_v = 1.5 r / (a_1 + a_2 \cdot \sigma_{0,max})$	59.96	109.21
E_v2/E_v1	1.82	





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

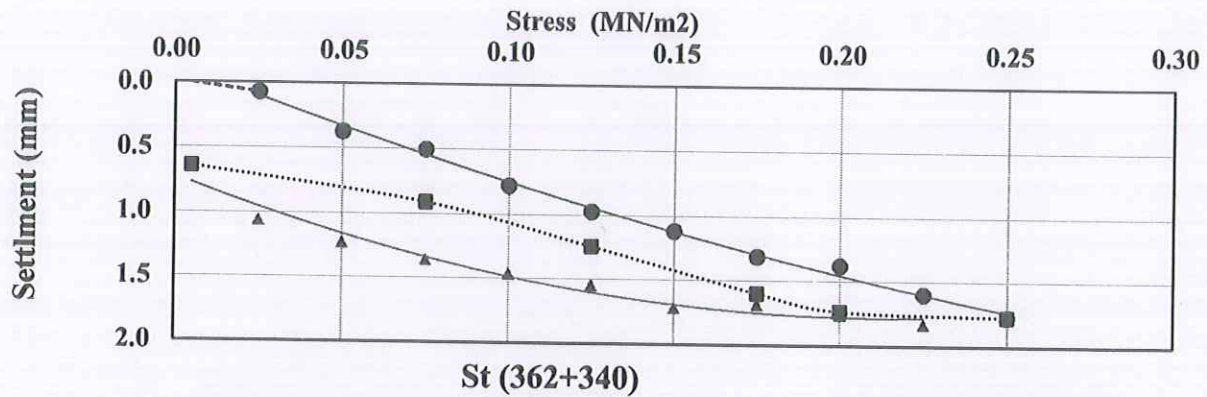


Fig. 3: Load-settlement curve, fitting curves according to Table 7 and Table 8 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

St (362+360)

600

Table 10: Measured values for first loading cycle and unloading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.11
2	14.14	0.050	0.20
3	21.21	0.075	0.30
4	28.28	0.100	0.42
5	35.35	0.125	0.57
6	42.42	0.150	0.65
7	49.49	0.175	0.72
8	56.56	0.200	0.82
9	63.63	0.225	0.92
10	70.7	0.250	0.99
11	56.56	0.200	0.98
12	49.49	0.175	0.97
13	35.35	0.125	0.88
14	21.21	0.075	0.59
15	1.414	0.005	0.44

Table 11: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (σ_0) MN/m ²	Settlement of loading plate S (mm)
15	1.414	0.005	0.44
16	7.07	0.025	0.70
17	14.14	0.050	0.78
18	21.21	0.075	0.85
19	28.28	0.100	0.91
20	35.35	0.125	0.94
21	42.42	0.150	0.98
22	49.49	0.175	1.02
23	56.56	0.200	1.05
24	63.63	0.225	1.10

Table 12: Compilation of results

Parameters	1st loading cycle	2nd loading cycle
($\sigma_{0,max}$) MN/m ²	0.250	0.250
a_0 (mm)	-0.031	0.503
a_1 (mm/(MN/m ²))	5.033	5.243
a_2 (mm/(MN ² /m ⁴))	-3.699	-12.295
$Ev = 1.5 r / (a_1 + a_2 \cdot \sigma_{0,max})$	109.53	207.38
$Ev2/Ev1$	1.89	





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

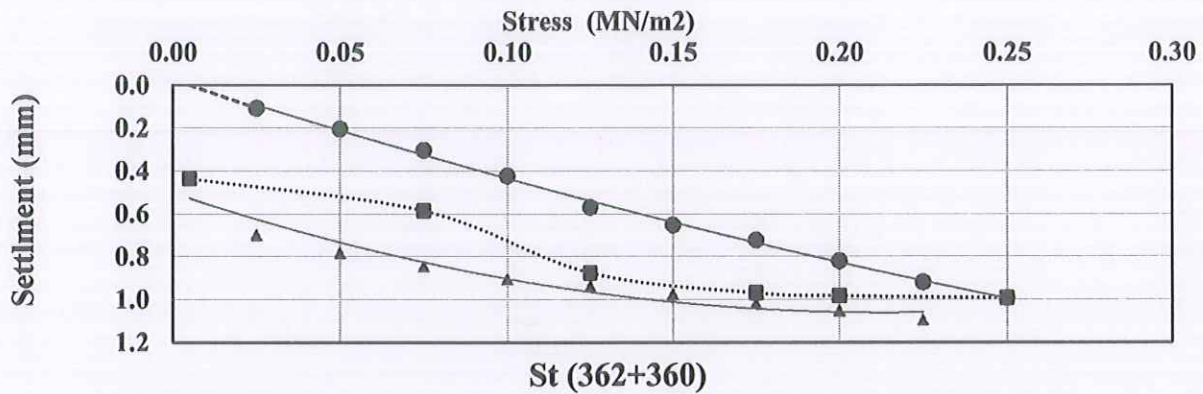


Fig. 4: Load-settlement curve, fitting curves according to Table 10 and Table 11 for the first and second loading cycles

- Measurement points from the first loading cycle
- Measurement points from the unloading cycle
- ▲ Measurement points from the second loading cycle
- S Settlement in mm
- σ_0 Normal stress MN/m²





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Conclusions:

The present test results which were obtained via the plate loading tests of the native soil on prepared subgrade (2) layer of the electric express train project at location from St(362+280) to St (388+380) in accordance to the German standard , DIN 18134 are illustrated in table 13 .

Table 13 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
St (362+300)	99.10	168.29	1.70
St (362+320)	98.60	148.92	1.51
St (362+340)	59.96	109.21	1.82
St (362+360)	109.53	207.38	1.89

Lab Director

Eng / Eman Kandil

Eman



Geotechnical Consultant

Dr / Mohamed Mostafa Badry

Mohamed





Serial No.
QT
(1)



شركة القصة
للمقاولات المعمومية
السيد رجب عبد الواحد

مكتب أ.د/ عماد نبيل
Electrical Express Train From Borg Alarab to Alamein
From Station 325+393 To Station 394+600



Date
1/11/2022

Material Inspection Request

We request your attendance to inspect the following works :

Discipline : ☒ Material submittal ☐ Field Density Test ☐ Plate load test

Location :	Zone	From Station	To Station
	AL-QMA	362+380	362+580
References	IR- Survey No. (C-1)		
	Specification: EET L1.1.Earthworks Specifications and Testing Report		

Purpose of the inspection

1. Earthworks

- ☐ Natural Sub Grade ☐ Sub Ballast
☐ Upper Embankment ☐ Ballast
☐ L / M Embankment ☒ excavation

Attachments

1-Quality test result for bed excavation	2-
3-	4-
5-	6-

Works To be Inspected

Quality Tests For Bed Excavation by COMIBASSIL lab

Submitted by: AI-QMA CO. for Contracting

Signature:

GARP Consultant Engineer's Comments :

Date of Inspection:- / /

The quality test of bed of excavation is ok.

The works are : ☒ Approved (A) ☐ Approved as Noted (B) ☐ Revised & Resubmit (C) ☐ Rejected (D)

Name: Hazen Esamy

Signature:

General Consultant's Comments:

Date:- / /

1- one sample was selected for Quality Test
 2- Quality Test was carried out by third party Lab (Comibassil)
 3- Result attached and found acceptable and comply with the spec
 4- final approval is subject to above mentioned comments

The works are : ☒ Approved (A) ☐ Approved as Noted (B) ☐ Revised & Resubmit (C) ☐ Rejected (D)

Name: Alaa Abdellatef

Signature:

GARP Engineer's Comments:

Date:- 01/11/

Name:

Signature:

General Consultant Eng.

GARP Eng.



COMIBASSAL International Controllers

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٠١١/١١٠٢٩/٣٤

PARTICLE SIZE DISTRIBUTION ANALYSIS

ASTM C136 & AASHTO T27- (Drying Samples)

PROJECT:

