

المنطقة الخامسة - (غرب الدلتا)

R

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة. وبعد،،

بالإحالة إلى مشروع القطار الكهربائي فائق السرعة قطاع (برج العرب – العلمين) نتشرف بأن نرفق لسيادتكم طيه المقايسه المعدله للقطاعات الاتيه :

الإتجاه	إلى المحطــة	من المحطة	اسم الشركــــــــــــــــــــــــــــــــــــ	المسلسل
برج العرب	۳٦٣+۰۰۰	۳٦١+٨٠٠	شركة القمة للمقاولات العمومية	)

برجاء من سيادتكم التفضل بالأحاطه والتوجيه بالازم

وتفضلوا بقبول فائق الأحترام والتقدير،،







	المقايسة المعدلة لشركة القمة للمقاولات العمو القطاع من المحطة ١٠٠٠+٣٦١ الى ٢٦٠٠+٣٦٢ اتجا		الكمية	القدة	الاجمالي
لم البند	بيان الأعمل	الوحدة	الدميية	•	الجمعي
,	أعمال الحقن				
1-1	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية لجميع انواع التربة عدا التربة الصخرية و تسوية السطح بالات التسوية والرش بالمياه الاصولية للوصول الى نسبة الرطوية المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جناف (٩٥% من الكثافة الجافة القصوى) و محمل على البند تحميل ونقل الاتربة الزائدة لمسافة ١٠ متر من محور الطريق ويتم التنفيذ طبقا للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاتة طبقا لاصول الصفل المناسيب التصويل و مواصفات الهيئة العامة للطرق و الكبارى وتعليمات المهندس المشرف. يتم احتساب علاوة ١ جنية لكل ١ كم بالزيادة.				
	السعر خلال شهر اكتوبر ۲۰۲۲ طبقا للمفاوضه بتاريخ ۲۰۲/۱۲/۱۸	٣٩	۷٦١٤	۲۱.۹۰	177,857.7.
	السعر خلال شهر مارس ۲۰۲۳ طبقا للمفاوضه بتاريخ ۲۰۲۳/۱۲/۱۸	٣٩	191.	*1.7.	121,011
	السعر. خلال شهر مايو ٢٠٢٣ طبقا للمفاوضه بتاريخ ٢٠٢/١٢/١٢	٣۴	* • • • •	*1.0.	۸۱٦,Yo٦.o.
۳-۱	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانكية في الترية المتماسكة (الاراضي الزراعية) او الاماكن ذات منسوب مياة مرتفع (طبقا لروية المهندس المشرف) عدا التربة الصخرية وتسوية السطح بالات التسوية والرش بالمياة الاصولية للوصول الى نسبة الرطوية المطوية والدمك الجيد للهراسات للوصول الى ١٩ - ٥ متر من محور الطريق والفئة تشمل عمل تشوينات وذلك باستخدام الاراضي الاترية الااندة لمسافلة ناتج الحفر على مراحل باستخدام وسيئة النقاص في محمل على البند تحميل ونقل الاترية الاندة لمسافلة المشرف ويتم التلفيذ طبقا للمناسيب التصميمية والفاطات العرضية الماكن المرور وذلك طبقا لرؤيا قية المهندس المشرف ويتم التلفيذ طبقا للمناسيب التصميمية والفطاعات العرضية العلمة للطرق والكبارى وتعليمات المشرف ويتم التلفيذ طبقا للماسيب التصميمية والقطاعات العرضية العامة للطرق والكبارى وتعليمات المعتمدة والبند بجميع مشتملاتة طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف.				
	السعر خلال شهر مارس٢٠٢٣ طبقا للمفاوضه بتاريخ ١٨/١٢/٢٠٢٣	٣٥	07.75	٤٣.٤٠	111,101.7.



¥. 1



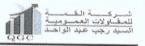
مدير المشروع الهينة م / سارجريت مجدي زاخر C 1

م/مجد حسني فياض ح

منير مثروعك الهينة



المية المامة المرق و الكياري رود مراكبة



SPRETRUM

	مشروع القطار الكهرباني فانق السرعة قطاع (برج العر، المقايسة المعدلة لشركة القمة للمقاولات العموه القطاع من المحطة ١٠٠ (٢٦١+٢٦ الى ١٠٠ (٢٦٢+٢ اتجا	ية			
قم البند	يان الأعمال	الوحدة	الكمية	القدة	الاجمالي
۲	أعمال الإزالة والتطهير				
¥-Y	بالمتر المسطح اعمال تطهير الموقع من الاشجار والمزروعات و المخلفات فى مناطق الدلتا ذات الطبيعة الزراعية الكثيفة والتخلص منها بالمقالب العمومية تمهيدا لاعمال الرفع المساحى لكامل حدود المشروع طبقا للشروط والمواصفات و تطيمات المهندس المشرف.	۲۴	Y @ A. £ Y	°	1,141.1.
٣	إعمال الردم				
1-1	بالمتر المكعب اعمال توريد وتشغيل اتربة صالحة للردم و مطابقة للمواصفات والتشغيل باستخدام المعدات بسمك لا يزيد عن ٥٠ سم حتي منسوب ٢ متر و بسمك لا يزيد عن ٥ ٢ سم لاستكمال المنسوب التصميمى التشكيل الجسر والاكثاف (نسبة تحمل كاليفورنيا لا تقل عن ٥ ١ %) و رشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (٥ ٩ % من الكثافة الجافة القصوى ويتم التلفيذ طبقا للمناسبي التصميمية والفطاعات العرضية النموذجية والرسومات التصليبية المعتمدة والنيك بجميع مشتملاتة طبقا لاصول الماعات العرضية النموذجية والرسومات التعليبية المعتمدة والنيك بجميع مشتملاتة طبقا لاصول الصناعة ومواصفات الهرنية العامة للطرق و الكبارى وتعليمات المهندس المشرف. - مسافة النقل ٢ كم - السعر يشمل عمل تشوينات وتخليط واختبارات ونقل لموقع العمل حتى مسافة ٢ كم - السعر يشمل قيمة المادة المحجرية				
	السعر خلال شهر فبراير ۲۰۲۳ طبقا للمفاوضه بتاريخ ۲۰۲/۱۲/۱۸	٣٩	1091	94.01	100, £10,
	السعر خلال شهر مايو ٢٠٢٣ طبقا للمفاوضه بتاريخ ٢٠٢/١٢/١٨	٣٩	****	1.1.5.	٣,٣٨٥,٢٣٩
	علاوة مسافة نقل للتربة لمسافة ٩٤ كم ٢٣ * ٥.١ = ١٣٨ جنيه	۳۴	****.*.	184	۳,۸٦١,٦٨١,٦٠
	علاوة مسافة نقل للرمل لمسافة ٩٣ كم =٩١*٥.١ =٥.٣٦ جنيه	٣٩	1990.1	187.0.	901,977.7.
	علاوة تحصيل رسوم الكارتة والموازين طبقا للائحة الشركة الوطنية	٣٩	٣٤٩٧٩	17	£0£,VYV



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وزارة النقل



مدير المشروع الهينة م / مارجريت مجدي زاغر

مدير مشروعات الهيئة م/ئيد حسني فياض مجلو







	مشروع القطار الكهرياني قائق السرعة قطاع (برج العرب المقايسة المعدلة لشركة القمة للمقاولات العموم القطاع من المحطة ٢٠١٠+٢١١ - ٢٦٢ اتجاه	ية			
قم البند	بيان الأعمل	الوحدة	الكمية	اللدة	الإجمالي
٥	طبقات الاساس				
1-0	بالمتر المكعب اعمال توريد وفرش طبقة تأسيس ( prepared Subgrade ) من الاحجار الصلبة المترجة ناتج تتمسير الكسارات والمطابقة للمواصفات وأقصى حجم للحبيبات ١٠٠ مم والا تزيد نسبة المار من منخل ٢٠٠ عن ١٢ % و التريج الوارد بالاشترطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفرزيا عن ٢٠ % و الارزيد نسبة اللفاقد بجهاز لوس الجلوس عن ٢٠ % والا يزيد الامتصاص عن ٢٠ % و الا يقل معامل المرونة (Ev2) من تجربة لوح التحميل عن ٢٠ مم يجابسكان و يتم فردها على طبقتين باستخدام الات التسوية الحديثة على أن لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠ مر والا يزيد الامتصاص عن ٢٠ % و الا الات التسوية الحديثة على أن لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠ سم و رشها بالمياة الاصولية عن ٢٠ %) من المكافئة المعلية والدمك الجيد للهراسات للوصول الى اقصى كثافة جافة قصوي ( لاتقل الوصاعة والرسومات التقصيلية المعندة والنائد بجميع مشتملاته طبقا للمواصفات الفلية للمشروع و تقرير الاستشاري وتعليمات المقدس المعرفة من مناز عن م ٢٠ كم - مسافة النقل لا تقل عن ٢٠ كم بالزيادة أو النقصان - يتم احتساب علاي ٢٥ ٢. جنيه لكال ٢ كم بالزيادة أو النقصان				
	السعر خلال شهر مارس ۲۰۲۳ طبقا للمفاوضه بتاريخ ۱۸/۱۲/۲۰۲۳	٣٩	٥٦٣	157.7.	۸۰,۲۷۷.۹۰
	السعر خلال شهر مايو ٢٠٢٣ طبقا للمقاوضه بتاريخ ١٨/١٢/٢٠٢٣	٣٩	0.30	157.5.	٧٤١,٥١٦
	الماده المحجرية (prepared subgrade )	٣٩	07.44	121	9 . 1, 1
	علاية مسافة النقل ٩٠ كم = ٢٠ ٢ × ١ . ٢ = ٢ مجنيه	٣٩	07.44	٨٤	
	علاوة مسافة النقل طبقا للمفاوضه بتاريخ ٢٠٢/١٢/١٨ ٢٠ ٩٠ كم = ٢٠٢٠١٠ ١ = ٩ جنيه	٣٩	0244	91	014,154
	علاوة تحصيل رسوم الكارتة والموازين طبقا للانحة الشركة الوطنية	٣٢	• ٦ ٢ ٨	۲٥	۱٤٠,٧٠٠.۰۰
¥_0	بالمتر المكعب أعمل توريد وفرش طبقة أساس من الاحجار الصلبة المتدرجة ناتج تكسير الكسارات والمطابقة للمواصفات وأقصى حجم للحبيبات ما بين ٢٠.٥ مم الي ٤٠ مم والا يزيد نسبة المار من منخل والا يلق معامل المرونة (Ev2) من تجربة لوح التحميل عن ٢٠ ميجابسكال والا يزيد نسبة الفاقد بجهاز لوس انجلوس عن ٣٠ % والا يزيد الامتصاص عن ١٥ % ويتم فردها علي طبقتين باستخدام الات التسوية الحديثة علي ان لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠ سمو رشها بالميا إلى والا يل الن سببة المطوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة قصوي ( لا يقل عن ٢٠ %) من الكثافة المعملية و الفنة تشمل اجراء التجارب المعملية والحقلية ويتم تنفيذ طبقا تصوي ( لا يقل عن الاستنباعة والرسومات التقصيلية المعتدة و البند بجميع مشتملاته طبقا للمواصفات الفني طبقتين باستخدام الاستنباري و تعليمات المعربية و الفنة تشمل اجراء التجارب المعملية والحقلية ويتم تقديد طبقا لاصول الاستنباري و تعليمات المقدس المشرف . - مسافة النقل ٢٠ كم - مسافة النقل ٢٠ كم				
	السعر خلال شهر مايو ۲۰۲۳ طبقا للمقاوضه بتاريخ ۲۰۲/۱۲/۱۲	٣٢	0111	101.5.	149,700.7.
	الماده المحجرية subballast	٣٩	0111	140	,. 17, 1
	علاوة مسافة النقل ٩٠ كم =٠ ٧*٢ ١.٢ = ٤ ٨جنيه	٣٩	0111	٨٤	
	علاقة مسافة النقل طبقا للمقاوضه بتاريخ ٢٠٢٢/١٢/١٨ ٢ ٩٠ كم =٧٠٣/١ =١ ٩جنيه علاوة تحصيل رسوم الكارتة والموازين طبقا للانحة الشركة الوطنية	۳۶ ۳۶	0/11	91	110,



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مدير المشروع الهينة م/مارجريت مدي زاخر

مدير مشروعات الهينة م/مجد حسني فياض مراجع



المبة المادة المارة و الكباري (GARB )





	مشروع القطان الكهرياني فانق السرعة قطاع (يرج العر، المقايسة المعدلة لشركة القمة للمقاولات العمق القطاع من المحطة ١٠٠ (٢٦١+٢٨ الي ١٠٠ (٣٦٢+٢٠ اتجاد	مية			
قم البند	بيان الأعمال	الوحدة	الكمية	a sal	الإجمالي
<b>7-0</b>	المتر المكعب توريد وتنفيذ وردم احجار بسماكات تتراوح بين ١ الى ٢ الى ٤ سم او بين ١ الى ٢ الى ٢ بنسبة ١:١١ بنسبة امتصاص لاتريد عن ٢% ولا تحتوى على او المواد الناعمة او النودرة (مارة من منظل ٢٠٠ ) تهانيا او مواد طفيا و بيت النمل يتم تنفيذها كطيقة تاسيس بالقطاع اسفل سطح المياة بعمق ٢٠٠ سم حتى اعلى منسوب المياة الارضية بحوالى ٥٠ سم ويتم الدمك الجيد للطبقة بهراس الا بعد اعتماد الاحجار واعتماد التجارب المعملية والبند يشمل اجراء التجارب المعملية والحقاية ( القاحة العامية الحميل قطر ٢٠٠ سم على ان لا تزيد نسبة EV12EV عن ٢٠٥ باستخدام حمل مقدارة kn طبقا لمع وارد -مسافة النقل ٢٠ كم . - مسافة النقل ٢٠ كم . - يتم احتساب علاوة ٢٠٢ جنيه لكل ٢ كم بالزيادة ال النقصان				
	السعر خلال شهر مايو ٢٠٢٣ طبقا للمفاوضه بتاريخ ٢٠١٣/١٢/١٨	٣٦	9 £ 7 7	٣٤٧.٢.	٣, ٢٧١, ٣١٨. ٤.
	علاوة مسافة النقل ٩٠ كم =٢٠/٣٠ = ١.٢٠ جنيه	٣٩	9 £ 7 7	41	104, 2 . 4
1	علاوة تحصيل رسوم الكارتة والموازين طبقا للائحة الشركة الوطنية البلاطات الخرسائية	٣٩	1111	10.11	110,001,11
	بالمتر المسطح أعمال توريد وصب خرسانة عادية سمك ١٥ سم لحماية الأكتاف والميول الجانبية تتكون من ٨. ٢ م٢ سن دولوميت متدرج ٤ ٢. ٢ ٢ رمل حرش + ٣٥٠ كجم أسمنت بورتلاندي عادي واضافة والأملاح والمواد الغريبة والبند يشمل تجهيز واستعال مناسيب التربة الطبيعية أسفل البلاطة للوصول إلى المناسيب التصميميه على أن تحقق الغرسانة إجهاد لا يقل عن ٢٥٠ كجم / سم٢ وتشطيب السطح والتفيذ طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لمواصفات الهينة العامة للطرق والكباري وتعليمات المهندس المشرف .	۲۴	ŧ	*11	١,٠٦٤,٠٠٠
۲-٦	بالمتر المكعب أعمال توريد وصب خرسانة عادية لقدمات الحمايات والميول الجانبية تتكون من ٨. • ٣ ٣ من دولوميت متدرج ٢+ • ـ ٣ رمل حرش و الاضافات طبقا لتعليمات الاستشارى (فبير + سيكا ) على أن يكون نظيف ومغسول والزمل خالى من الشوانب والطلقة والاملاح والمواد الغريبية مع وضع فوم (بالفاصل ) بسمك ٢ سم (طبقا لتعليمات الاستشارى ) والبند يشمل اعمال الحفر والشدات و كل مايلزم لنهو العمل على تحقق الخرسانة إجهاد لا يقل عن ٢٠٠ كجم/سم٢ وملء الفواصل بقبيتومين المرمل والتنفيز والرسومات التعليمات المعتمدة والبند بجميع مشتملاته طبقا لمواصفات الهينية العامة لأطرى والتعليم وتعليمات المهندس المشرف	٣٩	£	۲, ۲	۸,۸۰۰.۰۰
11	أعمال التربة المسلحة				
۲-۱۱	بالمتر المسطح توريد و تركيب طبقة من النسيج الصناعى جيوتكستايل مستورد التداخل لا يقل عن ١٠% و يتم التنفيذ طبقا لاصول الصناعة و الرسومات التفصيلية المعتمدة و البند بجميع مشتملاتة طبقا لمواصفات الهينة العامة للطرق و الكباري.				
	ذات وزن لا يقل عن ٤٠٠ جم/م٢	۴۶	1.17.	٤٢	££Å, ١£ · . · · ·
r-11	بالمتر المسطح توريد و تركيب طبقة من النسيج الصناعى جيوجريد مستورد التداخل لا يقل عن ١٠% و يتم التنفيذ طبقا لاصول الصناعة و الرسومات التفصيلية المعتمدة و البند بجميع مشتملاتة طبقا لمواصفات الهينة العامة للطرق و الكباري.				
	ذات قوة شد ٣٠ ك . نيوتن في الاتجاهين Biaxial	٢٩	۱.	۳۷	**
	الإجمالي عشرين مليون جنيها مصري فقط لاغير				۲.,,



-

وزار<u>ة النقل</u>



مدير المثروع الهينة م / مارجرينة مجدي زاخر

متير مشروعات الهينة م/مجد حسني فياض حك

ينة العامة للطرق و يعتمد نيس الادارة المركزي منطقة غرب الدلتا S. 14 مطروح درية - م هانی محمود طه 1 غرب الدلنا PORT



الإدارة المركزية للمنطقة الخامسة بالإسكندرية

#### الموضوع: -

بالإحالة الي مشروع القطار الكهربائي السريع (القطاع الخامس)

- تنفيذ شركة القمه للمقاولات العموميه
  - العقد رقم ۲۰۲۳/۲۰۲۲/۲۱۰۰
- قيمة امر الاسناد ٢٠.٠٠٠ جنيه مصريا
  - تاريخ استلام الموقع: ٢٠٢٣/٠٦/١٩
  - تاريخ النهو طبقا للتعاقد: ٢٠٢٤/٠١/٢٩

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

- للأسباب الاتية: تم حدوث عديد من التعديلات بالمسقط الافقي والمخطط الرأسي للمشروع عدة مرات أثناء
   التشغيل طبقا للتواريخ التاليه:
  - 1. REV 28 PLAN PROFILE بتاريخ ۱۳/۰۹/۲۰۲۲
  - -A PLAN PROFILE -2 بتاريخ ۲۰۲۲/۱۰/۲۰۲۲ REV
    - REV 29 PLAN PROFILE -3 بتاريخ ۲۰۲۲/۱۰/۲۰۲۲

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

رأي المنطقة: -

تحريرا في

الموافقة على اضافة اربعه 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

الاسكندرية - مرسسى مطروح

ante aster !!

"هالي عد محمود طه"

## Scanned with CamScanner

ولاتعالقهم

MATERIA INSPECTIC REQUES	DN / Lupul Uplui		بارى	الميتقالماه للطرق و الك GARB )		aller Aller	<b>11. ä</b>	الميلي "" برداندار	Syst		SHAKER
Contractor Con		ntracting from 361+800 to			Designer	Company	,	ISPECTRUM	I) Engineeri	ng Consultir	ng Office
Contractor Con	303+000	A1		Date/Seri	-		/ 			me	
Issued by		Sign									
Contractor	r Eng. Mohamed Asayed		annessan ann	24/11			1-FDT-C-6			) PM	
Received by G CONSULTA		OF	MIR	©1 S14	C2 EW	C3 CS	DD 25	мм 11	23	нн 13	мм 00
		S1 to S21			D1 to	o S3			Кр ХХ	X Note	
CODE-1	Sta	tion Reference			Depot R	eference		For Kilom	eter point	only Start I	Km is used
			I	Work Ac	tivity			L			
			Şu	ib Element			and the state	et lies	y lizzo		
Descr	ription of Materials	BED EXCAVATION					1.58	and the second			
Loc	ation to be Used	From		362+22	0	т	0		362	+280	
MAD	8 HIP Approval No	UIRS5-B-QM1-IR-C-6			Date		181		3/11/202		
	& UIR Approval No	S5-B-QM1-PLT-C-6					1 49	2	8/11/202	r <b>3</b> '	
s	Supplier Name			Soi	I + Sand	A3		Ś5-B	-QM1-Q	T-C-1	
Te	st Requirement	F.D.T(ASTM D 1556)		Sp	ecificati	on	EARTHWOR (CG21-41.2)	K SPECIFIC			PORT
Re	ference Photos	No/Yes			Other						
ltem	Descri	otion	I	Unit	Qua	ntity	Arriva	l Date		Note	
1	SAND CON	IE TEST	NU	MBER		1	26/11	/2023	1		
2							-				
3											
4											
Comments by:	Eng. Mazen Essamy (SPECT)	RUMONSI		Commen	ts by: En	g. Alaa A	bd-Allatif	(ER)			
1-The Co	ompaction Test Result F.O.T. (	ASTMD 1656) Is Approved.		Consulta	nt		naterial en d acceptał				
		APPROV	'AL	STATI	JS				74, 4 4		· ·
Organisation		Name			Sign			Date	_	A-A	WC-R
Contractor		Eng. Mohamed Sayed			$\square$	R	A	× 14 11			A
QA/QC *		Eng. Mazen Essamy		C	$\geq$	J_		<i>sprov</i>	60	A	
GARB**		Eng. Mohammed Fayad	A	n		0					
Employers R	epresentative	Eng. Alaa Abd-Allatif	for	Parti	161	2				f	ha
<ul> <li>Designer</li> <li>** Alignment/Bridges</li> </ul>	: Culvert only		, -7								

1

MATERIA INSPECTI REQUES	ملزرك ليربية (ON	SPRACHTARINA		المرتة المامة اطرق و الك (GARB )	Y Company	1.3 La 1.2 Jun	القومية للإن ج	( المبلغ (رواديم رم	SVS		SHAKER
Contractor Cor	npany AI - Qma -1Co. for Co 363+000	ontracting from 361+800 to	>		Designer	Compan	y	(SPECTRU	V) Enginee	ring Consultin	g Office
Issued by	Namo	Sign		Date/Ser	ial Numbe	),			Т	ime	
Contracto	er Eng. Mohamed Asayed	H		24/11	/2023	\$5-B-QM	1-FDT-C-6	ļ	1:0	0 PM	
Received by G CONSULTA			MIR	еі S14	C2 EW	C3 CS	DD 25	мм 11	үү 23	нн 13	мм 00
		\$ S1 to \$21			Dite	o \$3			KoX	XX Note	
CODE-1	Sta	ation Reference			Depot R			For Kilom		олly Start К	m is used
440				Work Ac	tivity			I			
			s	ub Element	of Activity						
					·						
Desc	ription of Materials	BED EXCAVATION									
Loc	ation to be Used	From		362+22	20	Т	o		362	+280	
MAR	& UIR Approval No	UIRS5-B-QM1-IR-C-6			Date			2	3/11/20:	23	
		S5-B-QM1-PLT-C-6			Date			2	6/11/20:	23	
5	Supplier Name			Sol	I + Sand	A3		S5-B	-QM1-Q	T-C-1	
Те	est Requirement	F.D.T(ASTM D 1556)		Sp	ecificati	on		K SPECIFIC		TESTING REP IN GROUP	ORT
Re	eference Photos	No/Yes			Other						
ltem	Descri	ption	1	Unit	Qua	ntity	Arriva	I Date		Note	
1	SAND CON	NE TEST	NU	MBER	1		26/11	/2023			
2 3											
4											· · · · · · · · · · · · · · · · · · ·
Comments by:	Eng. Mazen Essamy (SPECT)	RUM)		Commen	ts by: Eng	g. Alaa Al	bd-Allatif	(ER)	1		
1-The Co	ompaction Test Result F.D.T. (	ASTMD 1556) is Approved.		Consultar 2-Results	report att	ached and		ble with pr	oject spe	tractor and	
		APPROV	'AL	STATL	IS		1				
Organisation		Name			Sign	<i></i>		Date		A-AW	/C-R
Contractor		Eng. Mohamed Sayed		-2	$\gamma$					А	
QA/QC *		Eng. Mazen Essamy	(			aranged Diff.				A	
GARB**		Eng. Mohammed Fayad				$\Omega_{\Lambda}$					
Employers Re	epresentative	Eng. Alaa Abd-Allatif 🥄	02 [	A	ha f	bf				Au	UC
<ul> <li>Designer</li> <li>** Alignment/Bridges:</li> </ul>	Culvert only	9-45-5-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		2	6/ 11						

شركة القمية المقاولات العمومية السيد رجب عبد الواحد QGC			Express Train F	مکنّب ( <mark>.</mark> د/ ع rom Borg Alarał 393 To Station 39			~17iš	S C FRUI	×1
Project	E	Electrical Expres	ss Train From	Borg Alarab to	lamein	s	TATION REP	RESENTED	
Date		••••••	26/11/20			FI	ROM362+220	TO 362+280	
STAGE OF WORK :		E	BED EXCAV	ATION		FDT NO.	S5-E	3-QM1-FDT-	C6
References		IR Su	rvey No.S5-B	-QM1-IR-C6			S5-E	3-QM1-PLT-(	C-6
				FOR FIELD DE					
			BY SAND CO	ONE METHOD AS				••	
LAYER				·	BED EXCA	VATION		·····	
DEPTH OF HOLE	cm	25 cm		<u> </u>		<u> </u>	<u> </u>	<u>i</u>	<u> </u>
	-11	· · · · · · · · · · · · · · · · · · ·				·····	·····	······	·
SAMPLE No.		1							 
STATION		362+260			******		*****	<u></u>	
CONTAINER No.	•	1						<u> </u>	
NEIGHT OF CAN	gms	33			**********	1		ļ	
NT. OF CAN+WET SOIL	gms	209.0	• : :			1     		1	 
NT. OF CAN+DRY SOL	gms	194.0				, , , , , , , , , , , , , , , , , , , ,			
WT. OF WATER	gms	15.0				   			
WT. OF DRY SOIL	gms	161,0							
WATER CONTENT	%	9.3				<u> </u>	l	<u> </u>	<u> </u>
	- <u>1</u> 1			·		ſ		Y	
WT. OF WET SOIL	gms	3001		-					
WT. OF INITIAL SAND+CONT.	gms	10340						<b></b>	
WT. OF RESIDUAL SAND + CONT.	gms	6660						ļ	 
WT. OF SAND TO FILL CONE+HOLE	gms	3680				, ,		+	 
WT.OF SAND TO FILL CONE	gms	1525	****			; ; ; ;		<b>!</b>	
WT.OF SAND TO FILL HOLE	gms	2155				 		+	
UNIT WT. OF SAND	gm/cc	1.46						<b>!</b>	
GROSS VOLUME OF HOLE	ccs	1476.0							
WET UNIT WT. OF SOIL	gm/cc	2.03	*****			 			
DRY UNIT WT. OF SOIL	gm/cc	1.86							
MAX. DRY DENSITY	gm/cc	1.920				1	10 10 10 10 10 10 10 10 10 10 10 10 10 1	and the second s	
OPTIMUM MOISTURE CONTENT	%	9.60				f	allouis,	<u> </u>	
COMPACTION	%	96.87		1997 - C. S.		<i>fe</i> ~		<u> </u>	
	- % -	DASSED			•••••	} <i> </i>	<u> </u>	<u> </u>	<b> </b>
REQUIRED COMPACTION REMARKS Eng. / CONSL		95 DASSED	CONSUL CONSUL ECTRU	Re P				CTOR	

MATERIAL INSPECTION REQUEST	نىرى قلبة تلفزون تسريبة تسبورج عبر الإنعا	SPECTRUM		الهيةالم الطرق و ال BARB )		1315 1315	القومية للإند	المينة ترتسعر م	E) SWST	Autor Autor Destric Experi CFA	And And Shaker
Contractor Compar	363+000	ontracting from 361+800 to				Compan	y	(SPECTRUM	/) Engineer	ing Consulti	ng Office
Issued by Contractor	Name Eng. Mohamed Asayed	Sign		Date/Ser 22/11		T	11-FDT-F-48			me 0 PM	
Received by GARB CONSULTANT	B Eng. Mazen Essamy		MIR	c1 <mark>\$14</mark>	C2 EW	C3 CS	DD 23	MM 11	үү 23	нн 13	MM 00
CODE A		S1 to S21			D1 t	o S3			Кр ХХ	(X Note	
CODE-1	St	ation Reference			Depot R	eference		For Kilom	eter point	only Start I	Km is used
CODE - 2				Work Ac	tivity						
CODE - 3			Su	b Element	of Activity						
Descripti	on of Materials	FERMA									
Locatio	n to be Used	From		362+28	)	1	го		362	+380	
MAR & UI	R Approval No	UIRS5-B-QM1-IR-F-48			Date				2/11/202	10	
Cum	lior Nome	S5-B-QM1-FDT-F-47		0.1		40		Contraction in the	9/11/202		
	olier Name	ش 3001		501	I + Sand	A3		_	QM1-Q1		
Test R	equirement	F.D.T(ASTM D 1556)		Sp	ecificati	on		VERSION 2			PORT
Refere	nce Photos	No/Yes			Other						
Item	Descrip	otion		nit	_	ntity		al Date		Note	
1 2	SAND CON	IE TEST	NUM	ABER	1	4	27/11	/2023			-
3										-	
4											
Comments by: Eng.	Mazen Essamy (SPECT	RUM)		Commen	ts by: En	g. Alaa A	bd-Allatif	(ER)			
1-The Compa	ction Test Result F.D.T. (	ASTM D 1556) is Approved						b combass		cifications	
	1. AL	APPROV	AL S	STATU	IS						
Organisation		Name		-	Sign			Date		A-AV	VC-R
Contractor		Eng. Mohamed Sayed		Å	7						A
QA/QC *		Eng. Mazen Essamy	(	X	K					A	
GARB**		Eng. Mohammed Fayad									
Employers Repres	sentative	Eng. Alaa Abd-Allatif		A	Part	ft		i de		f	F
<ul> <li>Designer</li> <li>Alignment/Bridges: Culver</li> </ul>	rt only										

