



المنطقة المركزية الثامنة

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة وبعد ،،،

بالإشارة إلى مشروع إستكمال أعمال الجسر الترابي للخط الثاني القطاع الخامس من مشروع إنشاء القطار الكهربائي السريع قطاع (قوص - ادفو) (ب) حيث تمت المفاوضة مع الشركة على البنود لتنفيذ المسافة من الكم 660+000 إلى 664+000 بطول 4 كم (بالامر المباشر)

تنفيذ : شركة المستقبل للمقاولات العمومية عقد رقم (3/2023/2024)

نتشرف بأن نرفق لسيادتكم طيه (مقاييسة معدلة رقم 1)

وتفضوا بقبول فائق التحية والاحترام ،



رئيس الإدارة المركزية للمنطقة الثامنة

مهندس /

عماد حسين

مقاييسه معدلة					
أعمال انشاء الحسر التلالي للقطار الكهربائي السريع (أكتوبر / أوسمند)					
القطاع الخامس (قوص / إدفو) من كم ٦٦٤+٠٠٠ إلى كم ٦٦٥+٠٠٠ بطول ٤ كم					
الشريحة (ب)					
الإجمالي	سعر الفنة	الكمية	الوحدة	بيان الأعمال	رقم البند
				اعمال الإزالة والتنظير	1
.	٦,٠٠	.	٢م	بالمتر المسطح أعمال تطهير الموقع من الأشجار والمزروعات والمخلفات في مناطق الدلتا ذات الطبيعة الزراعية الكثيفة بعمق حتى ٣٠ سم و التخلص منها بالمقابل العمومية تمهدأ لأعمال الرفع الساحي ل كامل حزد المشروع طبقاً للشروط والمواصفات وتعليمات المهندس المشرف. مسافة النقل حتى ٥٠٠ متر ويتم احتساب علاوه ٣٠ جنية لكل ١ كم .	1-1
				اعمال الحفر	2
.	٢٣,٠٠	.	٢م	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية لجميع أنواع التربة عدا التربة الصخرية وتسوية السطح بآلات التسوية والرش بالمياه الأرضية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة ٩٥% من الكثافة الجافة القصوى) ومحمل على البند تحمل ونقل الأتربة الزاندة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقاً للنماذج والطاولات العرضية المنوجية والرسومات التفصيلية المعتمدة والبند بجميع مشتقاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف . علاوة ١ جنية / كم لمسافة نقل ناتج الحفر وتصبح ١,١ جنية / كم ابتداء من ٤/٥/٢٠٢٣ . علاوة زيادة السولار ٠,٠ جنية / م ٣ جنية / م ابتداء من ٤/٥/٢٠٢٣ .	1-2
٣,٦٤٠,٠٠	٢٦,٠٠	١٤٠,٠٠	٢م	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية في التربة المتماسكة عدا التربة الصخرية (باستخدام البليدوزر) وتسوية السطح بآلات التسوية والرش بالمياه الأرضية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة ٩٥% من الكثافة الجافة القصوى) ومحمل على البند تحمل ونقل الأتربة الزاندة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقاً للنماذج والطاولات العرضية المنوجية والرسومات التفصيلية المعتمدة والبند بجميع مشتقاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف . علاوة ١ جنية / كم لمسافة نقل ناتج الحفر وتصبح ١,١ جنية / كم ابتداء من ٤/٥/٢٠٢٣ . علاوة زيادة السولار ٠,٧ جنية / م ٣ جنية / م ابتداء من ٤/٥/٢٠٢٣ .	2-2
.	٣١,٠٠	.	٢م	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية شديدة المتماسكة (طفلة متجردة او....) عدا التربة الصخرية (باستخدام البليدوزر) وتسوية السطح بآلات التسوية والرش بالمياه الأرضية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٩٥% من الكثافة الجافة القصوى) ومحمل على البند تحمل ونقل الأتربة الزاندة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقاً للنماذج والطاولات العرضية المنوجية والرسومات التفصيلية المعتمدة والبند بجميع مشتقاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف . يتم تحديد نوع التربة طبقاً لمعدلات التنفيذ باستخدام البليدوزر والتي تحدد بمعرفة المنطقة المشرفة والاستشاري . علاوة ١ جنية / كم لمسافة نقل ناتج الحفر وتصبح ١,١ جنية / كم ابتداء من ٤/٥/٢٠٢٣ . علاوة زيادة السولار ٠,٨ جنية / م ٣ جنية / م ابتداء من ٤/٥/٢٠٢٣ .	3-2

مدير مشروع استشاري اسبيكترم

التوفيق

مشروع التفاصيل

المهندس

Spectrum Consulting Engineers

مهندس الشركة المنفذة

التوفيق /

المهندس /

جعفر عاصي

شركة المستقبل للمقاولات العمومية

س.ت: ١٦٢٢٧

ب.ض: ٣٥٩ - ٥٧٢ - ٦٦٧



مقاييسه معدلة



أعمال إنشاء الحسر التراقي للقطار الكهربائي السريع (أكتوبر / أيلول ٢٠١٥)

**القطاع الخامس (قوص / إدفو) من كم ٦٦٤+٠٠٠ إلى كم ٦٦٦+٠٠٠ بطول ٤ كم
الشريحة (ب)**

رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الفئة	الاجمالي			
٣٢	بالمتر المكعب أعمال حفر بالمعدات الميكانيكية في تربة صخرية ذات إجهاد (٢٠٠-١٠٠) كجم/سم ^٢	٣٢	٠	٦٠,٠٠	٦٠,٠٠			
	ذات إجهاد (٢٠٠-١٠٠) كجم/سم ^٢ من ينابير ٢٠٢٣ علارة ٦,٦ جنية /م ^٣ لارتفاع السولار وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣				٦٢,٠٠			
	ذات إجهاد (٣٠٠-٢٠٠) كجم/سم ^٢ ذات إجهاد (٣٠٠-٢٠٠) كجم/سم ^٢ من ينابير ٢٠٢٣ علارة ٩,١ جنية /م ^٣ لارتفاع السولار وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣				٧٠,٠٠			
	ذات إجهاد (٤٠٠-٣٠٠) كجم/سم ^٢ ذات إجهاد (٤٠٠-٣٠٠) كجم/سم ^٢ من ينابير ٢٠٢٣ علارة ٢,٢ جنية /م ^٣ لارتفاع السولار وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣				٨٢,٠٠			
	علارة زيادة إجهاد كل ١٠٠ اكجم/سم ^٢ لكل متر مكعب علارة زيادة إجهاد كل ١٠٠ اكجم/سم ^٢ لكل متر مكعب وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣				٨٨,٠٠			
	٦,٠٠				٧,٠٠			
٤-٢								
وتحمل على البند الآتي								
١- تحمل ونقل ناتج الحفر لمسافة لا تقل عن ٥٠٠ متر ٢- ارتكبة الميول الجانبية باستخدام المعدات الميكانيكية ٣- توريد اتربة مطابقة للمواصفات وتشغيلها باستخدام الات التسوية بسرك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمي لتشكيل الجسر والاكاف (نسبة تحمل كاليفورنيا حتى ١٠ %) ورشها بالمياء الاصولية للوصول الى نسبة الرطوبة المطلوبة والنوك الجيد بالهراسات للوصول الى اقصى كثافة حافة (٩٥% من الكثافة الجافة القصوى). ويتم التنفيذ طبقاً للمناسبات التصميمية والقطاعات العرضية التسودجية والرسارات الفصلية المعتمدة والبند بجميع مشتملاتة طبقاً لاصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.								

مدير مشروع استشاري اسبرترم

مختار العبدلي Consulting

المهندس / سلطان العبدلي

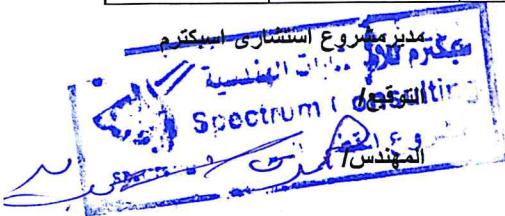
مهندس الشركة المنفذة

التوقيع /

المهندس /



مقاييسه معدلة					
الإجمالي	سعر الفنة	الكمية	الوحدة	بيان الأعمال	رقم البند
أعمال إنشاء الحسر الترابي للقطار الكهربائي السريع (أكتوبر / أكتوبر ٢٠١٥) القطاع الخامس (قوص / الدفوف) من كم ٦٦٠+٠٠٠ إلى كم ٦٦٤+٠٠٠ بطول ٤ كم الشريحة (ب)					
				Embankment	3
٦,٣٦٠,٠٠٠	٦٠,٠٠	١٠٦,٠٠٠	٣م	<p>أعمال تحويل وتوريد ونقل أتربة مطابقة للمواصفات وتشغيلها باستخدام آلات التسوية بسمك لا يزيد عن ٥٠ سم حتى منسوب (٢-٢ متر) اسفل منسوب القرمه وبسمك لا يزيد عن ٢٥ سم على منسوب (٢-٢ متر) من منسوب القرمه لاستكمال المنسوب التصميمي لتشكيل الجسر والأكتاف (نسبة تحمل كاليفورنيا حتى ١٥%) ورشها بالمياه الأصلية للوصول إلى نسبة الرطوبة المطلوبة والمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٥% من الكثافة الجافة التصمسي) ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية المنوذجية والرسومات التفصيلية المعتمدة والبند جميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.</p> <p>- في حالة طلب جهاز الإشراف زيادة نسبة المك عن ٩٥% يحسب زيادة ١ جنيه على زيادة نسبة المك لكل ١%.</p> <p>- مسافة النقل حتى ٢ كم و يتم احتساب علاوة ١,٤ جنيه لكل كم بالزيادة او النقصان وتصبح ١,٥ جنيه / كم ابتداء من ٤/٥/٢٠٢٣.</p> <p>- السعر يشمل عمل تشوينات و تخليط و اختبارات و نقل لموقع العمل حتى مسافة ٢ كم ، علاوة زيادة السولار ١,٩ جنيه / م ابتداء من ٤/٥/٢٠٢٣</p> <p>- السعر لا يشمل قيمة المادة الحجرية.</p>	1-3
				<p>أعمال تحويل وتوريد ونقل أتربة مطابقة للمواصفات وذلك باستخدام ناتج الحفر الصخري الصالح وذلك طبقاً لتعليمات المهندس المشرف والتدرج المطلوب باستخدام الكاسور ذلك بعد التأكيد من التدرج والمقامات المطلوبة لاختبار المناخل طبقاً لتصنيف الاستشاري وتشغيلها باستخدام آلات التسوية بسمك لا يزيد عن ٥٠ سم حتى منسوب (٢-٢ متر) وبسمك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمي لتشكيل الجسر والأكتاف (نسبة تحمل كاليفورنيا حتى ١٥%) ورشها بالمياه الأصلية للوصول إلى نسبة الرطوبة المطلوبة والمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٩٥% من الكثافة الجافة التصمسي) ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية المنوذجية والرسومات التفصيلية المعتمدة والبند جميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.</p> <p>- في حالة طلب جهاز الإشراف زيادة نسبة المك عن ٩٥% يحسب زيادة ١ جنيه على زيادة نسبة المك لكل ١%.</p> <p>- مسافة النقل حتى ٢ كم و يتم احتساب علاوة ١,٤ جنيه لكل كم بالزيادة او النقصان وتصبح ١,٥ جنيه / كم ابتداء من ٤/٥/٢٠٢٣.</p> <p>- السعر يشمل عمل تشوينات و تخليط و اختبارات و نقل لموقع العمل حتى مسافة ٢ كم ، علاوة زيادة السولار ١,٩ جنيه / م</p>	2-3
				طقة تأسيس Prepared Subgrade	4
				<p>بالمتر المكعب أعمال توريد وفرش طبقة تأسيس (Prepared Subgrade) من الأحجار الصلبة المتردجة ناتج تكسير الكسارات والمطابقة للمواصفات وأقصى حجم للحجبيات ١٠٠ مم وألا تزيد نسبة الماء من منخل ٢٠٠ عن ١٢% والتدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٢٥% وألا تزيد نسبة الفاقد بجهاز لوس أنجلوس عن ٣٠% وألا يزيد الامتصاص عن ١٥% وألا يقل معامل المرونة (EV2) من تجربة لوح التحمل عن ٨ ميجاپيكسل وينتمي فردها على طبقتين باستخدام آلات التسوية الحديثة على أن لا يزيد سماك الطبقة بعد تمام المك عن ٢٥ سم ورشها بالمياه الأصلية للوصول إلى نسبة الرطوبة المطلوبة والمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة تصمسي (لا تقل عن ٩٥% من الكثافة المعملية والفتنة تشتمل إجراء التجارب المعملية والحقليه ويتم التنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية والبند جميع مشتملاته طبقاً للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف.</p> <p>- مسافة النقل لا تقل عن ٢٠ كم.</p> <p>- يتم احتساب علاوة ١,٢ جنيه لكل ١ كم بالزيادة او النقصان وتصبح ١,٣ جنيه / كم ابتداء من ٤/٥/٢٠٢٣</p> <p>- السعر لا يشمل قيمة المواد الحجرية.</p> <p>علاوة زيادة السولار ١,٨ جنيه / م ابتداء من ٤/٥/٢٠٢٣</p>	1-4



مقاييسه معدلة

أعمال إنشاء الحسر الترابي للقطار الكهربائي السريع (أكتوبر / أبومسيل)

القطاع الخامس (قوص /ادفو) من كم ٦٦٠+٠٠٠ إلى كم ٦٦٤+٠٠٠ يطول ٤ كم

الشريحة (ب)

رقم البند	بيان الأعمال	طبقات الأساس Subballast	الوحدة	الكمية	سعر الفتنة	الاجمالي
5						
1-5	<p>بالметр المكعب أعمال توريد وفرش طبقة أساس من الأحجار الصلبة المترجة ناتج تكسير الكسارات والمطابقة للمواصفات وأقصى حجم للحجبيات ما بين ٣١,٥ مم إلى ٤٠ مم وألا يزيد نسبة الماء من مدخل ٢٠% عن ٨٠% والدرج الوارد بالاشترادات الخاصة بالمشروع لنقل نسبه تحمل كالغورنيا عن ٦٨٠% وألا يقل معاشر المرونة (EV2) من تجربة لوح التحميل عن ١٢٠ ميجابسكال وألا يزيد نسبة الفاقد بجهاز لوس أنجلوس عن ٣٠% وألا يزيد الامتصاص عن ١٥% ويتم فردها على طبقتين باستخدام آلات التسوية الحديثة على أن لا يزيد سمك الطبقة بعد تمام الدملك عن ٢٠ سم ورشها بالعيماء الأصلوية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد للهراستات الوصول إلى أقصى كثافة جافة قصوى (لا تقل عن ١٠٠%) من الكثافة العملية والفتنة تتضمن إجراء التجارب المعملية والحقالية ويتم التنفيذ لأصول طبقاً الصناعية والرسومات التفصيلية المعتمدة والبند يحتمل جميع مشتملاته طبقاً للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف.</p> <p>- مسافة النقل لا تقل عن ٢٠ كم.</p> <p>- يتم احتساب علاوة ١,٢ جنيه لكل ١ كم بالإضافة أو النقصان وتصبح ١,٣ جنيه / كم ابتداء من ٤/٥/٢٠٢٣.</p> <p>- السعر لا يشمل قيمة المواد المحرمية.</p> <p>- علاوة زيادة السولار ١,٨ جنيه / م ابتداء ٤/٥/٢٠٢٣.</p>					

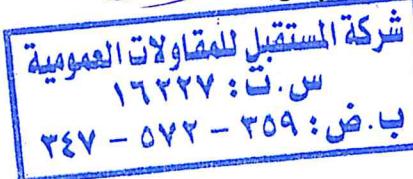
مدير مشروع استشاري سبکترم



مهندس الشركة المنفذة

التوقيع

المهندس /





مقاييسه معدلة



أعمال إنشاء الحسر الترابي للقطار الكهربائي السريع (أكتوبر / أبومسيل)

القطاع الخامس (قوص / الدفو) من كم ٦٦٤+٠٠٠ إلى كم ٦٦٥+٠٠٠ بطول ٤ كم

الشريحة (ب)

رقم البند	بيان الأعمال				
	الإجمالي	سعر الفنة	الكمية	الوحدة	البلاطات الخرسانية / الرصف الحرساني
6					
1-6		٤٣٣,٠٠	.	٢م	بالمتر المسطح أعمال توريد وصب خرسانة عادي سmek ١٥ سم لارتفاع ١٠ متر رأسى لحماية الأكاف والمبول الجانبي تتكون من ٣ م سن دولوميت متدرج +٤،٠،٤ م رمل حرش والإضافات طبقاً لتعليمات الإستشاري (فير سبيكا) على أن يكون السن نظيف ومحشوّل والرمل خالي من الشوائب والطفلة والأملام والمواد الغريبة مع وضع فوم (بالفاصل) بسمك ٢سم (طبقاً لتعليمات الإستشاري) والبند يشمل تجهيز وإستبدال مناسبات التربة الطبيعية أسفل البلاطة للوصول إلى المناسبات التصميمية على أن تتحقق الخرسانة إجهاد لا يقل عن ٢٥٠ كجم /سم وتشطيب السطح وملي الفواصل باليتومين المرمل والتثبيت طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.
					ـ يتم إضافة علامة قدرها ٥ جنيه بعد أول ١٠ متر رأسى على أن تضاف لكل مسطحة (لا يقل عن ٥ متر رأسى)
2-6		٢,٦٨٥,٠٠	٠,٠٠	٣م	بالمتر المكعب أعمال توريد وصب خرسانة عادي لتنفيذ قدمه سفلية وعلىه للأكاف والمبول الجانبي تتكون من ٣ م سن دولوميت متدرج +٤،٠،٤ م رمل حرش والإضافات طبقاً لتعليمات الإستشاري (فير سبيكا) على أن يكون السن نظيف ومحشوّل والرمل خالي من الشوائب والطفلة والأملام والمواد الغريبة مع وضع فوم (بالفاصل) بسمك ٢سم طبقاً لتعليمات الإستشاري والبند يشمل أعمال الحفر والشدادات وكل ما يلزم لنهو الاعمال أسفل البلاطة للوصول إلى المناسبات التصميمية على أن تتحقق الخرسانة إجهاد لا يقل عن ٢٥٠ كجم/سم و ملي الفواصل باليتومين المرمل والتثبيت طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.
الأجمالي					١٠,٠٠٠,٠٠٠



عن الهيئة
التوقيع /
المهندس /

رئيس الإدارة المركزية للمنطقة الثامنة
التوقيع /
المهندس / عماد حسين



مهندس الشركة المنفذة
التوقيع /
المهندس /



محضر اعتماد حصر كميات



التاريخ : ٢٠٢٣-١١-٨

اسم المشروع : مشروع القطار الكهربائي السريع (٦ أكتوبر - أسوان - أبو سنبلا) القطاع الخامس

قامت شركة برليانت كونسلت للاستشارات المساحية (استشاري الاعمال المساحية لهيئة الطرق والكباري)

باعتماد الكميات المنفذة الخاصة بشركة المستقبل للمقاولات العمومية

الملحوظات	الكمية بالметр المكعب	التصنيف	الى المحطة رقم	من المحطة رقم	m
اعمال قطع على (RE05)	39309.13	اعمال القطع باستخدام البلدوزر	662+820	658+840	1
اعمال الردم على (RE05)	102072.28	اعمال الردم	662+820	658+840	2
	39309.13	اجمالي القطع			
	102072.28	اجمالي الردم			

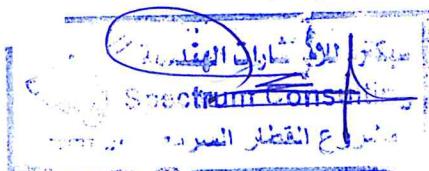
المرفقات :

1- استلام ميزانية شبكة

2- قطاعات عرضية

3- شيت اكسيل لتوضيح اعمال الحصر

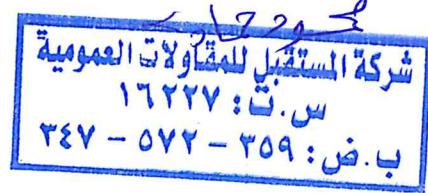
استشاري الهيئة



استشاري المساحة



مهندس الشركة المنفذة



مشروع القطار الكهربائي السريع القطاع الخامس

تنفيذ شركة المستقبل للمقاولات العمومية

من الكم .٦٥٨+٨٤٠ الى .٧٦٢+٨٢٠

بيان اعمال توضيحي لمستخلص جاري ٢ عقد (٣/٢٠٢٣/٢٠٢٤) (ب)

العقد	قيمة العقد	المستخلص	كميات حفر في تربة متماسكة	كميات الردم	
أ	عشرة مليون	جارى ١	140,000.00	-	
ب	عشرة مليون	جارى ١	59,831.00	-	
		جارى ٢	44,061.00	98,216.00	
ج	عشرة مليون	جارى ١	86,826.00	24,955.00	
اجمالى كميات تم حصرها					
اجمالى كميات تم صرفها					
المتبقي من الكمية					
222,035.37					
74,269.69					
39,309.13					
330,718.00					
4,896.19					
5,170.25					

استشاري سبكترم /



استشاري المساحة /



مهندس الشركة المنفذة /





Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-3

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
 2. Material finer than sieve No. 200 according to ASTM D-1140.
 3. Liquid limits and plasticity index of soil according to ASTM D-4318.
 4. Soil classification according to Project Specs.
 5. Proctor Test according to ASTM D-1557
 6. CBR according to ASTM D-1883

Signature / .. Consulting Engineering Bureau & Laboratories
مكتب مهندسات الاستشارات الهندسية
مشروعات (موضاح وقنا)
رقم التسجيل الضريبي: 537 - 991 - 219
المؤلف الرئيسي: شارع الملك الأفضل - الزمالك - القاهرة

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



٢ ش. الملك الأفضل
الملك، القاهرة



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	¾	71.7
12.50	½	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature /



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Zamalek, Cairo.
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٢٠٢٣ - ٢٠٢٤ - ٢٠٢٥
القاهرة - مصر
٢٠٢٣ - ٢٠٢٤ - ٢٠٢٥
٢٠٢٣ - ٢٠٢٤ - ٢٠٢٥

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	8.1

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 مكتب مهندسون الاستشارات الهندسية
 مشرق ووسط اسكندرية (المنطقة الصناعية والمنطقة)
 رقم التسجيل الضريبي: 219 - 991 - 537
 البريد الالكتروني: 2 شارع العقاد، الدقي، القاهرة



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /.....



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في المكان الأفضل
الزمالة القاهرة
طلب: ٢٣٧٦٣٩٣٣ - ٢٧٣٦٧٢٣

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature / 

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 Zamalek, Cairo
 Tel & Fax : 27367231 - 27363093



يمتلك المختبر اعتماداً دولياً من
 المختبرات العالمية
 وبذلك ينفرد بجودة خدماته

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

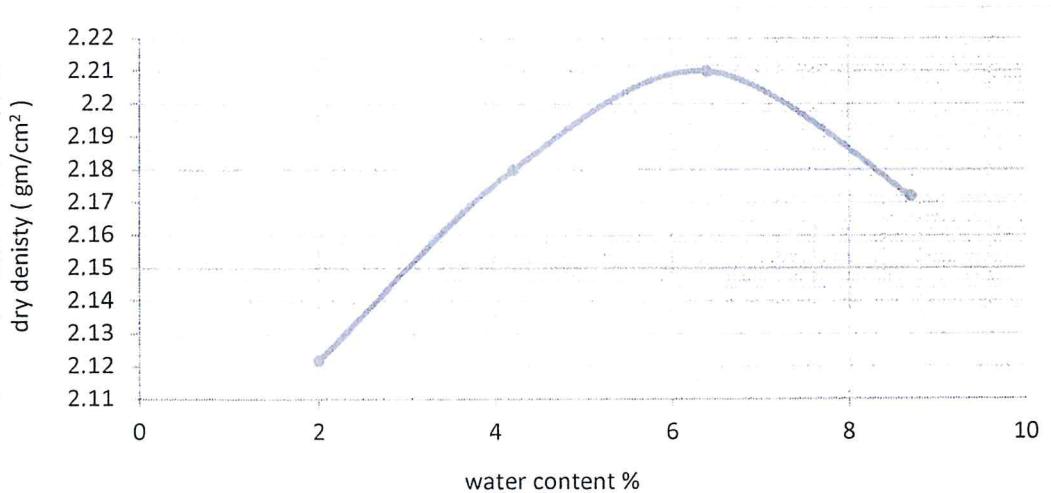
Reporting No. : 02-2

2

Moisture – Density relation of soil

Test result (Modified proctor test)

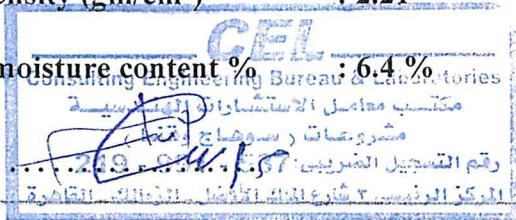
ASTM D-1557



- Max dry density (gm/cm^2) : 2.21

- Optimum moisture content % : 6.4 %

Signature /



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 Zamalek, Cairo
 Tel & Fax: 2736723 - 27363093



أيام الالتحاق:
 الزمامنة المقدمة:
 رقم التسجيل: ٢١٩٨٤٦١٣ - ٢٧٣٦٣٠٩٣



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Oous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.54
1.27	0.050	1.47
1.91	0.075	2.43
2.54	0.100	3.37
3.18	0.125	4.46
3.81	0.150	5.31
4.45	0.175	6.18
5.08	0.200	6.82
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	48.8 %
	6.90	3.37	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.21 gm/cm^3
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
 - 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ..



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Zamalek, Cairo
Tel/Fax 2736783 * 27363093



٢ ش. الملك الأفلاطون
الزمالك، القاهرة



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

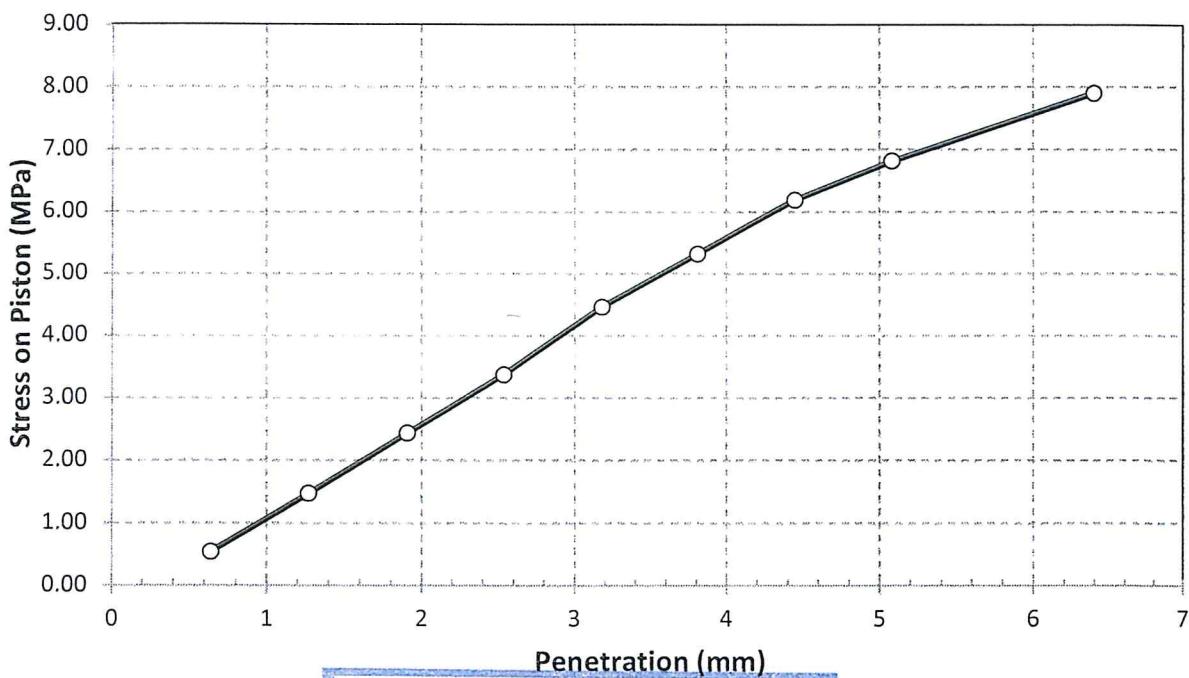
Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



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Zamalek, Cairo
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٢ ش. الملك الأفضل
الزمالك، القاهرة



Company Name	: شركة المستقبل :
Project	: Electric Express Train – HSR From Qous To Armant
Testing Date	: 30/10/2023
Soil type	: Upper Embankment
Location	: ST from 659+440 To 659+500
Level	: -8 M
Report No.	: 82-2

Compaction test by using Sand – Cone Test Method

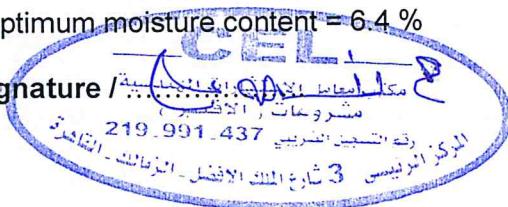
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	659+460	1417	2.30	6	2.17	98.1%	Comply
2	659+480	1586	2.25	6.4	2.11	95.6%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm^3
 - At optimum moisture content = 6.4%

Signature / 



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Zamalek, Cairo.
Tel & Fax : 27367231 - 27363093



٢ ش. الملك الأفتش
الزمالك - القاهرة
تلفون: ٣٦٧٣٣٩٥ - ٣٦٧٣٣٩٦



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
 2. Material finer than sieve No. 200 according to ASTM D-1140.
 3. Liquid limits and plasticity index of soil according to ASTM D-4318.
 4. Soil classification according to Project Specs.
 5. Proctor Test according to ASTM D-1557
 6. CBR according to ASTM D-1883

Signature /



3 E. Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 2736723 - 27369093



٢- ش. المالك الأفضل
الزمالك، القاهرة



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	3/4	71.7
12.50	1/2	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature /....