Electric Express Train

DATE: 27/10/2022

General Consultant :- SYSTRA

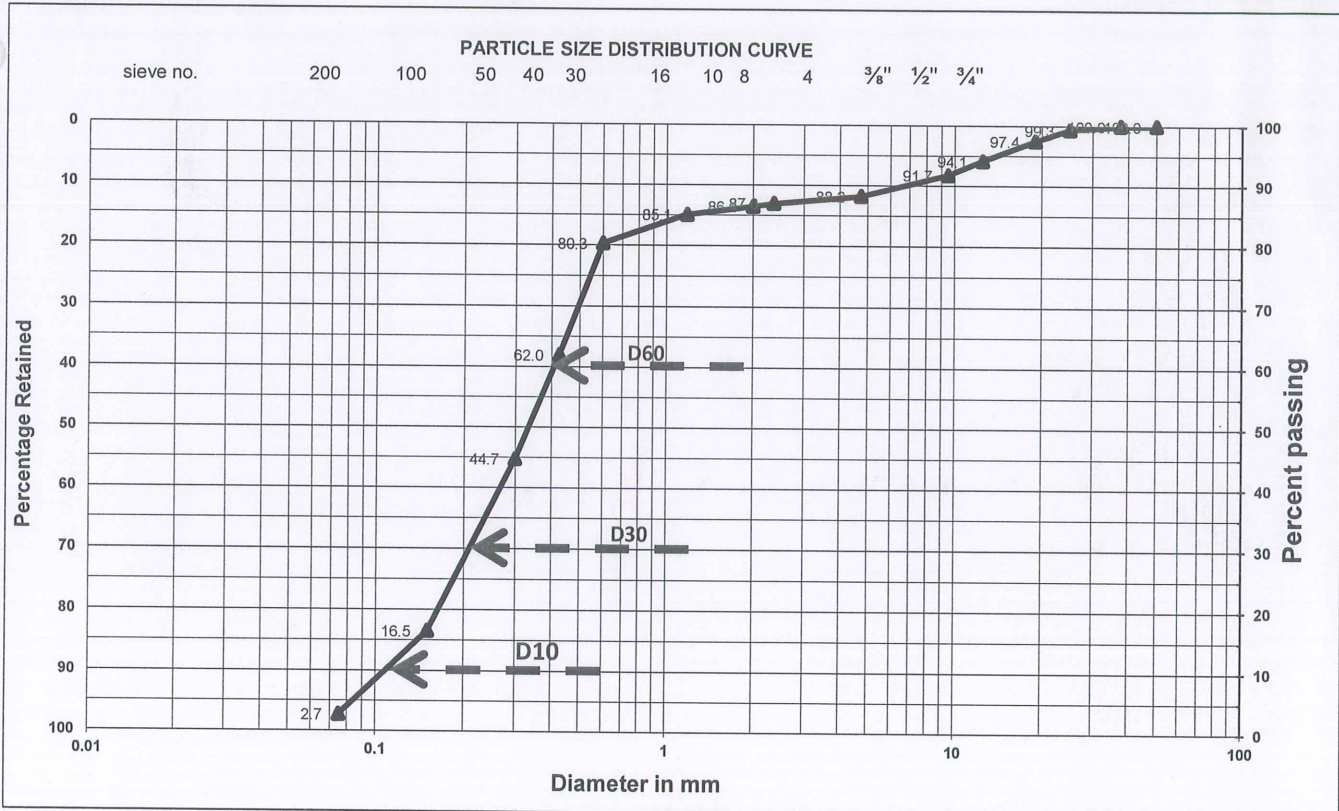
Consultant :- SPECTRUM

CONTRACTOR: شركة القمة

Material / Source of Soil :-

قاع حفر

LAB. REF. Q.C.1501/1



CLAY and SILT (Fines)		SAND			GRAVEL	COBBLES
2.7		85.5			11.8	
SAMPLE No.	DEPTH (m)	MOISTURE (%)	LL (%)	PI (%)	CLASS	SOIL DESCRIPTION
قاع حفر				N.P.	A-3 (0)	Poorly graded Sand (SP)
D10= 0.12	D30= 0.21 D60= 0.40	Cu = D60/D10= 3.33 Cc = (D30)^2/(D10*D60)= 0.92				
Remarks:	AASHTO (T87) SOIL CALSSIFICATION SYSTEM			A-3 (0)	Fine Sand	
Soil Classification:	ASTM (D421) SOIL CALSSIFICATION SYSTE			Poorly graded Sand (SP)		

Tested By :

Mostafa

Checked By : Eng. Eman E. Kandil

Eman



COMIBASSAL International Controllers

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفنيش الداخلي والمعامل

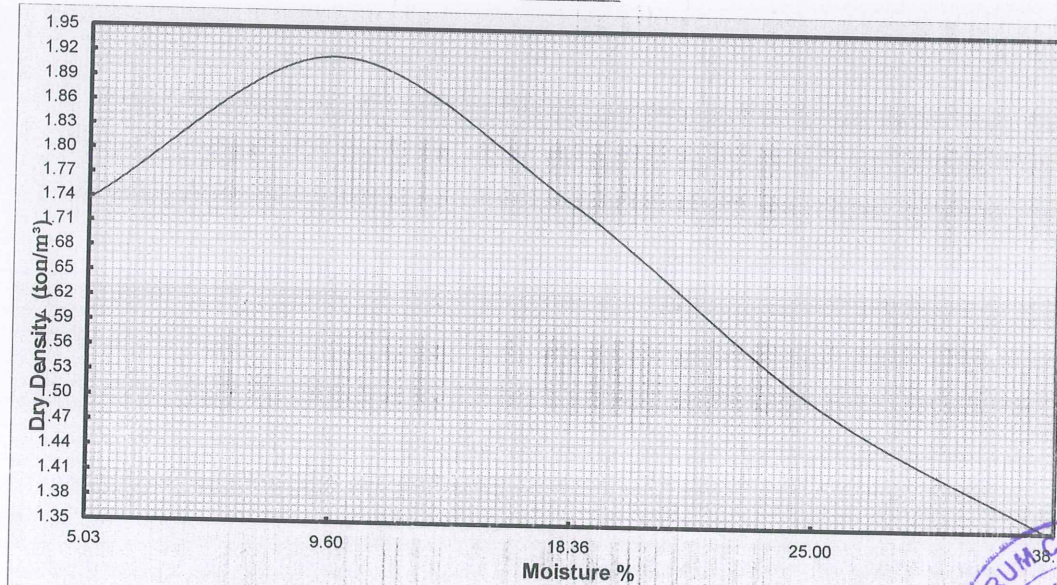
معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٣٤ / ٢٩ / ١١٠٢٩ / ٢٠١١

Report No. : 1501- 3 - center
Date : 27/10/2022

Proctor Test Report ASTM - D 698

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القمة للمقاولات
Project : Electric express train
Sample : قاع حفر
Date of Test : 27/10/2022

Results



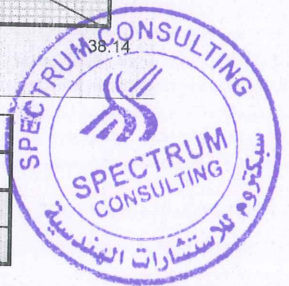
moisture content (%)	5.03	9.60	18.36	25.00	38.14
Dry Density (ton/m³)	1.74	1.92	1.74	1.50	1.35
Max. Dry Density (ton/m³)	1.92				
optimum moisture cont. (%)	9.60				



Civil. Eng Department

Eman

Eng : Eman. E. Kandil



MATERIAL APPROVAL REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



Contractor Company	Al - Qma Co.1 for Contracting 361+800 TO 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng. Mohamed Asayed		18/10/2023 (M.A.R.) S5-B-QM1-QT-F-10		08:00						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MAR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	19	10	23	8	0

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

Description of Materials	FERMA		
Location to be Used	From Station (361+800) to Station (363+000)		
Sample only	Yes	Materials Type	Soil
Supplier Name		Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
<p>1-Quality test Result By third part lab.</p> <p>2-This Sample Representative (5000 m3) only.</p> 	<p>1-All tests were carried-out by third part lab.COMIBASSAL</p> <p>2-Results report attached and acceptable with the project specifications.</p>

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Asayed			A
QA/QC *	Eng. Mazen Essamy			f
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL APPROVAL REQUEST



Contractor Company	AI - Qma Co.1 for Contracting 361+800 TO 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time							
	Eng. Mohamed Asayed		18/10/2023 (M.A.R.) S5-B-QM1-QT-F-10	08:00							
Received by GARB CONSULTANT	Eng. Mazen Essamy		MAR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	19	10	23	8	0

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

Description of Materials	FERMA		
Location to be Used	From Station (361+800) to Station (363+000)		
Sample only	Yes	Materials Type	Soil
Supplier Name		Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
1-Quality test Result By third part lab. 2-This Sample Representative (5000 m3) only.	1-All tests were carried-out by third part lab.COMIBASSAL 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. Mohamed Asayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2023/10/18	AWC

* Designer

** Alignment/Bridges: Culvert only

07/11



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

I- Introduction

General Consultant : SYST RA
Consultant : SPEC RUM
Contractor : شركة القمة لمقاولات
Sample : Ferma
Station : St(361+800) to st(353+000)
Date of Test : 28/10/2023
QC : 2213-4

II- Sample description:

Gravel and sand.

III- Required tests and Results

Required Tests		Results
1- Grain size analysis and classification and Percentage of MATERIALS FINER THAN No. 200 (75 μ m)	Grain size analysis	As showed in appendix
	Classification	A-1-b
	Pass From No.200	14.1
2- Modified compaction (Proctor test)	MDD	2.100
	OMC	6.8%
3- Liquid limit, plastic limit and plasticity index	LL	23.0%
	PL	22.0%
	PI	1.0%
4- California bearing ratio (CBR)	CBR ratio	36%

IV- Notes

- 1- Samples were brought by : Contractor.
- 2- Samples are responsible from the Person who brought it.
- 3- The results are applying only for the present report.

LAB DIRECTOR

Eng / Eman kandil



Geotechnical consultant

For Dr. M -
Dr. Mohamed Mostafa Badry



COMIBASSAL International Controllers Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

APPENDIX



COMIBASSAL International Controllers

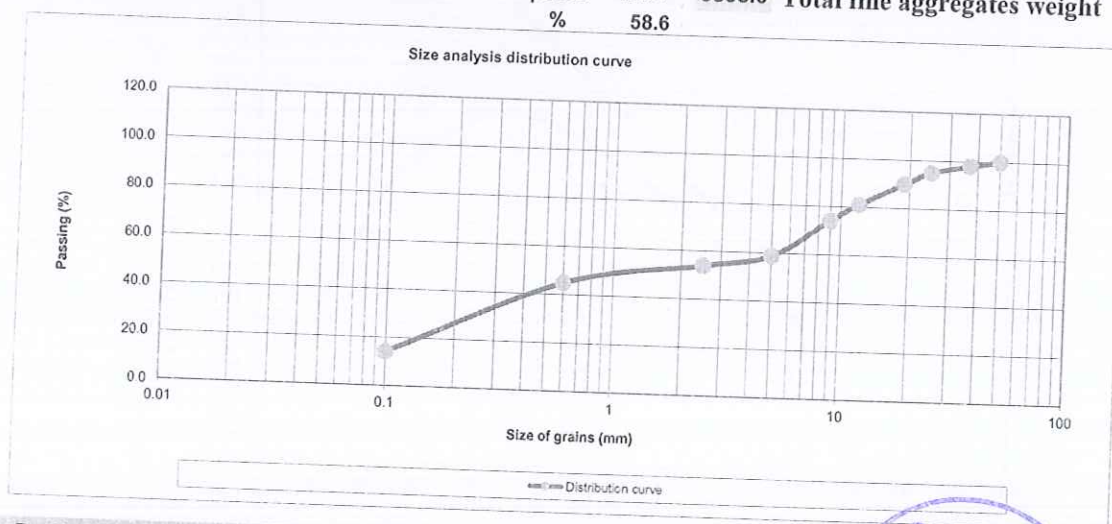
Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

	WEIGHT RETAINED	CUMULATIVE WEIGHT	CUMULATIVE PERCENTAGE	CUMULATIVE PERCENTAGE	STANDURD SPECIFICATION
	(gm)	RETAINED (gm)	RETAINED (%)	PASSING (%)	LIMITS
2	0.00	0.00	0.00	100.0	
1 1/2	186.00	186.00	1.86	98.1	
1	317.00	503.00	5.03	95.0	
3/4	498.00	1001.00	10.01	90.0	
1/2	910.00	1911.00	19.11	80.9	
3/8	694.00	2605.00	26.05	74.0	
No.4	1537.00	4142.00	41.42	58.6	
No.10	41.40	41.40	8.28	53.7	
No.40	118.10	118.10	23.62	44.7	
No.200	380.00	380.00	76.00	14.1	

Total sample weight = 10000.00 pass No.4= 5858.0 Total fine aggregates weight = 500 gm
% 58.6