			1.1			-			-	
MATERIAL INSPECTION REQUEST	نىرى ئانى ، تىلەرى ئىرىيە ئىبورى بەتۇنىد يېرى بەتۇنىد	SPECTRUM	ينة المامة في و الكباري (GARB)	الطرز	ناقه بزارة التقر	القومية للإنا	الميلة	E SVST	Enclosed and the second	razat stoan SHAKER
Contractor Company		ontracting from 361+800 t	to	Design	er Compar	y	(SPECTRU	M) Engineeri	ng Consulti	ng Office
Issued by	363+000 Name	Sign	Date	/Serial Nun	nber			Ti	me	
Contractor	Eng. Mohamed Asayed	17	2	22/11/2023	S5-B-QN	11-FDT-F-48		1:00	D PM	
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR S1		C3 CS	DD 23	MM 11	үү 23	нн 13	MM 00
Contraction of the owner		S1 to S21		0	1 to S3	-		Кр ХХ	X Note	
CODE-1	St	ation Reference		Depo	t Reference		For Kilom	eter point	only Start	Km is used
CODE - 2			We	ork Activity			1			
CODE - 3			Sub Ele	ment of Activ	ty					
Descriptio	n of Materials	FERMA								
Location	to be Used	From	362	2+280		го		362	+380	
MAR & LUE	R Approval No	UIRS5-B-QM1-IR-F-4		Date	, ,	h. 11		2/11/202		
MARCO OI		S5-B-QM1-FDT-F-4	7	Bui			1	9/11/202	23	
Suppl	ier Name	ش 3001		Soil + Sa	nd A3		S5-B-	-QM1-Q	Г-F-10	
Test Re	quirement	F.D.T(ASTM D 1556	5)	Specific	ation		RK SPECIFIC			PORT
Referen	ice Photos	No/Yes		Othe	r					
Item	Descri	ation	Unit	Q	uantity	Arriv	al Date		Note	
1	SAND CON		NUMBE		4	26/1	1/2023			
2										
3										
4	Mazen Essamy (SPEC1	BUM)	Corr	ments by:	Eng Alaa A	bd-Allatif	(FR)			
	12	ASTM D 1556) is Approved.	1-F.I 2-Re	D.T was car esults report inal approva	ried- out by attached ar	out third land	ib combas ible with pr	roject spe		5.
		APPRO	VAL ST	ATUS						
Organisation		Name		sig	n		Date		A-A	WC-R
Contractor		Eng. Mohamed Sayed	-	10	/					А
QA/QC *		Eng. Mazen Essamy	C	X					A	
GARB**		Eng. Mohammed Fayad			N					
Employers Repres	entative	Eng. Alaa Abd-Allatif	1025	Alaat	th				A	-WC
<ul> <li>Designer</li> <li>** Alignment/Bridges: Culvert</li> </ul>	only			27	11					



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

Report NO. Date

;

2375/02/center 27-11-2023

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

General consultant	:	SYSTRA
Consultant		SPECTRUM
Contractor	:	شركة القمة للمقلولات
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 (¥s) (gm/cm³)		1.	52	
Volume of hole (cm³)	1257.89	1172.37	1357	1172.4
Wt.of wet Sample (gm)		2	00	
Wt.of sample after drying (gm)	191.4	190.6	192	190.4
Wet Density (¥wet) (gm/cm <sup>3</sup> )	2.162	2.243	2.094	2.201
Moisture ratio (%)	4.5	4.9	4.3	5.0
Dry Density (¥dry) (gm/cm³)	2.069	2.138	2.007	2.095
(¥max.dry) (gm/cm³)	·	2.1	100	
Compaction Ratio (%)	99	102	96	100

eman

Eng : Eman. E. Kandil

por 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



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> 49 El Horria Ave. Alex, Egypt Tel: 002 033920176 - 002 033931482 Fax :002 033900476 Email : internal-inspection@comibassal.com

S MATERI INSPECT REQUE	ION	المركبة المعانية الملكران العدوب المبارود عبد الألفة Quic	APPORTUNE		الحيثة الماه طرق و الک (GARB )		-31. 	القوم.و للإنف	اردادید و م	5V5		SHAXER	
Contractor Co		363+000	Contracting from 361+800	) to		Designer	Compar	ıy	(SPECTRU	M) Engineer	ing Consulting	Office	
Issued b	y	Name	Sign		Date/Se	rial Numb	er			Т	me		
Contract	or	Eng. Mohamed Asayed	ET.	_	27/1	2/2023	\$5-8-QN	1-FDT-F-54		1:0	РМ		
Received by CONSULT		Eng. Mazen Essamy		MIR	041 S14	C2 EW	C3 CS	DD 28	MM 12	үү 23	нн 13	мм 00	
CODE-1		· · · · · · · · · · · · · · · · · · ·	\$1 to \$21			D1 te	o S3			Кр ХХ	X Note		
		S	tation Reference			Depot R	eference		For Kilon	ieter point	only Start Km	is used	
		· · · · · · · · · · · · · · · · · · ·			Work A	ctivity							
				S	ub Elemeni	of Activity							
Desc	ription	of Materials	FERMA										
Lo	cation t	to be Used	From		362+22	0	T	0		362-	-280		
MAR	& UIR	Approval No	UIRS5-B-QM1-IR-F-			Date				7/12/202	3		
	Supplier Name 26/12/202												
		uirement	······		Soil + Sand A3			EARTHINGO	-F-10				
		e Photos	F.D.T(ASTM D 1550	5)	SI	pecificatio	on 	(CG21-41.2)	VERSION 2	BY CIVECON	STING REPOR		
Item	nerenci		No/Yes			Other							
1		Descrip SAND CON			Init IBER	Quar 1		Arriva 30/12/			Note		
2													
3	<del>.</del>			•···									
Comments by:	Eng. Ma	zen Essamy (SPECT	RUM)		Commen	ts by: Eng	. Alaa Ab	d-Allatif (	ER)				
1-The Co	mpactio	on Test Result F.D.T. (/	STMD 1559) IS Approved		2-Results	report atta					fications.		
			APPRO	VAL S	STATU	S							
Organisation			Name			Sign	Ĩ		Date		A-AWC-	R	
Contractor	ctor Eng. Mohamed Sayed		Eng. Mohamed Sayed		Ë	P					A		
QA/QC *			Eng. Mazen Essamy								$\beta$		
GARB**			Eng. Mohammed Fayad										
Employers Rep	present	ative	Eng. Alaa Abd-Allatif		A	las f.	OR.	)			A		
* Alignment/Bridges: C	ulvert only					1				•			

MATERI/ INSPECTI REQUES	سلاران للدرب ( NON /	Serie Typese	المیتدالمامه اطرق و الکباری (GARB)		الخومية الإنشاق: مسيعيسا مستنف الأ	( المبلة ( المبلة))	SVST		HAKER
Contractor Co	Many Al - Qma -1Co. for C 363+000	Contracting from 361+800	to	Designer Co	ompany	(SPECTRU)	l) Engineeri	ng Consulting	g Office
	Name	Sign /	Date/Se	- rial Number			Ti	me	
Issued by Contracto		1 LA	27/1	2/2023	85-B-QM1-FDT-F-54		1:00	) PM	
Received by G			MIR	C2	C3 DD	MM	۲۲	нн	MM
CONSULTA	NI - ·	LA	S14	EW	CS 28	12	23	13	00
		S1 to S21		D1 to S	33	1	Кр ХХ	X Note	
CODE-1	S	tation Reference		Depot Refe	rence	For Kilom	eter point (	only Start Ki	m is used
=			Work A	ctivity		1			
			Sub Element	t of Activity					
Desc	ription of Materials	FERMA							
	ation to be Used	From	362+22	20	то	ļ	362-	-280	
		UIRS5-B-QM1-IR-F-	1			27	7/12/202		
MAR	& UIR Approval No	S5-B-QM1-FDT-F-5	3	Date			6/12/202		
5	Supplier Name	ش 3001	So	il + Sand A3	3	S5-B-0	QM1-QT	-F-10	
Te	st Requirement	F.D.T(ASTM D 1556	δ) <b>S</b> Į	pecification		RK SPECIFICA VERSION 2 E			ORT
Re	ference Photos	No/Yes		Other					
Item	Descri	ption	Unit	Quanti		I Date		Note	
1 2	SAND CO	NE TEST	NUMBER	1	30/12	2/2023			
3									
4	••••••••••••••••••••••••••••••••••••••								
Comments by: I	Eng. Mazen Essamy (SPEC	(RUM)	Commer	nts by: Eng. A	laa Abd-Allatif	(ER)			
1-The Co	mpaction Test Result FOT.	ASTM B 1556) is Approved.	2-Results	report attach	ut by out third fail and acceptat	e with pro	ject spec		
		APPRO	VAL STATU	JS					
Organisation		Name		Sign A		Date		A-AW	C-R
Contractor		Eng. Mohamed Sayed	-4	b				A	
QA/QC *		Eng. Mazen Essamy		X				P	
GARB**		Eng. Mohammed Fayad							
Employers Rep	presentative	Eng, Alaa Abd-Allatif	2027	ton H	1p			Au	
<ul> <li>Designer</li> <li>** Alignment/Bridges: C</li> </ul>	ulvert only			31/12	2				

MBALLW

WIDE SER

# **COMIBASSAL** International Controllers

Internal inspection and laboratories sector igsqcup

Accredited by : Egyption 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 القمة للمقلولات
Project	:	Electric express train
Sample	•	Ferma
Date of test	:	30- 12 - 2023
<u>Results :</u>		

Points NO.	1	
Description	St(362+220) : St(362+280)	
Intial wt. (gm)	8875	
WLafter filling the cone and the hole (gm)	5640	
WL 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/cm³)	1.52	
Volume of hole (cm <sup>3</sup> )	1200.66	
Wt.of wet Sample (gm)	200	
Wt.of sample after drying (gm)	189.5	
Wet Density (Ywet) (gm/cm³)	2.249	
Moisture ratio (%)	5.5	
Dry Density (Ydry) (gm/cm³)	2.131	
(Ymax.dry) (gm/cm*)	2.100	
Compaction Ratio (%)	101	
Lab director	Geotechnical consultant	1

lman\_ Eng : Eman. E. Kandil

Far. Dr. H-

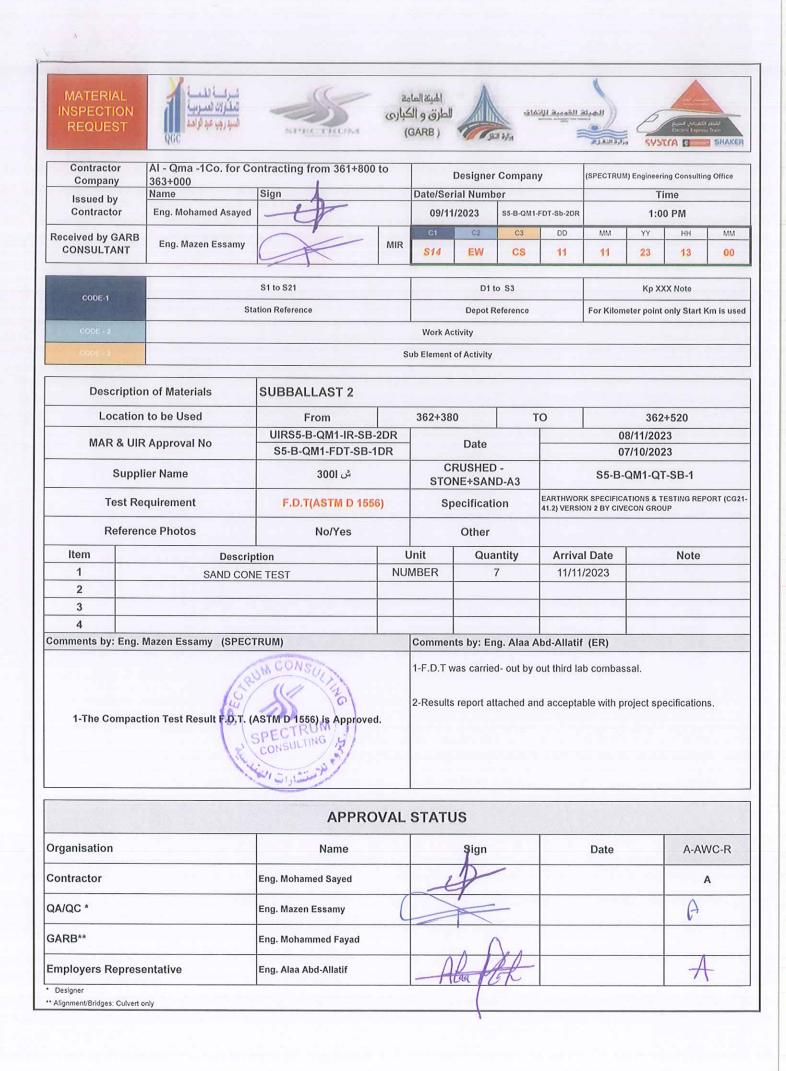
Dr. Mohamed Mostafa Badry

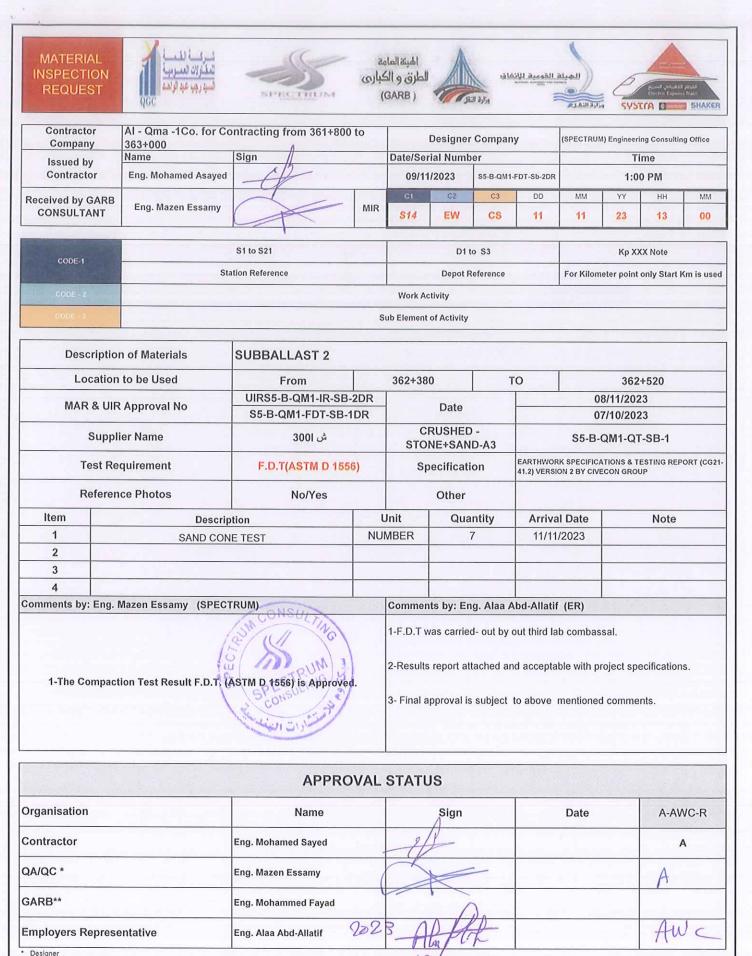
Kilo 23 Alexandria - Cairo Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com



49 El Horria Ave. Alex, Egypt Tel: 002 033920176 - 002 033931482 Fax :002 033900476 Email : internal-inspection@comibassal.com

PECTRU





•	Alignment/Bridges:	Culvert	only



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

Report NO. Date

2301/01/center

12-11-2023

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

5B-2-DY

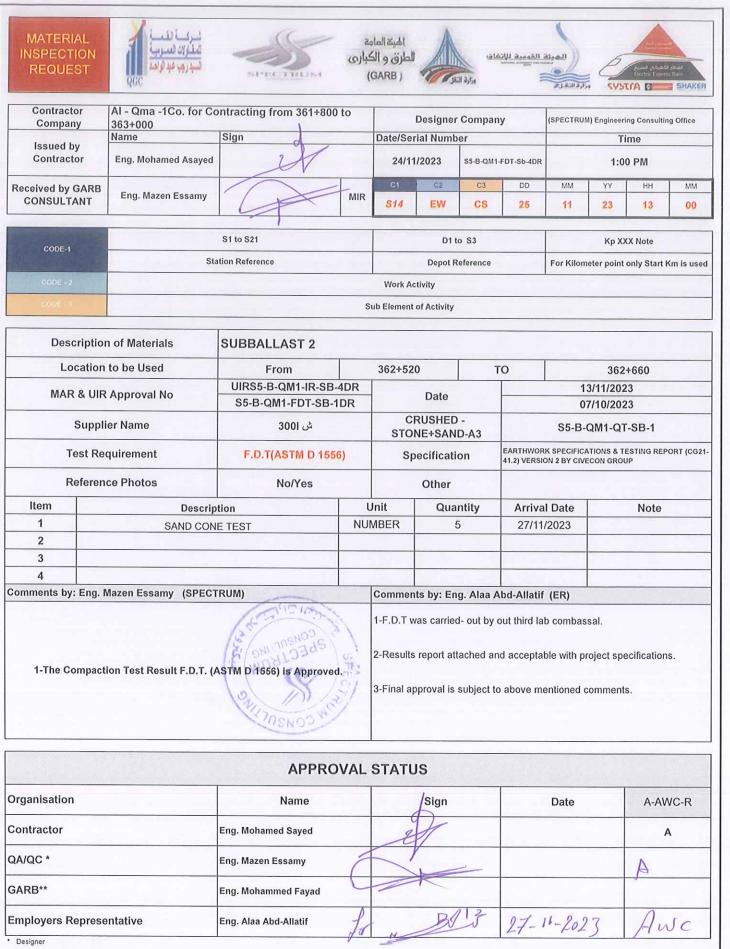
			0 1000				
General consult	ant :			SYST	RA		
Consultant	:			SPECT	RUM		فالعمومين
Contractor	:			بة للمقاولات	شركة القم		
Project	:		Ele	ctric exp	ress tra		1 1 23
Sample	:			Sub ball	ast (2)		
Date of test	:			11-11			5 .IVJr.
Results :							.7.
Points NO.	1	2	3	4	5	6	7
Description	St (362+390)	St (362+410)	St (362+430)	St (362+450)	St (362+470)	St (362+490)	St (362+510)
Intial 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	1 <mark>520</mark>	1520	1520
Density of standered sand (¥s) (gm/cm³)				1.52			
/olume of hole (cm³)	1072.37	1085.53	1099	1064.5	1065.8	1059.2	1052.6
Wt.of wet Sample (gm)				200	I	I	
Wt.of sample after drying (gm)	191.4	192	192	191.4	190.8	190.8	190.7
Wet Density (Ywet) (gm/cm <sup>3</sup> )	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 (¥dry) (gm/cm³)	2.204	2.220	2.205	2.203	2.247	2.234	2.201
(¥max.dry) (gm/cm³)				2.205			100
Compaction Ratio (%)	100	101	100	100	102	101	900
Lab director		Contraction of the second	134554 1134554	and the series	Geotechni or f	Dr. H_	tant SPE
airo Desert Road - Mei	ghem	10	NAL CON		49 FI H	orria Ave	Alex Favr

Kilo 23 Alexandria - Cairo Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com



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MATERIAL INSPECTION REQUEST	نىرىيا ئىنىيا <u>ئىئرەن سىرىيا</u> ئىچروپ مولۇندا تىچروپ مولۇندا	SPECTRUM	فينة المامة زق و الكباري (GARB)		al alternation	<u>ز القومية الأنفا</u>	الميلة	e svs		SHAKER	
Contractor Company	AI - Qma -1Co. for Co 363+000	ontracting from 361+800 to		Designe	r Compa	nv	(SPECTRUM) Engineering Consulting Office				
Issued by	Name	Sign	Date/	Serial Num		,			ime		
Contractor	Eng. Mohamed Asayed	N	24			1-FDT-Sb-4DR			0 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy	G '	01 MIR <b>514</b>	C2 EW	C3         DD           CS         25		мм 11	үү 23	нн 13	MM 00	
		S1 to S21		D1	to S3			ΚρΧ	KX Note		
CODE-1	Sta	tion Reference	-	Depot	Reference		For Kilom		only Start M	(m is used	
CODE - 2			Worl	Activity				iotor point	only clarer	1115 0300	
CODE - 1				ent of Activity							
			out Litin	int of Activity					-	1	
Description	of Materials	SUBBALLAST 2									
Location	to be Used	From	362+	520	1	то		362	+660		
MAR & UIR	Approval No	UIRS5-B-QM1-IR-SB-4D	R	Data			1	3/11/202	Construction of the second		
		S5-B-QM1-FDT-SB-1DR		Date		07/10/2023			23		
Supplie	er Name	ٹی 3001	ST	CRUSHE			S5-B-	QM1-QT	-SB-1		
Test Rec	luirement	F.D.T(ASTM D 1556)		Specificat		EARTHWORK 41.2) VERSIC	K SPECIFICA	TIONS & TI	ESTING REPO	ORT (CG21	
Reference	e Photos	No/Yes		Other			In 2 BT ON				
Item	Descrip	tion	Unit	Unit Quantity			Date	_	Note		
1	SAND CON		NUMBER	Gui	5	27/11/	Contraction of the second		Note		
2											
3											
4 omments by: Eng. M	azen Essamy (SPECT	DUM				Abd-Allatif					
1-The Compaction	on Test Result F.D.T. (A	STM D 1556) is Approved.	1-F.D. <sup>-</sup>	was carrie	d- out by	out third lab	o combas		ecifications	5.	
		APPROVA		US							
rganisation		Name		Sign			Date		A-AW	C-R	
ontractor		Eng. Mohamed Sayed		1)					A		
A/QC *		Eng. Mazen Essamy	6	T	-				A		
ARB**		Eng. Mohammed Fayad	12	4~							
			-1		R13					_	



\*\* Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST	نىرىيا ئارىيا تىلۇرى تىرىيە تىبورى بەتۇنىد تىبورى بەتۇنىد	SPECTRUM	المیته المامه طرق و الکباری (GARB)		ન્વા આ રુદ્ધ	ة القومية للإنك مع		e svst	Rund geforder Becard Lapres	And Stain SHAKER
Contractor Company	AI - Qma -1Co. for Co 363+000	ontracting from 361+800 to		Designe	r Compa	ny	(SPECTRUM	) Engineerii	ng Consultin	g Office
Issued by	Name	Sign	Date/Se	rial Num				Ti	me	
Contractor	Eng. Mohamed Asayed	-10-	714/1	714/11/2023 S5-B-QN				1:00	PM	
Received by GARB		Ye.	C1	C2	C3	DD	MM	YY	нн	MM
CONSULTANT	Eng. Mazen Essamy		MIR S14	EW	CS	18	11	23	13	00
Standard State		S1 to S21		D1	to S3	95		Kp XX	X Note	
CODE-1	Sta	ation Reference			Reference	~/	For Kilom		only Start F	(m is use
CODE - 2			Work A	ctivity						
CODE - 3			Sub Elemen	t of Activity						
Description	n of Materials	SUBBALLAST 2								
Location	to be Used	From	362+52	20		то		362-	+660	
MAR & LUR	Approval No	UIRS5-B-QM1-IR-SB-4D		Date				3/11/202		
		S5-B-QM1-FDT-SB-1DI	28			07/10/2023			3	
Suppli	er Name	ٹی 300I	11 A A A A A A A A A A A A A A A A A A	RUSHE			S5-B-0	QM1-QT	-SB-1	
Test Red	quirement	F.D.T(ASTM D 1556)	S	pecificat	ion		K SPECIFICA			ORT (CG2
Referen	ce Photos	No/Yes		Other						
Item	Descrip	tion	Unit	Qua	antity	Arriva	I Date		Note	
1	SAND CON	ETEST	NUMBER		5	16/11	/2023			
2						07				
3						4				
4	Mazen Essamy (SPEC)					Abd-Allatif				
1-The Compact	ion Test Result F.D.T. (	ASTM D 1556) is Approved.	1-F.D.T	was carrie	d- out by	out third la	b combas		ecification	S.
		APPROV	AL STAT	US						
Organisation		Name		Sign			Date		A-AV	VC-R
Contractor		Eng. Mohamed Sayed	-+	X	-				,	4
QA/QC *		Eng. Mazen Essamy	R	K	2				A	
GARB**		Eng. Mohammed Fayad	NO.	1						

SCOMBATTA OWIDE SER

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

Report NO. Date

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2375/01/center 27-11-2023

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

General consultant	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقلولات
Project	:	<b>Electric express train</b>
Sample	:	Sub ballast (2)
Date of test	:	26-11-2023
Describe		

**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
WLafter 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 (¥s) (gm/cm³)			1.52		
/olume of hole (cm³)	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 <sup>3</sup> )	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/cm³)	2.259	2.260	2.210	2.267	2.294
(Ymax.dry) (gm/cm³)			2.205		
Compaction Ratio (%)	102	102	100	103	104
Lab director				eotechnical	

Eng : Eman. E. Kandil

Dr. Mohamed Mostafa Badry



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MATERIAL INSPECTION REQUEST	نىرىت ئىت تىئران ئىرىيە ئىجروپ بولۇند ئىجروپ بولۇند	SPECTRUM	لكبارى	الميتقالم للطرق و ال ARB )		eal and the file	ز القومية الإنف محمد معرفة معمد	الهيلة الهيلة	C SVS	Energy Constant	a gande so Train SHAKER		
Contractor Company		ontracting from 361+800	to		Designe	r Compa	nv	(SPECTRU	M) Engineer	ing Consulti	ng Office		
Issued by	363+000 Name	Sign			ial Numi		.,		11 I.	ime	ig onice		
Contractor	Eng. Mohamed Asayed	1		23/11/2023 S5-B-QM1		I-FDT-Sb-5DR			0 PM				
Received by GARB CONSULTANT	Eng. Mazen Essamy	A	MIR	C1 <b>S14</b>	C2	C3	00 25	мм 11	УҮ 23	нн 13	MM 00		
CODE-1		S1 to S21			D1	to S3		Kp XXX Note					
"Sale of the second second	Station Reference Depot Reference For Kilometer point only Start K												
CODE - 2				Work Ac	tivity								
0.000-1			Sut	b Element	of Activity								
Descriptio	n of Materials	SUBBALLAST 2											
Location	to be Used	From		362+68	0		то		363	+000	-		
MAR & LUE	Approval No	UIRS5-B-QM1-IR-SB-5		Date		22/11/2023							
		S5-B-QM1-FDT-SB-3	DR	CRUSHED -				1	5/11/202	23			
Suppl	ier Name	ش 3001			RUSHED			S5-B-	QM1-Q1	-SB-1			
Test Re	quirement	F.D.T(ASTM D 1556	)	Sp	ecificati	ion	EARTHWORK 41.2) VERSIC	SPECIFICA	ATIONS & T ECON GROU	ESTING REP JP	ORT (CG21		
Referen	ce Photos	No/Yes			Other								
ltem	Descrip	tion	Un	nit	Qua	ntity	Arrival	Date		Note			
1	SAND CON	NUN		BER	1	12 03/		03/12/2023					
2 3													
4													
20	Mazen Essamy (SPECT	RUM)	C	Comment	ts by: En	g. Alaa A	Abd-Allatif	(ER)					
1-The Compact	ion Test Result F.D.T.	STM D 1556) is Approved.	2				out third lab			ecification	s.		
		APPRO	/AL S	TATU	S	36	10	-					
rganisation		Name			Sign			Date		A-AV	VC-R		
ontractor		Eng. Mohamed Sayed		4	P					A	4		
A/QC *		Eng. Mazen Essamy	(	$\bigcirc$	K	-			_	P			
		Eng. Mohammed Fayad	d		-								
ARB**		3			()				_				

MATERIAL INSPECTION REQUEST	نىرىيا ئايىيا تىلىرەن لىيرىيا ئىجرىيە برايىد مېجرىيە برايىد	SPECTRUM	کباری	الميتة الما الطرق و الأ GARB )			ز القومية للإنف القومية الإنف	الميلة	E svs	Betrie Express	Paul Trais SHAKER
Contractor		ontracting from 361+800	0 to		Designe	r Compar	v	(SPECTRU	M) Engineer	ing Consultin	a Office
Company	363+000 Name	Sign				ber	.,			ime	
Issued by Contractor	Eng. Mohamed Asayed	27		23/11/2023 S5-B-QM1-FDT-Sb-5DF			-FDT-Sb-5DR	-	1:0	0 PM	
Received by GARB CONSULTANT	Eng. Mazen Essamy	- CY	MIR	с1 <mark>S14</mark>	c2 EW	C3	DD 25	мм 11	үү 23	нн 13	MM 00
		S1 to S21			D1	to S3			Kp X	XX Note	
CODE-1	SI	ation Reference			Depot	Reference		For Kilon	neter point	only Start K	(m is used
CODE - 2				Mark A.				1.011010	iotor point		
			_	Work A			-	_			
CODE 4			S	ub Element	of Activity	' <u> </u>			_	_	
Description	n of Materials	SUBBALLAST 2									
Location	to be Used	From		362+68	0		то		363	\$+000	
MAD 9 LIID	Approval No	UIRS5-B-QM1-IR-SB	3-5DR		Date	-		2	2/11/20:	23	
WAR & UIN	Approvarino	S5-B-QM1-FDT-SB-	5-B-QM1-FDT-SB-3DR					1	5/11/202	23	
Suppl	ٹی 3001			RUSHEI NE+SAN			S5-B-QM1-QT-SB-1				
Test Re	quirement	F.D.T(ASTM D 15	56)	S	pecificat	tion	EARTHWOR 41.2) VERSI				ORT (CG2
Referen	ce Photos	No/Yes			Other						
Item	Descri	ntion	1	l Jnit	Quantity		Arriva	al Date		Note	
1	SAND CO		NU				03/12	2/2023			
2											
3											
4											
comments by: Eng.	Mazen Essamy (SPEC	TRUM) CONSUL		Comme	nts by: E	ng. Alaa	Abd-Allati	(ER)		1.25%	
1-The Compact	tion Test Result F.D.T.	ASTM D 1556) is Approve	,)	2-Result	s report a	ittached a	out third land acceptates to above	ble with p	project sp		IS.
		APPRO	OVAL	STAT	US		1	in sin sin sin sin sin sin sin sin sin s			14. 14.
Organisation		Name			Sign			Date		A-AV	WC-R
Contractor		Eng. Mohamed Sayed	-	-	2	-					A
QA/QC *		Eng. Mazen Essamy			/						
GARB**		Eng. Mohammed Fayad		-		0					