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 27367231 2736309



شـ العـالـكـ الـأـفـضلـ
إـيـمـالـكـ الـأـمـرـةـ



Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-2

**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature / ..



3 E. Malek El Aftab Street
Zamalek, Cairo
Tel & Fax 2736233 27363093



ج.م.ـ. ٢٠٢٣ - ٢٠٢٤ - ٢٠٢٥ - ٢٠٢٦ - ٢٠٢٧
نيل جروب - مصر - Tel: +20 100 200 200 200



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street

Zurzales Gaita

Tel/Fax 2736729 27363093



عن الماء ^{أو الماء}
الماء الماء



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Ooty To Araku

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

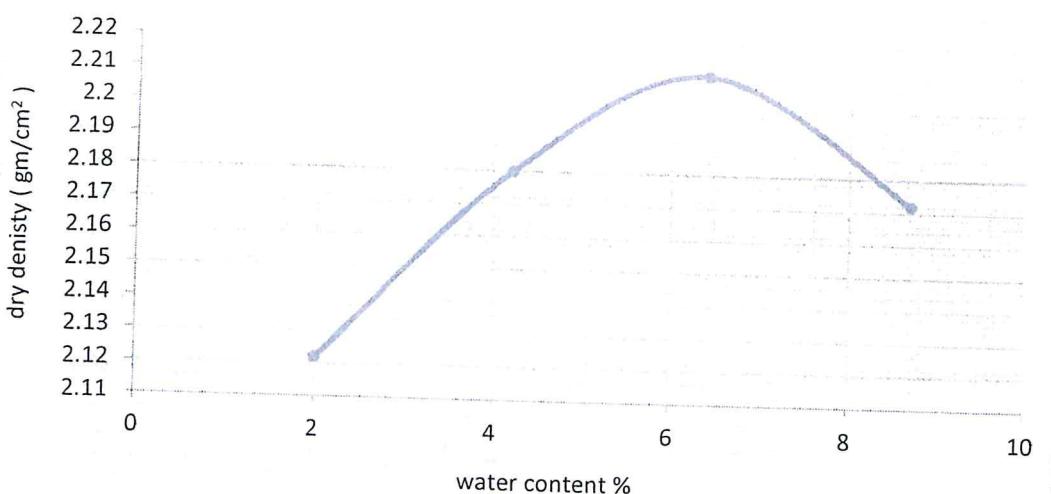
Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. 02-2

2

Moisture – Density relation of soil
Test result (Modified proctor test)



- Max dry density (gm/cm^3) : 2.21

- Optimum moisture content % : 6.4 %

Signature /



3 E Malek El Atdel Street

Zarzalejo, Gaitan

Tel & Fax 2736763 27363093

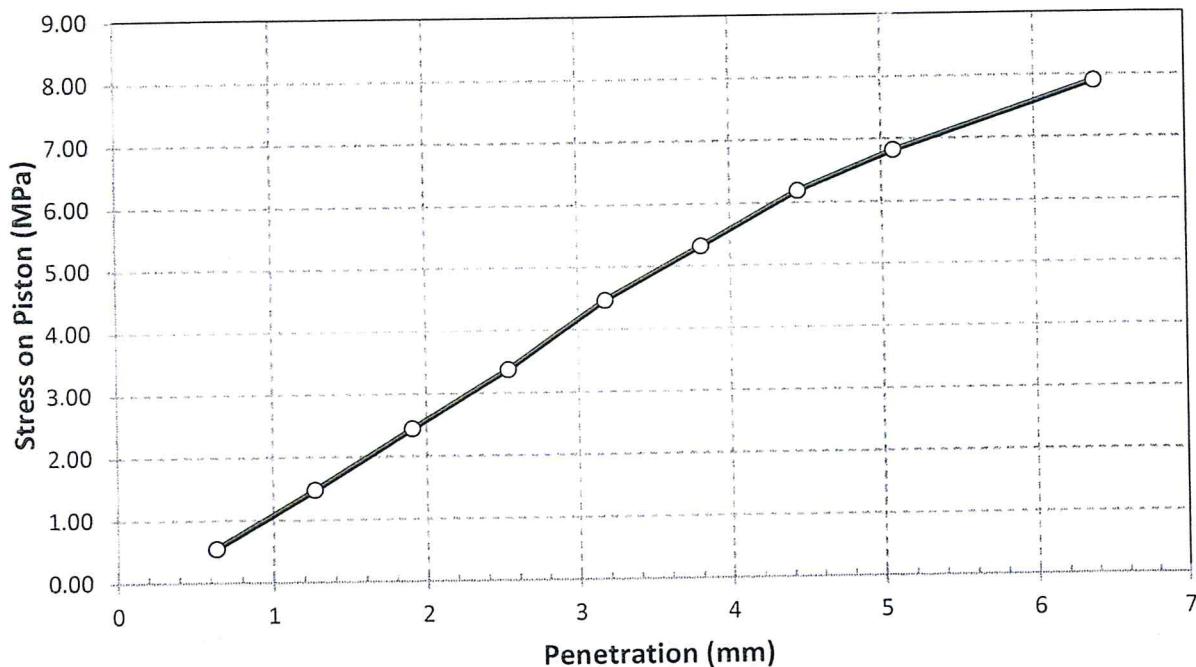


ش. الملك الأفضل
الزمالة الظاهرة
الطبعة الأولى - ١٤٢٧ هـ - ٢٠٠٦ م

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



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 Zamalek, Cairo
 Tel & Fax 2736723 - 27363093



٢ شارع الملك الأفضل
 الزمالك، القاهرة
 تليفون: +20 2 2736723 - 27363093

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name	: شركة المستقبـل
Project	: Electric Express Train – HSR From Qous To Armant
Testing Date	: 02/11/2023
Soil type	: Middle Embankment
Location	: ST from 661+040 To 661+140
Level	: -1.75M
Report No.	: 83-3

Compaction test by using Sand – Cone Test Method

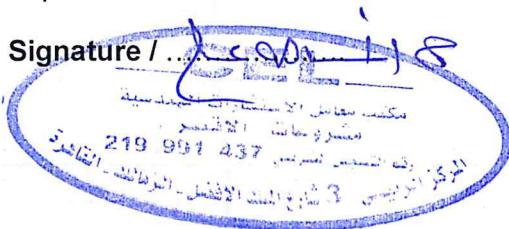
ASTM D - 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+080	1729	2.26	6.4	2.12	95.9%	Comply
2	661+120	1522	2.27	6	2.14	96.9%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm^3
 - At optimum moisture content = 6.4 %

Signature



3 El-Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax : 27367231 - 27363093



٤ ش. الملك الأفضل
الملك - القاهرة
تأليف: داكن : ٢٣٣٧٢ - ٥٢

CEL
 Consulting Engineering Bureau & Laboratories
 مكتب محامى الاستشارات الهندسية

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 30/10/2023
Soil type : Middle Embankment
Location : ST from 661+620 To 661+640
Level : -5 M
Report No. : 79

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	661+630	1921	2.27	6	2.14	95.4%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.24 gm/cm³
- At optimum moisture content = 6.4 %

Signature / 



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



مكتب المحامى الاستشارات الهندسية
العنوان: شروق، الإسكندرية
رقم الملاك: 219.991 - رقم التسجيل: 437



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Dear Gentleman,

Attached here with the delivered on 13 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature



3E Malek El Aftal Street
Giza, Cairo
Tel & Fax: 2736723 - 27363093



ج.م.ع
الإسكندرية
الجبل الأسود
المنطقة الصناعية

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	59.1
37.5	1.5	51.5
25	1	40.3
19	3/4	35.0
12.50	1/2	20.1
9.50	3/8	18.4
4.75	4	14.3
2.00	10	25.7
0.425	40	16.8

Signature /... 
 Consulting Engineering Bureau & Laboratories
 مكتب مهندس متكامل لاستشارات الهندسة
 شارع سلوان ، سلوان ٩٥٤
 رقم التسجيل التجاري: ٥٣٧ - ٩٩١ - ٢١٩
 مصر، القاهرة، مصر

3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax: 2736723 - 27369093



٢٠٢٢ - ٢٠٢٣
 تقييم - تأكيد - تطوير
 الريادة في الابتكار
 في المعايير والجودة



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.7

Signature



? E. Malek E. Afdal Street
Zamalek, Cairo
Tel & Fax 2738573 - 27383093



الملك الأعظم
الملك الظاهر

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /.....



3 E. Malek E. Afdal Street
 Zamalek, Cairo
 Tel & Fax: 2736722 - 27363693



٢٠١٦-٢٠١٧
 الرمالات المائية
 تطبيقات
 رقم: ٢٠١٦-٢٠١٧

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-b)	(A-2-4)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	25.7	Max 50 %	-----	-----
0.425 mm (No. 40).	16.8	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.7	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature



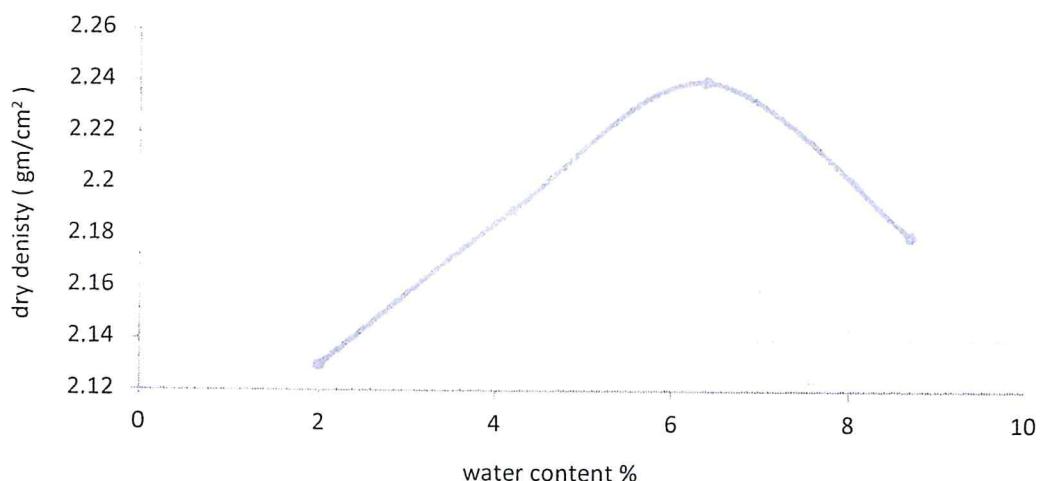
E Malek E Afaf Street
 Gama'a Giza
 Tel: +20 2 27363692



ج.م.ع. مختبرات التحليل
 المرصد، القاهرة
 مصر - 12215 - 020 227363692

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.24
- Optimum moisture content % : 5.8 %

Signature /



36 Mailek El Matal Street
 Zamalek, Cairo
 Tel & Fax: 2736723 - 27367093



اعتماد المختبر
 الامارات العربية المتحدة
 لجنة اعتماد المختبرات

Company Name : شركة المستقبل للمقاولات العامة

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 660+000 E=482747.8852 N=2848238.3271

Type of sample : Soil Embankment (upper Embankment 0.0 M)

Delivery Date : 13/09/2023

Reporting Date : 17/09/2023

Reporting No. : 03-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.49
1.91	0.075	2.48
2.54	0.100	3.52
3.18	0.125	4.51
3.81	0.150	5.36
4.45	0.175	6.23
5.08	0.200	6.89
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.52s	51 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.24 (gm /cm³)
At = 5.8% optimum water content.
 - 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

3 El Maadi E. Afuda Street
Zamalek, Cairo
Tel & Fax 2736733 - 27363093

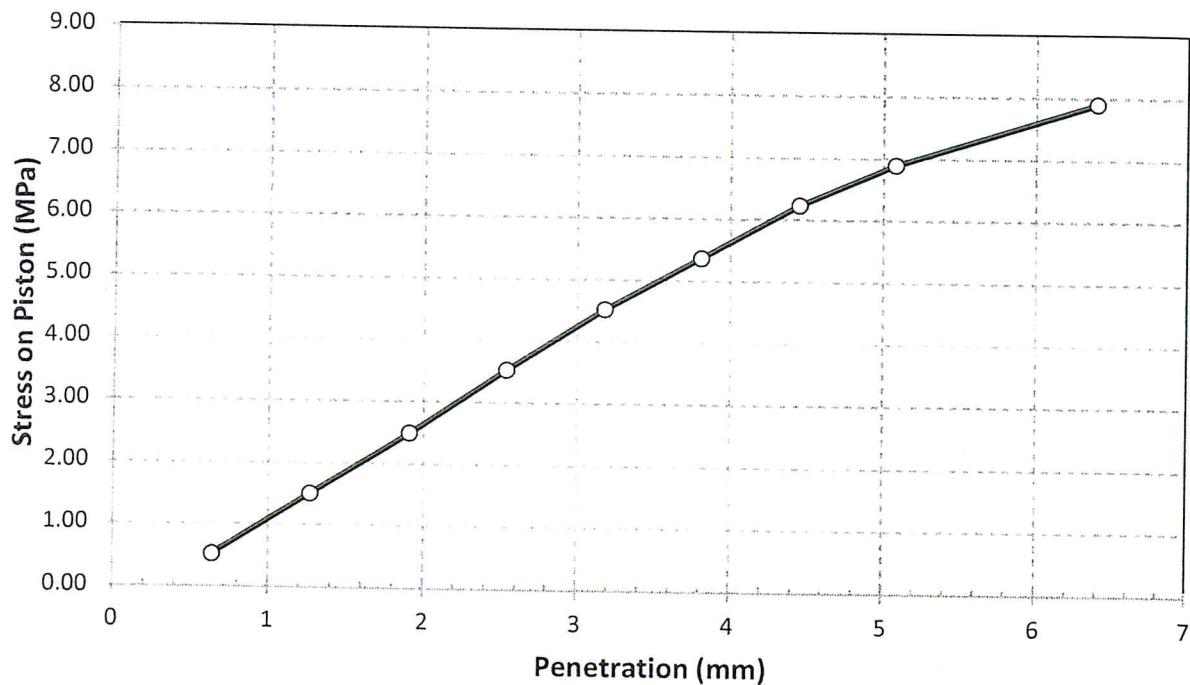


زن امدادات
البرلمان الامارات
العنوان: داكن، ٦٣٣٣٣٣٣

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / .



٢٦٣٦٢٣ - ٢٦٣٦٠٦٣
 شارع ٢٦٣٦٢٣ - ٢٦٣٦٠٦٣
 رقم التسجيل المترخيص: ٢١٩ - ٩٣١ - ٥٣٧
 المركز العربي



رقم التسجيل المترخيص: ٢١٩ - ٩٣١ - ٥٣٧
 المركز العربي

CEL

Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 30/10/2023
Soil type : Middle Embankment
Location : ST from 661+640 To 661+660
Level : -4 M
Report No. : 80

Compaction test by using Sand – Cone Test Method

ASTM D - 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+650	1849	2.30	6.4	2.17	96.7%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.24 gm/cm^3
 - At optimum moisture content = 6.4%

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



ش. الملك الأفضل
الزمالك - القاهرة
تلفون: ٣٧٣٦٢٥٤ - ٣٧٣٦٧٢٢١



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Dear Gentleman,

Attached here with the delivered on 13 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature



25 Malek El Aftef Street
Zamalek, Cairo
Tel: 2736723 Fax: 27363093



زمالة المهندسين العرب
الجامعة الأمريكية
القاهرة - مصر - ٢٠٢٣



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	59.1
37.5	1.5	51.5
25	1	40.3
19	3/4	35.0
12.50	1/2	20.1
9.50	3/8	18.4
4.75	4	14.3
2.00	10	25.7
0.425	40	16.8

Signature /..



3 E-Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 2736723 - 2736109



٢ شیء الملك الافتخار
الزمالك القاهر



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.7

Signature



3 E. Malek E. Afdal Street
Zamalek, Cairo
Tel. & Fax 27345722 27353693



أنتي العمالقة لا يحتمل
الزمالة في الماء

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /.....



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-b)	(A-2-4)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	25.7	Max 50 %	-----	-----
0.425 mm (No. 40).	16.8	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.7	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature



C. Malik El Afandi Street
 Giza - Cairo
 Tel & Fax: +20 2 270 36663

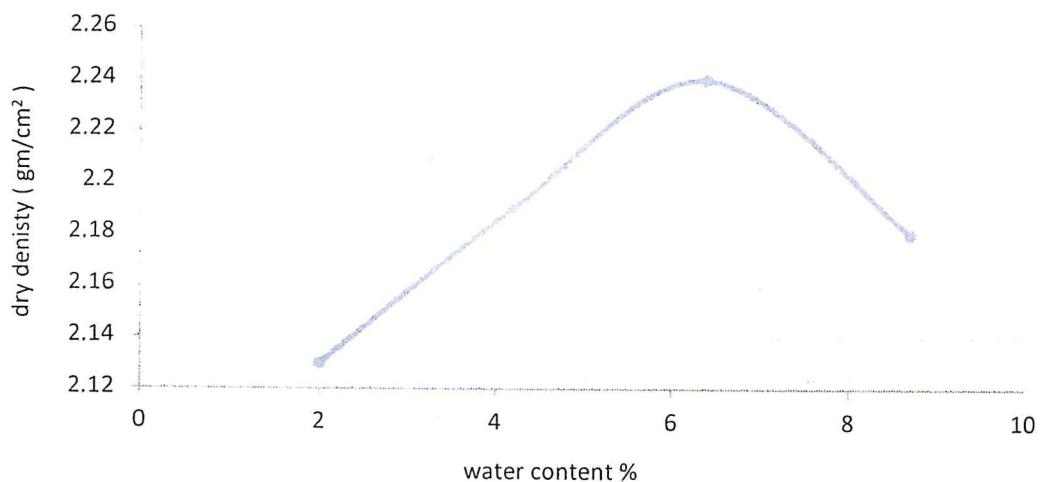


ج.م.ع
 مجلس إدارة
 الجودة والسلامة
 مصر - القاهرة - 12222 - مصر



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Moisture – Density relation of soil
Test result (Modified proctor test)



- Max dry density (gm/cm^2) : 2.24
 - Optimum moisture content % : 5.8 %

Signature



Dr. Malek El Mekki Street
Zamalek, Cairo
Tel & Fax 2736733 - 27368093



كتاب المقالات العلمية
الطباطبائي المنشورة

Company Name : شركة المستقبل للمقاولات العامة

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 660+000 E=482747.8852 N=2848238.3271

Type of sample : Soil Embankment (upper Embankment 0.0 M)

Delivery Date : 13/09/2023

Reporting Date : 17/09/2023

Reporting No. : 03-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.49
1.91	0.075	2.48
2.54	0.100	3.52
3.18	0.125	4.51
3.81	0.150	5.36
4.45	0.175	6.23
5.08	0.200	6.89
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.52s	51 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.24 (gm /cm³)
At = 5.8 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...



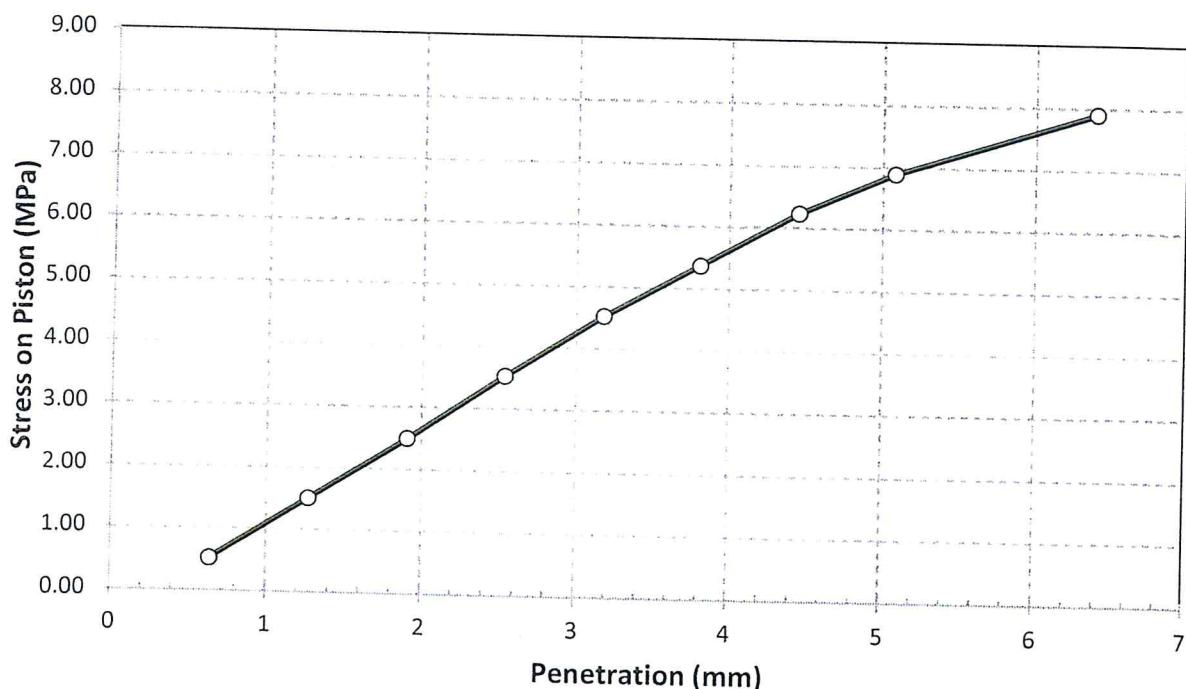
3 F. Mailek El Afda Street
Zamalek, Cairo
Tel & Fax: 2736733 - 27363093



٢- من إنتاج الشركة
الإيطالية المدرجة
في بورصة مصر - القاهرة

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / .



٢٦ مالك إبراهيم شارع
 الزمالك، قرطاج
 تلفون: ٠٢٣٦٣٣٨٦٤٦



IAS
 ACCREDITED
 Testing Laboratory



CEL
Consulting Engineering Bureau & Laboratories
 مكتب مهندسات الاستشارات

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 30/10/2023
Soil type : Middle Embankment
Location : ST from 661+660 To 661+680
Level : -4.5 M
Report No. : 78

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+670	1607	2.33	6	2.20	98.3%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.24 gm/cm³
- At optimum moisture content = 6.4 %

Signature / ..



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



أشرف الملاك - الممثل
الزمالك - القاهرة
تلفون: ٠٢٢٦٣٦٣٢٣٣ - ٥٣٦٣٦٣٣٣
فاكس: ٠٢٢٦٣٦٣٢٣٣



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 26/09/2023
Reporting Date : 30/09/2023
Reporting No. : 03-3

Dear Gentleman,

Attached here with the delivered on 26 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /



3 El Malek E. Atqa Street
Zamalek, Cairo
Tel & Fax: 273622 - 27364003



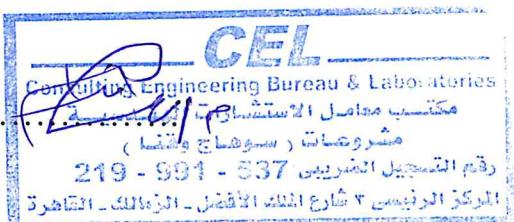
ج.م. مختبرات الدراسات
الرئاسية القاهرة
للمختبرات المعتمدة

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 26/09/2023
Reporting Date : 30/09/2023
Reporting No. : 03-3

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	60.7
37.5	1.5	52.8
25	1	42.3
19	¾	36.7
12.50	½	23.9
9.50	3/8	20.5
4.75	4	16.1
2.00	10	26.2
0.425	40	18.8

Signature /.....



3 El Malek El Atfal Street
 Zamalek, Cairo
 Tel & Fax 2736723 27363093



في الملكية
 للمالك الافتخار
 طبلون ، ملكي ، ٣٧٣٦٣٠٩٣



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 26/09/2023
Reporting Date : 30/09/2023
Reporting No. : 03-3

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	7.0

Signature /



3 E. Malek El-Afda Street
Zamalek, Cairo
Tel & Fax: 2736723 - 27364093



ج.م.ع. مختبرات مصر
الرقم ٣٧، الشارع الرابع
المنطقة الصناعية الأولى - القاهرة



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 26/09/2023
Reporting Date : 30/09/2023
Reporting No. : 03-3

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /



? El Malek E. Afaf Street
Zamalek, Cairo
Tel & Fax: 27396737-27383093



كتاب المثلث الأفلاك
البرهانى، المأمور

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 26/09/2023
Reporting Date : 30/09/2023
Reporting No. : 03-3

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	26.2	Max 50 %	-----	-----
0.425 mm (No. 40).	18.8	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.0	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



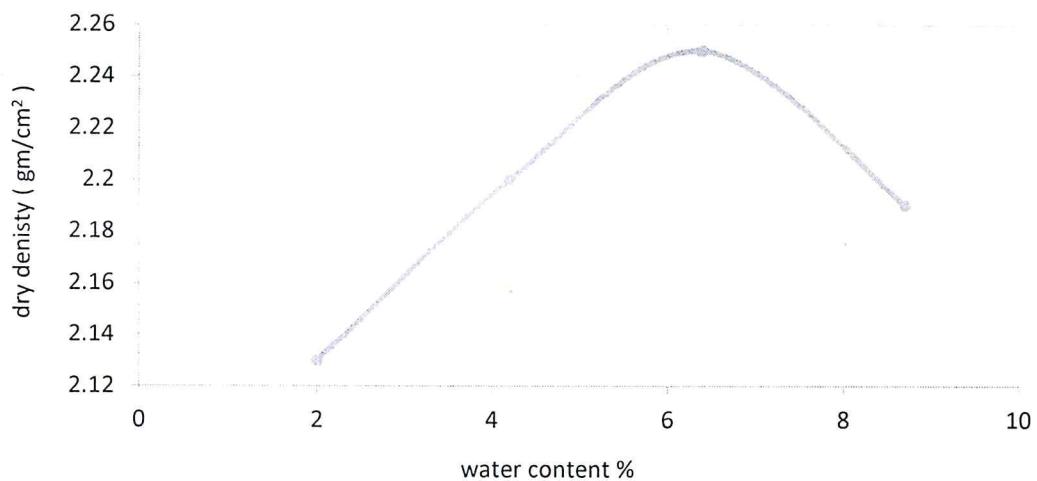
3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax 219-991-537 219-27363093



ج.م.ع. امتال الامارات
 الامارات العربية المتحدة
 United Arab Emirates

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 26/09/2023
Reporting Date : 30/09/2023
Reporting No. : 03-3

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.25
- Optimum moisture content % : 5.8 %

Signature /



3 El Maier E. Afifi Street
 Zamalek, Cairo
 Tel & Fax: 0102 27363003



IAS
 ACCREDITED
 Testing Laboratory
 ٢٠١٣-٢٠١٤-٢٠١٥
 ٢٠١٦-٢٠١٧-٢٠١٨
 ٢٠١٩-٢٠٢٠-٢٠٢١

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 26/09/2023
Reporting Date : 30/09/2023
Reporting No. : 03-3

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.52
1.91	0.075	2.51
2.54	0.100	3.55
3.18	0.125	4.54
3.81	0.150	5.37
4.45	0.175	6.25
5.08	0.200	6.92
6.35	0.250	7.94

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.55	51.4 %

Notes:

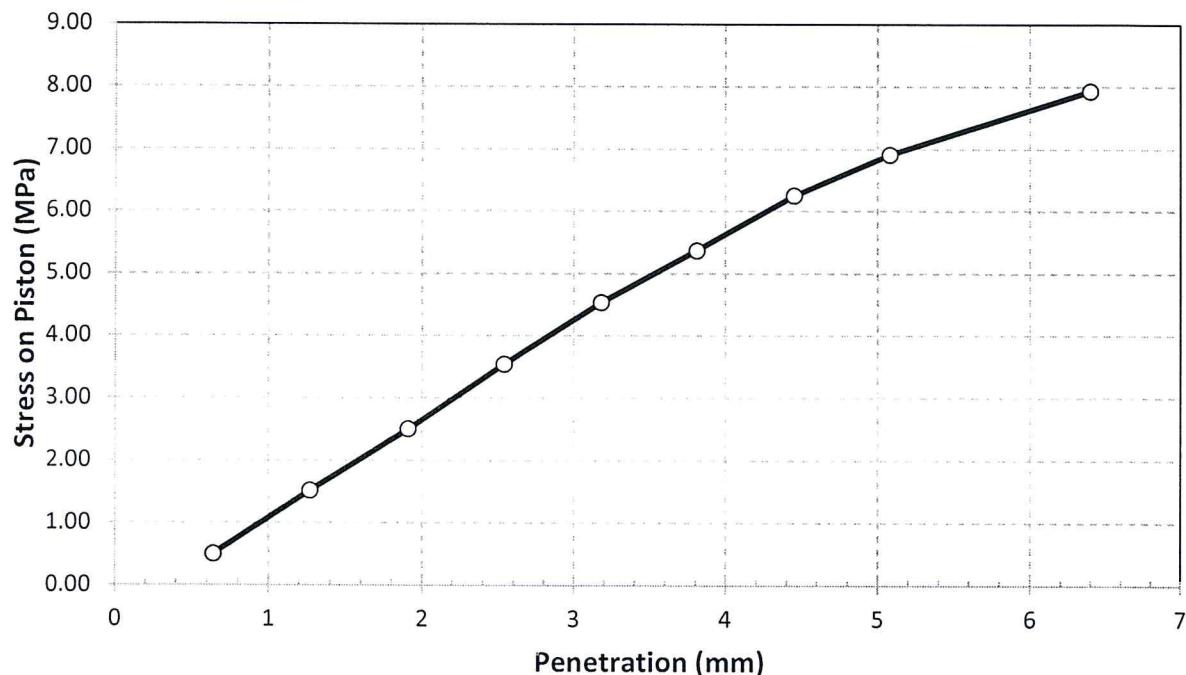
- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.25 (gm /cm³)
At = 5.8 % optimum water content.
 - 3- Surcharge load 4.50 Kg,
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 26/09/2023
Reporting Date : 30/09/2023
Reporting No. : 03-3

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / ...