Soil classification: A - 1- b





COMIBASSAL International Controllers

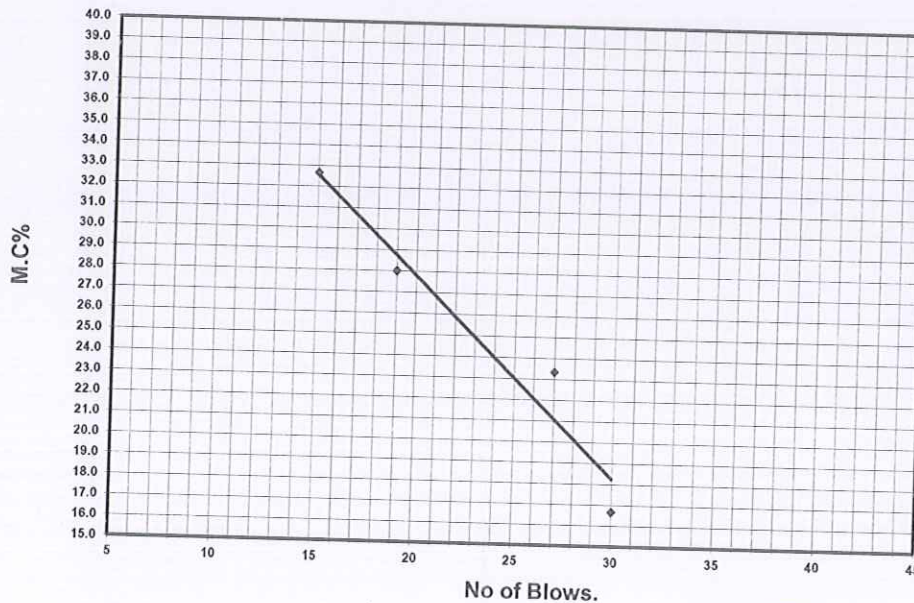
Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Liquid and Plastic Limits Test

ASTM - D 4318

Test No	1	2	3	4	5	6
Type of test	Liquid Limit				Plastic Limit	
NO of B.	30	27	19	15		
Container No	Q	W	E	R	M	D
Mass of wet soil +container	103.00	107.50	97.80	101.90	63.00	49.80
Mass of dry soil +container	101.00	104.00	95.00	97.00	58.00	47.20
Mass of container	89.00	89.00	85.00	82.00	34.00	36.00
Mass of moisture	2.00	3.50	2.80	4.90	5.00	2.60
Mass of dry soil	12.00	15.00	10.00	15.00	24.00	11.20
Moisture content	16.67	23.33	28.00	32.67	20.83	23.21



Results:

Liquid Limit (L.L) : 23 %.

Plastic Limit (P.L) : 22.0 %.

Plasticity Index (P.I): 1.0 %.





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report	:	819 - 4 - Center
Date	:	07/11/2023

CHEMICAL ANALYSIS

General Consultant	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	:	Electric express train
Sample	:	FERMA
Station	:	ST (361 + 800) : (363 + 0.00)
Date of Test	:	28-10-2023

Temperature : 27 °C

Humidity : 40%

ANALYSIS	RESULTS	TEST METHOD
ORGANIG MATTER	NEGATIVE	ASTM D 2974



LAB DIRECTOR
CH/ Mostafa Asker

Moustaf

MATERIAL APPROVAL REQUEST



Contractor Company	Al - Qma Co.1 for Contracting 361+800 TO 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office							
Issued by Contractor	Name	Sign		Date/Serial Number	Time							
	Eng. Mohamed Asayed			21/03/2023	08:00							
				(M.A.R.) S5-B-QM1-QT-FF-2								
Received by GARB CONSULTANT	Eng. Mazen Essamy			MAR	C1	C2	C3	DD	MM	YY	HH	MM
					S14	EW	CS	21	3	23	8	0

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

Description of Materials	Filter		
Location to be Used	From Station (361+670) to Station (361+980)		
Sample only	Yes	Materials Type	Mix Agg.
Supplier Name		Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By third part lab. 2-This Sample Representative (5000 m3) only.		1-All tests were carried-out by third part lab.COMIBASSAL 2-Results report attached and acceptable with the project specifications.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Asayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL APPROVAL REQUEST



الهيئة العامة
للطرق والكباري
(GAR)



Contractor Company	Al - Qma Co.1 for Contracting 361+800 TO 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time							
	Eng. Mohamed Asayed		21/03/2023	08:00							
	(M.A.R.) S5-B-QM1-QT-FF-2										
Received by GARB CONSULTANT	Eng. Mazen Essamy		MAR	C1	C2	C3	DD	MM	YY	HH	MM
				S14	EW	CS	21	3	23	8	0

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

Description of Materials	Filter		
Location to be Used	From Station (361+670) to Station (361+980)		
Sample only	Yes	Materials Type	Mix Agg.
Supplier Name		Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By third part lab. 2-This Sample Representative (5000 m3) only.		1-All tests were carried-out by third part lab.COMIBASSAL 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. Mohamed Asayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		22/3	AWC

* Designer

** Alignment/Bridges: Culvert only

QT 10



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ١١٠٢٩ / ٢٠١١

SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor :

شركة القمة للمقاولات

Date of report :

26-03-2023

QC :

765



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبسال)

حاصلة على شهادة الأيزو ISO 9001:2015

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Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٠١١/١١٠٢٩/٣٤

I- Introduction

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة القمة للمقاولات
Sample :	Coarse Aggregate Filter (mix)
Station :	St(361+840)
Date of Test :	21-03-2023
QC :	765



II- Sample description:

Coarse Aggregate Filter (mix)

III- Required tests

- 1 - Specific gravity (SG), absorption and degradation.
- 2 - Grain size analysis and classification.
- 3 - Los Angeles test.

IV- Results

1- Specific gravity (SG), absorption and degradation.	SSD	2.530
	Absorption	1.20%
	Degradation	0.2%
2- Grain size analysis and	Grain size analysis	As shown in figures
3- Los Angeles test	Abration ratio	26.3%

LAB DIRECTOR

Eng / Eman kandil



Geotechnical consultant

For Dr. M.
Dr. Mohamed Mostafa Badry



الإدارة، ٤٠ ش صفيية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٢ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st., p.o.Box 157 Alex, Egypt

Tel: 4870573 - Fax + Tel : 4869798 - 4870665



القطاع، خلف ٤٩ طريق الحرية - الإسكندرية - مصر
ت: ٢٩٢٠١٧٦ - ٢٩٢١٤٨٢ - ف: ٢٩٠٠٤٧٦

49 EL Horria Ave. - Alex; Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail: internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ١١٠٢٩ / ٢٠١١

APPENDIX



COMIBASSAL International Controllers

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

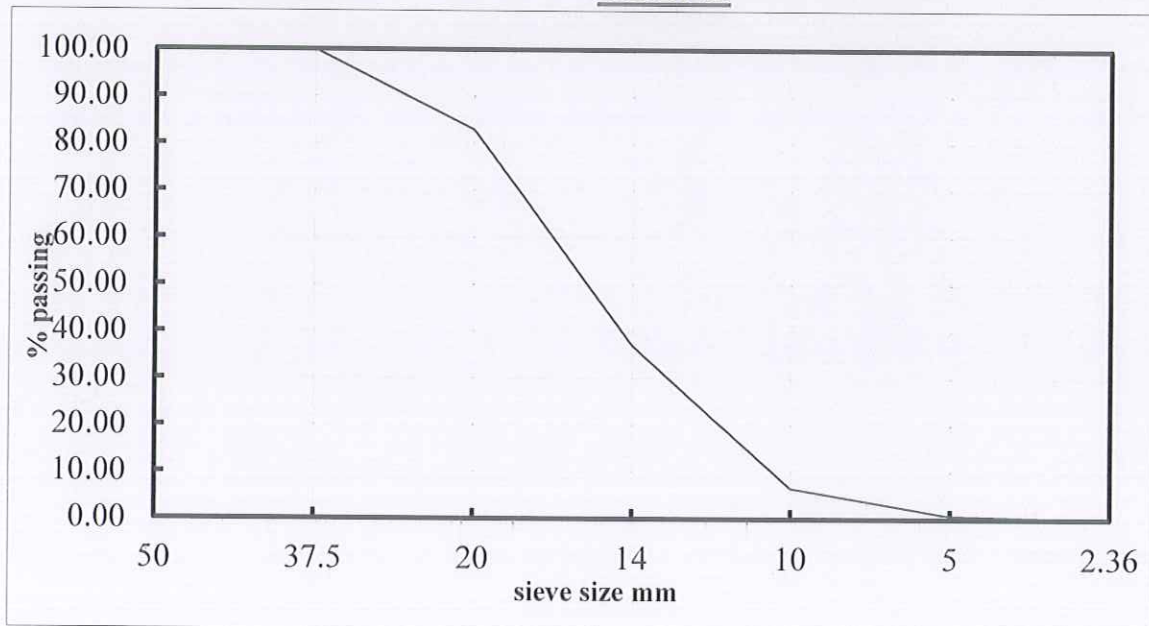
قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠٢٩

SIEVE ANALYSIS FOR COARSE AGGREGATE

Test method : BS 882 Table 4. 20 mm

Results



sieve size mm	50	37.5	20	14	10	5	2.36
passing %	100	100	83	37	7	1	0





COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ١١٠٢٩ / ٢٠١١

Absorption and specific gravity for

Coarse Aggregate

ASTM C 127 - AASHTO T 85

Weight of sample	2500
Weight of saturated - dry surface sample (B)	2525
Weight of saturated sample in water (C)	1527
Weight of dry sample after heating (A)	2495

Results:-

Saturation surface dry specific gravity = $B / (B - C)$	2.530
Bulk specific gravity = $A / (B - C)$	2.50
Apparent specific gravity = $A / (A - C)$	2.58
Absorption of water = $(B - A) / A * 100$	1.20
Degradation of aggregate = $(2500 - A) / A * 100$	0.2





COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسل)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترو
تحت رقم ٢٤ / ٢٩ / ١١٠٢٩ / ٢٠١١

ABRASION AND IMPACT " LOS ANGELES " TEST

(For small size coarse aggregate)

ASTM- C 131-96 / AASHTO-T-96

Results

Speed	Rotate at 30 to 33 Rpm For 500 Revolution
Trial Grading	A
Intital Weight (W1) gms	5000
Weight of tested sample (W2) gms Retained on sieve No.12	3685
% Wear By Weight Passing on Sieve No.12	26.3%



الإدارة، ٤٠ صفية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٢ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st ., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع، خلف ٤٩ طريق الحرية - الإسكندرية - مصر

ت: ٢٩٢٠١٧٦ - ٢٩٢١٤٨٢ - ف: ٢٩٠٠٤٧٦

49 EL Horria Ave .-Alex;Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail :internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤/٢٩/١١٠٢٩

Report :	342 - 4 - Center
Date :	27/03/2023

CHEMICAL ANALYSIS

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة القمة للمقاولات العمومية
Project :	Electric express train
Sample :	Coarse Aggregate Filter (Mix)
Station :	ST (361 + 840)
Date of Test :	21-3-2023

Temperature : 18 °C

Humidity : 40%

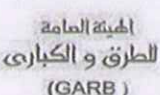
ANALYSIS	RESULTS	TEST METHOD
CHLORIDE	0.0015%	ASTM D 2974
SULPHATE	0.0121%	
ORGANIG MATTER	NEGATIVE	



LAB DIRECTOR
CH/ Mostafa Asker

Mostafa

MATERIAL APPROVAL REQUEST



Contractor Company	Al - Qma Co.1 for Contracting 361+800 TO 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time					
	Eng. Mohamed Asayed		31/10/2023 (M.A.R.) S5-B-QM1-QT-SB-2		10:00					
Received by GARB CONSULTANT	Eng. Mazen Essamy		C1	C2	C3	DD	MM	YY	HH	MM
			S14	EW	CS	1	11	23	10	0

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

Description of Materials	Sub-Ballast Layer		
Location to be Used	From Station (361+800) to Station (363+000)		
Sample only	Yes	Materials Type	Sub-Ballast
Supplier Name		Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By third part lab. 2-This Sample Representative (5000 m3) only.		1-All tests were carried-out by third part lab.COMIBASSAL 2-Results report attached and acceptable with the project specifications.	



APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Asayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer
** Alignment/Bridges: Culvert only

MATERIAL APPROVAL REQUEST



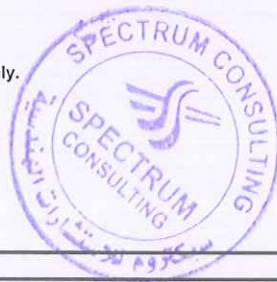
الهيئة العامة
للمنطقة والكباري
(GARB)



Contractor Company	Al - Qma Co.1 for Contracting 361+800 TO 363+000		Designer Company	(SPECTRUM) Engineering Consulting Office																
Issued by Contractor	Name	Sign	Date/Serial Number	Time																
	Eng. Mohamed Asayed		31/10/2023	10:00																
			(M.A.R.) S5-B-QM1-QT-SB-2																	
Received by GARB CONSULTANT	Eng. Mazen Essamy		<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>S14</td> <td>EW</td> <td>CS</td> <td>1</td> <td>11</td> <td>23</td> <td>10</td> <td>0</td> </tr> </table>		C1	C2	C3	DD	MM	YY	HH	MM	S14	EW	CS	1	11	23	10	0
C1	C2	C3	DD	MM	YY	HH	MM													
S14	EW	CS	1	11	23	10	0													

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

Description of Materials	Sub-Ballast Layer		
Location to be Used	From Station (361+800) to Station (363+000)		
Sample only	Yes	Materials Type	Sub-Ballast
Supplier Name		Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
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Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By third part lab. 2-This Sample Representative (5000 m3) only.		1-All tests were carried-out by third part lab.COMIBASSAL 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. Mohamed Asayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		2023/10/23	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

I- Introduction

General Consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القمة للمقاولات
Sample : Sub-Ballast
Station : St(361+800) to St(363+000)
Date of Test : 01/11/2023
QC : 2392

II- Sample description:

Crushed stone and sand

III- Required tests and Results:

Required Tests		Results
1- Grain size analysis and classification	Grain size analysis	As showed in appendix
	Classification	A-1-a
2- Modified compaction (Proctor test)	MDD	2.226
	OMC	6.5%
3- Liquid limit, plastic limit and plasticity index	LL	Non plastic
	PL	Non plastic
	PI	Non plastic
4- California bearing ratio (CBR)	CBR ratio	97%
5- Specific gravity (SG), absorption and degradation	SSD	2.526
	Absorption	1.6%
	Degradation	0.2%
6- Los Angeles test	Abrasion ratio	22.8%

IV- Notes:

- 1- Samples were brought by: Contractor
- 2- Samples are responsible from the Person who brought it.
- 3- The results are applying only for the present report.

LAB DIRECTOR

Eng / Eman kandil



Geotechnical consultant

For Dr. M.
Dr. Mohamed Mostafa Badry



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

APPENDIX



COMIBASSAL International Controllers

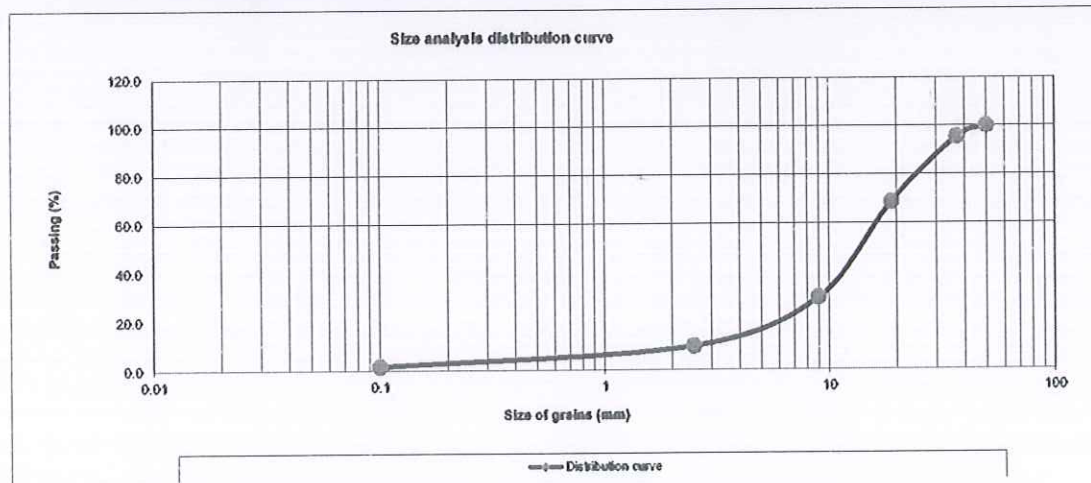
Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

	WEIGHT RETAINED (gm)	CUMULATIVE WEIGHT RETAINED (gm)	CUMULATIVE PERCENTAGE RETAINED (%)	CUMULATIVE PERCENTAGE PASSING (%)	STANDURD SPECIFICATION LIMITS
2	0.00	0.00	0.00	100.0	
1 1/2	461.00	461.00	4.61	95.4	
1	1395.00	1856.00	18.56	81.4	
3/4	1281.00	3137.00	31.37	68.6	
1/2	2666.00	5803.00	58.03	42.0	
3/8	1246.00	7049.00	70.49	29.5	
No.4	1425.00	8474.00	84.74	15.3	
No.10	360.00	360.00	36.00	9.8	
No.200	892.50	892.50	89.25	1.6	

Total sample weight = 10000.00 pass No.4= 1526.0 Total fine aggregates weight = 1000 gm



Soil classification: A - 1 - a - sample is non plastic





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Modified Proctor Test Report

ASTM - D 1557

Mould Number :- 3
 Volume of mould = 2165 cm³
 Weight of mould = 5821 g
 G.S = 2.73 g/cm³

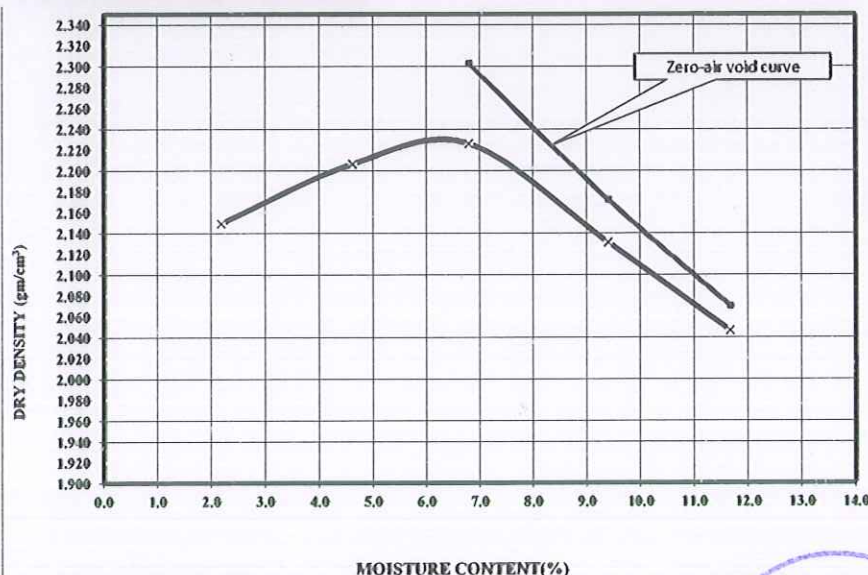
A- Density Calculations :-

	1	2	3	4	5
Weight of wet soil+mould (g)	10576	10819	10968	10869	10769
Weight of mould (g)	5821	5821	5821	5821	5821
Weight of wet soil (g)	4755	4998	5147	5048	4948
Volume of mould (cm ³)	2165	2165	2165	2165	2165
Wet density (g/cm ³)	2.196	2.309	2.377	2.332	2.285
Dry density (g/cm ³)	2.149	2.207	2.226	2.131	2.047
Zero-air Void curve			2.303	2.172	2.070

B- Moisture Calculations :-

Weight of wet soil+container (g)	250.0	250.0	250.0	250.0	250.0
Weight of dry soil+container (g)	245.4	240.5	236.0	231.0	227.0
Weight of container (g)	35.0	35.0	30.0	29.0	30.0
moisture content(%)	2.2	4.6	6.8	9.4	11.7

C - Dry density-Moisture relationship:-



M.D.D= 2.226 gm/cm³
 O.M.C= 6.5 %





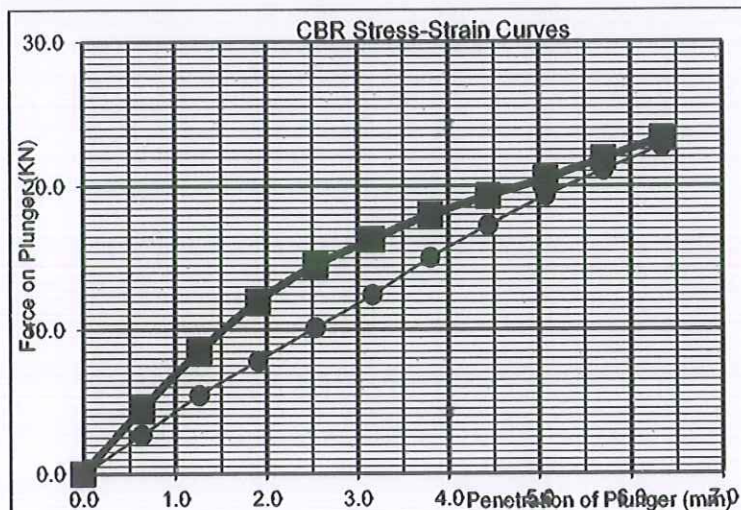
COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report Of CBR Test - ASTM - D 1883