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Eng. Alaa Abd-Allatif

AWC

•	Designer
••	Alignment/Bridges: Culvert only

Employers Representative



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

Report NO. : Date :

: 2444/01/center : 06-12-2023

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

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

**Results**:

1 -	2	3	4	5	6
St (362+680)	St (362+700)	St (362+730)	St (362+760)	St (362+800)	St (362+830)
11130	7850	10740	7450	9995	6810
7850	4660	7490	4155	6710	3510
2800	2685	2755	2885	2780	2840
1820	1730	1790	1835	1825	1840
1460	1460	1460	1460	1460	1460
		1.	52	_	
1197.37	1138.16	1178	1207.2	1200.7	1210.5
		20	00		
191.4	190.5	191	191.7	190.5	191.8
2.338	2.359	2.339	2.390	2.315	2.346
4.5	5.0	4.9	4.3	5.0	4.3
2.238	2.247	2.229	2.291	2.205	2.250
		2.2	.05		
101	102	101	104	100	102
andil	Comie	A SA A A A	For	- Duff-	1
	St (362+680) 11130 7850 2800 1820 1460 1197.37 191.4 2.338 4.5 2.238 101	St (362+680)       St (362+700)         11130       7850         7850       4660         2800       2685         1820       1730         1460       1460         1197.37       1138.16         191.4       190.5         2.338       2.359         4.5       5.0         2.238       2.247	St (362+680)         St (362+730)         St (362+730)           11130         7850         10740           7850         4660         7490           2800         2685         2755           1820         1730         1790           1460         1460         1460           1460         1460         1460           1197.37         1138.16         1178           2338         2.359         2.339           4.5         5.0         4.9           2.238         2.247         2.229           101         102         101	St (362+680)         St (362+770)         St (362+770)         St (362+770)           11130         7850         10740         7450           7850         4660         7490         4155           2800         2685         2755         2885           1820         1730         1790         1835           1460         1460         1460         1460           1197.37         1138.16         1178         1207.2           191.4         190.5         191         191.7           2.338         2.359         2.339         2.390           4.5         5.0         4.9         4.3           2.238         2.247         2.229         2.291           101         102         101         104	St (362+680)         St (362+700)         St (362+730)         St (362+760)         St (362+760)           11130         7850         10740         7450         9995           7850         4660         7490         4155         6710           2800         2685         2755         2885         2780           1820         1730         1790         1835         1825           1460         1460         1460         1460         1460           1820         1730         1790         1835         1825           1460         1460         1460         1460         1460           191.4         190.5         191         191.7         190.5           2.338         2.359         2.339         2.390         2.315           4.5         5.0         4.9         4.3         5.0           2.238         2.247         2.229         2.291         2.205           101         102         101         104         100

Kilo 23 Alexandria Cairo Desert Road - Merghe 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



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

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

### 06-12-2023

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

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

**Results**:

	1 Contraction of the second second	1	and the owner of the	Concession of the local division of the loca	The second se
7	8	9	10	11	12
St (362+860)	St (362+880)	St (362+910)	St (362+940)	St (362+960)	St (362+990)
9220	6145	8700	11115	7980	9735
6105	2940	5560	7960	4780	6390
2585	2650	2550	2670	2635	2890
1655	1745	1680	1695	1740	1885
1460	1460	1460	1460	1460	1460
		1.	52		
1088.82	1148.03	1105	1115.1	1144.7	1240.1
		2	00		
191.5	191.6	9 191	190.8	190.8	190.7
2.374	2.308	2.307	2.394	2.302	2.330
4.4	4.4	4.5	4.8	4.8	4.9
2.273	2.211	2.208	2.284	2.196	2.222
		2.2	205		
103	100	100	104	100	101
andil	Com State	BASSAL BASSAL	1 10	ir. Dr. M_	1. 7.
	St (362+860) 9220 6105 2585 1655 1460 1088.82 191.5 2.374 4.4 2.273 103	St (362+860)       St (362+880)         9220       6145         6105       2940         2585       2650         1855       1745         1460       1460         1088.82       1148.03         191.5       191.6         2.374       2.308         4.4       4.4         2.273       2.211	St (362+860)       St (362+880)       St (362+910)         9220       6145       8700         6105       2940       5560         2585       2650       2550         1855       1745       1680         1460       1460       1460         1088.82       1148.03       1105         1088.82       191.6       191         2.374       2.308       2.307         4.4       4.4       4.5         2.273       2.211       2.208         103       100       100	St (362+860)       St (362+880)       St (362+910)       St (362+940)         9220       6145       8700       11115         6105       2940       5560       7960         2585       2650       2550       2670         1855       1745       1680       1695         1460       1460       1460       1460         1088.82       1148.03       1105       1115.1         2000       191.5       191.6       191       190.8         2.374       2.308       2.307       2.394         4.4       4.4       4.5       4.8         2.273       2.211       2.208       2.284         Comparison of the second of the sec	St (362+860)         St (362+880)         St (362+940)         St (362+940)         St (362+960)           9220         6145         8700         11115         7980           6105         2940         5560         7960         4780           2585         2650         2550         2670         2635           1855         1745         1680         1695         1740           1460         1460         1460         1460         1460           1460         1480         1105         1115.1         11460           191.5         191.6         191         190.8         190.8           2.374         2.308         2.307         2.394         2.302           4.4         4.4         4.5         4.8         4.8           2.273         2.211         2.208         2.284         2.196           Geotechnical consultation of the properties of the properiod of

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MÀTERIA INSPECTIO REQUES	ON ( Lunu )	SPACTROM	کباری	المية الما للطرق و الأ 3ARB )	A	uale Talta	القومية للإنت [	المبلغ	E SVST	Receil and a second	and frain SHAKEP	
Contractor Company		ontracting from 361+800	to		Designer ial Numb	100	у	(SPECTRU)	(SPECTRUM) Engineering Consulting Office			
Issued by Contracto	1	2 1		/2024		1-FDT-SB-9			me D PM			
Received by G CONSULTA		CA	MIR	с1 <mark>\$14</mark>	C2 EW	C3	DD 15	мм 01	үү 24	нн 13	мм 00	
CODE-1		S1 to S21			D1 te	5 S3			Кр ХХ	X Note		
	SI	tation Reference			Depot R	eference		For Kilom	eter point	only Start K	m is use	
CODE - 2	1990			Work Ac	tivity							
CODE - 3			Su	ub Element	of Activity							
Desci	ription of Materials	SUBBALLAST 2										
Loc	ation to be Used	From		362+28	0	1	ю		362	+380		
MAR	& UIR Approval No	UIRS5-B-QM1-IR-SB			Date				0/01/202			
	Normality Maria	UIRS5-B-QM1-FDT-SB-8		CRUSHED -		-	17/12/2023					
5	Supplier Name	ش 3001		STONE+SAND-A3			S5-B-QM1-QT-SB-2			_		
Te	st Requirement	F.D.T(ASTM D 1556	)	Sp	ecificati	on	EARTHWOR 41.2) VERSI			ESTING REPO	ORT (CG	
Re	ference Photos	No/Yes		Other								
Item	Descri	ption	U	nit Quantity		Arrival Date		Note				
1	SAND CON	VE TEST	NUM	IMBER 10		0	16/01/2024					
2 3								_		_		
4					-						-	
omments by:	Eng. Mazen Essamy (SPEC	TRUM)		Commen	ts by: En	g. Alaa A	Abd-Allatif	(ER)			2.23	
1-The Cor	mpaction Test Result F.D.T.	ASTM D 1556) is Approved. SPECTRUM CONSULTING					out third la			ecifications	5.	
		A REAL PROPERTY AND A REAL		OTATI	10							
		APPRO	VAL	STAT	15					A-AV		
Drganisation		APPRO Name	VAL	STATU	Sign			Date			/C-R	
			VAL	E				Date		A		
Contractor		Name	VAL	E				Date		A		
Drganisation Contractor QA/QC * GARB**		Name Eng. Mohamed Sayed		E				Date		A		

MATERIAL INSPECTION REQUEST	نسرف اللب ا المشرون السريب ا المبرجة عبد الإندا المبرجة عبد الإندا	SPECTRUM G	الهيّة العامة لمرق و الكباره ( GARB)		الفه ورادة التقل	القومية للإنف معروف مطر	ilaula ma	SYS	Part of order	Apad Taba SHAKER
Contractor Company	AI - Qma -1Co. for Co 363+000	ontracting from 361+800 to		Design	er Compa	ny	(SPECTRU	M) Engineer	ng Consultin	g Office
Issued by	Name	Sign	Date/S	erial Num	nber			т	me	
Contractor	Eng. Mohamed Asayed	t	14/	01/2024	S5-B-QN	11-FDT-SB-9		1:0	0 PM	
Received by GARE CONSULTANT	B Eng. Mazen Essamy	M	IR 61	C2 EW	C3 CS	DD 15	мм 01	үү 24	нн 13	мм 00
CODE-1		S1 to S21		D	1 to S3			Кр Х)	X Note	
CODE-1	St	ation Reference		Depot	Reference		For Kilon	neter point	only Start K	(m is used
CODE - 2			Work	Activity						
CODE - Š			Sub Eleme	nt of Activit	у	-	1			
Descriptio	on of Materials	SUBBALLAST 2								
Locatio	n to be Used	From	362+2	80		то		362	+380	
MAR & UI	R Approval No	UIRS5-B-QM1-IR-SB-9 UIRS5-B-QM1-FDT-SB-8		Date				0/01/202		
Supp	lier Name	300I ش 300I		CRUSHE				7/12/202 QM1-QT		
Test R	equirement	F.D.T(ASTM D 1556)	5	Specification		EARTHWORK SPECIFICATIONS & TESTING REF 41.2) VERSION 2 BY CIVECON GROUP			ESTING REPO	ORT (CG21-
Refere	nce Photos	No/Yes		Other						
Item	Descrip		Unit		antity	Arriva	I Date		Note	
2	SAND CON	IE TEST N	UMBER		10	16/01	/2024			
3							_		-	
4	Mazen Essamy (SPEC)									
	ction Test Result F.D.T. (	ASTM D 1556) is Approved.	1-F.D.T 2-Resul	was carrie ts report a	ed- out by attached ar	Abd-Allatif out third lal nd acceptal to above in	b combas ble with p	roject spe		5.
		APPROVA	L STAT	US						
Organisation		Name		Sign			Date		A-AW	/C-R
Contractor		Eng. Mohamed Sayed	e	P	/				А	
QA/QC *		Eng. Mazen Essamy	C	×	1				A	
GARB**		Eng. Mohammed Fayad								
Employers Repres	entative	Eng. Alaa Abd-Allatif 159	4 A	lan 10	K				Au	)<
<ul> <li>Designer</li> <li>** Alignment/Bridges: Culvert</li> </ul>	only			1710	>1					

MIBALLY



Sub Dallast2

362+ 280- 362+380

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

Report NO. 173/01/center : 17/01/2024 Date 2

#### Field Detr. Of Density Of Soil In Place Report ACTA DALER

		ASTW - D 1000
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)
Intial wt. (gm)	10930	7940	9790	6700	8410
WLafter 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 (¥s) (gm/cm³)			1.52		
Volume of hole (cm³)	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 <sup>3</sup> )	2.407	2.366	2.369	2.360	2.415
Moisture ratio (%)	4.2	3.6	4.0	5.3	4.8
Dry Density (¥dry) (gm/cm³)	2.310	2.283	2.279	2.241	2.304
(¥max.dry) (gm/cm³)			2.226		
Compaction Ratio (%)	104	103	102	101	104

Lab director

Lman.

Geotechnical consultant

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Lor. Dr

Dr. Mohamed Mostafa B

Eng : Eman. E. Kandil

JKAS SOCOTEC 180 9001:2015

·7. - 14210 49 El Horria Ave. Alex, Egypt Tel: 002 033920176 - 002 033931482 Fax :002 033900476 Email : internal-inspection@comibassal.com

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362+280 362+380



**COMIBASSAL International Controllers** Internal inspection and laboratories sector

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

Report NO. : Date :

: 173/02/center : 17/01/2024

#### Field Detr. Of Density Of Soil In Place Report

		<u>ASTM - D 1556</u>	
General consultant		SYSTRA	
Consultant		SPECTRUM	
Contractor	:	شركة القمة للمقلولات	
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 (¥s) (gm/cm³)			1.52		
/olume of hole (cm³)	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 (¥wet) (gm/cm³)	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/cm³)	2.236	2.274	2.260	2.312	2.300
(¥max.dry) (gm/cm <sup>3</sup> )			2.226		14:
Compaction Ratio (%)	100	102	102	104	103

Lab director

eman\_

Eng : Eman. E. Kandil

Geotechnical consultant

for. Dr. H\_

Dr. Mohamed Mostafa Badr

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

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المفاولات العبر

MATERIAL INSPECTION REQUEST	الرك اللب ا الماران للسرب البوري عبد تواحد السوري عبد تواحد	SPECTEUM	کباری	الميتة الم لطرق و ال ARB )		all all	د القومية للإن =	الميلة	E SVS	Pound of stand Booting Courses Trian Courses	And a grant of the second seco
Contractor Company	AI - Qma -1Co. for C	ontracting from 361+800 t	to		Docignor	Compan		(approximite			
Issued by	363+000 Name	Sign		Date/Se	Designer rial Numb		У	(SPECTRU		ring Consulti	ng Office
Contractor	Eng. Mohamed Asayed	2 4 1 2		1/2023		1-FDT-SG-8			ime 0 PM		
Received by GARB		- CV		C1	C2	C3	DD	MM	YY	нн	MM
CONSULTANT	Eng. Mazen Essamy	A	MIR	<u>\$14</u>	EW	CS	29	11	23	13	00
		\$1 to \$21									
CODE-1	Si	tation Reference			-	o S3			Крж	1	
CODE - 2				Work A		eference	1.	For Kilon	neter point	only Start H	(m is used
CODE - 1							$\left  \right $			1	
			Sul	b Element	of Activity		100	WIT:		2.	
Description	n of Materials	SUBGRADE 1					10	1 10	- 3	/	
Location	to be Used	From		362+28	0	т	0			+380	
MAR & UIR	Approval No	UIRS5-B-QM1-IR-SG-	-8		Data			2	8/11/202		-
		S5-B-QM1-FDT-F-48	3		Date			2	6/11/202	:3	
Suppli	ier Name	ش 3001		So	il + Sand	A3		S5-B-	QM1-QT	-SG-2	
Test Re	quirement	F.D.T(ASTM D 1556)		Specification		on	EARTHWORK SPECIFICATIONS & TESTING REPO (CG21-41.2) VERSION 2 BY CIVECON GROUP			ORT	
Referen	ce Photos	No/Yes		Other							
Item	Descrip	otion	Ur	Jnit Quanti		ntity Arrival		al Date Note			
1	SAND CON	IE TEST	NUM	JMBER 10			30/11/2023				
2											
3										5	1
	lazen Essamy (SPECT	DUNN									
		ASTM DO1556) is Approved.	1 C	-F.D.T w Consultar	as carried It	- out by m	d-Allatif (I aterial eng acceptable	ineer for			
		APPROV	AL S	TATU	S						
Organisation		Name			Sign			Date		A-AW	C-R
Contractor		Eng. Mohamed Sayed		1	P	-				A	
QA/QC *		Eng. Mazen Essamy	1		A				App	røved	
GARB**		Eng. Mohammed Fayad			1	)					
Employers Represe	ntative	Eng. Alaa Abd-Allatif	-	A	La PC	A				A	
Designer * Alignment/Bridges: Culvert on	lγ				C	1-1					

MATERIAL INSPECTION REQUEST	نىرىيا ئلىية تىلىرى تىرىية تىبريە بولاند تىبريە بولاند	SPECTRUM	مة كبارى (١	المية الماد الطرق و الد GARB )		alk alk	القومية للإن	الميلة ست	C SVS	A Constant A Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant Constant	
Contractor Company	Al - Qma -1Co. for Co 363+000	ontracting from 361+800	to		Designer	Compan	v	(SPECTRUM) Engineering Consulting Office			
Issued by	Name	Sign		Date/Serial Number				Time			
Contractor	Eng. Mohamed Asayed	17		28/11/2023 S5-B-QM			11-FDT-SG-8		1:00 PM		
Received by GARB CONSULTANT	Eng. Mazen Essamy	C+	MIR	C1 <mark>S14</mark>	C2 EW	C3 CS	DD 29	MM 11	УҮ 23	нн 13	мм 00
CODE-1				D1 t	o S3		Kp XXX Note				
	Station Reference				Depot R	eference		For Kilom	neter point	only Start K	m is used
CODE - 2		Work Activity									
CODE - 3			S	ub Element	of Activity						
Description	of Materials	SUBGRADE 1									
Location	to be Used	From		362+28	)	Т	0		362	+380	
MAR & UIR	Approval No	UIRS5-B-QM1-IR-SG S5-B-QM1-FDT-F-4	Date			28/11/2023 26/11/2023					
Supplie	er Name	ېن 3001		Soil + Sand A3		A3	S5-B-QM1-QT-SG-2				
Test Requirement		F.D.T(ASTM D 1556)		Specification		on	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP				ORT
Reference Photos		No/Yes		Other							
Item	Descrip			Unit Quantity		Arrival Date No			Note	-	
1	SAND CON							1/2023			
2											
3 4			-								
	azen Essamy (SPECTF			Common	a huu En	. Ales A1	-1 All-416	(50)			
	(E	STM D 1556) IS Approved.		1-F.D.T w Consultan 2-Results	as carriec t report att	l- out by n ached and	od-Allatif naterial eng d acceptab	gineer for le with pro	oject spec	ifications.	
		APPRO	VAL	STATU	s				-		
Organisation		Name		Sign					Date		C-R
Contractor		Eng. Mohamed Sayed		Ľ		A				A	
QA/QC *		Eng. Mazen Essamy				-				A	-
GARB**		Eng. Mohammed Fayad			1					-	
Employers Represer	ntative	Eng. Alaa Abd-Allatif 🤈	07	SA	04	P				Au	JC

\*\* Alignment/Bridges: Culvert only

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30/11





الهيئة القومية للأنفاق

رارد النقال م

شركة القعة للمقاولات العمومية 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



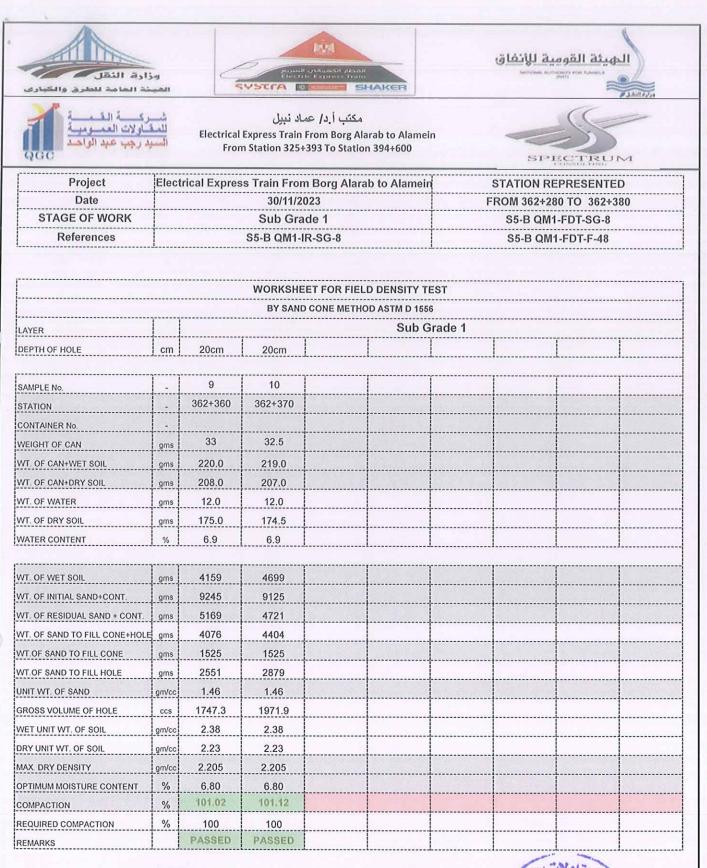
Project	Electrical Express Train From Borg Alarab to Alamein	STATION REPRESENTED
Date	30/11/2023	FROM 362+280 TO 362+380
STAGE OF WORK	Sub Grade 1	S5-B QM1-FDT-SG-8
References	S5-B QM1-IR-SG-8	S5-B QM1-FDT-F-48

			WORKSHEI	ET FOR FIELD	DENSITY TE	:51						
			BY SAND	CONE METHO	D 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	PASSEI			

Eng. / CONSULTANT

كتزدم

walk with 44 Eng / CONTRACTOR





بمقاولات ال CONTRACTOR Eng. / 1921

	AI - Qma -1Co. for C 363+000 Name Eng. Mohamed Asayed Eng. Mazen Essamy	Sign		De							
Issued by Contractor Received by GARB CONSULTANT	Name Eng. Mohamed Asayed				eignor	Compan		(SDECTOUR	D England		0.0
Contractor Received by GARB CONSULTANT CODE-1	Eng. Mohamed Asayed						y	SPECIRON		ing Consulti	ng Office
Received by GARB CONSULTANT			Da	Date/Serial Number 05/12/2023 S5-B-QM1-FD				Time			
CONSULTANT	Eng. Mazen Essamy						and a substantia	1.0011			
		CA	MIR	C1 <b>S14</b>	C2	C3 CS	06	MM 12	23	нн 13	00
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and the second			N	Nork Activi	ity		210				
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Description	of Materials	SUBGRADE 2									
Location f	to be Used	From	36	62+280		т	0		362-	+380	
	Annual No	UIRS5-B-QM1-IR-SG-9	9						02/12/2023		
WAR & UIR	Approval No	S5-B-QM1-FDT-SG-8		Date			30/11/2023				
Supplie	er Name	ش 3001		Soil +	Sand	A3		S5-B-0	QM1-QT	-SG-2	
Test Req	uirement	F.D.T(ASTM D 1556)		Specification		on	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP				
Referenc	e Photos	No/Yes		C	Other						
Item	Descri	ption	Unit	Unit Quantity		Arrival Date			Note		
1	SAND CON	NE TEST	NUMBE	IMBER 10		0	07/12/	2/2023			
2											
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Comments by: Eng. Ma	azen Essamy (SPECT	RUM)	Con	mments I	by: Eng	g. Alaa Ab	d-Allatif (	(ER)			
1-The Compaction	1ºE	ASTM D 1556) is Approved.					ut third lab			ifications.	
		APPROV	AL ST	ATUS	S. 4.						
organisation		Name		\$ign			Date			A-AWC-R	
Contractor		Eng. Mohamed Sayed		- D						A	
QA/QC * Eng. Mazer		Eng. Mazen Essamy				-				A	
GARB**	ARB** Eng. Mohammed Fayad										
Employers Represen	mployers Representative Eng. Alaa Abd-Allatif			Ala	afd	h				A	

MATERIAL INSPECTION REQUEST	نرب الب ا تشکران السرب ا البوري عبد فراحد البوري عبد فراحد	SPECTRUM		الميتة الماه لطرق و الك GARB )		13,51	القومية للأنفا محص	الميلة ماليكريم	C) SVS	Aller Berlink Dyn TrfA	Strates States SHAKER
Contractor Company	Al - Qma -1Co. for C	ontracting from 361+800 t	to	1	Destauro	0		1			
	363+000 Name	Sign	DetalO	Designer Company				M) Engineer		ing Office	
Issued by Contractor	Eng. Mohamed Asayed	Date/Serial Number 05/12/2023 S5-B-QM1-FDT-SG						ime	-		
		R					11-FDT-SG-9		1:0	0 PM	
Received by GARB CONSULTANT	Eng. Mazen Essamy	CX	MIR	C1 <b>\$14</b>	C2 EW	C3 CS	06	MM 12	23	нн 13	мм 00
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and male in the state	S		Depot Re	eference		For Kilometer point only Start Km is use					
				Work Ad	tivity						
CODE - 3			St	ub Element							
Description	n of Materials	SUBGRADE 2									
Location	to be Used	From		362+28	0		то		362	+380	
MAR & UIR	Approval No	UIRS5-B-QM1-IR-SG	-9	1			1	0	2/12/202		
		S5-B-QM1-FDT-SG-8	В		Date			3	0/11/202	3	
Suppli	ش 3001		Soil + Sand A3				S5-B-QM1-QT-SG-2				
Test Red	quirement	F.D.T(ASTM D 1556)		Specification			EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP				PORT
Reference	ce Photos	No/Yes			Other						
ltem	Descri	otion	U	Unit Quantity Arriv				al Date Note			
1	SAND COM	IE TEST	NUN				07/12	2/2023			
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comments by: Eng. M	azen Essamy (SPECT	RUM) TRU		Commen	s by: Eng	. Alaa A	bd-Allatif	(ER)			
	t's	ASTM D 1556) is Approved.		2-Results	report atta	ched an	out third lab d acceptab o above m	le with pro	oject spec		
		APPROV	AL S	STATU	S				-		
Organisation		Name			Sign			Date	-	A-AV	VC-R
contractor	tractor Eng. Mohamed Sayed				-27					P	
A/QC *	QC * Eng. Mazen Essamy				CK					A	
SARB**		Eng. Mohammed Fayad			0	10					
mployers Represer	ntative	Eng. Alaa Abd-Allatif 🛛 🖉	2	5 Au	affe	R				Aw	C
Designer Alignment/Bridges: Culvert on	lv .			00	112						

ACOMIBATCAL

KORLOWIDE SERVICES

**COMIBASSAL International Controllers** Internal inspection and laboratories sector

362+230 / 380

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

Report NO. : 2483/01/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 للمقلولات
Project	:	Electric express train
Sample		Prepared Sub grade (2)
Date of test	:	7-12-2023

Tot SunGrade

**Results**:

Delete NO	Sector And Sector And			CALL LEWIS CONTRACTOR	And the second second second						
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	7800 4650 6900 3730		7800 4650 6900 3730		7800 4650 6900 3730		7800 4650 6900 3730		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 (¥s) (gm/cm³)			1.52								
Volume of hole (cm <sup>3</sup> )	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 (¥wet) (gm/cm*)	2.357	2.289	2.331	2.311	2.360						
Moisture ratio (%)	4.5	4.9	4.7	4.3	4.9						
Dry Density (¥dry) (gm/cm*)	2.256	2.181	2.226	2.215	2.249						
(¥max.dry) (gm/cm³)			2.205								
Compaction Ratio (%)	102	99	101	100	102						
Lab director	in Ra	Paras Paras		eotechnical	M-						

Kilo 23 Alexandria - Cairo Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com



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Accredited by : Egyption 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 للمقلولات
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)	
Intial wt. (gm)	6210	8350	7920	7190	6550	
Wt.aftor 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 (¥s) (gm/cm³)			1.52			
Volume of hole (cm <sup>3</sup> )	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 (¥wet) (gm/cm*)	2.354	2.298	2.329	2.284	2.297	
Moisture ratio (%)	4.5	5.0	4.5	4.4	4.3	
Dry Density (¥dry) (gm/cm*)	2.252	2.189	2.229	2.188	2.202	
(¥max.dry) (gm/cm <sup>*</sup> )			2.205			
Compaction Ratio (%)	102	99	101	99	100	
Lab director	r	6Pm	GAGG	eotechnical		
Eng : Eman. E. K		Roomi	BASS DE	For Dr Mohamed M		
airo Desert Road - Mer	ahom	CALL COLORING	Carter Huelo			

Kilo 23 Alexandria - Cairo Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com



MATERIA INSPECTIO REQUES	یدازان نسریه ا		المامة و الكبارى GAF)	(B)		<mark>: المَحْرِ مِنْقَ اللَّهُرُ</mark> معامد المُحْرِينَة (()	بر زارد النقار //			
Contractor Con	npany AI - Qma Co.1 for Contr			+	r Company	/	(SPECTRU)	l) Engineer	ing Consultin	ng Office
Issued by		Sign	Dat	e/Serial Numb	er			Т	ime	
Contracto	r Eng. Mohamed Asayed	Store	STATE OF	24/11/2023	S5-B-QM	1-PLT-C-6		1:0	0 PM	
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Descr	ription of Materials	BED EXCAVATION				Server 1	p y p	Some of the second	and Do for	
Loc	ation to be Used	From	36	362+220 TO		Concercion and	362+280			
MAR	& UIR Approval No	S5-B-QM3-IR-C-6		Date 23/11/2		23/11/2023				
S	Supplier Name	ئەr Name 3001		Soil + Sand A3			S5-B-	QМ₿-Q	T-C- 1	
Te	st Requirement			Specification		EARTHWORK SPECIFICATIONS & TESTING REPO (CG21-41.2) VERSION 2 BY CIVECON GROUP				
Re	ference Photos	No/Yes		Other						
ltem	Descrip	tion	Unit	Qua	antity	Arriva	Date		Note	
1	PLT		NUMBE	R	1	26/11/	2023	CC	OMIBASS	SAL
2										
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Comments by: I	Eng. Mazen Essamy (SPECT		Con	ments by: En	g. Alaa Ab	d-Allatif (	ER)			
	1-The PLT Test Result is	Approved TRUM CONSULTING	Сол	L.T was carried sultant ( By CC sults report at	DMIBASSA	L Lab. )				
		APPRO	VAL ST	ATUS						
Organisation		Name		Sign			Date		A-AV	VC-R
Contractor		Eng. Mohamed Sayed		$\leq$	2				A 14 14 14	
QA/QC *		Eng. Mazen Essamy	$\left \right $	Y					规阶	Wed

Eng. Mohammed Fayad

Eng. Alaa Abd-Allatif

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GARB\*\*

\* Designer

Employers Representative

\*\* Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST	ىلىرى سىرىيا 1			الحرثة المامة لطرق و الك (GARB )		1355	ر الجو مي <del>د. الإذ</del>	للميلة (اللميلة	E svs	Constraints of the	SHAKER
	any AI - Qma Co.1 for Cont	racting (361+800 - 363+000	)		Designer ial Numbe		y	(SPECTRUI		ring Consulti	ng Office
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CODE-1	Sta	tion Reference			Depot R	eference		For Kilom	eter point	only Start	Km is used
				Work A	ctivity			<b>.</b> ,			
			8	Sub Elemen	t of Activity						
Descrip	otion of Materials	BED EXCAVATION									
Locat	ion to be Used	From		362+22	20	Ţ	ю		362	2+280	
MAR &	UIR Approval No	S5-B-QM1-IR-C-6			Date			2	3/11/20:	23	
Su	pplier Name	ش 3001		Soil + Sand A3		S5-B-QM1-QT-C- 1					
Test	Requirement					EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP					
Refe	rence Photos	No/Yes			Other						
ltem	Descrip	otion		Unit Quantity Arriv				Arrival Date Note			
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Comments by: En	ig. Mazen Essamy (SPECT	-		Commen	ts by: En	g. Alaa Al	bd-Allatif	(ER)	1		
	1-The PLT Test Result 1	Approved A		2-Results	report att	ached an	o above in	le with pr	oject spe		ð.
-		APPRO	VAL	STAT	US						
Organisation		Name			Sign			Date		A-AI	NC-R
Contractor		Eng. Mohamed Sayed		E	P						A
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GARB**		Eng. Mohammed Fayad									
Employers Repre	sentative	Eng. Alaa Abd-Allatif 🛛 🖉	νŲ	一科	PAR	Ł				Aw	$) \subset \_$
* Designer ** Alignment/Bridges: Cul	lvert only	N		29	7 <u>    </u>	•					



Accredited by : Egyption 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





Accredited by : Egyption 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 diamter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffners 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 hydrulic pump connected to a hydrulic 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 hyrulic jack was placed on the middle of, and at normal to, the loading plate beneth the reaction loading system and secured against tiliting.