11 Main E. Alia Street
 Cairo, Egypt
 Tel: +20 2 27363003



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 Testing Laboratory

CEL
Consulting Engineering Bureau & Laboratories
 مكتب مهندسية
 معايير الاستشارات الهندسية

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 30/10/2023
Soil type : Middle Embankment
Location : ST from 661+600 To 661+620
Level : -4.5 M
Report No. : 77

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	661+610	1440	2.34	6.8	2.19	97.7%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.24 gm/cm³
- At optimum moisture content = 6.4 %

Signature / 



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 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



الملك الأفلاطون
 الزمالك - القاهرة
 ٢١٩.٩٩١.٤٣٧
 ٣٧٣٦٢٣١ - ٣٧٣٦٣٠٩٣

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Dear Gentleman,

Attached here with the delivered on 13 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883



3 El Malek El Aziz Street
 Zamalek, Cairo
 Tel & Fax: 2736723 - 27362093



مختبر معتمد
 للمعايرة والتجربة
 IAS - Cairo - Egypt

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	59.1
37.5	1.5	51.5
25	1	40.3
19	¾	35.0
12.50	½	20.1
9.50	3/8	18.4
4.75	4	14.3
2.00	10	25.7
0.425	40	16.8

Signature / 

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 Zamalek, Cairo
 Tel & Fax: 2736723 - 27368093



٢ شارع الميدان الذهبي
 الزمالك - القاهرة
 تليفون: ٠٩٦٣٨٧٤٣٥٣٣٣

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.7

Signature 


 Consulting Engineering Bureau & Laboratories
 مكتب مهندسات الاستشارات الهندسية
 شهروصيات (سوهاج وقنا)
 رقم التسجيل التجاري: 537 - 591 - 219
 المريوطى الرئيسي ٢ شارع الملك الأفندى - الزمالك - القاهرة

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /.....



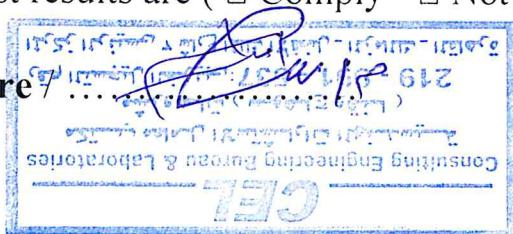
Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	25.7	Max 50 %	-----	-----
0.425 mm (No. 40).	16.8	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.7	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature



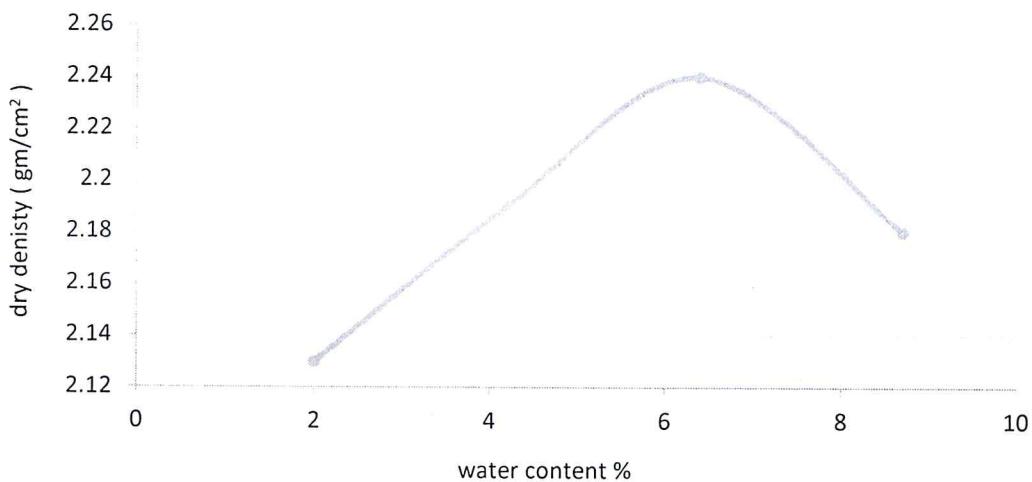
٢٣١ مبارك بن عبد الله شارع
المنيل، الدوحة
+974 44 224522 / 22363693



جامعة قطر
الجامعة الإسلامية
جامعة قطر الإسلامية

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.24
- Optimum moisture content % : 5.8 %

Signature /



3 E. Malek E. Afifi Street
 Zamalek, Cairo
 Tel & Fax: 2736222 - 27362093



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 Testing Laboratory
 www.ias-test.com

Company Name : شركة المستقبل للمقاولات العامة

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 660+000 E=482747.8852 N=2848238.3271

Type of sample : Soil Embankment (upper Embankment 0.0 M)

Delivery Date : 13/09/2023

Reporting Date : 17/09/2023

Reporting No. : 03-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.49
1.91	0.075	2.48
2.54	0.100	3.52
3.18	0.125	4.51
3.81	0.150	5.36
4.45	0.175	6.23
5.08	0.200	6.89
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.52s	51 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.24 (gm /cm³)
At = 5.8% optimum water content.
 - 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

3 El Maadi E. Afaf Street
 Zamalek, Cairo
 Tel & Fax: 27367231 - 27369093

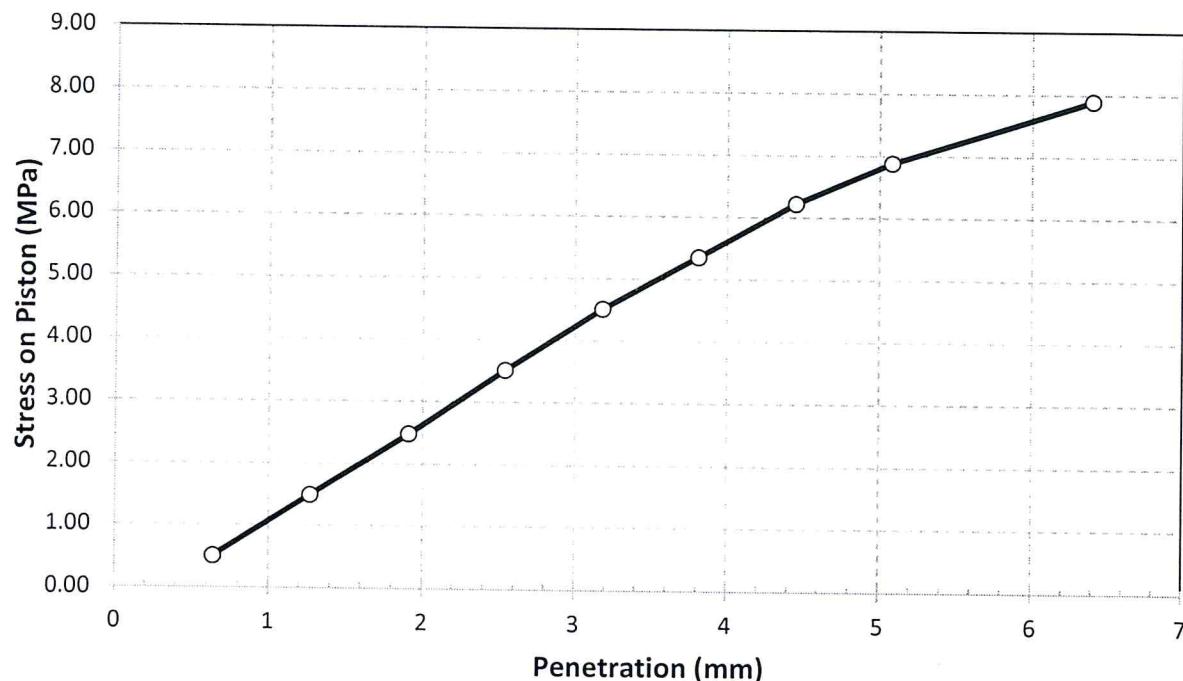


ج.م. ٢٠١٣ - رقم التسجيل ٢٠١٣ - ٢٧٣٦٩٠٩٣
 رقم المعاشرة ٥٣٧١٠٩٩١ - ٢١٩
 ش.م.ل.٢٠١٣ - رقم التسجيل ٢٠١٣ - ٢٧٣٦٧٢٣١
 رقم المعاشرة ٥٣٧١٠٩٩١ - ٢١٩

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / .





Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883



3 E. Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 27367231 27363093



ج. ش. المعادن للتجهيز
الزمالك القاهرة
الهاتف: ٠٢٣٦٣٧٣٩٣١ - ٣٦٣٧٣٩٣٢ - ٣٦٣٧٣٩٣٣



Company Name : شركة المستقبل :
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	¾	71.7
12.50	½	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature /.....



3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax 27367231 27363093



٢ شارع الملك الأفضل
 الزمالك - القاهرة
 رقم التسجيل الضريبي: ٥٣٧ - ٩٩١ - ٢١٩



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	8.1

Signature /..



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 27367231 - 27363093



في المكان الأفضل
الزمالة القاهرة



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature / ..



3 E. Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 - 27363093



الملك الأفلاطون
الزناتي المأذنة
العنوان: فاكس: ٢٠٢٣٧٦٣٨٧٧٧٧
للمزيد



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 - 27363093



ج.ع. ا.م.ل. ا.ن.م.م
البرادل. الامار
ج.ع. ا.م.ل. ا.ن.م.م
ج.ع. ا.م.ل. ا.ن.م.م

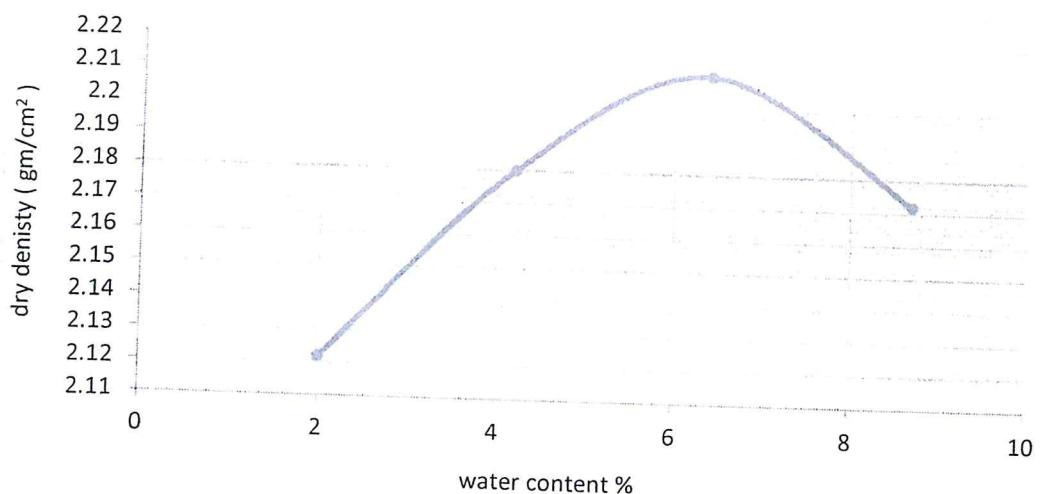


Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

2

Moisture – Density relation of soil
Test result (Modified proctor test)



- Max dry density (gm/cm^2) : 2.21
 - Optimum moisture content % : 6.4

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736721 2736306



٢- ش. الملك الأفضل
الزمالة الظاهرة



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.54
1.27	0.050	1.47
1.91	0.075	2.43
2.54	0.100	3.37
3.18	0.125	4.46
3.81	0.150	5.31
4.45	0.175	6.18
5.08	0.200	6.82
6.35	0.250	7.90

31

- Notes:

 - 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.21 gm/cm^3
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
 - 4- CBR > 10 for middle and lower embankments according to project spec page No 36.

مكتتب معامل الاستئناف وادعى
مشروعات (الجهة المدعى بها)
رقم التسجيل الضريبي: 537-191-891

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 2736723 - 27363093



ش. الملك الأفلاطون
الزمالة القاهرة

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

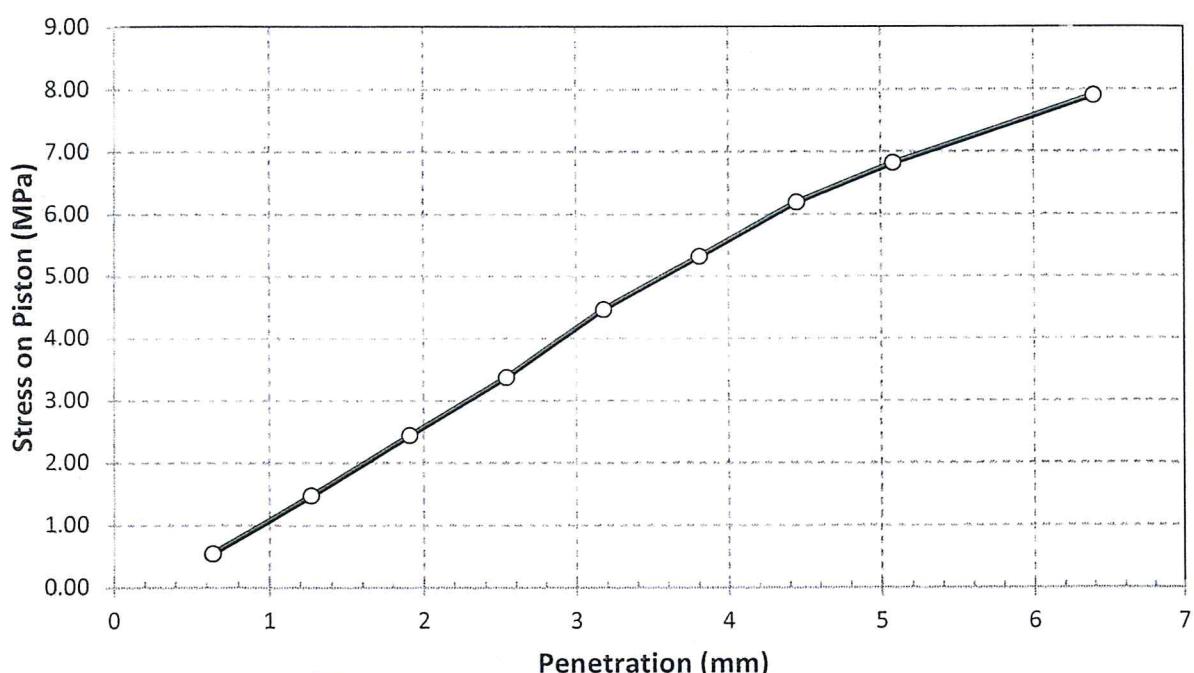
Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



3 El Malek El Aftab Street
 Zamalek, Cairo
 Tel & Fax: 2736723 - 27363093



ش. الملك إبراهيم
 الزمالك - القاهرة
 تليفون: ٠٢٣٦٣٧٣٣٣ - ٣٤٣٣٣٣٣
 فاكس: ٠٢٣٦٣٧٣٣٣ - ٣٤٣٣٣٣٣

CEL
Consulting Engineering Bureau & Laboratories
مكتب مهندسات الاستشارات الهندسية

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 28/10/2023
Soil type : Middle Embankment
Location : ST from 661+580 To 661+600
Level : - 4 M
Report No. : 73

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+590	1465	2.34	6	2.20	99.7%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 6.4 %

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



أ.ش. الملك الأفلاطون
الزمالك - القاهرة
تلفون: ٠٢٣٦٣٧٧٣٩٣ - ٠٢٣٦٣٧٧٣٩٤



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883



3 E. Malek El Afdal Street
Zamalek, Cairo
Te & Fax 27367231 27363093



ج.ش. المعادن للتجهيز
الزمالة المقدمة
لبيان رقم: ٢٣٠٢٦٢١٩
الجهة: مصر



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	3/4	71.7
12.50	1/2	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature /....



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 27367231 27363093



٢٣١٧ - ٢٠٢٣ - ٢٩ شوال المطابق
الإسكندرية، مصر



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	8.1

Signature /...



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 2736723 - 27363093



أعلى المعايير
الزمالة القياسية
جدة، المملكة العربية السعودية



Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-2

**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature / ..



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 Zamalek, Cairo
 Tel & Fax 2736723 - 27363093



ج.م. ٢٠٢٣ - ٢٠٢٤
 رقم التسجيل الضريبي: ٥٣٧ - ٩٩١ - ٢١٩
 ٢ شارع الملك الأفطلي - الزمالك - القاهرة

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax 2736723 27369093

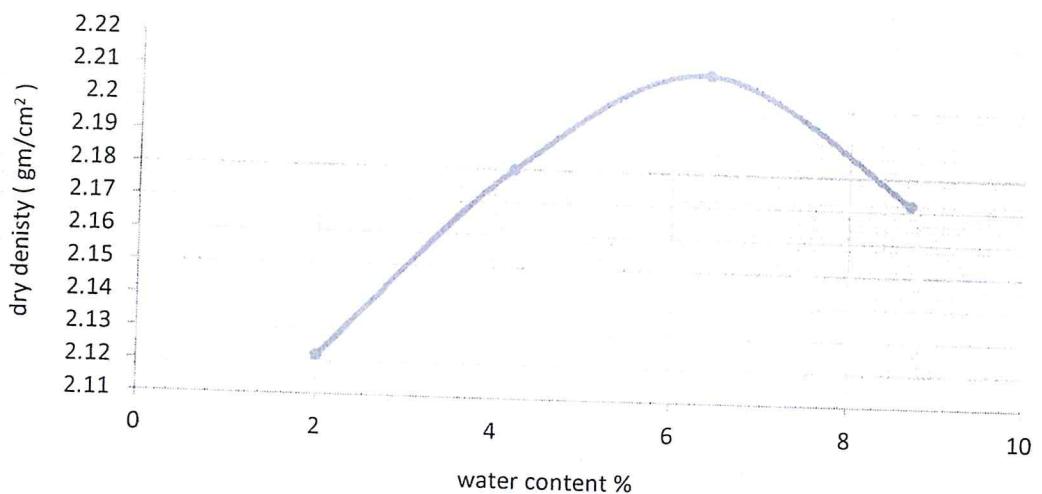


ج.ع العطاس ٢٥٣
 الهرم - الجيزة
 تلفون: ٠٩٦٦٣ ٣٧٨٦٦٤٣
 البريد الإلكتروني: ias@ias.eg

Company Name : شركة المستقبل :
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.21
- Optimum moisture content % : 6.4 %

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 - 27363093



ج.م.ع. مختبرات
الزمالة ٣٣٧١٠٠١ - ٣٣٧١٠٠٢
القاهرة، مصر - Egypt

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.54
1.27	0.050	1.47
1.91	0.075	2.43
2.54	0.100	3.37
3.18	0.125	4.46
3.81	0.150	5.31
4.45	0.175	6.18
5.08	0.200	6.82
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.37	48.8 %

Notes:

- Attached graph shows penetration resistance versus penetration magnitude.
- The sample was compacted to dry density of = 2.21 (gm /cm³)
At = 6.4% optimum water content.
- Surcharge load 4.50 Kg.
- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

3 El Malek E Aftab Street
 Zamalek, Cairo
 Tel & Fax : 2736723 - 27363093

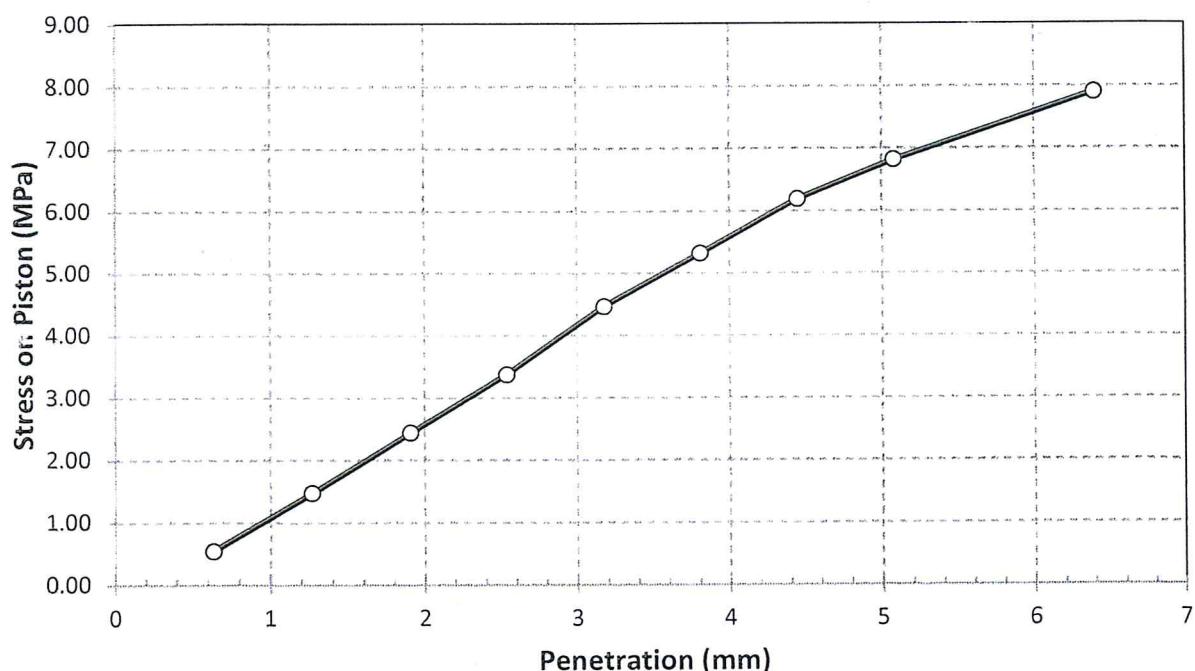


ش. المان الأفلاج
 الزمالك القاهرة
 تليفون: ٠٢٣٦٣٧٣٩٣٣ - ٣٨٣٦٣٧٣٩٣٤

Company Name : شركة المستقبل :
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /




CEL
Consulting Engineering Bureau & Laboratories
 مكتب محاملي الاستشارات الهندسية

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Testing Date : 28/10/2023
 Soil type : Middle Embankment
 Location : ST from 661+540/661+560
 Level : - 3.5 M
 Report No. : 73-3

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+550	1557	2.29	6	2.16	97.8%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 6.4 %

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



ش. الملك الأفضل
الزمالك - القاهرة
تلفون: ٢٧٣٦٢٣٣ - ٢٧٣٦٧٢٣١
فاكس: ٢٧٣٦٣٠٩٣



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /



3 El-Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 27367231 27363093



ج.م.ع. المختبرات
الزمالة. المأمور
الجهاز. مصر. ٢٣٣٦٧٢٣١ - ٢٣٣٦٣٠٩٣



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	¾	71.7
12.50	½	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature /.....



3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax 27367231 27363093



٣ شارع الملك الأفضل
 الزمالك، القاهرة
 تليفون ، فاكس: ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	8.1

Signature /.....

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 2736723 - 27363093



ج.ع. المختبرات
الملكية الاميرية
القاهرة - مصر - ٢٣٣٧٦٣٣ - ٢٣٣٧٦٣٤



Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-2

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature / .



3 E. Malek El Afdal Street
Zamalek, Cairo
Tel. Fax 27367231 27363093



ج.م. ملك مصر
الخط السفلي
٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
زمالة ، القاهرة



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply, Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 2738762 - 2738394

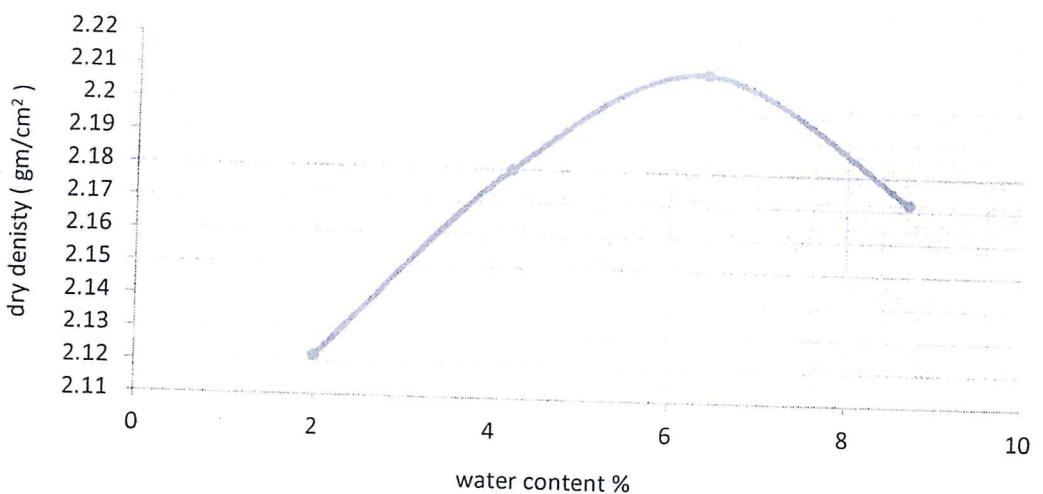


عن الصالح الأفلاقي
المقال المعاصر

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-2

2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.21
- Optimum moisture content % : 6.4 %

Signature /

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 - 27363093



أعلى المعايير
الجودة والموثوقية
الشهادة العالمية



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.54
1.27	0.050	1.47
1.91	0.075	2.43
2.54	0.100	3.37
3.18	0.125	4.46
3.81	0.150	5.31
4.45	0.175	6.18
5.08	0.200	6.82
6.35	0.250	7.90

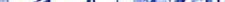
CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	48.8 %
	6.90	3.37	

Notes:

- Notes:

 - 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.21 gm/cm^3
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
 - 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /  دكتور طارق العبدالله العتيقي

Signature / ...  مسروقات ، سوهاج - ٢٠١٩ - ٦٩١ ٥٣٧

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 2736723 - 27367093

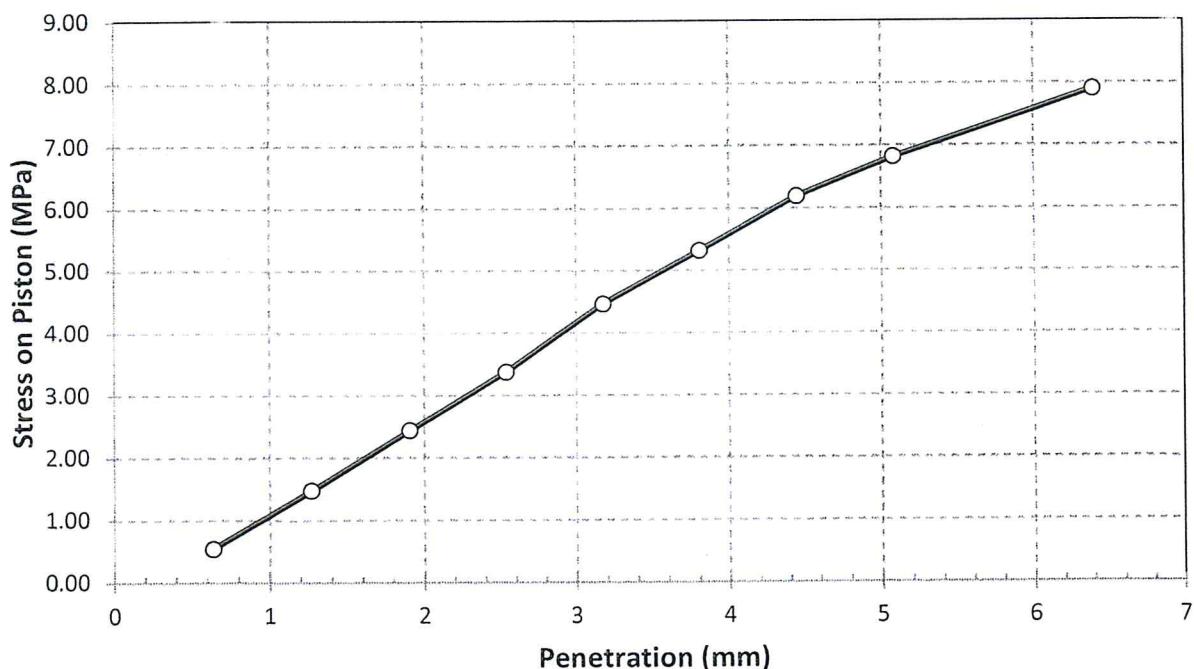


٢ ش. الملك الأفلاطون
الملك القاهرة
تلمساني ، طاكيك : ٢٣٦٧٢٤٢ - ٢٣٦٧٢٥٧

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Testing Date : 28/10/2023
 Soil type : Middle Embankment
 Location : ST from 661+440 To 661+540
 Level : - 3 M
 Report No. : 73-2