NO OF BLOWS	56						
MOULD NO	1						
WT OF MOULD+SOIL	10325						
WT OF MOULD	5260						
WT OF SOIL	5065						
VOLUME OF MOULD	2124						
WET DENSITY	2.385						
	MC before soaking		Weight of Rammer		4.54Kg		
TIN NO	1			MDD	Kg/m3	2.226	
WT OF WET SOIL+TIN	250.00			OMC	%	6.5	
WT OF DRY SOIL+TIN	236						
WT OF WATER	14.00						
WT OF TIN	35						
WT OF DRY SOIL	201	2.125					
MOISTURE CONTENT	7.0						
DRY DENSITY	2.229						
Pen mm	97		Bearing (KN)		CBR		
	56		56		standar	56	
0.00	0		FALSE		0.0		
0.64	275		2.7		4.5		
1.27	556		5.5		8.5		
1.91	798		7.8		12.0		
2.54	1035		10.1		14.5	77	
3.17	1268		12.4		16.3		
3.81	1532		15.0		18.0		
4.45	1760		17.3		19.3		
5.08	1970		19.3		20.5	97	
5.71	2150		21.1		21.9		
6.35	2320		22.7		23.3		





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Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Absorption & Specific Gravity for Aggregate AASHTO T85 - ASTM C127

Weight of sample	2500
Weight of saturated - dry surface sample (B)	2534
Weight of saturated sample in water (C)	1531
Weight of dry sample aftr heating (A)	2494

Results:-

Saturation surface dry spicific gravity = $B / (B-C)$	2.526
Bulk spicific gravity = $A / (B-C)$	2.487
Apparent spicific gravity = $A / (A-C)$	2.590
Asorbtion of water = $(B-A)/A*100$	1.6
Degradation of aggregate = $(2500-A)/ A*100$	0.2





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

ABRASION AND IMPACT " LOS ANGELES " TEST

(For coarse aggregate)

ASTM- C 131-96 / AASHTO-T-96

Speed	Rotate at 30 to 33 Rpm For 500 Revolution
Trial Grading	A
Intitial Weight (W1) gms	5000
Weight of tested sample (W2) gms Retained on sieve No.12	3860
% abrasion By Weight Passing from Sieve No.12	22.8%





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011

Report	:	909 - 1 - Center
Date	:	06/12/2023

CHEMICAL ANALYSIS

General Consultant	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القبة للمقاولات العمومية
Project	:	Electric express train
Sample	:	Sub Ballast
Station	:	ST (361 + 800) : (363 + 0.00)
Date of Test	:	1-11-2023

Temperature : 24 °C

Humidity : 50%

ANALYSIS	RESULTS	TEST METHOD
CHLORIDE	0.0020%	ASTM D 2974
SULPHATE	0.0056%	
ORGANIG MATTER	NEGATIVE	



LAB DIRECTOR
CH/ Mostafa Asker

Moustafa

MATERIAL APPROVAL REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



Contractor Company	Al - Qma Co.1 for Contracting 361+800 TO 363+000		Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time						
	Eng. Mohamed Asayed		25/02/2023 (M.A.R.) S5-B-QM1-QT-SG-1	08:00						
Received by GARB CONSULTANT	Eng. Mazen Essamy		C1	C2	C3	DD	MM	YY	HH	MM
			S14	EW	CS	26	2	23	8	0

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

Description of Materials	Prepare Sub Grade		
Location to be Used	From Station (362+380) to Station (363+000)		
Sample only	Yes	Materials Type	Sub Grade
Supplier Name		Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By third part lab. 2-This Sample Representative (5000 m3) only.		1-All tests were carried-out by third part lab.COMIBASSAL 2-Results report attached and acceptable with the project specifications.	



APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Asayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			A

* Designer

** Alignment/Bridges: Culvert only

MATERIAL APPROVAL REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



Contractor Company	Al - Qma Co.1 for Contracting 361+800 TO 363+000			Designer Company	(SPECTRUM) Engineering Consulting Office					
Issued by Contractor	Name	Sign	Date/Serial Number		Time					
	Eng. Mohamed Asayed		25/02/2023 (M.A.R.) S5-B-QM1-QT-SG-1		08:00					
Received by GARB CONSULTANT	Eng. Mazen Essamy		C1	C2	C3	DD	MM	YY	HH	MM
			S14	EW	CS	26	2	23	8	0

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

Description of Materials	Prepare Sub Grade		
Location to be Used	From Station (362+380) to Station (363+000)		
Sample only	Yes	Materials Type	Sub Grade
Supplier Name		Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	

Comments by: Eng. Mazen Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)
1-Quality test Result By third part lab. 2-This Sample Representative (5000 m3) only.	1-All tests were carried-out by third part lab.COMIBASSAL 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. Mohamed Asayed			A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif			Awc

* Designer

** Alignment/Bridges: Culvert only

06/3

MAR 7



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترو
تحت رقم ٢٤/١١٠٢٩/٢٠١١

SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Client : شركة القمة للمقاولات
Date : 26/02/2023
QC : 491



COMIBASSAL International Controllers

الجمعية التعاونية الإبتاعية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبسال)

حاصلة على شهادة الأيزو 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠١١

I- Introduction

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة القمة للمقاولات
Sample :	Prepare Sub-Grade
Date of Test :	26/02/2023
QC :	491

II- Sample description:

Crushed stone and sand

III- Required tests

- 1- Grain size analysis and classification
- 2- Modified compaction and optimum moisture content (Proctor test)
- 3- Liquid limit, plastic limit and plasticity index
- 4- California bearing ratio (CBR)
- 5- Specific gravity (SG)
- 6- Los Angeles test

IV- Results

1- Grain size analysis and classification	Grain size analysis	As showed in appendix
	Classification	A-1-a
2- Modified compaction and optimum moisture content (Proctor test)	MDD	2.146
	OMC	5.00%
3- Liquid limit, plastic limit and plasticity index	LL	Non plastic
	PL	Non plastic
	PI	Non plastic
4- California bearing ratio (CB)	CBR ratio	90%
5- Specific gravity (SG), absorption and degradation	S S D	2.530
	Absorption	1.4%
	Degradation	0.2%
6- Los Angeles test	Abrasion ratio	28.0%

LAB DIRECTOR

Eng / Eman kandil

Eman

Geotechnical consultant

Dr. Mohamed Mostafa Badry



الإدارة، ٤٠ ش صفيية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٣ - ف: ٤٨٧٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st ., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع خلف ٤٩ طريق البحيرة - الإسكندرية - مصر

ت: ٣٩٢٠١٧٦ - ٣٩٢١٤٨٢ - ف: ٣٩٠٠٤٧١

49 EL Horria Ave .-Alex;Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail :internal-inspection@comibassal.com



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الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبيصل)

حاصلة على شهادة الأيزو 9001:2015

Accredited by:

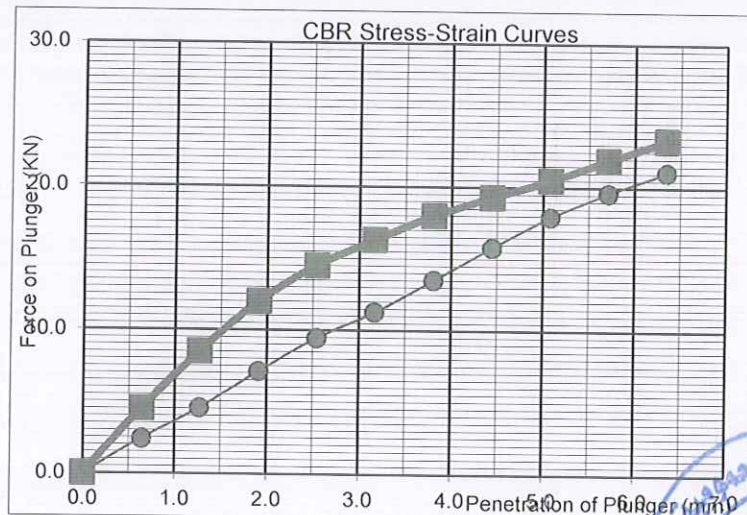
Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤/١١٠٢٩/٢٠١١

Report Of CBR Test - ASTM - D 1883

NO OF BLOWS	56			Swell %			
MOULD NO	1				56		
WT OFMOULD+SOIL	11950			Start	0.00		
WT OF MOULD	7020			End	0.00		
WT OF SOIL	4930			Swell	0.00		
VOLUME OF MOULD	2190						
WET DENSITY	2.251						
		MC before soaking		Weight of Rammer			4.54Kg
TIN NO	1				MDD	Kg/m3	2.146
WT OF WET SOIL+TIN	250.00						
WT OF DRY SOIL+TIN	242.2				OMC	%	5.0
WT OF WATER	7.80						
WT OF TIN	86			PROVING RING			
WT OF DRY SOIL	156.2	2.125		Div/KN			
MOISTURE CONTENT	5.0						
DRY DENSITY	2.144				Capacity (KN)	50	
Pen mm	97			Bearing (KN)		CBR	
	56			56		standar	56
0.00	0			FALSE		0.0	
0.64	245			2.4		4.5	
1.27	465			4.6		8.5	
1.91	727			7.1		12.0	
2.54	965			9.5		14.5	72
3.17	1150			11.3		16.3	
3.81	1380			13.5		18.0	
4.45	1610			15.8		19.3	
5.08	1830			17.9		20.5	90
5.71	2000			19.6		21.9	
6.35	2150			21.1		23.3	



الإدارة: ٤٠ ش صفيية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٢ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع: خلف ٤٩ طريق الحرية - الإسكندرية - مصر

ت: ٢٩٢٠١٧٦ - ٢٩٢٤٨٢ - ف: ٢٩٢٠٤٧١

49 EL Homia Ave. - Alex; Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

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الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسل)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٠١١/١١٠٢٩/٢٤

Absorption & Specific Gravity for Aggregate AASHTO T85 - ASTM C127

Weight of sample	2500
Weight of saturated - dry surface sample (B)	2530
Weight of saturated sample in water (C)	1530
Weight of dry sample after heating (A)	2495