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

### Description of exprement:

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 transeducer and dial guage were set to zero, after which a load was applied corressponding 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.







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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 (s <sub>0</sub> ) MN/m <sup>2</sup>	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
Т	able 2: Measured valu	es for second loading cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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: Com	pllation of results	
Parau	ieters	1st loading eycle	2nd loading eye
(0,max)	MN/m <sup>2</sup>	0.250	0,250
80 (1		-0.050	0,678
8, (mm/(		6.093	2,990
82 (mm/()		-7,619	-3.239
Ev= 1.5 r/ (a)		107.43	206.34
	+a <sub>1</sub> . σ <sub>6, MAN</sub> ) Εγ1	107.43	200.34

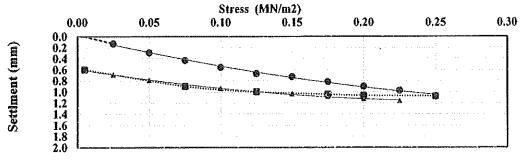


Kilo 23 Alexandria - Calro Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com





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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

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- A Measurment points from the second loading cycle
- S Settlement in mm  $\sigma_0$  Normal stress MN/m<sup>2</sup>







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### **Conclusions:**

The present test results which optained 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 accourdance to the German standard, DIN 18134 are illustrated in table 4.

### Table 4 :Test results

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

Lab Director eman\_ Eng / Eman Kandil



**Geotechnical Consultant** Hor. Dr. H-Dr / Mohamed Mostafa Badry







Descriptio	on of Materials	FERMA				
Locatio	n to be Used	From	362+2	80	то	362+380
MAR & UI	R Approval No	S5-B-QM1-IR-F-4	8	Date	22	/11/2023
Supp	lier Name	ش 3001	S	Soil + Sand A3 S5-B-QM1-G		M1-QT-F- 10
Test R	equirement		Specificatio		EARTHWORK SPECIFIC (CG21-41.2) VERSION 2	CATIONS & TESTING REPOR BY CIVECON GROUP
Refere	nce Photos	No/Yes		Other		
Item	Desc	ription	Unit	Quantity	Arrival Date	Note
1	F	LT	NUMBER	2	26/11/2023	COMIBASSAL
2						
3						
4						
mments by: Eng.	Mazen Essamy (SPE	CTRUM)	Comme	nts 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.

	APPROVAL	STATUS		
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed	1		А
QA/QC *	Eng. Mazen Essamy	-		
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif	Alatter		A
Designer     Alignment/Bridges: Culvert only				

MATERIAL INSPECTION REQUEST	السرى المالية الملون المسرسة السيارين عبد المالية السيارين عبد المالية	SPECTRUM	المبتة المامة طرق و الكبارى (GARB)		-all	ز القومية للإنة 		E SV31	Read of the Read	A datas A Train SHAKER				
Contractor Compa	ny AI - Qma Co.1 for Cont	racting (361+800 - 363+000 )		Designe	r Compar	iy	(SPECTRUM	1) Engineer	ing Consulti	ng Office				
Issued by	Name	Sign	Date/Sei	rial Numb	per			Ti	me					
Contractor	Eng. Mohamed Asayed	2P	24/11	/2023	S5-B-QM	M1-PLT-F-4		1:0	0 PM					
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR <b>\$14</b>	C2 EW	C3 CS	DD 25	MM 11	үү 23	нн 13	MM 00				
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CODE - 3			Sub Elemen	t of Activit	у									
Descript	on of Materials	FERMA												
Locatio	on to be Used	From	362+2	80		то		362	+380					
MAR & U	IR Approval No	S5-B-QM1-IR-F-48		Date		Date		Date		1	2	22/11/2023		
	plier Name	ىڭ 3001	So	il + San	d A3		S5-B-	QM1-Q1	r-F- 10					
Test F	Requirement		S	pecificat	tion		RK SPECIF							
Refer	ence Photos	No/Yes		Other										
Item	Descrip	otion	Unit	Unit Quantity		Arrival Date		Note						
1	PL1		NUMBER			26/11/2023		C	COMIBASSAL					
2														
3							-							
4	. Mazen Essamy (SPECT		Commo	ate by: Ei		bd-Allatif	(ED)							
	1-The PLT Test Result i	S Approved. PECTRUM CONSULTING	2-Result	s report a	ttached ar	third lab co nd acceptat to above in	ble with pro			S.				
		APPROV	AL STAT	US										
Organisation		Name		Sign			Date		A-A	WC-R				
Contractor		Eng. Mohamed Sayed	-	et	7					A				
QA/QC *		Eng. Mazen Essamy	C	A	-				A					
GARB**		Eng. Mohammed Fayad		~ (	2,									
Employers Repres	entative	Eng. Alaa Abd-Allatif	025A	DI	A				A	1100				

\*\* Alignment/Bridges; Culvert only

2471



**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





Accredited by : Egyption 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 diamter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffners 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 hydrulic pump connected to a hydrulic 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 hyrulic jack was placed on the middle of, and at normal to, the loading plate beneth the reaction loading system and secured against tiliting.

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

### **Description of exprement:**

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 transeducer and dial guage were set to zero, after which a load was applied corressponding 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.





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### 362+280

600

Loading stage no.	Lond (F) kN	Normal stress (s <sub>9</sub> ) MN/m <sup>2</sup>	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
Ta	able 2: Measured valu	ies for second loading cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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
		pilation of results	
Param	eters	1st loading cycle	2nd loading cyc
(σ <sub>θ,max</sub> ) 1	MN/m <sup>2</sup>	0.250	0.250
a <sub>0</sub> (n		-0.013	0.551
8, (mm/()		4.134	4.139
82 (mm/(N		1.172	-5,830
Ev= 1.5 r/ (a)		101.66	167.83
Ev2/Ev1		1.65	

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

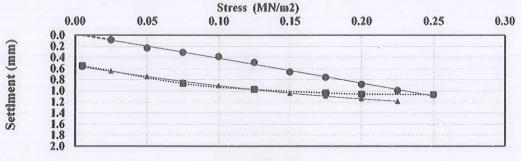


Kilo 23 Alexandria - Cairo Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com





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### km 362+280

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

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle
  - S Settlement in mm σ<sub>0</sub> Normal stress MN/m<sup>2</sup>





SECOMIBATTAL WIDE SEP

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362+380

600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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	0,109	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	
Т	able 5: Measured valu	es for second londing cycle		
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	Settlement of loading plate S (mm)	
15	1.414	0.005	0.37	
16		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: Com	pilation of results		
Paran	ieters	1st loading cycle	2nd loading eye	
((0,max))	MN/m <sup>2</sup>	0.250	0.250	
a <sub>p</sub> (n		0.014	0.348	
a, (mm/()		3,336	3.498	
a, (mm/(M		3.517	-0.927	
Ev= 1.5 r/ (a,		106.76	137.76	
Ey2/	A CONTRACT OF THE OWNER PROVIDED AND A DESCRIPTION OF THE OWNER PROVID	1.29		



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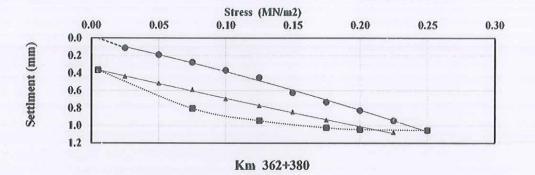


Fig. 2: Load-settlement curve, fitting curves according to Table 4 and Table 5 for the first and second loading cycles

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- A Measurment points from the second loading cycle
- S Settlement in mm
- σ<sub>e</sub> Normal stress MN/m<sup>2</sup>







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**COMIBASSAL International Controllers** Internal inspection and laboratories sector

### Conclusions:

The present test results which optained 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 accourdance to the German standard, DIN 18134 are illustrated in table 7.

### Table 7 :Test results

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

Lab Director Eng / Eman Kandil



Geotechnical Consultant Far. Dr. M -Dr / Mohamed Mostafa Badry





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(e(01));; (c)				Work A	ctivity			l			
			5	Sub Element	t of Activity						
Desci	ription of Materials	FERMA									
Loc	ation to be Used	From		362+22	20	Т	0		362	+280	
MAR	& UIR Approval No	S5-B-QM1-IR-F-54			Date	I		2	7/12/202	23	
Ş	Supplier Name	ش 300I		Sol	il + Sand	A3	S5-B-QM1-QT-F- 10				
Те	est Requirement			Sp	pecíficati	on	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP				
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		APPRO	VAL	STAT	US						
Organisation		Name			Sign			Date		A-A\	NC-R
Contractor		Eng. Mohamed Sayed			P						A
QA/QC *	QA/QC * Eng. Mazen Essamy									P	
GARB**		Eng. Mohammed Fayad			-						
Employers Rep	presentative	Eng. Alaa Abd-Allatif		A	lan A	1 A				A	<u>-</u> \
Designer  ** Akgnment/Bridges: Culvert only											

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Contractor Co	mpany	Al - Qma Co.1 for Contr	acting (361+800 - 363+000	)		Designer	Compan	y	(SPECTRU	M) Engineer	ing Consulti	ng Office
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CODE-1		Stat	ion Reference			Depot R	leference		For Kilom	eter point	only Start I	(m is used
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				;	Sub Elemen	t of Activity	,					
Desc	riptior	of Materials	FERMA									
Lo	cation	to be Used	From		362+22	20	Т	O		362	+280	
MAR	& UIR	Approval No	S5-B-QM1-IR-F-54		<u> </u>	Date	[		2	7/12/202	23	
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2												
3 4												
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GARB**			Eng. Mohammed Fayad		F	/	<b>}</b>					
Employers Rep	present	ative	Eng. Alaa Abd-Allatif 🏾 🔵	25	SA.	ba fl	H				Au	)
* Designer ** Alignment/Bridges: Culvert only 31/12												



Ferma 362+220 363+280

# Technical report

# of Plate Loading Test (DIN 18134)

General	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقاولات
Project	4 5	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





Accredited by : Egyption 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 diamter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffners 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 hydrulic pump connected to a hydrulic 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 hyrulic jack was placed on the middle of, and at normal to, the loading plate beneth the reaction loading system and secured against tiliting.

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

### **Description of exprement:**

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 transeducer and dial guage were set to zero, after which a load was applied corressponding 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

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362+240

600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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	0.260	0,82	
9	63.63	0.225	0.94	
10	70,7	0,250	1.04	
11	56.56	0.260	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	
Τι	ible 2: Measured valu	es for second loading cycle		
Loading stage no,	Load (F) kN	Normal stress (s0) MN/m2	Settlement of loading plate S	
15	1,414	0,005	(mm) 0,48	
16	7,07	0.025	0.59	
17	14.14	0.050	0.71	
18	21.21	0.075	0.71	
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	
		pilation of results		
Param		1st loading eyele	2nd loading eye	
(σ <sub>0,max</sub> ) Ι	4N/m <sup>2</sup>	0.250	0.250	
(~0,mat) / 80 (III		-0.056	0.472	
a <sub>1</sub> (mm/(A		4.455	4.764	
82 (mm/(h		-0,202	-7.203	
$E_{V} = 1.5 r/(a_1 + a_2, \sigma_{6, MAX})$		102.17	151,82	
Ey= 1.5 r/ta.t	an Ga wayl	104.17	1.01,04	

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



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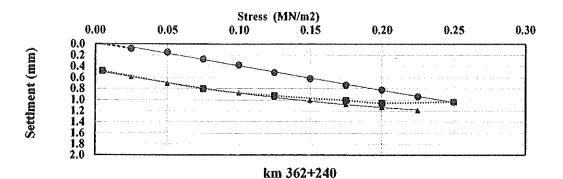


Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle
   S Settlement In mm
  - $\sigma_0$  Normal stress MN/m<sup>2</sup>

# Contractor and





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

### Conclusions:

The present test results which optained 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 accourdance to the German standard, DIN 18134 are illustrated in table 4.

### Table 4 :Test results

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

Lab Director man Eng / Eman Kandil



**Geotechnical Consultant** Jar. Or. H -Dr / Mohamed Mostafa Badry





MATERIAL INSPECTION REQUEST USE												
Contractor Co	Contractor Company AI - Qma Co.1 for Contracting (361+800 - 363+000 ) Designer Company (SPECTRUM) Engineering Consulting Office								ng Office			
	1	Name	Sign		Date/Ser	ial Numbe	er			Т	íme	
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Desc	ription	of Materials	FILTER									
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ltem		Descrip	lion		Unit Quantity		Arrival Date Note					
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QA/QC *	QA/QC * Eng. Mazen Essamy										ρ	
GARB**			Eng. Mohammed Fayad	,		1						
Employers Rep	oresent	ative	Eng. Alaa Abd-Allatif	]4		<u>e</u>	25				A	

\*\* Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST ()) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ()))) ())))) ())))) ())))) ())))) ()))) ()))) ()))) ()))) ())))) ())))) ())))))											
Contractor Con	npany AI - Qma Co.1 for Contr	- 1	0)		Designer Company			(SPECTRUM) Engineering Consulting Office			
Issued by Contracto		Sign			ial Numb /2024	<u> </u>	PLT-FF- <b>∮</b> -DR		Time 1:00 PM		
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		S1 to S21			D1 t	o \$3		Kp XXX Note			
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Desci	ription of Materials	FILTER						1			
Loc	ation to be Used	From		361+80	0	Т	0		361	+980	
MAR	& UIR Approval No	S5-B-QM1-IR-FF-≵- Q1-FГ-3	DR		Date				8/01/202 9-203		
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	st Requirement				ecificati		EARTHWORK SPECIFICATIONS & TESTING REPORT				
	ference Photos	No/Yes		Other		(CG21-41.2) VERSION 2 BY CIVECON GROUP					
Item	Descrip			Unit Quantity		Arriva	Arrival Date Note				
1	PLT			IMBER		2	30/01/2023		COMIBASSAL		SAL
2											
3				<u> </u>							
Comments by:	Eng. Mazen Essamy (SPECTI	RUM)		Commen	ts by: En	g. Alaa Al	od-Allatif	(ER)			
	1-The PLT Test Result is	Approved.		2-Results	report at	ut by out t tached and s subject t	d acceptat	ble with pr		cifications. Its.	<b>.</b>
		APPRO	OVAL	STAT	US						
Organisation		Name			Sign			Date		A-AV	VC-R
Contractor Eng. Mohamed Sayed			Æ	P	ng para				ļ	Ą	
QA/QC *	A/QC * Eng. Mazen Essamy							A			
GARB**		Eng. Mohammed Fayad									
Employers Rep	presentative	Eng. Alaa Abd-Allatif	fo		9	ĊÍ	30-	1-202	24	AL	Nc

\*\* Alignment/Bridges: Culvert only

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1R FFI Dr 361+800 To 980 Cervier PLT

# **Technical report**

# of Plate Loading Test (DIN 18134)

General	5 8	SYSTRA
Consultant	8 9	SPECTRUM
Contractor	6 £	شركة القمة للمقاولات
Project	:	ELECTRIC EXPRESS TRAIN-DRYPORT
Sample	8 5	Coarse aggregate Filter
Station		ST(361+800) TO ST(361+980)
Date of Test		30/01/2024
QC	:	264





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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 diamter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffners 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 hydrulic pump connected to a hydrulic 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 hyrulic jack was placed on the middle of, and at normal to, the loading plate beneth the reaction loading system and secured against tiliting.

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

### Description of exprement:

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 transeducer and dial guage were set to zero, after which a load was applied corressponding 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.







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361+860

600

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

Loading stage no.	salage no. Load (T) Normal stress (s <sub>0</sub> ) MN/m <sup>1</sup>				
0	1,414	0.005	<u> </u>		
1	7.07	0.025	0.14		
2	14.14	0.050	0.27		
3	21.21	0.075	0.41		
4	28.28	0,109	0.59		
5	35.35	0.125	0,79		
6	42.42	0,150	1,05		
7	49,49	0.175	1,18		
8	56,56	0.200	1.27		
\$	63.63	0.225	1999 19 <b>1</b> 1999 1999		
10	70.7	0.250	1.49		
11	56.56	0.20 <del>0</del>	1,47		
12	49.49	0,175	1.45		
13	35.35	9.125	1,37		
14	21.21	0.075	1,23		
15	1.414	0.005	0.89		
7	fable 2: Measured value	es for second leading cycle			
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	Settlement of loading plate S		
15	1,414	0.005	(mm) 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	<del>0</del> .225	1,59		
	Table 3: Comp	Hation of results			
Paran	· · · · · · · · · · · · · · · · · · ·	1st londing cycle	2nd loading cycle		
(σ <sub>¢,№41</sub> )	MN/m²	0.250	0.256		
20 (I		-0.122	0.256 0.875		
ag (1		6,541	4.483		
9. (mana//	WTIN/883				
81 (BBB/( 9. (BBB/(					
a <sub>1</sub> (mm/()	MN <sup>4</sup> /29 <sup>4</sup> ))	-7.943	-5.921		
	MN <sup>4</sup> /23 <sup>4</sup> )) <sub>1</sub> +a <sub>2</sub> , σ <sub>θ, MAX</sub> )				

Kilo 23 Alexandria - Cairo Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com



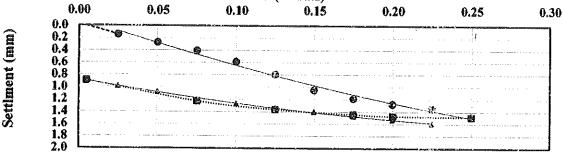


# COMIBASSAL International Controllers

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. .

• 2



Stress (MN/m2)

### km 361+860

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

- Measument points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle S Settlement in mm
  - or<sub>0</sub> Normal stress MN/m<sup>2</sup>







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361+940

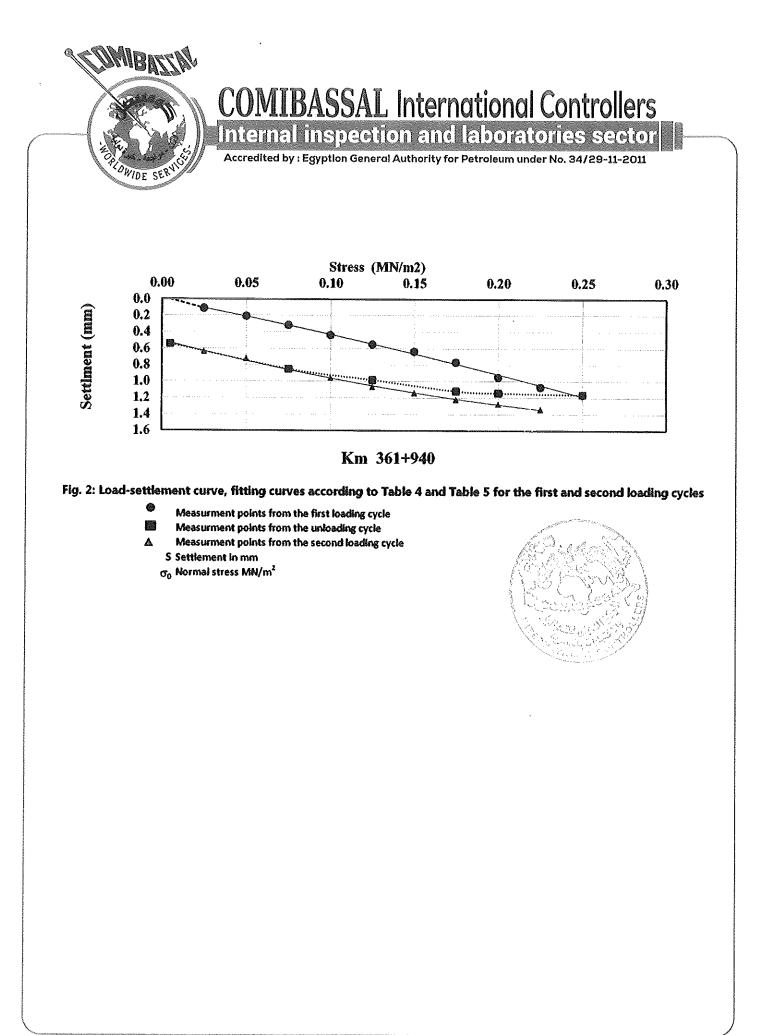
600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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				
Т	able 5: Measured valu	es for second loading cycle					
Loading stage no.		Normal stress (s0) MN/m2	Settlement of loading plate S				
15	1,414	0.005	(mm) 0.54				
16	7.07	0.025	0.64				
17	14.14	9.950	0.72				
18	21,21	0.075	0.85				
19	28.28	9.109	0.96				
20							
#V	33,33	0.125	1,07				
21	<u> </u>	0.125 0.159	1,07				
			Charles, and a start of the second start of th				
21	42.42	0.159	1,14				
<u>21</u> 22	42.42 49.49	0.159 0.175	1.14 1.22				
21 22 23	42.42 49.49 56.56 63.63	0.159 0.175 0.209	1:14 1:22 1:28				
21 22 23	42.42 49.49 56.56 63.63 Table 6: Com	0.159 0.175 0.200 0.225	14 127 128 128				
21 22 23 24 Patan	42.42 49.49 56.56 63.63 Table 6: Com	0.159 0.175 0.200 0.225 pilation of results	14 127 128 128				
21 22 23 24	42.42 49.49 56.56 63.63 Table 6: Com acters MN/m <sup>2</sup>	0.159       0.175       0.209       0.225       pilation of results       1st loading cycle	1.14 1.22 1.28 1.34 2nd loading cyc				
21 22 23 24 Ρατάπ (σ <sub>θ,max</sub> )	42.42 49.49 56.56 63.63 Table 6: Com acters MN/m <sup>2</sup> mm)	0.159       0.175       0.200       0.225       pilation of results       1st loading cycle       0.250	1,14 1,22 1,28 1,34 2nd loading cycl 0,259 0,505				
21 22 23 24 Param (σ <sub>θ,max</sub> ) 8 <sub>θ</sub> (E	42.42 49.49 56.56 63.63 Table 6: Com seters MN/m <sup>2</sup> mm) MN/m <sup>2</sup> ))	0.159           0.175           0.200           0.225           pilation of results           1st loading cycle           0.259           0.009	1,14 1,22 1,28 1,34 2nd loading eye 0,259				
21           22         23           24         Param           (σ <sub>θ,max</sub> )         a <sub>θ</sub> (F           a <sub>θ</sub> (F         a <sub>1</sub> (BHA/(E))	42.42 49.49 56.56 63.63 Table 6: Com acters MN/m <sup>2</sup> ma) MN/m <sup>2</sup> )) MN <sup>r</sup> /m <sup>3</sup> ))	0.159           0.175           0.200           0.225           pilation of results           1st loading cycle           0.250           0.009           3.843	1,14 1,22 1,28 1,28 1,34 2nd loading cyc 0,259 0,505 5,203				

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

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### Conclusions:

The present test results which optained 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 accourdance to the German standard, DIN 18134 are illustrated in table 7.

### Table 7 :Test results

Location	Ev1(MN/m <sup>2</sup> )	Ev2(MN/m <sup>2</sup> )	Ev2/Ev1 ratio
361+860	98.78	149.85	1.52
361+ <del>9</del> 40	95.61	126.14	1.32

Lab Director Eng / Eman Kandil



Geotechnical Consultant Dr / Mohamed Mostafa Badry



MATERIA INSPECTIO REQUES	ON ( Construction of the C	Arre Tigura	رمال	المرتق المام الطرق و (لک (GARB )		1216; 1216;	القوعية <b>ال</b> ا	( المعينة ( المعينة (الإلاطام وح	Syst		Contraction and the second
Contractor Cor	npany AI - Qma Co.1 for Contr	)	Designer Company				(SPECTRUM) Engineering Consulting Office				
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	S1 to \$21					o S3		Kp XXX Note			
CODE-1	Stat	ion Reference				For Kilometer point only Start Km is used					
e(p)				Work A	ctivity			I			
			5	Sub Etement	of Activity						
	ription of Materials	FILTER		0.000					<u>.</u>	<b>E</b> 00	
LOC	ation to be Used	From S5-B-QM1-IR-FF-2-I		2+300		1	TO 2+520				
MAR	& UIR Approval No		,		Date			09/01/2024			
S	Supplier Name	ش 300I	COARSE .AGG.FILTER		S5-B-QM1-QT-FF- 3						
Те	st Requirement		Specification		EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP						
Re	ference Photos	No/Yes		Other							
ltem	Descrip	tion		Unit Quantity		Arrival Date Note					
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2											
4	· · · · · · · · · · · · · · · · · · ·										
Comments by:	Eng. Mazen Essamy (SPECTI		:	Comments by: Eng. Alaa Abd-Allatif (ER)							
1-P.L.T was carried- out by material engineer for both contractor and GAR Consultant ( By COMIBASSAL Lab. ) 2-Results report attached and acceptable with project so affections.											
		APPRO	VAL	STAT	US				<u>. V. 7</u>		
Organisation		Name		Sign			Date		A-A\	NC-R	
Contractor		Eng. Mohamed Sayed							A		
QA/QC *		Eng. Mazen Essamy							A		
GARB**		Eng. Mohammed Fayad									
Employers Rep	presentative	Eng. Alaa Abd-Allatif	for		Pi	03				A	
* Designer ** Alignment/Bridges:	Culturations										

\*\* Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST	ندرو الالد با تلکزان تعدید با شیدرید عبد تواند	ALL CONTRACTORS		المرتقالمامة طرق و الك (GARB )		al.	الدوعرة للإنغ	الموالد المراجع الموالد المراجع	C SYS	E ANALAS		
Contractor Company AI - Qma Co.1 for Contracting (361+800 - 363+000 ) Designer Company (SPECTRUM) Engineering Consulting Office										ng Office		
Issued by	Name	Sign	Date/Serial Number			Time						
Contractor	Eng. Mohamed Asayed	17	09/01/2024 \$5-В-QM1		11-PLT-FF-2-D 1:06			00 PM				
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	S1 to S21					D1 to \$3						
CODE-1	Sta	ion Reference	Depot Reference				Kp XXX Note For Kilometer point only Start Km is used					
A (1)				Work A		ererence					JA IS USED	
			5		t of Activity							
Description of Materials FILTER												
Locatio	en to be Used	From		2+300	}	 T	то		2+520			
MAR & U	R Approval No	S5-B-QM1-IR-FF-2-I	D						09/01/2024			
	blier Name	ش 3001		Date COARSE .AGG.FILT			S5-B-QM1-QT-FF- 3					
Test R	equirement	·····	Specification		EARTHWORK SPECIFICATIONS & TESTING REPOR (CG21-41.2) VERSION 2 BY CIVECON GROUP							
Refere	nce Photos	No/Yes		Other								
Item	Descrip	tion		Unit Quantity		Arrival Date Note						
1	PLT			JMBER 2				CC	COMIBASSAL			
2 3												
4												
Comments by: Eng.	Mazen Essamy (SPECTF		1	Comment	s by: Eng	. Alaa At	od-Allatif (	ER)				
Comments by: Eng. Alaa Abd-Allatif (ER)         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.												
		APPRO\	/AL	STATL	JS					:		
Organisation		Name			Sign				Date		C-R	
Contractor		Eng, Mohamed Sayed	-	D						A		
QA/QC *		Eng. Mazen Essamy	(							A		
GARB** Eng. Mohammed Fayad				-	,							
Employers Represer	1	$\sim$	Ľ	1º	11-1-	902. L	,	Aw	С			
<ul> <li>Designer</li> <li>** Alignment/Bridges: Cuivert</li> </ul>	oniy	······································		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					i			



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

2+300 2+520

# **Technical report**

# of Plate Loading Test (DIN 18134)

General Consultant	:	SYSTRA SPECTRUM
Contractor	*	شركة القمة للمقاولات
Project	5 8	Diesal
Sample	*	Coarse aggregate Filter
Station		ST(2+300) TO ST(2+520)
Date of Test		11/01/2024
QC	<b>₿</b> \$	172-5





Accredited by : Egyption 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 diamter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffners 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 hydrulic pump connected to a hydrulic 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 hyrulic jack was placed on the middle of, and at normal to, the loading plate beneth the reaction loading system and secured against tiliting.

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

### **Description of exprement:**

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 transeducer and dial guage were set to zero, after which a load was applied corressponding 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.