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+480	1450	2.29	6	2.16	97.9%	Comply
2	661+520	1383	2.26	6	2.13	96.4%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 6.4 %

Signature




CEL
 Consulting Engineering Bureau & Laboratories
 مكتب مهندسات الاستشارات الهندسية

Company Name : شركة المستقل :
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 02/11/2023
Soil type : Middle Embankment
Location : ST from 661+400 To 661+420
Level : -4 M
Report No. : 83-4

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+410	1654	2.36	6.4	2.22	99.6%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.23 gm/cm³
- At optimum moisture content = 6.4 %



3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



ج.م.ش. الملك الأفضل
 الزمالك - القاهرة
 تليفون + فاكس: ٢٧٣٦٢٢٤٣ - ٢٧٣٦٢٢٤٤



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Dear Gentleman,

Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /

219 491 437

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax : 27367231 - 27363093



ج.م.ع. ، مصر ، القاهرة ، الجيزة ، ٦٢٣١ ، شارع ٣٠٦ ، رقم ٣٣٣



Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.0
37.5	1.5	90.0
25	1	79.9
19	¾	70.1
12.50	½	57.8
9.50	3/8	47.0
4.75	4	35.1
2.00	10	30.6
0.425	40	20.3

Signature

219.951.437

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax: 27367231 - 27369093



الملك الأفلاطون
الملك المؤمن
الملك العادل
الملك العادل



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.2

Signature:



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax : 27367231 - 2736509



٢ شیء الملك الأكابر
الملك المأمور



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



ج.م. مختبرات
الجودة العالمية
ج.م. مختبرات
ج.م. مختبرات

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	30.6	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax: 2736723 - 27363093



مكتب استشاري للمقاولات العامة
 CEL
 مشروعات آفاق مصر
 رقم تليفون: ٢١٦٩٩٩١٤٣٧
 ٣ شارع الملك فؤاد - الزمالك - القاهرة - مصر

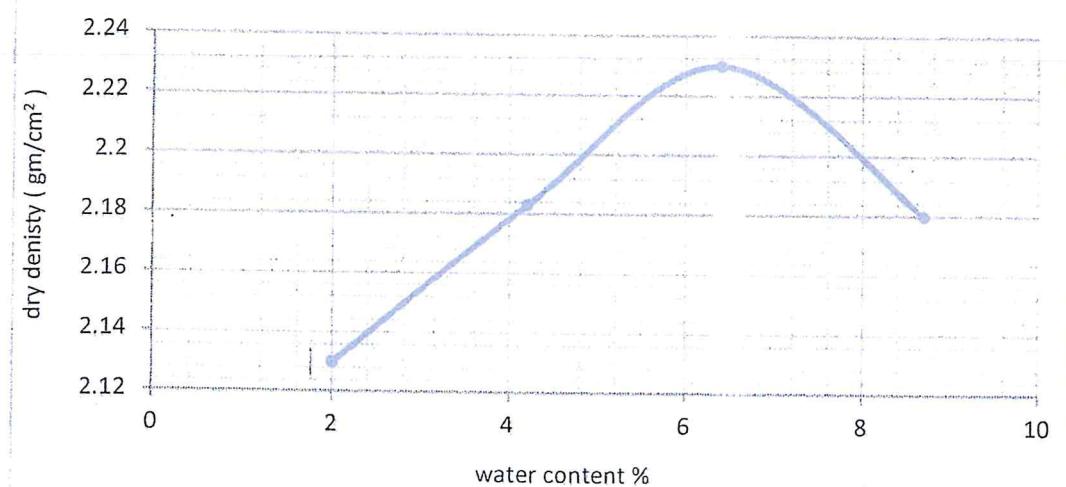


Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Moisture – Density relation of soil

Test result (Modified proctor test)

ASTM D-1557



- Max dry density (gm/cm^2) : 2.23
 - Optimum moisture content % : 6.4 %

Signature



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Zamalek, Cairo.
Tel & Fax: 27367231 - 2736300



اشتراك القاهرة
الملك الأفضل

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.55
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.55	51.4 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.23 (gm /cm³)
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg,
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

3 El Malek El Afdaa Street
Zamalek, Cairo,
Tel & Fax : 27367291 - 27363093

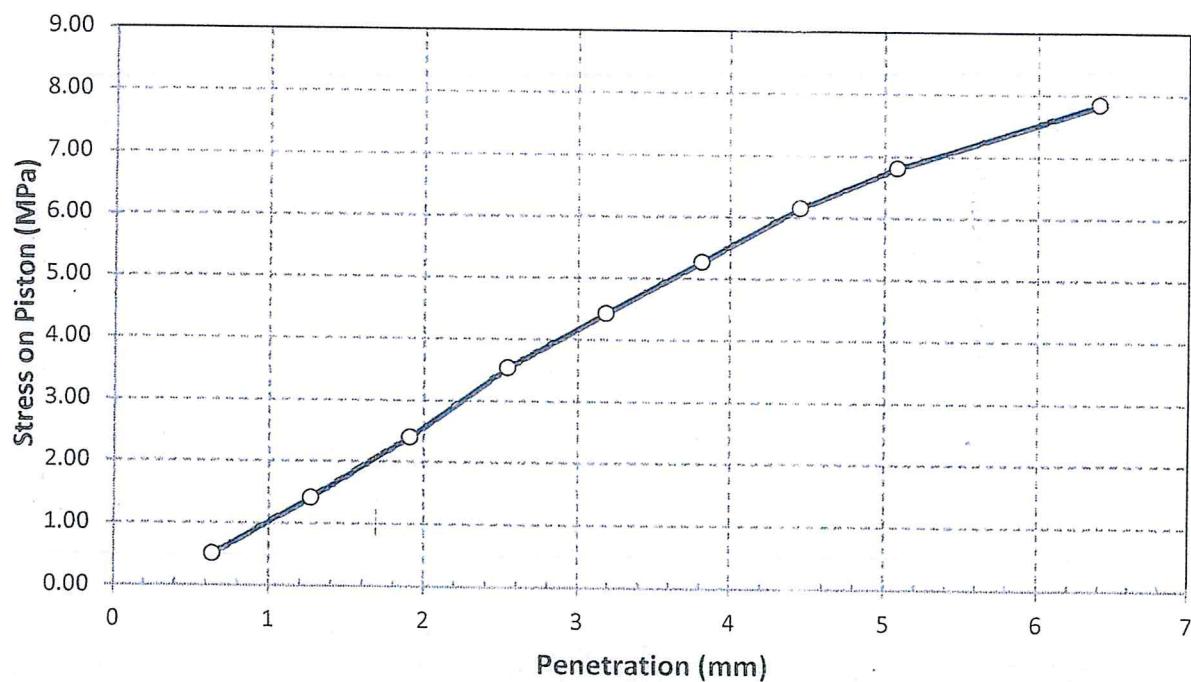


ج.م. مختبرات مصر
الرئاسة المساعدة
البلد: مصر
العنوان: ٣ شارع الملك فؤاد، الزمالك، القاهرة، مصر
النوع: مختبر تجاري

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



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 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



ج.م. المالك الأفضل
 الزمالك القاهرة
 تليفون: ٠٢٣٦٣٧٣٣٣ - ٣٤٠٨٣٣٣

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Testing Date : 02/11/2023
 Soil type : Middle Embankment
 Location : ST from 661+340 To 661+360
 Level : -4 M
 Report No. : 83-7

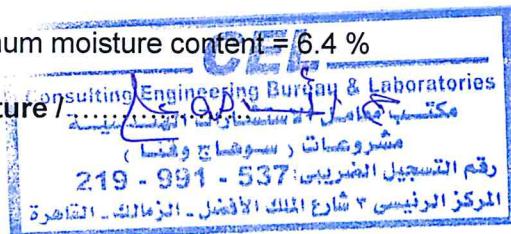
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+350	1549	2.26	6	2.13	95.6%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.23 gm/cm³
- At optimum moisture content = 6.4 %

Signature /





Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Dear Gentleman,

Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
 2. Material finer than sieve No. 200 according to ASTM D-1140.
 3. Liquid limits and plasticity index of soil according to ASTM D-4318.
 4. Soil classification according to Project Specs.
 5. Proctor Test according to ASTM D-1557
 6. CBR according to ASTM D-1883

Signature



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax : 27367231 - 27363093



الملك الأفضل
الملك - القاهرة
المصدر: [WikiArabia](#) - ٢٠٢٣ - ٢٢:٥٦



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.0
37.5	1.5	90.0
25	1	79.9
19	3/4	70.1
12.50	1/2	57.8
9.50	3/8	47.0
4.75	4	35.1
2.00	10	30.6
0.425	40	20.3

Signature



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 27367231 - 27367093



٢- شئ العطاك الاختيار
الزمالك النادره



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.2

Signature



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Zamalek, Cairo.
Tel & Fax: 27367231 - 27366093



أشعار المختبر المعتمد
الزمالة المعتمدة
الرقم: ٢٧٣٦٦٠٩٣ - ٢٧٣٦٧٢٣١



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature



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Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



ج.م. مختبرات الأداء
الرئيسي ٣ شارع إسكندرية - مصر
٢٧٣٦٣٠٩٣ - ٢٧٣٦٧٢٣١



Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	30.6	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax : 27367231 - 27363093

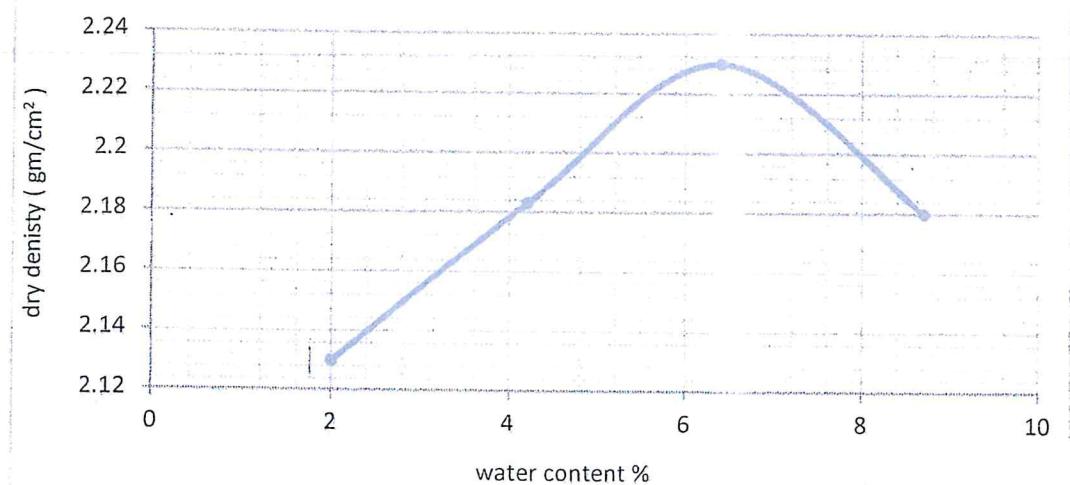


ائتمان المختبر
 تجربة المختبر
 IAS - Egypt



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm^2) : 2.23
- Optimum moisture content % : 6.4 %

Signature /



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Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



ج.م. مختبرات التحلية
مختبرات التحلية
ج.م. مختبرات التحلية

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.55
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.55	51.4 %

Notes:

- Attached graph shows penetration resistance versus penetration magnitude.
- The sample was compacted to dry density of = 2.23 (gm /cm³)
At = 6.4 % optimum water content.
- Surcharge load 4.50 Kg.
- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

د. رشاد الدين ابراهيم ٢١٩٦٩١.٤٣٧

٣ شارع نجيب ابراهيم - اسكندرية

Zamalek, Cairo,

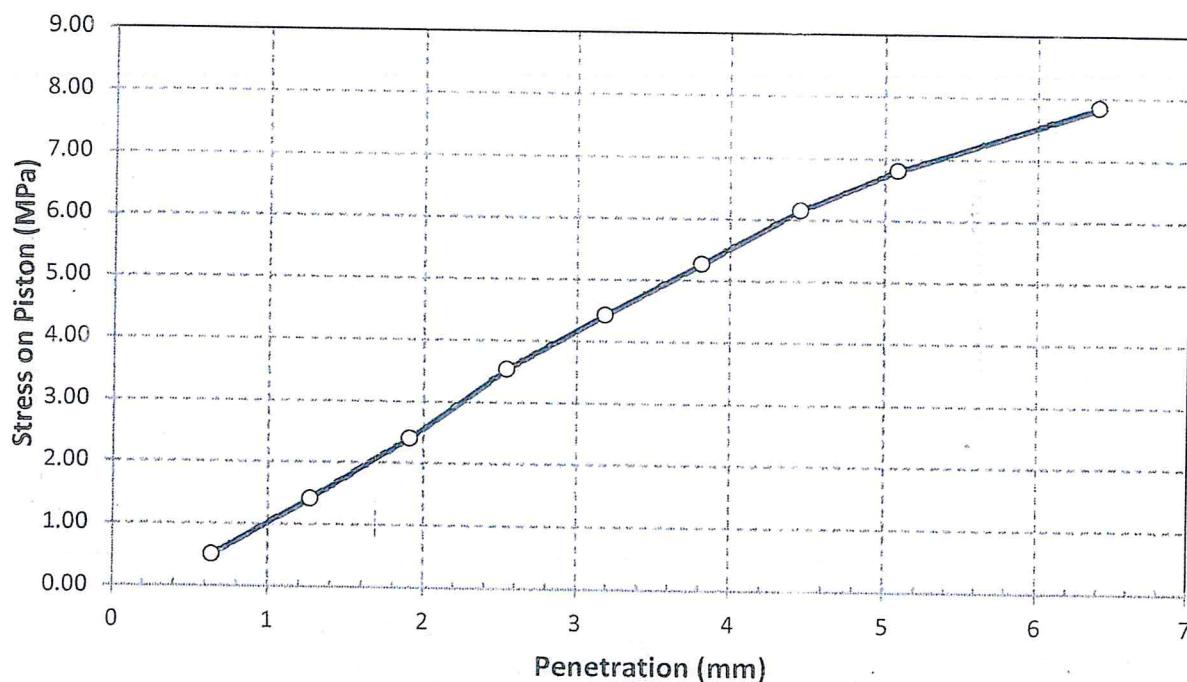
Tel & Fax : 27367291 - 27363093



ج.م.ع. لجنة الاعتماد
الرئاسية للمختبرات
جامعة القاهرة - مصر

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Load Penetration Curve of CBR Test
ASTM D-1883



Signature /



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 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



رقم الماكينة: ٢٣٧٦٣٧٣٠٩٣
 رقم الماكينة: ٢٣٧٦٣٧٣٠٩٣
 رقم الماكينة: ٢٣٧٦٣٧٣٠٩٣


CEL
Consulting Engineering Bureau & Laboratories
 مكتب مهندسات الاستشارات

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Testing Date : 02/11/2023
 Soil type : Middle Embankment
 Location : ST from 661+380 To 661+400
 Level : -4 M
 Report No. : 83-5

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	661+390	1572	2.27	6	2.14	95.9%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.23 gm/cm³
- At optimum moisture content = 6.4 %



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 Zamalek, Cairo.
 Tel& Fax : 27367231 - 27363093



ش. الملك الأفلاطون
 الزمالك - القاهرة
 تليفون : ٢٧٣٦٢٠٥٢ - ٢٧٣٦٧٢٢١



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Dear Gentleman,

Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
 2. Material finer than sieve No. 200 according to ASTM D-1140.
 3. Liquid limits and plasticity index of soil according to ASTM D-4318.
 4. Soil classification according to Project Specs.
 5. Proctor Test according to ASTM D-1557
 6. CBR according to ASTM D-1883

Signature



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 27367231 - 2736309



٢ شیخ الحدائق الافتخار
الزمردی - القاهرة
المقدّس طاوس ١٤١٦هـ - ٢٣٢٢ م



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.0
37.5	1.5	90.0
25	1	79.9
19	3/4	70.1
12.50	1/2	57.8
9.50	3/8	47.0
4.75	4	35.1
2.00	10	30.6
0.425	40	20.3

Signature:

219.991.437
شارع محمد الأفضل - الزمالك - القاهرة
الهاتف: ٣

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



ج.م. ٢٠٢٢ - ٢٠٢٣ - ٢٠٢٤ - ٢٠٢٥
الريلوك المحدود
العنوان: ٦٧٣٣، شارع محمد علي، الزمالك، القاهرة، مصر



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.2

Signature



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Zamalek, Cairo.
Tel & Fax: 27367231 - 2736509



٢- مملكة البحرين
الملك المأمون
الطباطبائي



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /



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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ج.م. مختبرات مصر
الذى ينافى العالم
الشهادة رقم ٢٧٣٦٣٠٩٣ - ٢٧٣٦٧٢٣١

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	30.6	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax: 27367234 - 27363093

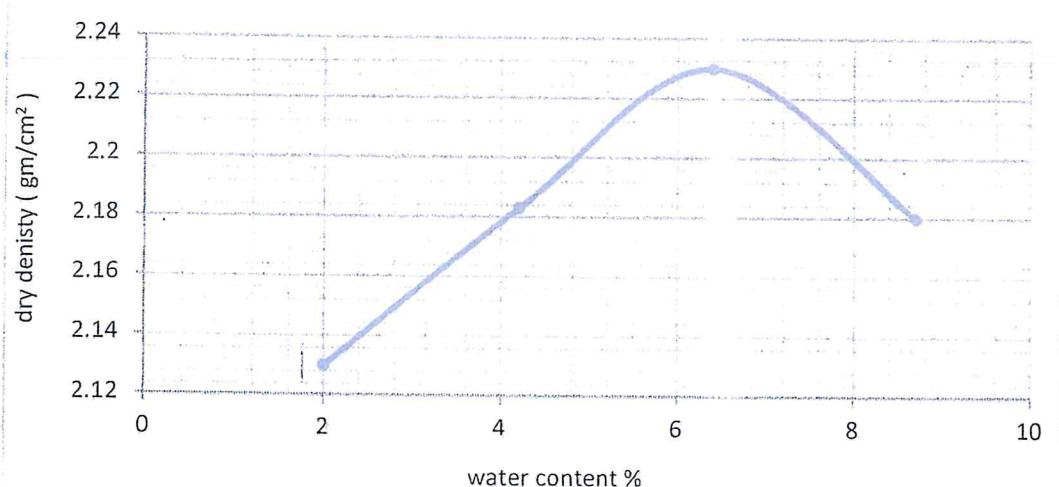


ج.م.الملك فهد
 قطاع الأعمال
 القاهرة - مصر
 IAS - Egypt

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Moisture – Density relation of soil
Test result (Modified proctor test)

ASTM D-1557



- Max dry density (gm/cm²) : 2.23
- Optimum moisture content % : 6.4 %

Signature / 

د. فتحي العزبي ٢١٩٦٩١٤٣٧
٣ شارع الله الأفلاط - المقطم - القاهرة - مصر

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.55
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.55	51.4 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.23 (gm /cm³)
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg,
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

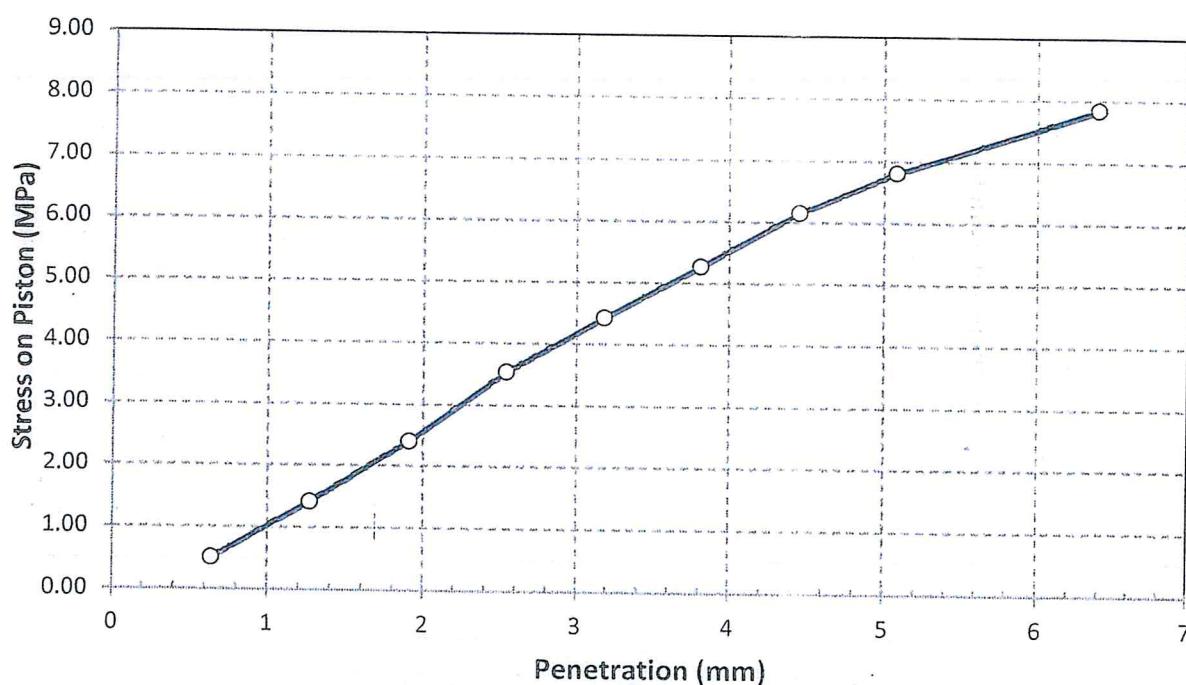
3 El Malek El Afden Street
Zamalek, Cairo,
Tel & Fax : 27367201 - 27363093



ج.م. مختبرات الأداء
الرئيسي المأذون
الجهاز . مصر . ٢٠٢٣

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Load Penetration Curve of CBR Test
ASTM D-1883



Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



رقم المالك الأفضل
 رقم المالك القاهرة
 رقم المالك القاهرة
 رقم المالك القاهرة


CEL
 Consulting Engineering Bureau & Laboratories
 مكتب مهندسات الاستشارات الهندسية

Company Name : شركة المستقبل :
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 02/11/2023
Soil type : Middle Embankment
Location : ST from 661+400 TO 661+420 الخط
Level : -3 M
Report No. : 83-9

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+410	1552	2.26	6	2.13	95.7%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.23 gm/cm³
- At optimum moisture content = 6.4 %



3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



٢ شارع الملك الأفندل
 الزمالك - القاهرة
 تليفون + فاكس: ٠٢٢٦٣٦٣٣٣٣ - ٠٢٢٦٣٦٣٣٣٤



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Dear Gentleman,

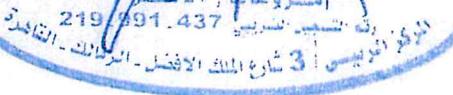
Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /



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Zamalek, Cairo.
Tel & Fax : 27367231 - 27363003



الجهاز المصري للمعايرة
الزمالة - المعايرة
البلدي - مصر ٢٠٢٣ - ٢٠٢٤



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.0
37.5	1.5	90.0
25	1	79.9
19	3/4	70.1
12.50	1/2	57.8
9.50	3/8	47.0
4.75	4	35.1
2.00	10	30.6
0.425	40	20.3

Signature /
219.881.437
٢١٩.٨٨١.٤٣٧

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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



٣ شارع الملك ابراهيم
الزمالك - القاهرة
تليفون: ٠٢٦٣٦٧٢٣١ - ٠٢٦٣٦٣٠٩٣



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.2

Signature /



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Zamalek, Cairo.
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ج.م.ش. المختبرات
الزمالة المختبر
العنوان: ٣ شارع ٢٦٣، بولاق، القاهرة، مصر



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ج.م. مختبرات الأداء
الرئيسي للجودة
البلدي ، شارع ٣٢٣٦٧٢٣١ - القاهرة

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train - HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	30.6	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



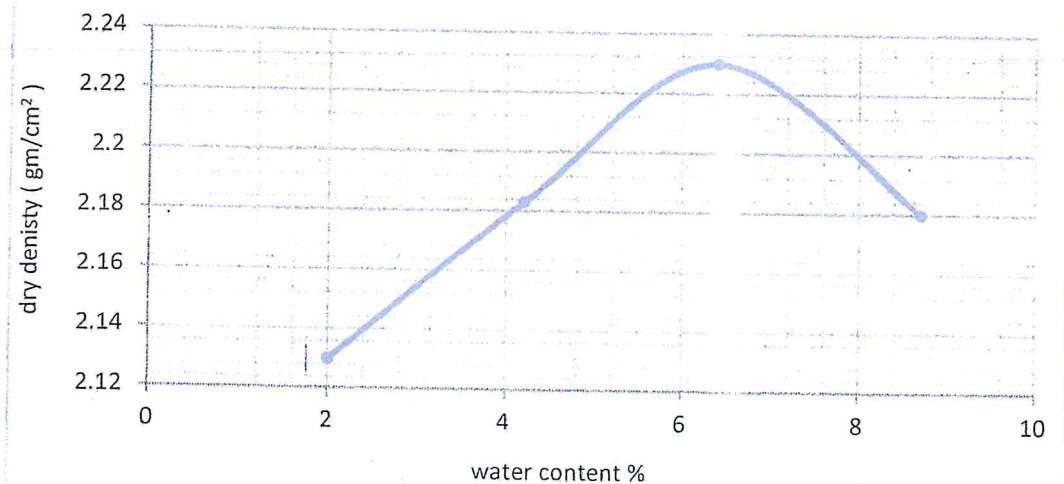
3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax: 2736723 - 27363093



جهاز المعايرة الفلكي
 قرطاج الجديدة
 تونس - 1000
 www.ias.tn - +216 71 222 444

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.23
- Optimum moisture content % : 6.4 %

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 Zamalek, Cairo.
 Tel & Fax : 27367231 - 27363093



الملكية المختبر
 للمختبرات
 مصر، القاهرة، ٢٣٧٦٣، ٣٣٣٣٣٣٣٣٣٣



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

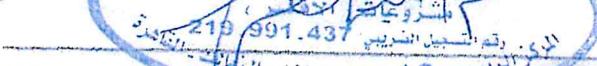
penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.55
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	51.4 %
	6.90	3.55	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.23 gm/cm^3
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
 - 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / .



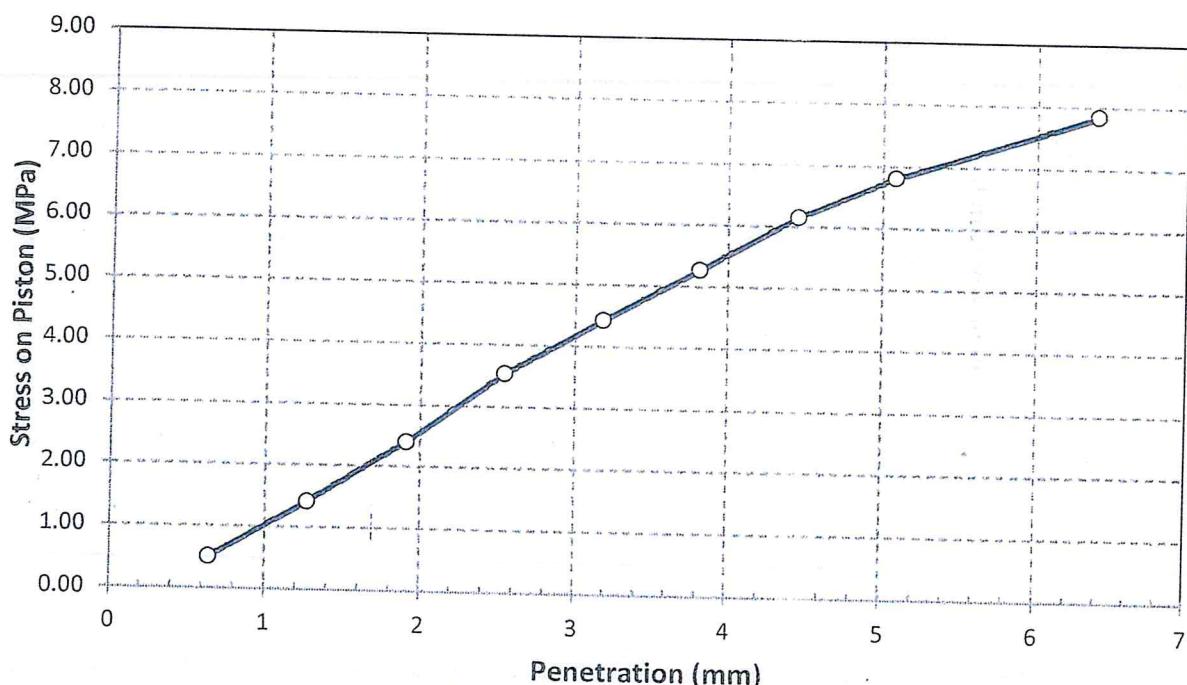
3 El Malek El Afda St. 101
Zamalek, Cairo.
Tel & Fax : 27367211 - 27369093



Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



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Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



ج.م.ش.الملك الأفضل
زمالك القاهرة
العنوان: ٣ شارع الملك الأفضل - الإسكندرية
٢٠٢٣٦٣٠٩٣ - ٢٧٣٦٧٢٣١


Consulting Engineering Bureau & Laboratories
 مكتب مهندسات الاستشارات

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 02/11/2023
Soil type : Middle Embankment
Location : ST from 661+380 To 661+400
Level : -4 M
Report No. : 83-5

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+390	1572	2.27	6	2.14	95.9%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.23 gm/cm³

- At optimum moisture content = 6.4 %

Signature /

 Consulting Engineering Bureau & Laboratories
 مكتب مهندسات الاستشارات
 رقم التسجيل الضريبي: 219 - 991 - 537
 المركز الرئيسي: ٤ شارع الملك الأفضل - الزمالك - القاهرة

3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



٣ شارع الملك الأفضل
 الزمالك - القاهرة
 تليفون + فاكس: ٢٧٣٦٣٢٣ - ٢٧٣٦٣٠٩٣



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Dear Gentleman,

Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
 2. Material finer than sieve No. 200 according to ASTM D-1140.
 3. Liquid limits and plasticity index of soil according to ASTM D-4318.
 4. Soil classification according to Project Specs.
 5. Proctor Test according to ASTM D-1557
 6. CBR according to ASTM D-1883

Signature



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Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



٢ شیء المالک الافتخار
الزمالک - القاهرة



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.0
37.5	1.5	90.0
25	1	79.9
19	3/4	70.1
12.50	1/2	57.8
9.50	3/8	47.0
4.75	4	35.1
2.00	10	30.6
0.425	40	20.3

Signature / 
219.931.437 شارع الملك الأفلاج - الزمالك - القاهرة - مصر

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363993



الرقم ٣٦٧٢٣١ - ٣٩٩٣
شارع الملك الأفلاج
الزمالك - القاهرة - مصر



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.2

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax : 27367231 - 27363083



ج.م.ع. المختبر العربي
الزمالة العربى
القاهرة، مصر، ١٢٣٦٣٧٣١ - ٢٧٣٦٣٠٨٣



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /



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Zamalek, Cairo.
Tel& Fax 27367231 - 27363093



ج.م. مختبرات
الagrégé
للمختبرات
الدولية
للمختبرات
الدولية



Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	30.6	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



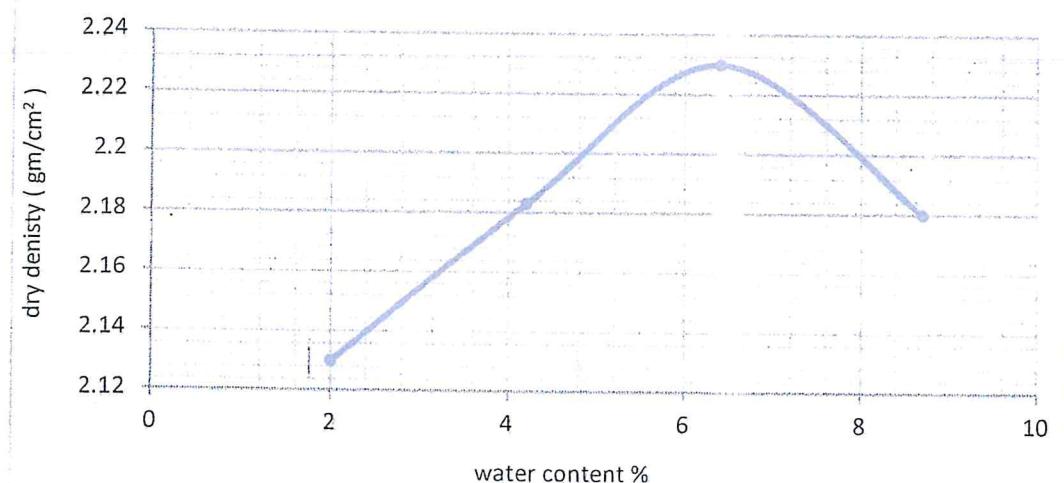
3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax: 2736723 - 27363093



اش الماك الافتخار
 الماك الافتخار
 تجربة - ملحوظة - ٢٠١٣ - ٢٠١٤

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm^2) : 2.23
- Optimum moisture content % : 6.4 %

Signature /



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 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



أشرف المكتب الأفضل
 المختبر الموثوق
 المختبر الموثوق



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.55
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	51.4 %
	6.90	3.55	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = $2.23 \text{ (gm/cm}^3\text{)}$
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
 - 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

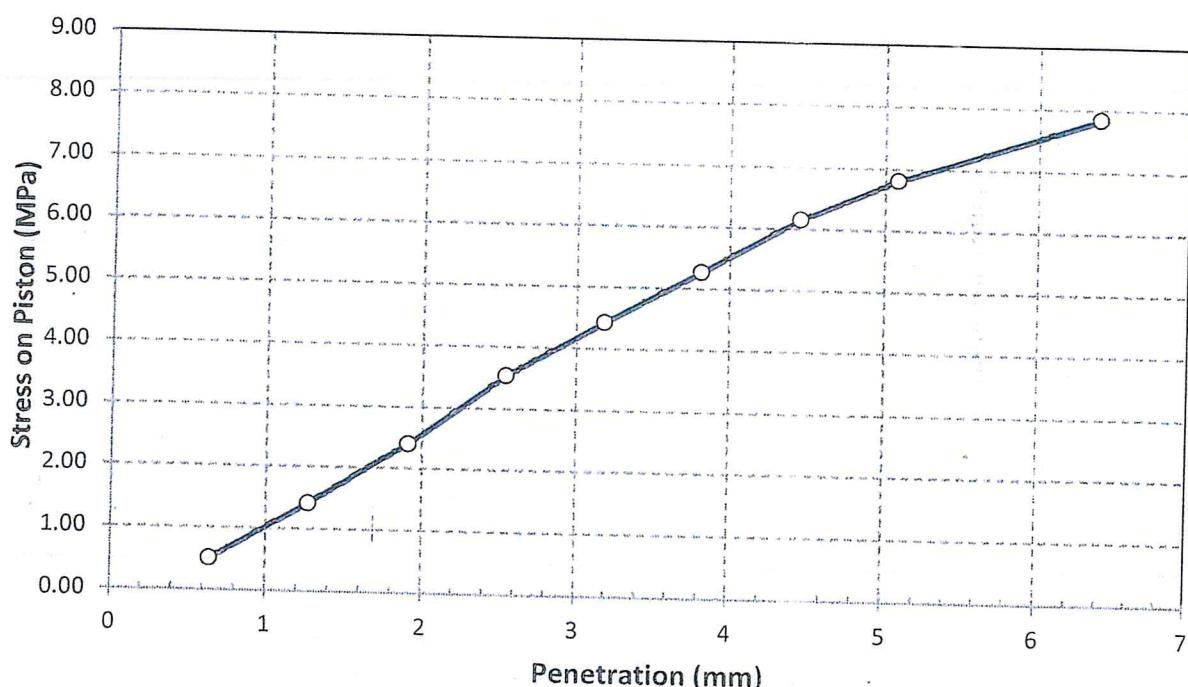
الافتخار - الافضل
3 El Malek El Afda St. 101
Zamalek, Cairo.
Tel & Fax : 27367291 - 27363093



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax 27367231 - 27367293



٢- ش. الملك الأفضل
الزمالك القاهرة


CEL
Consulting Engineering Bureau & Laboratories
 مكتب محاملي الاستشارات الهندسية

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 02/11/2023
Soil type : Middle Embankment
Location : ST from 661+360 To 661+380
Level : -3.5 M
Report No. : 83-6

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+370	1434	2.34	6.4	2.20	98.6%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.23 gm/cm³
- At optimum moisture content = 6.4 %





Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Dear Gentleman,

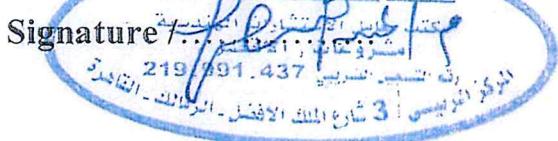
Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



أشرف المختبرات
الزمالة - القاهرة
٢١٩٣٩١.٤٣٧ - ٣ شارع الافق - الزمالك - مصر



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.0
37.5	1.5	90.0
25	1	79.9
19	3/4	70.1
12.50	1/2	57.8
9.50	3/8	47.0
4.75	4	35.1
2.00	10	30.6
0.425	40	20.3

Signature



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



أعلى المعايير
الجودة
لابتكار
لابتكار



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.2

Signature



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Zamalek, Cairo.
Tel & Fax : 27367231 - 27366093



ج.م.ش. المختبرات
الزمالة المعتمدة
I.A.S. - IAS - IAS - IAS



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



ج.م. مختبرات
الجودة
البلدي - مصر - ٢٣٦٧٦٣٣ - ٢٣٦٧٦٣٤



Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	30.6	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



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Zamalek, Cairo.
Tel & Fax : 27367234 - 27363093

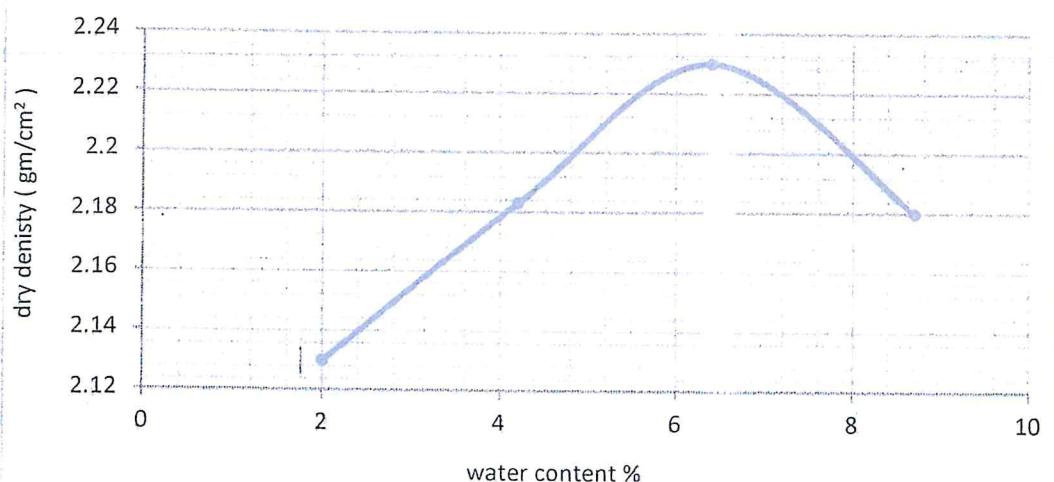


الملكية العربية
للمملكة العربية
الجامعة
الجامعة
الجامعة

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Moisture – Density relation of soil
Test result (Modified proctor test)

ASTM D-1557



- Max dry density (gm/cm²) : 2.23
- Optimum moisture content % : 6.4 %

Signature



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الهندسة الاستشارية للمقاولات
مختبرات
3 شارع الملك اbdul aziz - اسكندرية - مصر

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.55
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.55	51.4 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.23 (gm /cm³)
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

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Tel & Fax : 27367231 - 27363093

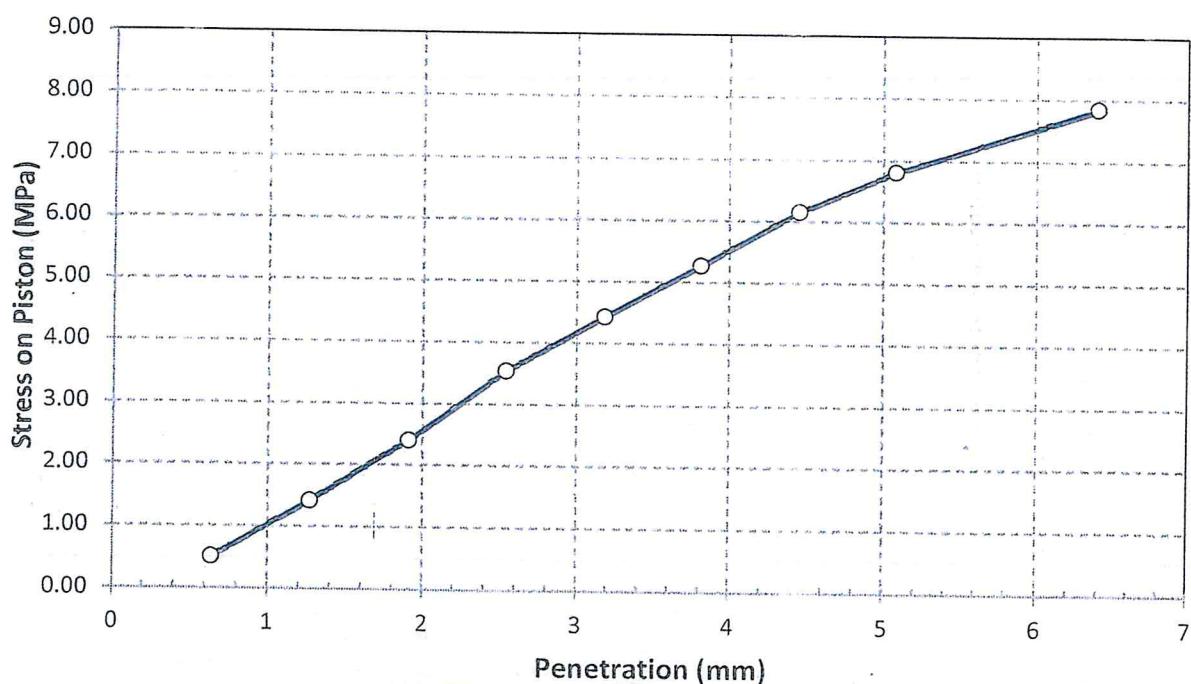


ج.م. مصر
الرجل الذهبي
الجودة - الابتكار - النجاح

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / 

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دشن العالى الأفضل
 قسم الـ IAS
 تليفون : ٠٢٣٦٧٧٢٣٣٣


CEL
 Consulting Engineering Bureau & Laboratories
 مكتب مهندسات الاستشارات

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 02/11/2023
Soil type : Middle Embankment
Location : ST from 661+360 To 661+380
Level : -3.5 M
Report No. : 83-6

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+370	1434	2.34	6.4	2.20	98.6%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.23 gm/cm³
- At optimum moisture content = 6.4 %

Signature /



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 Zamalek, Cairo.
 Tel& Fax : 27367231 - 27363093



ش. الملك الأفضل
 الزمالك - القاهرة
 تليفون +20 22323232 - 22323233



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Dear Gentleman,

Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /

219 ٢١٩ ٩١٠٤٣٧

شارع الملك فهد - المنيا - مصر

٣٣ شارع الملك فهد - المنيا - مصر

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



أشعار المعايير
الزمالة - القاهرة
الجهاز - مصر - ٢٨ - ٢٦٢٦٢٦٢٦٢٦٢



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.0
37.5	1.5	90.0
25	1	79.9
19	3/4	70.1
12.50	1/2	57.8
9.50	3/8	47.0
4.75	4	35.1
2.00	10	30.6
0.425	40	20.3

Signature



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27369099



على إمدادك الافتخار
ازمدادك الافتخار
القاهرة - مصر - 12611



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Materials finer than 75 μm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 μm (No.200)	6.2

Signature /



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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ج.م.ش. المختبرات مصر
الرقم ٣٢١، شارع ٣٠٦، بولاق، القاهرة
الهاتف: ٠٢٣٧٣٨٩٧٧٧٧



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature



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ج.م.ع. رقم ٢٣٦٧٤٢١ - ٢٣٦٧٤٢٢ - ٢٣٦٧٤٢٣
الزمالة - مصر - IAS - شهادة اعتماد



Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	30.6	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



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 Zamalek, Cairo.
 Tel&Fax: 2736723 * 27363093



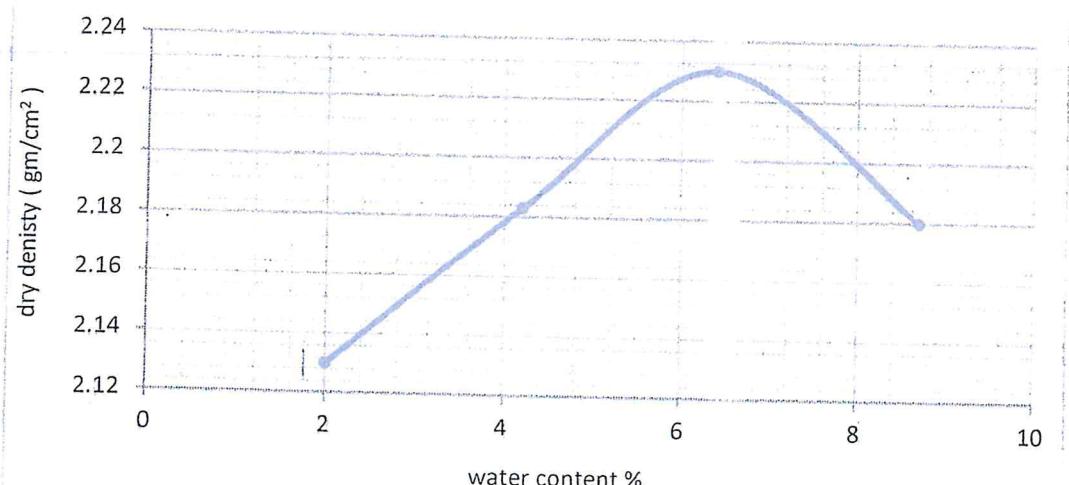
مختبر الملك الأفضل
 الرشيدية القاهرة
 تليفون: ٠٢٣٦٣٧٣٣٣٣ - ٠٢٣٦٣٧٣٣٣٤

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Moisture – Density relation of soil

Test result (Modified proctor test)

ASTM D-1557



- Max dry density (gm/cm²) : 2.23
- Optimum moisture content % : 6.4 %

Signature /



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 Zamalek, Cairo.
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أيصال الماك الأفضل
 المراكز المتقدمة
 تكنولوجيا - تطوير - تقييم - تأمين



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 8/8/2023
Reporting Date : 12/8/2023
Reporting No. : 04

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.55
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	51.4 %
	6.90	3.55	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = $2.23 \text{ (gm/cm}^3\text{)}$
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
 - 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

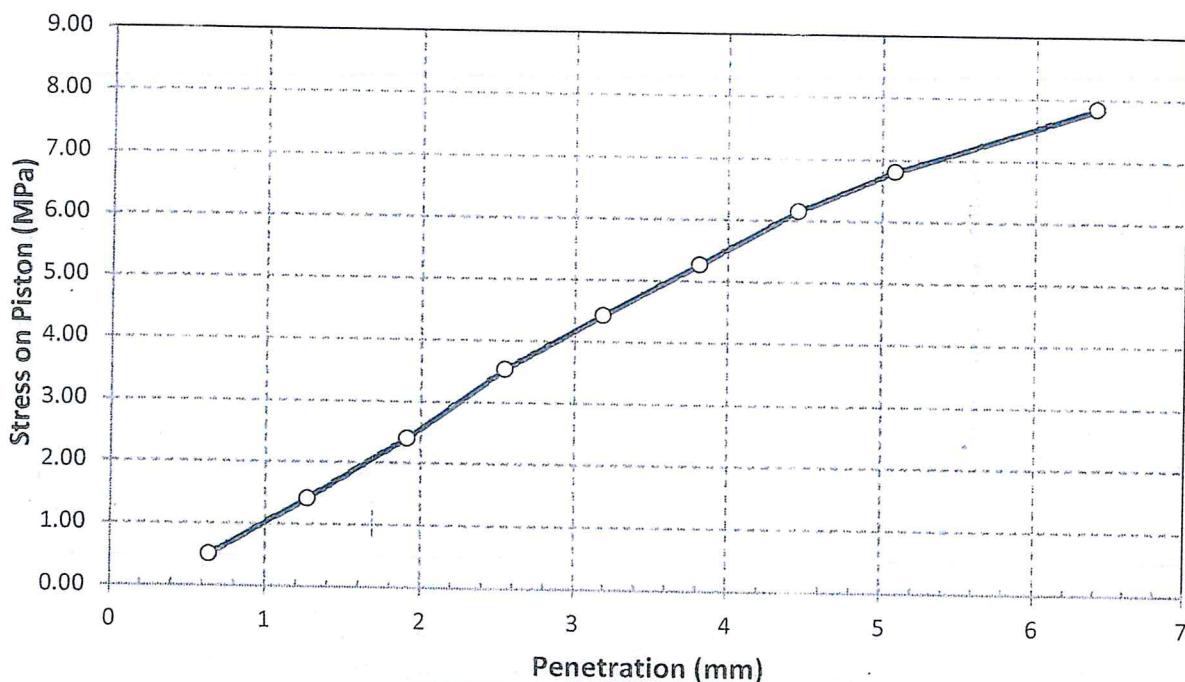
3 El Malek El Afdaa Street
Zamalek, Cairo.
Tel & Fax : 27367201 - 27363093



Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+500 E=482567.0777 N=2847847.7656
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 8/8/2023
 Reporting Date : 12/8/2023
 Reporting No. : 04

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



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 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



رقم المعايير: ٢٢٣٣٢٢٢٢
 رقم المعايير: ٢٢٣٣٢٢٢٢
 رقم المعايير: ٢٢٣٣٢٢٢٢



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
 2. Material finer than sieve No. 200 according to ASTM D-1140.
 3. Liquid limits and plasticity index of soil according to ASTM D-4318.
 4. Soil classification according to Project Specs.
 5. Proctor Test according to ASTM D-1557
 6. CBR according to ASTM D-1883

Signature /



3 E. Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 27367291-2736393



٢- شن الملاك الأفضل
الزمالة الدائمة



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	3/4	71.7
12.50	1/2	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature /...



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Zamalek, Cairo
Tel & Fax 27367231 27368093



ش. الملك الأفضل
ال وبالله الظاهرة



Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	8.1



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 Zamalek, Cairo
 Tel & Fax 27367231 27363093



ج.ش. الملاطى الائتمان
 الزمالك القاهرة
 تليفون: ٠٢٦٣٨٧٧٧٧٧٧٧



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /..



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Zamalek, Cairo
Tel & Fax 2736723 * 27369093



٢- ش. الملك الأحمد
الزمالك، القاهرة

Company Name : شركة المستقبل :
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax 2736723 27367093



ج.م.ع. اقتصادى انجليزى
 للمطاطى المحدود
 مصر، القاهرة، مصر

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

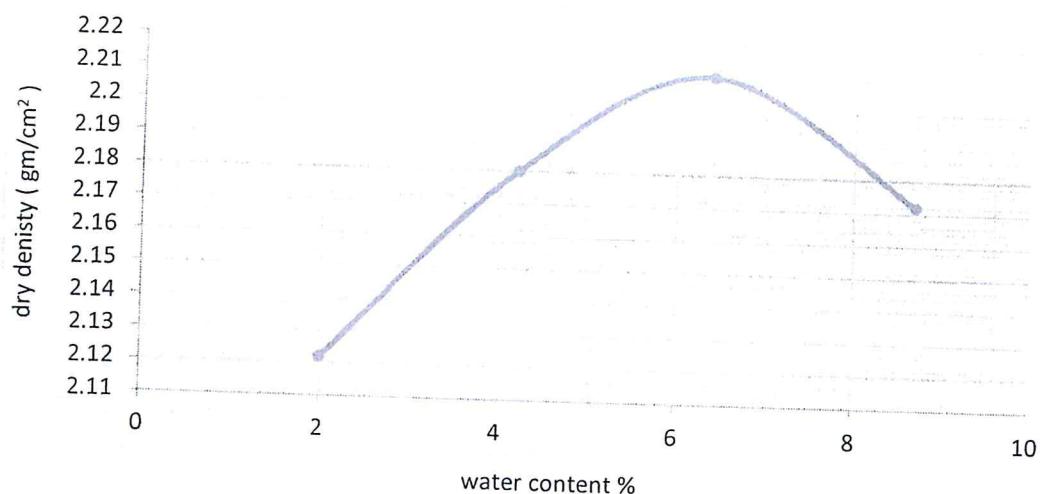
Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm^2) : 2.21

- Optimum moisture content % : 6.4 %

Signature /

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Zamalek, Cairo

Tel & Fax 2736723 - 27363093

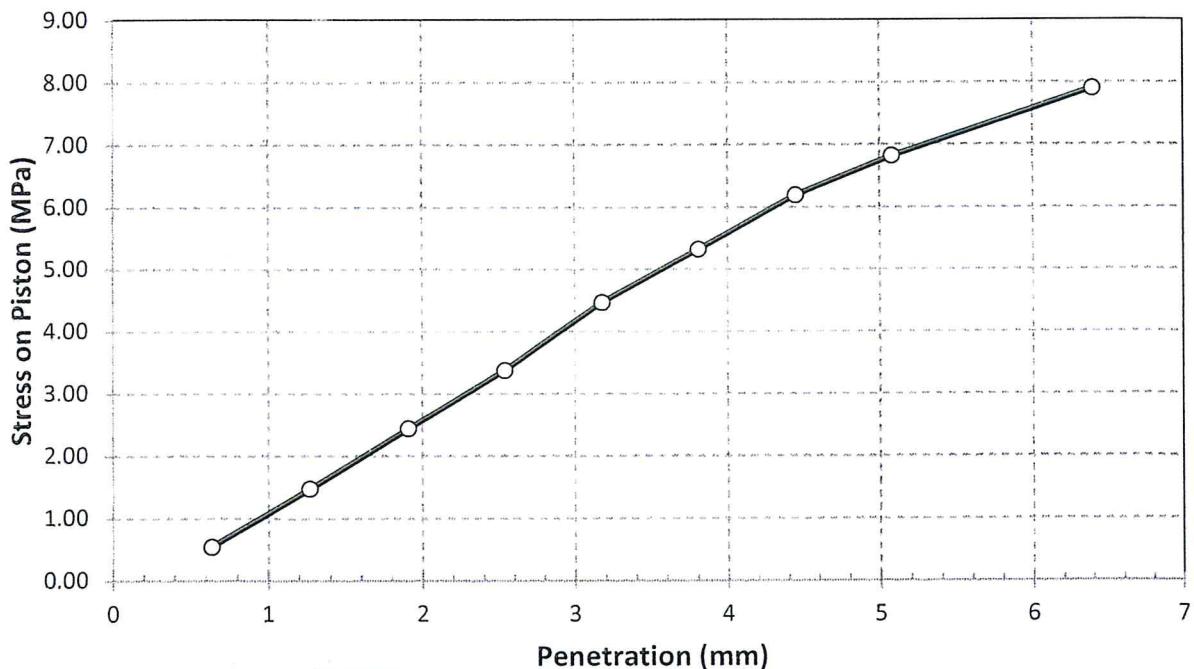


رقم التسجيل: ٢٣٣٧٣٣٧
 العنوان: شارع احمد ابراهيم ٢٣٣
 البريد الإلكتروني: info@cel-lab.com

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /




CEL
Consulting Engineering Bureau & Laboratories
 مكتب مهندسية استشارات و للمحاماة

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 28/10/2023
Soil type : Middle Embankment
Location : ST from 661+140 To 661+300
Level : - 2 M
Report No. : 73-4

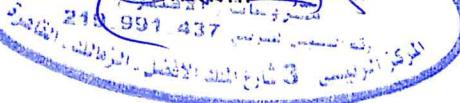
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+180	1552	2.27	6	2.14	96.8%	Comply
2	661+220	1354	2.31	6	2.18	98.5%	Comply
3	661+26	1557	2.29	6	2.16	97.8%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 6.4 %

Signature /



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Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



الملك الأعظم
الزمالك، القاهرة
تلفون: ٠٢٣٧٣٦٣٣٣٣ - ٣٧٣٦٣٣٤٣



Company Name شركه الکرم :
السلام

Project : Electric Express Train – HSR From Qous To Armant

Testing Date : 22/10/2023

Soil type : Middle Embankment

Location : ST from 661+920 To 662+000

Level : - 5 M

Report No. : 248-14

Compaction test by using Sand – Cone Test Method

ASTM D-1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	651+940	1501	2.24	5.6	2.12	95.7%	Comply
2	651+980	1398	2.26	6	2.13	96.2%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature



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Zamalek, Cairo.
Tel & Fax : 27367231 - 27363093



٢ ش. الملك الأفضل
الزمالك - القاهرة
الخ. ، ١٤٢٥ هـ / ٢٠١٩ م



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Dear Gentleman,

Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature / ...