Results:-

Saturation surface dry specific gravity = $B / (B-C)$	2.530
Bulk specific gravity = $A / (B-C)$	2.495
Apparent specific gravity = $A / (A-C)$	2.585
Absorption of water = $(B-A)/A*100$	1.4
Degradation of aggregate = $(2500-A)/A*100$	0.2



الإدارة: ٤٠ ش. صفية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٢ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghoul st., p.o.Box 157 Alex, Egypt

Tel: 4870573 - Fax + Tel : 4869798 - 4870665



القطاع: خلف ٤٩ طريق الحرية - الإسكندرية - مصر
ت: ٢٩٢٠١٧٦ - ٢٩٢١٤٨٢ - ف: ٢٩٠٠٤٧٦

49 EL Horria Ave. - Alex; Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail: internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسل)

ISO 9001:2015 حاصلة على شهادة الأيزو

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠ / ٢٠١١

ABRASION AND IMPACT " LOS ANGELES " TEST

(For coarse aggregate)

ASTM- C 131-96 / AASHTO-T-96

Speed	Rotate at 30 to 33 Rpm For 500 Revolution
Trial Grading	A
Intitial Weight (W1) gms	5000
Weight of tested sample (W2) gms Retained on sieve No.12	3600
% abrasion By Weight Passing from Sieve No.12	28.0%



الإدارة: ٤٠ ش صفيية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٢ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st ., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع: خلف ٤٩ طريق الحرية - الإسكندرية - مصر

ت: ٢٩٢٠١٧٦ - ٢٩٢١٤٨٢ - ف: ٢٩٠٠٤٧٦

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COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤/١١٠٢٩/٢٠١١

Report	:	264 - 1 - Center
Date	:	05/03/2023

CHEMICAL ANALYSIS

General Consultant	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة
Project	:	Electric express train
Sample	:	Prepare Sub Grade
Date of Test	:	26-2-2023

Temperature : 20 °C

Humidity : 50%

ANALYSIS	RESULTS	METHOD REFERENCE
ORGANIG MATTER	NEGATIVE	ASTM D 2974



LAB DIRECTOR
CH/ Mostafa Asker

for Amany Amin





مصر للتأمين
MISR INSURANCE

الحوادث الشخصية جماعي
ACCP003152623A

وثيقة تأمين
رقم

محتوى الشرط

الشروط العامة

- ويسقط حق المؤمن عليه أو المستفيدين في المطالبة بالتعويض عن الحادث موضوع هذه المطالبة إذا قدم المؤمن له أو من ينوب عنه بيانات مضللة عن هذا الحادث أو تنطوى على غش أو عزز طلب التعويض ببيانات تدليسية أو إذا كان الحادث مفتعلا.

البند الحادى عشر : الحلول فى الحقوق : للشركة الحق فى الرجوع على المتسبب من الغير فى الحادث بالنسبة لأية مصاريف طبية (فى حالة تغطيتها بقسط إضافى) تكون الشركة قد سددتها بسبب أى حادث مغطى بموجب هذه الوثيقة .

البند الثانى عشر : المحاكم المختصة : كل المنازعات التى تنشأ عن تفسير هذه الوثيقة أو تنفيذها تكون من اختصاص المحاكم المصرية المختصة التى تقع فى دائرتها الجهة التى أصدرت هذه الوثيقة.

البند الثالث عشر : التقادم : تخضع التغطية بموجب هذه الوثيقة لشرط التقادم إعمالا لنص المادة (752) من القانون المدنى المصرى .



المنطقة : الإسكندرية

الفرع : فرع الادارة

تسجيل : Mohamed AbdelMoneam Ramadan

تاريخ الطباعة : ٢٠٢٤/٢/٢٠

شركة مصر للتأمين

()



شركة تابعة مساهمة مصرية خاضعة لأحكام القانون رقم 10 لسنة 1981 وتعديلاته والمرخص لها بمزاولة عمليات التأمين وإعادة التأمين مسجلة بالهيئة رقم 1 لعام 1953



مصر للتأمين
MISR INSURANCE

الحوادث الشخصية جماعى
ACCP003152623A

وثيقة تأمين
رقم

محتوى الشرط

الشروط العامة

أ- جميع الإخطارات التى يتعين إبلاغها إلى الشركة يجب أن تكون كتابية وأن توجه إلى الجهة التى أصدرت الوثيقة وذلك بتقديم صيغة رسمية أو خطاب يرسل بالبريد الموصى عليه .

ب - لا تكون الشركة ملزمة بأى حال من الأحوال بإخطار المؤمن له بموعد انتهاء مدة الوثيقة ولا تلتزم بتجديدها ولا تكون أيضا مسؤولة عن أية مطالبات قد تنشأ عن حوادث تقع بعد انتهاء مدة الوثيقة ما لم تكن الوثيقة قد تم تجديدها لديها بناء على طلب المؤمن له وتأكد ذلك كتابة من قبل الشركة.

البند السابع : التزامات المؤمن له عقب وقوع الحادث :

فى حالة وقوع حادث تنشأ عنه مطالبة بموجب هذه الوثيقة يلتزم المؤمن له أو من ينوب عنه بالقيام بما يلى :-

1- إخطار الشركة فوراً بالحادث وبحد أقصى سبعة أيام من تاريخ وقوع الحادث .

2- اتخاذ اللازم نحو توقيع الكشف الطبى على المؤمن عليه من قبل طبيب تعينه الشركة متى رأت الشركة ذلك للتحقق من مدى الإصابة أو العجز أو السبب الحقيقى للوفاة .

3- إن يقدم للشركة كافة التقارير الطبية ومحضر شرطة معتمد وشهادة الوفاة وأية مستندات متعلقة بالإصابة أو الوفاة .

وإذا لم يتم المؤمن له أو من ينوب عنه بالالتزامات المذكورة أعلاه أو تأخر فى القيام بها سقط حقه فى المطالبة بالتعويض الذى ينشأ عن هذا الحادث ما لم يتبين من الظروف أن تأخره كان لعذر مقبول .

البند الثامن : إلغاء التأمين:

يجوز للشركة إلغاء التأمين بعد انقضاء عشرة أيام من إخطار كل من المؤمن له والمستفيد (إن وجد) بخطاب موصى عليه يرسل إليهما على آخر عنوان معروف لهما وفى هذه الحالة يستحق للشركة الاحتفاظ بجزء من القسط يتناسب مع المدة المنقضية من التأمين .

كما يجوز للمؤمن له طلب إلغاء هذا التأمين بعد موافقة المستفيد (إن وجد) وفى هذه الحالة يستحق للشركة جزء من القسط عن المدة المنقضية من التأمين على أساس جدول المدد القصيرة ، ويشترط فى هذه الحالة ألا تكون هناك مطالبة قد أثرت عن السنة التأمينية محل الإلغاء .

البند التاسع : الشرط الفاسخ :

للشركة المؤمنة فى حالة عدم قيام المؤمن له بسداد قسط التأمين فى موعد استحقاقه أو تعذر تحصيل الشيك المحرر بقيمة القسط لسبب يرجع إليه أن تخطر كل من المؤمن له والمستفيد بكتاب موصى عليه مصحوب بعلم الوصول على العنوان المبين بالوثيقة أو فى آخر موطن معلوم لهما بوقف عقد التأمين مع إنذارهما بوجوب سداد القسط خلال عشرة أيام وإلا اعتبر العقد مفسوخا ، فإذا لم يتم المؤمن له أو المستفيد بالسداد خلال المهلة الممنوحة لهما فعلى الشركة إخطار كل من المؤمن له والمستفيد بفسخ العقد وذلك بموجب كتاب موصى عليه مصحوب بعلم الوصول .

وفى جميع الأحوال تحتفظ شركة التأمين بحقها فى جزء نسبى من قسط التأمين عن الفترة المنقضية من تاريخ سريان العقد حتى تاريخ الفسخ .

البند العاشر : سقوط الحق : تسقط كافة حقوق المؤمن عليه الناشئة عن هذه الوثيقة فى الحالات الآتية:-

أ - إذا أدلى المؤمن له أو من ينوب عنه ببيانات غير صحيحة فى طلب التأمين أو فى الإقرارات المرفقة بالوثيقة بقصد حث الشركة المؤمنة على قبول التأمين أو إذا أخفى عن الشركة بيانات جوهرية كان من المتعين عليه إعلامها بها قبل بدء سريان وثيقة التأمين .

ب - مخالفة المؤمن له أو من ينوب عنه القوانين واللوائح المنظمة لمزاولة نشاطه إذا انطوت على جنائية أو جنحة

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7- الاشتراك فى مباريات الفرق الرياضية التى تتميز بخطورتها مثل المصارعة والملاكمة والهوكى والبولو ورياضة الانزلاق وتسلق الجبال والسباق والصيد والغطس وركوب المناطيد والتخييم والطيران الشراعى والهبوط بالمظلات او القيام باجراء اختبارات السرعة .

8- مصارييف الجنازة (بحد أقصى 2000 جم) .

9- صرف قيمة الأجهزة التعويضية : فى حالة إصابة المؤمن عليه بعجز مستديم نتيجة حادث مغطى ، فإن الشركة تسدد له قيمة الأجهزة التعويضية المقررة له فى حدود 5% من مبلغ التأمين و(بحد أقصى 5000 جم) .

البند الثانى : الجمع بين مزايا التأمين :

تؤدى الشركة للمؤمن عليه المبلغ الاسبوعى المنصوص عليه فى حالة العجز الكلى المؤقت المبين بالجدول ، بالإضافة إلى المبالغ التى قد تستحق له فى حالات الوفاة أو العجز الكلى أو الجزئى المستديم .

ولا يجوز الجمع بين المبالغ المنصوص عليها فى حالات الوفاة والعجز الكلى أو الجزئى المستديم ، فإذا كان المؤمن عليه قد صرف تعويضاً بسبب الإصابة بالمبلغ المنصوص عليه فى أى من حالتى العجز المستديم وتوفى بعد ذلك بسبب ذات الإصابة وخلال فترة الأثنى عشرة شهراً التالية لوقوع الحادث المؤدى إلى الإصابة فتسدد الشركة للمستفيد المبلغ المنصوص عليه فى حالة الوفاة مخصوماً منه المبلغ الذى سبق صرفه لحالة العجز المستديم .

وفى جميع الأحوال لا يجوز أن يزيد مجموع المبالغ المسددة بمقتضى هذه الوثيقة بسبب حادث أو أكثر يقع خلال مدة التأمين عن الحد الأقصى لمبلغ التأمين المبين بجدول الوثيقة بالنسبة لحالة الوفاة أو العجز المستديم أيهما أكبر بالإضافة إلى المبالغ التى قد تستحق فى حالات العجز الكلى المؤقت .