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2+340

600

Load (F) kN Normal stress (s <sub>0</sub> ) MN/		Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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	9.125	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	
Ta	ble 2: Measured valu	es for second loading cycle		
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	Settlement of loading plate S	
			<u>(mm)</u>	
15	1.414	0.005	0.87	
16	7,07	0.025	0.97	
16 17	7,07 14,14	0.025 0.050	0.97	
16 17 18	7.07 14,14 21.21	0.025 0.050 0.075	0.97 1.09 1.23	
16 17 18 19	7.07 14,14 21.21 28,28	0.025 0.050 0.075 0.100	0.97 1.09 1.23 1.36	
16           17           18           19           20	7.07 14,14 21.21 28,28 35,35	0.025 0.050 0.075 0.100 0.125	0.97 1.09 1.23 1.36 1.47	
16           17           18           19           20           21	7.07 14,14 21,21 28,28 35,35 42,42	0.025 0.050 0.075 0.100 0.125 0.150	0.97 1.09 1.23 1.36 1.47 1.55	
16           17           18           19           20           21           22	7.07 14,14 21.21 28.28 35.35 42,42 49,49	0.025 0.050 0.075 0.100 0.125 0.150 0.175	0.97 1.09 1.23 1.36 1.47 1.55 1.65	
16       17       18       19       20       21       22       23	7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56	0.025 0.050 0.075 0.100 0.125 0.150 0.175 0.200	0.97 1.09 1.23 1.36 1.47 1.55 1.65 1.73	
16           17           18           19           20           21           22	7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63	0.025 0.050 0.075 0.100 0.125 0.150 0.175 0.200 0.225	0.97 1.09 1.23 1.36 1.47 1.55 1.65	
16       17       18       19       20       21       22       23       24	7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63 Table 3: Com	0.025 0.050 0.075 0.100 0.125 0.150 0.175 0.200 0.225 pilation of results	0.97 1.09 1.23 1.36 1.47 1.55 1.65 1.73 1.81	
16 17 18 19 20 21 22 23 23 24 Param	7.07 14,14 21.21 28.28 35.35 42,42 49,49 56,56 63,63 Table 3: Com eters	0.025           0.050           0.075           0.100           0.125           0.150           0.175           0.200           0.225           piłation of results           1st toading cycle	0.97 1.09 1.23 1.36 1.47 1.55 1.65 1.73 1.81 2nd loading eye	
16       17       18       19       20       21       22       23       24   Parama (σ <sub>θ,max</sub> ) f	7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63 Table 3: Com eters MN/m <sup>2</sup>	0.025 0.050 0.075 0.100 0.125 0.150 0.175 0.200 0.225 pilation of results 1st loading cycle 0.250	0.97 1.09 1.23 1.36 1.47 1.55 1.65 1.73 1.81 2ad loading eye 0.250	
16       17       18       19       20       21       22       23       24   Parama (σ <sub>θ,mal</sub> ) f        \$\$\mathcal{P}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{\mathcal{Q}_{\mathcal{\mathcal}\mathcal{\mathcal{Q}_{	7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63 Table 3: Com eters MIN/m <sup>2</sup> mi)	0.025           0.050           0.075           0.100           0.125           0.150           0.175           0.200           0.225           pHation of results           1st loading cycle           0.250           -0.128	0.97 1.09 1.23 1.36 1.47 1.55 1.65 1.73 1.81 2ad loading cyc 0.250 0.832	
16       17       18       19       20       21       22       23       24       Param       (σ <sub>θ,mal</sub> ) !       a <sub>θ</sub> (m       a <sub>1</sub> (mm/(k)	7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63 Table 3: Com eters MN/m <sup>2</sup> mi) 4N/m <sup>4</sup> ))	0.025           0.050           0.075           0.100           0.125           0.150           0.175           0.200           0.225           pilation of results           1st loading cycle           0.250           -0.128           8.364	0.97 1.09 1.23 1.36 1.47 1.55 1.65 1.73 1.81 2ad loading cyc 0.250 0.832 5.856	
16       17       18       19       20       21       22       23       24   Parama (σ <sub>θ,mal</sub> ) f        \$\$\mathcal{P}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{Q}_{\mathcal{\mathcal{Q}_{\mathcal{\mathcal}\mathcal{\mathcal{Q}_{	7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63 Table 3: Com eters MN/m <sup>2</sup> MN/m <sup>2</sup> MN/m <sup>4</sup> )) TN <sup>4</sup> /m <sup>4</sup> ))	0.025           0.050           0.075           0.100           0.125           0.150           0.175           0.200           0.225           pHation of results           1st loading cycle           0.250           -0.128	0.97 1.09 1.23 1.36 1.47 1.55 1.65 1.73 1.81 2 ad loading cyc 0.250 0.832	

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



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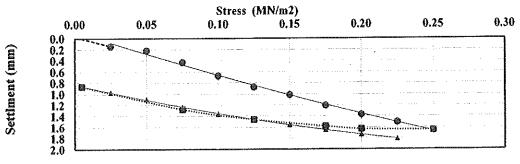




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#### km 2+340

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

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle S Settlement in mm
- $\sigma_0 \text{ Normal stress MN/m}^2$







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2+420

600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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 es for second loading cycle	0.84
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	
	kN	Normal stress (s0) MN/m2	loading plate S (mm)
15	kN 1.414	Normal stress (s0) MN/m2 0,005	loading plate S (mm) 0.84
15 16	kN 1.414 7.07	Normal stress (s0) MN/m2 0,005 0.025	loading plate S (mm) 0.84 0.96
15 16 17	kN <u>1,414</u> 7,07 14,14	Normal stress (s0) MN/m2 0,005 0.025 0,050	loading plate S (mm) 0.84 0.96 1.06
15 16 17 18	kN 1.414 7.07 14.14 21.21	Normal stress (s0) MN/m2 0.005 0.025 0.050 0.075	loading plate S (mm) 0.84 0.96 1.06 1.16
15           16           17           18           19	kN 1.414 7.07 14.14 21.21 28.28	Normal stress (s0) MN/m2 0.005 0.025 0.050 0.075 0.100	loading plate S (mm) 0,84 0.96 1.06 1.16 1.27
15 16 17 18	kN 1.414 7.07 14.14 21.21	Normal stress (s0) MN/m2 0.005 0.025 0.050 0.075	loading plate S (mm) 0,84 0,96 1,06 1,16
15           16           17           18           19           20	kN 1.414 7.07 14.14 21.21 28.28 35.35	Normal stress (s0)           MN/m2           0.005           0.025           0.050           0.075           0.100           0.125	loading plate S (mm) 0,84 0.96 1.06 1.16 1.27 1.27 1.35
15           16           17           18           19           20           21	kN 1.414 7.07 14.14 21.21 28.28 35.35 42.42	Normal stress (s0)           MN/m2           0.005           0.025           0.050           0.075           0.100           0.125           0.150	loading plate S (mm) 0,84 0.96 1.06 1.16 1.27 1.35 1.44
15           16           17           18           19           20           21           22	kN 1.414 7.07 14.14 21.21 28.28 35.35 42.42 49.49	Normal stress (s0)           MN/m2           0.005           0.025           0.050           0.075           0.100           0.125           0.150           0.175	loading plate S (mm) 0,84 0,96 1,06 1,16 1,27 1,35 1,27 1,35 1,44 1,54
15           16           17           18           19           20           21           22           23	kN 1.414 7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63	Normal stress (s0)           MN/m2           0.005           0.025           0.050           0.075           0.100           0.125           0.150           0.175           0.150           0.175	loading plate S (mm) 0,84 0,96 1,06 1,16 1,27 1,35 1,27 1,35 1,44 1,54 1,63
15           16           17           18           19           20           21           22           23           24	kN 1.414 7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63	Normal stress (s0)           MN/m2           0,005           0,025           0,050           0,075           0,100           0,125           0,150           0,175           0,125           0,125           0,125           0,125           0,125           0,125           0,125	loading plate S (mm) 0.84 0.96 1.06 1.16 1.27 1.35 1.44 1.54 1.54 1.63 1.71
15         16           17         18           19         20           21         22           23         24	kN 1.414 7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63 Table 6: Communications	Normal stress (s0)           MN/m2           0.005           0.025           0.050           0.075           0.100           0.125           0.150           0.175           0.200           0.225	loading plate S (mm) 0,84 0,96 1,06 1,16 1,27 1,35 1,27 1,35 1,44 1,54 1,63
15           16           17           18           19           20           21           22           23           24           Paral           (Top,max)	kN 1.414 7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63 Table 6: Comp meters MN/m <sup>2</sup>	Normal stress (s0) MN/m2           0.005           0.025           0.050           0.075           0.100           0.125           0.150           0.175           0.200           0.225           pilation of results           1st loading cycle	loading plate S (mm) 0.84 0.96 1.06 1.16 1.27 1.35 1.44 1.54 1.63 1.71 2ud loading cyc
15           16           17           18           19           20           21           22           23           24           Para           (σ <sub>0,max</sub> )           Ba (	kN 1.414 7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63 Table 6: Com meters MN/m <sup>2</sup> mm)	Normal stress (s0) MN/m2           0,005           0,025           0,050           0,075           0,100           0,125           0,150           0,175           0,200           0,225           pilation of results           1st loading cycle           0,250	loading plate S (mm) 0.84 0.96 1.06 1.16 1.27 1.35 1.44 1.54 1.63 1.71 2ud loading eye 0.250
15           16           17           18           19           20           21           22           23           24           Para           (σ <sub>0,max</sub> )           a <sub>0</sub> (           a <sub>1</sub> (mm/	kN 1.414 7.07 14.14 21.21 28.28 35.35 42.42 49.49 56.56 63.63 Table 6: Comp meters MN/m <sup>2</sup>	Normal stress (s0)           MN/m2           0,005           0,025           0,050           0,075           0,100           0,125           0,150           0,175           0,200           0,225           pilation of results           1st loading cycle           0,250           0,086	loading plate S (mm) 0.84 0.96 1.06 1.16 1.27 1.35 1.44 1.54 1.54 1.63 1.71 2ud loading cyc 0.250 0.831

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

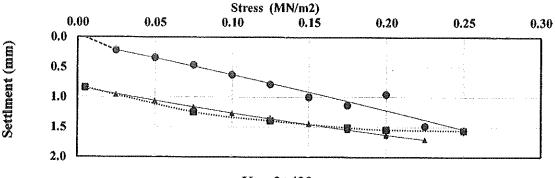


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Km 2+420

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

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- A Measurment points from the second loading cycle
- S Settlement in mm
- $\sigma_0$  Normal stress MN/m<sup>2</sup>







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**Conclusions:** 

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

### Table 7 : Test results

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

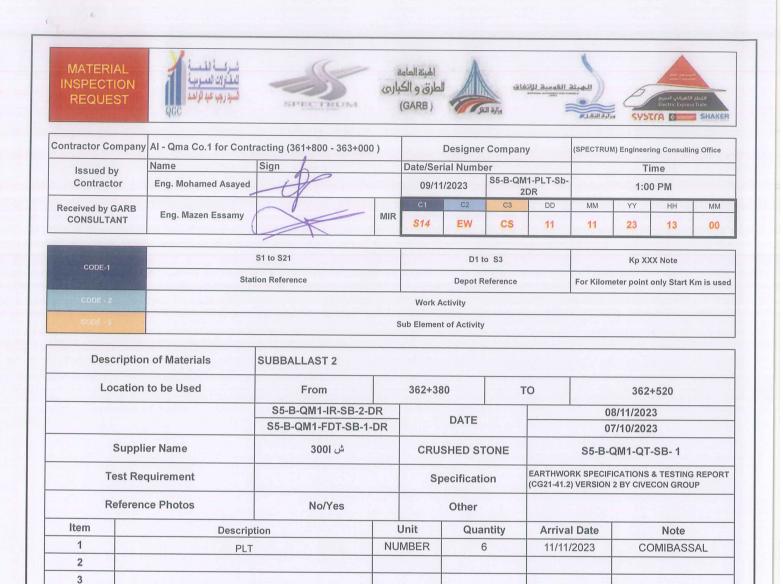




Geotechnical Consultant Jor · Dr · H -Dr / Mohamed Mostafa Badry







Comments by: Eng. Mazen Essamy (SPECTRUM)

4



211

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.

Name ng. Mohamed Sayed	Sign	Date	A-AWC-R
ng. Mohamed Sayed	0		A
ng. Mazen Essamy			A
ng. Mohammed Fayad			
ng. Alaa Abd-Allatif	est		A
	ng. Mohammed Fayad	ng. Mohammed Fayad	ng. Mohammed Fayad

MATERIAL INSPECTION REQUEST	شركة اللبة الملوان العديمة المورجة عبر الواحد 2000		الميتة المامة الطرق و الكر (GARB )		رغاني مرارة التغ	<u>ي القومية للأذه</u>	النظرية النظرية	E svs	Rapul grupasi Rapul grupasi Electric Expres	jiaas Train SHAKER
Contractor Comp	any AI - Qma Co.1 for Contr	acting (361+800 - 363+000 )		Designe	r Compar	v	(SPECTRU	(I) Engineer	ing Consulti	ng Office
	Name	Sign A	Date/Seri	_		.,			ime	_
Issued by Contractor	Eng. Mohamed Asayed	1.12	09/11/		S5-B-QN	/1-PLT-Sb-			0 PM	
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Descrip	tion of Materials	SUBBALLAST 2								
Locat	ion to be Used	From	362+38	0	1	то		362	2+520	
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Su	policer Namo	عت - 25-۵-۵۳۱۲-۶۵۲-۵۵-۵ ش 3001	CRUSHED STONE		07/10/2023 S5-B-QM1-QT-SB- 1					
Supplier Name		3001			EARTHWORK SPECIFICATIONS & TESTING REPOR			PEPOP		
Test Requirement								ECON GRO		
Refe	rence Photos	No/Yes		Other			1.1.1			
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1	PLT	N	JMBER		6	11/11	/2023	C	OMIBAS	SAL
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4	g. Mazen Essamy (SPECT		Common	te by: E		Abd-Allatif	(ED)			
	1-The PLT Test Result is	SPECTRUMC	1-plt was 2-Results	carried- report a	out by out ttached ar	third lab co nd acceptat	ombassal. ble with pr	oject spe		5.
		APPROVAI	STAT	US						
Organisation		Name	der	Sign			Date		A-A	WC-R
Contractor		Eng. Mohamed Sayed	- 8/	2						A
QA/QC *		Eng. Mazen Essamy	K	X	-				A	
SARB**		Eng. Mohammed Fayad		1						
			-	ALL	10					



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# **Technical report**

# of Plate Loading Test (DIN 18134)

General	:
Consultant	:
Contractor	:
Project	:
Sample	
Station	
Date of Test	
OC	
20	

SYSTRA **SPECTRUM** شركة القمة للمقاو لات **ELECTRIC EXPRESS TRAIN** sub-ballast (2) - Dryport ST(362+390): ST(362+515) 11/11/2023 2297

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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.

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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 diamter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffners 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 hydrulic pump connected to a hydrulic 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 hyrulic jack was placed on the middle of, and at normal to, the loading plate beneth the reaction loading system and secured against tiliting.

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

### **Description of exprement:**

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 transeducer and dial guage were set to zero, after which a load was applied corressponding 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.



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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 (s <sub>0</sub> ) MN/m <sup>2</sup>	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 (s0) MN/m2	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

Table 5:	Compliation of results	
Parameters	1st loading cycle	2nd loading cycle
$(\sigma_{0,max})$ MN/m <sup>2</sup>	0.250	0.250
a <sub>0</sub> (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
$E_{v} = 1.5 r/(a_1 + a_2, \sigma_{0, MAX})$	125.93	139.20
Ev2/Ev1	1.11	1

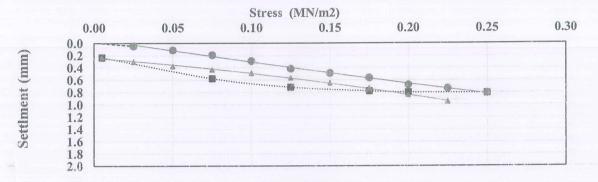
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### km 362+390

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

Measurment points from the first loading cycle

Measurment points from the unloading cycle

Measurment points from the second loading cycle

S Settlement in mm

.

σ<sub>0</sub> Normal stress MN/m<sup>2</sup>







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### 362+415

#### 600

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

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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

#### Settlement of Load (F) Normal stress (s0) Loading stage no. loading plate S MN/m2 kN (mm) 15 0.005 1.414 0.29 16 7.07 0.025 0.38 0.050 17 14.14 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 0.250	
$(\sigma_{0,\max})$ MN/m <sup>2</sup>	0.250		
a <sub>0</sub> (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	
$E_{v} = 1.5 \text{ r} / (a_1 + a_2, \sigma_{0, MAX})$	118.99	164.78	
Ev2/Ev1	1.38	3	

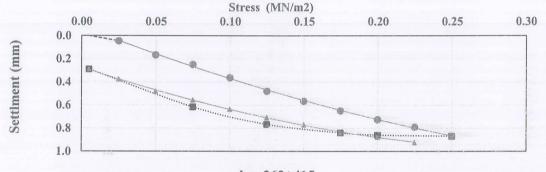


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### km 362+415

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

Measurment points from the first loading cycle

Measurment points from the unloading cycle

Measurment points from the second loading cycle

S Settlement in mm

 $\sigma_0$  Normal stress MN/m<sup>2</sup>







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362+440

600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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 7: Measured values for first loading cycle and unloading cycle

Table 8: Measured values for second loading cycle

Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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

# Parameters1st loading cycle2nd loading cycle $v_{0,max}$ ) MN/m20.2500.250

Ev2/Ev1	1.47		
$E_{v} = 1.5 r/(a_1 + a_2. \sigma_{0, MAX})$	113.23	166.16	
$a_2 (mm/(MN^2/m^4))$	3.032	-6.335	
$a_1 (mm/(MN/m^2))$	3.217	4.292	
a <sub>0</sub> (mm)	0.000	0.398	
$(\sigma_{0,\text{max}}) \text{ MN/m}^2$	0.250	0.250	

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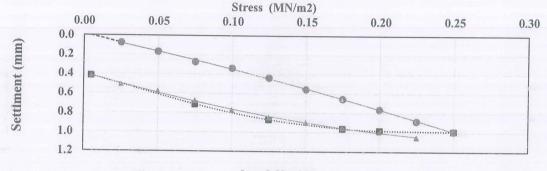
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### km 362+440

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

Measurment points from the first loading cycle

Measurment points from the unloading cycle

Measurment points from the second loading cycle S Settlement in mm

σ<sub>0</sub> Normal stress MN/m<sup>2</sup>



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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 <sub>0</sub> ) MN/m <sup>2</sup>	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 (s0) MN/m2	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

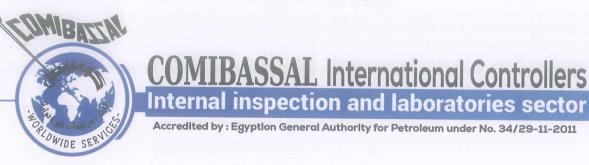
#### Table 12: Compilation of results

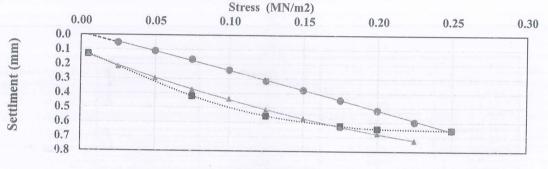
Parameters	1st loading cycle	2nd loading cycle	
$(\sigma_{0,\text{max}}) \text{ MN/m}^2$	0.250	0.250	
a <sub>0</sub> (mm)	-0.015	0.119	
$a_1 (mm/(MN/m^2))$	2.475	3.745	
$a_2 (mm/(MN^2/m^4))$	0.910	-4.680	
$E_{v} = 1.5 r/(a_1 + a_2, \sigma_{0, MAX})$	166.50	174.77	
Ev2/Ev1	1.05		



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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

- -Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- $\triangle$ Measurment points from the second loading cycle S Settlement in mm
  - on Normal stress MN/m<sup>2</sup>

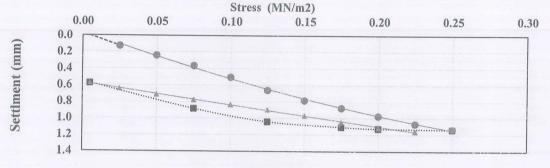


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#### km 362+515

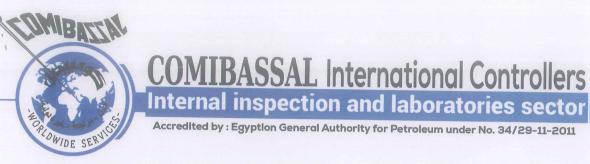
Fig. 6: Load-settlement curve, fitting curves according to Table 16 and Table 17 for the first and second loading cycles

Measurment points from the first loading cycle

- Measurment points from the unloading cycle
- Measurment points from the second loading cycle S Settlement in mm
  - $\sigma_0$  Normal stress MN/m<sup>2</sup>







### **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 accourdance to the German standard , DIN 18134 are illustrated in table 19 .

Location	Ev1(MN/m <sup>2</sup> )	Ev2(MN/m <sup>2</sup> )	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	

### Table 19 :Test results

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Lab Director

oman\_ Eng / Eman Kandil

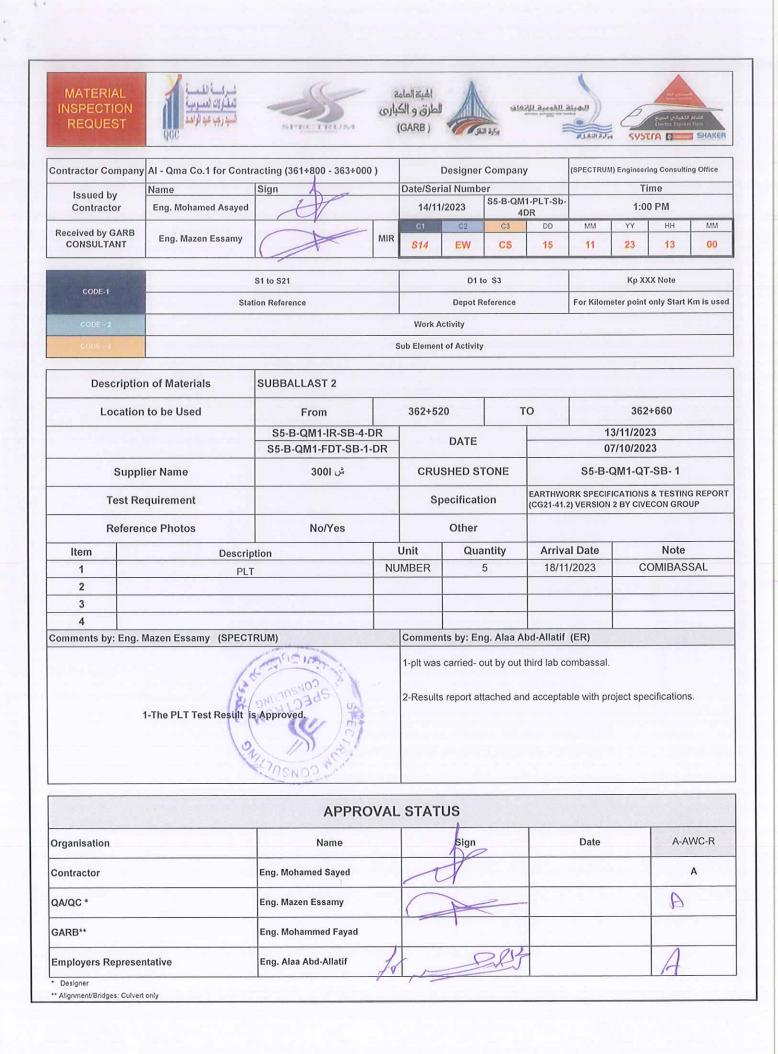


**Geotechnical Consultant** lor. Dr. \_ Dr / Mohamed Mostafa Badry



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Descri	ption of Materials	SUBBALLAST 2					
Location to be Used		From		362+520 T		то	362+660
		S5-B-QM1-IR-SB-4	-DR	DATE		13/11/2023 07/10/2023	
		S5-B-QM1-FDT-SB-	1-DR				
Si	ٹی Supplier Name 3001			CRUS	HED STONE	S5-B-QM1-QT-SB- 1	
Test Requirement					ecification	EARTHWORK SPECIFICATIONS & TESTING REPO (CG21-41.2) VERSION 2 BY CIVECON GROUP	
Reference Photos No/Yes				Other			
Item Description		U	Init	Quantity	Arrival Date	Note	
1	1 PLT		NUM	MBER	5	18/11/2023	COMIBASSAL
2					100 C		
3							
4							

1-The PLT Test Result is Approved

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	Sjĝn	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed	A		A
QA/QC *	Eng. Mazen Essamy	CK		A
GARB**	Eng. Mohammed Fayad	<u> </u>		
Employers Representative	Eng. Alaa Abd-Allatif	SAR ACK		Awe
Designer     Alignment/Bridges: Culvert only		19/11	1	



# **Technical report**

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### 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 diamter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffners 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 hydrulic pump connected to a hydrulic 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 hyrulic jack was placed on the middle of, and at normal to, the loading plate beneth the reaction loading system and secured against tiliting.

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

### **Description of exprement:**

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 transeducer and dial guage were set to zero, after which a load was applied corressponding 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.



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362+540

600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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	
Т	able 2: Measured valu	es for second loading cycle		
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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: Comp	ilation of results		
Parameters		1st loading cycle	2nd loading eyel	
10101	$(\sigma_{\theta,max})$ MN/m <sup>2</sup>		the second s	
the second se	MN/m <sup>2</sup>	0.250	0.250	
$(\sigma_{\theta, max})$				
(σ <sub>0,max</sub> ) a <sub>0</sub> (n	1m)	-0.003	0.155	
(σ <sub>8,max</sub> )   a <sub>0</sub> (n a <sub>1</sub> (mm/()	ana) MN/m²))	-0.003 1.658	0.155 2.149	
(σ <sub>0,max</sub> ) a <sub>0</sub> (n	am) MN/m²)) 1N²/m²))	-0.003	0.155	

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

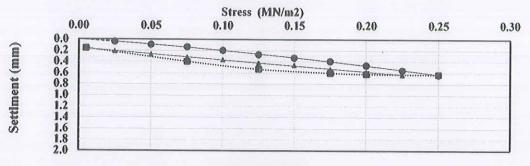


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#### km 362+540

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

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle
  - S Settlement in mm  $\sigma_0$  Normal stress MN/m<sup>2</sup>









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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 (s <sub>0</sub> ) MN/m <sup>2</sup>	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	0.48
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
Т	able 5: Measured value	es for second loading cycle	
Londing stage no.	Load (F) kN	Normal stress (s0) MN/m2	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	0.160	0.69
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: Comp	ilation of results	
Param		1st loading cycle	2nd loading cycl
$(\sigma_{\theta, \max})$	MN/m <sup>2</sup>	0.250	0.250
a <sub>p</sub> (m		-9.027	0.356
a, (mm/(MN/m <sup>2</sup> ))		4.238	2.478
82 (mm/(MN <sup>2</sup> /m <sup>*</sup> ))		-1.192	1.192
$E_{V} = 1.5 r/(a_1 + a_2, \sigma_{0, MAX})$		114.21	162.12
EV-1.5 F/ 18.5			



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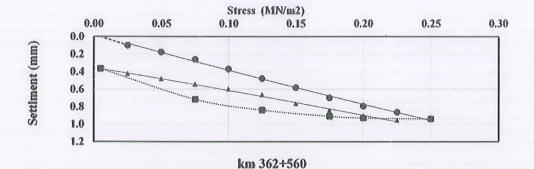


Fig. 2: Load-settlement curve, fitting curves according to Table 4 and Table 5 for the first and second loading cycles

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- ▲ Measurment points from the second loading cycle
  - S Settlement in mm  $\sigma_{\theta}$  Normal stress MN/m<sup>2</sup>





S.COMBATTAL WIDE SER

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362+580

600

. . ..

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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
Т	able 8: Measured valu	es for second loading cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	Settlement of loading plate S (mm)
15	1.414	0.005	0.25
16	7.07	0.025	0.32
17	14.14	0.059	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	0,89
24	63.63	0.225	0.85
	Table 9: Com	pilation of results	
Parameters		1st loading cycle	2nd loading eye
$(\sigma_{0,\max})$ MN/m <sup>2</sup>		0.250	0.250
8 <sub>9</sub> (mm)		0.030	0.237
a, (mm/(MN/m <sup>4</sup> ))		3.276	2.527
a <sub>2</sub> (mm/(MN <sup>4</sup> /m <sup>4</sup> ))		-0.465	1.194
$E_{y=1.5 r/(a_1+a_2, \sigma_{0,MAX})}$		142.42	159.25



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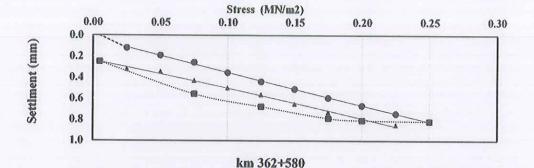


Fig. 3: Load-settlement curve, fitting curves according to Table 7 and Table 8 for the first and second loading cycles

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- A Measurment points from the second loading cycle
  - S Settlement In mm  $\sigma_{\theta}$  Normal stress MN/m<sup>2</sup>







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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 (s <sub>0</sub> ) MN/m <sup>2</sup>	Settlement of loading plate S (mm
0	1.414	0.005	0.00
1	7.07	0.025	0.05
2	14.14	0.059	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
Ti	able 11: Measured valu	tes for second londing cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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	0.49
19	28.28	0,100	0.47
20	35,35	0.125	0.54
21	42.42	0.150	0.69
22	49.49	0.175	0.66
23	56,56	0.200	0,72
24	63.63	0.225	0.76
	Table 12: Com	pilation of results	
Param		1st loading cycle	2nd loading eyel
(((0, max)))	MN/m <sup>2</sup>	0.250	0.250
8 <sub>0</sub> (m		-0.026	0.147
a, (mm/(MN/m <sup>2</sup> ))		3.107	3.601
		0.121	-3.775
$E_{v}=1.5 r/(a_{1})$		143.45	169.36
	MAU	140,40	109.50



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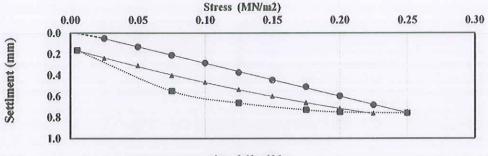




Fig. 4: Load-settlement curve, fitting curves according to Table 10 and Table 11 for the first and second loading cycles

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle
   S Settlement in mm
  - σ<sub>0</sub> Normal stress MN/m<sup>2</sup>







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362+620

600

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

Loading stage no.	Lond (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	Settlement of londing 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
Te	ble 14: Measured valu	tes for second loading cycle	
Loading stage no.	Load (F) kN	Normai stress (s0) MN/m2	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	0.109	0.52
20	35.35	0.125	0.58
21	42.42	0.159	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: Com	pilation of results	
Param	The Party of the P	1st loading cycle	2nd loading cycl
(σ <sub>0,max</sub> ) ]	MN/m <sup>2</sup>	0.250	0.250
a <sub>p</sub> (m		00022	0.230
a, (mm/(M		2.188	3.415
a <sub>2</sub> (mm/(MN <sup>2</sup> /m <sup>*</sup> ))		2.749	-4.899
$E_V = 1.5 r/(a_1 + a_2, \sigma_{0, MAX})$		156,53	205,43
and any the full		100,00	205,45



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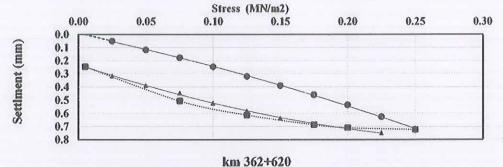




Fig. 5: Load-settlement curve, fitting curves according to Table 13 and Table 14 for the first and second loading cycles

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- ▲ Measurment points from the second loading cycle
  - S Settlement in mm <sub>ore</sub> Normal stress MN/m<sup>2</sup>







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### **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 accourdance to the German standard , DIN 18134 are illustrated in table 16 .