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Zamalek, Cairo.
Tel & Fax: 2736723 - 27363093



ج.م.ش. الاتصالات
الهاتف والذريعة
القاهرة، مصر: ٢٣٣٧٦٣٣ - ٢٤٣٧٦٣٣

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 08/08/2023

Reporting Date : 12/08/2023

Reporting No. : 02

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.7
37.5	1.5	89.1
25	1	78.8
19	3/4	70.0
12.50	1/2	57.9
9.50	3/8	47.6
4.75	4	38.0
2.00	10	25.4
0.425	40	15.4

Signature /



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Tel & Fax: 27367231 - 27363093



٢٠٢٢ - ٢٠٢٣
الجهاز المغربي للمعايرة والجودة
الجهة المختصة بشهادة المختبرات



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	7.1

Signature /



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الملكية
الزمالة
للمختبرات
بيان رقم: ٢٠٢٣/٣٧٣٦٣٠٩٣ - ٢٧٣٦٧٢٣١



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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الملك الأفضل
الملك القاهرة

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	25.4	Max 50 %	-----	-----
0.425 mm (No. 40).	15.4	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



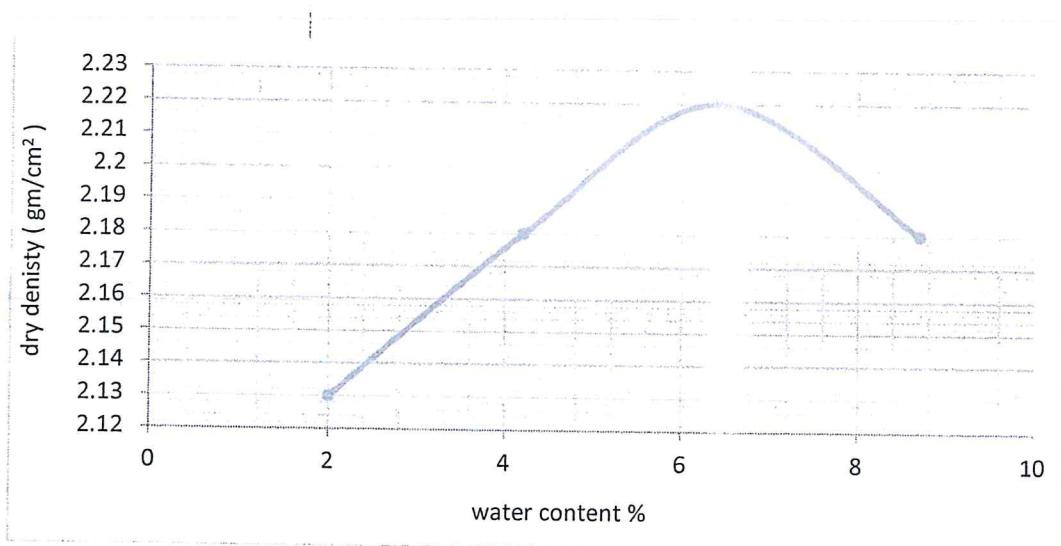
3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel& Fax : 27367231 - 27363093



ج.م.إ.ل.ا.ل
 الزمالك القاهرة
 مصر - القاهرة - ٢٣٣٣٣٣٣٣٣٣

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.22
- Optimum moisture content % : 6.4 %

Signature /



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رقم الملكية الفكرية
 لزنزانة القاهرة
 تليفون : ٠٢٣٧٦٢١٣٣٣

Company Name : شركة المستقبل :
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.34
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.34	48.4 %

Notes:

- Attached graph shows penetration resistance versus penetration magnitude.
 - The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
 - Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

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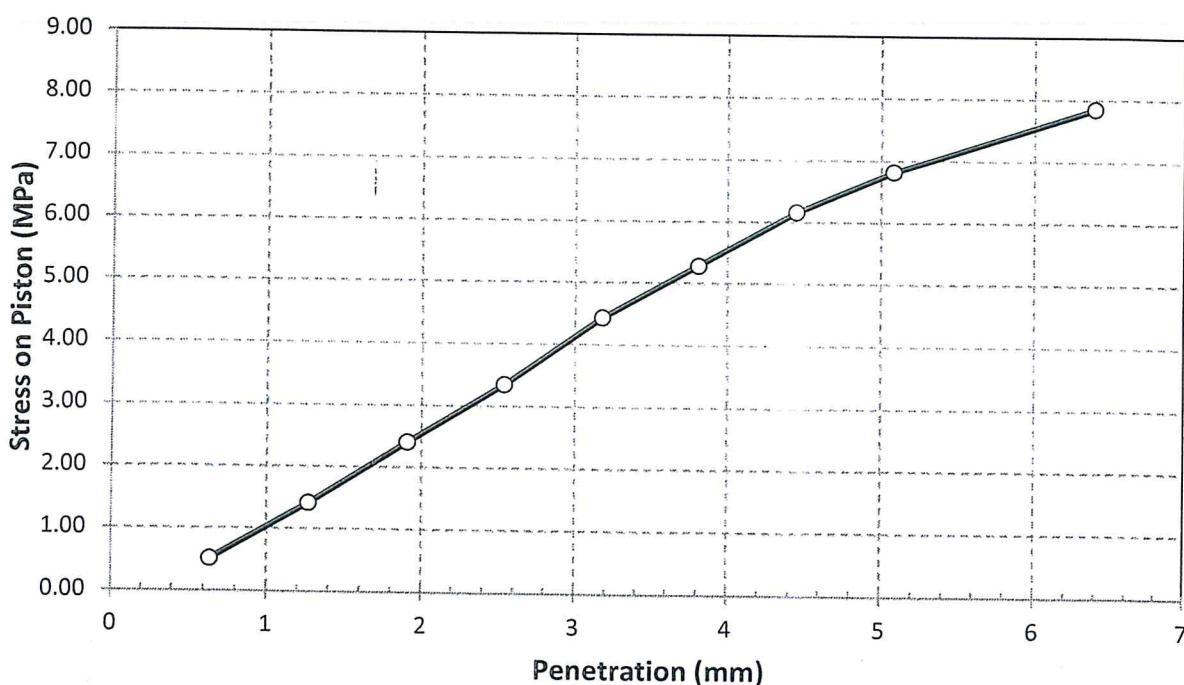


ج.م. ٢٠١٣ - ٢٠١٤
الرقم: ٢٠١٤-٢٠١٣
العنوان: ٣ شارع العزاء، الزمالك، القاهرة، مصر
الرقم: ٢٧٣٦٣٠٩٣

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Load Penetration Curve of CBR Test

ASTM D-1883



Signature



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 Zamalek, Cairo.
 Tel& Fax : 27367231 - 27363093



في المكان الآخر
 في الملكية المقدمة
 تليفون : ٠٢٣٦٧٤٣٣٣٣

Company Name  شركه الكرم :

Project : Electric Express Train – HSR From Qous To Armant

Testing Date : 24/10/2023

Soil type : Lower Embankment

Location : ST from 659+160 To 659+320

Level : - 13.5 M

Report No. : 249-1

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	659+180	1500	2.24	5.8	2.11	95.3%	Comply
2	659+220	1756	2.32	5.5	2.20	99.0%	Comply
3	659+260	1812	2.28	6.4	2.14	96.4%	Comply
4	659+300	1919	2.27	5.8	2.15	96.7%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature / 



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 08/08/2023

Reporting Date : 12/08/2023

Reporting No. : 02

Dear Gentleman,

Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature / ...



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العنوان: ٢٣٣٦٣ - ٣٣٣٧٣٣٣
البلد: مصر
الرقم: ٣٣٣٧٣٣٣

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.7
37.5	1.5	89.1
25	1	78.8
19	¾	70.0
12.50	½	57.9
9.50	3/8	47.6
4.75	4	38.0
2.00	10	25.4
0.425	40	15.4

Signature /



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Zamalek, Cairo.
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مكتب سعادت ٢٠٢١ - ٢٠٢٣
شارع الملك الأفضل - الزمالك - القاهرة
د. إبراهيم الشريبي



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	7.1

Signature /



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Zarnalek, Cairo.
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ج.م.ل
الزمبابوي
نيلزون: ٢٠٢٠٢٠٢٠٢٠٢٠



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /



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Zamalek, Cairo.
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الملكية
العربية
الجedda
العنوان: ١٢٣٤٥ شارع ٣٠٣، حي

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	25.4	Max 50 %	-----	-----
0.425 mm (No. 40).	15.4	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



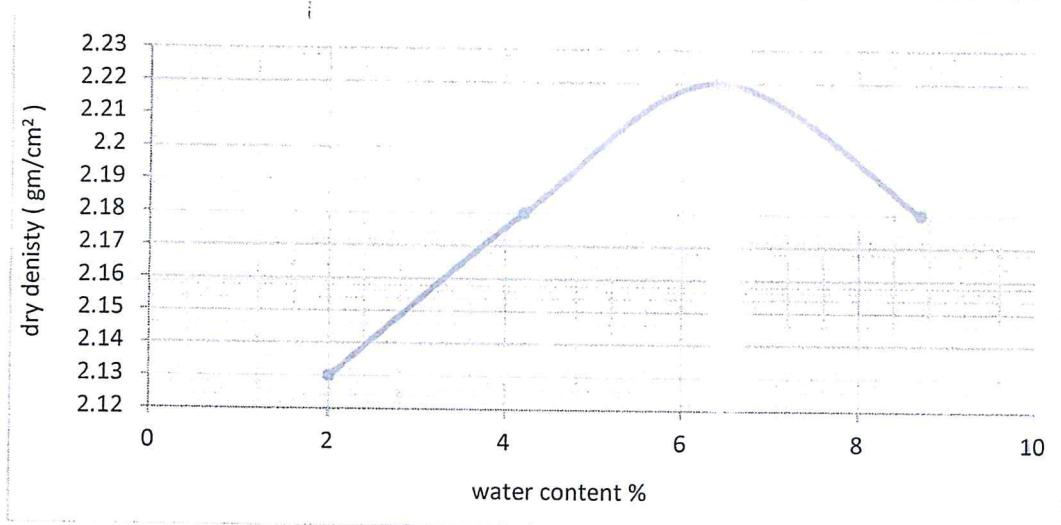
3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel& Fax : 27367231 - 27363093



ش. الملاك الأفضل
 الزمالك، القاهرة
 تليفون: ٠٢٣٦٣٧٢٣١ - ٠٢٣٦٣٠٩٣

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.22
- Optimum moisture content % : 6.4 %

Signature /



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 Zamalek, Cairo.
 Tel & Fax : 27367231 - 27363093



رقم الملاك: ٢٣٦٧
 الزمالك، القاهرة
 تليفون: ٠١٢٣٤٥٦٧٨٩٠

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.34
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.34	48.4 %

Notes:

- Attached graph shows penetration resistance versus penetration magnitude.
 - The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
 - Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

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Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093

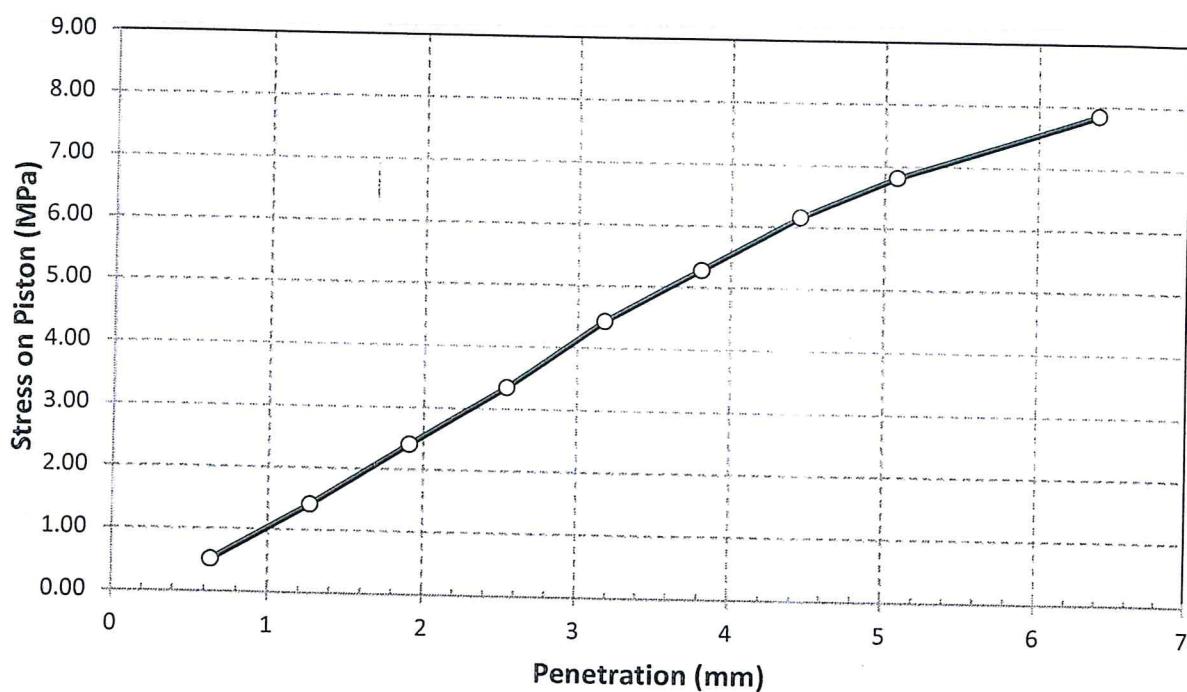


٢٠١٣٢٠١٤٢٠١٥
 رقم التسجيل: ٢٣٦٣٢٣٢٣٢٣
 العنوان: ٣ شارع العزاء، الزمالك، القاهرة

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Load Penetration Curve of CBR Test

ASTM D-1883



Signature:



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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ج.م. معايير الاستشارات
العنوان: ٣ شارع الشكلافي - انبان - القاهرة
التليفون: ٠٢٣٦٧٦٢٩٥٣ - ٠٢٣٦٧٦٢٩٥٤
الfax: ٠٢٣٦٧٦٢٩٥٦



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-3

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /...



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Zamalek, Cairo
Tel & Fax: 27367231 - 27363093



في المملكة العربية
الزمالك - القاهرة
العنوان: ٣٢٣٧٣٦٣٢٠٢ - ٢٣٣٧٣٦٣٢٠١



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	8.1

Signature /



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Zamalek, Cairo
Tel & Fax : 27367231 - 27363093



الجامعة الأمريكية
الزمالة الادارية
البلد: مصر | العنوان: ٢٣٣٦٣٠٩٣ - ٢٧٣٦٧٢٣١

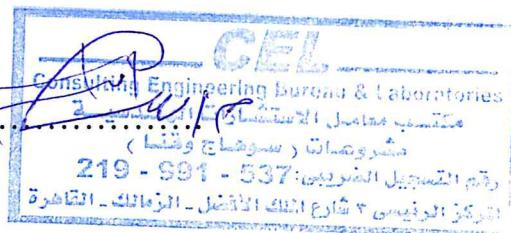


Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /..



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Zamalek, Cairo
Tel & Fax 2736723 - 27368093



٢ ش. الملك الأفضل
الزمالك، القاهرة

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

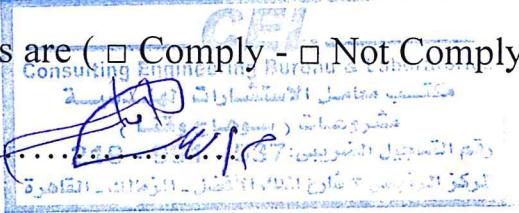
Reporting Date : 2/9/2023

Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature / 

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 Zamalek, Cairo
 Tel & Fax: 27367231 - 27369093



رقم المراقبة:
 ٢٠١٣٧٥٣
 رقم المختبر:
 ٢٠١٣٧٥٣

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

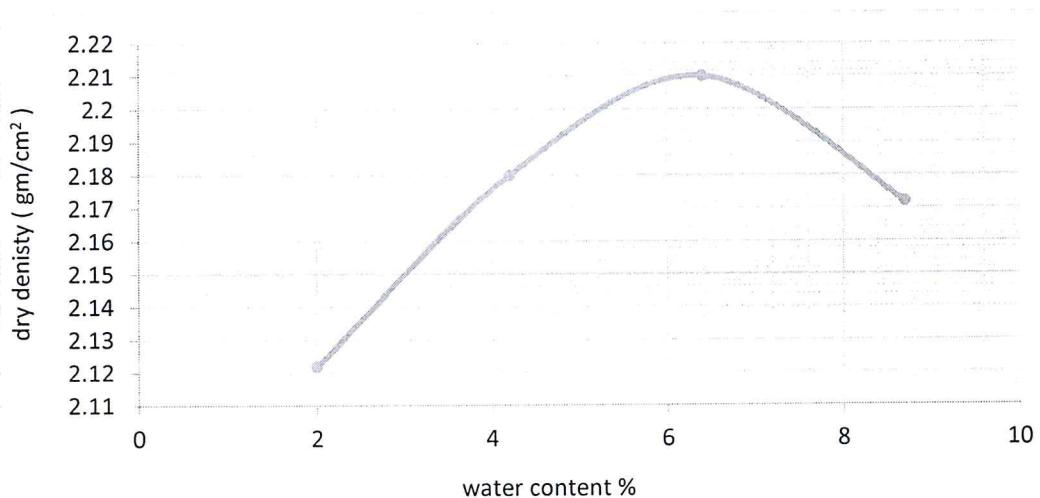
Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.21
- Optimum moisture content % : 6.4 %

Signature / ...



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 - 27363093



إذن المختبر
الملكية المقدسة
القاهرة - مصر - ٢٣٣٦٢٣٣٦٢٣٣٦



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.54
1.27	0.050	1.47
1.91	0.075	2.43
2.54	0.100	3.37
3.18	0.125	4.46
3.81	0.150	5.31
4.45	0.175	6.18
5.08	0.200	6.82
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	48.8 %
	6.90	3.37	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.21 gm/cm^3
At = 6.4 % optimum water content.
 - 3- Surcharge load 450 Kg
 - 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

3 El Malek El Aftal Street
Zamalek, Cairo
Tel & Fax 27363627 27363093



الملك الأعظم
الملك الظاهر

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

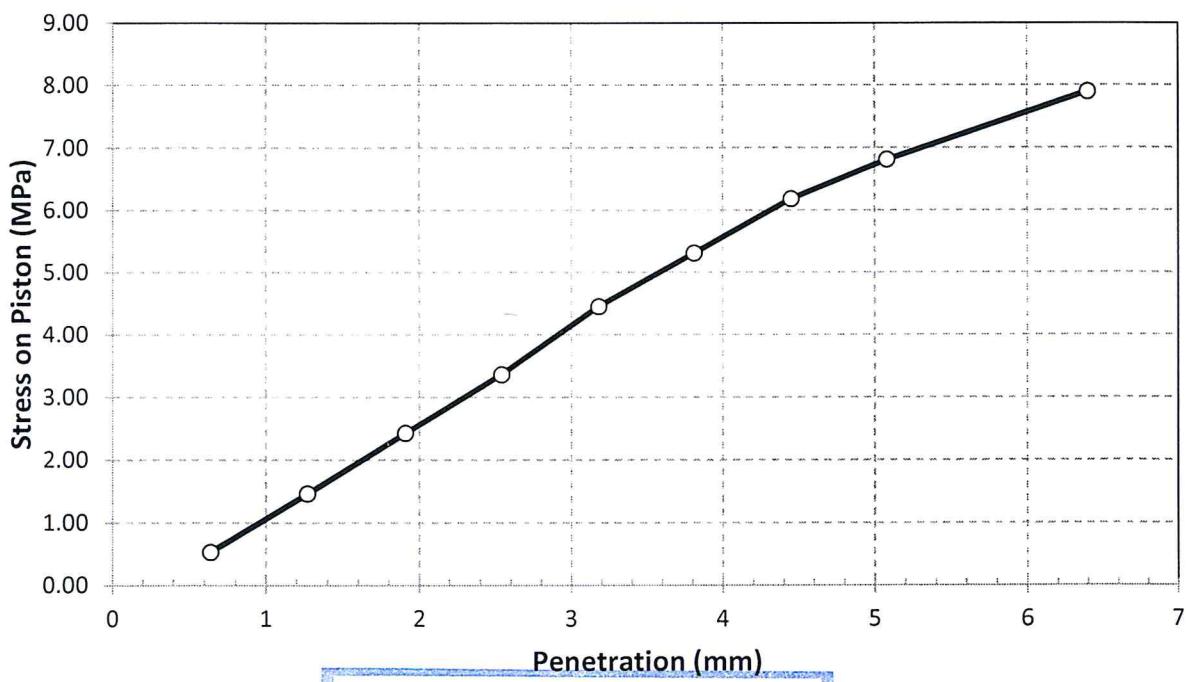
Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /





CEL
Consulting Engineering Bureau & Laboratories
 مكتب مهندسات الاستشارات

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 21/10/2023
Soil type : Middle Embankment
Location : ST from 661+040 To 661+140
Level : - 2 M
Report No. : 72-2

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+180	1641	2.29	6	2.16	97.7%	Comply
2	661+220	1511	2.29	5.8	2.17	98.1%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 6.4 %



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Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



مكتب مهندسات المستقبل
الرمادى - القاهرة
الهاتف: ٣٢٧٦٢٣١ - ٣٢٧٦٣٠٩٣



CEL
Consulting Engineering Bureau & Laboratories
 مكتب معامل الاستشارات الهندسية

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Testing Date : 21/10/2023
 Soil type : Lower Embankment
 Location : ST from 662+060 To 662+160
 Level : - 6 M
 Report No. : 72

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	662+080	1341	2.27	5.8	2.15	95.8%	Comply
2	662+100	1737	2.30	6.4	2.16	96.5%	Comply
3	662+120	1705	2.32	6	2.19	97.7%	Comply
4	662+140	1318	2.29	5.8	2.17	96.7%	Comply

- Degree of compaction based on proctor test dated At
 - Max. dry density = 2.24 gm/cm³
 - At optimum moisture content = 6.4 %

Signature /



أعلى المعايير العالمية
الإعتماد

للمختبرات: ٢٠٢٣ - ٢٠٢٤ - ٢٠٢٥



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Dear Gentleman,

Attached here with the delivered on 13 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883



3 E. Majeed El Afaf Street
Zamalek, Cairo
Tel & Fax 2736723 27363093



جهاز المعايرة والاعتماد
الجهاز المصري للمعايرة والاعتماد
جهاز المعايرة والاعتماد



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	59.1
37.5	1.5	51.5
25	1	40.3
19	3/4	35.0
12.50	1/2	20.1
9.50	3/8	18.4
4.75	4	14.3
2.00	10	25.7
0.425	40	16.8

Signature /..



Dr E. Malek E. Afifi Street
Zamalek, Cairo
Tel & Fax 2736723 / 27367093



٢- المقالة الانتحار
الزمالقة القائمون



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Materials finer than 75 μm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 μM (No.200)	6.7

Signature
CEL Consulting Engineering Bureau & Laboratories
مكتب مهندسون استشارات اتصالات
مشروعات، سوهاج وقنا
رقم التسجيل الضريبي: 537 - 991 - 219
المركز الرئيسي ٢ شارع الملك الأفضل - الزمالك - القاهرة

3 E-Malek E Alval Street
Zarbyek, Cairo
Tels/Fax: 2736722 - 27367093



في المملك الاعظم
جمهورية مصر العربية
www.ias-test.com



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0



Signature /.....

J E Malek & Aftab Street
Jamaica, Cano
Tel & Fax 277-9222 273-3200



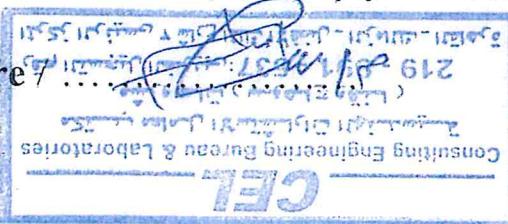
عن الملك الأجميل
الملك الظاهر

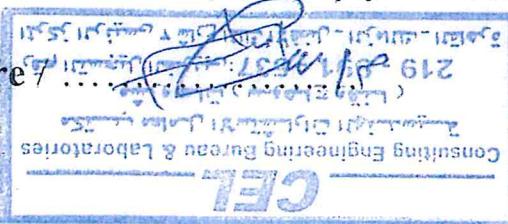
Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	25.7	Max 50 %	-----	-----
0.425 mm (No. 40).	16.8	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.7	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature : 



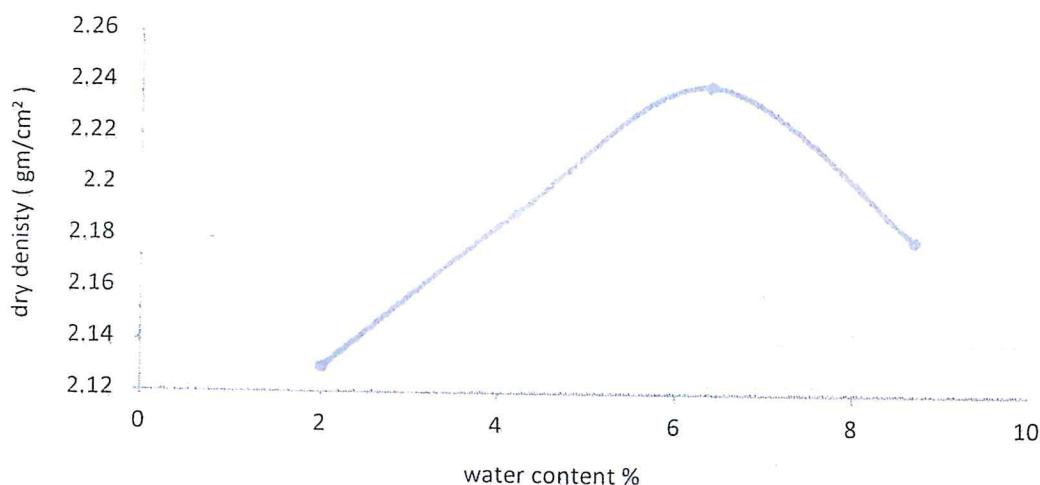
٢٠٢٣/٩/١٧ - ٢٠٢٣/٩/٢٤
 ٦٣٣٦٣٦٣٦٣
 شارع مالك ابي ابي
 عاصمة مصر



٢٠٢٣/٩/١٧ - ٢٠٢٣/٩/٢٤
 شارع مالك ابي ابي
 عاصمة مصر

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+000 E=482747.8852 N=2848238.3271
 Type of sample : Soil Embankment (upper Embankment 0.0 M)
 Delivery Date : 13/09/2023
 Reporting Date : 17/09/2023
 Reporting No. : 03-2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.24
- Optimum moisture content % : 5.8 %

Signature /



2 Malek El-Aziz Street
 Zamalek, Cairo
 Tel & Fax: 2236733 27367093



ج.م.ع. ا.ل.ا.س
 الجهة المختصة
 بالجودة والجودة
 للمختبرات

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.49
1.91	0.075	2.48
2.54	0.100	3.52
3.18	0.125	4.51
3.81	0.150	5.36
4.45	0.175	6.23
5.08	0.200	6.89
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.52s	51 %

Notes:

- Attached graph shows penetration resistance versus penetration magnitude.
- The sample was compacted to dry density of = 2.24 (gm /cm³)
At = 5.8 % optimum water content.
- Surcharge load 4.50 Kg
- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...



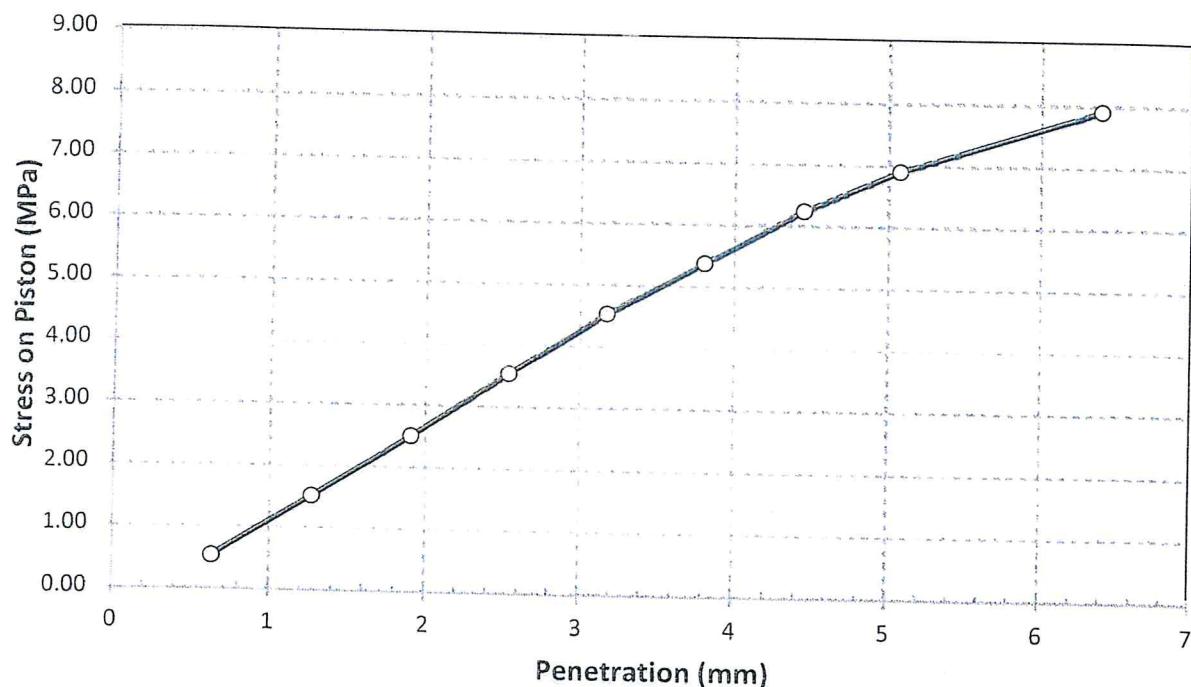
J.F. Malek El Maadi Street
Zamalek, Cairo
Tel & Fax: 2736783 * 27363093



ج.م.ع
الرقمية الاعتماد
الجهاز - مصر

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+000 E=482747.8852 N=2848238.3271
 Type of sample : Soil Embankment (upper Embankment 0.0 M)
 Delivery Date : 13/09/2023
 Reporting Date : 17/09/2023
 Reporting No. : 03-2

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / .





Company Name : شركة المستقبـل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 21/10/2023
Soil type : Middle Embankment
Location : ST from 661+140 To 661+300
Level : - 2.5 M
Report No. : 71

Compaction test by using Sand – Cone Test Method

ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	661+180	1449	2.32	5.8	2.20	98.0%	Comply
2	661+240	1429	2.30	5.8	2.17	96.9%	Comply
3	661+280	1459	2.31	5.8	2.19	97.6%	Comply

- Degree of compaction based on proctor test dated At
 - Max. dry density = 2.24 gm/cm³
 - At optimum moisture content = 6.4 %





Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 27/09/2023
Reporting Date : 01/10/2023
Reporting No. : 04-2

Dear Gentleman,

Attached here with the delivered on 27 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /



31 Malek El Shafei Street
Zamalek, Cairo
Tel & Fax: +20 2 3746733 - 2730300



أعلى المعايير العالمية
الجودة والجودة
الشهادة العالمية

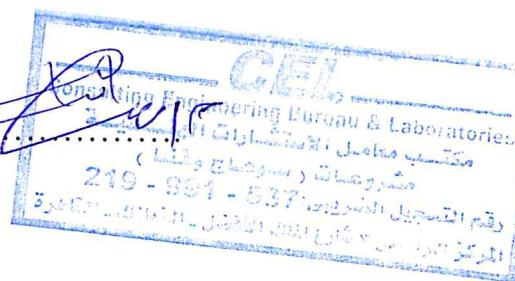


Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 27/09/2023
Reporting Date : 01/10/2023
Reporting No. : 04-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	99.2
37.5	1.5	91.6
25	1	80.8
19	¾	71.6
12.50	½	58.1
9.50	3/8	49.1
4.75	4	39.7
2.00	10	31.4
0.425	40	22.4

Signature



9 El Mutek El Afaf Street
Zamalek Cairo
Fax 2736722 27363093



جعفر بن معاذ

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 27/09/2023
Reporting Date : 01/10/2023
Reporting No. : 04-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.6

Signature / .





Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 27/09/2023
Reporting Date : 01/10/2023
Reporting No. : 04-2

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature



Dr. Majeed Al-Atrash
Zamalek, Cairo
Tel & Fax 27367235 27363093



ش. الملاعنة
الزمالة المأمور

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 27/09/2023
Reporting Date : 01/10/2023
Reporting No. : 04-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	31.4	Max 50 %	-----	-----
0.425 mm (No. 40).	22.4	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.6	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



3 El-Matek El-Ahly Street
Cairo, Egypt
Tel & Fax: 2786721 - 2786703

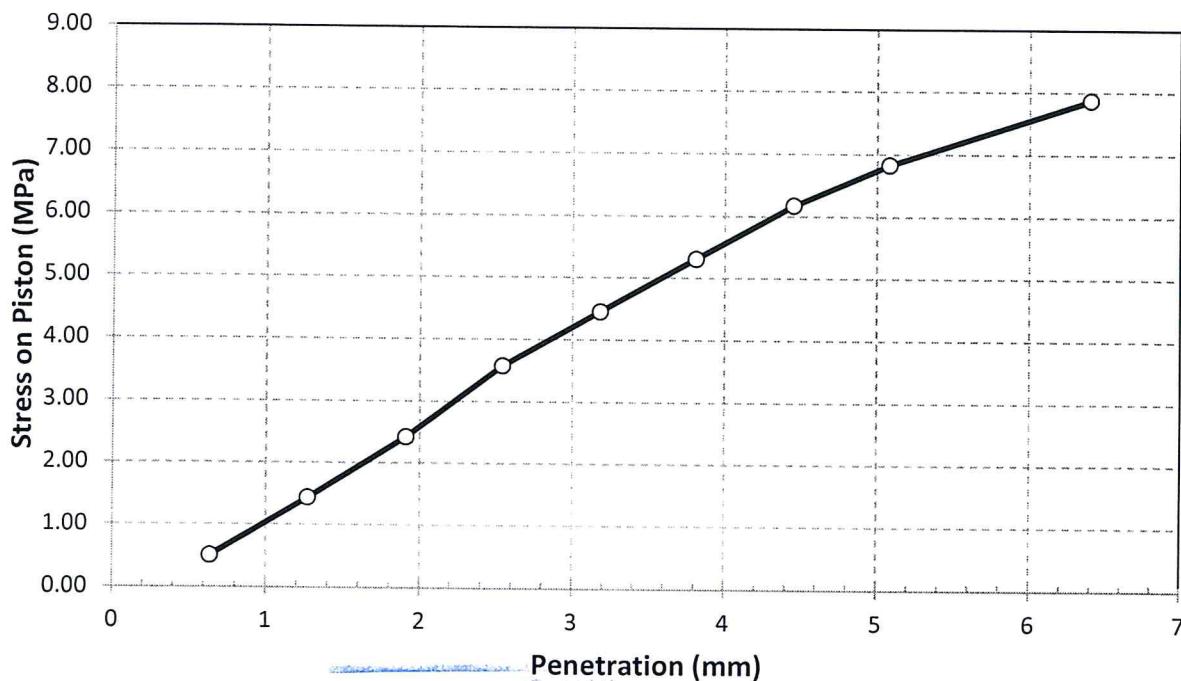


ج.م.ع
الجامعة العربية
جامعة القاهرة

Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+500 E=482567.0777 N=2847847.7656
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 27/09/2023
Reporting Date : 01/10/2023
Reporting No. : 04-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax: 2736723 - 27363093



٢. عن الملك الأفضل
 ٣. إيه إس القدرة
 لمختبر - ماسن - مصر - ٢٠٢٣

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 21/10/2023
Soil type : Lower Embankment
Location : ST from 659+520 To 659+600
Level : - 8 M
Report No. : 70

Compaction test by using Sand Cone Test Method
ASTM D-1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	659+540	1534	2.27	5.8	2.15	97.2%	Comply
2	659+560	1324	2.28	5.8	2.16	97.6%	Comply
3	659+580	1709	2.29	5.8	2.17	98.1%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 6.4 %

Signature
 Consulting Engineering Bureau & Laboratories
 مكتب محاملي للمشاريع الهندسية
 مشروعات (سوهاج وقنا)
 رقم التسجيل التجاري: 537-991-249

٢ شارع الملك الأفضل - الزمالك
 ٣ El Malek El Afzal Street - Zamalek,
 Cairo.
 Tel & Fax : 27367231 - 27363093



٢٦ شارع المطراني
 الزمالك - القاهرة
 تليفون + فاكس: ٠٢٣٦٧٦٩٤٣ - ٠٢٣٦٧٦٩٤٥



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 27367231 - 27363093



الجهاز المصري للمعايرة
الجهاز المصري للمعايرة
الجهاز المصري للمعايرة

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	3/4	71.7
12.50	1/2	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature /.....



3 El Malek El Afdal Street
Zamaiek, Cairo
Tel & Fax: 27367234 - 27363093



الملك الأفضل
الزمالة المأمور
البلد، مصر: ٢٣٣٦٣٠٩٣ - ٢٧٣٦٧٢٣٤



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	8.1



Signature /

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 27367231 - 27363093



٤ شارع العطاس الأفضل
الزمالك، القاهرة
اليمكن، مصر - ٢٣٦٣٣٧٣٣٣



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /..



3 E. Moltok El Afdal Street
Zamalek, Cairo
Tel & Fax: 2736723 * 2736493



٢- ش. الملك الأفضل
الزمالة القاهرة

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax: 2736725 - 27369093

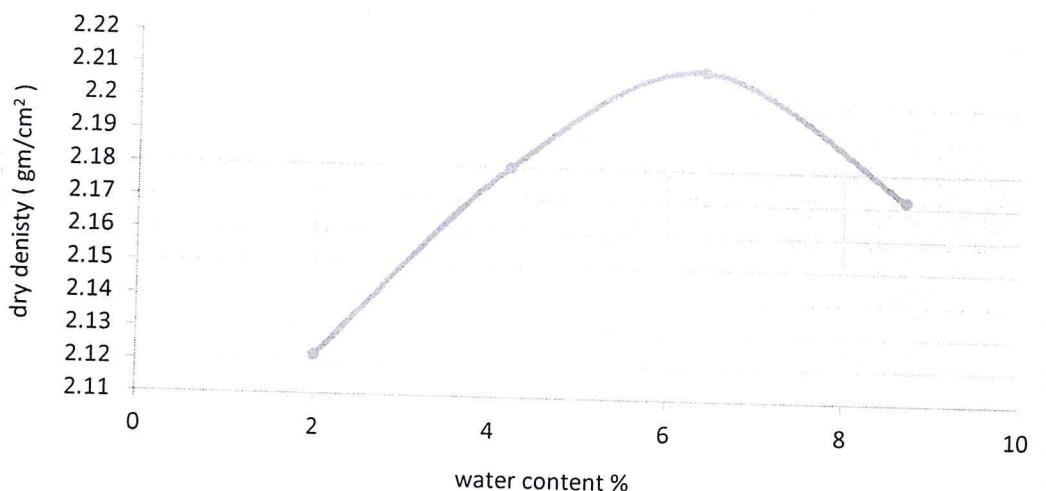


ج.م.ع. مختبرات الأداء
 IAS Testing Laboratory
 مختبرات الأداء

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.21
- Optimum moisture content % : 6.4 %

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 - 27363093



عن المكتب الاستشاري
الملكية المائية
القاهرة - مصر - ٢٤٢٦٣٧٣٧ - ٢٣٧٣٦٣٧٣٧

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.54
1.27	0.050	1.47
1.91	0.075	2.43
2.54	0.100	3.37
3.18	0.125	4.46
3.81	0.150	5.31
4.45	0.175	6.18
5.08	0.200	6.82
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.37	48.8 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.21 (gm /cm³)
 At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

3 El Malek E Afdal Street
 Zamalek, Cairo
 Tel & Fax: 27367231 - 27363093

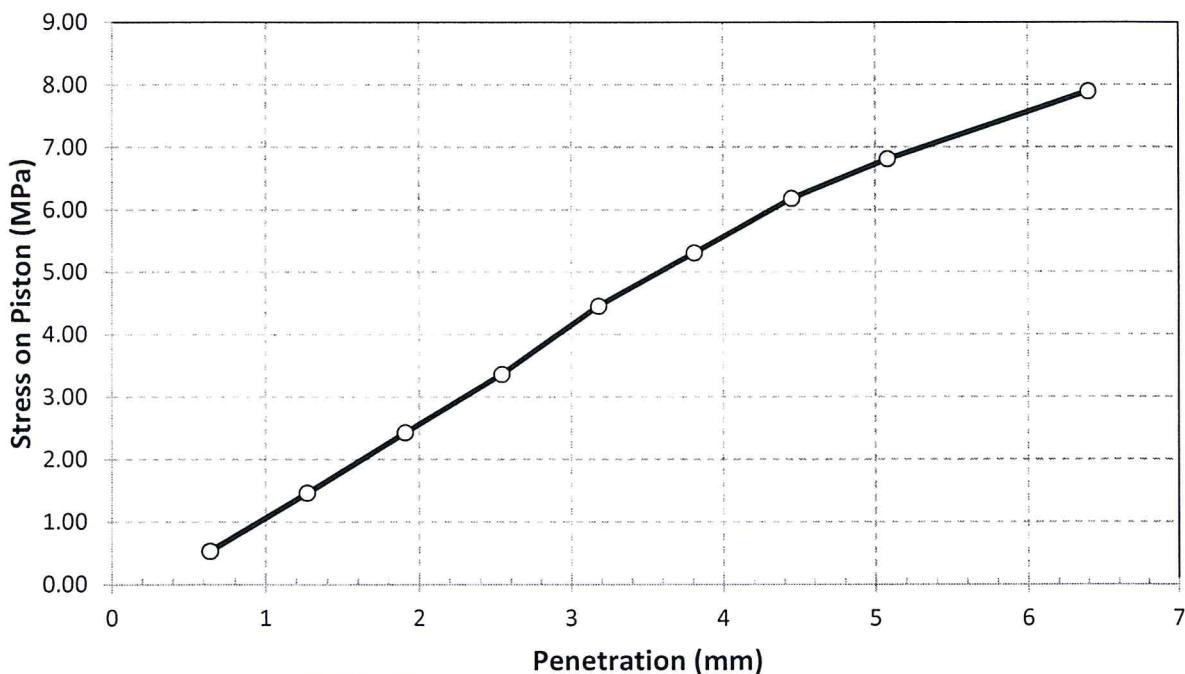


أذن المختبر المصدق
 للمختبر المصدق
 رقم التسجيل الضريبي: ٥٣٧
 رقم التسجيل الضريبي: ٥٣٧
 رقم التسجيل الضريبي: ٥٣٧

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /




CEL
 Consulting Engineering Bureau & Laboratories
 مكتب محاملي للمشاريع الهندسية

Company Name *شركة الكروز*

Project : Electric Express Train – HSR From Qous To Armant

Testing Date : 21/10/2023

Soil type : Lower Embankment

Location : ST from 659+440 To 629+500

Level : - 8.5 M

Report No. : 247-5

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	659+450	1428	2.21	6.4	2.08	95.6%	Comply
2	659+470	1759	2.25	5.8	2.13	98.0%	Comply
3	659+490	1441	2.23	5.6	2.11	97.3%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.17 gm/cm³

At optimum moisture content = 6.4 %

Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



٢٣٦٣٧٢٢٢ - ٢٣٦٣٧٢٢٣
 القاهرة - مصر
 ملحوظ: ٢٣٦٣٧٢٢٢ - ٢٣٦٣٧٢٢٣



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /



3 El Malik El Afdal Street
Zamalek, Cairo
Tel & Fax 27367231 27363093



ج.ع. المالك الأفضل
الزمالة، القاهرة
الهاتف: ٢٣٦٣٧٢٣١ - ٢٧٣٦٣٠٩٣



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	¾	71.7
12.50	½	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature /.....



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 27367231 27363093



٢ ش. الملك الأفضل
الملك القاهرة



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	8.1

Signature /.....



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 / 27363093



في المكان الأفضل
أيزو 17025 - مصر - ٢٠٢٣
ج.م.ع. - مصر - ٢٠٢٣



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /..



2 E. Malek E. Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 * 2736093



٢- ش. الملك الأقصى
الزمالة القاهرة



Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-b)	(A-2-4)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are Comply Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax 2736723 - 27383093

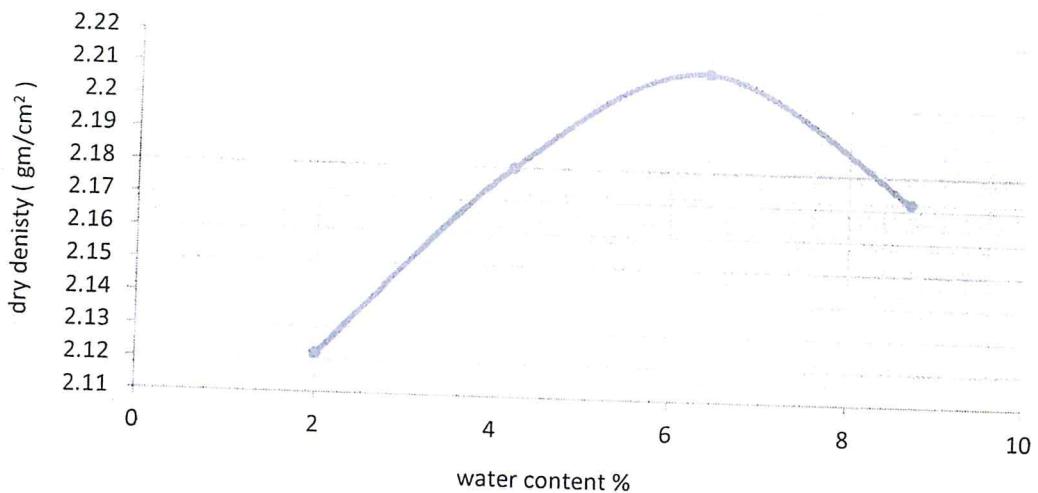


ج.ع.العالى للجودة
 الجمالى للجودة
 IAS - Egypt - IAS - Egypt

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

2

Moisture – Density relation of soil
Test result (Modified proctor test)



- Max dry density (gm/cm^2) : 2.21
 - Optimum moisture content % : 6.4

Signature / ..



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2738723 27363093



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.54
1.27	0.050	1.47
1.91	0.075	2.43
2.54	0.100	3.37
3.18	0.125	4.46
3.81	0.150	5.31
4.45	0.175	6.18
5.08	0.200	6.82
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.37	48.8 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.21 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

3 El Malek E. Afaf Street
Zamalek, Cairo
Tel & Fax: 2736723 - 27363093

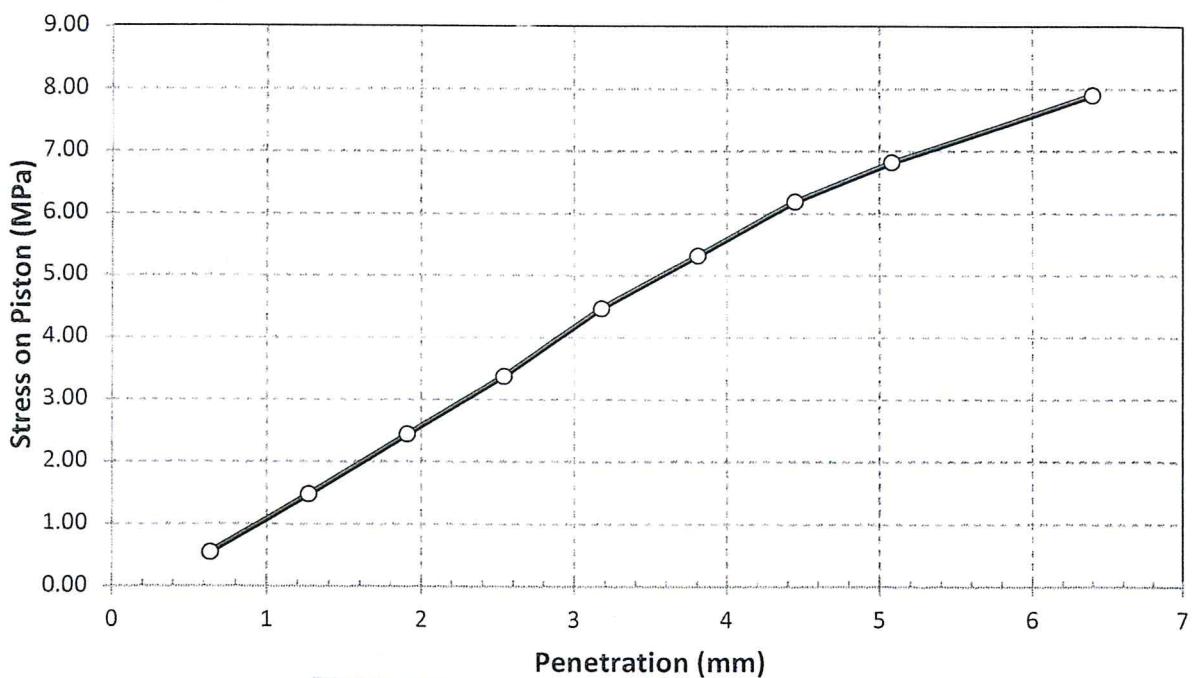


أعلى المعايير
الجودة
البلد: مصر
العنوان: ٢٧٣٦٣٢٣ - ٢٧٣٦٣٢٤
النوع: مختبر

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax 2736723 - 27363093



أشعار الملك الأفضل
 الـ ZAHLAK
 لمبورن ، لوكسمبورغ : +352-2478-2478

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Testing Date : 19/10/2023

Soil type : Lower Embankment

Location : ST from 659+440 To 659+500

Level : - 9 M

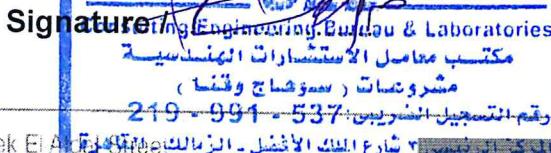
Report No. : 68

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	659+450	1531	2.26	5.8	2.13	96.5%	Comply
2	659+470	1426	2.32	5.8	2.19	99.0%	Comply
3	659+490	1746	2.29	5.8	2.17	98.0%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 6.4 %



3 El Malek El Ameen Street
 شارع الملك اميم
 Zamalek, Cairo
 Tel & Fax: 27367231 - 27363093



ش. المالك الأحمد
 الريان، القاهرة
 تليفون: ٠٢٣٦٣٧٣٣٣٣ - ٠٢٣٦٣٧٣٣٤



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-3

Dear Gentleman,

Attached here with the delivered on 28 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 2736723 - 27363093



الملك الأفضل
الزمالك القاهرة
العنوان: ٢٧٣٦٢٣٢، ٢٧٣٦٣٠٩٣
الهاتف: ٠٢٠٢٧٣٦٣٠٩٣



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	¾	71.7
12.50	½	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature / .



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax 27367231 - 27363003



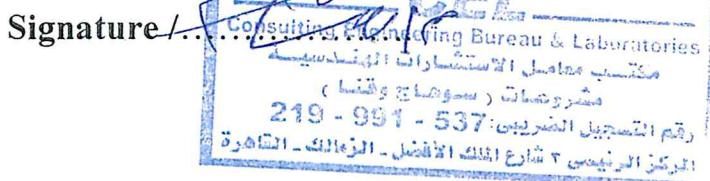
في المكان الأفضل
الزمالة القاهرة
البلدج ، زاكورة ، ١٢٣٧٣٢٢٢ - ٢٠٢٣٦٣٦٣٦٣



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	8.1



3 El Malek El Afdal Street:
Zamalek, Cairo
Tel & Fax: 2736723 - 27363093



ج. ش. الملك الأفضل
الزمالة الفنية
ق.ب.ج.ن. ، م.ك.ج.ن. : ٢٠٢٣٧٦٣٩٣٣ - ٢٠٢٣٦٣٠٩٣



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 - 27363093



الجهاز المالي العربي
الإمارات العربية المتحدة
العنوان: دولة الإمارات العربية المتحدة، أبوظبي، شارع الصقر، 10111



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

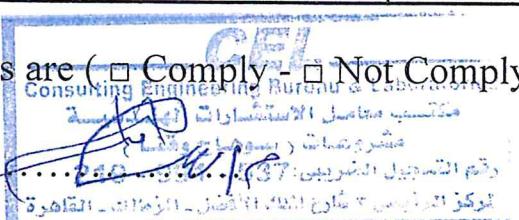
Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street

Zamalek, Cairo

Tel & Fax: 2736723 / 27363093



٢٦٣
الملك الأفضل
الزمالة الظاهرة

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

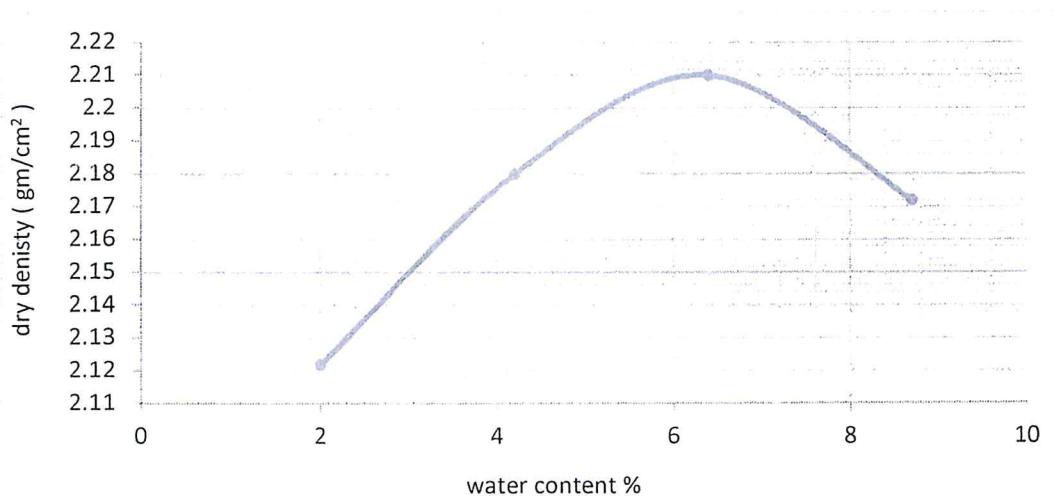
Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.21
- Optimum moisture content % : 6.4 %

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2736723 - 27363093



أشرف المختبرات
المملكة الالمانية
البلجيكي، باريس، لندن، برلين، فرانكفورت، هامبورج، دوسلدورف،

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

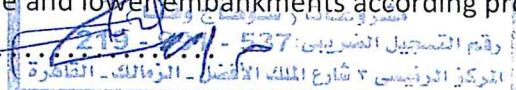
penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.54
1.27	0.050	1.47
1.91	0.075	2.43
2.54	0.100	3.37
3.18	0.125	4.46
3.81	0.150	5.31
4.45	0.175	6.18
5.08	0.200	6.82
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value 6.90	Sample results 3.37	48.8 %

Notes:

- Attached graph shows penetration resistance versus penetration magnitude.
- The sample was compacted to dry density of = 2.21 (gm /cm³)
At = 6.4 % optimum water content.
- Surcharge load 4.50 Kg.
- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...



36 Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 2/36763 - 27363093



ج.م. مصر
القاهرة
للمختبرات: داكنين: ٢٣٧٦٣ - ٣٦٣٠٩٣



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

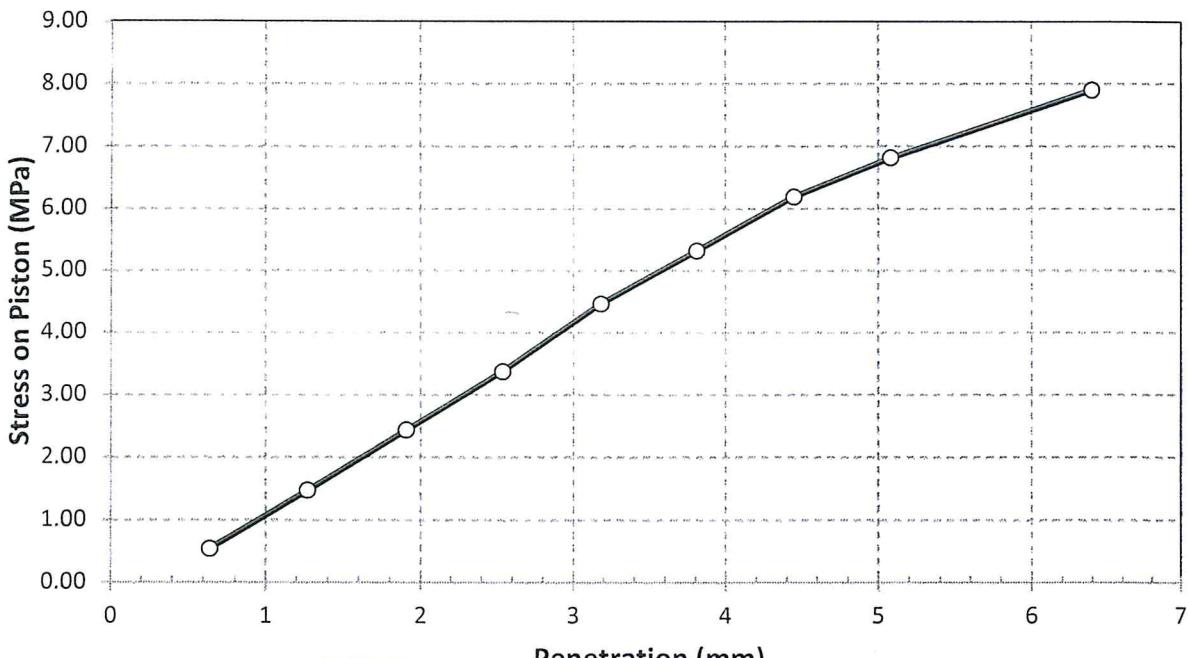
Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

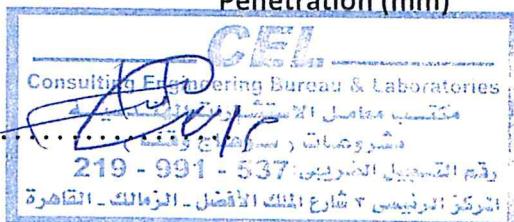
Reporting No. : 02-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /




CEL
Consulting Engineering Bureau & Laboratories
 مكتب مهندسية
 لاستشارات ومحاماة

Company Name : شركة الكرم
 Project : Electric Express Train – HSR From Qous To Armant
 Testing Date : 17/10/2023
 Soil type : Upper Embankment
 Location : ST from 662+200/662+300
 Level : -(-5) M
 Report No. : 221

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	662+240	1290	2.34	6	2.21	99.6%	Comply
2	662+280	1709	2.29	6	2.16	97.5%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature:



3 E Malek E. Abdal Street
 Zamalek, Cairo
 Tel: 2736700 - 2736703



أعلى المعايير
 للمختبرات المعتمدة
 في مصر - مصر - Egypt



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Dear Gentleman,

Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
 2. Material finer than sieve No. 200 according to ASTM D-1140.
 3. Liquid limits and plasticity index of soil according to ASTM D-4318.
 4. Soil classification according to Project Specs.
 5. Proctor Test according to ASTM D-1557
 6. CBR according to ASTM D-1883

Signature /



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Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



٢ شیء العمالک الامبراطور
الرمانیک القاهرة



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.7
37.5	1.5	89.1
25	1	78.8
19	3/4	70.0
12.50	1/2	57.9
9.50	3/8	47.6
4.75	4	38.0
2.00	10	25.4
0.425	40	15.4

Signature /



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 Zamalek, Cairo.
 Tel& Fax : 27367231 - 27363093



ج.م.ش.الملكية للختام
 لزمات القاهرة
 مصر - ٢٦ شارع العزبة

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature / ... 