البند الثالث: تغيير الخطر :

إذا التحق الشخص المؤمن عليه خلال مدة التأمين بأى عمل خلاف المذكور صراحة فى جدول الوثيقة وكان من شأنه زيادة الخطر الذى يتعرض له تسقط كافة الحقوق فى أى تعويض بموجب هذه الوثيقة لهذا الشخص عن أى حادث يقع بسبب مزاولته لهذا العمل الجديد ، إلا إذا قام المؤمن له بإخطار الشركة والحصول على موافقتها كتابية على هذا التعديل مع سداد القسط الإضافى المناسب على أن يتم ذلك جميعه قبل وقوع أى حادث.

البند الرابع: الحدود الجغرافية: جميع أنحاء العالم ما لم ينص على خلاف ذلك.

البند الخامس : الاستثناءات :

لا تغطى هذه الوثيقة حالات الوفاة أو العجز الكلى أو الجزئى المستديم أو العجز الكلى المؤقت التى تنشأ عن أو تتصل بطريق مباشر أو غير مباشر عن أى من الحالات الآتية :-

1- تأدية الخدمة العسكرية وقت السلم أو الحرب أو العصيان أو الثورة أو التآمر ضد نظام الحكم

2- الإشعاعات النووية أو التلوث من النشاط الإشعاعى من أى وقود نووى أو نفايات نووية أو الانفجارات النووية أو أى أجزاء منها .

3- السفر على الطائرات الحربية .

4- انتحار أو محاولة انتحار أو تعمد الشخص المؤمن عليه إيذاء نفسه أو بسبب ارتكابه أعمال إجرامية أو غير قانونية أو تعريض نفسه إرادياً لخطر غير ضرورى (إلا فيما يتعلق بمحاولة الشخص إنقاذ نفس بشرية) .

5- فقد الإرادة بسبب الجنون أو الوقوع تحت تأثير مخدر أو مسكر .

6- استخدام الأسلحة الكيميائية أو البيولوجية

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إشتراطات تغطية العجز المستديم :

- 1- يعتبر عجز الطرف أو العضو كله أو بعضه عجزاً مطلقاً نهائياً عن أداء وظيفته فى حكم الطرف أو العضو المفقود فى تفسير هذه الوثيقة ، ولا يستحق للمضرور أى مبلغ قبل ثبوت العجز نهائياً .
 - 2- فى حالة فقد احد الأطراف أو الأعضاء كله أو بعضه فقد جزئياً يقدر مدى العجز فيه بنسبته إلى فقد الكامل .
 - 3- إذا كان المؤمن عليه أعسر وكان قد تبين ذلك بالتقرير الطبى ، فإن الفئات المنصوص عليها سلفاً بالنسبة لمختلف حالات عجز اليد اليمنى تتبادل مواضعها مع الفئات الخاصة بحالات عجز اليد اليسرى المناظرة لها .
 - 4- بالنسبة لحالات العجز المستديم غير الواردة فى هذا البند فتحدد نسبته بمعرفة الطبيب المعالج وبشرط أن يقرها طبيب الشركة .
 - 5- إذا نشأت عن ذات الإصابة حالات عجز متعددة تتناول أطراف أو أعضاء مختلفة أو أية أجزاء من احد الأطراف أو الأعضاء يحسب المبلغ المستحق فى هذه الحالة على أساس جملة النسب التى يمنحها هذا البند عن جملة حالات العجز المذكور على ألا يتعدى بأى حال من الأحوال مبلغ التأمين المستحق لحالة العجز الكلى المستديم .
 - 6- لا يستحق للمؤمن عليه أى مبلغ عن فقد أطراف وأعضاء كانت قبل وقوع الإصابة عديمة الاستعمال ولا يحسب المبلغ المستحق عن إصابة أطراف وأعضاء كانت من قبل عاجزة جزئياً إلا عن الفرق بين حالتها قبل الإصابة وبعدها .
- رابعا : حالة العجز الكلى المؤقت :

تؤدى الشركة للمؤمن عليه المبلغ الاسبوعى المبين بجدول الوثيقة فى حالة إصابة المؤمن عليه بعجز كلى مؤقت بواقع (5 فى الألف) من مبلغ التأمين الخاص بحالة العجز الكلى المستديم وبحد أقصى 70 % من الأجر الأسبوعى طوال المدة التى يلزم فيها الفراش ويتبع أثناءها علاجاً طبياً ويمتثل للراحة اللازمة لشفائه ويستحق هذا المبلغ اعتباراً من يوم بدء العلاج الطبى لا من يوم وقوع الحادث ذاته ويستمر سداد هذا المبلغ بالكامل طوال المدة التى حالت الإصابة خلالها تماماً بينه وبين مزاوله أى عمل كان .

ويستحق هذا المبلغ الاسبوعى طوال مدة ملازمة المؤمن عليه الفراش للعلاج على ألا تتعدى 52 أسبوعاً تبدأ من يوم بدء العلاج الطبى .

ويجوز أن يصرف هذا المبلغ على فترات طالما أن المؤمن عليه يقدم للشركة ما يؤكد ملازمته الفراش للعلاج من الإصابة ، ويحسب المبلغ المستحق عن الأيام التى تقل عن أسبوع بنسبه عدد تلك الأيام إلى سبعة (7)

ب-التغطيات الإضافية : (لا تغطى إلا بنص صريح ومقابل قسط إضافى) :

1-العلاج من الإصابة للحالات المغطاة بالوثيقة (البند الأول أ)

2-النقل بالإسعاف من موقع الحادث إلى أقرب مستشفى (بحد أقصى 1000 جم) .

3-التشعب والاضطرابات الأهلية والاضرابات العمالية والإرهاب والتخريب شريطة أن يكون المؤمن عليه ضحية لمثل هذه الأعمال وليس مشاركاً فيها .

4-الحرب أو الغزو أو أى عمل من عدو اجنبى أو العدوان أو العمليات الحربية (سواء أعلنت الحرب أم لم تعلن) أو حرب أهلية أو ثورة أو تامر أو أعمال قوه عسكريه أو سلطه غاصبه أو التمرد أو الانتفاضة العسكرية أو الشعبية أو الفتنة أو العصيان .

5-الأخطار الطبيعية (الفيضان والزوابع والعواصف والبراكين والزلازل والسيول وحركة المد والجزر) .

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- الفقد الكامل للإبهام والإصبع غير السبابة 25 % 20 %
- الفقد الكامل للسبابة والإصبع غير الإبهام 20 % 15 %
- الفقد الكامل لثلاثة أصابع غير الإبهام والسبابة 25 % 20 %
- الفقد الكامل للإبهام فقط 20 % 15 %
- الفقد الكامل للسبابة فقط 15 % 10 %
- الفقد الكامل للوسطى فقط 10 % 8 %
- الفقد الكامل للبصر فقط 8 % 7 %
- الفقد الكامل للخنصر فقط 7 % 6 %

2. الأطراف السفلي :

- الفقد الكامل لطرف سفلى إلى ما فوق الركبة 50 %
- الفقد الكامل لطرف سفلى إلى ما تحت الركبة 40 %
- البتر الجزئى للقدم والشامل لجميع الأصابع 30 %
- الفقد الكامل لحركة الحرقفة 30 %
- الفقد الكامل لحركة الركبة 30 %
- الفقد الكامل لحركة مفصل القدم 15 %
- الفقد الكامل لحركة إبهام القدم 8 %

3. الكسور

- كسر لم يلتحم بالساق 30 %
- كسر لم يلتحم بالقدم 20 %
- كسر لم يلتحم بالرسغ 20 %
- كسر لم يلتحم بالفك الأسفل 25 %
- كسر ضلعى يصبح تشوه دائم فى الصدر واضطرابات وظيفية 10 %

4. الصمم وانكماش الأطراف وفقد الإبصار

صمم تام 40 %

صمم إحدى الإذنين 15 %

انكماش طرف سفلى خمسه (5) سنتيمترات على الأقل 15 %

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الفقد الكامل لعين واحدة 35 %





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9- الاضرار بالعمالية : أى فعل ينتج عن التجمهر أو التمرد أو العصيان أو التوقف عن العمل الصادر من العاملين .

10- الارهاب والتخريب : هو استخدام القوة أو العنف أو التهديد أو الترويع والتي يقوم بها أى شخص أو مجموعة من الأشخاص سواء يعملون بمفردهم أو نيابة عن أو على صلة بأى منظمة (منظمات) أو حكومة (حكومات) لأغراض سياسية أو إيلوجية (فكرية) أو عرقية أو لأى أغراض أخرى مشابهة بقصد التأثير على سياسات أى حكومة و/أو وضع الشعب أو ققطاع منه فى حالة خوف والتي قد تؤدي إلى الائتلاف العمدى لممتلكات ثابتة أو منقولة بواسطة الغير بحيث تصبح غير صالحة للاستعمال بأى طريقة .

البند الأول : التغطيات التأمينية :

أ- التغطيات الأساسية

أولا : حالة الوفاة :

تؤدى الشركة مبلغ التأمين المبين بجدول الوثيقة فى حالة وفاة المؤمن عليه خلال سنة من تاريخ وقوع الحادث إلى المستفيدين الوارد بيانهم بالجدول أو إلى المستحقين شرعا فى حالة عدم تحديد مستفيدين على أنه إذا توفى المؤمن عليه بفعل متعمد من أى من المستفيدين أو المستحقين المشار إليهم يسقط نصيبه فى المبلغ المستحق الذى يظل واجب الأداء إلى باقى المستفيدين أو المستحقين .