Location	Ev1(MN/m <sup>2</sup> )	Ev2(MN/m <sup>2</sup> )	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

### Table 16 :Test results

Lab Director eman\_ Eng / Eman Kandil

Geotechnical Consultant

J-G. Dr. M -Dr / Mohamed Mostafa Badry



REQUEST	تىلكۈن ئىسرىيىة تىبدرجا عد تولىد QGC	SPIC TROM	الهیته المامه طرق و الکباری ( GARB)		-310 1351	د القومية لل <sup>ي</sup>	الميلة	SYSTER	and gridgets p active Express	shaker
ontractor Company	AI - Qma Co.1 for Contr	acting (361+800 - 363+000	)	Designer	Company	,	(SPECTRUM	) Engineering	Consulting	Office
	Name	Sign /	~	rial Numbe				Time		
Issued by Contractor	Eng. Mohamed Asayed	19		1/2024	S5-B-QM	1-PLT-Sb-		1:00 P	M	
Received by GARB CONSULTANT	Eng. Mazen Essamy		C1 MIR <b>S14</b>	C2	C3 CS	DD 15	MM 01	YY 24	нн 13	MM 00
CODE-1		S1 to S21		D1 to		-		Kp XXX I		
	Stat	ion Reference		Depot Re	eference		For Kilom	eter point onl	ly Start K	m is use
CODE - 2 CODE - 3				Activity nt of Activity		-				-
			oub Elemen	it of Adding						
Description	n of Materials	SUBBALLAST 2								
Location	to be Used	From	362+2	80	т	0		362+3	80	
		S5-B-QM1-IR-SB-9		DATE				0/01/2024		
		S5-B-QM1-FDT-SB-	8	DATE			13	2/12/2023		
Suppli	ier Name	ش 3001	CRU	ISHED ST	ONE		S5-B-0	QM1-QT-S	B- 2	
Test Requirement				pecificatio	on		ORK SPECIFICATIONS & TESTING REPOR 2) VERSION 2 BY CIVECON GROUP			
Referen	ce Photos	No/Yes		Other		0				
ltem	Descrip	tion	Unit	Quar	ntity	Arriva	I Date		Note	
1	PLT		NUMBER	4	4	16/01	/2024	CON	AIBASS	AL
2										
3		and the second se	_							_
4	Mazen Essamy (SPECT	CON CON	Commo	nts by: Eng	a Alaa Al	d Allatif	(ED)	and the second		
1	-The PLT Test Result is	Approved.		s carried- or				oject specifi	ications.	
		APPRO	VAL STAT	US		2			0.00	
rganisation		Name		Sign			Date		A-AV	VC-R
Contractor		Eng. Mohamed Sayed	A	P					A	
A/QC *		Eng. Mazen Essamy		4	2				P	
GARB**		Eng. Mohammed Fayad		12						-
mployers Represen	tative	Eng. Alaa Abd-Allatif	fr	P	83	-			A	

ě,



Descri	ption of Materials	SUBBALLAST 2				
Loca	tion to be Used	From	362+28	0	то	362+380
		S5-B-QM1-IR-SB	-9	DATE	10	/01/2024
		S5-B-QM1-FDT-SI	3-8	DATE	12	/12/2023
S	upplier Name	ش 3001	CRU	SHED STONE	S5-B-Q	M1-QT-SB- 2
Tes	t Requirement		Sp	ecification	EARTHWORK SPECIFIC (CG21-41.2) VERSION 2	CATIONS & TESTING REPOR BY CIVECON GROUP
Ref	erence Photos	No/Yes		Other		
Item	De	scription	Unit	Quantity	Arrival Date	Note
1		PLT	NUMBER	4	16/01/2024	COMIBASSAL
2						
3						
4						

Comments by: Eng. Mazen Essamy (SPECTRUM)

1-The PLT Test Result is ApprovedECTRUM

تشارات الع

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		А
QA/QC *	Eng. Mazen Essamy			P
GARB**	Eng. Mohammed Fayad	- An		
Employers Representative	Eng. Alaa Abd-Allatif 752	4 Alan top		Awc
<ul> <li>Designer</li> <li>** Alignment/Bridges: Culvert only</li> </ul>		17-01		



362 + 280 / 362+380

# **Technical report**

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# 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

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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 diamter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffners 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 hydrulic pump connected to a hydrulic 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 hyrulic jack was placed on the middle of, and at normal to, the loading plate beneth the reaction loading system and secured against tiliting.

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

### **Description of exprement:**

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 transeducer and dial guage were set to zero, after which a load was applied corressponding 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.



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#### 362+300

600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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
1	able 2: Measured val	ues for second loading cycle	
Loading stage no.	Load (F) kN	Normal stress (\$0) MN/m2	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
		apilation of results	
Para	meters	1st loading cycle	2nd loading cyc
	the same of the sa	0.250	0.250
(5)			0.285
(σ <sub>0,max</sub> )		-01.064	
80 (	mm)	-0.064	
a <sub>0</sub> ( a <sub>1</sub> (mm/	mm) (MN/m²))	3.879	4.843
a <sub>0</sub> ( a <sub>1</sub> (mm/ a <sub>2</sub> (mm/)	mm)		

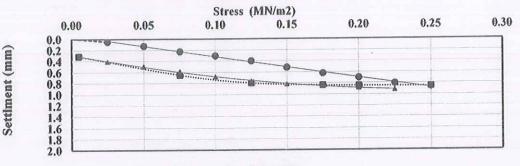
#### Table 1: Measured values for first loading cycle and unloading cycle



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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

0 Measurment points from the first loading cycle

Measurment points from the unloading cycle 

Measurment points from the second loading cycle ۸

S Settlement in mm σ<sub>e</sub> Normal stress MN/m<sup>2</sup>









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#### 362+325

600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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
Т	able 5: Measured valu	ues for second loading cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	Settlement of loading plate 5 (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: Con	apilation of results	
Para	neters	1st loading cycle	2nd loading cy
(ga)	MN/m <sup>2</sup>	0,250	0.250
and the second	mm)	-0.088	0,358
	MN/m <sup>2</sup> ))	6.611	3.559
( ( manny )		the support of the local data and the	-3.098
a. (mm//	MN <sup>*</sup> /m <sup>*</sup> ))	-9.398	-0.070
$a_2 (mm/(E_{v=1.5 r}))$	MN <sup>*</sup> /m <sup>*</sup> )) 1 <sub>1</sub> +a <sub>2</sub> . σ <sub>θ, MAX</sub> )	105.58	161.60

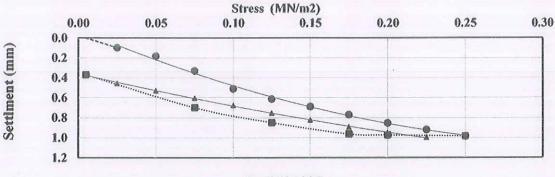
### Table 4: Measured values for first loading cycle and unloading cycle



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km 362+325

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

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle S Settlement in mm
  - σ<sub>0</sub> Normal stress MN/m<sup>2</sup>







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#### 362+350

600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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
Т	able 8: Measured valu	es for second londing cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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: Com	pilation of results	
Paran	ieters	1st loading cycle	2nd loading eyel
$(\sigma_{\theta, \max})$	MN/m <sup>2</sup>	0.250	0.250
a <sub>0</sub> (n		-0.027	0.256
a, (mm/()	MN/m <sup>2</sup> ))	3.143	4.120
a2 (mm/()		1.051	-6.490
$E_{v} = 1.5 r/(a_{1})$		132.14	180.17
1.1- 1.0 1/ (a)	- 12 OU, MAXJ		

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

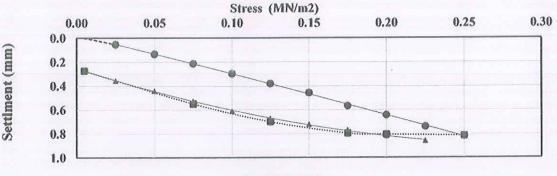


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km 362+350

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

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle
  - S Settlement in mm σ<sub>0</sub> Normal stress MN/m<sup>2</sup>





ALLAND 3% WIDE SEP

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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 <sub>0</sub> ) MN/m <sup>2</sup>	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
Ti	able 11: Measured value	nes for second loading cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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 0.5	
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: Com	pilation of results	
Paran	ieters	1st loading cycle	2nd loading cycl
(σ <sub>0,max</sub> )	MN/m <sup>2</sup>	0.250	0.250
9. (r		-0.072	0.266

$(\sigma_{0,\max})$ MN/m <sup>2</sup>	0.250	0.250
a <sub>0</sub> (mm)	-0.072	0.266
a, (mm/(MN/m²))	4,327	3.805
a2 (mm/(MN <sup>2</sup> /m <sup>4</sup> ))	-2.365	-4.604
Ev= 1.5 r/ $(a_1+a_2, \sigma_{0, MAX})$	120.46	169.56
Ev2/Ev1	1.41	



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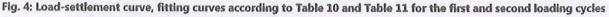




#### Stress (MN/m2) 0.00 0.05 0.20 0.30 0.10 0.15 0.25 0.0 Settlment (mm) 0.2 0.4 0.6 0.8 A ...... ..... 1.0

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km 362+375



- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle
- S Settlement in mm
- σ<sub>0</sub> Normal stress MN/m<sup>2</sup>







### **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 accourdance to the German standard , DIN 18134 are illustrated in table 13 .

Location	Ev1(MN/m <sup>2</sup> )	Ev2(MN/m <sup>2</sup> )	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

### Table 40 Tast washing

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**Lab Director** eman Eng / Eman Kandil

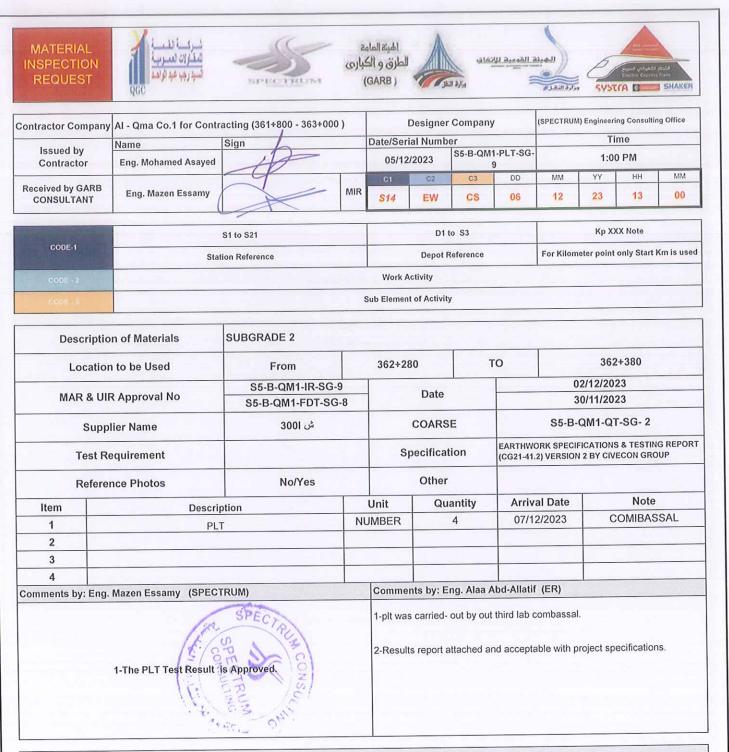


**Geotechnical Consultant** Far. Dr.H-Dr / Mohamed Mostafa Badry



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	APPROVAL	STATUS		
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Sayed	A		А
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif	el 17		A
Designer     Alignment/Bridges: Culvert only		M		

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APPROVAL STATUS					
Organisation	Name	Sigh	Date	A-AWC-R	
Contractor	Eng. Mohamed Sayed	et	0.2512.00	А	
QA/QC *	Eng. Mazen Essamy	X		P	
GARB**	Eng. Mohammed Fayad	h.		a selfer se	
Employers Representative	Eng. Alaa Abd-Allatif 202	Alartth		A	
<ul> <li>Designer</li> <li>** Alignment/Bridges: Culvert only</li> </ul>		08/12			



PIt SubBraule 2 362+280 362+380

# **Technical report**

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

# of Plate Loading Test (DIN 18134)

	SYSTRA
:	SPECTRUM
:	شركة القمة للمقاولات
:	ELECTRIC EXPRESS TRAIN
:	Prepared Subgrade (2)
	S(362+280) TO ST(362+380)
· · · · · · ·	7/12/2023
:	2485
	:





### 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.

**COMIBASSAL** International Controllers

Internal inspection and laboratories sector Accredited by : Egyption General Authority for Petroleum under No. 34/29-11-2011

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 diamter of 600 mm have a thickness of 25mm and are provided with equally spaced stiffners 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 hydrulic pump connected to a hydrulic 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 hyrulic jack was placed on the middle of, and at normal to, the loading plate beneth the reaction loading system and secured against tiliting.

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

### **Description of exprement:**

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 transeducer and dial guage were set to zero, after which a load was applied corressponding 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.







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### St (362+300)

600

Loading stage no.	ading stage no. Load (F) Norn		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
Ti	able 2: Measured valu	es for second loading cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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: Com	pilation of results	
Param	and the second s	1st loading cycle	2nd loading cyc
(σ <sub>0,max</sub> ) 1	the second s	0.250	0.250
a <sub>0</sub> (n		-0.045	0.462
a <sub>1</sub> (mm/(1		4.515	5,358
		0.101	-10.739
$a_2 (mm/(MN^2/m^3))$		99.10	-10.739
and the second se			
$E_{v} = 1.5 r/(a_{1})$ $E_{v} = 2/2$		99,10	100.29

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

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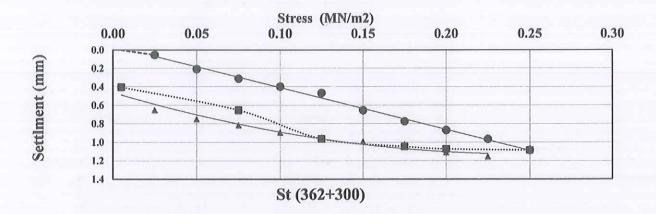


Fig. 1: Load-settlement curve, fitting curves according to Table 1 and Table 2 for the first and second loading cycles

Measurment points from the first loading cycle

- Measurment points from the unloading cycle
- Measurment points from the second loading cycle S Settlement in mm
  - σ<sub>0</sub> Normal stress MN/m<sup>2</sup>







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### St (362+320)

600

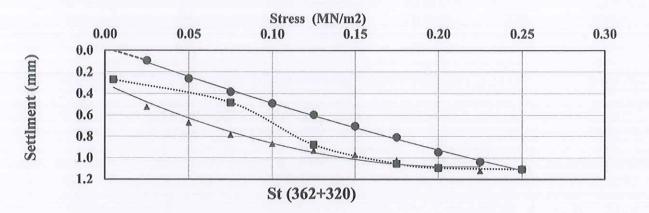
Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	Settlement of loading plate S (mm)
0	1.414	0.005	0.00
1	7.07	0.025	0.09
2	14.14	0.050	0.26
3	21.21	0.075	0.38
4	28.28	0.100	0.49
5	35.35	0.125	0,60
6	42.42	0.150	0.70
7	49.49	0.175	0.81
8	56.56	0.200	0.95
9	63.63	0.225	1.04
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
Ta	ble 5: Measured valu	es for second loading cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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: Com	pilation of results	
Param	eters	1st loading cycle	2nd loading cycl
$(\sigma_{0,\max})$ N	/IN/m <sup>2</sup>	0.250	0.250
a <sub>0</sub> (m		-0.024	0.309
a <sub>1</sub> (mm/(MN/m <sup>2</sup> ))		5,513	7.222
a2 (mm/(M		-3.800	-16.805
$Ev = 1.5 r/(a_1 + 1)$		98.60	148.92
Ev2/I		1.51	
	1 Alexandre	COMIRASSAT	

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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

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- Measurment points from the second loading cycle ▲ S Settlement in mm
  - σ<sub>0</sub> Normal stress MN/m<sup>2</sup>







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St (362+340)

600

Loading stage no. Load (F) kN		Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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		
Ta	ble 8: Measured valu	es for second loading cycle			
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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: Com	pilation of results			
Paran	eters 7	1st loading cycle	2nd loading cyc		
(σ <sub>0,max</sub> )	MN/m <sup>2</sup>	0.250	0.250		
a <sub>0</sub> (n		-0.137	0.722		
$a_0 (mm)$ $a_1 (mm/(MN/m^2))$		9,818	9.996		
$a_1 (mm/(MN^4/m^4))$ $a_2 (mm/(MN^4/m^4))$		-9,256	-23,508		
$E_{v} = 1.5 r/(a_1 + a_2, \sigma_{0, MAX})$		59.96	109,21		
Ev- 1.5 F/ (4) Ev2/	and the second design of the second diversion of the s	1.82	107121		
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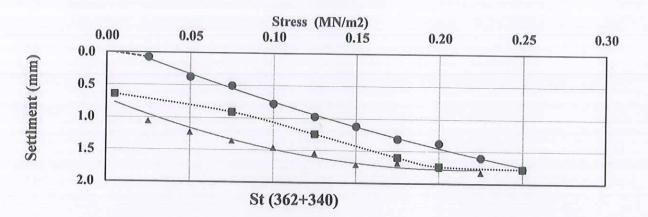
#### Table 7: Measured values for first loading cycle and unloading cycle

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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

- Measurment points from the first loading cycle
- Measurment points from the unloading cycle
- ▲ Measurment points from the second loading cycle S Settlement in mm
  - σ<sub>0</sub> Normal stress MN/m<sup>2</sup>







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### St (362+360)

600

Loading stage no.	Load (F) kN	Normal stress (s <sub>0</sub> ) MN/m <sup>2</sup>	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
Ta	ble 11: Measured valu	ues for second loading cycle	
Loading stage no.	Load (F) kN	Normal stress (s0) MN/m2	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
		pilation of results	
Paran	ieters	1st loading cycle	2nd loading cyc
(σ <sub>0,max</sub> )	MN/m <sup>2</sup>	0.250	0.250
a <sub>0</sub> (n		-0.031	0.503
		5,033	5,243
a <sub>1</sub> (mm/(MN/m <sup>4</sup> )) a <sub>2</sub> (mm/(MN <sup>4</sup> /m <sup>4</sup> ))		-3.699	-12.295
$E_{v} = 1.5 r/(a_{1})$		109.53	207.38
Ev- 1.5 1/ (a)		1.89	207.00
	Com	BASSA (B	

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

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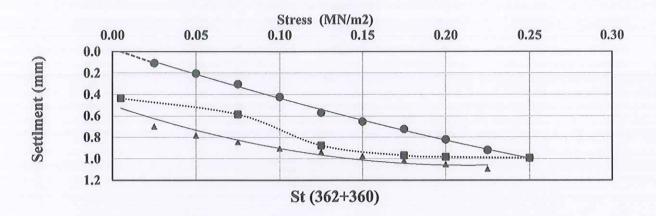


Fig. 4: Load-settlement curve, fitting curves according to Table 10 and Table 11 for the first and second loading cycles

Measurment points from the first loading cycle

- Measurment points from the unloading cycle
- Δ Measurment points from the second loading cycle S Settlement in mm
  - σ<sub>0</sub> Normal stress MN/m<sup>2</sup>







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### **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 accourdance to the German standard, DIN 18134 are illustrated in table 13.

Location	Ev1(MN/m <sup>2</sup> )	Ev2(MN/m <sup>2</sup> )	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

Geotechnical Consultant



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General Consultant :-	<u>ASTM C1</u> Electric Express Ti			2	DATE:	27/10/2022
Material / Sorce of S	•	قاع			LAB. REF.	Q.C.1501/1
sieve no.		CLE SIZE DISTRIBUTION CURVE4030161084	3/8" 1/1" 3	/11 4		
0			91 7 94 1	97.4 9913-100		
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00 00 00 00 00 00 00 00 00 00 00 00 00						60 bassing
Leo 60	44.7	D30				40 January Bercent
80	16.5					20
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CLAY and SILT	(Fines)	SAND	GRAV	/EL	COBBLES	
2.7		85.5		11.		
SAMPLE No.	DEPTH (m)	MOISTURE (%) LL (%)	PI (%)	CLASS	DESCH	DIL RIPTION
قاع حفر		Som (1) to	N.P.	A-3 (0)		aded Sand SP)
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ون- الأسكندرية ص - ب ١٥٧ ٣: ٨٩٩٩٨ - ٢٦٦٥ - ٤٨٦٩٧٩٨ Osafia zaghloul st ., p.c. el:4870573 - Fax + Tel	ت. ٤٨٧٠٥٧٣ ت. D.Box 157 Alex, Egypt	ELGUNTRAKE ISO 9001:2015 0059	Tel: 3		*9*1*AY - *9* a AveAle 31482 - F	ت: ۲۷۱۰

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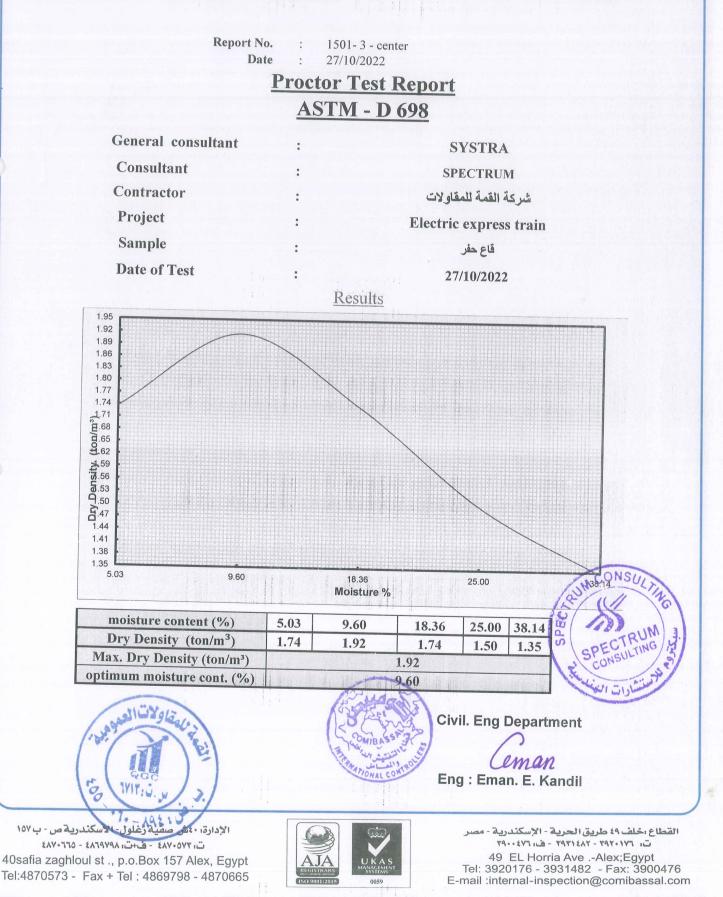


## **COMIBASSAL** International Controllers

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: General Authority for Petroleum Egyptian General S4/29.11.2011 قطاع التفتيش الداخلى والمعامل

معتمد لدى المينة المصرية العامة للبترول تحت رقم ٣٤ / ٢٩ /١١٠/١١



MATERIAL APPROVAL REQUEST	فركة للبية الطريق السوبية المورج عبد الراحد المورج عبد الراحد	SPECTRUM OI	الهيئة المامة الطرق و الكب (GARB )	Lie Rice Rice	لقوبية للإنه سوت ملك	I land	E) SVST		eadd Trae SHAKI
Contractor Company	AI - Qma Co.1 for 0 363+000	Contracting 361+800 TO	Designer	Company		(SPECTR Consultin		neering	
Issued by	Name	Sign	Dat	e/Serial Numb	er		Tin	10	
Contractor	Eng. Mohamed	20		18/10/2023			08:0	00	
Received by GARB CONSULTANT	Asayed Eng. Mazen Essamy		(M.A.F C1 IAR <u>\$14</u>	C2 C3 EW CS	F-10 DD 19	MM 10	YY 23	нн 8	мм 0
			_						
CODE-1		S1 to S21		D1 to S3		For Kilo	Kp XXX	Note	Start
CODE - 2	Sta	ation Reference		epot Reference			Km is		
CODE - 2		Si	Work Activity	livity		_			
Descriptio	on of Materials	FERMA							
Location	n to be Used	From Station (361+800)	o Station (363+000)						
Sam	ple only	Yes	Mate	Materials Type			Soil		
Supp	lier Name		Data Sh	Data Sheet provided		Yes attached			
Referen	nce in BoQ		Spe	cification	TESTIN	G REPOR	RT (CG21-41.2) CIVECON GROUP		
Prequalifica	ation reference		Test Sar	nples Results			_	_	
Referer	nce Photos	No/Yes		Other					
Comment	s by: Eng. Mazen Es	samy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)						
I-Quality test Result B 2-This Sample Repres	entive ( 5000 m3 ) only.	SPECTRUM SPECTRUM SPECTRUM SPECTRUM	2-Results specificati	were carried-o report attached ons.					
		APPROVAL	STATUS				10000		
Organisation		Name	Sign		Date			A-AW	/C-R
organioution				,					

Eng. Mazen Essamy

Eng. Mohammed Fayad

tea

Eng. Alaa Abd-Allatif

P

A

Employers Representative Designer

QA/QC \*

GARB\*\*

1.

N. .

\*\* Alignment/Bridges: Culvert only

MATERIAL APPROVAL REQUEST	شرك اللب ا السري السرب المسرب المس المسيد رجب عبد الراحد	SPECTRUM	الكبارى	المينة ال الطرق و ARB )			المومية للإن	Italia Venace	e svs		Peur Teo SHAKI
Contractor Company	AI - Qma Co.1 for C 363+000	Contracting 361+8	00 TO	Designe	r Compa	any		(SPECTR Consultin		neering	
Issued by Contractor	Name Eng. Mohamed	Sign			18/10/				<b>Tin</b>		
Received by GARB CONSULTANT	Asayed Eng. Mazen Essamy	-4	MAR	C1	C2 EW	QM1-QT-F C3 CS	DD 19	мм 10	YY 23	HH 8	MM 0
CODE-1	Stat	S1 to S21 tion Reference			D1 to Depot Re			For Kilo	Kp XXX meter pe Km is	oint only	Start
CODE - 2 CODE - 3			100 00 100	/ork Activit ement of A	an a				KIII IS	useu	
Descriptio	n of Materials	FERMA									
Location	to be Used	From Station (361	+800) to S	Station (3	63+000	)					
Sam	ple only	Yes		Mat	terials T	уре			Soil		
Suppl	ier Name			Data Sheet provided		Yes attached					
Referen	nce in BoQ			Specification T		TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP			t.		
Prequalifica	ation reference			Test Sa	amples I	Results	ts				
Referen	nce Photos	No/Yes Other					_				
Comments	s by: Eng. Mazen Ess			С	ommen	ts by: E	ing. Ala	aa Abd-	Allatif	(ER)	
1-Quality test Result B	y third part lab. entive ( 5000 m3 ) only.	SPECTR SPECTR SPECTR CONSULT	UM	1-All test 2-Results specifica 3-Final a	s report a tions.	attached	and acc	ceptable	with th	e projec	ct
		APPRC	VAL ST	ATUS			47.9				
Organisation		Name		Sign	A		Date			A-AV	VC-R
Contractor		Eng. Mohamed Asay	ed	-0	7					A	•
QA/QC *		Eng. Mazen Essamy		X	P	-					A
GARB**		Eng. Mohammed Fay			$\bigwedge$	A					
Employers Representative Eng. Alaa Abd-Allatif						NC					

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

# I- Introduction

General Consultant	:	SYST (A
Consultant	:	SPEC RUM
Contractor	:	شركة القمة للمقاولات
Sample		Ferma
Station		
Date of Test		St(361+800) to st(363+000) 28/10/2023
QC	:	2213-4

# II- Sample description:

Gravel and sand.

# III- Required tests and Results

Required Tes	Dogulto		
1- Grain size analysis and classifica-	Grain size analysis	Results As showed in appendix A-1-b	
tion and Percentage of MATERIALS	Classification		
FINER THAN No. 200 (75 µ m)	Pass From No.200	14.1	
2- Modified compaction (Proctor test) 3- Liquid limit, plastic lim <i>i</i> t and plas- ticity index	MDD	2.100	
	OMC	6.8%	
	LL	23.0%	
	PL	22.0%	
4- California bearing ratio (CBR)	PI	1.0%	
	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 responsible from the Person who brought it.
- 3- The results are applying only for the present report.