 مكتب بعثات الاستشارات الهندسية
 رقم 3 شارع الملك افشد
 قرية الليس ، زماملك ، ٢٣٦٣٠٩٣
 رقم التسجيل: ١٩٩٠١٤٣٧

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 08/08/2023

Reporting Date : 12/08/2023

Reporting No. : 02

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-b)	(A-2-4)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	25.4	Max 50 %	-----	-----
0.425 mm (No. 40).	15.4	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature / ...



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 Zamalek, Cairo.
 Tel & Fax : 27367231 - 27363093



ش. الملك الأفضل
 الريانك القاهرة
 المعاشر ، مصر . ٢٣٧٦٣٣٣٣



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Oopus To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

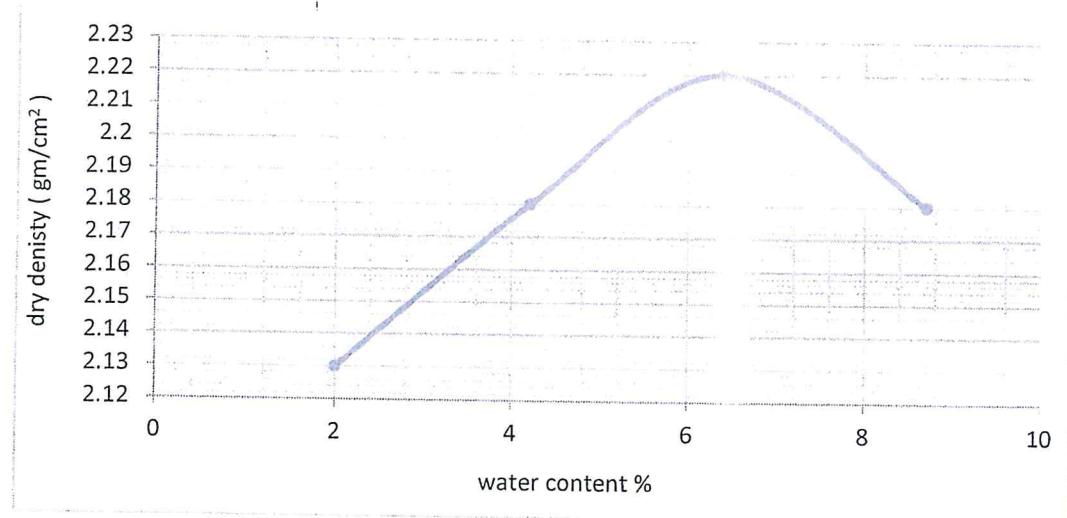
Delivery Date : 08/08/2023

Reporting Date : 12/08/2023

Reporting No. : 02

Moisture – Density relation of soil

ASTM D-1557



- Max dry density (gm/cm^2) : 2.22
 - Optimum moisture content % : 6.4 %

Signature



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Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



كتاب العمالك الأفضل
الزمالك القاهرة



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 08/08/2023

Reporting Date : 12/08/2023

Reporting No. : 02

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.34
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	48.4 %
	6.90	3.34	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.22 gm/cm^3
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
 - 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature

كتاب سعاد الاصغر
الطبقة الثالثة، المقدمة

للمزيد ٣ شارع الملك الأفلاج
3 El Malek El Afdal Street
Zamalek, Cairo

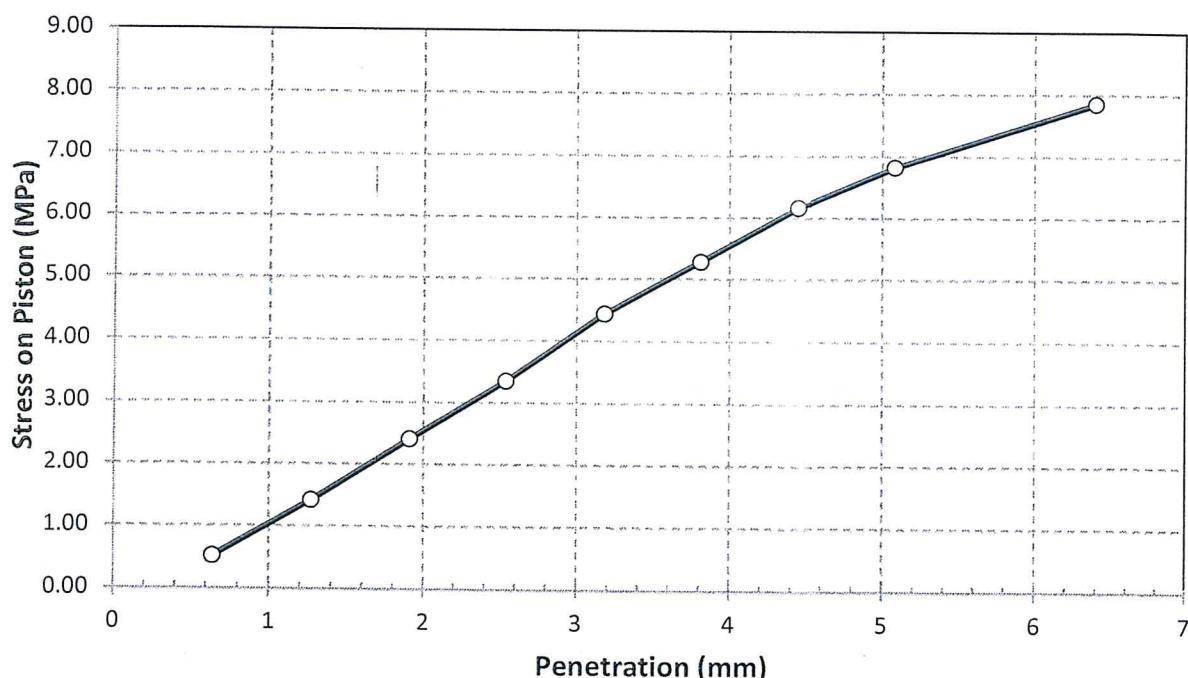
Tel & Fax: 27367231 - 27363092



Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Load Penetration Curve of CBR Test

ASTM D-1883



Signature



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 Zamalek, Cairo.
 Tel & Fax: 27367231 - 27363093



ج. ش. المملك الاعمال
 الزمالك، القاهرة
 تليفون +20-22-3333333
 الإلكتروني: info@ias.eg

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 17/10/2023
Soil type : middle Embankment
Location : ST from 661+040/661+140
Level : -(2.5) M
Report No. : 222

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	662+240	1449	2.32	6.4	2.18	98.4%	Comply
2	662+280	1429	2.23	6	2.11	95.0%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %





Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Dear Gentleman,

Attached here with the delivered on 8 / 8 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883



Signature / ...

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Zamalek, Cairo
Tel& Fax: 27367231 - 27363093



العنوان: ٢٧٣٦٣٠٩٣ - ٢٧٣٦٧٢٣
الزمالة: ٤٣٧٣٣
البلد: مصر



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.7
37.5	1.5	89.1
25	1	78.8
19	¾	70.0
12.50	½	57.9
9.50	3/8	47.6
4.75	4	38.0
2.00	10	25.4
0.425	40	15.4

Signature



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Zamalek, Cairo.
Tel & Fax: 27367234 - 27363093



٢ ش. الملك الأفضل
الزمالة القاهرة



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature



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Zamalek, Cairo.
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الملك الأفضل
الملكية القاهرة
الطبقة - مصر - ٢٣٣٧٦٣٤

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	25.4	Max 50 %	-----	-----
0.425 mm (No. 40).	15.4	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



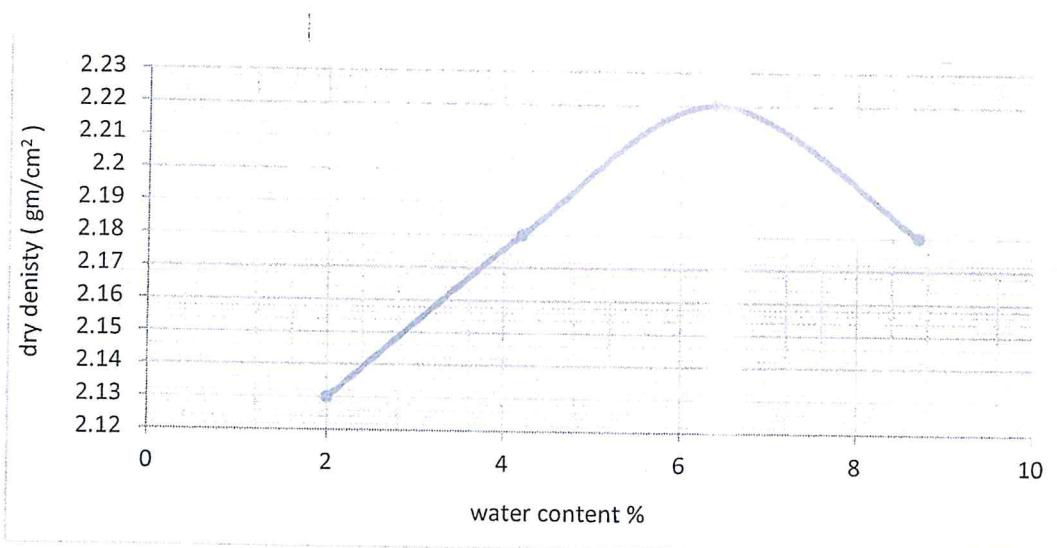
3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel& Fax : 27367231 - 27363093



الملك الأفضل
 اليمان - القاهرة
 ٢١٢٣٦٣٠٩٣ - ٢٧٣٦٧٢٣١
 تester . ش. ٣ - شارع الملك الأفضل - الزمالك

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.22
- Optimum moisture content % : 6.4 %

Signature /



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/08/2023
Reporting Date : 12/08/2023
Reporting No. : 02

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.42
1.91	0.075	2.41
2.54	0.100	3.34
3.18	0.125	4.43
3.81	0.150	5.28
4.45	0.175	6.15
5.08	0.200	6.81
6.35	0.250	7.85

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.34	48.4 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

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Zamalek, Cairo.
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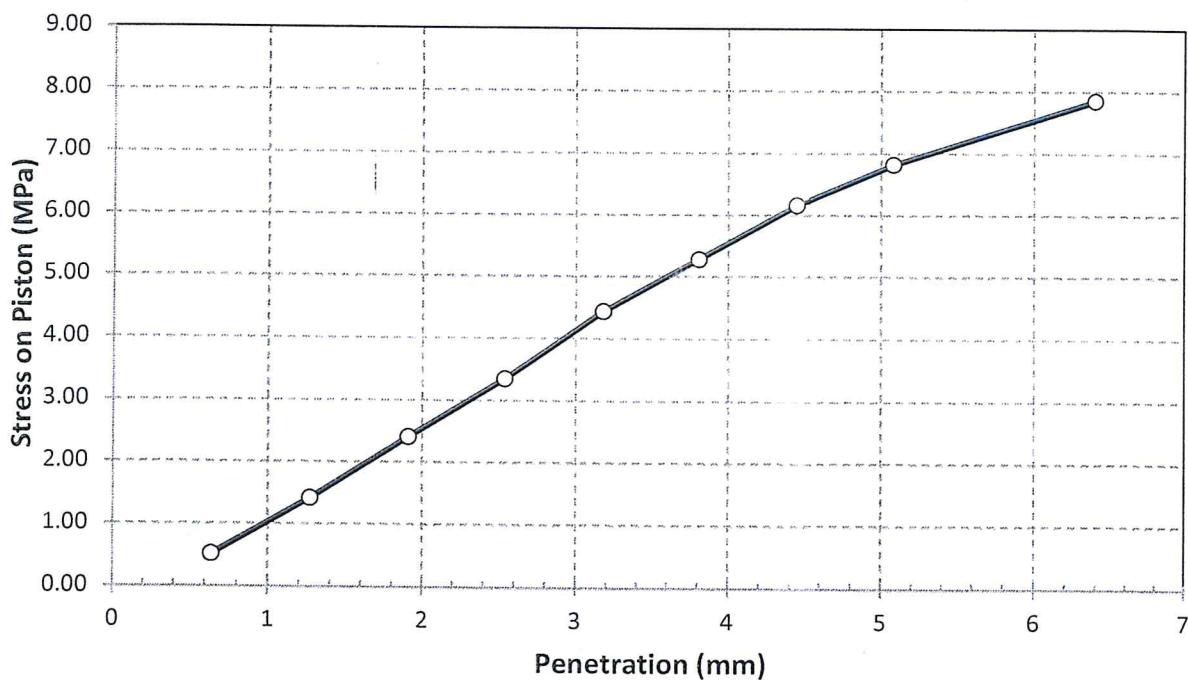


٢٠١٣ - ٢٠١٤ .٢٠١٥ .٢٠١٦
 التحليلات المختبرية
 الدراسات الهندسية
 للمهندسين والمقاولين

Company Name : شركة المستقبل
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 08/08/2023
 Reporting Date : 12/08/2023
 Reporting No. : 02

Load Penetration Curve of CBR Test

ASTM D-1883



Signature



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Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



أشعار الملك الأفندى
العنوان: شارع الملك الأفندى ٣، الزمالك، القاهرة - مصر
الهاتف: ٢١٩٠٩٩١٤٣٧

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	¾	71.7
12.50	½	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

Signature / ..



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 Zamalek, Cairo.
 Tel & Fax 27367231 - 27369093



في المكان الأفضل
 في المكان الأفضل
 تليون: ٠٢٣٧١٧٧٧٧٧٧



Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

Materials finer than 75 μm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 μM (No.200)	8.1

Signature /.....



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Zamalek, Cairo
Tel & Fax: 2736723 - 27363093



في الملك الأفضل
الزمالة الظاهرة
نطعون، القاهرة: ٠٢٣٧٦٤٣٣٣٣٣

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /



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 Zamalek, Cairo
 Tel & Fax 2736723 - 27363093



ج.م. مالك الأفಡل
 الزمالك - القاهرة
 تليفون: ٢٧٣٦٧٢٣ - ٢٧٣٦٣٠٩٣

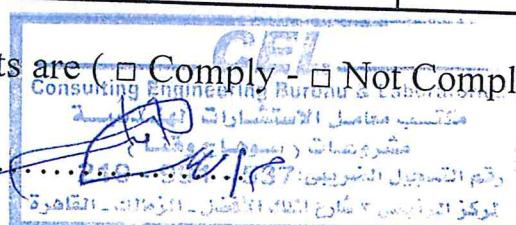
Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 659+800 E=482835.0901 N=2848386.8939
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/8/2023
Reporting Date : 2/9/2023
Reporting No. : 02-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	24.1	Max 50 %	-----	-----
0.425 mm (No. 40).	16.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature /



3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax : 2736723 - 27369093



زنگنه ای ای ای ای
 الزمالك - مصر
 تلفون: ٢٧٣٦٧٢٣ - ٢٧٣٦٩٠٩٣

Company Name : شركة المستقبل

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 659+800 E=482835.0901 N=2848386.8939

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/8/2023

Reporting Date : 2/9/2023

Reporting No. : 02-2

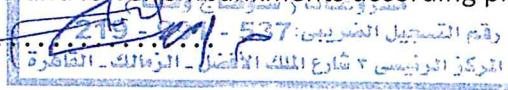
Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.54
1.27	0.050	1.47
1.91	0.075	2.43
2.54	0.100	3.37
3.18	0.125	4.46
3.81	0.150	5.31
4.45	0.175	6.18
5.08	0.200	6.82
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.37	48.8 %

Notes:

- Attached graph shows penetration resistance versus penetration magnitude.
- The sample was compacted to dry density of = 2.21 (gm /cm³)
At = 6.4 % optimum water/content.
- Surcharge load 4.50 Kg.
- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

3 El Malek El Afdal Street
 Zamalek, Cairo
 Tel & Fax 2/367331 27363093



ج.م. مصر
 الرسائل البريدية
 تليفون: ٠٢٣٦٣٧٣٣٧٧



Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 16/10/2023
Soil type : Lower Embankment
Location : ST from 659+500 To 659+600
Level : - 8.5 M
Report No. : 61-3

Compaction test by using Sand – Cone Test Method

ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	659+540	1545	2.24	6.4	2.10	95.1%	Comply
2	659+580	1474	2.26	5.8	2.14	96.6%	Comply

- Degree of compaction based on proctor test dated At
 - Max. dry density, = 2.21 gm/cm³
 - At optimum moisture content = 5.8%

Signature



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Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



٢ ش. الملك الأفضل
الزمالك - القاهرة



Company Name : شركة المستقبل للمقاولات العامة
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 660+000 E=482747.8852 N=2848238.3271
Type of sample : Soil Embankment (upper Embankment 0.0 M)
Delivery Date : 13/09/2023
Reporting Date : 17/09/2023
Reporting No. : 03-2

Dear Gentleman,

Attached here with the delivered on 13 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature



2 E Malek E Afdal Street
Barakat, Cairo
Tel & Fax 2736723 27357093



ج.م.ش. للمعايرة والختام
الرئاسية للمعايرة
الجهة الرسمية للمعايرة والختام



Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+000 E=482747.8852 N=2848238.3271
 Type of sample : Soil Embankment (upper Embankment 0.0 M)
 Delivery Date : 13/09/2023
 Reporting Date : 17/09/2023
 Reporting No. : 03-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	59.1
37.5	1.5	51.5
25	1	40.3
19	3/4	35.0
12.50	1/2	20.1
9.50	3/8	18.4
4.75	4	14.3
2.00	10	25.7
0.425	40	16.8

Signature / ..



3 E-Malek E-Afslal Street
 Zamalek, Cairo
 Tel & Fax: 2736723 - 27363093



مكتب مهندسون للمقاولات والتوكيلات
 شارع زيد العابد ، قرية العاصمة ، الجيزة ، مصر
 رقم التسجيل التجاري: 537 - 591 - 219



Company Name : شركة المستقبل للمقاولات العامة
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Materials finer than 75 µm (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.7



Signature

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Zamalek, Giza
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ج.م. مختبرات الأداء
الجهاز المصري للمعايرة
ج.م. مختبرات الأداء

Company Name : شركة المستقبل للمقاولات العامة
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**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /.....





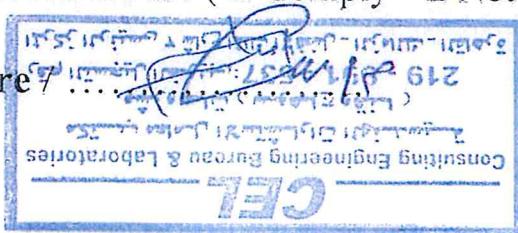
Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+000 E=482747.8852 N=2848238.3271
 Type of sample : Soil Embankment (upper Embankment 0.0 M)
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 Reporting No. : 03-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-a)	(A-1-b)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	25.7	Max 50 %	-----	-----
0.425 mm (No. 40),	16.8	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.7	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (Comply - Not Comply) with specifications limits

Signature



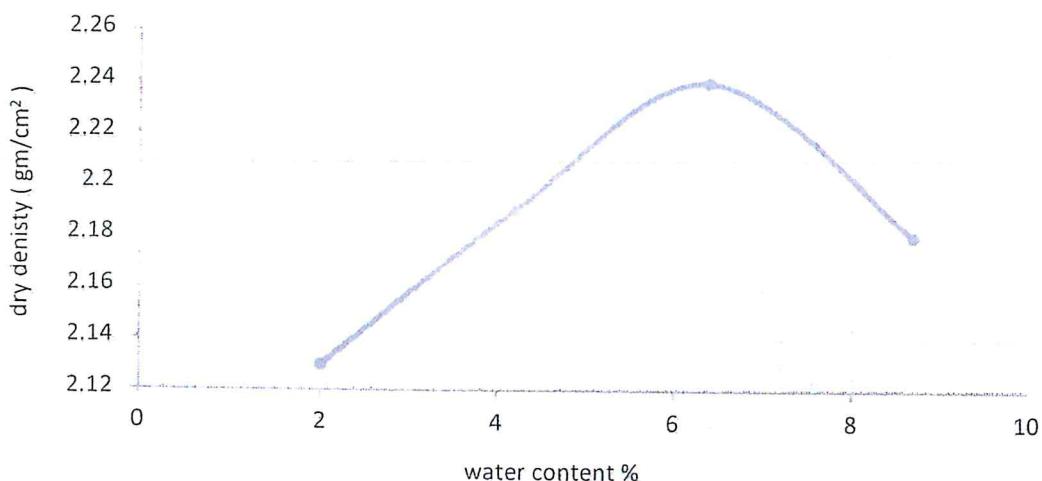
E Maick E Afifi Street
Zamalek, Giza
06904477 09254722 01021844848



ج.م. ٢٠٢٣ / ١٢ / ٢٤
الجهة: مصر
الجهة: مصر

Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+000 E=482747.8852 N=2848238.3271
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Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.24
- Optimum moisture content % : 5.8 %

Signature / ...



٦٤- Majek El Afif Street
 Zamalek, Cairo
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في المجال الهندسي
 كوكيل مصر
 لجامعة كاليفورنيا



Company Name : شركة المستقبل للمقاولات العامة

Project : Electric Express Train – HSR From Qous To Armant

Location : st: 660+000 E=482747.8852 N=2848238.3271

Type of sample : Soil Embankment (upper Embankment 0.0 M)

Delivery Date : 13/09/2023

Reporting Date : 17/09/2023

Reporting No. : 03-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.49
1.91	0.075	2.48
2.54	0.100	3.52
3.18	0.125	4.51
3.81	0.150	5.36
4.45	0.175	6.23
5.08	0.200	6.89
6.35	0.250	7.90

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	51 %
	6.90	3.52s	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = $2.24 \text{ (gm/cm}^3\text{)}$
At = 5.8% optimum water content.
 - 3- Surcharge load 4.50 Kg.
 - 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /



J.F. Maier, F. Gitter, Straub

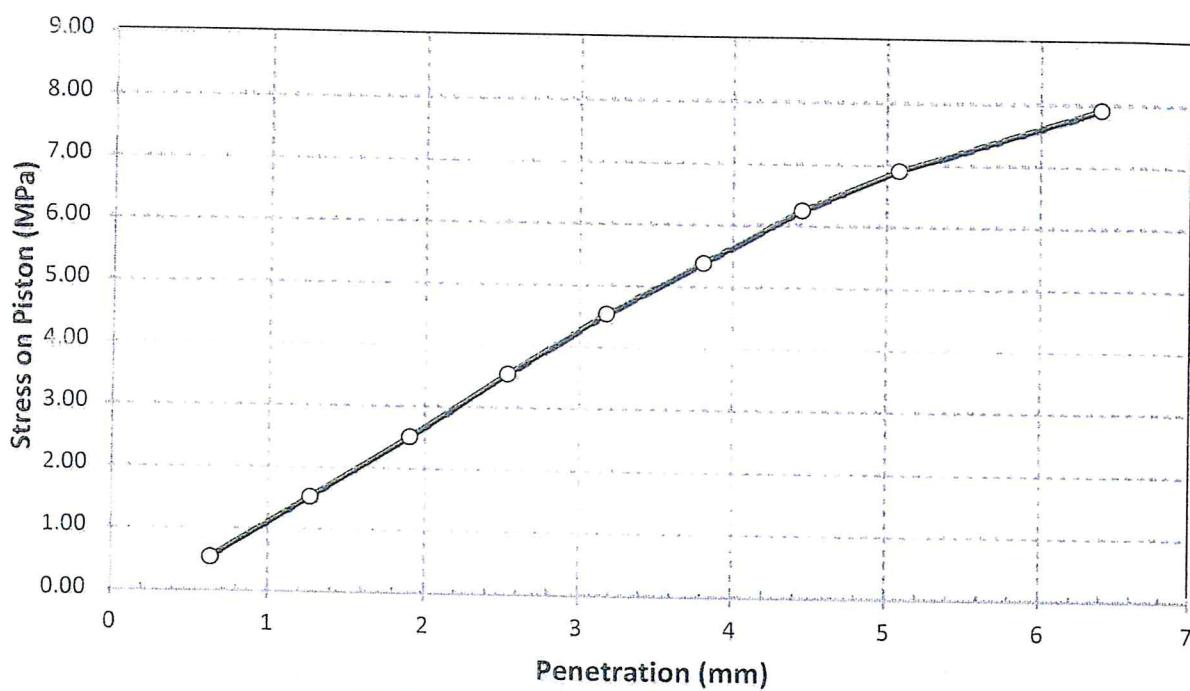
Famales. Callao

Page 8 of 10



Company Name : شركة المستقبل للمقاولات العامة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : st: 660+000 E=482747.8852 N=2848238.3271
 Type of sample : Soil Embankment (upper Embankment 0.0 M)
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 Reporting Date : 17/09/2023
 Reporting No. : 03-2

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / .



٢٢٣ بولاق ، شارع ٢٢٣ ، بولاق ، القاهرة
 ٢٠٣٢٣ - ٥٣٦ - ٥٣٧



IAS
 ACCREDITED
 Testing Laboratory

Company Name : شركة المستقبل
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 16/10/2023
Soil type : Lower Embankment
Location : ST from 659+160 To 659+320
Level : - 14 M
Report No. : 61-2

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	659+200	1499	2.32	5.8	2.19	97.9%	Comply
2	659+250	1557	2.35	6.4	2.21	98.5%	Comply
3	659+300	1422	2.28	5.8	2.15	96.2%	Comply

- Degree of compaction based on proctor test dated At

- Max. dry density = 2.24 gm/cm³
- At optimum moisture content = 5.8 %

Signature: *[Signature]*

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٢ شارع الملك الأفضل
 الأزمالك - القاهرة
 تليفون : ٠٢٣٦٣٧٦٣٣٣ - ٠٢٣٦٣٧٦٣٣٤



1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Materials test

This sample is representative for 5.000 M³

Attached here with the delivered on 28 / 8 / 2023

Dear Gentleman,

Company Name : جي بي إل Eng. Mohamed El Sayed
 Project : Electric Express Train - HSR From Qous To Armanit
 Location : st: 659+800 E=482835.0901 N=2848386.8939
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 28/8/2023
 Reporting Date : 2/9/2023
 Reporting No. : 02-3



المنطقة الصناعية الأولى - العين
الإمارات العربية المتحدة
العنوان: شارع ٣٢٦، برج ٣٢٦، طابق ٣٢٦



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Cairo, Egypt
Phone: +20 2 27367231 - 27369093
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Sieve Size (mm)	Sieve Size (DN)	Passing %
50	2	98.1
37.5	1.5	86.1
25	1	75.3
19	3/4	71.7
12.50	1/2	55.1
9.50	3/8	45.4
4.75	4	36.2
2.00	10	24.1
0.425	40	16.2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Project : Electric Express Train - HSR From Qous To Armanit Location : st: 659+800 E=482835.0901 N=2848386.8939 Type of sample : Soil Embankment (Upper Embankment 0.0 M) Delivery Date : 28/8/2023 Reporting Date : 2/9/2023 Reporting No. : 02-2 Company Name : جي إل إل للمهندسين للمختبرات Consulting Engineering Bureau & Laboratories