ثانيا : حالة العجز الكلى المستديم

تؤدى الشركة للمؤمن عليه مبلغ التأمين المبين بجدول الوثيقة فى حالة إصابة المؤمن عليه بعجز كلى مستديم خلال سنة من تاريخ وقوع الحادث للمؤمن عليه ويعتبر العجز كليا مستديما فى حالة تحقق إحدى الحالات الآتية :

فقد إبصار العينين نهائيا / فقد الذراعين أو اليدين

فقد الساقين أو القدمين / فقد ذراع وساق

فقد ذراع وقدم / فقد يد وساق

فقد يد وقدم

ثالثا : حالة العجز الجزئى المستديم :

تؤدى الشركة للمؤمن عليه مبلغ يعادل نسبة من مبلغ تأمين العجز الكلى المستديم والمبين بجدول الوثيقة فى حالة إصابة المؤمن عليه بعجز جزئى مستديم خلال سنة من تاريخ وقوع الحادث للمؤمن عليه ، وذلك بنسبة العجز الجزئى حسب البيان التالى :-

نسبة العجز الجزئى

1. الأطراف العليا الأيمن الأيسر

الفقد الكامل للذراع أو اليد 50 % 60 %

الفقد الكامل لحركة الكتف 25 % 20 %

الفقد الكامل لحركة المرفق 20 % 15 %

الفقد الكامل لحركة المعصم 20 % 15 %

شركة تابعة مساهمة مصرية خاضعة لأحكام القانون رقم 10 لسنة 1981 وتعديلاته والمعرض لها بمزاولة عمليات التأمين وإعادة التأمين مسجلة بالهيئة رقم 1 لعام 1953

الفقد الكامل للرجل أو الساق 25 % 30 %



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محتوى الشرط

الشروط العامة

المقدمة

الشروط العامة لوثيقة الحوادث الشخصية

بناءً على البيانات والإقرارات الواردة فى طلب التأمين الموقع عليه من المؤمن له و/ أو المؤمن عليه والمقدم إلى شركة مصر للتأمين والمنوه عنها فيما بعد بالشركة والذي يعتبر جزءاً متمماً لهذه الوثيقة ومقابل سداد قسط التأمين المبين بالجدول .

تتعهد الشركة بأن تؤدى للمؤمن عليه فى حالة حياته أو للمستفيدين فى حالة وفاته مبلغ التأمين أو جزء منه طبقاً لما هو مبين فيما بعد وذلك عن أية إصابة جسمانية نتيجة حادث مغطى بالوثيقة يقع للشخص المؤمن عليه داخل نطاق المنطقة الجغرافية المبينة فى الجدول وذلك طبقاً للشروط العامة والخاصة والاشتراطات والاستثناءات الواردة فيها أو المضافة إليها بموجب ملاحق متممة لها ، وذلك خلال مدة التأمين المبينة بجدول الوثيقة أو أى مدة لاحقة قبلتها الشركة وان يكون المؤمن له قد سدد القسط المستحق عنها .

ولا يتعدى التزام الشركة عن أى بند من بنود هذه الوثيقة المبلغ المؤمن به على هذا البند .

التعريفات

1- الوثيقة: تعتبر الوثيقة وجدولها وملاحقها وطلب التأمين وحدة واحدة وأى عبارة أو مصطلح مذكور فى أى جزء من الوثيقة أو ملاحقها يحمل نفس المعنى أينما وجد.

2- الحادث: فعل فجائى عارض عنيف خارجى وظاهر ومستقل عن أى سبب آخر ويترتب عليه وحده الوفاة أو العجز خلال المدة المحددة بشروط الوثيقة أو أى مدة أخرى تقرها الشركة بشرط أن تكون الوفاة أو العجز نتيجة مباشرة للحادث .

3- العجز الكلى المستديم: حالة العجز التى تستمر لأكثر من 365 يوم ولا أمل بعدها فى التحسن وهى الحالة التى يترتب عليها عاهة مستديمة وتمنع المؤمن عليه تماماً من الاستمرار فى عمله أو وظيفته إذا كان يعمل، أو الالتحاق بوظيفة إذا كان لا يعمل وتحدد حالات العجز الكلى المستديم على سبيل الحصر طبقاً للبند الأول (ثانياً) بالوثيقة وتؤدى الشركة للمؤمن عليه فى هذه الحالة مبلغ التأمين بأكمله والمبين بجدول الوثيقة .

4- العجز الجزئى المستديم: حالة العجز التى تستمر لأكثر من 365 يوم ولا أمل بعدها فى التحسن ويترتب عليها أيضاً عاهة مستديمة ولكن قد لا تمنع المؤمن عليه من ممارسة نشاطه وتحدد حالات العجز الجزئى المستديم على سبيل الحصر طبقاً للبند الأول (ثالثاً) بالوثيقة وتؤدى الشركة للمؤمن عليه مبلغاً يعادل نسبة العجز الجزئى من مبلغ التأمين المبين بجدول الوثيقة .

5- العجز الكلى المؤقت: حالة العجز التى لا تستمر لأكثر من 365 يوم ويلزم المؤمن عليه خلالها الفراش حيث يتمثل للشفاء ويعود بعدها لممارسة نشاطه .

6- فقد العضو: تعنى بتر العضو وكذلك عجزه عن أداء وظيفته .

7- الشغب: أى فعل ينتج عن :

أ - اجتماع ثلاثة أشخاص أو أكثر يجمعهم هدف أو غرض مشترك ذو صيغة سياسية أو اجتماعية.

ب - تنفيذ هذا الهدف المشترك أو الشروع فى تنفيذه باستعمال القوة أو العنف بشكل يخيف الشخص العادى.

ج - توافق نية هؤلاء الأشخاص فيما بينهم على استخدام القوة على من يحاول منعهم من تنفيذ هذا الهدف المشترك.

8- الاضطراب المدينى (الأهلية) : أى فعل ينتج عن التجهيز أو الهياج أو الفوضى من الطوائف الدينية أو السياسية أو الحزبية أو من الجماهير مصحوباً بالعنف





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عدد المؤمن عليهم	الوظيفة	مبلغ تأمين الفرد	العملة	إجمالي مبلغ التأمين
1	مهندس	75000.00	EGP	75000.00
عدد المؤمن عليهم	الوظيفة	مبلغ تأمين الفرد	العملة	إجمالي مبلغ التأمين
1	مساعد	30000.00	EGP	30000.00
عدد المؤمن عليهم	الوظيفة	مبلغ تأمين الفرد	العملة	إجمالي مبلغ التأمين
1	سائق	15000.00	EGP	15000.00
عدد المؤمن عليهم	الوظيفة	مبلغ تأمين الفرد	العملة	إجمالي مبلغ التأمين
1	عامل	10000.00	EGP	10000.00

المستفيدون : الورثة الشرعيون .



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الخطر	العملة	مبلغ التأمين	صافي القسط					
حوادث شخصية	EGP	130000.00	144.00					
الخطار المقطاه	مبلغ تأمين الفرد	إجمالي مبلغ التأمين	نوع التحمل	قيمة التحمل	نسبة التحمل	حد أدنى	حد أقصى	أيام
الوفاة بحدوث	0.00	130000.0	None					
العجز الكلي المستديم	0.00	130000.0	None					
العجز الجزئي المستديم	0.00	130000.0	None					

وصف التغطية :

من المعلوم والمتفق عليه وبناء على طلب الشركة المؤمن لها يتم التأمين علي عدد 4 عمال من العاملين لدي الشركة المؤمن لها ضد أخطار الوفاة بحدوث والعجز الكلي او الجزئي المستديم نتيجة حادث وفقا للاتى :-

- مهندس بمبلغ تأمين 75000 جم
- مساعد مهندس أو ملاحظ فني بمبلغ تأمين 30000 جم
- سائق مطدة أو سيارة بمبلغ تأمين 15000 جم
- عامل عادي بمبلغ تأمين 10000 جم

جاء قيام المؤمن له بتنفيذ اعمال الجسر الترابي والاعمال الصناعية لمشروع القطر الكهربائي السريع (العين السخنة - العاصمة الادارية - العالمين - مطروح) قطاع برج العرب - العالمين لتنفيذ اعمال الجسر الترابي . المسافة من كم 361.800 الي كم 363.000 بطول 1.2 كم استكمال اتجاه برج العرب

العقد رقم 2023-2022-2105

لصالح الهيئة العامة للطرق والكباري

- من المعلوم والمتفق عليه ان اذا ثبت ان عدد العمال المؤمن له أكثر من 4 أفراد وقت وقوع الحادث سقط حق المؤمن له في انتفاع بمزايا التأمين

- من المعلوم والمتفق عليه ان الوثيقة لاتغطي من قل عمرة عن 16 عام او زاد عن 65 عام.



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المؤمن له/ المتعاقد : القمة للمقاولات العمومية - السيد رجب عبدالواحد مكتوب

عنوان المؤمن له : ك 21 طريق اسكندرية مطروح - امام قاعة السرايا - الاسكندرية

مدة التأمين : من الساعة 12 ظهراً 08-02-2024 إلى الساعة 12 ظهراً 08-06-2024

إجمالي مبلغ التأمين :

المبلغ	العملة
130000.00	EGP

حساب الرسوم :

الوصف	المبلغ	العملة
صافي القسط	144.00	EGP
الدمغة النسبية	1.44	EGP
الضريبة النوعية	18.00	EGP
رسم الإشراف والرقابة	0.86	EGP
رسوم اعتماد	0.14	EGP
صندوق ضمان حملة الوثائق	0.29	EGP
مصاريف الإصدار	35.27	EGP
اجمالي القسط	200.00	EGP

كود الهيئة

الوسيط التأميني

انتاج ادارة



الشروط العامة والكشوف المرفقة بالوثيقة تعتبر جزء لا يتجزأ من الوثيقة ومكملاً لها.

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مصر للتأمين
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وثيقة اخطار المقاولين
رقم ENGP000250323A قطاع خاص
(الإسكندرية - 53)
ملحق تعديل اضافي ENGP000250323A-2

المؤمن له : القيمة للمقاولات العمومية - السيد رجب عبدالواحد مكتوب
العنوان : رقم 10 الحي السكني الاول مقابل المدرسة الابتدائية - مدينة النوبارية - مركز ابو المطامير - البحيرة
لصالح : الهيئة العامة للطرق والكبارى
الفرع : فرع الادارة
مدة التأمين من ظهر 08/02/2024 الى ظهر 08/06/2024
انتاج : انتاج ادارة

القسط يتضمن العمولة الاساسية لوسيط التأمين قبل الاستقطاعات

حساب الرسوم	جم
القسط	5,616.00
رسم الاشراف (0.60) %	33.70
رسم اعتماد (0.10) %	5.62
صندوق حملة الوثائق (0.20) %	11.23
دمغه نسبية	308.88
الدمغة النوعية	3.00
مصاريف الإصدار	21.57
اجمالي القسط	6,000.00

*** (ويشترط لسريان هذا التأمين سداد القسط المقرر له) ***

ملاحظات

من المعلوم والمتفق عليه وبناء علي طلب العميل قد وافقت الشركة علي مد اجل الوثيقة أربعة اشهر لتنتهي في 2024/6/8 بدلا من 2024/2/8.

تسجيل - retshana.eid@, retshana.eid@
طباعة - retshana.eid@, retshana.eid@
الإسكندرية
20/02/2024



شركة تابعة مساهمة مصرية خاضعة لأحكام القانون رقم 10 لسنة 1981 وتعديلاته والمرخص لها بمزاولة عمليات التأمين وإعادة التأمين مسجلة بالمهنة رقم 1 عام 1953