LAB DIRECTOR eman Eng / Eman 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

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

# APPENDIX

Kilo 23 Alexandria - Cairo Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com



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

### PARTICLE S ZE DISTRIBUTION AN ALYSIS ASTM C-135/ AASHTO T27

	WEIGHT RETAINED	CUMULATIVE WEIGHT	CUMULATIVE PERCENTAGE	CUMULATIVE PERCENTAGE	STANDURD SPECIFICATION
	(gm)	<b>RETAINED</b> (gm)	<b>RETAINED (%)</b>	PASSING (%)	LIMITS
2	0.00	0.00	0.00	100.0	LIMITS
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 sample v	380.00	380.00	76.00	14.1	

No.4= 5858.0 Total fine aggregates weight 500 gm % 58.6 Size analysis distribution curve 120.0 100.0 80.0 Passing (%) 60.0 40.0 20.0 0.0 0.01 0.1 10 100 Size of grains (mm) Distribution curve Soil classification: A - 1- b

Kilo 23 Alexandria - Cairo Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com

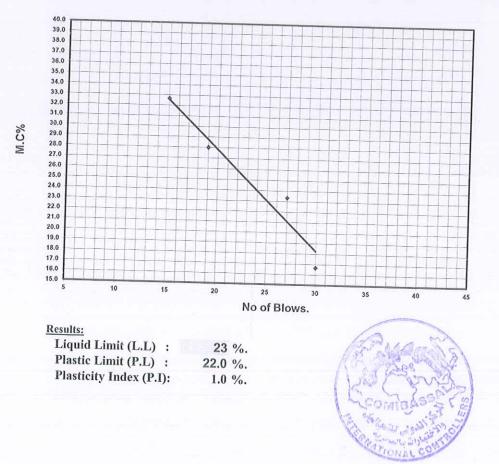




Accredited by : Egyption General Authority for Petroleum under No. 34/29-11-2011

### Liquid and Plastic Limits Test ASTM - D 4318

Test No	1	2	3	4	E	
Type of test			d Limit		5 Dlast	6
NO of B.	30	27	19	15	Flasti	c Limit
Container No	Q	W	E	R	М	D
Mass of wet soil +container	103.00	107.50	97.80	101.90		D
Mass of dry soil +container	101.00	104.00	95.00	97.00	63.00	49.80
Mass of container	89.00	89.00	85.00	82.00	58.00	47.20
Mass of moisture	2.00	3.50	2.80		34.00	36.00
Mass of dry soil	12.00	15.00	10.00	4.90	5.00	2.60
Moisture content	16.67	23.33		15.00	24.00	11.20
	10.07	43.33	28.00	32.67	20.83	23.21



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5

# **COMIBASSAL International Controllers** Internal inspection and laboratories sector

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

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

### **CHEMICAL ANALYSIS**

:	SYSTRA	
:	SPECTRUM	
	شركة القمة للمقاولات	
:	Electric express train	
:	FERMA	
:	ST (361 + 800): (363 + 0.00)	
1.1	28-10-2023	
: 27 °C	Humidity : 40%	
	: : :	

ANALYSIS	RESULTS	TEST METHOD	
ORGANIG MATTER	NEGATIVE	ASTM D 2974	



LAB DIRECTOR CH/ Mostafa Asker

Mousta



MATERIAL APPROVAL REQUEST	لىرىپ قائىپ قائىپ ئىلكرەن ئىبىرىپ ق سەرچە ئەرقىمە 200	SPECTROM	ينة المامة في و الكباري (GARB)	للطرق	C IFER	atazi an	10-12-12-12-12-12-12-12-12-12-12-12-12-12-	C SVS		A A A A A A A A A A A A A A A A A A A
Contractor Company	AI - Qma Co.1 for 363+000	Contracting 361+80	00 TO	Design	er Comp	any		RUM) Er	ngineering :e	,
Issued by Contractor	Name Eng. Mohamed Asayed	Sign	Date (M.A.R.			ime 8:00				
Received by GARB CONSULTANT	Eng. Mazen Essamy		MAR	C1 <b>S14</b>		C3 DD CS 21	MM 3	YY 23	нн 8	MN 0
CODE-1 Station Reference Work A			D		Kilome	XX Note ter point m is use				
CODE - 3			Sub Element	of Activity	1					
Description of	of Materials	Filter								
Location to	be Used	From Station (361+6	370) to Station	n (361+9	80)					
Sample	only	Yes		Mate	rials Typ	be		Mix Agg.		
Supplier	Name			Data Sheet Yes attac			ched			
Reference	in BoQ				EARTHWORK SPECIFICATION TESTING REPORT (CG21-41.2 VERSION 2 BY CIVECON GRC			2)		
Prequalification	on reference				Sample Results	S				
Reference	Photos	No/Yes	S	Other						
Comment	s by: Eng. Mazen E	ssamy (SPECTRU	M).	Cor	nments	by: Eng	. Alaa A	Abd-A	llatif (	ER)
1-Quality test Result By third part lab. 2-This Sample Representive ( 5000 m3 ) only.					<ul> <li>1-All tests were carried-out by third part lab.COMIBASSAL</li> <li>2-Results report attached and acceptable with the project specifications.</li> </ul>					ne
		APPROV	AL STATUS	5						
Organisation		Name		Sign	1	Dat	e		A-A	NC-
Contractor		Eng. Mohamed Asaye	d	20						A
QA/QC *		Eng. Mazen Essamy	C	-		-			P	
GARB**		Eng. Mohammed Faya	d		0					
Employers Represent	ative	Eng. Alaa Abd-Allatif	g. Alaa Abd-Allatif			the last			A	_

MATERIAL APPROVAL REQUEST	نىرىپ ئالىپ ئىلۇرى ئىدرىيا ئىبورچە بولۇلىد 2000	العامة SPICTRUM (GA	الطرق و		444 11 3,554	المينة المبيد الا مريد			Arty yield seen Taat SHAK			
Contractor Company	AI - Qma Co.1 for 363+000	Contracting 361+800 TO	Desig	ner Cor	npany		CTRUM) E		ng			
Issued by Contractor	Name Eng. Mohamed Asayed	ng. Mohamed			Date/Serial Number 21/03/2023 (M.A.R.) S5-B-QM1-QT-FF-2				Time 08:00			
Received by GARB CONSULTANT	Eng. Mazen Essamy	M	C1 AR <u>\$14</u>	C2 EW	C3 CS	DD MM 21 3	23	нн 8	мм 0			
CODE-1 S1 to S21				D1 to	\$3	FO	Kp X	XX Note				
2005		Station Reference	Activity	Depot Re	ference	10		m is us				
CODE - 2 CODE - 3			Activity ent of Activ	ity								
	f Matoriala								_			
Description o		Filter	ion (004)	090	-							
Location to	ne used	From Station (361+670) to Stat	011 (3614	900)	-	-		_				
Sample	only	Yes		Materials Type			Mix Agg.					
Supplier	Name		1000	Data Sheet provided			Yes attached					
Reference	in BoQ		SI	Specification EARTHWORK SPECIFIC/ TESTING REPORT (CG2' VERSION 2 BY CIVECON				G21-41	.2)			
Prequalificatio	n reference		Te	Test Samples Results								
Reference	Photos	No/Yes		Other								
Comments	s by: Eng. Mazen E	ssamy (SPECTRUM)	C	ommen	ts by: E	Eng. Alaa	Abd-A	llatif	(ER)			
1-Quality test Result By thir	d part lab.	ECTRUM	0.84052349233043	1-All tests were carried-out by third part lab.COMIBASSAL								
2-This Sample Representive	( 5000 m3 ) only.	STECTRUM CONS		2-Results report attached and acceptable with the project specifications.								
		3-Final approval is subject to above mentioned comments.										
		APPROVAL STAT	US									
Organisation		Name	Sign	1		Date		A-A	WC-R			
Contractor		Eng. Mohamed Asayed	4	P					A			
QA/QC *		Eng. Mazen Essamy		X	_				A			
GARB**		Eng. Mohammed Fayad		1	1							
Employers Representa	itive	Eng. Alaa Abd-Allatif 25	22	Alar	4A			A	we			



الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبر ة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: Accredited by: EgyP<sup>tian</sup> General Authority for Petroleum Under No.: 34/29.11.2011 قطاع التغتيش الداخلى والمعامل

معتمد لدى المينة المصرية العامة للبترول تحت رقم ٢٤/ ٢٩/١١٠٧٩

# SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor : Date of report : QC : شركة القمة للمقاولات 26-03-2023 765

الإدارة، ٤٠ ش صفية زغلول - الأسكندرية ص - ب ١٥٧ ت، ٤٨٧٠٥٧٣ ف - ٤٨٦٩٧٩٨ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Eax + Tel: 4869798 - 4870665



القطاع ،خلف ٤٩ طريق الحرية - الإسكندرية - مصر ت، ٢٩٠٠٤٧٦ - ف، ٢٩٢١٤٨٦ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com



الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبر ة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: Accredited by: General Authority for Petroleum Egyptian General Authority 1.2011 قطاع التفتیش الداخلی والهما مل معتمد لدی الهیئة المصریة العامة للبترون تحت رقم ۲۴/۱۱۰۲۹ (۲۰۱

#### I- Introduction

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



## **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**

nesurs	and the second	
1- Specific gravity (SG), ab-	S S D	2.530
sorption and degradation.	Absorption	1.20%
	Degradation	0.2%
2- Grain size analysis and	Grain size analysis	As shown in figuers
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 صفية زغلول - الأسكندرية ص - ب ١٥٧ ت، ٤٨٣٠٦٦ - ف،ت، ٤٨٦٩٧٩٨ - ٢٤٢٠٦٩٦ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tol:4870573 - Eax + Tel : 4869798 - 4870665



القطاع ،خلف ٤٩ طريق الحرية - الإسكندرية - مصر ت، ٢٩٠٠٤٧٦ - ف، ٢٩٢٠٤٧٦ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com



الجمعية التعاونية الانتاجية لأعمال الوزن والراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: Accredited by: Egyptian General Authority for Petroleum Under No.: 34/29.11.2011 قطاع التفتيش الداخلى والمعامل

معتمد لدى الميشة المصرية العامة للبترول نتحت رقع ٢٤/ ٢٩/١١٠٧٩

# APPENDIX

الإدارة، ٤٠ ش صفية زغلول - الأسكندرية ص - ب١٥٧ ت، ٤٨٧٠٥٧٣ - ف+ت، ٨٢٩٧٩٨ - ٢٦٥ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع ،خلف ٩٤ طريق الحرية - الإسكندرية - مصر ت، ٢٩٠٠٤٧٦ - ف، ٢٩٢١٤٨٢ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com

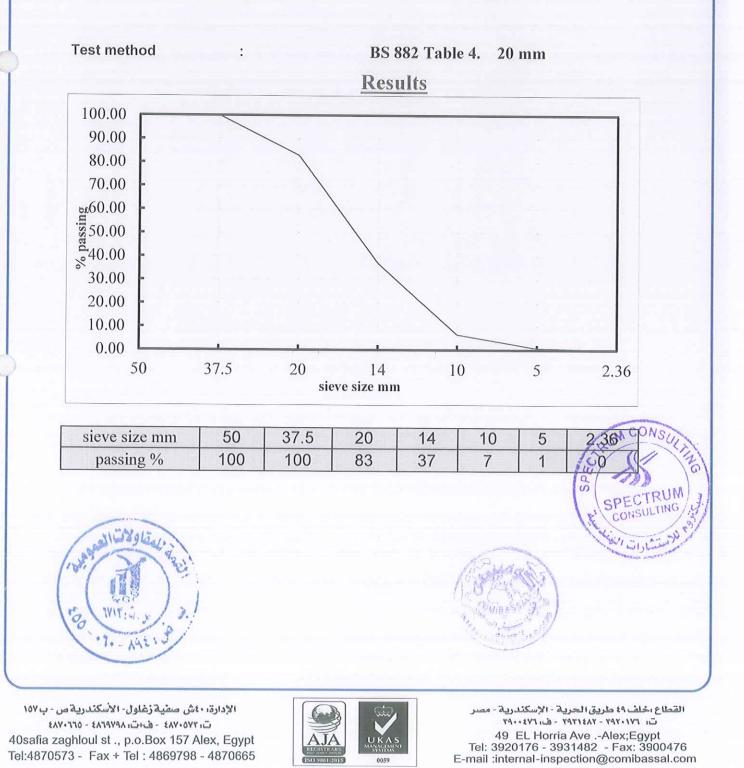


الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: Accredited by: General Authority for Petroleum EgyPtian General Authority 1.2011 قطاع التفتيش الداخلى والمعامل

معتمد لدى الهيئة المصرية العامة للبترول تحت رقم ٢٠١١/١١٠٢٩

# SIEVE ANALYSIS FOR COARSE AGGREGATE





الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: General Authority for Petroleum Egyptian General Authority 1.2011 قطاع التفتيش الداخلى والمعامل

معتمد لدى الميئة المصرية العامة للبترول نحت رقم ٢٠١١/١١٠٢٩

## 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 aftre heating (A)	2495

Results:-

Saturation surface dry spicific gravity = B / (B-C)	2.530
Bulk spicific gravity = A / (B-C)	2.50
Apparent spicific gravity = A /(A-C)	2.58
Absorbtion of water = ( B-A)/A*100	1.20
Degradation of aggregate = (2500-A)/ A*100	0.2 UM CONSU



الإدارة، ۵۰ش صفية زغلول - الأسكندرية ص - ب ۱۵۷ ت، ۲۸۷۰۵۷۴ - ف ت، ۲۹۷۹۸ - ۲۵۲۰۵۷۴ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع ،خلف ٤٩ طريق الحرية - الإسكندرية - مصر ت، ٢٩٠٠٤٧٦ - ف، ٢٩٢٠٤٧٦ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com

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نارات



الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبر ة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: Accredited by: Egyptian General Authority for Petroleum Under No.: 34/29.11.2011 قطاع التفتيش الداخلى والمعامل

معتمد لدى الهيئة المصرية العامة للبترول نحت رقم ٢٤ ١٩/١١٠/١٠

# ABRASION AND IMPACT " LOS ANGELES " TEST (For small size coarse aggregate) ASTM- C 131-96 / AASHTO-T-96

Results	Results					
Speed	Rotate at 30 to 33 Rpm For 500 Revolution					
Trial Grading	А					
Intitial 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 ش صفية زغلول - الأسكندرية ص - ب ١٥٧ ت، ٤٨٢٠٥٧٢ - ف+ت، ٤٨٦٩٧٩ - ٢٥٢ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع ،خلف ٤٩ طريق الحرية - الإسكندرية - مصر ت، ٢٩٠٠٤٧٦ - ف، ٢٩٢١٤٨٦ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com

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الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: Accredited by: General Authority for Petroleum EgyPtian General Authority 1.2011 قطاع التفتيش الداخلى والمعامل

معتمد لدى المينة المصرية العامة للبترول قص رقم ٢٤/ ١١٠٢٩ ٢٠١١

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%		
SULPHATE	0.0121%	ASTM D 2974	
ORGANIG MATTER	NEGATIVE		

144 - 1 - A421 - 2



LAB DIRECTOR CH/ Mostafa Asker

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الإدارة، ٤٠٠ من مندية زغلول - الأسكندرية م - ب ١٥٧ ت، ٤٨٢٠٥٣ - ف - ٤٨٦٩٧٩٨ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع ،خلف ٤٩ طريق الحرية - الإسكندرية - مصر ت، ٢٩٠٠٤٧٦ - ف، ٢٩٢١٤٨٢ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com

MATERIAL APPROVAL REQUEST	لىرك (للب) تىلەرە تىرىپا تىپەرچە بولاند	معالمامة ب و الكبارى (GARE	الطرق	القومية الإنفاق مربع مسم	Land, S.	SYSTIA D	Att scall are that SHAKE			
Contractor Company	AI - Qma Co.1 for 363+000	Contracting 361+800 TO	Designer Comp	any	(SPECTRU) Consulting	M) Engineering Office	3			
	Name	Sign /	Date/Serial I	Number		Time				
Issued by Contractor	Eng. Mohamed Asayed	-102	31/10/20 (M.A.R.) S5-B-QM		-	10:00				
Received by GARB CONSULTANT	Eng. Mazen Essamy	G	C1 C2 C	3 DD S 1	MM 11	YY НН 23 10	MM 0			
CODE-1		S1 to S21	D1 to S	33	r	(p XXX Note				
CODE-1		Station Reference	Depot Refe	rence		ieter point on Km is used	ily Start			
CODE - 2 CODE - 3			ork Activity			1 2 1				
GODE / S		Sub Ele	ment of Activity	_			-			
Descriptio	on of Materials	Sub-Ballast Layer								
Location	n to be Used	From Station (361+800) to St	tation (363+000)							
Sam	ple only	Yes	Materials Typ	e	e Sub-Ballast					
Supp	lier Name	4,772,112	Data Sheet provided	Yes attached						
Refere	nce in BoQ		Specification	TESTIN VERSIC	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP					
Prequalific	ation reference		Test Samples Results	5	The state was					
Refere	nce Photos	No/Yes	Other							
Comme	nts by: Eng. Mazen	Essamy (SPECTRUM)	Comments by: Eng. Alaa Abd-Allatif (ER)							
I-Quality test Result 2-This Sample Repre	By third part lab. esentive ( 5000 m3 ) only.	lab.COMIBASSA 2-Results report a	<ul> <li>1-All tests were carried-out by third part lab.COMIBASSAL</li> <li>2-Results report attached and acceptable with the project specifications.</li> </ul>							
		APPROVAL ST	ATUS							
Organisation		Name	Sign /	Date		A-A	WC-R			
Contractor		Eng. Mohamed Asayed	17				А			
QA/QC *		Eng. Mazen Essamy	DE	-		A	<u>, -</u>			
GARB**		Eng. Mohammed Fayad	TA							
Employers Representative		Eng. Alaa Abd-Allatif	no la			1				

MATERIAL APPROVAL REQUEST	الراب المربعة الماران المربعة المبارية عبد الالعا	قیقة المامة ق و الکباری (GARB	للطر	A	at a sta	القومية للإنه القومية المارية ا	Venirel a	C SVS		NY JALI CY TUR SHAKEP
Contractor Company	AI - Qma Co.1 for 363+000	Contracting 361+800 TO	Designer Company				(SPECTF Consulti	RUM) Eng		
Issued by Contractor	Name Eng. Mohamed	Sign	D		rial Nun 10/2023	nber			me	
	Asayed	-47	-		B-QM1-C	T-SB-2		10	:00	
Received by GARB CONSULTANT	Eng. Mazen Essamy	GA-	C1 <b>S14</b>	C2 EW	C3 CS	DD 1	MM 11	23	нн 10	мм 0
S1 to S21			T	D1	to S3			Кр ХХ	X Note	
CODE-1		Station Reference		Depot	Referenc	e	For Kil		point on s used	ly Start
CODE - 2		Wor	k Activity							
CODE + 3		Sub Elem	ent of Ac	tivity						
Descriptio	on of Materials	Sub-Ballast Layer								
Location	n to be Used	From Station (361+800) to Sta	tion (36	3+000	))					
Sam	ple only	Yes	Ma	Materials Type			Sub-Ballast			
Supp	lier Name			ata Sh provide		Yes attached				
Refere	nce in BoQ			pecifica		EARTHWORK SPECIFICATION TESTING REPORT (CG21-41.2 VERSION 2 BY CIVECON GRO			1-41.2)	
Prequalific	ation reference		Te	st Sam Resul						
Refere	nce Photos	No/Yes		Othe	r					
Comme	nts by: Eng. Mazer	Essamy (SPECTRUM)	0	Comme	ents by	: Eng. /	Alaa Al	d-All	atif (E	R)
1-Quality test Result By third part lab. 2-This Sample Representive ( 5000 m3 ) only.				<ul> <li>1-All tests were carried-out by third part lab.COMIBASSAL</li> <li>2-Results report attached and acceptable with the project specifications.</li> <li>3-Final approval is subject to above mentioned comments.</li> </ul>						
		APPROVAL ST	TUS			A.				
Organisation		Name	Sign	h		Date			A-A	WC-R
Contractor		Eng. Mohamed Asayed	t	P	2					А
QA/QC *		Eng. Mazen Essamy	P	×	-				f	7
GARB**		Eng. Mohammed Fayad	1	01	A					
Employers Representative Eng. Alaa Abd-Allatif 🍞		Eng. Alaa Abd-Allatif Dov	$> \Lambda$	P	1V	+			A	NC



# **COMIBASSAL International Controllers** Internal inspection and laboratories sector

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

#### I- Introduction

<b>General Consultant</b>	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة القمة للمقلولات
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 Test	ts	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 lim/t and plasticity index	Ц	Non plastic
	PL	Non plastic
	PI	Non plastic
4- California bearing ratio (CBR)	CBR ratio	97%
5- Specific gravity (SG), absorption and	SSD	2.526
degradation	Absorption	2.6%
	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.



Geotechnical consultant Fer Dr. M. Dr. Mohamed Mostafa Badry



49 El Horria Ave. Alex,Egypt Tel: 002 033920176 - 002 033931482 Fax :002 033900476 Email : internal-inspection@comibassal.com





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

# APPENDIX

Kilo 23 Alexandria - Cairo Desert Road - Merghem Tel: 002 03 4704595 - 002 034701191 Email : civdept@comibassal.com WebSite : www.comibassal.com



**COMIBASSAL International Controllers** Internal inspection and laboratories sector

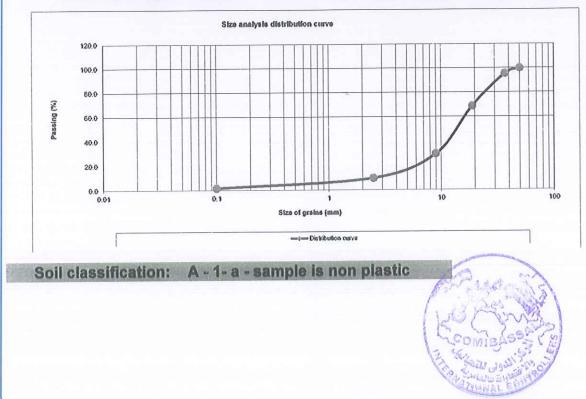
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#### PARTICLE SIZE DISTRIBUTION ANALYSIS **ASTM C-136 / AASHTO T27**

	WEIGHT RETAINED			CUMULATIVE PERCENTAGE	STANDURD SPECIFICATION		
	(gm)			PASSING (%)	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			
3/4         1281.00         3137.           1/2         2666.00         5803.		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			

1000 gm

=



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#### Modified Proctor Test Report ASTM - D 1557

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

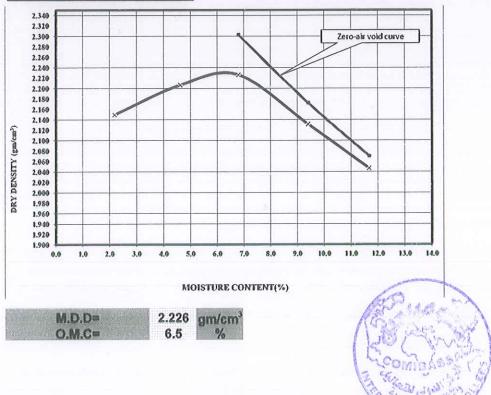
A- Density Calculations :-

	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 <sup>3</sup> )	2165	2165	2165	2165	2165
Wet density (g/cm <sup>3</sup> )	2.196	2.309	2.377	2.332	2.285
Dry density (g/cm <sup>3</sup> )	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:-



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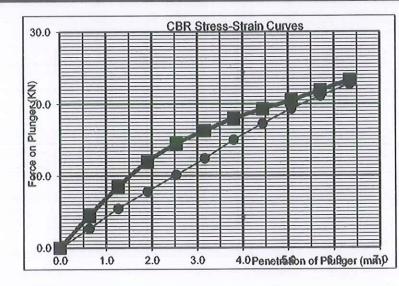
st.



Report Of CBR Test - ASTM - D 1883

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

NO OF BL	ows	56					
MOULD NO	<b>)</b>	1					
WT OFMO	ULD+SOIL	10325					
WTOFMC	OULD	5260		1	1		
WT OF SC	NL	5065					
VOLUME (	OF MOULD	2124					
WET DEN	SITY	2.385					
		MC	before soaking	W	eight of Ram	ner	4.54Kg
TIN NO		1			MDD	Kg/m3	2.226
WT OF WI	ET SOIL+TIN	250.00					
WT OF DR	Y SOIL+TIN	236			OMC	%	6.5
WT OF W/	ATER	14.00					
WT OF TIM	1	35					
WT OF DR	RYSOIL	201	2.125				
MOISTUR	E CONTENT	7.0					
DRY DENS	SITY	2.229					
		97	Bearing	(KN)	-	CBR	
Pen mm	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	1	23.3		



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**Absorption & Specific Gravity for Aggregate** AASHTO T85 - ASTM C127

Internal inspection and laboratories sector Accredited by : Egyption General Authority for Petroleum under No. 34/29-11-2011

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

#### **Results:-**

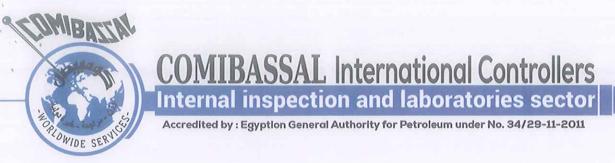
Saturation surface dry spicific gravity = B / (B-C)	2.526
Bulk spicific gravity = A / (B-C)	2.487
Apparent spicific gravity = A /(A-C)	2.590
Asorbtion of water = ( B-A)/A*100	1.6
Degradation of aggregate = (2500-A)/ A*100	0.2



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## **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
<b>Trial Grading</b>	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 : Egyption 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 القمة للمقلولات 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%	
SULPHATE	0.0056%	ASTM D 2974
ORGANIG MATTER	NEGATIVE	

LAB DIRECTOR CH/ Mostafa Asker Moustal



MATERIAL APPROVAL REQUEST	نىرىت ئانىت ئىلۇرى ئىدرىيا ئىبورچا بىرقولىد 2000 - 2000 - 2000	هینه المامه رق و الکباری (GARB)			1 2,54	وسة للإنفاق	Italia Ila	Syst		SHAK
Contractor Company	AI - Qma Co.1 for Co 363+000	ontracting 361+800 TO	Design	er Con	npany		(SPECTRU Office	IM) Engine	ering Con	sulting
	Name	Sign	Date	e/Seria	l Num	nber		Tin	ne	
Issued by Contractor	Eng. Mohamed Asayed	10		25/02	2023			08:0	00	
Received by		R.	(M.A.R C1	.) S5-B-	QM1-Q C3	T-SG-1 DD	MM	YY	нн	MM
GARB CONSULTANT	Eng. Mazen Essamy	C A	<b>S14</b>	EW	cs	26	2	23	8	0
CODE-1		S1 to S21 Station Reference					For Kilo	Kp XXX neter poir		tart Km
CODE 2	Stati		1	epot Re	eference	e		is us		
CODE - 2 CODE - 3			ork Activity			-				-
	12						100			
Descripti	on of Materials	Prepare Sub Grade								
Locatio	n to be Used	From Station (362+380) to	Station (	363+0	00)					
San	nple only	Yes		Materials Type			Sub Grade			
Supplier Name			10000000000000000000000000000000000000	Data Sheet provided			Yes attached			
Reference in BoQ				Specification REPOR		REPOR	HWORK SPECIFICATIONS & TESTING RT (CG21-41.2) VERSION 2 BY CON GROUP			
Prequalification reference				Test Samples Results						-
Refere	ence Photos	No/Yes	Other							
Commen	ts by: Eng. Mazen Es	samy (SPECTRUM)	С	omme	ents b	y: Eng	j. Alaa A	bd-Alla	tif (ER	:)
1-Quality test Result 2-This Sample Repre		SPECTRUM SPECTRUM CONSULTING		ts repo			by third pa			
		APPROVAL S	TATUS			I				
Organisation		Name	Sign	1		Date			A-A	WC-R
Contractor		Eng. Mohamed Asayed	20	P	>					А
QA/QC *		Eng. Mazen Essamy	5		_				f	)
GARB**		Eng. Mohammed Fayad			5					
				A	111	14			-	

\*\* Alignment/Bridges: Culvert only

MATERIAL APPROVAL REQUEST	نىرى ئالى ئ تىلۇن ئىرىپە ئىبورچە ئىبولۇنىد تىبورچە ئىبولۇنىد	ه العامة و الكبارى (GARI	للطرق		وزارد ا	ومية للإنفاق ويستعمل	LIANS IN CONTRACTOR	SVST	TA D	And Train SHAK
Contractor Company	AI - Qma Co.1 for Co 363+000	Design	er Con	npany		(SPECTRU Office	JM) Engine	ering Cons	sulting	
Issued by	Name	Sign /	Date	e/Seria	I Num	nber		Tin	ne	
Contractor	Eng. Mohamed Asayed	-10-	(11.4.10	25/02/		T SC 4	-	08:0	00	
Received by GARB CONSULTANT	Eng. Mazen Essamy	A	C1 \$14	C2 EW	C3 CS	DD 26	MM 2	үү 23	нн 8	MM 0
CARLES AND		S1 to S21	-	D1 to	5 S3		1	Кр ХХХ	Note	_
CODE-1	Stati	on Reference	C	Depot Re	eferenc	е	For Kilo	meter poir is us		art Kn
CODE - 2			Work Activit	у				15.45		
CODE - 3		Sul	b Element of A	ctivity		_				
Descripti	on of Materials	Prepare Sub Grade								
Location to be Used		From Station (362+380) to Station (363+000)								
Sar	nple only	Yes	Mate	Materials Type			Sub Grade			
Sup	plier Name		1.2490.404.0	Data Sheet provided			Yes attached			
Refere	ence in BoQ			Specification REPORT (CG CIVECON GR			T (CG21-4	DRK SPECIFICATIONS & TESTING (CG21-41.2) VERSION 2 BY GROUP		
Prequalifie	cation reference			Test Samples Results						
Refere	ence Photos	No/Yes		Other						
Commen	ts by: Eng. Mazen Es	samy (SPECTRUM)	с	omme	ents k	oy: Eng	j. Alaa A	bd-Alla	tif (ER	)
1-Quality test Result	By third part lab.	CIRUM CONSUL					by third p			
2-This Sample Repre	esentive ( 5000 m3 ) only.	as as	2-Resul specific			ched ar	nd accept	able with	the pro	ject
		E CONSULTING	3-Final	approv	al is s	ubject t	o above r	mentione	d comm	ents.
		APPROVAL	STATUS							
Organisation		Name	Sign	4		Date			A-AV	NC-R
orgumouton						1			1	

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Asayed	-UP		А
QA/QC *	Eng. Mazen Essamy		$\langle $	A
GARB**	Eng. Mohammed Fayad		()	
Employers Representative	Eng. Alaa Abd-Allatif	3525Alaa	Ach	Awa
Designer     Alignment/Bridges: Culvert only		06/	3	

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#### **COMIBASSAL International Controllers**

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: General Authority for Petroleum Egyptian General Authority 1.2011 قطاع التفتيش الداخلى والمعامل

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

# SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Client	0	شركة القمة للمقاولات
Date	0	26/02/2023
QC	0	491

الإدارة، ٤٠ ش صفية زغلول - الأسكندرية ص - ب١٥٧ ت، ٤٨٢٠٥٧٣ - ف+ت، ٤٨٦٩٧٩ - ٢٦٥ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع ،خلف ٤٩ طريق الحرية - الإسكندرية - مصر ت، ٢٩٠٠٤٧٦ - ف، ٢٩٢١٤٨٦ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com



الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: General Authority for Petroleum Egyptian General S4/29.11.2011 قطاع التفتيش الداخلى والمعامل

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

#### I- Introduction

<b>General Consultant</b>	:	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 classifica-	Grain size analysis	As showed in appendix
tion	Classification	A-1-a
2- Modified compaction and opti-	MDD	2.146
mum moisture content (Proctor test)	ОМС	5.00%
3- Liquid limit, plastic limit and plas-	LL	Non plastic
ticity index	PL	Non plastic
	PI	Non plastic
4- California bearing ratio (CB	CBR ratio	90%
5- Specific gravity (SG), absorption	S S D	2.530 JUM C
and degradation	Absorption	1.4%
den e construction de la constru	Degradation	0.2%
6- Los Angeles test	Abrasion ratio	28.0% SPE

LAB DIRECTOR

Eng / Eman kandil

الإدارة، ٤٠ ش صفية (غلول - الأسكندرية ص - ب ١٥٧ ت: ٤٨٧٠٥٧٣ - ف ت ٤٨٦٩٧٩٨ : م ٤٨٣٠٥٧٣ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel : 4869798 - 4870665



Geotechnical consultant

Dr. Mohamed Mostafa Bad

AJA RIFERSTRAKE القطاع بخلف ٢٩ مريق الكرية - الأسكن روية - مصر ت، ٢٩٠٠٤٧٦ - ف، ٢٩٢٠٤٧٦ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com



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 الداخلى والمعامل

معتمد لدى المينة المصرية العامة للبترول تحت رقم ٢٤ ١٩/١١/١١

#### Report Of CBR Test - ASTM - D 1883

-	BLOWS		56				Sv	vell %	
OULD	Photosophi		1	1			56		1
TOFN	IOULD+SC	DIL	11950			Start	0.00		
	MOULD		7020			End	0.00	-	
TOFS			4930			Swell	0.00	-	
DLUM	OF MOU	LD	2190			OWOII	0.00		
	NSITY		2.251				-		
				before soa	king	1.67	alaht of D		
N NO	10.00			Delote soa	king	VVe	eight of Ram	1	4.54Kg
			1				MDD	Kg/m3	2.146
	VET SOIL-		250.00						
	ORY SOIL+	TIN	242.2				OMC	%	5.0
	VATER	_	7.80						
OF T	IN COL		86				PF	<b>ROVING RI</b>	NG
	DRY SOIL	TAIT	156.2	2.125			Div	KN	
	RE CONTE		5.0						
Y DEI	VSITY		2.144				Capaci	ty (KN)	50
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0.64	245			2.4					
1.27	465			4.6			4.5		
1.91	727			7.1			8.5 12.0		
2.54	965			9.5			12.0	72	
3.17	1150			11.3			16.3	12	
8.81	1380			13.5			18.0		
1.45	1610			15.8			19.3		
5.08	1830			17.9			20.5	90	
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الإدارة: ٤٠ش صفية زغلول- الأسكندرية ص - ب١٥٧ ت: ۲۲۵۰۷۸۸ - ف+ت: ۸۲۹۷۹۸۸ - ۲۵۲۰۷۸۸ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel: 4869798 - 4870665



00 القطاع ، خلف ٤٩ طريق والمريد الم الم الم 49 EL Homa 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 (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: Egyptian General Authority for Petroleum Under No.: 34/29.11.2011 قطاع التفتيش الداخلى والمعا مل معتمد لدى الميئة المسرية العامة للبترون تحت رقم ٢٤/ ٢١١١/١١٠٢٩

# 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 aftre heating (A)	2495

#### **Results:-**

Saturation surface dry spicific gravity = B / (B-C)	2.530
Bulk spicific gravity = A / (B-C)	2.495
Apparent spicific gravity = A /(A-C)	2.585
Asorbtion of water = ( B-A)/A*100	1.4 SPECTRUM
Degradation of aggregate = (2500-A)/ A*100	0.2 Construction 1



الإدارة، ٤٠ ش صفية زغلول - الأسكندرية ص - ب١٥٧ ت، ٤٨٧٠٥٧٣ - ف ت، ٤٨٦٩٧٩٨ - ٢٥ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع ،خلف 44 طريق الحرية - الإسكندرية - مصر ت، ۲۹۰۰۶۷۲ - ۲۹۲۱٤۸۲ - ۵۰ ۲۹۲۰۱۷۲ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com



الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: Accredited by: Under No.: 34/29.11.2011 Egyptian General Authority for Petroleum قطاع التغتيش الداخلى والمعامل معتمد بدى الهيئة المرية العامة للبترون تحت رقم ٢٤/ ٢٠١١/١١٠٢٩

# **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 SUM CONSU
% abrasion By Weight Passing from Sieve No.12	28.0% SPECTR



الإدارة، ٤٠ ش صفية زغلول - الأسكندرية ص - ب١٥٧ ت، ٤٨٢٠٥٣٢ - ف٦ت، ٤٨٦٩٧٩٨ - ٢٥ 40safia zaghloul st ., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع ،خلف ٩٤ طريق الحرية - الإسكندرية - مصر ت، ٢٩٠٠٤٧٦ - ٢٩٢١٤٨٢ - ٢٩٢٠ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com



للمات القياسية

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#### **COMIBASSAL International Controllers**

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015 Accredited by: Accredited by: General Authority for Petroleum Egyptian General Authority for Petroleum قطاع التفتيش الداخلى والمعامل

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

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



الإدارة، ۵۰ مصفية زغلول - الأسكندرية ص - ب ۱۵۷ ت، ۸۲۰۰۵۲۴ - ف ت، ۸۹۷۹۸۸ - ۲۸۲۰۰۷۶ 40safia zaghloul st., p.o.Box 157 Alex, Egypt Tel:4870573 - Fax + Tel: 4869798 - 4870665



القطاع ،خلف ٤٩ طريق الحرية - الإسكندرية - مصر ت، ٢٩٠٠٤٧٦ - ف، ٢٩٢١٤٨٦ 49 EL Horria Ave .-Alex;Egypt Tel: 3920176 - 3931482 - Fax: 3900476 E-mail :internal-inspection@comibassal.com



وثيقة تأمين رقم

الشروط العامة

#### الحوادث الشخصية جماعى ACCP003152623A

محتوى الشرط

- 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 أي حادث مغطى بموجب هذه الوثيقة

البند الثاني عشر : المحاكم المختصــة : كل المناز عات التي تنشأ عن تفسير هذه الوثيقة او تنفيذها تكون من اختصاص المحاكم المصرية المختصة التي تقع في دائرتها الجهة التي أصدرت هـــــذه الوثيقة.

البند الثالث عشر : التقـــادم : 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 : ۲۰۲٤/۲/۲۰



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



المركز الرئيسي 44 أ الدقي - الجيزة

تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-008-200



وثيقة تأمين رقم الشروط العامة

#### الحوادث الشخصية جماعى ACCP003152623A

محتوى الشرط

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

ب - لا تكون الشركة ملزمة باى حال من الأحوال بإخطار المؤمن له بموعد انتهاء مدة الوثيقة ولا تلتزم بتجديدها ولا تكون أيضا مسئولة 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 :

في حالة وقوع حادث تنشأ عنه مطالبة بموجب هذه الوثيقة يلتزم المؤمن له او من ينوب عنه بالقيام بما يلمي :-

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

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

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

وإذا لم يقم المؤمن له أو من ينوب عنه بالالتزامات المذكورة أعلاه أو تأخر في القيام بها سقط حقه في المطالبة بالتعويض الذي 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 أخر عنوان معروف لهما وفى هذه الحالة يستحق للشركة الاحتفاظ بجزء من القسط يتناسب مع المدة المنقضية من التأميـن .

كما يجـوز للمؤمـن 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 إلا تكون هناك مطالبة قد أثيرت عن السنة التامينية محل الإلغاء.

البند التاسع : الشرط الفاسخ :

للشركة المؤمنة في حالة عدم قيام المؤمن له بسداد قسط التأمين في 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 الميين بالوثيقة أو في أخر موطن معلوم لهما بوقف عقد التأمين مع إنذار هما بوجوب سداد القسط خلال عشرة أيام وإلا اعتبر العقد مفسوخا ، فإذا لم يقم المؤمن له او المستفيد بالسداد خلال المهلة الممنوحة لهما فعلى الشركة إخطار كل من المؤمن له والمستفيد بفسخ العقد وذلك بموجب كتاب موصى عليه مصحوب بعلم الوصول على معان ا

رفي جميع الأحوال تحتفظ شركة التأمين بحقها في جزء نسبي من قسط التأمين عن الفترة المنقضية من تاريخ سريان العقد حتى تاريخ الفسخ .

البند العائش : سقوط الحـق : تسقط كافة حقوق المؤمن عليه الناشئة عن هـذه الوثيقة فـي الحالات الأتية:-

اً - إذا ادلى المؤمن له أو من ينوب عنه ببيانات غير صحيحة في طلب التأمين أو في الإقرارات المرفقة بالوثيقة بقصد حث الشركة المؤمنة على قبول التأمين أو إذا أخفى عن الشركة ببإنات جو هرية كان من المتعين عليه إعلامها بها قبل بدء سريان وثيقة التأمين .

ب - مخالفة المؤمن له أو من ينوب عنه القوانين واللوائح المنظمة لمز اولة نشاطه إذا انطوت على جنايـــة أو جنحة شركة تابعة مساهمة مصرية خاضعة لأخكام القانون رقم 10 لسنة 1981 وتعديلاته والمرخص لها بمزاولة عمليات التأمين وإعادة التأمين مسجلة بالهيئة رقم 1 لعام 1953

> تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-008-200





وثيقة تأمين رقم

الشروط العامة

#### الحوادث الشخصية جماعى ACCP003152623A

محتوى الشرط

7-الاشتراك في مباريات الفرق الرياضية التي تتميز بخطورتها مثل المصارعة والملاكمة والهوكي والبولو ورياضه الانزلاق وتسلق الجبال والسباق والصيد والغطس وركوب المناطيد والتخييم والطيران الشراعي والهبوط بالمظلات او القيام بإجراء اختبارات السرعة .

8-مصاريف الجنازة (بحد أقصى 2000 جم).

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

البند الثاني : الجمع بين مزايا التأمين :

تؤدى الشركة للمؤمن عليه المبلغ الاسبو عى المنصوص عليه في حالة العجز الكلى المؤقت المبين بالجدول ، بالإضافة إلى المبالغ التي قد تستحق له في حالات الوفاة أو العجز الكلي أو الجزئي المستديم .

ولا يجوز الجمع بين المبالغ المنصوص عليها في حالات الوفاة والعجز الكلى أو الجزئي المستديم ، فإذا كان المؤمن عليه قد صرف تعويضاً بسبب الإصابة بالمبلغ المنصوص عليه في أي من حالتي العجز المستديم وتوفي بعد ذلك بسبب ذات الإصابة وخلال فترة الأثنى عشرة شهراً التالية لوقوع الحادث المؤدي إلى الإصابة فتسدد الشركة للمستفيد المبلغ المنصوص عليه في حالة الوفاة مخصوما منه المبلغ الذي سبق صرفة 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 اكبر بالإضافة إلى المبالغ التي قد تستحق في حالات العجز الكلى الموقت .

البند الثالث: تغيير الخطر:

إذا التحق الشخص المؤمن عليه خلال مدة التأمين بأى عمل خلاف المذكور صراحة فى جدول الوثيقة وكان من شانه زيادة الخطر الذى يتعرض له تسقط كافة الحقوق فى أي 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 كتابة على هذا التعديل مع سداد القسط الإضافي المناسب على أن يتم ذلك جميعه قبل وقوع أي حادث.

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

البند الخامس : الاستثناءات :

لا تغطى هذه الوثيقة حالات الوفاة أو العجز الكلى أو الجزئي المستديم أو العجز الكلى المؤقت التي تنشأ عن أو نتصل بطريق مباشر أو غير مباشر عن أي من الحالات الاتيــه :-

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

2- الإشعاعات النووية أو الثلوث من النشاط الإشعاعي 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 قانونيه أو تعريض نفسه إرادياً لخطر غير ضرورى ( إلا فيما يتعلق بمحاولة الشخص إنقاذ نفس بشرية ).

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

شركة تابعة مساهمة مصرية خاضعة لأحكام التأتون راغم للأسلحة الأكبوالعقيداته والتفراهجية ما بمزاولة عمليات التأمين وإعادة التأمين مسجلة بالهيئة رقم 1 اعام 1953

تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-200-200

المركز الرئيسي 44 أ الدقي - الجيزة



وثيقة تأمين الحوادث الشخصية جماعى رقم ACCP003152623A

الشروط العامة

# محتوى الشرط

إشتر اطات تغطية العجز المستديم :

1- يعتبر عجز الطرف أو العضو كله أو بعضه عجزا مطلقا نهائيا عن أداء وظيفته في حكم الطرف أو العضو المفقود في تفسير هذه الوثيقة ،ولا يستحق للمضرور أي مبلغ قبل ثبوت العجز نهائيا .

2-في حالة فقد احد الأطراف أو الأعضاء كله أو بعضه فقدا جزئيا يقدر مدى العجز فيه بنسبته إلى الفقد الكامل.

3-إذا كان المؤمن عليه أعسر وكان قد تبين ذلك بالتقرير الطبى ، فإن الفنات المنصوص عليها سلفا بالنسبة لمختلف حالات عجز اليد اليمني تتبادل مواضعها مع الفنات الخاصة بحالات عجز اليد اليسري المناظرة لها .

4- بالنسبة لحالات العجز المستديم غير الواردة في هذا البند فتحدد نسبتها بمعرفة الطبيب المعالج وبشـرط ان يقـرها طبيب الشركة .

5- إذا نشأت عن ذات الإصابة حالات عجز متعددة تتناول أطراف أو أعضاء مختلفة أو أيه 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 أي مبلغ عن فقد أطراف وأعضاء كانت قبل وقوع الإصابة عديمة الاستعمال ولا يحسب المبلغ المستحق عن إصابة أطراف وأعضاء كانت من قبل عاجزة جزئيا إلا عن الفرق بين حالتها قبل الإصابة وبعدها.

رابعا : حالة العجز الكلى المؤقت :

تؤدى الشركة للمؤمن عليه المبلغ الاسبوعى المبين بجدول الوثيقة في حالة إصابة المؤمن عليه بعجز كلى مؤقت بواقع (5 في الألف) من مبلغ التأمين الخاص بحالة العجز الكلى المستديم وبحد أقصى 70 % من الأجر الأسبوعي طوال المدة التي يلازم فيها الفراش ويتبع أثناءها علاجا طبيا ويمتثل للراحة اللازمة لشفائه ويستحق هذا المبلغ اعتبارا من يوم بدء العلاج الطبي لا من يوم وقوع الحادث ذاته ويستمر سداد هذا المبلغ بالكامل طوال المدة التي حالت الإصابة خلالها تماماً بينه وبين مزاولة أي عمل كان .

ويستحق هذا المبلغ الاسبوعي طوال مدة ملازمة المؤمن عليه الفراش للعلاج على ألا تتعدى 52 أسبوعا تبدأ من يوم بدء العلاج الطبي .

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 التي تقل عن أسبوع بنسبه عدد تلك الأيام إلى سبعه (7)

ب-التغطيات الاضافية : (لا تغطى إلا بنص صريح ومقابل قسط إضافي ):

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

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

3-الشّغب والاضطرابات الأهلية والإضرابات العمالية والإرهاب والتخريب شريطة أن يكون المؤمن عليه ضحية لمثل هذه الأعمال وليس مشاركا فيها .

4-الحرب أو الغزو أو اى عمل من عدو اجنبى أو العدوان أو العمليات الحربية ( سواء أعلنت الحرب أم لم تعلن ) أو حرب الهليه أو تؤرة أو تأمر أو أعمال قوه عسكريه أو سلطه غاصبة أو التمرد أو الانتفاضة العسكرية أو الشعبية أو الفتته أو العصبيان .

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

شركة تابعة مساهمة مصرية خاضعة لأهكام لإقانون في 10 لاسنة الأكاوتية يلاته والمرخص لها بمزاولة عمليات التأمين وإعادة التأمين مسجلة بالهيئة رقم 1 لعام 1953

تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-008-200

SRAN

المركز الرئيسي 44 أ الدقي - الجيزة



وثيقة تأمين رقم الشروط العامة

#### الحوادث الشخصية جماعى ACCP003152623A

الشرط

محتوى الشبر
الفقد الكامل للإبهام والإصبع غير السبابة 25 % 20 %
الفقد الكامل للسبابة والإصبع غير الإبهـ ام 20 % 15 %
الفقد الكامل لثلاثة أصابع غير الإبهام والسبابة 25% 20 %
الفقد الكامل للإبهام فقط 20% 15 %
الفقد الكامل للسيابة فقط 15% 10 %
الفقد الكامل للوسطى فقط 10 % 8 %
الفقد الكامل للبنصر فقط 8 % 7 %
الفقد الكامل للخنصر فقط 7 % 6 %
2. الأطـراف السفلي :
الفقد الكامل لطرف سفلى إلى ما فوق الركبة 50 %
الفقد الكامل لطرف سفلى إلى ما تحت الركبة 40 %
البتر الجزئي للقدم والشامل لجميع الأصابع 30 %
الفقد الكامل لحركة الحرقفة 30 %
الفقد الكامل لحركة الركبة 30 %
الفقد الكامل لحركة مفصل القدم 15 %
الفقد الكامل لحركة إيهام 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 %
كس ضلعي يصحبه تشوه دانم في الصدر واضطرابات وظيفية 10 %
<ol> <li>للصمم وانكماش الأطراف وفقد الإبصار</li> </ol>

صمم تام 40 %

صمم إحدى الإذنين 15 %

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

شركة تابعة مساهمة مصرية خاضعة لأحكام القانون رقم10 اسنة 1891 وتعديليته والمرخص لها بمزاولة عمليات التأمين وإعادة التأمين مسجلة بالهيئة رقم 1 اعام 1953 الفقد الكامل لعين و أحدة 35%



تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-200-200

WSUR



الحوادث الشخصية جماعى ACCP003152623A

الشروط العامة

وثبقة تأمين

رقم

#### محتوى الشرط

9- الاضرابات العمالية : أي فعل ينتج عن التجمهر أو التمرد أو العصيان أو التوقف عن العمل الصادر من العاملين .

10- الار هاب والتخريب : هو إستخدام القوة أو العنف أو التهديد أو الترويع والتي يقوم بها أي شخص أو مجموعة من الأشخاص سواء يعملون بمفردهم أو نيابة عن أو على صلة بأي منظمة (منظمات) أو حكومة (حكومات) لأغراض سياسية أو أيلوجية (فكرية) أو عرقية أو لأي أغراض أخرى مشابهة بقصد التأثير على سياسات أي حكومة و/أو وضع الشعب وقطاع منه في حالة خوف والتي قد تؤدى إلى الاتلاف العمدي لممتلكات ثابتة أو منقولة بواسطة الغير بحيث تصبح غير صالحة للاستعمال بأي طريقة .

البند الأول : التغطيات التأمينية :

أ- التغطيات الأساسية

أولا : حالة الوفاة :

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

ثانيا : حالة العجز الكلى المستديم

تؤدى الشركة للمؤمن عليه مبلغ التأمين المبين بجدول الوثيقة في حالة إصابة المؤمن عليه بعجز كلى مستديم خلال سنه من تاريخ وقوع الحادث للمؤمن عليه ويعتبر العجز كلاا مستديما في حالة تحقق إحدى الحالات الآتيه :

فقد إبصار العينين نهائيا / فقد الذراعين او اليدين

فقد الساقين أو القدميان / فقصد ذراع وسطاق

فقد ذراع وقدم / فقد يد وسطق

فقديدوقدم

ثالثا: حالة العجز الجزئي المستديم :

تؤدى الشركة للمؤمن عليه مبلغ يعادل نسبة من مبلغ تأمين العجز الكلى المستديم والمبين بجدول الوثيقة في حالة إصابة المؤمن عليه بعجز جزئي مستديم خلال سنه من تاريخ وقوع الحادث للمؤمن عليه ، وذلك بنسبة العجز الجزئي حسب البيان التالي :-

نسبة العجز الجزئي

1. الأطراف العليا الأيمن الأيسر

الفقد الكامل للذراع أو اليد 60 % 50 %

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 1881 وتعديلاته والمراض لها بمزاولة عمليات التأمين وإعادة التأمين مسجلة بالهيئة رقم 1 لعام 1953 القدر الكامل للربيهم والسداية لل5 للم 20 للمرابية للكامل للربيهم والسداية لل5 للمرابع



تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-088-200

YSR INS



وثيقة تأمين رقم

الشروط العامة

الحوادث الشخصية جماعى ACCP003152623A

محتوى الشرط

الشروط العامة لوثيقة الحوادث الشخصية

بناءاً على البيانات والإقرارات الواردة في طلب التأمين الموقع عليه من المؤمن له و/ أو المؤمن عليه والمقدم إلى شركة مصر للتأمين والمنوه عنها فيما بعد بالشركة والذي يعتبر جزءا 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 أيه إصابة جسمانية نتيجة حادث مغطى بالوثيقة يقع الشخص المؤمن عليه داخل نطاق المنطقة الجغر افية المبينة فى الجدول وذلك طبقا للشروط العامة والخاصة والاشتر اطات والاستثناءات الواردة فيها أو المضافة اليها 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

المقدمة

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

2- الحادث : فعل فجائى عارض عنيف خارجى وظاهر ومستقل عن أى سبب اخر ويترتب عليه وحده الوفاه 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 : حاة العجز التي تستمر لأكثر من 365 يوم ولا أمل بعدها في التحسن وهي الحالة التي يترتب عليها عاهة مستديمة وتمنع المؤمن عليه تماما من الاستمر ار في عمله أو وظيفته إذا كان يعمل، أو الالتحاق بوظيفة إذا كان لا يعمل وتحدد حالات العجز الكلى المستديم على سبيل الحصر طبقا للبند الاول (ثانيا) بالوثيقة وتؤدى الشركة للمؤمن عليه في هذه الحالة مبلغ التأمين بأكمله والمبين بجدول الوثيقة .

4- العجز الجزئي المستديم : حالة العجز التي تستمر لاكثر من 365 يوم ولا أمل بعدها في التحسن ويترتب عليها أيضاً عاهة مستديمة ولكن قد لا تمنع المؤمن عليه من ممارسة نشاطه وتحدد حالات العجز الجزئي المستديم على سبيل الحصر طبقا للبند الأول (ثالثا) بالوثيقة وتؤدى الشركة للمؤمن عليه مبلغا يعادل نسبة العجز الجزئي من مبلغ التأمين المبين بجدول الوثيقة .

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

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

7- الشغب : أي فعل ينتج عن :

ا - اجتماع ثلاثة أشخاص أو أكثر يجمعهم هدف أو غرض مشترك ذو صبغة سياسية أو اجتماعية.

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

جـ - توافق نية هؤلاء الأشخاص فيما بينهم على إستخدام القوة على من يحاول منعهم من تتفيذ هذا الهدف المشترك.

شركة تابعة مساهمة مصرية خاصعة لأحكام الضطر ايات المدنية (الأهلية )) أي فعل بنتج عن التجمير أو الهياج أو الفوضي من الطوائف الدينية أو السياسية أو شركة تابعة مساهمة مصرية خاصعة لأحكام الماني، أمر 100 وعديلاته والمرجص لها تمولونة عمليات التأمين وإعلاق التنامي



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المركز الرئيسي 44 أ الدقى - الجيزة

تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته زقم التسجيل الضريبي 404-208–200



وثيقة تأمين الحوادث الشخصية جماعى رقم ACCP003152623A

	اجمالي مبثغ التأمين	العملة	مبلغ تأمين القرد	الوظيفة	عدد المؤمن عليهم
XX	75000.00	EGP	75000.00	مهندس	
	إجمالي مبلغ التأمين	العملة	مبلغ تأمين الفرد	الوظيفة	عدد المؤمن عليهم
XX	30000.00	EGP	30000.00	مساعد	
A.	إجمالي مبلغ التأمون	العملة	مبلغ تأمين القرد	الوظيقة	عدد المؤمن عليهم
A	15000.00	EGP	15000.00	سائق	
	إجمالي مبلغ التأمين	العملة	ميلغ تأمين الفرد	الوظيفة	عدد المؤمن عليهم
X	10000.00	EGP	10000.00	Jale	$\times$

المستفيدون : الورثة الشرعيون .



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



تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-208-200



#### وثيقة تأمين الحوادث الشخصية جماعى رقم ACCP003152623A

XXX	XXX	صافي القسط			ميلغ التأمين	CXXXX	العملة	الخطسر
		144.00			130000.00	$\langle \rangle \rangle \rangle$	EGP	حوادث شخصية
أيام	حد اقصی	و حد ادنی	نسبة التحمل	قيمة التحمل	نوع التحمل	إجمالي مبلغ التأمين	مبلغ تأمين الفرد	الأخطار المغطاه
		$\times$		XXXX	None	130000.0	0.00	الوفاة بحادث
					None	130000.0	0.00	العجز الكلى المستديم
					None	130000.0	0.00	العجز الجزئي المستديم

وصف التغطية :

من المعلوم والمتفق علية ويناء علي طلب الشركة المؤمن لها يتم التأمين علي عدد 4 عمال من العاملين لدي الشركة المؤمن لها ضد أخطار الوفاة بحادث والعجدز الكلي او الجزئي المستديم نتيجة حادث وفقا للآتي: -

- مهندس بمبلغ تأمين 75000 جم
- مساعد مهندس أو ملاحظ فنى بمبلغ تامين 30000 جم
  - سائق معدة او سيارة بمبلغ تأمين 15000 جم
    - عامل عادي بمبلغ تامين 10000 جم

جراء قيام المؤمن لة بتنفيد اعمال الجسر الترابي والاعمال الصناعية لمشروع القطار الكهرياني

السريع ( العين السخنة - العاصمة الادارية - العالمين - مطروح ) قطاع برج العرب - العالمين لتنفيذ اعمال الجسر الترابي .

المسافة من كم 361.800 الى كم 363.000 بطول 1.2 كم استكمال اتجاه برج العرب

العقد رقم 2023-2022-2105

لصالح الهيئة العامة للطرق والكباري

- من المعلوم والمتفق علية انة إذا تُبت إن عدد العمال المؤمن له أكثر من 4 أفراد وقت وقوع الحادث سقط حق المؤمن له في المنتفاع بمزايا التامين

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

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



المركز الرئيسي 44 أ الدقي - الجيزة

تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-208-200



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			$\langle \rangle$	$\langle X \rangle$			
-	1	2. 01	5 . 1	1	X	X	5 40

الحوادث الشخصية جماعى	وثيقة تأمين
ACCP003152623A	رقم

	القمة للمقاولات العمومية - السيد رجب عبدالواحد مكتوب	المؤمس له/ المتعاقد :
	ك 21 طريق اسكندرية مطروح - امام قاعة السرايا - الاسكندرية	عنوان المؤمن له :
08-06-2024	من الساعة 12 ظهراً 2024-08-08 إلى الساعة 12 ظهراً	مدة التأمين :

#### إجمالي مبلغ التأمين :

العملة	الميلغ
EGP	130000.00

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
ر سوم اعتماد	0.14	EGP
صندوق ضمان حملة الوثائق	0.29	EGP
مصاريف الإصدار	35.27	EGP
(جمالي القبيط	200.00	EGP

الوسيط التأميني

انتاج اداره

كود الهيئة

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

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



تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-008-200

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المركز الرئيسي 44 أ الدقي - الجيزة



العنوان

allal

الفرع

#### وتيقة اخطار المقاولين رقم ENGP000250323A قطاع خاص (الإسكندرية -53) ملحق تعديل اضافي ENGP000250323A-2 القمة للمقاولات العمومية - السيد رجب عبدالواحد مكتوب المؤمن له رقم 10 الحي السكني الأول مقابل المدرسة الابتدائية - مدينة النوبارية - مركز ابو المطامير - البحيرة الهيئة العامة للطرق والكباري : فرع الادارة مدة التأمين من ظهر 08/02/2024 الى ظهر 08/06/2024

: انتاج اداره أنتاج

القسط يتضمن العمولة الاساسيه لوسيط التامين قبل الاستقطاعات

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

اجمالي القسط

6.000.00

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

ملاحظات

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

> retshana.eid@, retshana.eid - تسجيل dباعة - 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 بالهيئة رقم 1 تعام 1953

تقوم الشركة بمحاسبة مصلحة الضرائب عن الدمغات المستحقة علي هذا المستند ومرفقاته رقم التسجيل الضريبي 404-008-200

المركز الرئيسي 44 أ الدقي - الجيزة

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شركة مصر للتامين